FLOOD INSURANCE STUDY

ST. CLAIR COUNTY, ILLINOIS AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER	COMMUNITY NAME	COMMUNITY NUMBER
ALORTON, VILLAGE OF	170617	LENZBURG, VILLAGE OF	170978
BELLEVILLE, CITY OF	170618	MARISSA, VILLAGE OF	171058
BROOKLYN, VILLAGE OF	170619	MASCOUTAH, CITY OF	170630
CAHOKIA, VILLAGE OF	170620	NEW ATHENS, VILLAGE OF	170632
CASEYVILLE, VILLAGE OF	170621	O'FALLON, CITY OF	170633
CENTREVILLE, CITY OF	170622	SAUGET, VILLAGE OF	170635
DUPO, VILLAGE OF	170624	SHILOH, VILLAGE OF	171043
EAST CARONDELET, VILLAGE OF	170625	SMITHTON, VILLAGE OF	170892
EAST ST. LOUIS, CITY OF	170626	ST. CLAIR COUNTY	
FAIRMONT CITY, VILLAGE OF	170627	(UNINCORPORATED AREAS)	170616
FAIRVIEW HEIGHTS, CITY OF	170895	ST. LIBORY, VILLAGE OF	170634
FAYETTEVILLE, VILLAGE OF	170628	SUMMERFIELD, VILLAGE OF	170636
FREEBURG, VILLAGE OF	170790	SWANSEA, VILLAGE OF	170637
LEBANON, CITY OF	170629	WASHINGTON PARK, VILLAGE OF	170638

NOVEMBER 5, 2003

Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER
17163CV000A

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 (FIS) may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

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

Initial Countywide FIS Effective Date: November 5, 2003

Revised Countywide FIS Dates:

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FLOOD INSURANCE STUDY
ST. CLAIR COUNTY, ILLINOIS AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This countywide Flood Insurance Study (FIS) investigates the existence and severity of flood hazards in, or revises previous FISs/Flood Insurance Rate Maps (FIRMs) for, the geographic area of St. Clair County, Illinois, including: the Cities of Belleville, Centreville, East St. Louis, Fairview Heights, Lebanon, Mascoutah, and O'Fallon; the Villages of Alorton, Brooklyn, Cahokia, Caseyville, Dupo, East Carondelet, Fairmont City, Fayetteville, Freeburg, Lenzburg, Marissa, New Athens, Sauget, Shiloh, Smithton, St. Libory, Summerfield, Swansea, and Washington Park; and the unincorporated areas of St. Clair County (hereinafter referred to collectively as St. Clair County). The Village of Millstadt is non-floodprone.

The City of Collinsville, the City of Columbia, and the Village of New Baden are multi-county communities that are not contained in their entirety within St. Clair County. These jurisdictions lie predominantly outside St. Clair County; therefore, these jurisdictions are not included on the St. Clair County FIRM. The City of Collinsville will retain its community-based FIRM (Reference 1). The City of Columbia is shown in its entirety on the City of Columbia and Monroe County, Illinois, FIRM (Reference 3). The Village of New Baden will retain its community-based FIRM (Reference 2).

This FIS aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood risk data for various areas of the community that will be used to establish actuarial flood insurance rates. This information will also be used by St. Clair County to update existing floodplain regulations as part of the Regular Phase of the National Flood Insurance Program (NFIP), and by local and regional planners to further promote sound land use and floodplain development. Minimum floodplain management requirements for participation in the NFIP are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

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

1.2 Authority and Acknowledgments

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

This FIS was prepared to include the incorporated communities and unincorporated areas of St. Clair County into a countywide-format FIS. Information on the

authority and acknowledgments for each jurisdiction included in this countywide FIS, as compiled from their previously printed FIS reports, is shown below.

Alorton, Village of:	The hydrologic and hydraulic analyses for the FIS report dated December 1979 were prepared by the U.S. Army Corps of Engineers (USACE), St. Louis District, for the Federal Insurance Administration (FIA), under Inter-Agency Agreement No. IAA-H-7-76, Project Order No. 24. That work was completed in November 1977.
Belleville, City of:	The hydrologic and hydraulic analyses for the FIS report dated May 1980 were prepared by the USACE, St. Louis District, for the FIA, under Inter-Agency Agreement No. IAA-H-10-77, Project Order No. 6. That work was completed in September 1978.
Brooklyn, Village of:	The hydrologic and hydraulic analyses for the FIS report dated September 1979 were prepared by the USACE, St. Louis District, for the FIA, under Inter-Agency Agreement No. IAA-H-10-77, Project Order No. 6. That work was completed in January 1978.
Cahokia, Village of:	The hydrologic and hydraulic analyses for the FIS report dated April 1978 were prepared by the USACE, St. Louis District, for the FIA, under Inter-Agency Agreement No. IAA-H-7-76, Project Order No. 24. That work was completed in March 1977.
Caseyville, Village of:	The hydrologic and hydraulic analyses for the FIS report dated September 16, 1980, were prepared by the USACE, St. Louis District, for the FIA, under Inter-Agency Agreement No. IAA-H-7-76, Project Order No. 7. That work was completed in June 1979.
Centreville, City of:	The hydrologic and hydraulic analyses for the FIS report dated September 1979 were prepared by the USACE, St. Louis District, for the FIA, under Inter-Agency Agreement No. IAA-H-7-76, Project Order No. 7. That work was completed in December 1977.
Dupo, Village of:	The hydrologic and hydraulic analyses for the FIS report dated August 4, 1980, were prepared by the USACE, St. Louis District,

	for the FIA, under Inter-Agency Agreement No. IAA-H-10-77, Project Order No. 16. That work was completed in January 1979.
East Carondelet, Village of:	The hydrologic and hydraulic analyses for the FIS report dated September 2, 1980, were prepared by the USACE, St. Louis District, for the FIA, under Inter-Agency Agreement No. IAA-H-7-76, Project Order No. 16. That work was completed in February 1979.
East St. Louis, City of:	The hydrologic and hydraulic analyses for the FIS report dated May 1979 were prepared by the USACE, St. Louis District, for the FIA, under Inter-Agency Agreement No. IAA-H-7-76, Project Order No. 13. That work was completed in November 1977.
Fairmont City, Village of:	The hydrologic and hydraulic analyses for the FIS report dated September 1979 were prepared by the USACE, St. Louis District, for the FIA, under Inter-Agency Agreement No. IAA-H-10-77, Project Order No. 6. That work was completed in July 1978.
Fairview Heights, City of:	The hydrologic and hydraulic analyses for the FIS report dated January 1978 were prepared by Roy F. Weston, Inc., for the FIA, under Contract No. H-3977. That work was completed in March 1977.
Fayetteville, Village of:	The hydrologic and hydraulic analyses for the FIS report dated December 15, 1980, were prepared by the USACE, St. Louis District, for the FIA, under Inter-Agency Agreement No. IAA-H-18-78, Project Order No. 14. That work was completed in November 1979.
Lebanon, City of:	The hydrologic and hydraulic analyses for the FIS report dated January 2, 1981, were prepared by the USACE, St. Louis District, for the FIA, under Inter-Agency Agreement No. IAA-H-18-78, Project Order No. 14. That work was completed in December 1979.
Mascoutah, City of:	The hydrologic and hydraulic analyses for the FIS report dated December 15, 1980, were prepared by the USACE, St. Louis District, for the FIA, under Inter-Agency Agreement

	No. IAA-H-18-78, Project Order No. 14. That work was completed in October 1979.
O'Fallon, City of:	The hydrologic and hydraulic analyses for the FIS report dated April 15, 1982, were prepared by the USACE, St. Louis District, for FEMA, under Inter-Agency Agreement No. IAA-H-18-78, Project Order No. 14. That work was completed in October 1980.
Sauget, Village of:	The hydrologic and hydraulic analyses for the FIS report dated February 1980 were prepared by the USACE, St. Louis District, for the FIA, under Inter-Agency Agreement No. IAA-H-10-77, Project Order No. 6. That work was completed in January 1979.
St. Clair County (Unincorporated Areas):	The hydrologic and hydraulic analyses for the FIS report dated August 5, 1985, were prepared by the USACE, St. Louis District, for the FIA, under Inter-Agency Agreement Nos. H-7-76 and H-10-77, Project Order Nos. 14 and 7, respectively. That work was completed in June 1979.
Swansea, Village of:	The hydrologic and hydraulic analyses for the FIS report dated June 1, 1981, were prepared by the USACE, St. Louis District, for the FIA, under Inter-Agency Agreement No. IAA-H-18-78, Project Order No. 14. That work was completed in December 1979.
Washington Park, Village of:	The hydrologic and hydraulic analyses for the FIS report dated December 1978 were prepared by the USACE, St. Louis District, for the FIA, under Inter-Agency Agreement No. IAA-H-7-76, Project Order No. 7. That work was completed in December 1977.

The authority and acknowledgments for the Villages of Freeburg, Lenzburg, Marissa, Millstadt, New Athens, Shiloh, Smithton, St. Libory, and Summerfield are not included because there were no previously printed FIS reports for those communities.

For this countywide FIS, the updated analyses of Schoenberger Creek and Canteen Creek were prepared by the USACE, St. Louis District, for FEMA under Inter-Agency Agreement No. EMW-95-E-4756. This work was completed in April 1997. Hydrologic and hydraulic analyses of Wolf Creek were prepared by the USACE, St. Louis District. This work was completed in May 1999. New hydrologic and

hydraulic analyses of Silver Creek were prepared by the USACE, St. Louis District. This work was completed in August 1999.

The digital base mapping information was provided by the Southwest Illinois Planning Commission, 203 West Main Street, Collinsville, Illinois 62234-3098. These files were compiled at a scale of 1:24,000 from U.S. Geological Survey (USGS) maps.

Additional information added in and around the floodplains was taken from the previously compiled FISs within St. Clair County. The digital FIRM was produced in Universal Transverse Mercator coordinates referenced to the North American Datum of 1927 and the Clarke 1866 spheroid.

1.3 Coordination

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

The dates of the initial and final CCO meetings held for the incorporated communities within the boundaries of St. Clair County are shown in the following tabulation:

Community Name	Initial CCO Date	Final CCO Date
Alorton, Village of	January 19, 1976	March 28, 1979
Belleville, City of	January 19, 1976	August 30, 1979
Brooklyn, Village of	August 26, 1976	October 18, 1978
Cahokia, Village of	January 19, 1976	September 30, 1977
Caseyville, Village of	March 31, 1975	May 1, 1980
Centreville, City of	April 1975	October 17, 1978
Dupo, Village of	August 26, 1976	January 29, 1980
East Carondelet, Village of	August 26, 1976	December 27, 1979
East St. Louis, City of	April 1975	October 18, 1978
Fairmont City, Village of	August 27, 1976	March 28, 1979
Fairview Heights, City of	March 1976	June 15, 1977
Fayetteville, Village of	December 15, 1977	July 22, 1980
Lebanon, City of	December 15, 1977	September 3, 1980
Mascoutah, City of	December 15, 1977	June 16, 1980
O'Fallon, City of	December 15, 1977	September 22, 1981
Sauget, Village of	August 26, 1976	April 26, 1979
St. Clair County (unincorporated areas)	May 26, 1976	December 4, 1980
Swansea, Village of	December 15, 1977	*
Washington Park, Village of	April 1, 1975	August 1, 1978

*Data not available

For this countywide FIS, FEMA notified the county and incorporated communities with letters dated January 20, 1998, that a countywide FIS would be prepared.

A final CCO meeting was held on February 21, 2002, and was attended by representatives of the State, St. Clair County, and FEMA.

2.0 AREA STUDIED

2.1 Scope of Study

This FIS covers the geographic area of St. Clair County, Illinois. The area of study is shown on the Vicinity Map (Figure 1).

All or portions of the flooding sources listed in Table 1, "Detailed Study Streams," were studied by detailed methods.

TABLE 1 - DETAILED STUDY STREAMS

Ash Creek	Mississippi River
Canteen Creek	Ogles Creek
Catawba Creek	Ogles Creek Tributary
Douglas Creek	Prairie du Pont Diversion Channel
Engle Creek	Richland Creek
Engle Creek Ditch	Schoenberger Creek No. 1
Hog River	Schoenberger Creek No. 2
Kaskaskia River	Silver Creek
Little Canteen Creek	West Fork of Richland Creek
Little Silver Creek	Wolf Branch
Loop Creek	

Many areas subject to shallow flooding and ponding areas in St. Clair County were also studied in detail.

As part of this countywide FIS, portions of Harper Ditch and Canteen Creek were redelineated. High water marks and field reconnaissance determined where the water had spilled over spoil banks along each creek. Schoenberger Creek #2 was studied from just upstream of North 89 Street to a point approximately 1,500 feet upstream of Interstate Route 161. Updated analyses were included for Silver Creek from the confluence with Kaskaskia River to a point approximately 1.25 miles upstream of Lebanon Loyett Road. Wolf Creek was restudied from the confluence with Richland Creek to a point approximately 900 feet upstream of Wabasha Avenue. Several ponding areas along Harding Ditch were also studied. Limits of detailed study are indicated on the Flood Profiles (Exhibit 1) and on the FIRM (Exhibit 2).

Incorporated as part of this countywide FIS, are determinations of Letters of Map Revision issued by FEMA, which are listed by community in the following tabulation:

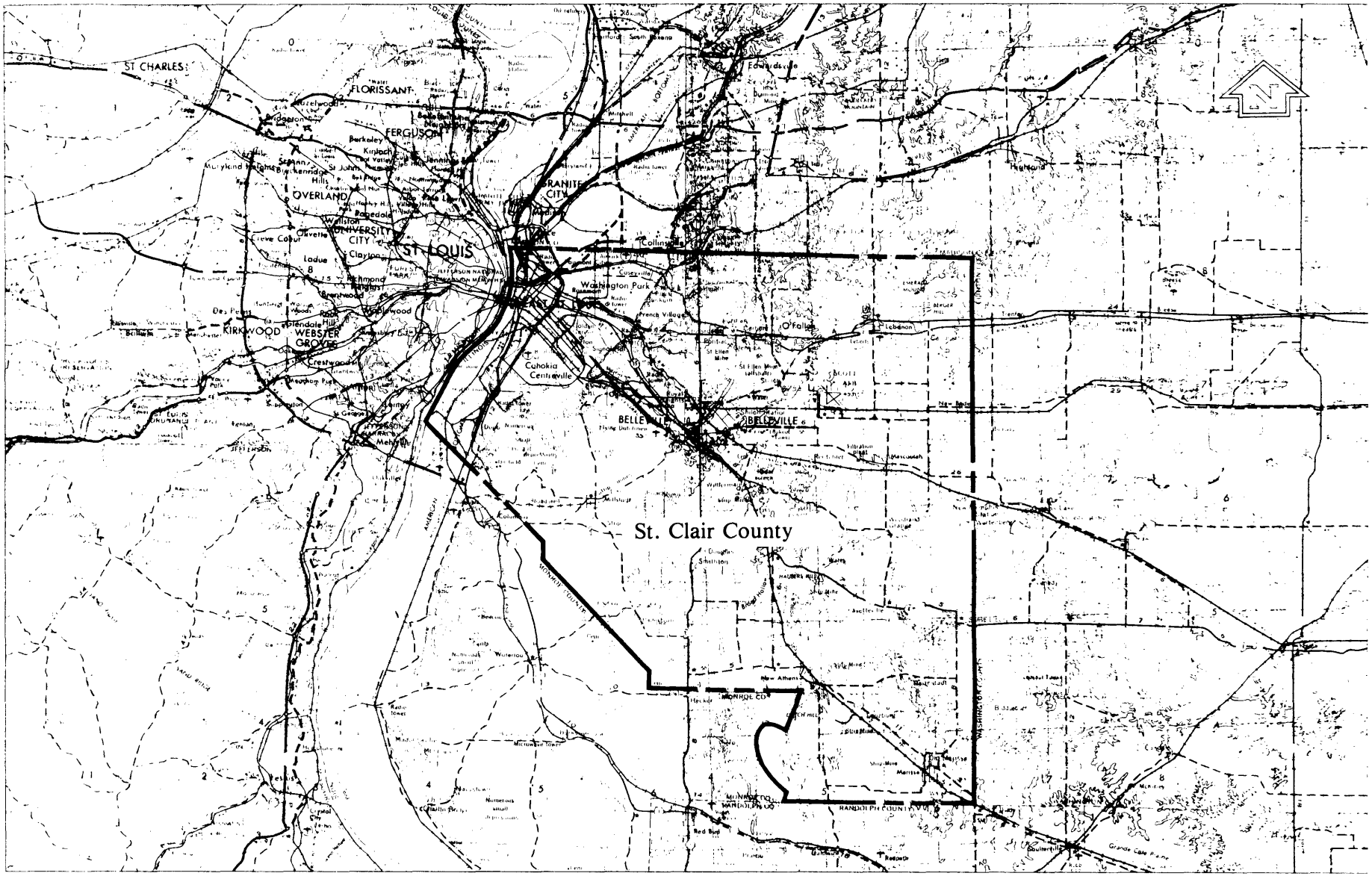


FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

APPROXIMATE SCALE

8 0 8 16 24 MILES

VICINITY MAP

Community and Description	Case No.	Stream	Date of Letter
St. Clair County (Unincorporated Areas)			
• Silver Creek, Little Silver Creek, Scott Joint Use Airport (3rd submittal)	98-05-429P	Silver Creek Little Silver Creek	May 24, 2001
• North Smiley Street culvert	99-05-181P	Engle Creek	October 29, 1998
Village of Freeburg			
• Kinney Branch	N/A	Kinney Branch	June 16, 1986
City of Mascoutah			
• Silver Creek, Little Silver Creek, Scott Joint Use Airport	98-05-429P	Silver Creek, Little Silver Creek	May 24, 2001
City of O'Fallon			
• Engle Creek – North Smiley Street Culvert	99-05-181P	Engle Creek	October 29, 1999

The areas studied by detailed methods were selected with priority given to all known flood hazard areas and areas of projected development and proposed construction.

Numerous flooding sources in the county were studied by approximate methods. Approximate analyses were used to study those areas having a low development potential or minimal flood hazards. The scope and methods of study were proposed to, and agreed upon by, FEMA and St. Clair County.

2.2 Community Description

St. Clair County is located in southwestern Illinois, directly across the Mississippi River from St. Louis, Missouri. The county encompasses approximately 680 square miles. Elevations range from near 600 feet National Geodetic Vertical Datum of 1929 (NGVD) in the northern portion of the county to 400 feet NGVD along the Mississippi River. The population of St. Clair County was 256,082 in 2000. The county is bordered by Madison County to the north, Clinton County to the northeast, Washington County to the southeast, Randolph County to the south, Monroe County to the southwest, and St. Louis County, Missouri, to the west.

The type of climate in south-central Illinois is characterized by warm to hot summers and cool to cold winters. Generally, more than 60 percent of the precipitation occurs in the warmer half of the year. The average annual rainfall is 35 inches. Annual rainfall has amounted to as much as 58 inches per year or as little as 24 inches per year. Air temperature ranges from an average maximum of 89 degrees Fahrenheit (°F) in July to an average minimum of 25°F in January. Winter temperatures rarely go below 0°F. Freezing temperatures normally occur between mid-October and mid-April (Reference 4).

Vegetation includes mostly agricultural lands with some woodlands and residential lawns. The floodplain proper of all detailed studied streams is primarily agricultural and residential in nature. Topography consists of moderately rolling uplands with small streams. Soil generally consists of silty sediments graded in five-foot thicknesses, which generally overlie stratified silty sediments (Reference 5).

The American Bottoms area, the flat area adjacent to the Mississippi River in the vicinity of East St. Louis, is composed of recent alluvium and glacial valley-train materials. Its thickness ranges from 80 feet to 120 feet and is underlain by Mississippian limestone.

Immediately above the bedrock surface is a stratum of glacial outwash overlain by coarse sands and gravels. Above this stratum is a layer of medium to fine sand. These deposits may also contain industrial wastes. Meandering loops of the Mississippi River and creeks have left complex and varied surface deposits.

Approximately 20 percent of the county drains directly into the Mississippi River through the American Bottoms, the remaining portion of the county drains through Richland Creek, Silver Creek, or the Kaskaskia River. The general flow direction is southerly.

2.3 Principal Flood Problems

Low-lying areas of St. Clair County are subject to periodic flooding by overflows from the streams studied in detail for this FIS.

The first noted flood which occurred on Richland Creek was in May 1908. Additional floods occurred in 1912, 1915, 1916, 1919, 1927, 1942, 1946, and 1957, with the flood of 1957 being the largest of record. The 1957 storm was the result of a severe rainstorm of short duration. The storm was centered approximately 7 miles southwest of Belleville, where 16.54 inches of rain fell in less than 12 hours causing $2.7 million worth of damage in the Belleville area.

USGS streamflow gages exist on Richland Creek near Hecker and Silver Creek near Freeburg. Based on the results of the hydrologic analysis for the St. Clair County FIS, dated August 5, 1985, the recurrence interval for Richland Creek at the streamflow gage near Hecker was approximately five years for the November 1972 flood. The recurrence interval for the April 1975 flood of Silver Creek, at the streamflow gage near Freeburg, was five years based on a limited period of record. Floods also occurred on Richland and Silver Creeks in 1943, 1946, 1957, 1969, and 1972 (Reference 6).

The highest recorded Mississippi River stage at St. Louis for the 117-year period of record occurred in April 1973 (Reference 7). This flood was determined to have a thirty-five year recurrence interval. However, inundation of the Mississippi River floodplain did not occur within the urbanized areas of St. Clair County since they are protected by the extensive system of existing levees and related flood control structures. During the April 1973 flood, damage was experienced in the industrial and commercial areas within the American Bottoms. This damage was produced by

ponding of interior runoff during high Mississippi River stages when backwater blocked the gravity drainage systems (Reference 8). The American Bottoms experienced extensive flood damages due to interior runoff in August 1915, July 1942, August 1946, July 1952, June 1957, and May 1961 (Reference 8). The 1946 storm was approximately a 100-year flood event, with an average of 11.8 inches of rainfall during the storm.

2.4 Flood Protection Measures

Several drainage districts along Richland Creek were responsible for straightening approximately 13 miles of the Richland Creek channel south of Belleville. The Richland Creek Mutual Drainage District No. 3 is the only remaining active district and presently maintains a portion of the channel.

The East St. Louis and Vicinity, Illinois, flood control project authorized by the Flood Control Act of 1936, provides urban design flood protection from Mississippi River floods (Reference 9). Protection from the 100-year flood is provided, primarily by levees located outside local community boundaries, to all bottom lands between the bluffs on the east and the Mississippi River and Chain of Rocks Canal on the west, and extends from the Prairie du Pont Canal on the south side to Cahokia Creek diversion channel on the north. The project included raising and enlarging 16.7 miles of levee, 3.1 miles of concrete floodwall, gravity drainage structures, and alterations at bridge crossings. The levee and floodwall portion of the project was essentially complete by 1964.

An extensive system of flood protection structures exists along the Mississippi River in St. Clair County. This system includes levees, stormwater pumping stations and gravity outlet structures. The levees offer protection against floods with recurrence intervals equal to or less than 100 years. The area of St. Clair County protected by these structures includes primarily the American Bottoms plus areas located along the major streams which outfall into the Mississippi River. The Eastside Levee and Sanitary District operates 13 stormwater pumping stations and maintains 52 miles of drainage ditches and storm sewer systems serving various cities and industries within the American Bottoms.

Carlyle Reservoir is on the Kaskaskia River approximately 50 river miles upstream of the St. Clair County boundary. This reservoir, constructed by the USACE, was completed in 1967 and serves recreation, flood control, water supply and navigation needs. The Kaskaskia River channel, between its mouth and the City of Fayetteville, has been widened, straightened and deepened for navigation purposes. Flood protection structures along the Kaskaskia River within St. Clair County include a levee system and stormwater pumping station which protect the area surrounding the City of New Athens.

The Blue Waters Ditch pump station reduces the 100-year floodplain in the City of Cahokia.

FEMA specifies that all levees must have a minimum of 3 foot freeboard against 100-year flooding to be considered a safe flood protection structure.

Levees exist in the study area that provide the community with some degree of protection against flooding. However, it has been ascertained that some of these levees may not protect the community from rare events such as the 100-year flood. The criteria used to evaluate protection against the 100-year flood are 1) adequate design, including freeboard, 2) structural stability, and 3) proper operation and maintenance. Levees that do not protect against the 100-year flood are not considered in the hydraulic analysis of the 100-year floodplain.

The Mississippi River and Kaskaskia River Levee systems provide protection from the 100-year flood.

3.0 ENGINEERING METHODS

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

3.1 Hydrologic Analyses

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

Precountywide

The hydrologic analyses described in the previously printed FIS reports for communities within St. Clair County have been compiled from the FIS reports and are summarized below.

The National Weather Service has had a recording rain gage located at the Lambert St. Louis Airport since 1936. This station index number is 7455. Precipitation records are available for the St. Louis area for the period from 1871 to date. These records were used with the USACE HEC-1 computer program to determine the discharge frequency relationships for the Mississippi River and Schoenberger Creek in the City of East St. Louis (Reference 10).

Flood flow frequency data for the Mississippi River in all other parts of St. Clair County were developed through analyses of stream and rainfall gage records. Long-term discharge records for various key Mississippi River gages were used to perform standard log-Pearson Type III statistical analyses. These gages and their periods of record were No. 0282A at Louisiana, Missouri (1878 to date), No. 05587500 at Alton, Illinois (1904 to date), and No. 07010000 at St. Louis, Missouri (1961 to date) (Reference 11). The flow frequency curves resulting from this study were then adjusted to reflect the upstream reservoir effects by reducing the flow values associated with each frequency. The reservoirs considered included the Missouri River reservoir and three Upper Mississippi River reservoirs: Coralville, on the Iowa River; Redrock, on the Des Moines River; and Clarence Cannon, on the Salt River. This adjustment reflected a major study in which a great many hypothetical and actual flood events were simulated by use of an analytical model to determine flood flows with and without reservoir control. Flow values from these adjusted flow frequency curves at the St. Louis gage were used to determine the Mississippi River flood profiles (Reference 12).

Flood flow frequency data for Canteen Creek was derived from a log-Pearson Type III statistical analysis. The gage and period of record was for the USGS gage on Canteen Creek near Caseyville (1939 to date) (Reference 13). Regionally optimized unit graph and loss rate parameters were used in the Canteen Creek basin HEC-1 model with frequency rainfall amounts obtained from Technical Paper No. 40 (Reference 14). The 500-year flood discharges were obtained with rainfall data extrapolated from that published in Technical Paper No. 40. The frequency curve derived from the HEC-1 model was then adjusted to closely match the computed frequency curve. Although the drainage area for Canteen Creek at State Highway 157 is greater than the drainage area at State Highway 159, peak discharges at State Highway 157 are less because a significant amount of water goes into storage.

For all streams other than Canteen Creek and the Mississippi River, peak discharges for floods of 10-, 50-, and 100-year recurrence intervals were developed by hydrologic basin modeling using the USACE HEC-1 "Flood Hydrograph Package" (Reference 10). The computer program utilizes frequency rainfall amounts obtained from Technical Papers No. 40 and 49, optimized unit hydrographs, and storage routing (Reference 15). Discharges for the 500-year floods were extrapolated from rainfall data analyzed by the method published in Technical Paper No. 40 (Reference 14). All areas subject to shallow flooding had peak volume values for the 10- and 100-year floods determined by these same methods.

On upper Engle Creek, the rational method flows were adopted because it was judged these flows were more reasonable than those of the regression equations. The divided flow for Engle Creek Ditch was determined by a trial-and-error method which balanced the water-surface elevation of the Ditch with that of Engle Creek.

On the Kaskaskia River, discharges decrease between the confluence of Silver Creek and the upstream confluence of the Elkhorn River because of the effect of storage above the Silver Creek confluence. Discharges decrease along Silver Creek because of the storage effect of its floodplain.

Countywide

For Schoenberger Creek No. 2, Harding Ditch, Canteen Creek, and various ponding areas, flood elevations experienced in May 1995 exceeded elevations published in previous FISs. Rainfall gage data published in Climatological Data, Illinois indicate that 96 hour rainfall totals at the Edwardsville, Cahokia, and Belleville gages are near those predicted for a 1% annual chance storm event by TP-40. Therefore, this event was chosen as the basis for reevaluating flood hazards in these areas (Reference 16).

For Silver Creek, FEMA contracted the St. Louis District of the USACE to perform new analyses. The area of analyses stretches from the confluence with Kaskaskia River to a point approximately 36.6 miles upstream. The frequency-discharges for Silver Creek were based on the Regional Frequency Analysis for Streams in the St. Louis District.

All peak discharges for Wolf Creek were estimated by applying synethetic unit hydrograph methodology to the HEC-1 rainfall-runoff mathematical model developed by the USACE (Reference 10). Parameters for Clark-unit hydrographs and exponential loss rate functions were determined from regional relationships developed from an optimization study of observed floods at 14 streamflow gages in the vicinity of St. Clair County. Rainfall data for Richland Creek, provided by the National Weather Service (Reference 15), were used to develop the 10-, 50-, 100-, and 500-year synthetic storm events. Rainfall data for Wolf Branch were developed using Bulletin 70 from the State of Illinois Department of Energy and Natural Resources.

A summary of the drainage area-peak discharge relationships for all of the streams studied by detailed methods is presented in Table 2, "Summary of Discharges."

TABLE 2 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
ASH CREEK					
At mouth	4.1	1,490	2,750	3,490	4,470
CANTEEN CREEK					
At State Route 157	22.6	4,300	7,000	8,400	11,000
At State Route 159	20.1	4,500	7,100	8,600	11,100
CATAWBA CREEK					
At mouth	2.05	2,040	2,800	3,130	3,520
DOUGLAS CREEK					
Above confluence with Richland Creek	20.6	6,200	9,300	10,600	12,800

TABLE 2 - SUMMARY OF DISCHARGES - continued

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
ENGLE CREEK					
At Troy-O'Fallon Road	1.87	700	1,200	1,500	2,000
Downstream of Illinois Terminal railroad culverts	1.23	550	950	1,200	1,600
Upstream of confluence of Engle Creek Ditch	0.75	250	450	560	780
ENGLE CREEK DITCH					
At mouth	0.75	118	266	354	647
HOG RIVER					
At mouth	2.6	815	1,190	1,360	1,680
KASKASKIA RIVER					
Above confluence of Richland Creek	5,210	47,500	69,800	80,300	108,600
Above confluence of Silver Creek	4,702	41,000	59,900	68,500	101,100
Above confluence of Elkhorn Creek	4,410	42,400	62,100	70,700	109,900
LITTLE CANTEEN CREEK					
At State Route 157	7.95	3,100	4,940	5,780	7,340
Approximately 8,500 feet upstream of mouth	7.2	2,433	3,914	4,581	5,910
Approximately 1,500 feet upstream of Circle Drive	5.89	2,600	4,200	4,900	6,470
LITTLE SILVER CREEK					
At mouth	47.9	6,050	10,380	12,760	16,790
At CSX Transportation	33.0	5,840	9,060	10,700	13,750
At Midgely Neiss Road	16.6	4,300	6,300	7,330	9,570
LOOP CREEK					
At mouth	25.1	5,170	8,270	9,440	13,450
MISSISSIPPI RIVER					
At river mile 175	701,000	690,000	925,000	1,020,000	1,300,000
OGLES CREEK					
At mouth	15.9	3,480	5,140	6,260	8,160
At Illinois Terminal railroad	8.5	2,230	3,290	3,860	4,820
At Interstate Highway 64	2.2	800	1,400	1,750	2,300
OGLES CREEK TRIBUTARY					
At confluence of Ogles Creek	0.54	300	500	700	900

TABLE 2 - SUMMARY OF DISCHARGES - continued

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
PRAIRIE DU PONT DIVERSION CHANNEL					
At mouth	38.5	12,000	17,700	19,500	21,800
RICHLAND CREEK					
At State Route 156	129.4	20,300	31,500	37,300	45,800
Above confluence of West Fork of Richland Creek	96.8	16,100	24,600	29,000	35,500
Above confluence of Douglas Creek	56.3	10,700	15,700	17,900	22,100
Above confluence of Wolf Branch	12.5	5,000	7,200	8,200	9,900
SCHOENBERGER CREEK NO. 2					
At State Route 157	12.0	4,610	7,430	8,860	11,860
SILVER CREEK					
At mouth	476.4	12,400	19,000	22,000	29,000
WEST FORK OF RICHLAND CREEK					
Above confluence with Richland Creek	26.9	5,100	8,300	10,100	1,600
Above State Route 159	23.0	5,000	7,900	9,600	12,000
WOLF BRANCH					
Above confluence with Richland Creek	1.8	1,300	1,545	1,750	2,215

The stillwater elevations have been determined for the 10-, 50-, 100-, and 500-year floods for the flooding sources studied by detailed methods and are summarized in Table 3, "Summary of Stillwater Elevations."

