Oregon
Theodore R. Kulongoski, Governor

Department of Land Conservation and Development
635 Capitol Street, Suite 150
Salem, OR 97301-2540
(503) 373-0050
Fax (503) 378-5518
www.lcd.state.or.us

NOTICE OF ADOPTED AMENDMENT

05/12/2011

TO: Subscribers to Notice of Adopted Plan or Land Use Regulation Amendments

FROM: Plan Amendment Program Specialist

SUBJECT: Jackson County Plan Amendment
DLCD File Number 008-09

The Department of Land Conservation and Development (DLCD) received the attached notice of adoption. Due to the size of amended material submitted, a complete copy has not been attached. A Copy of the adopted plan amendment is available for review at the DLCD office in Salem and the local government office.

Appeal Procedures*

DLCD ACKNOWLEDGMENT or DEADLINE TO APPEAL: Tuesday, May 24, 2011

This amendment was submitted to DLCD for review prior to adoption pursuant to ORS 197.830(2)(b) only persons who participated in the local government proceedings leading to adoption of the amendment are eligible to appeal this decision to the Land Use Board of Appeals (LUBA).

If you wish to appeal, you must file a notice of intent to appeal with the Land Use Board of Appeals (LUBA) no later than 21 days from the date the decision was mailed to you by the local government. If you have questions, check with the local government to determine the appeal deadline. Copies of the notice of intent to appeal must be served upon the local government and others who received written notice of the final decision from the local government. The notice of intent to appeal must be served and filed in the form and manner prescribed by LUBA, (OAR Chapter 661, Division 10). Please call LUBA at 503-373-1265, if you have questions about appeal procedures.

*NOTE: The Acknowledgment or Appeal Deadline is based upon the date the decision was mailed by local government. A decision may have been mailed to you on a different date than it was mailed to DLCD. As a result, your appeal deadline may be earlier than the above date specified. NO LUBA Notification to the jurisdiction of an appeal by the deadline, this Plan Amendment is acknowledged.

Cc: Michael Mattson, Jackson County
Jon Jinings, DLCD Community Services Specialist
Chris Shirley, FEMA Specialist
Ed Moore, DLCD Regional Representative

<paa> YA

FORM 2

DLCD
Notice of Adoption

THIS FORM **MUST BE MAILED** TO DLCD
WITHIN 5 WORKING DAYS AFTER THE FINAL DECISION
PER ORS 197.610, OAR CHAPTER 660 - DIVISION 18

☐ In person ☐ electronic ☐ mailed
DATE STAMP
DEPT OF
MAY 05 2011
LAND CONSERVATION AND DEVELOPMENT
For DLCD Use Only

Jurisdiction: **Jackson County**
Local file number: **LRP2009-00005**
Date of Adoption: **April 27, 2011**
Date Mailed: 5-3-11
Was a Notice of Proposed Amendment (Form 1) mailed to DLCD? **Yes** Date: 12-22-11

☐ Comprehensive Plan Text Amendment
☒ Comprehensive Plan Map Amendment
☐ Land Use Regulation Amendment
☒ Zoning Map Amendment
☐ New Land Use Regulation
☐ Other:

Summarize the adopted amendment. Do not use technical terms. Do not write "See Attached".

Adopt new FEMA Flood Insurance Rate Maps (FIRM) for Jackson County. The FEMA maps are referenced in the Floodplain Overlay, the floodplain management ordinance in Jackson County's Land Development Ordinance.

Does the Adoption differ from proposal? No, no explaination is necessary

Plan Map Changed from: **N/A** to: **N/A**
Zone Map Changed from: **N/A** to: **N/A**
Location: **Various** Acres Involved: **N/A**
Specify Density: Previous: **N/A** New: **N/A**
Applicable statewide planning goals:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Was an Exception Adopted? ☐ YES ☒ NO
Did DLCD receive a Notice of Proposed Amendment...

45-days prior to first evidentiary hearing?	☒ **Yes**	☐ **No**
If no, do the statewide planning goals apply?	☐ **Yes**	☐ **No**
If no, did Emergency Circumstances require immediate adoption?	☐ **Yes**	☐ **No**

DLCD File No. 008-09 (18017) [16636]

DLCD file No. _____

Please list all affected State or Federal Agencies, Local Governments or Special Districts:

ODFW, DSL, USACE

Local Contact: **Mike Mattson** Phone: **(541) 774-6937** Extension:

Address: **10 S. Oakdale, Room 100** Fax Number: **541-774-6791**

City: **Medford** Zip: **97501** E-mail Address: **mattsomw@jacksoncounty.org**

ADOPTION SUBMITTAL REQUIREMENTS

This form **must be mailed** to DLCD **within 5 working days after the final decision**
per ORS 197.610, OAR Chapter 660 - Division 18.

1. Send this Form and **TWO Complete Copies** (documents and maps) of the Adopted Amendment to:

ATTENTION: PLAN AMENDMENT SPECIALIST
DEPARTMENT OF LAND CONSERVATION AND DEVELOPMENT
635 CAPITOL STREET NE, SUITE 150
SALEM, OREGON 97301-2540

2. Electronic Submittals: At least **one** hard copy must be sent by mail or in person, or by emailing **larry.french@state.or.us**.

3. Please Note: Adopted materials must be sent to DLCD not later than **FIVE (5) working days** following the date of the final decision on the amendment.

4. Submittal of this Notice of Adoption must include the text of the amendment plus adopted findings and supplementary information.

5. The deadline to appeal will not be extended if you submit this notice of adoption within five working days of the final decision. Appeals to LUBA may be filed within **twenty-one (21) days** of the date, the Notice of Adoption is sent to DLCD.

6. In addition to sending the Notice of Adoption to DLCD, you must notify persons who participated in the local hearing and requested notice of the final decision.

7. **Need More Copies?** You can now access these forms online at **http://www.lcd.state.or.us/**. Please print on **8-1/2x11 green paper only**. You may also call the DLCD Office at (503) 373-0050; or Fax your request to: (503) 378-5518; or Email your request to **larry.french@state.or.us - Attention: Plan Amendment Specialist.**

Updated March 17, 2009

Approved: 4/27/11
Effective: 6/26/11

BEFORE THE BOARD OF COMMISSIONERS
STATE OF OREGON, COUNTY OF JACKSON

IN THE MATTER OF CONSIDERATION OF A MAJOR COMPREHENSIVE PLAN MAP AND ZONING MAP AMENDMENT TO ADOPT A NEW FLOOD INSURANCE STUDY (FIS), NEW FLOOD INSURANCE RATE MAPS (FIRM) AND DIGITAL FLOOD INSURANCE RATE MAPS (DFIRM) FOR JACKSON COUNTY. THERE ARE ALSO A SERIES OF FIRM THAT WERE NOT PART OF THE REMAPPING PROCESS THAT MUST BE READOPTED. FILE NO. LRP2009-00005.	ORDINANCE NO. 2011-2

RECITALS:

1. Pursuant to Chapter 197 and 215 of the Oregon Revised Statutes, and in conformance with the Statewide Planning Goals, Jackson County's Comprehensive Plan (JCCP) and implementing ordinances have been acknowledged by the Oregon Land Conservation and Development Commission (LCDC).

2. The proposed amendment to the Jackson County Comprehensive Plan Map and Zoning Map was initiated by the Jackson County Board of Commissioners on December 1, 2010, Board Order 259-10, pursuant to LDO Section 3.8.2.

3. JCLDO Section 3.7.3 states that Major Comprehensive Plan Map and Zoning Map Amendments must comply with all applicable Statewide Planning Goals, Oregon Administrative Rules and the Comprehensive Plan as a whole.

PROCEDURAL FINDINGS:

1. Pursuant to Oregon Revised Statute (ORS) 197.610 and Oregon Administrative Rule (OAR) 660, Division 18, notice was mailed to the State of Oregon Department of Land Conservation and Development Commission (DLCD) on December 22, 2009. A revised notice was mailed to DLCD on October 21, 2010. The Jackson County Planning Commission conducted the first evidentiary hearing on January 27, 2011. A subsequent public hearing was conducted on February 10, 2011 and deliberations were concluded on this matter on February 10, 2011

2. On February 10, 2011, the JCPC, by motion and vote, recommended approval of the map amendment to the Board of Commissioners. The JCPC signed the Recommendation for Approval on February 10, 2011.

3. In their recommendation to the Board, the JCPC found that it would be prudent to provide a Measure 56 Notice prior to the first evidentiary hearing before the Board of Commissioners and that the proposed amendments are subject to notice requirements under ORS 215.503. The first evidentiary public hearing before the Board of Commissioners was scheduled for March 16, 2011. A notice pursuant to ORS 215.503 was mailed to property owners within or partially within the new FEMA mapped floodplain on February 15, 2011, 29 days prior to the first evidentiary before the Board of Commissioners.

4. The Board of Commissioners conducted the first evidentiary hearing on March 16, 2011. A subsequent public hearing was conducted on March 30, 2011. At the March 30, 2011 public hearing, the Board of Commissioners, by motion and vote, approved the JCPC Recommendation for Approval for a Major Comprehensive Plan Map and Zoning Map Amendment to adopt a new Flood Insurance Study (FIS), new Flood Insurance Rate Maps (FIRM), Digital Flood Insurance Rate Maps (DFIRM) and the Flood Insurance Rate Maps (FIRM) that were not part of the remapping process.

Now, therefore,

The Jackson County Board of Commissioners finds and concludes as follows:

SECTION 1. FINDINGS OF FACT:

Based upon the evidence and arguments presented, the Board of Commissioners makes the following findings of fact with respect to this application. Where factual conflicts arose, the Board of Commissioners has resolved them consistent with these findings.

1.1 The Board of Commissioners finds that proper legal notice was provided to the property owners within or partially within the FEMA mapped floodplain, pursuant to ORS 215.503, on February 15, 2011, for a public hearing on this matter.

1.2 The Board of Commissioners adopts as its own the Findings and Conclusion in the Recommendation for Approval by the JCPC, incorporated herein and attached as Exhibit "A."

SECTION 2. LEGAL FINDINGS:

2.1 The Board of Commissioners finds the proposed amendments, as determined and approved by the Board, will bring the LDO into compliance with NFIP requirements for development within the new FEMA mapped 100-year floodplain and/or floodway as required by Statewide Planning Goal 7 and the Jackson County Comprehensive Plan Natural Hazards Element. The new FIS (Exhibit "B"), the new FIRM (Exhibit "C"), CD of the DFIRM (Exhibit "D") and the FIRM that were not part of the remapping process (Exhibit "E") are attached.

SECTION 3. CONCLUSIONS:

3.1 The Board of Commissioners concludes that proper public notice was given.

3.2 The Board concludes the new FIS, new FIRM, DFIRM and FIRM that were not part of the remapping process are, for the most part, better data for use in regulating development within the Special Flood Hazard Areas for Jackson County. The Board also concludes the new data and maps are part of the requirements for compliance with the National Flood Insurance Program (NFIP). The new FIS, new FIRM, DFIRM and FIRM that were not part of the remapping process are incorporated herein and attached as Exhibits "B" through "E."

SECTION 4. DECISION:

Now, therefore,

The Board of County Commissioners of Jackson County ordains as follows:

4.1. Based on the record, evidence, and testimony at the public hearing, the Board of Commissioners adopts the new Flood Insurance Study (FIS) (Exhibit "B"), new Flood Insurance Rate Maps (FIRM) (Exhibit "C"), Digital Flood Insurance Rate Maps (DFIRM) (Exhibit "D") and Flood Insurance Rate Maps (FIRM) that were not part of the remapping process (Exhibit "E"), are incorporated herein and attached.

APPROVED this 27th day of April, 2011, at Medford, Oregon.

JACKSON COUNTY BOARD OF COMMISSIONERS

Dennis C. W. Smith, Chair

Donald Skundrick, Commissioner

ABSENT
John Rachor, Commissioner

APPROVED AS TO
LEGAL SUFFIENCY:

County Counsel

ATTEST:

By: Recording Secretary

The Board of County Commissioner's Ordinance is the final decision on this action. This decision may be appealed to the Oregon Land Use Board of Appeals (LUBA). You must appeal this decision within 21 days of the date it is mailed. This decision is being mailed on April 29, 2011, 2011, and the LUBA appeal period will expire on May 20, 2011, 2011. Please contact LUBA for specific appeal information. They are located at 550 Capitol Street N.E. Suite 235, Salem, Oregon 97301-2552. They can be reached at (503) 373-1265.

EXHIBIT A

BEFORE THE JACKSON COUNTY PLANNING COMMISSION
STATE OF OREGON, COUNTY OF JACKSON

IN THE MATTER OF CONSIDERATION OF A MAJOR COMPREHENSIVE PLAN MAP AND ZONING MAP AMENDMENT TO ADOPT A NEW FLOOD INSURANCE STUDY (FIS), NEW FLOOD INSURANCE RATE MAPS (FIRM) AND DIGITAL FLOOD INSURANCE RATE MAPS (DFIRM) FOR JACKSON COUNTY. THERE ARE ALSO A SERIES OF FIRM THAT WERE NOT PART OF THE REMAPPING PROCESS THAT MUST BE READOPTED. FILE NO. LRP2009-00005.	**RECOMMENDATION FOR APPROVAL**

RECITALS:

1. Pursuant to Chapter 197 and 215 of the Oregon Revised Statutes, and in conformance with the Statewide Planning Goals, Jackson County's Comprehensive Plan (JCCP) and implementing ordinances have been acknowledged by the Oregon Land Conservation and Development Commission (LCDC).

2. The proposed amendment to the Jackson County Comprehensive Plan Map and Zoning Map was initiated by the Jackson County Board of Commissioners on December 1, 2010, Board Order 259-10, pursuant to LDO Section 3.8.2.

3. Pursuant to Oregon Revised Statute (ORS) 197.610 and Oregon Administrative Rule (OAR) 660, Division 18, notice was mailed to the State of Oregon Department of Land Conservation and Development Commission (DLCD) on December 22, 2009. A revised notice was mailed to DLCD on October 21, 2010. The Jackson County Planning Commission conducted the first evidentiary hearing on January 27, 2011. A subsequent public hearing was conducted on February 10, 2011 and deliberations were concluded on this matter on February 10, 2011.

Now, therefore,

The Jackson County Planning Commission finds, concludes, and RECOMMENDS as follows:

FINDINGS:

The Planning Commission makes the following findings with respect to this Comprehensive Plan Map and Zoning Map amendment:

1. Proper notice was given pursuant to ORS 197.610 and OAR 660-018 on January 4, 2011. Notice was sent to property owners whose property was within or partially within the new FEMA mapped 100-year floodplain boundaries. Notice was also sent to property owners whose

property was within the 100-year floodplain boundaries that were not part of the remapping process.

2. A properly published legal notice was in the Medford Mail Tribune on January 16, 2011, for the first evidentiary hearing held before the JCPC on January 27, 2011. A subsequent public hearing was continued on February 10, 2011.

3. The LDO criteria for a legislative Major Comprehensive Plan Map and Zoning Map Amendment are found in Section 3.7.3(D) and additional criteria are found in the Natural Hazards Element of the Jackson County Comprehensive Plan.

4. A staff report was submitted by staff for review and is attached as Exhibit 1. Staff also submitted a list of the new Flood Insurance Rate Map (FIRM) panels and the old FIRM panels that must be readopted, attached as Exhibit 2. A CD of the Digital FIRM was also submitted into the record (Exhibit 25, Page 411). The new Flood Insurance Study, Jackson County, Oregon and Incorporated Cities (Exhibit 23, Pages 215-410 of Planning Commission official record) was also submitted. The Planning Commission on February 10, 2011, by motion and vote, recommended approval and adoption of the new Flood Insurance Study, Jackson County, Oregon and Incorporated Areas (By reference Exhibit 23, Pages 215-410 of the official Planning Commission record), the new Flood Insurance Rate Map (FIRM) panels, listed in Exhibit 2, the Digital Flood Insurance Rate Maps (DFIRM)(By reference Exhibit 25, Page 411 of the Planning Commission official record) and the Flood Insurance Rate Maps that were not part of the remapping process by FEMA, also listed in Exhibit 2.

5. The JCPC finds that the proposed Comprehensive Plan Map and Zoning Map amendments are for the protection of health and safety and are not subject to ORS195.300-336. The map changes are to bring the Comprehensive Plan Map and Zoning Map into compliance with National Flood Insurance Program (NFIP) requirements as directed by DLCD and FEMA. Compliance with the NFIP is required for Jackson County to participate in the NFIP, thereby allowing property owners within the unincorporated areas of Jackson County to purchase flood insurance. Non-compliance with the NFIP would remove Jackson County from the flood insurance program and force property owners to pay flood insurance premiums much higher than those offered through participation in the NFIP.

6. The JCPC finds that it would be prudent to provide a Measure 56 Notice prior to the first evidentiary hearing before the Board of Commissioners and that the proposed amendments are subject to notice requirements under ORS 215.503. The JCPC finds that the proposed map amendments might limit the uses allowed in zones within or partially within the FEMA mapped 100-year floodplain. The proposed map amendments will bring the LDO into compliance with NFIP requirements for development within the 100-year floodplain, as directed by DLCD and FEMA. The JCPC finds that the map amendments must be effective in Jackson County by May 3, 2011, and recommends that an Emergency Ordinance should be adopted by the Board of Commissioners before the May 3, 2011 deadline.

7. The JCPC finds the proposed amendments will bring the LDO into compliance with NFIP requirements for development within the FEMA mapped 100-year floodplain and/or floodway as required by Statewide Planning Goal 7 and the Jackson County Comprehensive Plan Natural Hazards Element.

CONCLUSION:

2-File No. LRP2009-00005
Floodplain Insurance Study and Floodplain Maps Update

The Jackson County Planning Commission adopts the Staff Report (Exhibit 1), the new Flood Insurance Rate Map (FIRM) panels listed in Exhibit 2, the Flood Insurance Rate Map (FIRM) panels that were not part of the remapping process by FEMA, also listed in Exhibit 2, the Digital Flood Insurance Rate Map (FIRM) (CD of DFIRM by reference Exhibit 25, Pg. 411 of the Planning Commission official record) and the Flood Insurance Study, Jackson County, Oregon and Incorporated Cities (By reference Exhibit 23, Pages 215-410 of the Planning Commission official record).

RECOMMENDATION:

Based on the evidence in the record, the Planning Commission finds the Major Comprehensive Plan Map and Zoning Map Amendments are warranted and recommends adoption by the Board of Commissioners.

This recommendation for APPROVAL adopted this 10th day of February, 2011, at Medford, Oregon.

JACKSON COUNTY PLANNING COMMISSION
(Vote: Y=Yes; N=No; A=Abstain)

Y

Don Greene, Chair

Y

Joel Ockunzzi, Commissioner

Y

Richard B. Thierolf, Jr., Commissioner

(Y)

Tani Wouters, Commissioner

A

Craig Prewitt, Commissioner

ATTEST:

Kelly Madding, Development Services Director

Exhibit 1: Staff Report
Exhibit 2: List of new FIRM panels and old FIRM panels that were not part of the remapping process by FEMA
By reference: CD of the DFIRM (Exhibit 25, Page 411 of the Planning Commission official record)

3-File No. LRP2009-00005
Floodplain Insurance Study and Floodplain Maps Update

By reference: Flood Insurance Study, Jackson County, Oregon and Incorporated Cities (Exhibit 23, Pages 215-410 of the Planning Commission official record)

4-File No. LRP2009-00005
Floodplain Insurance Study and Floodplain Maps Update

EXHIBIT 1
LRP2009-00005

JACKSON COUNTY DEVELOPMENT SERVICES DEPARTMENT
MAJOR MAP AMENDMENT (LEGISLATIVE)
STAFF REPORT

Consideration of an application identified as File No. LRP2009-00005.

PROJECT DESCRIPTION: LRP2009-00005 is a Major Map Amendment to the Jackson County Land Development Ordinance to adopt a new Flood Insurance Study (FIS) for Jackson County and new Flood Insurance Rate Maps (FIRM) and associated Digital Flood Insurance Rate Maps (DFIRM) that are used to identify the location of the 100-year floodplain and floodway for properties within Jackson County. These maps determine whether development is subject to the applicable floodplain development requirements and standards identified in the Land Development Ordinance (LDO). The new FIS, FIRM, DFIRM and floodplain ordinance (Section 7.1.2 of the LDO, which is being adopted concurrently with this application) are required to participate in the National Flood Insurance Program (NFIP). The revised floodplain ordinance must be consistent with the National Flood Insurance Program (NFIP), FEMA policies and State requirements for floodplain management in Jackson County. The current LDO Section 7.1.2 does not meet the above requirements and text revisions and additions are necessary to bring the Floodplain Overlay into compliance with the above Federal and State requirements.

BACKGROUND INFORMATION: Jackson County has had a floodplain ordinance since 1973. At that time, the floodplain areas were limited to properties along the Rogue River, Applegate River and Bear Creek which were inundated by the historical flood of December, 1964. These maps were created by the United States Army Corps of Engineers, Department of the Interior, Department of Housing and Urban Development, and Soil Conservation Service. In 1982, Jackson County obtained a Flood Insurance Study (FIS), Flood Insurance Rate Maps (FIRM), and the Flood Boundary and Floodway Maps (FBFM) from the Federal Emergency Management Agency (FEMA) in order to help regulate development within the 100 year floodplain and floodway, as identified on those maps. Updates to the FIS, FIRM and FBFM occurred in 1989, 1993 and 2002.

As part of their nationwide Map Modernization program, FEMA and their contractors partnered with Department of Land Conservation and Development (DLCD) to update the FIS and FIRM using better data and information than was available in the late 1970's. This process was started in 2003 and preliminary reports and maps were sent to Jackson County in 2009. The primary purpose of this project was a countywide DFIRM conversion for Jackson County. The end result would be a seamless map for floodplain areas in unincorporated Jackson County and the incorporated cities including Ashland, Central Point, Eagle Point, Gold Hill, Jacksonville, Medford, Phoenix, Rogue River, Shady Cove and Talent.

When Jackson County received the preliminary FIS, FIRM and DFIRM, the finished product did not include all of the floodplain areas in Jackson County that are currently mapped on the adopted FIRM and FBFM. The DFIRM was only a partial countywide remapping. A Letter of Final Determination was received by Jackson County on March 8, 2010. This letter outlined a 90-day appeal period for the proposed Base Flood

Elevations (BFE). After reviewing the FIS and maps, Jackson County appealed the BFEs on June 14, 2010, within the 90-day appeal period. The reasons for the appeal are listed below.

1. The FIRM and DFIRM were partial for the unincorporated areas of Jackson County. At no time did FEMA or their contractors indicate these maps would not all be in a digital format. Jackson County requested the maps be completed for the entire county.
2. The vertical datum used for the Base Flood Elevations was changed from the National Geodetic Vertical Datum of 1929 (NGVD29) to the North American Vertical Datum of 1988 (NAVD88). To do this, all BFEs using NGVD29 added 2.95 feet to determine the NAVD88 BFEs. Staff found that the conversion values for Jackson County was between 3.295 ft. and 4.377 ft. following conversations with surveyors and using a conversion software from USGS. The 2.95 ft. conversion factor was technically incorrect and Jackson County appealed the BFEs based upon the conversion factor.
3. In 2009, Savage Rapids Dam was removed on the Rogue River at the Josephine/Jackson County line. As part of the removal, the Bureau of Reclamation (BOR) was required to complete a Letter of Map Revision (LOMR) for the project. As a result of the dam removal, a large area upstream of the dam had reduced bank widths and it was assumed that the removal would change the BFEs in this area as well as further upstream. At a single cross section upstream of the dam where the revised flood study ended there was a decrease of four (4) feet in BFEs downstream of the cross section. The peak flows for the 100-year flood in the computed BFEs and the effective (1982) studies in this area were different by 34,000 cubic feet per second (cfs), equal to the amount of water draining into the Rogue River from Evans Creek, upstream of this area. Jackson County appealed the preliminary FIS and DFIRM because either the effective FIS and FIRM are scientifically and technically incorrect or the preliminary FIS and DFIRM are scientifically and technically incorrect.

FEMA responded to Jackson County's appeal on August 4, 2010, a summary of which is listed below.

1. Due to the limited scope of the current remapping, the discontinuities between the new DFIRM and the 1982 paper FIRM will be corrected during future mapping activities.
2. Individual datum conversions used for each flooding source included in the map modernization project have now been added in Section 10.4 of the FIS.
3. FEMA reexamined the hydrologic analysis for the Rogue River submitted by the Bureau of Reclamation. FEMA stated,

   "Due to the fact the BOR analysis was incorrectly accepted, The CLOMR cannot be incorporated into the DFIRM. We have reverted to the current effective FIRM for base flood discharge and Special Flood HazardArea, the area subject to inundation by the base flood, even though it represents the Savage Rapids Dam as still being in place."

   "After a revised Letter of Map Revision (LOMR) is received, reviewed, and approved, a LOMR can be prepared and issued to represent the

changes to the floodplain that result from the removal of the Savage Rapids Dam on the Rogue River."

A Letter of Final Determination (LFD) for the new FIS, FIRM and DFIRM was issued on November 3, 2010. The LFD initiates the 6-month compliance period to adopt the FIS, FIRM and DFIRM and establish the date the maps and compliant ordinance must be effective, which is May 3, 2011. In order to continue participation in the NFIP, Jackson County is required to adopt and have effective the new FIS, FIRM and DFIRM, and the floodplain ordinance by May 3, 2011. If Jackson County does not adopt the FIS and maps, the County will be dropped from the NFIP. The consequences of removal from the NFIP are as follows:

- Flood Insurance under the NFIP is not available within unincorporated Jackson County. There may be private insurance available, but the premium costs may be prohibitive.
- Section 202(a) of Public Law 93-234, as amended, prohibits Federal officers or agencies from approving any form of financial assistance for acquisition or construction purposes in a Special Flood Hazard Area (SFHA). For example, this would prohibit loans guaranteed by the Department of Veterans Affairs, insured by the Federal Housing Administration, or secured by the Rural Housing Services.
- Under Section 202(b) of Public Law 93-234, if a Presidentially declared disaster occurs as a result of flooding in a non-participating community, no Federal financial assistance can be provided for the permanent repair or reconstruction of insurable buildings in the SFHAs.

APPLICABLE CRITERIA : The following criteria apply to amendments to the text of the Land Development Ordinance.

3.7.3 APPROVAL CRITERIA

D) ***Major Comprehensive Plan Map or Zoning Map Amendments (Legislative)***

Major map amendments may be made if one or more of the following apply:

1) Changes in economic or social conditions, or settlement patterns, require an adjustment in the configuration of land uses allowed in a region or subregion of the County;

2) Development occurs at rates other than that contemplated by the Plan, making a major map amendment necessary; or

3) An error needs to be corrected or the Official Plan and Zoning Map needs to be brought into compliance, or more into

compliance, with Statewide Planning Goals and related Oregon Administrative Rules or other relevant law.

In designated Areas of Special Concern, such amendments will also comply with the relevant provisions of Chapter 7. Such amendments may have widespread and significant impacts. Map amendments outside urban growth boundaries and urban unincorporated communities that will result in a minimum residential lot size smaller than 10 acres require an exception to Statewide Planning Goal 14.

FINDINGS: The Floodplain Overlay of Jackson County's Land Development Ordinance (LDO) references the Flood Insurance Study, Flood Insurance Rate Maps, and Flood Boundary and Floodway Maps as the documents for establishing the location of the 100-year floodplain and floodway boundaries. The original studies and maps were adopted in 1982. Updates for specific streams and areas have occurred over the years, with the latest update in 2002. Following the flooding in 2005, DLCD and FEMA partnered to update Jackson County unincorporated areas and incorporated cities to provide a seamless map of the entire county. As part of this remapping, the mapping contractor used GIS data that better represented actual locations of streets, rivers, streams than the maps created in 1982. The more accurate data better represents the floodplain and floodway boundaries in Jackson County and can be considered a correction of some erroneous mapping from the 1982 maps.

This amendment meets the criteria for a Major Map Amendment.

JACKSON COUNTY COMPREHENSIVE PLAN: NATURAL HAZARDS ELEMENT, POLICY 2

STREAM FLOODING

2

FINDING:
Stream flooding in the County destroys structures by the water's current action, siltation, and water damage. Agricultural land is affected by the loss of valuable topsoil, erosion of banks, destruction of crops, and harm to livestock. Flooding has threatened the public health, safety and welfare of the County by destroying or by isolating dwellings, disrupting transportation, polluting water supplies, and destroying basic public facilities and services, such as sewerage facilities and electric services. In the past three decades major floods have occurred in the County on four occasions 1955, 1962, 1964, and 1974. Flood season in the County is from late October to May. Major floods generally occur as the result of severe periods of rainfall and unseasonably warm weather resulting in the melt of the upland snow pack (LUG, page 60).

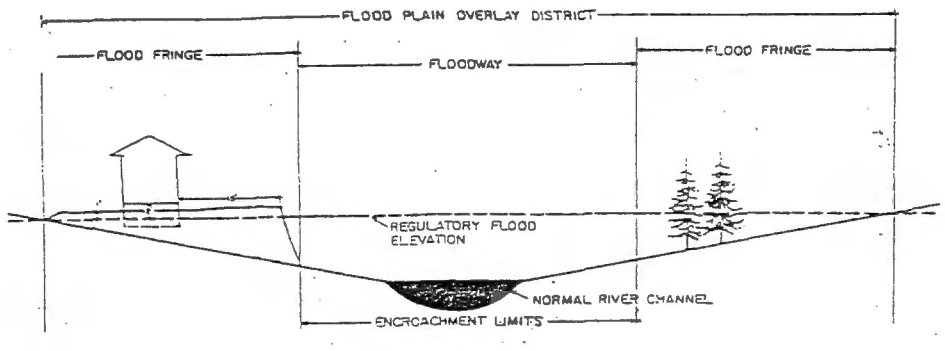
Many of the lands adjacent to the watercourses in the County are viewed as aesthetically pleasant settings for development. As such, considerable development currently exists in flood-prone areas in the County. An increase of development in flood hazard areas increases the potential for loss of life, and damage to public and private property. Artificial fill and other obstructions and disruptions in floodways may contribute

to the additional increases in flood hazard, particularly to lands not formerly affected. Flood damage in the local area may result in extraordinary public expenditures for flood relief, flood protection, and the replacement of public facilities and services.

The National Flood Insurance Program was enacted by Congress to encourage local governments to adopt sound floodplain management programs and to provide subsidized flood insurance for property in flood hazard areas. A draft flood insurance study has been prepared for the unincorporated areas of Jackson County. Detailed studies have been made along inhabited portions of twenty of the County's streams, creeks and rivers. The Soil Conservation Service has also prepared studies of the Applegate River and lower portions of Forest Creek. These detailed flood insurance studies generally define a regulatory floodway, a 100-year floodway fringe, and a 500-year floodplain. Where less population exists, approximate flood limit maps have been prepared.

To remain in the flood insurance program, the County will have to develop and implement land use controls to require elevation or floodproofing of most new construction within the 100-year floodplain, which is the area that has a one percent chance of flooding in any given year. Development of the floodway, which is the channel of the stream, plus the adjacent area that is required to carry the so-called 100-year flood without substantial increases in flood heights, will be restricted. The policy and strategies proposed below are necessary to minimize future flood hazards.

POLICY[1]: THE COUNTY SHALL PROHIBIT THE PLACEMENT OR CONSTRUCTION OF NEW BUILDINGS WITHIN THE FLOODWAY OF RIVERS, AND STREAMS, WITH THE EXCEPTION OF REPLACEMENT OF EXISTING DEVELOPMENT. ALL CONSTRUCTION FOR DEVELOPMENT IN THE 100-YEAR FLOODPLAIN OR FLOODWAY SHALL BE IN COMPLIANCE WITH THE STANDARDS OUTLINED IN THE LAND DEVELOPMENT ORDINANCE.



[1] *Board of Commissioner Order No. 247-02 signed July 17, 2002*

IMPLEMENTATION STRATEGIES:

A) Revise and amend the County Land Development Ordinance as necessary to assure compliance with the requirements of the Federal Flood Insurance Program. This will also involve updating the mapping of flood prone areas to reflect the most up-to-date information. The following diagram indicates the type of overlays which may be used in flood prone areas. Note the distinction between floodway and flood fringe areas (i.e., 100-year flood plain) as shown in the Federal Flood Insurance Program on the diagram below. Adopted elevation profiles shall be the controlling factor in determining locations of the floodway and flood fringe. Approximate measures will be required to locate flood hazard boundaries when flood elevations are not available. The owner or developer will bear the burden of proof for showing that his/her property or proposed project is not within the regulatory floodway or flood fringe.

B) In order to assure maximum usefulness of flood prone areas, regulations should allow for seasonal variations in use. Temporary, removable structures should be allowed during drier months if their removal can be assured by late fall.

C) Encourage the public purchase of extreme flood hazard areas for use as recreation areas and wildlife habitat.

D) Certain channel improvements may be needed to remove impediments to stream flow where flooding of adjacent lands or disastrous channel changes could be caused during floods. Such problem areas are documented for the Rogue River. Stream flow improvements involving any alteration of the waters of the state require a permit from the Division of State Lands prior to commencement of a project (ORS 541.605 to 541.695). All such channel improvement projects should be reviewed with regard to impact on fish and other wildlife habitats, as well as other environmental quality considerations addressed in Policy 1 of the Environmental Quality Element.

E) Conduct detailed public information efforts, and coordinate with other agencies, departments, and CACs to assure common knowledge of applicable regulations.

F) Require preliminary plans of subdivisions and partition maps to clearly show the flood hazard status of individual lots.

G) Require sellers of real property to provide potential buyers with a statement disclosing the flood hazard status of the subject property prior to the signing of an earnest money agreement, as being done by the Bear Creek Greenway.

FINDINGS: Implementation Strategy A) states that amending the LDO to ensure compliance with the Federal Flood Insurance Program includes updating the flood maps using the most up-to-date information. This was the purpose of the remapping process

started in 2006 by DLCD and FEMA. The results of this process are the flood study and maps before the Commissioners and staff believes the flood study and maps reflect the most up-to-date information. Staff finds that the flood study and maps meet the intent of Policy 2 of the Natural Hazards Element of the Jackson County Comprehensive Plan.

RECOMMENDATION: Staff recommends the Planning Commission submit a recommendation of Approval to the Board of Commissioners to adopt the Flood Insurance Study, Flood Insurance Rate Maps, and Digital Flood Insurance Maps for Jackson County.

Prepared by: Michael Mattson, Planner II

November 19, 2010

EXHIBIT 2

JACKSON COUNTY FLOOD INSURANCE RATE MAPS (FIRM)

NEW FIRM PANELS	EFFECTIVE DATE: MAY 3, 2011
MAP NUMBER	PANEL NUMBER
41029C	1387F
41029C	1389F
41029C	1391F
41029C	1392F
41029C	1393F
41029C	1394F
41029C	1411F
41029C	1412F
41029C	1413F
41029C	1414F
41029C	1416F
41029C	1418F
41029C	1508F
41029C	1512F
41029C	1516F
41029C	1517F
41029C	1518F
41029C	1536F
41029C	1577F
41029C	1579F
41029C	1581F
41029C	1586F
41029C	1587F
41029C	1588F
41029C	1589F
41029C	1706F
41029C	1708F
41029C	1711F
41029C	1712F
41029C	1713F
41029C	1716F
41029C	1717F
41029C	1718F
41029C	1719F
41029C	1729F
41029C	1733F
41029C	1734F
41029C	1736F
41029C	1737F
41029C	1739F
41029C	1741F
41029C	1742F
41029C	1743F

EXHIBIT 2

41029C	1744F
41029C	1753F
41029C	1754F
41029C	1756F
41029C	1757F
41029C	1758F
41029C	1759F
41029C	1761F
41029C	1762F
41029C	1763F
41029C	1764F
41029C	1766F
41029C	1767F
41029C	1768F
41029C	1769F
41029C	1776F
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41029C	1779F
41029C	1781F
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41029C	1784F
41029C	1786F
41029C	1787F
41029C	1788F
41029C	1789F
41029C	1801F
41029C	1803F
41029C	1804F
41029C	1907F
41029C	1911F
41029C	1912F
41029C	1913F
41029C	1914F
41029C	1918F
41029C	1919F
41029C	1953F
41029C	1954F
41029C	1956F
41029C	1957F
41029C	1958F
41029C	1959F
41029C	1961F
41029C	1962F
41029C	1966F
41029C	1967F
41029C	1968F

EXHIBIT 2

41029C	1969F	
41029C	1976F	
41029C	1977F	
41029C	1978F	
41029C	1979F	
41029C	1983F	
41029C	1986F	
41029C	1987F	
41029C	1988F	
41029C	1989F	
41029C	1993F	
41029C	1994F	
41029C	2102F	
41029C	2106F	
41029C	2107F	
41029C	2126F	
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41029C	2129F	
41029C	2131F	
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41029C	2202F	
41029C	2203F	
41029C	2204F	
41029C	2208F	
41029C	2209F	
41029C	2211F	
41029C	2212F	
41029C	2216F	
41029C	2217F	
41029C	2219F	
41029C	2240F	
41029C	2327F	
41029C	INDOA	Index Map for Jackson County

PARTIAL FIRM PANELS EFFECTIVE DATE: MAY 3, 2011

MAP NUMBER	PANEL NUMBER
415589	0138C
415589	0139C

EXHIBIT 2

415589	0186C
415589	0187C
415589	0188C
415589	0193C
415589	0219C
415589	0227C
415589	0229C
415589	0285C
415589	0305C
415589	0306C
415589	0308C
415589	0317C
415589	0319C
415589	0336C
415589	0337C
415589	0377C
415589	0385C
415589	0386D
415589	0389C
415589	0407C
415589	0478C
415589	0482C
415589	0484D
415589	0492D
415589	0505C
415589	0527C
415589	0529C
415589	0535C
415589	0581D

OLD FIRM PANELS EFFECTIVE DATE: APRIL 1, 1982 (PAPER MAPS)

MAP NUMBER	PANEL NUMBER
415589	0130B
415589	0136B
415589	0137B
415589	0145B
415589	0155B
415589	0165B
415589	0180B
415589	0185B
415589	0192B
415589	0194B
415589	0205B
415589	0215B
415589	0240B
415589	0338B
415589	0339B

EXHIBIT 2

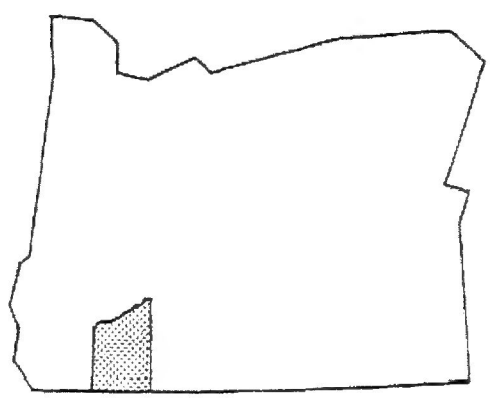
415589	0345B
415589	0375B
415589	0395B
415589	0430B
415589	0435B
415589	0490B
415589	0511B
415589	0513B
415589	0575B
415589	0587B
415589	0589B
415589	0591B
415589	0592B

EXHIBIT B

FLOOD INSURANCE STUDY



JACKSON COUNTY, OREGON
AND INCORPORATED AREAS



COMMUNITY NAME	COMMUNITY NUMBER
ASHLAND, CITY OF	410090
CENTRAL POINT, CITY OF	410092
EAGLE POINT, CITY OF	410093
GOLD HILL, CITY OF	410094
JACKSON COUNTY, UNINCORPORATED AREAS	415589
JACKSONVILLE, CITY OF	410095
MEDFORD, CITY OF	410096
PHOENIX, CITY OF	410097
ROGUE RIVER, CITY OF	410098
SHADY COVE, CITY OF	410099
TALENT, CITY OF	410100

Effective
May 3, 2011

Federal Emergency Management Agency
FLOOD INSURANCE STUDY NUMBER
41029V000A

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study (FIS) report may not contain all data available within the Community Map Repository. Please contact the Community Map Repository for any additional data.

Selected Flood Insurance Rate Map panels for the community contain information that was previously shown separately on the corresponding Flood Boundary and Floodway Map panels (e.g., floodways, cross sections). In addition, former flood hazard zone designations for some areas of the county have been changed as follows:

Old Zone	New Zone
A1 through A30	AE
V1 through V30	VE
B	X
C	X

The Federal Emergency Management Agency (FEMA) may revise and republish part or all of this FIS report at any time. In addition, FEMA may revise part of this FIS report by the Letter of Map Revision process, which does not involve republication or redistribution of the FIS report. Therefore, users should consult with community officials and check the Community Map Repository to obtain the most current FIS report components.

This FIS report was revised on May 3, 2011. Users should refer to Section 10.0, Revision Descriptions for further information. Section 10.0 is intended to present the most current information for specific portions of this FIS report. Therefore, users should be aware that the information presented in Section 10.0 supersedes information in Sections 1.0 through 9.0 of this FIS report.

Initial Countywide FIS Effective Date: May 3, 2011

Table of Contents

1.0 INTRODUCTION 1
1.1 Purpose of Study 1
1.2 Authority and Acknowledgments 1
1.3 Coordination 2
2.0 AREA STUDIED 3
2.1 Scope of Study 3
2.2 Community Description 4
2.3 Principal Flood Problems 8
2.4 Flood Protection Measures 11
3.0 ENGINEERING METHODS 12
3.1 Hydrologic Analyses 13
3.2 Hydraulic Analyses 16
3.3 Vertical Datum 21
4.0 FLOODPLAIN MANAGEMENT APPLICATIONS 22
4.1 Floodplain Boundaries 22
4.2 Floodways 23
5.0 INSURANCE APPLICATION 63
6.0 FLOOD INSURANCE RATE MAP 63
7.0 OTHER STUDIES 64
8.0 LOCATION OF DATA 65
9.0 BIBLIOGRAPHY AND REFERENCES 67
10.0 REVISION DESCRIPTIONS 73
10.1 First Revision 73
10.2 Second Revision 75
10.3 Third Revision 76
10.4 Fourth Revision 78

Figures

Figure 1: Floodway Schematic 24

Tables

Table 1: CCO Meeting Dates for Pre-Countywide FISs 2
Table 2: Flow Regulation on the Rogue River in Jackson County, OR 11
Table 3: Computed Peak Flows 14
Table 4: Summary of Discharges 17
Table 5: Floodway Data 25
Table 6: Community Map History 66
Table 7: Summary of Flood Frequency Quantiles for Study Reaches in Central Point, OR 79
Table 8: Vertical Datum Conversion 83
Table 9: Revised Study Descriptions 86

Exhibits

Exhibit 1 - Flood Profiles

Applegate River	Panels 01P-17P
Ashland Creek	Panels 18P-25P
Bear Creek	Panels 26P-47P
Bear Creek Split Flow	Panel 48P
Clay Creek	Panels 49P-56P
Coleman Creek	Panels 57P-59P
Crooked Creek	Panels 60P-67P
Daisy Creek	Panels 68P-69P
Daisy Creek (at Jacksonville)	Panels 70P-77P
Elk Creek	Panels 78P-79P
Evans Creek	Panels 80P-85P
Foots Creek	Panels 86P-93P
Griffin Creek	Panels 94P-113P
Horn Creek	Panels 114P-115P
Jackson Creek	Panels 116P-124P
Jackson Creek Overbank	Panels 125P-126P
Larson Creek	Panels 127P-131P
Lazy Creek	Panels 132P-136P
Little Butte Creek	Panels 137P-145P
Lone Pine Creek	Panels 146P-151P
Mingus Creek	Panels 152P-154P
Pleasant Creek	Panels 155P-161P
Rogue River	Panels 162P-183P
Wagner Creek	Panels 184P-194P
Ward Creek	Panels 195P-196P

Exhibit 2 - Flood Insurance Rate Map Index
Flood Insurance Rate Map

FLOOD INSURANCE STUDY
JACKSON COUNTY, OREGON
AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study (FIS) revises and supersedes the FIS reports and/or Flood Insurance Rate Maps (FIRMs) in the geographic area of Jackson County, Oregon including the Cities of Ashland, Central Point, Eagle Point, Gold Hill, Jacksonville, Medford, Phoenix, Rogue River, Shady Cove, Talent, and unincorporated areas of Jackson County (hereinafter referred to collectively as Jackson County), and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood risk data for various areas of the community that will be used to establish actuarial flood insurance rates. This information will also be used by Jackson County to update existing floodplain regulations as part of the Regular Phase of the National Flood Insurance Program (NFIP), and by local and regional planners to further promote sound land use and floodplain development. Minimum floodplain management requirements for participation in the NFIP are set forth in the *Code of Federal Regulations* at 44 CFR, 60.3. Please note that the City of Butte Falls is geographically located in Jackson County, but it is published separately. The FIS for Jackson County is being prepared in a partial-county wide format.

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

1.2 Authority and Acknowledgments

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

The original hydrologic and hydraulic analyses for this study were performed by STRAAM Engineers, Inc., for the Federal Emergency Management Agency (FEMA), under Contract No.H-3995. This study was completed in June 1978, and covered all significant flooding sources affecting the unincorporated areas of Jackson County, as well as the cities of Ashland, Central Point, Eagle Point, Gold Hill, Jacksonville, Medford, Phoenix, Rogue River, Shady Cove, and Talent.

Several revisions to the Unincorporated Jackson County FIS have occurred subsequent to the initial publishing. These revisions are discussed further in Section 10 of this FIS. The first publication on the Applegate River was performed by OTAK, Inc., for FEMA under contract No. EMW-89-C-2847. This work was completed in December 1989. A second revision occurred to incorporate a Letter of Map Revision (LOMR) on Bear

Creek, and was based on analyses conducted by URS Consultants. This work was completed on September 15, 1993. A third revision occurred on Wagner Creek within the City of Talent and in unincorporated Jackson County, and was performed by Ogden Beeman & Associates, Inc., for FEMA under contract No. EMS-1999-C0-0068-T01. This work was completed on May 15, 2002.

The fourth revision occurred as part of the countywide Digital Flood Insurance Rate Map (DFIRM) conversion for Jackson County, Oregon. Two separate analyses and studies were incorporated as part of the DFIRM conversion. The first consisted of new detailed studies of Daisy, Elk, Griffin, Horn, Jackson, and Mingus Creeks within the City of Central Point, Oregon. The second consisted of redelineation of effective floodplain hazard areas using newly obtained topographic data within the Cities of Ashland, Medford, Phoenix, Rogue River, and Shady Cove. Both tasks were performed by Northwest Hydraulic Consultants, Inc. for FEMA under Contract No.EMS-1999-C0-0068-T01, between 2003 and 2009.

1.3 Coordination

Consultation Coordination Officer's (CCO) meetings may be held for each jurisdiction in this countywide FIS. An initial CCO meeting is held typically with representatives of FEMA, the community, the state,, and the study contractor to explain the nature and purpose of a FIS and to identify the streams to be studied by detailed methods. A final CCO meeting is held typically with representative of FEMA, the community, and the study contractor to review the results of the study.

The dates of the initial and final CCO meetings held for Jackson County and the incorporated communities within its boundaries are shown in Table 1, "CCO Meeting Dates for Pre-Countywide FISs."

Table 1: CCO Meeting Dates for Pre-Countywide FISs

Community Name	Initial CCO Date	Final CCO Date
Jackson, County of	April 1976	August 20, 1980
Ashland, City of	April 1976	November 16, 1978
Central Point, City of	April 1976	November 15, 1978
Eagle Point, City of	April 1976	November 15, 1978
Gold Hill, City of	April 1976	November 16, 1978
Jacksonville, City of	April 1976	November 16, 1978
Medford, City of	April 1976	April 10, 1979
Phoenix, City of	April 1976	November 16, 1978
Rogue River, City of	April 1976	April 10, 1979
Shady Cove, City of	April 1976	November 15, 1978
Talent, City of	April 1976	November 16, 1978

The initial CCO meeting for the countywide study was held on December 15, 2005, and was attended by representatives of FEMA; the state; the cities of Central Point, Eagle Point, Gold Hill, Jacksonville, Medford, Phoenix, Talent; and the Study Contractor (SC).

The results of the countywide study were reviewed at final CCO meetings; August 19, 2009 for the City of Central Point, and August 20th for Jackson County / remaining cities. The meetings were attended by representatives of FEMA, the mapping partner, and the communities. All problems raised at that meeting have been addressed in this study.

2.0 AREA STUDIED

2.1 Scope of Study

This FIS covers the geographic area of Jackson County, Oregon, including the incorporated communities listed in Section 1.1. The scope and methods of study were proposed to, and agreed upon, by FEMA and the communities. The areas studied by detailed methods were selected with priority given to all known flood hazards and areas of projected development. Detailed analyses were performed on the following streams in Jackson County:

Ashland Creek	Horn Creek
Applegate River	Jackson Creek
Bear Creek	Larson Creek
Clay Creek	Lazy Creek
Coleman Creek	Little Butte Creek
Crooked Creek	Lone Pine Creek
Daisy Creek	Mingus Creek
Elk Creek	Pleasant Creek
Evans Creek	Rogue River
Foots Creek	Wagner Creek
Griffin Creek	Ward Creek

Approximate analyses were used to study those areas having a low development potential or minimal flood hazard. The following streams were studied by approximate methods due to lack of development along these streams:

Anderson Creek	Neil Creek
Big Butte Creek	Ross Lane Drainage
Forest Creek	Sams Creek
Galls Creek	Sardine Creek
Hamilton Creek	Savage Creek
Kane Creek	Slagle Creek
Little Antelope Creek	Snider Creek
Little Applegate River	Thompson Creek
Little Butte Creek	Trail Creek
Midway Drainage	Whetstone Creek
Mill Creek	Willow Creek

2.2 Community Description

Jackson County is in southwestern Oregon. Its southern boundary is the border between Oregon and Siskiyou County, California. To the east is Klamath County, Oregon, to the north is Douglas County, Oregon, and to the west is Josephine County, Oregon. Interstate Highway 5, the only interstate highway running north-south along the west coast, runs through Jackson County. The county has an area of 2,821 square miles, a population of 181,300 (Reference 72).

Jackson County is a popular retirement area, and much of its recent growth has taken place in the Bear Creek and Rogue River valleys. The main industries in the county are lumbering, agriculture, and some light manufacturing. The major flood plain development pressures in the county are along Rogue River and Bear Creek. Development pressures are especially severe along Rogue River because of its scenic attractions. This is also the area most subject to hazardous flooding, especially in the area near the City of Rogue River, on the south shore of the river.

Rogue River and Bear Creek are the two major watercourses in Jackson County. All detailed and approximate study streams within Jackson County eventually flow into Rogue River. Bear Creek and its numerous tributaries generally flow from southeast to northwest and eventually empty into Rogue River northwest of the City of Central Point. Rogue River flows westerly in the northeastern section of the county and then southerly at the City of Shady Cove. West of the City of Eagle Point at the confluence of Little Butte Creek and Rogue River, Rogue River bends westerly and drains major tributaries before it flows into Josephine County, Oregon, at the Savage Rapids Dam.

To the south of the Rogue River and Bear Creek valleys are the Siskiyou Mountains, including Mt. Ashland with an elevation of more than 7,500 feet. The eastern side of the county is part of the Cascade Range and Mt. McLaughlin, just east of the county limits, has an elevation of nearly 9,500 feet. Elevations in the main valleys range from 2,000 feet around Ashland down to 1,000 feet where Rogue River flows into Josephine County to the west. Much of the timbered parts of the county are in the Rogue River, Siskiyou, or Umpqua National Forests. The main soil types of the valley are clay-loams and silty-clay-loams. Along Bear Creek and Rogue River there are extensive gravel deposits.

The City of Medford, located in the center of Jackson County, has an average temperature of 51.9°F and an average annual precipitation of 20.7 inches (Reference 1).

City of Ashland

The City of Ashland is located in south-central Jackson County, approximately 12.5 miles southeast of Medford. Ashland was incorporated in 1874, and has a population of 21,500.

The city has several features which make it a center for tourism. The annual Shakespearean Festival, which is the most notable, draws many visitors from other states and nations. Mt. Ashland ski resort is a recreation center for the area and attracts winter

sports enthusiasts. Southern Oregon University, also located in Ashland, has a significant influence on the development of the city.

Ashland sits on the west side of the Bear Creek Valley so all of the drainage in the area is easterly, down the hills, and into Bear Creek. Ashland Creek is very steep and known to move large boulders when flooding. Ashland Creek has its origins in the Rogue River National Forest south of the city. The East and West Forks Ashland Creek flow into Reeder Reservoir approximately 3 miles to the south of Ashland. From the reservoir, the creek flows south-north and cuts through the western part of the city before entering Bear Creek to the north. Clay Creek rises in the hills to the southeast of Ashland, flows south-north at the eastern edge of the city, and enters Bear Creek to the north.

City of Central Point

The City of Central Point is located in central Jackson County, approximately 3.5 miles northwest of Medford. Central Point was incorporated in 1889, and has a population of 12,500 (Reference 72).

Central Point is a local agricultural supply center and is the residence for many people who work in the Medford metropolitan area. The primary industries in the area are agriculture and forest products. Because of a very favorable climate, the area is also becoming a popular retirement area.

Central Point lies at the lower end of a valley drained by Bear Creek. The city is very flat with drainage in the area generally directed northward. Bear Creek flows along the eastern boundary of Central Point. Several other tributaries flow through the city. The largest of these are Griffin and Jackson Creeks, followed by Mingus and Elk Creeks. Horn and Daisy Creeks, tributaries to Jackson and Griffin Creeks, respectively, are also located in Central Point.

City of Eagle Point

The City of Eagle Point is located in central Jackson County, approximately 10.5 miles northeast of Medford. Eagle Point was incorporated in 1911, and has a population of 4,800 (Reference 72).

Lumbering and agriculture are the two main resources of the area. Eagle Point supplies many of the needs of the community and surrounding area, including elementary and secondary schools, grocery and general stores, and a rescue and ambulance service.

Little Butte Creek has its origin in the Rogue River National Forest, which lies to the north and east of the city. It enters the expanding agricultural valley in which Eagle Point is located at approximately 3 to 4 miles upstream from Eagle Point.

Little Butte Creek flows through the center of Eagle Point from the northeast to the southwest, eventually emptying into the Rogue River; it is the major cause of flooding in the city. In the vicinity of Eagle Point, this creek has a drainage area of approximately 280 square miles.

The major access roads in the area are Crater Lake Road (State Highway 62) and Royal Avenue (Brownsboro Road) to State Highway 140. Both of these roads were under water during the flood of 1962, isolating Eagle Point.

City of Gold Hill

Gold Hill is located in central Jackson County, approximately 20 miles northwest of Medford. Gold Hill was incorporated in 1895, and has a population of 1,100 (Reference 72).

It is primarily a local supply center with several stores, restaurants, service stations, and a school. Interstate Highway 5 runs along the south side of the Rogue River.

City of Jacksonville

The City of Jacksonville is located in west-central Jackson County, approximately 5 miles west of Medford. Jacksonville was incorporated in 1860, and has a population of 2,200 (Reference 72).

The city is predominantly residential, with most of the work force being employed in the greater Medford area. Jacksonville lies along the west slope of a valley drained by the Bear Creek.

The two sources of flooding in Jacksonville are Jackson Creek and Daisy Creek. Daisy Creek flows into Jacksonville from the hills to the south of the city. It flows in a northerly direction through the southern part of Jacksonville, before changing course to continue in a north-easterly direction. Jackson Creek enters the city from the west, having had its origins in the hills to the west and southwest of the city. South Fork Jackson Creek flows into the main creek approximately 0.75 mile west of the city. Having entered the city center area, the creek turns to flow in a northeasterly direction to the north of, and approximately parallel to, Daisy Creek.

Both creeks intersect the Phoenix Canal, which enters the city from the east. The canal cuts across the northeast corner of the city. It intersects Daisy Creek and after passing under Fifth Street and Shaffer Lane, it crosses Jackson Creek.

City of Medford

The City of Medford, the county seat, is located in central Jackson County. Medford was incorporated in 1885, and has a population of 63,200 (Reference 72).

The city is the commercial center for southern Oregon and parts of northern California. The lumber industry is the largest employer in the area, with agriculture being second in terms of employment. Medford has an international airport and numerous medical facilities. In addition to being an important commercial center, Medford is also a popular retirement area because of its moderate climate.

Medford lies at the lower end of a valley drained by Bear Creek. The city is fairly flat, except for some hills on the east side of Bear Creek. Several tributaries, including Crooked, Larson, Lone Pine, and Lazy Creeks flow through the city.

City of Phoenix

The City of Phoenix is located in south-central Jackson County, approximately 4 miles southeast of the City of Medford. Phoenix was incorporated in 1910, and has a population of 4,100 (Reference 72).

The city is mainly a residential community providing homes for people who work in the Cities of Medford and Ashland. The community is served by a library, police department, volunteer fire department, elementary school, and a junior high school.

Phoenix lies in the middle of a valley drained by Bear Creek to the east. Coleman and Anderson Creeks enter Bear Creek from the west within the city.

City of Rogue River

The City of Rogue River is located approximately 3 miles east of the Jackson-Josephine County line, in west-central Jackson County, and approximately 20 miles north of the City of Medford. Rogue River was incorporated in 1912, and has a population of 1,900 (Reference 72).

Interstate Highway 5 runs along the Rogue River and provides the main route of access to the city. It is primarily a local supply center, with several stores, restaurants, service stations, and a school. The City of Rogue River is located on flat ground in a narrow valley with high hills on both sides.

The Rogue River flows through the City of Rogue River, as well as its tributaries Evans and Ward Creeks.

City of Shady Cove

Shady Cove is located near the center of Jackson County, approximately 20 miles north of the City of Medford. Shady Cove was incorporated in 1972, and has a population of 2,300 (Reference 72).

Crater Lake Highway (State Highway 62) runs through the city and provides the main means of access. It is primarily a local supply center with several stores, restaurants, service stations, and a school.

Most of the potentially developable flood plain areas in Shady Cove have already been developed in the form of mobile home sites on the east bank of the river, downstream from the State Highway 62 bridge.

City of Talent

The City of Talent is located in south-central Jackson County, approximately 8 miles southeast of the City of Medford and approximately 7 miles northwest of the City of Ashland. Talent was incorporated in 1910; as of July 1, 2008 the population is 6,635.

The city is mainly a residential community, providing homes for people who work in the Cities of Medford and Ashland. The community is served by a library, police department, volunteer fire department, elementary school, and junior high school.

Talent lies in a valley drained by Bear Creek. Wagner Creek, the major cause of flooding in the city, flows through the center of Talent from the southwest to the northeast, eventually emptying into Bear Creek.

Wagner Creek has its origin in the Rogue River National Forest, which lies to the south of the city. It enters the expanding agricultural valley in which Talent is located at approximately 3 to 4 miles upstream.

2.3 Principal Flood Problems

The major floods in this area are usually the result of a heavy snowfall followed by a sudden warm rain. A freeze on top of the snow just before the warm rain can further complicate matters by causing very rapid runoff conditions. The chief sources of flooding in Jackson County are Rogue River, Bear Creek, Ashland Creek, and Applegate River.

In 1861, there was major flooding in the county. The extent of this flood on Rogue River is indicated in the report by the USACE (Reference 3). The most dramatic flood in the recent past occurred along Rogue River in December 1964. Two of the areas receiving heavy damage by Rogue River in the 1964 flood were the areas around the City of Rogue River and the City of Shady Cove. Floodwaters reached depths of more than 4 feet in some structures.

More recent flooding occurred in Jackson County during the January 1997 event. Based on stream gage records, the 1997 event ranged from a 5-year to 30-year event throughout the region, with the median being approximately a 20-year event (Reference 73).

The flooding patterns in the Bear Creek Valley are complicated by the existence of a series of irrigation canals along the sides of the valley. These canals collect all runoff from the land above, thereby altering the natural drainage areas of the smaller streams.

At every junction of a canal and a stream or creek, there is a diversion structure or some means of diverting the contents of the canal into the stream or creek. The irrigation districts are responsible for the operation of these structures and are supposed to operate them so as to minimize their influence on the flows within these streams or creeks.

In making the flood flow calculations in these areas, it was presumed that wherever there was a canal, the drainage area above that canal contributed to the flow in the canal and

the entire contents of the canal were discharged into the next major stream or creek downstream.

Past flood situations indicate that, in practice, these diversion structures are sometimes closed or partially closed at the time of a flood. There have also been instances of dike failures and debris jamming in the canals.

City of Ashland

The chief source of flood problems within the City of Ashland is Ashland Creek, which has a drainage area of approximately 27.5 square miles. The 1974 flood on Ashland Creek received special attention because it caused a failure of the Ashland water-supply system for several days. The peak flow for this flood was believed to have been caused by a debris dam breakage above the city reservoir. The 1997 event also caused substantial damage along Ashland Creek (Reference 74).

City of Central Point

The worst flooding in recent years occurred in Central Point in December 1962 and December 1964, with the flood of 1964 being more severe. Most of the flood damage within the city occurred along Mingus Creek and Daisy Creek. In both cases, there was high water but no extensive structural damage. The situation on Daisy Creek was aggravated by a channel obstruction on Griffin Creek. The Mingus Creek situation was partly due to undersized drainage structures which have been enlarged or replaced since then. Moderate flooding was observed during the 1997 event, including minor overtopping of Highway 99 at Griffin Creek (Reference 75).

City of Eagle Point

The chief source of flood problems within Eagle Point is Little Butte Creek. The highest flood in the Eagle Point area occurred in December 1962; the next highest was in December 1964. Most of the damage from these floods occurred along Little Butte Creek, although there was also substantial flooding in west Eagle Point in 1962 as a result of inadequate drainage facilities and overflows from the irrigation canal.

In the past, there have also been some problems with local drainage into west Eagle Point. An irrigation canal runs along hills to the north. If the ends of this canal are not left open and the canal intake is not closed off from Little Butte Creek, there can be substantial drainage problems from this source. Recent improvements to the drainage structures in west Eagle Point and improved communications with the local irrigation district have presumably eliminated this threat. A detailed analysis was not made of this local drainage problem.

City of Gold Hill

Because of Gold Hill's high position overlooking the Rogue River, there has never been any flood damage in Gold Hill. There are no significant developable areas within Gold Hill which are susceptible to flooding from the Rogue River; thus there is no major flood

hazard in the City of Gold Hill. The city does have a vital interest in the condition of the Rogue River because of the two bridges that provide access to Interstate Highway 5 on the south side of the river.

In the 1964 flood the only damage caused by flooding on the Rogue River was the flooding out of a single pump and motor at the city's sewage treatment plant.

City of Jacksonville

Flooding occurred in Jacksonville in 1964 and 1974. In both cases, there was extensive sheet flow through the streets of Jacksonville and some minor flooding of low-lying residences and commercial establishments. At the corner of Fifth and Main Streets a service station that was flooded out in the 1974 flood had a high water depth of approximately 1 foot.

Some problems with the irrigation canal could arise; but, because the canal is almost at the corporate limits, it was assumed that it had no effect on either Daisy or Jackson Creek within the study area.

City of Medford

The worst flooding in recent years occurred in Medford in December 1962. The flow in Bear Creek near Main Street was recorded as being 14,500 cfs. This flood caused water to spill onto the floors of some shops along Bear Creek, especially in the area between Barnett Road and Main Street. The situation in 1962 was further aggravated by a canal levee break near where a canal crosses Crooked Creek. This increased the flow in Crooked Creek and added to the problems along Riverside Avenue, below Barnett Road. The 1962 flood along Bear Creek did not cause extensive structural damage to buildings in Medford other than damage caused by the high waters.

City of Rogue River

The Rogue River flows from east to west through the City of Rogue River and is the major cause of flooding. On both Evans Creek and Ward Creek, the major flooding problems are due to backwater from the Rogue River, not from flooding on these two creeks.

The areas in Rogue River that are especially flood prone are the areas just south of and west of the Depot Street bridge over the Rogue River, along the Rogue River, and an area just west of Evans Creek, near its mouth.

City of Shady Cove

Rogue River flows through the city from north to south and is the major source of flooding in the city. Indian Creek flows into Rogue River within the corporate limits, but flood damage from this creek occurs only in times of exceptionally high water along Rogue River.

The State Highway 62 bridge in Shady Cove is vital to the economy of this region because it is an essential link between the national forests to the north and east and the wood processing mills in the Medford area to the south. The loss of this bridge in the 1964 flood caused a substantial hardship for the local lumber industry. The peak flow for the 1964 flood was estimated at 87,600 cfs at Dodge Bridge, located 8 miles downstream from Shady Cove.

City of Talent

The worst flooding in Talent occurred on Bear Creek in 1928, and the most recent flood was in 1964 on Wagner Creek. Wagner Creek has backed up into some of the yards along the creek, but did not pond.

To the west of the city, irrigation canals have been built along the sides of the valley, above the existing ground slope. These canals collect all runoff from the lands above, thereby altering the natural drainage areas on the smaller streams.

2.4 Flood Protection Measures

Flood control measures have been proposed for Jackson County for many years. There have been proposals for flood control dams on both Rogue River and its tributary, Elk Creek. The Lost Creek Dam has been built on Rogue River and its impact on the flows is shown below in Table 2.

Table 2: Flow Regulation on the Rogue River in Jackson County, OR

Natural Flows (cfs)

Location	10-percent-annual-chance	2-percent-annual-chance	1-percent-annual-chance	0.2-percent-annual-chance
Dodge Bridge	48,000	80,000	98,000	145,000
Raygold	64,000	110,000	135,000	200,000
Grants Pass	91,000	150,000	180,000	270,000

Regulated Flows (cfs)

Location	10-percent-annual-chance	2-percent-annual-chance	1-percent-annual-chance	0.2-percent-annual-chance
Dodge Bridge	29,000	46,000	62,000	135,000
Raygold	50,000	84,000	105,000	180,000
Grants Pass	73,000	128,000	144,000	260,000

On Bear Creek, the U.S. Bureau of Reclamation constructed Emigrant Dam and its reservoir. This facility is operated for irrigation purposes and, according to U.S. Bureau of Reclamation personnel, has no significant flood control function. This facility was in operation prior to the flooding in the 1960s, the basis for most of the calculations in this report.

City of Medford

Since the 1962 flood event and a lesser flood event in 1964, there have been several reports on the drainage problems in the Medford area (References 36, 53, and 54). In general, these reports were aimed at relieving damage from a 10-percent-annual-chance flood. Peak flows developed as part of these reports have been used as the basis of design for some of the recent drainage structures built in Medford. Residences have been built directly over the drainage structures and residents have constructed high, solid wooden fences around their property.

On both the east and west sides of the city, there are irrigation canals that are built above the existing normal ground slope and act as runoff diversion structures. In time of flood, the diversion gates from these canals are supposed to open into the natural drainage courses; however, this is not always the case.

Past flood situations in other areas of Jackson County indicate that, in practice, these types of diversion structures are sometimes closed or partially closed at the time of a flood. There have also been instances of dike failures and debris jamming in the canals. A failure of one of these structures could result in local flooding in excess of what is indicated in this study.

City of Phoenix

West of the city, there are irrigation canals which are built above the existing normal ground slope and act as runoff diversion structures. In time of flood, the diversion gates from these canals are supposed to open into the natural drainage.

The mobile home park adjacent to Bear Creek has a small dike along the creek for flood control purposes. The analysis for peak flows along Bear Creek indicates that this dike will be overtopped during the 1-percent-annual-chance flood. There are no other flood protection measures in Phoenix.

City of Talent

Most of the problems occur from overbank flooding on Wagner Creek. After the 1964 flood, one of the landowners built a dike to protect his property. There are no other flood protection measures.

3.0 ENGINEERING METHODS

For the flooding sources studied by detailed methods in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data

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

3.1 Hydrologic Analyses

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

The U.S. Geological Survey maintains a number of gaging stations in Jackson County. On special request, the U.S. Geological Survey did a computerized analysis of the flood flows at all gaging stations for which there were records of sufficient duration to permit meaningful analyses (Reference 2). Stations subject to extensive regulation were excluded from these analyses. In conjunction with these analyses, the U.S. Geological Survey applied regional skew factors in accordance with the recommendations of the U.S. Water Resources Council (Reference 4). On the basis of the observed peak flows and these regional skew factors, the U.S. Geological Survey derived the peak flows in Table 3. These flows were divided into two groups, large streams and small streams, with the dividing line being areas with over or under 100 square miles. For Bear Creek, a separate set of regression equations was determined and used to calculate peak flows

Table 3: Computed Peak Flows

U.S. Geological Survey Station Number	Name	Years of Record	Drainage Area (Square Miles)	Peak Flow (Cubic Feet per Second)			
				10-percent-annual-chance	2-percent-annual-chance	1-percent-annual-chance	0.2-percent-annual-chance
Large Drainage Areas							
14-338000	Elk Creek Near Trail	30	133.00	11,817	18,802	22,185	31,087
14-362000	Applegate River Near Copper	37	220.00	19,078	34,025	41,454	61,175
14-363000	Applegate River Near Ruch	31	297.00	13,815	25,005	30,688	46,107
14-357500	Bear Creek at Medford	55	284.00	6,770	15,440	20,500	35,500
Small Drainage Areas							
14-354400	Butler Creek Near Ashland	12	5.11	278	667	909	1,705
14-361300	Jones Creek Near Grants Pass	24	7.41	694	1,061	1,230	1,650
14-353500	East Fork Ashland Creek	18	7.96	530	1,491	2,152	4,538
14-353000	West Fork Ashland Creek	18	9.98	500	1,350	1,920	3,926
14-343000	North Fork Little Butte Creek	50	43.80	571	1,057	1,331	2,183
14-333500	Red Blanket Creek	49	45.50	1,698	3,601	4,778	8,721

along Bear Creek. From these data, a series of drainage area versus peak flow regression equations were derived:

Large Drainage Areas (Over 100 Square Miles)	Small Drainage Areas (Under 100 Square Miles)	Bear Creek Drainage Only
$Q_{10} = 3416\ A^{0.273}$	$Q_{10} = 194\ A^{0.437}$	$Q_{10} = 54.8\ A^{0.85}$
$Q_{50} = 2418\ A^{0.440}$	$Q_{50} = 506\ A^{0.370}$	$Q_{50} = 125.0\ A^{0.85}$
$Q_{100} = 2232\ A^{0.491}$	$Q_{100} = 699\ A^{0.354}$	$Q_{100} = 166.0\ A^{0.85}$
$Q_{500} = 2034\ A^{0.579}$	$Q_{500} = 1306\ A^{0.337}$	$Q_{500} = 287.4\ A^{0.85}$

Q = peak discharge (cubic feet per second (cfs)) and A = area (square miles)

These regression equations were then used directly for those situations in which there were no streamflow records.

The flows used for Ashland, Clay, Coleman, Crooked, Daisy (at Phoenix Canal), Foots, Griffin, Jackson (at Phoenix Canal), Larson, Lazy, Lone Pine, Ward, and Wagner Creeks, and Unnamed Tributary to Larson Creek, were calculated based on small drainage area regression equations. In making the flood flow calculations for Wagner Creek, the effect of the irrigation canals is considered. It was presumed that where the canal was encountered, the drainage area above the canal contributed to the flow in the canal, and that the entire contents of the canal were discharged into the next major stream or creek. The drainage area and discharges shown for Wagner Creek reflect this condition. The flows for Evans and Pleasant Creeks were calculated based on large drainage area regression equations.

The U.S. Geological Survey has maintained two gaging stations on Little Butte Creek in the vicinity of Eagle Point. At the station above Eagle Point (drainage area = 269 square miles), there were 10 years of continuing record. At the station below Eagle Point (drainage area = 293 square miles), 14 years of record were available. At the upper station, no significant floodflows were recorded. At the lower station, a flow of 10,000 cfs was recorded on January 7, 1948.

Peak floodflows for various frequencies were calculated using the log-Pearson Type III method, in accordance with procedures described by the U.S. Water Resources Council (Reference 4). Regional skew factors have been developed for adjusting observed streamflows for extreme values. The skew factors used in this analysis were those determined by the U.S. Geological Survey. The peak flows for various recurrence intervals used for Little Butte Creek are the average of the flows computed for the two stations.

The floodflows for Rogue River were based on the work of the U.S. Geological Survey (Reference 5) using log-Pearson Type III analysis (Reference 4) modified to reflect the impact of the Lost Creek Dam.

Peak discharge drainage area relationships for the streams studied in detail are shown in Table 4.

3.2 Hydraulic Analyses

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

Water-surface elevations (WSELs) were computed using the USACE HEC-2 step-backwater computer model (Reference 6).

Cross section information was obtained from digitized photogrammetric interpretations (Reference 7). Where deep water was present at the time of the aerial photography, underwater cross section information was obtained by direct field measurement. All bridges, culverts, and relevant irrigation structures were measured in the field. On Rogue River, all cross sections were supplied by the U.S. Geological Survey (Reference 5).

The original U.S. Geological Survey flows were first used to check the bridge routines. In a few instances, additional cross sections had to be added to duplicate the U.S. Geological Survey profiles obtained with another method and presented in the U.S. Geological Survey report on Rogue River (Reference 5). Once the data matched the original profiles, the flows established by the U.S. Geological Survey were adjusted to show the impact of the Lost Creek Dam, and these revised flows were used as the basis for the flood profiles used in this study.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments, for which a floodway is computed (Section 4.2), selected cross section locations are also shown on the Flood Insurance Rate Map.

Table 4: Summary of Discharges

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet Per Second) 10-Percent-Annual-Chance	2- Percent-Annual-Chance	1- Percent-Annual-Chance	0.2- Percent-Annual-Chance
Applegate River					
Near Ferris Gulch	531	13,200	29,600	41,100	80,500
At Gaging Station Near Applegate (No. 14366000)	483	10,800	24,900	34,000	69,000
At BM 1399 Near Ruch	463	10,300	23,700	33,400	67,700
At Spencer Gulch	425	9,300	21,300	32,100	65,200
Upstream of Little Applegate River	305	6,400	14,300	27,600	56,400
At McKee Bridge	275	5,700	12,600	26,400	53,900
At Gaging Station Near Copper (No. 14362000)	223	4,500	9,800	24,000	49,000
Ashland Creek					
At Ashland	27.5	827	1,723	2,259	3,986
Bear Creek					
At Medford (USGS Survey Gate No. 14357500)	284	6,770	15,440	20,500	35,500
Near Coleman Creek	250	6,090	13,880	18,430	31,920
At Talent	224	5,450	12,430	16,510	28,590
At Ashland	186	4,460	10,180	13,510	23,400
Clay Creek					
At Ashland	2.0	263	654	893	1,649
Coleman Creek					
At Phoenix	7.0	458	1,045	1,399	2,526
Coleman Creek					
At Mouth	5.6	413	957	1,286	2,332

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet Per Second) 10-Percent-Annual-Chance	2- Percent-Annual-Chance	1- Percent-Annual-Chance	0.2- Percent-Annual-Chance
Daisy Creek					
At Mouth[1]	0.5	134	158	167	184
At Phoenix Canal near Jacksonville	2.5	290	710	967	1,778
Elk Creek[1]					
At Mouth	4.8	370	490	530	610
Evans Creek					
At Mouth	678	14,839	25,854	31,333	45,959
Foots Creek					
At Mouth	27	820	1,712	2,244	3,962
Griffin Creek[1]					
At Mouth	23.3	1,790	2,400	2,640	3,110
Horn Creek[1]					
At Mouth	0.8	231	308	336	390
Jackson Creek					
At Scenic Avenue[1]	19.5	1,489	2,000	2,191	2,573
Overbank[1]	--	326	922	1,220	1,850
At Phoenix Canal near Jacksonville	10.0	531	1,186	1,579	2,835
Larson Creek					
At Mouth	7.0	455	1,039	1,392	2,514
Lazy Creek					
At Mouth	5.2	399	931	1,253	2,275

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet Per Second) 10-Percent-Annual-Chance	2- Percent-Annual-Chance	1- Percent-Annual-Chance	0.2- Percent-Annual-Chance
Little Butte Creek					
At Main Street in Eagle Point	290	7,426	11,743	13,822	19,266
Lone Pine Creek					
At Crater Lake Highway	4.5	375	883	1,190	2,167
Mingus Creek[1]					
At Pine Street	1.3	120	147	158	176
Pleasant Creek					
At Mouth	193	14,377	24,565	29,598	42,956
Rogue River					
Below Evans Creek	--[1]	71,000	125,000	141,000	254,000
Below Ward Creek	--[1]	58,000	97,000	118,000	206,000
Above Ward Creek	--[1]	57,000	96,000	117,000	204,000
Below Kane Creek	--[1]	52,000	87,000	108,000	187,000
Above Kane Creek	--[1]	52,000	86,000	107,000	186,000
At Gold Ray Dam	2,053	50,000	84,000	105,000	180,000
Below Indian Creek	1,200[2]	28,500	45,000	60,000	132,000
Above Indian Creek	1,200[2]	28,000	44,000	59,000	128,000
Wagner Creek					
At Mouth	23.8	776	1,634	2,146	3,797
Ward Creek					
At Mouth	35.2	712	1,782	2,466	4,762

[1]Data Not Available [2]Approximate Drainage Area

Roughness values (Manning's "n") for each stream were determined on the basis of field inspection, color photographs of the streams at the time of inspection, and photogrammetric interpretation (Reference 7). For those cross sections extending into areas with numerous structures, the presence of structures was reflected by higher "n" values rather than attempting to model the existence of the structure in the cross section. As a consequence, "n" values ranged from 0.030 in some of the channels to 1.000 in some of the overbank areas where there was extensive development. On Rogue River, all cross sections, "n" values, and reach lengths were supplied by the U.S. Geological Survey (Reference 5).

