

# FLOOD INSURANCE STUDY

## FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 1 OF 1



## JESSAMINE COUNTY, KENTUCKY AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
JESSAMINE COUNTY UNINCORPORATED AREAS	210125
NICHOLASVILLE, CITY OF	210126
WILMORE, CITY OF	210311



# FEMA

**REVISED: PRELIMINARY**

FLOOD INSURANCE STUDY NUMBER  
21113CV000B

Version Number 2.3.3.2

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**Volume 1**  
Exhibits

Flood Profiles	<u>Panel</u>
East Hickman Creek	01-05 P
Jessamine Creek	06-13 P
Kentucky River	14-17 P
Left Branch Tributary to Town Fork	18 P
Shelby Branch	19 P
Sinking Creek	20-21 P
Town Branch	22-29 P
Town Fork	30-36 P
Tributary to Town Fork	37 P
West Hickman Creek	38-39 P
Wymers Branch	40-44 P

**Published Separately**

Flood Insurance Rate Map (FIRM)

# FLOOD INSURANCE STUDY REPORT JESSAMINE COUNTY, KENTUCKY

## SECTION 1.0 – INTRODUCTION

### 1.1 The National Flood Insurance Program

The National Flood Insurance Program (NFIP) is a voluntary Federal program that enables property owners in participating communities to purchase insurance protection against losses from flooding. This insurance is designed to provide an insurance alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods.

For decades, the national response to flood disasters was generally limited to constructing flood-control works such as dams, levees, sea-walls, and the like, and providing disaster relief to flood victims. This approach did not reduce losses nor did it discourage unwise development. In some instances, it may have actually encouraged additional development. To compound the problem, the public generally could not buy flood coverage from insurance companies, and building techniques to reduce flood damage were often overlooked.

In the face of mounting flood losses and escalating costs of disaster relief to the general taxpayers, the U.S. Congress created the NFIP. The intent was to reduce future flood damage through community floodplain management ordinances, and provide protection for property owners against potential losses through an insurance mechanism that requires a premium to be paid for the protection.

The U.S. Congress established the NFIP on August 1, 1968, with the passage of the National Flood Insurance Act of 1968. The NFIP was broadened and modified with the passage of the Flood Disaster Protection Act of 1973 and other legislative measures. It was further modified by the National Flood Insurance Reform Act of 1994 and the Flood Insurance Reform Act of 2004. The NFIP is administered by the Federal Emergency Management Agency (FEMA), which is a component of the Department of Homeland Security (DHS).

Participation in the NFIP is based on an agreement between local communities and the Federal Government. If a community adopts and enforces floodplain management regulations to reduce future flood risks to new construction and substantially improved structures in Special Flood Hazard Areas (SFHAs), the Federal Government will make flood insurance available within the community as a financial protection against flood losses. The community's floodplain management regulations must meet or exceed criteria established in accordance with Title 44 Code of Federal Regulations (CFR) Part 60.3, *Criteria for land Management and Use*.

SFHAs are delineated on the community's Flood Insurance Rate Maps (FIRMs). Under the NFIP, buildings that were built before the flood hazard was identified on the community's FIRMs are generally referred to as "Pre-FIRM" buildings. When the NFIP was created, the U.S. Congress recognized that insurance for Pre-FIRM buildings would be prohibitively expensive if the premiums were not subsidized by the Federal Government. Congress also recognized that most of these floodprone buildings were built by individuals who did not have sufficient knowledge of the flood hazard to make informed decisions. The NFIP requires that full actuarial rates reflecting the complete flood risk be charged on all buildings constructed or substantially improved on or after

the effective date of the initial FIRM for the community or after December 31, 1974, whichever is later. These buildings are generally referred to as “Post-FIRM” buildings.

## **1.2 Purpose of this Flood Insurance Study Report**

This Flood Insurance Study (FIS) report revises and updates information on the existence and severity of flood hazards for the study area. The studies described in this report developed flood hazard data that will be used to establish actuarial flood insurance rates and to assist communities in efforts to implement sound floodplain management.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive than the minimum Federal requirements. Contact your State NFIP Coordinator to ensure that any higher State standards are included in the community’s regulations.

## **1.3 Jurisdictions Included in the Flood Insurance Study Project**

This FIS Report covers the entire geographic area of Jessamine County, Kentucky.

The jurisdictions that are included in this project area, along with the Community Identification Number (CID) for each community and the 8-digit Hydrologic Unit Codes (HUC-8) sub-basins affecting each, are shown in Table 1. The Flood Insurance Rate Map (FIRM) panel numbers that affect each community are listed. If the flood hazard data for the community is not included in this FIS Report, the location of that data is identified.

The location of flood hazard data for participating communities in multiple jurisdictions is also indicated in the table.

Jurisdictions that have no identified SFHAs as of the effective date of this study are indicated in the table. Changed conditions in these communities (such as urbanization or annexation) or the availability of new scientific or technical data about flood hazards could make it necessary to determine SFHAs in these jurisdictions in the future.

**Table 1: Listing of NFIP Jurisdictions**

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Jessamine County (Unincorporated Areas)	210125	05100205	21113C0020C <sup>1</sup> , 21113C0035C, 21113C0050C, 21113C0055D, 21113C0060D, 21113C0065D, 21113C0068C, 21113C0070D, 21113C0080D, 21113C0090D, 21113C0105D, 21113C0106D, 21113C0107D, 21113C0110D, 21113C0120D, 21113C0126D, 21113C0127D, 21113C0130D, 21113C0135C, 21113C0140D, 21113C0145D, 21113C0155D, 21113C0160D, 21113C0165D, 21113C0180D, 21113C0185D	
City of Nicholasville	210126	05100205	21113C0050C, 21113C0060D, 21113C0065D, 21113C0068C, 21113C0070D, 21113C0126D, 21113C0127D, 21113C0130D, 21113C0135C,	
City of Wilmore	210311	05100205	21113C0050C, 21113C0106D, 21113C0107D	

<sup>1</sup> Panel Not Printed

#### 1.4 Considerations for using this Flood Insurance Study Report

The NFIP encourages State and local governments to implement sound floodplain management programs. To assist in this endeavor, each FIS Report provides floodplain data, which may include a combination of the following: 10-, 4-, 2-, 1-, and 0.2-percent annual chance flood elevations (the 1% annual chance flood elevation is also referred to as the Base Flood Elevation (BFE)); delineations of the 1% annual chance and 0.2% annual chance floodplains; and 1% annual chance floodway. This information is presented on the FIRM and/or in many components of the FIS Report, including Flood Profiles, Floodway Data tables, Summary of Non-Coastal Stillwater Elevations tables, and Coastal Transect Parameters tables (not all components may be provided for a specific FIS).

This section presents important considerations for using the information contained in this FIS Report and the FIRM, including changes in format and content. Figures 1, 2, and 3 present information that applies to using the FIRM with the FIS Report.

- Part or all of this FIS Report may be revised and republished at any time. In addition, part of this FIS Report may be revised by a Letter of Map Revision (LOMR), which does not involve republication or redistribution of the FIS Report. Refer to Section 6.5 of this FIS Report for information about the process to revise the FIS Report and/or FIRM.

It is, therefore, the responsibility of the user to consult with community officials by contacting the community repository to obtain the most current FIS Report components. Communities participating in the NFIP have established repositories of flood hazard data for floodplain management and flood insurance purposes. Community map repository addresses are provided in Table 31, “Map Repositories,” within this FIS Report.

- New FIS Reports are frequently developed for multiple communities, such as entire counties. A countywide FIS Report incorporates previous FIS Reports for individual communities and the unincorporated area of the county (if not jurisdictional) into a single document and supersedes those documents for the purposes of the NFIP.

The initial Countywide FIS Report for Jessamine County became effective on August 5, 2010. Refer to Table 28 for information about subsequent revisions to the FIRMs.

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

<u>Old Zone</u>	<u>New Zone</u>
A1 through A30	AE
B	X (shaded)
C	X (unshaded)

- FEMA does not impose floodplain management requirements or special insurance ratings based on Limit of Moderate Wave Action (LiMWA) delineations at this time. The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. If the LiMWA is shown on the FIRM, it is being provided by FEMA as information only. For communities that do adopt Zone VE building standards in the area defined by the LiMWA, additional Community Rating System (CRS) credits are available. Refer to Section 2.5.4 for additional information about the LiMWA.

The CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. Visit the FEMA Web site at <http://www.fema.gov> or contact your appropriate FEMA Regional Office for more information about this program.

- Previous FIS Reports and FIRMs may have included levees that were accredited as providing protection from the 1% annual chance flood based on the information available and the mapping standards of the NFIP at that time. For FEMA to continue to accredit the identified levees with providing protection from the base flood, the levees must meet the criteria of the Code of Federal Regulations, Title 44, Section 65.10 (44 CFR 65.10), titled “Mapping of Areas Protected by Levee Systems.”

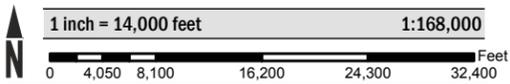
Since the status of levees is subject to change at any time, the user should contact the appropriate agency for the latest information regarding levees presented in Table 9 of this FIS Report. For levees owned or operated by the U.S. Army Corps of Engineers (USACE), information may be obtained from the USACE national levee database. For all other levees, the user is encouraged to contact the appropriate local community.

- FEMA has developed a *Guide to Flood Maps* (FEMA 258) and online tutorials to assist users in accessing the information contained on the FIRM. These include how to read panels and step-by-step instructions to obtain specific information. To obtain this guide and other assistance in using the FIRM, visit the FEMA Web site at <http://www.fema.gov>.

Figure 1: FIRM Panel Index



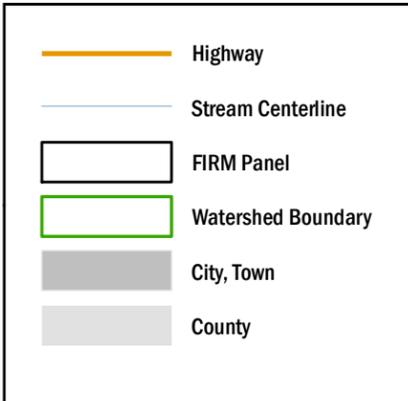
**ATTENTION:** The corporate limits shown on this FIRM Index are based on the best information available at the time of publication. As such, they may be more current than those shown on FIRM panels issued before 2/26/2016.



Map Projection:  
State Plane Lambert Conformal Conic,  
Kentucky Zone 1600; North American Datum 1983

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT  
[HTTP://MSC.FEMA.GOV](http://MSC.FEMA.GOV)

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION



**NATIONAL FLOOD INSURANCE PROGRAM**  
FLOOD INSURANCE RATE MAP INDEX

JESSAMINE COUNTY, KENTUCKY and Incorporated Areas

PANELS PRINTED:

0035, 0050, 0055, 0060, 0064, 0065, 0068, 0070, 0080, 0090, 0105, 0106, 0107, 0110, 0120, 0126, 0127, 0130, 0135, 0140, 0145, 0155, 0160, 0165, 0180, 0185



FEMA

MAP NUMBER  
21113CIND0B  
MAP REVISED  
PRELIMINARY



\*PANEL NOT PRINTED - AREA OUTSIDE COUNTY BOUNDARY  
\*\*PANEL NOT PRINTED - NO SPECIAL FLOOD HAZARD AREAS

**Figure 2: FIRM Notes to Users**

## **NOTES TO USERS**

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products, or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Map Service Center at the number listed above.

For community and countywide map dates, refer to Table 28 in this FIS Report.

To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

PRELIMINARY FIS REPORT: FEMA maintains information about map features, such as street locations and names, in or near designated flood hazard areas. Requests to revise information in or near designated flood hazard areas may be provided to FEMA during the community review period, at the final Consultation Coordination Officer's meeting, or during the statutory 90-day appeal period. Approved requests for changes will be shown on the final printed FIRM.

The map is for use in administering the NFIP. It may not identify all areas subject to flooding, particularly from local drainage sources of small size. Consult the community map repository to find updated or additional flood hazard information.

BASE FLOOD ELEVATIONS: For more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables within this FIS Report. Use the flood elevation data within the FIS Report in conjunction with the FIRM for construction and/or floodplain management.

Coastal Base Flood Elevations are not applicable to this FIS project.

FLOODWAY INFORMATION: Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the FIS Report for this jurisdiction.

FLOOD CONTROL STRUCTURE INFORMATION: Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 4.3 "Non-Levee Flood Protection Measures" of this FIS Report for information on flood control structures for this jurisdiction.

**PROJECTION INFORMATION:** The projection used in the preparation of the map was Kentucky State Plane Single Zone. The horizontal datum was North American Datum of 1983 (NAD83). Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

**ELEVATION DATUM:** Flood elevations on the FIRM are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

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

Local vertical monuments may have been used to create the map. To obtain current monument information, please contact the appropriate local community listed in Table 31 of this FIS Report.

**BASE MAP INFORMATION:** Base map information shown on the FIRM was provided by the U.S. Geological Survey, National Geodetic Survey, National Atlas, Kentucky Transportation Cabinet (KYTC), Kentucky GeoNet, U.S. Army Corps of Engineers, Federal Emergency Management Agency, and the National Agriculture Imagery Program (NAIP). Ortho imagery was provided by NAIP in 2012, has a 1 meter ground resolution. For information about base maps, refer to Section 6.2 “Base Map” in this FIS Report.

The map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map.

Corporate limits shown on the map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after the map was published, map users should contact appropriate community officials to verify current corporate limit locations.

## **NOTES FOR FIRM INDEX**

REVISIONS TO INDEX: As new studies are performed and FIRM panels are updated within Jessamine County, Kentucky, corresponding revisions to the FIRM Index will be incorporated within the FIS Report to reflect the effective dates of those panels. Please refer to Table 28 of this FIS Report to determine the most recent FIRM revision date for each community. The most recent FIRM panel effective date will correspond to the most recent index date.

## **SPECIAL NOTES FOR SPECIFIC FIRM PANELS**

This Notes to Users section was created specifically for Jessamine County, Kentucky, effective **88/88/8888**.

COASTAL BARRIER RESOURCES (CBRS) NOTE: This section is not applicable to this FIS project.

LIMIT OF MODERATE WAVE ACTION: This section is not applicable to this FIS project.

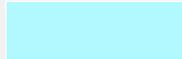
ACCREDITED LEVEE NOTES TO USERS: This section is not applicable to this FIS project.

PROVISIONALLY ACCREDITED LEVEE NOTES TO USERS: This section is not applicable to this FIS project.

FLOOD RISK REPORT: A Flood Risk Report (FRR) may be available for many of the flooding sources and communities referenced in this FIS Report. The FRR is provided to increase public awareness of flood risk by helping communities identify the areas within their jurisdictions that have the greatest risks. Although non-regulatory, the information provided within the FRR can assist communities in assessing and evaluating mitigation opportunities to reduce these risks. It can also be used by communities developing or updating flood risk mitigation plans. These plans allow communities to identify and evaluate opportunities to reduce potential loss of life and property. However, the FRR is not intended to be the final authoritative source of all flood risk data for a project area; rather, it should be used with other data sources to paint a comprehensive picture of flood risk.

**Figure 3: Map Legend for FIRM**

**SPECIAL FLOOD HAZARD AREAS:** *The 1% annual chance flood, also known as the base flood or 100-year flood, has a 1% chance of happening or being exceeded each year. Special Flood Hazard Areas are subject to flooding by the 1% annual chance flood. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights. See note for specific types. If the floodway is too narrow to be shown, a note is shown.*



Special Flood Hazard Areas subject to inundation by the 1% annual chance flood (Zones A, AE, AH, AO, AR, A99, V and VE)

- Zone A The flood insurance rate zone that corresponds to the 1% annual chance floodplains. No base (1% annual chance) flood elevations (BFEs) or depths are shown within this zone.
- Zone AE The flood insurance rate zone that corresponds to the 1% annual chance floodplains. Base flood elevations derived from the hydraulic analyses are shown within this zone, either at cross section locations or as static whole-foot elevations that apply throughout the zone.
- Zone AH The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot BFEs derived from the hydraulic analyses are shown at selected intervals within this zone.
- Zone AO The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the hydraulic analyses are shown within this zone.
- Zone AR The flood insurance rate zone that corresponds to areas that were formerly protected from the 1% annual chance flood 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.
- Zone A99 The flood insurance rate zone that corresponds to areas of the 1% annual chance floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No base flood elevations or flood depths are shown within this zone.
- Zone V The flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations are not shown within this zone.
- Zone VE Zone VE is the flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations derived from the coastal analyses are shown within this zone as static whole-foot elevations that apply throughout the zone.



Regulatory Floodway determined in Zone AE.

**OTHER AREAS OF FLOOD HAZARD**



Shaded Zone X: Areas of 0.2% annual chance flood hazards and areas of 1% annual chance flood hazards with average depths of less than 1 foot or with drainage areas less than 1 square mile.



Future Conditions 1% Annual Chance Flood Hazard – Zone X: The flood insurance rate zone that corresponds to the 1% annual chance floodplains that are determined based on future-conditions hydrology. No base flood elevations or flood depths are shown within this zone.



Area with Reduced Flood Risk due to Levee: Areas where an accredited levee, dike, or other flood control structure has reduced the flood risk from the 1% annual chance flood. See Notes to Users for important information.

**OTHER AREAS**

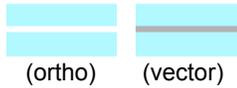


Zone D (Areas of Undetermined Flood Hazard): The flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible



Unshaded Zone X: Areas determined to be outside the 0.2% annual chance flood hazard

**FLOOD HAZARD AND OTHER BOUNDARY LINES**



Flood Zone Boundary (white line on ortho-photography-based mapping; gray line on vector-based mapping)



Limit of Study

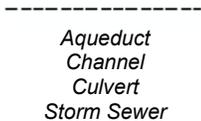


Jurisdiction Boundary

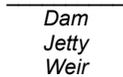


Limit of Moderate Wave Action (LiMWA): Indicates the inland limit of the area affected by waves greater than 1.5 feet

**GENERAL STRUCTURES**



Channel, Culvert, Aqueduct, or Storm Sewer



Dam, Jetty, Weir



Levee, Dike, or Floodwall accredited or provisionally accredited to reduce the flood risk from the 1% annual chance flood.



Levee, Dike or Floodwall not accredited to reduce the flood risk from the 1% annual chance flood.



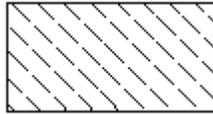
Bridge

**COASTAL BARRIER RESOURCES SYSTEM (CBRS) AND OTHERWISE PROTECTED AREAS (OPA):** *CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas. See Notes to Users for important information.*



**CBRS AREA**  
09/30/2009

Coastal Barrier Resources System Area: Labels are shown to clarify where this area shares a boundary with an incorporated area or overlaps with the floodway.



**OTHERWISE PROTECTED AREA**  
09/30/2009

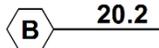
Otherwise Protected Area

**REFERENCE MARKERS**

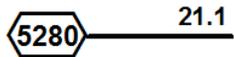


River mile Markers

**CROSS SECTION & TRANSECT INFORMATION**



Lettered Cross Section with Regulatory Water Surface Elevation (BFE)



Numbered Cross Section with Regulatory Water Surface Elevation (BFE)



Unlettered Cross Section with Regulatory Water Surface Elevation (BFE)



Coastal Transect



Profile Baseline: Indicates the modeled flow path of a stream and is shown on FIRM panels for all valid studies with profiles or otherwise established base flood elevation.



Coastal Transect Baseline: Used in the coastal flood hazard model to represent the 0.0-foot elevation contour and the starting point for the transect and the measuring point for the coastal mapping.



Base Flood Elevation Line (shown for flooding sources for which no cross sections or profile are available)

**ZONE AE**  
(EL 16)

Static Base Flood Elevation value (shown under zone label)

**ZONE AO**  
(DEPTH 2)

Zone designation with Depth

**ZONE AO**  
(DEPTH 2)  
(VEL 15 FPS)

Zone designation with Depth and Velocity

**BASE MAP FEATURES**

*Missouri Creek*

River, Stream or Other Hydrographic Feature



Interstate Highway



U.S. Highway



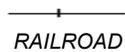
State Highway



County Highway

MAPLE LANE

Street, Road, Avenue Name, or Private Drive if shown on Flood Profile



Railroad



Horizontal Reference Grid Line



Horizontal Reference Grid Ticks



Secondary Grid Crosshairs

Land Grant

Name of Land Grant

7

Section Number

R. 43 W. T. 22 N.

Range, Township Number

**4276<sup>000m</sup>E**

Horizontal Reference Grid Coordinates (UTM)

**365000 FT**

Horizontal Reference Grid Coordinates (State Plane)

**80° 16' 52.5"**

Corner Coordinates (Latitude, Longitude)

## SECTION 2.0 – FLOODPLAIN MANAGEMENT APPLICATIONS

### 2.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1% annual chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2% annual chance (500-year) flood is employed to indicate additional areas of flood hazard in the community.

Each flooding source included in the project scope has been studied and mapped using professional engineering and mapping methodologies that were agreed upon by FEMA and Jessamine County as appropriate to the risk level. Flood risk is evaluated based on factors such as known flood hazards and projected impact on the built environment. Engineering analyses were performed for each studied flooding source to calculate its 1% annual chance flood elevations; elevations corresponding to other floods (e.g. 10-, 4-, 2-, 0.2-percent annual chance, etc.) may have also been computed for certain flooding sources. Engineering models and methods are described in detail in Section 5.0 of this FIS Report. The modeled elevations at cross sections were used to delineate the floodplain boundaries on the FIRM; between cross sections, the boundaries were interpolated using elevation data from various sources. More information on specific mapping methods is provided in Section 6.0 of this FIS Report.

Depending on the accuracy of available topographic data (Table 23), study methodologies employed (Section 5.0), and flood risk, certain flooding sources may be mapped to show both the 1% and 0.2% annual chance floodplain boundaries, regulatory water surface elevations (BFEs), and/or a regulatory floodway. Similarly, other flooding sources may be mapped to show only the 1% annual chance floodplain boundary on the FIRM, without published water surface elevations. In cases where the 1% and 0.2% annual chance floodplain boundaries are close together, only the 1% annual chance floodplain boundary is shown on the FIRM. Figure 3, “Map Legend for FIRM”, describes the flood zones that are used on the FIRMs to account for the varying levels of flood risk that exist along flooding sources within the project area. Table 2 and Table 3 indicate the flood zone designations for each flooding source and each community within Jessamine County, KY, respectively.

Table 2, “Flooding Sources Included in this FIS Report,” lists each flooding source, including its study limits, affected communities, mapped zone on the FIRM, and the completion date of its engineering analysis from which the flood elevations on the FIRM and in the FIS Report were derived. Descriptions and dates for the latest hydrologic and hydraulic analyses of the flooding sources are shown in Table 13. Floodplain boundaries for these flooding sources are shown on the FIRM (published separately) using the symbology described in Figure 3. On the map, the 1% annual chance floodplain corresponds to the SFHAs. The 0.2% annual chance floodplain shows areas that, although out of the regulatory floodplain, are still subject to flood hazards.

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. The procedures to remove these areas from the SFHA are described in Section 6.5 of this FIS Report.

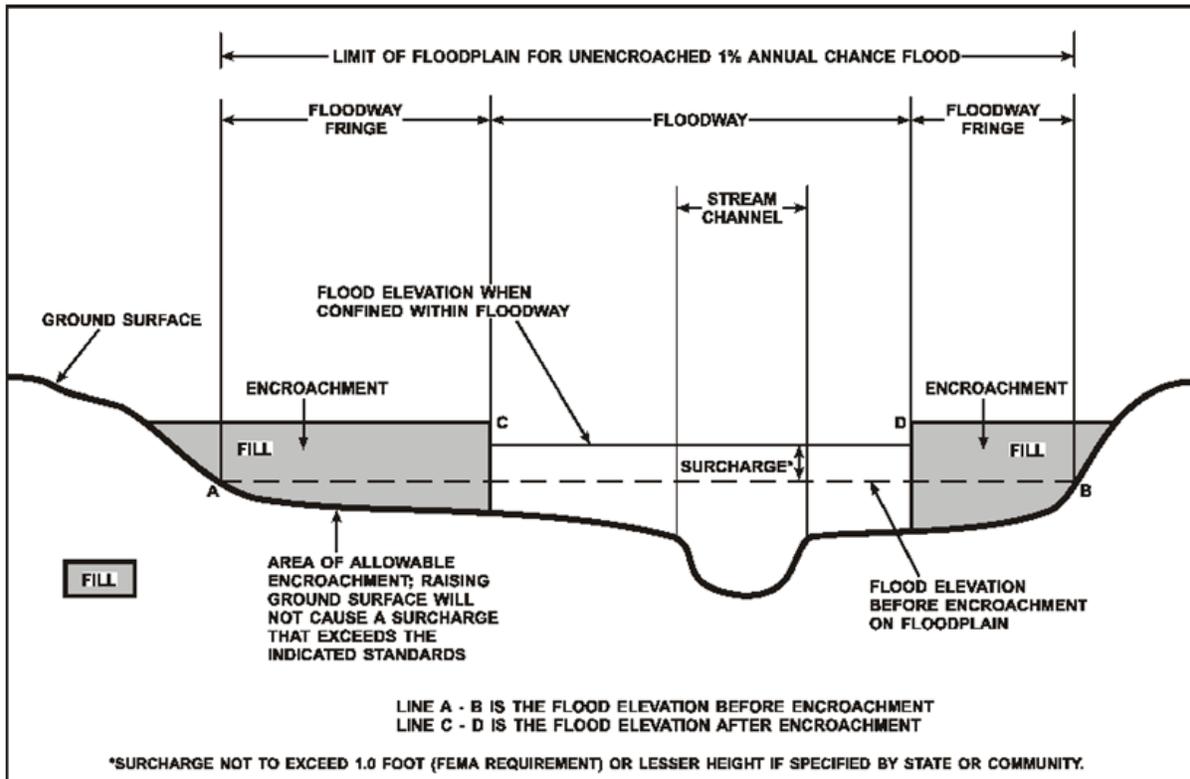
## **2.2 Floodways**

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 balancing floodplain development against increasing flood hazard. With this approach, the area of the 1% annual chance floodplain on a river is divided into a floodway and a floodway fringe based on hydraulic modeling. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment in order to carry the 1% annual chance flood. The floodway fringe is the area between the floodway and the 1% annual chance floodplain boundaries where encroachment is permitted. The floodway must be wide enough so that the floodway fringe could be completely obstructed without increasing the water-surface elevation of the 1% annual chance flood more than 1 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 4.

To participate in the NFIP, Federal regulations require communities to limit increases caused by encroachment to 1.0 foot, provided that hazardous velocities are not produced. Regulations for Kentucky require communities in Jessamine County to limit increases caused by encroachment to 1.0 foot and several communities have adopted additional restrictions. The floodways in this project are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway projects.

Figure 4: Floodway Schematic



Floodway widths presented in this FIS Report and on the FIRM were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. For certain stream segments, floodways were adjusted so that the amount of floodwaters conveyed on each side of the floodplain would be reduced equally. The results of the floodway computations have been tabulated for selected cross sections and are shown in Table 24, "Floodway Data."

**Table 2: Flooding Sources Included in this FIS Report**

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi <sup>2</sup> ) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Cave Spring Creek	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	County boundary	0.86 miles upstream of intersection with Keene Troy Road	5100205	3.24		N	A	07/2009
Cave Spring Creek Tributary 1	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Cave Spring Creek	0.70 miles upstream of confluence with Cave Spring Creek	5100205	0.7		N	A	07/2009
Clear Creek Tributary 7.3	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	County boundary	0.67 miles upstream of county boundary	5100205	0.67		N	A	07/2009
Clear Creek Tributary 7.3.1	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	County boundary	0.08 miles upstream of intersection with Keene Versailles Road	5100205	0.52		N	A	07/2009
East Fork Clear Creek	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	County boundary	0.06 miles upstream of Keene Road	5100205	5.96		N	A	07/2009
East Fork Clear Creek Tributary 1	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with East Fork Clear Creek	0.63 miles upstream of confluence with East Fork Clear Creek	5100205	0.63		N	A	07/2009

**Table 2: Flooding Sources Included in this FIS Report**

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi <sup>2</sup> ) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
East Fork Clear Creek Tributary 2	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with East Fork Clear Creek	1.22 miles upstream of confluence with East Fork Clear Creek Tributary 2.1	5100205	1.86		N	A	07/2009
East Fork Clear Creek Tributary 2.1	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with East Fork Clear Creek Tributary 2	0.82 miles upstream of intersection with McCauley Road	5100205	1.89		N	A	07/2009
East Hickman Creek	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Hickman Creek and West Hickman Creek	County boundary	5100205	5.13		Y	AE	04/30/2015
East Hickman Creek Tributary 1	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with East Hickman Creek	1.07 miles upstream of intersection with East Hickman Road	5100205	1.21		N	A	6/24/2014
Hickman Creek	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Marshall Branch	Confluence with East Hickman Creek and West Hickman Creek	5100205	2.19		N	A	6/24/2014

**Table 2: Flooding Sources Included in this FIS Report**

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi <sup>2</sup> ) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Hickman Creek Tributary 1	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Hickman Creek	0.73 miles upstream of Union Mill Road	5100205	2.28		N	A	07/2009
Hickman Creek Tributary 1.1	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Hickman Creek Tributary 1	1.09 miles upstream of confluence with Hickman Creek Tributary 1	5100205	1.09		N	A	07/2009
Hickman Creek Tributary 2	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Hickman Creek	0.06 miles upstream of intersection with Chrisman Mill Road	5100205	5		N	A	07/2009
Hickman Creek Tributary 3	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Hickman Creek	0.84 miles upstream of intersection with Sugar Creek Pike	5100205	2.05		N	A	07/2009
Hickman Creek Tributary 4	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Hickman Creek	0.80 miles upstream of confluence with Hickman Creek Tributary 4.1	5100205	1.06		N	A	07/2009
Hickman Creek Tributary 4.1	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Hickman Creek Tributary 4	0.31 miles upstream of confluence with Hickman Creek Tributary 4	5100205	0.31		N	A	07/2009

**Table 2: Flooding Sources Included in this FIS Report**

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi <sup>2</sup> ) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Hickman Creek Tributary 10	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Hickman Creek	0.30 miles upstream of intersection with Sycamore Lane	5100205	1.21		N	A	07/2009
Jessamine Creek	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Kentucky River	1.47 miles upstream of confluence with Jessamine Creek Tributary 1	5100205	18.24		N	AE	6/24/2014
Jessamine Creek Tributary 1	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Jessamine Creek	0.90 miles upstream of confluence with Jessamine Creek	5100205	0.9		N	A	6/24/2014
Jessamine Creek Tributary 2	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Jessamine Creek	0.90 miles upstream of the intersection with Campground Lane	5100205	1.03		N	A	6/24/2014
Jessamine Creek Tributary 3	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Jessamine Creek	0.46 miles upstream of intersection with Short Shun Road	5100205	0.8		N	A	6/24/2014
Jessamine Creek Tributary 5	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Jessamine Creek	1.11 miles above intersection with Keene Road	5100205	2.25		N	A	6/24/2014

**Table 2: Flooding Sources Included in this FIS Report**

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi <sup>2</sup> ) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Jessamine Creek Tributary 6	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Jessamine Creek	0.11 miles upstream of intersection with Ashlee Street	5100205	0.87		N	A	6/24/2014
Jessamine Creek Tributary 8	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Jessamine Creek	0.75 miles upstream of intersection with Figg Lane	5100205	2.3		N	A	6/24/2014
Jessamine Creek Tributary 9	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Jessamine Creek	0.06 miles upstream of intersection with McGee 1 Lane	5100205	0.88		N	A	6/24/2014
Jessamine Creek Tributary 11	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Jessamine Creek	0.02 miles upstream of intersection with Elmer Stephenson Drive	5100205	0.45		N	A	6/24/2014
Kentucky River	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	County boundary	County boundary	5100205	45.32		Y	AE	05/2010
Kentucky River Tributary 2	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Kentucky River	1.01 miles upstream of intersection with River Road	5100205	1.08		N	A	6/24/2014

**Table 2: Flooding Sources Included in this FIS Report**

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi <sup>2</sup> ) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Kentucky River Tributary 4	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Kentucky River	0.35 miles upstream of intersection with Harrodsburg Road	5100205	1.51		N	A	07/2009
Kentucky River Tributary 33	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Kentucky River	0.80 miles upstream of confluence with Kentucky River	5100205	0.8		N	A	6/24/2014
Kentucky River Tributary 83	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Kentucky River	0.31 miles upstream of intersection with Hunters Ferry Road	5100205	0.67		N	A	6/24/2014
Kentucky River Tributary 97	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Kentucky River	0.10 miles upstream of confluence with Kentucky River	5100205	0.1		N	A	07/2009
Left Branch Tributary to Town Fork	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Tributary To Town Fork	0.07 miles upstream of confluence with Tributary To Town Fork	5100205	0.07		Y	AE	12/26/1989

\* Data not available

**Table 2: Flooding Sources Included in this FIS Report**

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi <sup>2</sup> ) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Little Hickman Creek	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Kentucky River	0.20 miles upstream of intersection with Little Hickman Road	5100205	3.58		N	A	07/2009
Marble Creek	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Kentucky River	County boundary	5100205	4.99		N	A	6/24/2014
Marshall Branch	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Hickman Creek	0.50 miles upstream of intersection with Railroad	5100205	4.18		N	A	6/24/2014
Marshall Branch Tributary 1	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Marshall Branch	0.09 miles upstream of intersection with Vince Road	5100205	0.83		N	A	6/24/2014
Shannon Run	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	County boundary	0.43 miles upstream of county boundary	5100205	0.44		N	A	07/2009
Shelby Branch	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with East Hickman Creek	County boundary	5100205	0.27		N	A	6/24/2013

**Table 2: Flooding Sources Included in this FIS Report**

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi <sup>2</sup> ) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Sinking Creek	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	0.57 miles downstream of Cherrywood Drive	0.37 miles upstream of intersection with Clubhouse Boulevard	5100205	3.95		Y	AE	10/1/1976
Sinking Creek Tributary 1	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Sinking Creek	0.06 miles upstream of intersection with Keene South Elkhorn Road	5100205	1.28		N	A	07/2009
South Elkhorn Creek Tributary 8	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	County boundary	0.33 miles upstream of intersection with Legacy Drive	5100205	2.14		N	A	07/2009
Town Branch	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Jessamine Creek	0.02 miles upstream from intersection with Bellevue Avenue	5100205	2.45		Y	AE	10/1/1976
Town Fork	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Jessamine Creek	0.54 miles upstream of intersection with Nicholasville Bypass	5100205	8.2		Y	AE	04/30/2015
Town Fork Tributary 1	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Town Fork	0.64 miles upstream of intersection with Crenshaw Lane	5100205	2.67		N	A	6/24/2014

**Table 2: Flooding Sources Included in this FIS Report**

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi <sup>2</sup> ) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Tributary to Town Fork	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Town Fork	0.19 miles upstream of confluence with Left Branch Tributary to Town Fork	5100205	0.62		Y	AE	12/26/1989
West Hickman Creek	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with East Hickman Creek and Hickman Creek	County boundary	5100205	3.64		Y	AE	04/30/2015
West Hickman Creek Tributary 1	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with West Hickman Creek	County boundary	5100205	0.76		N	A	6/24/2014
Wymers Branch	Jessamine County (Unincorporated Areas) City of Nicholasville, City of Wilmore	Confluence with Hickman Creek	0.28 miles upstream of intersection with Ashgrove Lane	5100205	3.29		N	AE	6/24/2014

All floodways that were developed for this FIS project are shown on the FIRM using the symbology described in Figure 3. In cases where the floodway and 1% annual chance floodplain boundaries are either close together or collinear, only the floodway boundary has been shown on the FIRM. For information about the delineation of floodways on the FIRM, refer to Section 6.3.