TABLE 3 - SUMMARY OF STILLWATER ELEVATIONS

FLOODING SOURCE AND LOCATION	ELEVATION (feet NGVD*) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
VILLAGE OF ALORTON				
Between Interstate 255 and State Route 157	**	**	411	**
Approximately 600 feet southeast of the intersection of Pocket Road and State Route 15 and Missouri Avenue	**	**	411	**

*National Geodetic Vertical Datum of 1929
**Data not available

TABLE 3 - SUMMARY OF STILLWATER ELEVATIONS - continued

FLOODING SOURCE AND LOCATION	ELEVATION (feet NGVD*) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
VILLAGE OF CAHOKIA				
Areas east of Illinois Central Railroad	**	**	397	**
Areas between Falling Stream Road and U.S. Route 50	**	**	405	**
Areas south of Camp Jackson Road	**	**	406	**
Areas north and West of Jerome Lane	**	**	406	**
Areas between Range Lane and the Missouri Pacific Railroad	**	**	408	**
Area between Camp Jackson and Jerome Lane	**	**	409	**
Between Illinois Terminal Railroad and Camp Jackson Road	**	**	404	**
Approximately 20 feet south of the intersection of Fox Meadow Lane and Paris Avenue	**	**	404	**
VILLAGE OF CASEYVILLE				
At intersection of Sterling Place and Bermuda Avenue	**	**	422	**
At intersection of Countryside Drive and Acorde Drive	**	**	422	**
North of Harding Ditch, west of Black Lane	**	**	418	**
Approximately 1,000 feet northwest of intersection with Interstate Route 64 and State Route 157	**	**	422	**
CITY OF CENTREVILLE				
At the intersection of Lake Drive and East Side Levee and Sanitary Canal District	**	**	414	**
At the intersection of Belleview Avenue and North 80th Street	**	**	414	**
Approximately 1,000 feet west of the intersection of State Route 15 (New Missouri Avenue and Harding Ditch)	**	**	411	**
Along Harding Drainage Ditch	**	**	411	**
Area bounded by 55th Street and 51st Street and north of Lake Boulevard	**	**	411	**
East side levee and Sanitary District Canal	**	**	411	**

*National Geodetic Vertical Datum of 1929
**Data not available

TABLE 3 - SUMMARY OF STILLWATER ELEVATIONS - continued

FLOODING SOURCE AND LOCATION	ELEVATION (feet NGVD*) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
CITY OF EAST ST. LOUIS				
Approximately 500 feet northwest of intersection of Summit Avenue and Michigan Avenue	**	**	414	**
Approximately 300 feet northeast of the intersection of Louisville and Nashville Railroad and Kings Highway (State Route 50)	**	**	415	**
Approximately 400 feet east of intersection of Ohio Avenue and North 62nd Street	**	**	414	**
Intersection of Marybelle Avenue and North 70th Street	**	**	418	**
Approximately 500 feet southwest of intersection of State Street and Terrace Drive	**	**	414	**
Approximately 600 feet south of intersection of St. Clair Avenue and North 47th Street	**	**	414	**
VILLAGE OF FAIRMONT CITY				
Approximately 1,000 feet west of Collinsville Road	**	**	403	**
Southwest area of the Village of Fairmont City Ponding	414	**	**	**
North of Cahokia Canal, west of Madison Road east of Industrial Avenue	**	**	407	**
Approximately 1,000 feet west of the intersection of Collinsville Road and Cookson Road	**	**	403	**
At intersection of Site Road and Park Road	**	**	411	**
Approximately 400 feet east of intersection of Pocket Road and Site Road	**	**	411	**
At intersection of Park Drive and Major Street	**	**	418	**
Approximately 800 feet west of intersection of Stowers Road and Bernia Street	**	**	421	**

*National Geodetic Vertical Datum of 1929
**Data not available

TABLE 3 - SUMMARY OF STILLWATER ELEVATIONS - continued

FLOODING SOURCE AND LOCATION	ELEVATION (feet NGVD*) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
VILLAGE OF FAIRMONT CITY (continued)				
At intersection of Watts Street and Brinson Drive	**	**	418	**
Approximately 0.5 mile east of intersection of Watts Street and Brinson Drive	**	**	418	**
At intersection of Caseyville Road and Bunkum Road	**	**	422	**
At intersection of North 82nd Street and Bunkum Road	**	**	422	**
At intersection of Rock Springs Road and McKinley Avenue	**	**	415	**
North of Old Cahokia Canal and south of County Road boundary	**	**	403	**
Approximately 1,000 feet northeast of the intersection of Mullins Creek Road and Prairie du Pont Creek	**	**	418	**
South of Cahokia Canal, north of CSX Transportation and southwest of Old Cahokia Canal	**	**	403	**
Approximately 1,000 feet east of the intersection of Rock Springs Road and St. Clair Avenue	**	**	415	**
Approximately 750 feet west of the intersection of Lake Drive and North 88th Street	**	**	414	**
Approximately 400 feet south of the intersection of U.S. Route 255 (County Route 3)	**	**	404	**
Approximately 700 feet southeast of the intersection of State Route 157 and Carol Street	**	**	411	**
VILLAGE OF WASHINGTON PARK, CITY OF EAST ST. LOUIS				
Approximately 300 feet south of the intersection of St. Clair Avenue and Louisville and Nashville Railroad	**	**	414	**
Approximately 500 feet north of the intersection of St. Clair Avenue and Louisville and Nashville Railroad	**	**	414	**

*National Geodetic Vertical Datum of 1929
**Data not available

TABLE 3 - SUMMARY OF STILLWATER ELEVATIONS - continued

FLOODING SOURCE AND LOCATION	ELEVATION (feet NGVD*) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
VILLAGE OF WASHINGTON PARK				
Approximately 700 feet east of the intersection of St. Clair Avenue and Louisville and Nashville Railroad	**	**	417	**

*National Geodetic Vertical Datum of 1929
**Data not available

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Users should be aware that flood elevations shown on the FIRM represent rounded whole-foot elevations and may not exactly reflect the elevations shown on the Flood Profiles or in the Floodway Data tables in the FIS report. For construction and/or floodplain management purposes, users are encouraged to use the flood elevation data presented in this FIS in conjunction with the data shown on the FIRM.

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).

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

The hydraulic analyses for this FIS 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.

All elevations are referenced to the National Geodetic Vertical Datum of 1929 (NGVD 29). Elevation reference marks (ERMs) used in this study, and their descriptions, are shown on the FIRM. ERMs shown on the FIRM represent those used during the preparation of this and previous FISs. The elevations associated with each ERM were obtained and/or developed during FIS production to establish vertical control for determination of flood elevations and floodplain boundaries shown on the FIRM. Users should be aware that these ERM elevations may have changed since the publication of this FIS. To obtain up-to-date elevation information on National Geodetic Survey (NGS) ERMs 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. Map users should seek

verification of non-NGS ERM monument elevations when using these elevations for construction or floodplain management purposes.

Precountywide

The hydraulic analyses described in the previously printed FIS reports for communities within St. Clair County have been compiled from the FIS reports and are summarized below.

For Ogles Creek, Ogles Creek Tributary, Engle Creek, and Engle Creek Ditch, channel and valley cross sections were obtained by photogrammetric methods. The photogrammetry was used to draw four-foot contour lines for delineating flood limits on the work maps (Reference 17). However, the mapping was done to a contour interval accuracy of two feet, which provided data for the valley cross sections to plus or minus one foot of the actual elevations. For all other streams, cross sections were obtained by field surveys and from topographic maps (Reference 18). All bridges and culverts were field checked to obtain elevation data and structural geometry. The location and extent of the cross sections were determined during field inspections.

Water-surface profiles for the Mississippi River were developed by a standard hydraulic model technique using the Mississippi River Basin Model at the USACE Waterways Experiment Station at Clinton, Mississippi (Reference 12). Profiles are representative of the present channel and floodplain conditions, with all levees, dikes, navigation structures, and major landfills in place. Channel and overbank roughness factors were simulated by analyzing aerial photographs and stage-discharge hydrograph data, and adjusting roughness in the model. The entire model was verified by reproducing stages and discharges measured during the 1973 flood (Reference 15).

The Canteen Creek hydraulic analysis required special treatment below State Highway 157. There are levees along the channel from this point downstream. Peak flows of all floods studied, including the 10-year flood, would spill over the channel just below State Highway 157 and run through the overbank area. When the floodwater spills over the channel bank, the water levels downstream in the overbank area are lower than the levels in the channel at the same location. Profiles were computed and drawn for both the channel and the overbank downstream of State Highway 157. The channel capacity for the stream segment between State Highways 40 and 157 was determined for each frequency flood. This capacity was then subtracted from the total peak flow and the remainder was used to compute water-surface profiles in the overbank area. The USACE HEC-2 computer program was used for this analysis (Reference 19).

For all other flooding sources other than Canteen Creek and the Mississippi River, water-surface elevations of floods of the selected recurrence intervals were computed through use of the USACE HEC-2 computer program (Reference 19).

Starting water-surface elevations were determined by normal depth for all streams, other than Catawba Creek, which had elevations taken from Richland Creek at its confluence with Catawba Creek.

Channel roughness factors (Manning's "n") used in the hydraulic computations were chosen by engineering judgment, use of high water marks, and based on field observations of the streams and floodplain areas. For Schoenberger Creek, each cross section has its own values of Manning's "n" which may vary horizontally with each section; but in general, 0.04 was used for the channel and 0.07 was used for the immediate overbank areas. In the few cases where it was felt there would be no flow, a value of 0.99 was used. The channel and overbank "n" values for all of the streams studied by detailed methods are shown in the following tabulation.

Stream	Channel "n"	Overbank "n"
Ash Creek	0.035-0.080	0.035-0.140
Canteen Creek	0.035-0.080	0.040-0.070
Catawba Creek	0.067-0.098	0.030-0.048
Douglas Creek	0.035-0.070	0.050-0.140
Engle Creek	0.012-0.065	0.030-0.090
Engle Creek Ditch	0.012-0.065	0.030-0.090
Hog River	0.035-0.070	0.050-0.140
Kaskaskia River	0.035-0.070	0.050-0.140
Little Canteen Creek	0.040-0.080	0.040-0.070
Little Silver Creek	0.035-0.070	0.050-0.140
Loop Creek	0.035-0.070	0.050-0.140
Mississippi River	0.035-0.070	0.050-0.140
Ogles Creek	0.012-0.065	0.030-0.090
Ogles Creek Tributary	0.012-0.065	0.030-0.090
Prairie du Pont Diversion Channel	0.035-0.070	0.050-0.140
Richland Creek	0.035-0.070	0.030-0.098
Schoenberger Creek	0.04	0.07
Silver Creek	0.05-0.07	0.05-0.09
West Fork of Richland Creek	0.035-0.070	0.050-0.140
Wolf Branch	0.012-0.055	0.05-0.12

The depth of the shallow flooding areas were determined by averaging planimetered areas of equal elevations from topographic maps obtained from aerial photographs (Reference 18). By comparing these elevations with the computed runoff volumes, ponding locations were determined.

Cross section data obtained from aerial photographs were used to prepare storage-elevation curves for the Blue Waters Ditch and Dead Creek areas. Rating curves were developed for each bridge and culvert in the area. Flooding along Dead Creek and Blue Waters Ditch is primarily a matter of interconnected storage ponds with little flow. This is due to the relatively flat slopes in the drainage courses and the constrictions caused by undersized culverts. For this reason, water-surface elevations were determined using the USACE HEC-1 Flood Hydrograph Package (Reference 10). These water-surface elevations were used to delineate those areas subject to 100-year flooding under shallow ponding conditions. This was accomplished using topographic maps at a scale of 1:4,800 with a contour interval of 2 feet (Reference 18).

To consider the effects of Harding Ditch on the shallow flooding areas, the capacity of the ditch was obtained using the height of the levees as the bank. It was determined that during a 100-year flood, the elevation of water in the ditch will be higher than the levee in some areas and will overtop it. The amount of water that will overtop the levee was then added to the amount of water already determined for the ponding areas and a new elevation was computed.

The elevations for the lower reach of Engle Creek and Rock Spring Branch, which were studied by approximate methods, were found in the Reconnaissance Study, O'Fallon, St. Clair County, Illinois, prepared by the Southwestern Illinois Metropolitan and Regional Planning Commission (Reference 20).

For the streams studied by approximate methods, information from a previous USACE study and from an Illinois Department of Transportation study was used to estimate the limits of flooding (References 21 and 22).

Countywide

For Schoenberger Creek, Harding Ditch, and various ponding areas, flood elevations experienced in May 1995 exceeded elevations published in previous FISs. High water mark elevations were obtained by field survey of these areas following the May 1995 flood. These high water elevations and photogrammetric maps of the areas with 2-foot contour intervals were used to determine the limits of flooding (References 23 and 24).

The HEC-RAS model for Silver Creek was modified to incorporate updated hydrology and new geometry along the stream from approximately 500 feet downstream of Norfolk Southern Railroad to just upstream of Interstate 64.

Wolf Creek water-surface elevations were computed using HEC-2.

Starting water-surface elevations for Wolf Branch were calculated using the slope/area method.

3.3 Vertical Datum

All FISs and FIRMs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum in use for newly created or revised FISs and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD 29). With the finalization of the North American Vertical Datum of 1988 (NAVD 88), many FIS reports and FIRMs are being prepared using NAVD 88 as the referenced vertical datum.

All flood elevations shown in this FIS report and on the FIRM are referenced to NGVD 29. Structure and ground elevations in the community must, therefore, be referenced to NGVD 29. It is important to note that adjacent communities may be referenced to NAVD 88. This may result in differences in base flood elevations across the corporate limits between the communities.

For more information on NAVD 88, see Converting the National Flood Insurance Program to the North American Vertical Datum of 1988, FEMA Publication FIA-20/June 1992, or contact the Vertical Network Branch, National Geodetic Survey, Coast and Geodetic Survey, National Oceanic and Atmospheric Administration, Rockville, Maryland 20910 (Internet address http://www.ngs.noaa.gov).

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 provides 100-year floodplain data, which may include a combination of the following: 10-, 50-, 100-, and 500-year flood elevations; delineations of the 100-year and 500-year floodplains; and 100-year floodway. 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 (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent annual chance (500-year) flood is employed to indicate additional areas of flood risk in the community. For the streams studied in detail, the 100- and 500-year floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using: topographic maps developed from aerial photographs at a scale of 1:4,800 with a contour interval of 2 feet; topographic maps at a scale of 1:4,800 with a contour interval of 4 feet; and topographic maps at a scale of 1:24,000 with a contour interval of 10 feet (References 18, 17, 26, 27, and 28). Along the Mississippi River, the levee defines the boundaries of the 100- and 500-year floods. For the areas subject to shallow flooding studied in detail, the boundaries of the 100-year flood have been delineated using the flood elevations determined using the USACE HEC-1 computer program in conjunction with topographic maps at a scale of 1:4,800 with a contour interval of 2 feet (References 10 and 18).

For the streams studied by approximate methods, the 100-year floodplain boundaries were delineated using: topographic maps at a scale of 1:4,800 feet with a contour interval of 4 feet; the Reconnaissance Study O'Fallon, St. Clair County, Illinois; topographic maps at a scale of 1:24,000 with a contour interval of 10 feet; previously published Flood Hazard Boundary Maps; USGS Flood Prone Areas Maps; Southwestern Illinois Metropolitan Regional Planning Commission 100-year Flood Plain Maps; and the USGS publication, Depth and Frequency of Floods in Illinois (References 25, 20, 28, 29, 30, 31, and 32).

The 100- and 500-year floodplain boundaries are shown on the FIRM (Exhibit 2). On this map, the 100-year floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A, AE, and AH), and the 500-year floodplain

boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 100- and 500-year floodplain boundaries are close together, only the 100-year floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

For the streams studied by approximate methods, only the 100-year 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 100-year 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 100-year flood can be carried without substantial increases in flood heights. Minimum federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced. In Illinois, under Revised Statutes, Section 65f, Chapter 19 as amended 1973, encroachment in the floodplain is limited to that which will cause only an insignificant increase in flood heights (Reference 33). Thus, at the recommendation of the DOWR, a floodway having no more than a 0.1-foot surcharge has been delineated for this FIS (Reference 34). The floodways in this FIS are presented to local agencies as a minimum standard that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodway for the Mississippi River is coincident with the 1% annual chance floodplain. Since the State of Illinois has regulations allowing only an insignificant rise in water-surface elevations due to encroachments, no specific computations were made to determine the Mississippi River floodway. The water-surface elevations were determined with the existing levee alignment considered. Velocities in the floodway are extremely hazardous. No floodway was computed for Prairie du Pont Diversion Channel or Engle Creek Ditch. Divided flow occurs on the Kaskaskia River near the Village of Fayetteville; the flow in and around the islands is negligible compared to the effective flow carried by the main channel.

The floodways presented in this FIS 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 (Table 4). The computed floodways are shown on the FIRM (Exhibit 2). In cases where the floodway and 100-year floodplain boundaries are either close together or collinear, only the floodway boundary is shown. Portions of the floodways for Canteen Creek, the Kaskaskia River, and the Mississippi River, extend beyond the county boundary.

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Ash Creek								
A	840[1]	793	2,192	1.4	426.1	421.8[4]	421.9	0.1
B	1,588[1]	633	3,514	0.9	426.7	424.8[4]	424.9	0.1
C	3,038[1]	561	3,164	1.0	426.8	425.2[4]	425.3	0.1
D	4,778[1]	574	1,926	1.7	426.8	426.2[4]	426.2	0.0
E	6,828[1]	629	2,729	1.1	427.1	427.1	427.2	0.1
F	9,889[1]	800	1,262	2.2	430.9	430.9	431.0	0.1
G	11,839[1]	488	1,243	2.2	434.3	434.3	434.4	0.1
H	13,039[1]	72	373	7.0	436.2	436.2	436.3	0.1
Canteen Creek								
A	13,434[2]	3,371	2,237	2.5	422.9	422.9	423.0	0.1
B	16,632[2]	2,473	2,025	2.8	429.1	429.1	429.2	0.1
C	19,906[2]	94	1,282	6.6	439.1	439.1	439.1	0.0
D	20,011[2]	400	2,368	3.5	440.8	440.8	440.8	0.0
E	24,288[2]	581	3,312	2.6	447.5	447.5	447.6	0.1
F	26,664[2]	1,301	2,452	3.5	450.8	450.8	450.9	0.1
G	28,618[2]	758	5,717	1.5	456.6	456.6	456.6	0.0
H	32,525[2]	105	1,273	6.6	461.3	461.3	461.4	0.1
I	34,109[2]	265	1,378	6.0	464.8	464.8	464.9	0.1
Catawba Creek								
A	0.13[3]	578	5,822	0.6	497.6	490.7[5]	490.8	0.1
B	0.33[3]	287	1,673	1.6	497.6	495.1[5]	495.2	0.1
C	0.46[3]	87	572	4.6	497.6	496.3[5]	496.4	0.1
D	0.60[2]	100	888	3.0	504.6	504.6	504.6	0.0
E	0.69[3]	220	2,242	1.0	512.0	512.0	512.0	0.0

[1]Feet above confluence with Loop Creek
[2]Feet above mouth
[3]Miles above confluence with Richland Creek
[4]Elevation computed without consideration of overflow effects from Loop Creek
[5]Elevation computed without consideration of backwater effects from Richland Creek

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

FLOODWAY DATA

ASH CREEK – CANTEEN CREEK - CATAWBA CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Douglas Creek								
A	900[1]	3,114[4]	9,866	1.8	433.3	432.9[7]	433.0	0.1
B	3,115[1]	3,800[4]	1,451	7.3	435.4	435.4	435.4	0.0
C	6,917[1]	1,058	4,384	2.4	441.1	441.1	441.2	0.1
D	11,088[1]	90	1,056	9.9	449.0	449.0	449.0	0.0
E	12,725[1]	1,237	1,724	5.8	453.5	453.5	453.5	0.0
Hog River								
A	7,973[2]	265	698	1.9	418.0	411.2[8]	411.3	0.1
B	9,895[2]	59	428	2.7	418.0	413.1[8]	413.2	0.1
C	12,408[2]	240	812	1.4	418.0	414.9[8]	415.0	0.1
D	13,897[2]	48	228	5.0	418.0	416.4[8]	416.5	0.1
Kaskaskia River								
A	20.9[3]	5,647[5]	105,077	0.8	395.2	392.1[9]	392.2	0.1
B	22.6[3]	7,431/2,350[6]	136,261	0.6	395.2	392.4[9]	392.5	0.1
C	24.7[3]	4,036/3,650[6]	71,932	1.1	395.3	392.7[9]	392.8	0.1
D	26.2[3]	5,341/1,300[6]	60,049	1.3	395.3	393.1[9]	393.2	0.1
E	28.2[3]	5,730	95,958	0.8	395.3	393.4[9]	393.5	0.1
F	28.4[3]	5,214	77,585	1.0	395.3	393.4[9]	393.5	0.1
G	29.4[3]	4,100	20,938	3.8	395.5	394.4[9]	394.5	0.1
H	30.2[3]	5,807	74,976	0.9	395.6	394.8[9]	394.9	0.1
I	32.3[3]	7,300	92,659	0.8	395.6	395.3[9]	395.4	0.1
J	35.8[3]	2,500	21,075	3.3	395.9	395.9	396.0	0.1
K	36.1[3]	2,260	23,343	3.0	396.4	396.4	396.5	0.1
L	36.9[3]	3,230	24,712	2.8	397.4	397.4	397.5	0.1
M	37.0[3]	4,092	30,054	2.3	397.7	397.7	397.8	0.1
N	38.5[3]	10,015	48,936	1.4	400.2	400.2	400.3	0.1
O	39.4[3]	11,467	122,298	0.6	400.6	400.6	400.7	0.1

[1]Feet above confluence with Richland Creek
[2]Feet above confluence with Silver Creek
[3]Miles above confluence with the Mississippi River
[4]Combined floodway width of Richland Creek/Douglas Creek
[5]Width extends beyond county boundary
[6]Total width/width within county boundary
[7]Elevation computed without consideration of overflow effects from Richland Creek
[8]Elevation computed without consideration of overflow effects from Silver Creek
[9]Elevation computed without consideration of backwater effects from the Mississippi River

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

FLOODWAY DATA

DOUGLAS CREEK – HOG RIVER – KASKASKIA RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Kaskaskia River (continued)								
P	41.5[1]	10,507	137,935	0.5	400.9	400.9	401.0	0.1
Q	43.9[1]	13,497	116,507	0.6	401.2	401.2	401.3	0.1
R	46.3[1]	14,209	136,302	0.5	401.7	401.7	401.8	0.1
Little Canteen Creek								
A	350[2]	630	2,447	2.4	427.2	427.2	427.3	0.1
B	4,550[2]	908	1,239	4.7	439.4	439.4	439.5	0.1
C	4,710[2]	880	2,576	2.2	442.8	442.8	442.8	0.0
D	5,085[2]	250	1,165	5.0	445.3	445.3	445.3	0.0
E	5,955[2]	125	989	5.8	447.1	447.1	447.1	0.0
F	6,335[2]	150	517	11.2	447.9	447.9	447.9	0.0
G	6,775[2]	202	1,215	4.8	452.0	452.0	452.0	0.0
H	8,500[2]	434	2,281	2.0	456.0	456.0	456.1	0.1
I	12,799[2]	296	931	4.9	468.4	468.4	468.5	0.1
J	13,969[2]	434	1,474	3.1	471.3	471.3	471.4	0.1
K	14,927[2]	89	660	7.4	473.1	473.1	473.2	0.1
Little Silver Creek								
A	2,700[3]	2,100[4]	6,405	5.5	431.0	431.0[5]	431.0	0.0
B	10,190[3]	1,566	10,381	1.2	432.0	431.2[5]	431.3	0.1
C	16,542[3]	285	2,503	5.1	434.0	433.9[5]	434.0	0.1
D	19,024[3]	1,641	9,599	1.3	436.1	436.1	436.2	0.1
E	24,647[3]	317	2,968	3.6	439.7	439.7	439.8	0.1
F	27,646[3]	1,082	7,018	1.5	441.9	441.9	442.0	0.1
G	29,256[3]	149	1,621	6.6	442.2	442.2	442.3	0.1
H	30,344[3]	1,206	9,669	1.2	443.7	443.7	443.8	0.1
I	38,264[3]	898	5,337	2.1	447.7	447.7	447.8	0.1
J	40,100[3]	712	5,313	2.1	451.1	451.1	451.2	0.1

[1]Miles above confluence with the Mississippi River
[2]Feet above confluence with Harding Ditch
[3]Feet above confluence with Silver Creek
[4]Combined floodway width of Little Silver Creek and Silver Creek
[5]Elevation computed without consideration of backwater effects from Silver Creek

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

FLOODWAY DATA

KASKASKIA RIVER – LITTLE CANTEEN CREEK – LITTLE SILVER CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Little Silver Creek (continued)								
K	43,185	1,154	6,743	1.1	453.7	453.7	453.8	0.1
L	45,135	1,165	2,031	3.6	454.3	454.3	454.4	0.1
M	46,729	807	3,469	1.7	455.3	455.3	455.4	0.1
N	48,778	2,834	8,161	0.7	456.7	456.7	456.8	0.1
O	54,141	680	2,999	1.9	462.3	462.3	462.4	0.1
Loop Creek								
A	9,546	1,831	1,443	6.5	421.7	421.7	421.7	0.0
B	12,778	1,488	7,231	1.3	423.6	423.6	423.6	0.0
C	17,424	1,267	2,524	4.2	428.1	428.1	428.2	0.1
D	19,663	1,600	6,072	1.8	429.2	429.2	429.3	0.1
E	20,539	1,275	7,388	1.6	430.0	430.0	430.1	0.1
F	26,664	433	2,012	6.0	438.4	438.4	438.5	0.1
G	27,667	884	6,443	1.9	442.0	442.0	442.1	0.1
H	29,821	710	1,285	5.6	443.7	443.7	443.8	0.1
I	35,270	790	2,939	2.4	453.7	453.7	453.8	0.1
J	35,719	984	4,183	1.7	454.2	454.2	454.3	0.1
K	40,740	1,400	4,641	1.7	464.2	464.2	464.3	0.1
L	43,243	680	3,546	1.9	469.1	469.1	469.1	0.0
M	48,682	390	1,487	4.5	485.0	485.0	485.1	0.1
N	50,582	384	1,503	4.4	495.3	495.3	495.3	0.0
O	54,226	245	807	8.3	503.3	503.3	503.3	0.0

[1]Feet above confluence with Silver Creek

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

FLOODWAY DATA

LITTLE SILVER CREEK – LOOP CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Ogles Creek								
A	1,637[1]	500	3,681	1.7	448.5	447.4[3]	447.4	0.0
B	6,288[1]	573	4,608	1.4	461.3	461.3	461.4	0.1
C	8,765[1]	251	1,622	3.8	462.1	462.1	462.2	0.1
D	12,836[1]	552	2,370	2.6	470.4	470.4	470.5	0.1
E	18,110[1]	547	2,351	2.5	479.3	479.3	479.4	0.1
F	20,492[1]	253	1,754	3.0	484.2	484.2	484.3	0.1
G	22,604[1]	311	1,652	2.9	490.8	490.8	490.9	0.1
H	27,356[1]	93	661	6.9	494.6	494.6	494.6	0.0
I	28,887[1]	39	474	6.6	500.2	500.2	500.3	0.1
J	33,744[1]	32	329	8.4	512.3	512.3	512.3	0.0
K	39,970[1]	137	557	4.3	526.1	526.1	526.2	0.1
L	45,144[1]	131	637	2.8	536.2	536.2	536.3	0.1
M	47,890[1]	58	336	4.8	545.0	545.0	545.1	0.1
N	48,980[1]	149	1,115	0.9	550.6	550.6	550.7	0.1
O	49,570[1]	263	1,508	0.7	550.7	550.7	550.8	0.1
P	51,600[1]	160	620	2.2	554.2	554.2	554.3	0.1
Q	52,855[1]	230	350	3.7	557.3	557.3	557.3	0.0
R	53,860[1]	60	310	3.7	561.0	561.0	561.1	0.1
S	54,940[1]	40	250	4.6	566.0	566.0	566.1	0.1
Ogles Creek Tributary								
A	340[2]	179	806	0.8	550.6	549.4[4]	549.5	0.1
B	645[2]	180	751	0.8	550.6	549.5[4]	549.6	0.1
C	1,060[2]	220	379	1.5	550.6	549.7[4]	549.8	0.1

[1]Feet above confluence with Silver Creek
[2]Feet above confluence with Ogles Creek
[3]Elevation computed without consideration of backwater effects from Silver Creek
[4]Elevation computed without consideration of backwater effects from Ogles Creek

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

FLOODWAY DATA

OGLES CREEK – OGLES CREEK TRIBUTARY

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Richland Creek								
A	83,447	1,594	15,584	2.4	417.3	417.3	417.4	0.1
B	91,238	2,800	7,362	5.1	420.9	420.9	420.9	0.0
C	91,502	2,675	17,419	2.1	422.6	422.6	422.6	0.0
D	98,947	2,947[2]	28,363	1.3	424.2	424.2	424.2	0.0
E	107,237	1,601	10,311	2.8	426.0	426.0	426.1	0.1
F	108,240	2,009	13,276	2.2	426.5	426.5	426.6	0.1
G	112,834	2,803	13,968	2.0	428.8	428.8	428.9	0.1
H	115,790	1,745	10,081	2.7	430.3	430.3	430.4	0.1
I	115,949	1,788	10,359	2.7	430.4	430.4	430.5	0.1
J	120,014	3,114[3]	14,865	1.7	432.9	432.9	433.0	0.1
K	120,965	3,800[3]	9,866	1.8	433.3	433.3	433.4	0.1
L	126,298	1,566	8,447	2.1	437.0	437.0	437.1	0.1
M	129,149	1,170	3,197	5.1	440.7	440.7	440.7	0.0
N	132,950	1,991	10,886	1.7	443.9	443.9	443.9	0.0
O	135,010	1,678	7,979	2.3	445.3	445.3	445.4	0.1
P	138,970	1,882	2,165	2.3	447.9	447.9	447.9	0.0
Q	142,824	148	2,202	6.7	452.5	452.5	452.6	0.1
R	144,038	1,843	4,434	3.3	454.7	454.7	454.8	0.1
S	148,368	1,147	4,912	3.0	457.4	457.4	457.5	0.1
T	154,387	744	2,746	4.6	462.6	462.6	462.7	0.1
U	155,760	146	1,529	8.3	466.4	466.4	466.5	0.1
V	156,921	647	2,182	5.8	467.9	467.9	468.0	0.1
W	158,822	868	3,689	3.8	472.3	472.3	472.4	0.1
X	160,354	917	4,754	2.9	473.9	473.9	474.0	0.1
Y	162,518	245	1,712	4.9	475.3	475.3	475.4	0.1
Z	163,363	257	1,526	5.5	476.5	476.5	476.6	0.1
AA	163,997	849	1,759	4.8	479.0	479.0	479.0	0.0
AB	165,370	500	2,531	3.3	481.3	481.3	481.3	0.0

[1]Feet above mouth
[2]Combined floodway width of Richland Creek and West Fork of Richland Creek
[3]Combined floodway width of Richland Creek and Douglas Creek

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

FLOODWAY DATA

RICHLAND CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Richland Creek (continued)								
AC	165,845	1,070	5,495	1.5	482.6	482.6	482.6	0.0
AD	166,848	612	2,312	3.6	485.8	485.8	485.8	0.0
AE	167,693	278	1,296	6.5	487.7	487.7	487.7	0.0
AF	168,485	240	1,332	6.3	491.4	491.4	491.5	0.1
AG	169,435	448	4,247	2.0	492.5	492.5	492.5	0.0
AH	169,910	170	2,736	3.1	497.0	497.0	497.0	0.0
AI	171,072	764	5,691	1.5	497.4	497.4	497.5	0.1
AJ	172,022	557	6,699	1.3	497.8	497.8	497.9	0.1
AK	173,501	476	6,216	1.4	499.0	499.0	499.1	0.1
AL	173,818	500	6,506	1.3	499.1	499.1	499.2	0.1
AM	174,451	820	6,513	1.3	499.1	499.1	499.2	0.1
AN	175,613	672	8,598	1.0	499.7	499.7	499.8	0.1
AO	175,877	921	10,968	0.8	499.9	499.9	500.0	0.1
AP	177,936	984[2]	6,890	1.2	500.3	500.3	500.4	0.1
AQ	178,570	407	1,226	6.7	504.4	504.4	504.4	0.0
AR	180,998	597	5,312	1.8	506.8	506.8	506.8	0.0
AS	183,533	873	3,585	2.6	508.8	508.8	508.8	0.0
AT	189,763	467	3,450	2.6	514.9	514.9	515.0	0.1
AU	192,826	474	1,581	5.4	518.3	518.3	518.3	0.0
AV	196,416	611	4,352	2.2	522.3	522.3	522.4	0.1
AW	201,960	412	2,712	2.2	529.7	529.7	529.8	0.1
AX	202,805	721	4,232	1.4	530.1	530.1	530.2	0.1

[1]Feet above mouth
[2]Combined floodway width of Richland Creek and Wolf Branch

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

FLOODWAY DATA

RICHLAND CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Schoenberger Creek No. 1								
A	3.35[1]	25	227	2.0	410.4	410.4	410.4	0.0
B	3.49[1]	57	227	1.6	410.6	410.6	410.7	0.1
C	3.69[1]	56	265	0.9	411.0	411.0	411.1	0.1
D	3.80[1]	17	151	1.2	411.1	411.1	411.2	0.1
E	3.95[1]	14	127	1.5	411.1	411.1	411.2	0.1
F	4.09[1]	85	293	0.6	411.2	411.2	411.3	0.1
G	4.23[1]	160	463	0.4	411.3	411.3	411.4	0.1
H	4.38[1]	14	86	1.9	411.3	411.3	411.4	0.1
I	4.60[1]	11	47	2.4	411.4	411.4	411.5	0.1
Schoenberger Creek No. 2								
J	8,395[2]	51	729	11.9	437.1	437.1	437.2	0.1
K	13,330[2]	95	1,105	6.6	448.5	448.5	448.6	0.1
L	16,170[2]	112	1,122	3.0	456.4	456.4	456.5	0.1
M	19,220[2]	174	1,122	3.0	466.8	466.8	466.9	0.1
N	21,410[2]	57	487	6.9	473.0	473.0	473.1	0.1
O	22,870[2]	167	795	4.2	482.2	482.2	482.3	0.1
Silver Creek								
A	7,100[3]	1,318	15,104	1.5	395.6	394.3[4]	394.3	0.0
B	14,715[3]	367	19,430	4.4	395.9	395.9	395.9	0.0
C	18,250[3]	743	8,770	2.5	396.9	396.9	397.0	0.1
D	29,500[3]	2,920	29,850	0.8	397.6	397.6	397.6	0.0
E	36,500[3]	763	7,207	3.1	399.1	399.1	399.2	0.1
F	45,542[3]	323	4,742	4.6	407.6	407.6	407.7	0.1
G	49,650[3]	744	10,998	2.0	409.3	409.3	409.4	0.1
H	51,800[3]	240	5,063	4.4	410.1	410.1	410.2	0.1
I	54,400[3]	295	6,088	3.6	412.5	412.5	412.5	0.0

[1]Miles above mouth
[2]Feet above confluence with Harding Ditch
[3]Feet above confluence with Kaskaskia River
[4]Elevation computed without consideration of backwater effects from Kaskaskia River

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

FLOODWAY DATA

SCHOENBERGER CREEK NO. 1 - SCHOENBERGER CREEK NO. 2 - SILVER CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Silver Creek (continued)								
J	63,250	656	13,671	1.2	417.3	417.3	417.4	0.1
K	72,270	1,950	20,995	1.1	417.7	417.7	417.8	0.1
L	72,310	1,950	20,995	1.1	417.7	417.7	417.8	0.1
M	83,700	4,530	77,490	0.4	417.9	417.9	418.0	0.1
N	93,150	5,314	57,434	0.4	418.0	418.0	418.1	0.1
O	106,325	6,247	75,939	0.3	419.9	419.9	419.9	0.0
P	112,125	249	3,355	6.6	420.7	420.7	420.7	0.0
Q	118,165	3,100	34,105	0.7	422.1	422.1	422.2	0.1
R	125,540	2,919	23,375	7.4	422.7	422.7	422.8	0.1
S	130,867	2,132	23,651	0.9	426.7	426.7	426.7	0.0
T	137,117	2,303	21,824	1.0	427.0	427.0	427.0	0.0
U	145,432	1,676	12,706	1.7	427.7	427.7	427.8	0.1
V	149,377	1,184	11,523	1.9	428.6	428.6	428.6	0.0
W	150,947	718	10,080	5.0	430.9	430.9	430.9	0.0
X	156,347	4,063	28,979	0.8	432.3	432.3	432.3	0.0
Y	161,507	403	3,744	5.9	436.1	436.1	436.2	0.1
Z	162,632	2,607	14,537	1.5	438.2	438.2	438.2	0.0
AA	166,722	4,346	38,237	0.6	438.8	438.8	438.9	0.1
AB	171,972	4,751	39,387	0.6	439.2	439.2	439.3	0.1
AC	177,372	821	6,794	3.2	441.5	441.5	441.6	0.1
AD	180,572	1,521	12,760	1.7	444.6	444.6	444.7	0.1
AE	185,522	662	6,743	3.3	448.5	448.5	448.6	0.1
AF	187,022	1,410	13,204	1.7	450.3	450.3	450.4	0.1

[1]Feet above confluence with Kaskaskia River

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

FLOODWAY DATA

SILVER CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
West Fork of Richland Creek								
A	3,168	2,947[2]	28,363	1.3	424.2	424.0[3]	424.1	0.1
B	10,100	1,393	3,584	2.8	426.0	426.0	426.1	0.1
C	10,877	1,659	2,608	3.9	427.9	427.9	428.0	0.1
D	17,424	1,608	6,056	1.7	436.3	436.3	436.3	0.0
E	22,229	97	1,215	7.9	443.6	443.6	443.6	0.0
F	30,835	1,039	2,932	2.9	451.5	451.5	451.5	0.0
G	35,534	1,152	3,534	2.3	457.9	457.9	458.0	0.1
H	45,778	514	2,197	3.4	476.9	476.9	477.0	0.1
I	53,909	550	1,664	4.1	492.3	492.3	492.4	0.1
J	58,291	618	2,393	2.8	500.2	500.2	500.3	0.1
K	63,202	62	651	8.4	510.8	510.8	510.9	0.1
Wolf Branch								
A	2,040	458	3,977	0.5	506.9	506.9	506.9	0.0
B	4,298	16	170	11.6	508.5	508.5	508.6	0.1
C	4,550	230	1,276	1.5	515.0	515.0	515.0	0.0
D	4,970	32	407	4.9	517.0	517.0	517.0	0.0
E	6,215	54	333	5.9	523.0	523.0	523.0	0.0

[1]Feet above confluence with Richland Creek
[2]Combined floodway width of Richland Creek and West Fork Richland Creek
[3]Elevation computed without consideration of overflow effects from Richland Creek

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

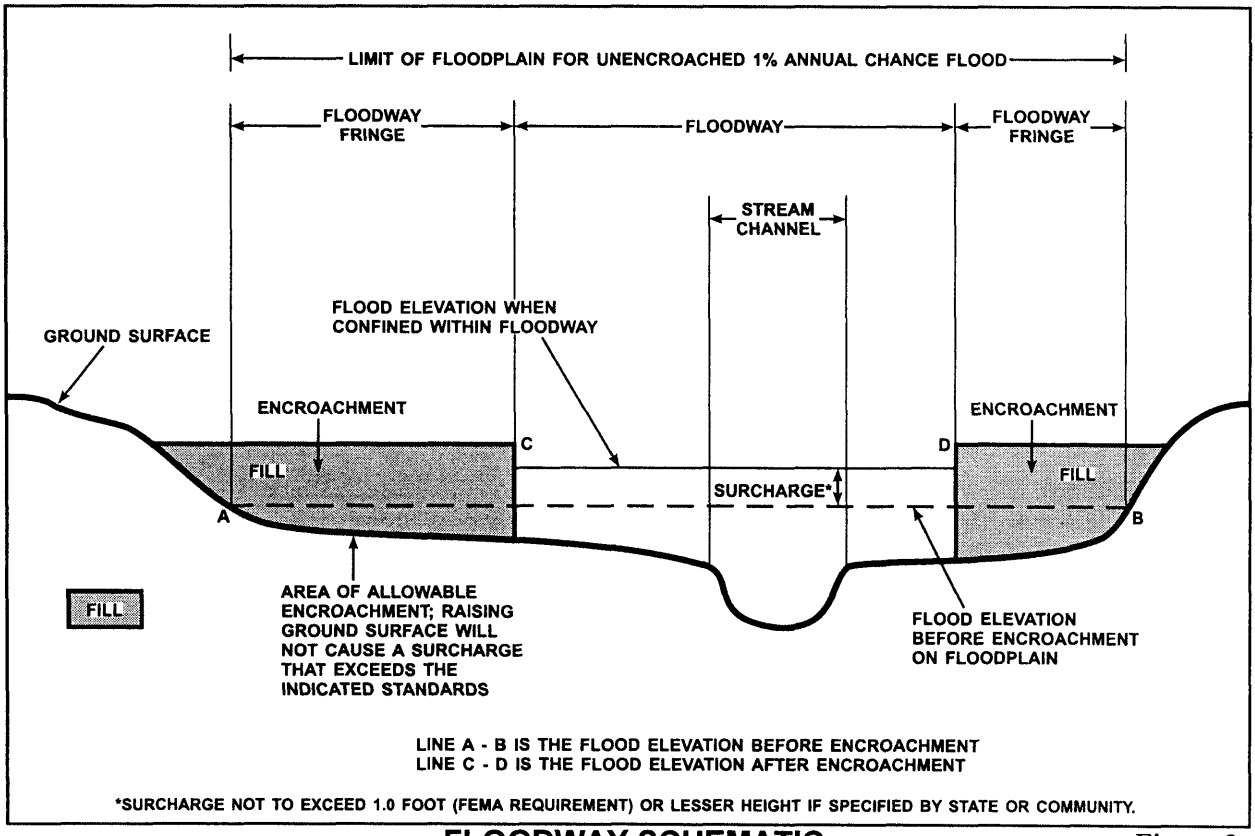
FLOODWAY DATA

WEST FORK OF RICHLAND CREEK – WOLF BRANCH

Near the mouths of streams studied in detail, floodway computations are made without regard to flood elevations on the receiving water body. Therefore, "Without Floodway" elevations presented in Table 4 for certain downstream cross sections of Ash Creek, Catawba Creek, Douglas Creek, the Hog River, the Kaskaskia River, Little Silver Creek, Ogles Creek, Ogles Creek Tributary, Silver Creek, and West Fork of Richland Creek are lower than the regulatory flood elevations in that area, which must take into account the 100-year flooding due to backwater from other sources.