Starting water-surface elevations on Rogue River were established by assuming critical flow at the Savage Rapids Dam, located on the Jackson-Josephine County limits.

Starting water-surface elevations on tributaries of Rogue River (Bear Creek, Evans Creek, Foots Creek, and Little Butte Creek) were taken from the analysis of Rogue River. Likewise, starting water-surface elevations on the tributaries of Bear Creek (Coleman Creek, Crooked Creek, Griffin Creek, Larson Creek, Lazy Creek, Lone Pine Creek, Unnamed Tributary to Larson Creek, and Wagner Creek) were then taken from the analysis of Bear Creek. The starting water-surface elevation on Pleasant Creek was taken from the analysis of Evans Creek. Starting water-surface elevations on Daisy Creek, Ashland Creek, and Clay Creek were based on an assumed critical depth upstream from the supercritical analyses done on the three creeks.

Flood profiles were drawn showing computed water-surface elevations to an accuracy of 0.5 foot for floods of the selected recurrence intervals (Exhibit 1).

For Lone Pine Creek, the Crater Lake Highway acted as the downstream control, and critical flow over the highway was assumed for those flows which would not pass through the existing culvert. For Little Butte Creek and the upper portions of Evans Creek, the first station in the channel was extended 2000 feet downstream. Critical flow was assumed at this point and the water-surface profile was worked back up to the study area.

Some of the smaller streams were found to contain supercritical flow; therefore, the use of the HEC-2 program (Reference 6) was confined to an analysis of the natural channel without the existing bridges. Corrections for the existence of the bridges or culverts were then made on the basis of separate wider flow calculations for each such structure. This method was used only where super-critical flow was present as determined by the HEC-2 program (Reference 6).

On Applegate River, approximate flood information was taken from a U.S. Soil Conservation Service Type 10 Flood Insurance Study (Reference 8).

Approximate flooding affecting some portions of Jackson County were taken from the Flood Hazard Boundary Map (Reference 9).

Approximate flooding was also determined by the use of historical records, field observations, and aerial photogrammetric interpretation (Reference 7).

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

Ashland and Clay Creeks were found to contain supercritical flow; therefore, the use of the HEC-2 program (Reference 6) was confined to an analysis of the natural channel without the existing bridges. Discharges through each bridge/culvert were calculated by manual methods and subtracted from the total discharge at that point. This reduced discharge was then modeled so as to flow across the top of the roadway. Having passed over the bridge/culvert, the discharge was restored to its original quantity, flowing in the natural channel. For Clay Creek, the total discharge was relatively small and the capacity of many of the culverts was almost insignificant. Instead of subtracting the discharge through each culvert, the channel was modeled so as to allow for this discharge.

Approximate elevations for Hamilton Creek were determined by field investigation (Reference 33).

3.3 Vertical Datum

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

This report has been updated to countywide format in association with a partial countywide map modernization of the FIRM. Flood elevations shown in this FIS report and on the FIRM for panels included in the map modernization are referenced to NAVD88. Specific vertical datum conversion values used for the map modernization are discussed in Section 10.4 of this FIS. On panels not included as part of the map modernization flood elevations remain referenced to NGVD29. It is important to note that adjacent counties may be referenced to NGVD29. This may result in differences in Base Flood Elevations (BFEs) across the county boundaries.

For more information on NAVD88, see the FEMA publication entitled *Converting the National Flood Insurance Program to the North American Vertical Datum of 1988* (FEMA, June 1992), or contact the Vertical Network Branch, National Geodetic Survey, Coast and Geodetic Survey, National Oceanic and Atmospheric Administration, 1315 East-West Highway, Silver Spring, Maryland 20910-3282 (Internet address http://www.ngs.ncaa.gov).

Temporary vertical monuments are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, they may be found in the Technical Support

Data Notebook associated with the FIS report and FIRM for this community. Interested individuals may contact FEMA to access these data.

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages state and local governments to adopt sound floodplain management programs. Therefore, each FIS provides 1-percent-annual-chance flood elevations and delineations of the 1- and 0.2-percent-annual-chance floodplain boundaries and 1-percent-annual-chance floodway to assist communities in developing floodplain management measures. This information is presented on the FIRM and in many components of the FIS report, including Flood Profiles, Floodway Data Table and Summary of Stillwater Elevations Table. Users should reference the data presented in the FIS report as well as additional information that may be available at the local map repository before making flood elevation and/or floodplain boundary determinations.

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent-annual-chance flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent-annual-chance flood is employed to indicate additional areas of flood risk in the community. For each stream studied by detailed methods, the 1- and 0.2-percent-annual-chance floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using topographic maps at a scale of 1:4,800, with contour intervals of 3 and 5 feet (Reference 10), and developed photogrammetrically, using aerial photographs at a scale of 1:12,000 (Reference 7).

Approximate boundaries for Applegate River were taken from a U.S. Soil Conservation Service Type 10 Flood Insurance Study (Reference 8).

Approximate flood boundaries in some portions of the study area were taken from the Flood Hazard Boundary Map (Reference 9).

The study contractor has determined that some areas shown on the Flood Hazard Boundary Map (Reference 9) are areas of minimal flooding; therefore, they were not delineated on the maps.

Approximate boundaries were also determined by the use of historical records, field observations, and aerial photogrammetric interpretation (Reference 7).

The 1- and 0.2-percent-annual-chance floodplain boundaries are shown on the FIRM (Exhibit 2). On this map, the 1-percent-annual-chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A, AE, AH, and AO); and the 0.2-percent-annual-chance floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 1- and 0.2-percent-annual-chance floodplain boundaries are close together, only the 1-percent-annual-chance floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above

the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

For the streams studied by approximate methods, only the 1-percent-annual-chance floodplain boundary is shown on the FIRM (Exhibit 2).

Approximate flood boundaries for Hamilton Creek were determined by field investigation and delineated on topographic work maps

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the NFIP, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 1-percent-annual-chance floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 1-percent-annual-chance flood can be carried without substantial increases in flood heights. Minimum Federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this study are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodway presented in this FIS report and on the FIRM was computed for certain stream segments on the basis of equal conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. The results of the floodway computations have been tabulated at selected cross sections (Table 5). In cases where the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary has been shown.

Floodways were computed for Ashland Creek and Clay Creek using criteria based on energy grade lines. A maximum surcharge of 1.0 foot was allowed in the energy grade.

Floodways for Lazy, Larson, Crooked, and Lone Pine Creeks, and Unnamed Tributary to Larson Creek are contained in the existing channels.

Because of their narrow width and/or steep streambed, Coleman, Daisy, and Wagner Creeks were studied without floodway determination.

The area between the floodway and 1-percent-annual-chance floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the WSEL of the 1-percent-annual-chance flood more than 1.0 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 1.

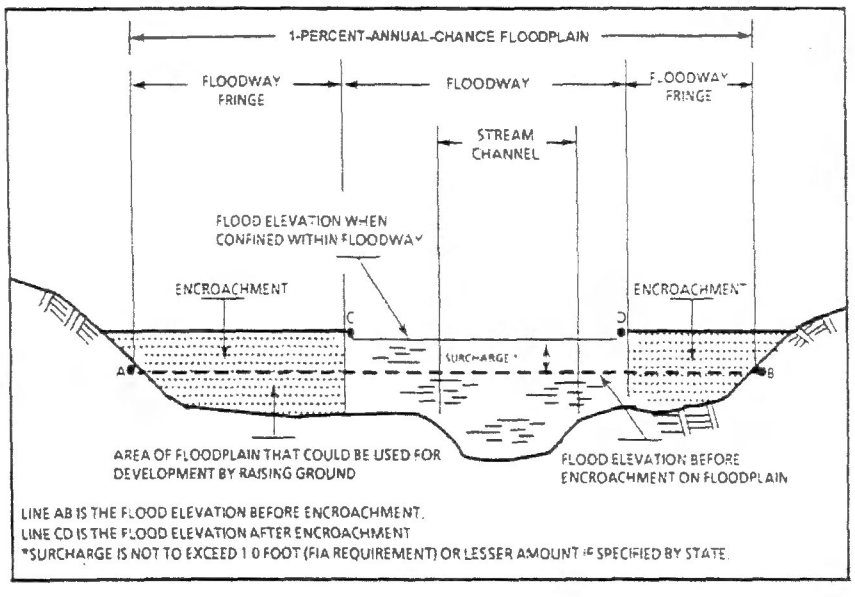


Figure 1: Floodway Schematic

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY[2]	WITH FLOODWAY[2]	INCREASE[2]
Ashland Creek								
A	400	54	167	13.5	1704.1	1705.8	1706.6	0.8
B	1020	130	277	8.1	1711.3	1712.6	1713.6	1.0
C	1660	39	183	12.4	1716.9	1719.2	1719.2	0.0
D	1750	53	202	11.2	1718.0	1718.7	1719.5	0.8
E	2040	51	143	15.8	1718.3	1721.4	1721.9	0.5
F	2270	50	197	11.5	1722.8	1724.3	1725.3	1.0
G	2740	125	146	15.5	1728.8	1735.2	1735.9	0.7
H	3050	61	243	9.3	1739.4	1741.6	1741.6	0.0
I	3275	66	200	11.3	1741.7	1744.2	1744.2	0.0
J	3625	45	87	25.9	1744.3	1757.4	1758.4	1.0
K	3695	60	105	7.5	1760.2	1760.6	1761.3	0.7
L	4195	54	204	11.1	1761.8	1764.4	1764.4	0.0
M	4695	54	139	16.2	1768.4	1774.3	1774.3	0.0
N	5165	61	186	12.2	1782.5	1785.5	1785.5	0.0
O	5565	65	173	13.0	1790.9	1793.3	1794.1	0.8
P	6435	49	147	15.4	1813.9	1818.0	1818.0	0.0

[1]Feet Above Confluence with Bear Creek [2]Energy Grade Line Elevations

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY[2]	WITH FLOODWAY[2]	INCREASE[2]
Q	7005	100	127	9.8	1833.4	1834.3	1835.1	0.8
R	7045	100	169	7.4	1834.2	1834.5	1835.4	0.9
S	7465	79	193	11.7	1841.2	1844.2	1844.3	0.1
T	7605	20	146	15.5	1846.9	1850.6	1850.6	0.0
U	7720	64	217	10.4	1850.5	1851.3	1851.3	0.0
V	8245	55	110	20.5	1857.1	1863.4	1864.2	0.8
W	8400	44	117	19.4	1863.3	1869.1	1869.1	0.0
X	8545	28	18	11.9	1872.8	1875.0	1875.0	0.0
Y	8590	20	122	18.6	1872.8	1879.0	1879.0	0.0
Z	8910	30	37	6.2	1886.1	1886.3	1887.0	0.7
AA	9270	36	118	19.2	1886.6	1891.3	1892.0	0.7
AB	9410	56	70	15.6	1893.0	1896.1	1897.1	1.0
AC	9630	57	169	13.4	1896.5	1898.1	1898.8	0.7
AD	10160	53	142	15.9	1911.1	1915.1	1915.1	0.0

[1]Feet Above Confluence with Bear Creek [2]Energy Grade Line Elevations

Table 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

ASHLAND CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Bear Creek								
A	0	760	6080	4.0	1171.4	1171.4	1172.4	1.0
B	1100	790	3817	6.4	1173.2	1173.2	1174.1	0.9
C	1300	960	6386	3.8	1177.9	1177.9	1177.9	0.0
D	1900	1200	8812	2.8	1178.1	1178.1	1178.4	0.3
E	3600	730	4066	6.0	1178.9	1178.9	1179.9	1.0
F	6800	300	3605	6.3	1188.7	1188.7	1189.5	0.8
G	10400	320	1196	18.9	1198.4	1198.4	1199.0	0.6
H	12500	320	3027	7.5	1204.8	1204.8	1205.7	0.9
I	15400	300	2352	9.6	1213.4	1213.4	1214.2	0.8
J	17300	220	1234	17.3	1218.7	1218.7	1219.3	0.6
K	17800	140	2340	9.2	1222.1	1222.1	1222.2	0.1
L	18000	140	2107	10.2	1223.4	1223.4	1223.4	0.0
M	19900	175	2659	8.0	1232.8	1232.8	1233.2	0.4
N	21800	330	3488	6.1	1238.4	1238.4	1239.2	0.8
O	23300	470	3832	5.6	1242.8	1242.8	1243.7	0.9
P	24500	230	1981	10.8	1247.9	1247.9	1248.7	0.8
Q	26100	200	2591	8.3	1258.0	1258.0	1258.5	0.5
R	27500	480	2804	7.6	1264.2	1264.2	1265.1	0.9
S	29400	550	5095	4.2	1271.2	1271.2	1271.8	0.6
T	31250	422	3622	5.9	1274.7	1274.7	1275.7	1.0
U	32260	236	2569	8.3	1276.8	1276.8	1277.4	0.6
V	33040	155	1688	12.7	1283.3	1283.3	1283.3	0.0
W	35160	322	3407	6.3	1294.0	1294.0	1294.9	0.9
X	36460	144	1493	14.3	1302.2	1302.2	1302.2	0.0

[1]Feet above Kirtland Road

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Y	36810	160	2253	9.5	1305.2	1305.2	1306.1	0.9
Z	38250	558	5455	3.9	1310.0	1310.0	1310.7	0.7
AA	39070	457	3151	6.6	1310.9	1310.9	1311.4	0.5
AB	39460	199	1676	12.4	1311.7	1311.7	1311.7	0.0
AC	39650	150	1512	13.8	1314.2	1314.2	1314.5	0.3
AD	39760	150	2046	10.2	1317.1	1317.1	1318.1	1.0
AE	40620	198	2722	7.6	1323.5	1323.5	1324.0	0.5
AF	41420	533	5870	3.5	1325.8	1325.8	1326.2	0.4
AG	42270	310	2017	10.3	1326.8	1326.8	1326.8	0.0
AH	42850	203	1784	11.7	1331.2	1331.2	1331.2	0.0
AI	43060	175	2487	8.4	1333.6	1333.6	1334.1	0.5
AJ	43580	265	3489	6.0	1335.6	1335.6	1335.8	0.2
AK	44180	325	2853	7.3	1335.7	1335.7	1336.2	0.5
AL	45740	120	1269	16.4	1341.0	1341.0	1341.0	0.0
AM	46390	150	1734	12.0	1345.4	1345.4	1345.4	0.0
AN	46700	176	2516	8.3	1348.6	1348.6	1348.9	0.3
AO	46720	176	1552	13.4	1348.6	1348.6	1348.6	0.0
AP	46850	131	1311	15.9	1348.6	1348.6	1348.6	0.0
AQ	47190	136	1394	14.9	1350.3	1350.3	1351.3	1.0
AR	48090	170	1437	14.3	1354.3	1354.3	1355.1	0.8
AS	48240	154	1445	14.2	1357.0	1357.0	1357.0	0.0
AT	48570	143	1458	14.1	1358.9	1358.9	1358.9	0.0
AU	49470	143	1561	13.1	1363.7	1363.7	1363.7	0.0
AV	50090	227	1879	10.9	1366.1	1366.1	1366.1	0.0

[1]Feet above Kirtland Road

Table 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

BEAR CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
AW	51480	291	1983	10.3	1372.0	1372.0	1372.0	0.0
AX	52170	350	3982	5.1	1375.9	1375.9	1376.0	0.1
AY	52530	313	2592	7.9	1376.0	1376.0	1376.0	0.0
AZ	54030	350	2279	8.9	1378.5	1378.5	1379.5	1.0
BA	55375	152	1556	13.1	1389.2	1389.2	1389.2	0.0
BB	55770	304	2283	8.8	1395.3	1395.3	1395.3	0.0
BC	56120	384	2375	8.5	1396.5	1396.5	1396.8	0.3
BD	56920	190	2520	8.0	1401.0	1401.0	1401.0	0.0
BE	57520	200	2812	7.1	1401.4	1401.4	1402.1	0.7
BF	59280	470	2946	6.8	1405.8	1405.8	1406.0	0.2
BG	61580	290	1939	9.9	1410.8	1410.8	1411.2	0.4
BH	62900	251	2056	9.3	1419.3	1419.3	1420.0	0.7
BI	67050	305	2392	8.0	1436.7	1436.7	1437.3	0.6
BJ	68050	543	2855	6.7	1439.2	1439.2	1439.5	0.3
BK	70250	200	1535	12.4	1452.1	1452.1	1452.1	0.0
BL	71500	357	3166	6.0	1458.5	1458.5	1458.5	0.0
BM	71950	342	3361	5.5	1460.0	1460.0	1460.8	0.8
BN.	72900	318	2058	9.0	1463.2	1463.2	1463.2	0.0
BO	73550	236	1829	10.1	1468.3	1468.3	1468.3	0.0
BP	73750	168	1949	9.5	1472.3	1472.3	1473.1	0.8
BQ	73870	255	3311	5.6	1475.1	1475.1	1475.9	0.8
BR	74440	420	3111	5.9	1475.2	1475.2	1476.0	0.8
BS	75430	375	1771	10.4	1478.2	1478.2	1478.2	0.0

[1]Feet above Kirtland Road

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BT	75945	520	3537	5.2	1484.5	1484.5	1485.2	0.7
BU	76475	1002	5700	3.2	1486.1	1486.1	1487.1	1.0
BV	77090	302	1847	10.0	1486.2	1486.2	1487.1	0.9
BW	77815	302	2304	8.0	1489.7	1489.7	1490.5	0.8
BX	79150	190	1258	14.6	1498.4	1498.4	1498.4	0.0
BY	81650	220	1559	11.3	1513.4	1513.4	1513.5	0.1
BZ	82120	273	2244	7.9	1516.5	1516.5	1517.0	0.5
CA	82470	480	4461	4.0	1518.2	1518.2	1518.6	0.4
CB	83060	300	2615	6.8	1518.3	1518.3	1518.6	0.3
CC	84910	288	1363	12.3	1525.8	1525.8	1525.9	0.1
CD	86070	207	2006	8.4	1536.2	1536.2	1537.2	1.0
CE	87120	240	1983	8.5	1542.0	1542.0	1542.0	0.0
CF	87920	225	1775	9.5	1545.5	1545.5	1546.1	0.6
CG	88780	112	1299	12.9	1550.4	1550.4	1550.7	0.3
CH	89120	154	1562	10.8	1556.4	1556.4	1557.0	0.6
CI	90120	398	2242	7.5	1561.0	1561.0	1561.0	0.0
CJ	91320	510	2748	6.0	1565.4	1565.4	1565.5	0.1
CK	92120	278	1790	9.2	1567.6	1567.6	1567.7	0.1
CL	93410	406	2978	5.5	1575.2	1575.2	1576.0	0.8
CM	94750	370	2088	7.9	1584.6	1584.6	1585.0	0.4
CN	96610	550	2809	5.9	1594.7	1594.7	1595.2	0.5
CO	98990	405	2362	7.0	1605.7	1605.7	1606.5	0.8
CP	99760	236	1676	9.8	1611.6	1611.6	1612.1	0.5
CQ	101410	152	1423	11.6	1622.7	1622.7	1623.1	0.4

[1]Feet above Kirtland Road

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
CR	102570	121	1204	12.3	1630.7	1630.7	1631.1	0.4
CS	103130	167	1717	8.7	1635.0	1635.0	1635.9	0.9
CT	103710	151	1287	11.5	1639.0	1639.0	1639.0	0.0
CU	104360	97/347[2]	1038	13.7	1642.2	1642.2	1643.0	0.8
CV	105500	124/374[2]	1036	9.6	1655.0	1655.0	1655.0	0.0
CW	106620	234/468[2]	1404	9.0	1657.5	1657.5	1657.7	0.2
CX	107390	354	2556	5.8	1663.7	1663.7	1663.7	0.0
CY	107830	288	2125	6.6	1664.4	1664.4	1664.7	0.3
CZ	108350	221	1398	10.1	1666.4	1666.4	1666.4	0.0
DA	108950	225	1500	9.4	1668.7	1668.7	1669.7	1.0
DB	109910	116	931	15.1	1676.1	1676.1	1676.1	0.0
DC	111110	120	1253	11.3	1682.4	1682.4	1682.8	0.4
DD	111910	140	1288	11.0	1685.6	1685.6	1686.4	0.8
DE	112870	134	1021	13.8	1692.3	1692.3	1692.3	0.0
DF	113950	335	1651	8.2	1699.3	1699.3	1700.1	0.8
DG	114910	565	2657	5.1	1706.3	1706.3	1707.1	0.8
DH	115910	471	1682	8.0	1714.2	1714.2	1714.2	0.0
DI	116390	198	1033	13.1	1717.4	1717.4	1717.4	0.0
DJ	116815	100	1206	11.2	1724.3	1724.3	1725.3	1.0
DK	117915	146	1026	13.2	1729.8	1729.8	1730.2	0.4
DL	118915	163	1146	11.8	1736.3	1736.3	1737.2	0.9
DM	119715	278	1509	9.0	1741.5	1741.5	1742.5	1.0
DN	120515	300	2077	6.5	1746.4	1746.4	1746.9	0.5
DO	121235	122	1032	13.1	1752.3	1752.3	1752.8	0.5
DP	121685	187	1689	8.0	1756.7	1756.7	1757.7	1.0
DQ	122125	172	1502	9.0	1760.8	1760.8	1761.8	1.0

[1]Feet above Kirtland Road [2]Width/width combined with Bear Creek Split Flow

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
DR	122165	199	1806	7.5	1761.8	1761.8	1762.8	1.0
DS	123285	331	1950	6.9	1766.0	1766.0	1766.1	0.1
DT	124385	300	2153	6.3	1777.4	1777.4	1778.1	0.7
DU	125825	142	1270	9.2	1786.1	1786.1	1786.8	0.7
DV	126525	327	2093	5.6	1791.4	1791.4	1792.2	0.8
DW	127565	239	1226	9.5	1797.1	1797.1	1797.3	0.2
DX	128705	163	1140	10.2	1806.6	1806.6	1807.0	0.4
DY	130785	171	1078	10.8	1822.3	1822.3	1822.3	0.0
DZ	131905	665	3129	3.7	1836.9	1836.9	1837.2	0.3
EA	132825	148	1068	10.5	1838.4	1838.4	1839.3	0.9
EB	134025	65	571	16.9	1845.6	1845.6	1846.4	0.8
EC	135225	166	925	10.4	1856.4	1856.4	1857.1	0.7
ED	136225	118	776	12.4	1867.7	1867.7	1867.7	0.0
EE	137345	409	1560	6.2	1875.1	1875.1	1876.0	0.9
EF	137745	121	701	13.7	1877.2	1877.2	1877.9	0.7
EG	138145	42	605	15.9	1886.5	1886.5	1887.4	0.9
Bear Creek Split Flow								
A	104360	250/347[2]	2907	0.6	1655.6	1655.6	1655.6	0.0
B	105500	250/374[2]	2425	2.0	1655.7	1655.7	1655.8	0.1
C	106620	234/468[2]	690	3.2	1655.9	1655.9	1656.9	1.0

[1]Feet above Kirtland Road [2]Width/width combined with Bear Creek Main Channel

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY[2]	WITH FLOODWAY[2]	INCREASE[2]
Clay Creek								
A	250	34	59	15.0	1833.3	1839.0	1839.0	0.0
B	700	20	34	26.3	1865.8	1880.2	1880.3	0.1
C	780	31	48	18.5	1882.0	1889.2	1890.0	0.8
D	930	50	73	12.2	1898.5	1901.0	1901.8	0.8
E	1150	100	144	6.2	1908.3	1908.6	1909.5	0.9
F	1270	39	75	11.9	1908.3	1909.5	1909.5	0.0
G	2180	47	82	10.9	1932.1	1935.5	1935.5	0.0
H	2630	36	53	16.7	1946.0	1954.7	1954.7	0.0
I	2700	36	44	20.2	1952.1	1958.7	1958.7	0.0
J	2910	21	46	19.2	1961.0	1965.3	1966.3	1.0
K	3170	90	70	12.7	1967.2	1971.5	1972.5	1.0
L	3350	120	111	8.0	1973.0	1974.8	1975.7	0.9
M	3540	130	133	6.7	1977.9	1978.4	1979.4	1.0
N	3720	94	112	8.0	1981.3	1984.4	1984.4	0.0
O	3920	52	64	13.9	1986.7	1989.2	1989.6	0.4
P	4140	33	67	13.3	1994.6	1999.5	2000.4	0.9
Q	4220	55	138	6.5	2000.7	2001.2	2002.2	1.0

[1]Feet above confluence with Bear Creek [2]Energy grade line

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY[2]	WITH FLOODWAY[2]	INCREASE[2]
R	4300	85	141	6.3	2001.6	2001.9	2002.9	1.0
S	4550	65	92	9.7	2008.6	2010.1	2010.1	0.0
T	5230	45	61	14.7	2033.0	2036.4	2036.4	0.0
U	5480	50	77	11.6	2041.9	2044.1	2044.9	0.8
V	5530	65	133	6.7	2045.3	2045.8	2046.7	0.9
W	5980	50	93	9.6	2063.8	2065.3	2065.6	0.3
X	6480	50	109	8.2	2083.4	2084.5	2085.4	0.9
Y	6520	85	116	7.7	2085.8	2086.5	2087.5	1.0
Z	6800	55	135	6.6	2096.1	2096.9	2097.8	0.9
AA	7250	43	62	14.3	2114.4	2119.4	2120.4	1.0
AB	7560	60	103	8.6	2136.4	2138.9	2138.9	0.0
AC	7710	56	65	13.7	2137.6	2142.2	2142.2	0.0
AD	7960	43	75	12.0	2148.6	2152.7	2152.7	0.0
AE	8110	63	41	21.6	2156.3	2164.6	2164.6	0.0
AF	8410	71	123	7.3	2171.0	2172.0	2172.0	0.0

[1]Feet above confluence with Bear Creek [2]Energy grade line

Table 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

CLAY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Daisy Creek								
A	0	58	179	0.9	1274.0[2]	1268.6	1268.6	0.0
B	594	12	32	5.7	1275.0[2]	1273.6	1273.6	0.0
C	696	21	61	2.7	1275.0[2]	1274.6	1274.8	0.2
D	803	21	61	2.7	1275.0[2]	1274.8	1275.5	0.7
E	918	24	84	2.0	1275.0[2]	1274.9	1275.7	0.8
F	1074	17	50	3.3	1275.1	1275.1	1275.9	0.7
G	1321	15	34	5.0	1277.1	1277.1	1277.1	0.1
H	1703	20	39	4.2	1279.4	1279.4	1279.4	0.0
I	2086	22	41	4.1	1281.6	1281.6	1281.6	0.0
J	2460	20	45	3.7	1283.4	1283.4	1283.4	0.0
K	2785	17	38	4.5	1285.2	1285.2	1285.2	0.0
L	2976	16	37	4.6	1286.5	1286.5	1286.5	0.0
M	3297	23	45	3.7	1288.4	1288.4	1288.4	0.0
N	3419	35	82	2.0	1290.7	1290.7	1291.1	0.3
O	3657	19	47	3.5	1291.1	1291.1	1291.4	0.3
P	4009	19	39	4.3	1293.8	1293.8	1293.8	0.0
Q	4285	17	38	4.3	1295.7	1295.7	1295.8	0.1
R	4493	14	32	5.2	1297.5	1297.5	1297.6	0.1
S	4559	31	105	1.6	1299.0	1299.0	1299.1	0.1

[1]Feet above confluence with Griffin Creek [2]Backwater from Griffin Creek

Table 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

DAISY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Elk Creek								
A	1050	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B	1129	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C	1386	200	922	1.0	1282.9	1282.9	1283.7	0.8
D	1602	39	249	3.6	1283.0	1283.0	1283.8	0.8
E	1745	39	183	4.9	1283.3	1283.3	1284.1	0.8
F	2056	29	142	6.4	1284.5	1284.5	1285.4	0.9
G	2529	42	188	4.8	1286.7	1286.7	1287.2	0.5
H	2968	38	161	5.6	1289.5	1289.5	1289.7	0.2
I	3347	43	136	6.6	1291.6	1291.6	1291.6	0.1
J	3792	36	165	5.5	1294.3	1294.3	1294.3	0.0
K	4134	45	164	5.5	1295.6	1295.6	1295.7	0.1
L	4229	50	212	4.2	1296.8	1296.8	1297.7	0.9

[1]Feet above confluence with Bear Creek

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Evans Creek								
A	0[1]	132	2669	11.7	999.2	990.5[2]	991.3[2]	0.8
B	150[1]	163	2794	11.2	999.2	990.9[2]	991.7[2]	0.8
C	300[1]	164	2815	11.1	999.2	991.1[2]	991.9[2]	0.8
D	580[1]	129	2487	12.6	999.2	991.3[2]	992.1[2]	0.8
E	3580[1]	244	4330	7.2	999.2	996.8[2]	997.2[2]	0.4
F	6980[1]	173	2050	15.3	999.6	999.6	1000.6	1.0
G	10280[1]	188	2597	12.1	1018.0	1018.0	1018.0	0.0
H	13680[1]	126	2882	10.9	1027.6	1027.6	1027.9	0.3
I	15530[1]	184	1927	16.3	1032.9	1032.9	1033.1	0.2
J	0[3]	529	5073	5.8	1123.6	1123.6	1124.2	0.6
K	1200[3]	140	1931	13.5	1125.0	1125.0	1125.7	0.7
L	1530[3]	409	4032	6.5	1126.7	1126.7	1127.7	1.0
M	2480[3]	467	4441	5.9	1128.6	1128.6	1129.5	0.9
N	4450[3]	294	3389	7.7	1136.6	1136.6	1137.5	0.9
O	4900[3]	253	3399	7.7	1139.5	1139.5	1140.5	1.0
P	6500[3]	238	3016	8.7	1142.1	1142.1	1142.9	0.8
Q	7780[3]	549	4366	6.0	1146.0	1146.0	1147.0	1.0
R	9380[3]	147	2053	12.7	1149.0	1149.0	1149.6	0.6
S	10570[3]	101	1696	15.4	1153.6	1153.6	1154.4	0.8
T	11460[3]	152	2596	10	1158.7	1158.7	1159.7	1.0
U	14615[3]	233	2459	10.6	1172.6	1172.6	1173.1	0.5
V	16115[3]	174	1666	15.0	1180.9	1180.9	1180.9	0.0
W	16565[3]	225	2376	10.5	1185.9	1185.9	1186.5	0.6
X	16915[3]	110	1601	15.6	1186.5	1186.5	1187.0	0.5
Y	17650[3]	175	1720	14.5	1195.4	1195.4	1195.4	0.0

[1]Feet above confluence with Rogue River [2]Elevation computed without consideration of backwater effect from Rouge River
[3]Feet above Cross Section J

Table 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

EVANS CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Foots Creek								
A	780	257	2380	0.9	1017.7	1017.7	1018.7	1.0
B	2270	41	187	12.0	1026.4	1026.4	1027.1	0.7
C	3750	70	384	5.9	1051.1	1051.1	1052.0	0.9
D	4990	43	247	9.1	1065.3	1065.3	1066.0	0.7
E	6466	58	332	6.8	1085.3	1085.3	1086.3	1.0
F	8176	74	357	6.3	1105.9	1105.9	1106.4	0.5
G	8261	69	274	8.2	1106.3	1106.3	1106.9	0.6
H	11511	59	285	7.9	1165.2	1165.2	1165.7	0.5

[1]Feet above confluence with Rogue River

Table 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

FOOTS CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Griffin Creek								
A	0	47	172	9.6	1214.1	1205.6[2]	1205.6	0.0
B	333	42	152	10.8	1215.0	1212.0[2]	1212.0	0.0
C	635	55	350	4.7	1220.5	1220.5	1220.5	0.0
D	835	28	179	9.2	1220.6	1220.6	1220.6	0.0
E	1154	28	135	12.2	1224.1	1224.1	1224.1	0.0
F	1493	55	218	7.6	1229.4	1229.4	1229.4	0.0
G	1860	50	257	6.4	1231.0	1231.0	1231.8	0.7
H	2422	35	349	5.3	1233.3	1233.3	1233.8	0.5
I	2511	35	299	6.5	1233.5	1233.5	1234.0	0.5
J	2865	40	140	11.8	1237.1	1237.1	1237.1	0.0
K	3376	45	197	8.4	1241.8	1241.8	1242.0	0.2
L	3868	230	372	4.4	1244.6	1244.6	1245.0	0.4
M	4468	95	272	6.1	1246.5	1246.5	1247.0	0.5
N	5005	35	243	6.8	1249.0	1249.0	1249.9	0.9
O	5737	38	182	9.0	1253.4	1253.4	1253.9	0.5
P	5800	59	436	5.1	1255.0	1255.0	1255.1	0.2
Q	5988	29	263	6.9	1256.3	1256.3	1256.4	0.1
R	6140	52	309	6.8	1257.4	1257.4	1257.5	0.1
S	6242	38	294	7.5	1257.7	1257.7	1257.7	0.1
T	6921	46	328	8.7	1259.5	1259.5	1260.2	0.7
U	7298	71	373	7.7	1261.1	1261.1	1262.0	0.8
V	7375	62	438	6.6	1262.0	1262.0	1262.6	0.6
W	7712	66	468	6.1	1263.4	1263.4	1263.9	0.5

[1]Feet above confluence with Bear Creek [2]Elevations computed without consideration of influence from Bear Creek

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
X	8218	220	482	6.0	1267.6	1267.6	1267.7	0.1
Y	8293	230	748	3.8	1268.5	1268.5	1269.5	1.0
Z	8919	49	405	7.1	1269.9	1269.9	1270.6	0.7
AA	9229	158	848	3.3	1274.2	1274.2	1274.8	0.6
AB	9633	461	1077	2.6	1274.7	1274.7	1275.3	0.6
AC	9780	457	413	6.6	1275.1	1275.1	1275.2	0.1
AD	9872	250	878	3.1	1278.6	1278.6	1279.1	0.5
AE	10254	246	918	3.0	1280.9	1280.9	1281.5	0.6
AF	10566	340	901	3.0	1282.4	1282.4	1283.1	0.7
AG	10772	380	1038	2.5	1283.9	1283.9	1284.8	0.8
AH	11191	328	586	4.5	1285.5	1285.5	1285.8	0.3
AI	11505	159	921	2.7	1287.5	1287.5	1287.8	0.3
AJ	11838	122	568	4.4	1288.5	1288.5	1288.6	0.2
AK	12113	45	236	10.7	1290.6	1290.6	1290.6	0.0
AL	12379	49	317	8.0	1293.2	1293.2	1293.2	0.0
AM	12713	56	353	7.1	1296.0	1296.0	1296.0	0.0
AN	12968	50	356	7.1	1296.9	1296.9	1297.1	0.2
AO	13263	38	284	8.9	1298.8	1298.8	1298.8	0.0
AP	13395	206	784	3.2	1301.1	1301.1	1302.0	0.9
AQ	13458	305	1008	2.3	1301.7	1301.7	1301.7	0.0
AR	16438	282	759	3.0	1319.7	1319.7	1320.7	1.0
AS	17108	507	1460	1.5	1325.9	1325.9	1326.6	0.7
AT	17808	144	347	6.4	1329.5	1329.5	1329.6	0.1

[1]Feet above confluence with Bear Creek

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
AU	20078	118	372	6.0	1345.7	1345.7	1346.2	0.5
AV	20308	241	529	4.2	1348.9	1348.9	1349.6	0.7
AW	21308	225	491	4.6	1356.2	1356.2	1356.9	0.7
AX	21558	26	198	11.3	1357.9	1357.9	1358.4	0.5
AY	21618	213	488	4.6	1360.8	1360.8	1361.2	0.4
AZ	22873	29	203	11.0	1370.4	1370.4	1370.4	0.0
BA	24363	30	219	10.2	1380.6	1380.6	1380.7	0.1
BB	26303	30	205	10.6	1396.6	1396.6	1396.6	0.0
BC	28013	176	510	3.8	1412.5	1412.5	1413.2	0.7
BD	28143	279	775	2.5	1413.2	1413.2	1413.3	0.1
BE	29153	212	560	3.4	1418.3	1418.3	1419.3	1.0
BF	30253	130	296	6.5	1425.8	1425.8	1426.4	0.6
BG	31353	387	1465	1.3	1436.4	1436.4	1437.4	1.0
BH	32493	106	265	7.2	1443.3	1443.3	1444.0	0.7
BI	34313	108	285	6.7	1462.1	1462.1	1463.1	1.0
BJ	34933	80	225	8.5	1468.5	1468.5	1468.5	0.0
BK	36413	80	222	8.6	1488.4	1488.4	1488.7	0.3

[1]Feet above confluence with Bear Creek

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BL	37493	20	101	19.0	1502.8	1502.8	1502.8	0.0
BM	38163	80	277	6.6	1515.6	1515.6	1516.6	1.0
BN	39193	34	131	14.1	1533.5	1533.5	1533.5	0.0
BO	39923	55	227	8.1	1549.0	1549.0	1549.0	0.0
BP	40653	51	128	14.4	1556.8	1556.8	1556.8	0.0
BQ	41663	57	234	7.9	1576.2	1576.2	1577.0	0.8
BR	42753	70	184	10.0	1595.1	1595.1	1595.1	0.0
BS	43623	80	234	7.8	1608.6	1608.6	1608.6	0.0
BT	44603	74	263	7.0	1625.0	1625.0	1625.0	0.0
BU	45503	35	120	15.3	1639.2	1639.2	1639.2	0.0
BV	46423	80	269	6.8	1663.3	1664.3	1664.3	1.0

[1]Feet above confluence with Bear Creek

Table 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

GRIFFIN CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Horn Creek								
A	0	41	194	2.2	1263.8[2]	1262.5	1262.5	0.0
B	176	17	42	8.1	1264.9[2]	1262.5	1262.7	0.2
C	287	35	89	3.8	1266.3	1266.3	1267.3	1.0
D	583	16	64	5.2	1267.7	1267.7	1268.5	0.8
E	787	19	63	5.3	1268.7	1268.7	1269.6	1.0
F	931	27	65	5.1	1270.7	1270.7	1270.7	0.0
G	1212	48	148	2.3	1271.9	1271.9	1271.9	0.0
H	1244	43	81	4.2	1271.8	1271.8	1271.8	0.0
I	1309	50	77	4.4	1273.3	1273.3	1273.3	0.0
J	2079	31	71	4.8	1279.4	1279.4	1279.4	0.0
K	2511	47	118	2.9	1281.2	1281.2	1281.2	0.0
L	2635	33	79	5.6	1281.4	1281.4	1281.4	0.0
M	2684	39	91	5.2	1282.5	1282.5	1282.5	0.0
N	2828	23	43	7.8	1283.9	1283.9	1283.9	0.0
O	3130	26	78	4.3	1287.3	1287.3	1287.4	0.2
P	3213	33	79	4.3	1287.7	1287.7	1287.9	0.2
Q	3434	16	54	6.2	1289.2	1289.2	1289.3	0.1
R	3517	23	107	3.1	1289.7	1289.7	1290.4	0.7

[1]Feet above confluence with Jackson Creek [2]Backwater from Jackson Creek

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Jackson Creek								
A	9221	490	1451	2.4	1235.2	1235.2	1236.0	0.9
B	9288	300	1144	3.0	1236.7	1236.7	1237.4	0.7
C	9612	276	1184	2.9	1237.2	1237.2	1238.0	0.8
D	9770	359	1380	2.5	1237.5	1237.5	1238.4	0.8
E	10175	225	482	4.6	1239.7	1239.7	1239.7	0.0
F	10344	200	555	4.0	1240.1	1240.1	1240.5	0.4
G	10590	150	453	4.8	1240.4	1240.4	1241.2	0.8
H	10898	50	274	8.0	1242.7	1242.7	1243.4	0.7
I	10948	33	269	8.2	1243.0	1243.0	1243.6	0.7
J	11035	36	290	7.6	1243.8	1243.8	1244.5	0.8
K	11367	37	310	7.1	1245.0	1245.0	1245.7	0.7
L	11749	44	330	6.6	1246.2	1246.2	1246.9	0.7
M	11901	46	304	7.2	1246.6	1246.6	1247.2	0.7
N	12185	41	300	7.3	1248.1	1248.1	1248.9	0.8
O	12353	127	1129	1.9	1249.1	1249.1	1249.8	0.8
P	12652	127	732	3.0	1249.1	1249.1	1249.8	0.8
Q	12800	49	182	12.0	1248.9	1248.9	1249.4	0.5
R	12852	49	260	8.4	1250.7	1250.7	1251.1	0.4
S	13088	105	365	6.0	1252.4	1252.4	1252.9	0.5
T	13315	60	291	7.5	1253.2	1253.2	1253.6	0.4

[1]Feet above confluence with Bear Creek

Table 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

JACKSON CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
U	13447	39	171	12.9	1253.1	1253.1	1253.5	0.4
V	13618	44	302	7.3	1256.0	1256.0	1256.5	0.6
W	13740	62	363	6.0	1256.5	1256.5	1257.1	0.6
X	14532	37	192	11.4	1260.4	1260.4	1260.8	0.4
Y	15003	37	321	6.8	1263.9	1263.9	1264.6	0.7
Z	15288	52	338	5.6	1265.6	1265.6	1266.3	0.7
AA	15412	63	320	6.0	1267.0	1267.0	1267.9	1.0
AB	15857	65	330	5.7	1268.9	1268.9	1269.5	0.6
AC	15920	65	384	4.9	1269.5	1269.5	1270.4	0.9
AD	16403	96	375	5.0	1270.8	1270.8	1271.5	0.7
AE	16942	36	139	13.6	1272.5	1272.5	1273.0	0.6
AF	17591	65	304	6.2	1279.6	1279.6	1280.4	0.8
AG	17671	60	207	9.8	1280.4	1280.4	1281.2	0.8
AH	17858	60	236	9.0	1282.4	1282.4	1283.1	0.7
AI	17932	69	315	6.6	1284.3	1284.3	1285.2	0.9
AJ	17994	65	560	3.4	1285.6	1285.6	1286.4	0.7
AK	18968	55	381	5.0	1286.7	1286.7	1287.3	0.6
AL	20090	42	165	15.6	1292.8	1292.8	1292.8	0.0
AM	20208	52	473	4.0	1301.0	1301.0	1301.0	0.0

[1]Feet above confluence with Bear Creek

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Jackson Creek Overbank								
A	390	200	575	2.1	1238.4	1238.4	1239.2	0.8
B	588	200	348	3.5	1238.6	1238.6	1239.6	1.0
C	986	239	674	1.8	1239.7	1239.7	1240.6	0.8
D	1394	224	340	3.6	1240.8	1240.8	1241.3	0.6
E	1592	270	452	2.7	1241.8	1241.8	1242.6	0.7
F	1833	292	403	3.0	1242.8	1242.8	1243.8	0.9
G	1949	264	385	3.2	1243.7	1243.7	1244.5	0.9
H	2091	259	464	2.6	1244.4	1244.4	1245.3	0.9
I	2236	283	398	3.1	1245.3	1245.3	1246.0	0.7
K	2790	351	443	2.8	1248.4	1248.4	1249.3	0.9
L	3172	360	411	3.0	1251.0	1251.0	1251.9	1.0
M	3446	423	632	1.9	1252.2	1252.2	1253.2	1.0
N	3683	310	407	3.0	1254.0	1254.0	1254.1	0.0

[1]Feet above confluence with Jackson Creek

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Little Butte Creek								
A	0	208	1789	7.7	1254.3	1254.3	1255.1	0.8
B	2600	526	2505	5.5	1265.2	1265.2	1266.2	1.0
C	4700	186	1603	8.6	1276.9	1276.9	1277.2	0.3
D	5300	211	1912	7.2	1278.9	1278.9	1279.5	0.6
E	5500	150	2309	6.0	1284.1	1284.1	1284.6	0.5
F	5580	155	3117	4.5	1284.6	1284.6	1285.1	0.5
G	6380	166	1773	7.8	1285.0	1285.0	1285.7	0.7
H	8080	140	1354	10.2	1291.0	1291.0	1291.1	0.1
I	10680	229	2161	6.4	1299.7	1299.7	1300.2	0.5
J	10980	225	2081	6.6	1300.5	1300.5	1300.9	0.4
K	11980	181	1504	9.2	1303.6	1303.6	1303.7	0.1
L	12780	145	1374	10.1	1307.3	1307.3	1307.4	0.1
M	14700	90	848	16.3	1315.8	1315.8	1316.8	1.0
N	17100	156	1531	9.0	1331.7	1331.7	1331.7	0.0
O	19200	254	1634	8.3	1341.6	1341.6	1342.6	1.0
P	21600	128	1089	12.4	1350.6	1350.6	1350.6	0.0
Q	23200	134	908	14.9	1359.1	1359.1	1359.1	0.0
R	25000	288	1690	8.0	1370.6	1370.6	1371.2	0.6

[1]Feet upstream of Section A

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
S	27100	146	1476	9.2	1376.7	1376.7	1377.2	0.5
T	30100	174	909	14.4	1392.0	1392.0	1392.0	0.0
U	32800	80	1461	8.6	1402.5	1402.5	1403.3	0.8
V	33300	110	959	13.0	1407.2	1407.2	1407.2	0.0
W	34300	118	858	14.6	1417.2	1417.2	1417.5	0.3
X	35600	536	3163	4.0	1422.2	1422.2	1423.2	1.0
Y	36800	145	887	14.1	1424.9	1424.9	1424.9	0.0
Z	37050	170	950	13.2	1427.4	1427.4	1427.4	0.0
AA	39600	222	1491	8.4	1438.9	1438.9	1439.1	0.2
AB	41000	188	985	12.5	1446.3	1446.3	1446.3	0.0
AC	41300	421	1649	7.5	1447.7	1447.7	1448.7	1.0
AD	42900	387	1991	6.1	1455.9	1455.9	1456.9	1.0
AE	45150	417	1127	9.0	1470.5	1470.5	1471.3	0.8
AF	45850	429	1607	6.3	1475.3	1475.3	1476.2	0.9

[1]Feet upstream of Section A

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Mingus Creek								
A	5526	46	76	2.1	1260.6	1260.6	1260.6	0.0
B	5773	28	95	1.7	1263.1	1263.1	1263.1	0.0
C	6007	36	42	3.8	1263.3	1263.3	1263.3	0.0
D	6341	43	55	3.3	1264.0	1264.0	1264.0	0.0
E	6403	45	74	3.0	1264.1	1264.1	1264.1	0.0
F	6630	39	56	3.9	1264.4	1264.4	1264.4	0.0
G	6682	41	51	4.1	1264.6	1264.6	1264.6	0.0
H	6977	26	69	2.3	1266.5	1266.5	1267.0	0.4
I	7150	26	87	1.8	1267.3	1267.3	1267.9	0.6
J	7368	33	78	2.0	1267.5	1267.5	1268.0	0.6
K	7730	22	38	4.1	1268.9	1268.9	1269.0	0.1
L	7965	46	57	2.8	1270.1	1270.1	1270.1	0.0
M	8439	18	29	5.4	1271.6	1271.6	1271.6	0.0
N	8752	24	92	1.7	1276.6	1276.6	1276.7	0.1
O	9106	24	75	2.1	1276.9	1276.9	1276.9	0.1
P	9231	24	87	1.8	1277.4	1277.4	1278.1	0.7
Q	9518	17	46	3.4	1277.7	1277.7	1278.3	0.6
R	9601	21	37	4.3	1278.9	1278.9	1279.0	0.1

[1]Feet above confluence with Bear Creek

Table 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

MINGUS CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
S	9838	15	42	3.7	1280.3	1280.3	1280.4	0.0
T	10075	10	38	4.1	1281.3	1281.3	1281.5	0.1
U	10235	23	80	2.0	1283.0	1283.0	1283.3	0.3
V	10634	17	47	3.4	1284.0	1284.0	1284.1	0.1
W	10949	17	50	3.1	1285.9	1285.9	1286.8	0.9
X	11275	18	22	7.2	1288.4	1288.4	1288.4	0.0
Y	11537	18	75	2.1	1293.5	1293.5	1293.9	0.4
Z	11770	30	85	2.1	1294.5	1294.5	1294.6	0.1
AA	11900	30	159	1.0	1295.2	1295.2	1296.1	0.8
AB	11951	14	84	1.9	1295.2	1295.2	1296.1	0.9

[1]Feet above confluence with Bear Creek

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Pleasant Creek								
A	350	280	2699	1.3	1125.5	1125.5	1126.4	0.9
B	1190	188	1300	2.7	1125.6	1125.6	1126.5	0.9
C	1295	103	923	3.8	1125.5	1125.5[2]	1126.5[2]	1.0
D	2425	58	289	12.1	1127.6	1127.6	1128.2	0.6
E	3415	130	699	5.0	1134.5	1134.5	1135.3	0.8
F	4255	115	606	5.8	1137.5	1137.5	1137.9	0.4
G	5055	100	525	6.7	1140.7	1140.7	1141.7	1.0
H	6345	49	358	9.8	1147.4	1147.4	1147.8	0.4
I	8325	87	360	9.7	1157.2	1157.2	1157.2	0.0
J	8875	68	317	11.1	1161.1	1161.1	1161.7	0.6
K	9715	241	810	4.3	1168.4	1168.4	1169.0	0.6
L	10795	90	342	10.3	1176.2	1176.2	1176.2	0.0
M	12155	59	303	11.6	1184.6	1184.6	1184.6	0.0
N	12885	94	652	5.4	1189.3	1189.3	1190.2	0.9
O	13875	79	525	6.7	1192.8	1192.8	1193.0	0.2
P	14575	89	513	6.8	1196.7	1196.7	1197.7	1.0
Q	14785	65	306	11.5	1198.6	1198.6	1198.9	0.3
R	15845	215	988	3.5	1204.9	1204.9	1205.5	0.6

[1]Feet above confluence with Evans Creek [2]Indicates critical depth

Table 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

PLEASANT CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Rogue River								
A	550	441	11440	12.4	978.9	978.9	979.2	0.3
B	2610	550	12553	11.3	982.2	982.2	982.2	0.0
C	5620	476	12585	11.2	984.9	984.9	985.3	0.4
D	7430	495	12671	11.1	986.8	986.8	987.2	0.4
E	9440	500	12538	11.2	989.7	989.7	989.7	0.0
F	10450	500	12171	11.6	990.3	990.3	990.6	0.3
G	11460	693	17653	8.0	992.2	992.2	993.0	0.8
H	13450	700	14230	9.9	993.8	993.8	994.4	0.6
I	15580	750	13414	10.5	996.7	996.7	997.1	0.4
J	16590	750	14068	10.0	998.0	998.0	998.6	0.6
K	17580	700	14433	8.2	1000.1	1000.1	1000.8	0.7
L	18580	600	12817	9.2	1001.1	1001.1	1002.1	1.0
M	19020	487	14285	8.3	1002.7	1002.7	1003.5	0.8
N	19640	477	12929	9.0	1003.0	1003.0	1003.8	0.8
O	21830	473	11106	10.5	1004.4	1004.4	1005.3	0.9
P	23980	344	9870	11.9	1006.5	1006.5	1007.2	0.7
Q	24980	500	11263	10.4	1007.9	1007.9	1008.7	0.8
R	27000	414	10308	11.3	1009.8	1009.8	1010.6	0.8
S	29200	470	10391	11.3	1012.6	1012.6	1013.3	0.7
T	30070	361	8742	13.2	1013.7	1013.7	1014.4	0.7
U	34060	663	14495	7.8	1019.1	1019.1	1020.0	0.9
V	36010	224	10424	10.8	1020.2	1020.2	1021.0	0.8

[1]Feet above Savage Rapids Dam

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
W	37310	635	15315	7.4	1022.2	1022.2	1023.0	0.8
X	38360	445	9096	12.4	1022.3	1022.3	1023.3	1.0
Y	40360	329	8007	14.1	1026.0	1026.0	1026.6	0.6
Z	41370	414	9510	11.9	1028.5	1028.5	1029.5	1.0
AA	43340	305	7869	14.4	1031.1	1031.1	1031.8	0.7
AB	44450	360	10600	10.7	1033.7	1033.7	1034.5	0.8
AC	45550	479	11099	10.2	1035.0	1035.0	1035.8	0.8
AD	47560	423	8469	13.3	1037.6	1037.6	1038.1	0.5
AE	49580	400	10695	10.6	1042.3	1042.3	1042.4	0.1
AF	51830	350	8468	13.3	1046.9	1046.9	1047.1	0.2
AG	52830	280	7249	15.6	1048.2	1048.2	1048.3	0.1
AH	54840	327	7994	13.9	1052.2	1052.2	1053.2	1.0
AI	56840	350	10142	10.6	1057.2	1057.2	1057.5	0.3
AJ	57790	378	9445	11.4	1058.1	1058.1	1058.6	0.5
AK	59780	288	7308	14.8	1060.7	1060.7	1061.0	0.3
AL	60780	325	10009	10.8	1062.8	1062.8	1063.8	1.0
AM	62720	350	8793	12.3	1064.8	1064.8	1065.5	0.7
AN	64650	355	7897	13.5	1068.8	1068.8	1069.1	1.0
AO	65000	176	5821	18.4	1068.9	1068.9	1069.8	0.9
AP	65930	350	9561	11.2	1074.8	1074.8	1075.2	0.4
AQ	66940	326	7367	14.5	1075.6	1075.6	1076.4	0.8
AR	67990	396	10121	10.6	1078.7	1078.7	1079.4	0.7

[1]Feet above Savage Rapids Dam

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
AS	69010	421	8703	12.3	1080.1	1080.1	1080.7	0.6
AT	71010	500	6670	16.0	1088.5	1088.5	1088.6	0.1
AU	73010	406	7805	13.7	1095.9	1095.9	1096.1	0.2
AV	75000	319	7268	14.7	1100.0	1100.0	1100.0	0.0
AW	76000	267	6768	15.8	1101.5	1101.5	1101.9	0.4
AX	77000	475	9466	11.3	1104.8	1104.8	1105.6	0.8
AY	79030	950	11951	9.0	1110.3	1110.3	1111.2	0.9
AZ	80220	1050	13667	7.8	1113.5	1113.5	1114.1	0.6
BA	80850	1100	13215	8.1	1114.9	1114.9	1115.2	0.3
BB	81950	712	10719	10.0	1116.6	1116.6	1117.6	1.0
BC	82770	630	9512	11.0	1118.1	1118.1	1118.9	0.8
BD	83770	650	8716	12.0	1120.4	1120.4	1120.9	0.5
BE	85760	875	10238	10.3	1125.5	1125.5	1125.7	0.2
BF	87760	688	9402	11.2	1128.8	1128.8	1129.8	1.0
BG	89620	480	8026	13.1	1134.3	1134.3	1134.3	0.0
BH	90630	440	8462	12.4	1136.9	1136.9	1136.9	0.0
BI	91620	334	6838	15.4	1138.4	1138.4	1138.4	0.0
BJ	92620	360	7363	14.3	1141.4	1141.4	1141.4	0.0
BK	93620	325	6593	15.9	1143.8	1143.8	1143.8	0.0
BL	95470	300	6995	15.0	1147.5	1147.5	1148.5	1.0
BM	40[2]	567	7896	13.3	1164.1	1164.1	1165.1	1.0
BN	510[2]	834	24575	4.3	1167.2	1167.2	1167.7	0.5

[1]Feet above Savage Rapids Dam [2]Feet above Gold Ray Dam

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BO	1470	3098	57131	1.8	1167.5	1167.5	1168.1	0.6
BP	4010	4746	63861	1.6	1167.9	1167.9	1168.5	0.6
BQ	8410	3833	41552	2.0	1168.9	1168.9	1169.6	0.7
BR	10540	2511	30625	2.7	1169.4	1169.4	1170.2	0.8
BS	12620	2800	27679	3.0	1170.1	1170.1	1171.0	0.9
BT	14210	3167	22215	3.6	1170.7	1170.7	1171.6	0.9
BU	17350	1746	6569	12.2	1173.7	1173.7	1174.2	0.5
BV	18360	1699	11605	6.9	1179.1	1179.1	1180.0	0.9
BW	19390	1508	11850	6.8	1181.0	1181.0	1181.8	0.8
BX	20400	1300	11813	6.8	1182.6	1182.6	1183.4	0.8
BY	22390	1400	11034	7.3	1187.3	1187.3	1187.8	0.5
BZ	23400	1500	13222	6.1	1190.9	1190.9	1191.5	0.6
CA	24410	1400	10415	7.7	1191.9	1191.9	1192.8	0.9
CB	26430	1281	15944	5.0	1195.1	1195.1	1195.8	0.7
CC	27420	1042	8955	8.9	1195.3	1195.3	1196.1	0.8
CD	28990	1100	8877	9.0	1199.7	1199.7	1199.8	0.1
CE	29570	1600	17022	4.7	1201.6	1201.6	1202.1	0.5
CF	31450	1397	10219	7.8	1202.7	1202.7	1203.3	0.6
CG	33560	2200	15283	5.2	1207.2	1207.2	1207.6	0.4
CH	34560	2170	12331	6.5	1209.6	1209.6	1210.3	0.7
CI	36610	2297	9902	6.3	1214.3	1214.3	1215.3	1.0
CJ	37620	2200	11102	5.6	1217.2	1217.2	1217.4	0.2

[1]Feet above Gold Ray Dam

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
CK	40630[1]	1300	9284	6.7	1225.6	1225.6	1225.6	0.0
CL	43080[1]	1050	7541	8.2	1230.9	1230.9	1231.4	0.5
CM	44180[1]	900	7732	8.0	1234.1	1234.1	1235.1	1.0
CN	46190[1]	850	8517	7.3	1238.7	1238.7	1239.5	0.8
CO	47210[1]	750	7982	7.8	1240.7	1240.7	1241.2	0.5
CP	48240[1]	650	5616	11.0	1243.4	1243.4	1244.0	0.6
CQ	50240[1]	315	5000	12.4	1248.2	1248.2	1249.2	1.0
CR	52230[1]	379	4101	15.1	1255.3	1255.3	1255.3	0.0
CS	54220[1]	400	6526	9.5	1262.3	1262.3	1262.5	0.2
CT	55240[1]	400	7276	8.5	1263.4	1263.4	1264.0	0.6
CU	56440[1]	400	7894	7.9	1265.1	1265.1	1265.5	0.4
CV	58440[1]	387	4057	15.3	1267.4	1267.4	1267.6	0.2
CW	59440[1]	479	5407	11.5	1274.2	1274.2	1274.2	0.0
CX	60510[1]	1226	10869	5.7	1278.1	1278.1	1278.5	0.4
CY	63790[1]	1623	10286	6.0	1284.3	1284.3	1285.2	0.9
CZ	64800[1]	1100	8001	7.7	1286.1	1286.1	1287.1	1.0
DA	65820[1]	473	6475	9.6	1287.8	1287.8	1288.8	1.0
DB	590[2]	373	4237	14.6	1288.3	1288.3	1289.3	1.0
DC	2950[2]	1700	6453	9.3	1292.4	1292.4	1293.1	0.7
DD	4960[2]	1800	9710	6.2	1300.1	1300.1	1301.1	1.0
DE	5970[2]	600	4503	13.3	1302.6	1302.6	1302.7	0.1
DF	7870[2]	600	5757	10.4	1310.1	1310.1	1310.4	0.3

[1]Feet above Gold Ray Dam [2]Feet above Dodge Bridge

Table 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

ROGUE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
DG	9880	604	6725	8.9	1314.8	1314.8	1315.4	0.6
DH	11900	2170	7659	7.8	1320.7	1320.7	1320.7	0.0
DI	15030	2220	15431	3.9	1327.4	1327.4	1328.1	0.7
DJ	17060	940	7260	8.3	1330.1	1330.1	1331.1	1.0
DK	19050	500	3869	15.5	1335.8	1335.8	1335.8	0.0
DL	21250	1025	11078	5.4	1343.0	1343.0	1343.7	0.7
DM	23130	989	6401	9.4	1345.4	1345.4	1345.7	0.3
DN	26150	1600	13225	4.5	1353.8	1353.8	1354.7	0.9
DO	28170	289	3876	15.5	1356.9	1356.9	1357.8	0.9
DP	30150	600	6200	9.7	1365.8	1365.8	1366.4	0.6
DQ	32180	675	5648	10.6	1371.2	1371.2	1372.0	0.8
DR	34200	400	5483	10.9	1377.7	1377.7	1378.6	0.9
DS	36200	520	7130	8.4	1382.8	1382.8	1383.2	0.4
DT	37200	520	5738	10.5	1385.0	1385.0	1385.5	0.5
DU	39200	403	4980	12.0	1391.7	1391.7	1392.1	0.4
DV	40500	255	4120	14.3	1395.1	1395.1	1395.9	0.8
DW	41300	298	6232	9.5	1399.2	1399.2	1399.6	0.4
DX	42310	243	4370	13.5	1399.9	1399.9	1400.5	0.6
DY	44280	330	6129	9.6	1403.8	1403.8	1404.4	0.6
DZ	46290	233	4440	13.3	1406.6	1406.6	1406.6	0.0
EA	47320	300	4458	13.2	1409.8	1409.8	1410.1	0.3
EB	49320	372	5266	11.2	1416.6	1416.6	1416.9	0.3

[1]Feet above Dodge Bridge

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
EC	51350	362	6760	8.7	1420.1	1420.1	1420.6	0.5
ED	53330	450	6830	8.6	1422.3	1422.3	1422.8	0.5
EE	56390	254	4085	13.2	1426.0	1426.0	1426.2	0.2
EF	58390	196	3083	17.5	1431.8	1431.8	1432.2	0.4
EG	60400	240	4128	13.1	1441.8	1441.8	1442.1	0.5
EH	61420	230	3790	14.2	1444.4	1444.4	1445.2	0.8
EI	63450	240	3497	15.4	1452.6	1452.6	1453.2	0.6
EJ	65480	295	4876	11.1	1459.1	1459.1	1460.1	1.0
EK	67480	238	4591	11.8	1462.1	1462.1	1463.0	0.9
EL	69480	279	5028	10.7	1465.8	1465.8	1466.6	0.8
EM	71500	300	4014	11.0	1469.7	1469.7	1470.1	0.4
EN	72500	253	3799	11.6	1471.4	1471.4	1472.3	0.9
EO	74490	212	3081	14.3	1477.0	1477.0	1477.6	0.6
EP	75500	200	2852	15.4	1481.4	1481.4	1482.0	0.6
EQ	77530	330	4663	9.4	1492.9	1492.9	1492.9	0.0
ER	79590	315	3774	11.7	1499.5	1499.5	1500.5	1.0
ES	80910	300	4646	9.5	1504.1	1504.1	1504.1	0.0
ET	82920	228	3878	11.3	1510.0	1510	1510.0	0.0
EU	84950	353	5460	8.1	1517.7	1517.7	1518.3	0.6
EV	86970	349	4756	9.3	1522.3	1522.3	1522.8	0.5
EW	87950	333	3368	13.1	1525.4	1525.4	1525.6	0.2
EX	89990	514	5114	8.6	1534.5	1534.5	1534.9	0.4

[1]Feet above Dodge Bridge

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
EY	91000	254	3447	7.7	1536.4	1536.4	1537.3	0.9
EZ	94080	411	2834	9.4	1544.9	1544.9	1545.9	1.0
FA	95100	249	2627	10.1	1548.2	1548.2	1549.1	0.9
FB	97100	264	2432	10.9	1556.4	1556.4	1556.4	0.0
FC	98130	296	3230	8.2	1560.1	1560.1	1560.7	0.6
FD	100120	202	1631	16.2	1567.2	1567.2	1567.2	0.0

[1]Feet above Dodge Bridge

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Wagner Creek								
A	890	55	367	5.8	1579.5	1579.5	1580.4	0.9
B	1415	50	285	7.5	1585.2	1585.2	1585.2	0.0
C	1543	80	406	5.3	1591.4	1591.4	1592.1	0.7
D	2131	40	193	11.1	1603.7	1603.7	1603.7	0.0
E	3191	55	239	9.0	1621.7	1621.7	1621.7	0.0
F	3623	53	311	6.9	1629.1	1629.1	1630.1	1.0
G	3803	50	245	8.8	1634.0	1634.0	1634.0	0.0
H	4273	29	209	10.3	1643.5	1643.5	1644.3	0.8
I	6019	35	221	9.7	1674.8	1674.8	1675.4	0.6
J	7132	26	194	11.1	1697.7	1697.7	1698.5	0.8
K	7947	37	219	9.8	1715.8	1715.8	1716.8	1.0
L	8890	50	242	8.9	1740.3	1740.3	1740.5	0.2
M	9488	40	214	10.0	1760.9	1760.9	1761.2	0.3
N	11039	80	289	7.2	1807.5	1807.5	1807.6	0.1
O	12035	54	226	9.2	1842.0	1842.0	1842.4	0.4
P	12994	31	187	11.2	1872.3	1872.3	1872.3	0.0
Q	14353	39	303	6.9	1920.1	1920.1	1920.9	0.8
R	14431	39	428	4.9	1926.8	1926.8	1927.6	0.8

[1]Feet above confluence with Bear Creek

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
S	14985	30	165	12.7	1936.2	1936.2	1936.5	0.3
T	15890	57	235	8.5	1967.3	1967.3	1967.8	0.5
U	16564	90	514	3.9	1990.9	1990.9	1991.9	1.0
V	17352	55	229	8.7	2011.6	2011.6	2011.6	0.0
W	18052	61	233	8.6	2033.0	2033.0	2034.0	1.0
X	18738	32	188	10.6	2054.7	2054.7	2054.7	0.0
Y	19251	38	186	10.7	2071.0	2071.0	2071.0	0.0
Z	19901	65	526	3.8	2099.1	2099.1	2100.0	0.9
AA	20623	40	183	10.9	2118.7	2118.7	2118.8	0.1
AB	20673	125	619	3.2	2121.7	2121.7	2122.6	0.9
AC	21311	70	256	7.8	2142.0	2142.0	2142.0	0.0
AD	21628	48	216	9.2	2154.7	2154.7	2154.7	0.0
AE	21835	90	488	4.1	2162.2	2162.2	2163.2	1.0
AF	22297	55	230	8.7	2180.9	2180.9	2181.2	0.3
AG	22942	32	158	11.5	2204.6	2204.6	2204.6	0.0

[1]Feet above confluence with Bear Creek

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Ward Creek								
A	240	67	548	4.5	1002.8	993.6[2]	994.6[2]	1.0
B	740	41	263	9.4	1002.8	994.8[2]	994.8[2]	0.0
C	1060	71	304	8.1	1002.8	996.9[2]	996.9[2]	0.0
D	1400	53	306	8.0	1002.8	1001.6[2]	1002.6[2]	1.0
E	2050	165	453	5.4	1005.9	1005.9	1005.9	0.0
F	2850	55	217	11.3	1020.6	1020.6	1020.7	0.1

[1]Feet above study limits [2]Elevations computed without consideration of backwater effects of Rogue River

5.0 INSURANCE APPLICATION

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. These zones are as follows:

Zone A

Zone A is the flood insurance risk zone that corresponds to the 1-percent-annual-chance floodplains that are determined in the FIS by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no BFEs or base flood depths are shown within this zone.

Zone AE

Zone AE is the flood insurance risk zone that corresponds to the 1-percent-annual-chance floodplains that are determined in the FIS by detailed methods. In most instances, whole-foot BFEs derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone AH

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

Zone AO

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

Zone X

Zone X is the flood insurance risk zone that corresponds to areas outside the 0.2-percent-annual-chance floodplain, areas within the 0.2-percent-annual-chance floodplain, areas of 1-percent-annual-chance flooding where average depths are less than 1 foot, areas of 1-percent-annual-chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1-percent-annual-chance flood by levees. No BFEs or base flood depths are shown within this zone.

6.0 FLOOD INSURANCE RATE MAP

The FIRM is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance rate zones as described in Section 5.0 and, in the 1-percent-annual-chance floodplains that were studied by detailed methods, shows selected whole-foot BFEs or average depths. Insurance agents use the zones and BFEs in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols, the 1- and 0.2-percent-annual-chance floodplains, floodways, and the locations of selected cross sections used in the hydraulic analyses and floodway computations.

7.0 OTHER STUDIES

A Flood Hazard Boundary Map was previously published for the unincorporated areas of Jackson County (Reference 9). This Flood Insurance Study is more detailed and, thus, supersedes that map.

Flood Insurance Studies for the incorporated areas of Jackson County, Oregon - the Cities of Ashland (Reference 11), Central Point (Reference 12), Eagle Point (Reference 13), Gold Hill (Reference 14), Jacksonville (Reference 15), Medford (Reference 16), Phoenix (Reference 17), Rogue River (Reference 18), Shady Cove (Reference 19), and Talent (Reference 20) - are in agreement with this Flood Insurance Study.

Flood Insurance Studies for the adjacent Siskiyou County, California (Reference 21), and Douglas County, Oregon (Reference 22) are also in agreement with this Flood Insurance Study.

In December 1965, the U.S. Army Corps of Engineers published a report (Reference 3) which contained aerial photographs of Rogue River and some of its tributaries. On the photographs were marked the extent of the 1861 and 1964 floods. This report was especially helpful in determining the extent of flooding at the mouth of the tributaries of Rogue River.

The U.S. Geological Survey report on flooding on the Rogue River (Reference 5) was the basis of the work on Rogue River presented in this study. The findings in the U.S. Geological Survey report could not be used directly. In their report, the U.S. Geological Survey did not attempt to determine levels for the major recurrence intervals, and, in their estimates of the adjusted flood levels, they included the potential impact of flood control reservoirs on both Rogue River and Elk Creek.

The U.S. Geological Survey report on Applegate River (Reference 23) was of limited value because it did not contain estimates of the 100-percent-annual-chance flood.

The U.S. Soil Conservation Service Type 10 Flood Insurance Study on flooding along Applegate River (Reference 8) did deal with the 1-percent-annual-chance flood, and the U.S. Soil Conservation Service report was the sole basis for the mapping presented as part of this Flood Insurance Study.

City of Ashland

Two reports relating to flooding and drainage problems in the Ashland area have been prepared (Reference 36 and 74).

City of Jacksonville

The only report relating to flooding and drainage problems in the Jacksonville area is Preliminary Storm Drainage Study for Jackson County, Oregon (Reference 36).

City of Medford

Other reports relating to flooding and drainage problems in the Medford area are Preliminary Storm Drainage Study for Jackson County, Oregon; Bear Creek Valley Drainage Investigation Report; and Revised Report for Storm Drainage in Three Areas, 1966 Storm Sewer Program (References 36,53, and 54 respectively).

City of Phoenix

A report relating to flooding and drainage problems in the Phoenix area is the Preliminary Storm Drainage Study for Jackson County, Oregon (Reference 36).

This FIS report either supersedes or is compatible with all previous studies on streams studied in this report and should be considered authoritative for purposes of the NFIP.

8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this study can be obtained by contacting the Flood Insurance and Mitigation Division, FEMA Region X, Federal Regional Center, 130 228th Street Southwest, Bothell, Washington, 98021-9796.