### **2.3 Base Flood Elevations**

The hydraulic characteristics of flooding sources were analyzed to provide estimates of the elevations of floods of the selected recurrence intervals. The Base Flood Elevation (BFE) is the elevation of the 1% annual chance flood. These BFEs are most commonly rounded to the whole foot, as shown on the FIRM, but in certain circumstances or locations they may be rounded to 0.1 foot. Cross section lines shown on the FIRM may also be labeled with the BFE rounded to 0.1 foot. Whole-foot BFEs derived from engineering analyses that apply to coastal areas, areas of ponding, or other static areas with little elevation change may also be shown at selected intervals on the FIRM.

Cross sections with BFEs shown on the FIRM correspond to the cross sections shown in the Floodway Data table and Flood Profiles in this FIS Report. BFEs are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM.

### **2.4 Non-Encroachment Zones**

Some States and communities use non-encroachment zones to manage floodplain development. While not a FEMA designated floodway, the non-encroachment zone represents that area around the stream that should be reserved to convey the 1% annual chance flood event. This section is not applicable to this Flood Risk Project.

Regulations for Kentucky require communities in Jessamine County to limit increases caused by encroachment to 1 foot and several communities have adopted additional restrictions for non-encroachment areas.

Non-encroachment determinations may be delineated where it is not possible to delineate floodways because specific channel profiles with bridge and culvert geometry were not developed. Any non-encroachment determinations for this FIS project have been tabulated for selected cross sections and are shown in Table 25, “Flood Hazard and Non-Encroachment Data for Selected Streams.”

### **2.5 Coastal Flood Hazard Areas**

This section is not applicable to this FIS project.

#### **2.5.1 Water Elevations and the Effects of Waves**

This section is not applicable to this FIS project.

#### **Figure 5: Wave Runup Transect Schematic**

**[Not Applicable to this FIS Project]**

### 2.5.2 Floodplain Boundaries and BFEs for Coastal Areas

This section is not applicable to this FIS project.

### 2.5.3 Coastal High Hazard Areas

This section is not applicable to this FIS project.

### Figure 6: Coastal Transect Schematic

[Not Applicable to this FIS Project]

### 2.5.4 Limit of Moderate Wave Action

This section is not applicable to this FIS project.

## SECTION 3.0 – INSURANCE APPLICATIONS

### 3.1 National Flood Insurance Program Insurance Zones

For flood insurance applications, the FIRM designates flood insurance rate zones as described in Figure 3, “Map Legend for FIRM.” Flood insurance zone designations are assigned to flooding sources based on the results of the hydraulic or coastal analyses. Insurance agents use the zones shown on the FIRM and depths and base flood elevations in this FIS Report in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

The 1% annual chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (e.g. Zones A, AE, V, VE, etc.), and the 0.2% annual chance floodplain boundary corresponds to the boundary of areas of additional flood hazards.

Table 3 lists the flood insurance zones in the unincorporated and incorporated areas of Jessamine County.

**Table 3: Flood Zone Designations by Community**

Community	Flood Zone(s)
Jessamine County (Unincorporated Areas)	A, AE, X
City of Nicholasville	A, AE, X
City of Wilmore	A, AE, X

### 3.2 Coastal Barrier Resources System

The Coastal Barrier Resources Act (CBRA) of 1982 was established by Congress to create areas along the Atlantic and Gulf coasts and the Great Lakes, where restrictions for Federal financial assistance including flood insurance are prohibited. In 1990, Congress passed the Coastal Barrier Improvement Act (CBIA), which increased the extent of areas established by the CBRA and added “Otherwise Protected Areas” (OPA) to the system. These areas are collectively referred to as the John. H Chafee Coastal Barrier Resources System (CBRS). The CBRS boundaries that have been identified in the project area are in Table 4, “Coastal Barrier Resources System Information.”

**Table 4: Coastal Barrier Resources System Information**

[Not Applicable to this FIS Project]

**SECTION 4.0 – AREA STUDIED**

**4.1 Basin Description**

Table 5 contains a description of the characteristics of the HUC-8 sub-basins within which each community falls. The table includes the main flooding sources within each basin, a brief description of the basin, and its drainage area.

**Table 5: Basin Characteristics**

HUC-8 Sub-Basin Name	HUC-8 Sub-Basin Number	Primary Flooding Source	Description of Affected Area	Drainage Area (square miles)
Lower Kentucky	05100205	Kentucky River	Begins at confluence with Ohio River and extends southeast, affecting the southern half of Clark County	3,240

**4.2 Principal Flood Problems**

Table 6 contains a description of the principal flood problems that have been noted for Jessamine County by flooding source.

**Table 6: Principal Flood Problems**

Flooding Source	Description of Flood Problems
Town Fork	Areas along Town Fork in the City of Nicholasville are subject to intermittent flash flooding due mostly to storms of high intensity and short duration. The greatest recorded flood on Town Fork occurred in the early 1930s. A flood comparable in magnitude to that flood occurred in July 1974. Both events caused appreciable damage to the central business district of Nicholasville. The extent of damage from the 1974 flood was due in large part to debris blocking flow through the conduit that runs beneath the central business district.

Table 7 contains information about historic flood elevations in the communities within Jessamine County.

**Table 7: Historic Flooding Elevations**

[Not Applicable to this FIS Project]

### 4.3 Non-Levee Flood Protection Measures

Table 8 contains information about non-levee flood protection measures within Jessamine County such as dams, jetties, and or dikes. Levees are addressed in Section 4.4 of this FIS Report.

**Table 8: Non-Levee Flood Protection Measures**

Flooding Source	Structure Name	Type of Measure	Location	Description of Measure
Kentucky River	Buckhorn Lake & Carr Fork Lake	Flood Control Storage	Upstream of Jessamine County	Provide a combined reduction of 1.8, 1.02, and 1.0 feet, respectively, for the 10-, 2-, and 1-percent-annual-chance floods at Lock No. 8 on the Kentucky River (Jessamine 2011)
Town Fork	Lake at the Orchard & Mingo Lake	Flood Retention Structures	About 0.5 miles northeast of the downtown area off Lake Street.	Modified in 1982 and built in 1981, respectively. Multipurpose structures, but primarily designed for flood retention. (Jessamine 2011)

### 4.4 Levees

This section is not applicable to this FIS project.

**Table 9: Levees**

[Not Applicable to this FIS Project]

## **SECTION 5.0 – ENGINEERING METHODS**

For the flooding sources in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded at least once on the average during any 10-, 25-, 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-, 25-, 50-, 100-, and 500-year floods, have a 10-, 4-, 2-, 1-, and 0.2% annual chance, respectively, of being equaled or exceeded during any year.

Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedance) during the term of a 30-year mortgage is approximately 26 percent (about 3 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

The engineering analyses described here incorporate the results of previously issued Letters of Map Change (LOMCs) listed in Table 27, “Incorporated Letters of Map Change”, which include Letters of Map Revision (LOMRs). For more information about LOMRs, refer to Section 6.5, “FIRM Revisions.”

### **5.1 Hydrologic Analyses**

Hydrologic analyses were carried out to establish the peak elevation-frequency relationships for floods of the selected recurrence intervals for each flooding source studied. Hydrologic analyses are typically performed at the watershed level. Depending on factors such as watershed size and shape, land use and urbanization, and natural or man-made storage, various models or methodologies may be applied. A summary of the hydrologic methods applied to develop the discharges used in the hydraulic analyses for each stream is provided in Table 13. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

A summary of the discharges is provided in Table 10. Frequency Discharge-Drainage Area Curves used to develop the hydrologic models may also be shown in Figure 7 for selected flooding sources. A summary of stillwater elevations developed for non-coastal flooding sources is provided in Table 11. Stream gage information is provided in Table 12.

**Table 10: Summary of Discharges**

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
East Hickman Creek	At approximately 50 feet upstream of confluence with West Hickman Creek	31.75	3,793	5,316	6,717	8,593	12,606
East Hickman Creek	At approximately 1.28 miles downstream of confluence of East Hickman Creek Tributary 1	31.52	3,734	5,236	6,619	8,471	12,434
East Hickman Creek	At approximately 1.04 miles downstream of confluence of East Hickman Creek Tributary 1	31.36	3,695	5,181	6,551	8,385	12,312
East Hickman Creek	At approximately 0.48 miles downstream of confluence of East Hickman Creek Tributary 1	30.12	3,497	4,748	5,915	7,575	11,137
East Hickman Creek	At approximately 100 feet downstream of confluence of East Hickman Creek Tributary 1	29.84	3,481	4,728	5,862	7,447	10,948
East Hickman Creek	At approximately 10 feet downstream of confluence of Shelby Branch	27.61	3,342	4,539	5,629	7,080	10,151
East Hickman Creek	At approximately 2.33 miles downstream from Tates Creek Road	20.87	2,860	3,878	4,803	6,029	8,617
East Hickman Creek	At approximately 2.05 feet downstream from Tates Creek Road	20.75	2,854	3,871	4,794	6,019	8,604
East Hickman Creek	At approximately 1.89 miles downstream from Tates Creek Road	20.43	2,840	3,852	4,773	5,992	8,567

**Table 10: Summary of Discharges**

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
East Hickman Creek	At approximately 1.41 miles downstream from Tates Creek Road	20.22	2,831	3,840	4,758	5,975	8,544
East Hickman Creek	At approximately 1.0 mile downstream from Tates Creek Road	19.96	2,819	3,825	4,739	5,951	8,512
East Hickman Creek	At approximately 0.66 miles downstream from Tates Creek Road	19.80	2,812	3,815	4,728	5,937	8,493
East Hickman Creek	At Tates Creek Road	19.45	2,797	3,796	4,705	5,910	8,455
Jessamine Creek	At approximately 158 feet upstream of confluence with Kentucky River	39.50	6,345	8,389	10,011	11,703	16,033
Jessamine Creek	At approximately 53 feet upstream of confluence of Jessamine Creek Tributary 8	35.00	5,827	7,726	9,235	10,813	14,856
Jessamine Creek	At approximately 422 feet downstream of confluence of Town Fork	28.00	4,994	6,655	7,979	9,370	12,940
Jessamine Creek	At approximately 105 feet upstream of confluence of Town Fork	16.90	3,521	4,744	5,729	6,772	9,461
Jessamine Creek	At approximately 105 feet upstream of confluence of Jessamine Creek Tributary 6	13.40	2,998	4,060	4,919	5,832	8,192

**Table 10: Summary of Discharges**

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Jessamine Creek	At approximately 53 feet upstream of confluence of Jessamine Creek Tributary 6	10.90	2,605	3,544	4,306	5,119	7,223
Jessamine Creek	At approximately 317 feet upstream of confluence of Jessamine Creek Tributary 11	8.70	2,231	3,050	3,718	4,432	6,287
Jessamine Creek	At approximately 0.32 miles downstream of confluence of Jessamine Creek Tributary 5	6.70	1,854	2,549	3,118	3,731	5,325
Jessamine Creek	At approximately 53 feet upstream of confluence of Jessamine Creek Tributary 5	5.30	1,588	2,194	2,693	3,231	4,635
Jessamine Creek	At approximately 0.73 miles upstream of confluence of Jessamine Creek Tributary 5	4.60	1,428	1,980	2,435	2,927	4,214
Jessamine Creek	At approximately 475 feet downstream stream of confluence of Jessamine Creek Tributary 1	4.10	1,314	1,827	2,251	2,710	3,913
Jessamine Creek	At approximately 105 feet upstream of confluence of Jessamine Creek Tributary 1	2.70	996	1,397	1,730	2,094	3,052
Jessamine Creek	At approximately 0.93 miles upstream of confluence of Jessamine Creek Tributary 1	2.30	873	1,230	1,528	1,854	2,713
Jessamine Creek	At approximately 1.19 miles upstream of confluence of Jessamine Creek Tributary 1	1.50	662	941	1,176	1,434	2,118

**Table 10: Summary of Discharges**

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Jessamine Creek	At approximately 1.42 miles upstream of confluence of Jessamine Creek Tributary 1	1.00	506	725	910	1,116	1,663
Kentucky River	At River Mile Station 115.19	N/A*	93,200	*	115,100	124,400	145,000
Kentucky River	At River Mile Station 158.79	N/A*	88,600	*	107,000	113,000	126,000
Kentucky River	At River Mile Station 158.39	N/A*	88,600	*	107,000	113,000	126,000
Kentucky River	At River Mile Station 118.63	N/A*	93,200	*	115,100	124,400	145,000
Sinking Creek	At Cherrywood-Tashamingo Road	4.70	880	*	1,400	1,630	2,240
Sinking Creek	At Delayney Road	3.30	700	*	1,080	1,260	1,690
Sinking Creek	At Keene Troy Road	2.30	520	*	810	940	1,260
Sinking Creek	At U.S.Route 68	1.10	320	*	500	580	780
Town Branch	At confluence with Jessamine Creek	1.50	820	*	1,250	1,400	1,900
Town Branch	At approximately 200 feet upstream of Bellevue Avenue	0.10	87	*	130	148	210
Town Fork	At approximately 50 feet upstream of confluence with Jessamine Creek	11.46	3,524	4,783	5,922	7,474	10,624
Town Fork	At approximately 10 feet downstream of Shun Pike	11.06	3,343	4,519	5,582	7,034	9,973
Town Fork	At approximately 0.60 miles upstream of confluence of Town Fork Tributary 1	7.38	3,079	4,135	5,078	6,370	8,960

\*Not calculated for this FIS project

**Table 10: Summary of Discharges**

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Town Fork	At Danville Road	6.64	2,677	3,560	4,348	5,433	7,589
Town Fork	At approximately 0.12 miles downstream of Southbrook Drive	6.19	2,492	3,285	3,999	4,957	6,832
Town Fork	At Southbrook Drive	5.31	2,112	2,777	3,367	4,188	5,787
Town Fork	At John C Watts Drive	4.01	1,388	1,767	2,132	2,574	3,429
Town Fork	At approximately 15 feet upstream of Longview Drive	3.87	1,371	1,744	2,104	2,537	3,382
Town Fork	At approximately 25 feet upstream of Williams Road	2.70	946	1,162	1,370	1,734	2,381
Town Fork	At East Brown Street	2.51	800	975	1,146	1,335	1,761
Town Fork	At approximately 12 feet downstream of East Chestnut Street	2.43	917	1,178	1,410	1,704	2,276
Town Fork	At approximately 21 feet downstream of East Maple Street	2.34	810	970	1,164	1,392	1,855
Town Fork	At approximately 105 feet downstream of North York Street	2.24	793	947	1,087	1,258	1,605
Town Fork	At North 2nd Street	1.61	474	534	583	652	820
Town Fork	At Railroad	1.52	461	520	567	620	711
Town Fork	At approximately 0.94 miles downstream of US-27	1.45	643	845	1,032	1,276	1,749
Town Fork	At approximately 0.69 miles downstream of US-27	1.38	588	770	940	1,158	1,582

**Table 10: Summary of Discharges**

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Town Fork	At approximately 0.20 miles downstream of US-27	1.13	429	554	673	819	1,098
Town Fork	At US-27	0.76	249	311	358	432	555
Town Fork	At approximately 0.33 miles upstream of US-27	0.24	80	106	126	195	295
Town Fork	At approximately 0.53 miles upstream of US-27	0.19	73	98	115	180	271
West Hickman Creek	At confluence with East Hickman Creek	22.27	4,184	5,579	6,861	8,566	12,304
West Hickman Creek	At Beaumont Road	21.88	4,186	5,578	6,858	8,558	12,289
West Hickman Creek	At approximately 0.42 miles upstream of Beaumont Road	21.64	4,183	5,573	6,850	8,548	12,275
West Hickman Creek	At approximately 0.58 miles downstream of Ashgrove Road	20.96	4,154	5,530	6,795	8,474	12,165
West Hickman Creek	At Ashgrove Road	20.39	4,122	5,481	6,729	8,386	12,027
West Hickman Creek	At approximately 370 feet upstream of confluence of West Hickman Creek Tributary 1	18.40	3,762	5,001	6,143	7,659	11,015
West Hickman Creek	At approximately 0.63 miles upstream of confluence of West Hickman Creek Tributary 1	18.05	3,755	4,990	6,127	7,638	10,987
Wymers Branch	At approximately 158 feet upstream of confluence with Hickman Creek	2.50	944	1,327	1,645	1,994	2,910

**Table 10: Summary of Discharges**

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Wymers Branch	At approximately 158 feet upstream of Beaumont Road	2.30	877	1,235	1,534	1,861	2,723
Wymers Branch	At approximately 0.32 miles upstream of Marshall Branch Road	1.80	744	1,054	1,313	1,598	2,351
Wymers Branch	At approximately 0.43 miles upstream of Marshall Branch Road	0.80	429	618	778	957	1,434
Wymers Branch	At approximately 0.33 miles downstream of Ashgrove Lane	0.60	364	527	666	821	1,237
Wymers Branch	At approximately 0.23 miles upstream of Ashgrove Lane	0.50	293	428	543	673	1,021

**Figure 7: Frequency Discharge-Drainage Area Curves**

[Not Applicable to this FIS Project]

**Table 11: Summary of Non-Coastal Stillwater Elevations**

[Not Applicable to this FIS Project]

**Table 12: Stream Gage Information used to Determine Discharges**

Flooding Source	Gage Identifier	Agency that Maintains Gage	Site Name	Drainage Area (Square Miles)	Period of Record	
					From	To
East Hickman Creek	3284533	USGS	East Hickman Creek at Tates Creek Road near East Hickman, KY	19.49	10/1/2012	10/31/2014
East Hickman Creek	3284530	USGS	East Hickman Cr at DeLong Rd Near East Hickman, KY	15.1	7/20/1998	4/12/2011
West Hickman Creek	3284550	USGS	West Hickman Creek at Jonestown, KY	11	8/11/1975	3/2/2007
West Hickman Creek	3284555	USGS	West Hickman Creek at Ash Grove Pike Near East Hickman, KY	20.5	7/20/1998	5/3/2011
West Hickman Creek	3284552	USGS	West Hickman Creek at Veterans Parkway near Lexington, KY	15.09	10/1/2012	10/31/2014

## 5.2 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. Base flood elevations on the FIRM represent the elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report. Rounded whole-foot elevations may be shown on the FIRM in coastal areas, areas of ponding, and other areas with static base flood elevations. These whole-foot elevations may not exactly reflect the elevations derived from the hydraulic analyses. Flood elevations shown on the FIRM are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM. 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.

For streams for which hydraulic analyses were based on cross sections, locations of selected cross sections are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 6.3), selected cross sections are also listed on Table 24, "Floodway Data."

A summary of the methods used in hydraulic analyses performed for this project is provided in Table 13. Roughness coefficients are provided in Table 14. Roughness coefficients are values representing the frictional resistance water experiences when passing overland or through a channel. They are used in the calculations to determine water surface elevations. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
Cave Spring Creek	County boundary	0.86 miles upstream of intersection with Keene Troy Road	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
Cave Spring Creek Tributary 1	Confluence with Cave Spring Creek	0.70 miles upstream of confluence with Cave Spring Creek	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
Clear Creek Tributary 7.3	County boundary	0.67 miles upstream of county boundary	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
Clear Creek Tributary 7.3.1	County boundary	0.08 miles upstream of intersection with Keene Versailles Road	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
East Fork Clear Creek	County boundary	0.06 miles upstream of Keene Road	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
East Fork Clear Creek Tributary 1	Confluence with East Fork Clear Creek	0.63 miles upstream of confluence with East Fork Clear Creek	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
East Fork Clear Creek Tributary 2	Confluence with East Fork Clear Creek	1.22 miles upstream of confluence with East Fork Clear Creek Tributary 2.1	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
East Fork Clear Creek Tributary 2.1	Confluence with East Fork Clear Creek Tributary 2	0.82 miles upstream of intersection with McCauley Road	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
East Hickman Creek	Confluence with Hickman Creek and West Hickman Creek	County boundary	HEC-HMS	HEC-RAS v. 4.1.0	04/30/2015	AE	None
East Hickman Creek Tributary 1	Confluence with East Hickman Creek	1.07 miles upstream of intersection with East Hickman Road	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	A	None
Hickman Creek	Confluence with Marshall Branch and Hickman Creek	Confluence with East Hickman Creek and West Hickman Creek	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	A	None
Hickman Creek	Confluence with Kentucky River	Confluence with Marshall Branch and Hickman Creek	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
Hickman Creek Tributary 1	Confluence with Hickman Creek	0.73 miles upstream of Union Mill Road	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
Hickman Creek Tributary 1.1	Confluence with Hickman Creek Tributary 1	1.09 miles upstream of confluence with Hickman Creek Tributary 1	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
Hickman Creek Tributary 2	Confluence with Hickman Creek	0.06 miles upstream of intersection with Chrisman Mill Road	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
Hickman Creek Tributary 3	Confluence with Hickman Creek	0.84 miles upstream of intersection with Sugar Creek Pike	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
Hickman Creek Tributary 4	Confluence with Hickman Creek	0.80 miles upstream of confluence with Hickman Creek Tributary 4.1	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
Hickman Creek Tributary 4.1	Confluence with Hickman Creek Tributary 4	0.31 miles upstream of confluence with Hickman Creek Tributary 4	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
Hickman Creek Tributary 10	Confluence with Hickman Creek	0.30 miles upstream of intersection with Sycamore Lane	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
Jessamine Creek	Confluence with Kentucky River	1.47 miles upstream of confluence with Jessamine Creek Tributary 1	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	AE	None
Jessamine Creek Tributary 1	Confluence with Jessamine Creek	0.90 miles upstream of confluence with Jessamine Creek	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	A	None
Jessamine Creek Tributary 2	Confluence with Jessamine Creek	0.90 miles upstream of the intersection with Campground Lane	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	A	None

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
Jessamine Creek Tributary 3	Confluence with Jessamine Creek	0.46 miles upstream of intersection with Short Shun Road	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	A	None
Jessamine Creek Tributary 5	Confluence with Jessamine Creek	1.11 miles above intersection with Keene Road	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	A	None
Jessamine Creek Tributary 6	Confluence with Jessamine Creek	0.11 miles upstream of intersection with Ashlee Street	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	A	None
Jessamine Creek Tributary 8	Confluence with Jessamine Creek	0.75 miles upstream of intersection with Figg Lane	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	A	None
Jessamine Creek Tributary 9	Confluence with Jessamine Creek	0.06 miles upstream of intersection with McGee 1 Lane	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	A	None
Jessamine Creek Tributary 11	Confluence with Jessamine Creek	0.02 miles upstream of intersection with Elmer Stephenson Drive	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	A	None
Kentucky River	County boundary	County boundary	Gage Analysis	HEC-RAS 3.1.2	May 2010	AE	None
Kentucky River Tributary 2	Confluence with Kentucky River	1.01 miles upstream of intersection with River Road	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	A	None

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
Kentucky River Tributary 4	Confluence with Kentucky River	0.35 miles upstream of intersection with Harrodsburg Road	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
Kentucky River Tributary 33	Confluence with Kentucky River	0.80 miles upstream of confluence with Kentucky River	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	A	None
Kentucky River Tributary 83	Confluence with Kentucky River	0.31 miles upstream of intersection with Hunters Ferry Road	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	A	None
Kentucky River Tributary 97	Confluence with Kentucky River	0.10 miles upstream of confluence with Kentucky River	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
Left Branch Tributary to Town Fork	Confluence with Tributary To Town Fork	0.07 miles upstream of confluence with Tributary To Town Fork	HEC-1	*	12/26/1989	AE	None
Little Hickman Creek	Confluence with Kentucky River	0.20 miles upstream of intersection with Little Hickman Rd	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
Marble Creek	Confluence with Kentucky River	County boundary	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	A	None
Marshall Branch	Confluence with Hickman Creek	0.50 miles upstream of intersection with Railroad	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	A	None

\* Data not available

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
Marshall Branch Tributary 1	Confluence with Marshall Branch	0.09 miles upstream of intersection with Vince Road	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	A	None
Shannon Run	County boundary	0.43 miles upstream of county boundary	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
Shelby Branch	Confluence with East Hickman Creek	County boundary	Regression Equation	HEC-RAS v. 4.1.0	6/24/2013	A	None
Sinking Creek	0.57 miles downstream of Cherrywood Drive	0.37 miles upstream of intersection with Clubhouse Boulevard	HEC-1	HEC-2	10/1/1976	AE	None
Sinking Creek Tributary 1	Confluence with Sinking Creek	0.06 miles upstream of intersection with Keene South Elkhorn Road	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
South Elkhorn Creek Tributary 8	County boundary	0.33 miles upstream of intersection with Legacy Drive	Regression Equation	HEC-RAS 3.1.2	July 2009	A	None
Town Branch	Confluence with Jessamine Creek	0.02 miles upstream from intersection with Bellevue Avenue	HEC-1	HEC-2	10/1/1976	AE	None

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
Town Fork	Confluence with Jessamine Creek	0.54 miles upstream of intersection with Nicholasville Bypass	Regression Equation	HEC-2	04/30/2015	AE	None
Town Fork Tributary 1	Confluence with Town Fork	0.64 miles upstream of intersection with Crenshaw Lane	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	A	None
Tributary to Town Fork	Confluence with Town Fork	0.19 miles upstream of confluence with Left Branch Tributary to Town Fork	HEC-1	*	12/26/1989	AE	None
West Hickman Creek	Confluence with East Hickman Creek and Hickman Creek	County boundary	HEC-HMS	HEC-RAS v. 4.1.0	04/30/2015	AE	None
West Hickman Creek Tributary 1	Confluence with West Hickman Creek	County boundary	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	A	None
Wymers Branch	Confluence with Hickman Creek	0.28 miles upstream of intersection with Ashgrove Lane	Regression Equation	HEC-RAS v. 4.1.0	6/24/2014	AE	None

\* Data not available

**Table 14: Roughness Coefficients**

Flooding Source	Channel “n”	Overbank “n”
East Hickman Creek	0.06	0.1
Jessamine Creek	0.02 - 0.08	0.055 - 0.1
Kentucky River	0.038 - 0.045	0.080 - 0.120
Sinking Creek	0.040 - 0.060	0.040 - 0.065
Town Branch (City of Wilmore)	0.05	0.075
Town Fork (City of Nicholasville)	0.035	0.05
West Hickman Creek	0.015-0.045	0.03-0.09
Wymers Branch	0.025 - 0.045	0.06 - 0.085
Approximate Studies	0.025 - 0.060	0.060 - 0.100

**5.3 Coastal Analyses**

This section is not applicable to this FIS project.

**Table 15: Summary of Coastal Analyses**

[Not Applicable to this FIS Project]

**5.3.1 Total Stillwater Elevations**

This section is not applicable to this FIS project.

**Figure 8: 1% Annual Chance Total Stillwater Elevations for Coastal Areas**

[Not Applicable to this FIS Project]

**Table 16: Tide Gage Analysis Specifics**

[Not Applicable to this FIS Project]

**5.3.2 Waves**

This section is not applicable to this FIS project.

**5.3.3 Coastal Erosion**

This section is not applicable to this FIS project.

**5.3.4 Wave Hazard Analyses**

This section is not applicable to this FIS project

**Table 17: Coastal Transect Parameters**

[Not Applicable to this FIS Project]

### **Figure 9: Transect Location Map**

[Not Applicable to this FIS Project]

#### **5.4 Alluvial Fan Analyses**

This section is not applicable to this FIS project.

#### **Table 18: Summary of Alluvial Fan Analyses**

[Not Applicable to this FIS Project]

#### **Table 19: Results of Alluvial Fan Analyses**

[Not Applicable to this FIS Project]

## **SECTION 6.0 – MAPPING METHODS**

### **6.1 Vertical and Horizontal Control**

All FIS Reports and FIRMs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum used for newly created or revised FIS Reports and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD29). With the completion of the North American Vertical Datum of 1988 (NAVD88), many FIS Reports and FIRMs are now prepared using NAVD88 as the referenced vertical datum.

Flood elevations shown in this FIS Report and on the FIRMs are referenced to NAVD88. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between NGVD29 and NAVD88 or other datum conversion, visit the National Geodetic Survey website at [www.ngs.noaa.gov](http://www.ngs.noaa.gov), or contact the National Geodetic Survey at the following address:

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

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

To obtain current elevation, description, and/or location information for benchmarks in the area, please contact information services Branch of the NGS at (301) 713-3242, or visit their website at [www.ngs.noaa.gov](http://www.ngs.noaa.gov).

The datum conversion calculated for the previous Jessamine County FIS for the entire county was

-0.5 feet.

**Table 20: Countywide Vertical Datum Conversion**

[Not Applicable to this FIS Project]

**Table 21: Stream-by-Stream Vertical Datum Conversion**

[Not Applicable to this FIS Project]

## 6.2 Base Map

The FIRMs and FIS Report for this project have been produced in a digital format. The flood hazard information was converted to a Geographic Information System (GIS) format that meets FEMA's FIRM database specifications and geographic information standards. This information is provided in a digital format so that it can be incorporated into a local GIS and be accessed more easily by the community. The FIRM Database includes most of the tabular information contained in the FIS Report in such a way that the data can be associated with pertinent spatial features. For example, the information contained in the Floodway Data table and Flood Profiles can be linked to the cross sections that are shown on the FIRMs. Additional information about the FIRM Database and its contents can be found in FEMA's Guidelines and Standards for Flood Risk Analysis and Mapping, <http://www.fema.gov/guidelines-and-standards-flood-risk-analysis-and-mapping>.

Base map information shown on the FIRM was derived from the sources described in Table 22.

**Table 22: Base Map Sources**

Data Type	Data Provider	Data Date	Data Scale	Data Description
Digital Orthophoto	NAIP	2012	2 feet	Color orthoimagery was provided for the county
Political boundaries	KY Geonet	2012	N/A	Municipal and county boundaries
Transportation Features	KY Geonet	2012	N/A	Roads and railroads
Surface Water Features	KY Geonet	2012	N/A	Modeling streams were derived from NHD stream centerlines digitized to the NAIP 2012 Imagery and supplemented by source LiDAR

## 6.3 Floodplain and Floodway Delineation

The FIRM shows tints, screens, and symbols to indicate floodplains and floodways as well as the locations of selected cross sections used in the hydraulic analyses and floodway computations.

For riverine flooding sources, the mapped floodplain boundaries shown on the FIRM have been delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using the topographic elevation data described in Table 23.

In cases where the 1% and 0.2% annual chance floodplain boundaries are close together, only the 1% annual chance floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

The floodway widths presented in this FIS Report and on the FIRM 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. Table 2 indicates the flooding sources for which floodways have been determined. The results of the floodway computations for those flooding sources have been tabulated for selected cross sections and are shown in Table 24, "Floodway Data."

**Table 23: Summary of Topographic Elevation Data used in Mapping**

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Scale	Contour Interval	Citation
Jessamine County	All within HUC 5070201	LiDAR	1 meter GSD	2 ft.	KYGeonet

BFEs shown at cross sections on the FIRM represent the 1% annual chance water surface elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report.