Encroachment into areas subject to inundation by floodwaters having hazardous velocities aggravates the risk of flood damage, and heightens potential flood hazards by further increasing velocities. A listing of stream velocities at selected cross sections is provided in Table 4, "Floodway Data." In order to reduce the risk of property damage in areas where the stream velocities are high, the community may wish to restrict development in areas outside the floodway.

The area between the floodway and 100-year floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood by more than 0.1 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 2.



FLOODWAY SCHEMATIC Figure 2

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. The zones are as follows:

Zone A

Zone A is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the FIS by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base flood elevations or depths are shown within this zone.

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the FIS 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 100-year 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 100-year shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-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.

Zone A99

Zone A99 is the flood insurance rate zone that corresponds to areas of the 100-year 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 100-year 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 100-year 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 500-year floodplain, areas within the 500-year floodplain, and to areas of 100-year flooding where average depths are less than 1 foot, areas of 100-year flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 100-year flood by levees. No base flood elevations 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 100-year floodplains that were studied by detailed methods, shows selected whole-foot base flood elevations or average depths. Insurance agents use the zones and base flood elevations in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

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

The current FIRM presents flooding information for the entire geographic area of St. Clair County. Previously, separate 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, where applicable. Historical data relating to the maps prepared for each floodprone community, up to and including this countywide FIS, are presented in Table 5, "Community Map History."

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATE	FIRM EFFECTIVE DATE	FIRM REVISIONS DATE
Alorton, Village of	April 5, 1974	June 18, 1976	June 4, 1980	November 5, 2003
Belleville, City of	May 3, 1974	September 24, 1976	November 19, 1980	November 5, 2003
Brooklyn, Village of	March 1, 1974	April 2, 1976	March 28, 1980	November 5, 2003
Cahokia, Village of	March 29, 1974	April 2, 1976	October 17, 1978	June 27, 1980 November 5, 2003
Caseyville, Village of	December 10, 1976	None	March 16, 1981	November 5, 2003
Centreville, City of	January 13, 1978	None	March 4, 1980	November 5, 2003
Dupo, Village of	May 3, 1974	July 2, 1976	February 4, 1981	November 5, 2003
East Carondelet, Village of	May 3, 1974	April 2, 1976	March 2, 1981	November 5, 2003
East St. Louis, City of	November 16, 1973	June 25, 1976	November 1, 1979	November 5, 2003
Fairmont City, Village of	October 8, 1976	None	March 28, 1980	November 5, 2003
Fairview Heights, City of	April 2, 1976	None	July 3, 1978	November 5, 2003
Fayetteville, Village of	February 22, 1974	June 4, 1976	June 15, 1981	November 5, 2003
Freeburg, Village of	March 22, 1974	June 4, 1976	January 18, 1980	November 5, 2003
Lebanon, City of	November 16, 1973	February 27, 1976	July 2, 1981	November 5, 2003

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATE	FIRM EFFECTIVE DATE	FIRM REVISIONS DATE
Lenzburg, Village of	November 5, 2003	None	November 5, 2003	
Marissa, Village of	November 5, 2003	None	November 5, 2003	
Mascoutah, City of	March 1, 1974	May 28, 1976	June 15, 1981	November 5, 2003
New Athens, Village of	March 22, 1974	June 4, 1976	March 23, 1984	November 5, 2003
O'Fallon, City of	February 22, 1974	October 31, 1975	October 15, 1982	November 5, 2003
Sauget, Village of	December 13, 1974	None	August 1, 1980	July 9, 1982 November 5, 2003
Shiloh, Village of	November 5, 2003	None	November 5, 2003	
Smithton, Village of	March 29, 1974	June 4, 1976	June 25, 1976	November 5, 2003
St. Clair County (Unincorporated Areas)	May 21, 1976	None	December 15, 1981	August 5, 1985 November 5, 2003
St. Libory, Village of	September 6, 1974	June 11, 1976	February 25, 1983	November 5, 2003
Summerfield, Village of	May 3, 1974	May 28, 1976	August 10, 1979	September 28, 1984 November 5, 2003
Swansea, Village of	April 5, 1974	June 4, 1976	December 1, 1981	November 5, 2003
Washington Park, Village of	October 8, 1976	None	June 15, 1979	November 5, 2003

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

7.0 OTHER STUDIES

Other published reports dealing with flood problems in St. Clair County include Plan for Major Drainage: The American Bottoms and Hillside Drainage Area Planning Basins, Plan for Major Drainage: The Richland Creek Planning Basin, and Plan for Major Drainage: The Lower Kaskaskia River Planning Basin, all by the Southwestern Illinois Metropolitan and Regional Planning Commission; and Flood Plain Information, Silver Creek and Tributaries, by the USACE, St. Louis District (References 8, 31, 35, and 6). The profiles used for the Mississippi River are in agreement with the USACE Upper Mississippi River Profiles (Reference 36).

FISs have been prepared for the unincorporated areas of Clinton, Madison, City of Columbia and Monroe County, Randolph, and Washington Counties, Illinois; and St. Louis County, Missouri (References 3, 37, 38, 39, 40, and 41).

Information pertaining to revised and unrevised flood hazards for each jurisdiction within St. Clair County has been compiled into this FIS. Therefore, this FIS supersedes all previously printed FIS reports and FIRMs for all of the jurisdictions within St. Clair County.

8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this FIS can be obtained by contacting FEMA, Federal Insurance and Mitigation Division, 536 South Clark Street, Sixth Floor, Chicago, Illinois 60605.

9.0 BIBLIOGRAPHY AND REFERENCES

1. Federal Emergency Management Agency, Federal Insurance Administration, Flood Insurance Study, City of Collinsville, Madison and St. Clair Counties, Illinois, Washington, D.C., August 18, 1980.

2. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, Village of New Baden, Clinton and St. Clair Counties, Illinois, Washington, D.C., September 4, 1986.

3. Federal Emergency Management Agency, Flood Insurance Study, City of Columbia and Monroe County, Illinois (Unincorporated Areas), Washington, D.C., March 17, 2003.

4. U.S. Army Corps of Engineers, St. Louis District, East St. Louis and Vicinity, Illinois, Blue Waters Ditch Draft Environmental Inventory Report, 1974.

5. Southwestern Metropolitan Area Planning Commission, Land Characteristics Study, St. Clair County, Illinois, June 1970.

6. U.S. Army Corps of Engineers, St. Louis District, Flood Plain Information, Silver Creek and Tributaries, St. Clair County, Illinois - No. 1, St. Louis, Missouri, September 1974.

7. U.S. Geological Survey, Water Data Report IL-76-1, Water Resources Data for Illinois, Water Year 1976, Champaign, Illinois, 1977.

8. Southwestern Illinois Metropolitan and Regional Planning Commission, Plan for Major Drainage: The American Bottoms and Hillside Drainage Area Planning Basin, Collinsville, Illinois, August 1975.

9. 74th Congress of the United States, H.R. 8455, Flood Control Act of 1936, Public Law No. 738, 1936.

10. U.S. Army Corps of Engineers, Hydrologic Engineering Center, Computer Program, HEC-1, Flood Hydrograph Package, Davis, California, 1973.

11. U.S. Geological Survey, Magnitude and Frequency of Floods in the United States, Washington, D.C., 1968.

12. U.S. Army Corps of Engineers, Waterways Experiment Station, Mississippi River Profiles, Vicksburg, Mississippi, 1975.

13. U.S. Geological Survey, Water Resources Data for Illinois, Part 1, Surface Water Records, 1939 to present.

14. U.S. Department of Commerce, National Weather Service, Technical Paper No. 40, Rainfall Intensity - Duration - Frequency Curves, Washington, D.C.: U.S. Government Printing Office, 1961.

15. U.S. Department of Commerce, National Weather Service, Technical Paper No. 40 and Technical Paper No. 49, Rainfall Intensity - Duration - Frequency Curves, Washington, D.C.: U.S. Government Printing Office, 1961.

16. National Oceanographic and Atmospheric Administration, Climatological Data, Illinois, May 1995.

17. U.S. Army Corps of Engineers, St. Louis District, Aerial Photography, Scale 1:4,800, Contour Interval 4 feet: Village of Fayetteville, City of Mascoutah, City of O'Fallon, Illinois, 1979.

18. U.S. Army Corps of Engineers, St. Louis District, Topographic Maps, Scale 1:4,800, Contour Interval 2 feet: East St. Louis and Vicinity, Illinois, 1975.

19. U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center, HEC-2 Water-Surface Profiles, Generalized Computer Program, Davis, California, 1972.

20. Southwestern Illinois Metropolitan and Regional Planning Commission, Reconnaissance Study, O'Fallon, St. Clair County, Illinois, Illinois Department of Transportation, Division of Water Resources, 1976.

21. U.S. Army Corps of Engineers, St. Louis District, East St. Louis and Vicinity, Illinois, Interior Flood Control Project, (unpublished).

22. Illinois Department of Transportation, Division of Water Resources, Strategic Planning Study, Canteen Creek Watershed, Madison and St. Clair Counties, Illinois, September 1978.

23. Highwater Elevations from 1995 flood obtained by field surveys and field reconnaissance.

24. Photogrammetric Maps, contour interval of 2 feet.

25. Kenneth Balk and Associates, Inc., Drainage Study and Storm Water Program for the City of Fairview Heights, Illinois, St. Louis, Missouri, 1975.

26. Surdex Corporation, Aerial Photography, St. Louis, Missouri, April 4, 1979.

27. Surdex Corporation, Orthographic Maps, Scale 1:4,800, Contour Interval 4 feet: Village of Swansea, Illinois, 1975.

28. U.S. Department of the Interior, Geological Survey, 7.5 Minute Series Topographic Maps, Scale 1:24,000, Contour Interval 10 Feet: Alton, Illinois-Missouri, 1954, photorevised 1968; Baldwin, Illinois, 1970; Bethalto, Illinois, 1952, photorevised 1968, Cahokia, Illinois-Missouri, 1954, photorevised 1968 and 1974; Collinsville, Illinois, 1955, photorevised 1968 and 1974; Freeburg, Illinois, 1954, photorevised 1968 and 1974; Granite City, Illinois, 1954, photorevised 1968 and 1974; Highland, Illinois, 1957; Lebanon, Illinois, 1954, photorevised 1968 and 1974; Mascoutah, Illinois, 1954, photorevised 1968 and 1974; Millstadt, Illinois, 1954, photorevised 1968 and 1974; Monks Mound, Illinois,1954, photorevised 1968 and 1974; New Athens East, Illinois, 1954, photorevised 1968 and 1974; New Athens West, Illinois, 1954, photorevised 1968 and 1974; O'Fallon, Illinois, 1954, photorevised 1968 and 1974; Paderborn, Illinois, 1954, photorevised 1968 and 1974; Red Bud, Illinois, 1970; St. Jacob, Illinois 1954, photorevised 1968 and 1974; St. Libory, Illinois, 1964; Tilden, Illinois, 1965; Trenton, Illinois, 1957; Veedy, Illinois, 1957; Webster Groves, Missouri-Illinois, 1954, photorevised 1968 and 1974.

29. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, H-01-43, St. Clair County, Illinois (Unincorporated Areas), May 1976.

30. U.S. Department of the Interior, Geological Survey, Map of Flood-Prone Areas, Scale 1:24,000, Contour Intervals 10 Feet: Freeburg Quadrangle; Champaign, Illinois.

31. Southwestern Illinois Metropolitan and Regional Planning Commission, Plan for Major Drainage: The Richland Creek Planning Basin, Collinsville, Illinois, June 1976.

32. U.S. Department of the Interior, Geological Survey, Depth and Frequency of Floods in Illinois, by Byron J. Prugh, Jr., 1976.

33. State of Illinois, Department of Transportation, Division of Water Resources, Rules and Regulations, Regulation of Construction Within Flood Plains Established Pursuant to Section 65F, Chapter 19, Illinois Revised Statutes, Springfield, Illinois, 1973.

34. Illinois State Water Survey Division and Illinois Division of Water Resources, Governor's Task Force on Flood Control, State of Illinois Guidelines for Flood Plain Studies, March 1975.

35. Southwestern Illinois Metropolitan and Regional Planning Commission, Plan for Major Drainage: The Lower Kaskaskia River Planning Basin, Collinsville, Illinois, March 1977.

36. U.S. Army Corps of Engineers, St. Louis District, Upper Mississippi River Water-Surface Profiles, River Mile 0.0 to River Mile 847.5, November 1979.

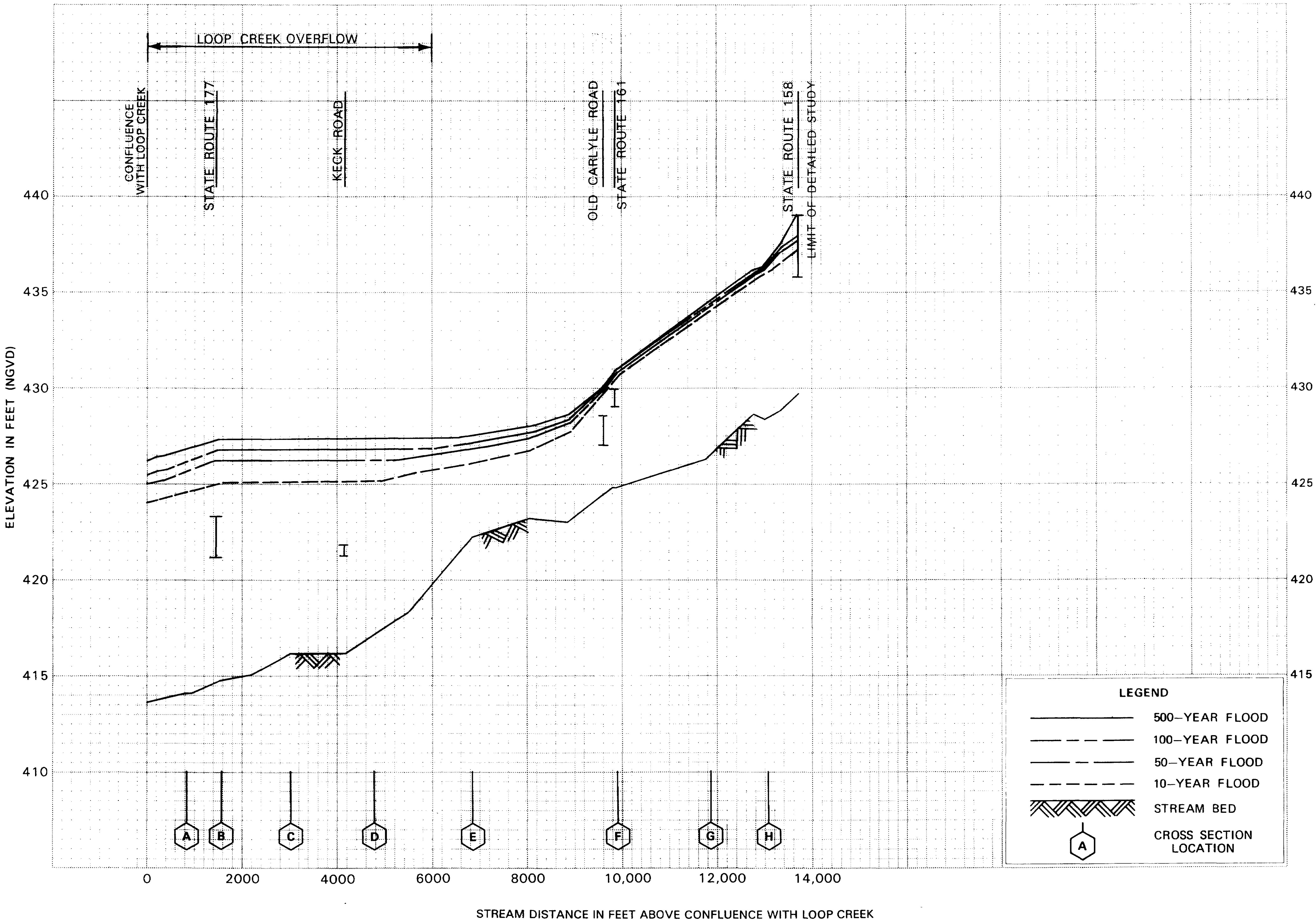
37. Federal Emergency Management Agency, Flood Insurance Study, Clinton County, Illinois (Unincorporated Areas), Washington, D.C., May 1, 1987.

38. Federal Emergency Management Agency, Federal Insurance Administration, Flood Insurance Study, Madison County, Illinois (Unincorporated Areas), Washington, D.C., April 15, 1982.

39. Federal Emergency Management Agency, Flood Insurance Study, Randolph County, Illinois (Unincorporated Areas), Washington, D.C., June 3, 1986.

40. Federal Emergency Management Agency, Federal Insurance Administration, Flood Insurance Study, Washington County, Illinois (Unincorporated Areas), Washington, D.C., December 26, 1980.

41. Federal Emergency Management Agency, Federal Insurance Administration, Flood Insurance Study, St. Louis County, Missouri and Incorporated Areas, Washington, D.C., August 2, 1995.



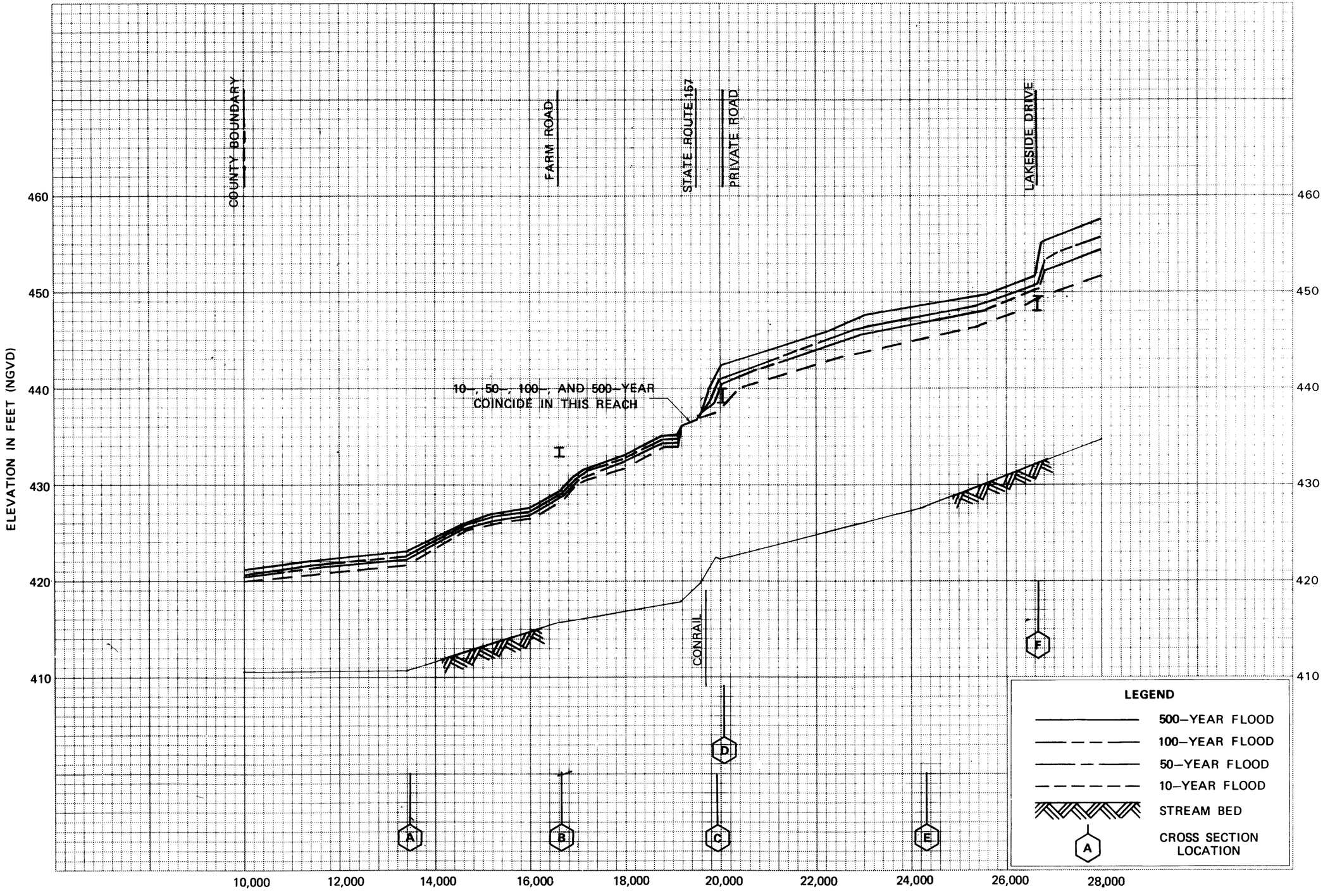
FLOOD PROFILES

ASH CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS

01P



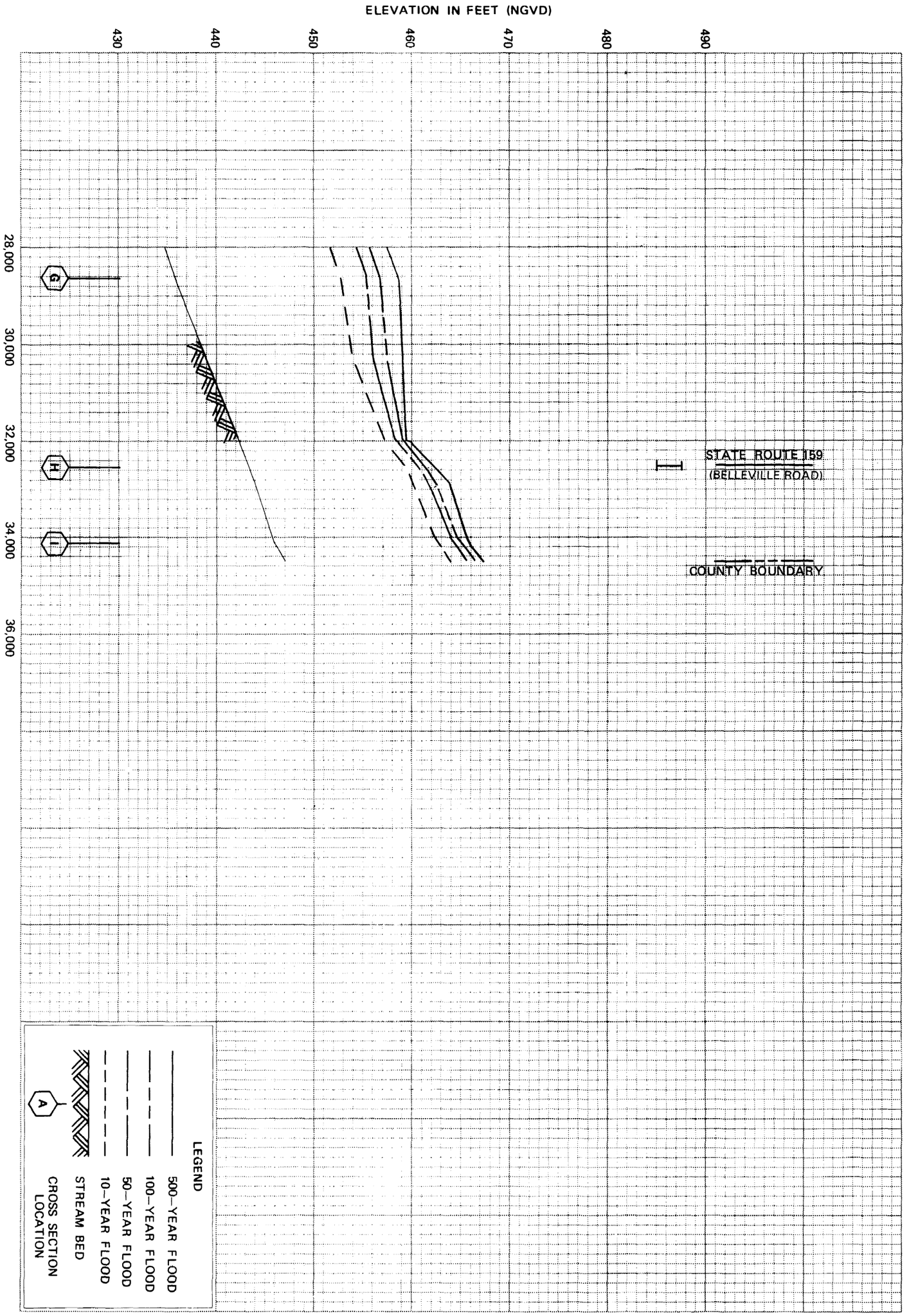
FLOOD PROFILES

CANTEEN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS

02P



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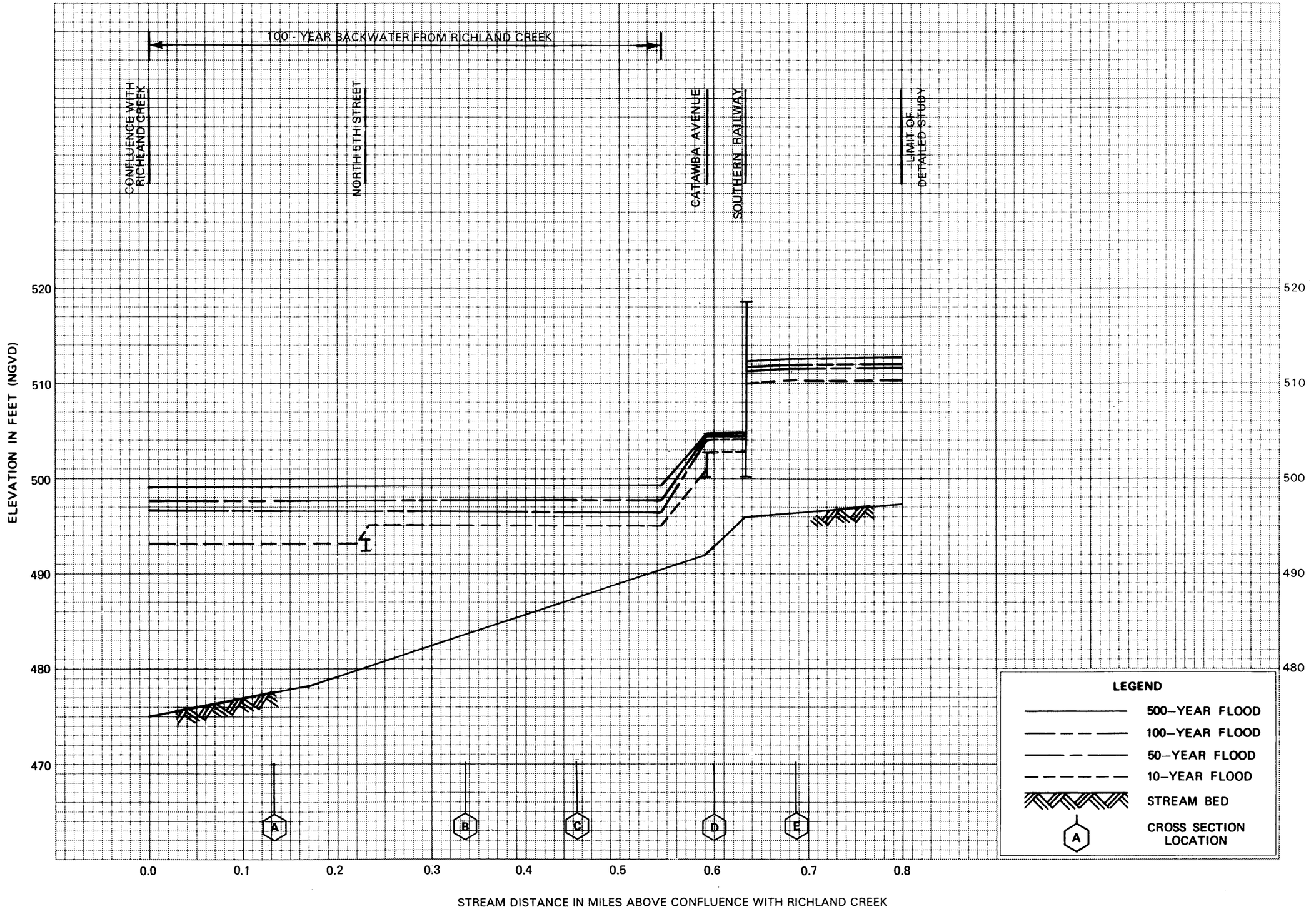
FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