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISION DATE	FIRM EFFECTIVE DATE	FIRM REVISIONS DATE(S)
City of Ashland	June 7, 1974	April 11, 1975	June 1, 1981	None
City of Central Point	June 21, 1974	January 2, 1976	September 30, 1980	January 19, 1982
City of Eagle Point	October 18, 1974	August 20, 1976	September 30, 1980	None
City of Gold Hill	January 9, 1974	January 2, 1976	September 17, 1980	None
Jackson County (Unincorporated Areas)	April 11, 1978	N/A	April 1, 1982	September 27, 1991 September 15, 1993 May 15, 2002
City of Jacksonville	June 21, 1974	February 20, 1976	December 4, 1979	None
City of Medford	June 21, 1974	March 12, 1976	April 15, 1981	February 23, 1982
City of Phoenix	June 21, 1974	January 16, 1976	May 3, 1982	None
City of Rogue River	May 31, 1974	January 9, 1976	January 2, 1981	None
City of Shady Cove	August 23, 1974	December 26, 1975	September 30, 1980	None
City of Talent	May 31, 1974	June 27, 1975	February 1, 1980	January 19, 1982 May 15, 2002 April 16, 2004

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

9.0 BIBLIOGRAPHY AND REFERENCES

1. State of Oregon, Blue Book 1977-78, Salem, Oregon, 1977

2. U.S. Department of the Interior, Geological Survey, Annual Peak Flow Data Retrieval, September 21, 1976

3. U.S. Department of the Army, Corps of Engineers, Jackson County, Oregon, Flood Plain Information Interim Report, December 1965

4. U.S. Water Resources Council, "Guidelines for Determining Flood Flow Frequency", Bulletin 17, March 1976

5. U.S. Department of the Interior, Geological Survey, Water-Surface Elevations and Channel Characteristics for Selected Reaches of the Rogue River and Elk Creek, Jackson and Josephine Counties, Portland, Oregon, 1970

6. U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center, HEC-2 Water-Surface Profiles, Generalized Computer Program, Davis, California, October 1973

7. Aerial Mapping Company of Oregon, Aerial Photographs of Jackson County, Oregon, Scale 1:12,000, July 1976

8. U.S. Department of Agriculture, Soil Conservation Service, Type 10 Flood Insurance Study, Applegate River Portion, Jackson County, Oregon, June 1971

9. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, Jackson County, Oregon, (Unincorporated Areas), Scale 1:24,000, April 1978

10. Aerial Mapping Company of Oregon, Topographic Maps, Scale 1:4800, Contour Intervals 3 and 5 feet: Jackson County, Oregon (1976)

11. Federal Emergency Management Agency, Flood Insurance Study, City of Ashland, Jackson County, Oregon, 1981

12. Federal Emergency Management Agency, Flood Insurance Study, City of Central Point, Jackson County, Oregon, 1980

13. Federal Emergency Management Agency, Flood Insurance Study, City of Eagle Point, Jackson County, Oregon, 1980

14. Federal Emergency Management Agency, Flood Insurance Study, City of Gold Hill, Jackson County, Oregon, 1980

15. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Insurance Study, City of Jacksonville, Jackson County, Oregon, 1979

16. Federal Emergency Management Agency, Flood Insurance Study, City of Medford, Jackson County, Oregon, 1981

17. Federal Emergency Management Agency, Flood Insurance Study, City of Phoenix, Jackson County, Oregon, 1982

18. Federal Emergency Management Agency, Flood Insurance Study, City of Rogue River, Jackson County, Oregon, 1981

19. Federal Emergency Management Agency, Flood Insurance Study, City of Shady Cove, Jackson County, Oregon, 1980

20. Federal Emergency Management Agency, Flood Insurance Study, City of Talent, Jackson County, Oregon, 1980

21. Federal Emergency Management Agency, Flood Insurance Study, Siskiyou County, California, (Unincorporated Areas), 1982

22. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Insurance Study, Douglas County, Oregon, (Unincorporated Areas), 1978

23. U.S. Department of the Interior, Geological Survey, Water-Surface Elevations and Channel Characteristics for a Selected Reach of the Applegate River, Jackson County, Oregon, Portland, Oregon, 1970

24. Federal Emergency Management Agency, Flood Insurance Study, Josephine County, Oregon, (Unincorporated Areas), December 1981

25. U.S. Army Corps of Engineers, Generalized Computer Program HEC-2 Water-Surface Profiles, September 1988, Error Correction 03, Hydrologic Engineering Center, Davis, California

26. Federal Emergency Management Agency, Federal Insurance Administration, Flood Insurance Study, Jackson County, Oregon, Unincorporated Areas, Community Number 415589, September 15, 1983, revision in progress

27. Association of State Floodplain Managers, Proceeding of the 23rd Annual Conference, An Evaluation of Flood Frequency Relations for Jackson County, Oregon, PP 170-176, Wilbert O. Thomas, Jr., et. al., May 24-28, 1999

28. United States Department of Agriculture, Soil Conservation Service, Soil Survey of Jackson County Area, Oregon, 1989

29. Jackson County GIS Database, Web site (data dictionary, contact information), http://www.smartmap.org/, August 2000

30. U.S. Army Corps of Engineers, Hydrologic Engineering Center - River Analysis System, Version 2.2.1, March 1999

31. Federal Emergency Management Agency, Federal Insurance Administration, Flood Insurance Study, City of Talent, Oregon, Jackson County, Community Number 410100, January 19, 1982, revision in progress

32. U.S. Department of Agriculture, Soil Conservation Service, Soil Survey Maps and Interpretations for the Ashland Area, 1972

33. Aerial Mapping Company of Oregon, Topographic Maps, Scale 1:4800, Contour Interval 5 feet: Ashland, Oregon (1977)

34. Aerial Mapping Company of Oregon, Aerial Photographs of Ashland, Oregon, Scale 1:12,000, March 22, 1977

35. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Maps, Scale 1:12,000, City of Ashland, Jackson County, Oregon, June 7, 1974, Revised April 11, 1975

36. Warren, Wilbur L., Preliminary Storm Drainage Study for Jackson County, Oregon, Wilbur L. Warren, Consulting Civil Engineer, Medford, Oregon, March1964

37. Federal Emergency Management Agency, Federal Insurance Administration, Flood Insurance Study, Jackson County, Oregon, unpublished

38. Aerial Mapping Company of Oregon, Topographic Maps, Scale 1:4800, Contour Interval 5 feet: Cedar Grove, Oregon (1976)

39. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, City of Central Point, Jackson County, Oregon, Scale 1:96,000, June 21, 1974, Revised January 2, 1976

40. U.S. Department of Agriculture, Soil Conservation Service, Resource Conservation Data for Land Use Planning and Community Development - City of Eagle Point, 1976

41. U.S. Department of the Interior, Geological Survey, Water-Supply Paper 1689, Magnitude and Frequency of Floods in the United States, Part 14, 1964

42. Aerial Mapping Company of Oregon, Aerial Photographs - Eagle Point, Oregon, Scale 1:4800, July 19, 1976

43. U.S. Department of the Interior, Geological Survey, 15-Minute Series Topographic Maps, Scale 1:4800, Contour Interval 5 feet: Medford, Oregon (1954)

44. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, City of Eagle Point, Oregon, Scale 1:9600, October 1974 and August 1976

45. ----------, Open-File Report 76-499, Computer Program E-431, Computer Applications for Step-Backwater and Floodway Analyses, James O. Shearman, 1976

46. U.S. Department of the Interior, Geological Survey, Topographic Maps, Scale 1:24,000, Contour Interval 2 feet: Gold Hill, Oregon (1969)

47. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, City of Gold Hill, Jackson County, Oregon, Scale 1:9600, January 9, 1974, Revised, January 2, 1976

48. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Insurance Study, Unincorporated Areas of Jackson County, Oregon, STRAAM Engineers, Inc., in progress

49. U.S. Department of Agriculture, Soil Conservation Service, Soil Survey Maps and Interpretations from the Interim Report for the Jacksonville Area

50. Aerial Mapping Company of Oregon, Aerial Photographs of Jacksonville, Oregon, Scale 1:4800, March 22, 1977

51. Aerial Mapping Company of Oregon, Topographic Maps, Scale 1:4800, Contour Interval 5 feet: Jacksonville, Oregon (1977)

52. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, City of Jacksonville, Jackson County, Oregon, Scale 1:6000, June 21, 1974 (Revised February 20, 1976)

53. U.S. Department of Agriculture, Soil Conservation Service, Bear Creek Valley Drainage Investigation Report, F.H. Latham, Portland, Oregon, August 1963

54. City of Medford, Revised Report for Storm Drainage in 3 Areas, 1966 Storm Sewer Program, June 1966

55. Aerial Mapping Company of Oregon, Aerial Photographs, Scale 1:12,000, Medford, Oregon, July 1976

56. Aerial Mapping Company of Oregon, Topographic Maps, Scale 1:4800, Contour Interval 3 feet: Medford, Oregon, (1976)

57. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, City of Medford, Jackson County, Oregon, Scale 1:6000, March 1976

58. Federal Emergency Management Agency, Federal Insurance Administration, Flood Insurance Study, Jackson County, Oregon, (Unincorporated Areas), unpublished

59. Aerial Mapping Company of Oregon, Aerial Photographs of Phoenix, Oregon, Scale 1:12,000, July 1976

60. Aerial Mapping Company of Oregon, Topographic Maps, Scale 1:4800, Contour Interval 5 feet: Phoenix, Oregon (1976)

61. STRAAM Engineers, Inc., Photographs of Flood Plain Along Bear and Coleman Creek, July 1976

62. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, City of Phoenix, Jackson County, Oregon, Scale 1:9600, Revised January 16, 1976

63. U.S. Department of the Interior, Geological Survey, 7.5-Minute Series Topographic Maps, Scale 1:24,000, Contour Interval 20 feet: Rogue River, Oregon (1976)

64. U.S. Department of Housing and Urban Development, Flood Hazard Boundary Map, City of Rogue River, Jackson County, Oregon, Scale 1:12,000, May 31, 1974 (Revised January 9, 1976)

65. U.S. Department of the Interior, Geological Survey, Topographic Maps, Scale 1:2400, Contour Interval 2 feet: Shady Cove, Oregon (1969)

66. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, City of Shady Cove, Jackson County, Oregon, Scale 1:12,000, August 23, 1974 (Revised December 25, 1975)

67. Pacific Northwest River Basins Commission Climatological Handbook, Volume 2, Vancouver, Washington, September, 1969

68. U.S. Department of Agriculture, Soil Conservation Service, Soil Survey Maps and Interpretations for the Talent Area, unpublished

69. Aerial Mapping Company of Oregon, Aerial Photographs of Talent, Oregon, Scale 1:12,000, July, 1976

70. Aerial Mapping Company of Oregon, Topographic Maps, Scale 1:4,800, Contour Interval 5 feet: Talent, Oregon (1976)

71. Federal Emergency Management Agency, Federal Insurance Administration, Flood Hazard Boundary Maps, City of Talent, Jackson County, Oregon, Scale 1:6000, June, 1975

72. U.S. Census Bureau. 2000 Census.

73. Northwest Hydraulic Consultants, Inc., Hydrology for Floodplain Mapping Study of the City of Central Point, Jackson Co., Oregon: Daisy, Horn, Jackson and Mingus Creeks. Memorandum prepared for FEMA X. June 2, 2003.

74. Otak, Inc., Ashland Creek Flood Restoration Project. Prepared for the City of Ashland. November 26, 1997.

75. City of Central Point Planning Department, Flood Report: New Years Eve 1996, 1997.

76. U.S. Department of the Interior, Bureau of Reclamation, Numerical Modeling of Flow Hydraulics in Support of the Savage Rapids Dam Removal, Denver, Colorado, March 2006

77. Federal Emergency Management Agency, Federal Insurance Administration, Flood Insurance Study, Jackson County, Oregon, (Unincorporated Areas), 2002.

78. Federal Emergency Management Agency, Federal Insurance Administration, Flood Insurance Study, Josephine County, Oregon, (Unincorporated Areas), 1991.

79. Northwest Hydraulic Consultants, Inc., Hydrology for Floodplain Mapping Study of the City of Central Point, Jackson Co., Oregon: Elk and Griffin Creeks. Memorandum prepared for FEMA X. November 27, 2007.

80. U.S. Army Corps of Engineers, Hydrologic Engineering Center - River Analysis System, Version 3.1.3, May 2005

Federal Emergency Management Agency, FEMA 37, Guidelines and Specifications for Study Contractors, January 1995

U.S. Department of the Interior, Geological Survey, Evaluation of the Streamflow - Data Program in Oregon, David J. Systrom, 1970

U.S. Department of the Interior, Geological Survey, 15-Minute Series Topographic Maps, Scale 1:62,500, Contour Intervals 40, 50, and 80 feet: Ashland, Oregon (1954); Butte Falls, Oregon (1954); Gold Hill, Oregon (1954); Hyatt Reservoir, Oregon (1955); Lake Creek, Oregon (1954); Medford, Oregon (1954); Mt. McLoughlin, Oregon (1954); Prospect, Oregon (1956); Rush, Oregon (1954); Talent, Oregon (1954); Trail, Oregon (1943); Wimer, Oregon (1954)

U.S. Department of the Interior, Geological Survey, Water-Data Report OR-76-1, Water Resources Data for Oregon, Water Year 1976

U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center, Training Document No. 6, Application of the HEC-2 Bridge Routines, Davis, California, June 1974

Aerial Mapping Company of Oregon, Aerial Photographs of Central Point, Oregon, Scale 1:12,000, July 1976

U.S. Department of the Interior, Geological Survey, 15-Minute Series Topographic Maps, Scale 1:62,500, Contour Interval 20 feet: Medford, Oregon (1954)

----------, Flood Insurance Study, City of Medford, Jackson County, Oregon, unpublished

----------, Aerial Photographs of Gold Hill, Oregon, Scale 1:4800, February 13, 1969

----------, 15-Minute Series Topographic Maps, Scale 1:62,500, Contour Interval 20 feet: Gold Hill, Oregon (1954)

U.S. Department of the Interior, Geological Survey, 15-Minute Series Topographic Map, Scale 1:62,500, Contour Interval 10 Feet: Medford, Oregon (1954)

U.S. Department of the Interior, Geological Survey, Aerial Photographs of Rogue River, Oregon, Scale 1:4800, September 24, 1976

----------, Aerial Photographs of Shady Cove, Oregon, Scale 1:4800, February 13, 1969

U.S. Department of the Interior, Geological Survey, 15-Minute Series Topographic Maps, Scale 1:62,500, Contour Interval 20 feet: Trail, Oregon (1943)

U.S. Department of the Interior, Geological Survey, 15-Minute Series Topographic Maps, Scale 1:62,500, Contour Interval 20 feet: Talent, Oregon (1954)

10.0 REVISION DESCRIPTIONS

This section has been added to provide information regarding significant revisions made since the original FIS reports for the individual communities were printed. Future revisions may be made that do not result in the republishing of the FIS report. To assure that users are aware of all revisions it is advisable to contact the repository of flood hazard data located at the Jackson County Department of Planning and Development, 10 South Oakdale, Room 100, Medford, Oregon 97501.

10.1 First Revision

The purpose of the September 20, 1990 revision was to add floodplain information for the Applegate River that affects the unincorporated areas of Jackson County. The Applegate River, which flows through both Jackson and Josephine Counties, was studied by detailed methods for the reach previously studied by approximate methods.

The hydrologic and hydraulic analyses were performed by Otak, Inc., for the Federal Emergency Management Agency (FEMA) under Contract No. EMW-89-C-2847. This work was completed in December 1989.

The reach to be studied was identified at a meeting attended by representatives of Jackson County and FEMA on May 25, 1988.

Results of the hydrologic analyses performed by Otak, Inc. were coordinated with U.S. Army Corps of Engineers (COE), the U.S. Geological Survey (USGS), the Soil Conservation Service (SCS), the Oregon Department of Land Conservation and Development, and Jackson County.

On September 20, 1990, the results of this study were reviewed at the final community consultation and coordination officer meeting attended by representatives of Jackson County, FEMA, and the study contractor. This study was acceptable to the community.

The reach studied by detailed methods extended from the Josephine-Jackson County boundary to the new McKee Bridge crossing, upstream of the Town of McKee Bridge, a distance of approximately 20.2 miles. The upstream reach from the new McKee Bridge to the tailwater of Applegate Dam, a distance of approximately 7.2 miles, was also restudied using approximate methods. The Applegate Dam was part of a flood control project which became operational in 1981.

The Applegate River's headwaters are in northern California. Hydrologic analyses for the Applegate River were carried out in 1989 using the USGS data for a 42-year period of unregulated flow (i.e., 1939-1980) at the gaging stations near Applegate (No. 14366000) and Copper (No. 14362000) and the 18-year flow record (i.e., 1938-1956) for a discontinued station near Wilderville (No. 14369500) located in Josephine County. The hydrologic analyses also used the regulated flow curves for the two Jackson County gaging stations provided by the COE, and Applegate River flows published as part of the Josephine County Flood Insurance Study (Reference 24). The results of this analysis are tabulated in Table 3.

Cross sections for backwater analyses of the stream studied were field surveyed. Cross section elevations outside of the channel were taken from the 1971 1"=200' topographic maps with a contour interval of 5 feet (Reference 8). The 1-percent-annual-chance flood boundaries were delineated using the same topographic maps mentioned above.

The flood profiles were computed through use of the COE HEC-2 step-backwater computer program (Reference 25). The limited detail study for both Josephine County and Jackson County began at the upstream end of the existing detailed study for the Applegate River near Murphy. The starting water-surface elevation was taken from the last cross section in the Josephine County study.

Manning's "n" values were chosen using engineering judgment based upon site inspections and aerial photographs. The bottom of the river consists of large cobbles and the overbanks vary from open cultivated fields and pasture to brush, scattered trees and dense trees. The channel "n" values varied from 0.030 to 0.043. The overbank "n" values varied from 0.04 for open fields to 0.09 for areas with dense forest.

The average fall of the Applegate River throughout the limited detail study area was approximately 22 feet per mile. With surveyed cross sections taken at an average

interval of one every 2,300 feet, many critical depth statements were encountered during the initial hydraulic simulations. This problem was solved by using the interpolated cross-sections option of the HEC-2 computer program (Reference 25). Approximately 130 cross sections were automatically inserted by the hydraulic model throughout this reach of the Applegate River. Overall, the 1-percent-annual-chance floodplain width on the limited detail study portion of the river varied from 150 feet to 2,500 feet.

The normal depth method was used to study the flooding of the reach upstream of the Town of McKee Bridge. Topographical data developed in the late 1970s by the SCS (Reference 8) were used for floodplain boundary delineation.

No floodway was computed for the Applegate River. The results of the flood hazard factor computations are tabulated in Table 4.

Data presented in this study are in agreement with the Flood Insurance Study being prepared for Josephine County.

This study is authoritative for the purposes of the National Flood Insurance Program; data presented herein either supersede or are compatible with all previous determinations.

10.2 Second Revision

This study was revised on September 15, 1993, to incorporate the Letter of Map Revision (LOMR) issued on October 5, 1992, for Jackson County, Oregon, to show the effects of improved hydraulic modeling along Bear Creek, from approximately 3,500 feet downstream of Valley View Road to approximately 1,150 feet upstream of Valley View Road (Cross Sections CT to CX). The basis for this LOMR was the data presented in the report entitled "Report for Letter of Map Revision of Bear Creek Flood Study, Jackson County, Oregon", prepared by URS Consultants, dated June 16, 1992, and on the topographic work map contained in the report entitled "Revised Flood Boundary and Floodway Map, Bear Creek, Jackson County, Oregon", also prepared by URS Consultants, undated.

As a result of the reanalysis, a portion of the 1-percent-annual-chance flood will overtop North Main Street (U.S. Highway 99) from north to south between Cross Sections BR and BT, and flow parallel to the highway along the south side. The 1-percent-annual-chance flood will then overtop North Main Street again (flowing from south to north) and return to the main channel of Bear Creek between Cross Sections BP and BR. A separate flood profile will be shown for portions of the 2-, 1-, and 0.2-percent-annual-chance floods which flow on the south side of North Main Street. The revised floodway, developed from two separate HEC-2 hydraulic computer models, will also be shown on both sides of North Main Street. A separate Floodway Data Table will be shown for the floodway on the south side of North Main Street, although the revised Flood Boundary and Floodway Map will show the floodway as combined between Cross Sections BQ and BS.

Modifications to the 1- and 0.2-percent-annual-chance floodplain and 1-percent-annual-chance floodway boundaries, and base (1-percent-annual-chance) flood elevations have been made along Bear Creek as a result of this LOMR and are shown on Flood Insurance Rate Map Panel 0528 and on Flood Boundary and Floodway Map Panel 0528. Modifications were also made to Flood Profile Panel 129P and the Floodway Data Table for Bear Creek. In addition, Flood Profile Panel 152P and a Floodway Data Table were created for the Bear Creek split flow channel.

10.3 Third Revision

This study was revised on May 15, 2002, to incorporate new floodplain data for Wagner Creek in Jackson County and Unincorporated Areas, Oregon.

The hydrologic and hydraulic analyses for this restudy were performed by Ogden Beeman & Associates, Inc., for the Federal Emergency Management Agency (FEMA), under Contract No. EMS-1999-CO-0068-T01, Project Order No. 361800. This work was completed in September 2000.

The study contractor did not attend any meetings. Marquess & Associates, Inc., of Medford, Oregon, was the subcontractor for the Wagner Creek restudy and surveyed 39 cross sections within the study reach including all culverts, bridges, roads, and structures. The study contractor acquired historical data for the restudy from the City of Talent, Jackson County, the Natural Resources Conservation Service (NRCS, formerly the Soils Conservation Service), FEMA, and FEMA archives.

This restudy includes the floodway and the 10-, 2-, 1-, and 0.2-percent-annual-chance flood profiles of the lower 22,937 foot reach of Wagner Creek in the City of Talent and Jackson County, Oregon. The reach extends from the confluence with Bear Creek approximately 4.3 miles upstream to the intersection of Wagner Creek Road and Ashland Mine Road.

The purpose of this restudy is to capture significant hydrologic and hydraulic aspects of the 1997 flooding. Wagner Creek suffered a large flooding event in January 1997. The stream's floodplain is relatively shallow, resulting in few damages. Those damages that did occur resulted from erosion. Except for the debris at some locations, and the eroded banks that caused one house to fall into the creek, it was hard to tell that there had been a flood on Wagner Creek. No culverts or bridges were washed out, despite inundation by swiftly moving waters.

The results of the restudy were reviewed at the final CCO meeting held on June 21, 2001. All problems raised at that meeting have been addressed in this restudy.

Hydrologic Analyses

The peak discharge values utilized in the study for the 10-, 2-, 1-, and 0.2-percent-annual-chance floods are shown in Table 1, "Summary of Discharges". The discharges were taken from the existing study, based on U.S. Geological Survey (USGS) regression equations for basins less than 100 square miles (References 26 and 27).

In January 1997, a flood event inundated Southern Oregon. Throughout Jackson County, the gage flood flows and high water marks characterized the flood near or just below a 1-percent-annual-chance flood event (base flood). The 1997 flood flows for Wagner Creek were estimated utilizing eight high water marks obtained from FEMA personnel and local residents. Using hydraulic modeling, the 1997 flood peak discharge was estimated to be 1,500-1,800 cubic feet per second (cfs) at the mouth of Wagner Creek.

The peak discharge used in the original study for Wagner Creek was 2,146 cfs. In 1999, using updated hydrologic information, a new peak discharge was estimated at 3,309 cfs. Based on the information obtained in the 1997 base flood event, it was determined that the estimate used in the original study was more accurate than the 1999 estimate.

Hydraulic Analyses

To provide an estimate of the water surface elevations due to the 10-, 2-, 1-, and 0.2-percent-annual-chance flood events, a hydraulic analysis was performed. The resulting Flood Profiles are shown in Exhibit 1.

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

Cross section locations for the model were chosen based on a site visit in January 2000, aerial photos taken in 1998 (Reference 28), and a topographic map (Reference 29). The floodplain boundaries were delineated based on digital topographic maps with a five-foot contour interval based on the 1998 aerial photography provided by Jackson County (Reference 29).

To accurately represent Wagner Creek with a hydraulic model, the Manning's "n" values were approximated as 0.065 for the channel and 0.075-0.080 for the overbanks. Wagner Creek is a very steep stream with high velocities and numerous meanders. The contraction and expansion coefficients within the model range from 0.2 to 0.6 and 0.4 to 0.8, respectively. The hydraulic analysis for Wagner Creek was completed using the standard step-backwater computer program, Hydrologic Engineering Center River Analysis System, Version 2.2.1 (HEC-RAS backwater model, Reference 30), to predict water surface elevations along the study reach.

The starting water surface elevations for flood profiles were based on normal depth with a slope of 0.01 and were computed based on a sub-critical flow regime. Due to the steep slope of the stream, critical flow was predicted at several cross sections throughout the study reach.

At the mouth of Wagner Creek, the floodway, 1-, and 0.2-percent-annual-chance floodplains were joined with the approximate floodplains of Bear Creek. The Bear Creek floodplain is shared with the Wagner Creek floodplain for several hundred feet upstream from the mouth of Wagner Creek. The mapping in this overlap area was based on the highest water surface elevation from either Wagner Creek or Bear Creek. The mapping shows the Bear Creek floodplain past the point of influence with Wagner Creek.

The floodway corresponding to the base flood was initially determined using a Method 5 encroachment analysis in the HEC-RAS backwater model, with a maximum water surface or energy gradeline rise of 1.0 foot. The Method 5 approach was then modified to ensure the water surface rise was less than 1.0 foot in all locations.

A revision to the published FIS for the City of Talent (Reference 31) is being published concurrently with this restudy. That revised study agrees with this restudy.

Marquess & Associates, Inc. provided a datum shift value of 3.44 feet to convert the North American Vertical Datum of 1988 (NAVD) hydraulic model into the National Geodetic Vertical Datum of 1929 (NGVD). All elevations are referenced to NGVD for this restudy. Elevation reference marks (ERMs) and their descriptions are shown on the maps. ERMs shown on the FIRM represent those used during the preparation of this and previous Flood Insurance Studies. The elevations associated with each ERM were obtained and/or developed during FIS production to establish vertical control for determination of flood elevations and floodplain boundaries shown on the FIRM. Users should be aware that these ERM elevations may have changed since the publication of this FIS. To obtain up-to-date elevation information on National Geodetic Survey (NGS) ERMs shown on this map, please contact the Information Services Branch of the NGS at (301) 713-3242, or visit their website at www.ngs.noaa.gov. Map users should seek verification of non-NGS ERM monument elevations when using these elevations for construction or floodplain management purposes.

10.4 Fourth Revision

The fourth revision (May 3, 2011) includes two separate studies that were incorporated into the countywide Digital Flood Insurance Rate Map (DFIRM) conversion for Jackson County, Oregon. The first consisted of new detailed studies of Daisy, Elk, Griffin, Horn, Jackson, and Mingus Creeks within the City of Central Point, Oregon. The second consisted of the digital conversion of effective floodplain mapping throughout the County. The digital conversion included the redelineation of effective floodplain hazard areas using newly obtained topographic data within the Cities of Ashland, Central Point, Medford, Phoenix, Rogue River, and Shady Cove; as well as straight digital conversion, or capture, of flood hazards in areas without new topographic data. Both studies were performed by Northwest Hydraulic Consultants, Inc. (NHC) for FEMA.

Five Letters of Map Revision (LOMR) were also included as part of this digital conversion.

Central Point Detailed Studies

In 2002, NHC was retained by FEMA to perform detailed floodplain analyses on four creeks in the City of Central Point (Horn, Jackson, Mingus, and Daisy Creeks). In 2007, the original work order was expanded when NHC was contracted by both FEMA and the City to perform additional detailed floodplain analyses on Griffin and Elk Creeks. As part of the second work order, NHC was tasked with updating the original four creeks using terrain data newly obtained by the City in 2006.

Hydrologic Analysis

NHC conducted hydrologic analyses for the Horn, Jackson, Mingus, and Daisy Creeks (Reference 73), and later for Elk and Griffin Creeks (Reference 79). In both of these analyses flood frequency quantiles were estimated using regional regression equations developed by NHC. Table 8 summarizes the computed flood frequency quantiles for each study reach.

Table 7: Summary of Flood Frequency Quantiles for Study Reaches in Central Point, OR

Study Reach	Discharge at Downstream End of Reach (cfs)			
	10-percent-annual-chance	2-percent-annual-chance	1-percent-annual-chance	0.2-percent-annual-chance
Elk Creek	650	820	900	1,030
Griffin Creek	1,790	2,400	2,640	3,110
Griffin Mid-Reach	*1,707*	*2,299*	*2,522*	*2,969*
Daisy Creek	134	158	167	184
Horn Creek	231	308	336	390
Jackson Creek	1,489	2,000	2,191	2,573
Jackson Mid-Reach	*1,282*	*1,722*	*1,887*	*2,215*
Mingus Creek	120	147	158	176

Subsequent to the original hydrologic analyses mentioned above, mid-reach flood quantiles were computed on Jackson and Griffin Creeks to account for flow changes at the confluences with Horn and Daisy Creeks, respectively. These new flood quantiles were computed using the same regional regression equations, but using adjusted contributing drainage basin areas located just upstream of the tributary confluences. Estimated mid-reach flood quantiles are given in Table 8.

The NHC values shown in Table 8 for Griffin Creek supersede those in Table 4 for the study reach that was revised.

Hydraulic Analysis

The hydraulic analyses conducted in Central Point utilized the Army Corps of Engineers' 1-dimensional, steady-state backwater model, HEC-RAS (Reference 80). Hydraulic models were developed for each of the six, individual study reaches.

Terrain data used to construct cross-section geometry for the HEC-RAS models came from several sources. NHC conducted ground surveys to obtain channel and structures data for the four original studies (Horn, Jackson, Mingus, and Daisy Creeks), and the City of Central Point provided channel and structure survey data for Elk and Griffin Creeks. The City also provided NHC with citywide LiDAR terrain data and 2-ft contours coverage for the overbank areas. All elevations are referenced to the North American Vertical Datum of 1988 (NAVD88).

Manning's 'n' values were determined using engineering judgment and field evaluation. Channel conditions of streams in Central Point vary from densely vegetated to clear with cobble and gravel substrate, while overbank conditions range from open fields to dense development. Channel 'n' values ranged from 0.03 to 0.055, while overbank values ranged from 0.045 to 0.15.

The starting water surface elevations for Elk, Griffin, Jackson, and Mingus Creeks were based on normal depth. On Daisy and Horn Creeks, the starting water surface elevations were set to those computed by the Griffin and Jackson models, respectively, near the confluences for the 10-percent-annual-chance profile.

Flood Profiles for the 10-, 2-, 1-, and 0.2-percent-annual-chance flood events were computed for each study reach and are shown in Exhibit 1.

Floodway analyses were also conducted on each study reach. Results of this analysis are reported in Table 5 of this FIS, as well as shown in Exhibit 2.

The terrain in Central Point is relatively level, thus floodplains are often uncontained and sometimes merge between the different study reaches. As a result, a number of special flooding conditions were encountered and required additional consideration during mapping.

Sheet flow flooding on Horn Creek was mapped on several parcels immediately on the right bank between cross-sections Q and O (Zone AO), because extending the BFEs to the inundation limits would result in unrealistic flooding depths.

On Jackson Creek, between cross-sections AJ and AI, upstream of the Pine Street crossing, flooding extends into the left and right overbank, with minor overflow exiting the system to Griffin Creek to the east. Further downstream, minor overtopping of Grant Road to the west is expected in isolated locations, but is expected to be negligible, so it was mapped as Zone X (0.2-percent-annual-chance). Backwater from the crossing at Scenic Avenue results in more significant overtopping of Grant Road to the west, but normal flow calculations indicated that flooding would generally be minor (less than 1 ft), thus it was mapped as Zone X (0.2-percent-annual-chance).

A detailed study was conducted for Griffin Creek for the effective FIS (Reference 78) that extends upstream of the revised detailed study reach within the City of Central Point.

Floodplain and floodway boundaries, as well as cross-section labeling and flood profiles, for the revised study were merged with the effective unrevised study reach upstream.

Flooding over the extensive and densely developed floodplain along much of Griffin Creek is expected to be shallow (less than 1 ft), thus this area was designated as Zone X (0.2-percent-annual-chance), including areas between Beall Lane and Pine Street, downstream of Taylor Way, and between Highway 99 and Scenic Avenue..

Griffin Creek is expected to overtop Pine Street during the 1-percent-annual-chance flood. Flooding is primarily routed to the north and east where it combines with Daisy Creek flooding from the east. On the left (west) overbank of Griffin Creek, between cross-sections AC and Z, shallow flooding is expected, thus this area was designated as Zone X (0.2-percent-annual-chance).

At cross-section V, Griffin Creek enters a newly realigned portion of the channel on the southeastern edge of the Twin Creeks Development. Here, flow is contained within the channel until Griffin Creek reaches a railroad bridge and the Highway 99 culvert immediately downstream. The two structures cause significant backwater that result in overtopping of the left bank and escapement of flow toward the north. Eventually, this escaping flow combines with Jackson Creek to the north and west. Because a significant amount of flow is computed to escape for the 1-percent-annual-chance flood, approximately 1,200 cfs, a separate detailed floodplain and floodway analysis for this reach ("Jackson Creek Overbank"). Said analysis relied upon topography provide by the City which indicated that the majority of flow would be concentrated along the railroad embankment along eastern portion of the parcel; however, it does expand over much of the site for several hundred feet. This floodplain merges with flooding at the downstream most end of the Jackson Creek detailed study. Merging of the floodway occurs between cross-section A of the "Jackson Creek Overbank" reach and cross-sections D and E of Jackson Creek. The floodway between the two study reaches was connected using engineering judgment and topography.

Overtopping of Highway 99 is expected on Griffin Creek for the 1-percent-annual-chance flood. A negligible amount of flow is expected to leave the system here and follow Highway 99 to the northwest, but the majority was assumed to remain within the channel corridor. As such, the corridor along Highway 99 was designated Zone X (0.2-percent-annual-chance).

On Mingus Creek, upstream of the detailed study limit, shallow ponding expected upstream, was mapped as Zone X (0.2-percent-annual-chance). Overtopping of Highway 99 is expected for the 1-percent-annual-chance flood, and similar to Griffin Creek at Highway 99, a negligible amount of this flow is expected to escape and follow the highway corridor. Areas of shallow flooding in this area were estimated using City topography and designated Zone X (0.2-percent-annual-chance).

On Elk Creek, near cross-section H, overbank flooding occurs on both the left and right banks. Lateral flow is expected to occur on the left bank between cross-sections H and E.

Here, the significant flood hazard is expected remain isolated to residences immediately adjacent to the channel. Beyond the channel corridor, flooding is expected to enter the expansive and densely developed residential area to the west. This area was mapped as Zone X (0.2-percent-annual-chance).

Downstream on Elk Creek, overtopping of Glengrove Way (cross-section E) and Interstate 5 (cross-section C) is expected for the 1-percent-annual-chance flood. At both locations flow is uncontained on the left bank, but it was determined that the flood hazard would be negligible beyond the immediate channel corridor, i.e. Zone X. Furthermore, since the effective backwater control of the lower Elk system is controlled by the grade of Interstate 5, it was determined to end the floodway delineation at the upstream face of the crossing (cross-section C).

Digital Conversion and Redelineation

NHC performed redelineation of effective floodplain hazard areas using topographic data within the Cities of Ashland, Central Point, Medford, Phoenix, Rogue River, and Shady Cove. In addition, NHC digitized effective floodplain, i.e. "effective capture", in areas where topographic data was unavailable. As part of the digitization process minor modifications were made to floodplain boundaries to improve mapping accuracy and alignment based on comparison to recent aerial photography. NHC also included five LOMR studies as part of the DFIRM conversion. Given below are descriptions of the redelineation actions performed, as well as the LOMRs incorporated by NHC.

Vertical Datum Conversions

As part of this 4th revision, water surface elevations within Jackson County were converted from the National Geodetic Vertical Datum of 1929 (NGVD29) to the North American Vertical Datum of 1988 (NAVD88) using the multiple conversion factor method as described in Appendix B of FEMA's Guidelines and Specifications. Please note that any elevations associated with map panels not a part of this revision (dated April 1, 1982 and September 27, 1991) are yet referenced to NGVD 1929.

Although the revised study area may have met the criteria established for a single conversion factor, due to the large number of detailed study streams and complexity involved in determining a single conversion factor for a partial-countywide DFIRM, a decision was made to pursue the stream-by-stream method. Using NGS's VERTCON software, a conversion factor was computed at the upstream and downstream boundary of a study reach, as well as the approximate midpoint. The average of these three conversion factors was computed and used as the vertical datum offset for that study reach. Average conversion factors are summarized in Table 9. Adding the conversion factor to an elevation referenced to NGVD29 will convert the elevation to NAVD88.

Table 8: Vertical Datum Conversion

Study Reach	Communities	Average Conversion Factor (ft)
Applegate River	Unincorporated Jackson County	3.22
Ashland Creek	City of Ashland	3.47
Bear Creek	Unincorporated Jackson County City of Ashland City of Central Point City of Medford City of Phoenix	3.39
Clay Creek	City of Ashland	3.50
Coleman Creek	City of Phoenix	3.41
Crooked Creek	City of Medford	3.37
Daisy Creek	City of Jacksonville	3.34
Evans Creek	City of Rogue River	3.28
Foots Creek	Unincorporated Jackson County	3.28
Griffin Creek	Unincorporated Jackson County	3.27
Jackson Creek	City of Jacksonville	3.34
Larson Creek	City of Medford	3.35
Lazy Creek	City of Medford	3.38
Little Butte Creek	Unincorporated Jackson County City of Eagle Point	3.39
Lone Pine Creek	City of Medford	3.39
Pleasant Creek	Unincorporated Jackson County	3.38
Rogue River	Unincorporated Jackson County City of Shady Cove City of Rogue River	3.28
Wagner Creek	Unincorporated Jackson County City of Talent	3.36
Ward Creek	City of Rogue River	3.48

City of Ashland

In the City of Ashland, 2-foot contours developed by David C. Smith and Associates in 1998 were available to redelineate the boundaries of the 1- and 0.2-percent-annual-chance floodplains for the detailed study reaches of Bear, Ashland, and Clay Creeks.

Both Ashland and Clay Creeks are steep, entrenched channels in which the relatively small flood hazard areas are generally contained within the immediate channel corridors. As a result, at several locations along both study reaches the resolution of the topography was not able to adequately capture flood levels within the corridor. In these locations the effective mapping was captured.

On Bear Creek, approximately 2.4 miles were redelineated between cross-sections DE and DU. Between cross-sections DU and DZ, redelineation only occurred along the left bank as contours were not available on the right. Because the contour data indicated

significant narrowing of the floodplain and floodway width between cross-sections EB and EG, the effective mapping was captured.

City of Central Point

Contour data in the City of Central Point were developed by 3Di West Geoterra based on aerial photographs taken in August 2006. These data were used in the detailed studies conducted within the City, as well as to redelineate the 1- and 0.2-percent-annual-chance floodplains for Bear Creek from approximately 900 downstream of cross-section H to cross-section V, or approximately 4.1 miles.

City of Medford

David C. Smith and Associates developed the half-meter contour dataset for the City of Medford from aerial photography taken in March 1998, with supplemental flights in 2001. These data were used to redelineate the 1- and 0.2-percent-annual-chance floodplains on Bear Creek, as well as Larson Creek and its tributary. The entire Bear Creek study reach within the City, from cross-section U to BK, or approximately 7.2 miles was redelineated with the exception of 1.4 miles mid-reach between cross-sections AQ and AZ. Here, the contour interval is only 5-foot, thus the effective mapping was captured in this sub-reach. On Larson Creek, approximately 2.1 miles of the effective detailed was redelineated. During the redelineation of Larson Creek is was noted that the uppermost end of the study reach was rerouted due to development and combined with what was previously referred to as the Unnamed Tributary to Larson Creek. As a result, the effective mapping and flood profiles for the Unnamed Tributary were merged with the mainstem of Larson Creek.

Redelineation of Crooked Creek was not conducted because the contour data was found to be inadequate in effectively determining flood boundaries along the reach. As a result, the effective floodplain mapping was captured.

On Lone Pine and Lazy Creeks, it was originally intended that studies being conducted by the U.S. Army Corps of Engineers, would be integrated into the Countywide DFIRM. However, scheduling issues prevented these studies from being included and it was decided that they would be incorporated as LOMRs once completed. Rather than redelineate these study reaches it was decided the effective floodplain mapping would be used.

City of Phoenix

The City of Phoenix provided NHC with 2-foot contour data developed in 1997. This data was used to redelineate the boundaries of the 1- and 0.2-percent-annual-chance floodplains for Bear and Coleman Creeks. On Bear Creek the redelineation was conducted between cross-sections BM and BY, or approximately 1.84 miles. The lower 0.4 miles of Coleman Creek, between its confluence with Bear Creek and crossing with Pacific Highway, were redelineated.

City of Shady Cove

Contour data in the City of Shady Cove were developed by 3Di West Geoterra based on aerial photographs taken in 1997. These data were used to redelineate the 1- and 0.2-percent-annual-chance floodplains on the Rogue River from cross-section EB to EL, or approximately 3.1 miles.

City of Rogue River

Western Air Maps, Inc used photogrammetry to develop a 2-foot contour dataset for the City of Rogue River from aerial photography taken in March 2001. These data were used to redelineate the 1- and 0.2-percent-annual-chance floodplains on the Rouge River, as well as portions of Evans and Ward Creeks.

On the Rogue River the redelineation included approximately 1.2 miles between cross-sections U and AA. The lower 2 miles of Evans Creek, downstream of cross-section G, were redelineated; although backwater effects from the Rouge River influence approximately the lowermost 1.3 miles of this reach. Although the entire 0.5 mile Ward Creek study reach is within the contour coverage, only the lowermost 1,000 feet of the reach was redelineated. The upper portion of the reach is deeply entrenched and the contour data indicated a significantly narrower floodplain and floodway. As a result the effective mapping was captured in this reach.

Letters of Map Revision

LOMR 06-10-B002P affects Jackson Creek approximately 90 feet downstream of the bridge over the Phoenix Canal to just upstream of Blackstone alley. For this LOMR a hydraulic analysis was performed to incorporate updated hydrologic and topographic data along Jackson Creek. It was issued on September 19, 2006 and has an effective date of January 18, 2007.

LOMR 96-10-127P affects Lone Pine Creek 150 feet downstream of Crater Lake Avenue to approximately 520 feet upstream of Crater Lake Avenue. For this LOMR a revised hydraulic analysis based on updated topographic information. This LOMR was requested by Fred Phillips and the study was carried out by Hardey Engineering and Associates. The LOMR was submitted on March 7, 1996 and has an effective date of August 2, 1996.

LOMR 97-10-038P affects Larson Creek in the vicinity of North Phoenix Road to approximately 300 feet upstream of North Phoenix Road. A revised hydraulic analysis based on updated hydrologic and topographic information was carried out for this LOMR by Michael P Thornton of Thornton Engineering. The LOMR was submitted on December 20, 1996 and has an effective date is effective date of January 9, 1997.

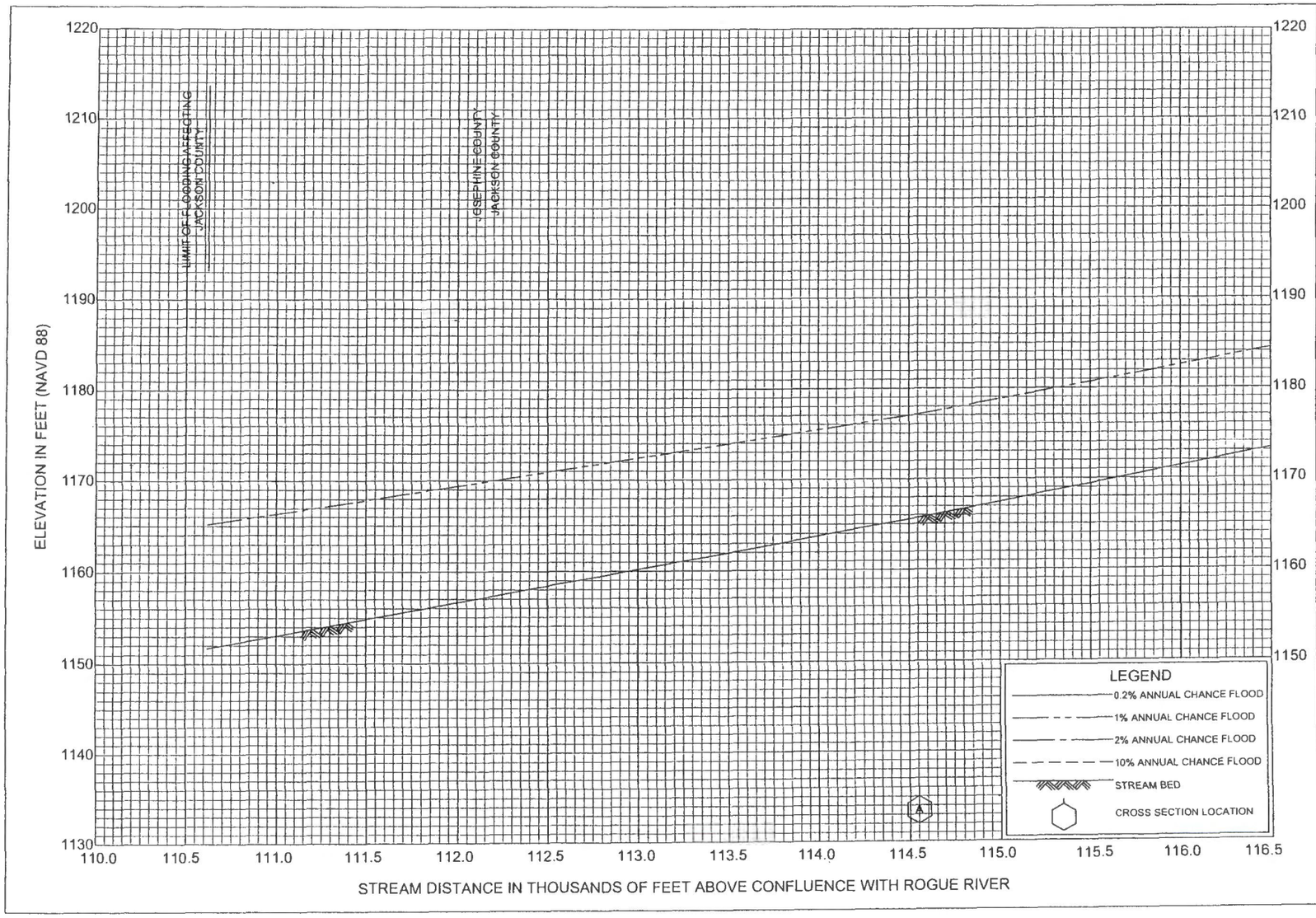
LOMR 98-10-134P is based on revised topographic information including relocation of a channel along Crooked Creek from approximately 1000 feet downstream of Kings Highway to Kings Highway. The requestor was Spring View Estates and the study was

conducted by Construction Engineering Consultants Inc. The LOMR was submitted on January 8, 1998 and has an effective date of June 17, 1998.

LOMR 92-10-014P affects the Eastern side of Bear Creek upstream of Fern Valley Road within Roland Dow property boundaries. The changes are the result of excavation of existing fill from the effective floodway. Hydraulic analysis carried out with new topographic data (HEC-2 Model) by Timothy J Bossard of T.J. Bossard and Associates. The LOMR was submitted on August 7, 1992 and the effective date June 17, 1998.

Table 9: Revised Study Descriptions

Reach Name	Reach Location	Approximate Reach Miles
Applegate River	Jackson County Line to McKee Bridge	20.2
Ashland Creek	Mouth to Lithia Park Trail	1.9
Bear Creek	Bear Creek near Valley View Road	0.9
	City of Ashland	2.4
	City of Central Point	4.1
	City of Medford	5.8
	City of Phoenix	1.8
Clay Creek	Mouth to upstream of Siskiyou Boulevard	1.5
Clayton Creek	Mouth to approximately 0.5 miles upstream	0.5
Coleman Creek	Mouth to Pacific Highway	0.4
Crooked Creek	At Kings Highway	0.2
Daisy Creek	Mouth to Beall Lane	0.8
Elk Creek	Mouth to Beall Lane	0.6
Evans Creek	Mouth to Cross-Section G	2.0
Griffin Creek	Mouth to Beall Lane	2.8
Horn Creek	Mouth to Grant Avenue	0.3
Jackson Creek	Scenic Avenue to Beall Lane	2.1
	Phoenix Canal to Blackstone Alley	0.3
Larson Creek	Mouth to upstream of North Phoenix Road	2.1
Lone Pine Creek	At Crater Lake Avenue	0.1
Mingus Creek	Pine Street to Beall Lane	1.2
Rogue River	Jackson County Line to Cross-Section S	2.1
	City of Shady Cove	3.1
	City of Rogue River	1.2
Wagner Creek	Mouth to intersection of Wagner Creek and Ashland Mine Road	4.3
Ward Creek	Mouth to Cross-Section F	0.5



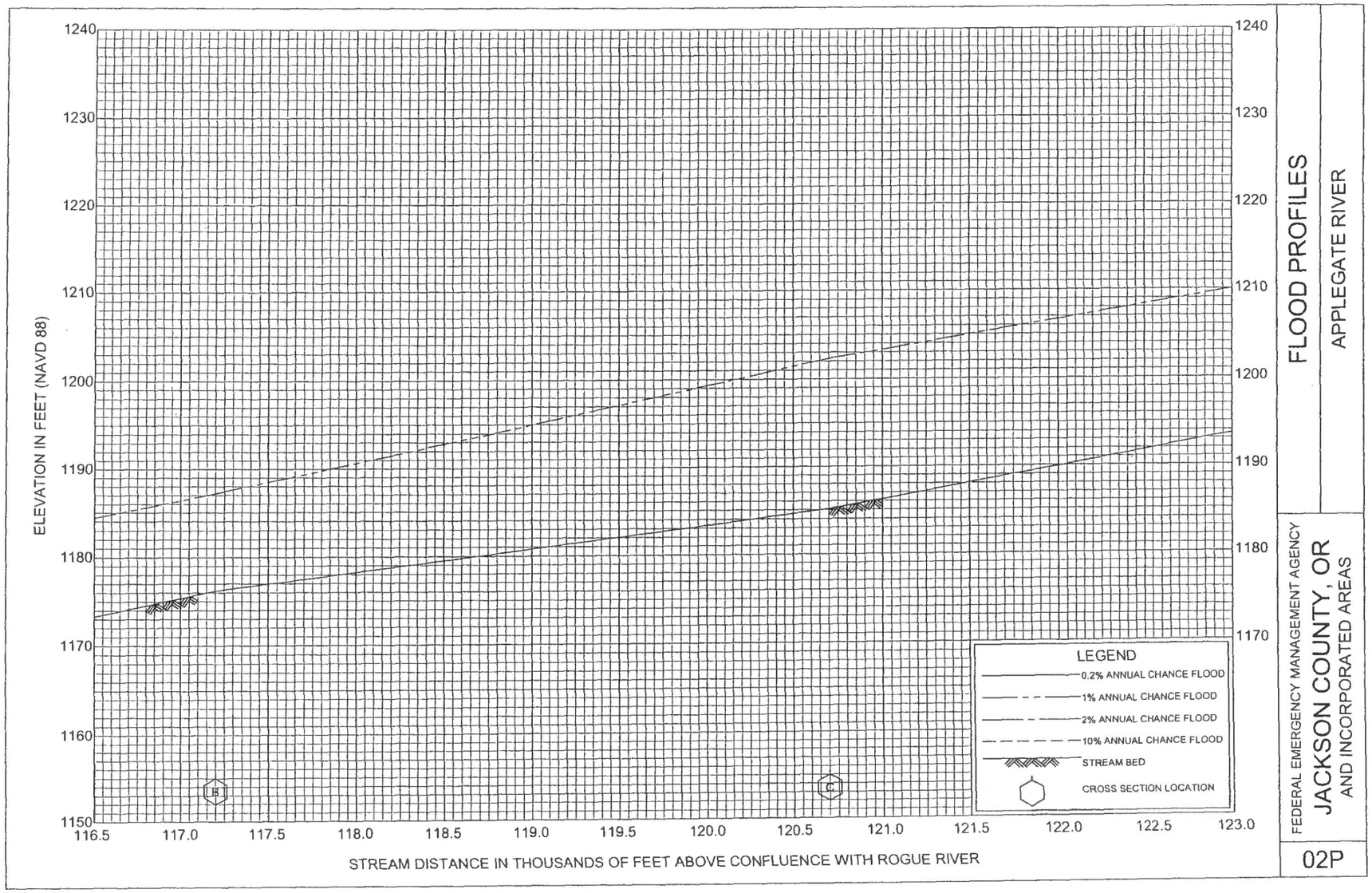
FLOOD PROFILES

APPLEGATE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

01P



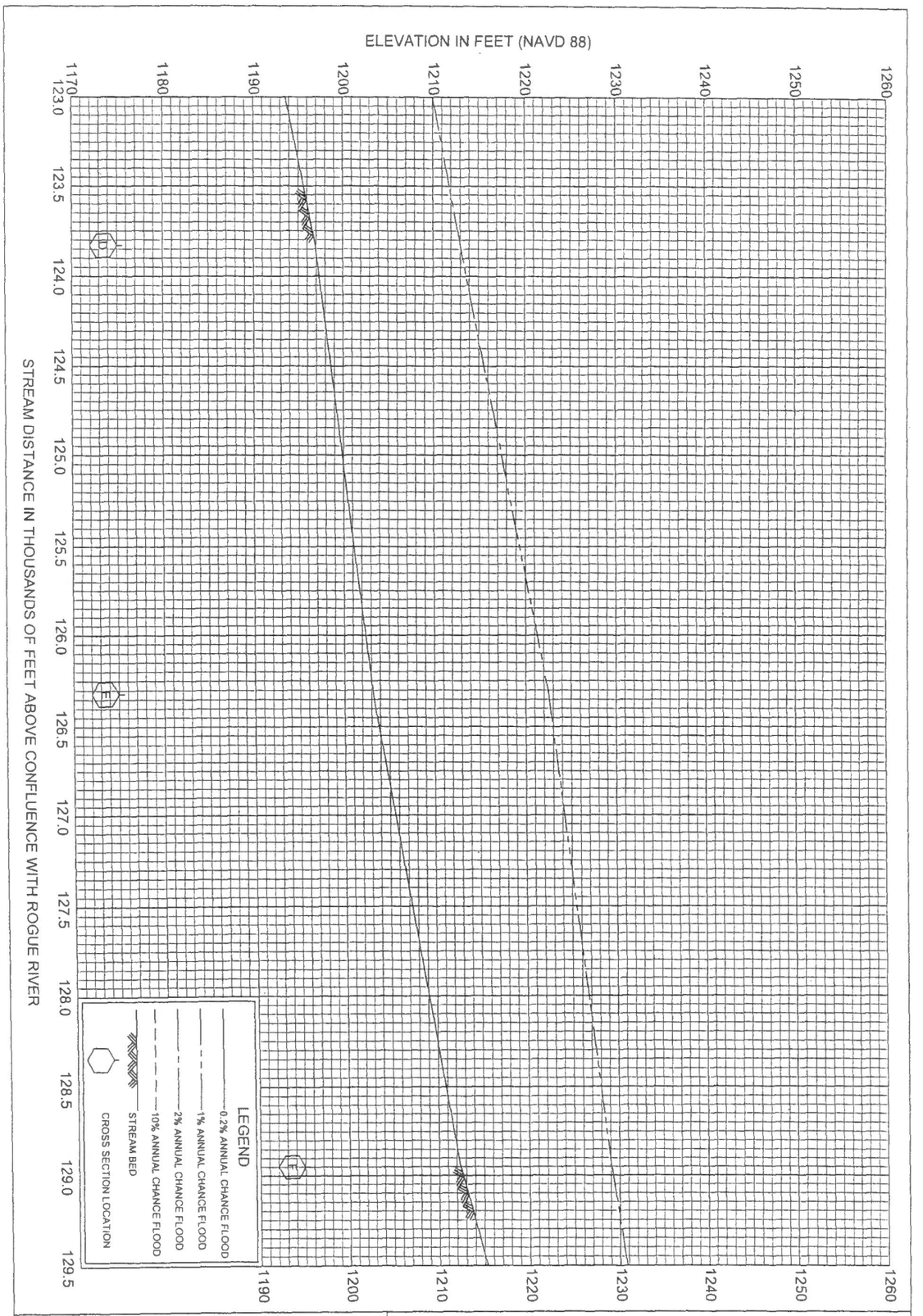
FLOOD PROFILES

APPLEGATE RIVER

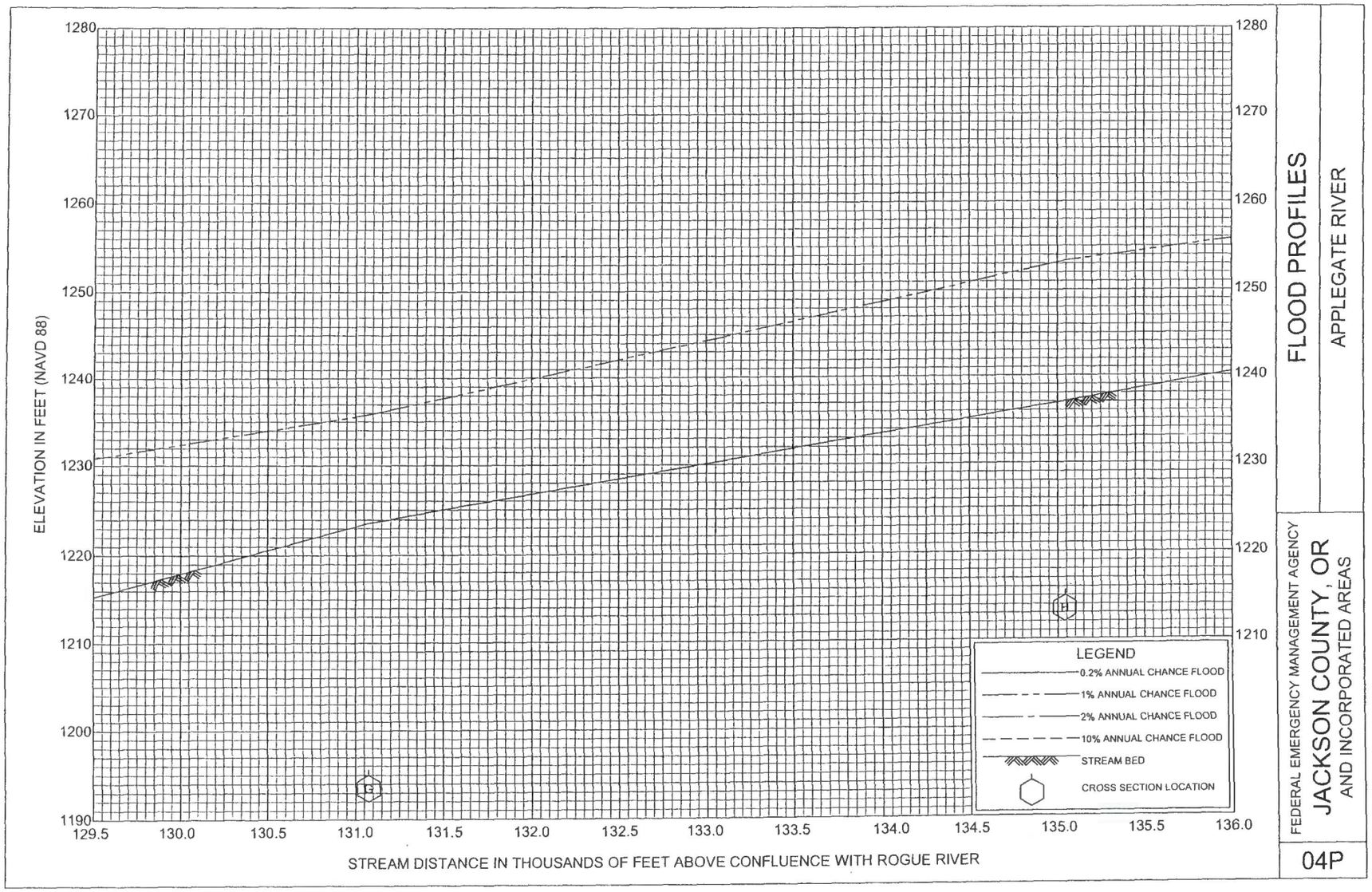
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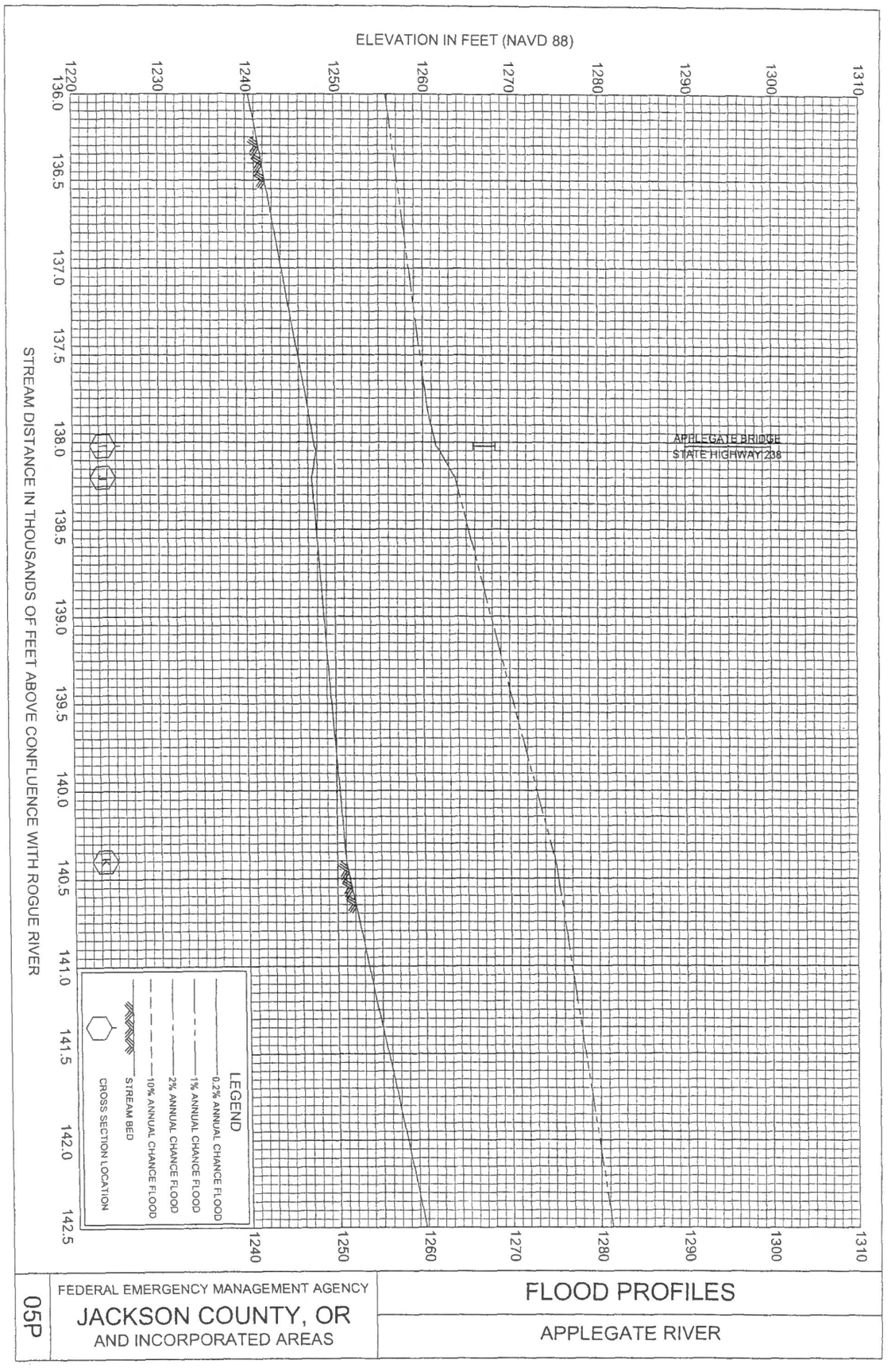
JACKSON COUNTY, OR
AND INCORPORATED AREAS

02P



03P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES APPLEGATE RIVER


1280
1270
1260
1250
1240
1230
1220
1210
1200
1190
ELEVATION IN FEET (NAVD 88)
129.5
130.0
130.5
131.0
131.5
132.0
132.5
133.0
133.5
134.0
134.5
135.0
135.5
136.0
STREAM DISTANCE IN THOUSANDS OF FEET ABOVE CONFLUENCE WITH ROGUE RIVER
G
H
LEGEND
0.2% ANNUAL CHANCE FLOOD
1% ANNUAL CHANCE FLOOD
2% ANNUAL CHANCE FLOOD
10% ANNUAL CHANCE FLOOD
STREAM BED
CROSS SECTION LOCATION
FLOOD PROFILES
APPLEGATE RIVER
FEDERAL EMERGENCY MANAGEMENT AGENCY
JACKSON COUNTY, OR
AND INCORPORATED AREAS
04P



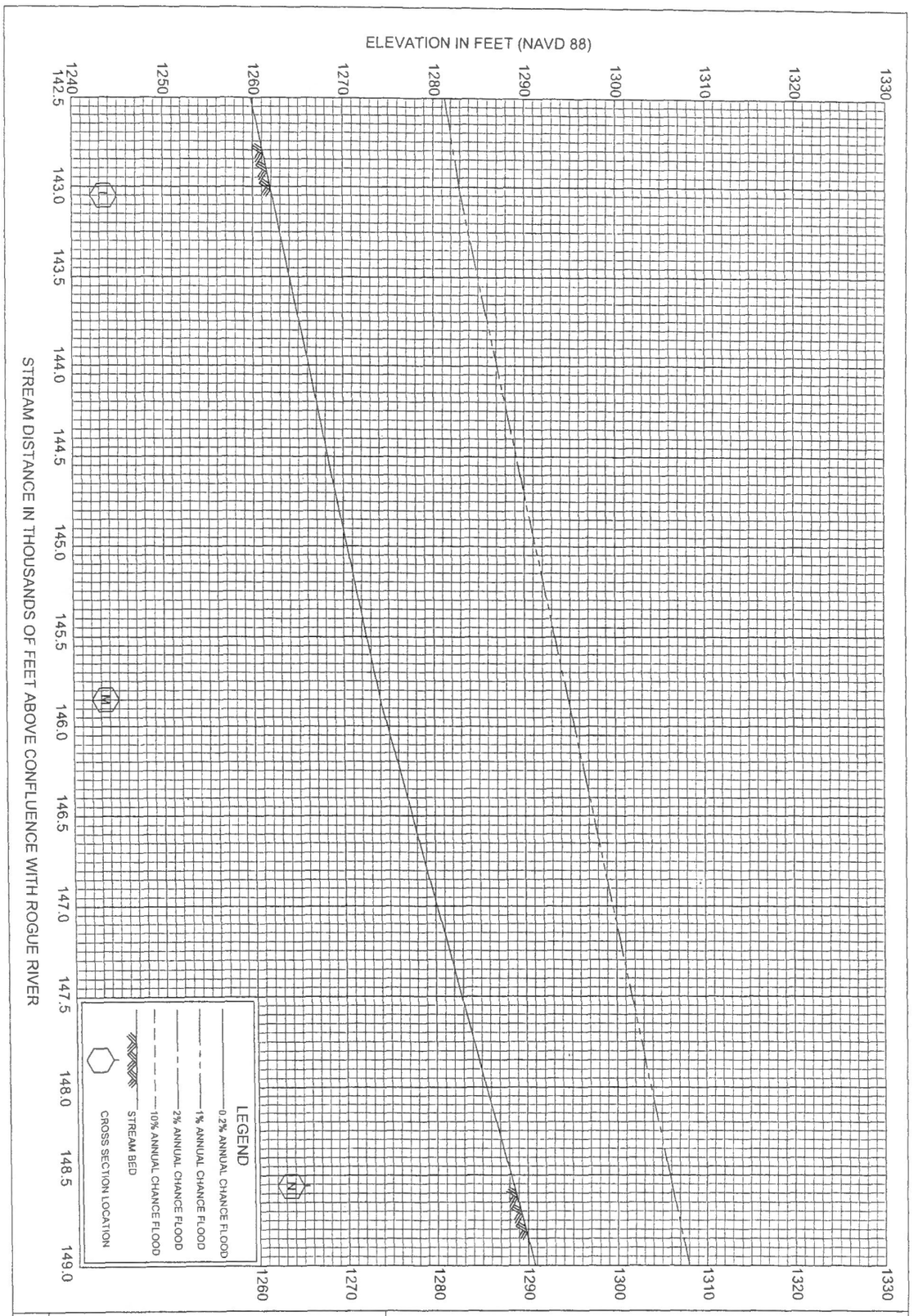
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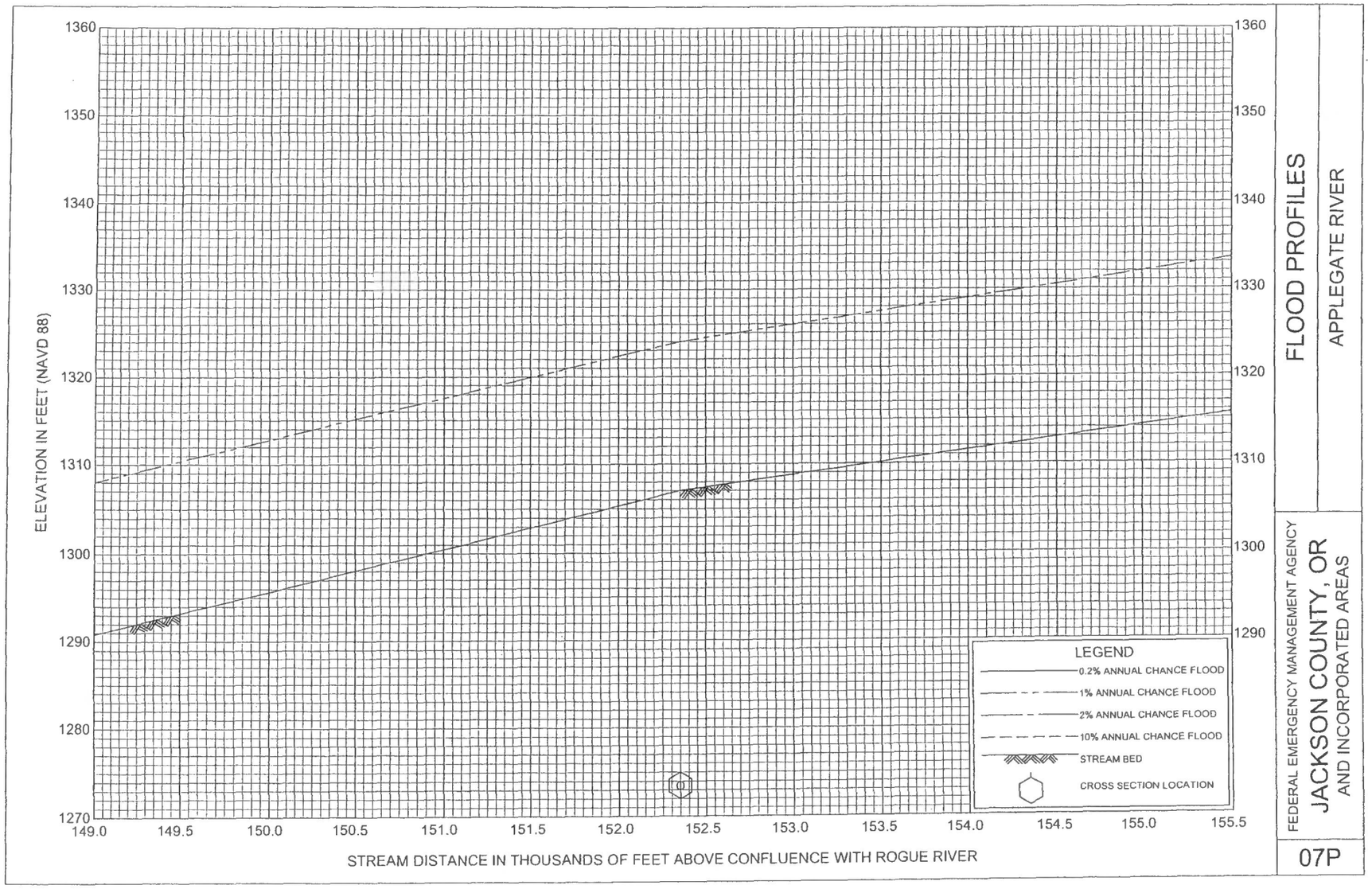
JACKSON COUNTY, OR
AND INCORPORATED AREAS

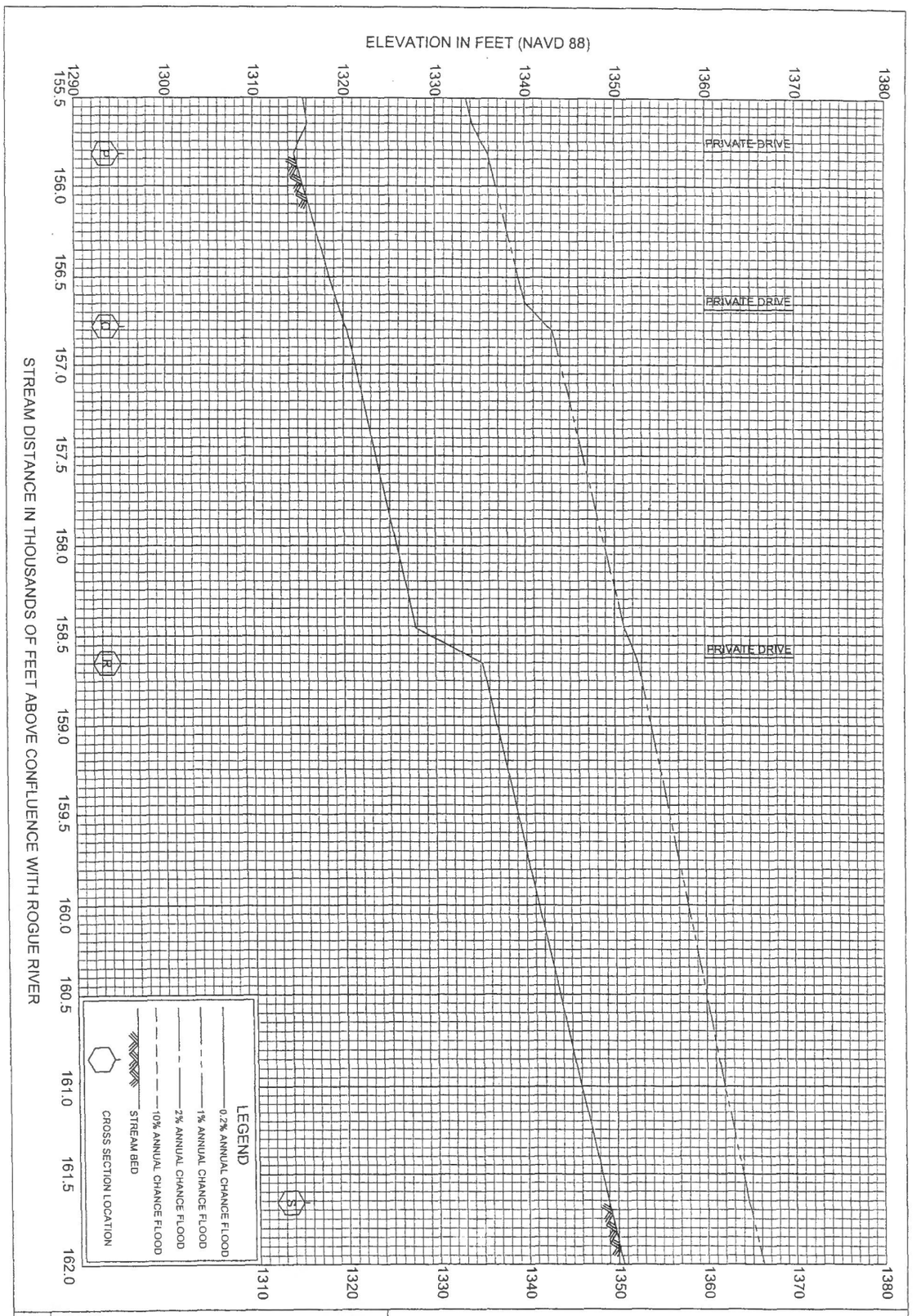
FLOOD PROFILES

APPLEGATE RIVER



06P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES APPLEGATE RIVER


ELEVATION IN FEET (NAVD 88)
1360
1350
1340
1330
1320
1310
1300
1290
1280
1270
149.0
149.5
150.0
150.5
151.0
151.5
152.0
152.5
153.0
153.5
154.0
154.5
155.0
155.5
STREAM DISTANCE IN THOUSANDS OF FEET ABOVE CONFLUENCE WITH ROGUE RIVER
LEGEND
0.2% ANNUAL CHANCE FLOOD
1% ANNUAL CHANCE FLOOD
2% ANNUAL CHANCE FLOOD
10% ANNUAL CHANCE FLOOD
STREAM BED
CROSS SECTION LOCATION
FLOOD PROFILES
APPLEGATE RIVER
FEDERAL EMERGENCY MANAGEMENT AGENCY
JACKSON COUNTY, OR
AND INCORPORATED AREAS
07P