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (NAVD)	WITHOUT FLOODWAY (NAVD)	WITH FLOODWAY (NAVD)	INCREASE
<b>East Hickman Creek</b>								
A	29	302	2,393	3.6	866.5	861.4 <sup>2</sup>	862.3	0.9
B	5,664	321	2,010	4.2	868.8	868.8	869.6	0.8
C	9,264	240	2,177	3.4	873.5	873.5	874.1	0.6
D	12,797	157	1,314	5.7	877.1	877.1	877.7	0.6
E	17,588	134	1,036	5.8	881.8	881.8	882.5	0.7
F	22,654	168	1,403	4.2	890.2	890.2	891.1	0.9
G	23,284	125	996	6.0	890.7	890.7	891.5	0.8
H	24,283	258	2,188	2.7	892.6	892.6	893.6	1.0
I	26,434	302	1,484	4.0	894.4	894.4	895.3	0.9
J	26,907	83	721	8.2	895.5	895.5	896.3	0.8
K	27,050	162	1,867	3.2	899.6	899.6	899.6	0.0

<sup>1</sup>Stream distance in feet above confluence with Hickman Creek

<sup>2</sup>Elevation computed without consideration of backwater effects from Hickman Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**JESSAMINE COUNTY, KY**  
 AND INCORPORATED AREAS

**FLOODWAY DATA**

**EAST HICKMAN CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (NAVD)	WITHOUT FLOODWAY (NAVD)	WITH FLOODWAY (NAVD)	INCREASE
<b>Kentucky River</b>								
A	113.33	472/216	23,815	5.2	547.8	547.8	548.6	0.8
B	114.24	328/110	20,471	6.1	548.9	548.9	549.7	0.8
C	115.19	383/268	22,934	5.4	549.7	549.7	550.5	0.8
D	116.48	428/269	23,173	5.4	550.3	550.3	551.1	0.8
E	117.45	539/266	32,861	3.8	551.0	551.1	551.9	0.8
F	118.23	340/233	19,278	6.5	551.8	551.8	552.7	0.9
G	119.02	312/161	17,692	6.4	552.6	552.6	553.4	0.8
H	119.90	425/127	21,042	5.4	553.4	553.4	554.3	0.9
I	121.06	348/131	18,251	6.2	554.1	554.1	555.0	0.9
J	121.78	377/151	20,884	5.4	554.9	554.9	555.7	0.8
K	122.73	336/191	19,963	5.7	555.4	555.4	556.3	0.9
L	123.67	412/226	21,090	5.4	555.9	555.9	556.7	0.8
M	124.62	329/195	19,404	5.8	556.4	556.4	557.3	0.9
N	125.21	345/199	19,960	5.7	556.8	556.8	557.7	0.9
O	126.25	453/207	22,744	5.1	557.8	557.8	558.6	0.8
P	127.33	444/165	22,148	5.1	558.8	558.8	559.6	0.8
Q	128.11	442/273	22,019	5.1	559.2	559.2	560.0	0.8
R	128.65	359/175	20,437	5.5	559.5	559.5	560.3	0.8
S	129.34	378/136	20,875	5.4	559.9	559.9	560.7	0.8
T	130.00	365/137	19,396	5.8	560.3	560.3	561.1	0.8

<sup>1</sup>Stream distance in miles above confluence with Ohio River

<sup>2</sup>Width/Width within county

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**JESSAMINE COUNTY, KY**  
 AND INCORPORATED AREAS

**FLOODWAY DATA**

**KENTUCKY RIVER**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (NAVD)	WITHOUT FLOODWAY (NAVD)	WITH FLOODWAY (NAVD)	INCREASE
<b>Kentucky River (continued)</b>								
U	130.84	388/142	19,230	5.9	560.9	560.9	561.7	0.8
V	131.27	363/133	19,373	5.8	561.2	561.2	562.0	0.8
W	132.00	434/254	22,452	5.0	561.8	561.8	562.6	0.8
X	132.53	406/218	21,523	5.3	562.1	562.1	562.9	0.8
Y	133.18	351/203	19,811	5.7	562.5	562.5	563.3	0.8
Z	133.76	480/158	25,155	4.5	562.9	562.9	563.7	0.8
AA	134.73	438/196	22,952	4.9	563.5	563.5	564.3	0.8
AB	135.68	342/140	16,861	6.7	564.1	564.1	564.8	0.7
AC	136.33	448/273	22,961	4.9	565.8	565.8	565.9	0.1
AD	137.30	465/239	22,762	5.0	566.4	566.4	566.5	0.1
AE	137.89	539/217	25,755	4.4	566.9	566.9	567.0	0.1
AF	138.84	421/103	22,448	5.0	567.4	567.4	567.5	0.1
AG	139.50	588/146	28,478	4.0	567.9	567.9	568.0	0.1
AH	140.18	603/338	30,672	3.7	568.1	568.1	568.3	0.2
AI	141.15	365/215	19,537	5.8	568.9	568.9	569.2	0.3
AJ	142.12	503/217	22,670	5.0	569.6	569.6	569.9	0.3
AK	142.83	661/144	24,289	4.7	570.1	570.1	570.4	0.3
AL	143.34	410/118	19,048	5.9	570.4	570.4	570.7	0.3
AM	143.95	522/134	22,127	5.1	571.1	571.1	571.4	0.3
AN	144.81	409/225	19,230	5.9	571.5	571.5	571.8	0.3
AO	145.65	565/205	20,890	5.4	572.1	572.1	572.4	0.3
AP	146.61	939/756	27,938	4.0	573.1	573.1	573.4	0.3

<sup>1</sup>Stream distance in miles above confluence with Ohio River

<sup>2</sup>Width/Width within county

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**JESSAMINE COUNTY, KY**  
 AND INCORPORATED AREAS

**FLOODWAY DATA**

**KENTUCKY RIVER**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (NAVD)	WITHOUT FLOODWAY (NAVD)	WITH FLOODWAY (NAVD)	INCREASE
<b>Kentucky River (continued)</b>								
AQ	147.27	553/165	21,982	5.1	573.5	573.5	573.8	0.3
AR	148.19	472/325	20,643	5.5	574.2	574.2	574.5	0.3
AS	148.78	387/170	19,175	5.9	574.6	574.6	575.0	0.4
AT	149.29	481/231	19,999	5.7	575.0	575.0	575.4	0.4
AU	149.89	592/419	21,229	5.3	575.5	575.5	575.8	0.3
AV	150.44	428/175	18,859	6.0	576.1	576.1	576.4	0.3
AW	151.40	338/119	18,227	6.2	576.8	576.8	577.1	0.3
AX	152.40	432/128	20,679	5.5	577.7	577.7	578.0	0.3
AY	153.50	501/176	24,766	4.6	578.5	578.5	578.8	0.3
AZ	154.51	351/147	19,386	5.8	579.0	579.0	579.4	0.4
BA	155.42	275/98	15,873	7.1	579.4	579.4	579.8	0.4
BB	156.38	409/263	18,757	6.0	580.3	580.3	580.7	0.4
BC	157.09	448/298	20,566	5.5	581.0	581.0	581.4	0.4
BD	157.89	373/216	19,871	5.7	581.8	581.8	582.1	0.3
BE	158.39	613/371	24,135	4.7	582.3	582.3	582.8	0.5

<sup>1</sup>Stream distance in miles above confluence with Ohio River

<sup>2</sup>Width/Width within county

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**JESSAMINE COUNTY, KY**  
 AND INCORPORATED AREAS

**FLOODWAY DATA**

**KENTUCKY RIVER**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (NAVD)	WITHOUT FLOODWAY (NAVD)	WITH FLOODWAY (NAVD)	INCREASE
Left Branch Tributary to Town Fork A	359	19	52	5.1	923.3	923.3	924.0	0.7

<sup>1</sup>Stream distance in feet above confluence with Tributary to Town Fork

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**JESSAMINE COUNTY, KY**  
 AND INCORPORATED AREAS

**FLOODWAY DATA**

**LEFT BRANCH TRIBUTARY TO TOWN FORK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (NAVD)	WITHOUT FLOODWAY (NAVD)	WITH FLOODWAY (NAVD)	INCREASE
<b>Sinking Creek</b>								
A	-248	519	5,744	0.3	925.6	925.6	926.6	1.0
B	122	421	3,806	0.4	926.5	926.8	927.8	1.0
C	1,257	490	5,176	0.3	926.5	926.8	927.8	1.0
D	1,970	1030	8,460	0.2	926.5	926.8	927.8	1.0
E	3,316	440	3,524	0.4	926.6	926.8	927.8	1.0
F	4,135	490	1,257	1.0	926.7	926.9	927.9	1.0
G	4,346	552	1,423	0.9	927.3	927.5	928.5	1.0
H	5,481	450	1,977	0.6	927.7	927.8	928.8	1.0
I	6,458	450	1,284	1.0	928.5	928.5	929.5	1.0
J	7,514	137	446	2.4	930.5	930.5	931.4	0.9
K	8,464	122	404	2.6	933.2	933.2	934.1	0.9
L	8,702	140	551	1.9	934.9	934.9	935.8	0.9
M	8,913	145	617	1.7	935.0	935.0	935.9	0.9
N	9,784	56	282	3.3	938.0	938.0	938.8	0.8
O	10,048	153	579	1.6	940.0	940.0	940.2	0.2
P	10,154	303	1,388	0.7	940.1	940.1	940.3	0.2
Q	10,418	232	931	1.0	940.1	940.1	940.4	0.3
R	12,424	26	83	9.9	942.6	942.6	943.0	0.4
S	14,061	124	312	2.6	948.6	948.6	949.5	0.9
T	15,381	27	75	9.1	954.3	954.3	954.6	0.3
U	16,120	45	152	4.5	958.8	958.8	959.8	1.0

<sup>1</sup>Stream distance in feet above Cherrywood Drive

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**JESSAMINE COUNTY, KY**  
 AND INCORPORATED AREAS

**FLOODWAY DATA**

**SINKING CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (NAVD)	WITHOUT FLOODWAY (NAVD)	WITH FLOODWAY (NAVD)	INCREASE
<b>Sinking Creek (continued)</b>								
V	16,332	52	185	3.7	960.1	960.1	961.0	0.9
W	17,440	33	104	5.6	963.2	963.2	964.0	0.8
X	17,968	29	75	7.7	967.9	967.9	968.7	0.8

<sup>1</sup>Stream distance in feet above Cherrywood Drive

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**JESSAMINE COUNTY, KY**  
 AND INCORPORATED AREAS

**FLOODWAY DATA**

**SINKING CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (NAVD)	WITHOUT FLOODWAY (NAVD)	WITH FLOODWAY (NAVD)	INCREASE
<b>Town Branch</b>								
A	53	N/A*	N/A*	N/A*	680.6	N/A*	N/A*	N/A*
B	90	N/A*	N/A*	N/A*	684.8	N/A*	N/A*	N/A*
C	264	N/A*	N/A*	N/A*	684.8	N/A*	N/A*	N/A*
D	539	N/A*	N/A*	N/A*	695.8	N/A*	N/A*	N/A*
E	2,218	N/A*	N/A*	N/A*	745.0	N/A*	N/A*	N/A*
F	2,376	N/A*	N/A*	N/A*	751.3	N/A*	N/A*	N/A*
G	2,693	N/A*	N/A*	N/A*	754.7	N/A*	N/A*	N/A*
H	4,382	N/A*	N/A*	N/A*	791.2	N/A*	N/A*	N/A*
I	4,488	N/A*	N/A*	N/A*	795.9	N/A*	N/A*	N/A*
J	5,491	N/A*	N/A*	N/A*	806.7	N/A*	N/A*	N/A*
K	6,019	64	587	1.6	819.9	819.9	820.2	0.3
L	6,230	43	301	3.2	819.9	819.9	820.3	0.4
M	6,494	76	579	1.7	826.6	826.6	826.8	0.2
N	6,706	86	457	2.1	826.7	826.7	827.0	0.3
O	7,075	38	145	6.6	826.9	826.9	827.1	0.2
P	7,181	94	735	1.3	831.3	831.3	832.1	0.8
Q	7,550	61	360	2.7	831.4	831.4	832.1	0.7
R	7,762	66	263	3.0	832.8	832.8	833.1	0.3
S	8,659	21	82	9.5	842.7	842.7	843.4	0.7
T	9,082	30	147	5.3	846.8	846.8	847.8	1.0
U	9,504	25	118	6.6	852.2	852.2	852.6	0.4

<sup>1</sup>Stream distance in feet above confluence with Jessamine Creek

\*No floodway tabulated because no defined stream channel (Section 4.2)

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**JESSAMINE COUNTY, KY**  
 AND INCORPORATED AREAS

**FLOODWAY DATA**

**TOWN BRANCH**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (NAVD)	WITHOUT FLOODWAY (NAVD)	WITH FLOODWAY (NAVD)	INCREASE
<b>Town Branch (continued)</b>								
V	9,715	91	451	0.9	855.9	855.9	856.6	0.7
W	9,926	56	216	1.9	856.0	856.0	856.7	0.7
X	10,138	27	92	4.3	856.3	856.3	857.0	0.7
Y	10,243	17	66	6.1	858.3	858.3	859.2	0.9
Z	10,666	N/A*	N/A*	N/A*	866.6	N/A*	N/A*	N/A*
AA	11,510	N/A*	N/A*	N/A*	871.3	N/A*	N/A*	N/A*
AB	11,774	N/A*	N/A*	N/A*	873.2	N/A*	N/A*	N/A*
AC	11,986	N/A*	N/A*	N/A*	878.4	N/A*	N/A*	N/A*

<sup>1</sup>Stream distance in feet above confluence with Jessamine Creek

\*Developed area – Additional encroachment (Not allowed)

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**JESSAMINE COUNTY, KY**  
 AND INCORPORATED AREAS

**FLOODWAY DATA**

**TOWN BRANCH**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (NAVD)	WITHOUT FLOODWAY (NAVD)	WITH FLOODWAY (NAVD)	INCREASE
<b>Town Fork</b>								
A	359	172	1,154	6.5	802.4	802.4 <sup>2</sup>	803.2	0.8
B	1,123	124	756	9.9	805.5	805.5	806.2	0.7
C	2,731	136	887	8.4	815.5	815.5	816.4	0.9
D	3,669	79	575	13.0	820.8	820.8	821.2	0.4
E	4,151	107	893	8.4	825.3	825.3	825.4	0.1
F	5,714	220	1,148	6.5	831.7	831.7	832.1	0.4
G	5,782	244	1,722	4.1	832.9	832.9	833.9	1.0
H	6,497	267	1,041	6.8	834.7	834.7	835.5	0.8
I	8,523	130	746	9.4	844.6	844.6	845.2	0.6
J	8,913	139	1,014	6.9	847.2	847.2	847.8	0.6
K	9,723	169	1,022	6.2	850.0	850.0	851.0	1.0
L	10,785	125	651	9.8	855.4	855.4	856.1	0.7
M	11,535	148	1,014	6.3	860.5	860.5	861.4	0.9
N	12,909	199	1,012	6.3	866.7	866.7	867.6	0.9
O	14,722	109	570	11.2	874.1	874.1	874.1	0.0
P	15,143	88	580	11.0	877.6	877.6	877.6	0.0
Q	15,257	178	1,558	4.1	880.1	880.1	880.1	0.0
R	18,010	107	590	8.4	881.6	881.6	881.9	0.3
S	18,192	212	1,365	3.1	884.9	884.9	884.9	0.0
T	19,602	170	779	5.4	885.5	885.5	885.8	0.3
U	21,357	110	632	6.6	890.6	890.6	891.1	0.5

<sup>1</sup>Stream distance in feet above confluence with Jessamine Creek

<sup>2</sup>Elevation computed without consideration of backwater effects from Jessamine Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**JESSAMINE COUNTY, KY**  
 AND INCORPORATED AREAS

**FLOODWAY DATA**

**TOWN FORK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (NAVD)	WITHOUT FLOODWAY (NAVD)	WITH FLOODWAY (NAVD)	INCREASE
<b>Town Fork (continued)</b>								
V	22,099	141	675	6.2	893.4	893.4	894.0	0.6
W	22,845	135	696	6.0	898.0	898.0	898.4	0.4
X	23,151	176	655	6.4	898.8	898.8	899.3	0.5
Y	23,247	200	1,542	1.7	902.9	902.9	903.3	0.4
Z	24,271	127	522	4.9	903.7	903.7	904.2	0.5
AA	25,062	76	204	6.5	905.2	905.2	905.5	0.3
AB	26,149	129	376	3.6	910.0	910.0	910.8	0.8
AC	28,282	58	228	5.9	916.2	916.2	916.7	0.5
AD	28,731	46	167	8.0	918.2	918.2	918.6	0.4
AE	29,019	70	427	3.1	921.6	921.6	921.8	0.2
AF	30,078	28	115	11.6	922.5	922.5	922.5	0.0
AG	30,146	80	376	4.5	925.3	925.3	925.8	0.5
AH	30,445	79	262	6.5	925.3	925.3	925.8	0.5
AI	30,731	75	273	5.1	926.2	926.2	926.6	0.4
AJ	30,920	29	149	8.4	926.2	926.2	926.6	0.4
AK	31,891	100	240	5.2	932.1	932.1	932.1	0.0
AL	31,914	109	462	2.7	933.3	933.3	933.8	0.5
AM	32,428	165	445	2.8	934.1	934.1	934.7	0.6
AN	32,650	145	309	4.1	934.6	934.6	935.0	0.4
AO	32,699	131	392	3.2	935.7	935.7	935.9	0.2
AP	32,791	138	256	4.9	935.7	935.7	935.9	0.2

<sup>1</sup>Stream distance in feet above confluence with Jessamine Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**JESSAMINE COUNTY, KY**  
 AND INCORPORATED AREAS

**FLOODWAY DATA**

**TOWN FORK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (NAVD)	WITHOUT FLOODWAY (NAVD)	WITH FLOODWAY (NAVD)	INCREASE
<b>Town Fork (continued)</b>								
AQ	32,911	180	392	1.7	936.4	936.4	936.5	0.1
AR	33,296	51	116	5.6	936.7	936.7	936.7	0.0
AS	33,645	24	68	9.6	938.5	938.5	938.5	0.0
AT	33,741	43	555	1.1	951.3	951.3	951.3	0.0
AU	35,874	100	369	3.5	951.6	951.6	952.1	0.5
AV	37,056	78	258	4.5	955.5	955.5	956.4	0.9
AW	38,746	84	190	6.1	962.3	962.3	962.9	0.6
AX	39,633	53	110	7.5	969.2	969.2	969.2	0.0
AY	40,198	33	95	8.6	972.5	972.5	972.6	0.1
AZ	40,515	99	487	0.9	976.9	976.9	976.9	0.0
BA	41,820	69	102	4.2	977.4	977.4	978.0	0.6
BB	42,539	69	79	5.5	983.7	983.7	983.8	0.1
BC	43,528	37	36	5.5	991.8	991.8	991.8	0.0
BD	43,609	45	46	4.3	992.8	992.8	993.0	0.2

<sup>1</sup>Stream distance in feet above confluence with Jessamine Creek

**TABLE 24**

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**JESSAMINE COUNTY, KY**  
 AND INCORPORATED AREAS

**FLOODWAY DATA**

**TOWN FORK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (NAVD)	WITHOUT FLOODWAY (NAVD)	WITH FLOODWAY (NAVD)	INCREASE
Tributary to Town Fork								
A	644	39	125	4.9	913.4	913.4	914.3	0.9
B	1,626	34	153	4.0	916.6	916.6	917.6	1.0
C	2,138	45	103	5.9	919.3	919.3	919.7	0.4
D	2,445	21	51	7.1	922.6	922.6	923.0	0.4
E	3,284	22	77	4.7	927.4	927.4	928.4	1.0

<sup>1</sup>Stream distance in feet above confluence with Town Fork

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**JESSAMINE COUNTY, KY**  
 AND INCORPORATED AREAS

**FLOODWAY DATA**

**TRIBUTARY TO TOWN FORK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (NAVD)	WITHOUT FLOODWAY (NAVD)	WITH FLOODWAY (NAVD)	INCREASE
<b>West Hickman Creek</b>								
A	130	387	2,232	3.8	866.5	860.3 <sup>2</sup>	860.6	0.3
B	1,743	205	1,383	6.2	866.5	862.3 <sup>2</sup>	862.6	0.4
C	3,071	177	1,547	5.5	866.5	865.6 <sup>2</sup>	866.1	0.5
D	4,519	144	1,399	6.1	867.1	867.1	867.6	0.5
E	5,009	246	2,327	3.7	869.0	869.0	869.7	0.6
F	11,404	230	1,597	5.3	874.0	874.0	874.7	0.7
G	12,408	232	1,161	7.3	875.5	875.5	875.9	0.4
H	13,292	287	1,900	4.5	878.3	878.3	879.1	0.8
I	13,401	318	2,568	3.3	881.2	881.2	881.3	0.1
J	16,145	192	1,146	6.7	885.1	885.1	885.8	0.7
K	17,088	244	1,448	5.3	887.2	887.2	887.7	0.5
L	18,045	314	2,491	3.1	888.5	888.5	889.3	0.8

<sup>1</sup>Stream distance in feet above confluence with Hickman Creek

<sup>2</sup>Elevation computed without consideration of backwater effects from Hickman Creek

**Table 25: Flood Hazard and Non-Encroachment Data for Selected Streams**

Flooding Source	Cross Section	Stream Station <sup>1</sup>	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)	Non-Encroachment Width (feet)	
					Left	Right
Jessamine Creek	A	294	10,163	559.1 <sup>2</sup>	52	48
Jessamine Creek	B	4,157	10,163	559.1 <sup>2</sup>	40	140
Jessamine Creek	C	5,519	10,163	559.1 <sup>2</sup>	45	45
Jessamine Creek	D	6,184	10,163	559.1 <sup>2</sup>	53	47
Jessamine Creek	E	7,389	10,163	559.1 <sup>2</sup>	39	39
Jessamine Creek	F	7,716	10,163	559.1 <sup>2</sup>	45	45
Jessamine Creek	G	8,778	10,163	560.2	53	52
Jessamine Creek	H	9,565	10,163	565.6	109	38
Jessamine Creek	I	10,251	10,163	570.6	48	48
Jessamine Creek	J	10,902	10,163	574.3	39	39
Jessamine Creek	K	11,410	10,163	578.1	42	38
Jessamine Creek	L	11,724	10,163	581.2	49	49
Jessamine Creek	M	12,447	9,902	582.8	38	42
Jessamine Creek	N	12,969	9,902	586.5	47	47
Jessamine Creek	O	14,531	9,902	590.9	34	53
Jessamine Creek	P	16,373	9,902	600.5	42	48
Jessamine Creek	Q	16,760	9,902	603.8	43	67
Jessamine Creek	R	17,953	9,902	608.4	37	37
Jessamine Creek	S	18,473	9,902	612.7	56	39
Jessamine Creek	T	19,667	9,902	618.6	42	42
Jessamine Creek	U	20,569	9,902	625.7	34	31
Jessamine Creek	V	21,144	9,902	626.7	44	44
Jessamine Creek	W	22,430	9,902	636.6	35	35
Jessamine Creek	X	23,361	9,902	638.7	42	43
Jessamine Creek	Y	24,127	9,902	646.0	41	41
Jessamine Creek	Z	24,496	9,902	648.3	47	47
Jessamine Creek	AA	24,809	9,902	649.0	43	42
Jessamine Creek	AB	25,185	9,902	651.7	51	51
Jessamine Creek	AC	25,542	9,902	652.8	37	37
Jessamine Creek	AD	25,866	9,902	654.8	40	40
Jessamine Creek	AE	26,183	9,902	655.6	38	42
Jessamine Creek	AF	26,388	9,902	657.3	48	37
Jessamine Creek	AG	26,691	9,902	660.9	31	72
Jessamine Creek	AH	26,952	9,902	662.2	50	58

<sup>1</sup> Feet above mouth

<sup>2</sup> Water-surface elevations include backwater effects

**Table 25: Flood Hazard and Non-Encroachment Data for Selected Streams**

Flooding Source	Cross Section	Stream Station <sup>1</sup>	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)	Non-Encroachment Width (feet)	
					Left	Right
Jessamine Creek	AI	27,348	9,902	666.9	25	24
Jessamine Creek	AJ	27,650	9,902	671.4	42	28
Jessamine Creek	AK	28,255	9,902	672.0	39	41
Jessamine Creek	AL	28,777	9,902	674.5	22	23
Jessamine Creek	AM	29,047	9,902	679.8	24	24
Jessamine Creek	AN	29,481	9,902	682.3	30	30
Jessamine Creek	AO	29,784	9,902	682.7	49	46
Jessamine Creek	AP	29,862	9,902	684.0	37	37
Jessamine Creek	AQ	30,201	9,902	684.0	64	29
Jessamine Creek	AR	30,830	9,902	686.7	26	27
Jessamine Creek	AS	31,569	9,902	692.3	79	19
Jessamine Creek	AT	32,124	9,902	697.6	37	126
Jessamine Creek	AU	33,335	9,902	700.3	35	35
Jessamine Creek	AV	34,196	9,902	710.6	30	35
Jessamine Creek	AW	35,010	9,902	716.6	25	93
Jessamine Creek	AX	35,319	9,902	721.4	27	84
Jessamine Creek	AY	35,698	9,902	722.7	106	34
Jessamine Creek	AZ	36,062	9,902	725.4	25	25
Jessamine Creek	BA	36,923	9,902	726.6	26	26
Jessamine Creek	BB	37,442	9,902	728.4	13	13
Jessamine Creek	BC	37,779	9,902	736.9	12	176
Jessamine Creek	BD	38,051	9,902	740.0	56	30
Jessamine Creek	BE	38,938	9,902	743.6	67	23
Jessamine Creek	BF	39,486	9,902	748.9	56	114
Jessamine Creek	BG	39,961	9,902	752.1	51	33
Jessamine Creek	BH	40,486	9,902	752.6	27	26
Jessamine Creek	BI	41,516	9,902	755.9	19	18
Jessamine Creek	BJ	42,103	9,902	761.5	31	39
Jessamine Creek	BK	42,624	9,902	762.0	18	18
Jessamine Creek	BL	43,109	9,902	765.5	16	16
Jessamine Creek	BM	43,613	9,902	771.3	28	89
Jessamine Creek	BN	44,152	9,902	771.6	14	64
Jessamine Creek	BO	44,468	9,902	775.1	35	109
Jessamine Creek	BP	45,795	9,902	779.1	25	37
Jessamine Creek	BQ	46,375	9,902	784.0	441	21

<sup>1</sup> Feet above mouth

<sup>2</sup> Water-surface elevations include backwater effects

**Table 25: Flood Hazard and Non-Encroachment Data for Selected Streams**

Flooding Source	Cross Section	Stream Station <sup>1</sup>	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)	Non-Encroachment Width (feet)	
					Left	Right
Jessamine Creek	BR	47,465	9,902	785.7	33	33
Jessamine Creek	BS	47,543	9,902	787.1	116	45
Jessamine Creek	BT	48,427	9,902	788.5	36	36
Jessamine Creek	BU	48,952	9,902	791.9	185	63
Jessamine Creek	BV	49,353	9,902	793.0	51	51
Jessamine Creek	BW	51,115	8,369	801.8	53	192
Jessamine Creek	BX	52,466	6,772	803.9	74	52
Jessamine Creek	BY	55,123	6,772	815.9	31	149
Jessamine Creek	BZ	56,281	6,772	819.9	96	33
Jessamine Creek	CA	56,441	6,772	821.7	175	41
Jessamine Creek	CB	57,092	6,772	823.3	47	47
Jessamine Creek	CC	57,941	6,772	828.4	43	98
Jessamine Creek	CD	60,016	6,772	833.2	156	39
Jessamine Creek	CE	61,755	6,772	839.7	91	260
Jessamine Creek	CF	62,075	5,832	840.2	176	82
Jessamine Creek	CG	62,155	5,832	841.6	176	82
Jessamine Creek	CH	64,294	5,832	845.3	45	169
Jessamine Creek	CI	64,962	5,832	846.6	32	32
Jessamine Creek	CJ	65,239	5,832	851.6	37	37
Jessamine Creek	CK	65,375	5,832	852.3	236	38
Jessamine Creek	CL	66,452	5,832	852.6	254	31
Jessamine Creek	CM	66,867	5,832	854.6	267	43
Jessamine Creek	CN	66,985	5,832	856.7	267	43
Jessamine Creek	CO	70,387	5,119	858.3	27	27
Jessamine Creek	CP	70,470	5,119	861.8	46	46
Jessamine Creek	CQ	71,858	5,119	863.3	42	42
Jessamine Creek	CR	71,916	5,119	864.6	45	45
Jessamine Creek	CS	72,800	4,432	866.5	25	25
Jessamine Creek	CT	72,901	4,432	873.2	25	25
Jessamine Creek	CU	75,544	4,432	874.6	128	32
Jessamine Creek	CV	82,682	3,231	889.9	105	38
Jessamine Creek	CW	85,333	2,927	896.5	146	38
Jessamine Creek	CX	87,467	2,927	901.3	21	21
Jessamine Creek	CY	87,542	2,927	905.8	27	27
Jessamine Creek	CZ	88,972	2,094	907.0	22	138

<sup>1</sup> Feet above mouth<sup>2</sup> Water-surface elevations include backwater effects

**Table 25: Flood Hazard and Non-Encroachment Data for Selected Streams**

Flooding Source	Cross Section	Stream Station <sup>1</sup>	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)	Non-Encroachment Width (feet)	
					Left	Right
Jessamine Creek	DA	91,149	2,094	911.6	17	20
Jessamine Creek	DB	91,573	2,094	914.4	37	52
Jessamine Creek	DC	92,461	2,094	916.0	61	18
Jessamine Creek	DD	94,004	1,854	920.6	22	21
Jessamine Creek	DE	95,517	1,434	925.4	165	45
Jessamine Creek	DF	95,601	1,434	925.3	11	48
Jessamine Creek	DG	96,256	1,116	929.9	12	74
Wymers Branch	A	616	1,994	861.7 <sup>2</sup>	31	22
Wymers Branch	B	1,157	1,994	861.7 <sup>2</sup>	20	20
Wymers Branch	C	1,808	1,994	861.7 <sup>2</sup>	25	25
Wymers Branch	D	3,078	1,994	861.7 <sup>2</sup>	28	37
Wymers Branch	E	3,130	1,994	864.4	28	37
Wymers Branch	F	3,778	1,861	864.8	24	21
Wymers Branch	G	6,574	1,861	878.6	25	25
Wymers Branch	H	7,301	1,861	883.2	18	18
Wymers Branch	I	7,373	1,861	887.2	19	19
Wymers Branch	J	7,792	1,861	887.4	21	41
Wymers Branch	K	8,296	1,861	890.2	28	22
Wymers Branch	L	8,810	1,861	894.1	57	15
Wymers Branch	M	9,384	1,598	896.9	28	28
Wymers Branch	N	9,993	957	902.7	27	22
Wymers Branch	O	10,556	957	909.1	20	20
Wymers Branch	P	11,170	957	914.4	21	21
Wymers Branch	Q	12,337	957	923.2	64	9
Wymers Branch	R	12,463	957	924.0	64	26
Wymers Branch	S	12,521	957	926.7	68	32
Wymers Branch	T	13,205	957	929.2	10	50
Wymers Branch	U	14,017	957	936.2	25	25
Wymers Branch	V	14,722	821	940.8	21	21
Wymers Branch	W	15,205	821	945.5	29	29
Wymers Branch	X	15,882	821	950.6	38	22
Wymers Branch	Y	15,928	821	953.4	47	30
Wymers Branch	Z	16,614	821	956.2	42	23
Wymers Branch	AA	17,319	673	961.7	14	24

<sup>1</sup> Feet above mouth

<sup>2</sup> Water-surface elevations include backwater effects

## **6.4 Coastal Flood Hazard Mapping**

This section is not applicable to this FIS project.

### **Table 26: Summary of Coastal Transect Mapping Considerations**

**[Not Applicable to this FIS Project]**

## **6.5 FIRM Revisions**

This FIS Report and the FIRM are based on the most up-to-date information available to FEMA at the time of its publication; however, flood hazard conditions change over time. Communities or private parties may request flood map revisions at any time. Certain types of requests require submission of supporting data. FEMA may also initiate a revision. Revisions to FIS projects may take several forms, including Letters of Map Amendment (LOMAs), Letters of Map Revision Based on Fill (LOMR-Fs), Letters of Map Revision (LOMRs) (referred to collectively as Letters of Map Change (LOMCs)), Physical Map Revisions (PMRs), and FEMA-contracted restudies. These types of revisions are further described below. Some of these types of revisions do not result in the republishing of the FIS Report. To assure that any user is aware of all revisions, it is advisable to contact the community repository of flood-hazard data (shown in Table 31, “Map Repositories”).

### **6.5.1 Letters of Map Amendment**

A LOMA is an official revision by letter to an effective NFIP map. A LOMA results from an administrative process that involves the review of scientific or technical data submitted by the owner or lessee of property who believes the property has incorrectly been included in a designated SFHA. A LOMA amends the currently effective FEMA map and establishes that a specific property is not located in a SFHA. A LOMA cannot be issued for properties located on the PFD (primary frontal dune).

To obtain an application for a LOMA, visit [www.fema.gov/floodplain-management/letter-map-amendment-loma](http://www.fema.gov/floodplain-management/letter-map-amendment-loma) and download the form “MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill”. Visit the “Flood Map-Related Fees” section to determine the cost, if any, of applying for a LOMA.