FLOOD PROFILES

CANTEEN CREEK



STREAM DISTANCE IN MILES ABOVE CONFLUENCE WITH RICHLAND CREEK

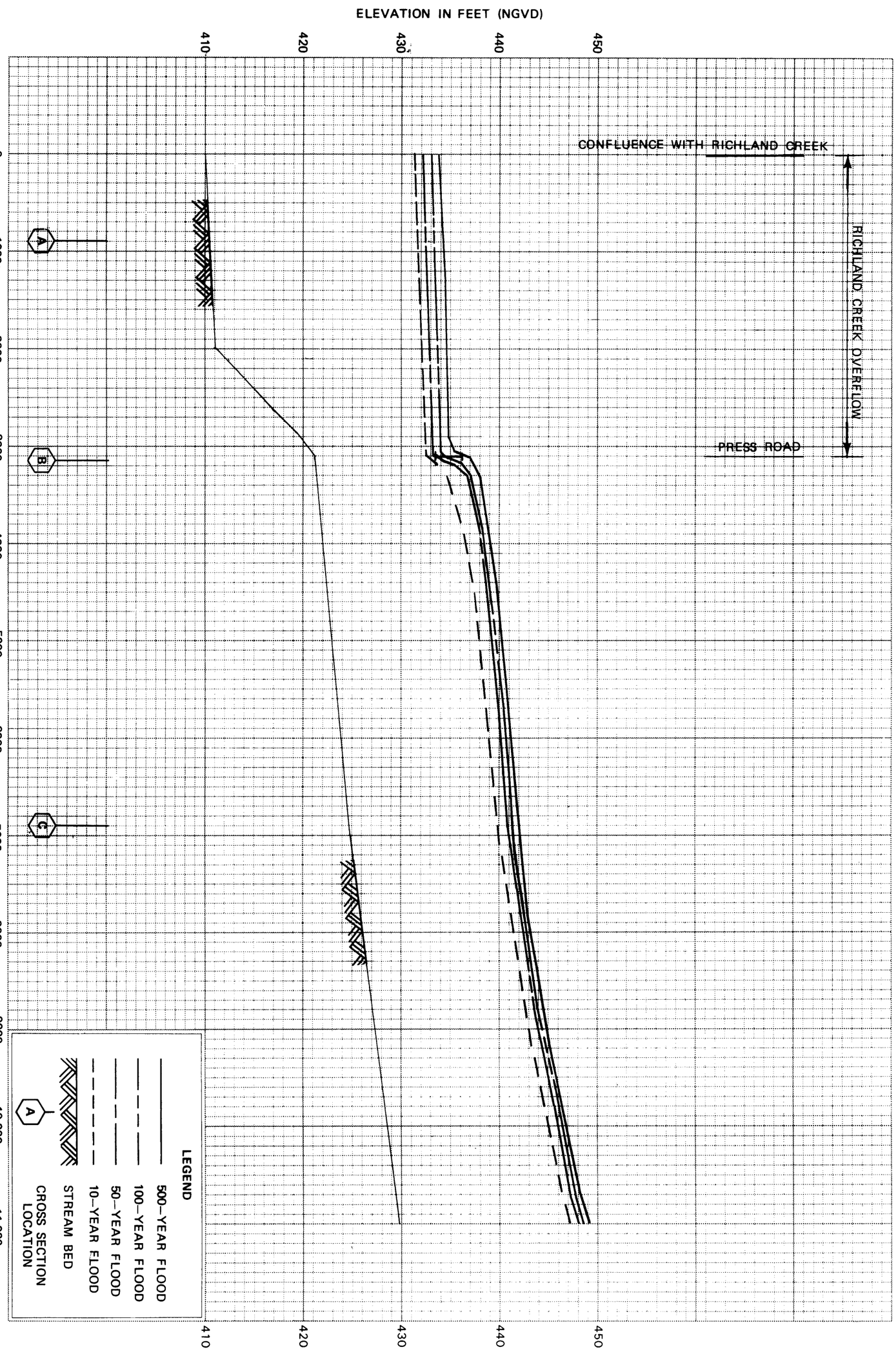
FLOOD PROFILES

CATAWBA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

04P



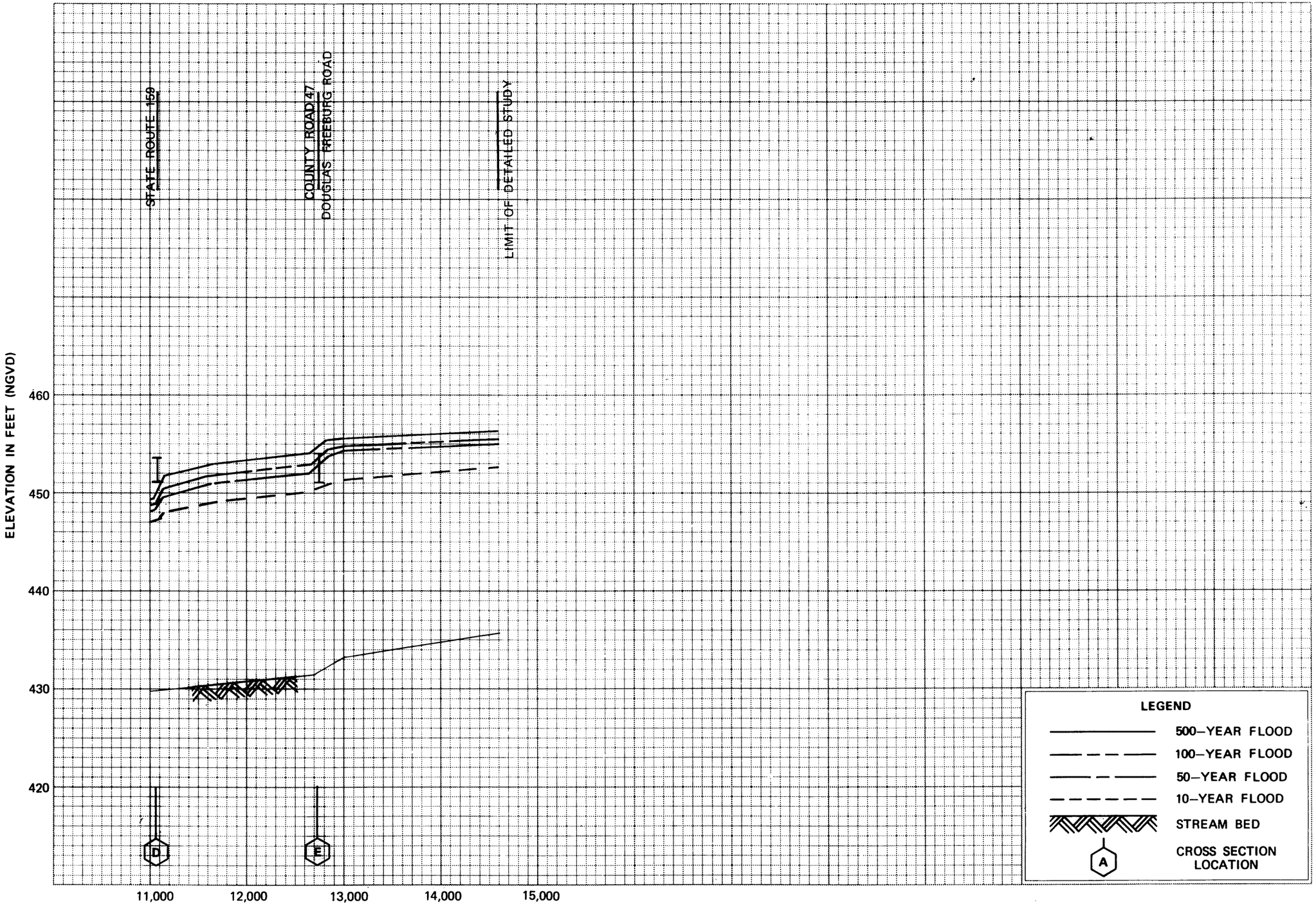
FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL

AND INCORPORATED AREAS

FLOOD PROFILES

DOUGLAS CREEK



STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH RICHLAND CREEK

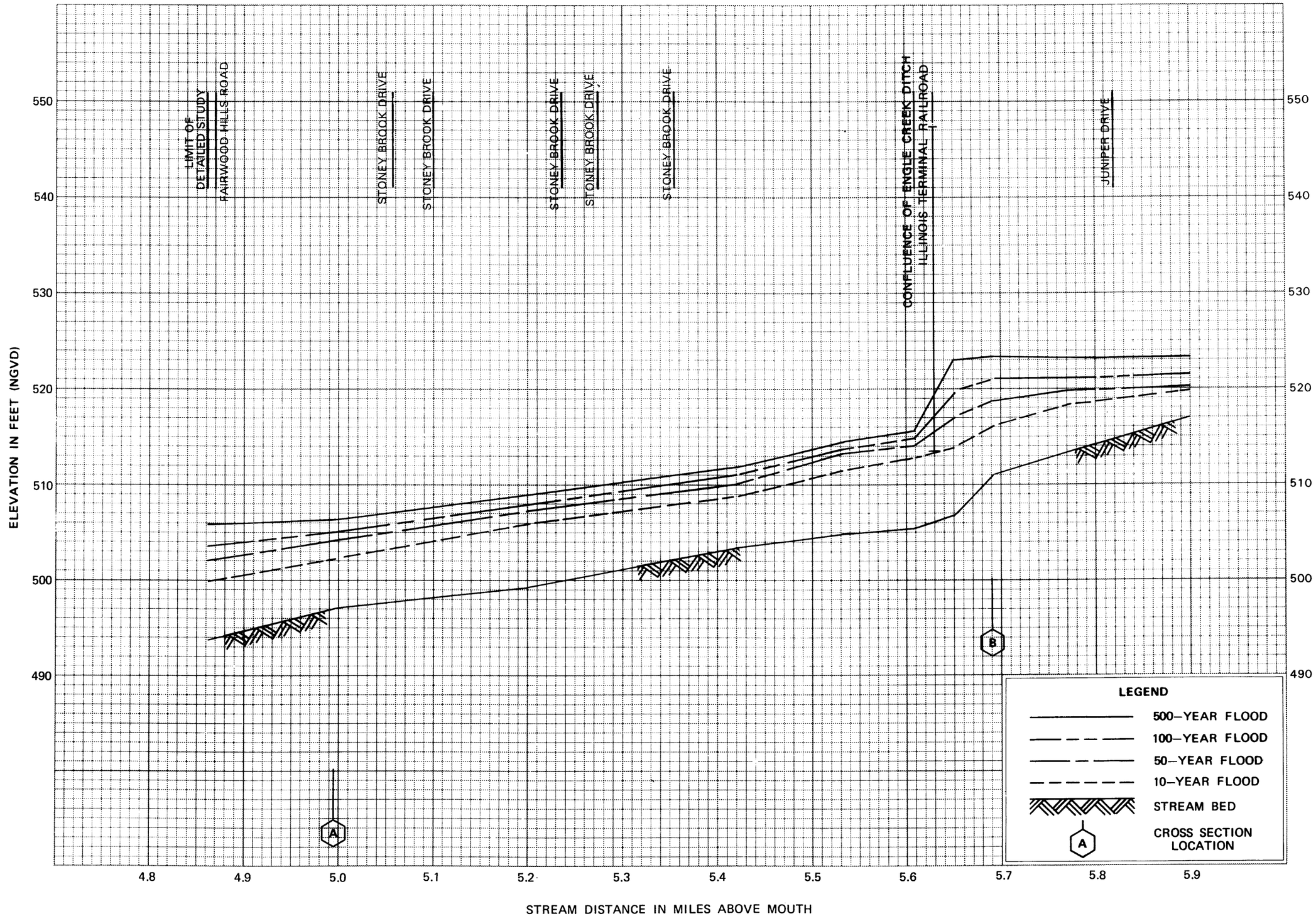
FLOOD PROFILES

DOUGLAS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS

06P



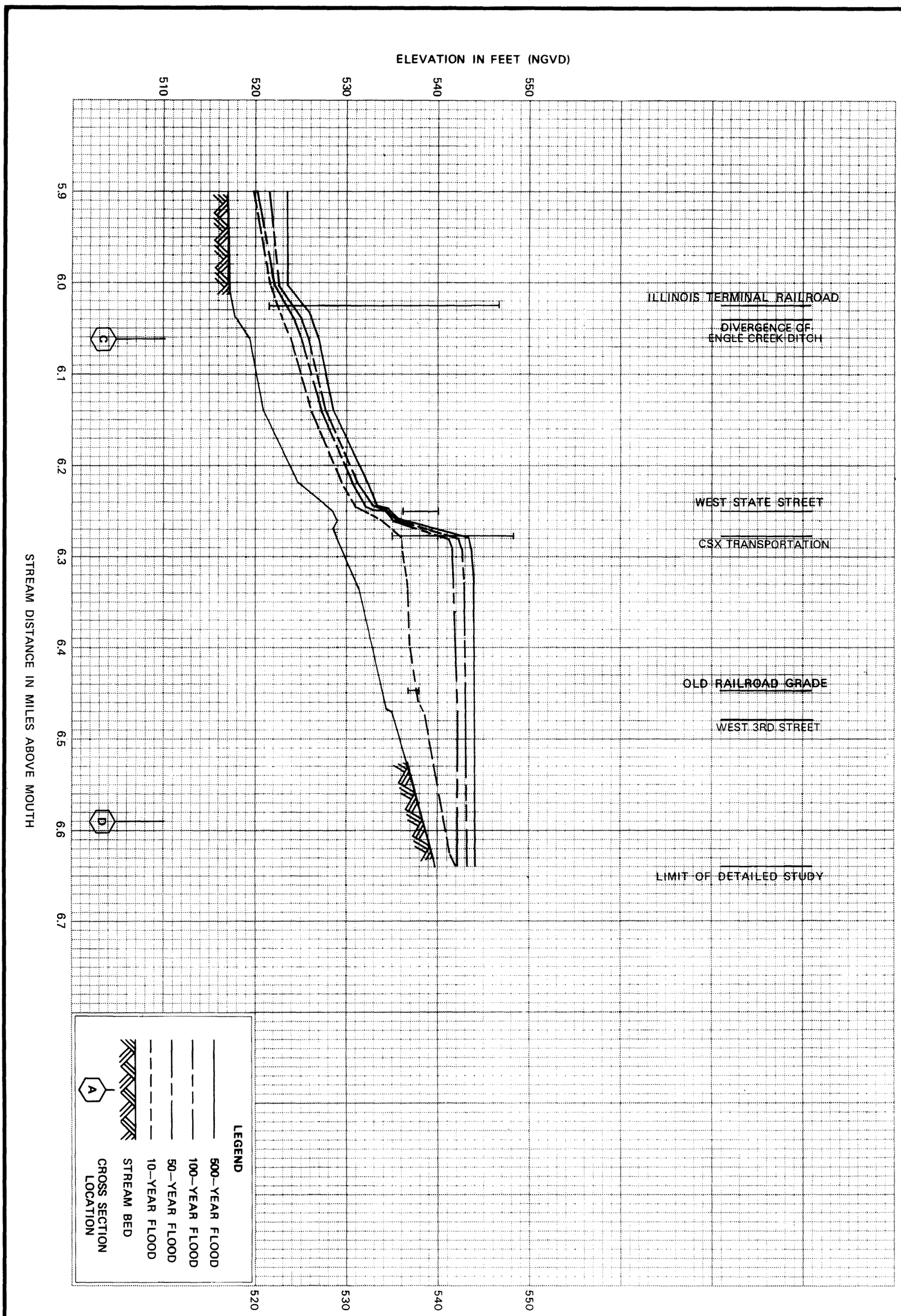
FLOOD PROFILES

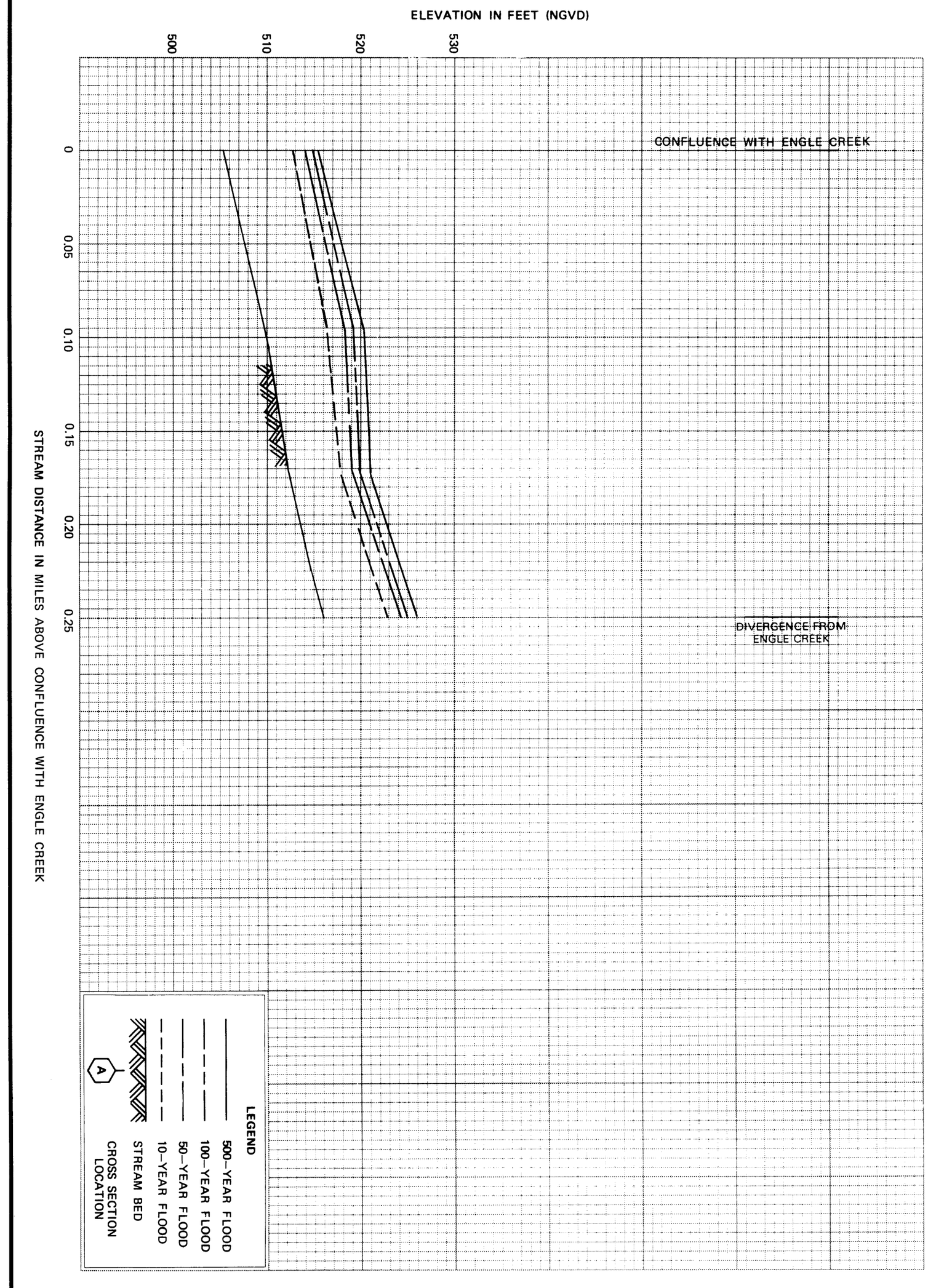
ENGLE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS

07P


ELEVATION IN FEET (NGVD)
510
520
530
540
550
STREAM DISTANCE IN MILES ABOVE MOUTH
5.9
6.0
6.1
6.2
6.3
6.4
6.5
6.6
6.7
C
D
ILLINOIS TERMINAL RAILROAD
DIVERGENCE OF ENGLE CREEK DITCH
WEST STATE STREET
CSX TRANSPORTATION
OLD RAILROAD GRADE
WEST 3RD STREET
LIMIT OF DETAILED STUDY
LEGEND
500-YEAR FLOOD
100-YEAR FLOOD
50-YEAR FLOOD
10-YEAR FLOOD
STREAM BED
A
CROSS SECTION LOCATION



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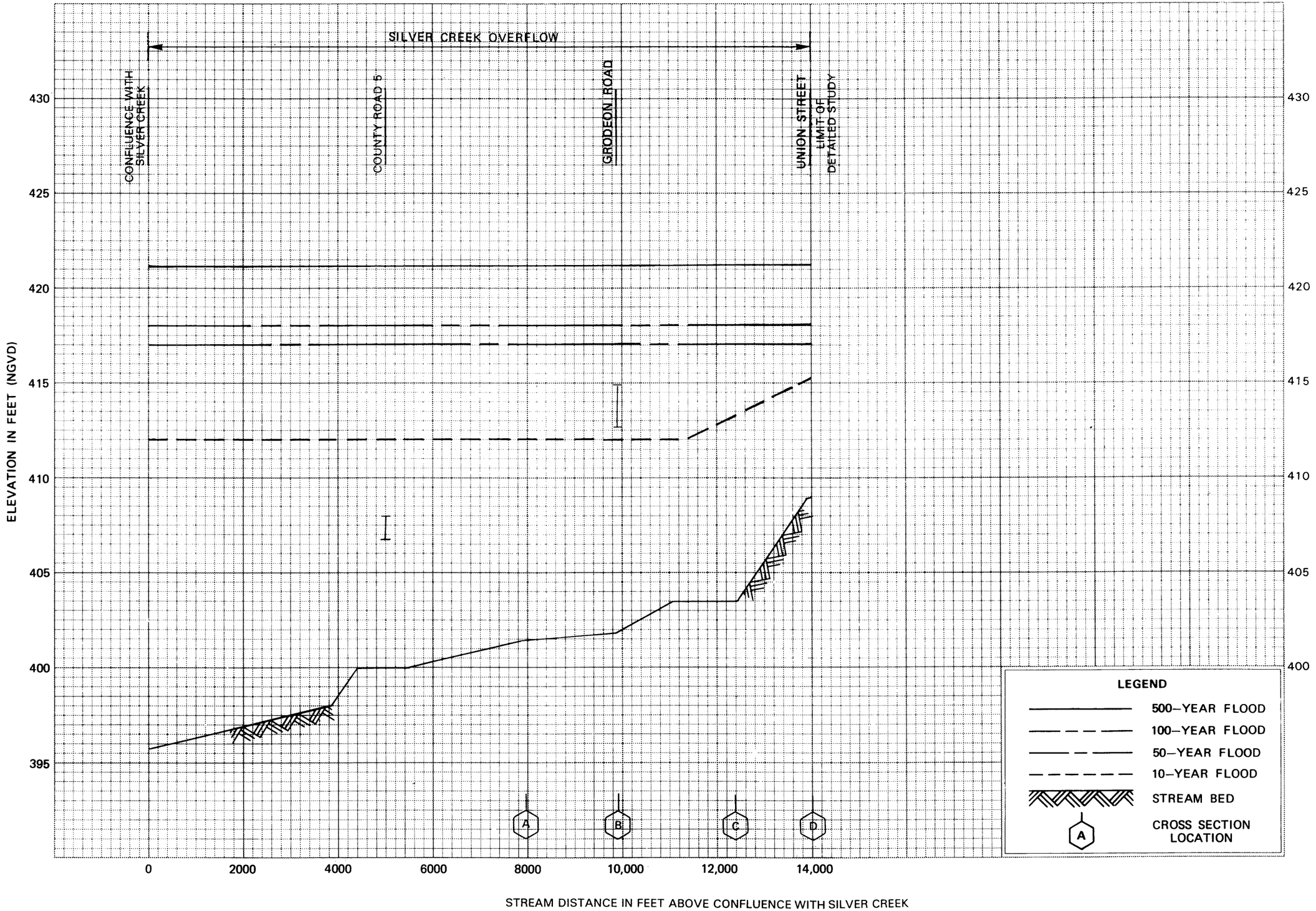
FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS

FLOOD PROFILES

ENGLE CREEK DITCH



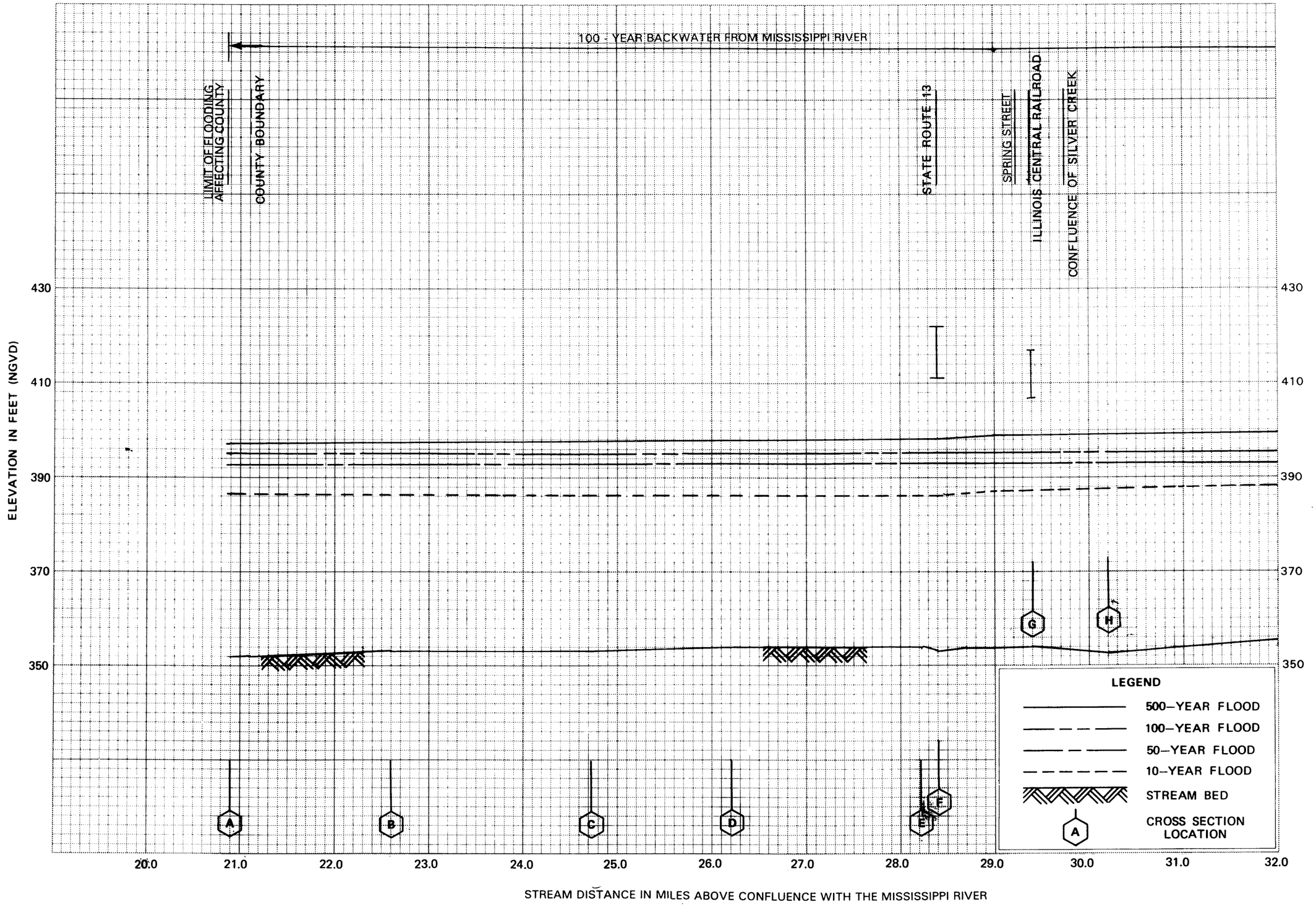
FLOOD PROFILES

HOG RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS

10P

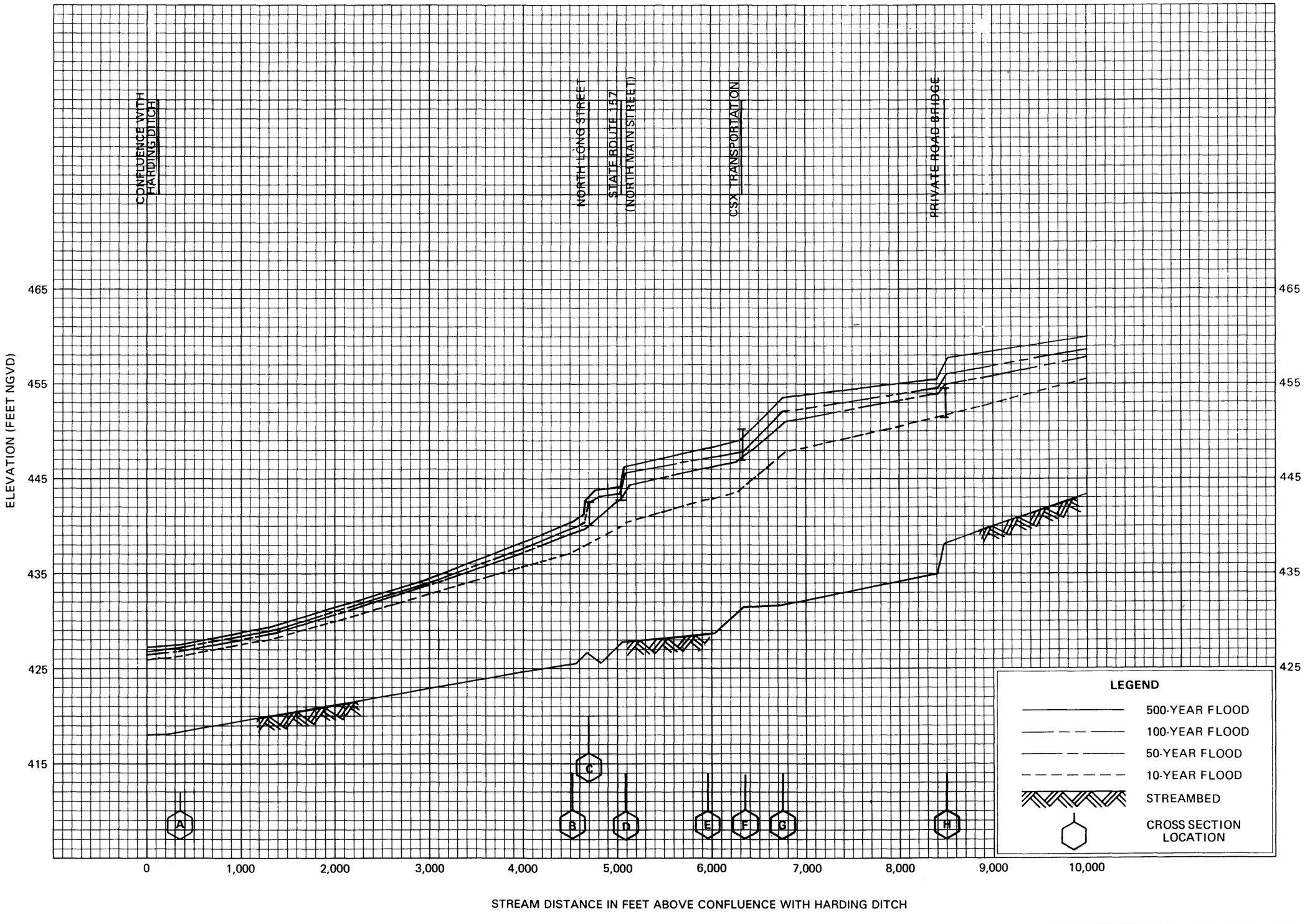


FLOOD PROFILES

KASKASKIA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

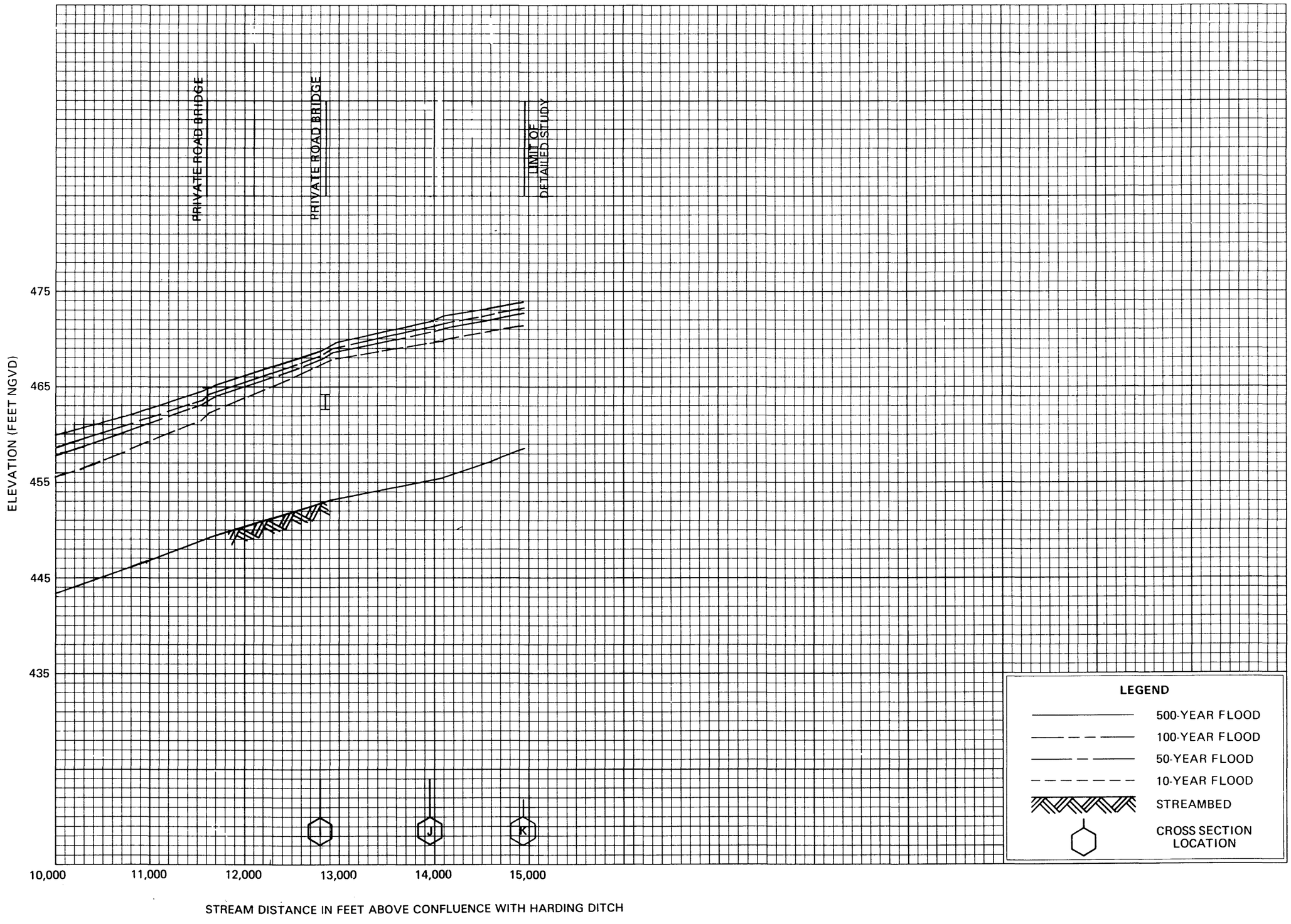


FLOOD PROFILES

LITTLE CANTEEN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS



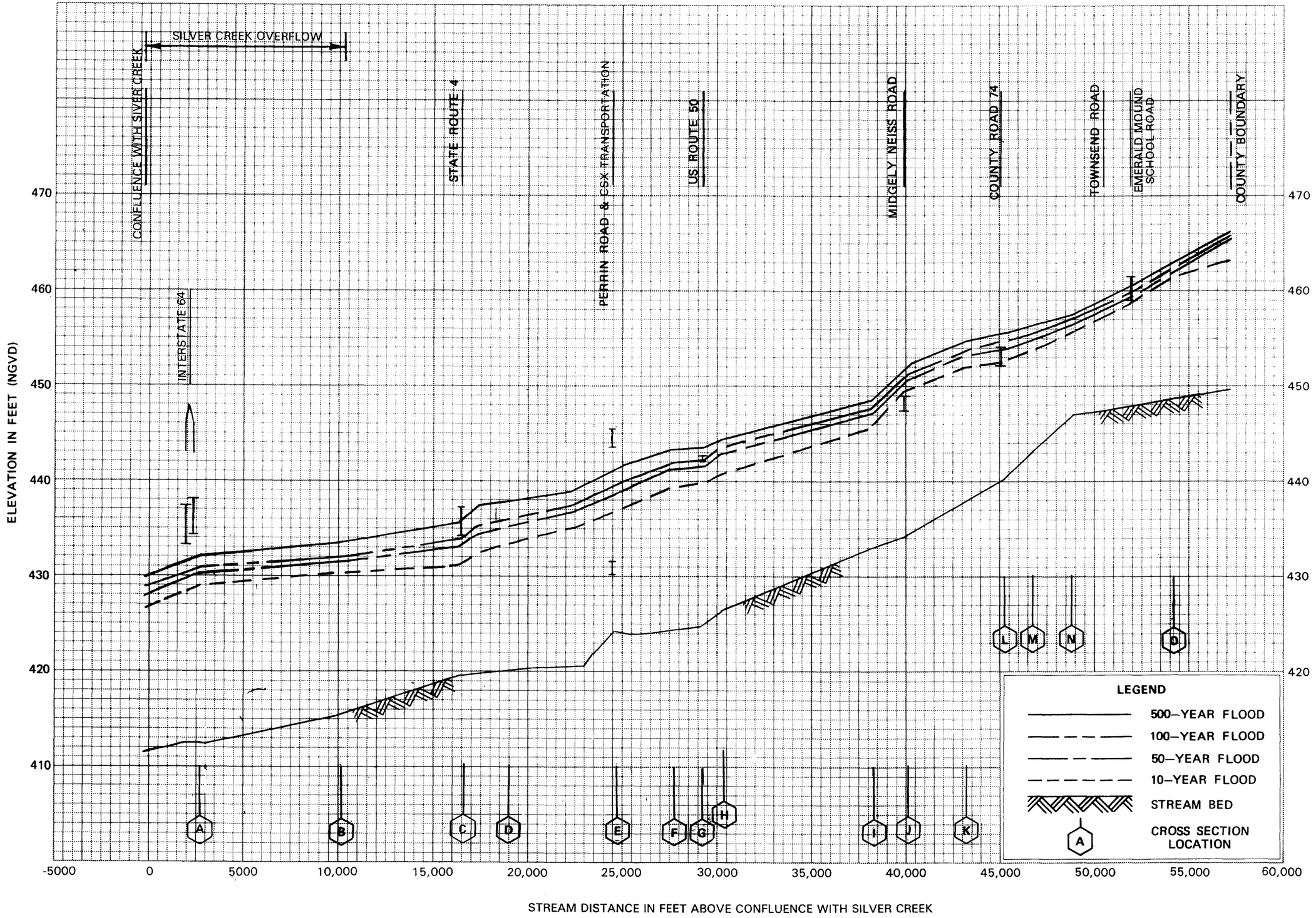
FLOOD PROFILES

LITTLE CANTEEN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS

15P

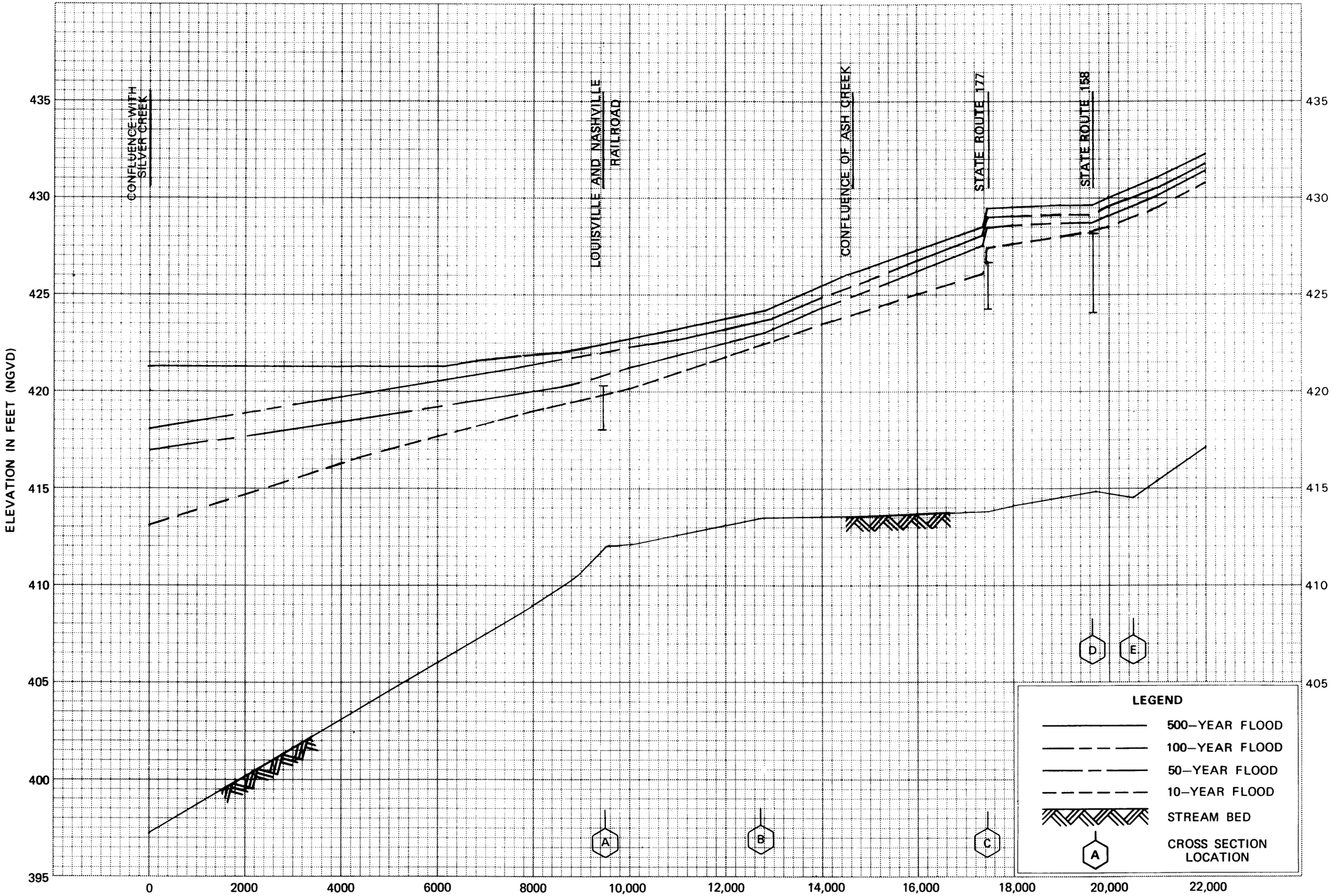


FLOOD PROFILES

LITTLE SILVER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS



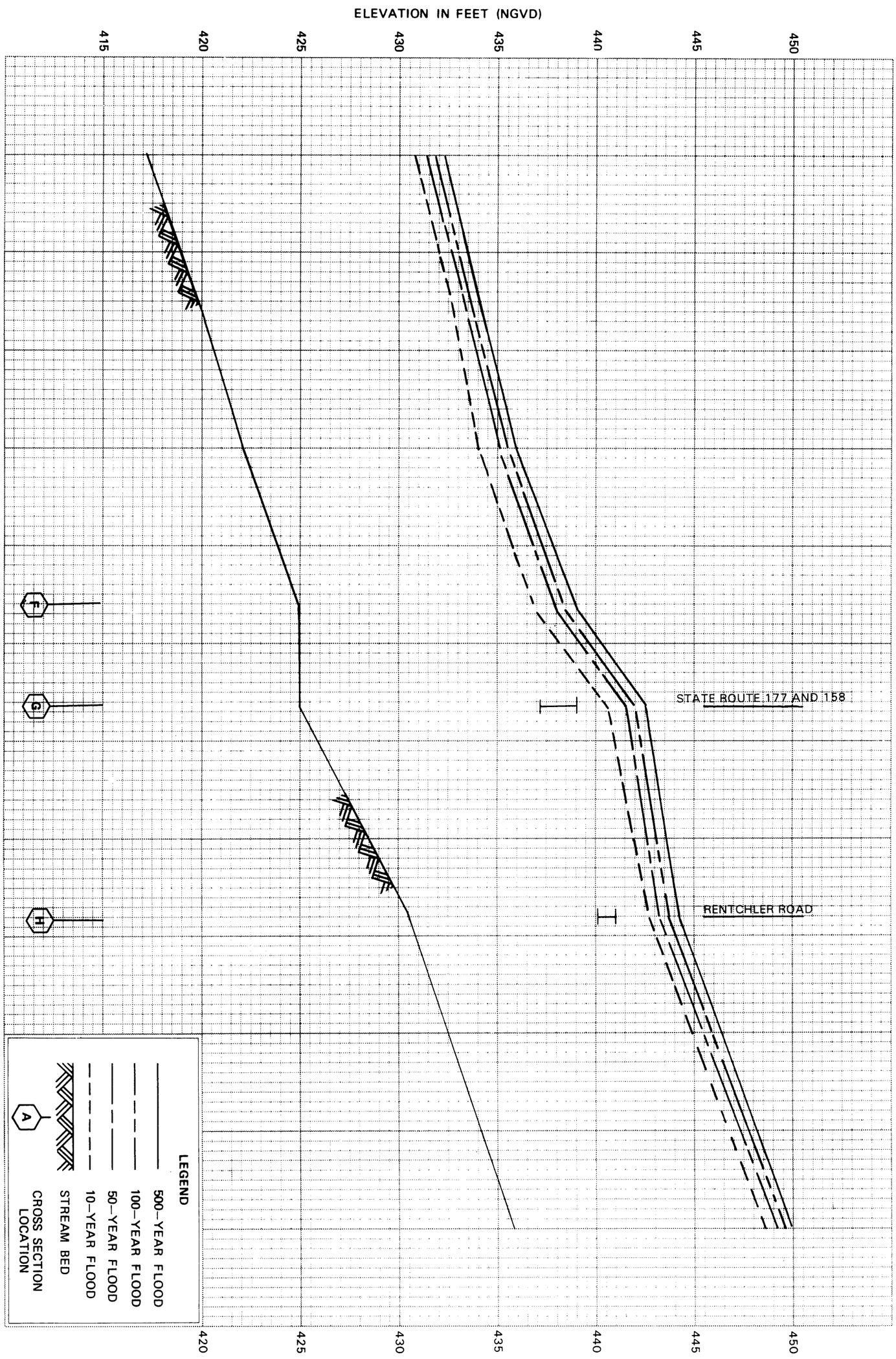
FLOOD PROFILES

LOOP CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS

17P

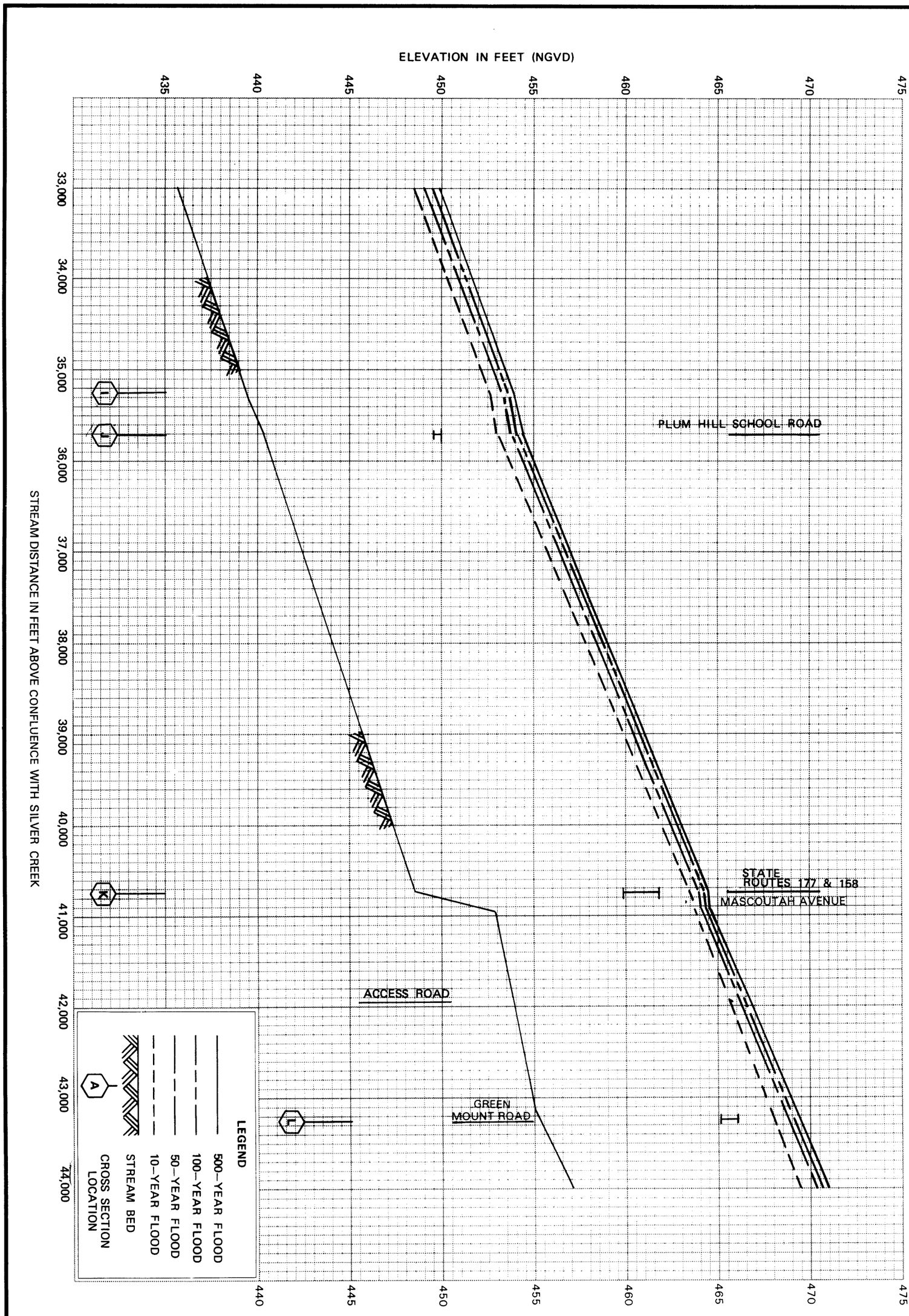


FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

FLOOD PROFILES

LOOP CREEK



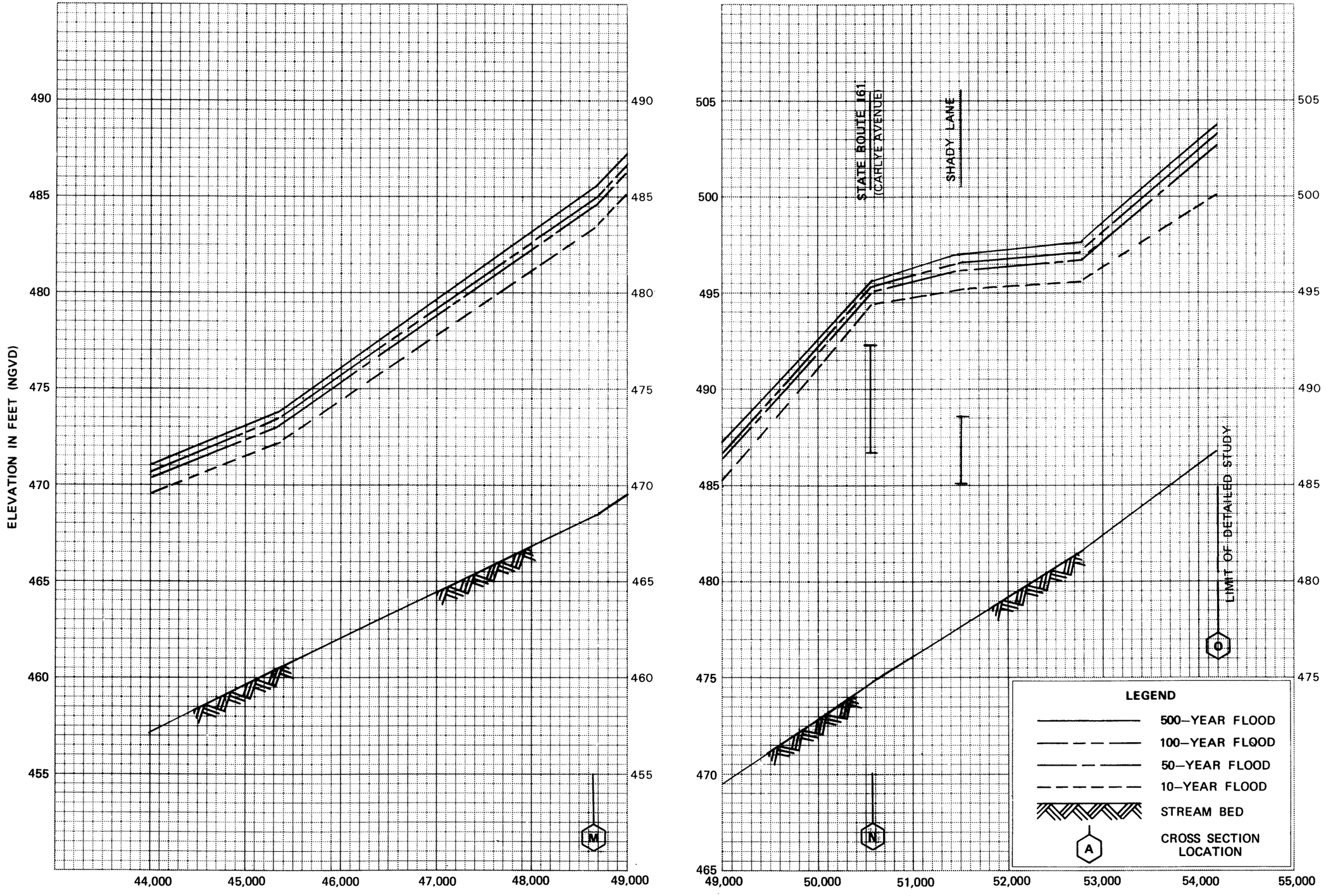
19P

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS

FLOOD PROFILES

LOOP CREEK



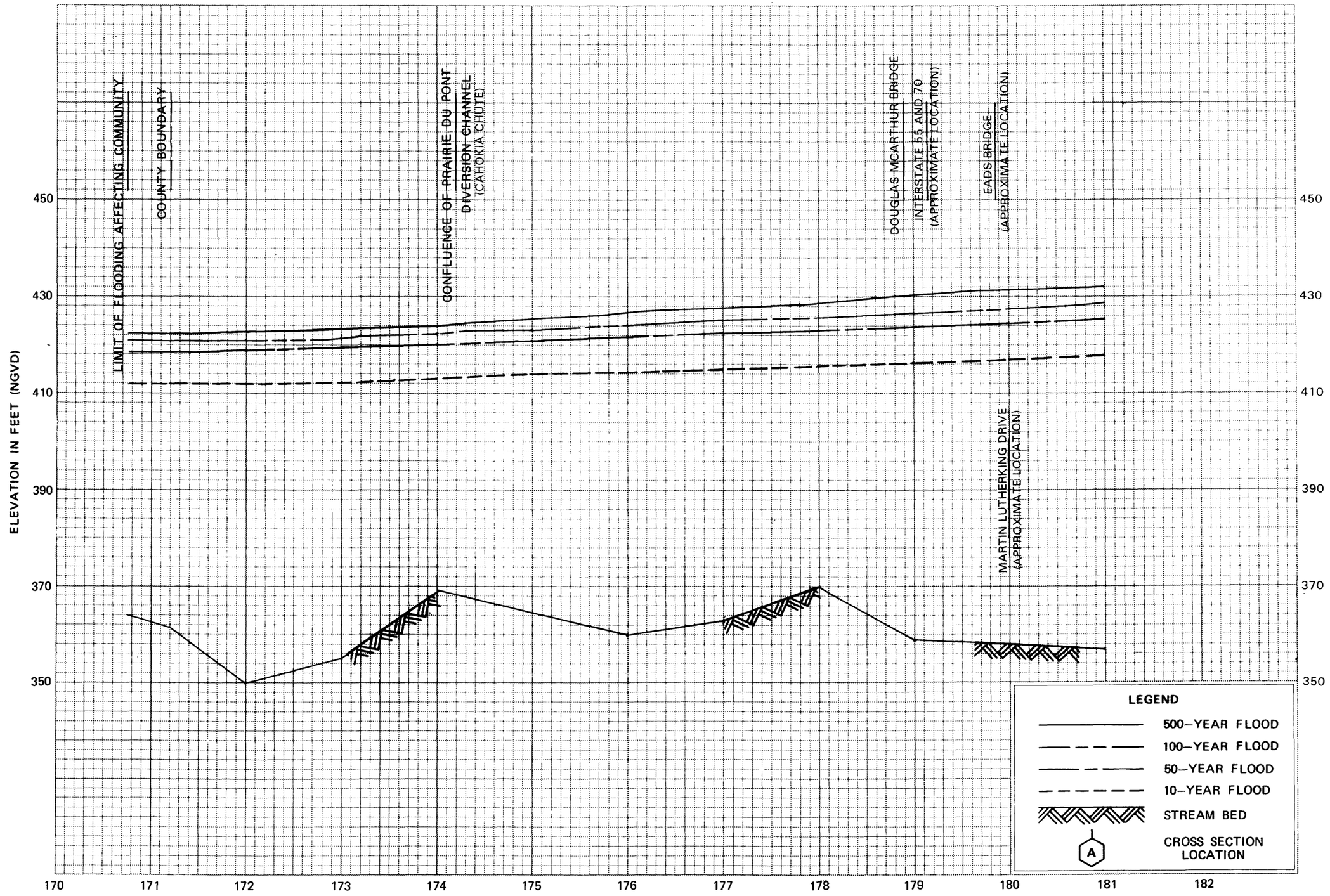
FLOOD PROFILES

LOOP CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS

20P

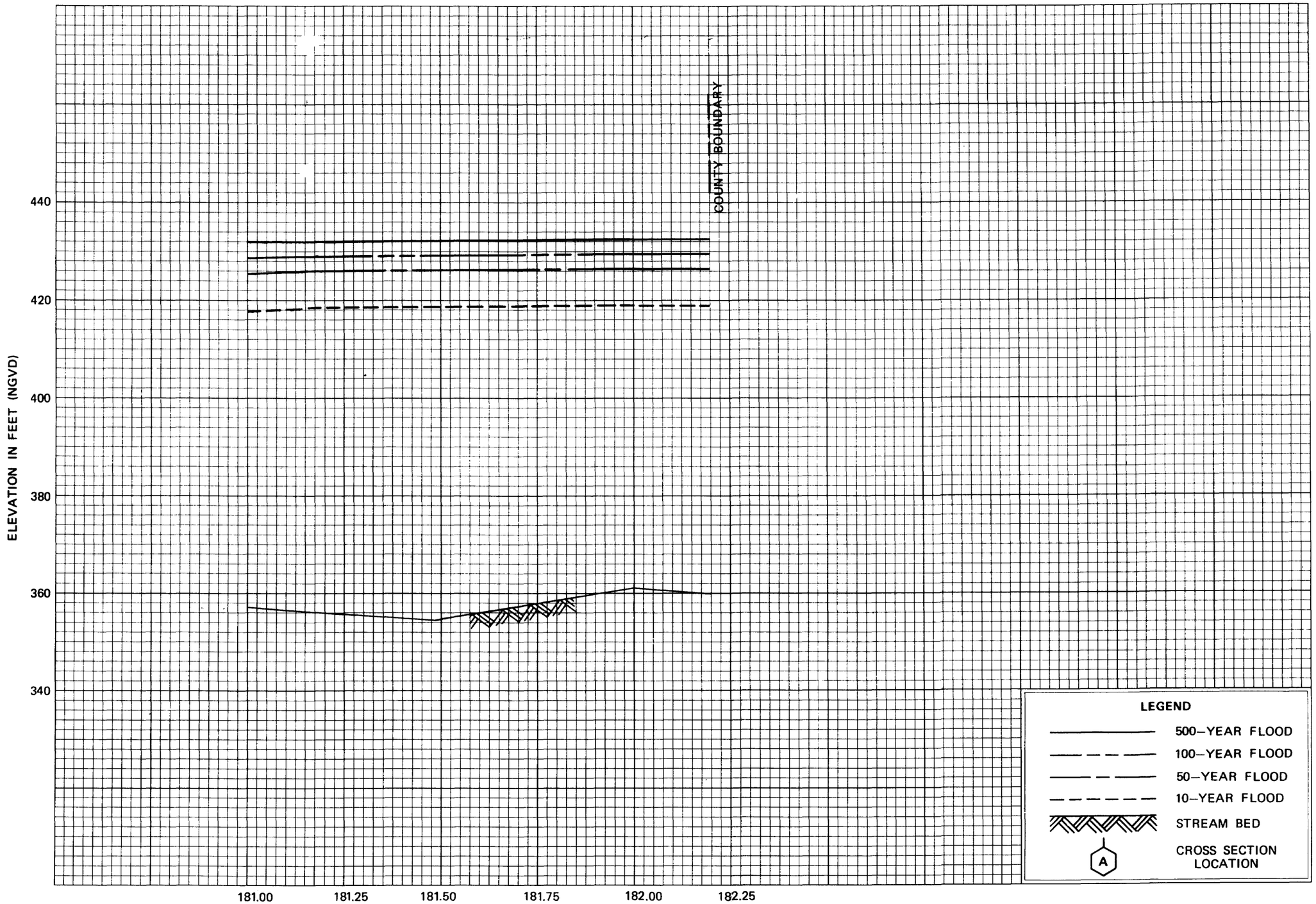


FLOOD PROFILES

MISSISSIPPI RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS



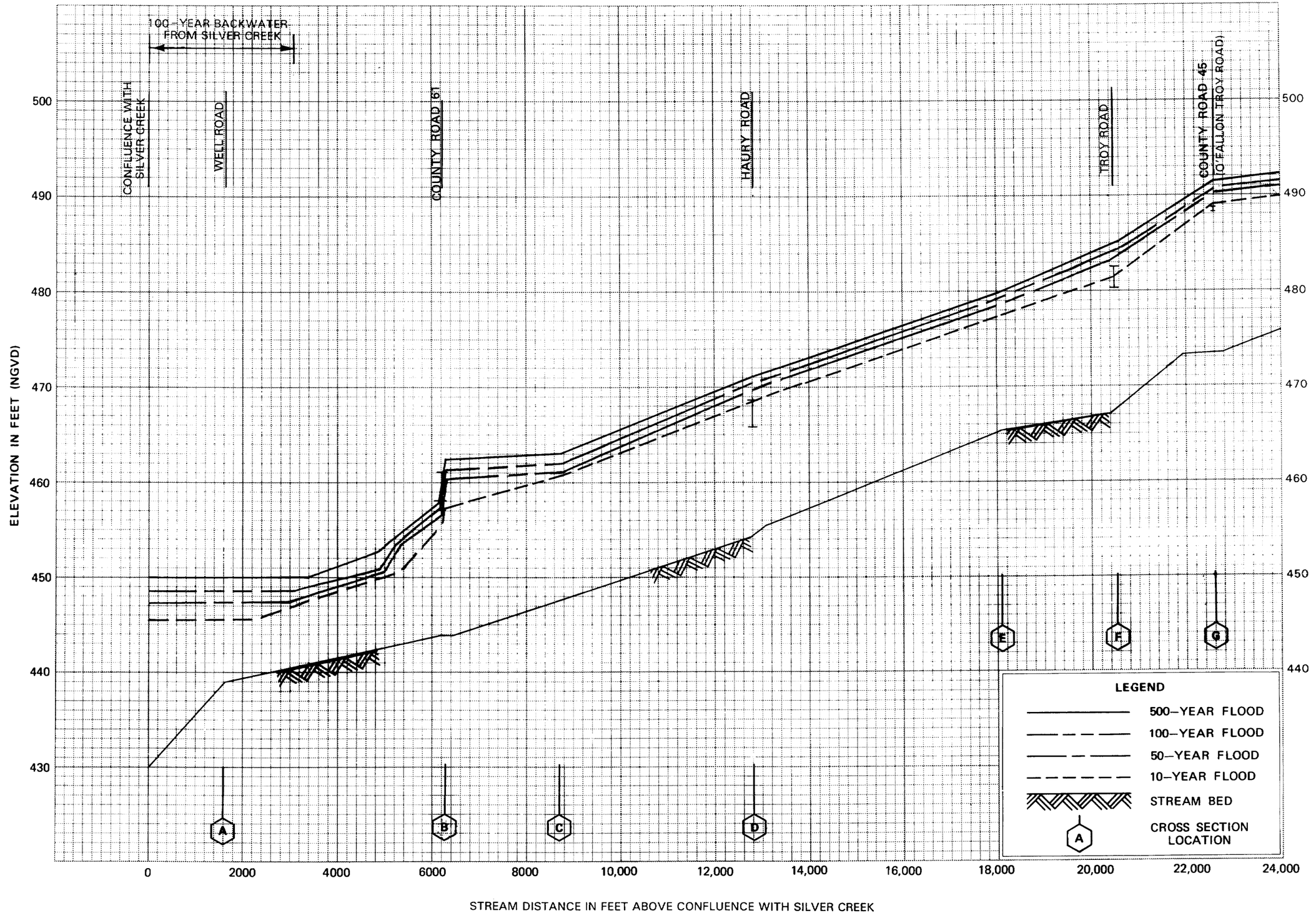
FLOOD PROFILES

MISSISSIPPI RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS

22P

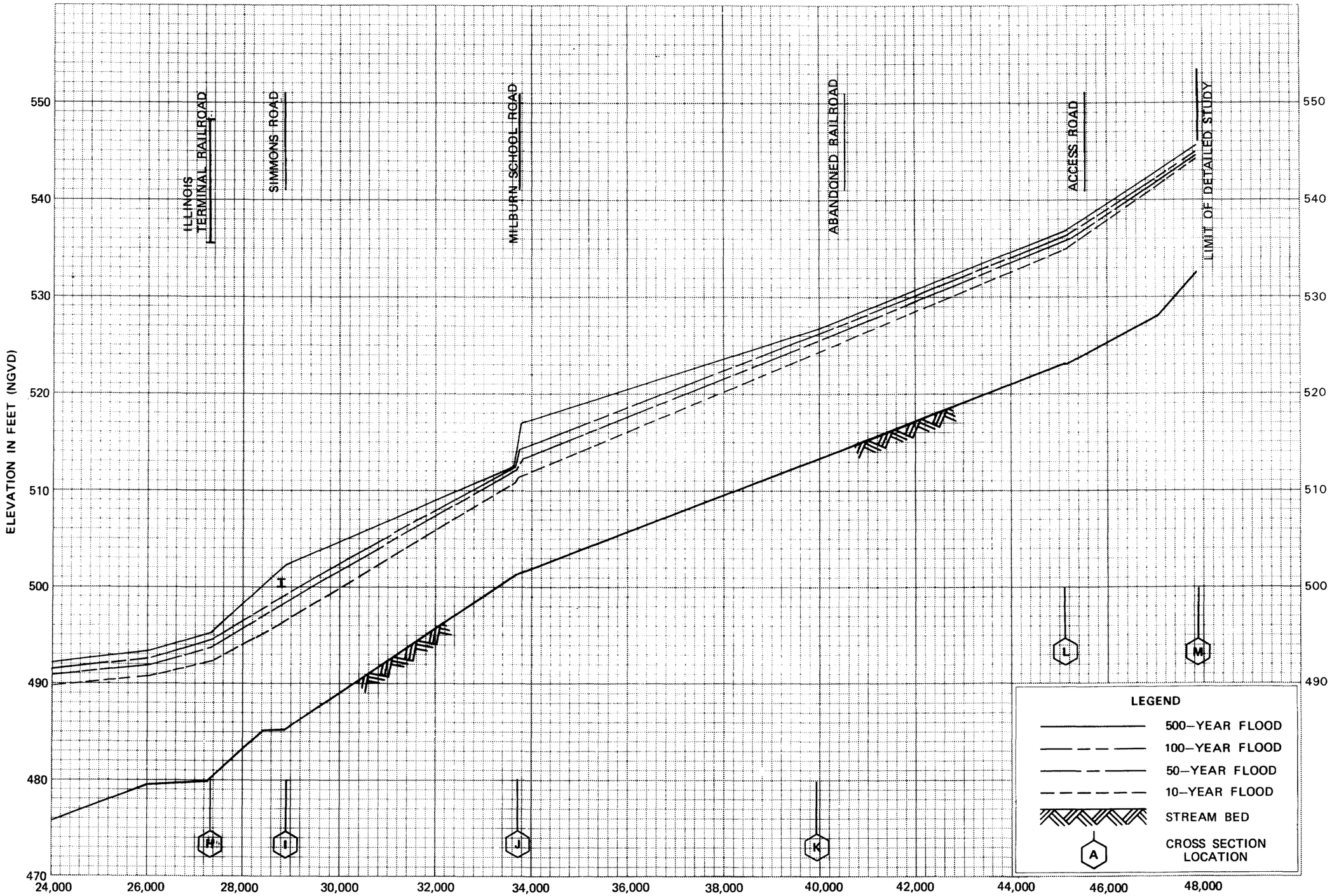


FLOOD PROFILES

OGLES CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

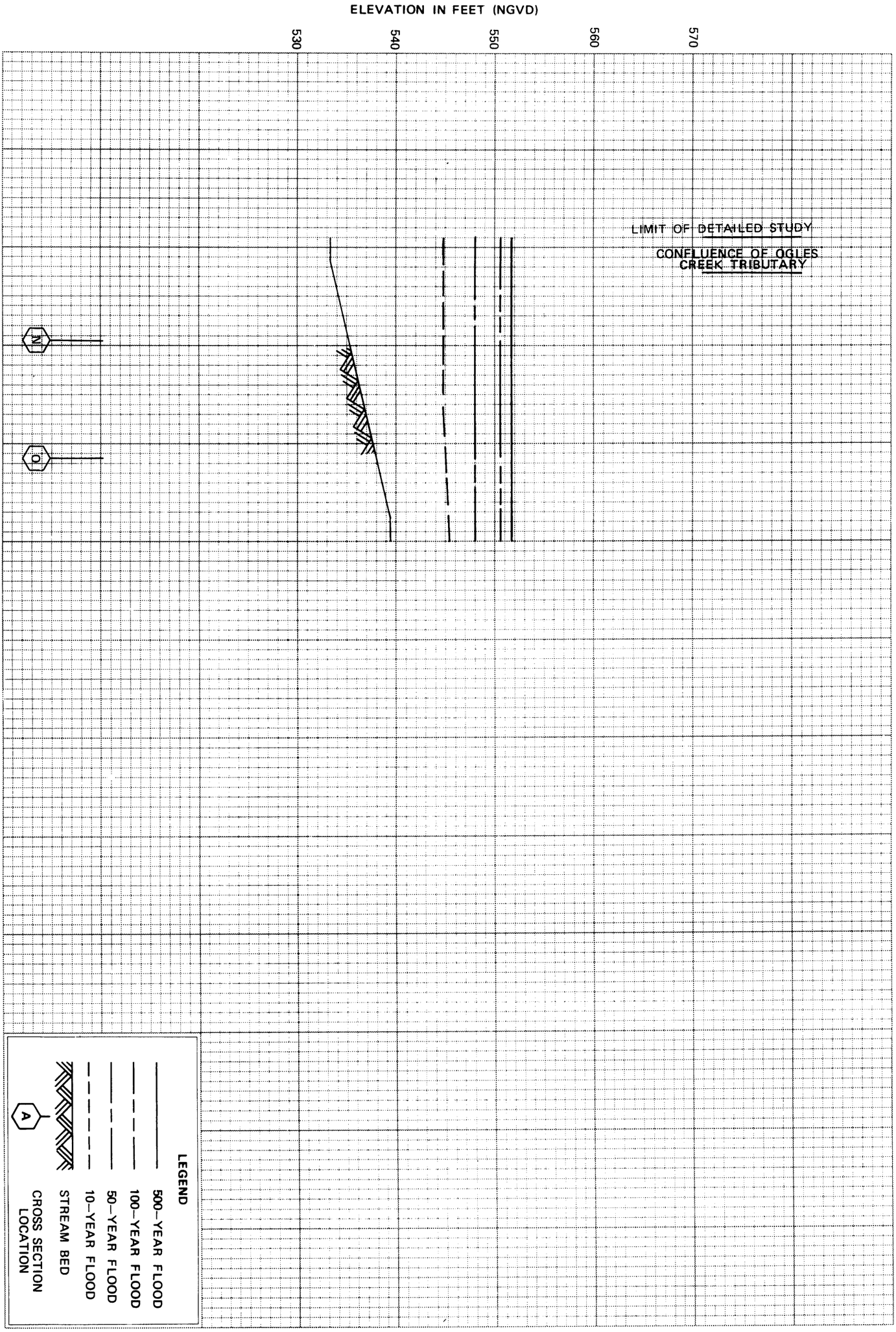


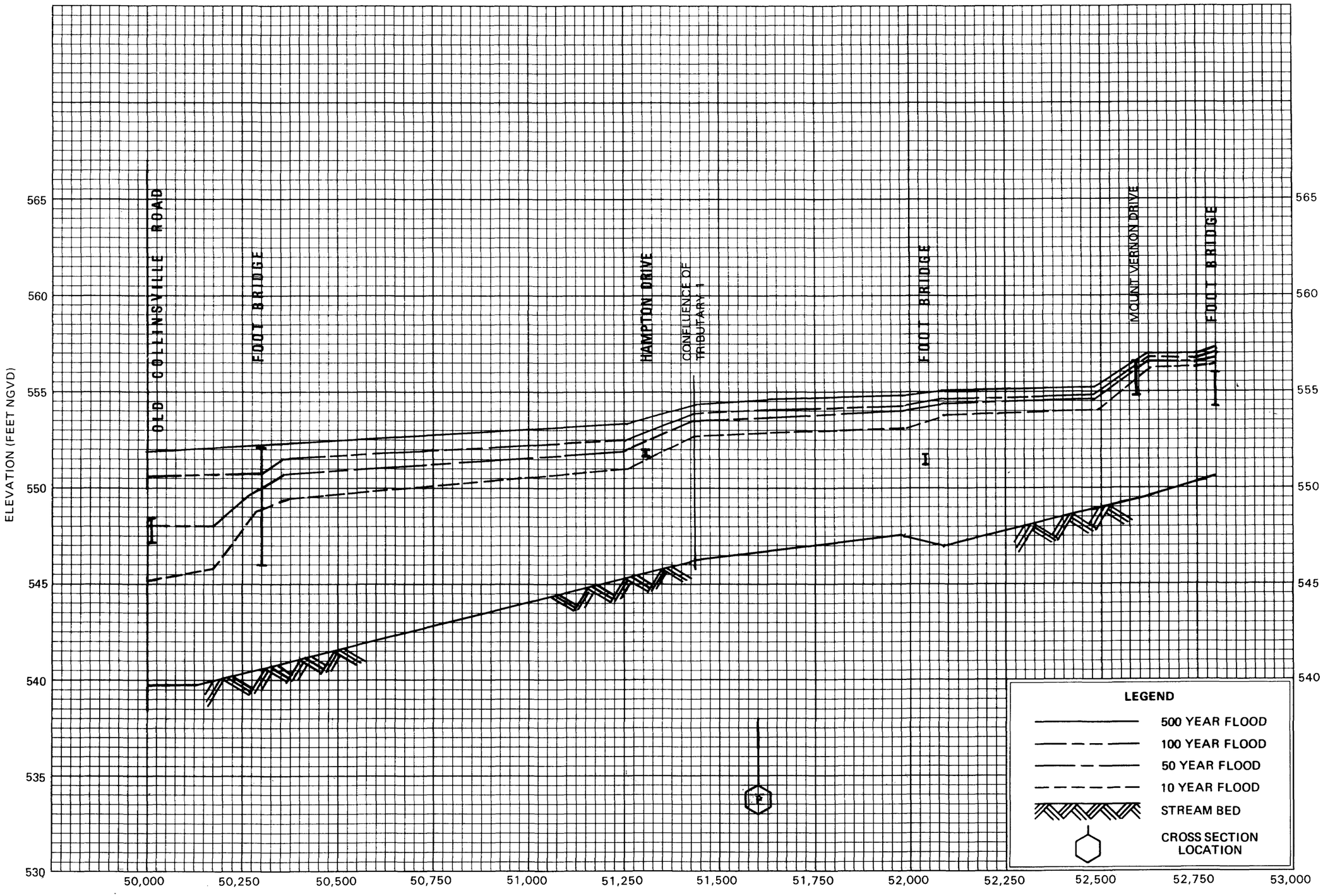
FLOOD PROFILES

OGLES CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS


ELEVATION IN FEET (NGVD)
530
540
550
560
570
48,000
48,500
49,000
49,500
50,000
50,500
STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH SILVER CREEK
LIMIT OF DETAILED STUDY
CONFLUENCE OF OGLES CREEK TRIBUTARY
N
O
LEGEND
500-YEAR FLOOD
100-YEAR FLOOD
50-YEAR FLOOD
10-YEAR FLOOD
STREAM BED
A
CROSS SECTION LOCATION