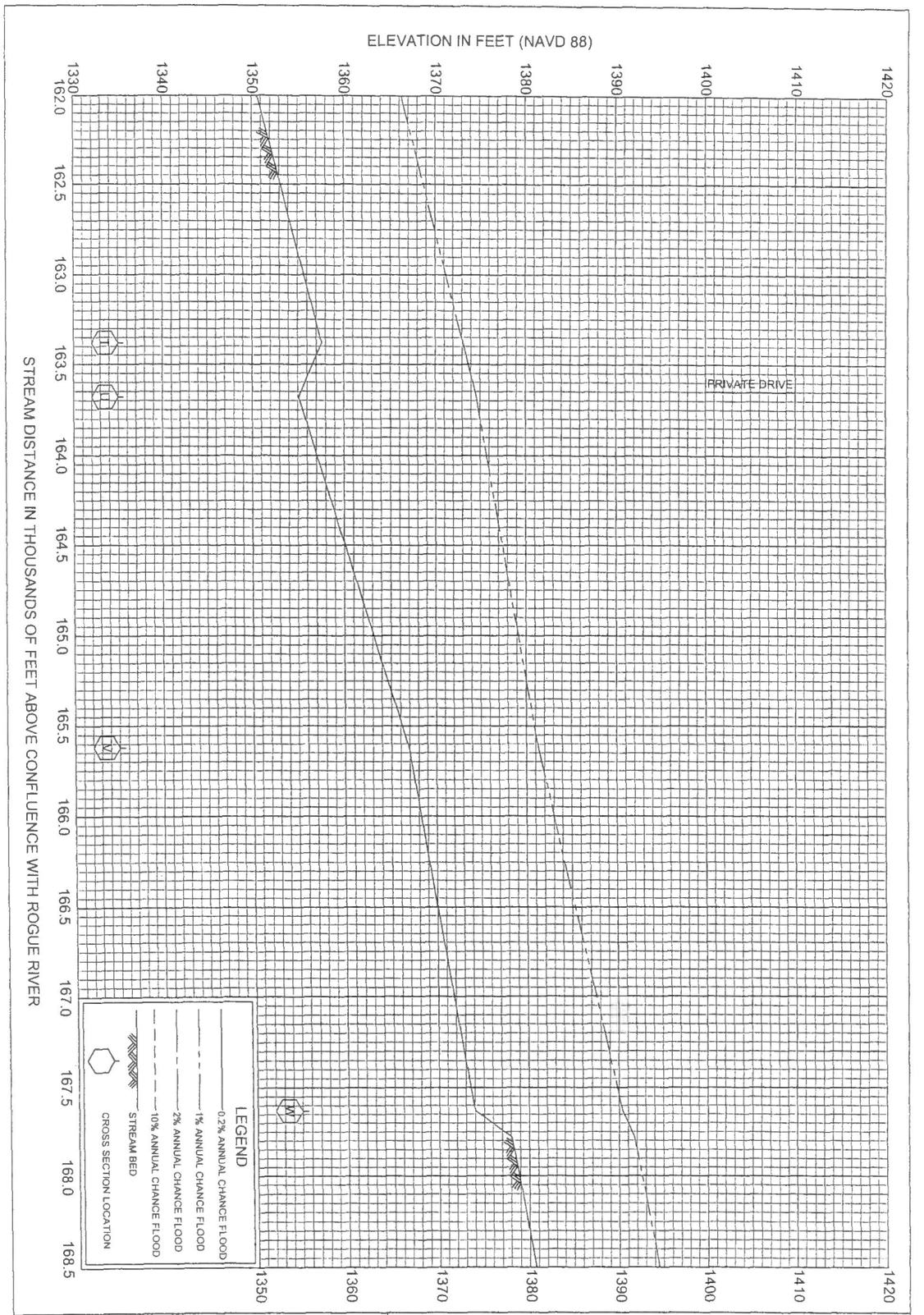
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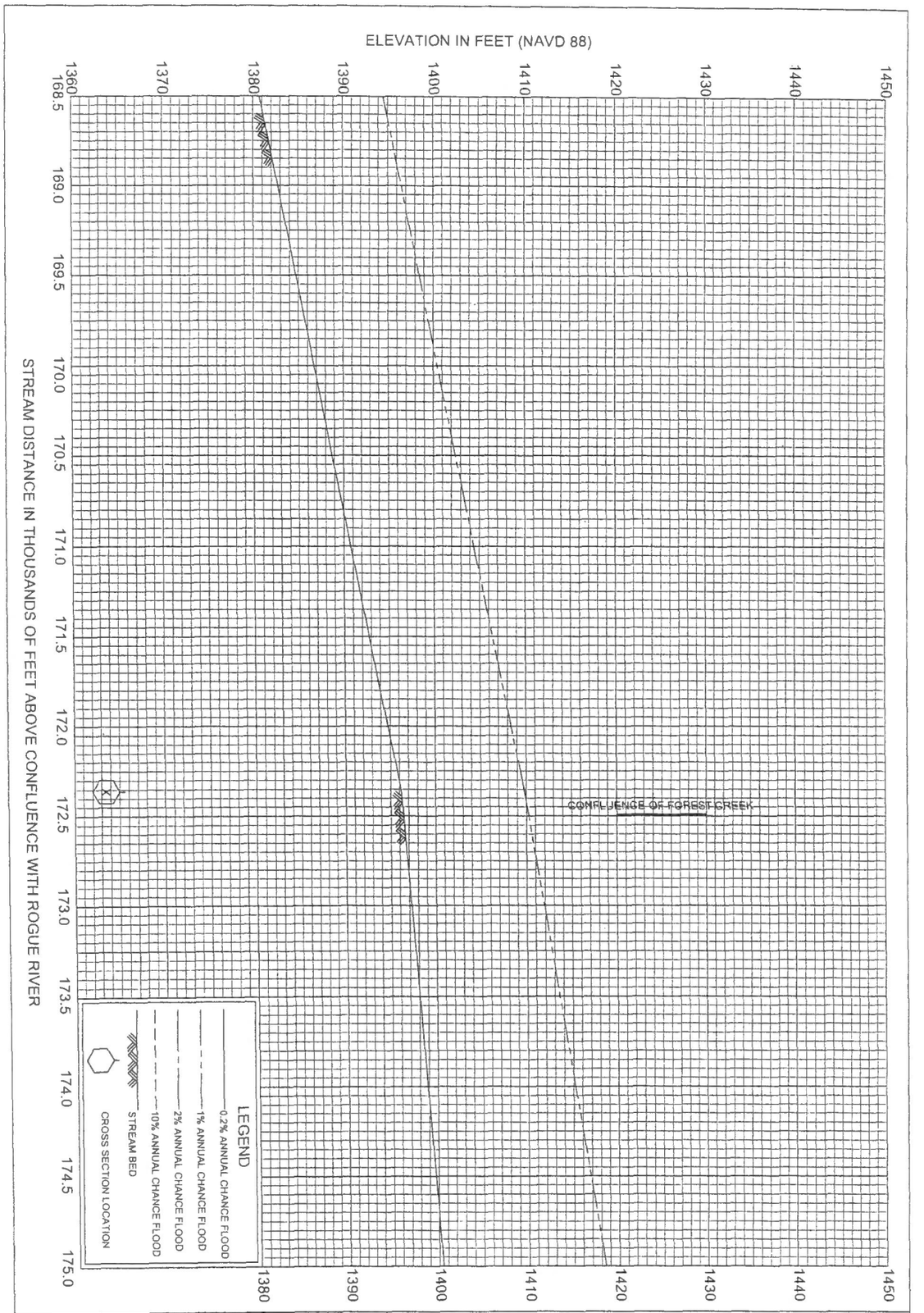
JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

APPLEGATE RIVER



09P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES APPLEGATE RIVER



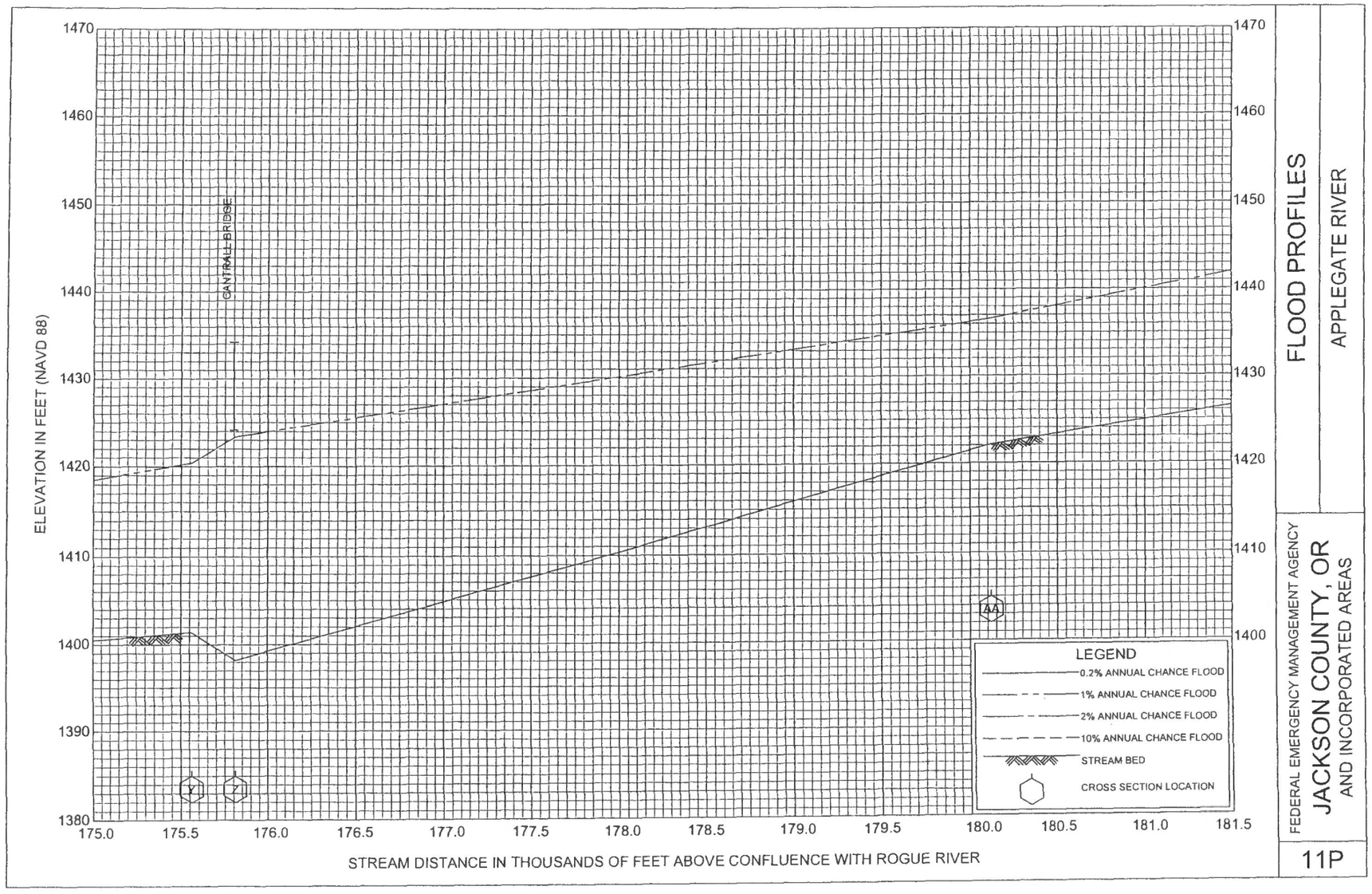
10P

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

APPLEGATE RIVER



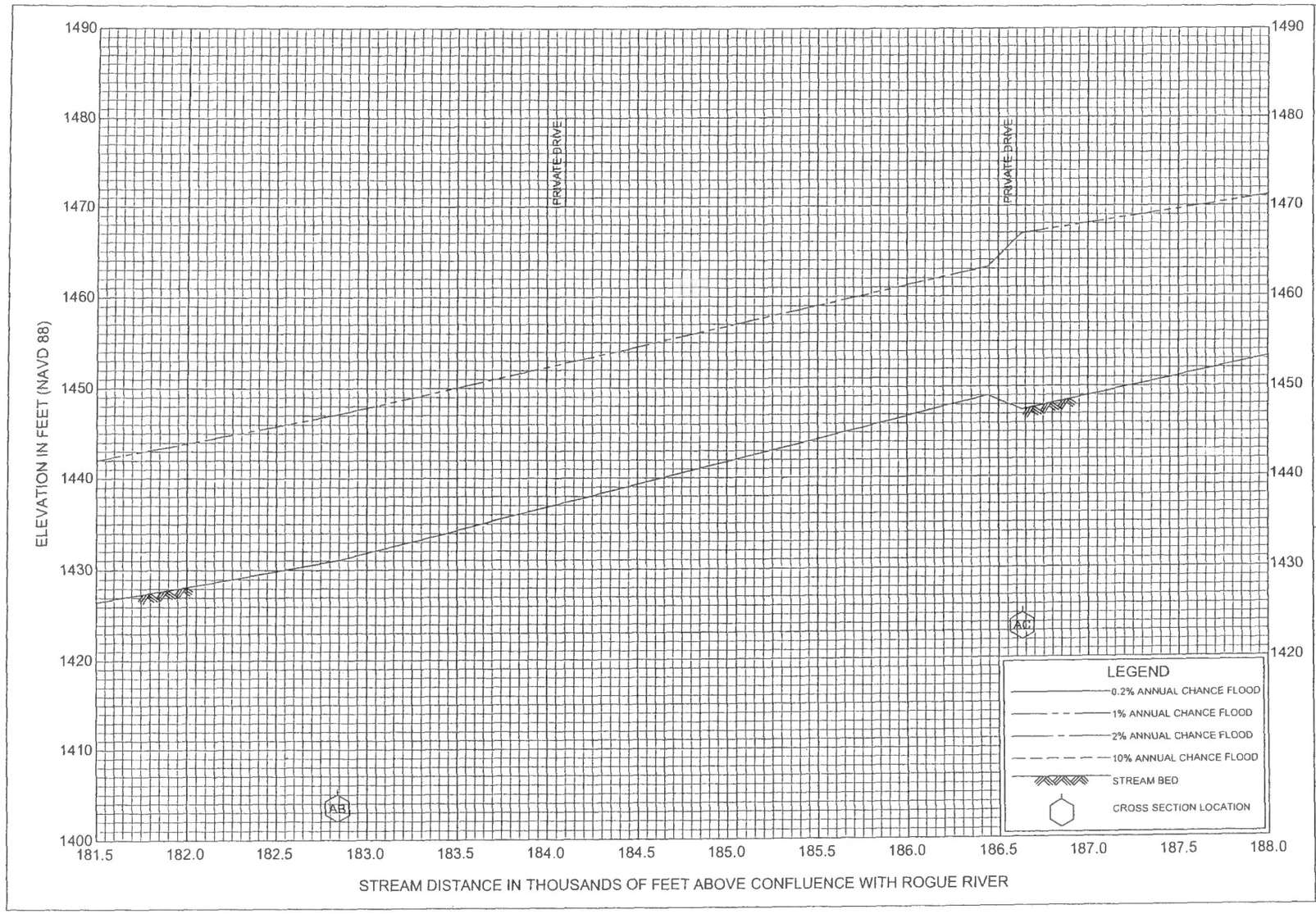
FLOOD PROFILES

APPLEGATE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

11P



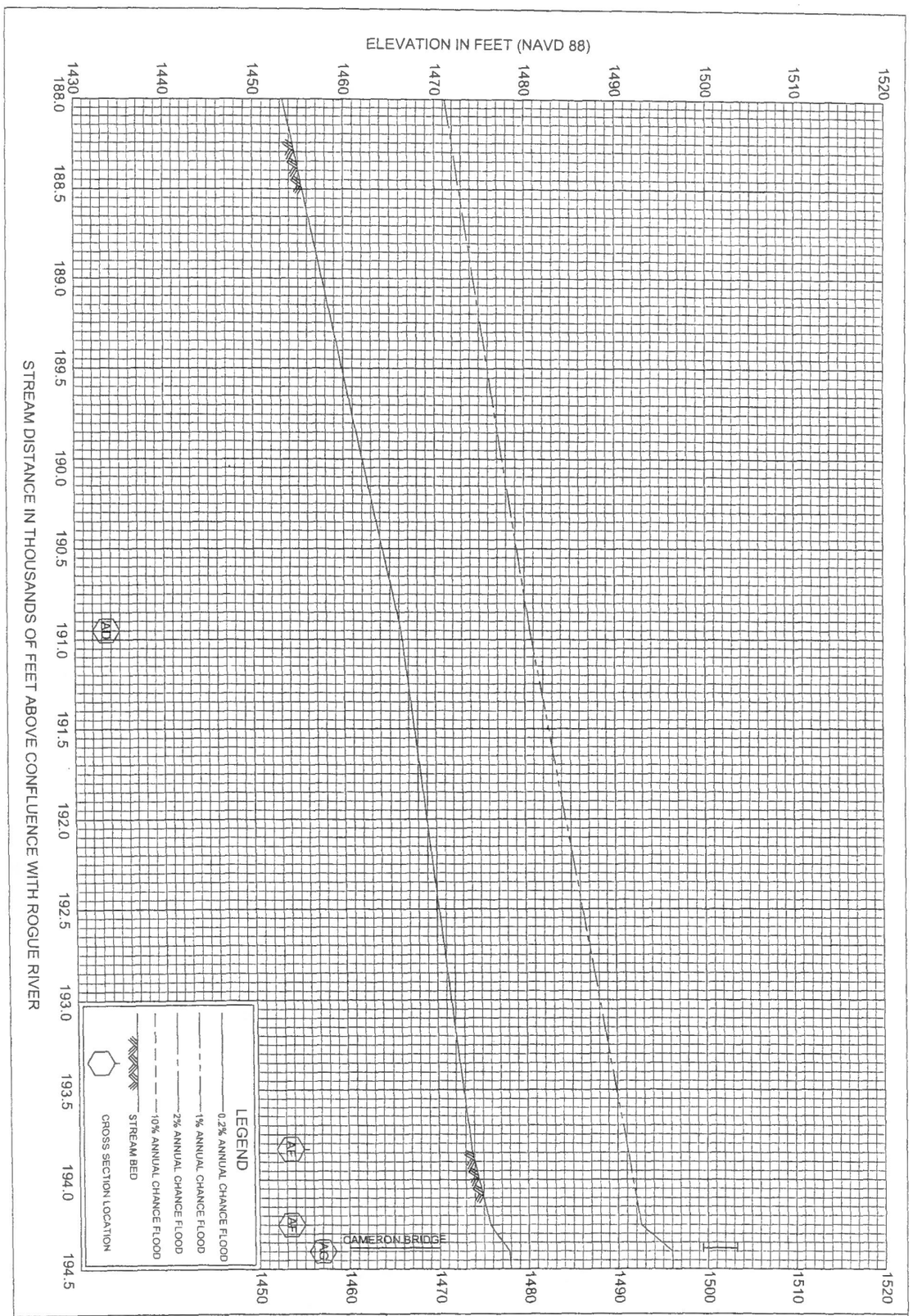
FLOOD PROFILES

APPLEGATE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

12P

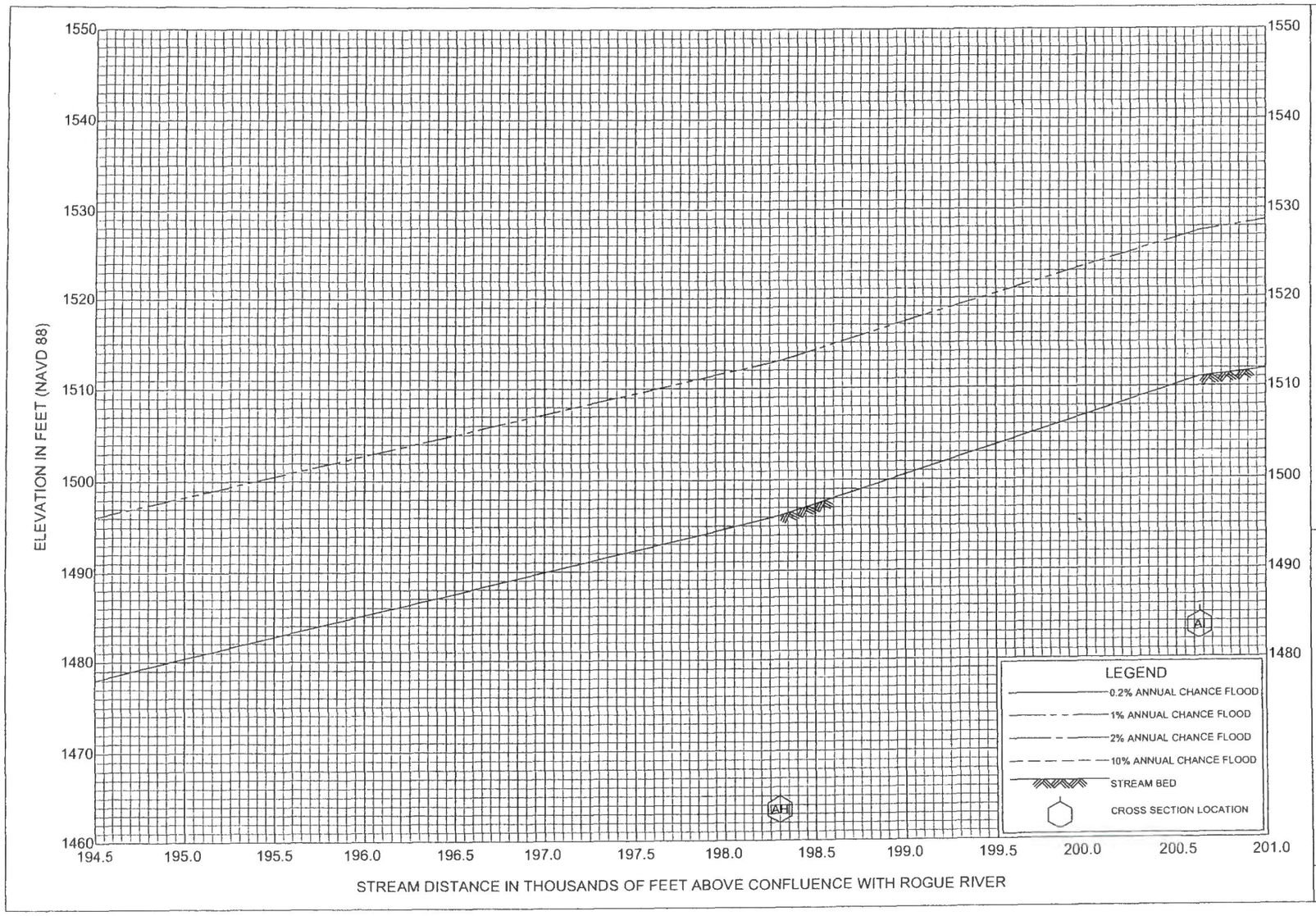


FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

APPLEGATE RIVER



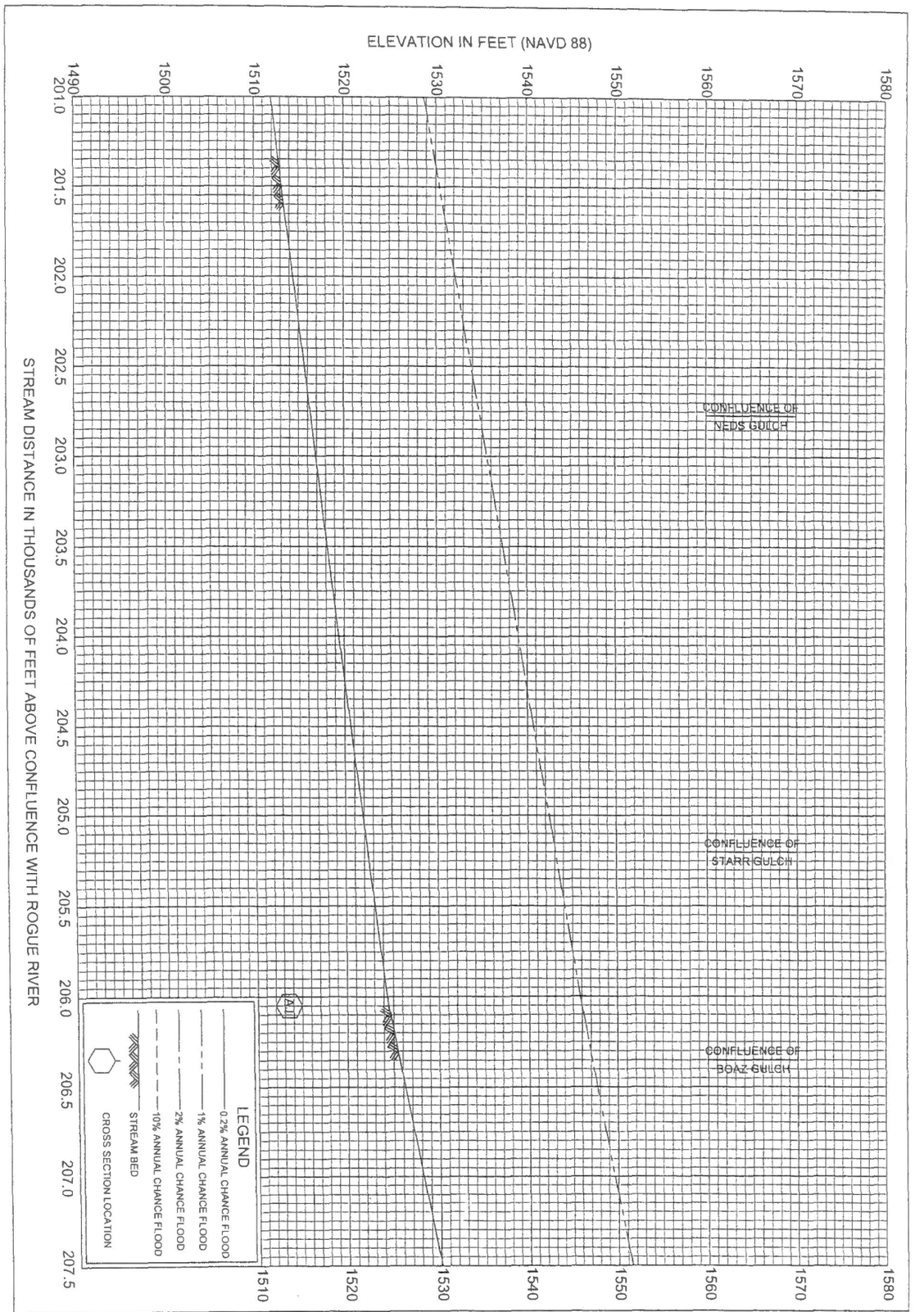
FLOOD PROFILES

APPLEGATE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

14P



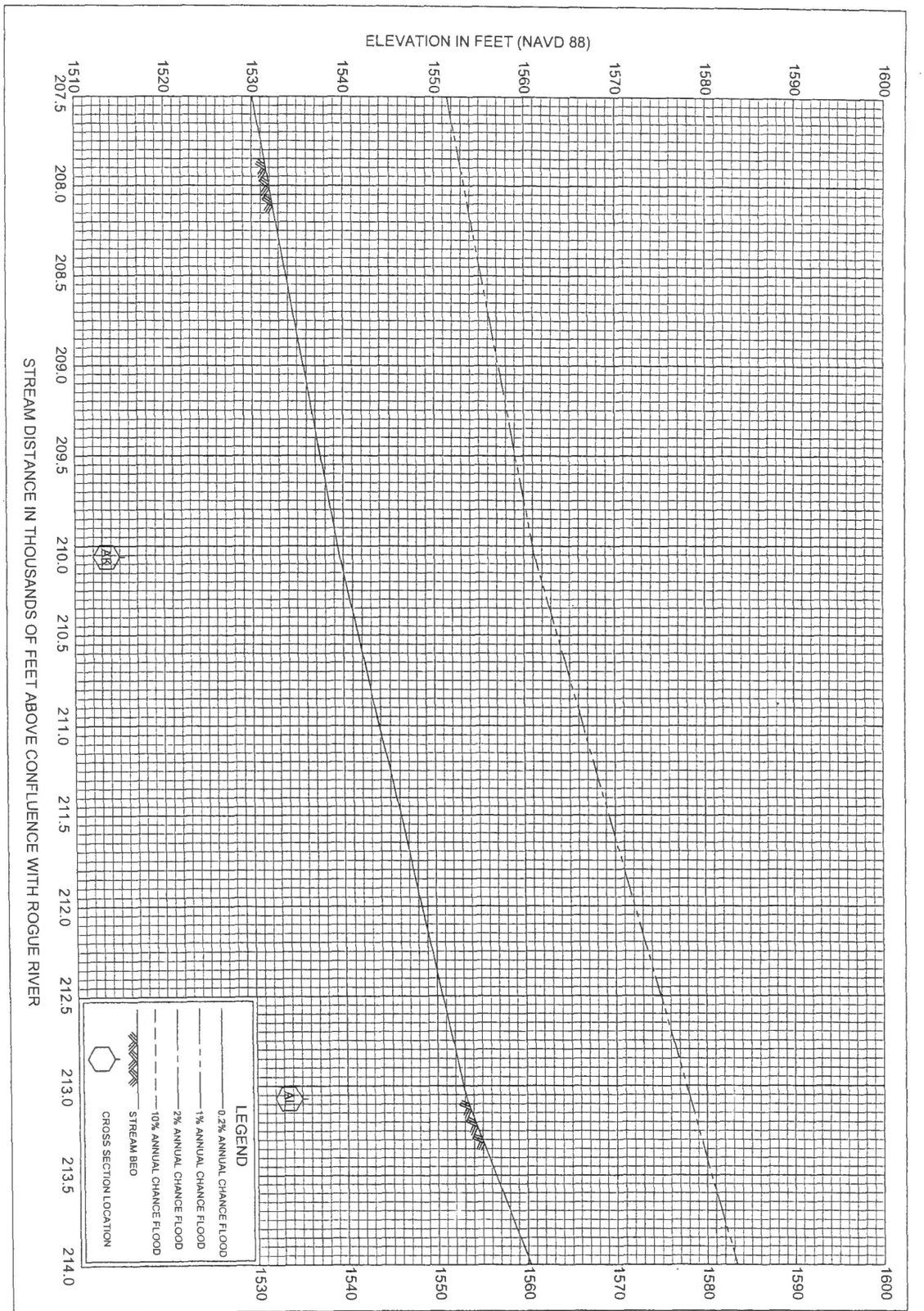
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FEDERAL EMERGENCY MANAGEMENT AGENCY

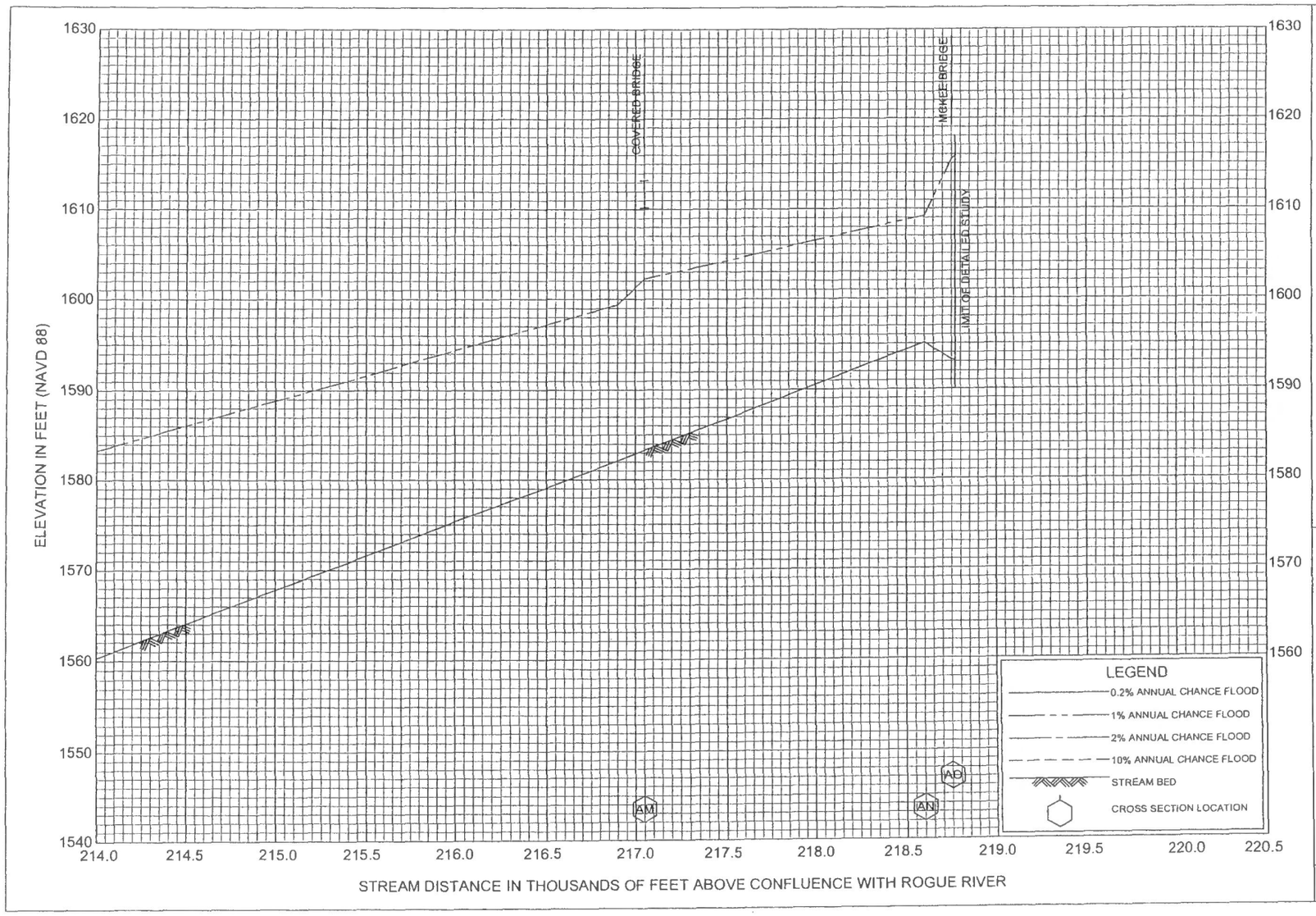
JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

APPLEGATE RIVER



16P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES APPLEGATE RIVER



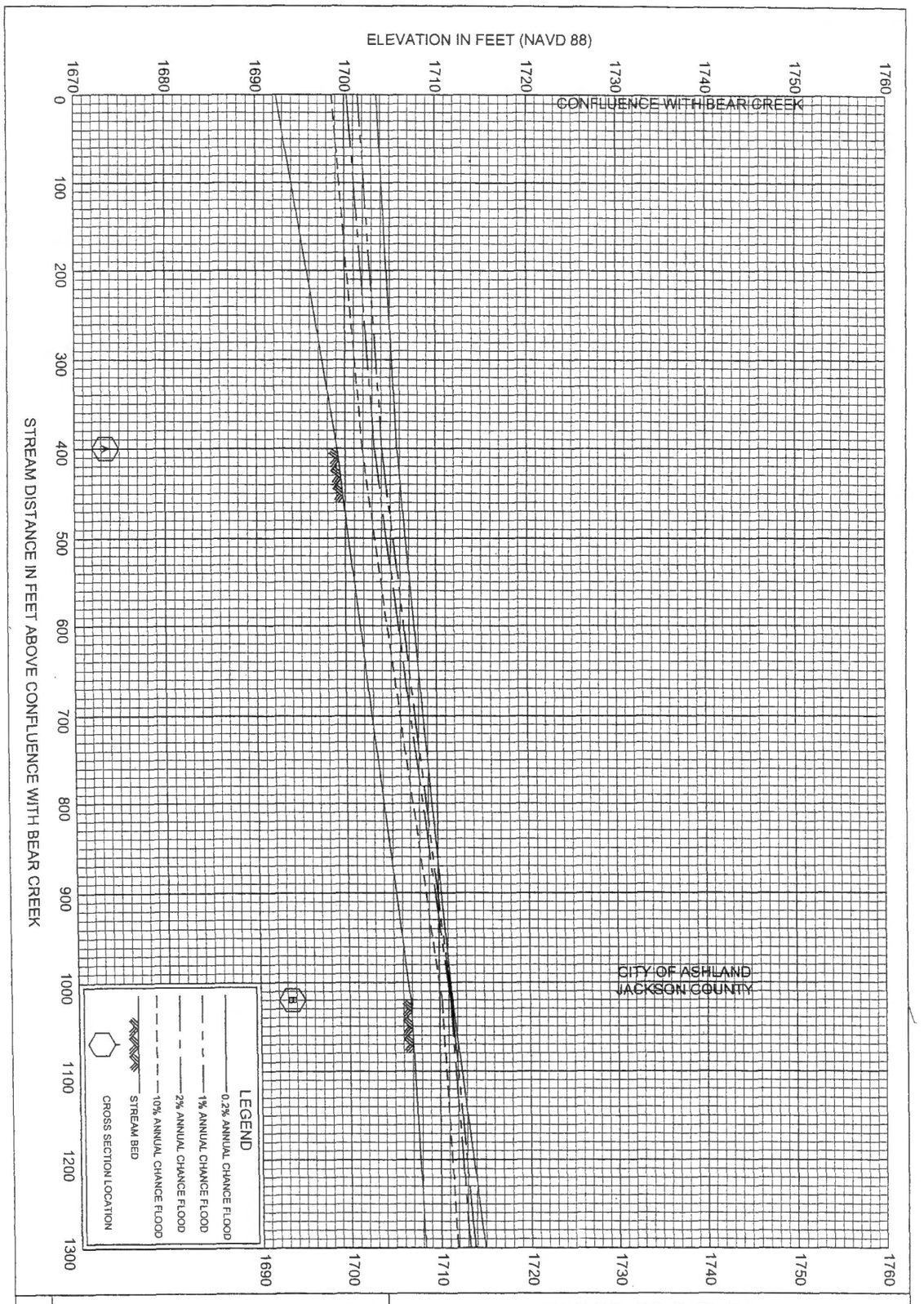
FLOOD PROFILES

APPLEGATE RIVER

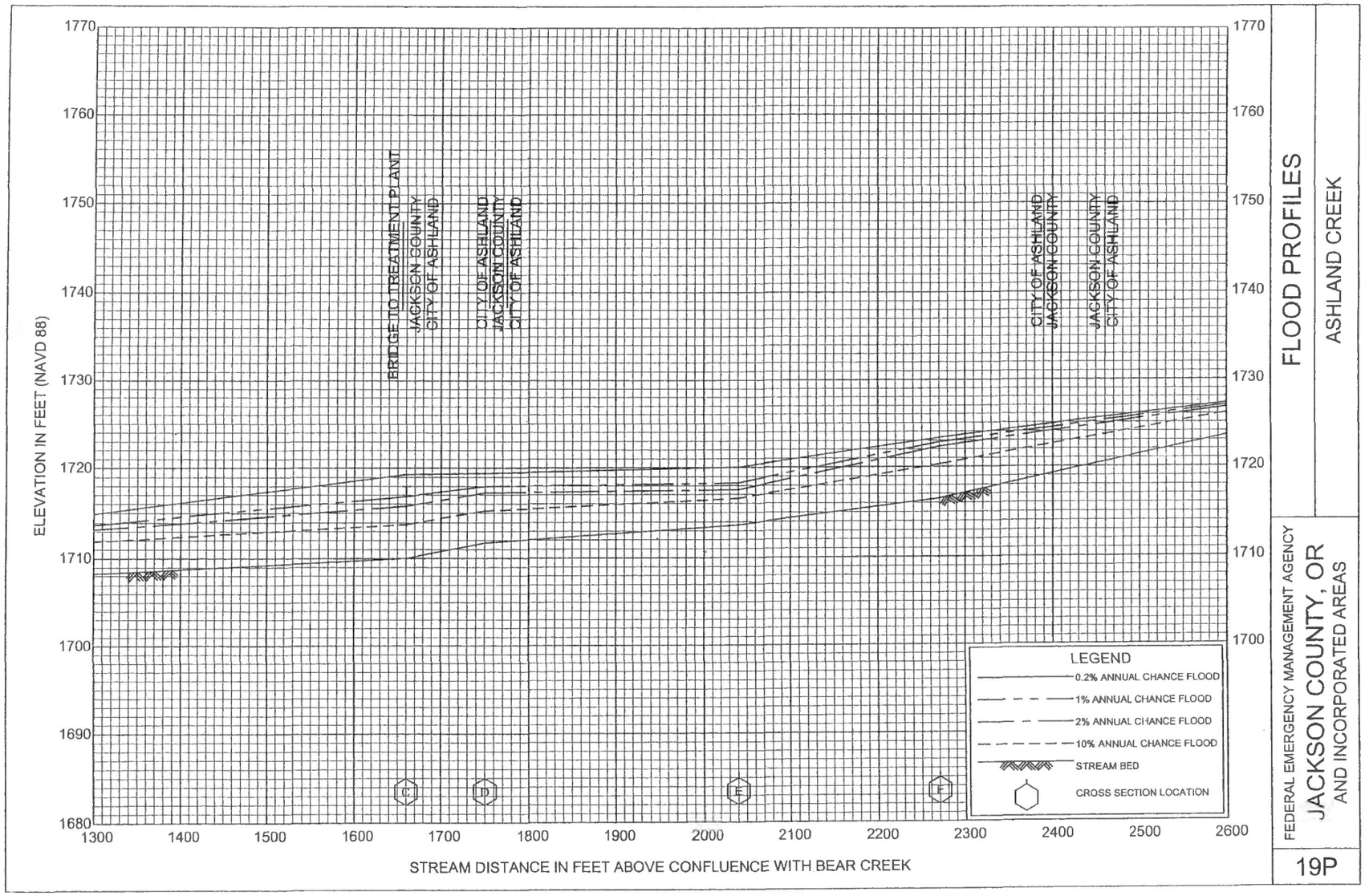
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

17P



18P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES ASHLAND CREEK



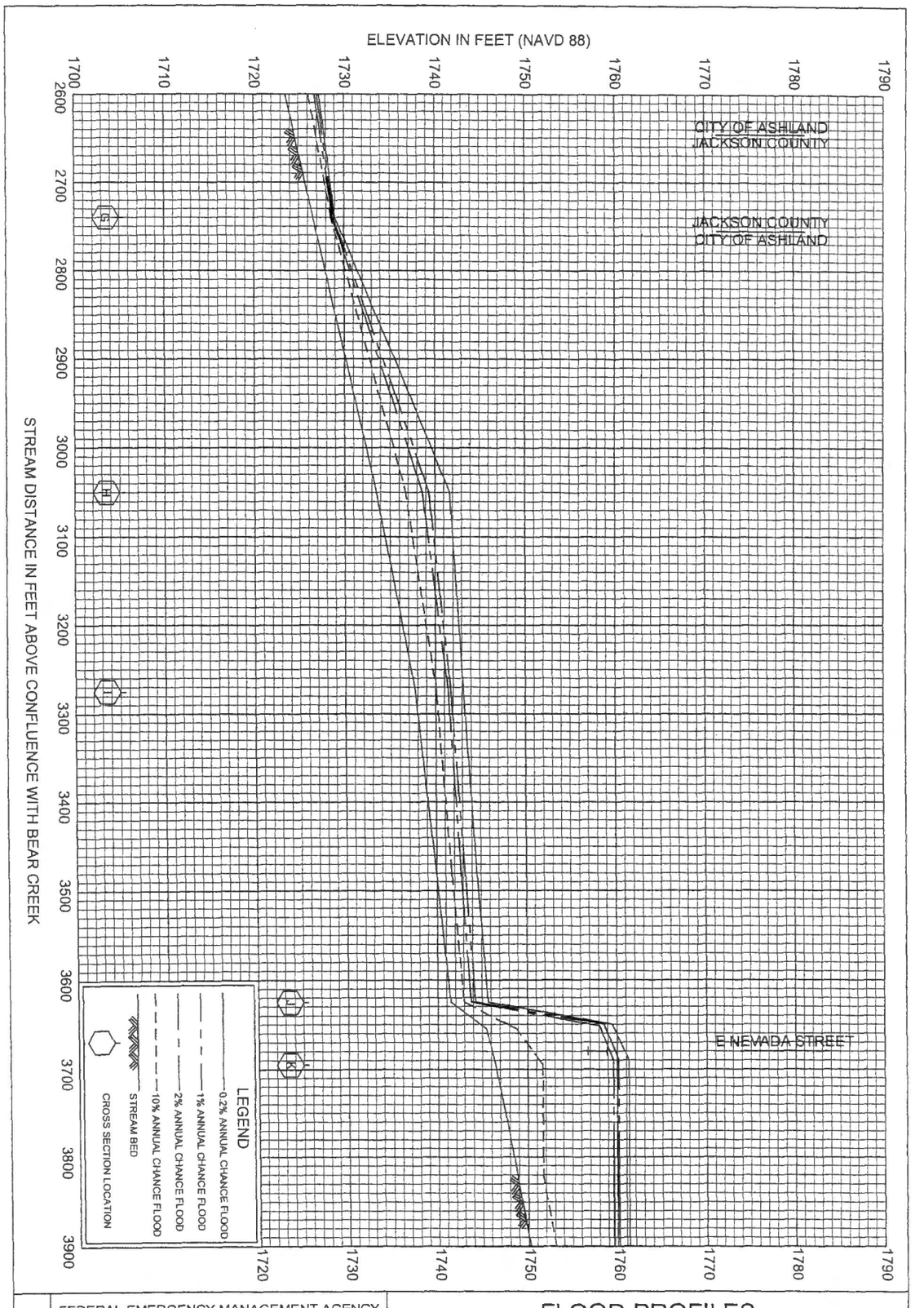
FLOOD PROFILES

ASHLAND CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

19P



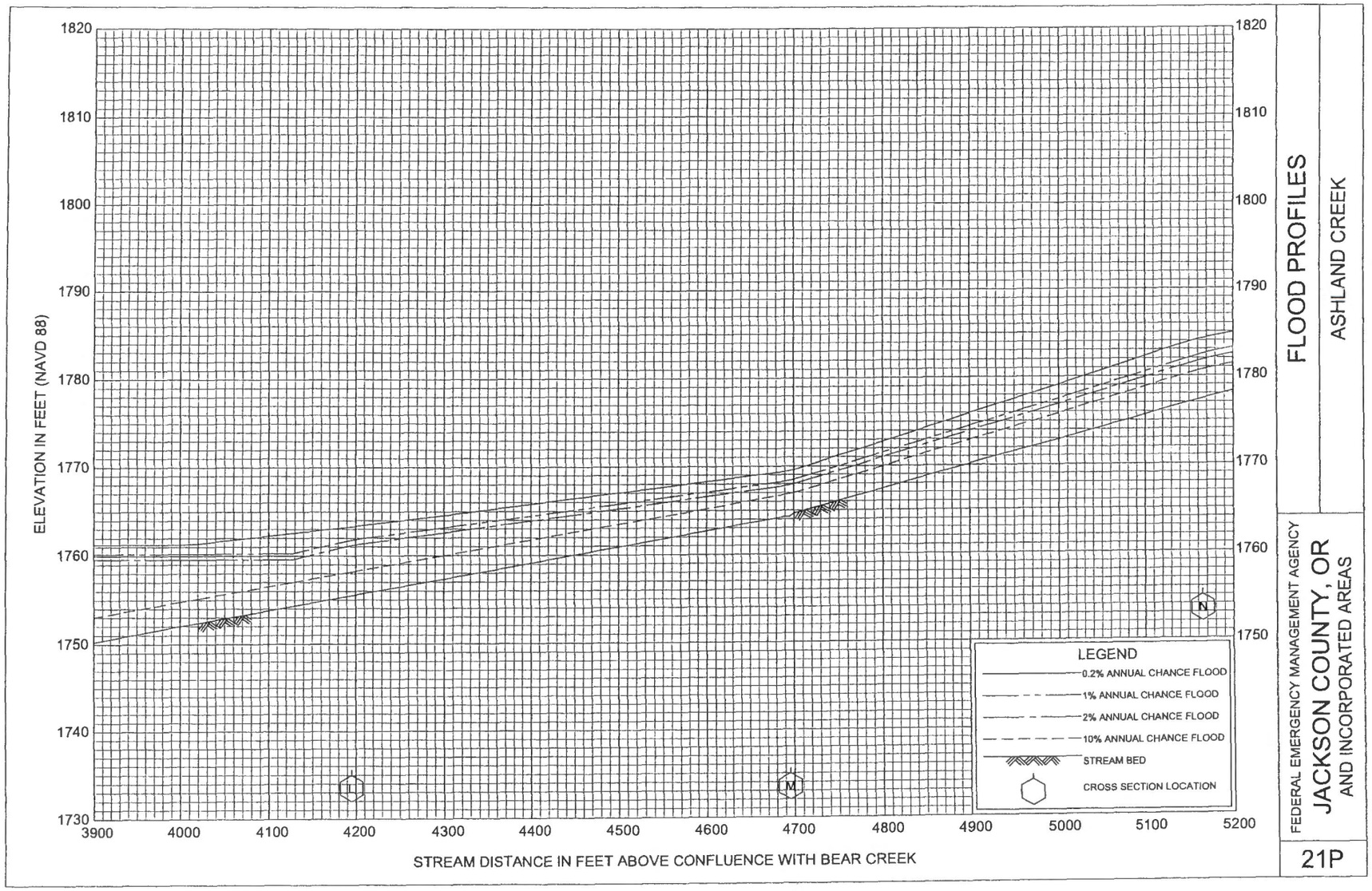
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FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

ASHLAND CREEK



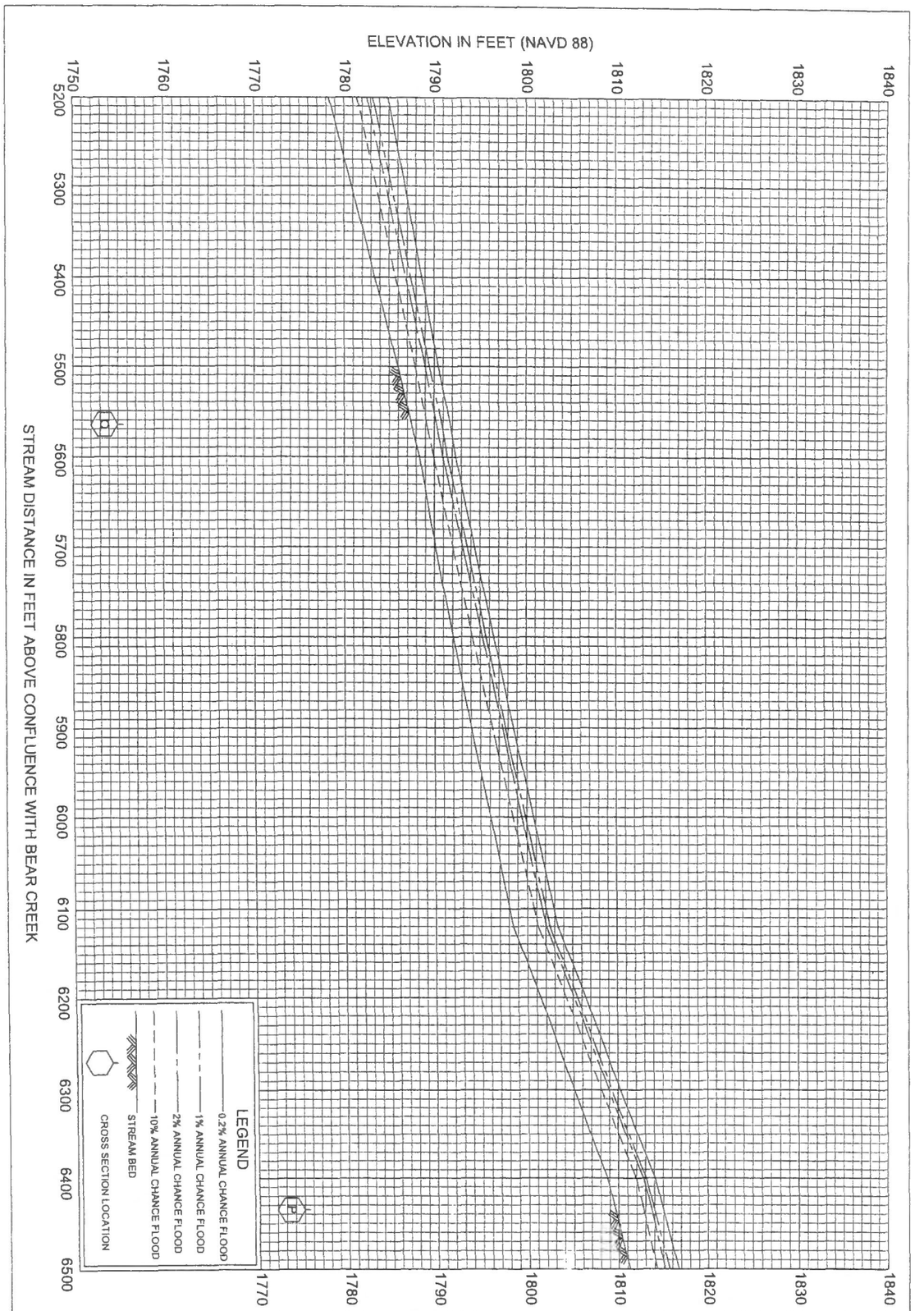
FLOOD PROFILES

ASHLAND CREEK

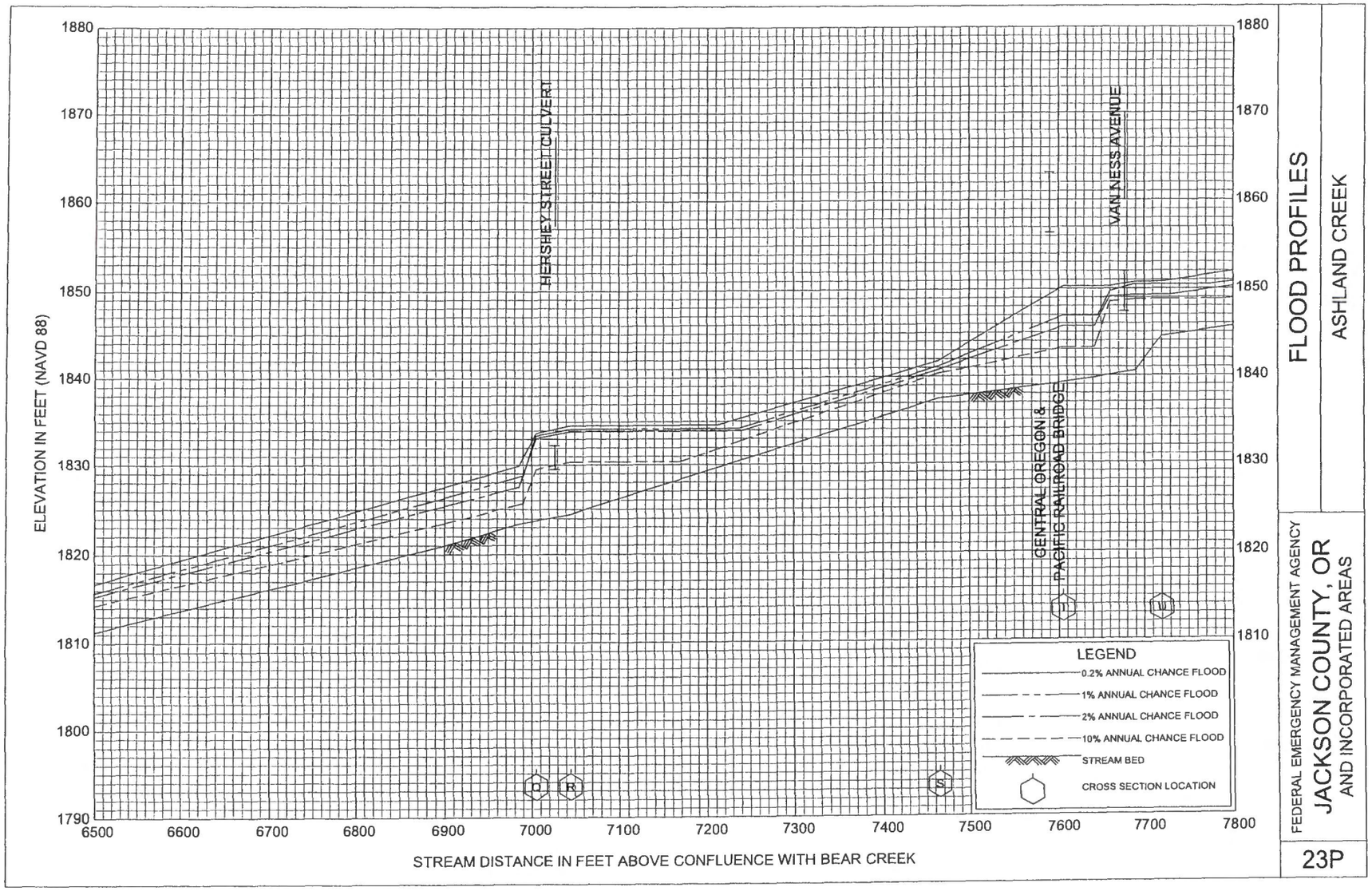
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

21P



22P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES ASHLAND CREEK



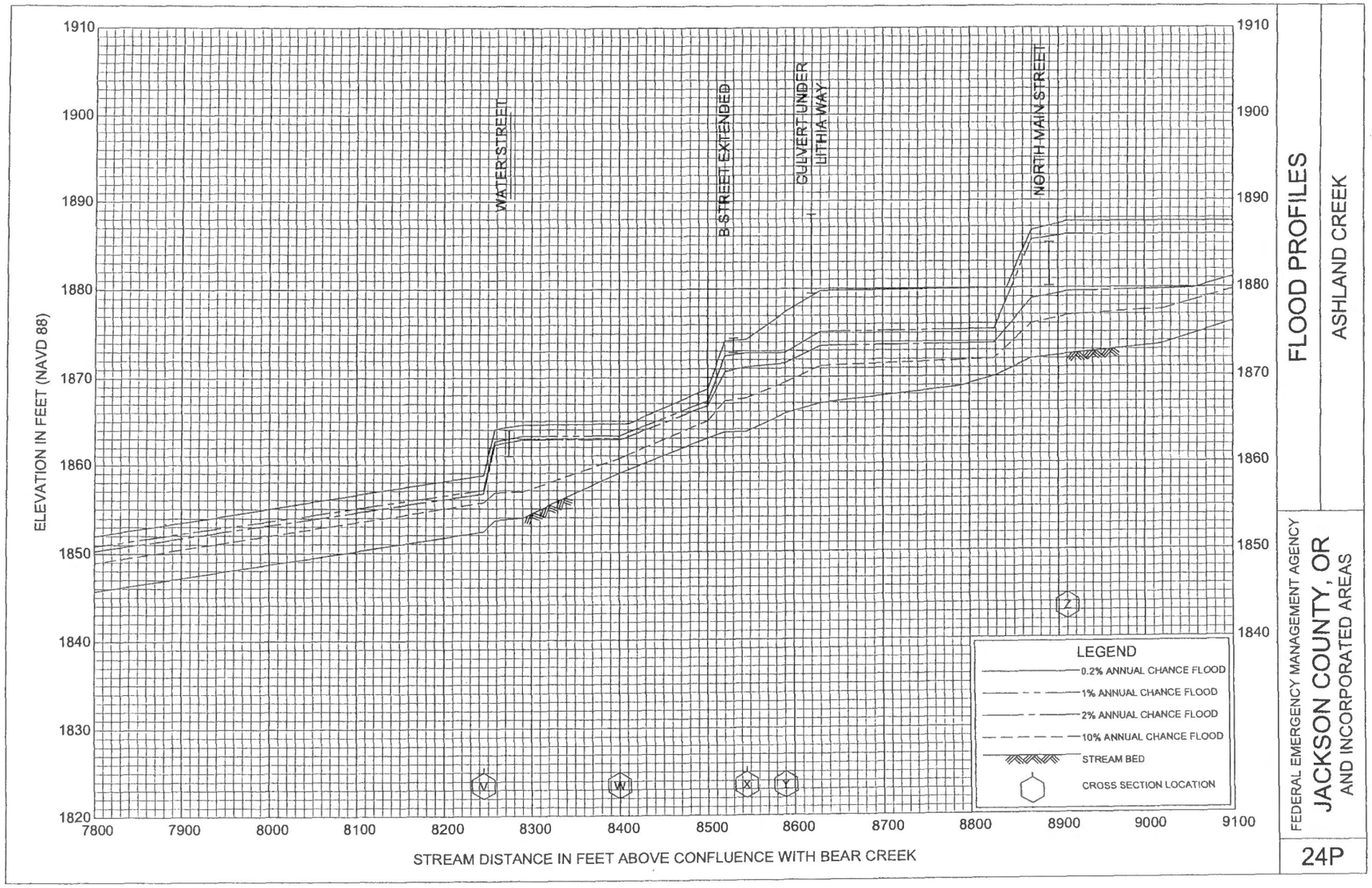
FLOOD PROFILES

ASHLAND CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

23P



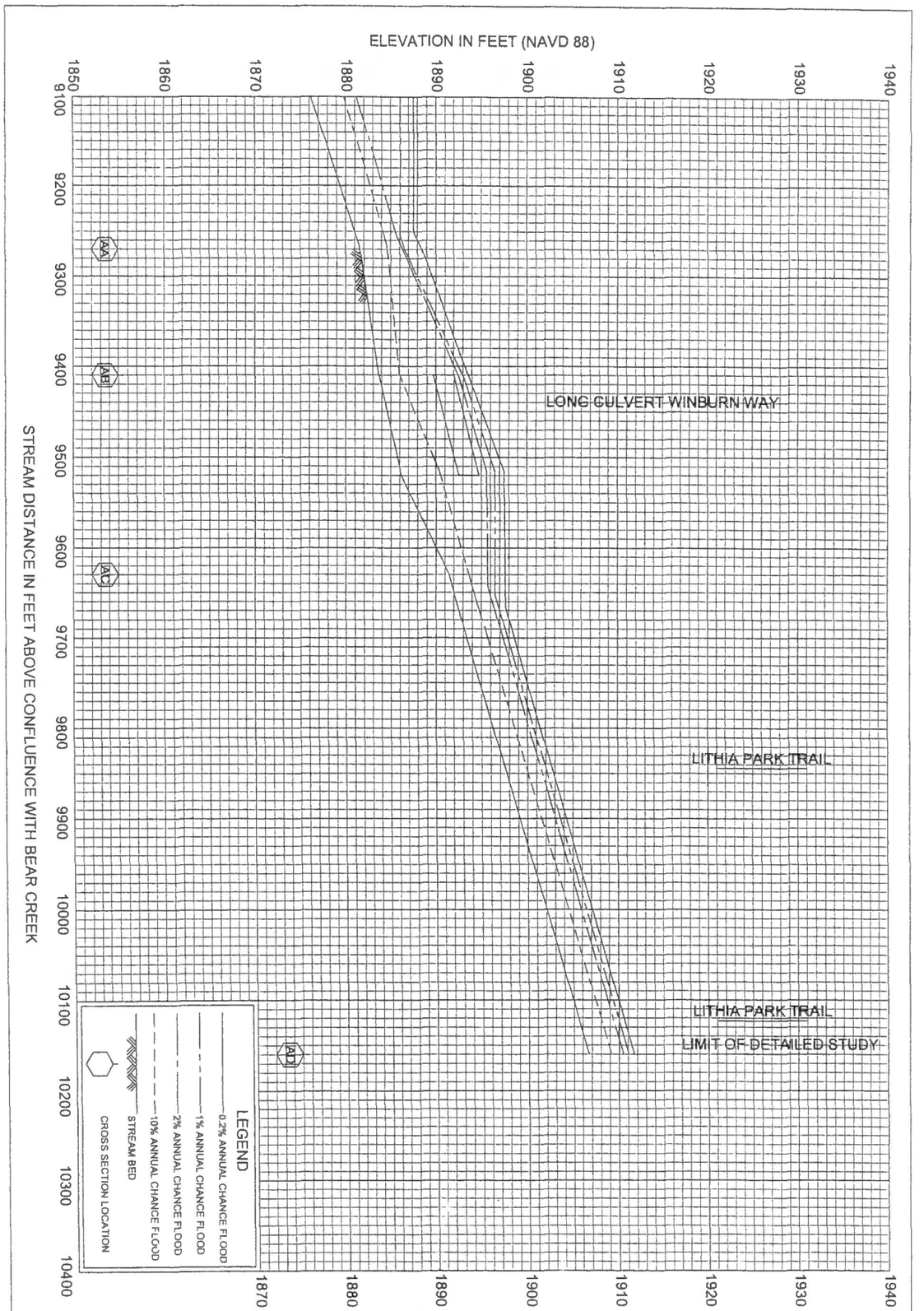
FLOOD PROFILES

ASHLAND CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

24P



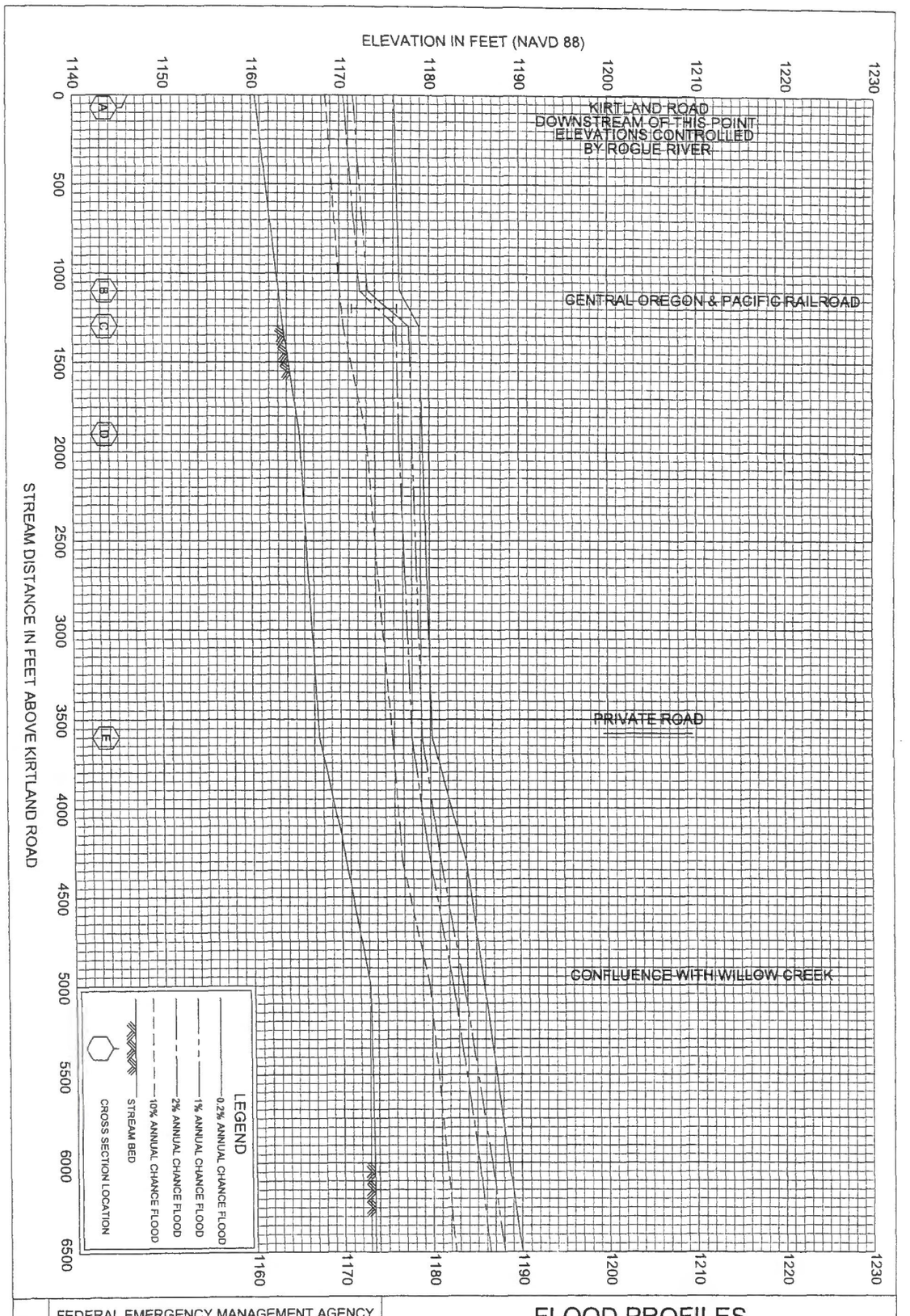
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FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

ASHLAND CREEK



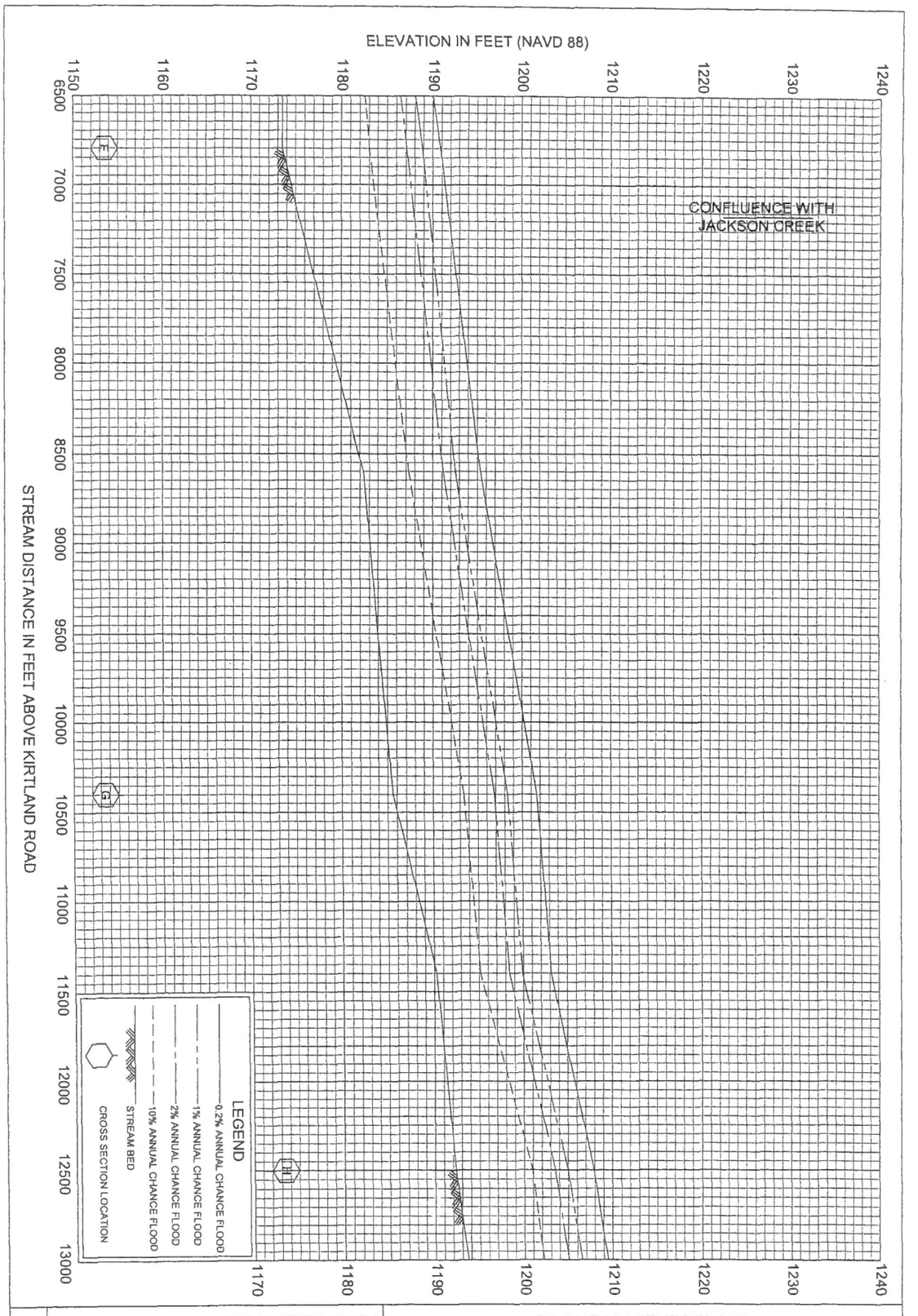
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FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

BEAR CREEK



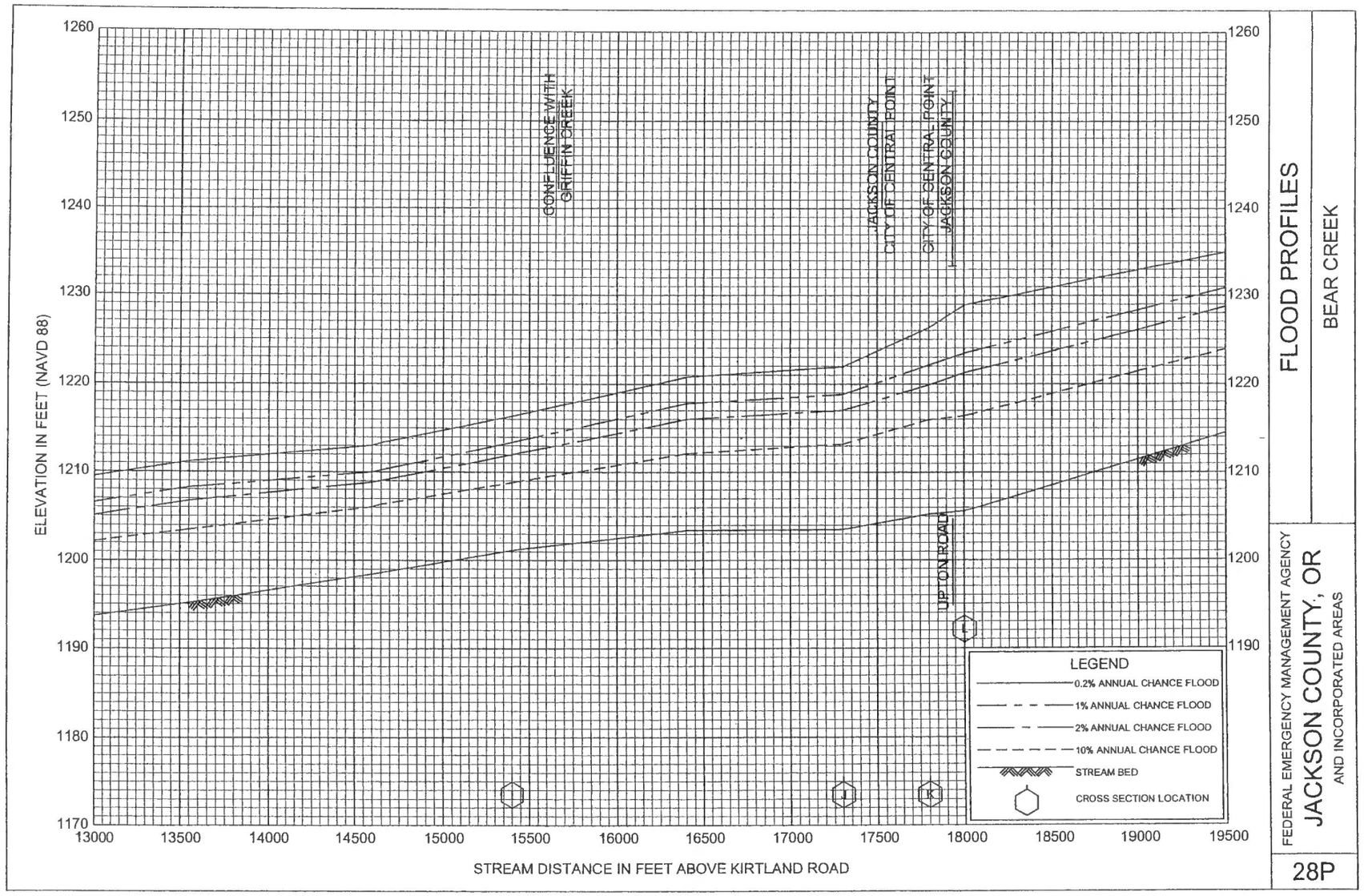
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FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