FEMA offers a tutorial on how to apply for a LOMA. The LOMA Tutorial Series can be accessed at [www.fema.gov/online-tutorials](http://www.fema.gov/online-tutorials).

For more information about how to apply for a LOMA, call the FEMA Map Information eXchange; toll free, at 1-877-FEMA MAP (1-877-336-2627).

### **6.5.2 Letters of Map Revision Based on Fill**

A LOMR-F is an official revision by letter to an effective NFIP map. A LOMR-F states FEMA’s determination concerning whether a structure or parcel has been elevated on fill above the base flood elevation and is, therefore, excluded from the SFHA.

Information about obtaining an application for a LOMR-F can be obtained in the same manner as that for a LOMA, by visiting [www.fema.gov/floodplain-management/letter-map-amendment-loma](http://www.fema.gov/floodplain-management/letter-map-amendment-loma) for the “MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill” or by calling the FEMA Map

Information eXchange, toll free, at 1-877-FEMA MAP (1-877-336-2627). Fees for applying for a LOMR-F, if any, are listed in the “Flood Map-Related Fees” section.

A tutorial for LOMR-F is available at [www.fema.gov/online-tutorials](http://www.fema.gov/online-tutorials).

### 6.5.3 Letters of Map Revision

A LOMR is an official revision to the currently effective FEMA map. It is used to change flood zones, floodplain and floodway delineations, flood elevations and planimetric features. All requests for LOMRs should be made to FEMA through the chief executive officer of the community, since it is the community that must adopt any changes and revisions to the map. If the request for a LOMR is not submitted through the chief executive officer of the community, evidence must be submitted that the community has been notified of the request.

To obtain an application for a LOMR, visit <http://www.fema.gov> and download the form “MT-2 Application Forms and Instructions for Conditional Letters of Map Revision and Letters of Map Revision”. Visit the “Flood Map-Related Fees” section to determine the cost of applying for a LOMR. For more information about how to apply for a LOMR, call the FEMA Map Information eXchange; toll free, at 1-877-FEMA MAP (1-877-336-2627) to speak to a Map Specialist.

Previously issued mappable LOMCs (including LOMRs) that have been incorporated into the Jessamine County FIRM are listed in Table 27.

**Table 27: Incorporated Letters of Map Change**

Case Number	Effective Date	Flooding Source	FIRM Panel(s)
N/A	N/A	N/A	N/A

\* There are no incorporated LOMCs in Jessamine County

### 6.5.4 Physical Map Revisions

PMRs are an official republication of a community’s NFIP map to effect changes to base flood elevations, floodplain boundary delineations, regulatory floodways and planimetric features. These changes typically occur as a result of structural works or improvements, annexations resulting in additional flood hazard areas or correction to base flood elevations or SFHAs.

The community’s chief executive officer must submit scientific and technical data to FEMA to support the request for a PMR. The data will be analyzed and the map will be revised if warranted. The community is provided with copies of the revised information and is afforded a review period. When the base flood elevations are changed, a 90-day appeal period is provided. A 6-month adoption period for formal approval of the revised map(s) is also provided.

For more information about the PMR process, please visit <http://www.fema.gov> and visit the “Flood Map Revision Processes” section.

### 6.5.5 Contracted Restudies

The NFIP provides for a periodic review and restudy of flood hazards within a given community. FEMA accomplishes this through a national watershed-based mapping needs assessment strategy, known as the Coordinated Needs Management Strategy (CNMS). The CNMS is used by FEMA to assign priorities and allocate funding for new flood hazard analyses used to update the FIS Report and FIRM. The goal of CNMS is to define the validity of the engineering study data

within a mapped inventory. The CNMS is used to track the assessment process, document engineering gaps and their resolution, and aid in prioritization for using flood risk as a key factor for areas identified for flood map updates. Visit [www.fema.gov](http://www.fema.gov) to learn more about the CNMS or contact the FEMA Regional Office listed in Section 8 of this FIS Report.

### 6.5.6 Community Map History

The current FIRM presents flooding information for the entire geographic area of Jessamine County. Previously, separate FIRMs, Flood Hazard Boundary Maps (FHBM) and/or Flood Boundary and Floodway Maps (FBFM) may have been prepared for the incorporated communities and the unincorporated areas in the county that had identified SFHAs. Current and historical data relating to the maps prepared for the project area are presented in Table 28, “Community Map History.” A description of each of the column headings and the source of the date is also listed below.

- *Community Name* includes communities falling within the geographic area shown on the FIRM, including those that fall on the boundary line, nonparticipating communities, and communities with maps that have been rescinded. Communities with No Special Flood Hazards are indicated by a footnote. If all maps (FHBM, FBFM, and FIRM) were rescinded for a community, it is not listed in this table unless SFHAs have been identified in this community.
- *Initial Identification Date (First NFIP Map Published)* is the date of the first NFIP map that identified flood hazards in the community. If the FHBM has been converted to a FIRM, the initial FHBM date is shown. If the community has never been mapped, the upcoming effective date or “pending” (for Preliminary FIS Reports) is shown. If the community is listed in Table 28 but not identified on the map, the community is treated as if it were unmapped.
- *Initial FHBM Effective Date* is the effective date of the first Flood Hazard Boundary Map (FHBM). This date may be the same date as the Initial NFIP Map Date.
- *FHBM Revision Date(s)* is the date(s) that the FHBM was revised, if applicable.
- *Initial FIRM Effective Date* is the date of the first effective FIRM for the community. This is the first effective date that is shown on the FIRM panel.
- *FIRM Revision Date(s)* is the date(s) the FIRM was revised, if applicable. This is the revised date that is shown on the FIRM panel, if applicable. As countywide studies are completed or revised, each community listed should have its FIRM dates updated accordingly to reflect the date of the countywide study. Once the FIRMs exist in countywide format, as Physical Map Revisions (PMR) of FIRM panels within the county are completed, the FIRM Revision Dates in the table for each community affected by the PMR are updated with the date of the PMR, even if the PMR did not revise all the panels within that community.

The initial effective date for the Jessamine County FIRMs in countywide format was 06/02/2011.

**Table 28: Community Map History**

Community Name	Initial Identification Date (First NFIP Map Published)	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
Jessamine County (Unincorporated Areas)	04/16/1973	12/06/1974	None	08/01/1978	06/02/2011 01/16/1992
City of Nicholasville	06/28/1974	06/28/1974	09/17/1976	04/17/1989	06/02/2011
City of Wilmore	01/17/1975	07/25/1975	None	11/05/1986	06/02/2011

**SECTION 7.0 – CONTRACTED STUDIES AND COMMUNITY COORDINATION**

**7.1 Contracted Studies**

Table 29 provides a summary of the contracted studies, by flooding source, that are included in this FIS Report.

**Table 29: Summary of Contracted Studies Included in this FIS Report**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
East Hickman Creek, Jessamine Creek, Town Fork, and West Hickman Creek	TBD	AECOM	EMA-2012-CA-5465	July 2015	Jessamine County (Unincorporated Areas), City of Nicholasville, City of Wilmore

**Table 29: Summary of Contracted Studies Included in this FIS Report**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
East Hickman Creek Tributary 1, Hickman Creek, Jessamine Creek Tributary 1, Jessamine Creek Tributary 11, Jessamine Creek Tributary 2, Jessamine Creek Tributary 3, Jessamine Creek Tributary 5, Jessamine Creek Tributary 6, Jessamine Creek Tributary 8, Jessamine Creek Tributary 9, Kentucky River Tributary 2, Kentucky River Tributary 33, Kentucky River Tributary 83, Marble Creek, Marshall Branch, Marshall Branch Tributary 1, Town Fork Tributary 1, West Hickman Creek Tributary 1, Wymers Branch	TBD	AECOM	EMA-2012-CA-5465	July 2015	Jessamine County (Unincorporated Areas), City of Nicholasville, City of Wilmore
Hickman Creek and tributaries 1, 1.1, 2, 3, 4, 4.1, 10, Kentucky River, Kentucky River Tributary 4, Little Hickman Creek, Sinking Creek, Sinking Creek Tributary 1, South Elkhorn Tributary 8, Town Branch, Tributary to Town Fork, & Sinkholes	6/2/2011	AMEC Earth & Environmental, Inc.	EMA-2007-CA-5772	July 2009	Jessamine County (Unincorporated Areas), City of Nicholasville, City of Wilmore
Shelby Branch	Fayette County 3/3/2014	URS Corporation	EMA-2009-CA-5931	March 2012	Jessamine County (Unincorporated Areas)
Left Branch Tributary to Town Fork, Tributary to Town Fork	N/A	N/A	LOMR Case No. 894127	December 1989	City of Nicholasville
Sinking Creek, Town Branch	1/16/1992	USACE, Louisville District	IAA-H-16-75; IAA-H-7-76	October 1976	Jessamine County (Unincorporated Areas)

## **7.2 Community Meetings**

The dates of the community meetings held for this FIS project and any previous FIS projects are shown in Table 30. These meetings may have previously been referred to by a variety of names (Community Coordination Officer (CCO), Scoping, Discovery, etc.), but all meetings represent opportunities for FEMA, community officials, study contractors, and other invited guests to discuss the planning for and results of the project.

**Table 30: Community Meetings**

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Jessamine County (Unincorporated Areas)		9/12/2012	Discovery	Representatives of FEMA, KDOW, U.S. Army Corps of Engineers (Huntington District), the study contractor, and local community officials
		11/3/2015, 11/4/2015	Flood Risk Review Meeting	Representatives of FEMA, KDOW, USGS, AECOM, Stantec, Bluegrass ADD, and local community officials
			Resilience	TBD
			CCO Open House	TBD
City of Nicholasville		9/12/2012	Discovery	Representatives of FEMA, KDOW, U.S. Army Corps of Engineers (Huntington District), the study contractor, and local community officials
		11/3/2015, 11/4/2015	Flood Risk Review Meeting	Representatives of FEMA, KDOW, USGS, AECOM, Stantec, Bluegrass ADD, and local community officials
			Resilience	TBD
			CCO Open House	TBD
City of Wilmore		9/12/2012	Discovery	Representatives of FEMA, KDOW, U.S. Army Corps of Engineers (Huntington District), the study contractor, and local community officials
		11/3/2015, 11/4/2015	Flood Risk Review Meeting	Representatives of FEMA, KDOW, USGS, AECOM, Stantec, Bluegrass ADD, and local community officials
			Resilience	TBD
			CCO Open House	TBD

## SECTION 8.0 – ADDITIONAL INFORMATION

Information concerning the pertinent data used in the preparation of this FIS Report can be obtained by submitting an order with any required payment to the FEMA Engineering Library. For more information on this process, see <http://www.fema.gov>.

Table 31 is a list of the locations where FIRMs for Jessamine County can be viewed. Please note that the maps at these locations are for reference only and are not for distribution. Also, please note that only the maps for the community listed in the table are available at that particular repository. A user may need to visit another repository to view maps from an adjacent community.

**Table 31: Map Repositories**

Community	Address	City	State	Zip Code
Jessamine County (Unincorporated Areas)	101 North Main Street	Nicholasville	KY	40356
City of Nicholasville	517 North Main Street	Nicholasville	KY	40356
City of Wilmore	335 East Main Street	Wilmore	KY	40390

The National Flood Hazard Layer (NFHL) dataset is a compilation of effective FIRM databases and LOMCs. Together they create a GIS data layer for a State or Territory. The NFHL is updated as studies become effective and extracts are made available to the public monthly. NFHL data can be viewed or ordered from the website shown in Table 32.

Table 32 contains useful contact information regarding the FIS Report, the FIRM, and other relevant flood hazard and GIS data. In addition, information about the state NFIP Coordinator and GIS Coordinator is shown in this table. At the request of FEMA, each Governor has designated an agency of State or territorial government to coordinate that State's or territory's NFIP activities. These agencies often assist communities in developing and adopting necessary floodplain management measures. State GIS Coordinators are knowledgeable about the availability and location of state and local GIS data in their state.

**Table 32: Additional Information**

FEMA and the NFIP	
FEMA and FEMA Engineering Library website	<a href="http://www.fema.gov">http://www.fema.gov</a>
NFIP website	<a href="http://www.fema.gov/national-flood-insurance-program">http://www.fema.gov/national-flood-insurance-program</a>
NFHL Dataset	<a href="http://msc.fema.gov">http://msc.fema.gov</a>
FEMA Region IV	Federal Regional Office, 3003 Chamblee Tucker Rd, Atlanta, GA 30341 (770) 220-5200
Other Federal Agencies	
USGS website	<a href="http://www.usgs.gov">http://www.usgs.gov</a>

**Table 32: Additional Information**

Hydraulic Engineering Center website	<a href="http://www.hec.usace.army.mil">http://www.hec.usace.army.mil</a>
<b>State Agencies and Organizations</b>	
State NFIP Coordinator	Alex J. VanPelt Environmental Scientist IV Floodplain Management Branch Kentucky Division of Water 200 Fair Oaks Lane Frankfort, KY 40601 (502) 564-3410 <a href="mailto:alex.vanpelt@ky.gov">alex.vanpelt@ky.gov</a>
State GIS Coordinator	Kent Anness Kentucky Division of Geographic Information 100 Fair Oaks Frankfort, KY 40601 (502) 564-6268 <a href="mailto:kent.anness@ky.gov">kent.anness@ky.gov</a>
Statewide Regulatory Coordinator	Carey Johnson Coordinating Technical Program Manager Kentucky Division of Water 200 Fair Oaks Lane Frankfort, KY 40601 (502) 564-3410 <a href="mailto:Carey.Johnson@ky.gov">Carey.Johnson@ky.gov</a>

## **SECTION 9.0 – BIBLIOGRAPHY AND REFERENCES**

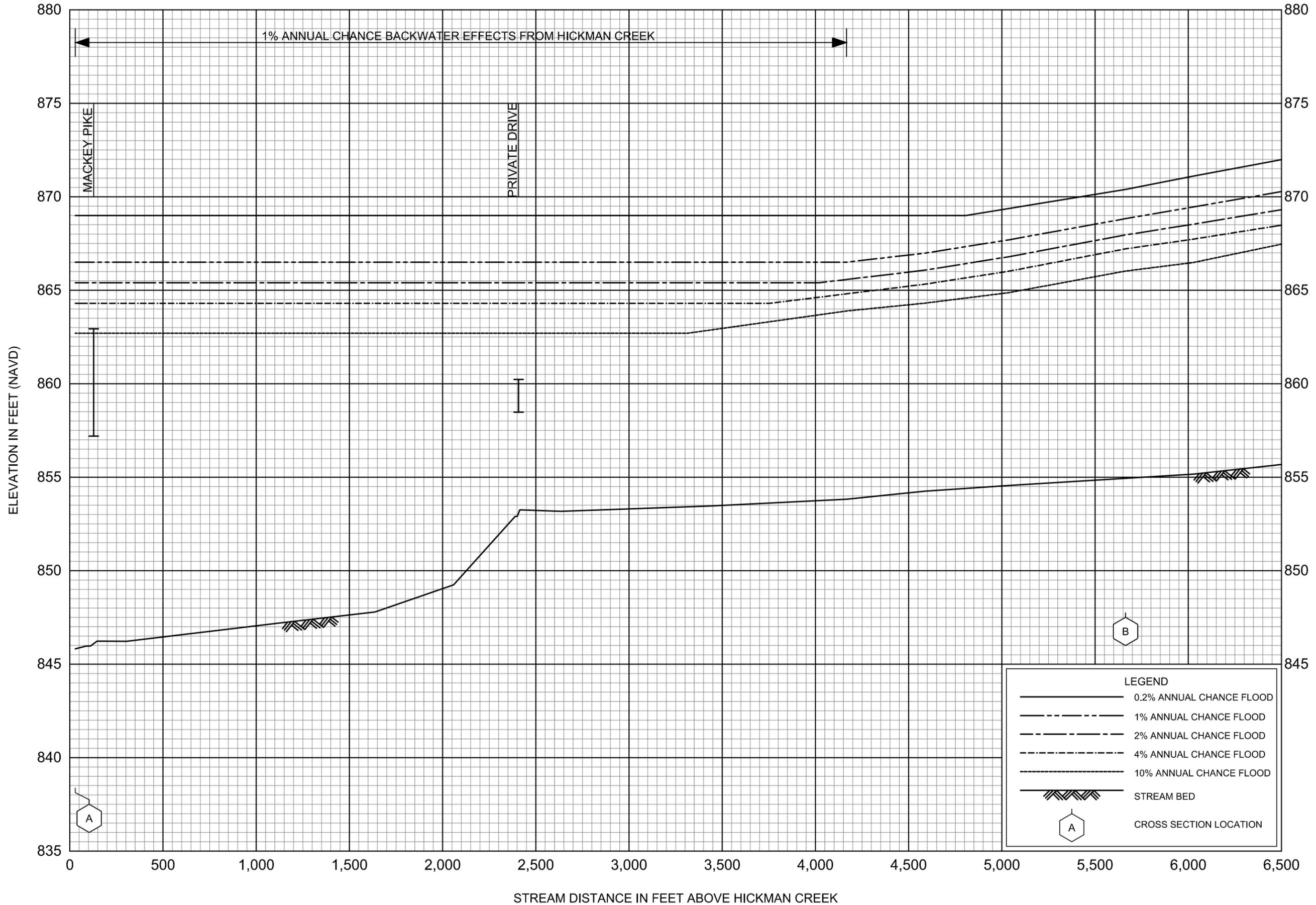
Table 33 includes sources used in the preparation of and cited in this FIS Report as well as additional studies that have been conducted in the study area.

**Table 33: Bibliography and References**

Citation in this FIS	Publisher/ Issuer	<i>Publication Title, "Article," Volume, Number, etc.</i>	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
CED 2009	Cabinet for Economic Development	"Kentucky Quick Facts"			2009	<a href="http://www.thinkkentucky.com">http://www.thinkkentucky.com</a>
Jessamine 2011	Federal Emergency Management Agency	Flood Insurance Study, Jessamine County, Kentucky Unincorporated Areas		Washington D.C.	2-Jun-11	
Jessamine 1992	Federal Emergency Management Agency	Flood Insurance Study, Jessamine County, Kentucky and Incorporated Areas		Washington D.C.	16-Jan-92	
Nicholasville, 1989	Federal Emergency Management Agency	Flood Insurance Study, City of Nicholasville, Kentucky		Washington D.C.	17-Apr-89	
USACE 1984	U.S. Army Corps of Engineers	HEC-2 Water-Surface Profiles Generalized Computer Program	Hydrologic Engineering Center	Davis, California	Apr-84	
USACE 2004	U.S. Army Corps of Engineers	HEC-RAS "River Analysis System" Version 3.1.2	Hydrologic Engineering Center	Davis, California	Apr-04	
USACE 2010	U.S. Army Corps of Engineers	HEC-RAS "River Analysis System" Version 4.1.0	Hydrologic Engineering Center	Davis, California	Jan-10	

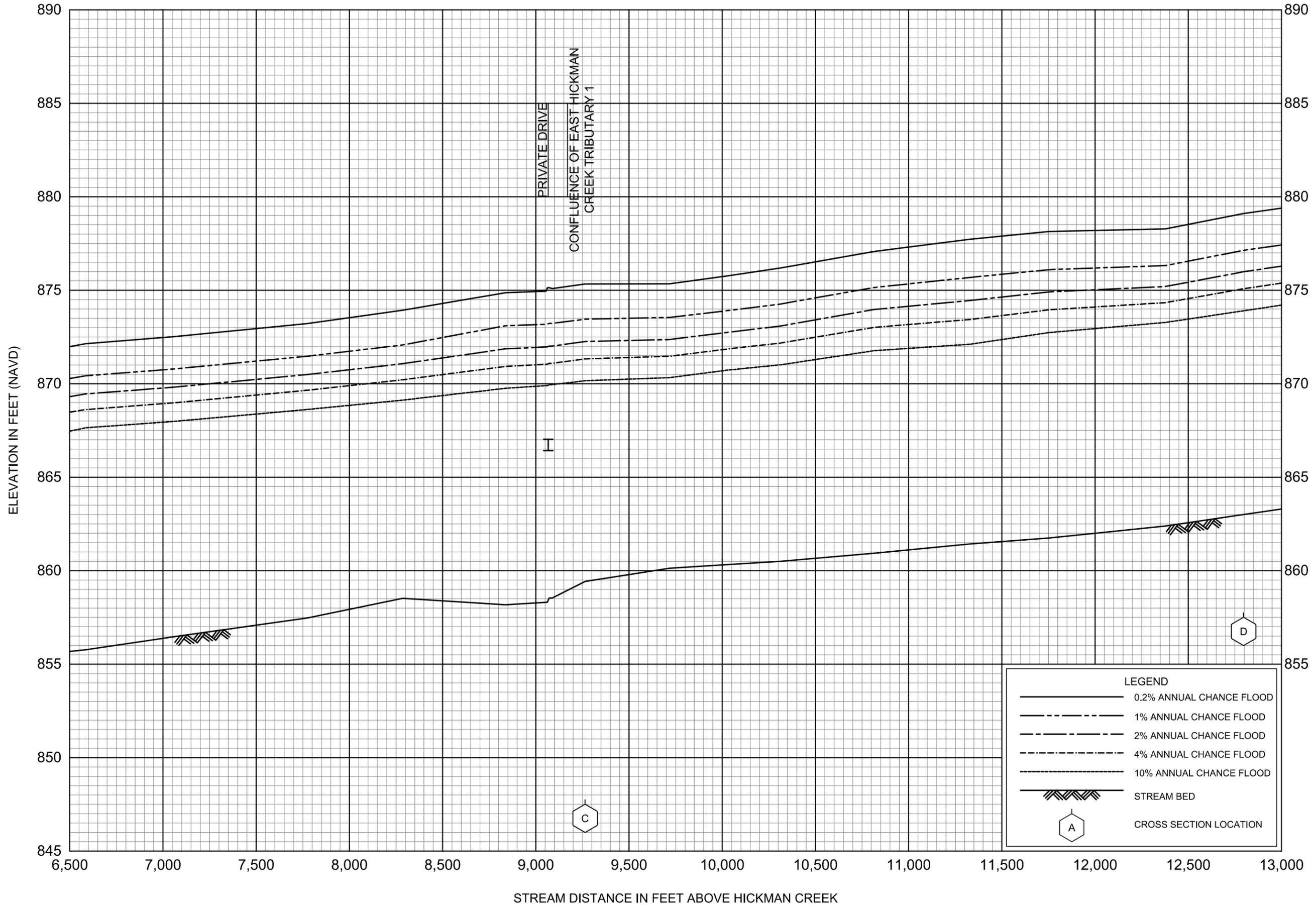
**Table 33: Bibliography and References**

Citation in this FIS	Publisher/ Issuer	<i>Publication Title</i> , "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
USGS 2003	U.S. Geological Survey	"Estimating the Magnitude of Peak Flows for Streams in Kentucky for Selected Recurrence Intervals." Water Resources Investigations Report 03-4180, 68 p.	Hodgkins, G.A. and Martin, G.R.		2003	
Wilmore 1986	Federal Emergency Management Agency	Flood Insurance Study, City of Wilmore, Kentucky		Washington D.C.	5-Nov-86	



**FLOOD PROFILES**  
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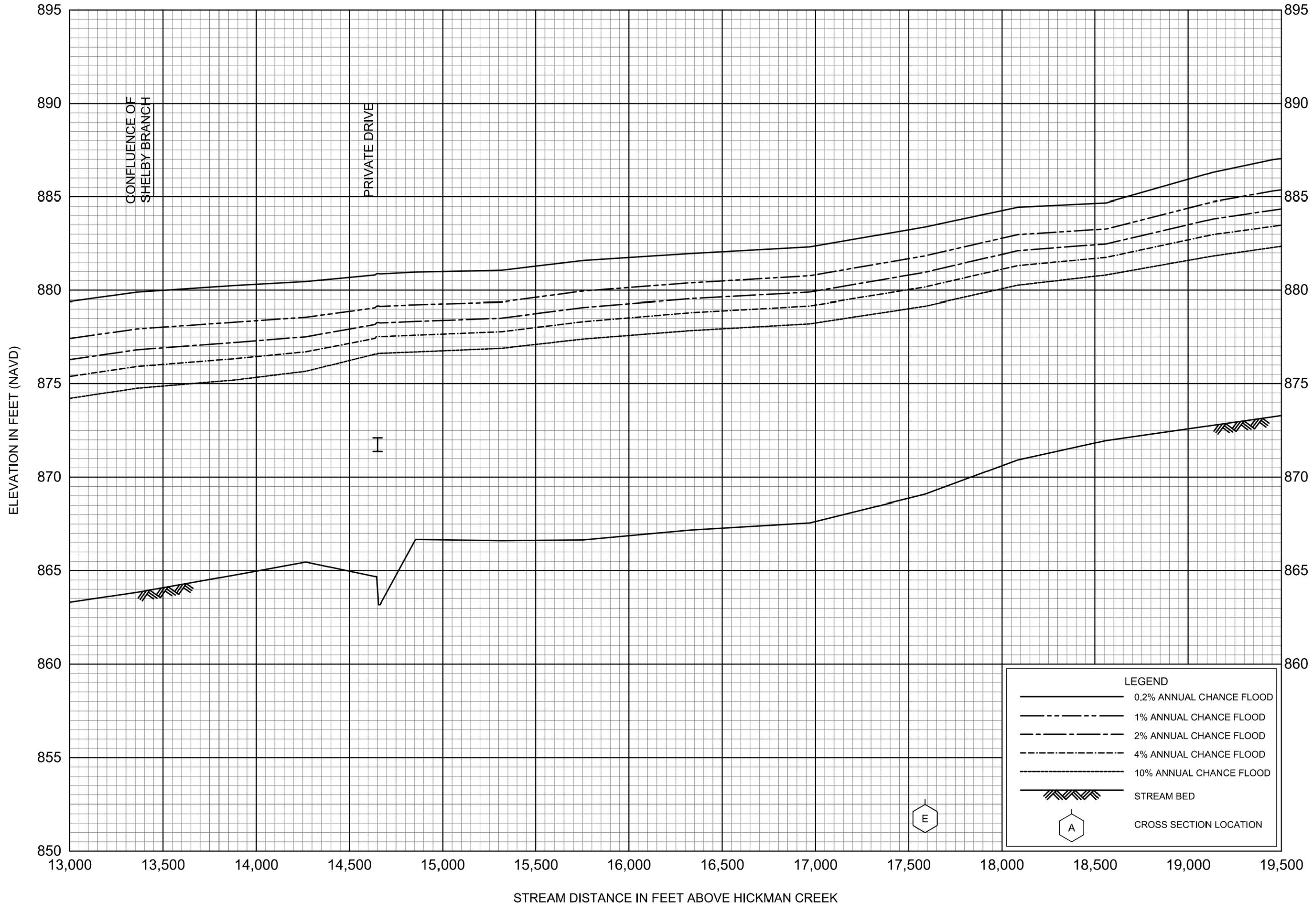
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**JESSAMINE COUNTY, KY**  
AND UNINCORPORATED AREAS



**FLOOD PROFILES**

**EAST HICKMAN CREEK**

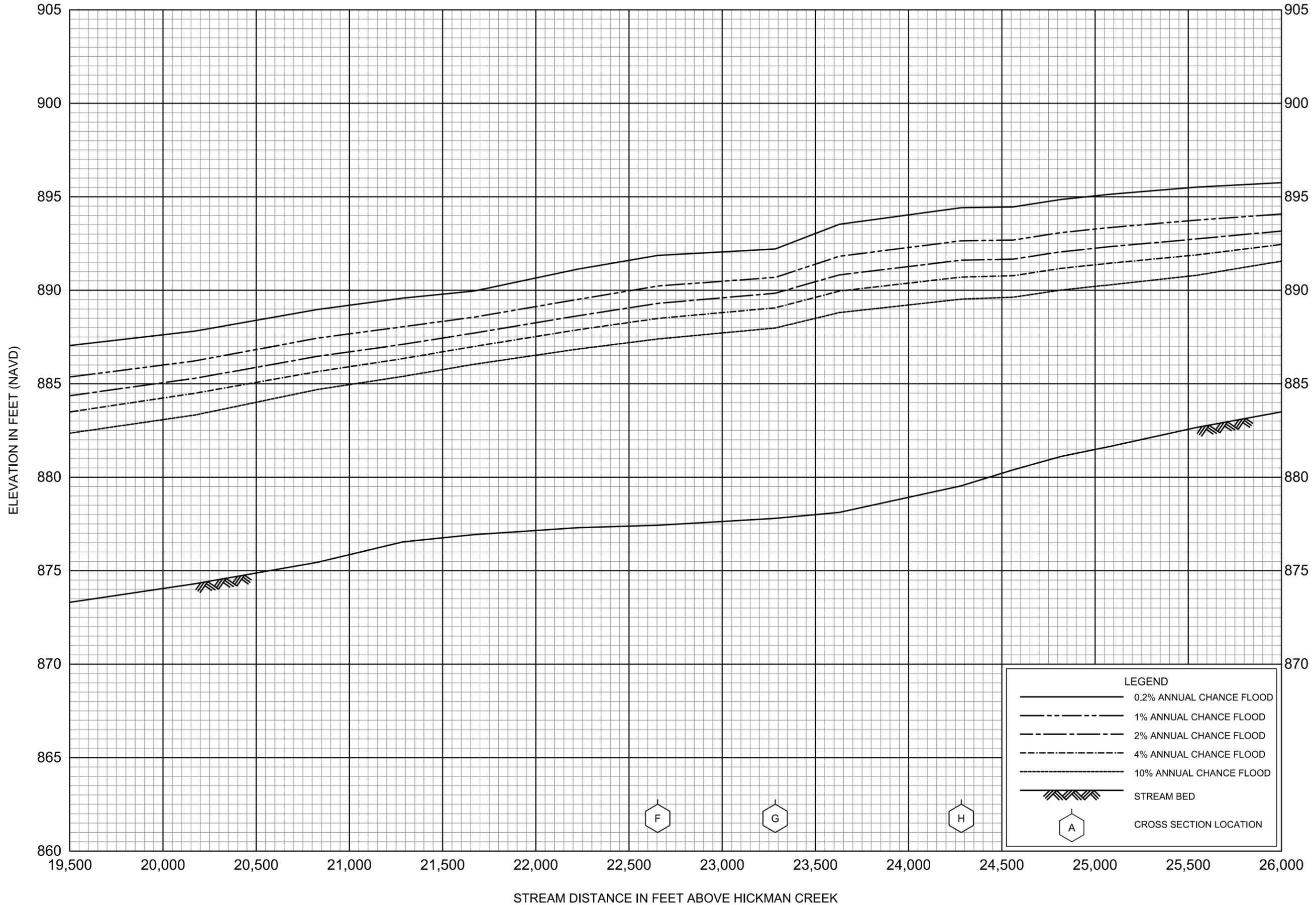
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 AND UNINCORPORATED AREAS