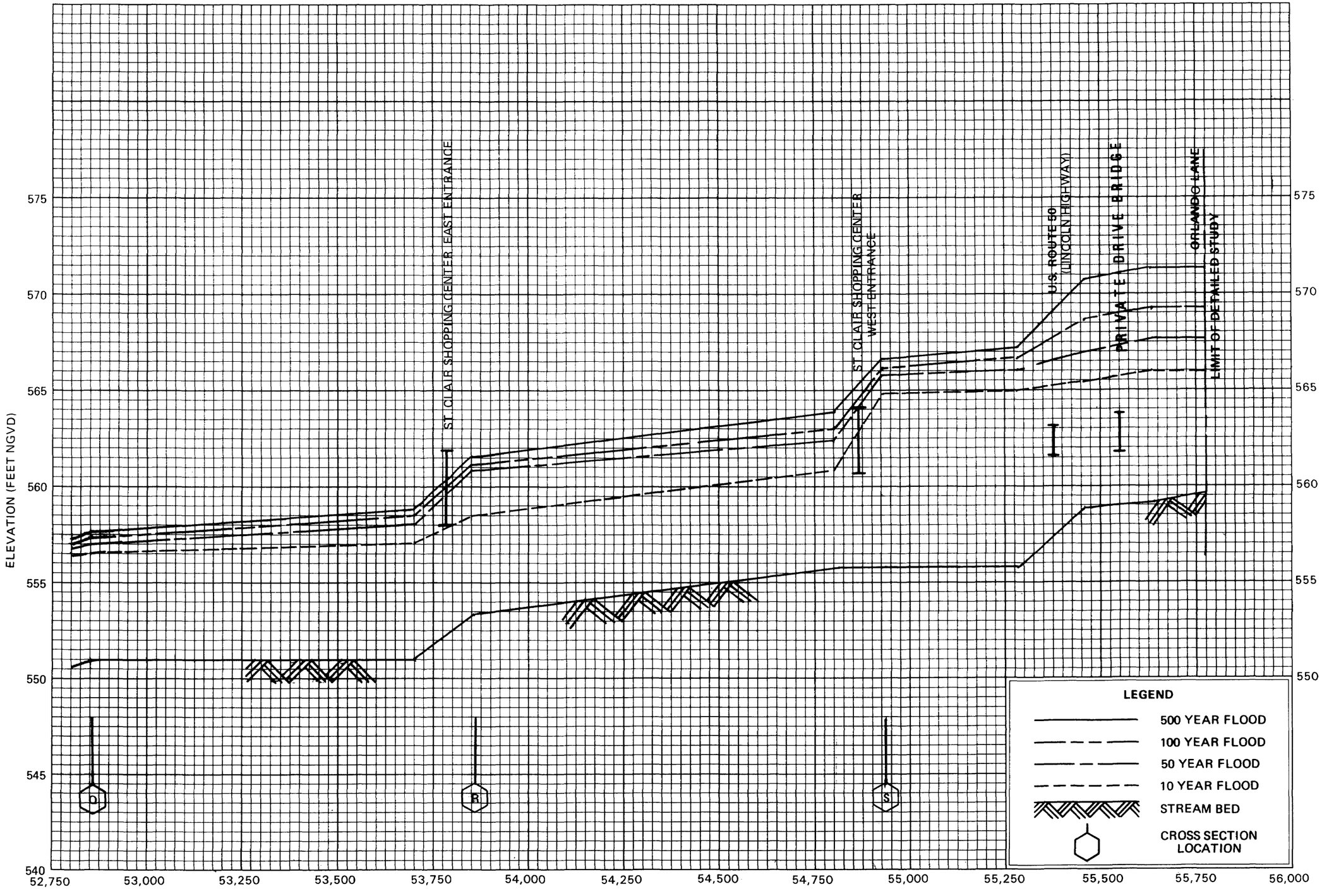
FLOOD PROFILES

OGLES CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS

26P



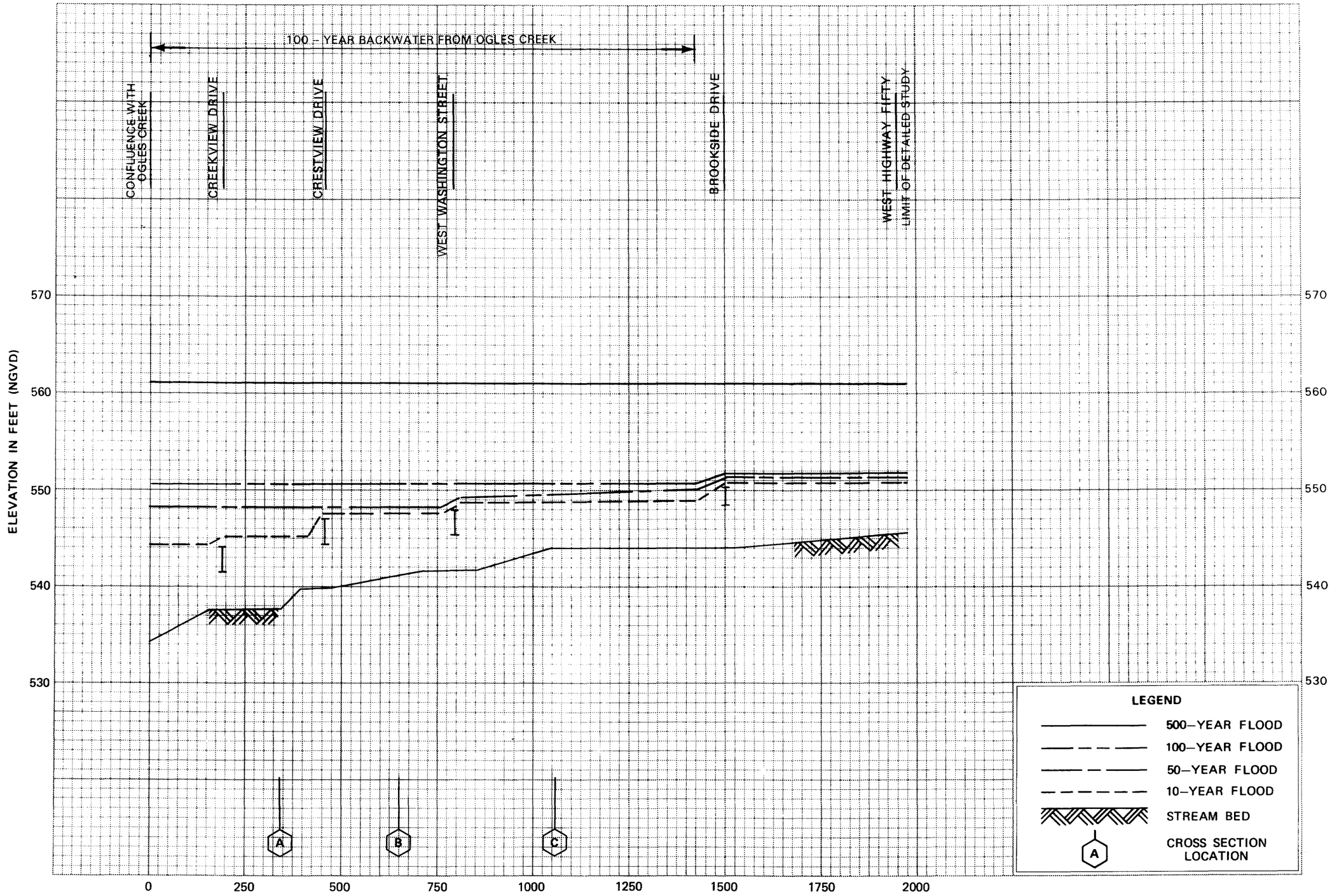
FLOOD PROFILES

OGLES CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS

27P



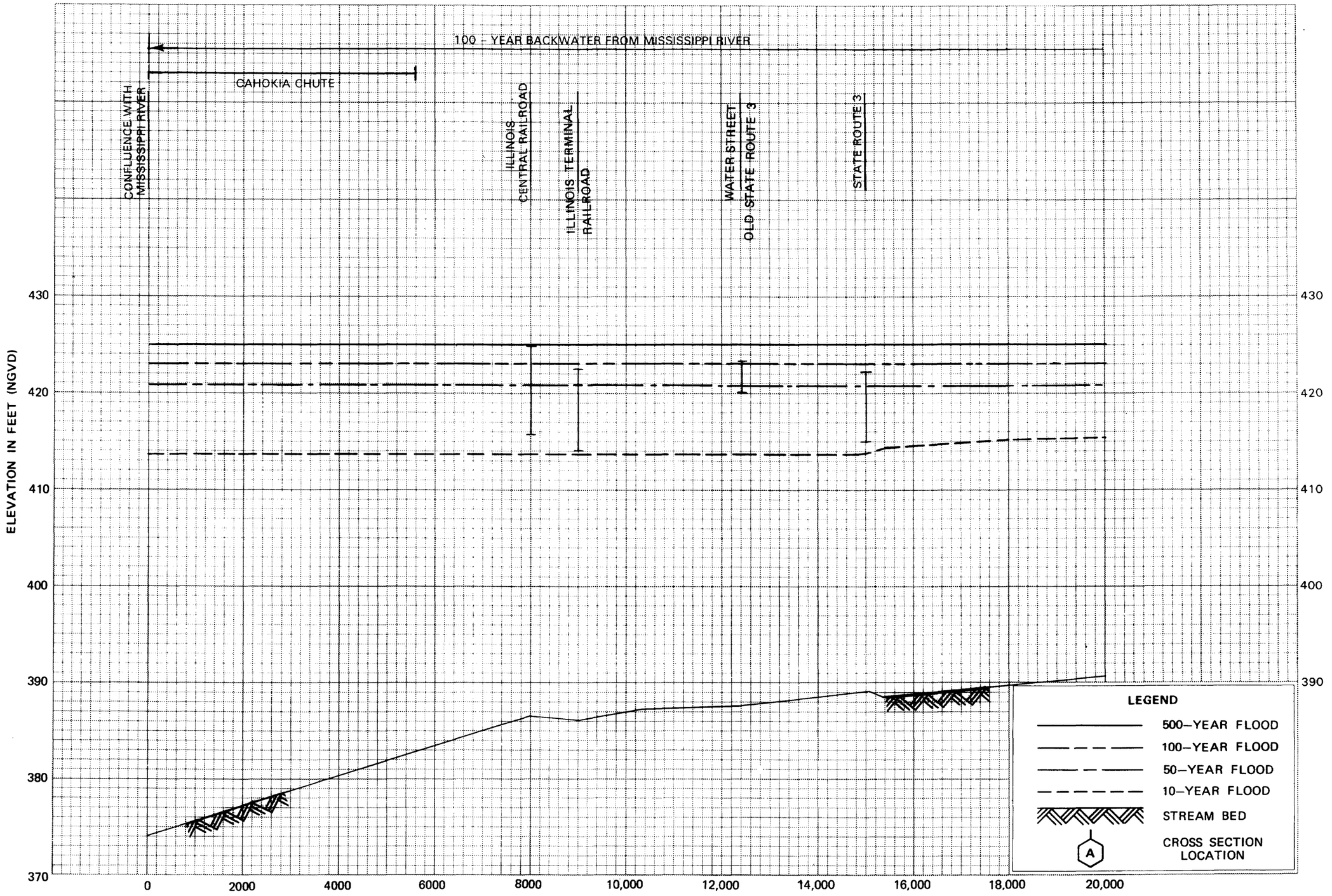
FLOOD PROFILES

OGLES CREEK TRIBUTARY

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS

28P



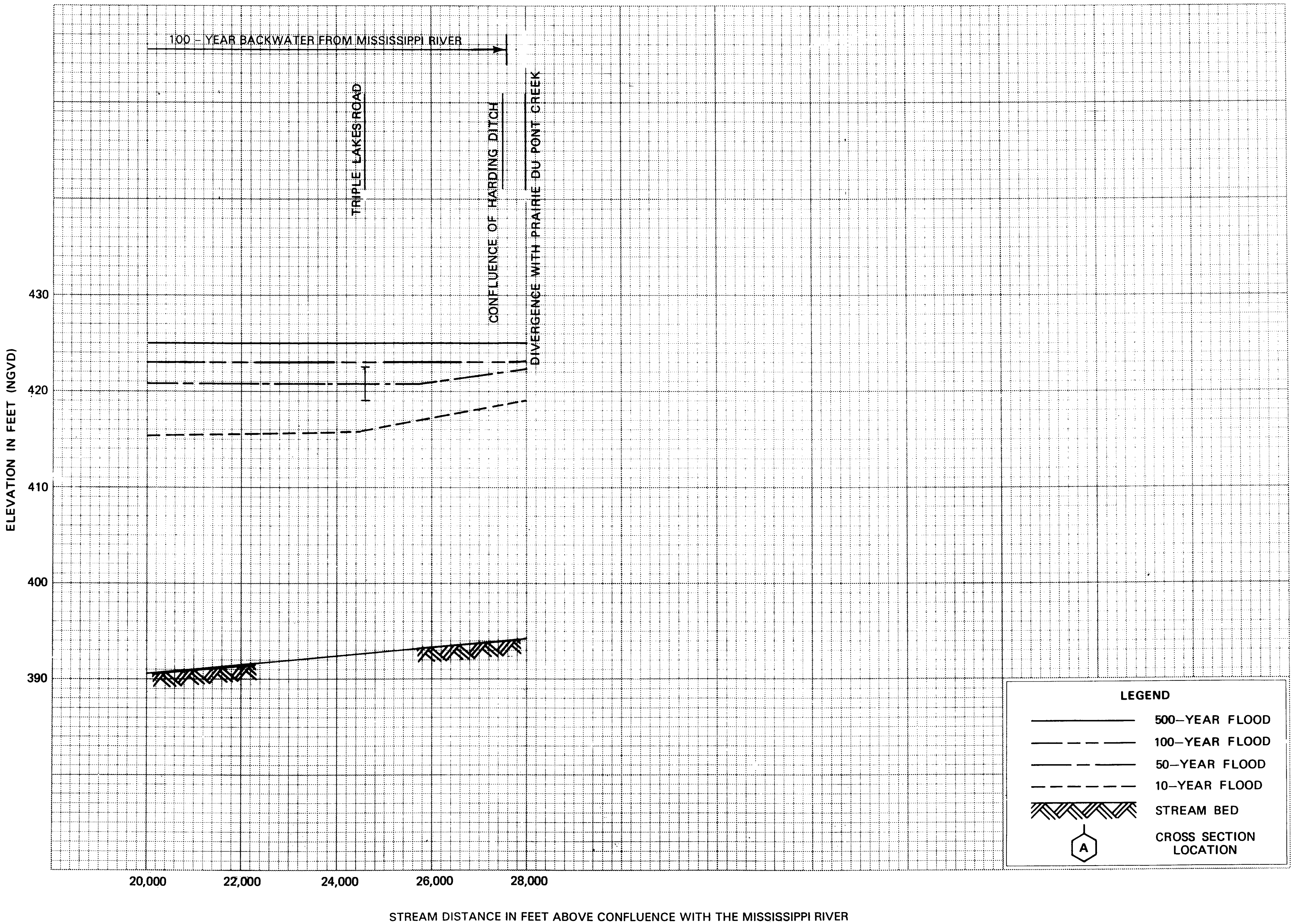
FLOOD PROFILES

PRAIRIE du PONT DIVERSION CHANNEL

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS

29P



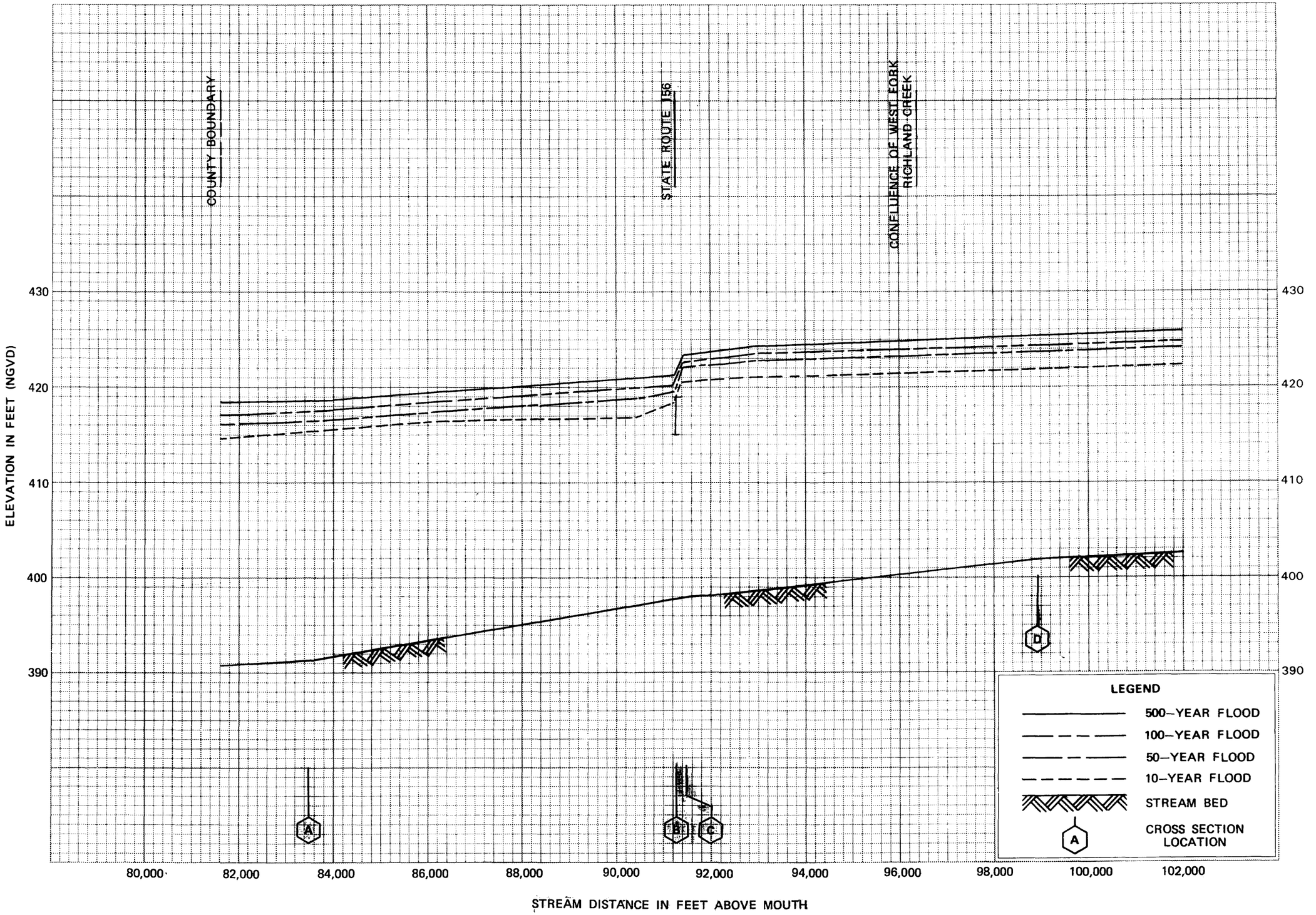
FLOOD PROFILES

PRAIRIE du PONT DIVERSION CHANNEL

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

30P



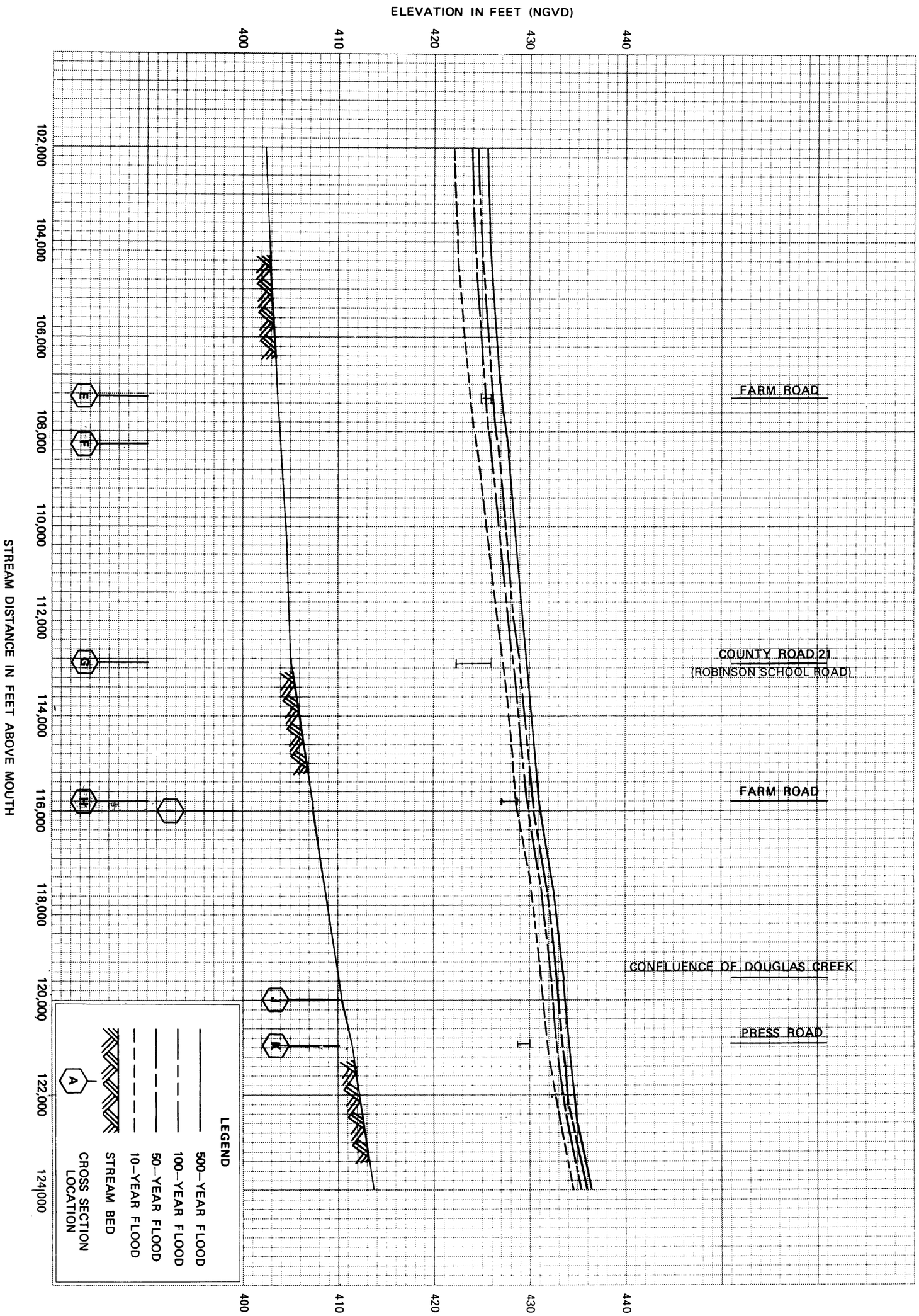
FLOOD PROFILES

RICHLAND CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS

31P

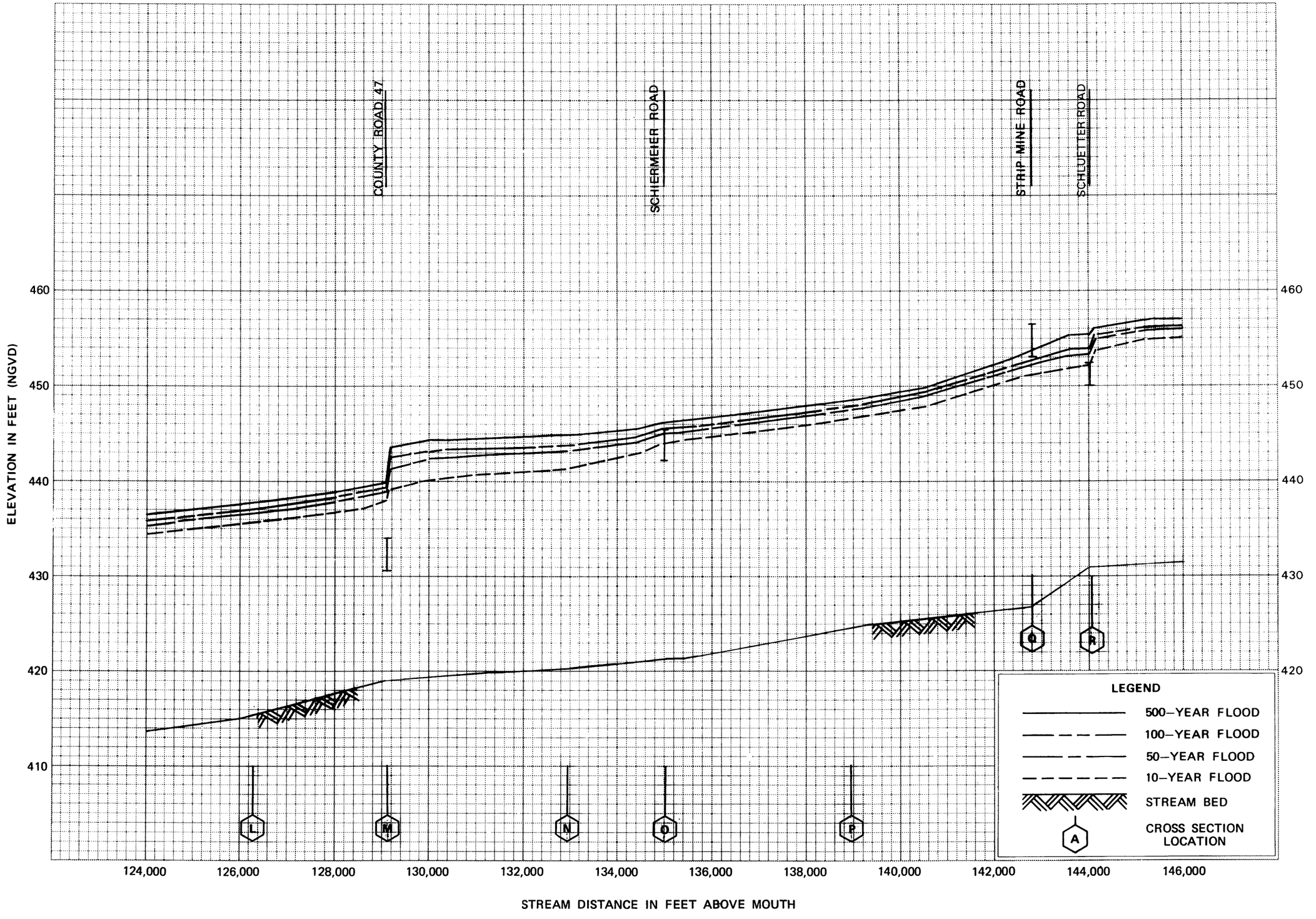


FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

FLOOD PROFILES

RICHLAND CREEK



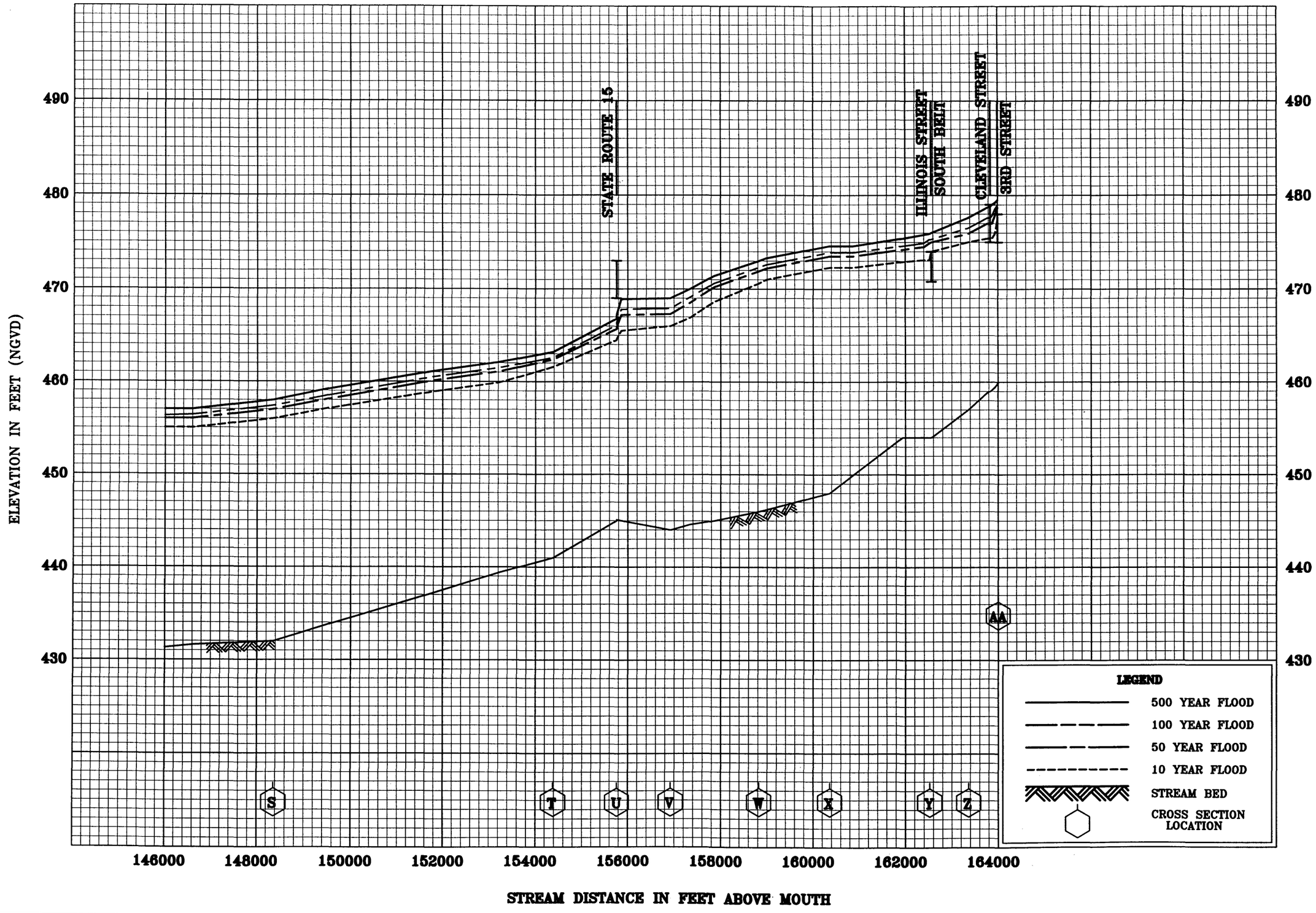
FLOOD PROFILES

RICHLAND CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS

33P



FLOOD PROFILES

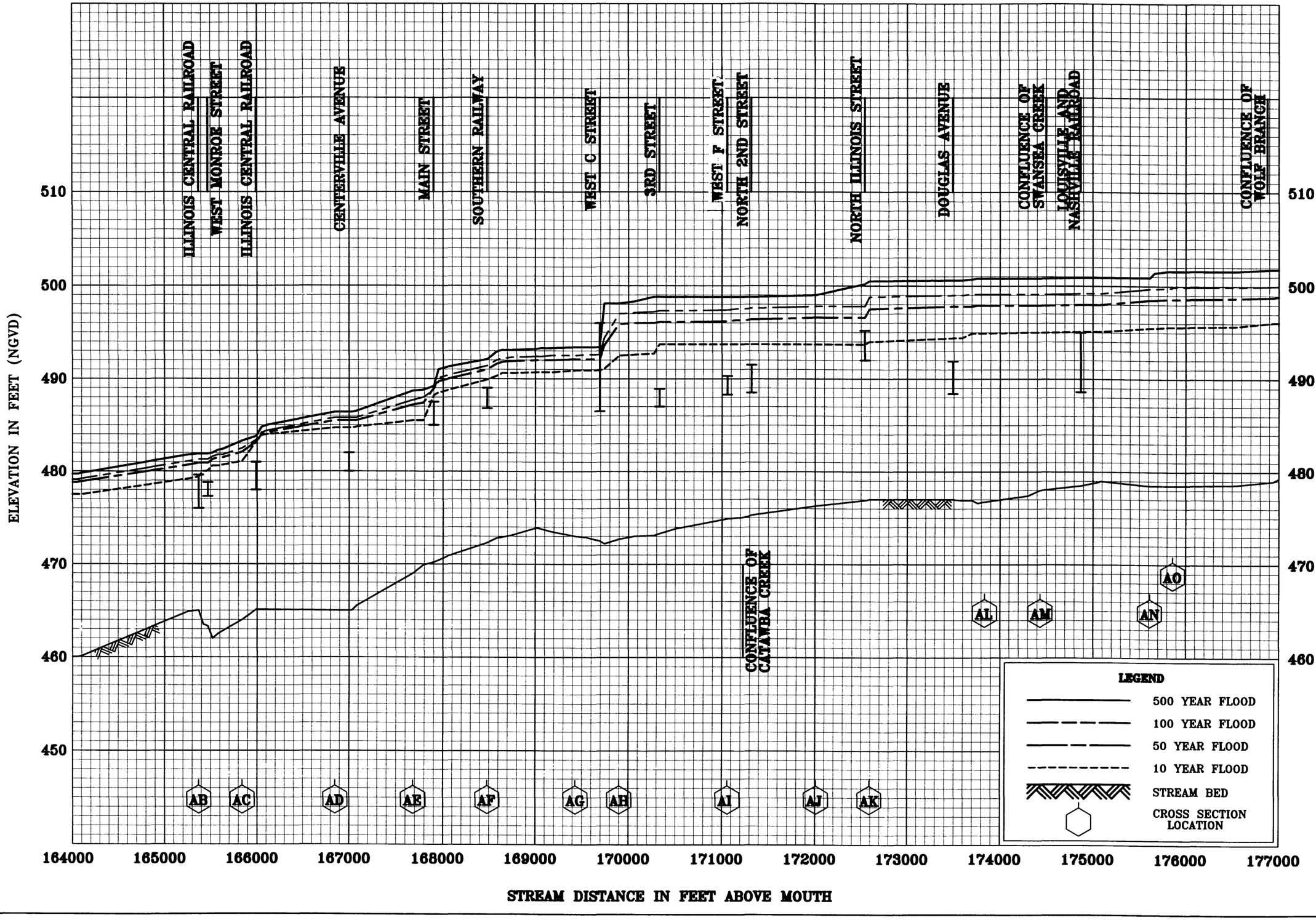
RICHLAND CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL

AND INCORPORATED AREAS

34P



FLOOD PROFILES

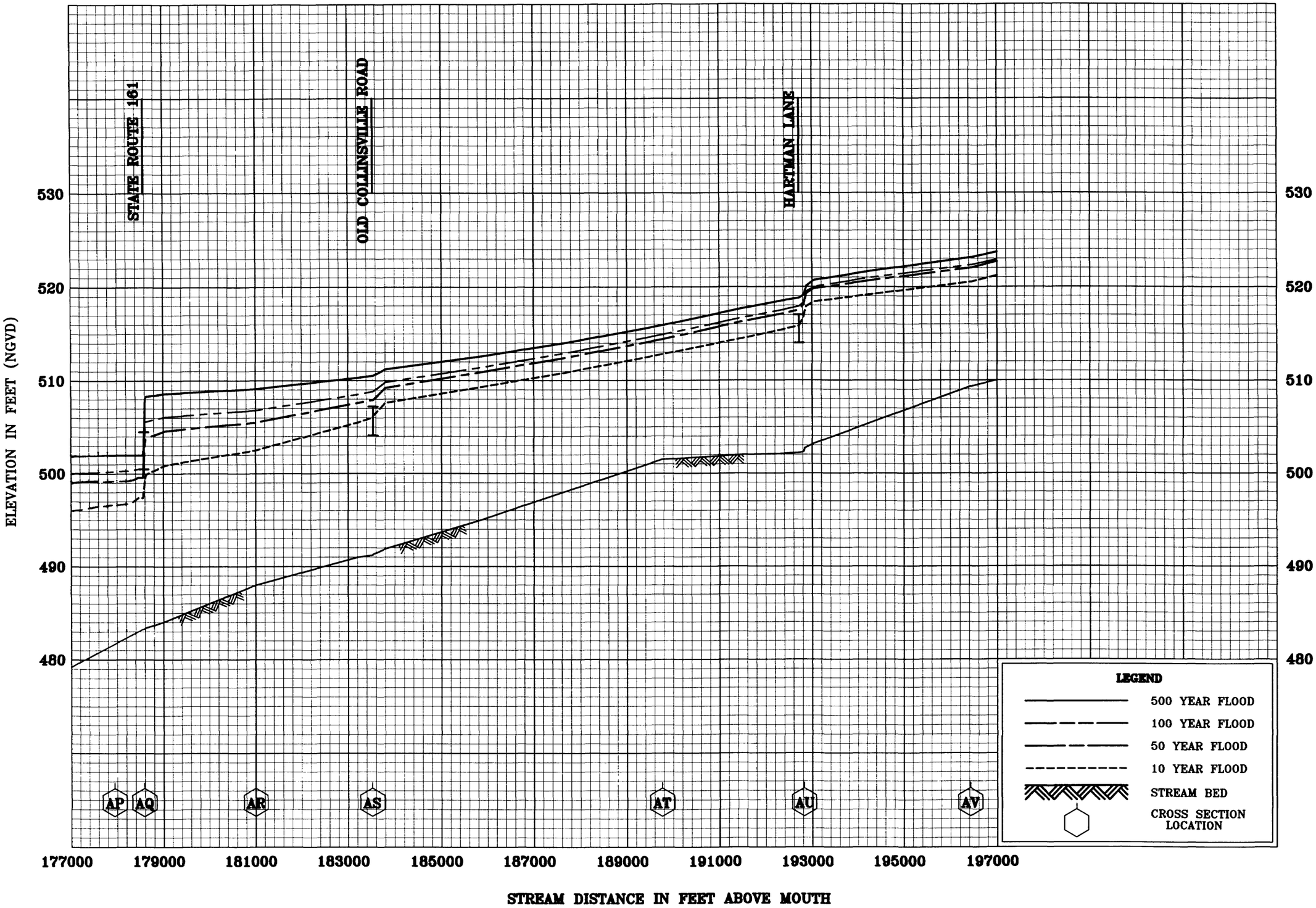
RICHLAND CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL

AND INCORPORATED AREAS

35P



FLOOD PROFILES

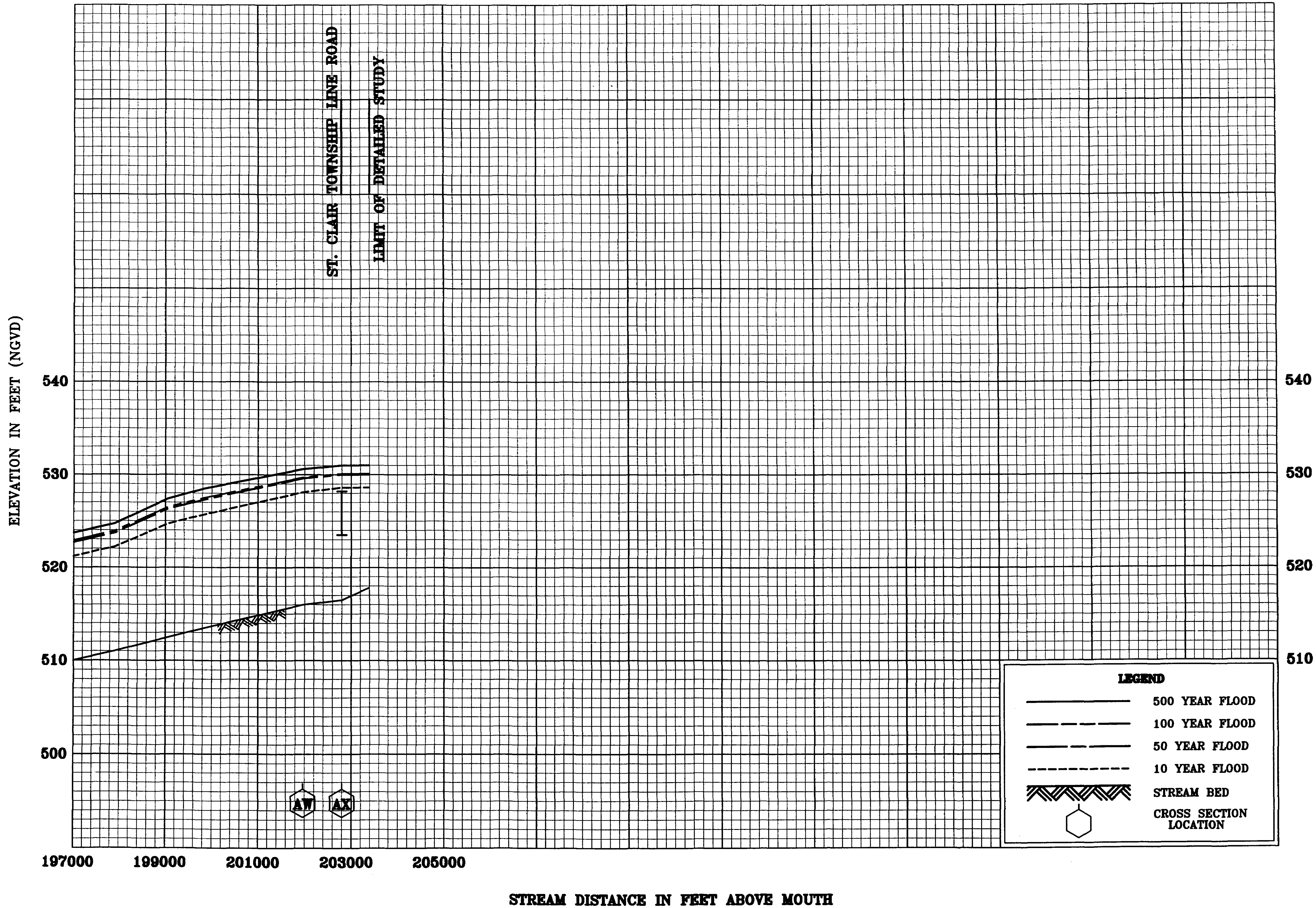
RICHLAND CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL

AND INCORPORATED AREAS

36P



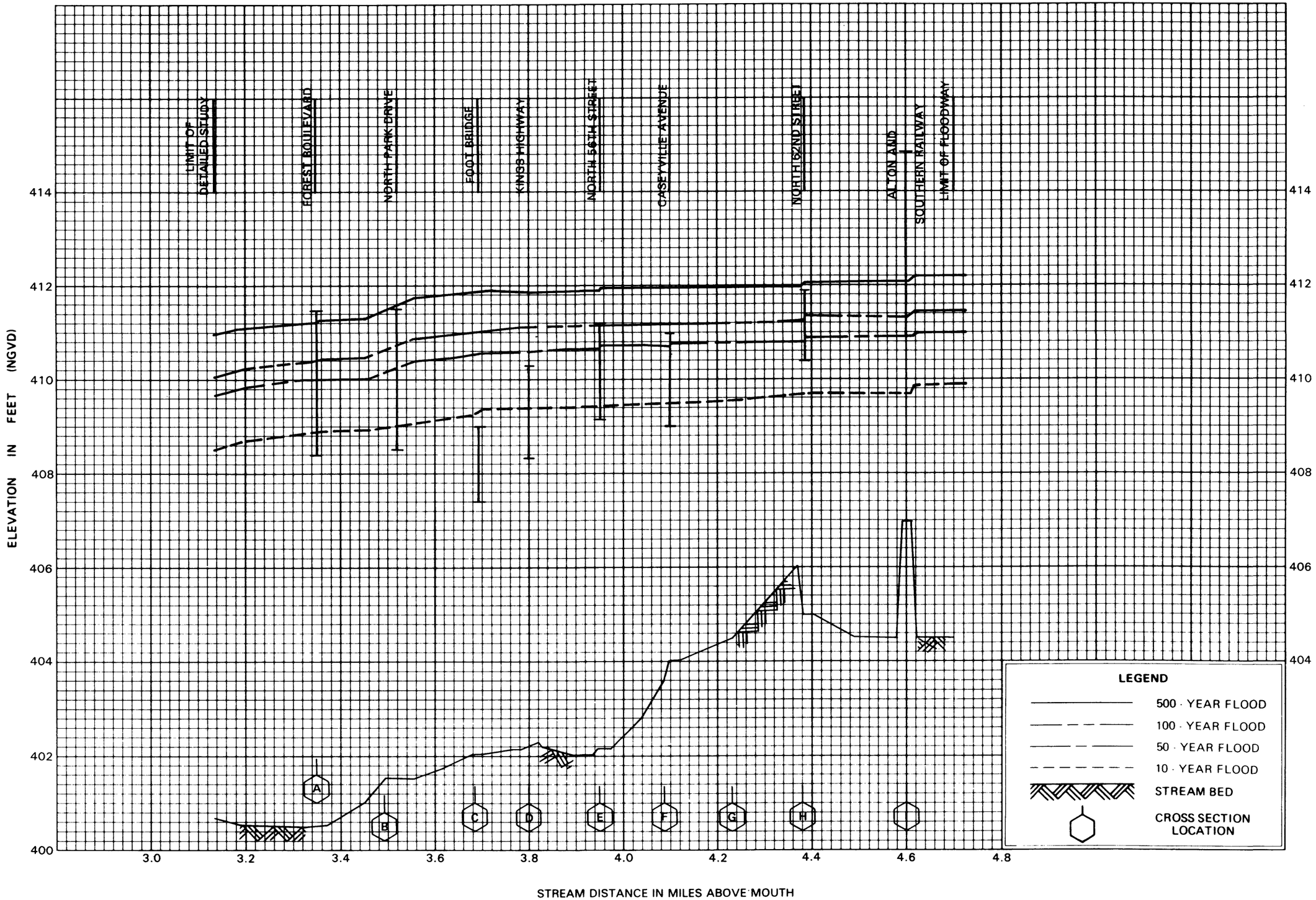
FLOOD PROFILES

RICHLAND CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL

AND INCORPORATED AREAS

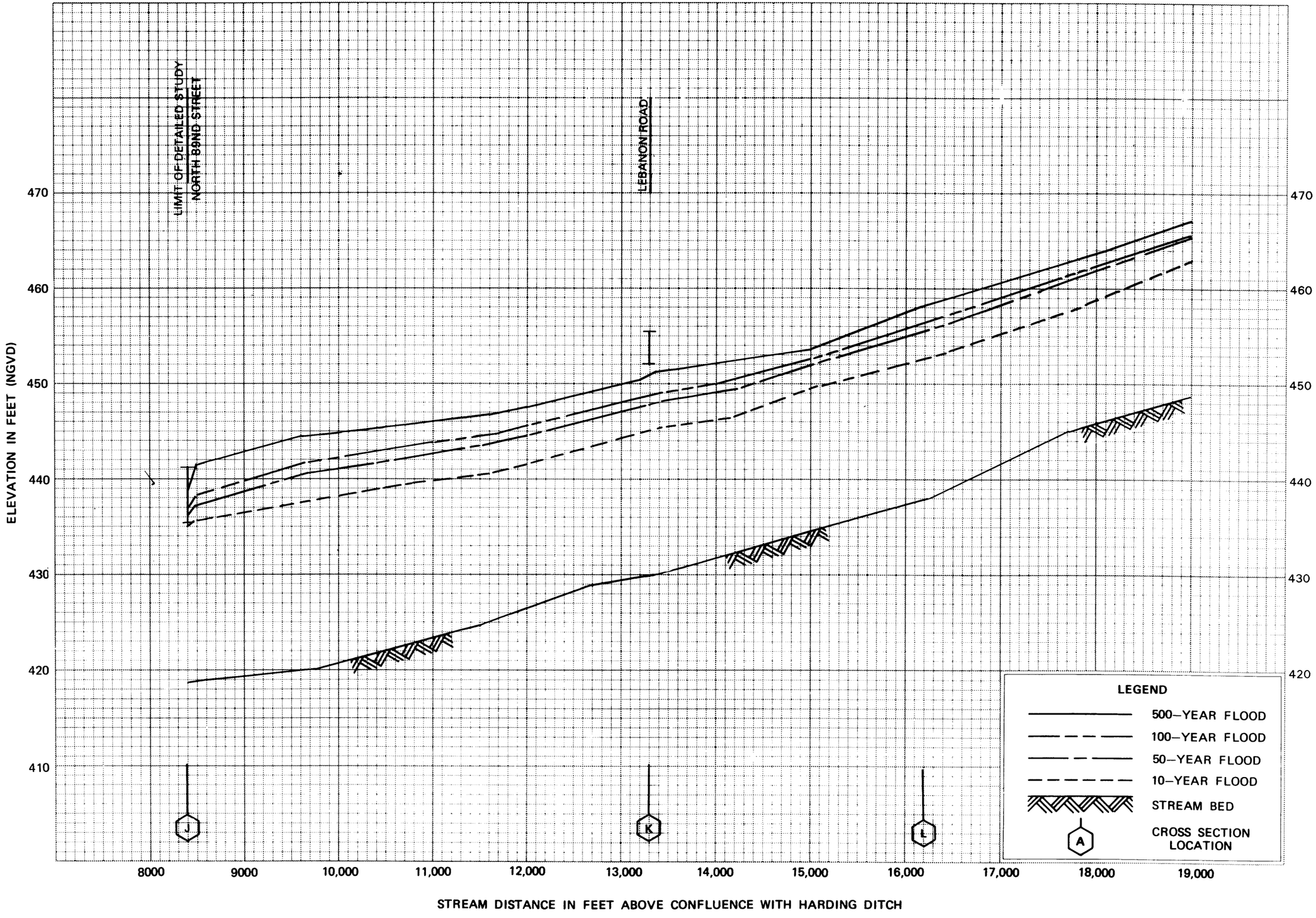


FLOOD PROFILES

SCHOENBERGER CREEK NO. 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS



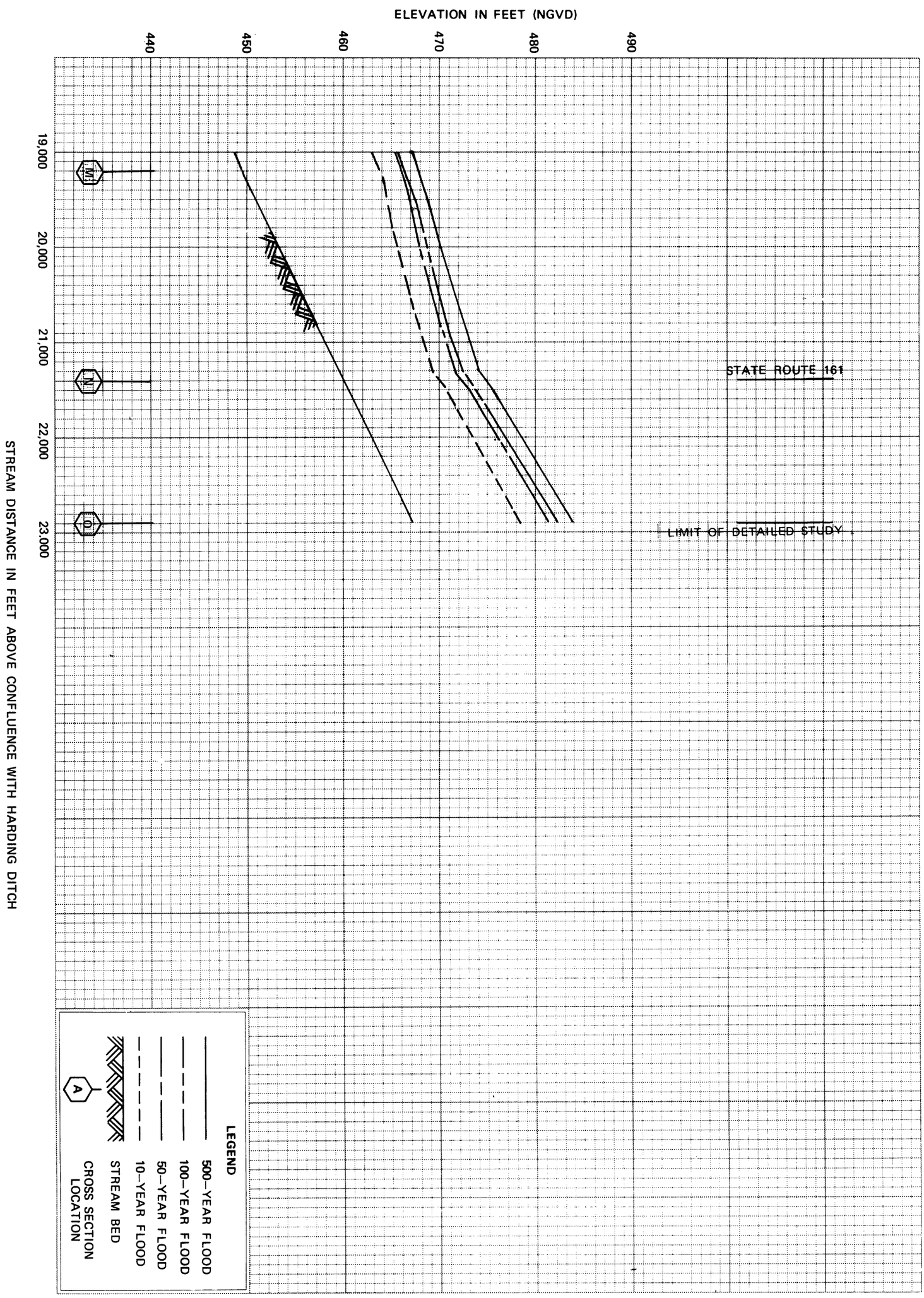
FLOOD PROFILES

SCHOENBERGER CREEK NO. 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS

39P

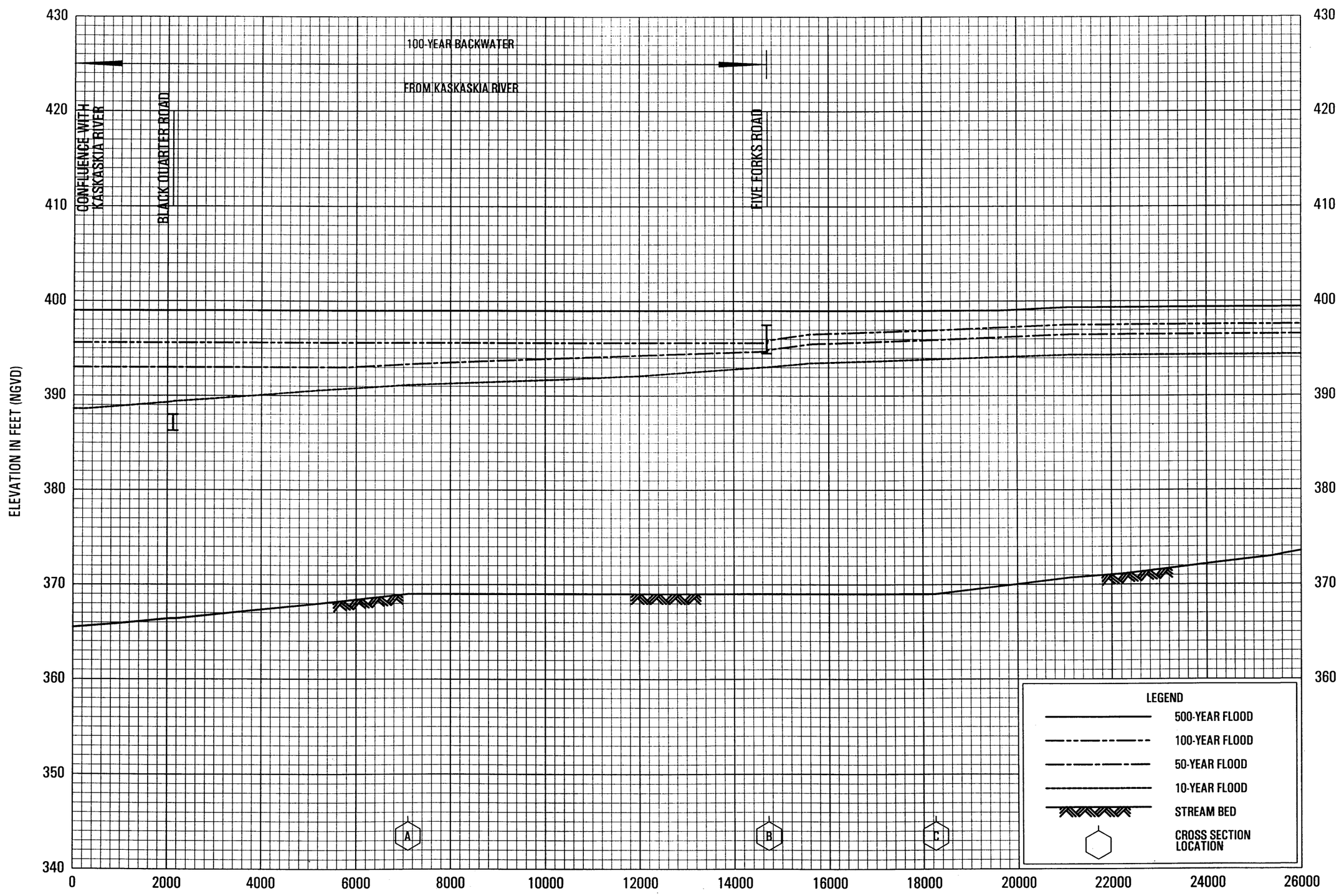


FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

FLOOD PROFILES

SCHOENBERGER CREEK NO. 2



FLOOD PROFILES

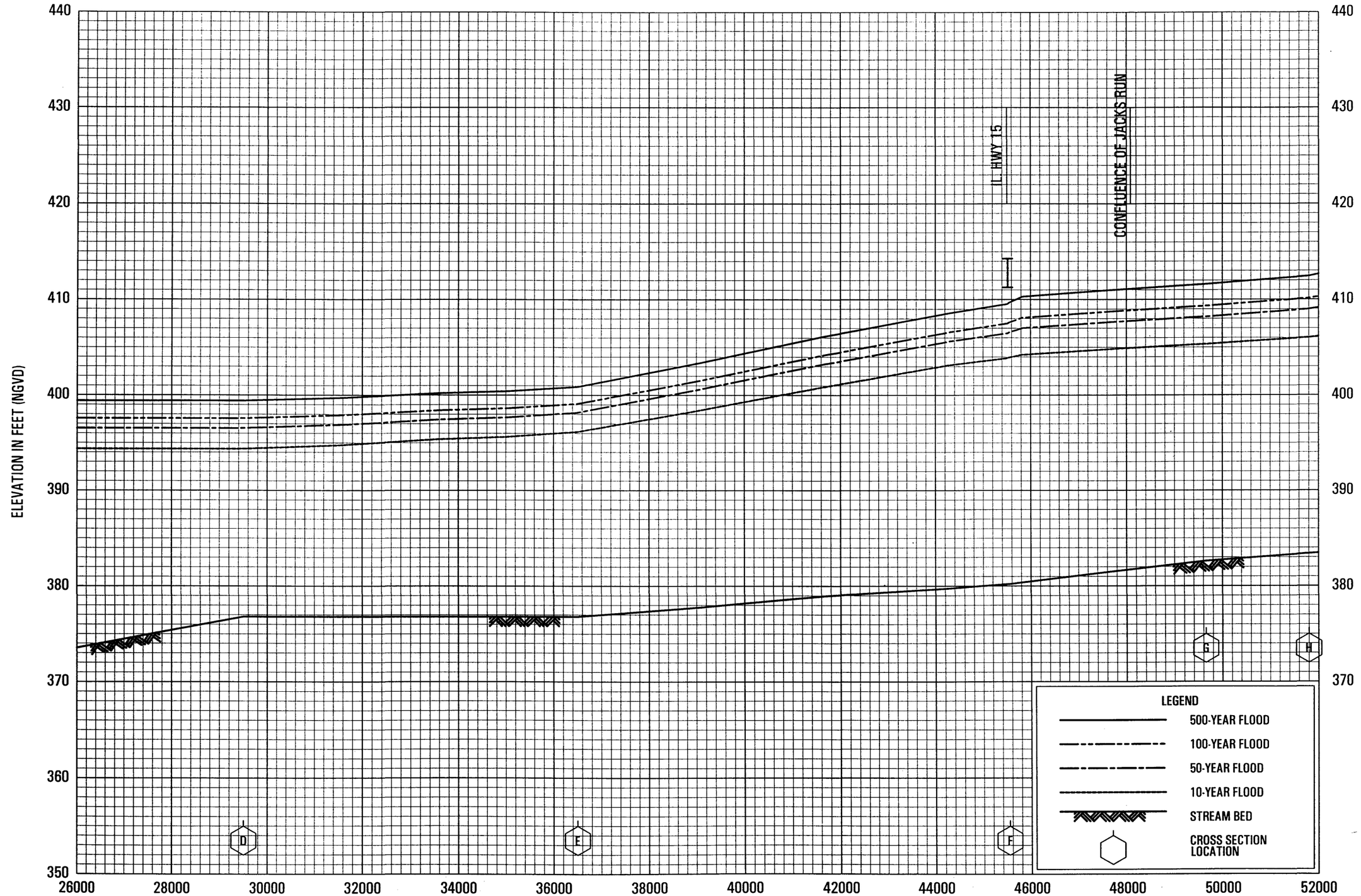
SILVER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL

AND INCORPORATED AREAS

41P



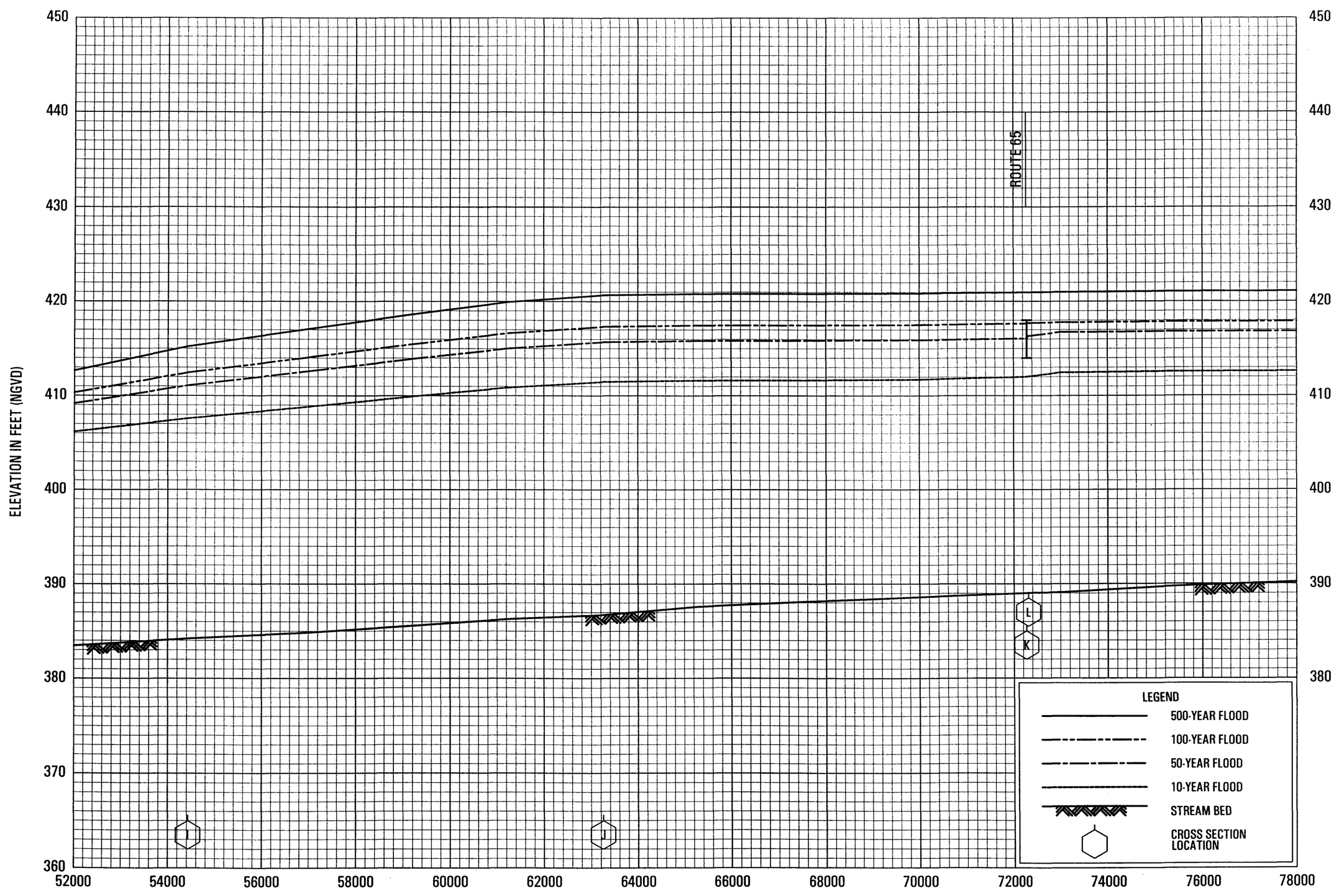
FLOOD PROFILES

SILVER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL

AND INCORPORATED AREAS



FLOOD PROFILES

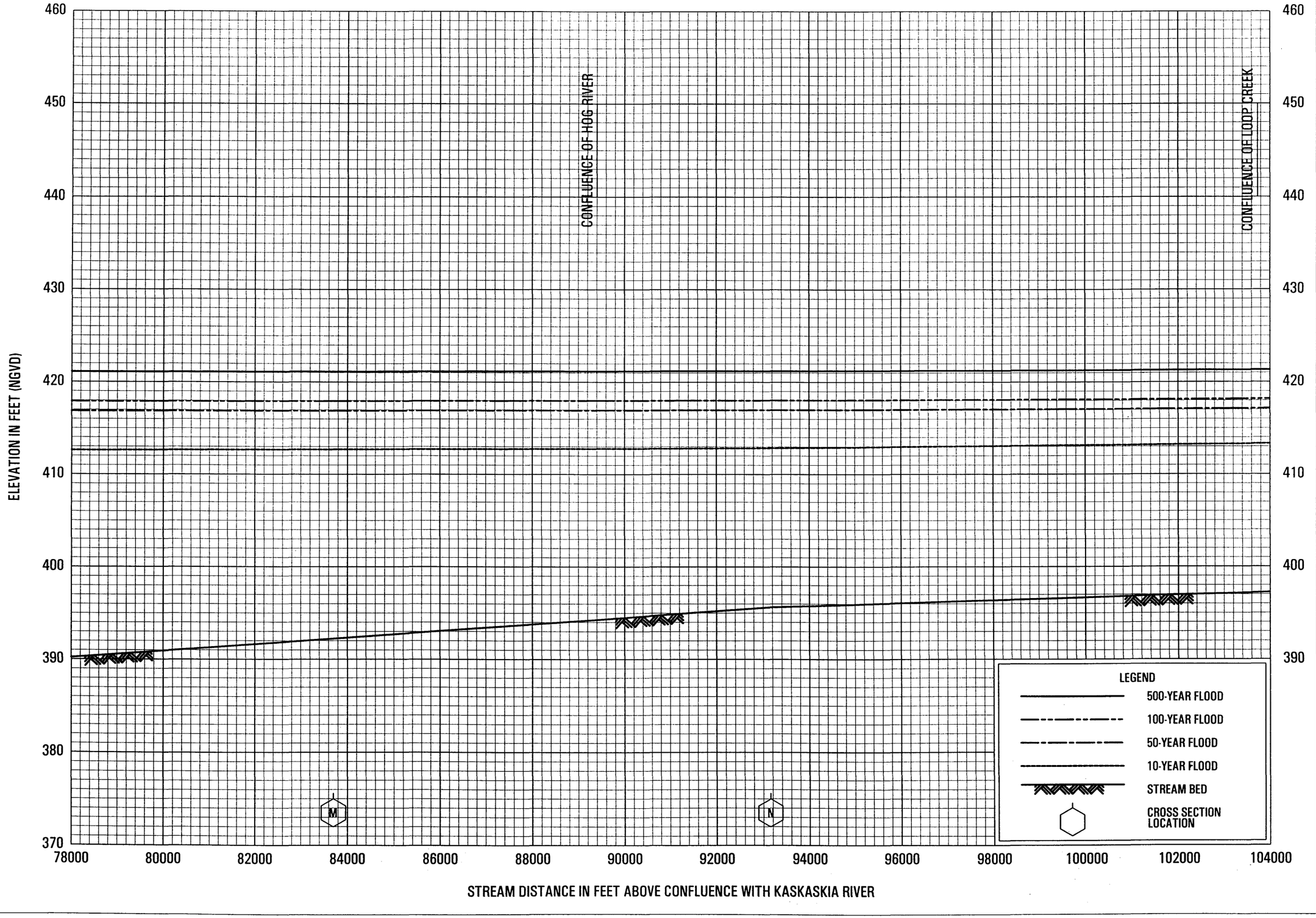
SILVER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL

AND INCORPORATED AREAS

43P



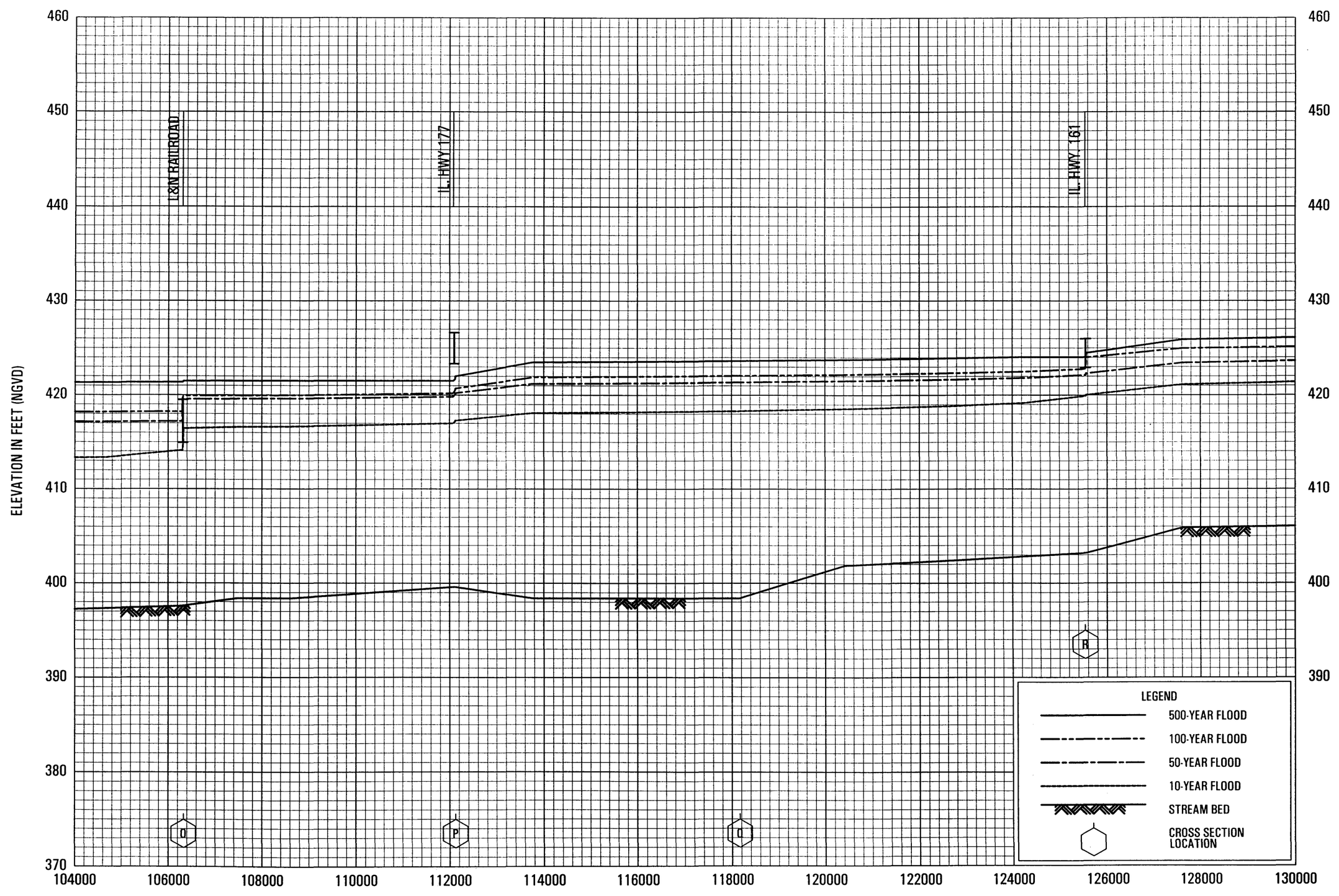
FLOOD PROFILES

SILVER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL

AND INCORPORATED AREAS



FLOOD PROFILES

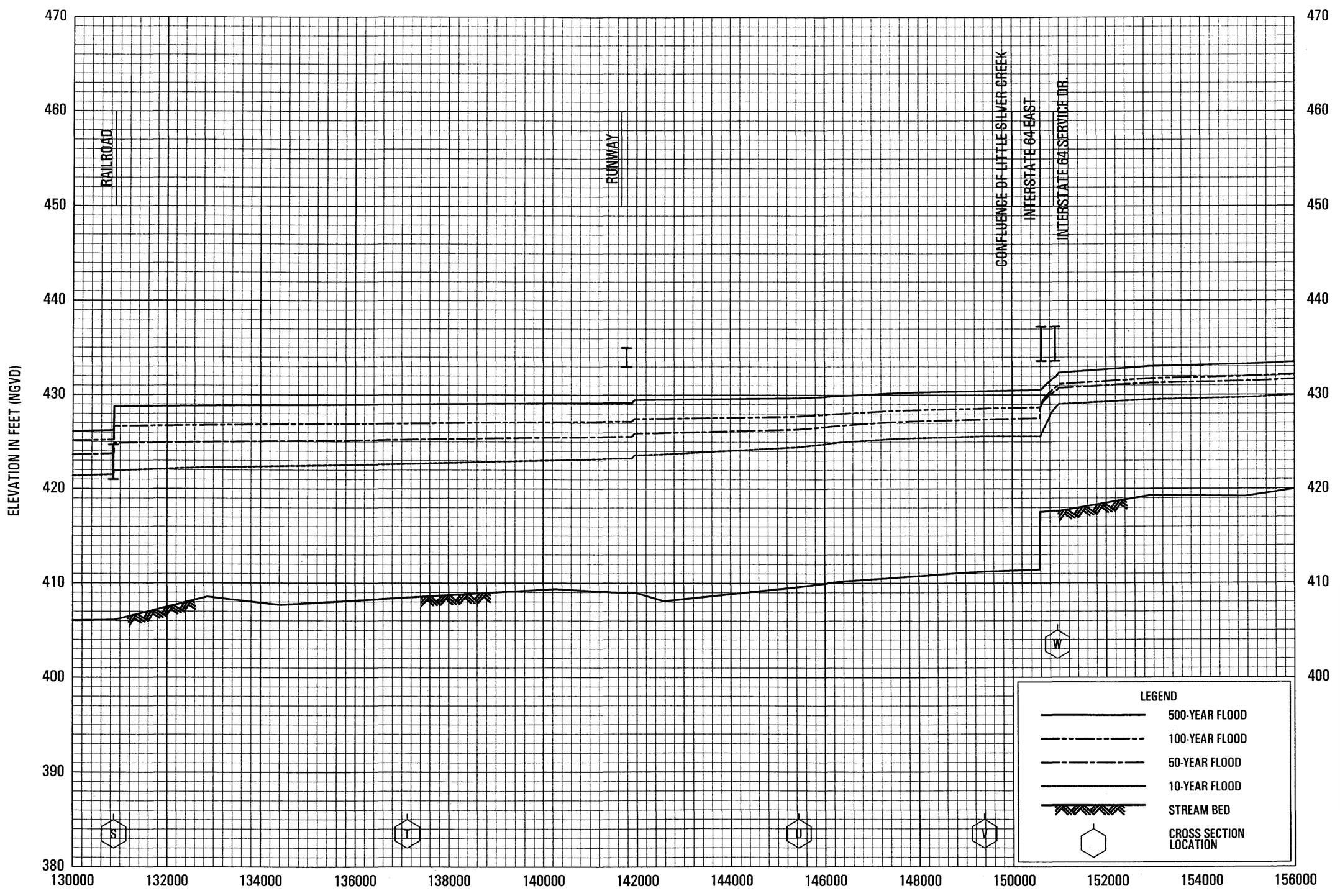
SILVER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL

AND INCORPORATED AREAS

45P



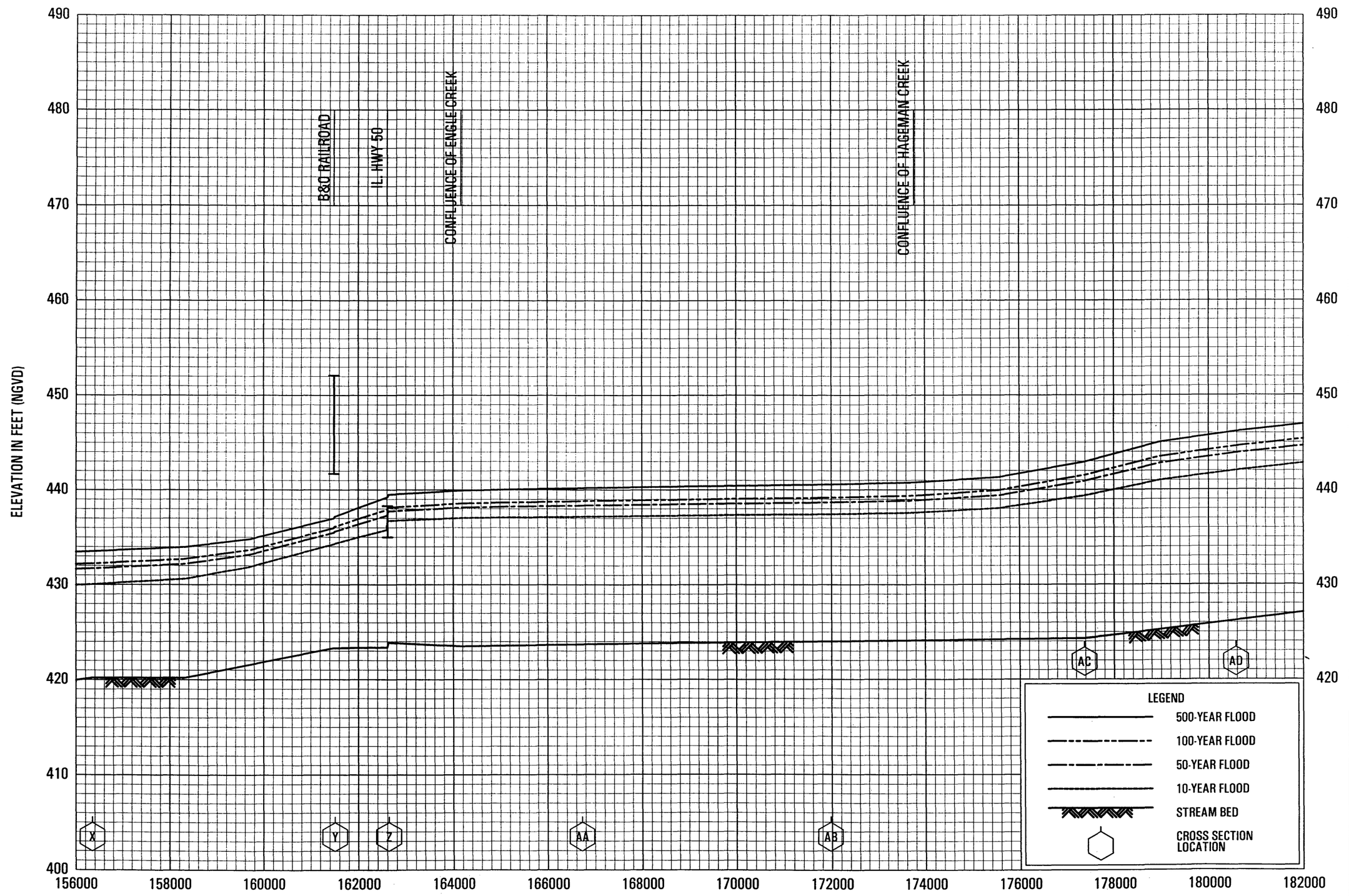
FLOOD PROFILES

SILVER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL

AND INCORPORATED AREAS



FLOOD PROFILES

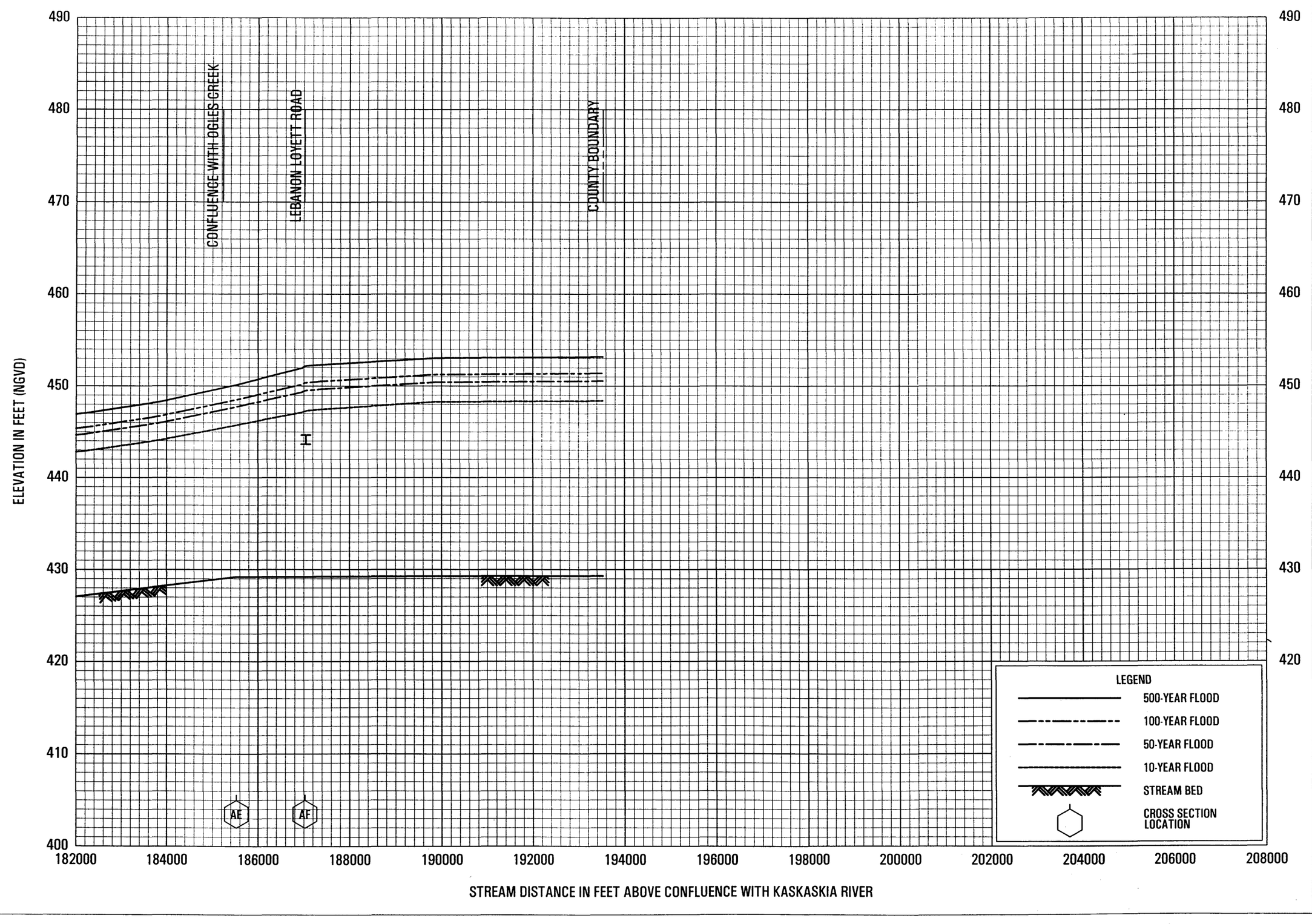
SILVER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL

AND INCORPORATED AREAS

47P



FLOOD PROFILES

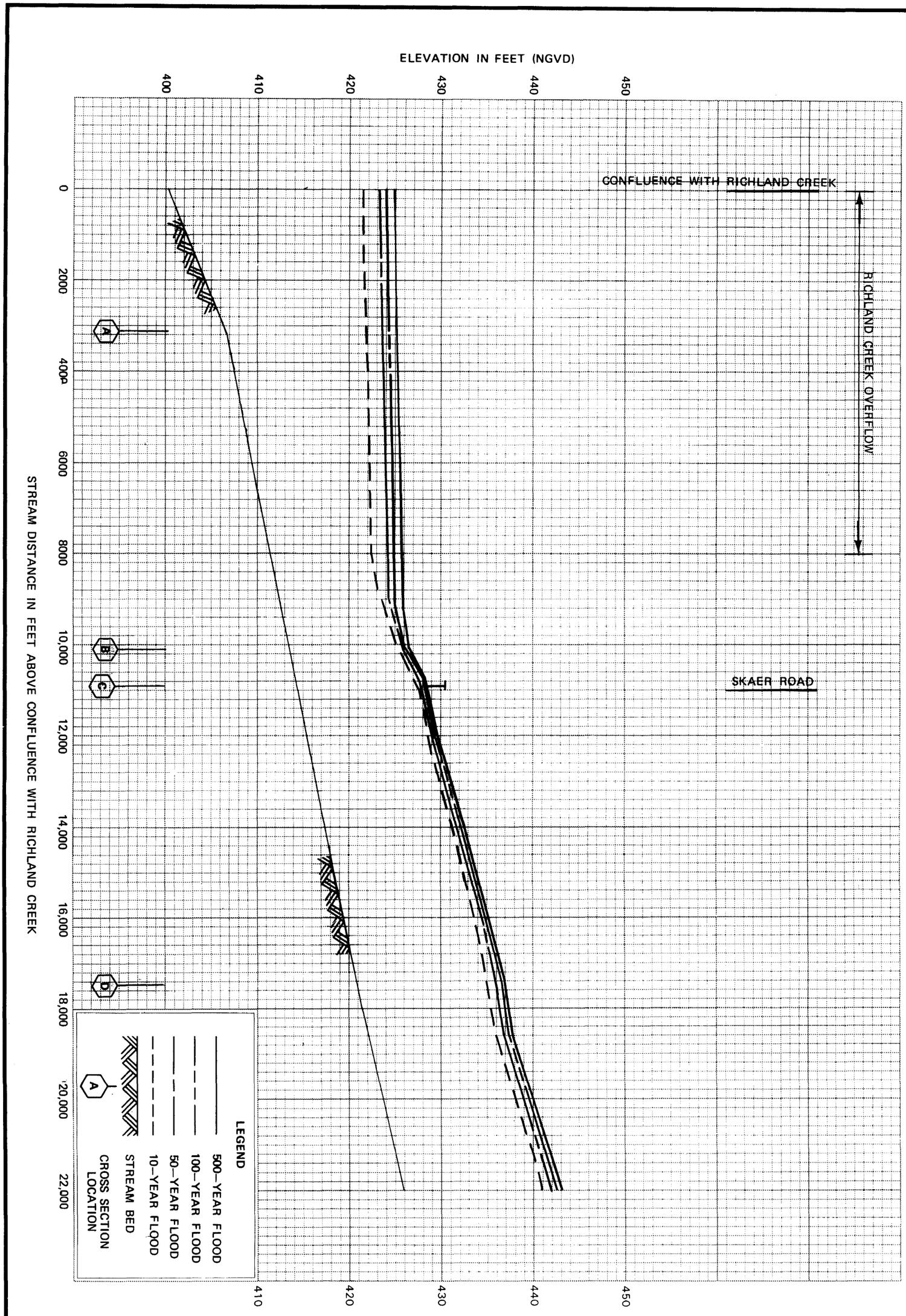
SILVER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL

AND INCORPORATED AREAS

48P

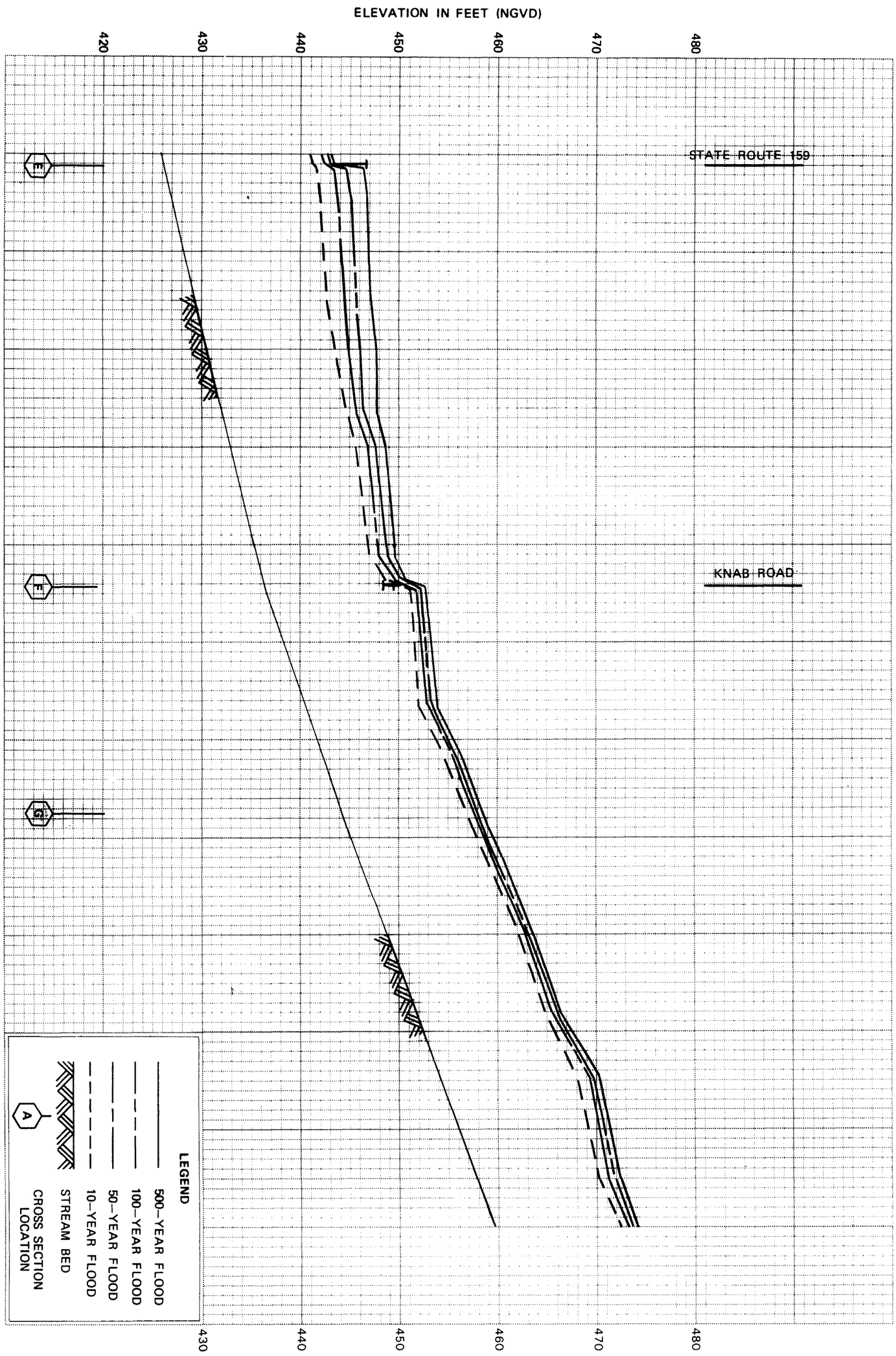


FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL
AND INCORPORATED AREAS

FLOOD PROFILES

WEST FORK OF RICHLAND CREEK

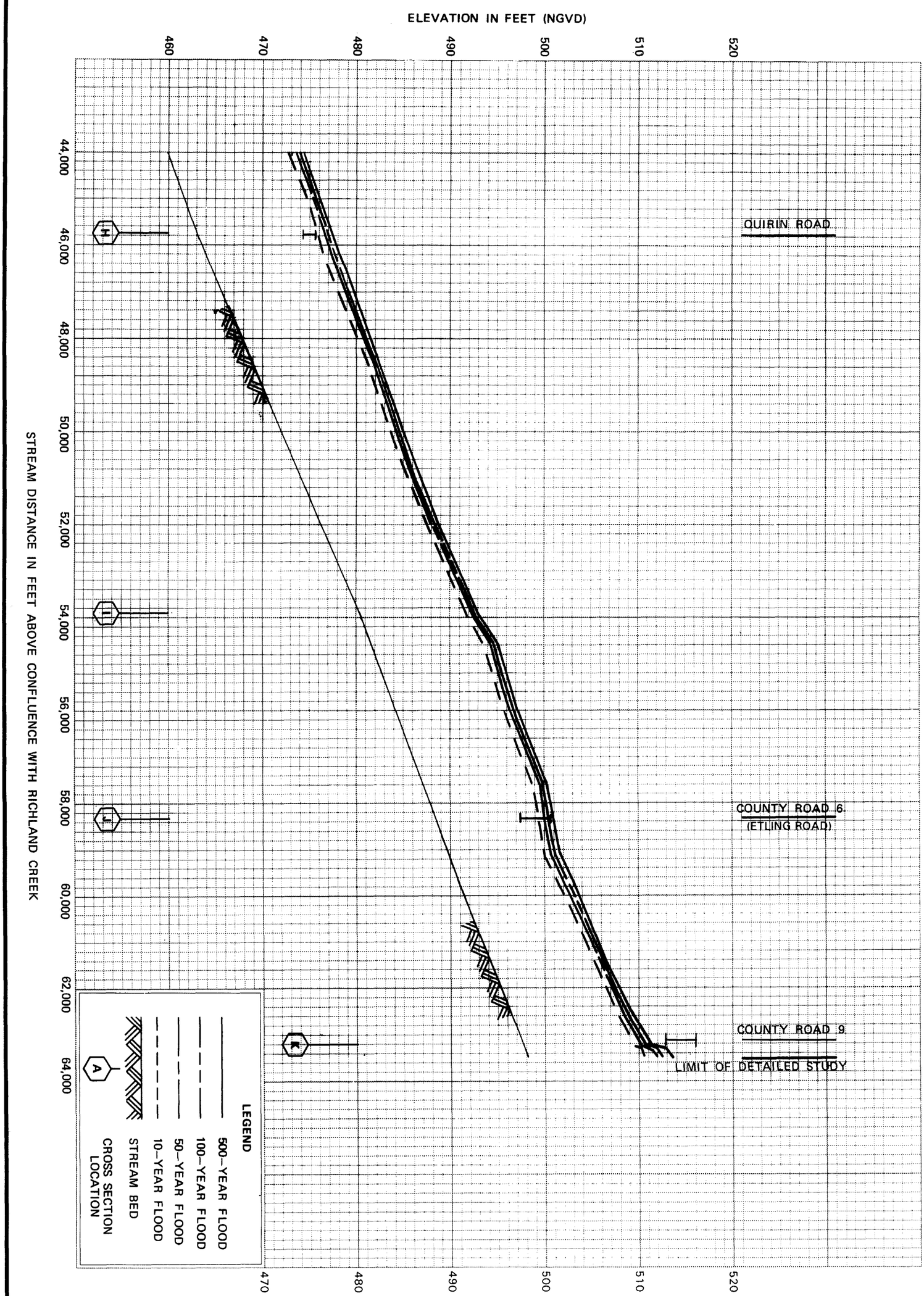


FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL AND INCORPORATED AREAS

FLOOD PROFILES

WEST FORK OF RICHLAND CREEK



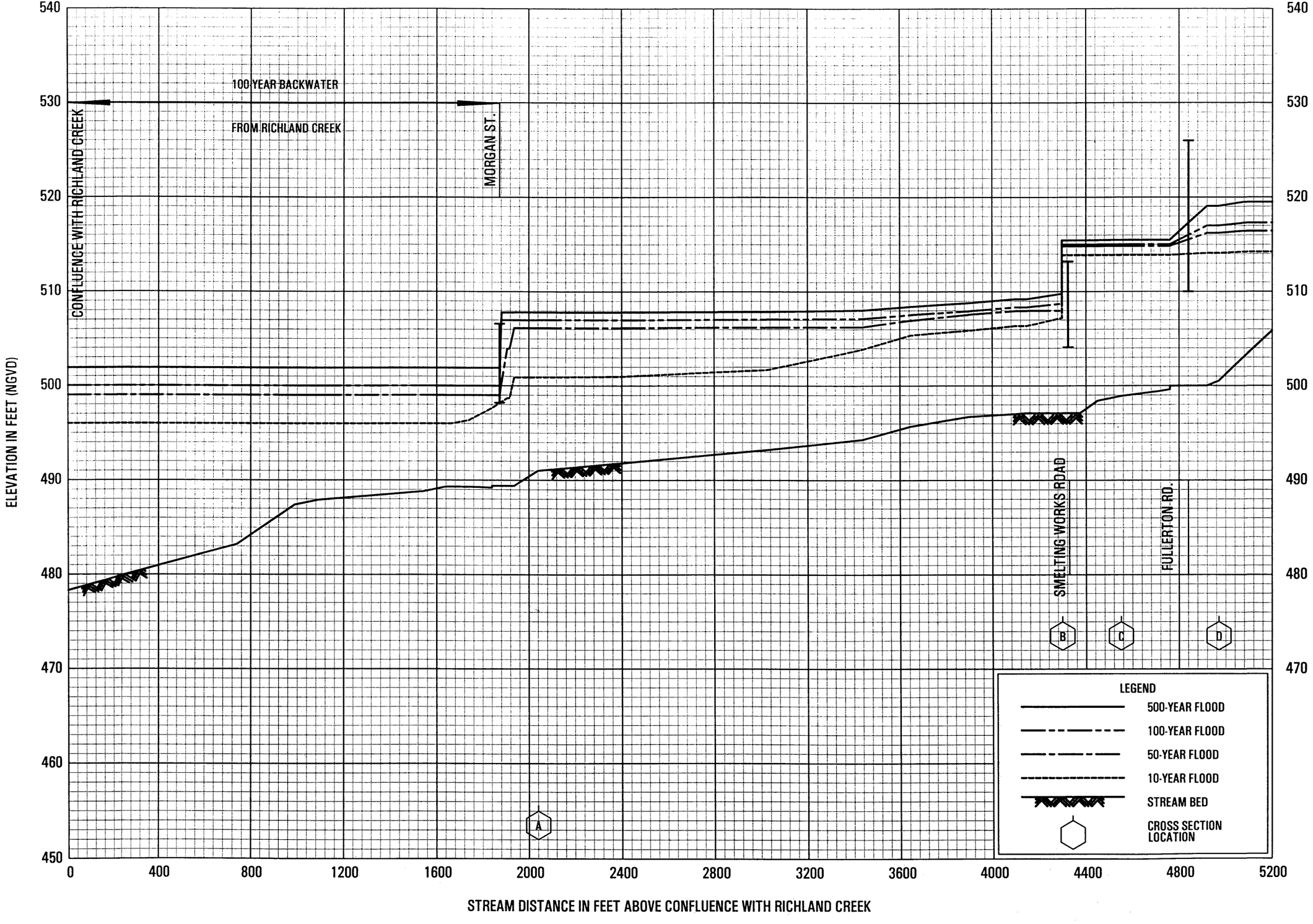
FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL

AND INCORPORATED AREAS

FLOOD PROFILES

WEST FORK OF RICHLAND CREEK



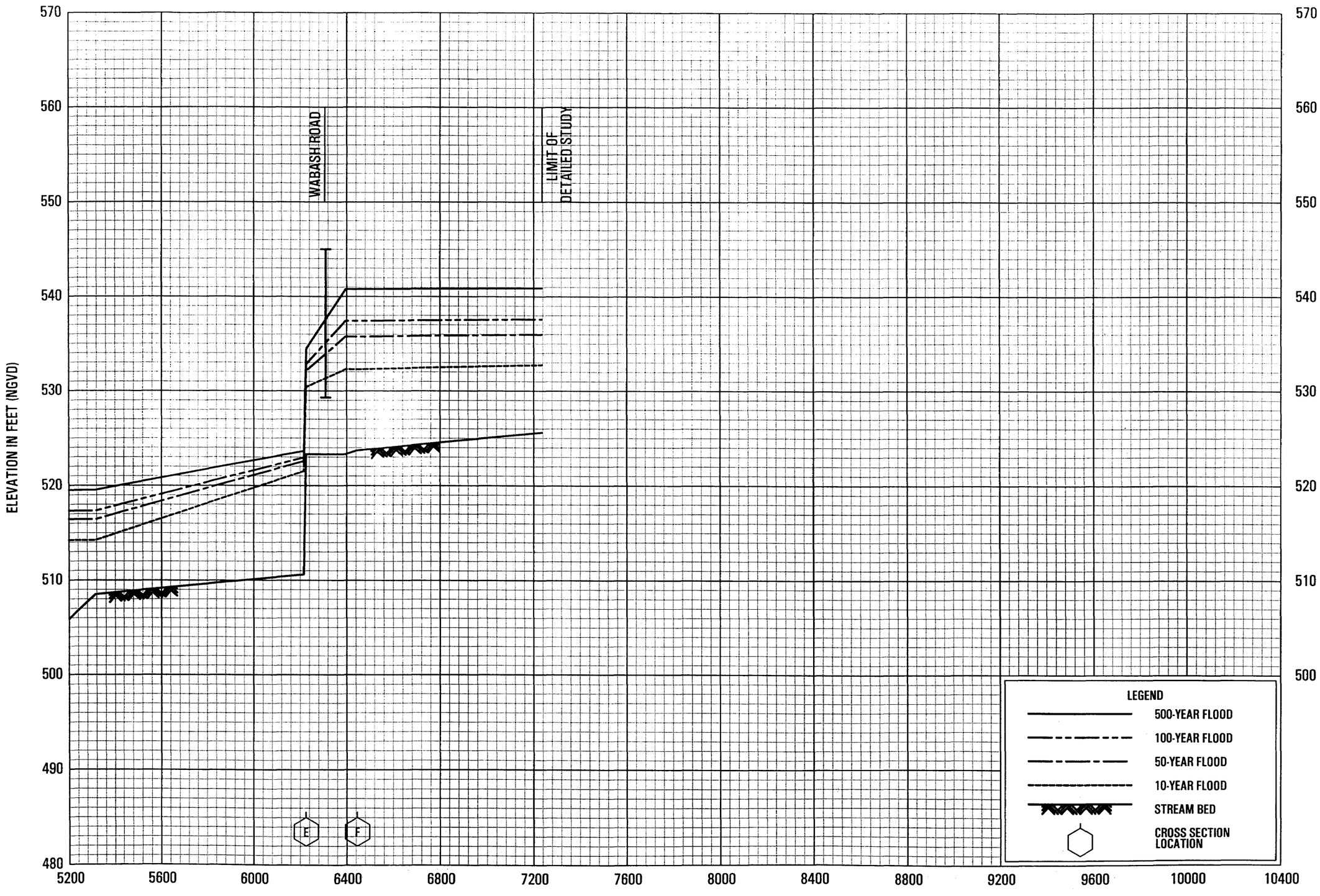
FLOOD PROFILES

WOLF BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL

AND INCORPORATED AREAS



FLOOD PROFILES

WOLF BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

ST. CLAIR COUNTY, IL

AND INCORPORATED AREAS