BEAR CREEK



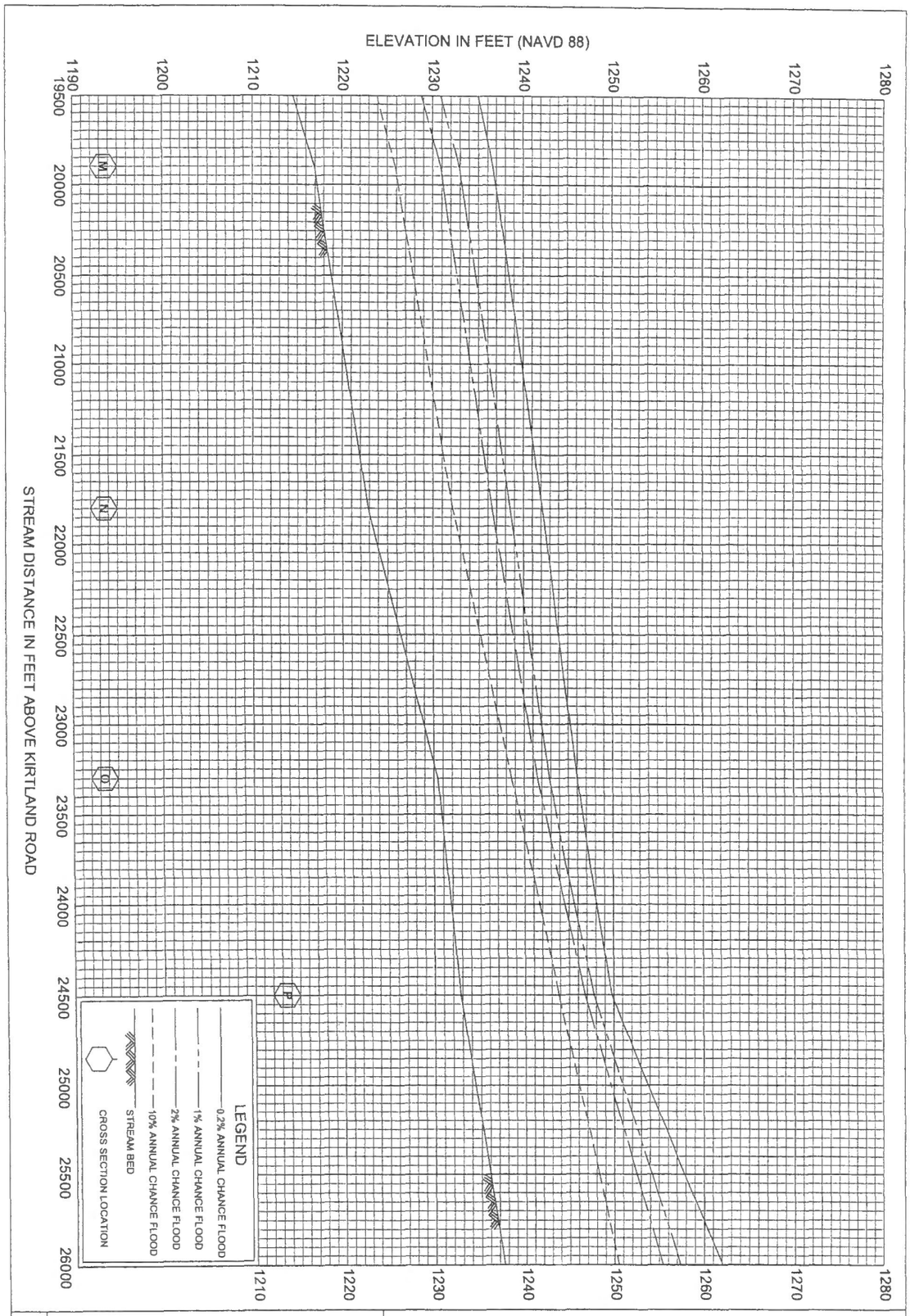
FEDERAL EMERGENCY MANAGEMENT AGENCY

FLOOD PROFILES

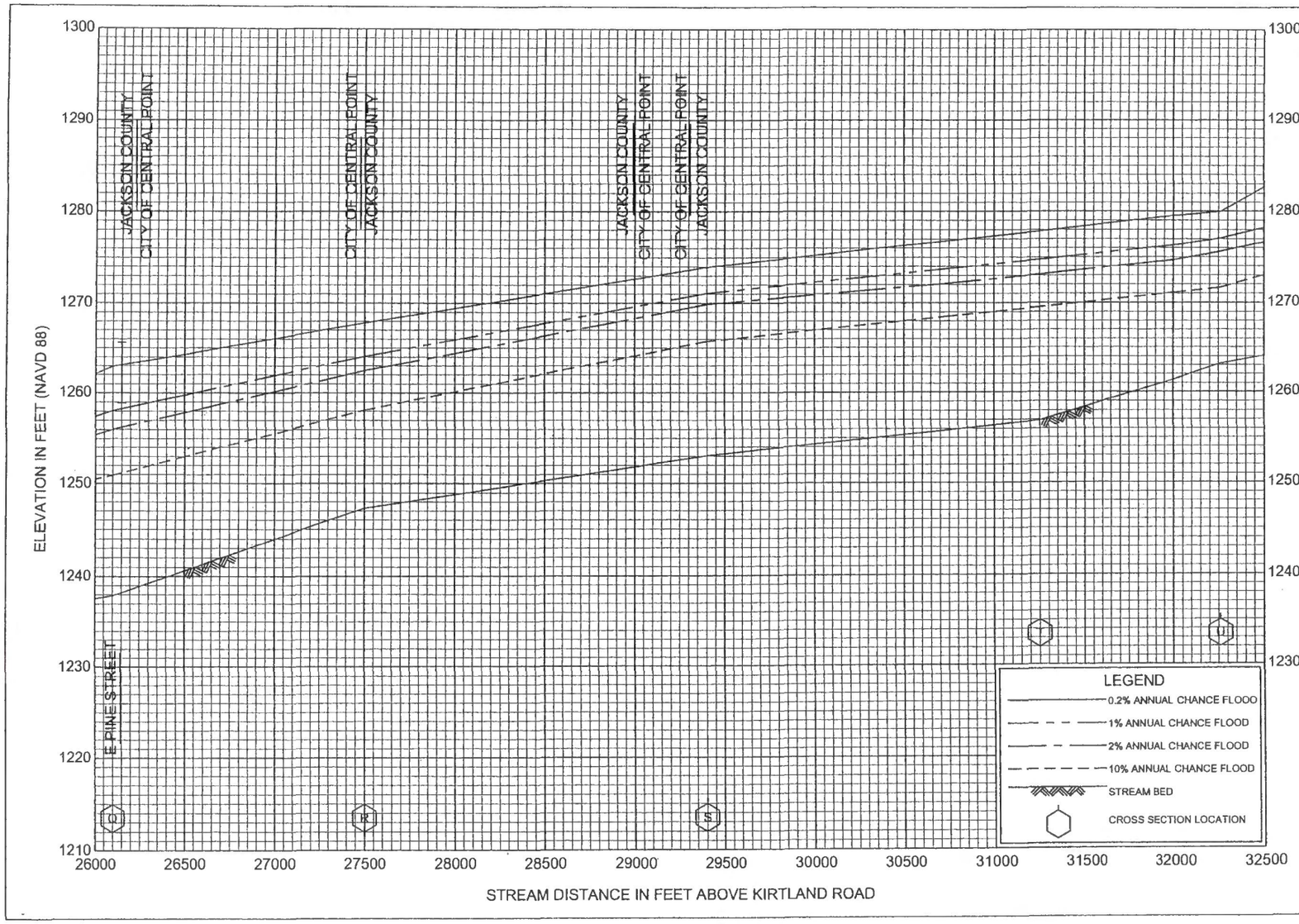
BEAR CREEK

JACKSON COUNTY, OR
AND INCORPORATED AREAS

28P



29P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES BEAR CREEK



FLOOD PROFILES

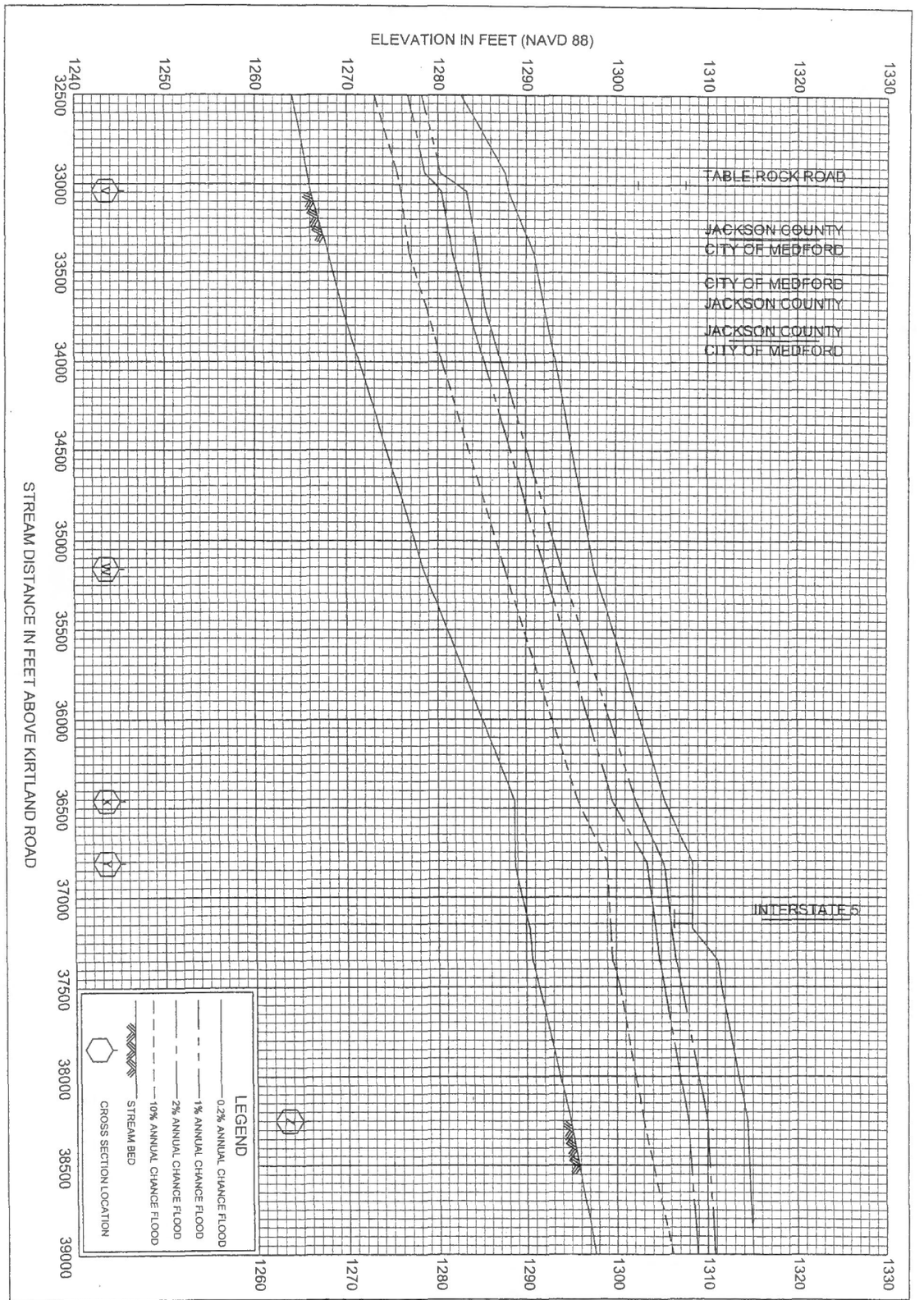
BEAR CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

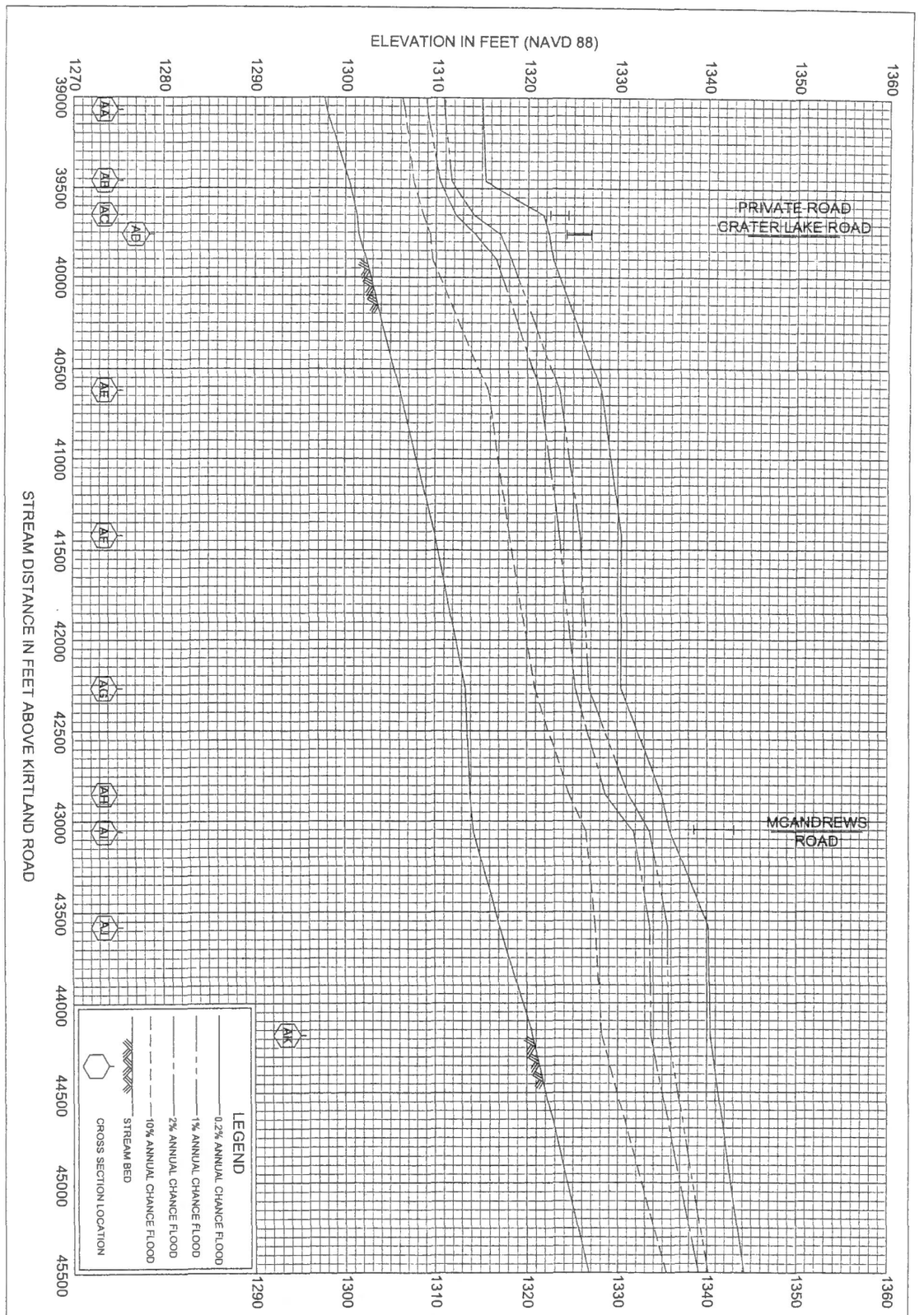
JACKSON COUNTY, OR

AND INCORPORATED AREAS

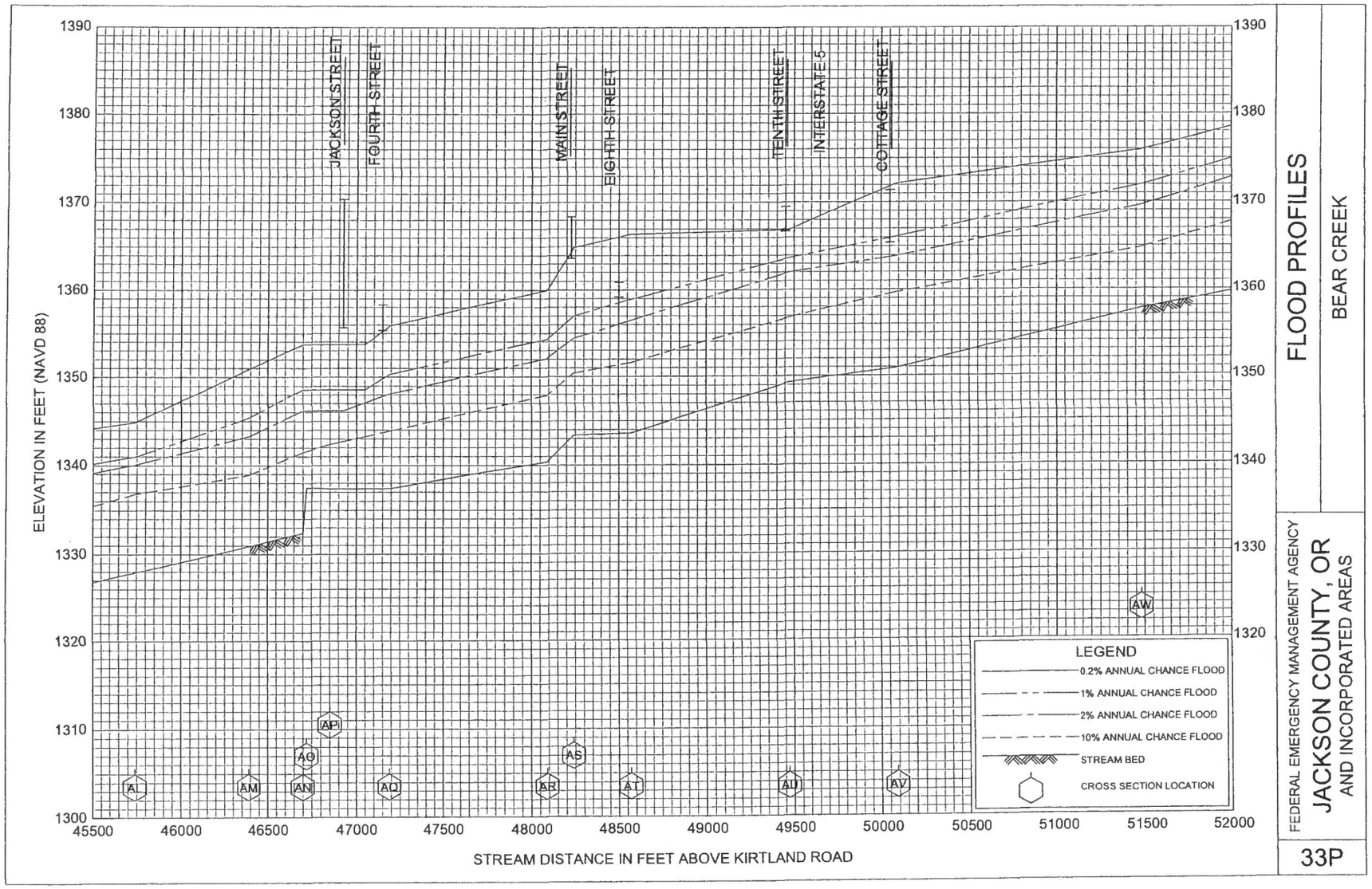
30P



31P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES BEAR CREEK



32P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES BEAR CREEK



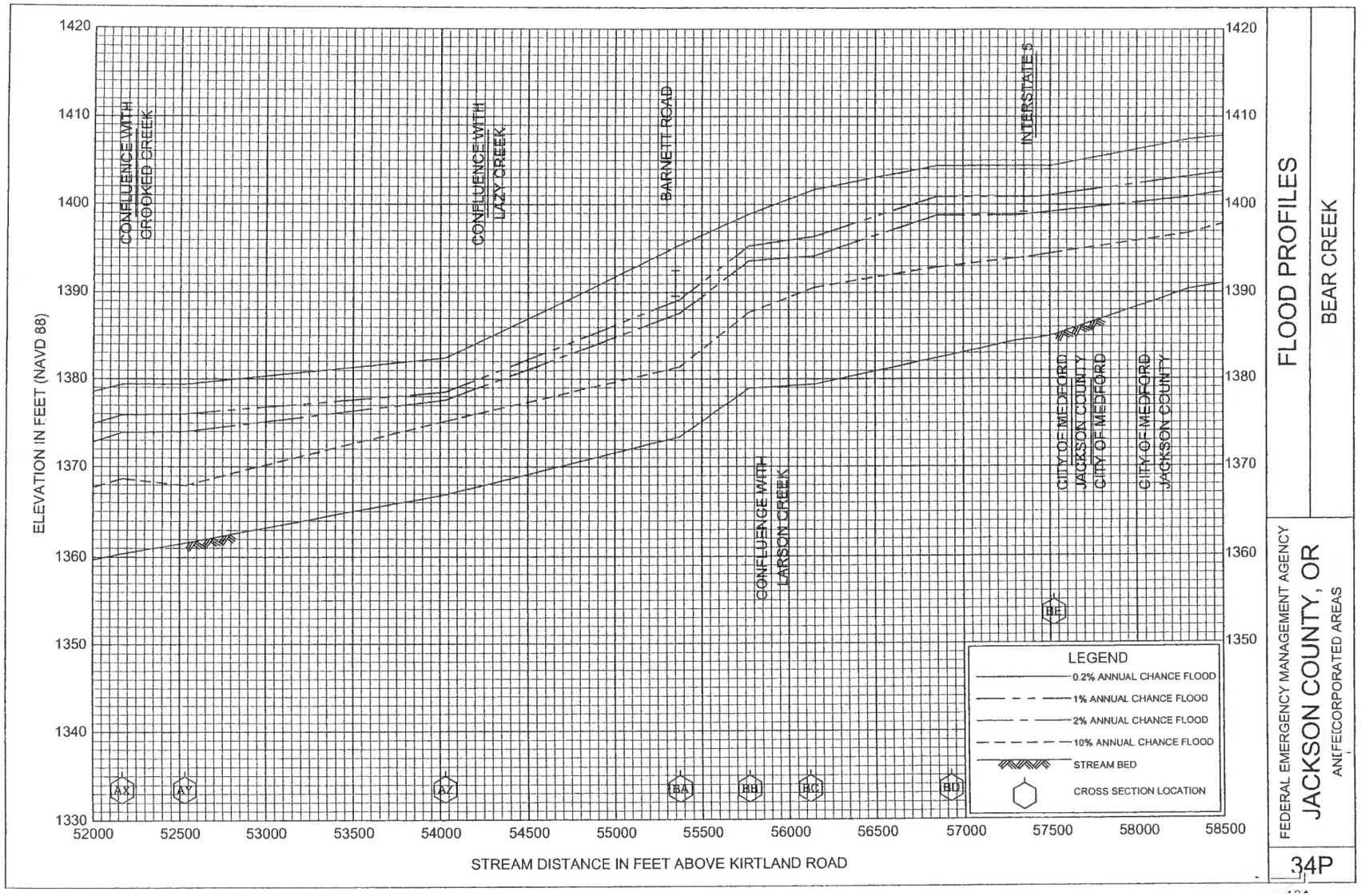
FLOOD PROFILES

BEAR CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

33P



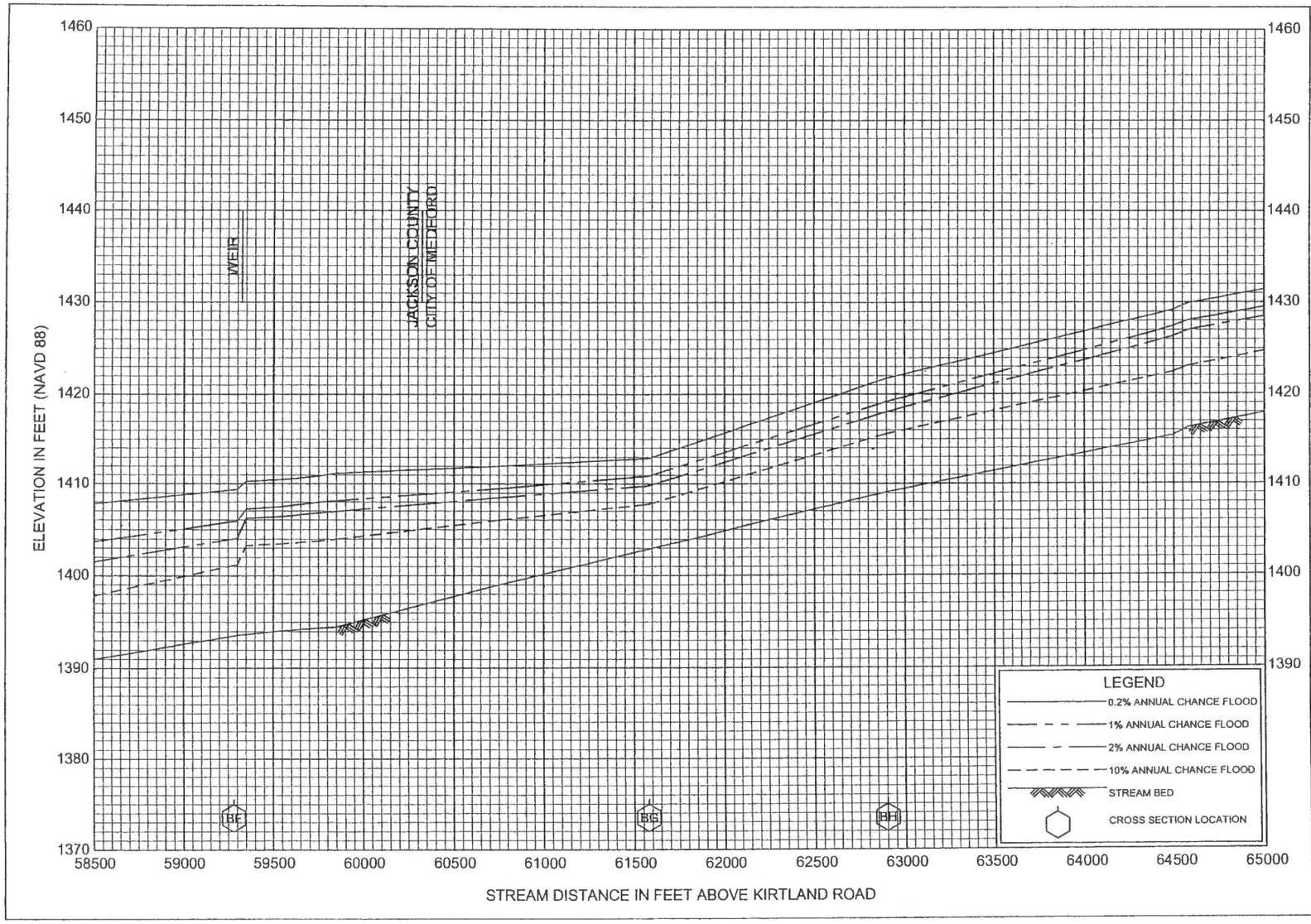
FEDERAL EMERGENCY MANAGEMENT AGENCY

FLOOD PROFILES

JACKSON COUNTY, OR
AND INCORPORATED AREAS

BEAR CREEK

34P



FLOOD PROFILES

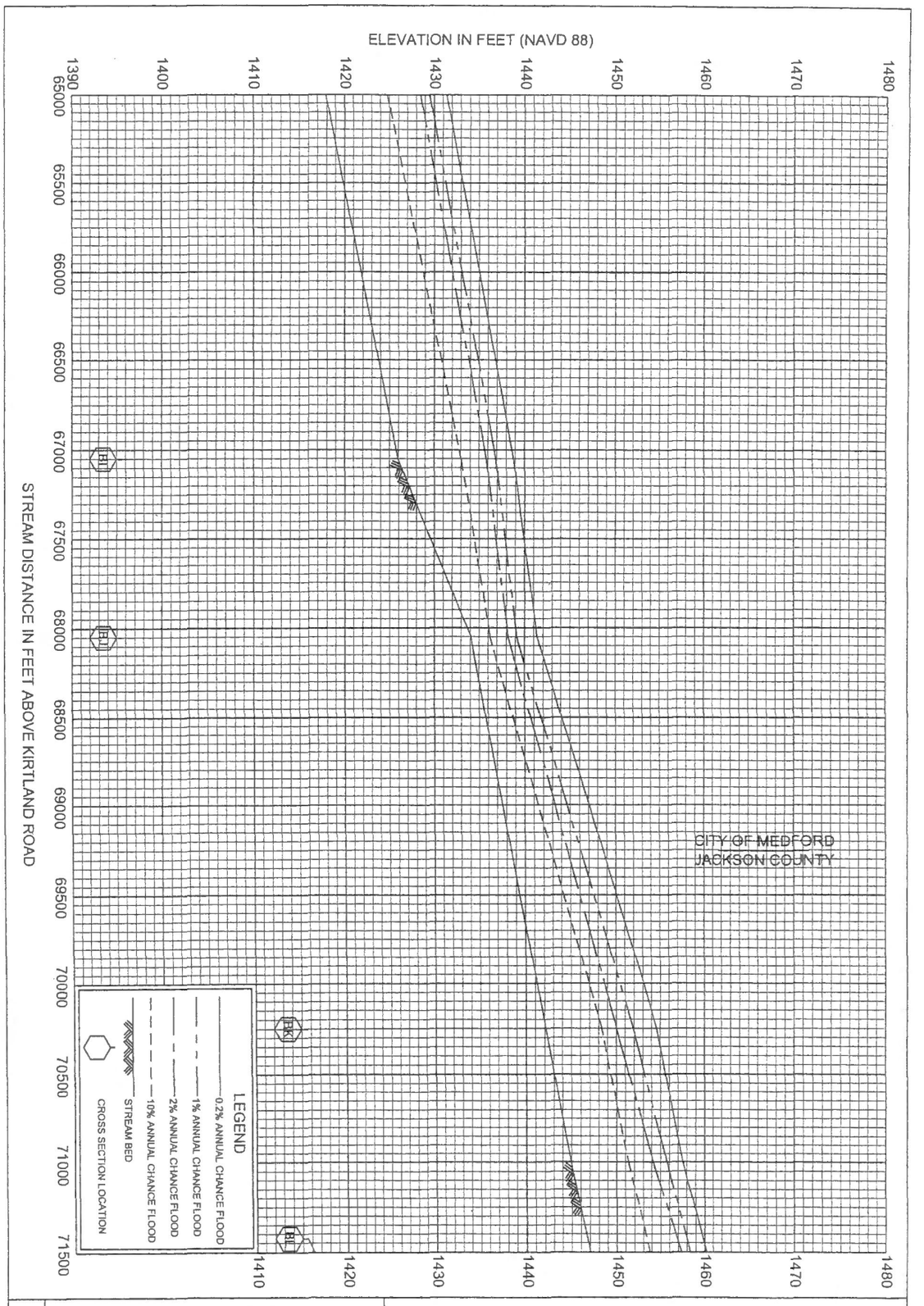
BEAR CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

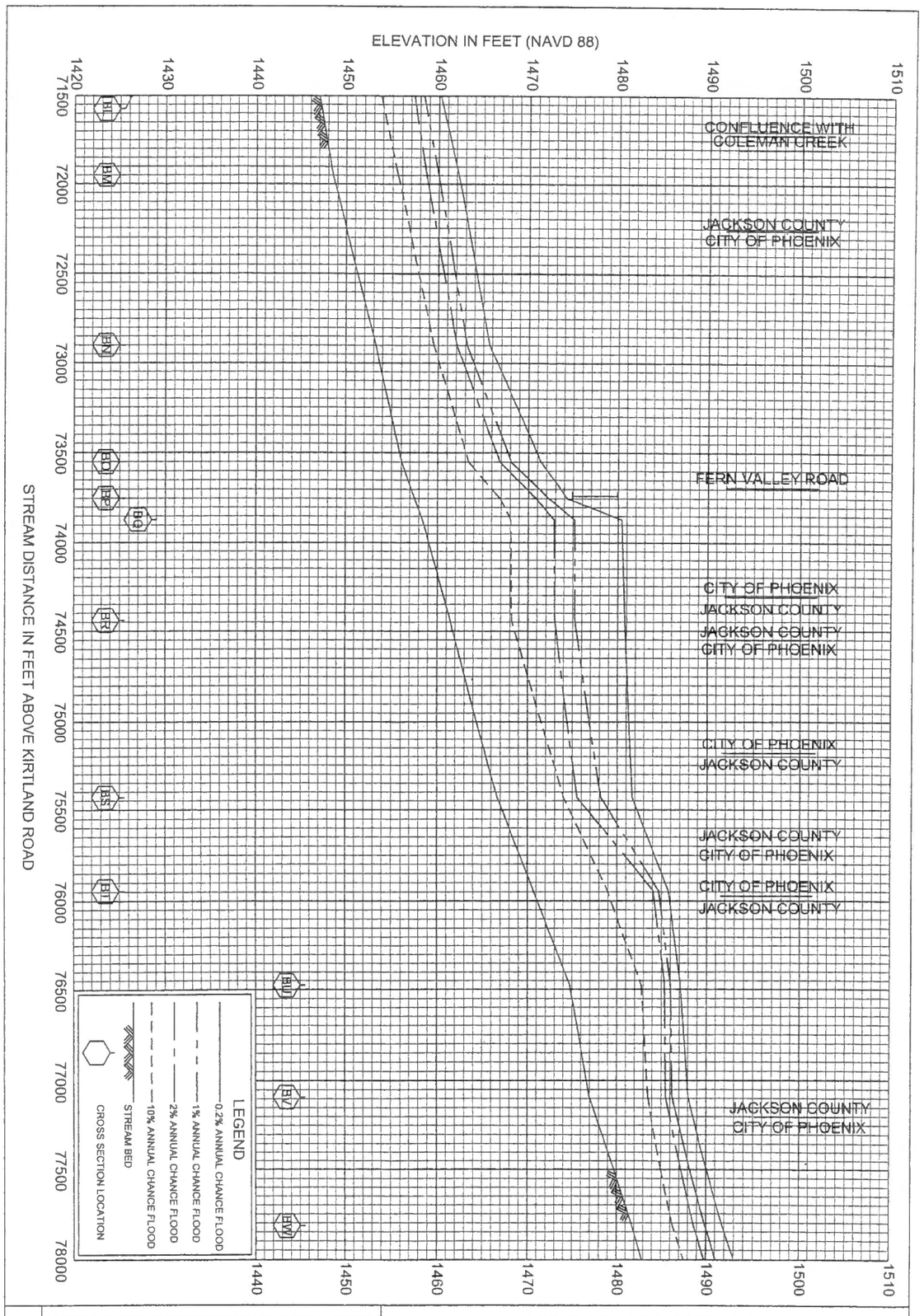
JACKSON COUNTY, OR

AND INCORPORATED AREAS

35P



36P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES BEAR CREEK



37P

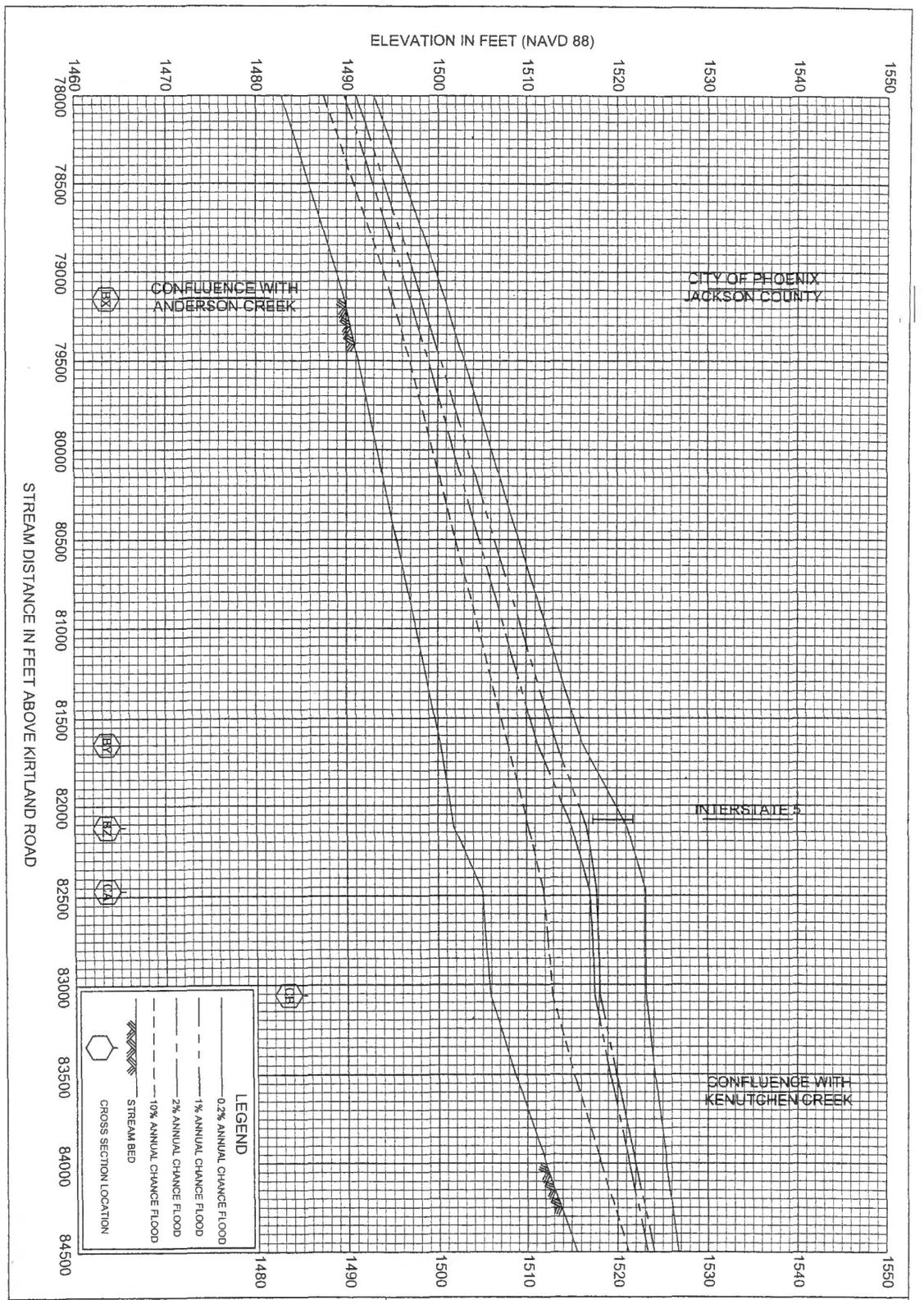
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

BEAR CREEK



38P

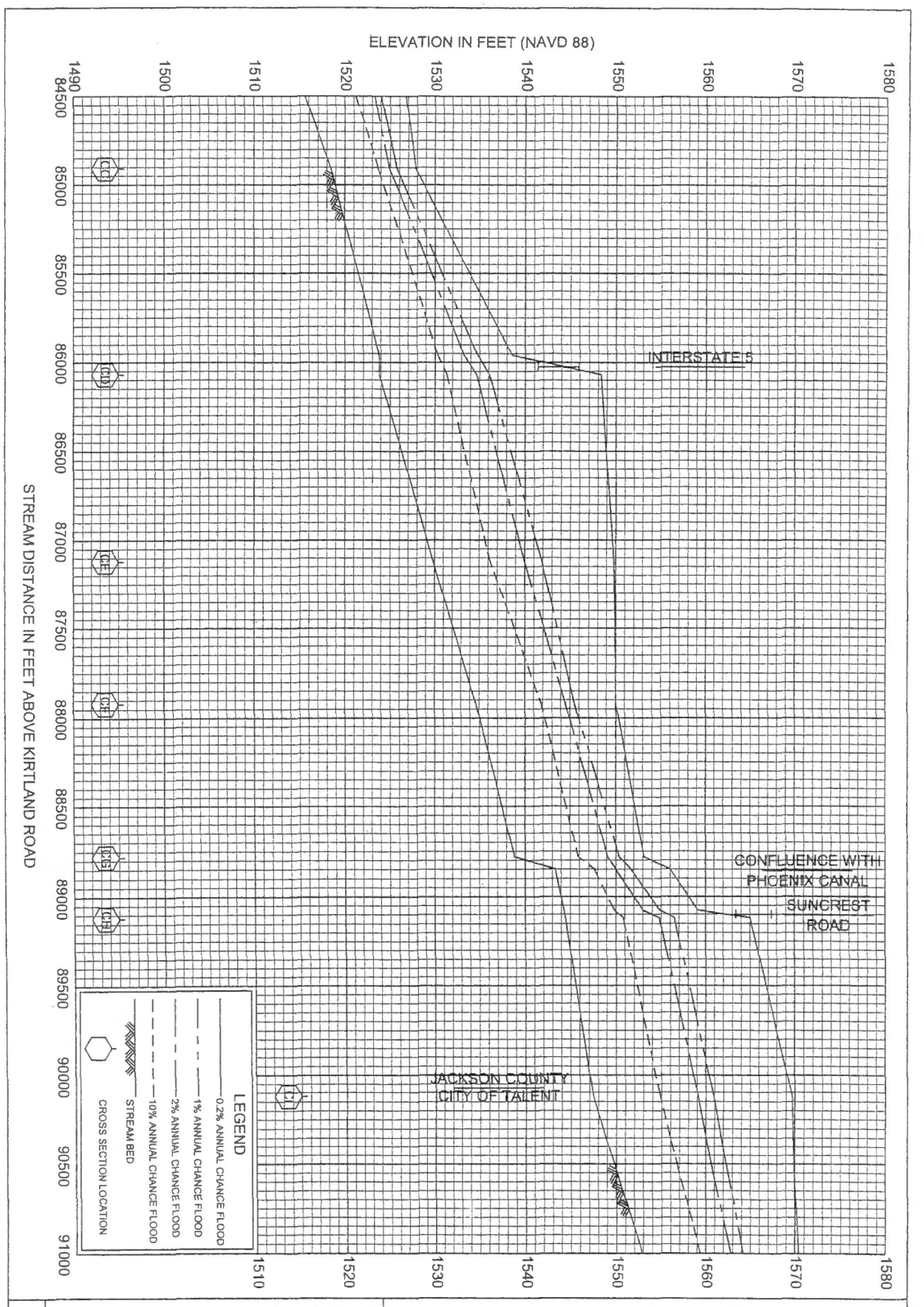
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

BEAR CREEK



39P

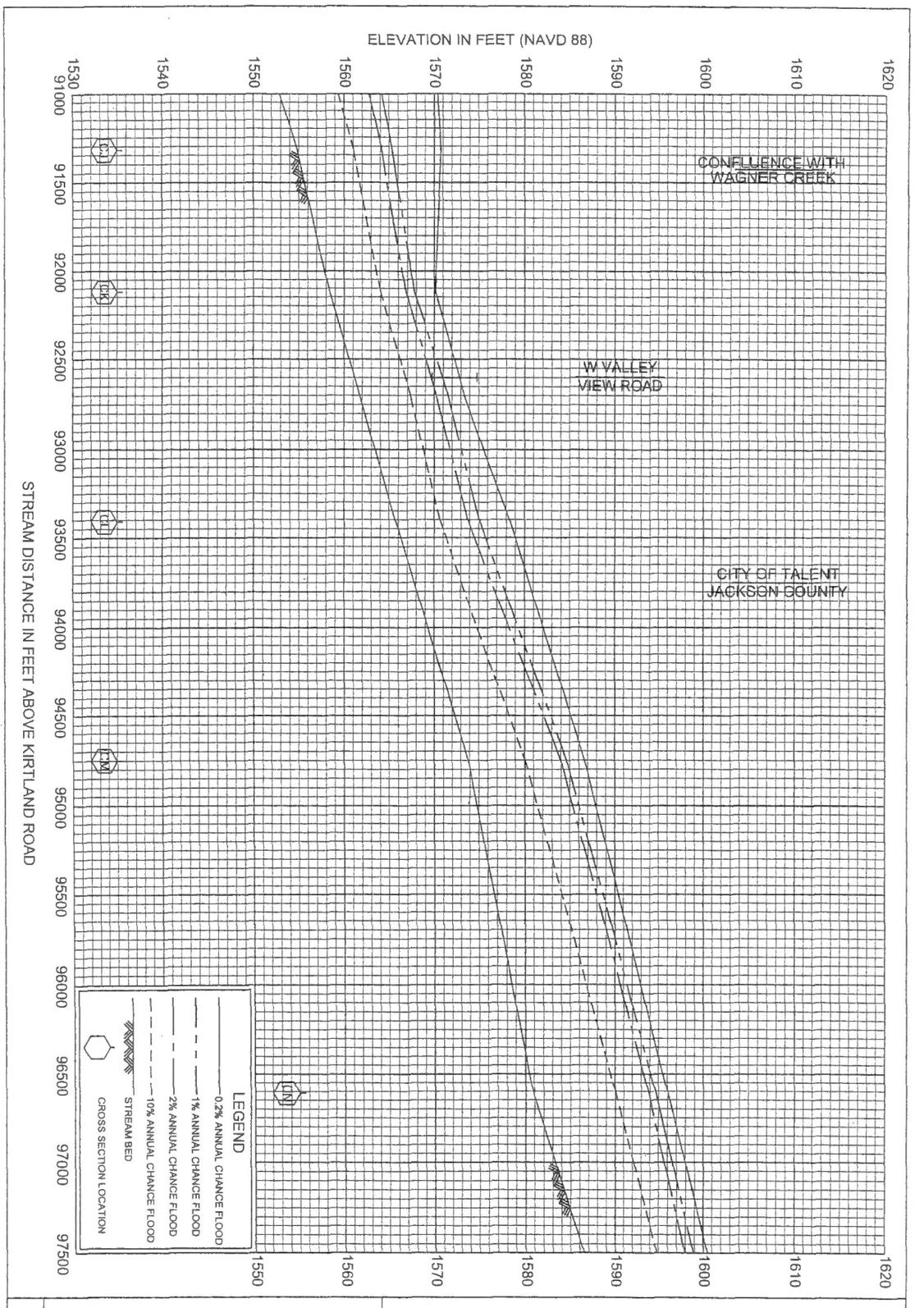
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

BEAR CREEK



40P

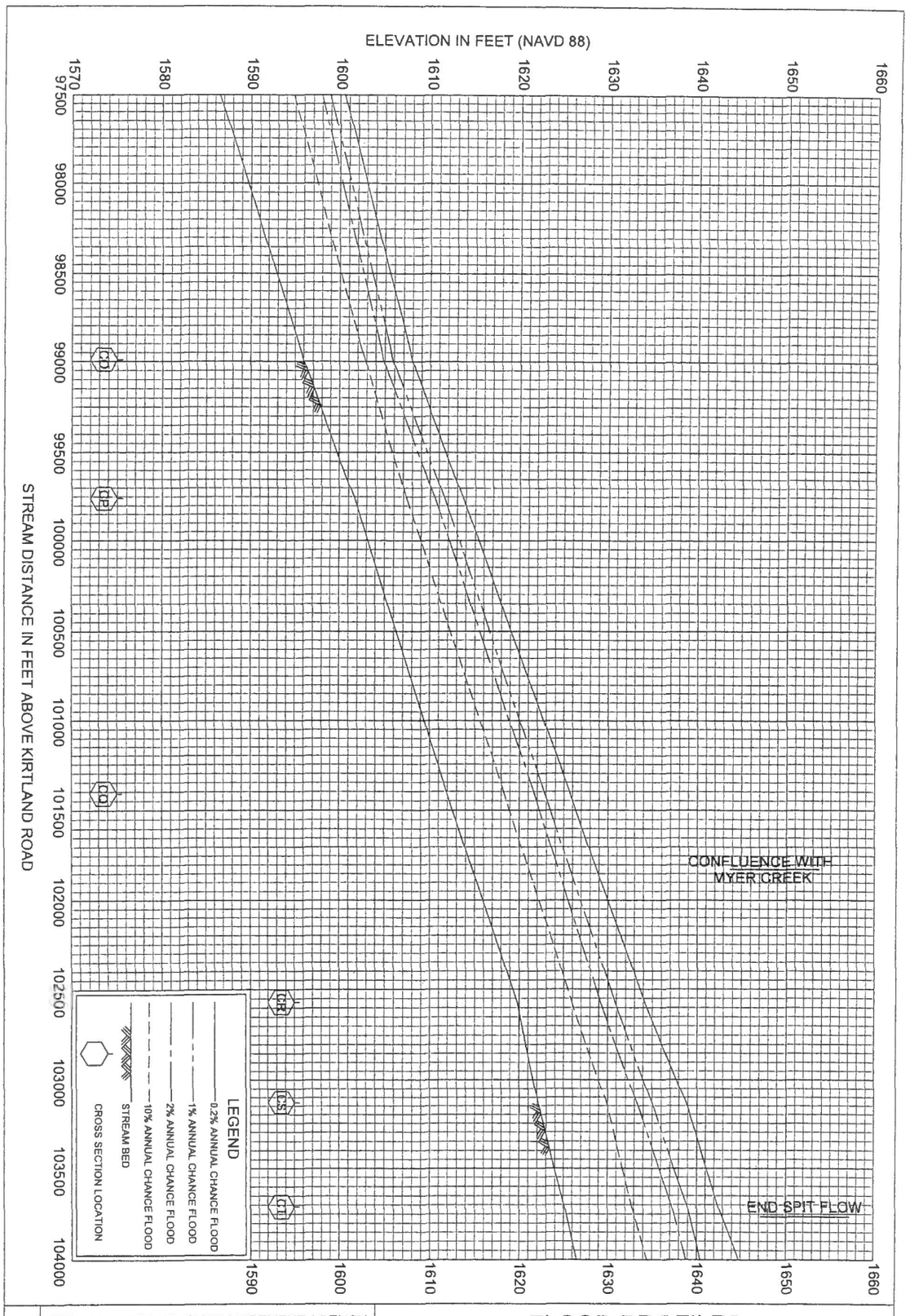
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

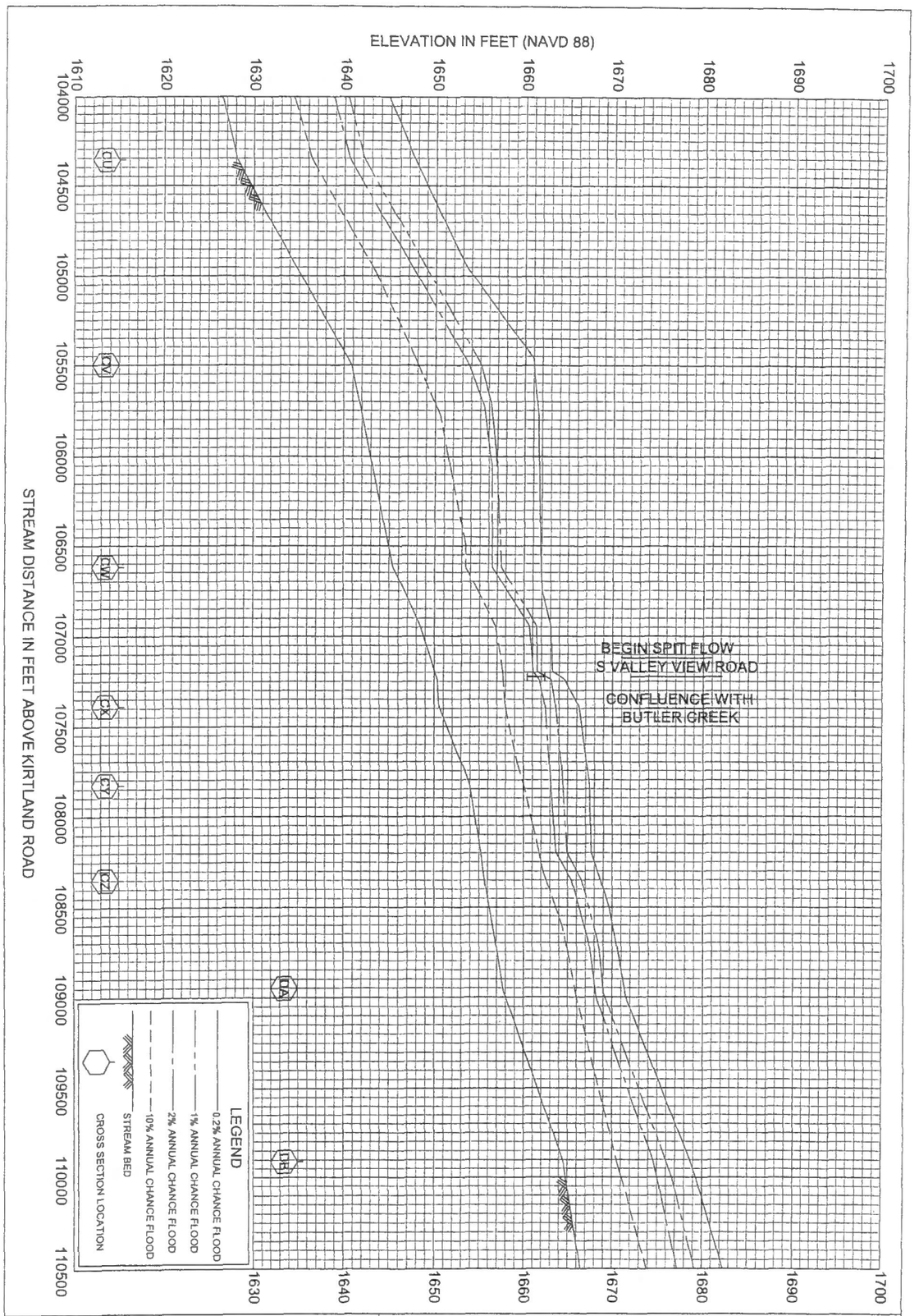
AND INCORPORATED AREAS

FLOOD PROFILES

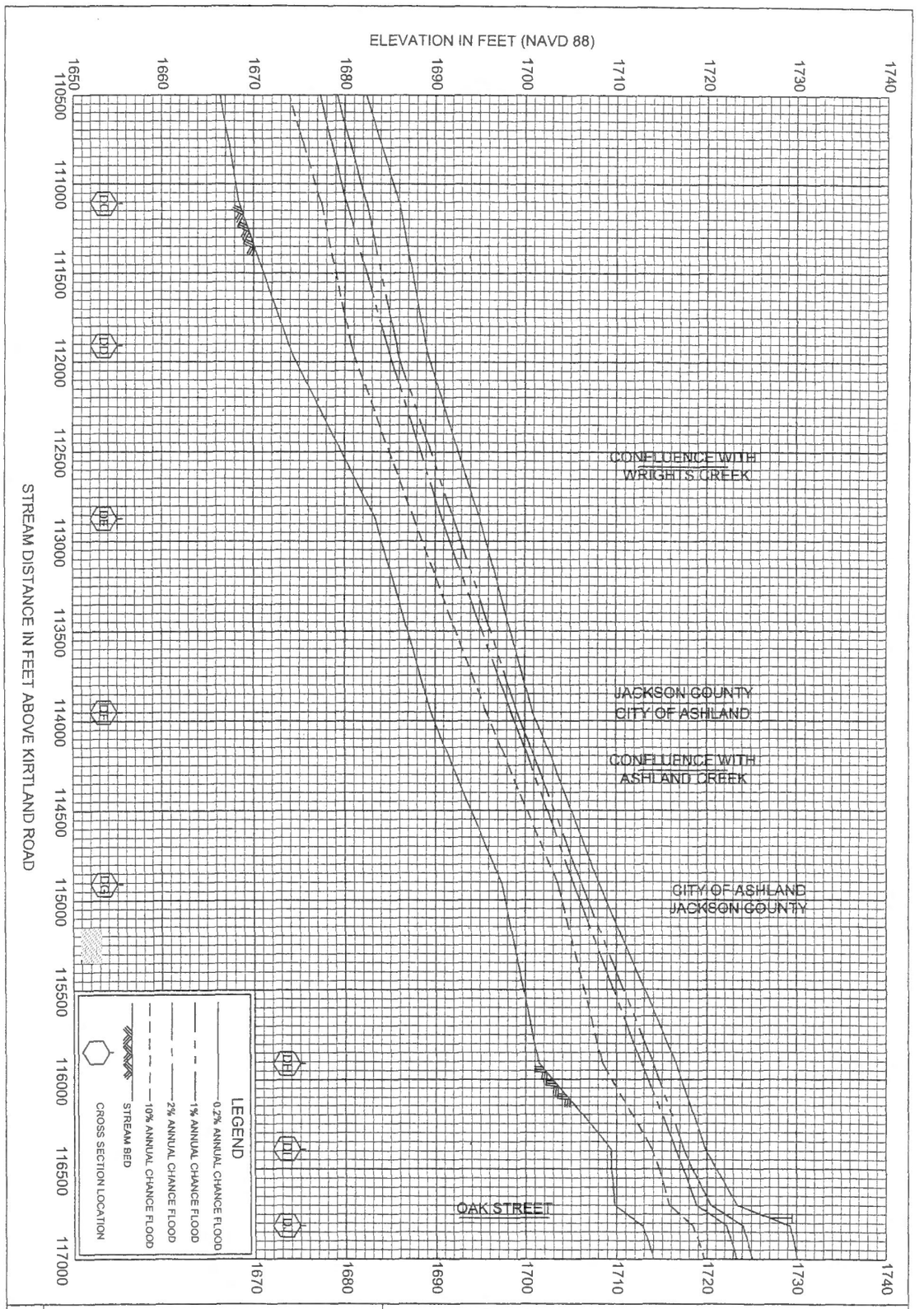
BEAR CREEK



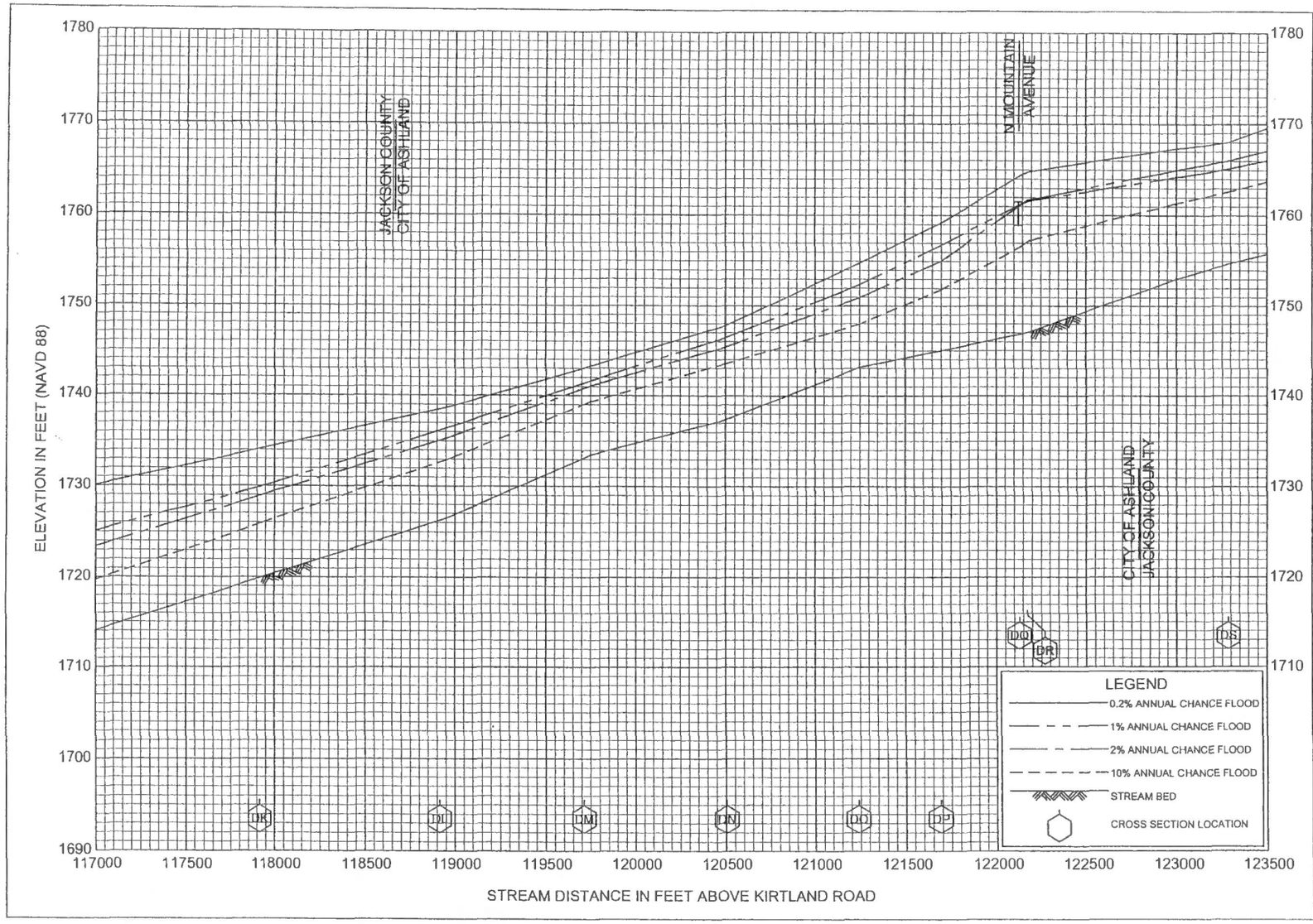
41P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES BEAR CREEK



42P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES BEAR CREEK



43P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES BEAR CREEK



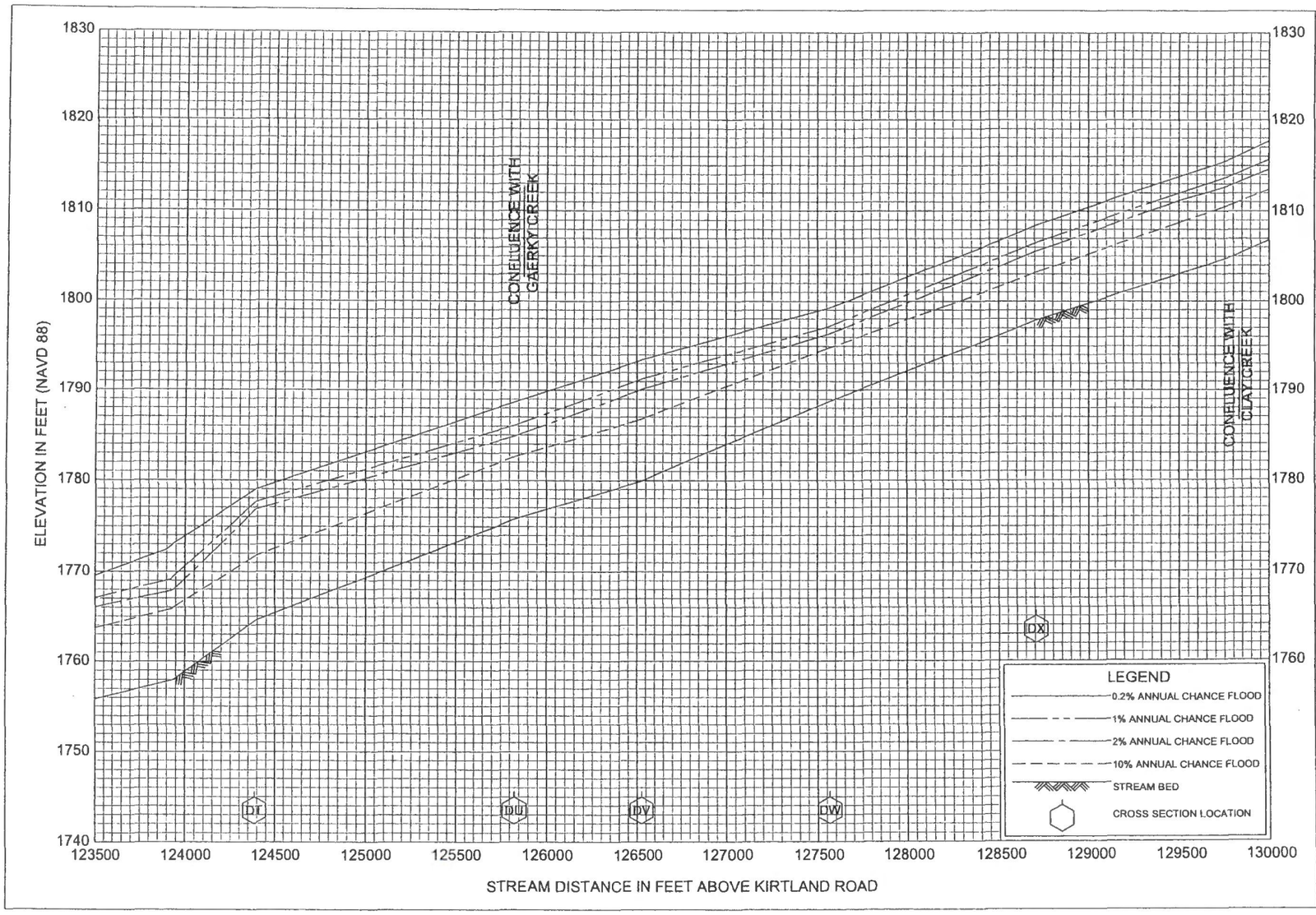
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

BEAR CREEK

44P



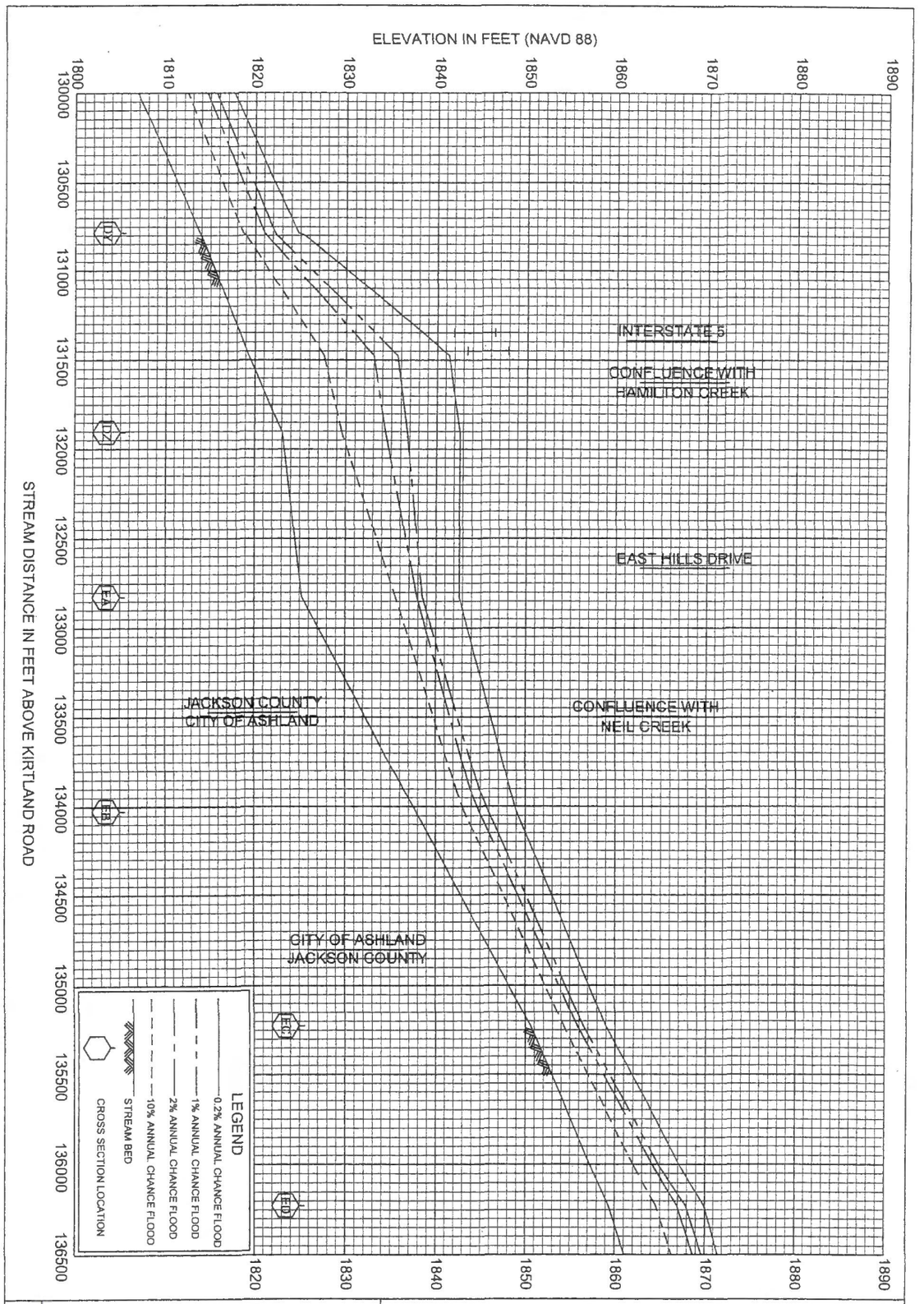
FLOOD PROFILES

BEAR CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

45P



46P

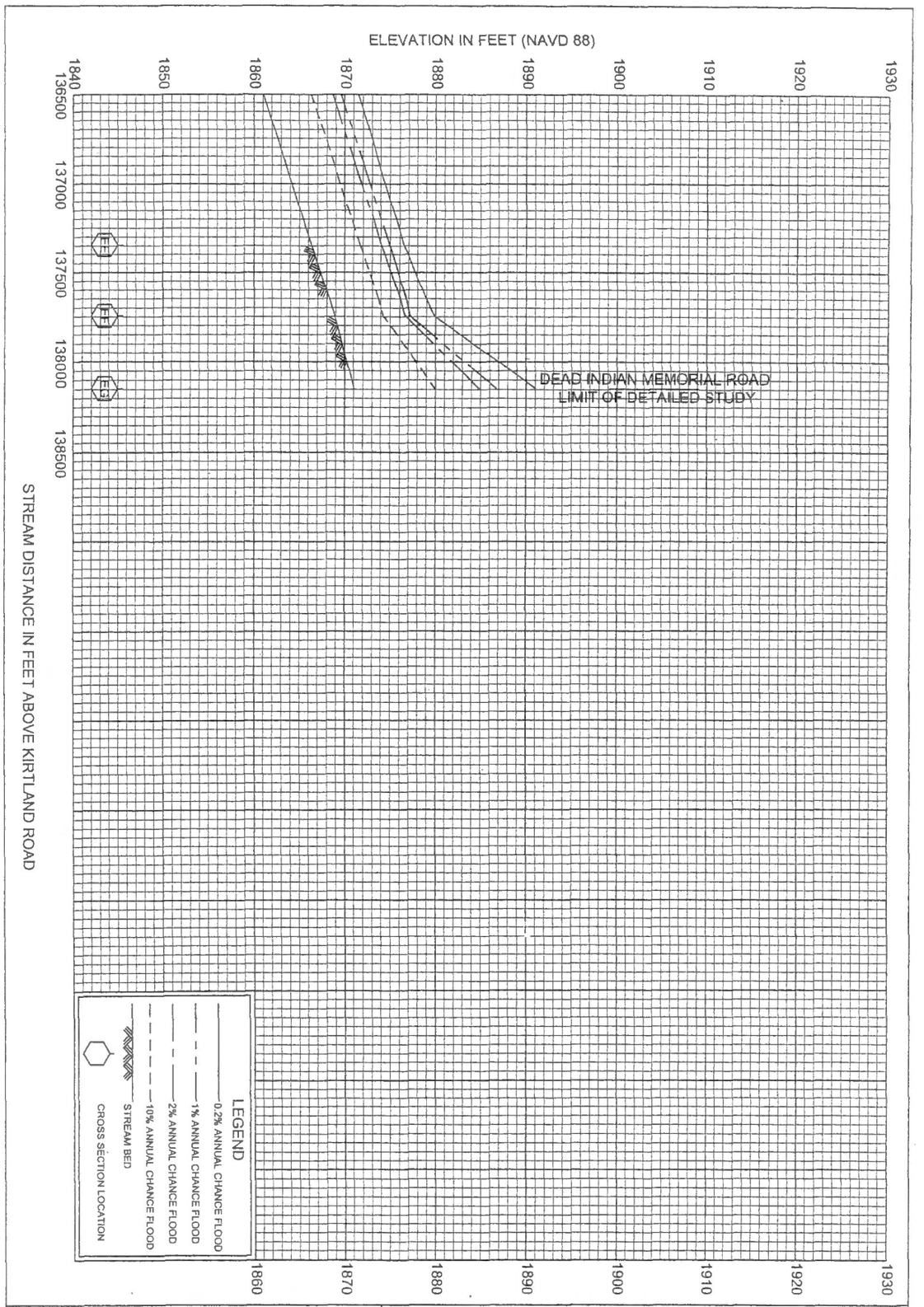
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

BEAR CREEK



47P

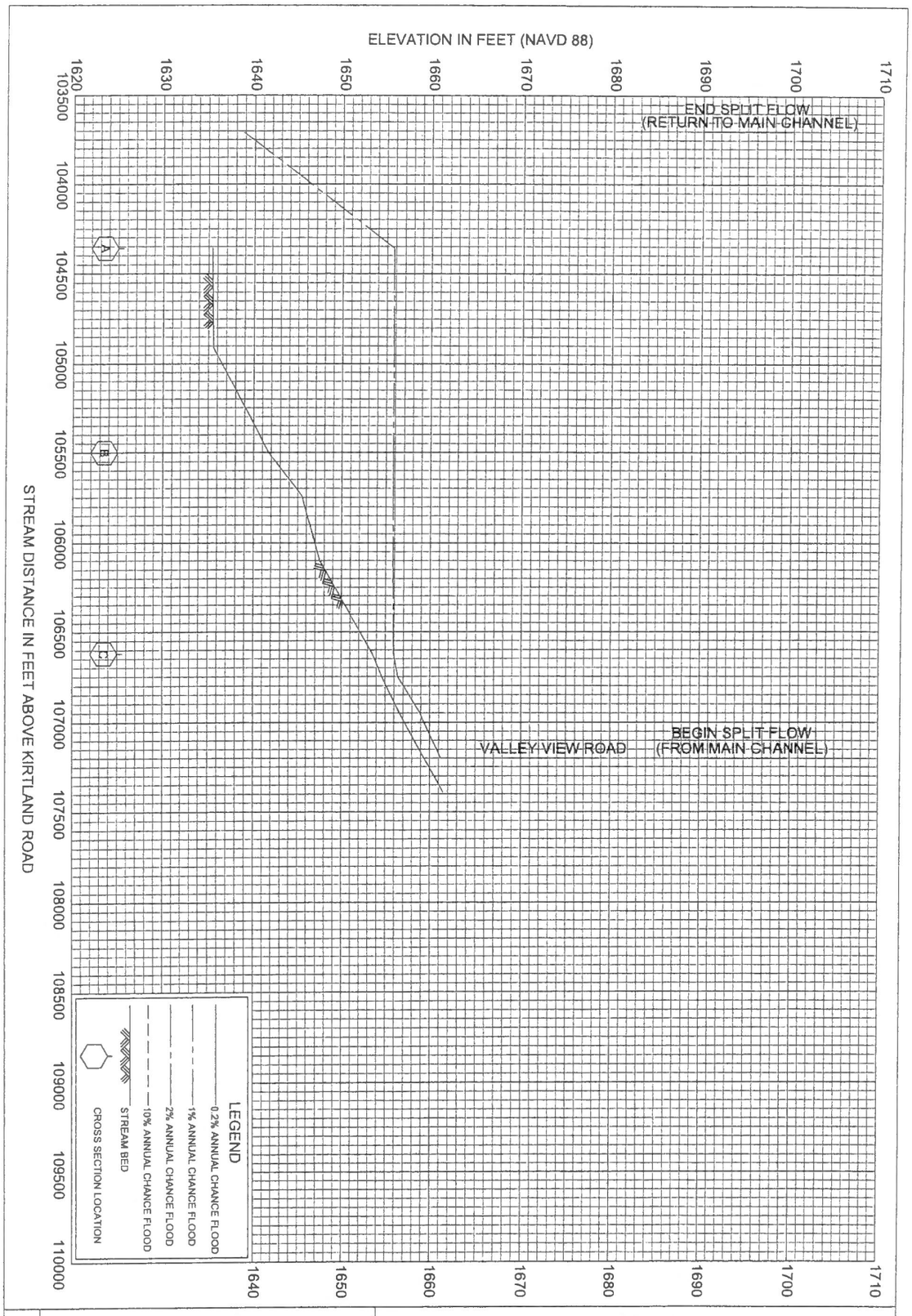
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