**FLOOD PROFILES**

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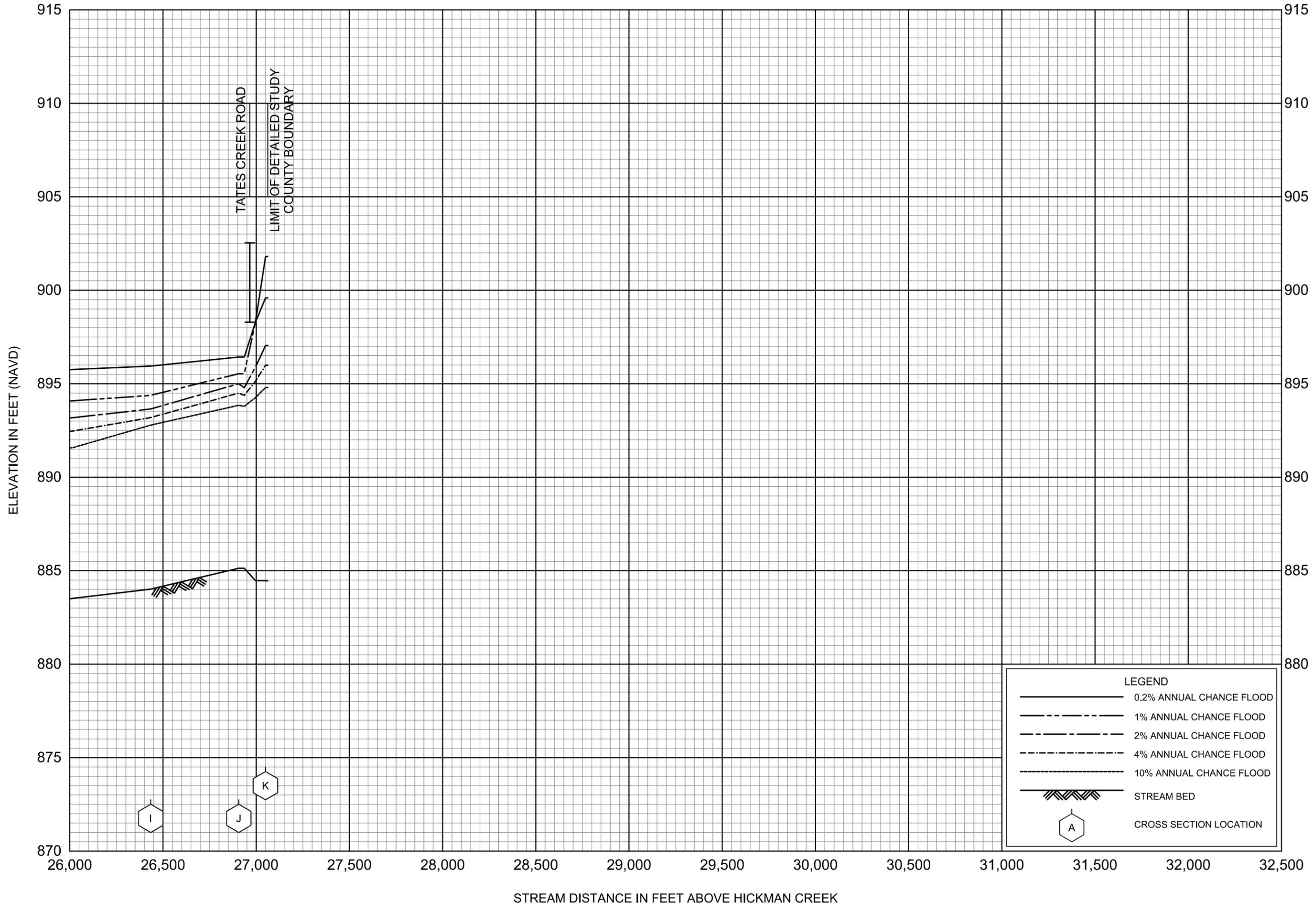
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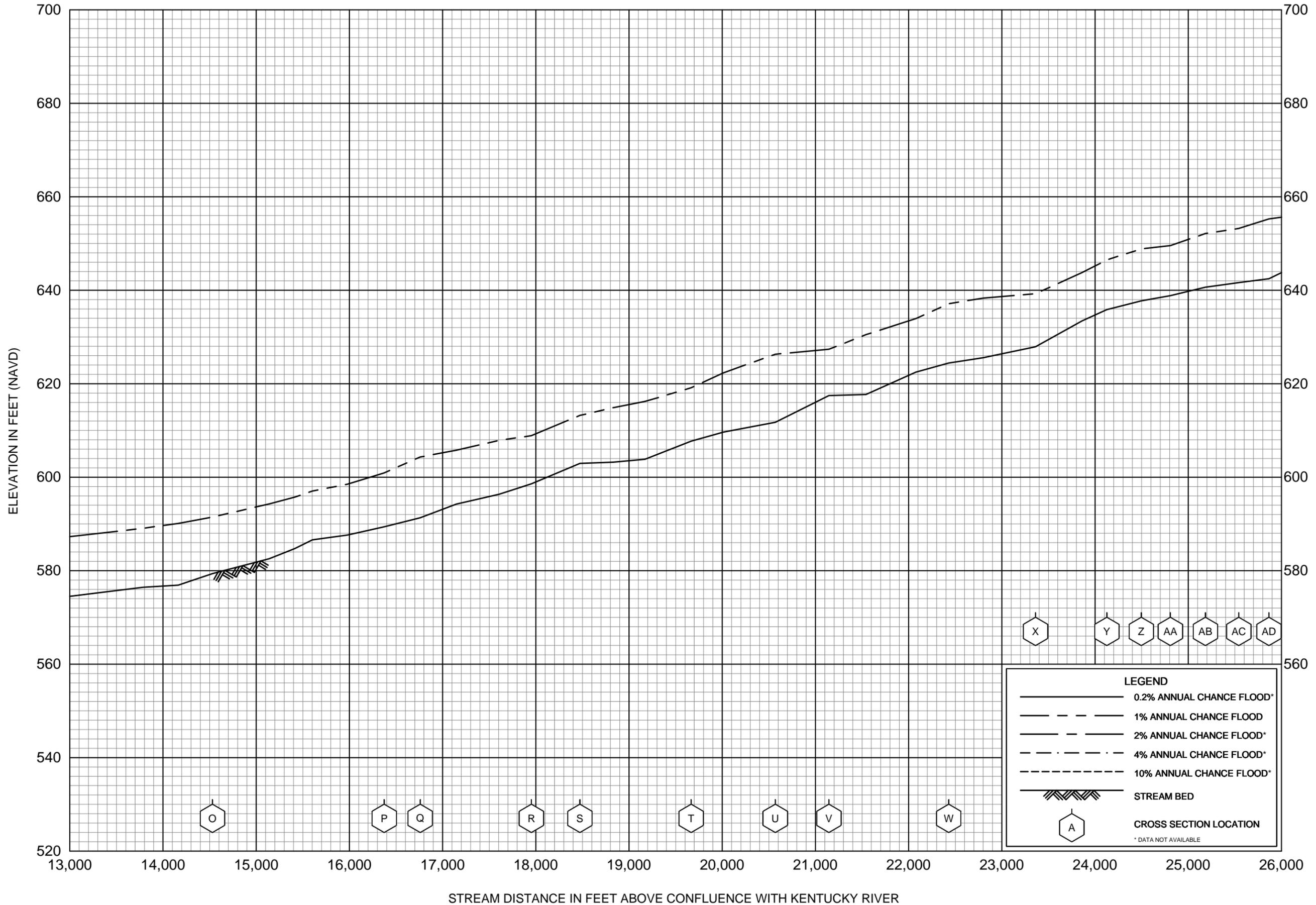
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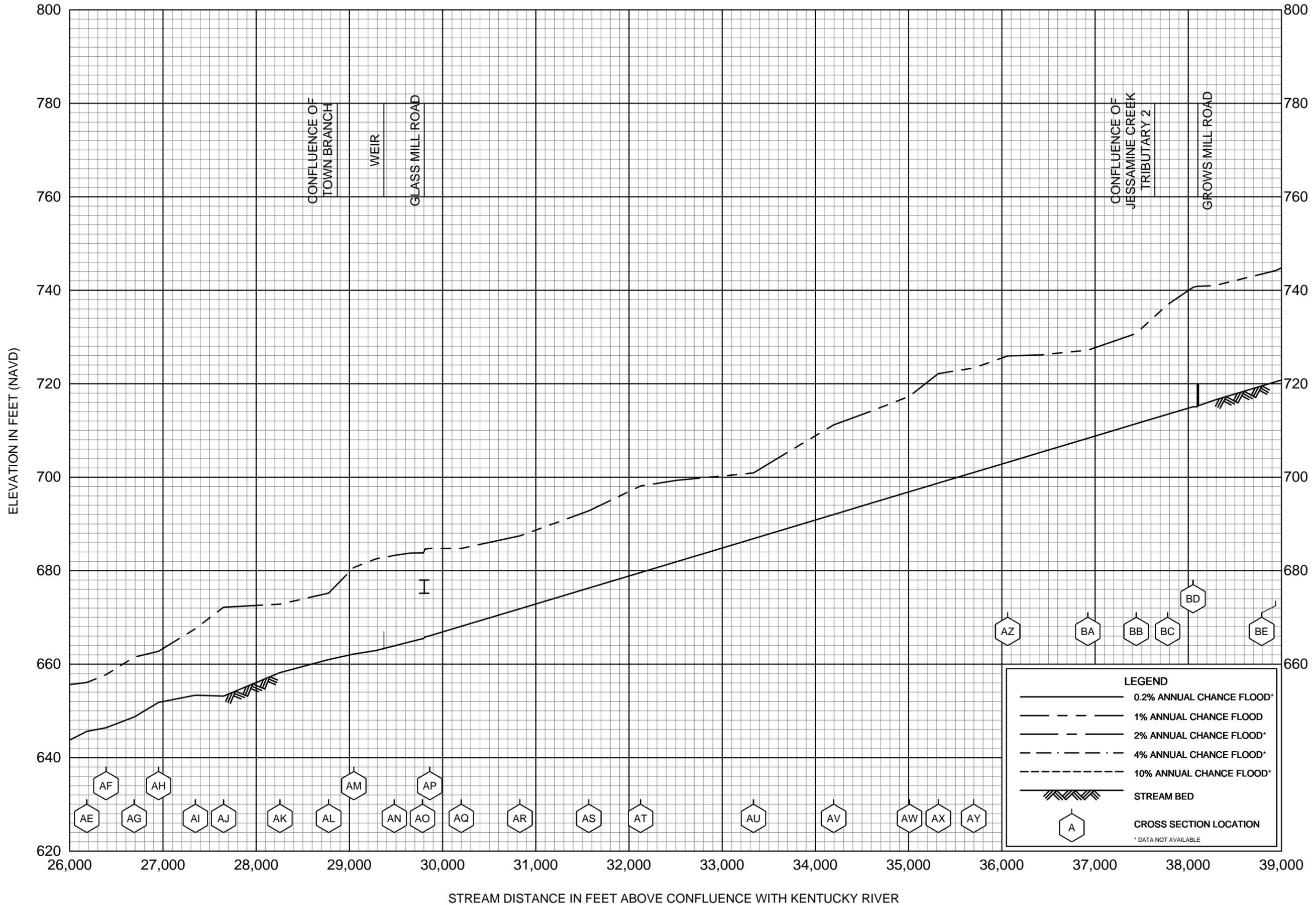
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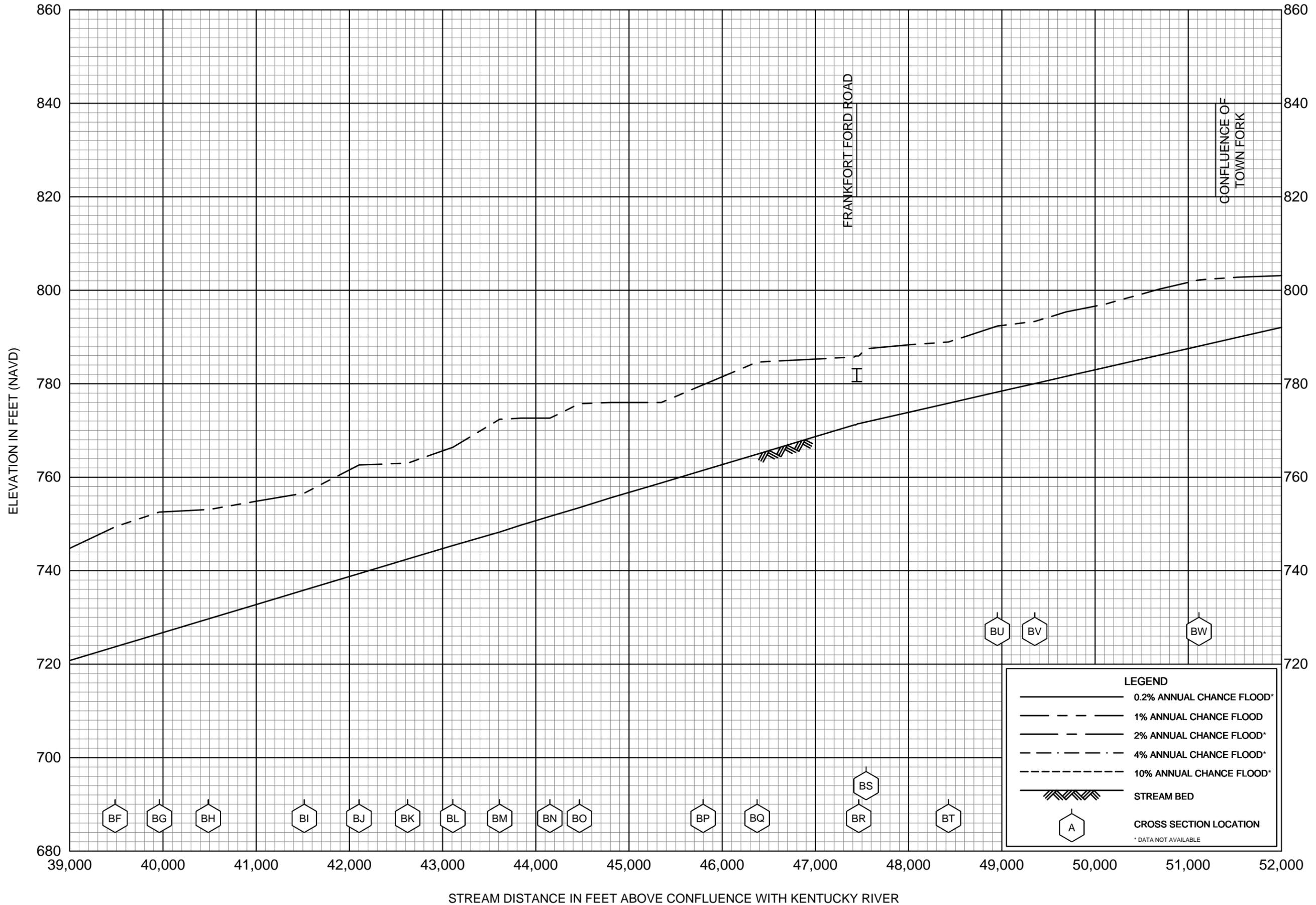
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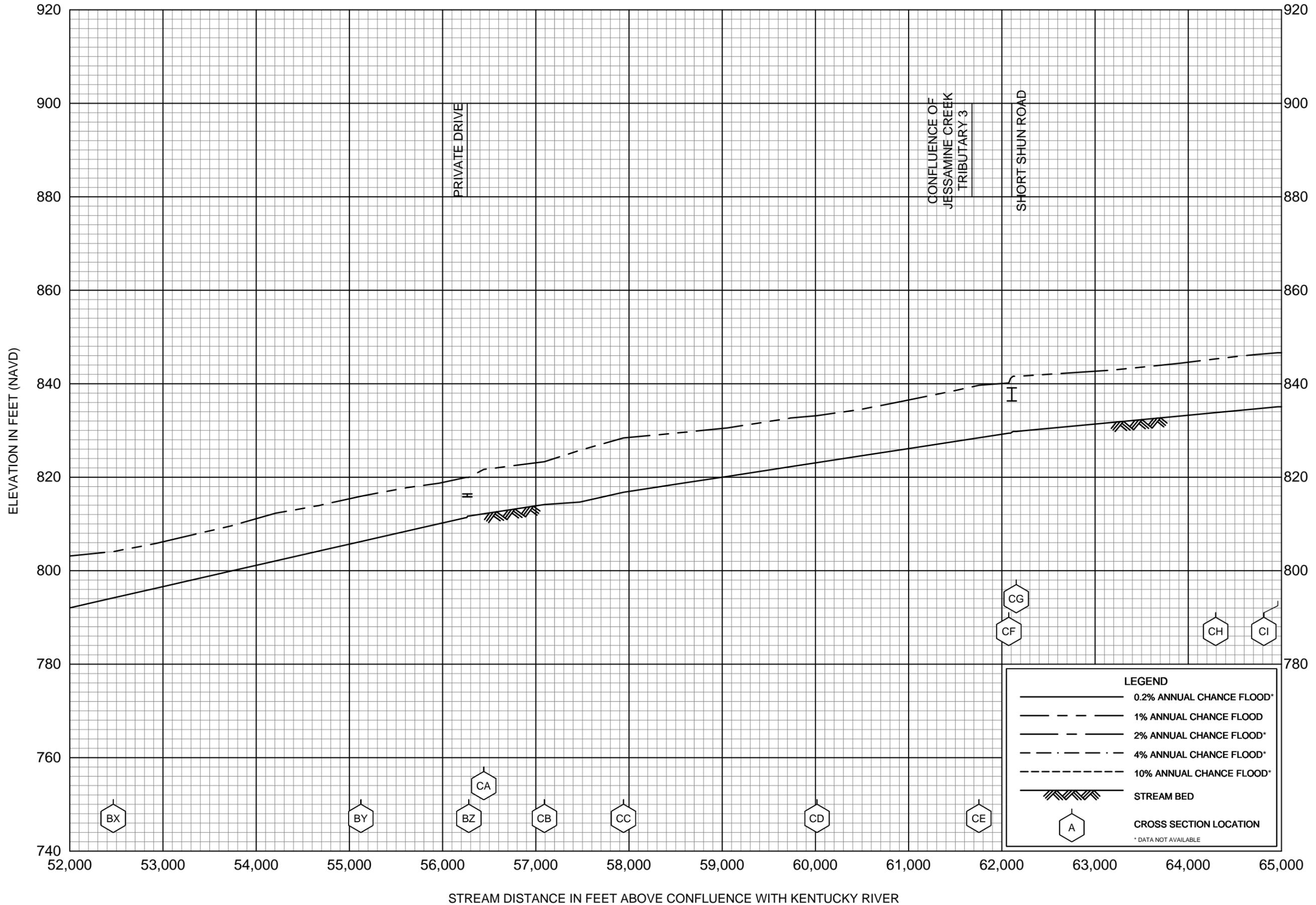
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JESSAMINE CREEK

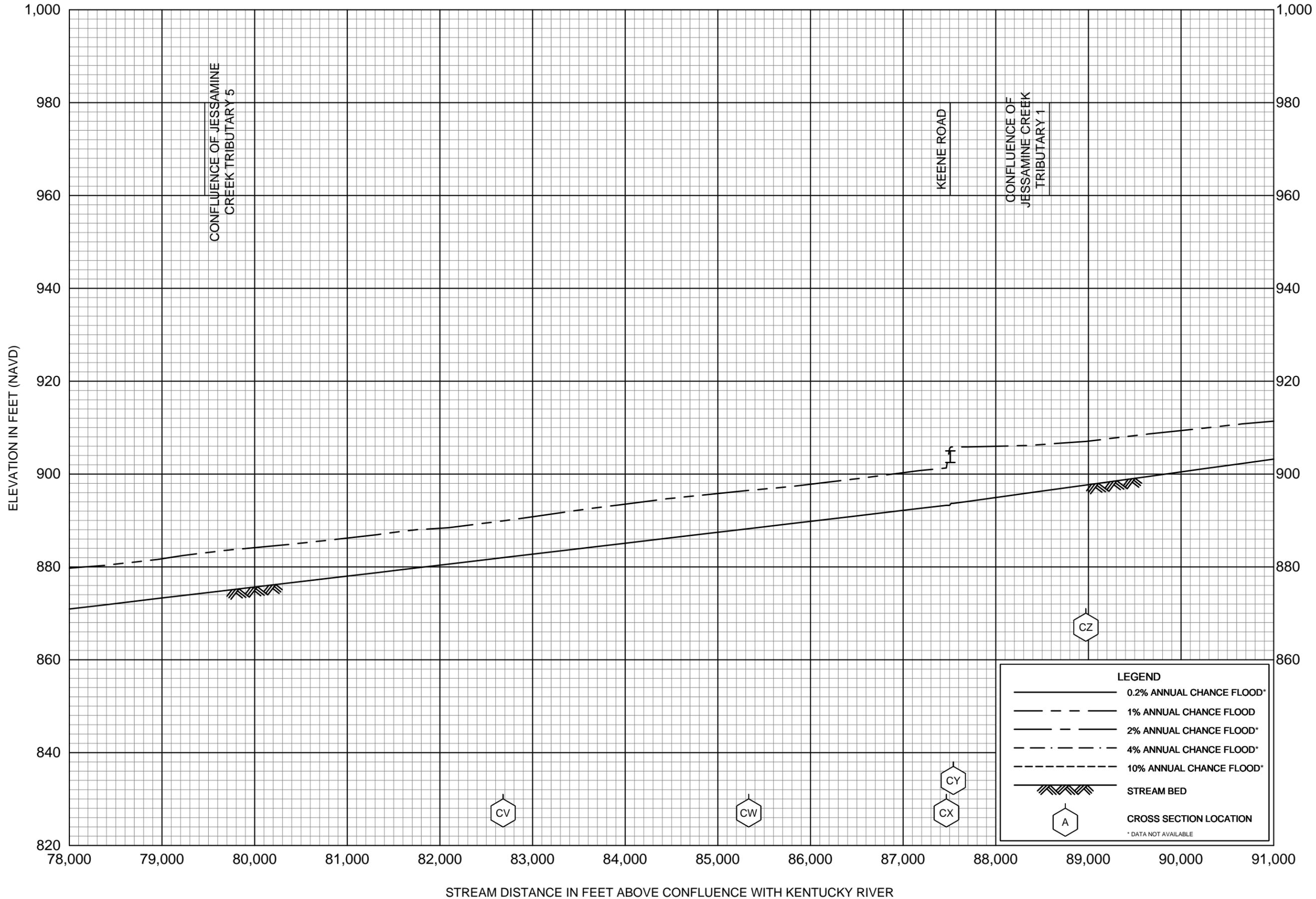
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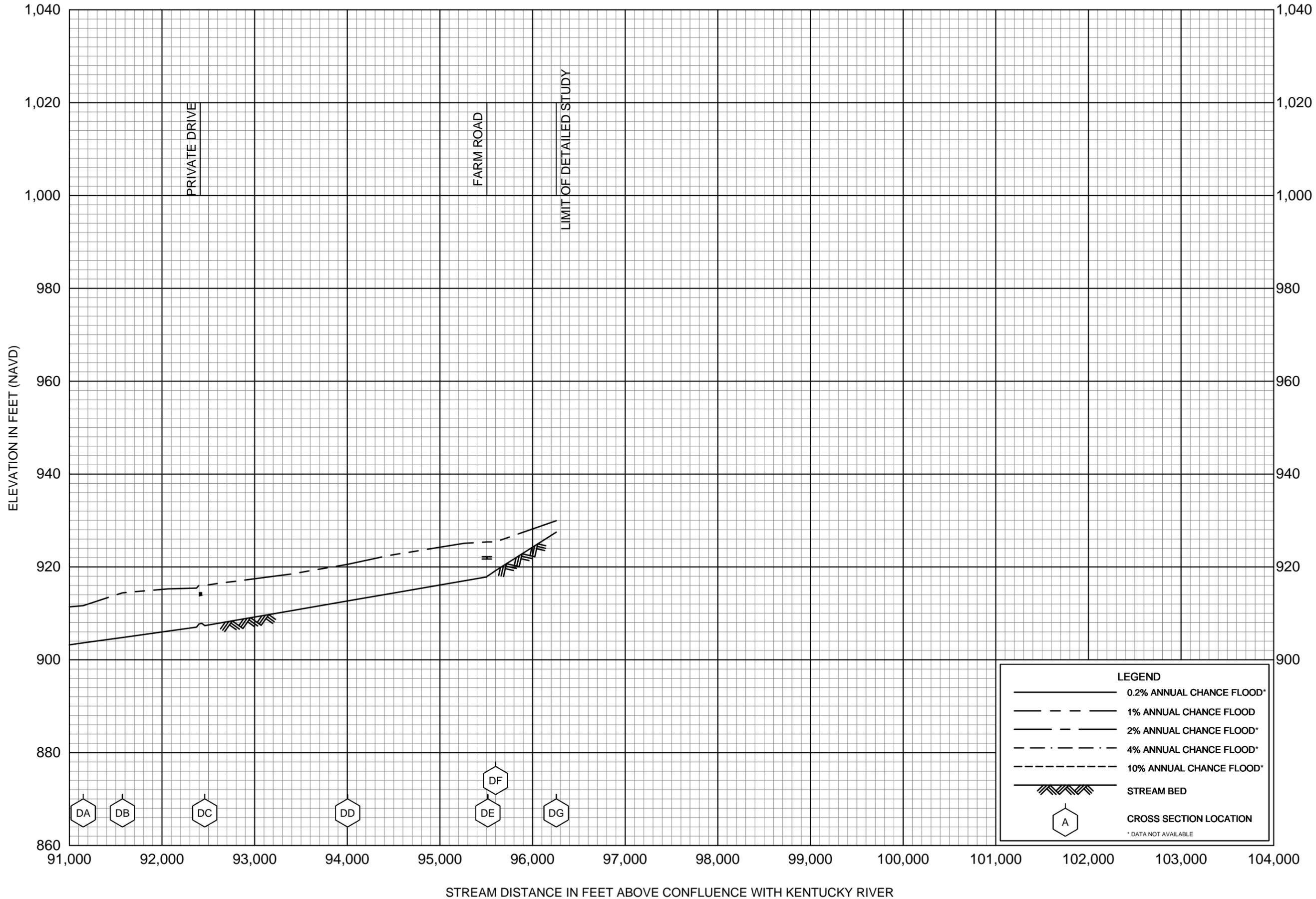
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**FLOOD PROFILES**  
JESSAMINE CREEK

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**JESSAMINE COUNTY, KENTUCKY**  
AND INCORPORATED AREAS



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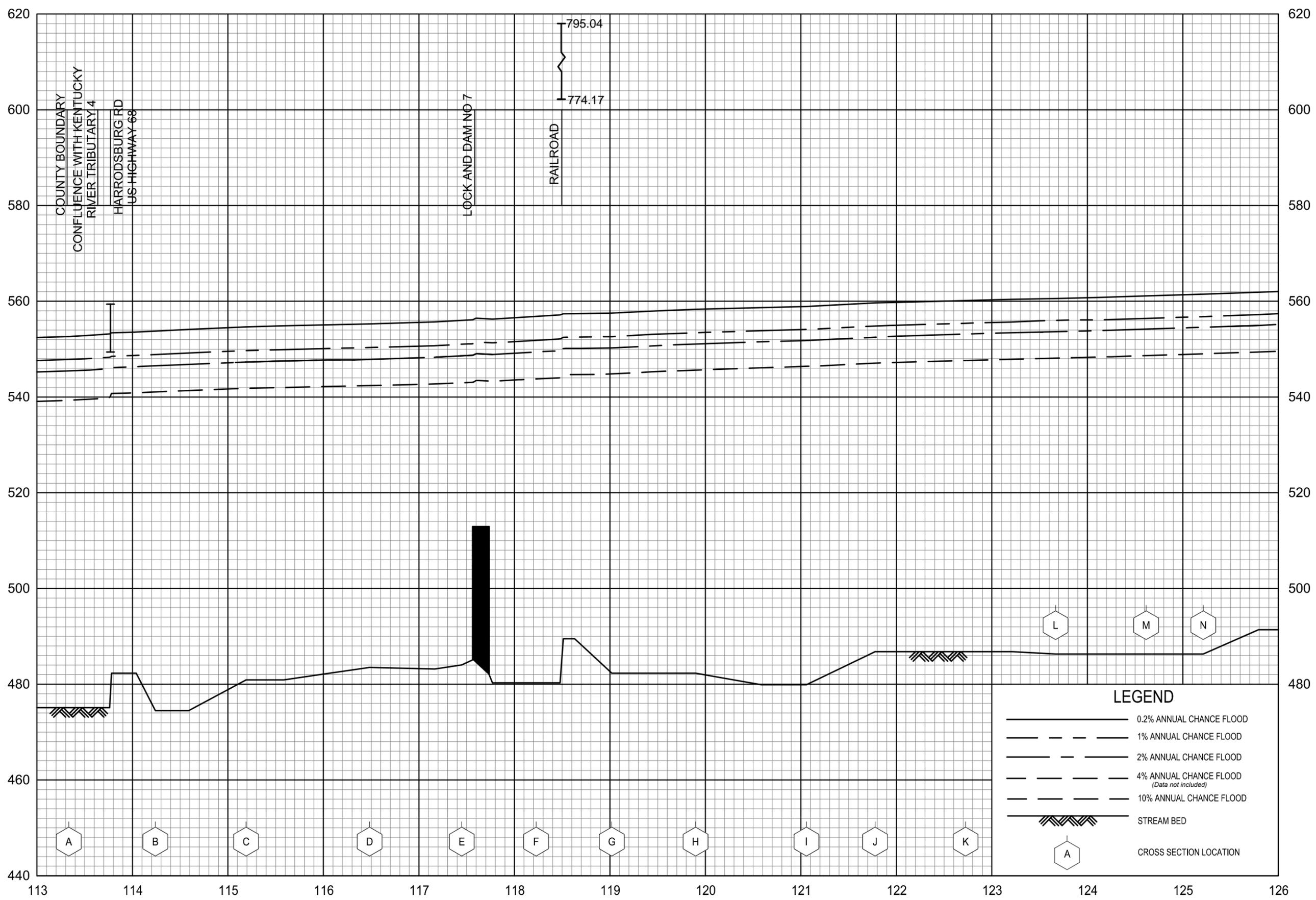
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FEDERAL EMERGENCY MANAGEMENT AGENCY

JESSAMINE COUNTY, KENTUCKY

AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD)



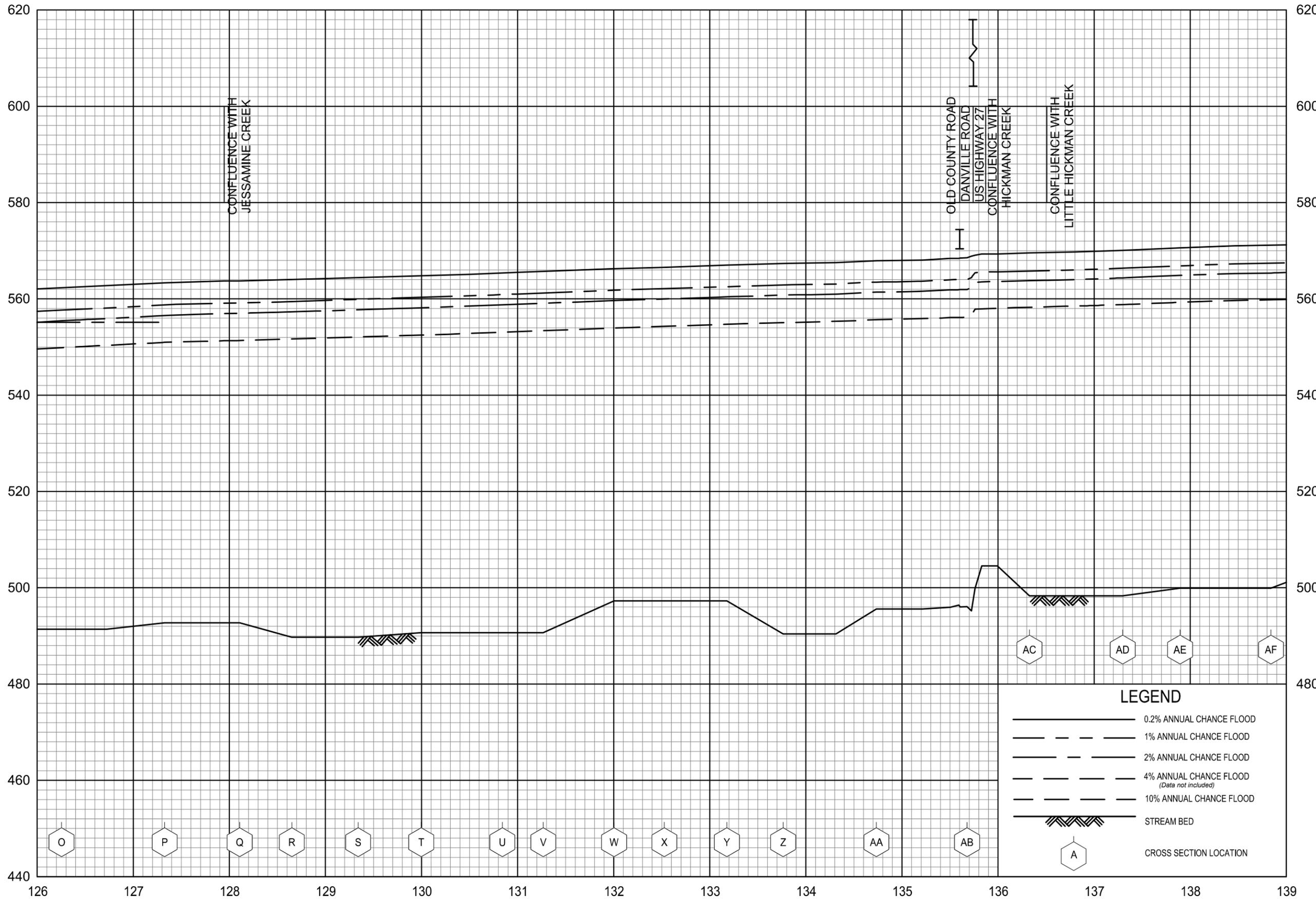
FLOOD PROFILES

KENTUCKY RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

JESSAMINE COUNTY, KY  
AND INCORPORATED AREAS

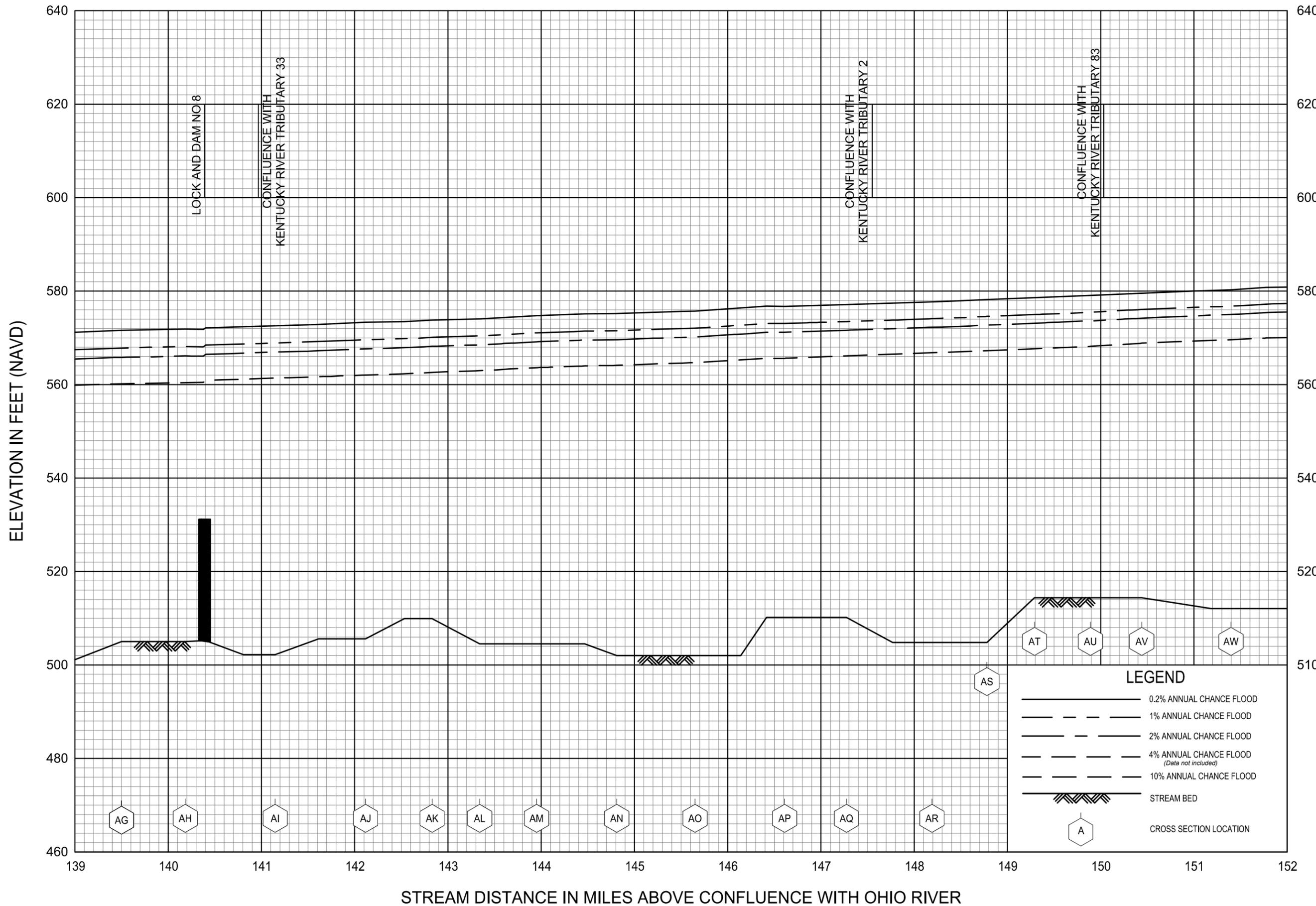
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STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH OHIO RIVER

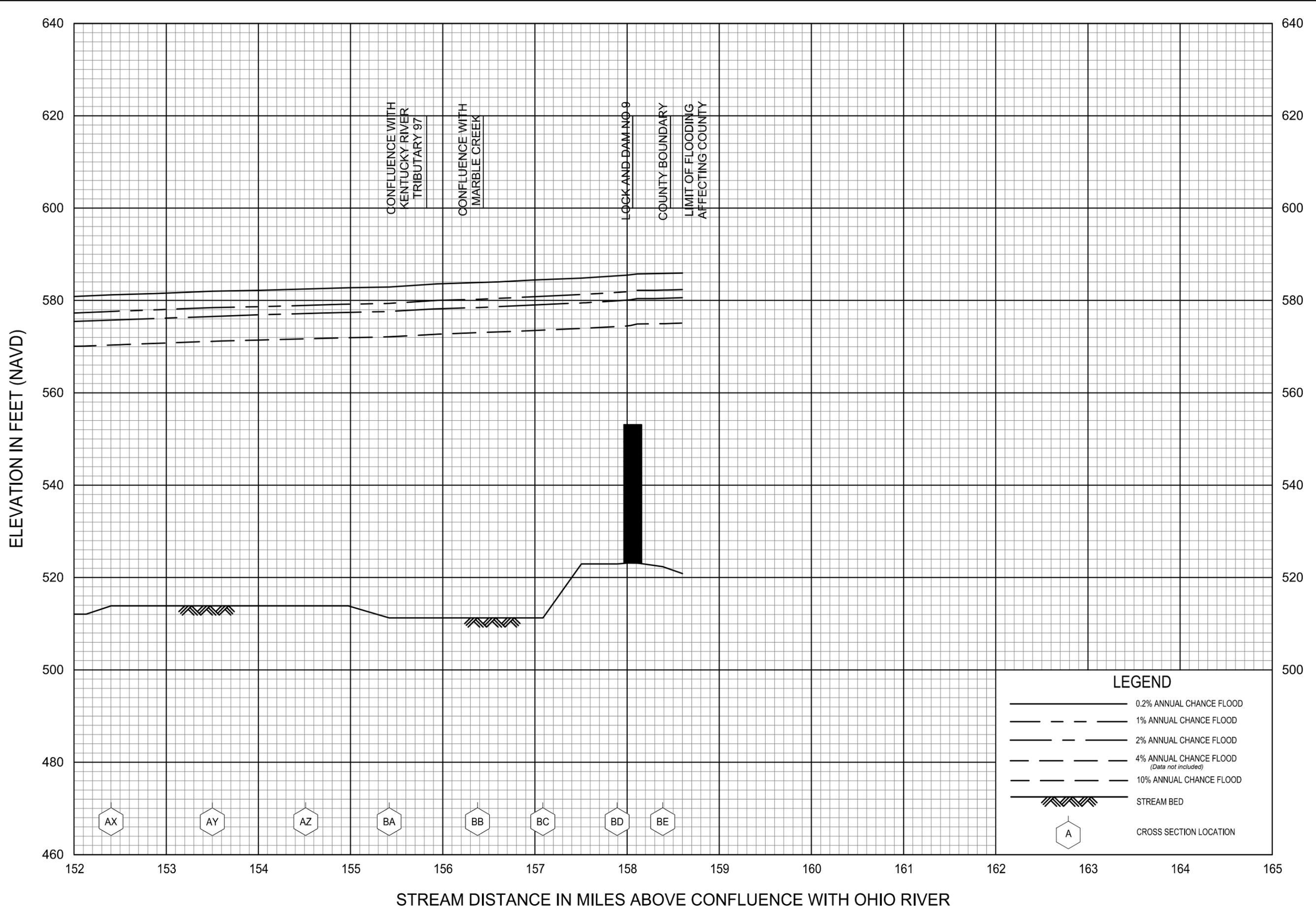
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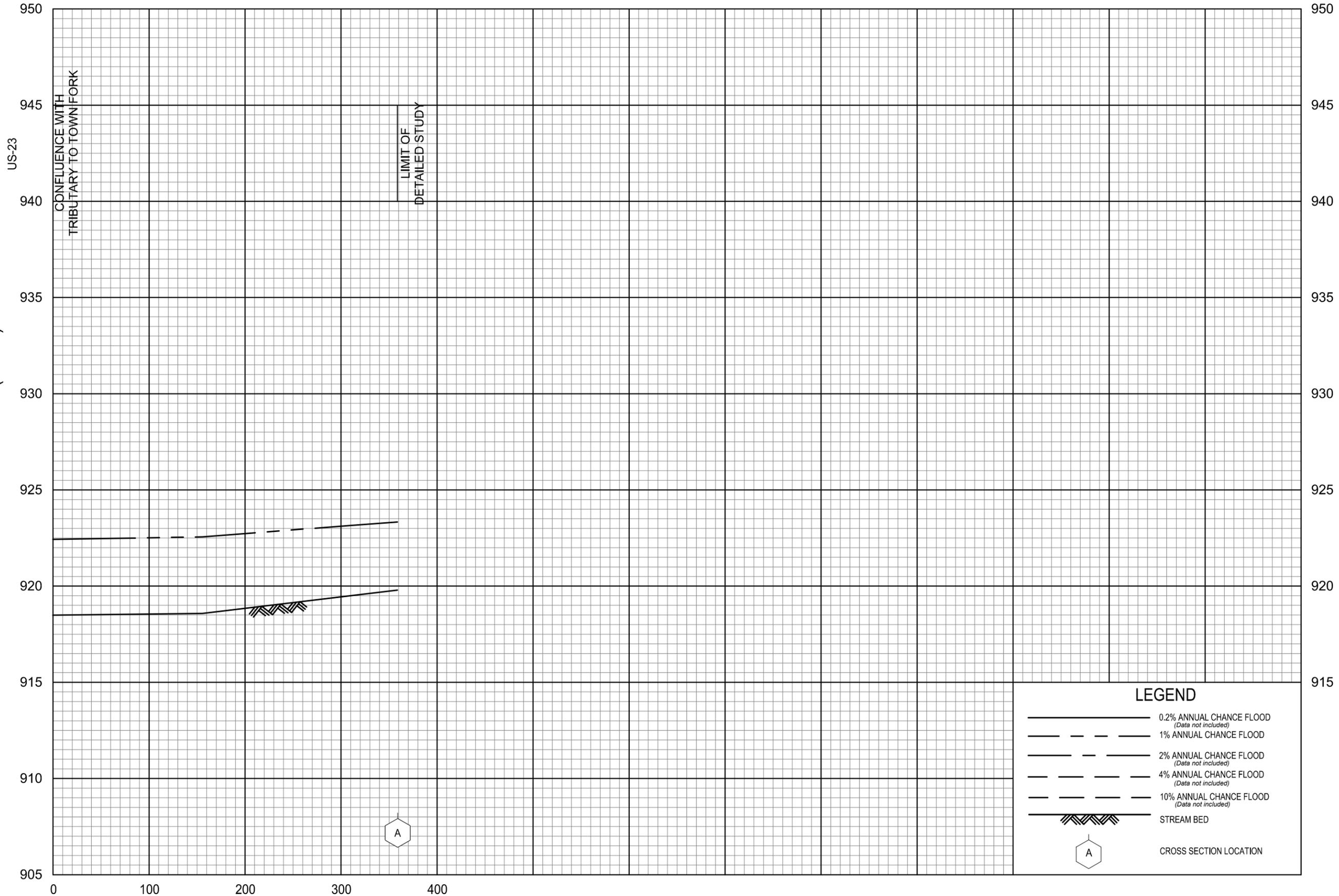


FLOOD PROFILES  
KENTUCKY RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY  
JESSAMINE COUNTY, KY  
AND INCORPORATED AREAS



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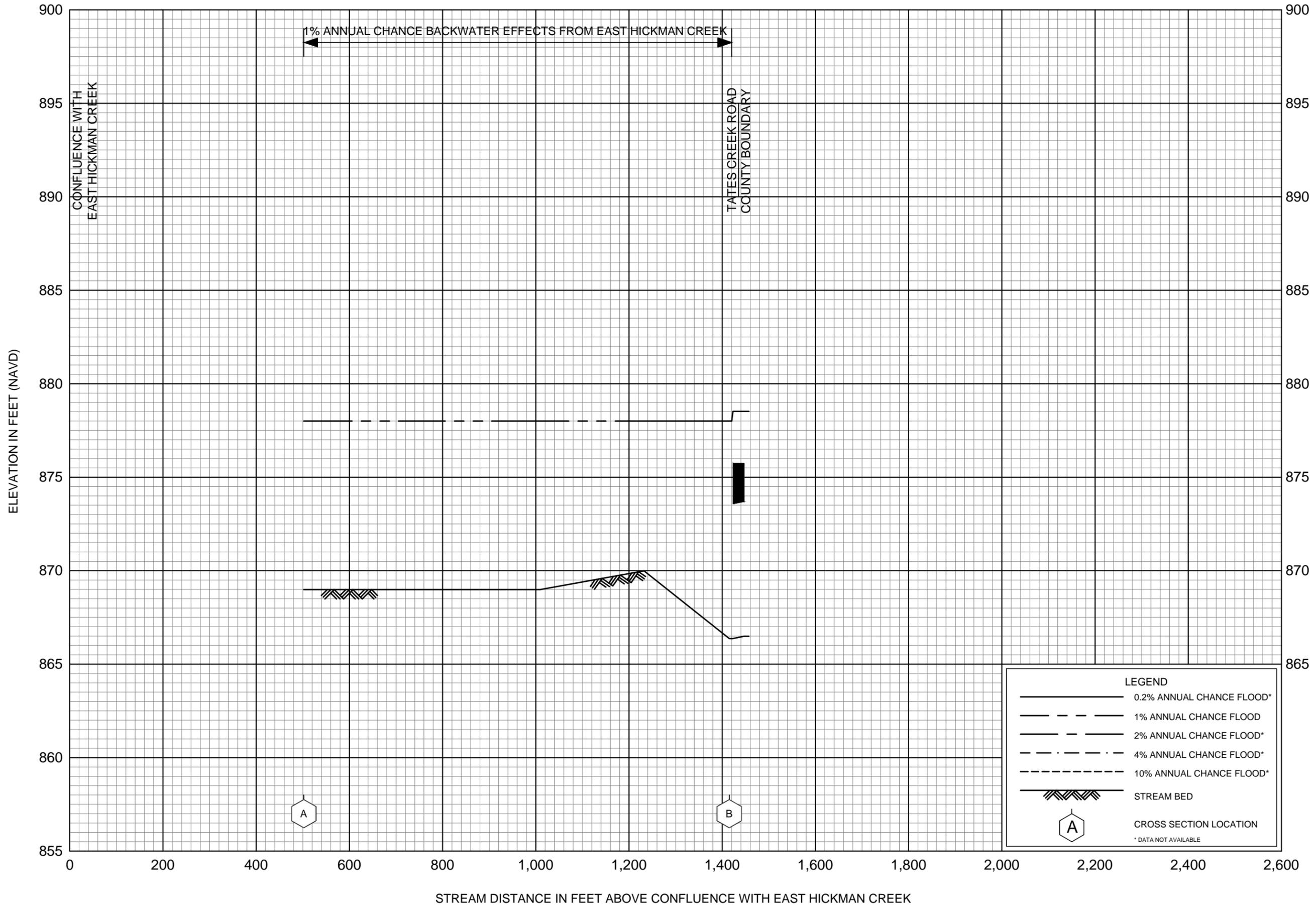


STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH TRIBUTARY TO TOWN FORK

FLOOD PROFILES

LEFT BRANCH TRIBUTARY TO TOWN FORK

FEDERAL EMERGENCY MANAGEMENT AGENCY  
JESSAMINE COUNTY, KY  
AND INCORPORATED AREAS



**FLOOD PROFILES**

**SHELBY BRANCH**

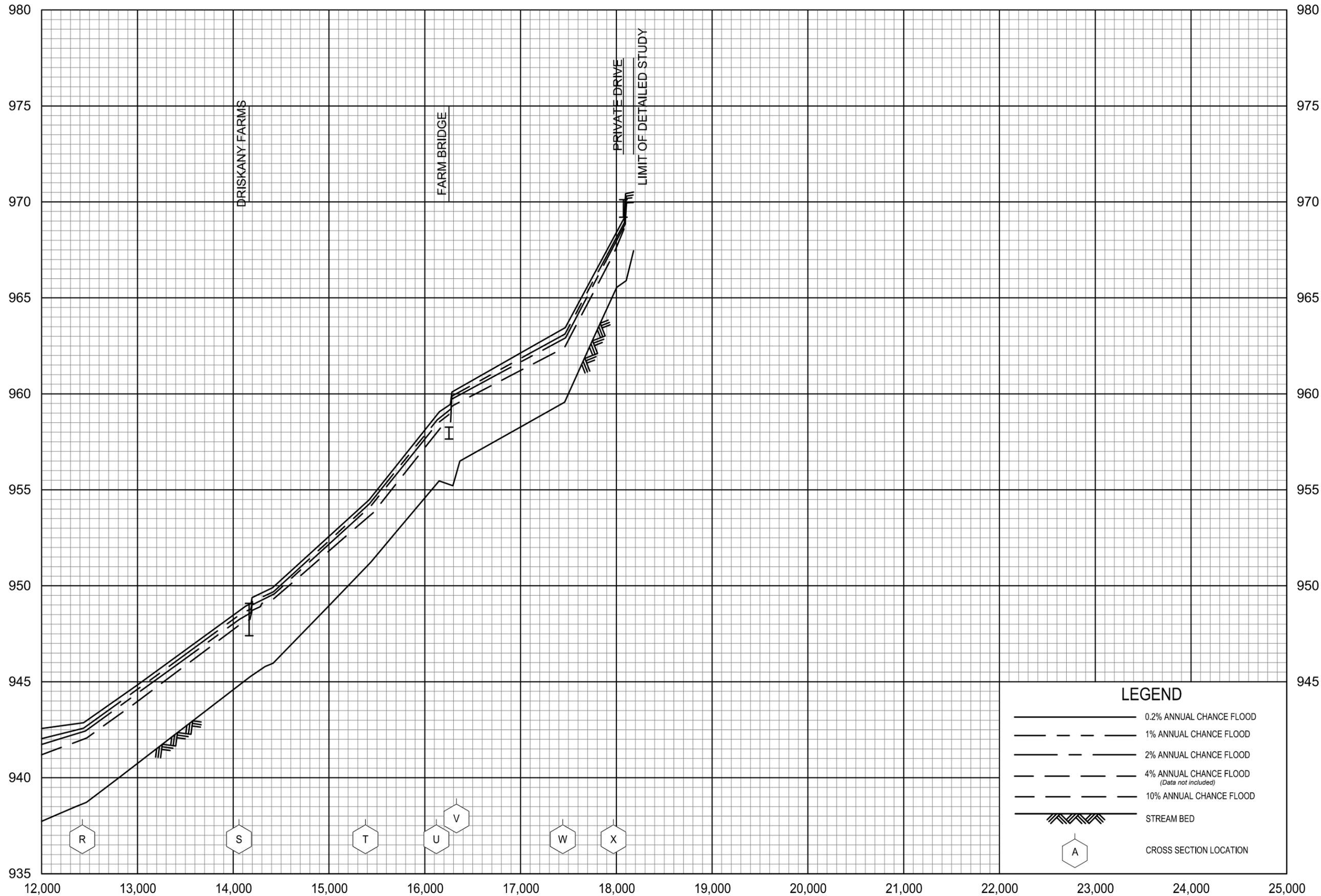
FEDERAL EMERGENCY MANAGEMENT AGENCY

**JESSAMINE COUNTY, KY**

AND INCORPORATED AREAS



ELEVATION IN FEET (NAVD)



LEGEND

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- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 4% ANNUAL CHANCE FLOOD  
*(Data not included)*
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

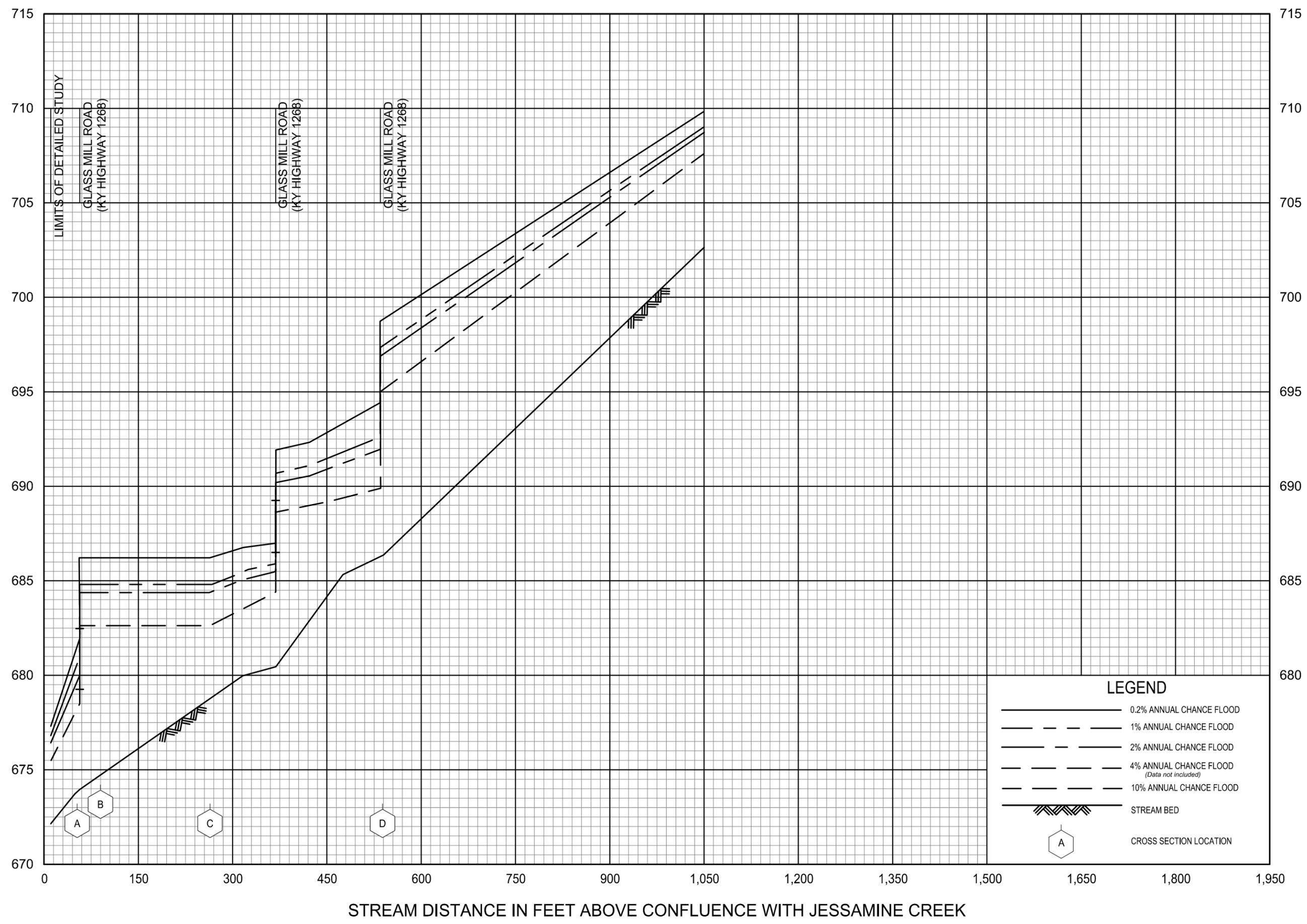
FLOOD PROFILES

SINKING CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JESSAMINE COUNTY, KY  
AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD)



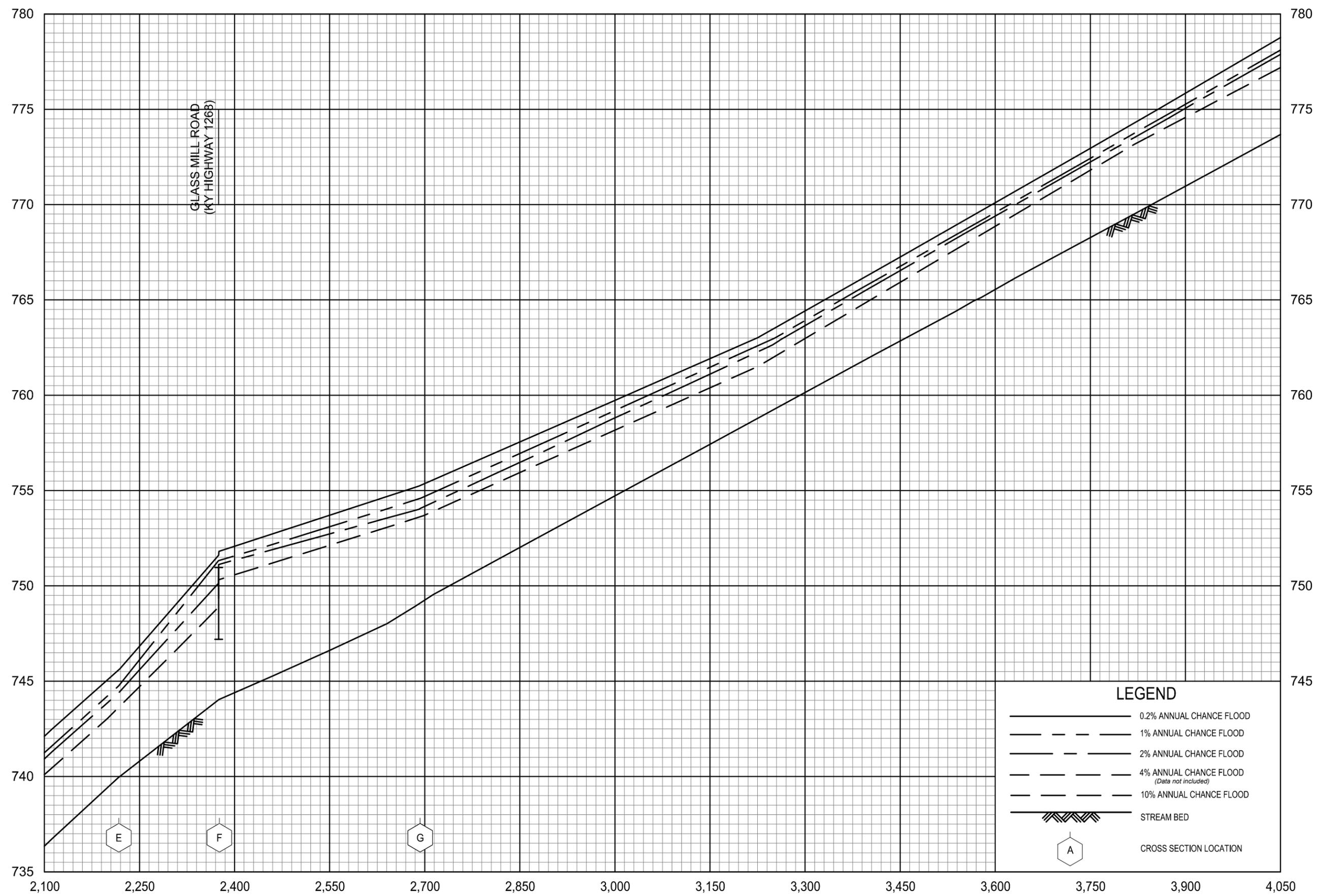
FLOOD PROFILES

TOWN BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY  
JESSAMINE COUNTY, KY  
AND INCORPORATED AREAS



ELEVATION IN FEET (NAVD)



**LEGEND**

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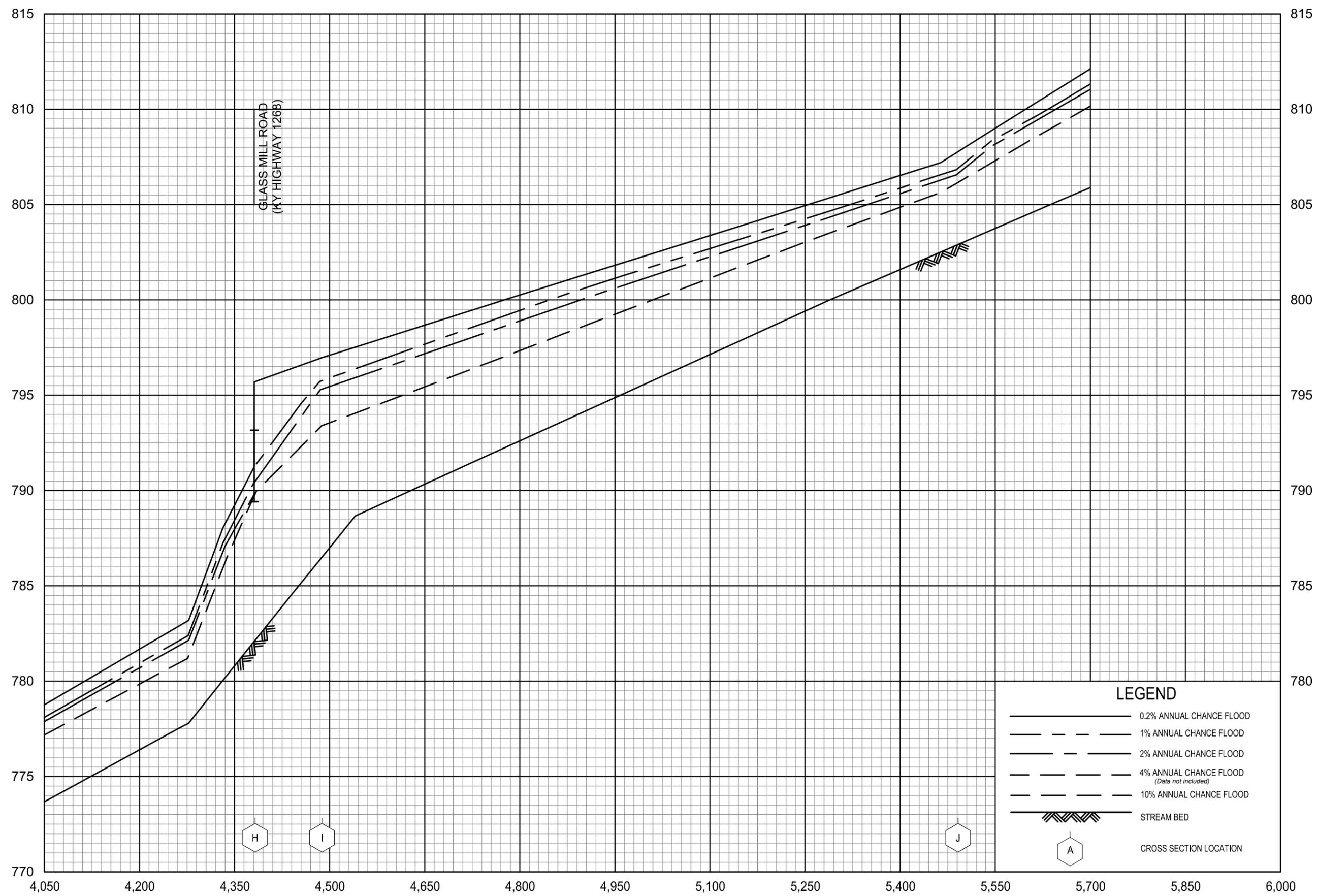
FLOOD PROFILES

TOWN BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

JESSAMINE COUNTY, KY  
AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD)



**LEGEND**

- 0.2% ANNUAL CHANCE FLOOD
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*(Data not included)*
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH JESSAMINE CREEK

FLOOD PROFILES

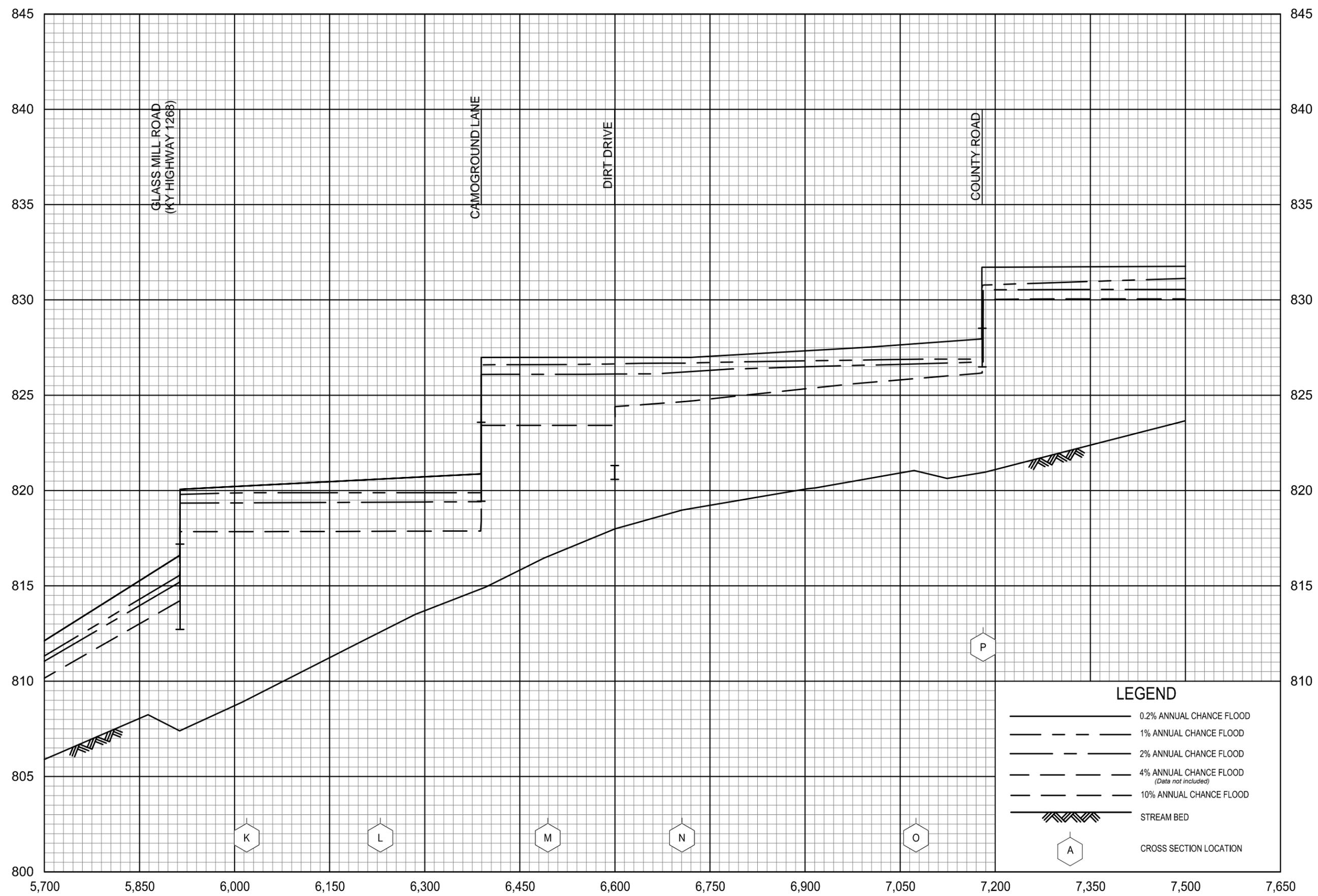
TOWN BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