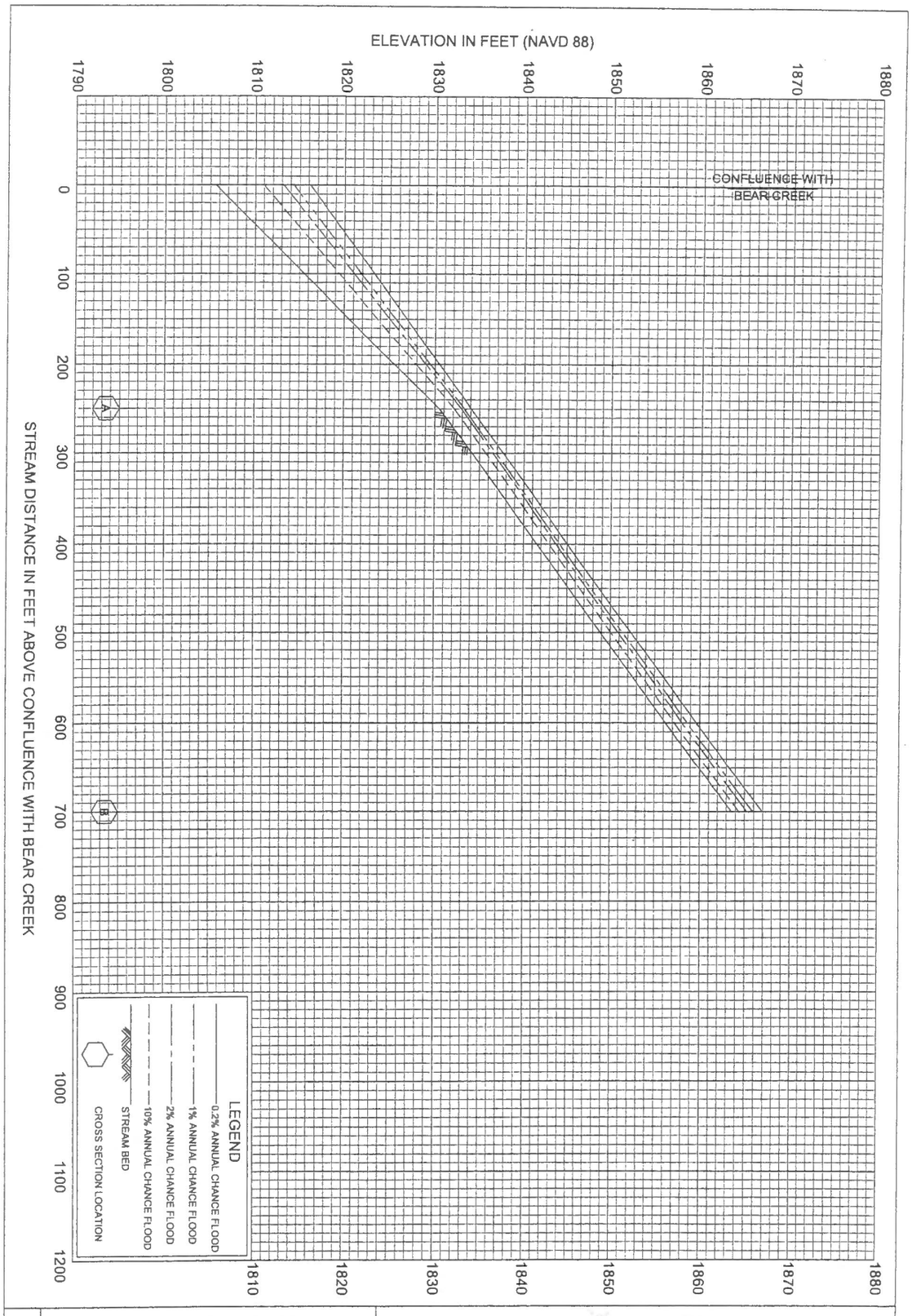
AND INCORPORATED AREAS

FLOOD PROFILES

BEAR CREEK



48P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES BEAR CREEK SPLIT FLOW

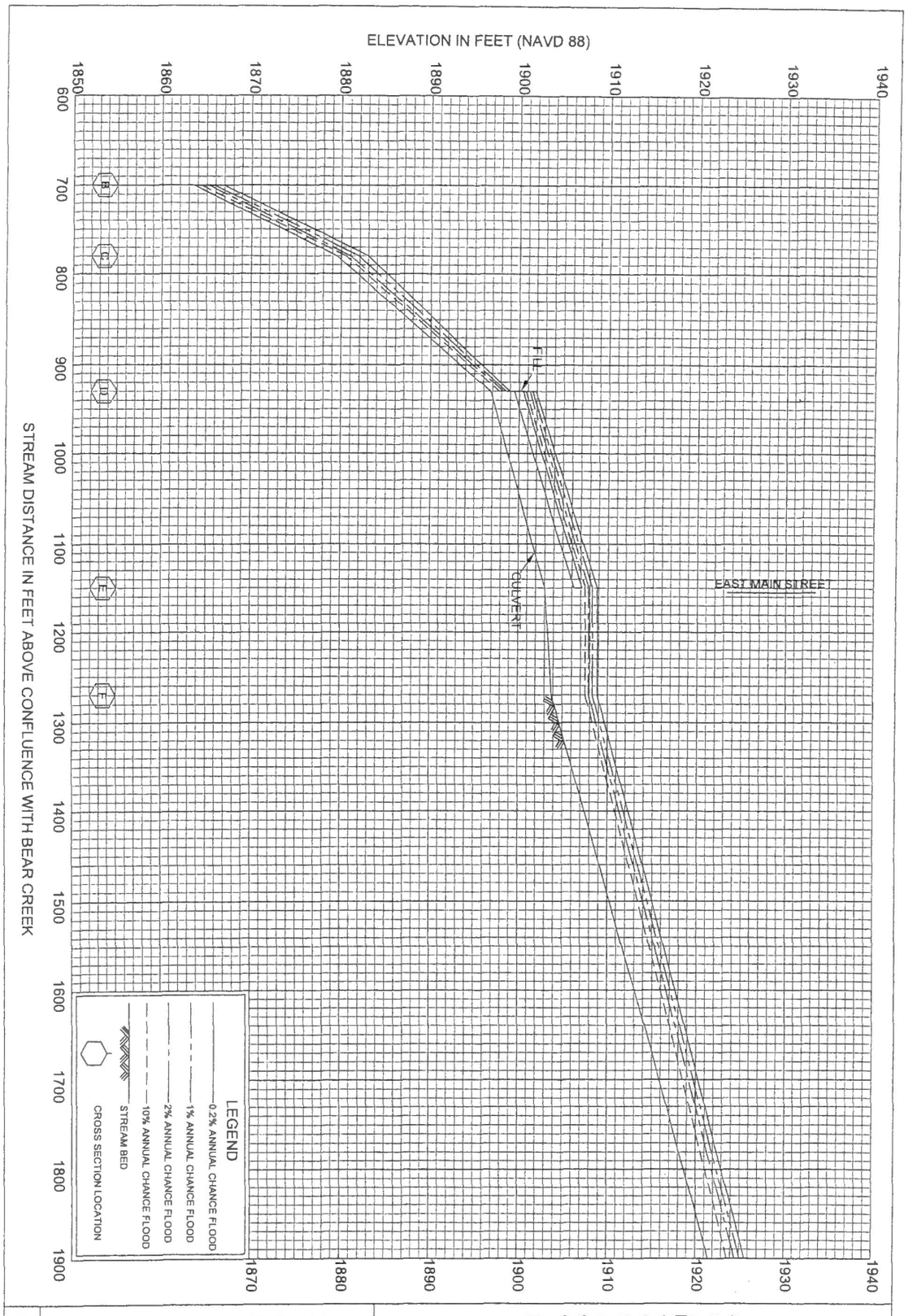


FEDERAL EMERGENCY MANAGEMENT AGENCY

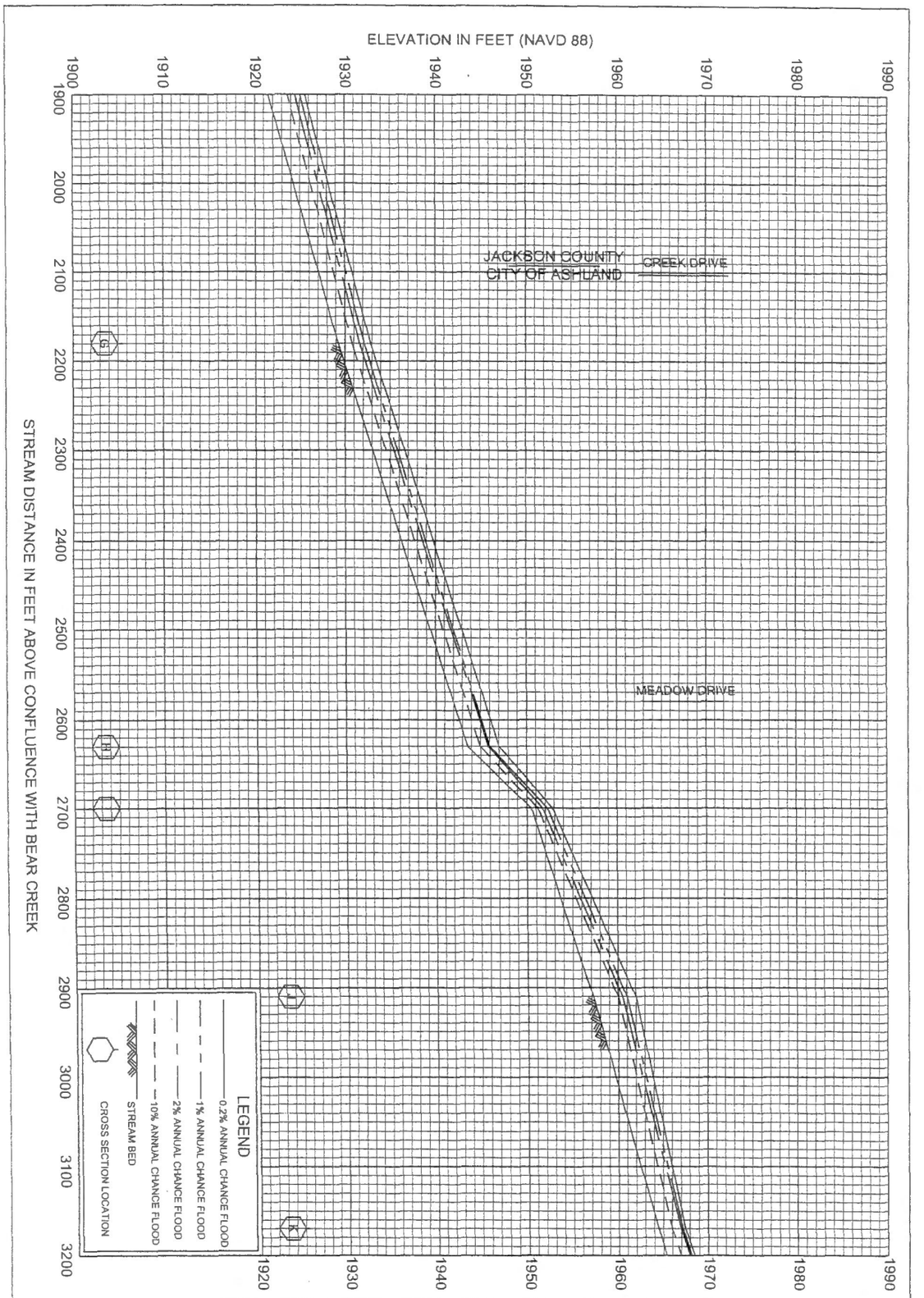
JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

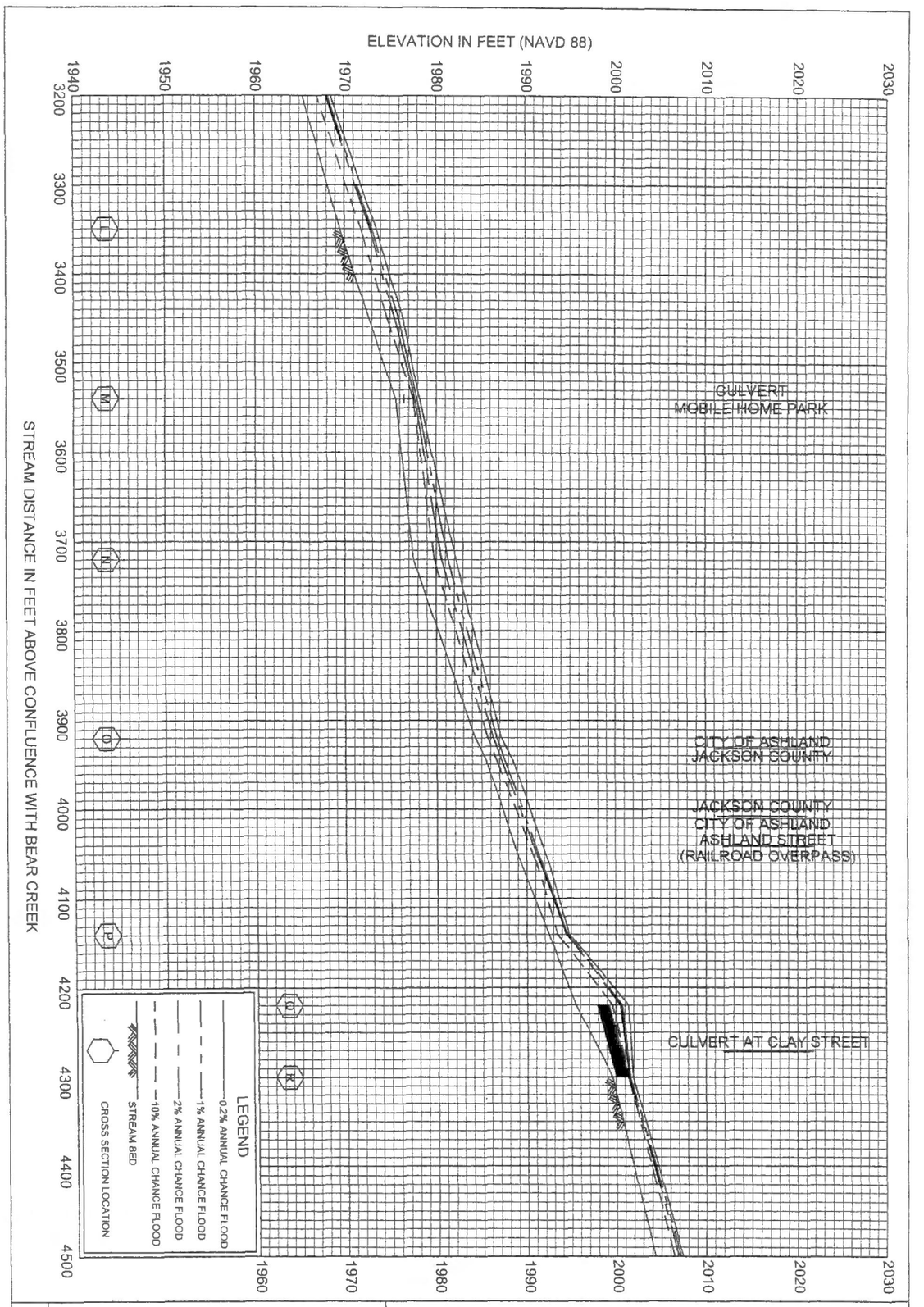
CLAY CREEK



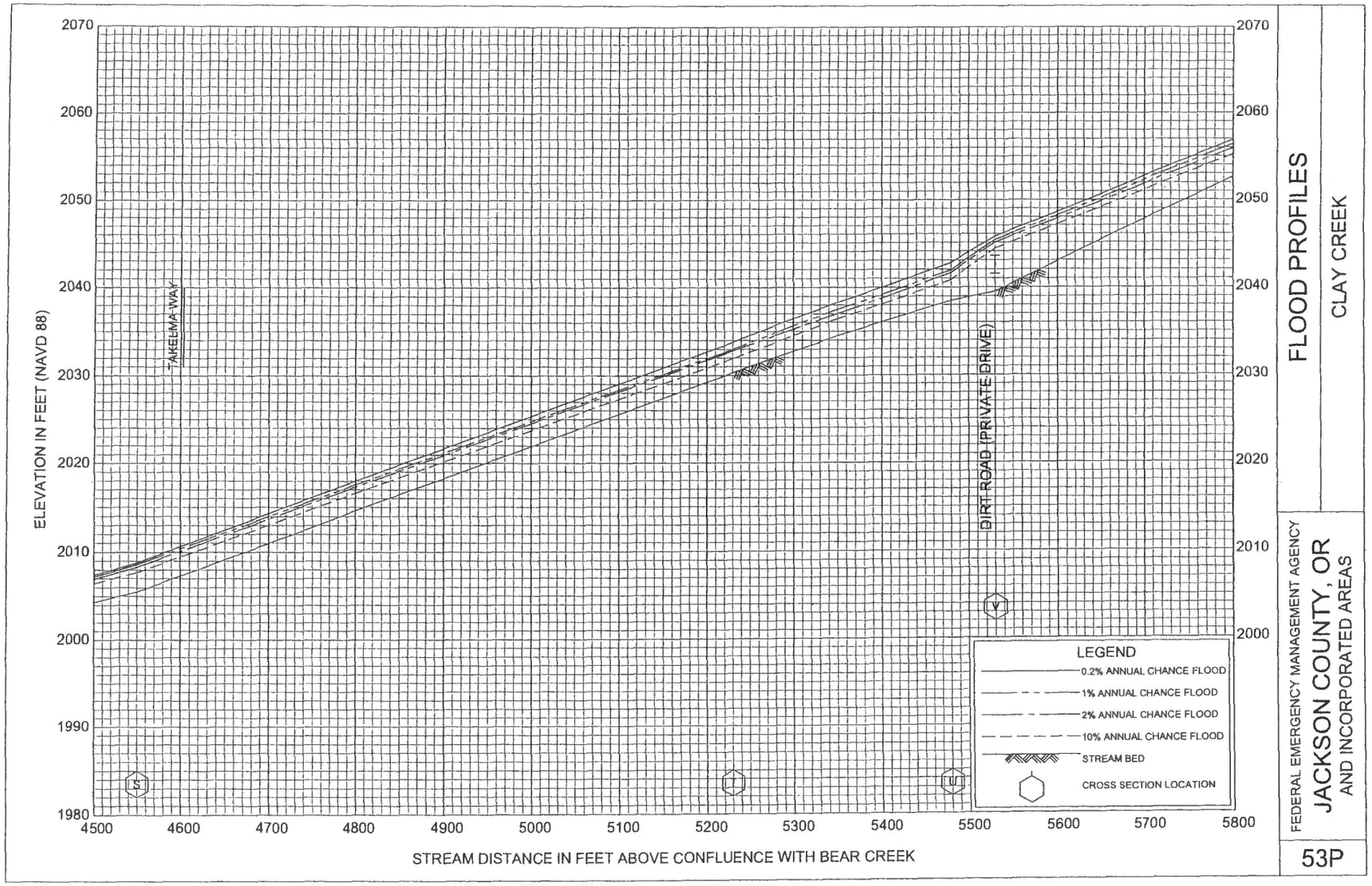
50P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES CLAY CREEK



51P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES CLAY CREEK



52P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES CLAY CREEK



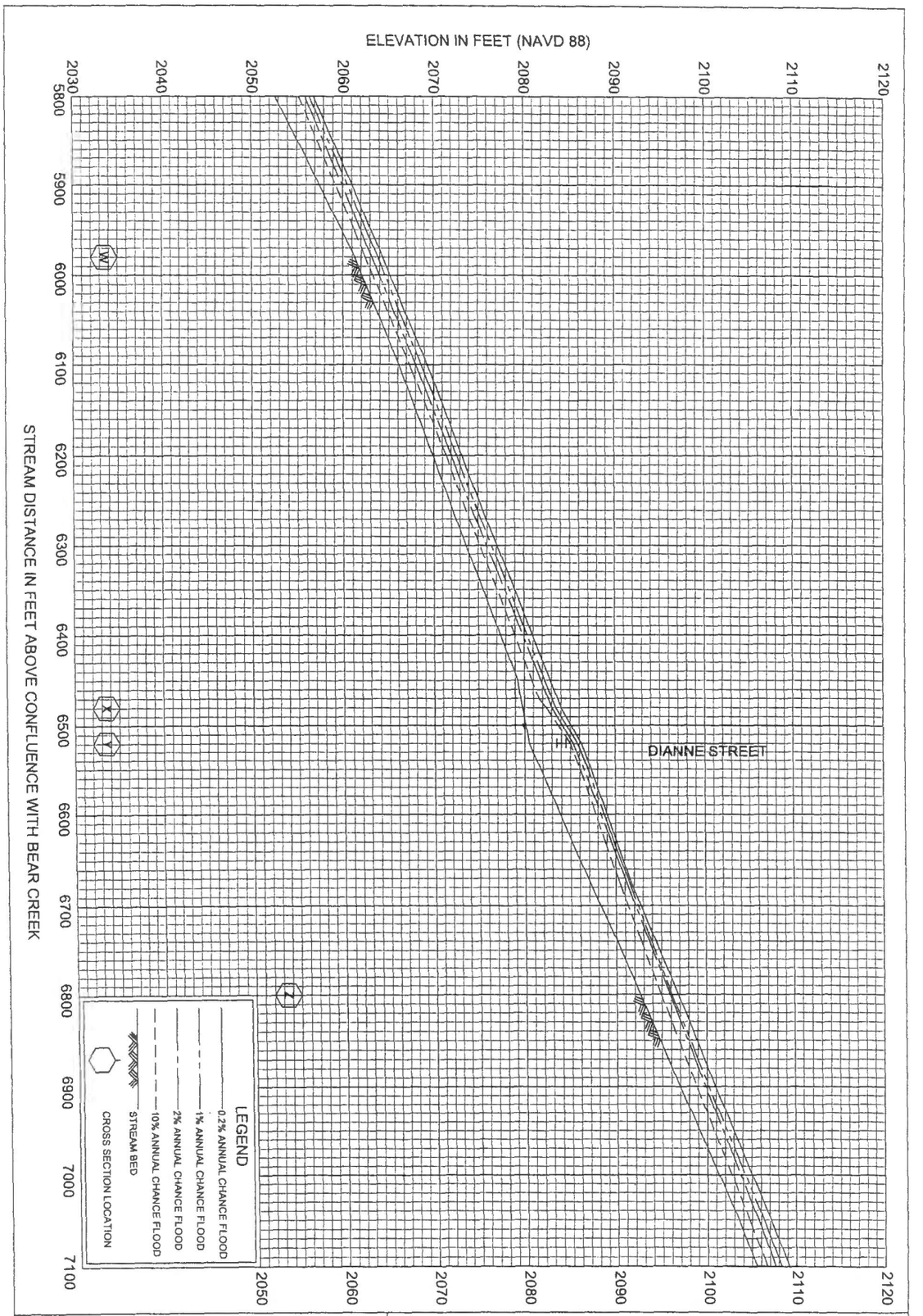
FLOOD PROFILES

CLAY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

53P



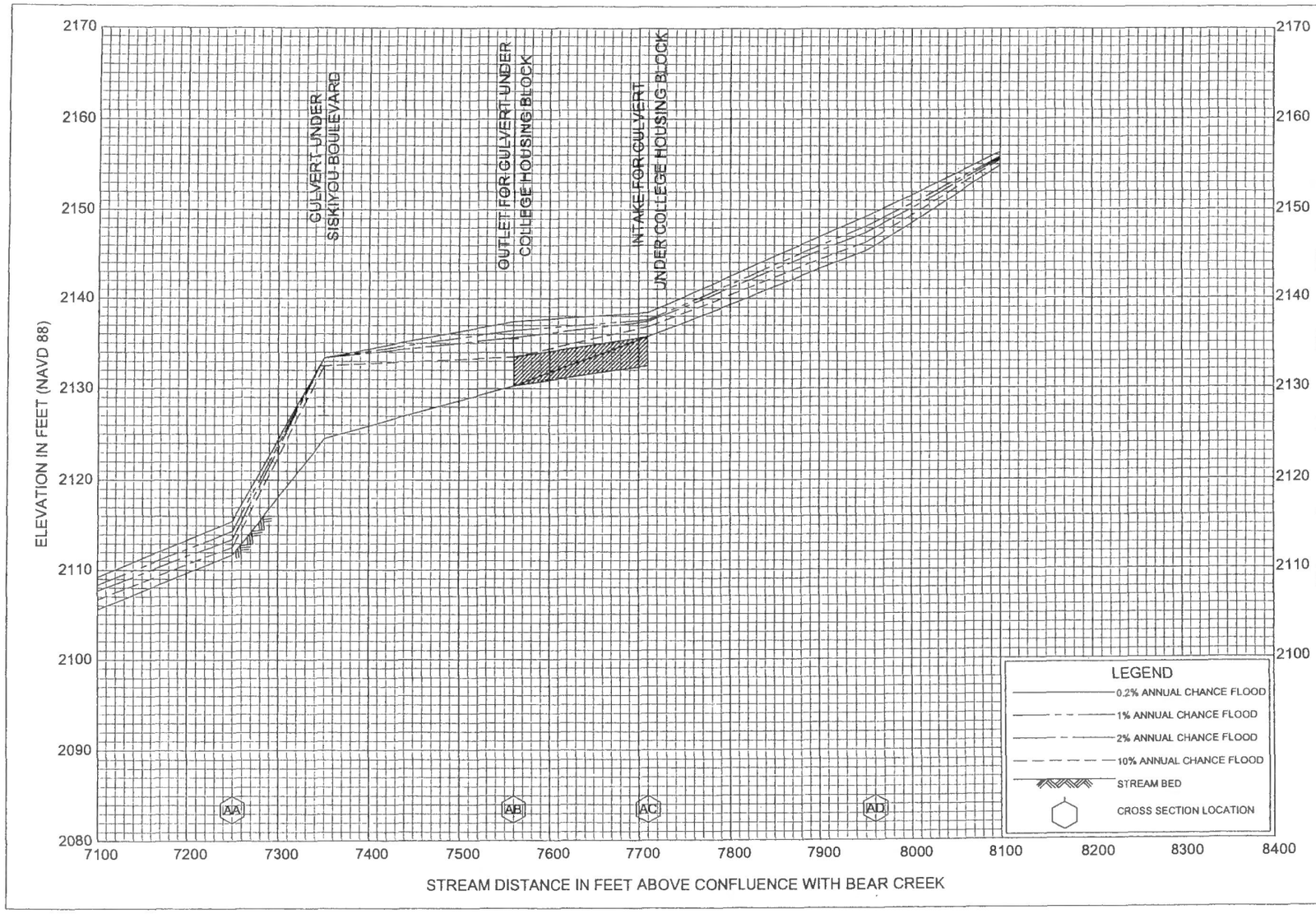
54P

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

CLAY CREEK



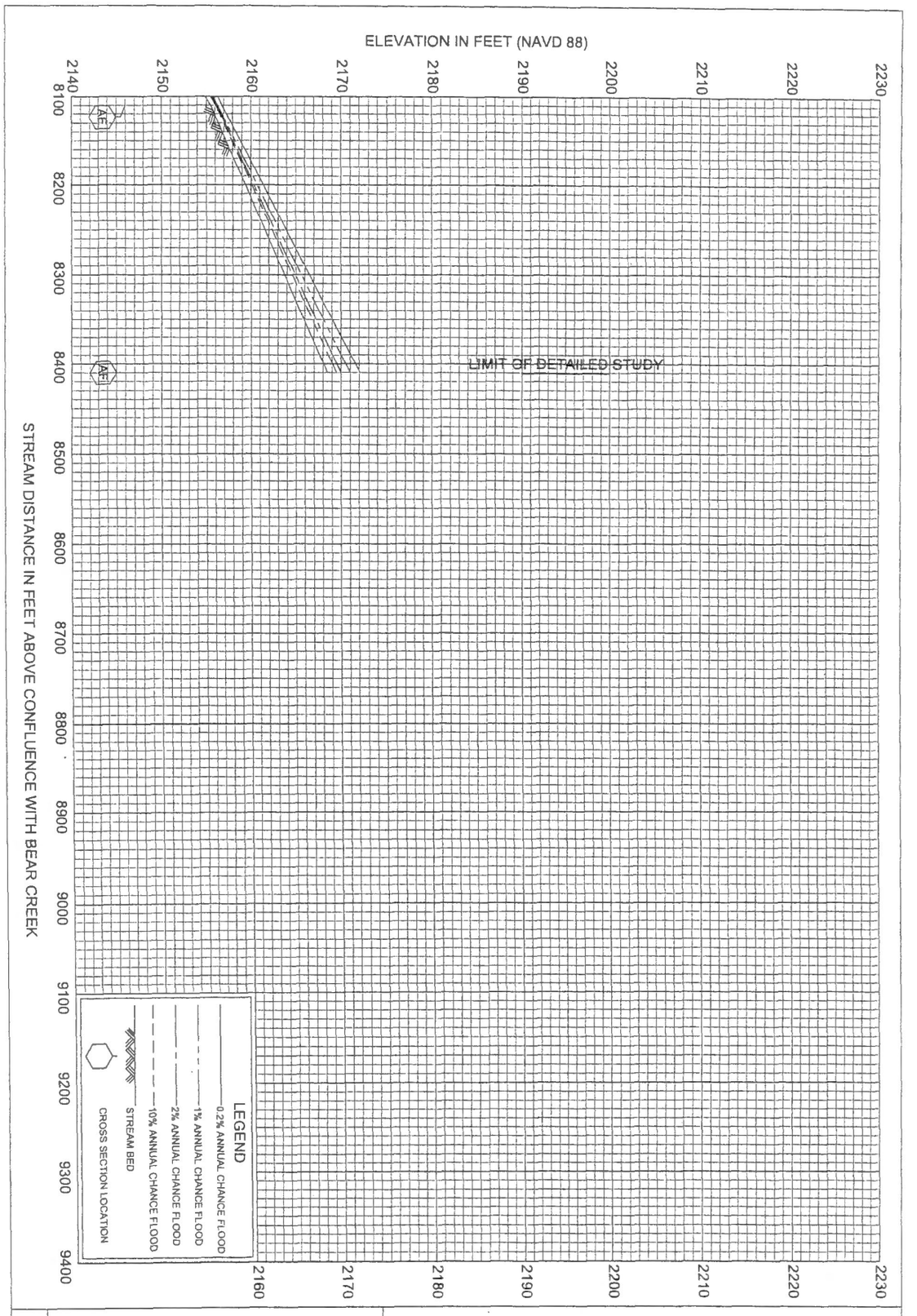
FLOOD PROFILES

CLAY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

55P



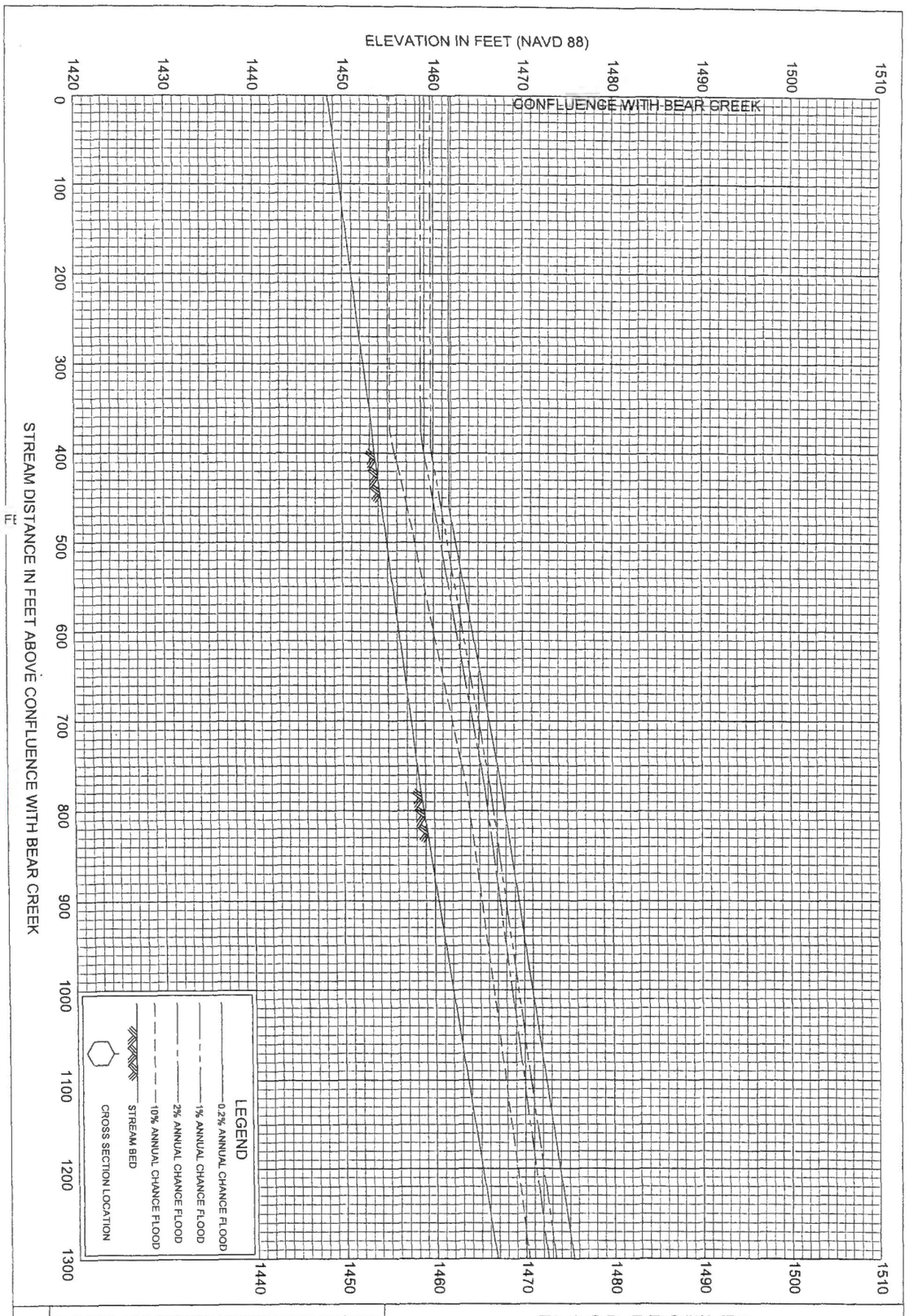
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

CLAY CREEK

56P



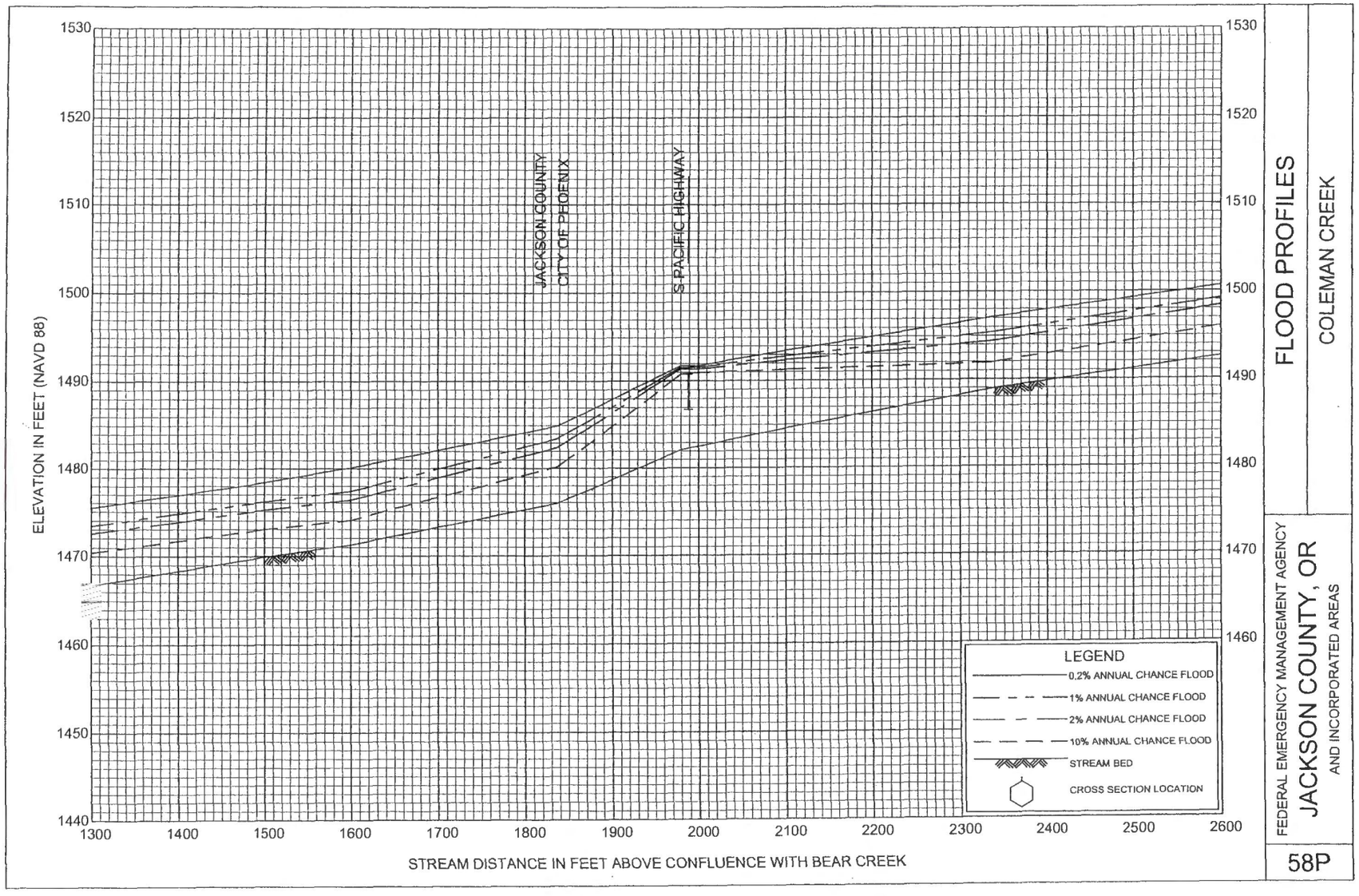
57P

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

COLEMAN CREEK



FLOOD PROFILES

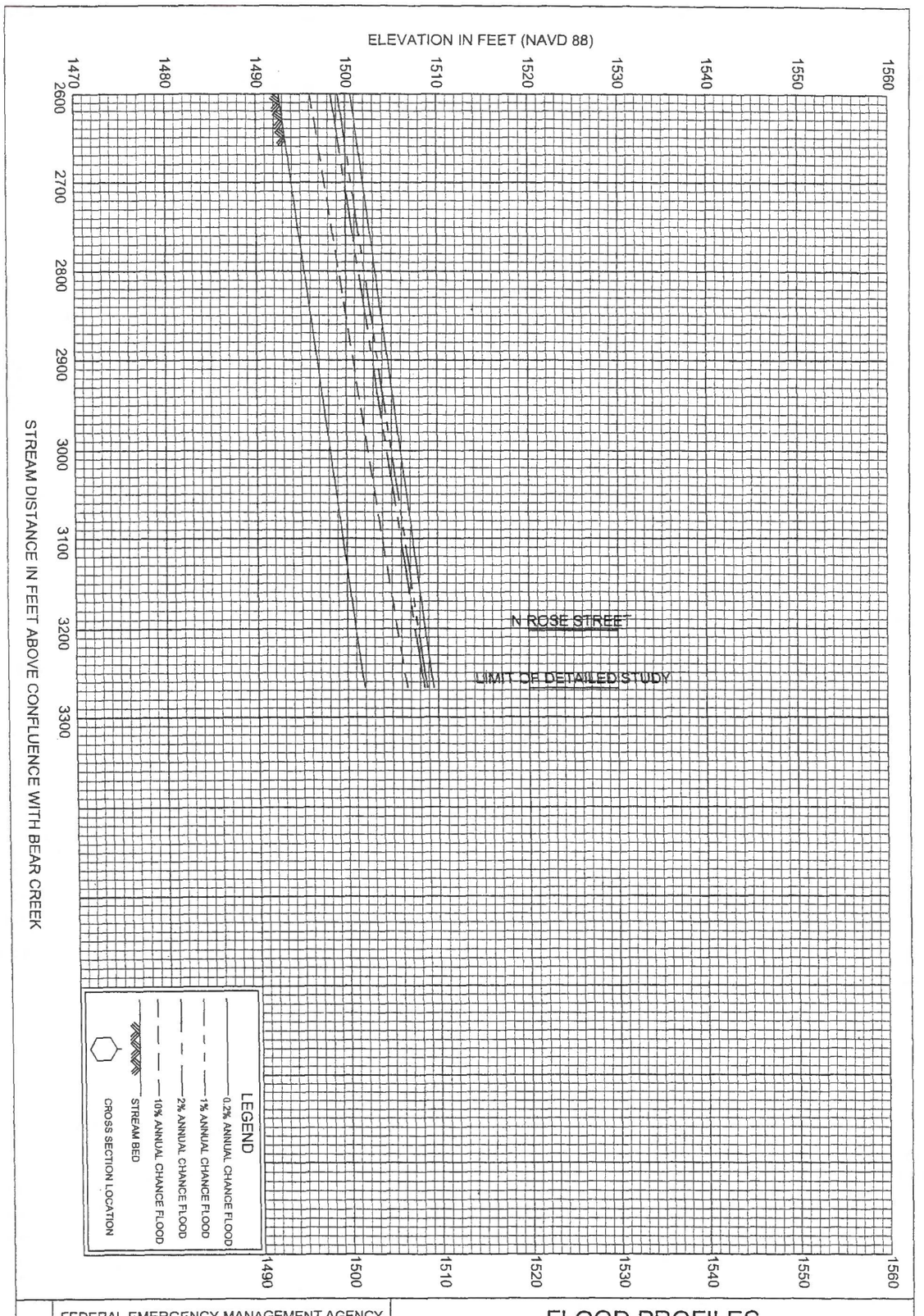
COLEMAN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

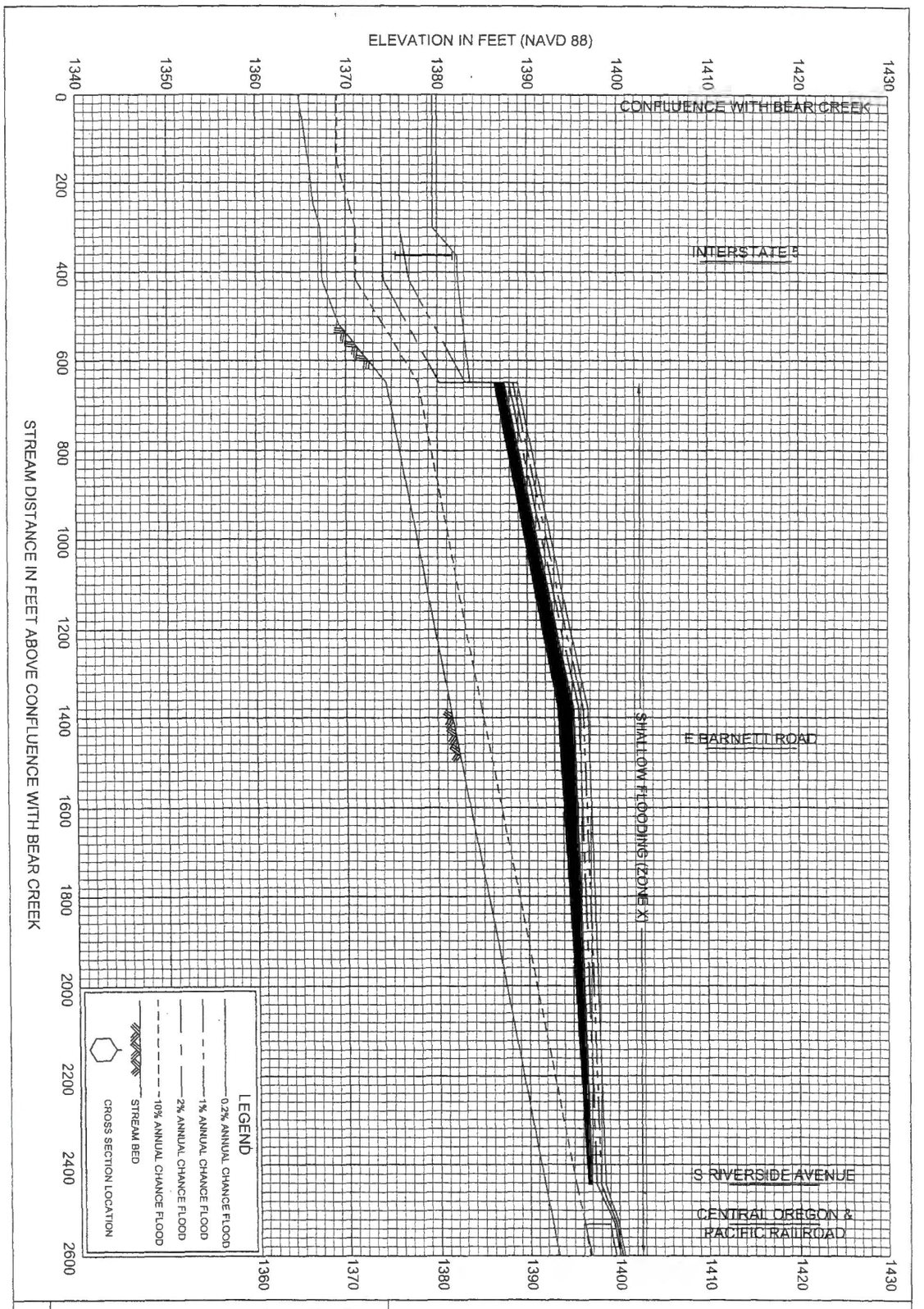
JACKSON COUNTY, OR

AND INCORPORATED AREAS

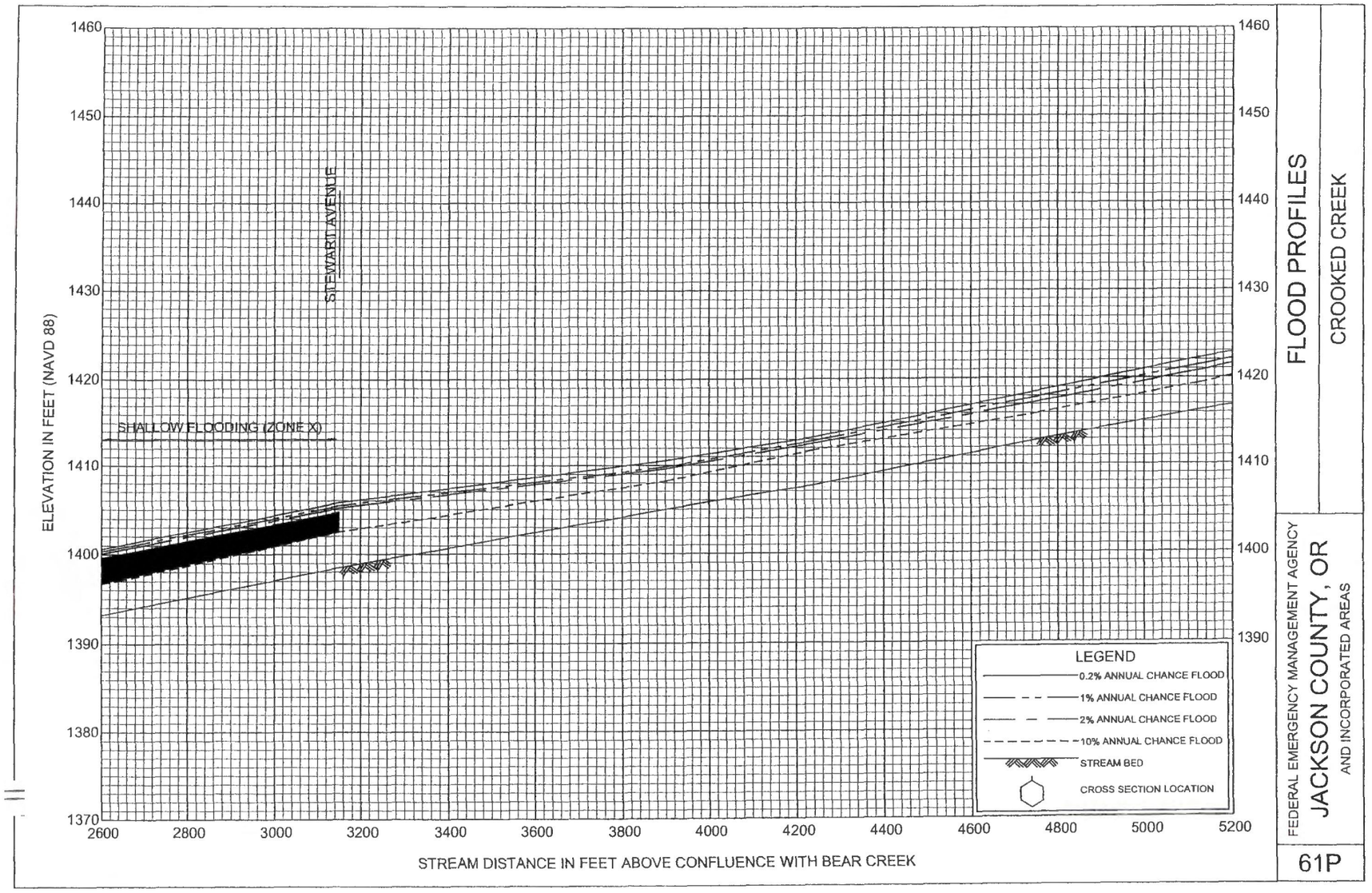
58P



59P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES COLEMAN CREEK



60P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES CROOKED CREEK



FLOOD PROFILES

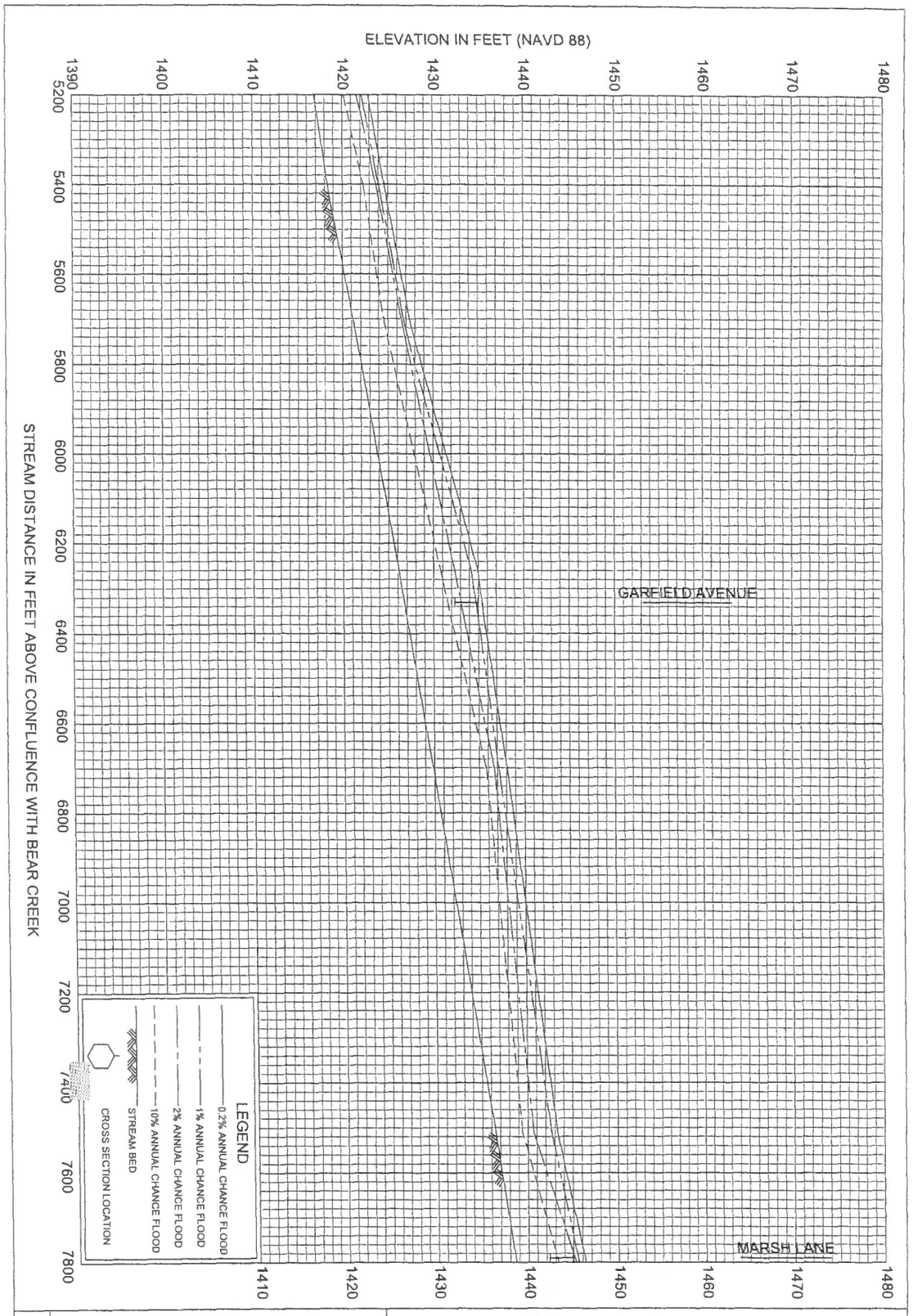
CROOKED CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

61P



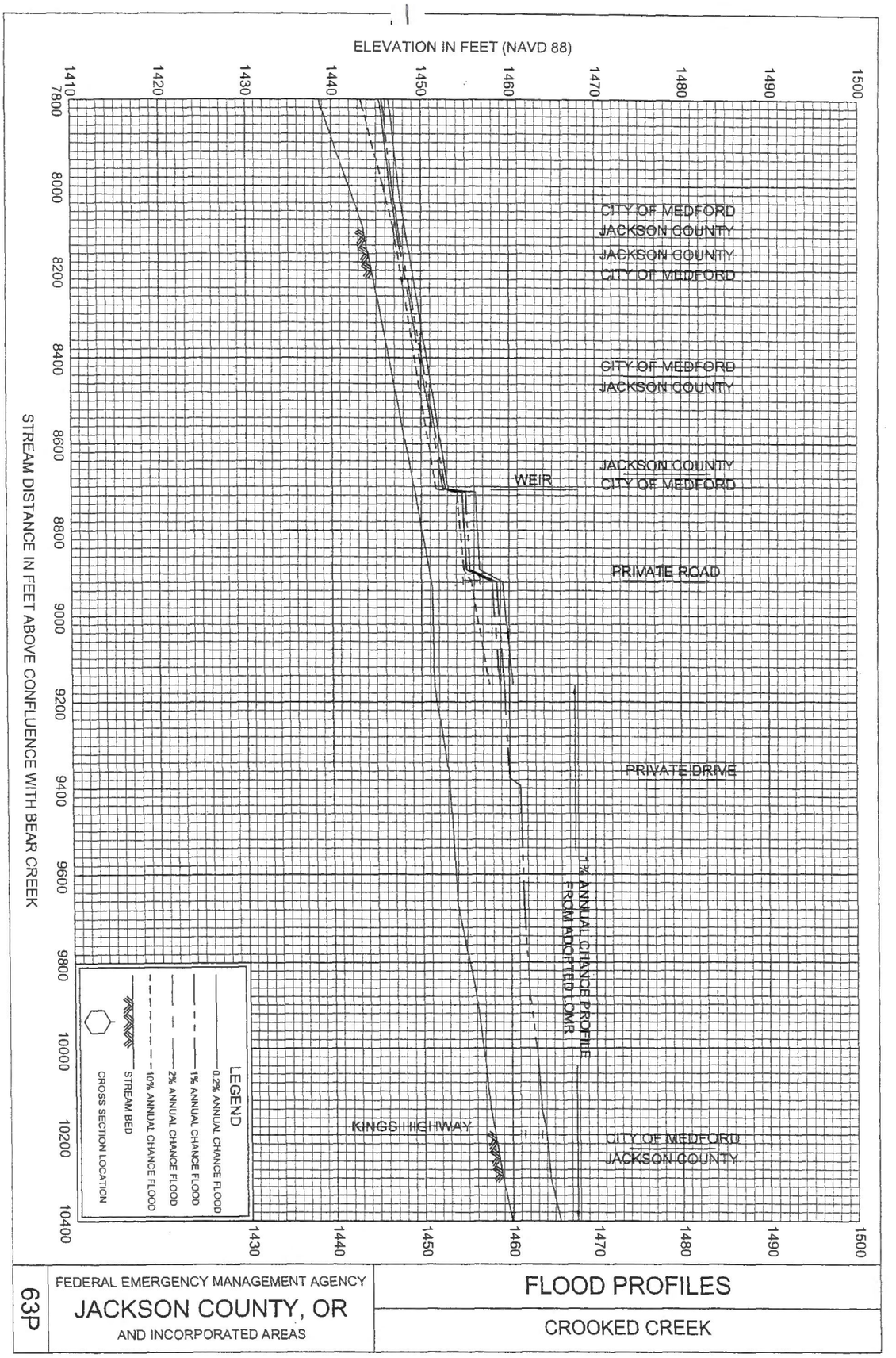
62P

FEDERAL EMERGENCY MANAGEMENT AGENCY

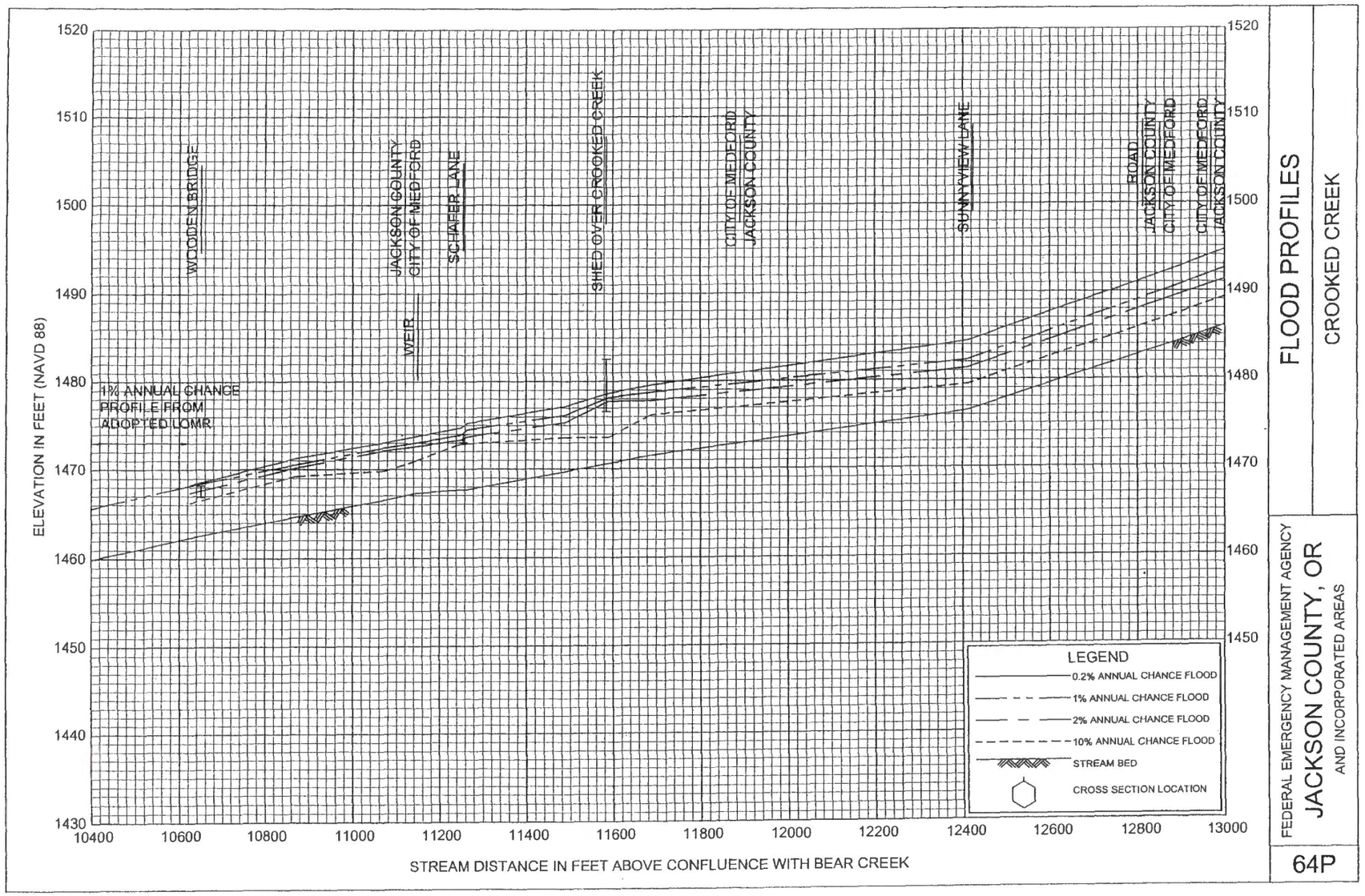
JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

CROOKED CREEK



63P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES CROOKED CREEK



FLOOD PROFILES

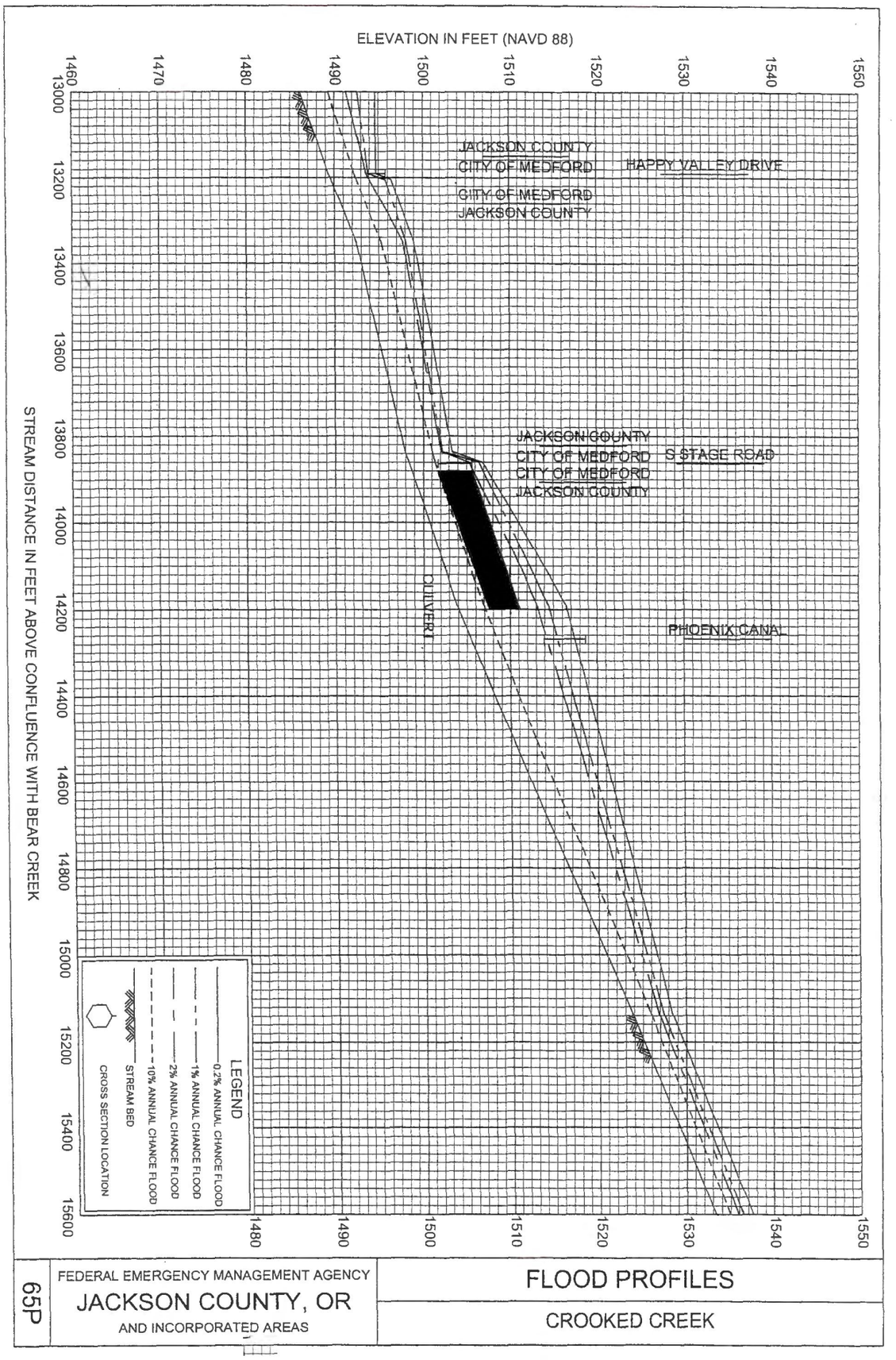
CROOKED CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

64P



65P

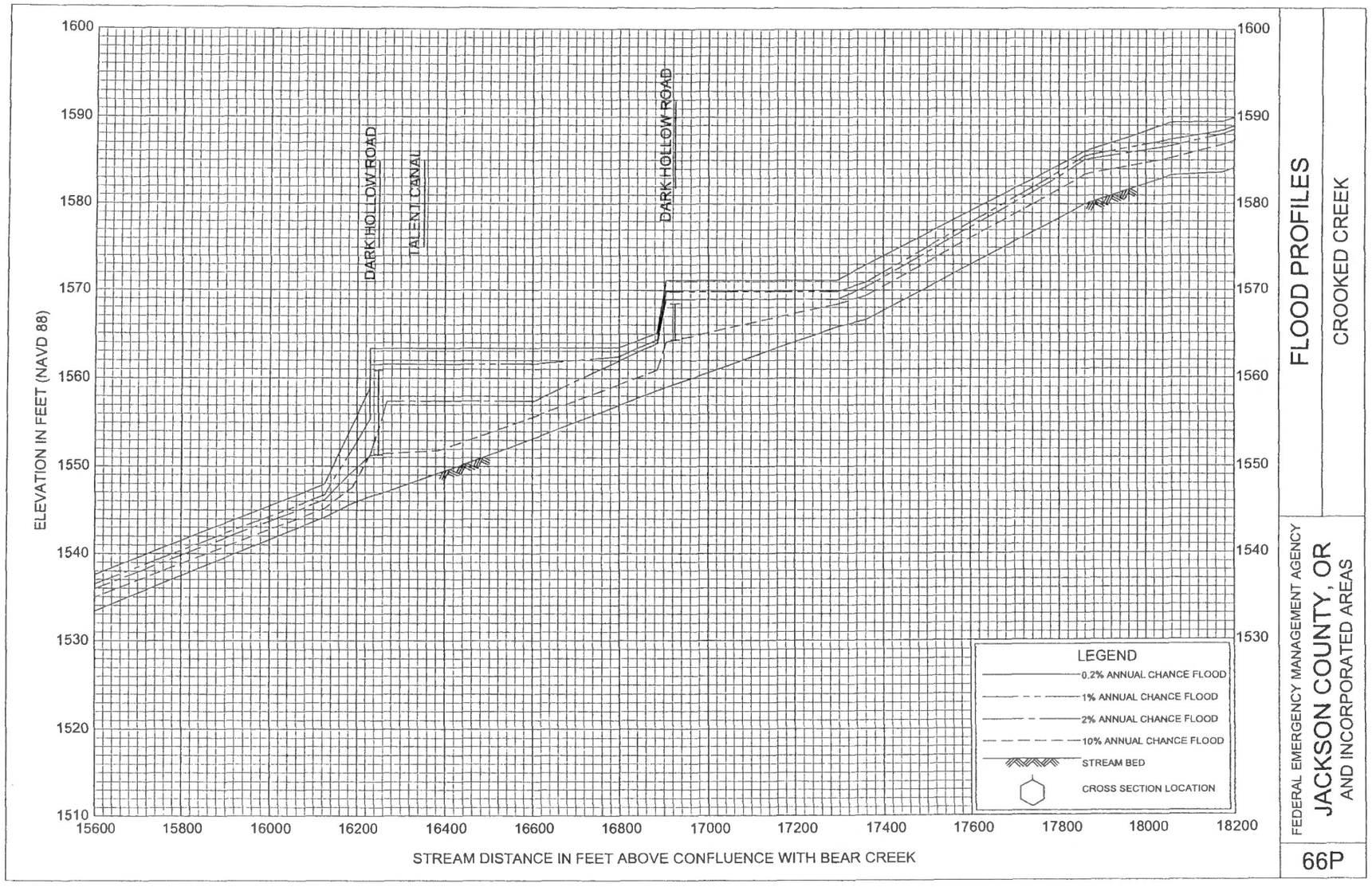
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