JESSAMINE COUNTY, KY  
AND INCORPORATED AREAS

25P

ELEVATION IN FEET (NAVD)



**LEGEND**

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*(Data not included)*
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- CROSS SECTION LOCATION

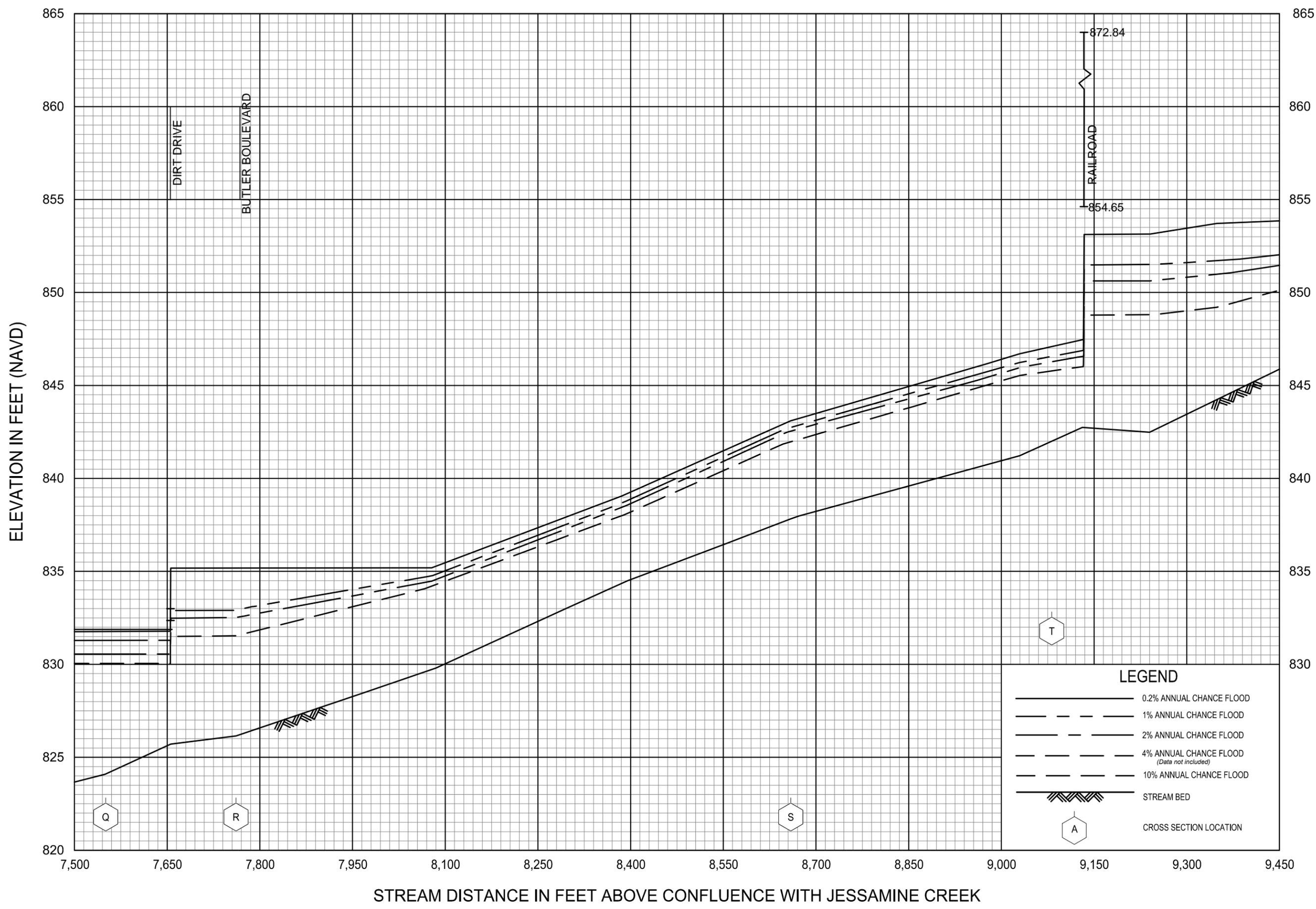
FLOOD PROFILES

TOWN BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

JESSAMINE COUNTY, KY  
AND INCORPORATED AREAS

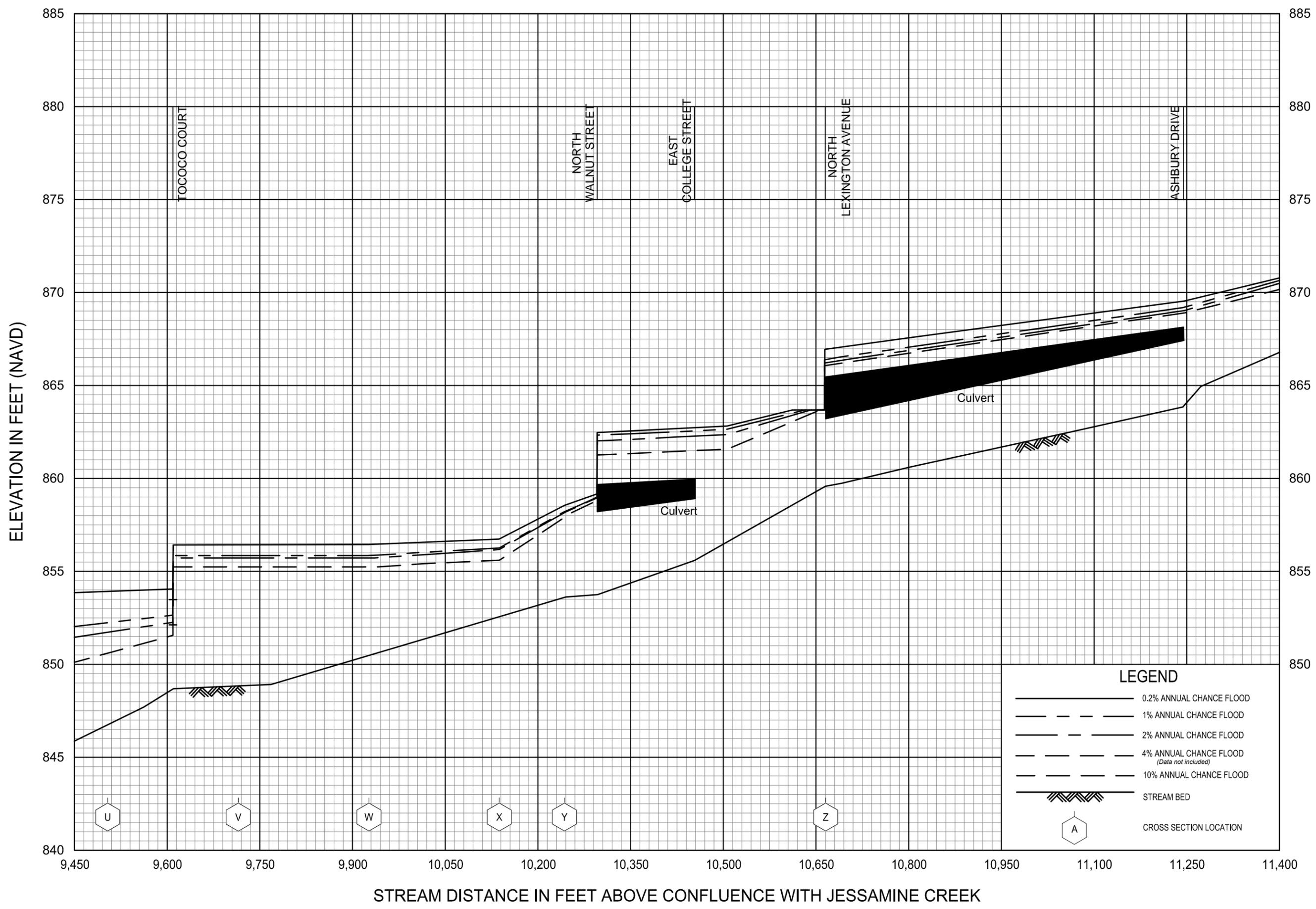
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FLOOD PROFILES

TOWN BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY  
 JESSAMINE COUNTY, KY  
 AND INCORPORATED AREAS



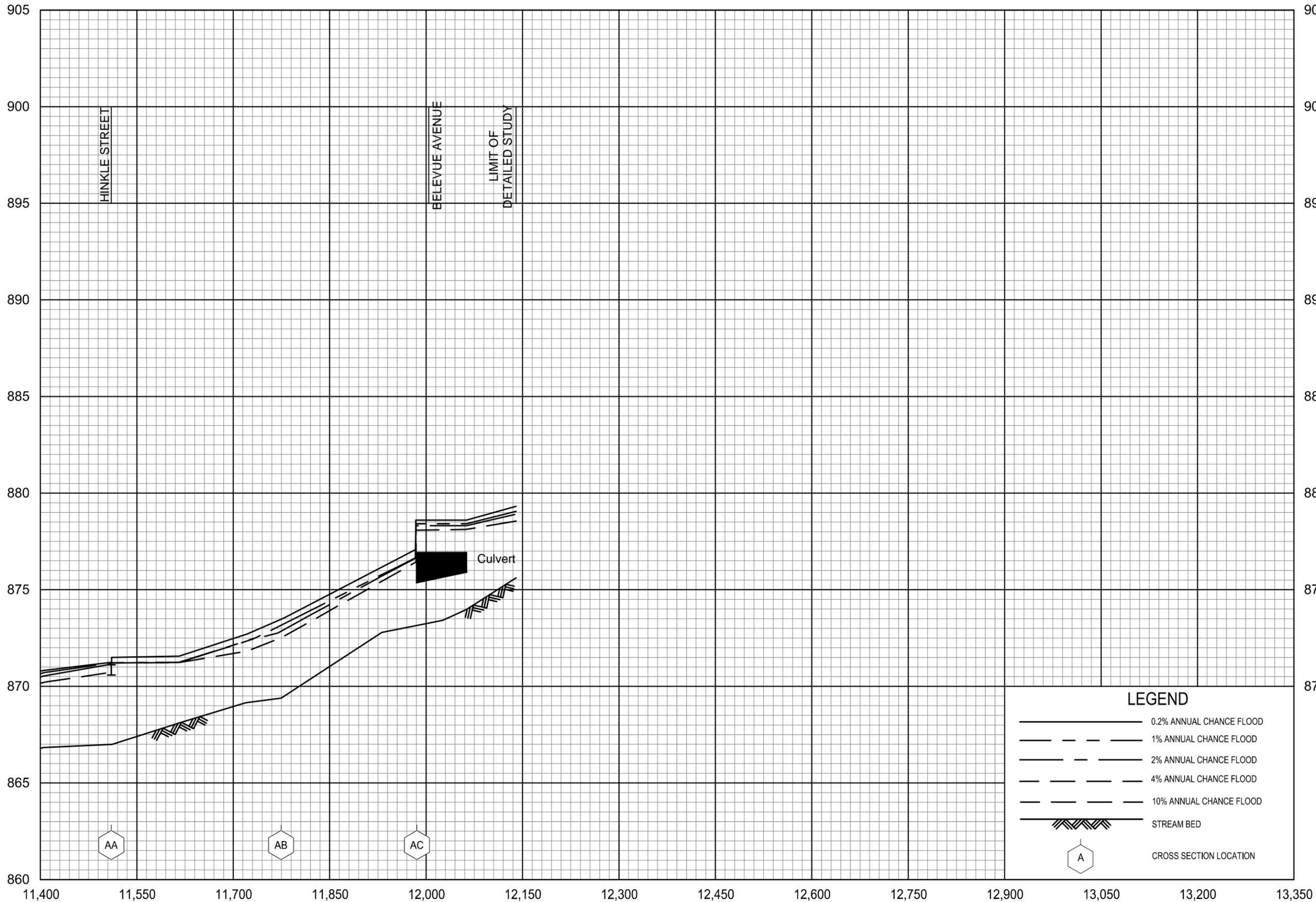
FLOOD PROFILES

TOWN BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

JESSAMINE COUNTY, KY  
AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD)



HINKLE STREET

BELEVUE AVENUE

LIMIT OF  
DETAILED STUDY

Culvert

AA

AB

AC

A

LEGEND

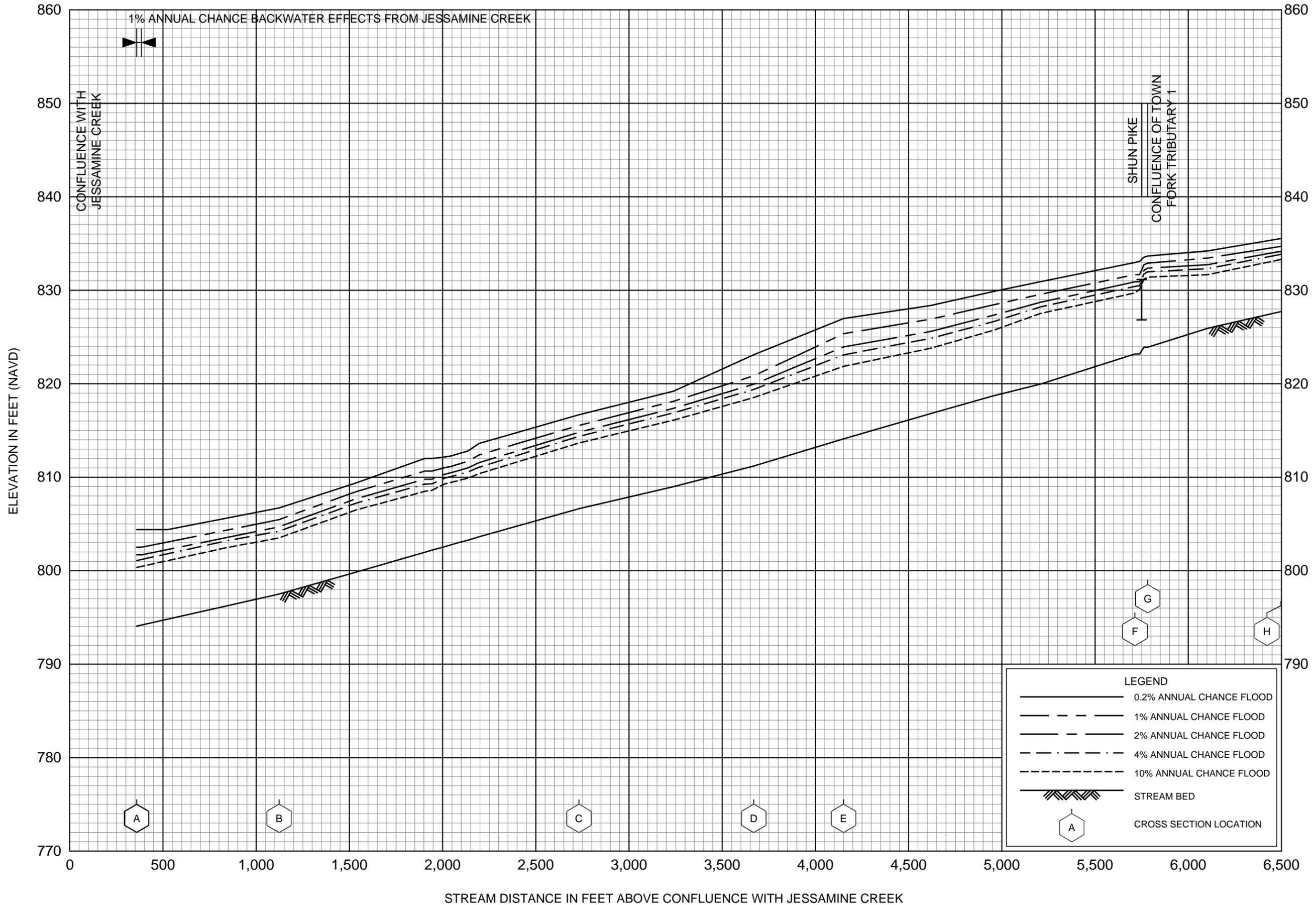
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- STREAM BED
- CROSS SECTION LOCATION

FLOOD PROFILES

TOWN BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

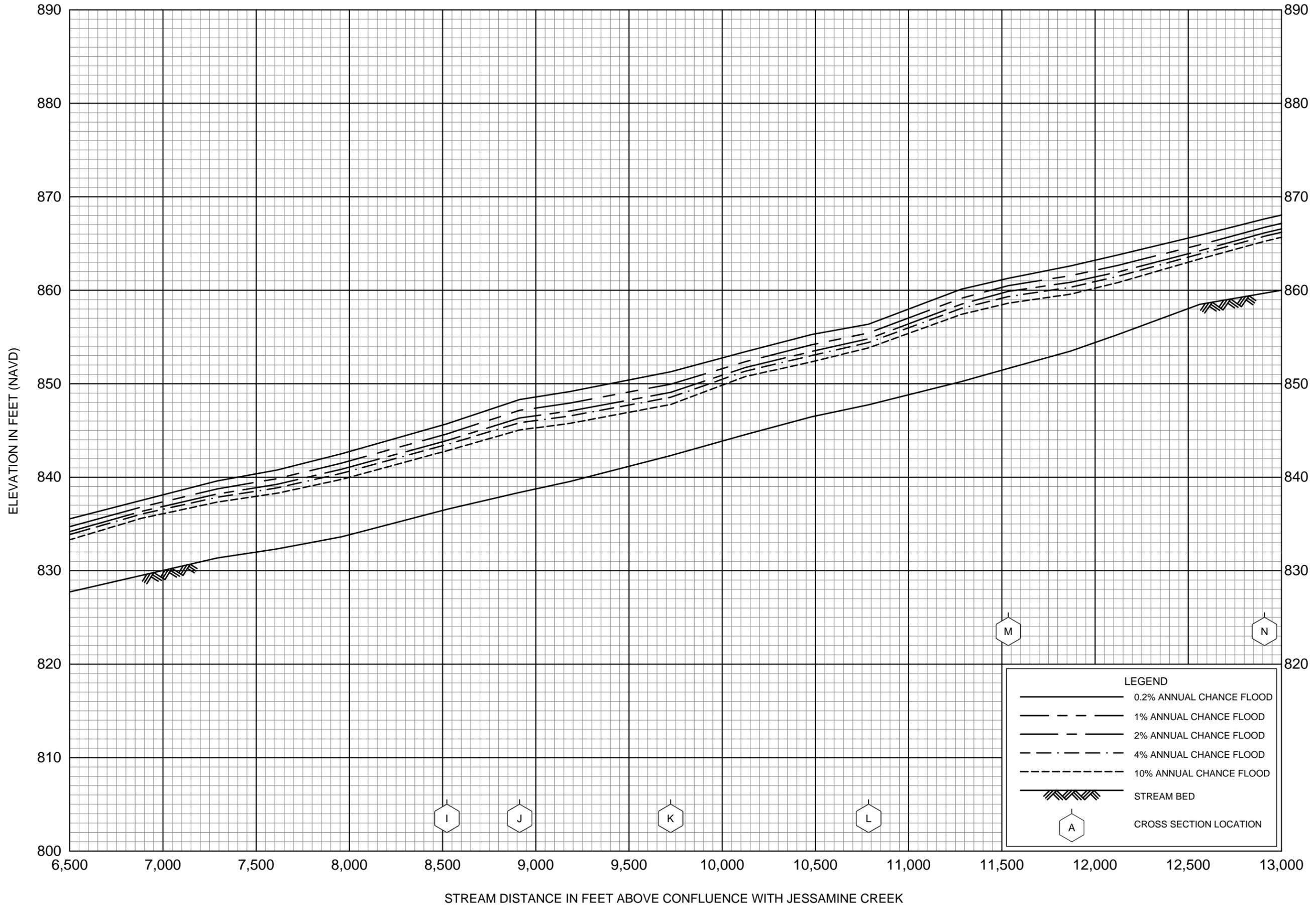
JESSAMINE COUNTY, KY  
AND INCORPORATED AREAS



FLOOD PROFILES

TOWN FORK

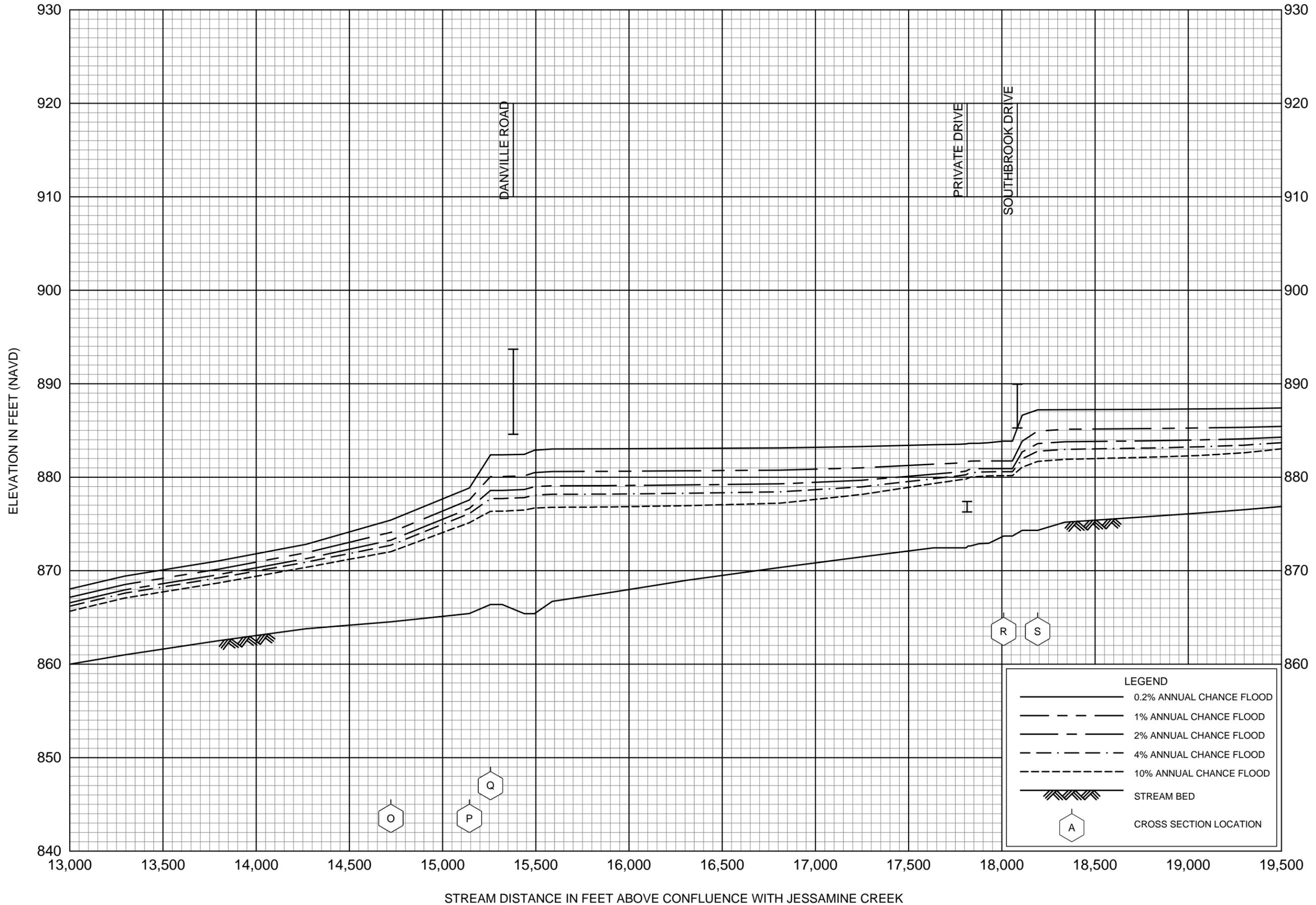
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**JESSAMINE COUNTY, KY**  
 AND INCORPORATED AREAS



FLOOD PROFILES

TOWN FORK

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**JESSAMINE COUNTY, KY**  
 AND INCORPORATED AREAS

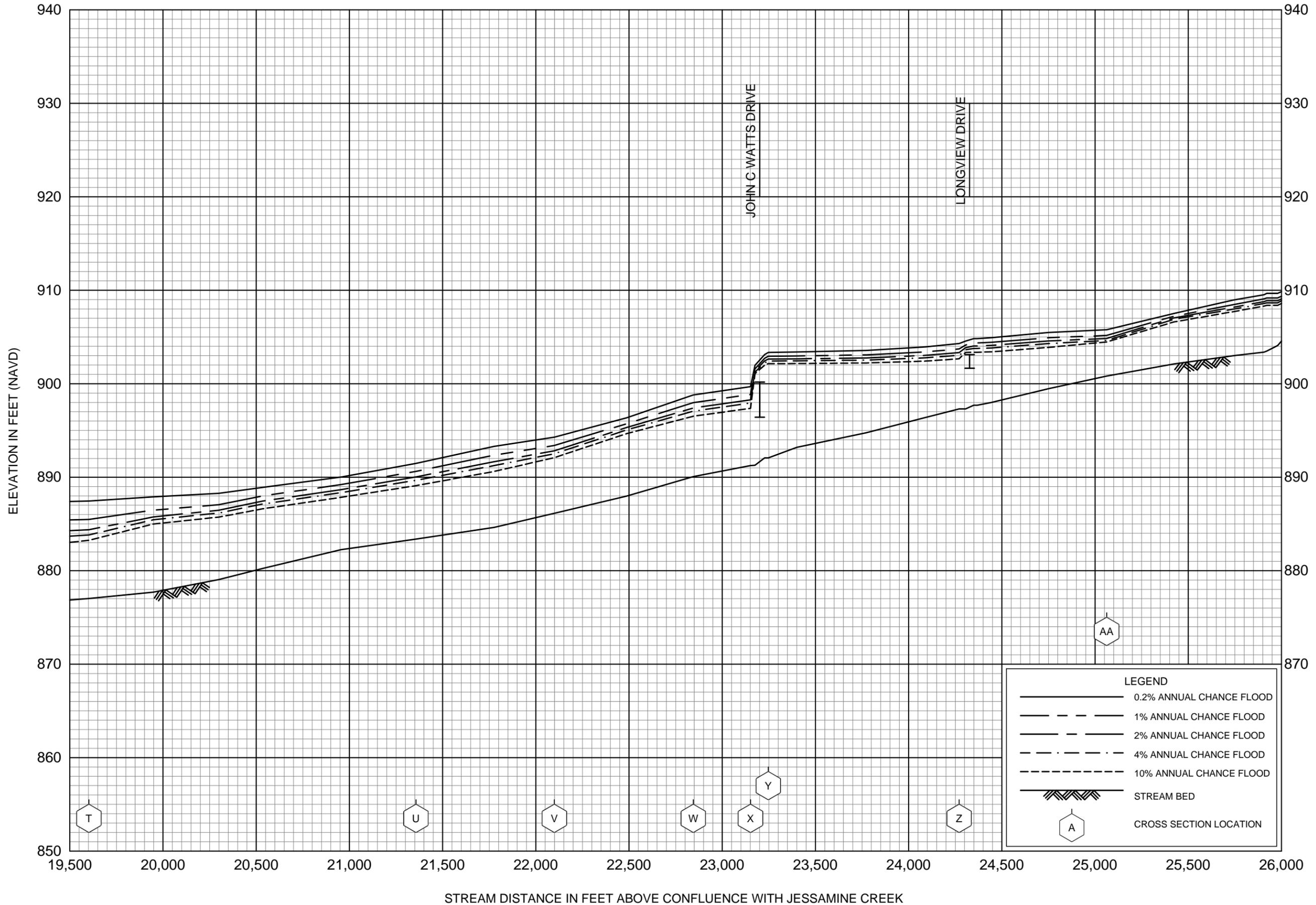


FLOOD PROFILES

TOWN FORK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JESSAMINE COUNTY, KY  
AND INCORPORATED AREAS

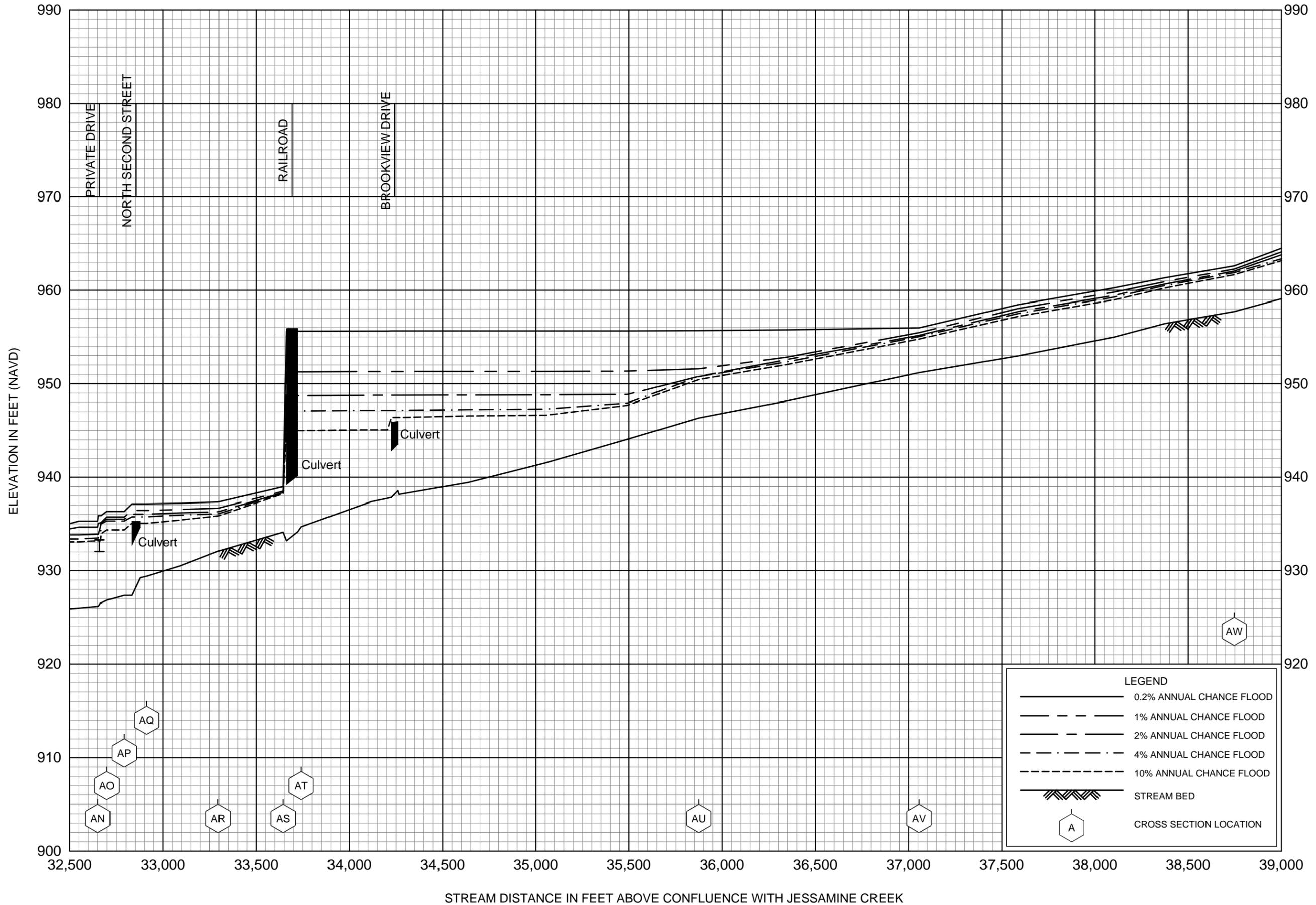


**FLOOD PROFILES**

**TOWN FORK**

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**JESSAMINE COUNTY, KY**  
 AND INCORPORATED AREAS



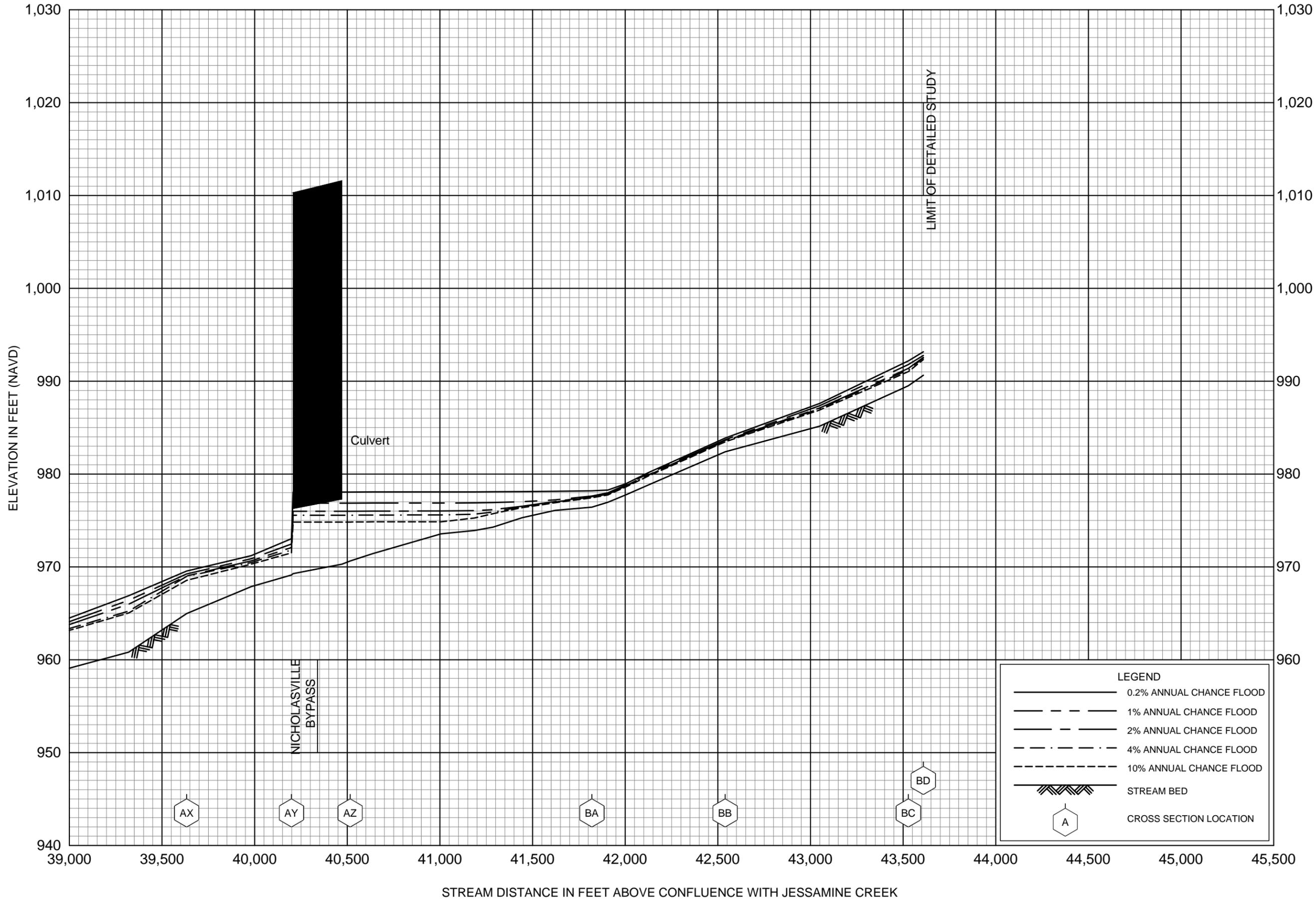


LEGEND	
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	1% ANNUAL CHANCE FLOOD
	2% ANNUAL CHANCE FLOOD
	4% ANNUAL CHANCE FLOOD
	10% ANNUAL CHANCE FLOOD
	STREAM BED
	CROSS SECTION LOCATION