CROOKED CREEK



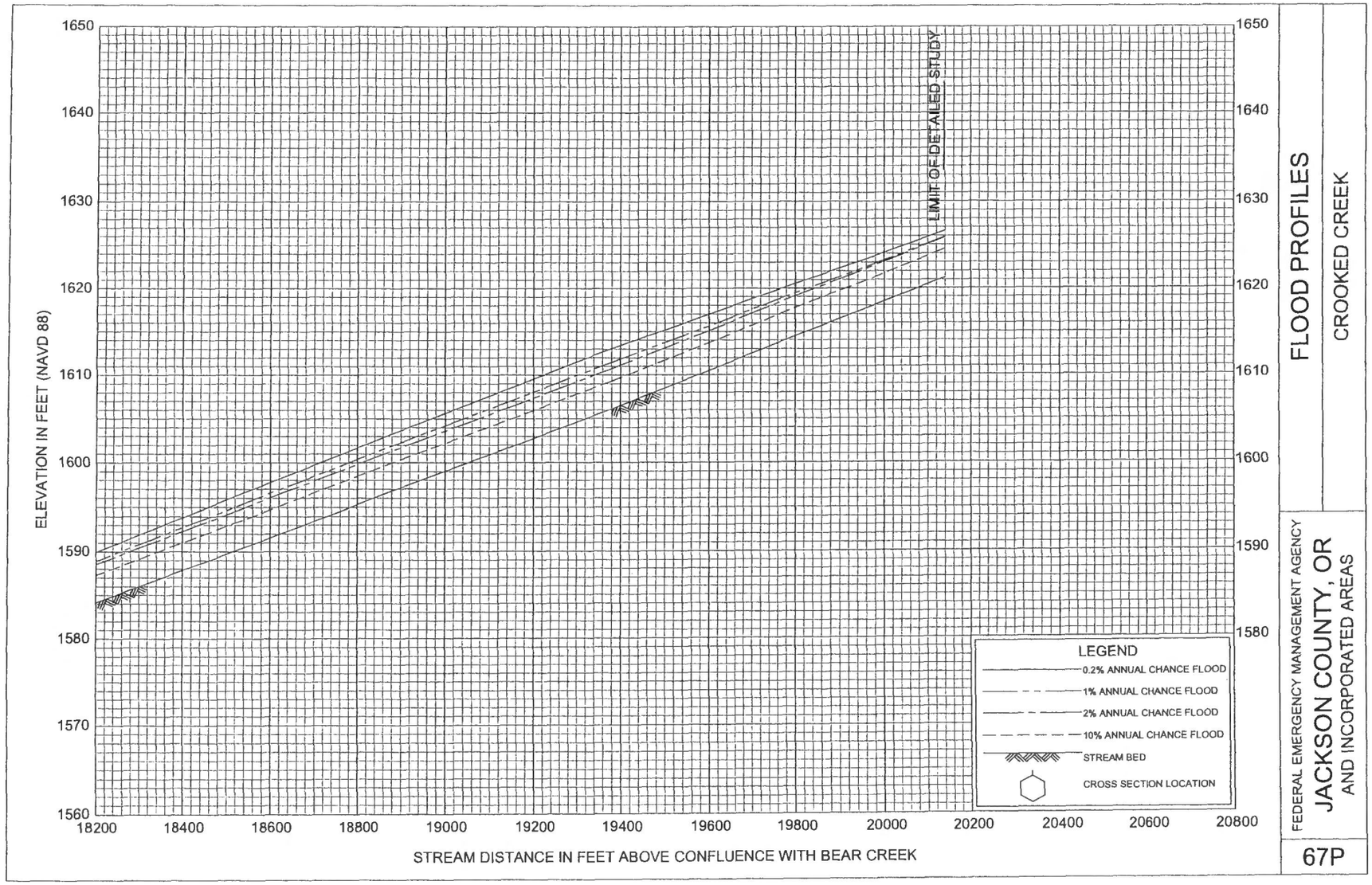
FLOOD PROFILES

CROOKED CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

66P



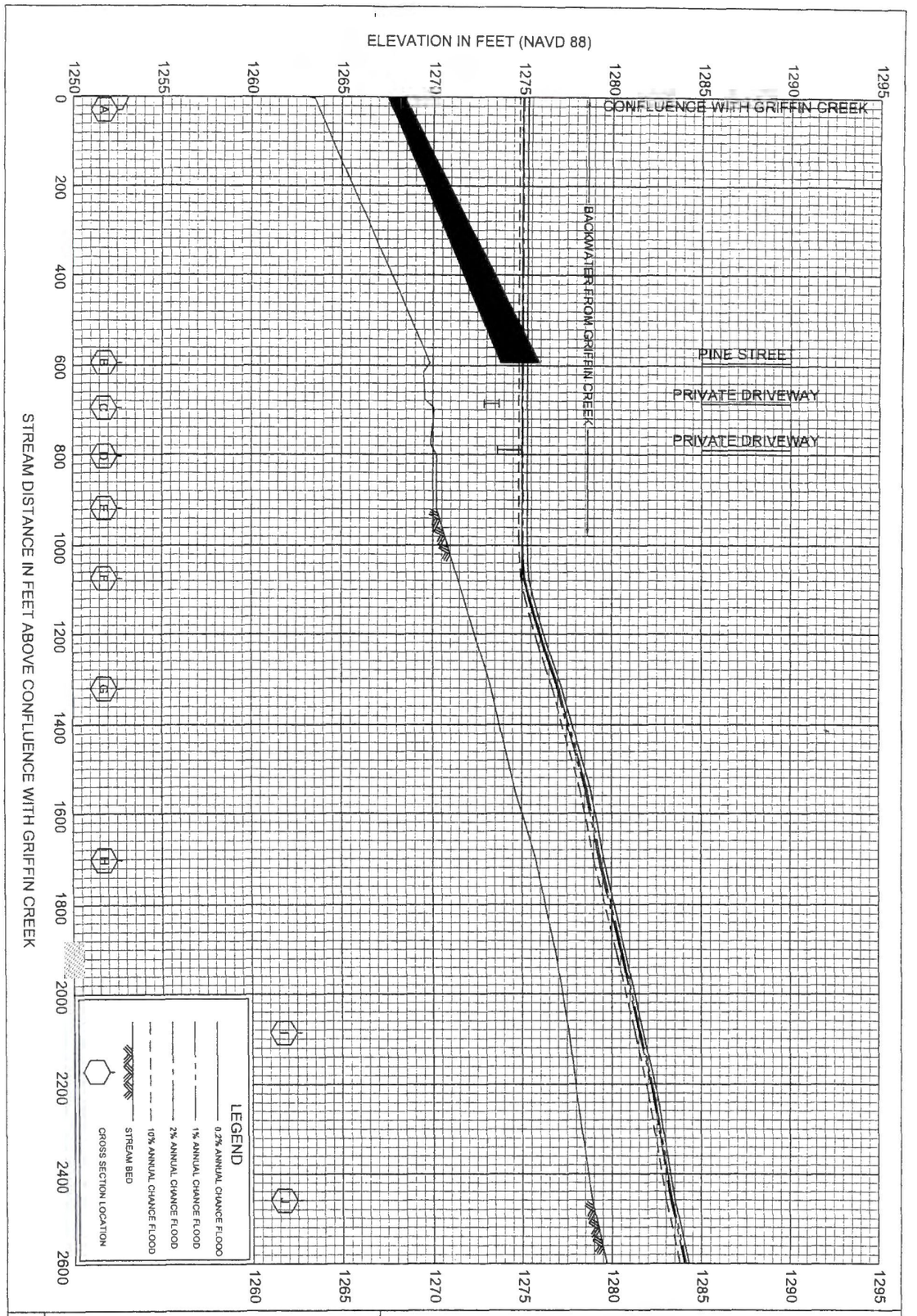
FLOOD PROFILES

CROOKED CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

67P



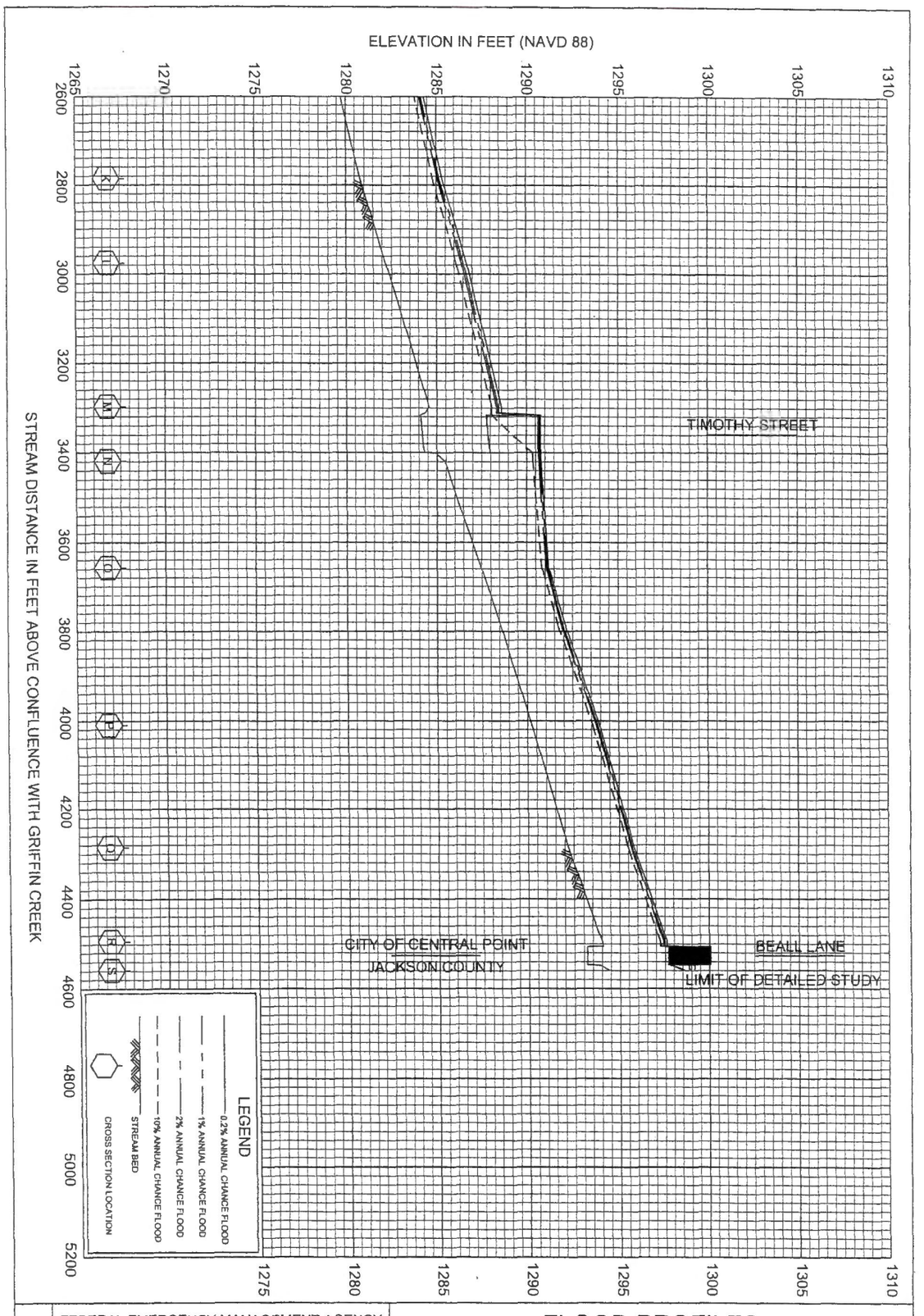
68P

FEDERAL EMERGENCY MANAGEMENT AGENCY

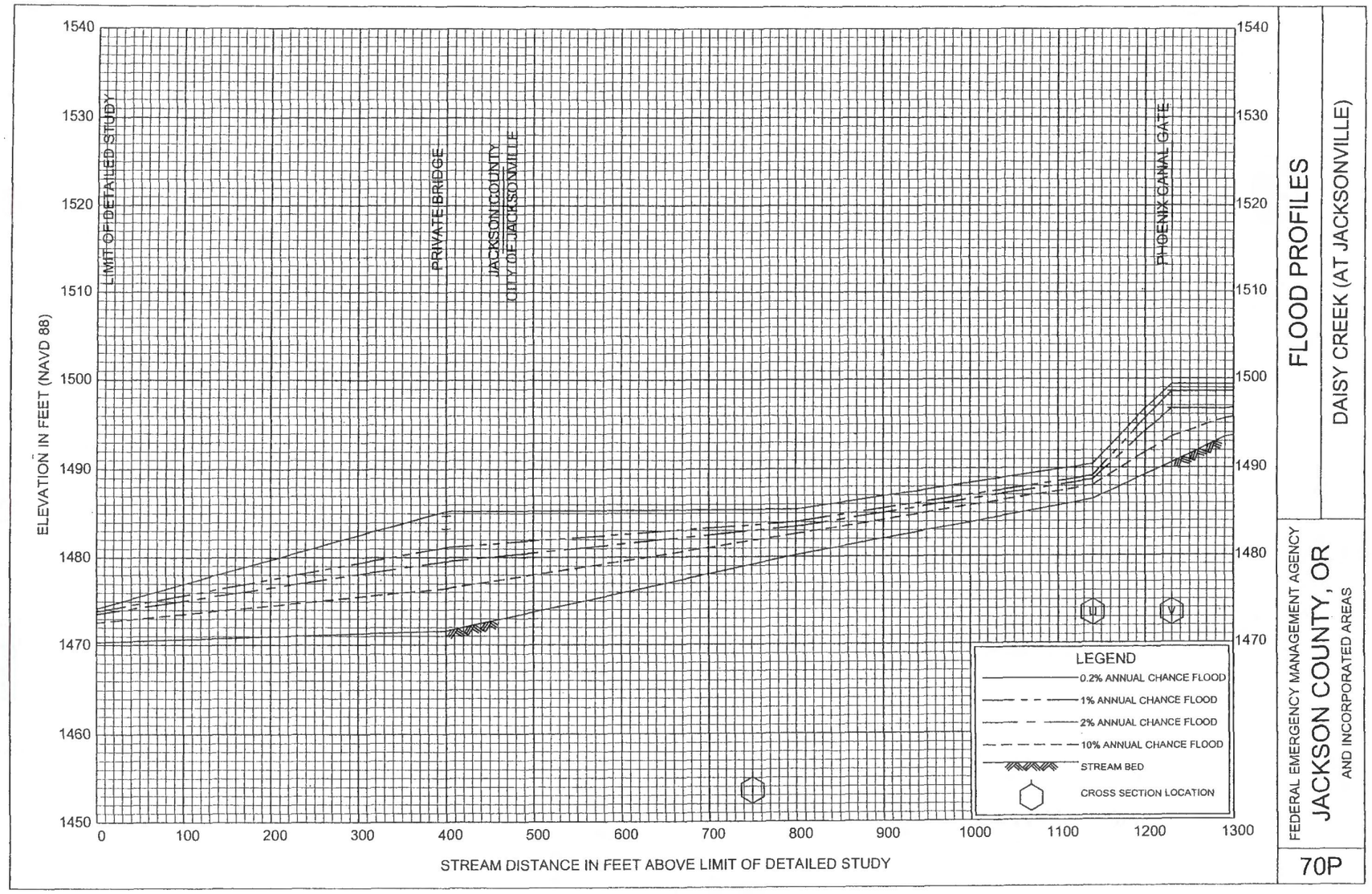
JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

DAISY CREEK



69P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES DAISY CREEK



FLOOD PROFILES

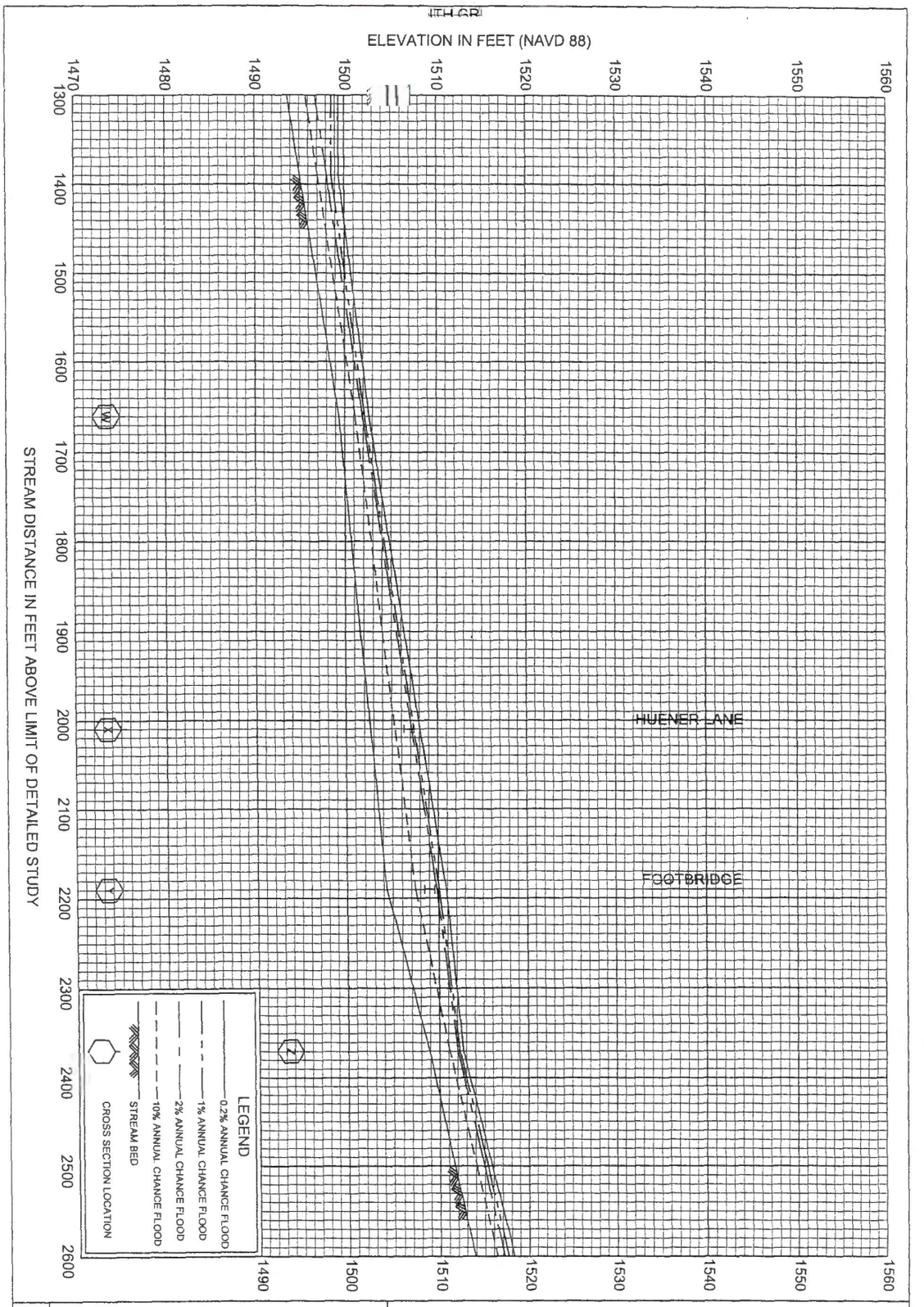
DAISY CREEK (AT JACKSONVILLE)

FEDERAL EMERGENCY MANAGEMENT AGENCY

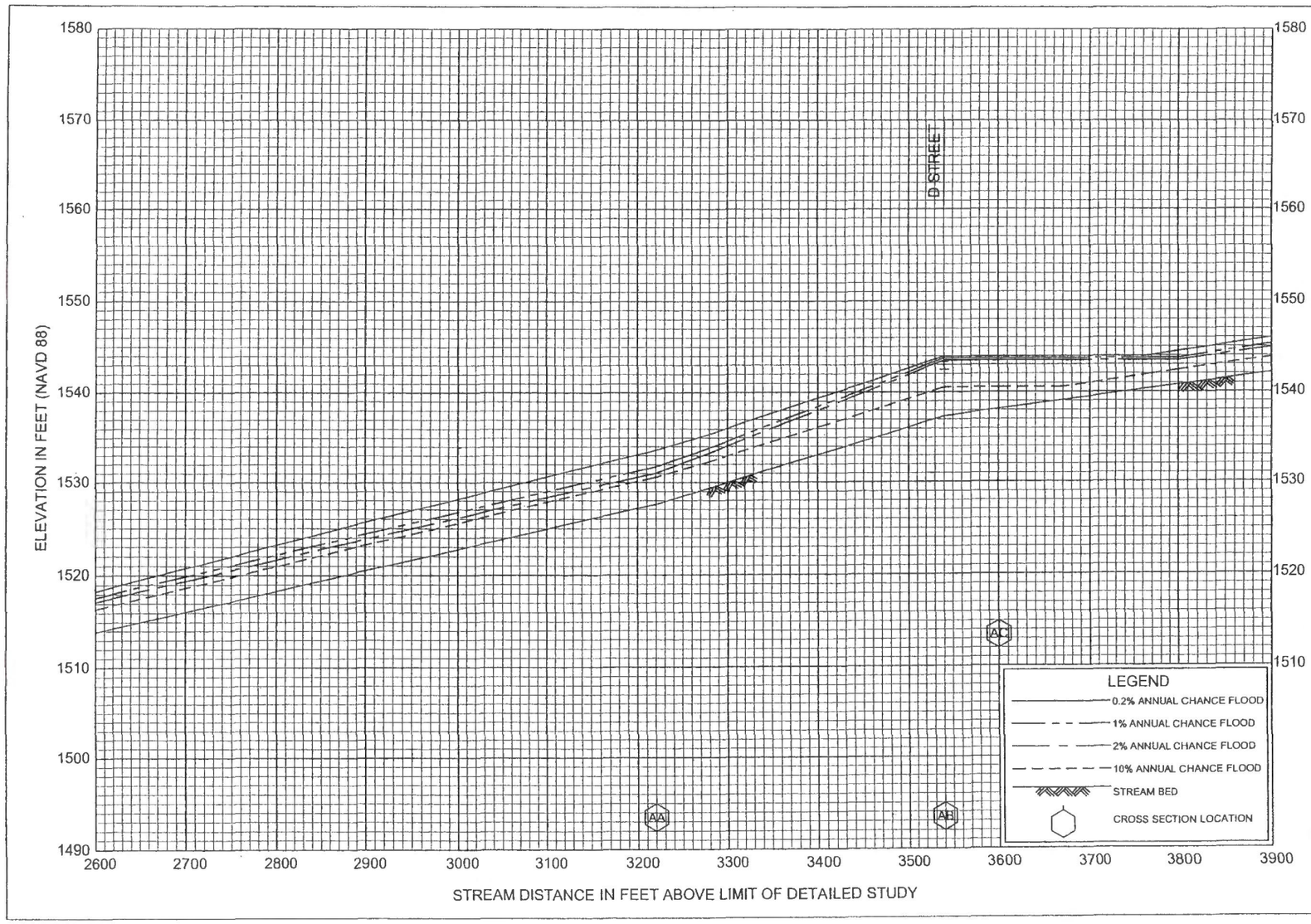
JACKSON COUNTY, OR

AND INCORPORATED AREAS

70P



71P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES DAISY CREEK (AT JACKSONVILLE)



FLOOD PROFILES

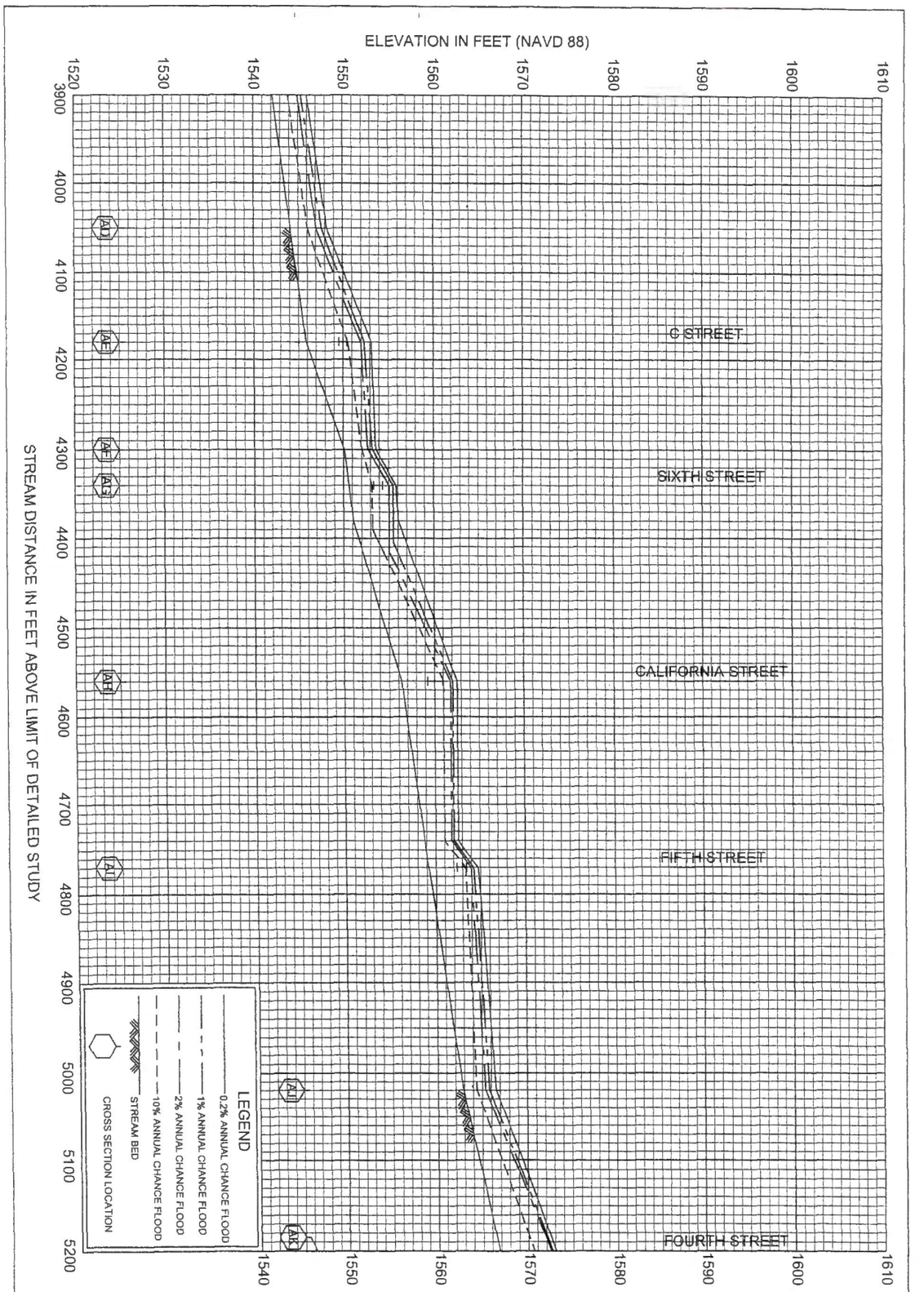
DAISY CREEK (AT JACKSONVILLE)

FEDERAL EMERGENCY MANAGEMENT AGENCY

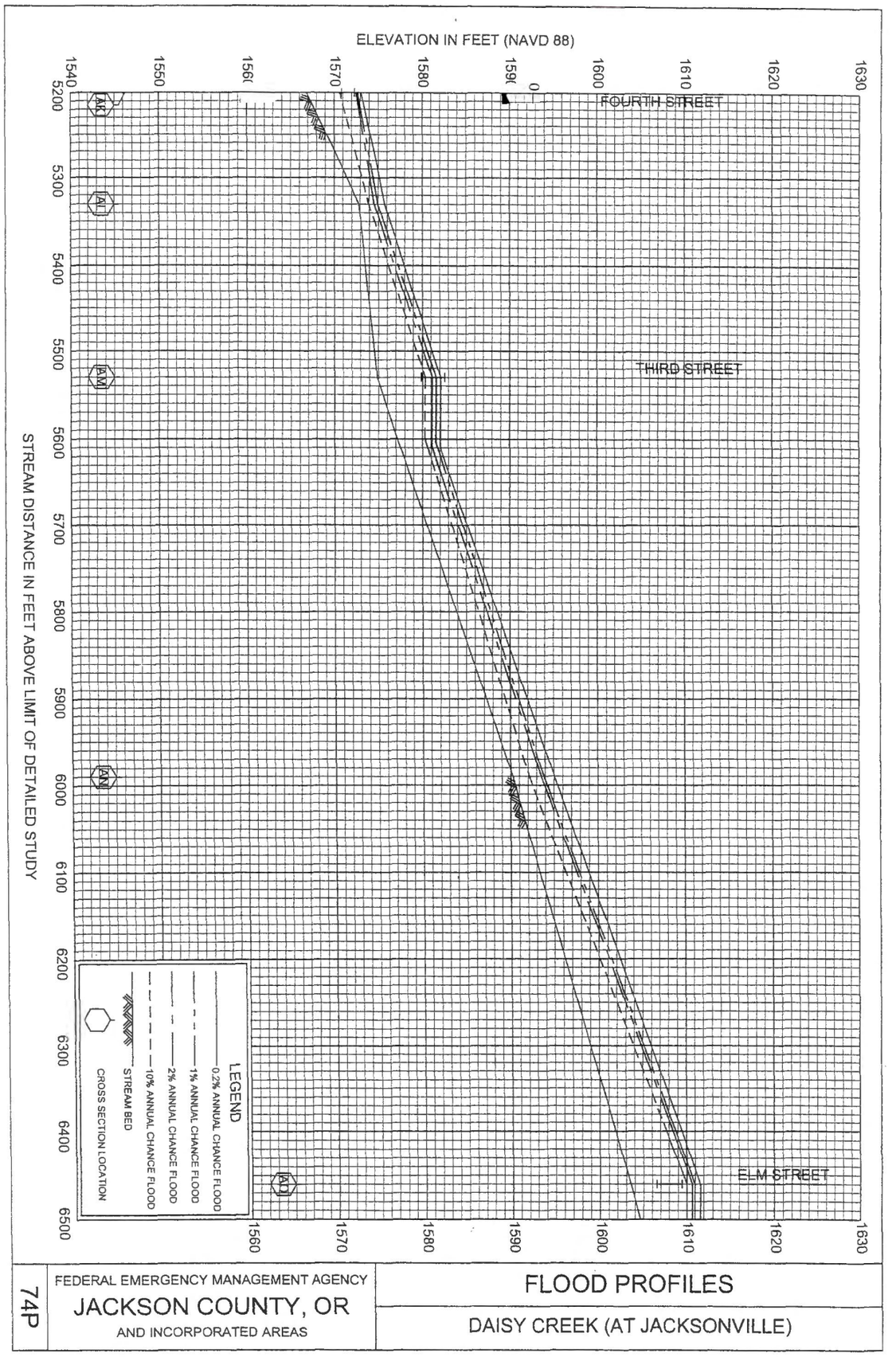
JACKSON COUNTY, OR

AND INCORPORATED AREAS

72P



73P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES DAISY CREEK (AT JACKSONVILLE)



74P

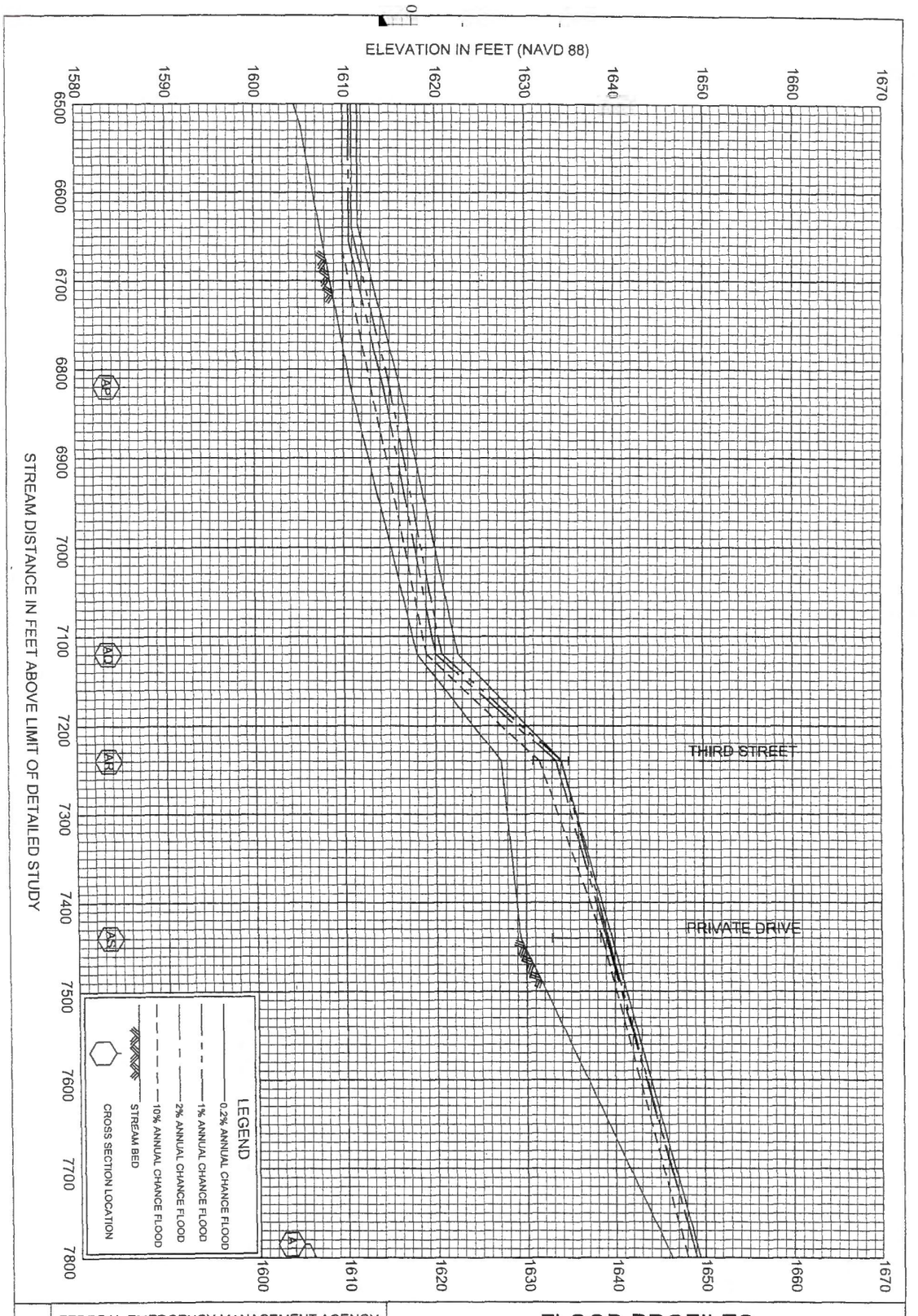
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

DAISY CREEK (AT JACKSONVILLE)



75P

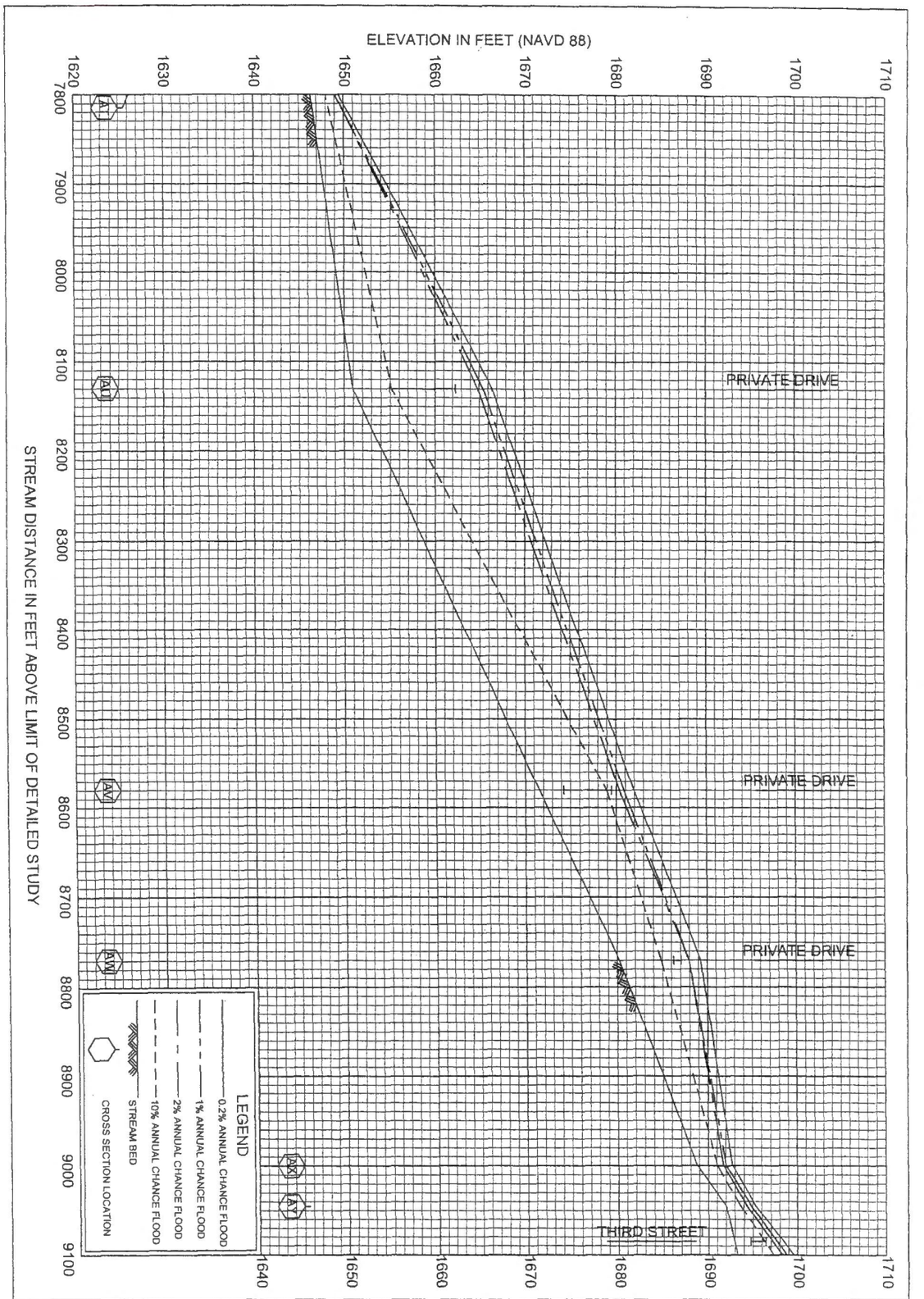
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

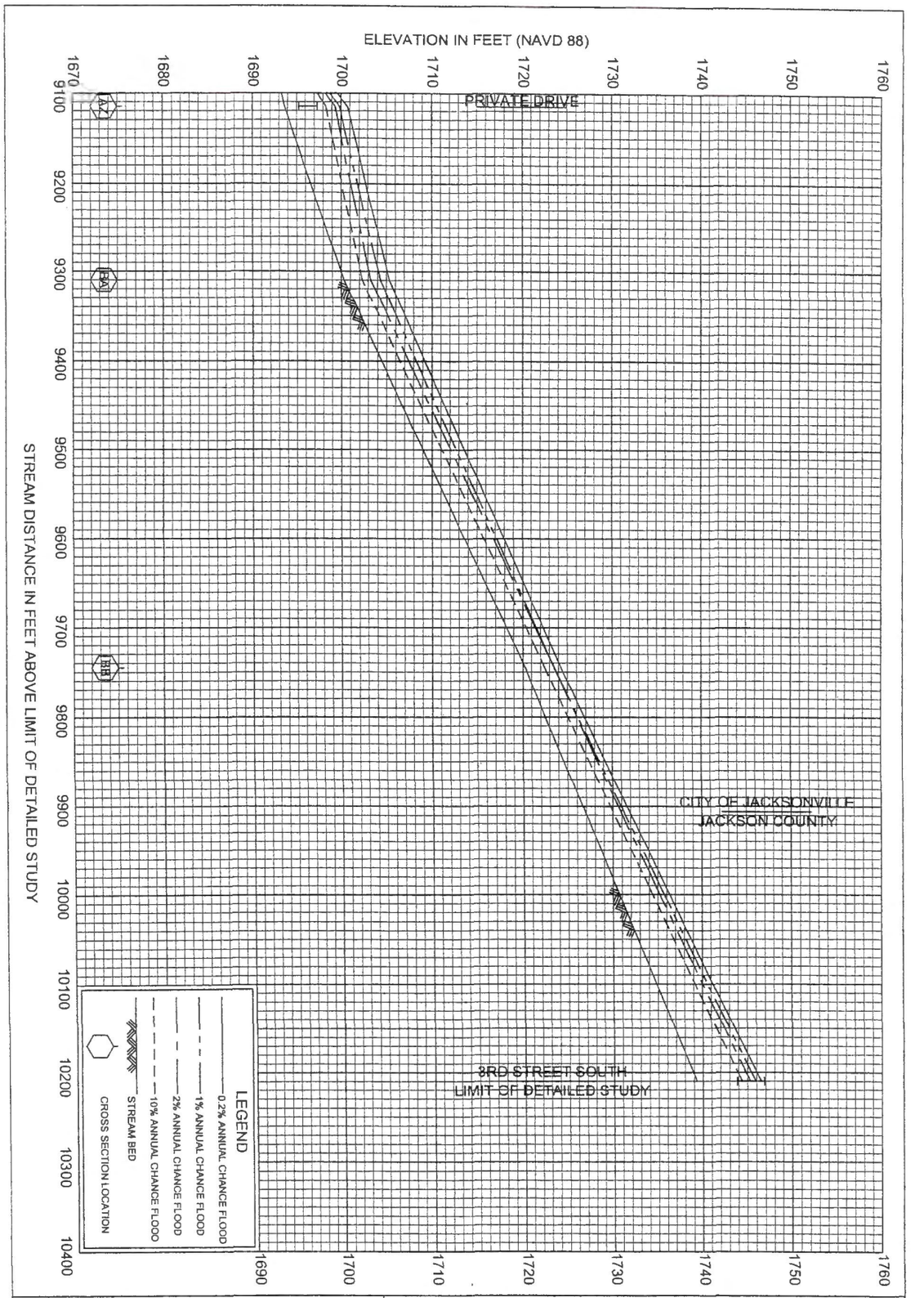
AND INCORPORATED AREAS

FLOOD PROFILES

DAISY CREEK (AT JACKSONVILLE)



76P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES DAISY CREEK (AT JACKSONVILLE)



77P

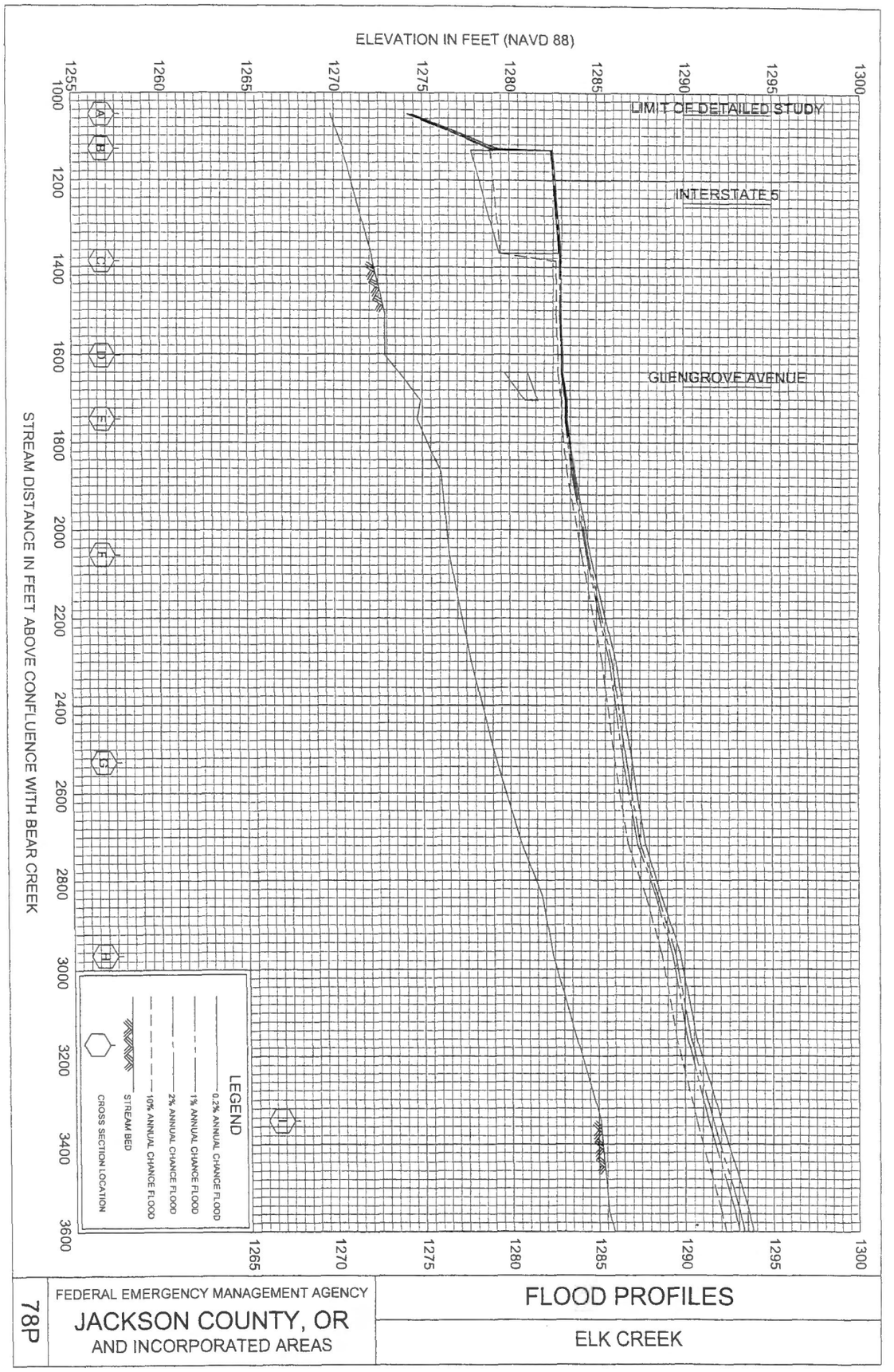
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

DAISY CREEK (AT JACKSONVILLE)



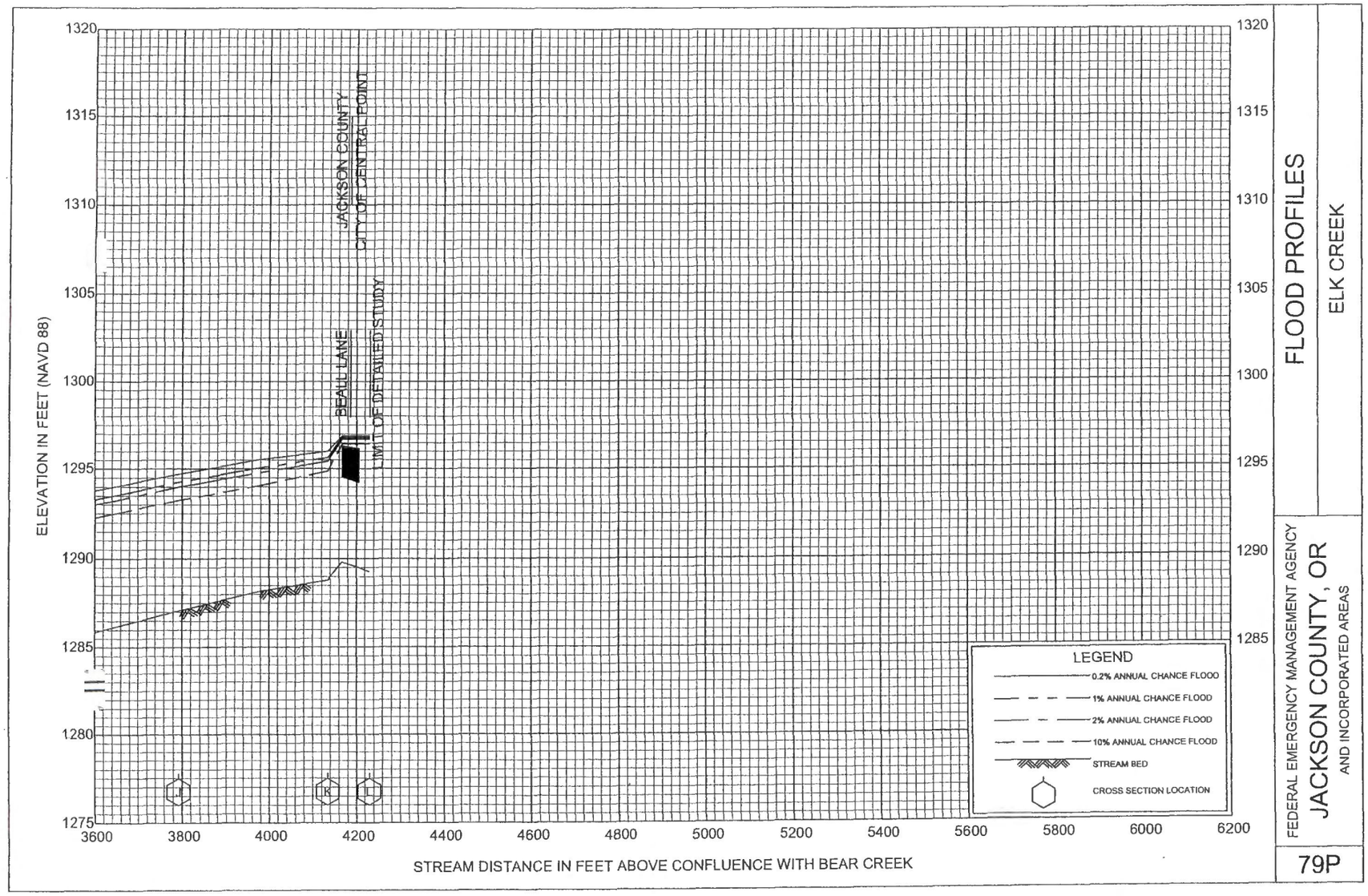
78P

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

ELK CREEK



FLOOD PROFILES

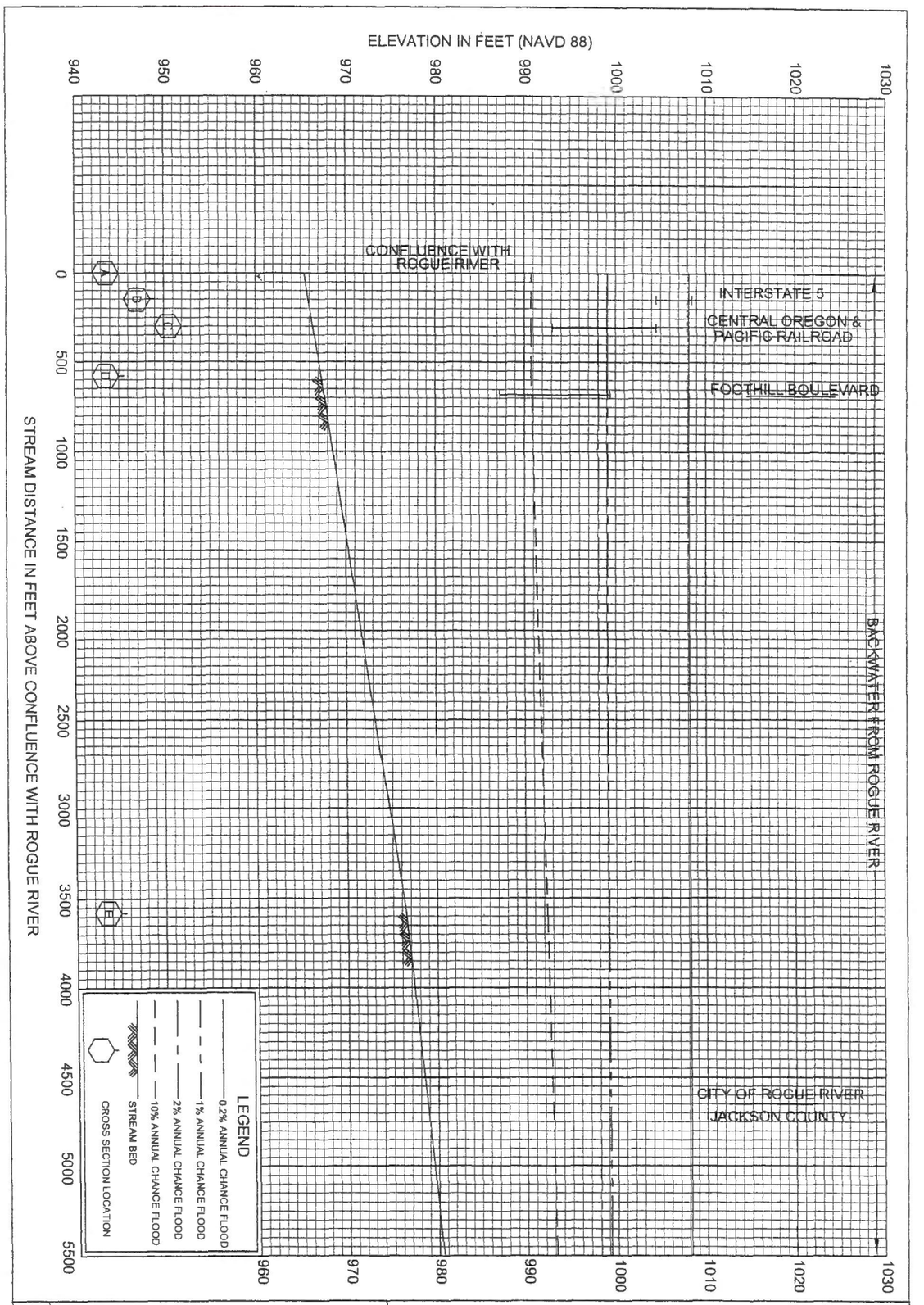
ELK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

79P



80P

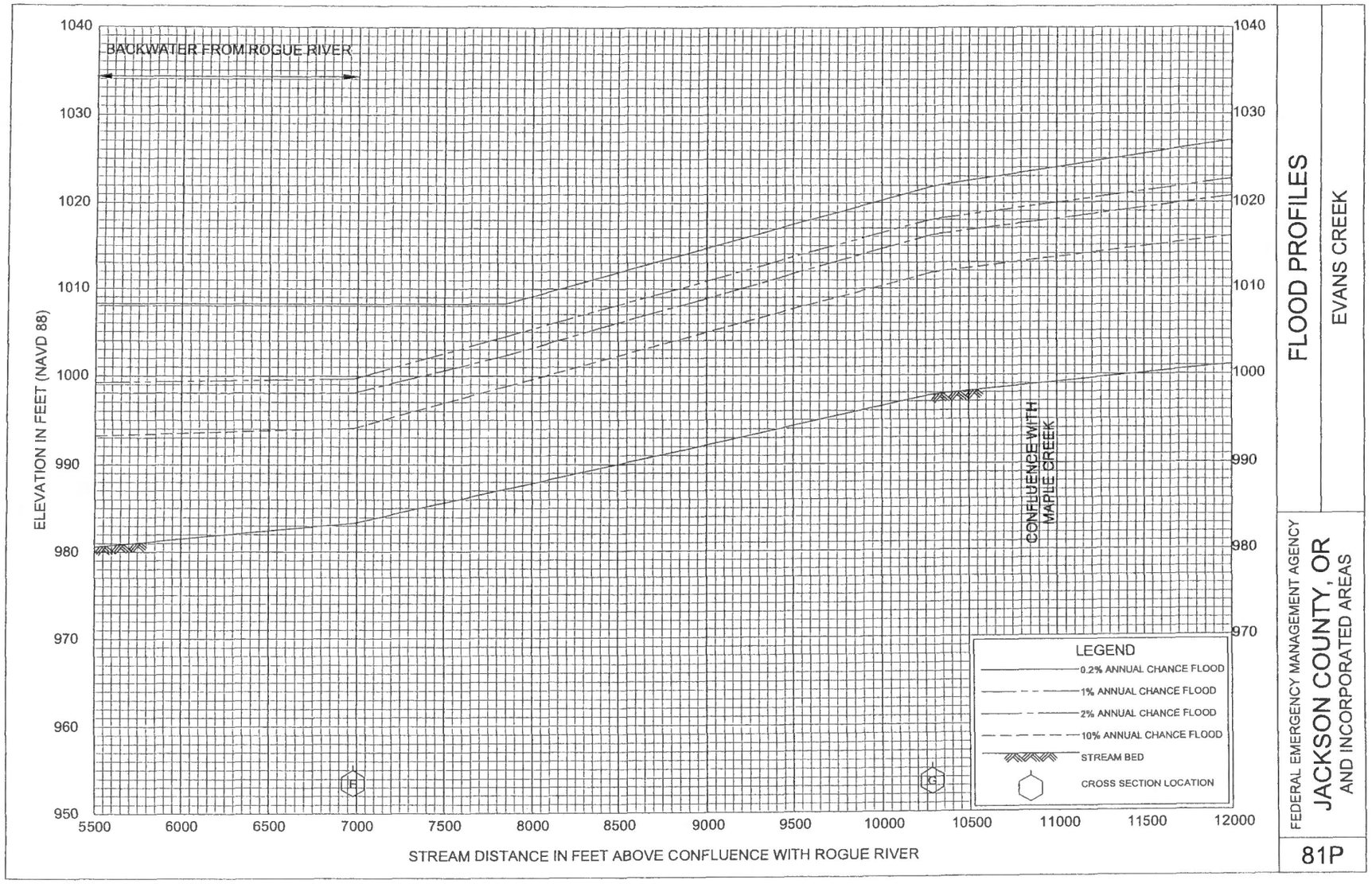
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

EVANS CREEK



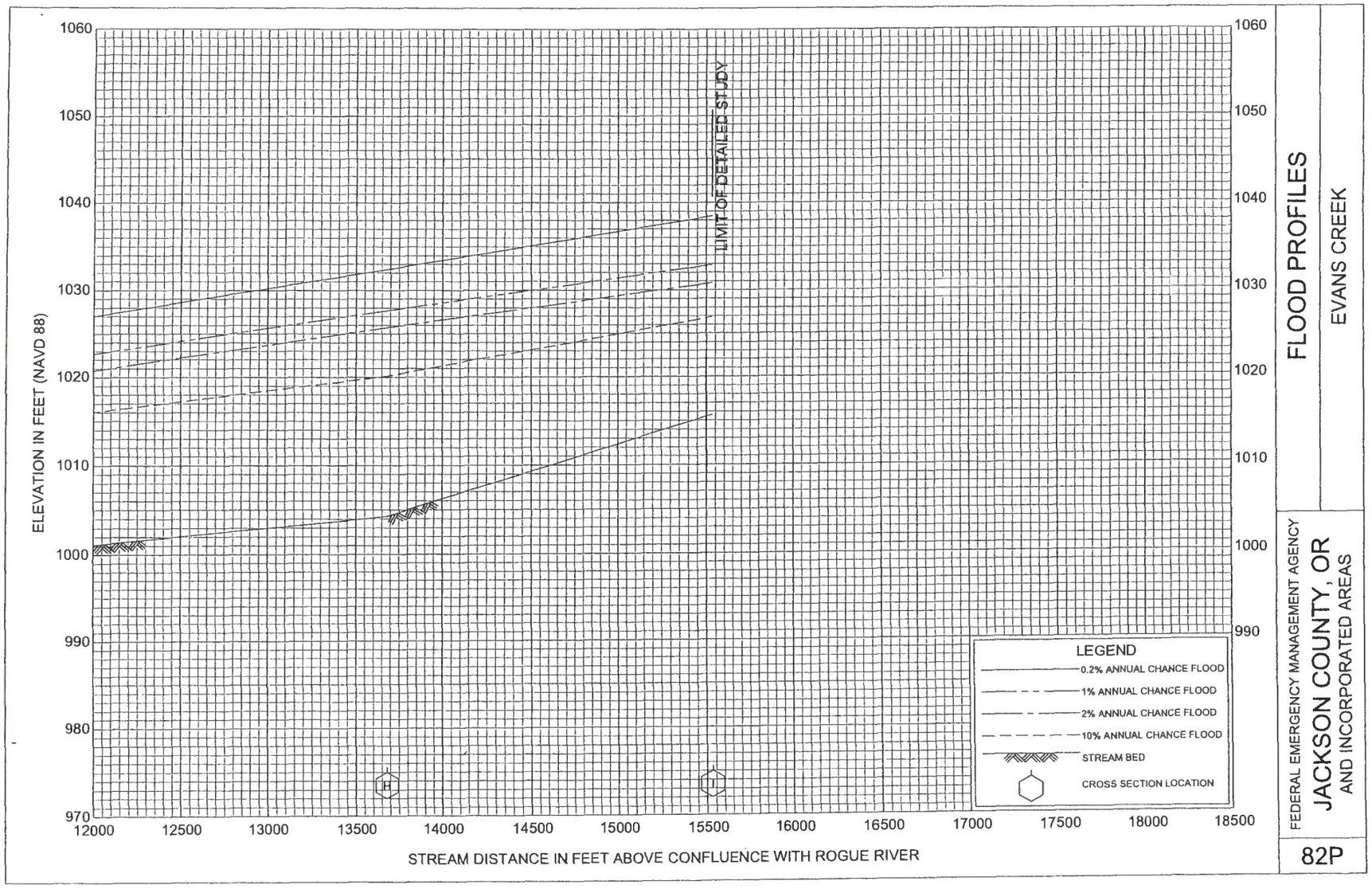
FLOOD PROFILES

EVANS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

81P



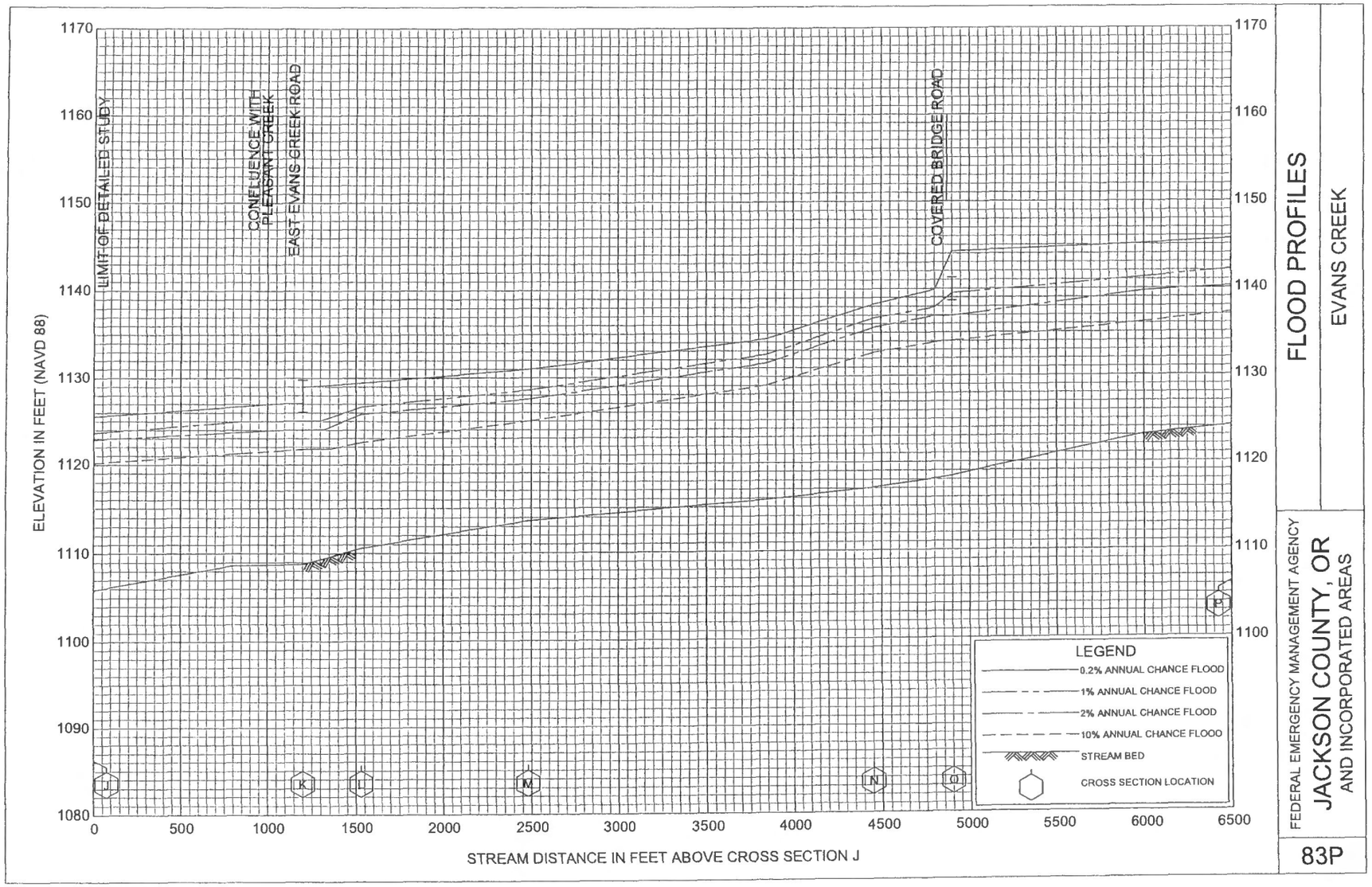
FLOOD PROFILES

EVANS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

82P



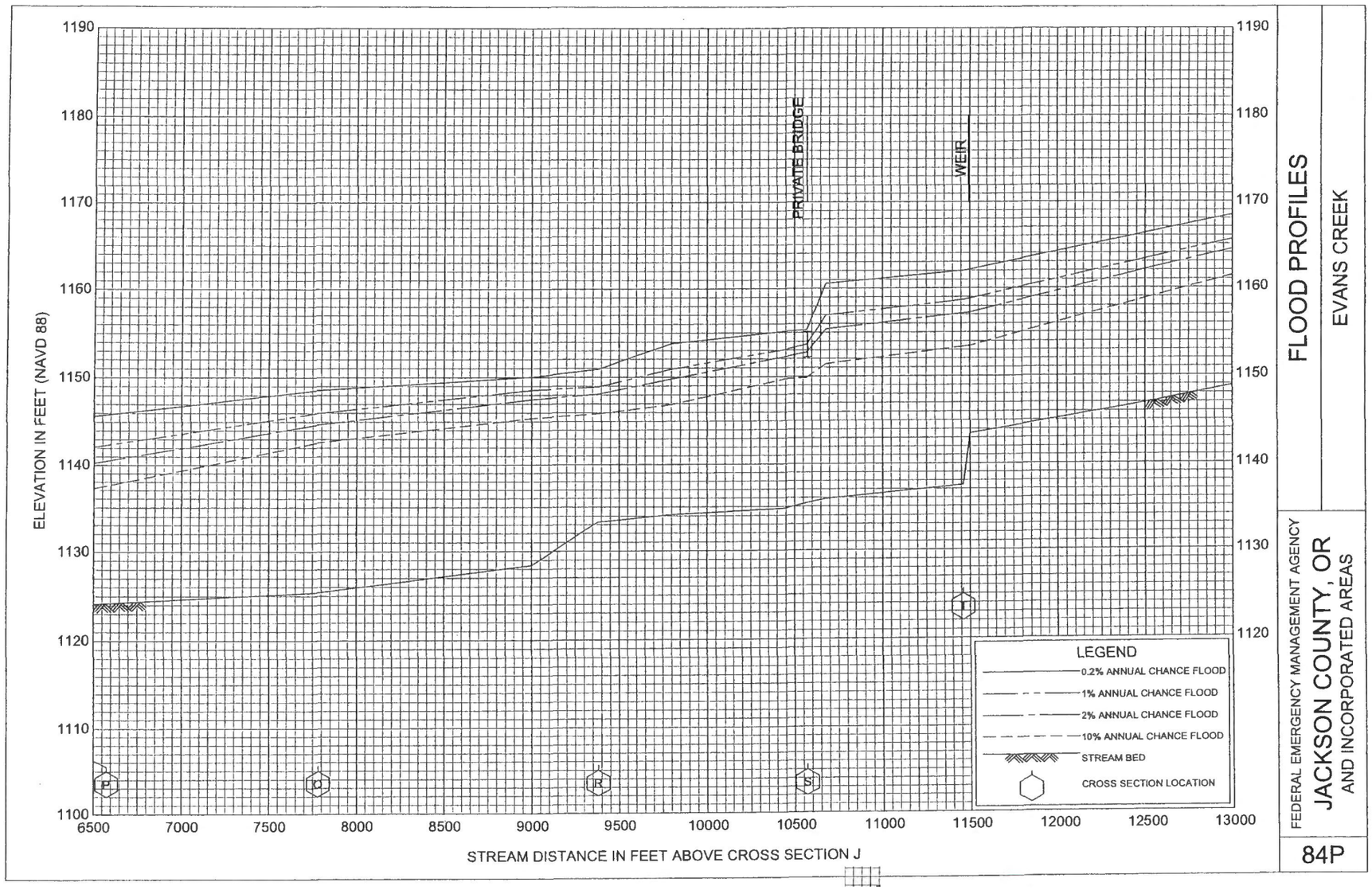
FLOOD PROFILES

EVANS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

83P



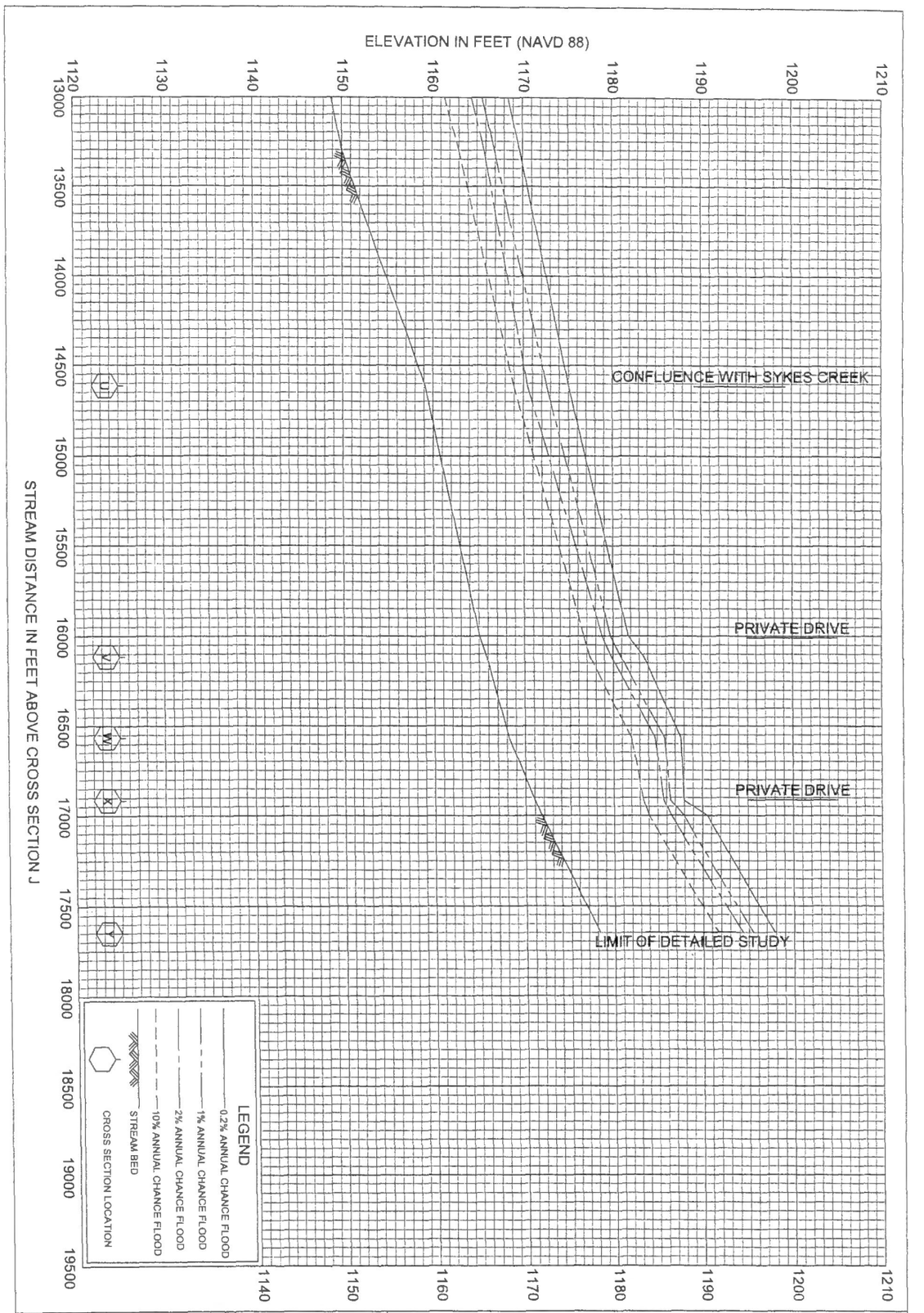
FLOOD PROFILES

EVANS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

84P



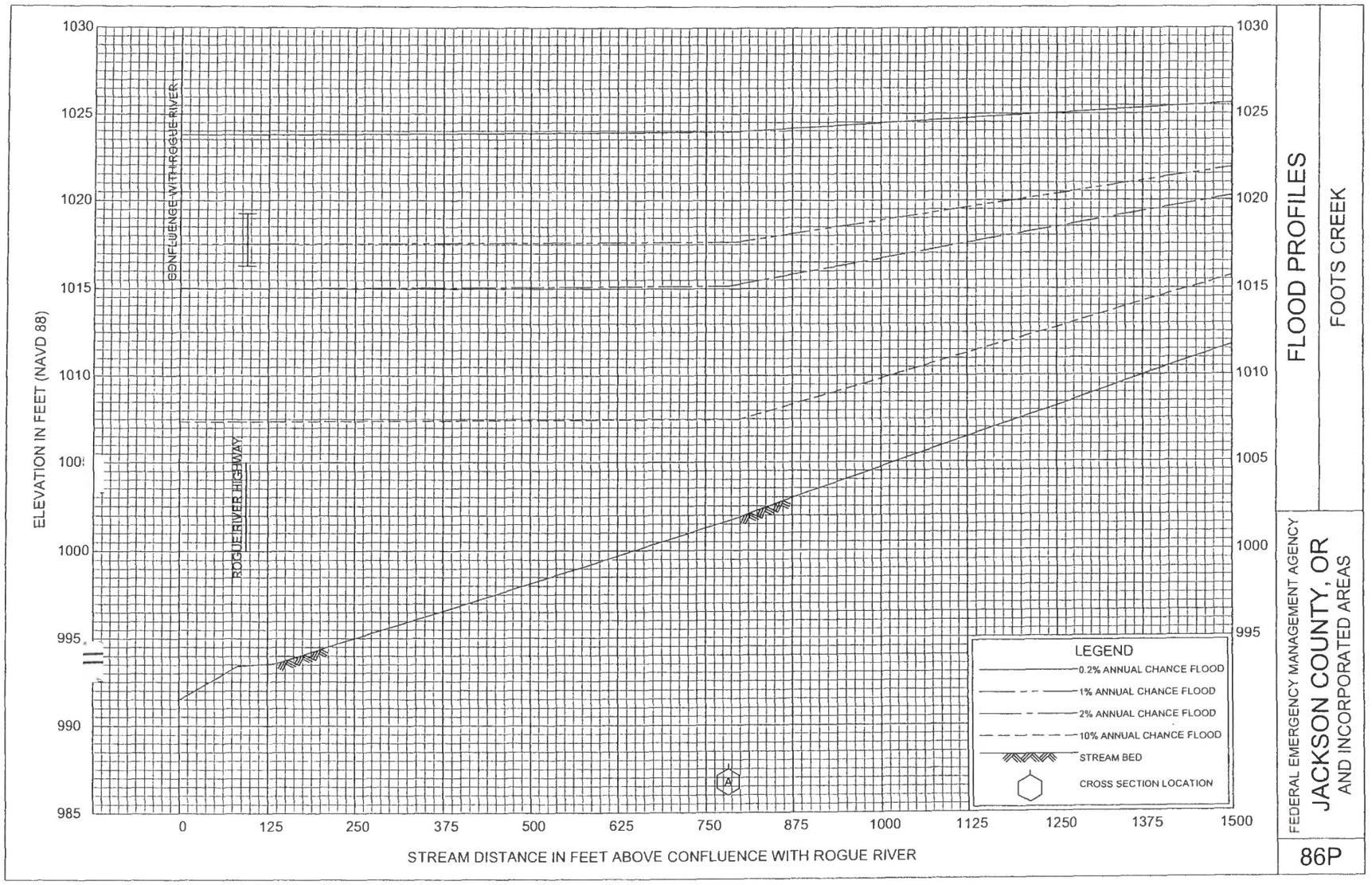
85P

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

EVANS CREEK



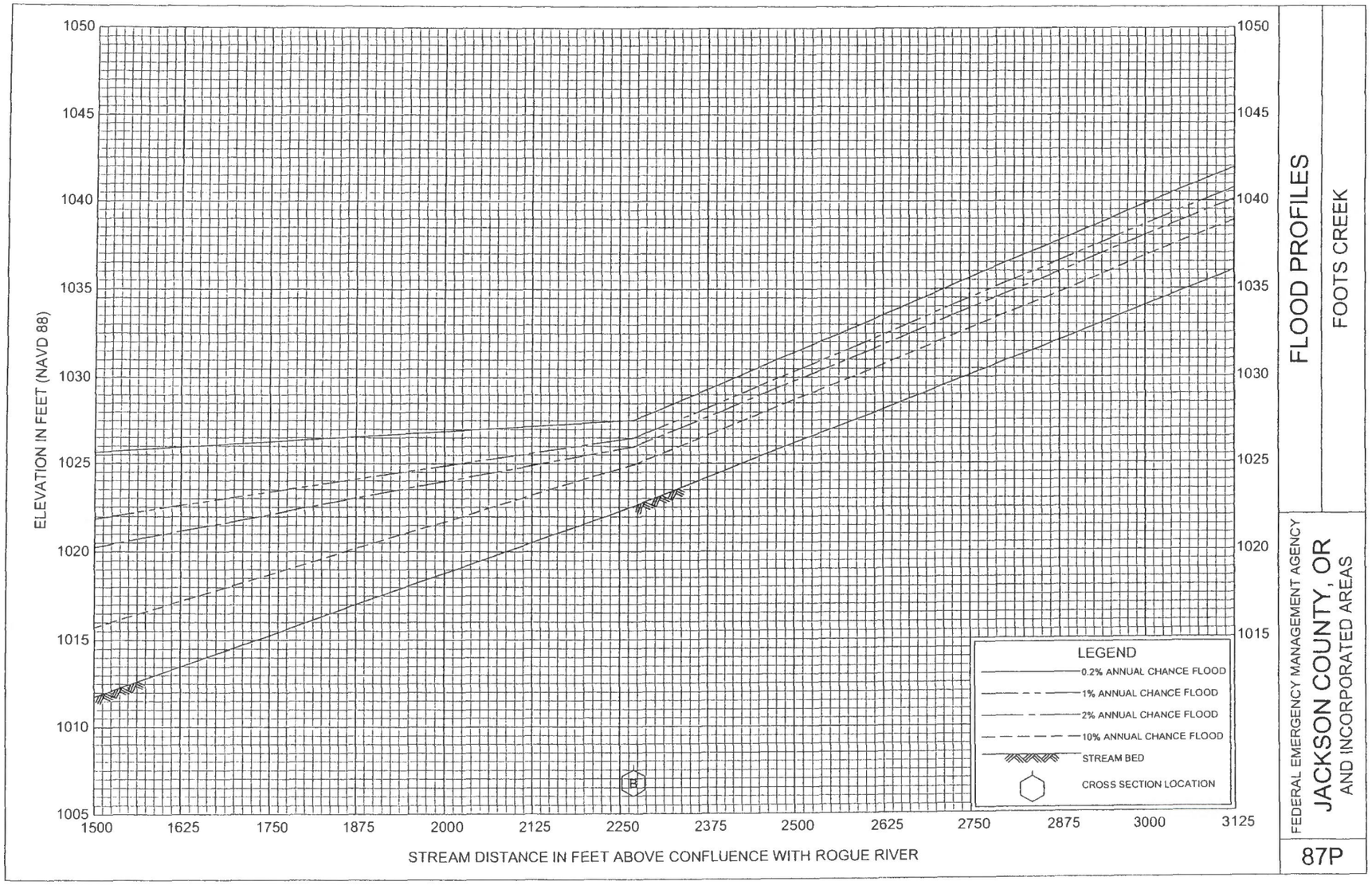
FEDERAL EMERGENCY MANAGEMENT AGENCY

FLOOD PROFILES

FOOTS CREEK

JACKSON COUNTY, OR
AND INCORPORATED AREAS

86P



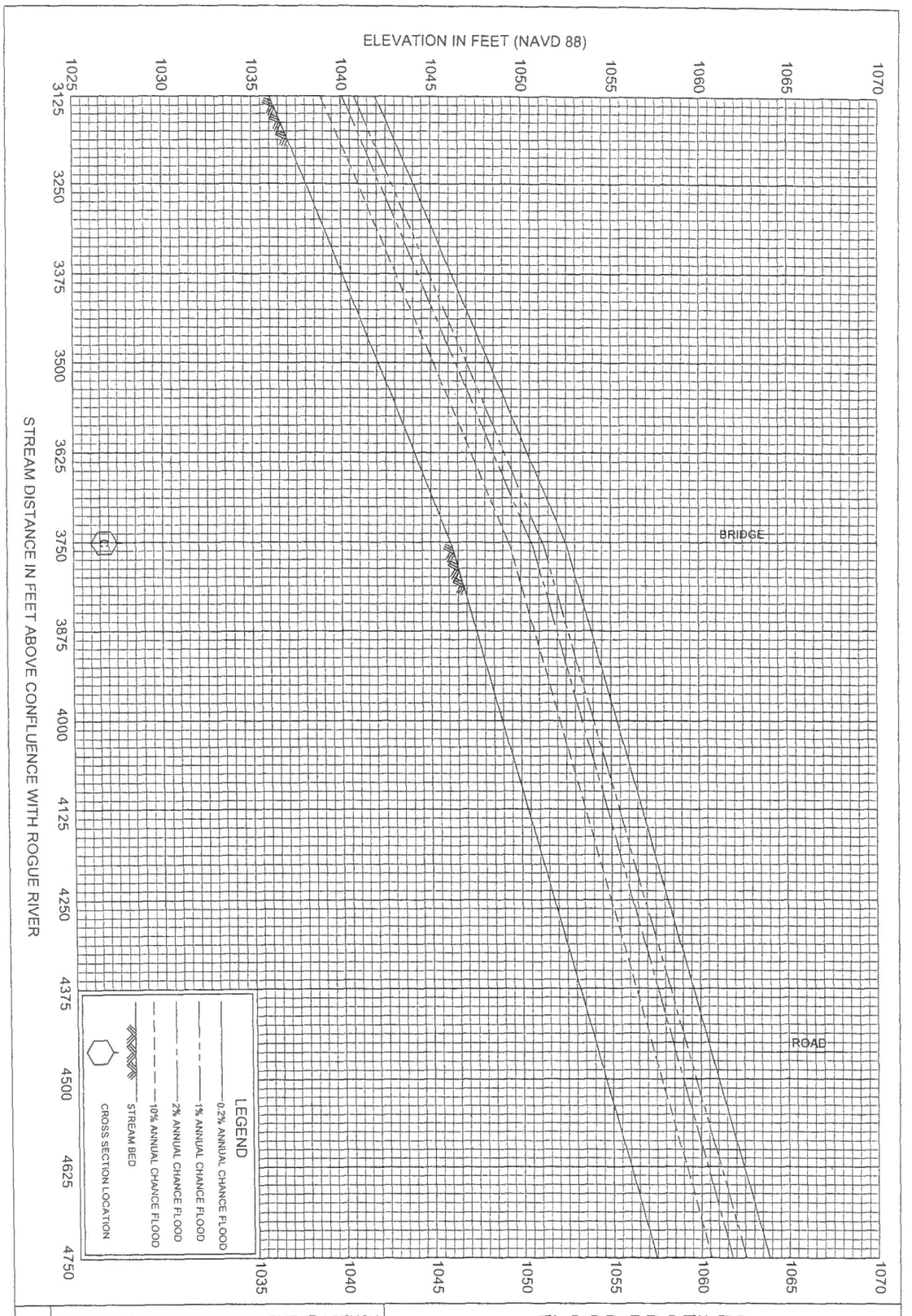
FLOOD PROFILES

FOOTS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

87P



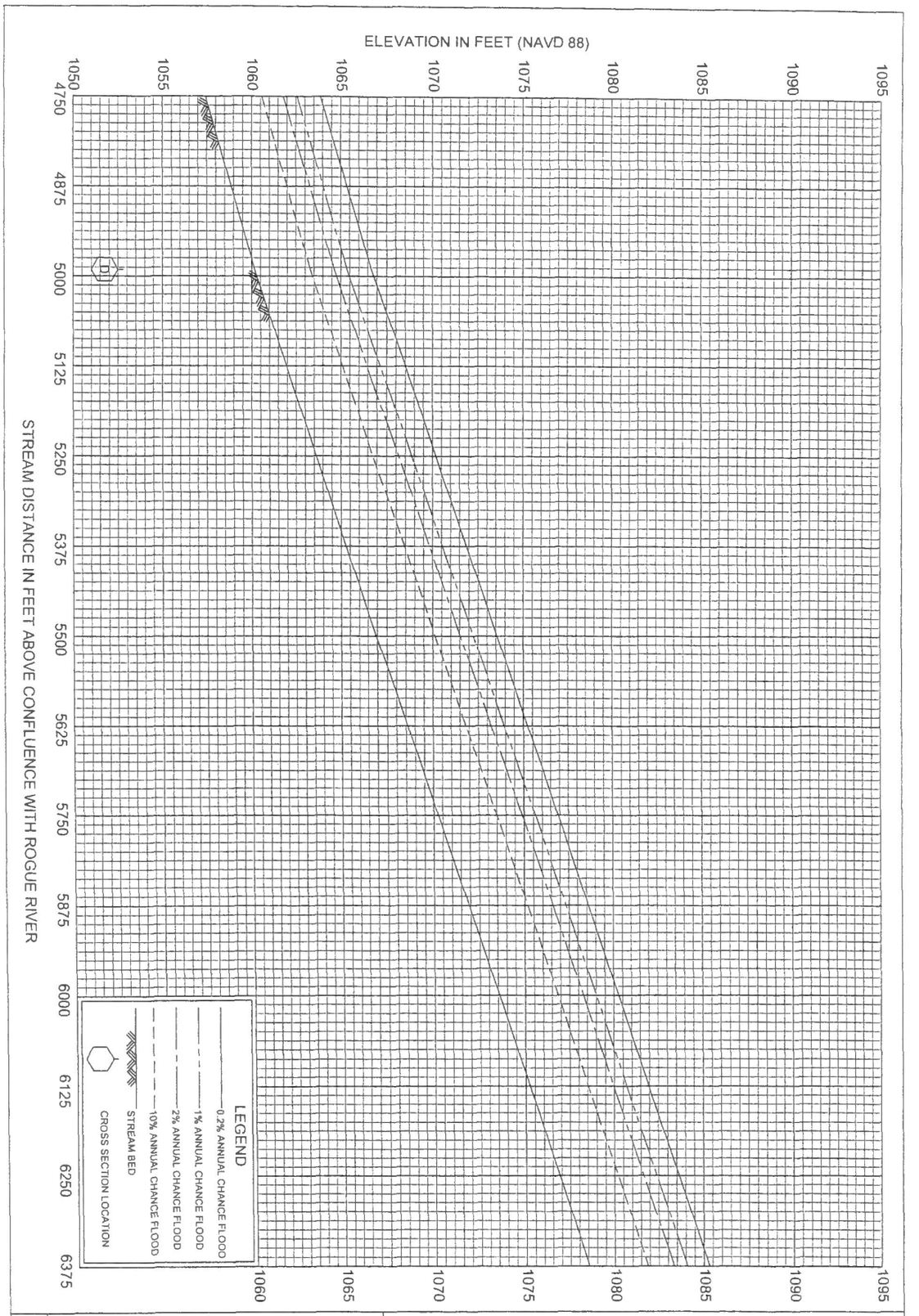
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FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