FLOOD PROFILES

TOWN FORK

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**JESSAMINE COUNTY, KY**  
 AND INCORPORATED AREAS



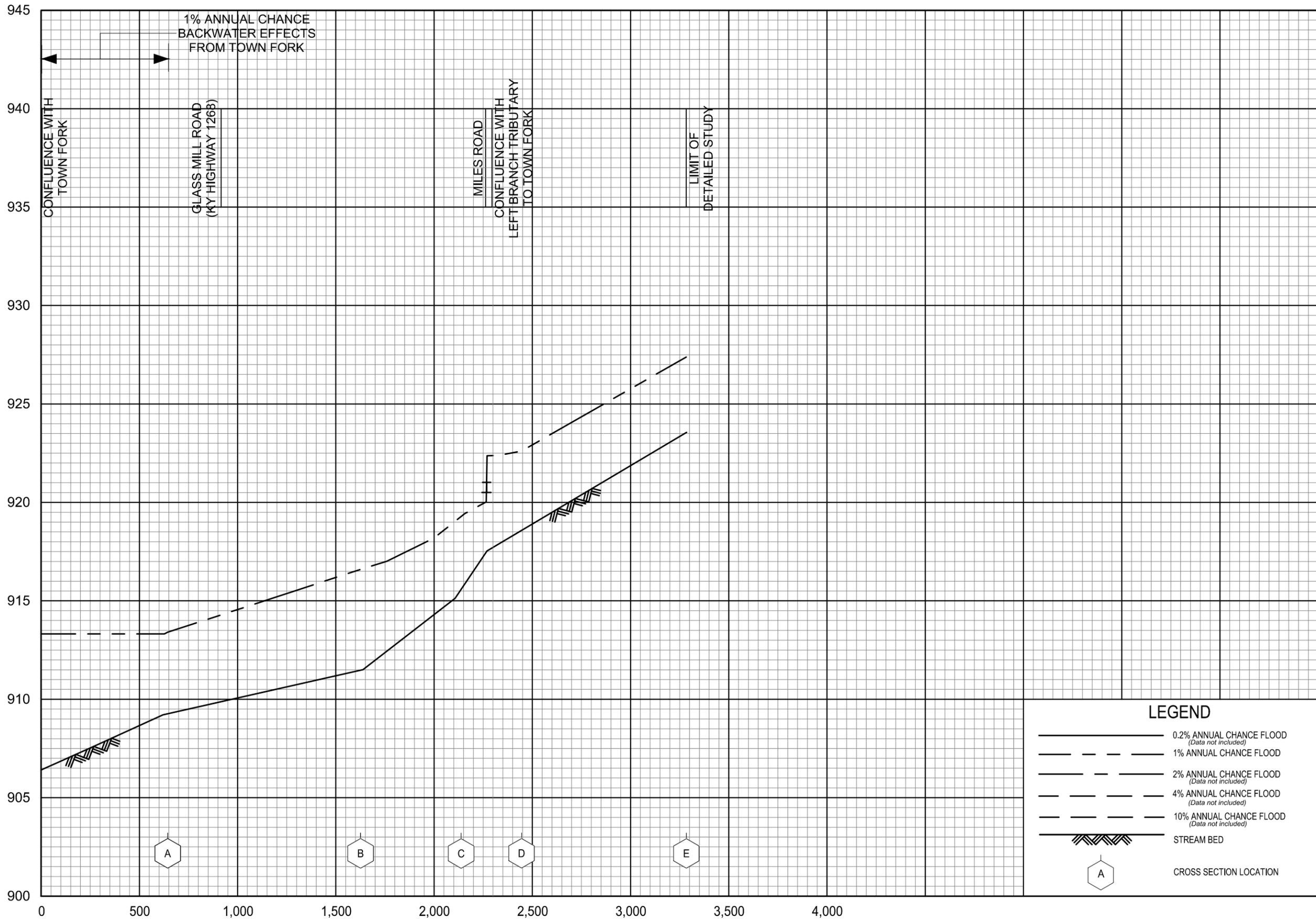
FLOOD PROFILES

TOWN FORK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JESSAMINE COUNTY, KY  
AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD)



LEGEND

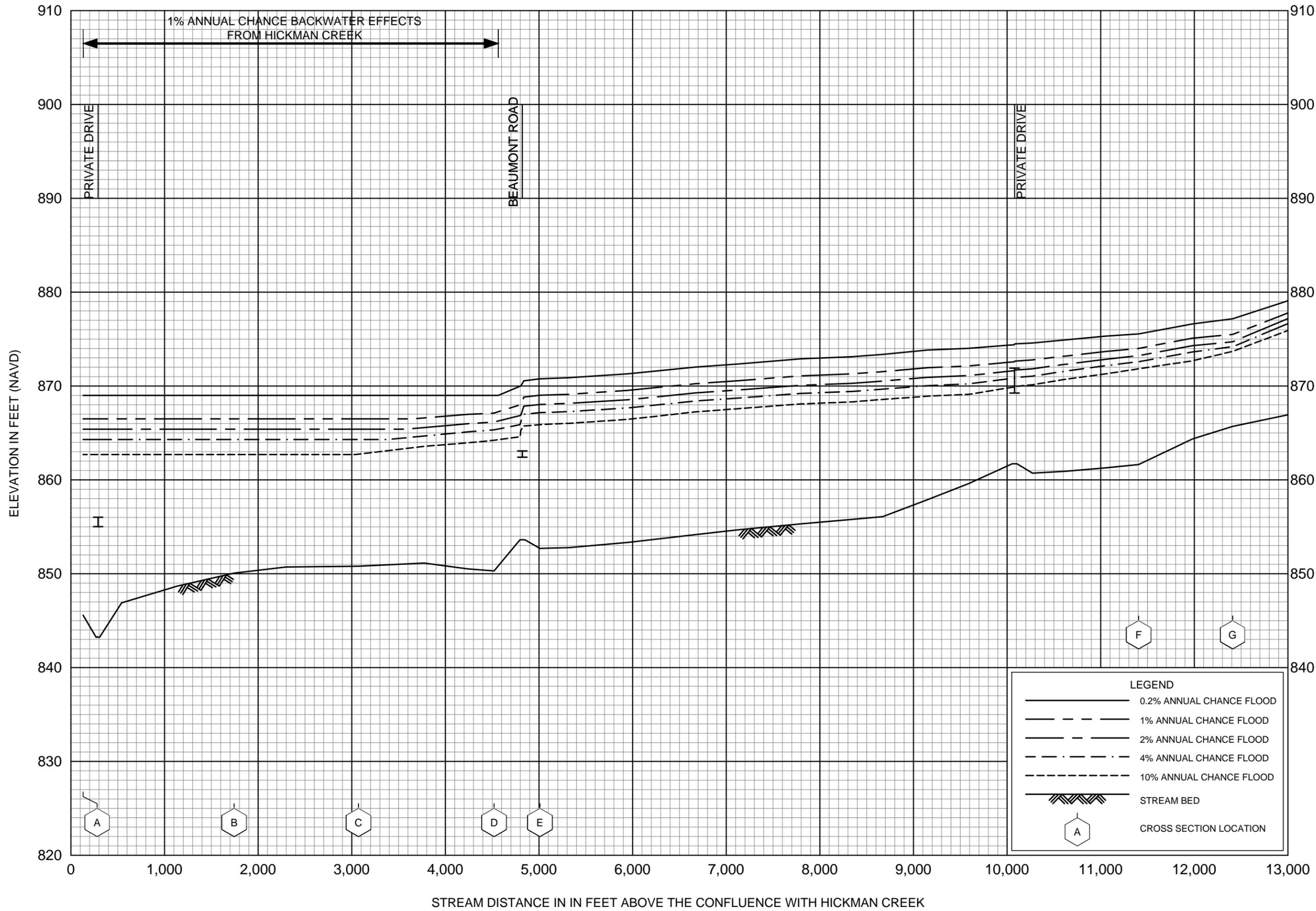
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- 10% ANNUAL CHANCE FLOOD (Data not included)
- STREAM BED
- CROSS SECTION LOCATION

FLOOD PROFILES

TRIBUTARY TO TOWN FORK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JESSAMINE COUNTY, KY  
AND INCORPORATED AREAS

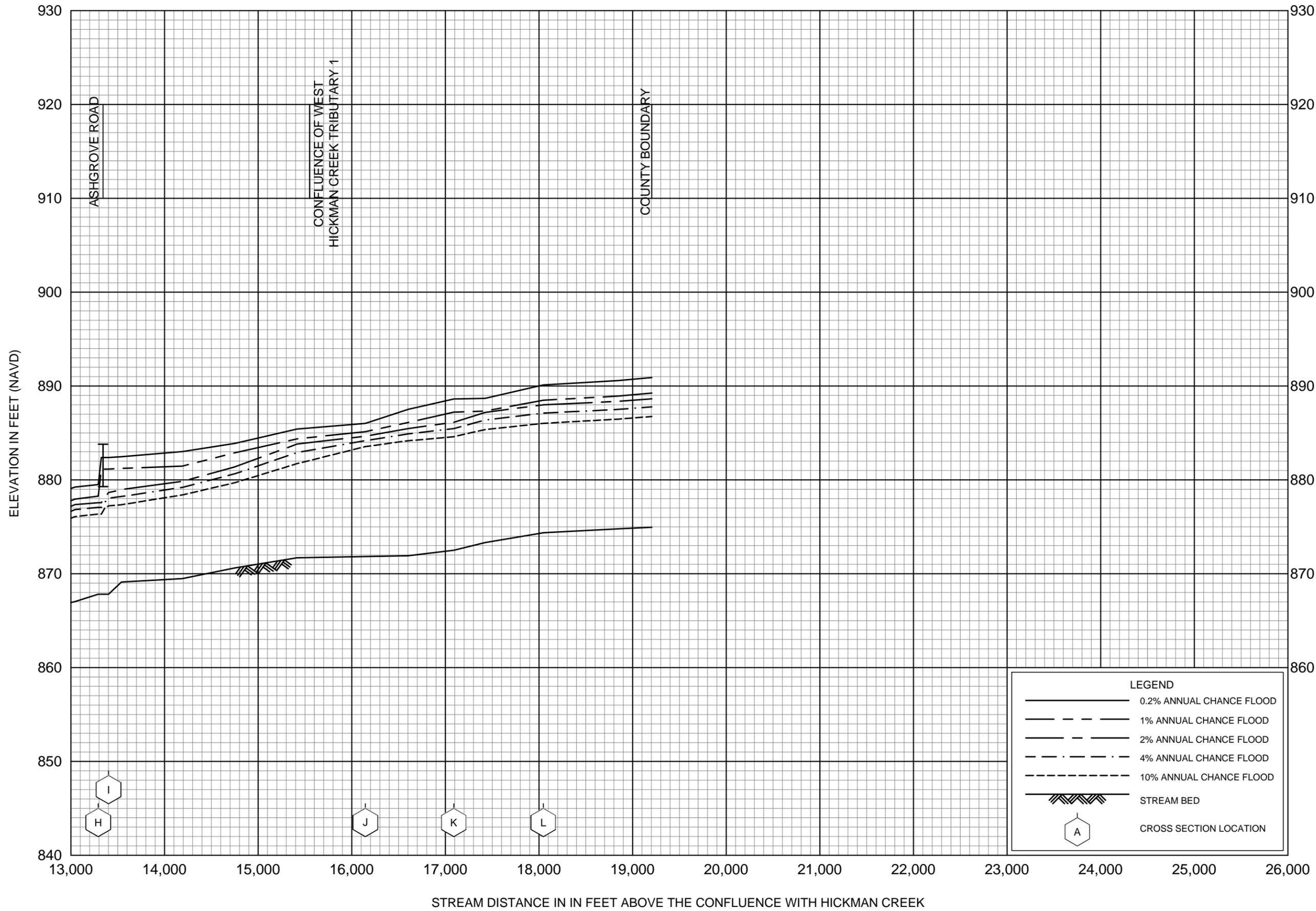


FLOOD PROFILES

WEST HICKMAN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JESSAMINE COUNTY, KY  
AND INCORPORATED AREAS

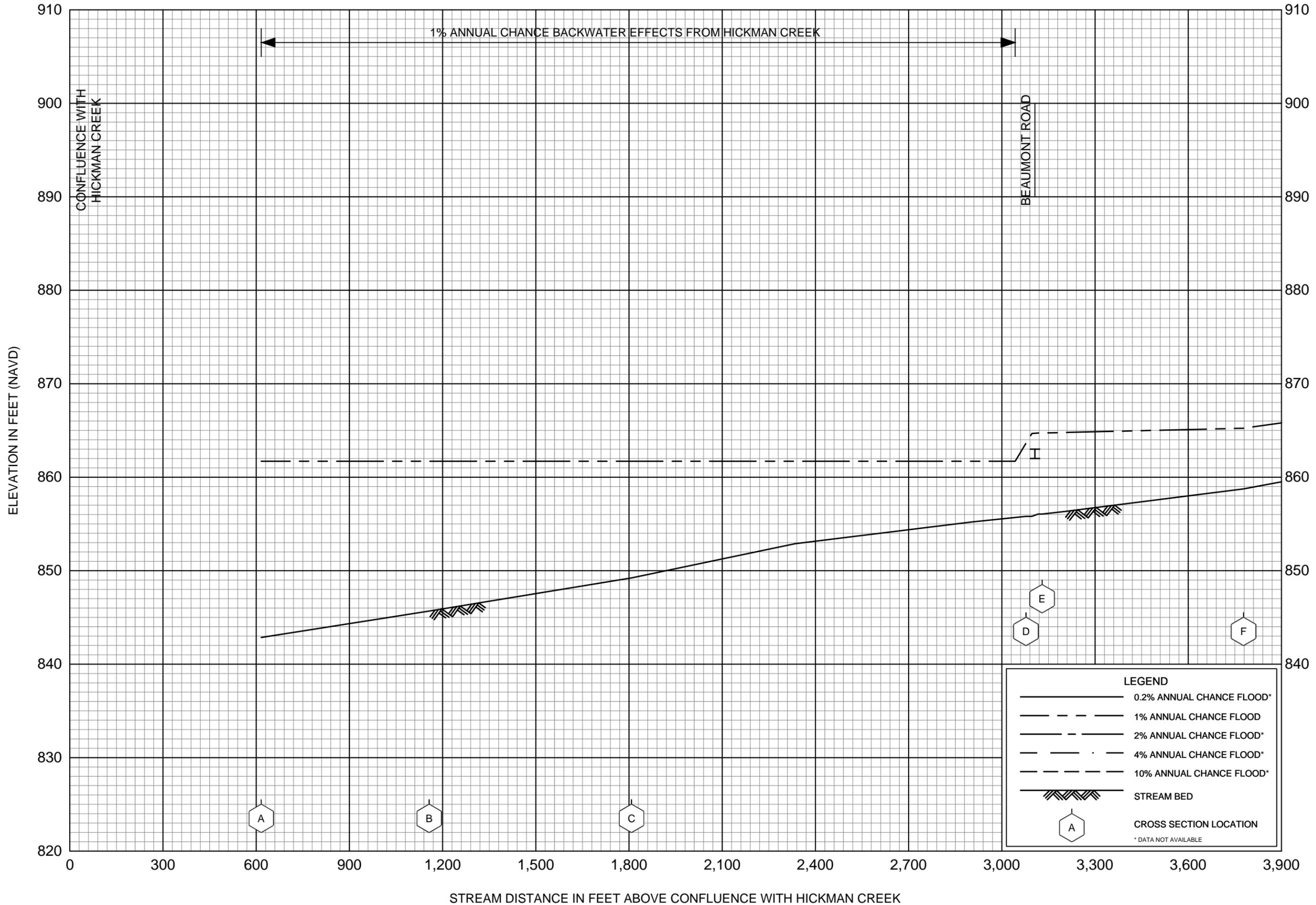


FLOOD PROFILES

WEST HICKMAN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

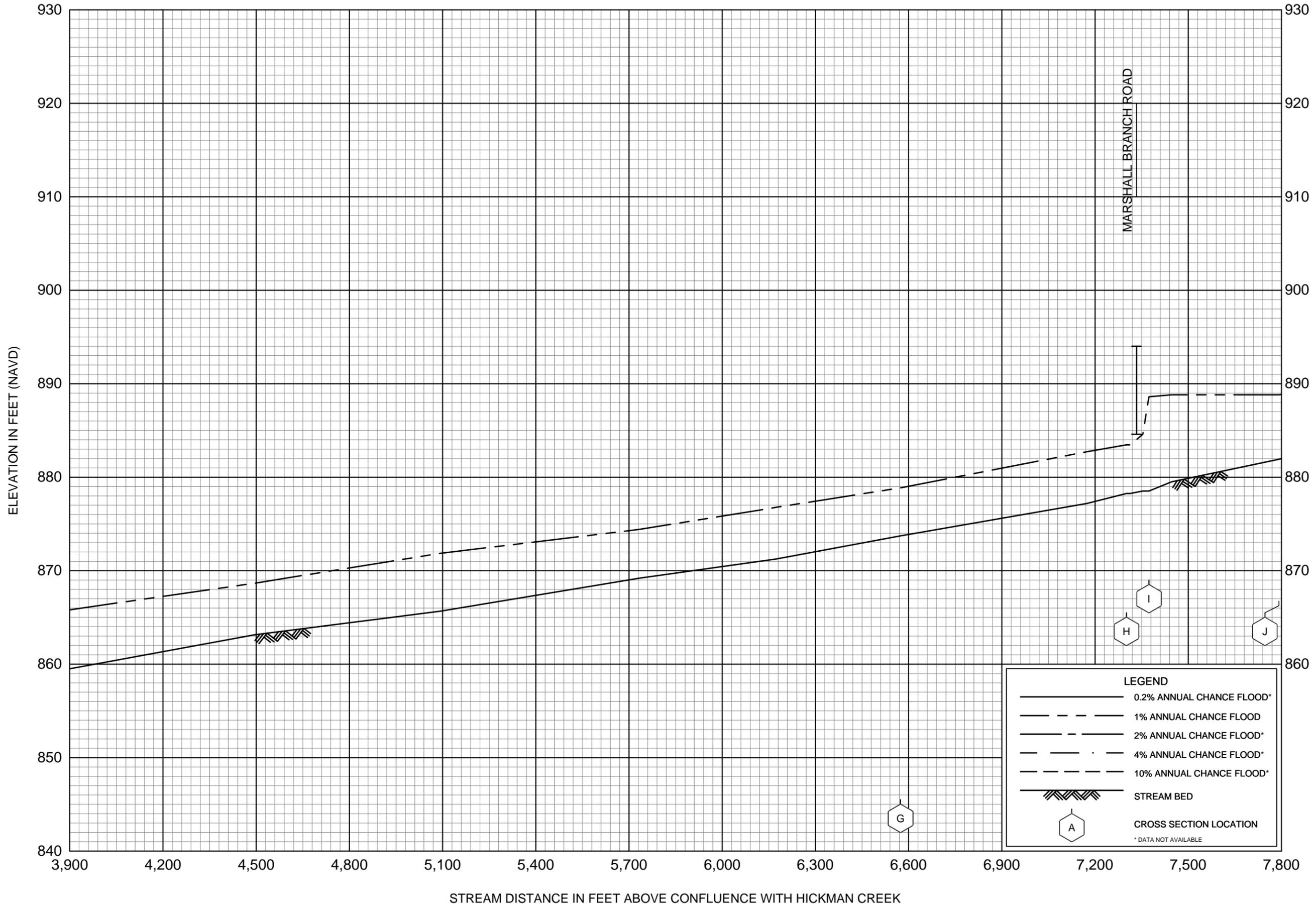
JESSAMINE COUNTY, KY  
AND INCORPORATED AREAS



**FLOOD PROFILES**

**WYMERS BRANCH**

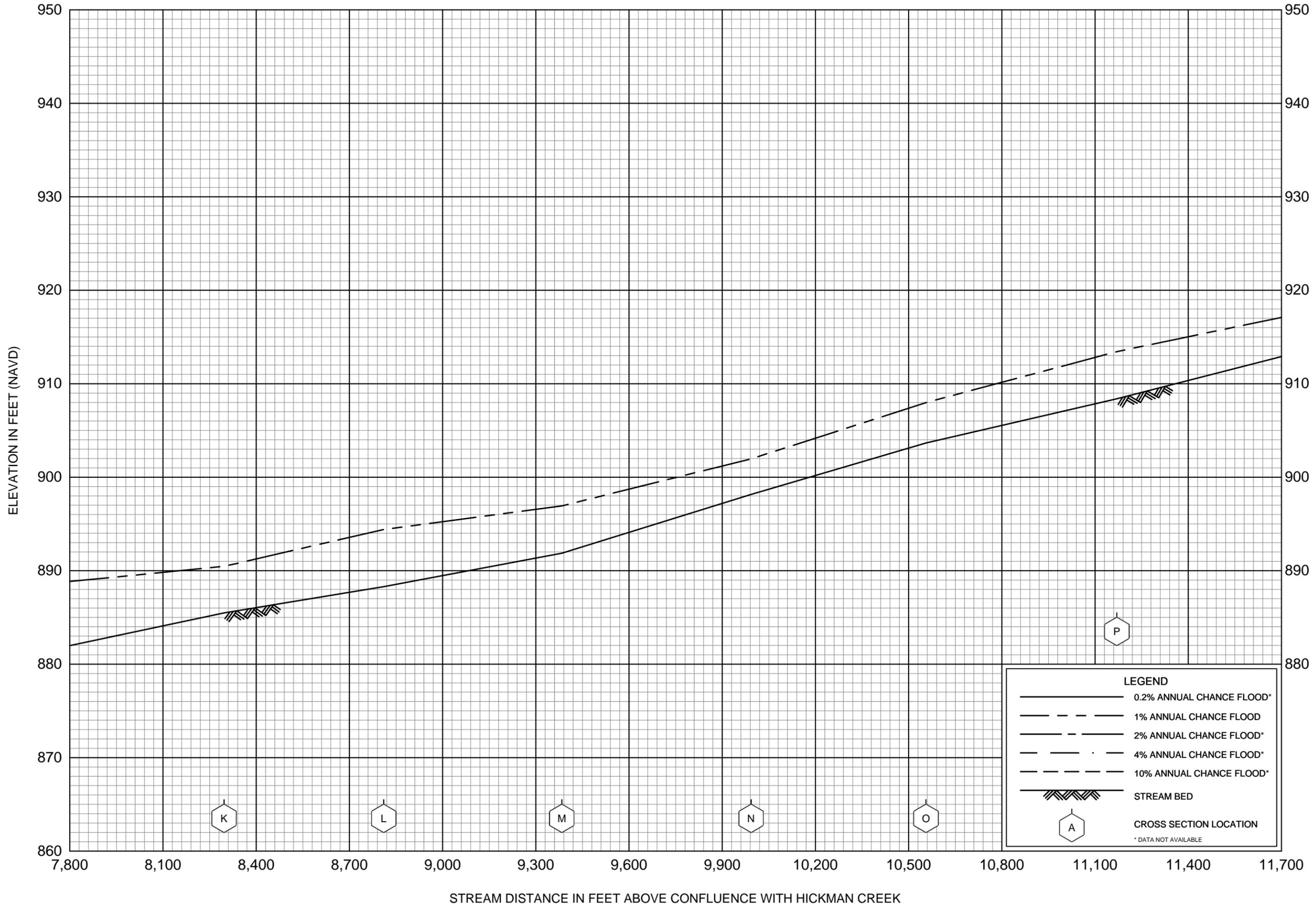
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WYMERS BRANCH

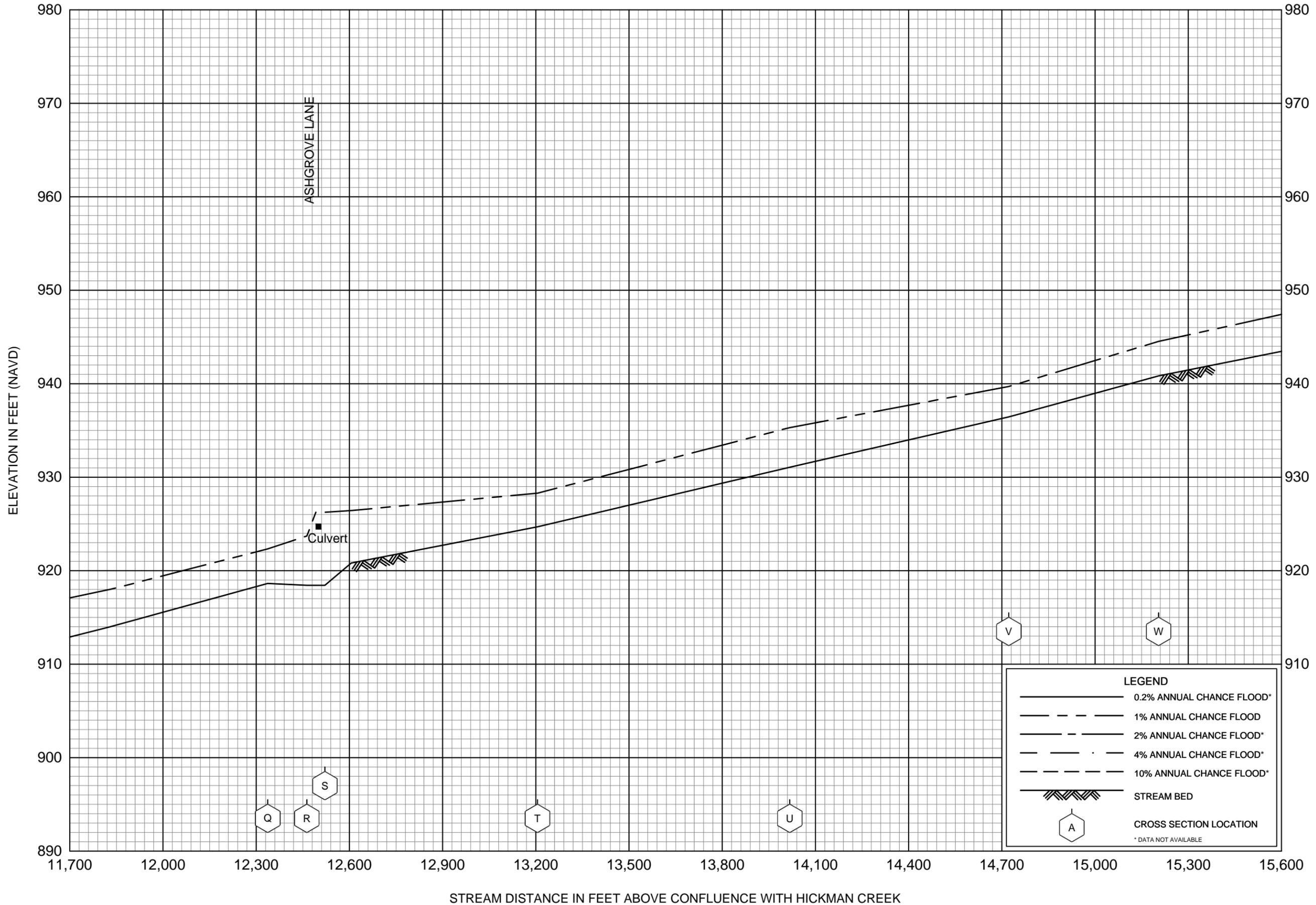
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WYMERS BRANCH

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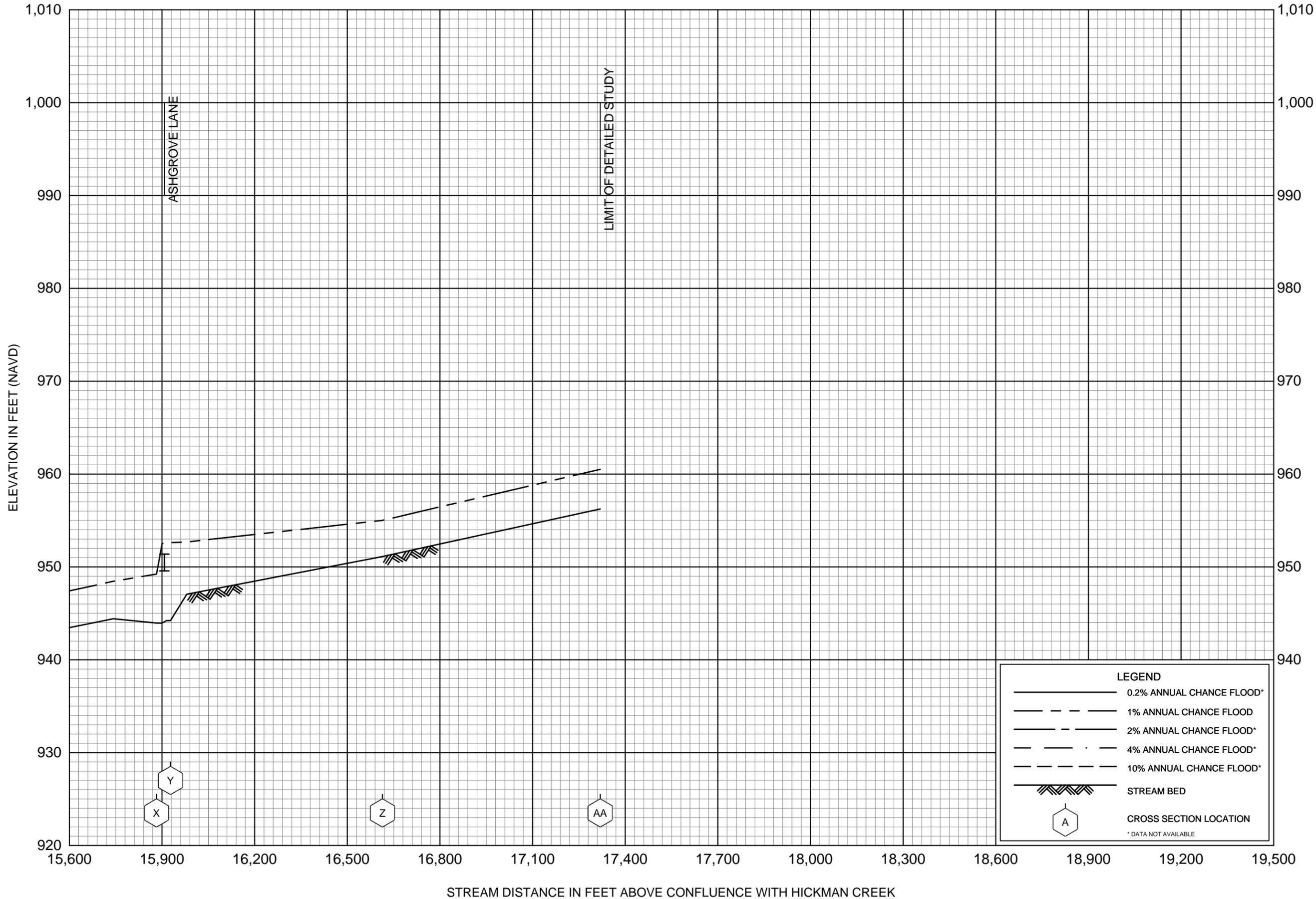


**FLOOD PROFILES**

WYMERS BRANCH

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