FOOTS CREEK



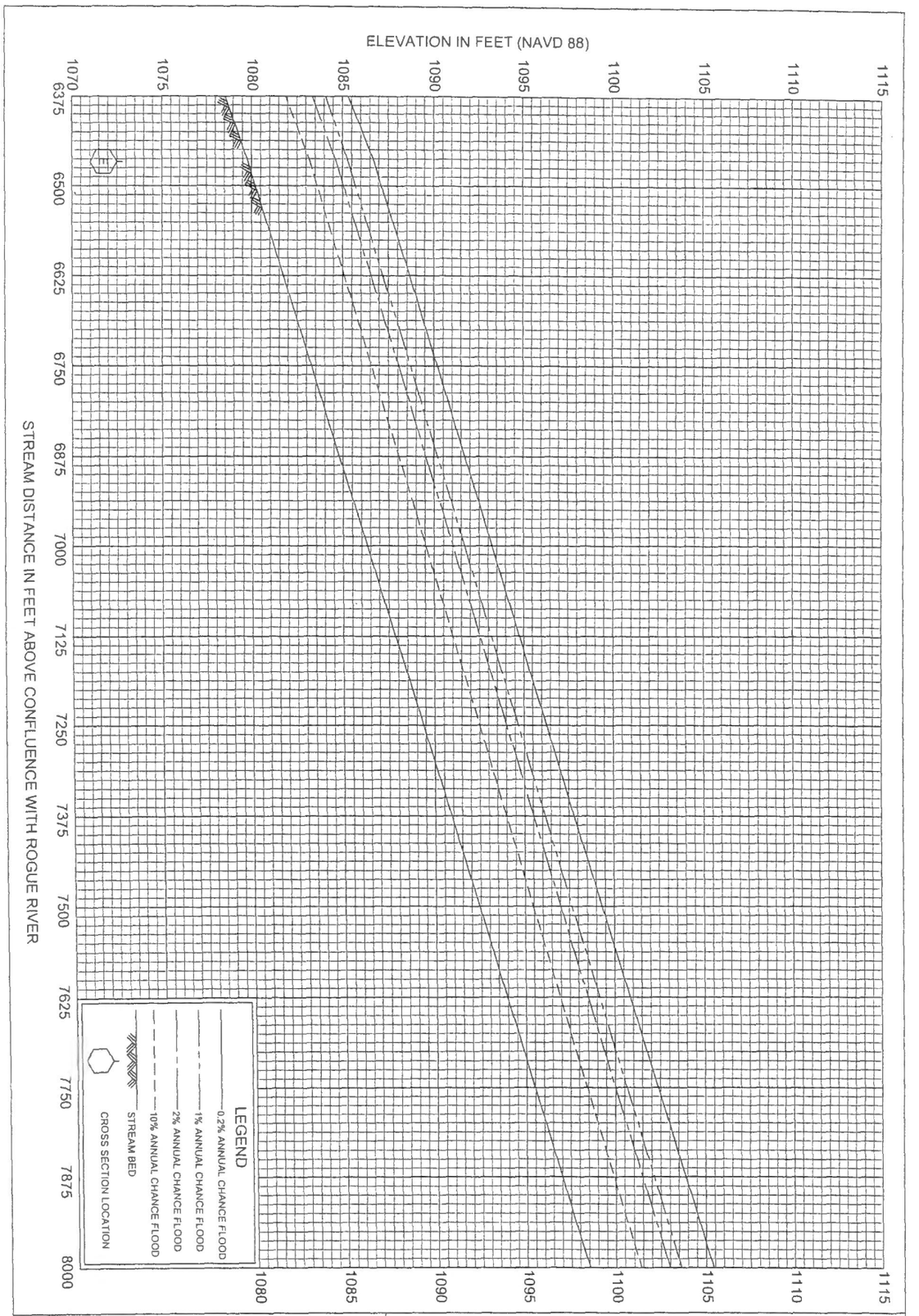
89P

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

FOOTS CREEK



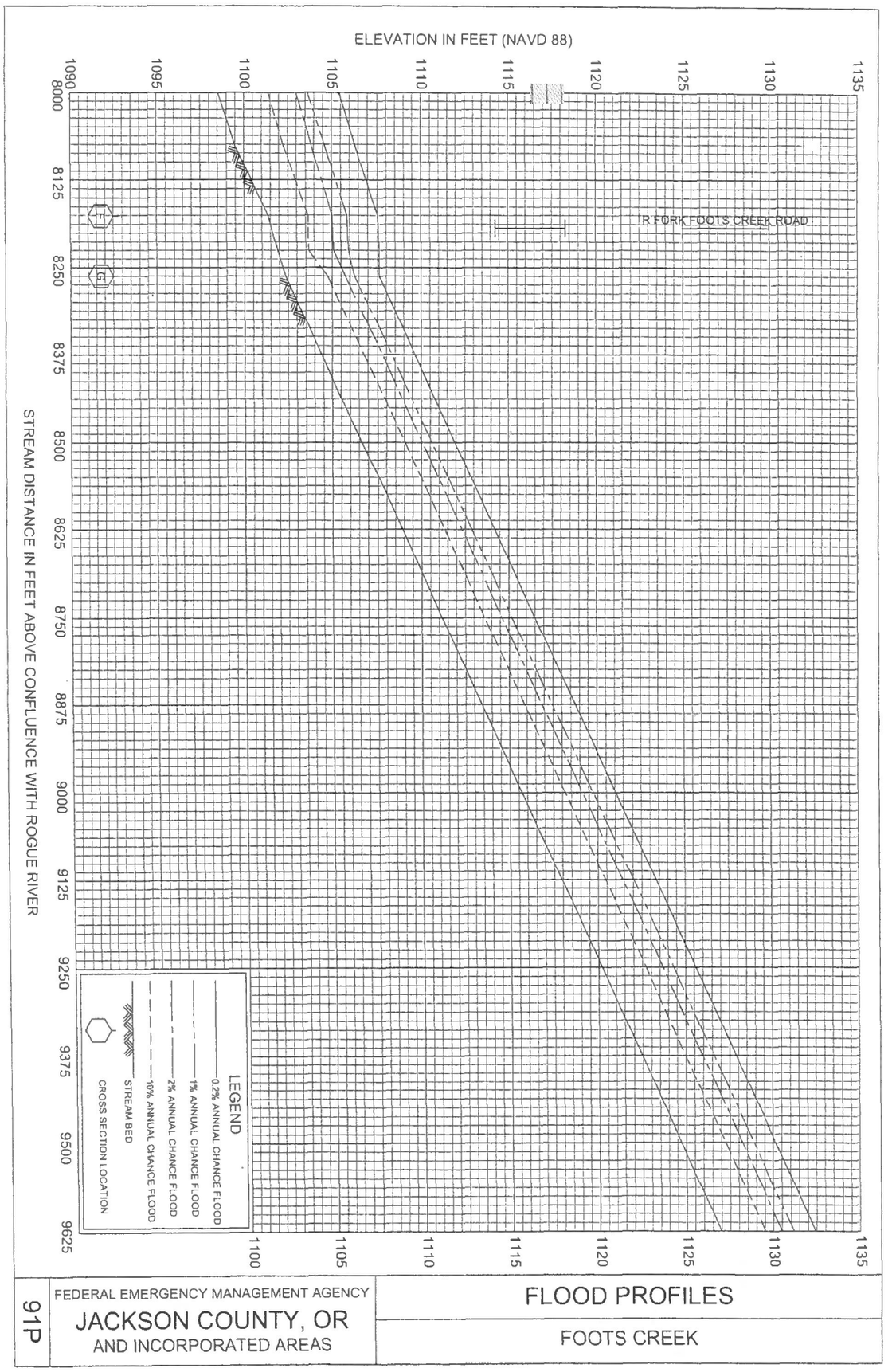
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FEDERAL EMERGENCY MANAGEMENT AGENCY

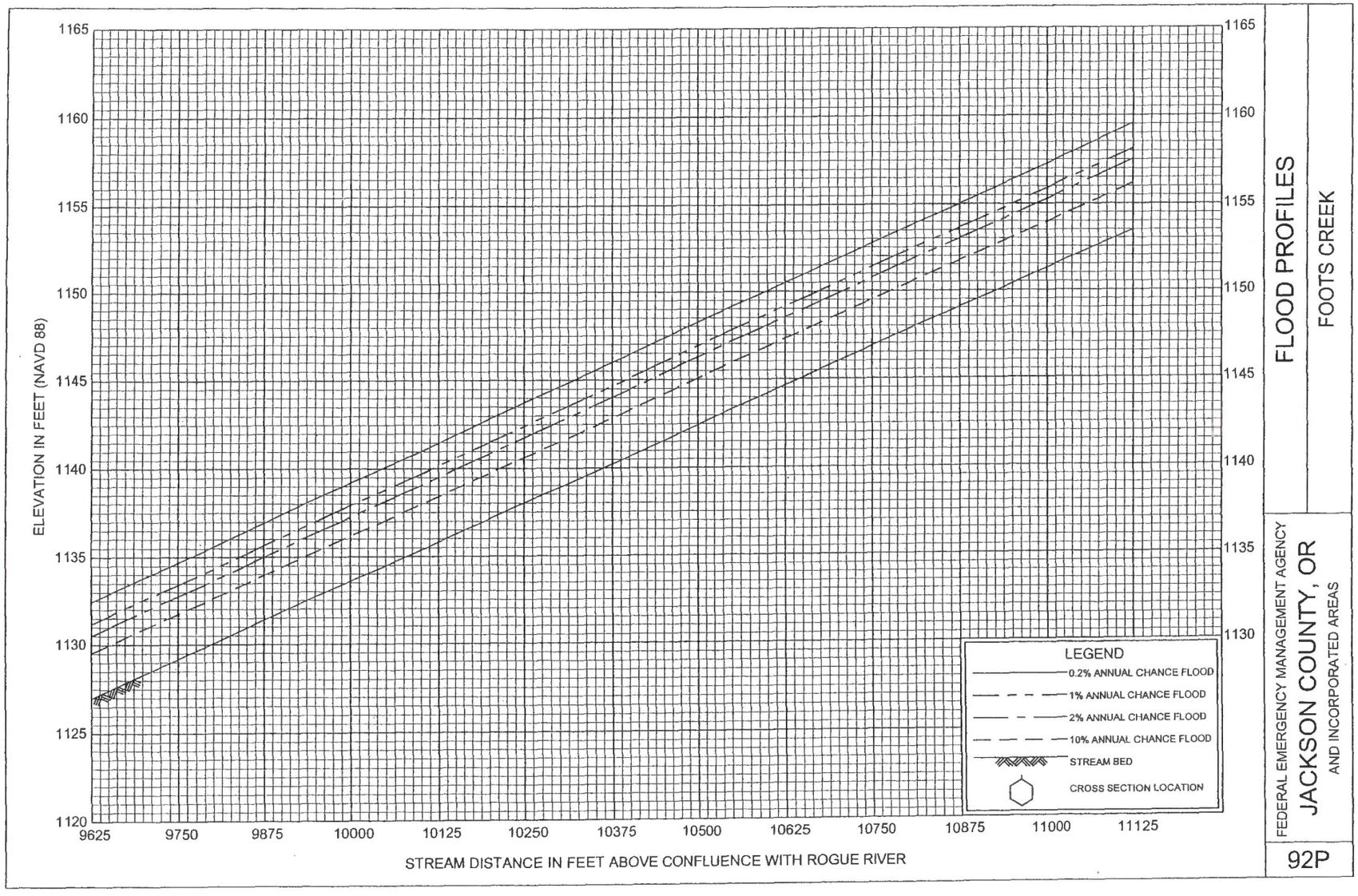
JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

FOOTS CREEK



91P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES FOOTS CREEK



FLOOD PROFILES

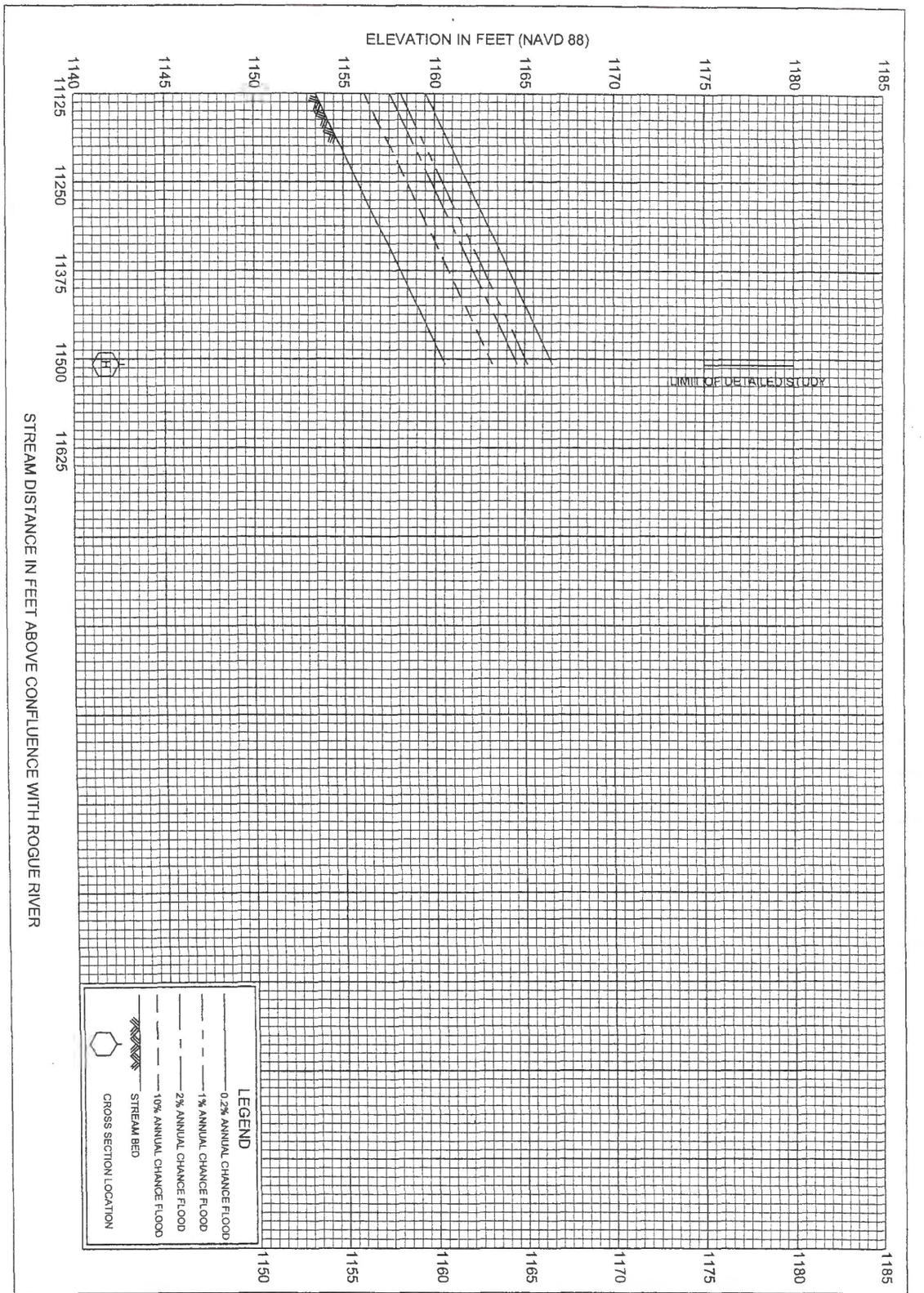
FOOTS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

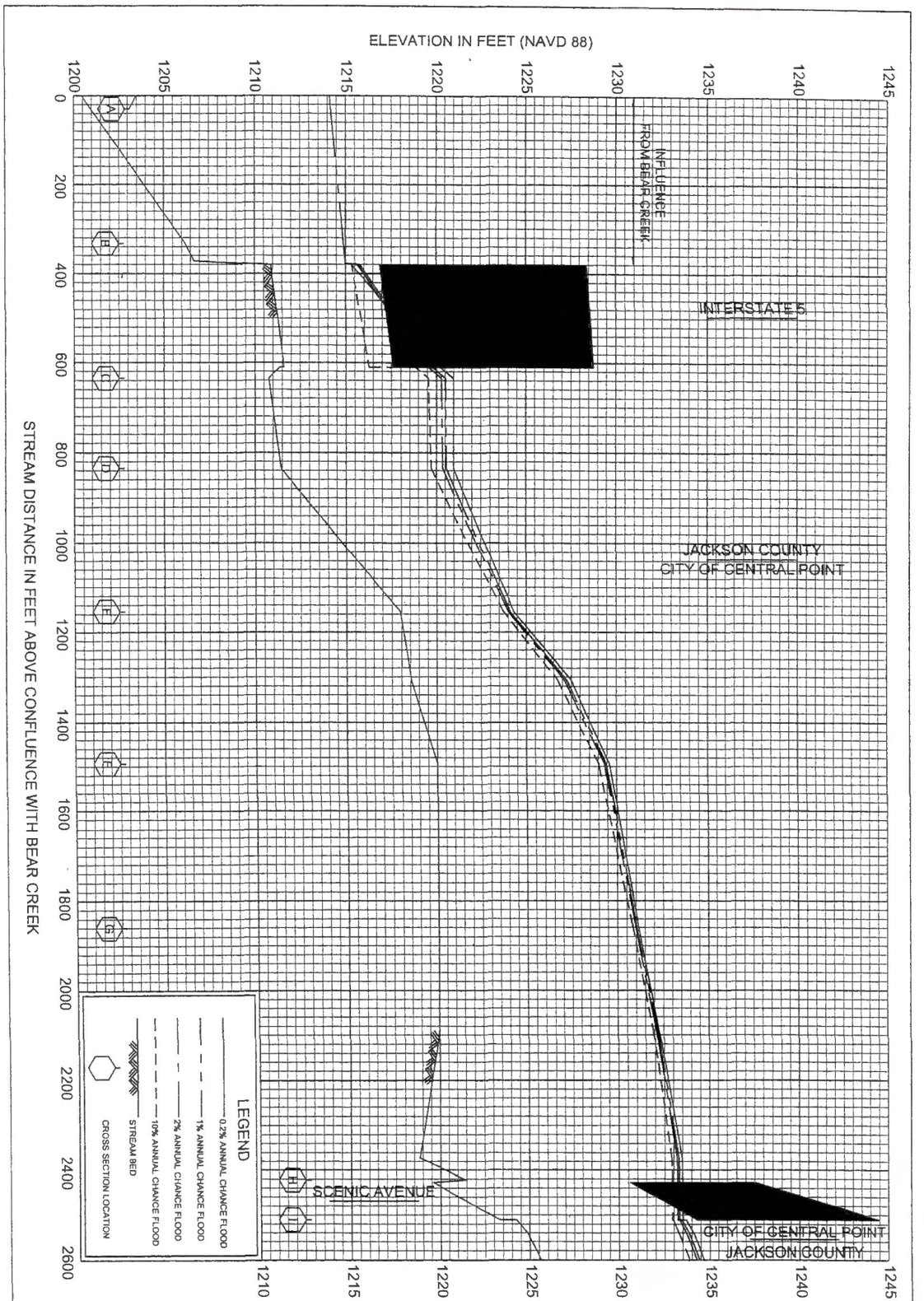
JACKSON COUNTY, OR

AND INCORPORATED AREAS

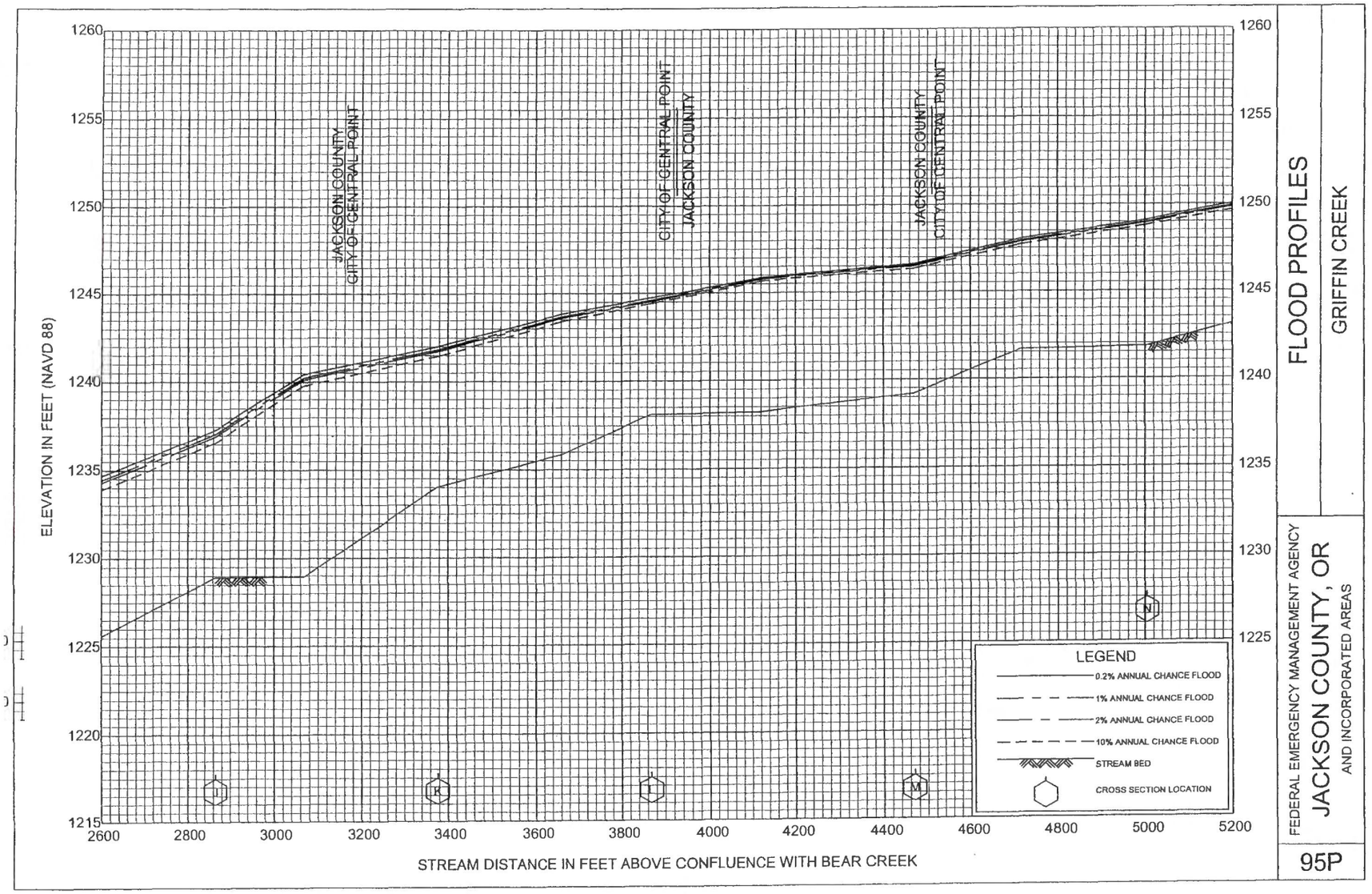
92P



93P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES FOOTS CREEK



94P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES GRIFFIN CREEK



FLOOD PROFILES

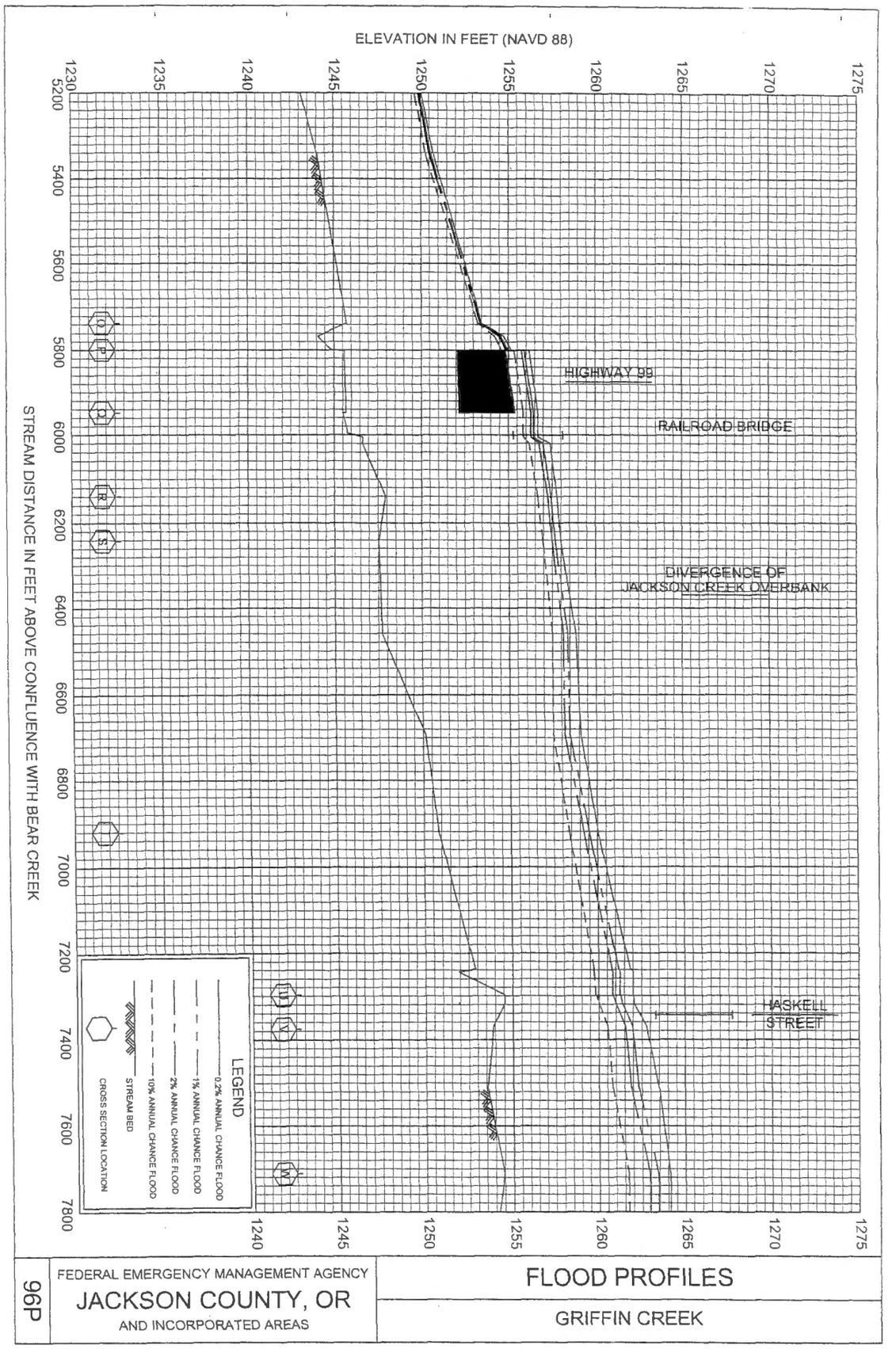
GRIFFIN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

95P



FEDERAL EMERGENCY MANAGEMENT AGENCY

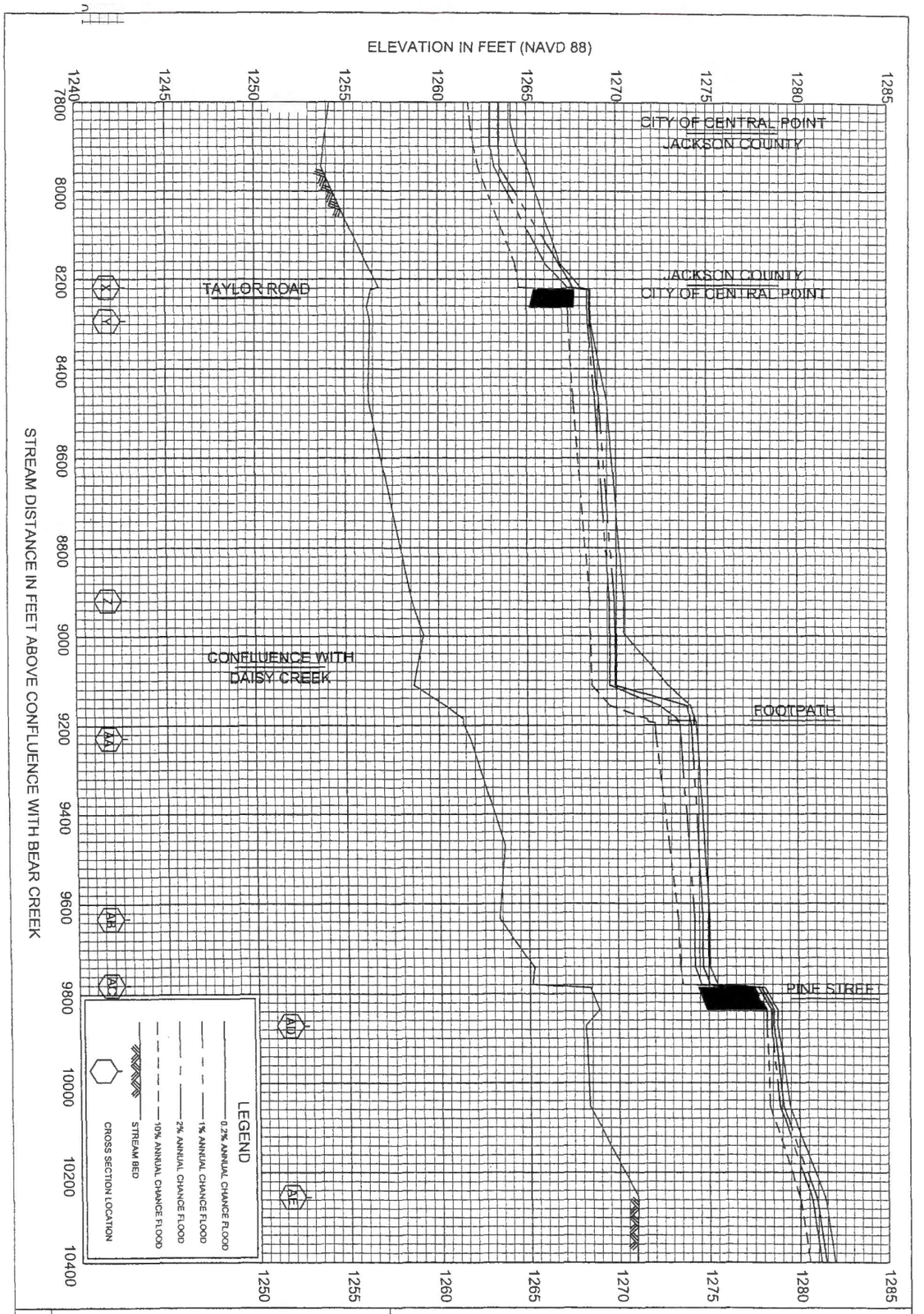
JACKSON COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

GRIFFIN CREEK

96P



97P

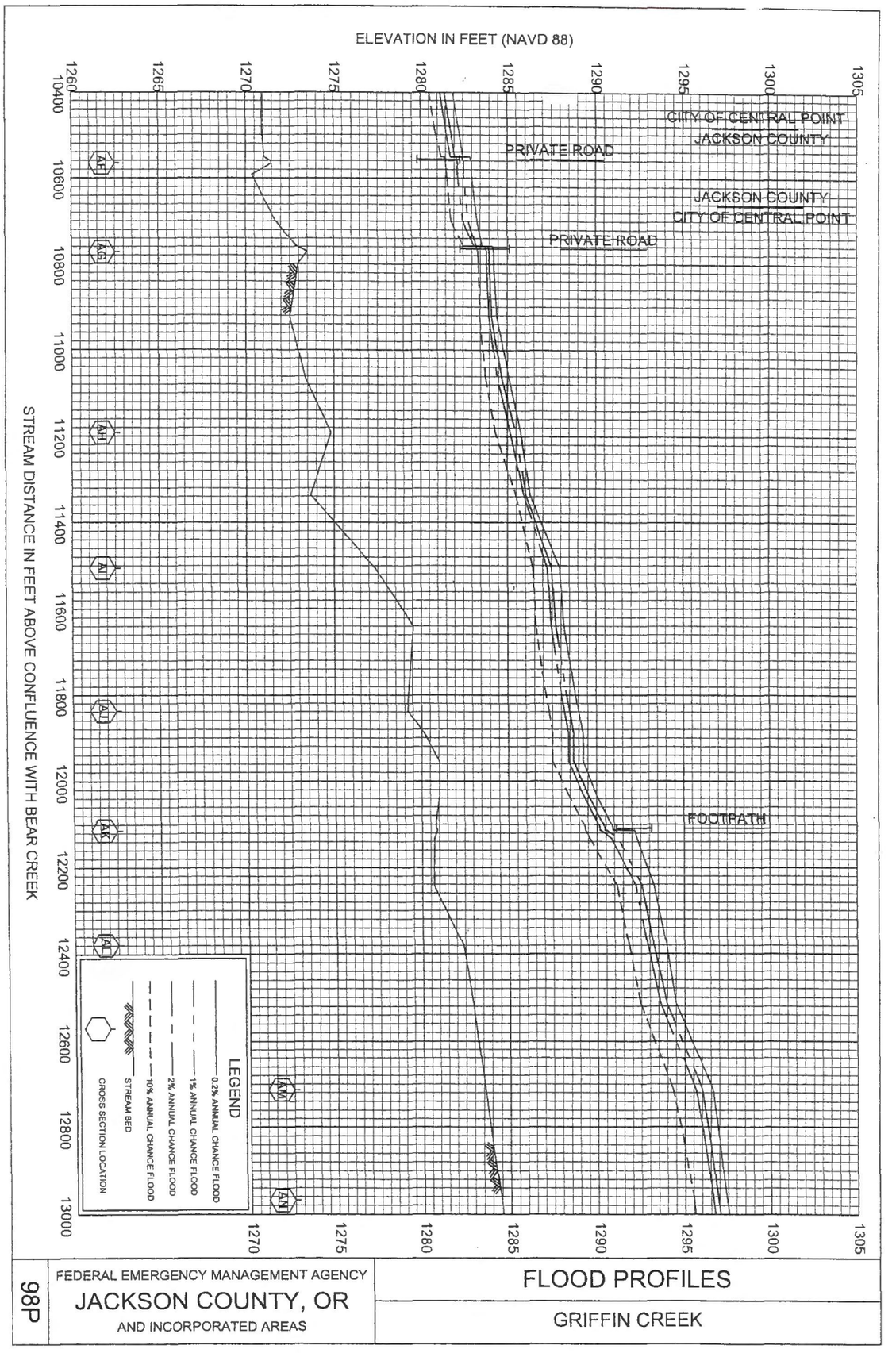
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

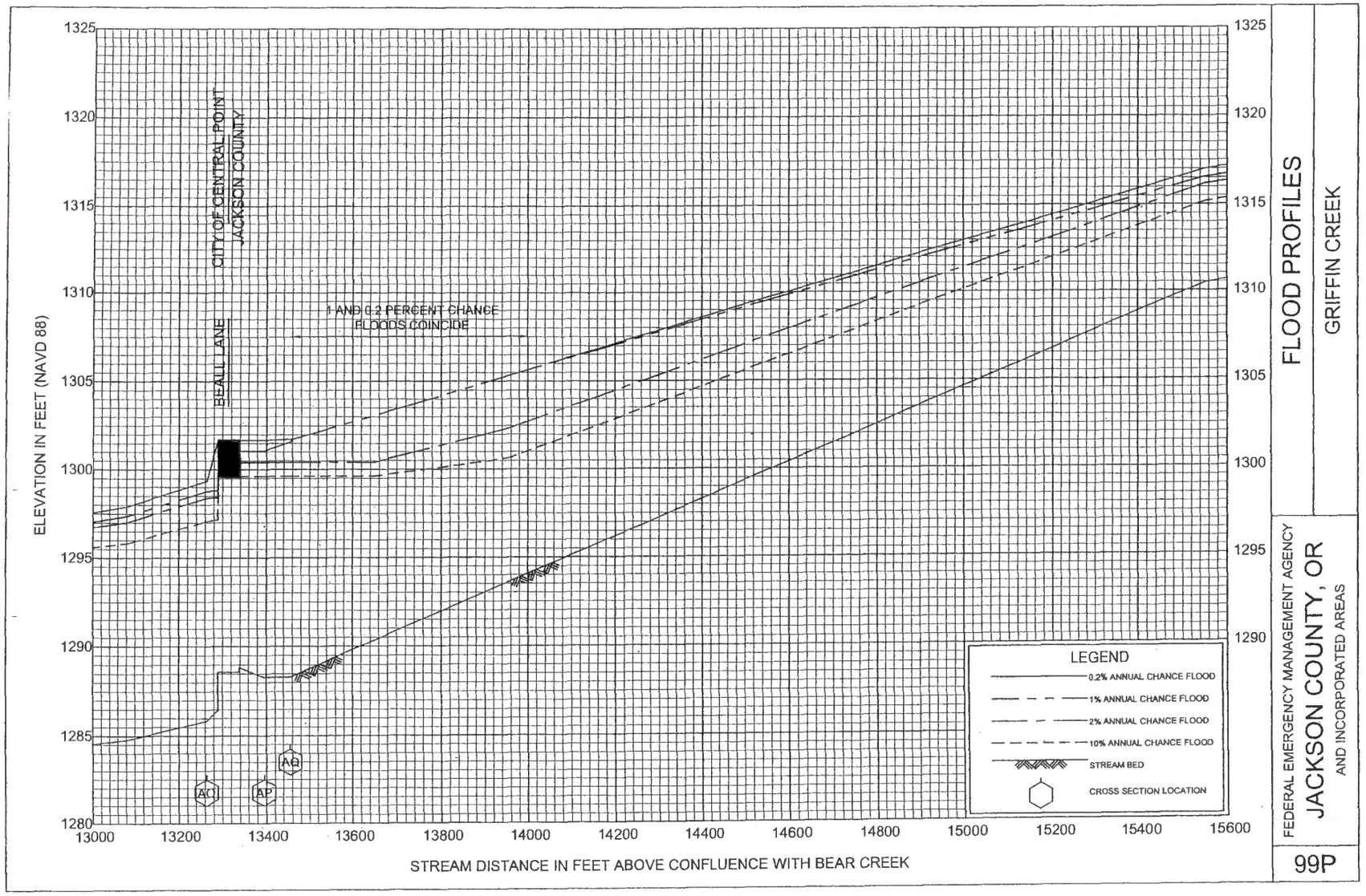
AND INCORPORATED AREAS

FLOOD PROFILES

GRIFFIN CREEK



98P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES GRIFFIN CREEK



FLOOD PROFILES

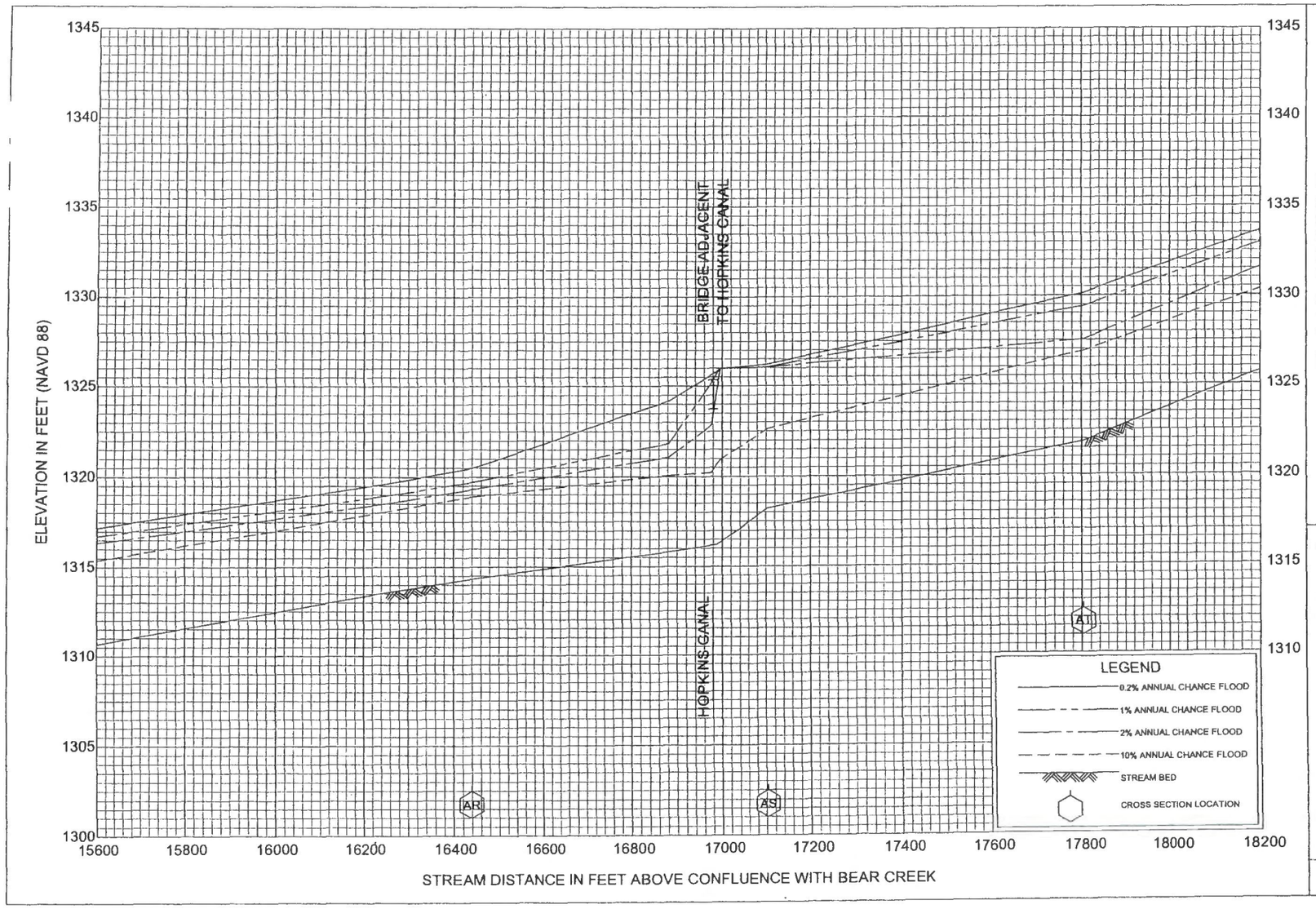
GRIFFIN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

99P



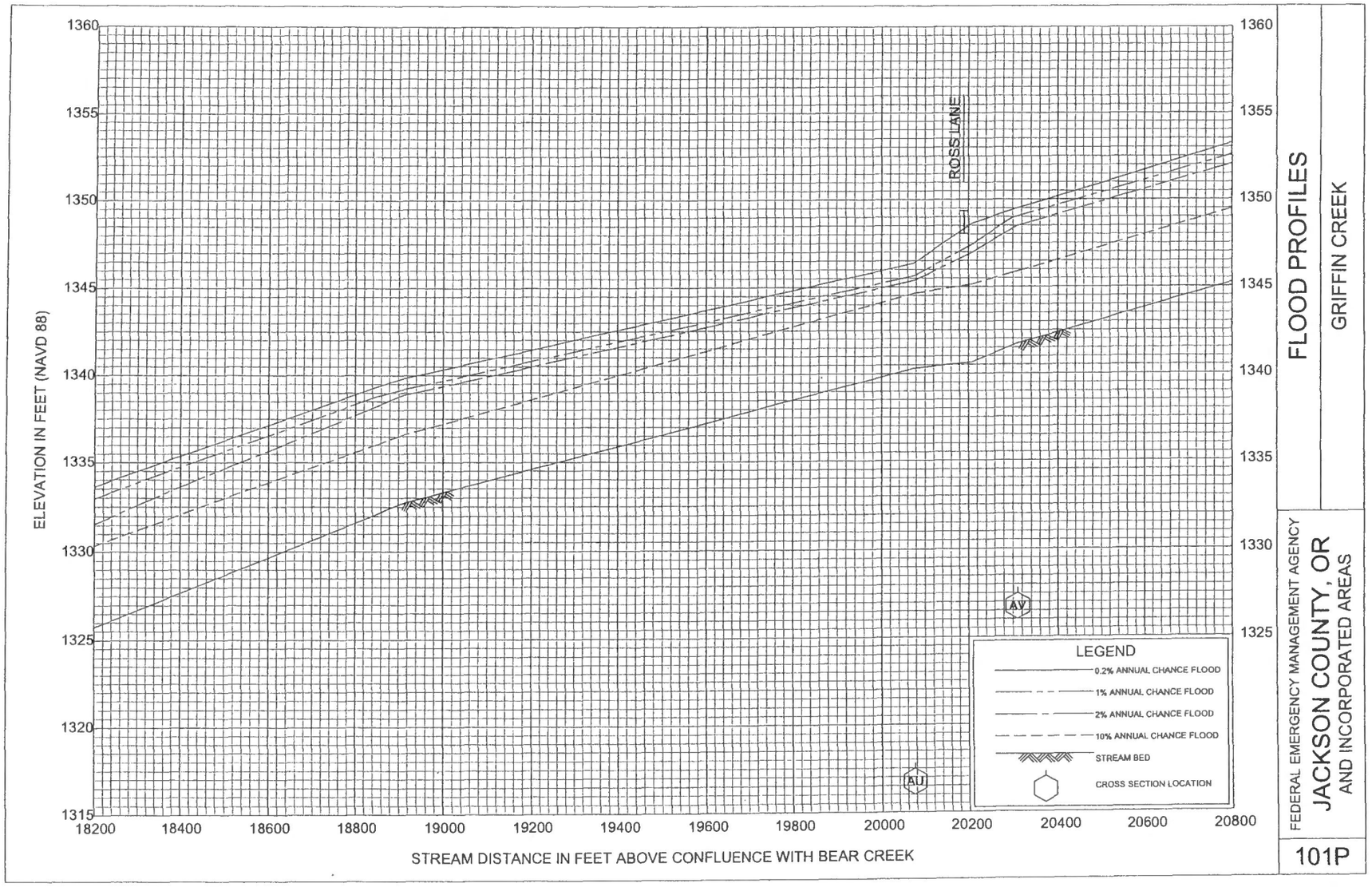
FLOOD PROFILES

GRIFFIN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

100P



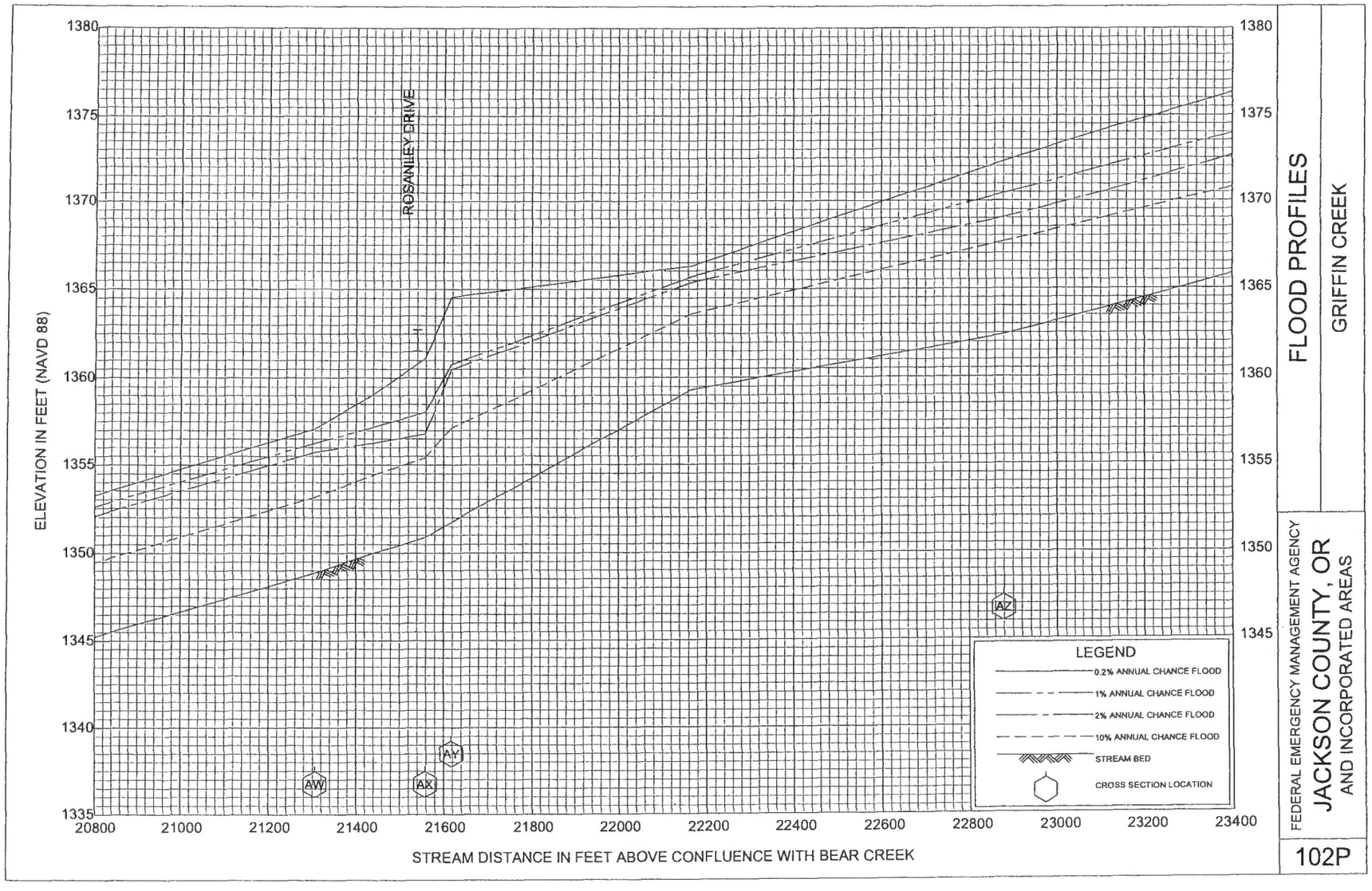
FLOOD PROFILES

GRIFFIN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

101P



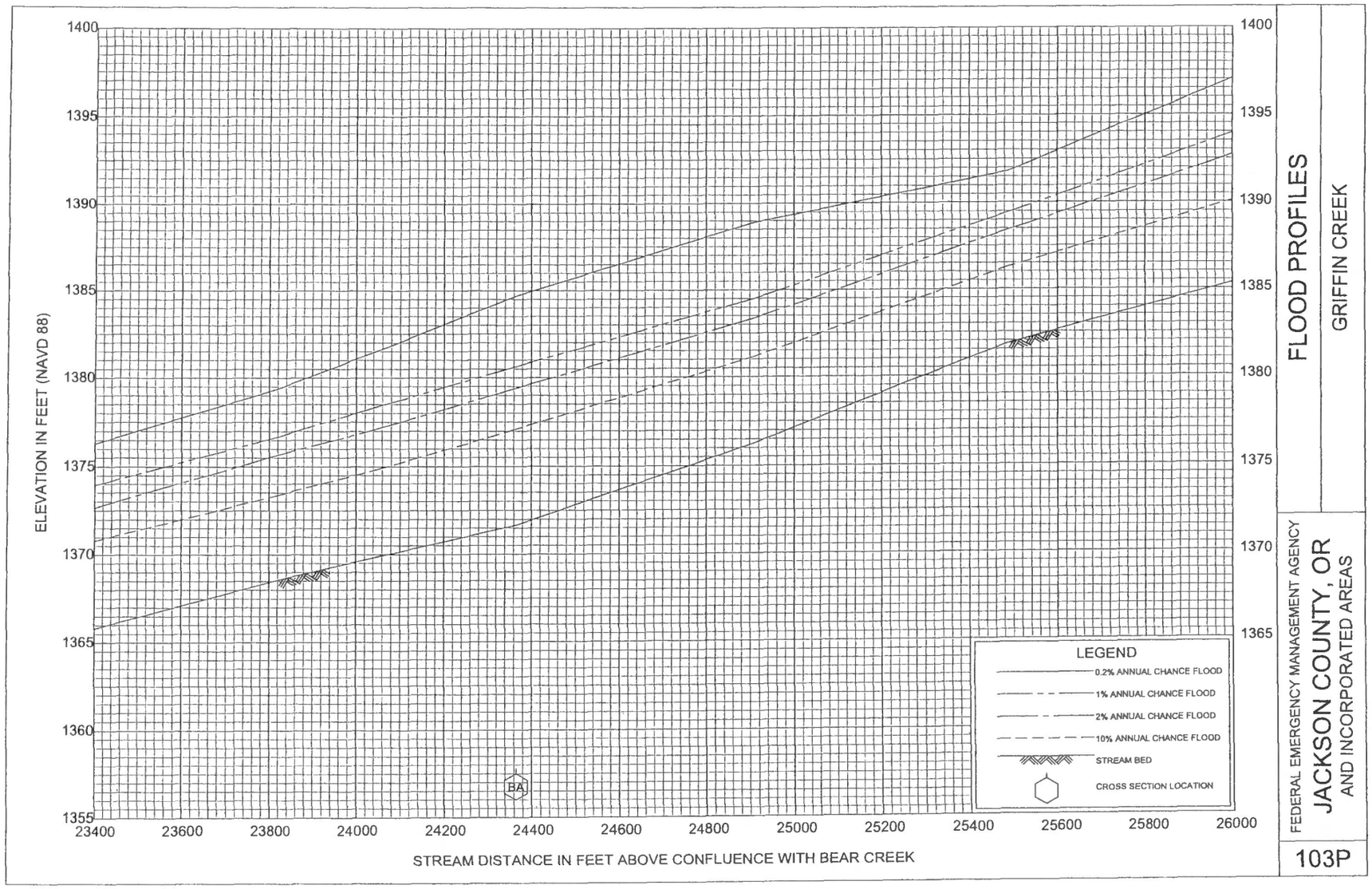
FLOOD PROFILES

GRIFFIN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

102P



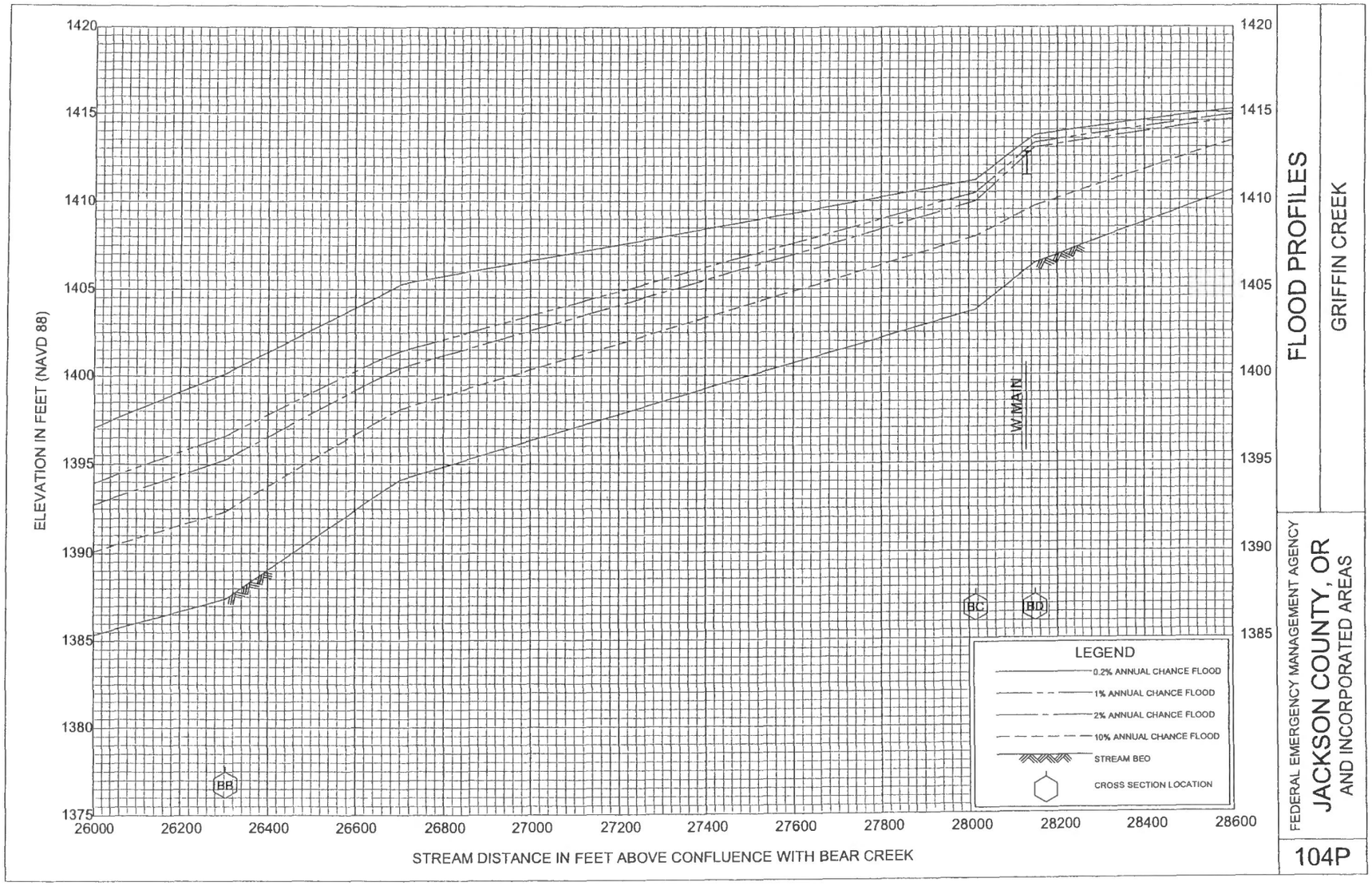
FLOOD PROFILES

GRIFFIN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

103P



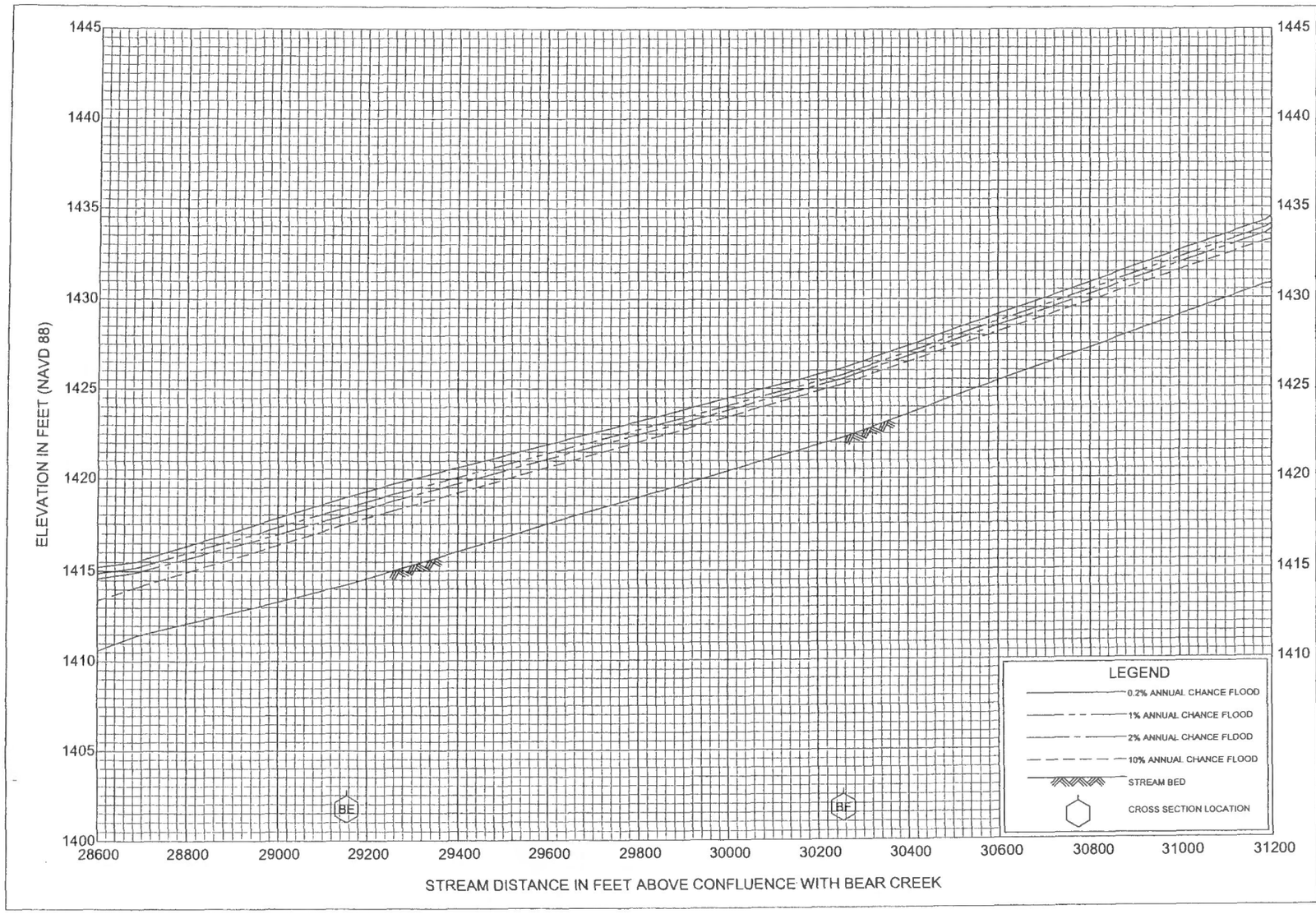
FLOOD PROFILES

GRIFFIN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

104P



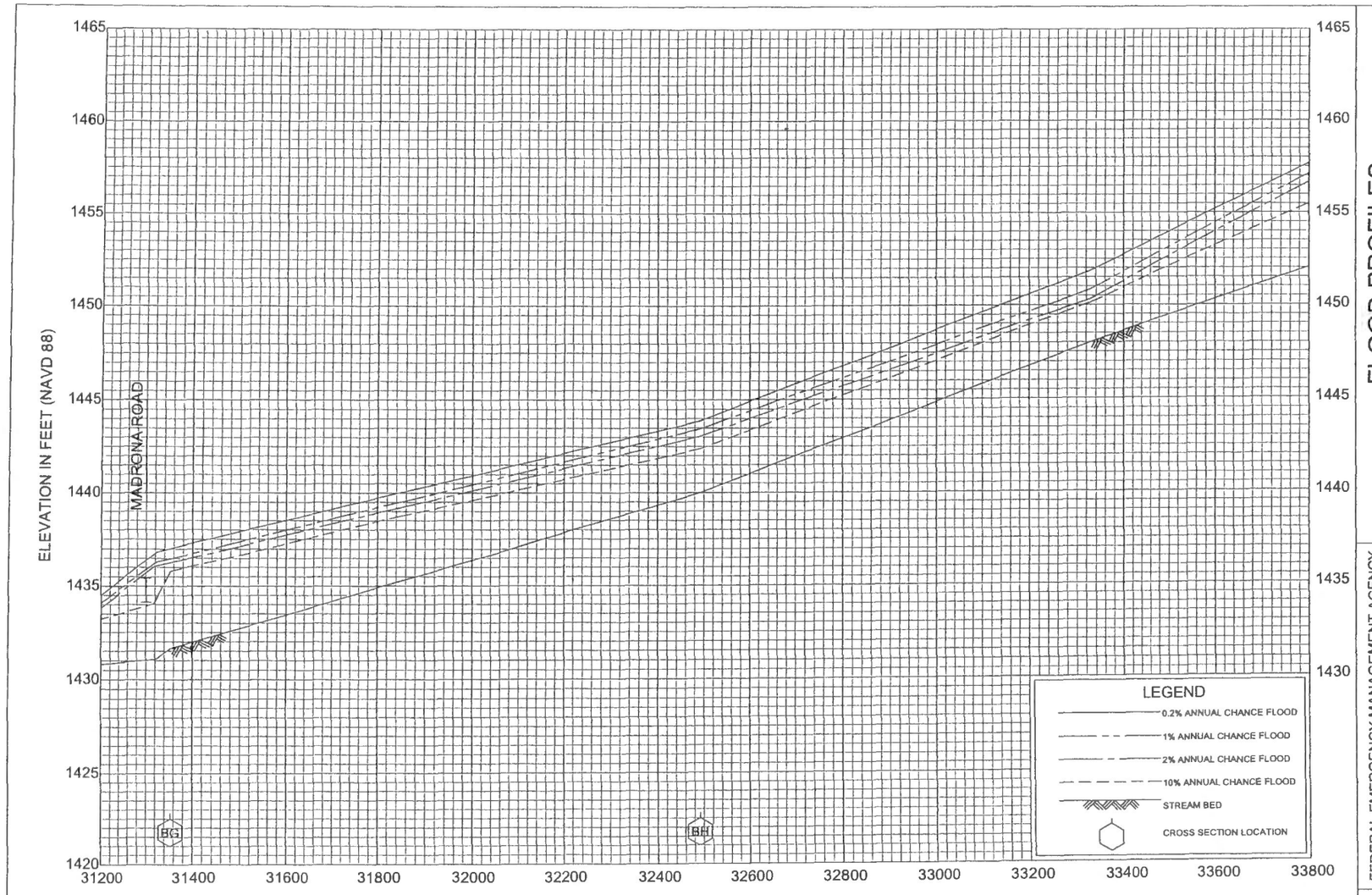
FLOOD PROFILES

GRIFFIN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

105P



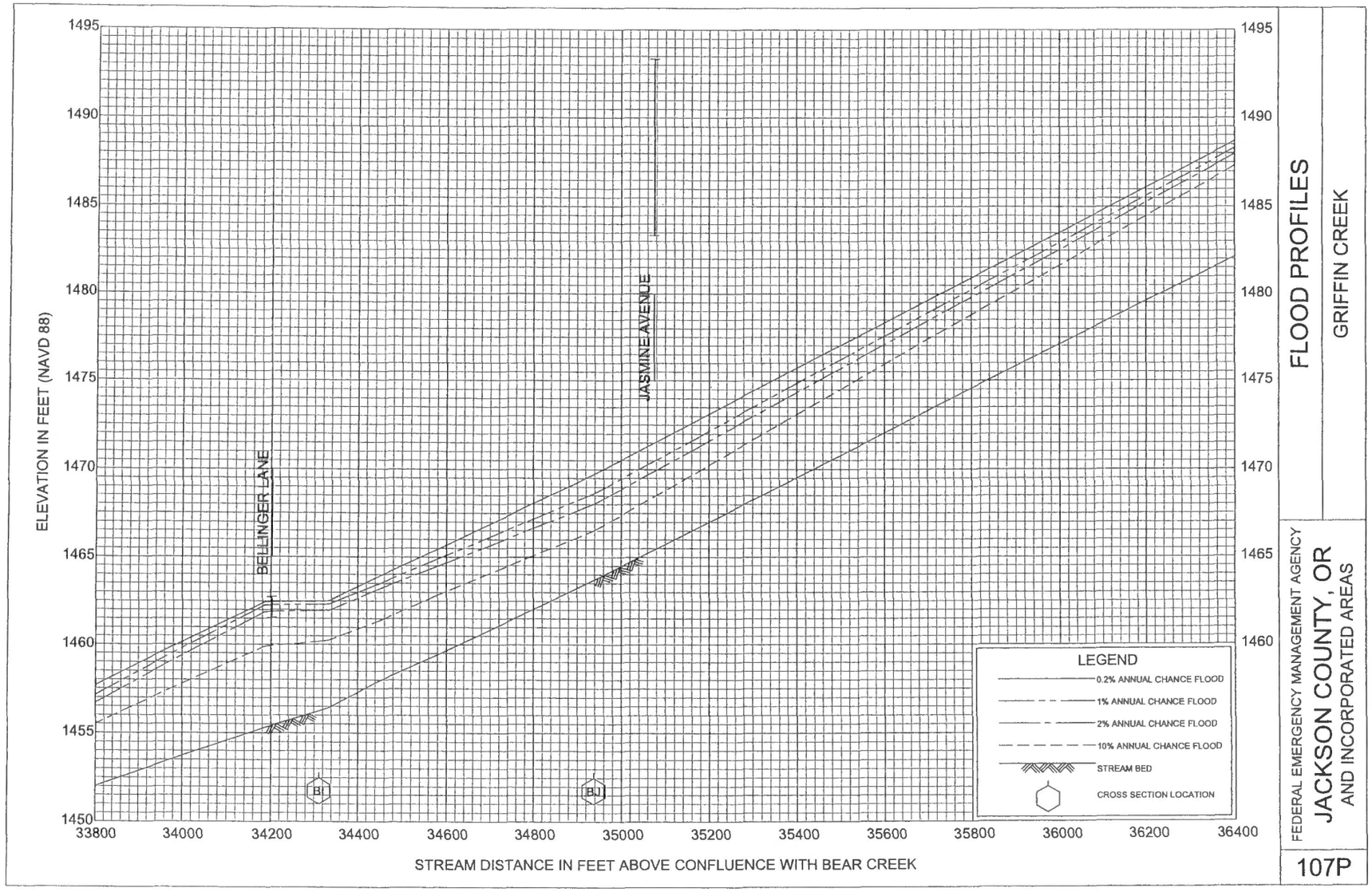
FLOOD PROFILES

GRIFFIN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

106P



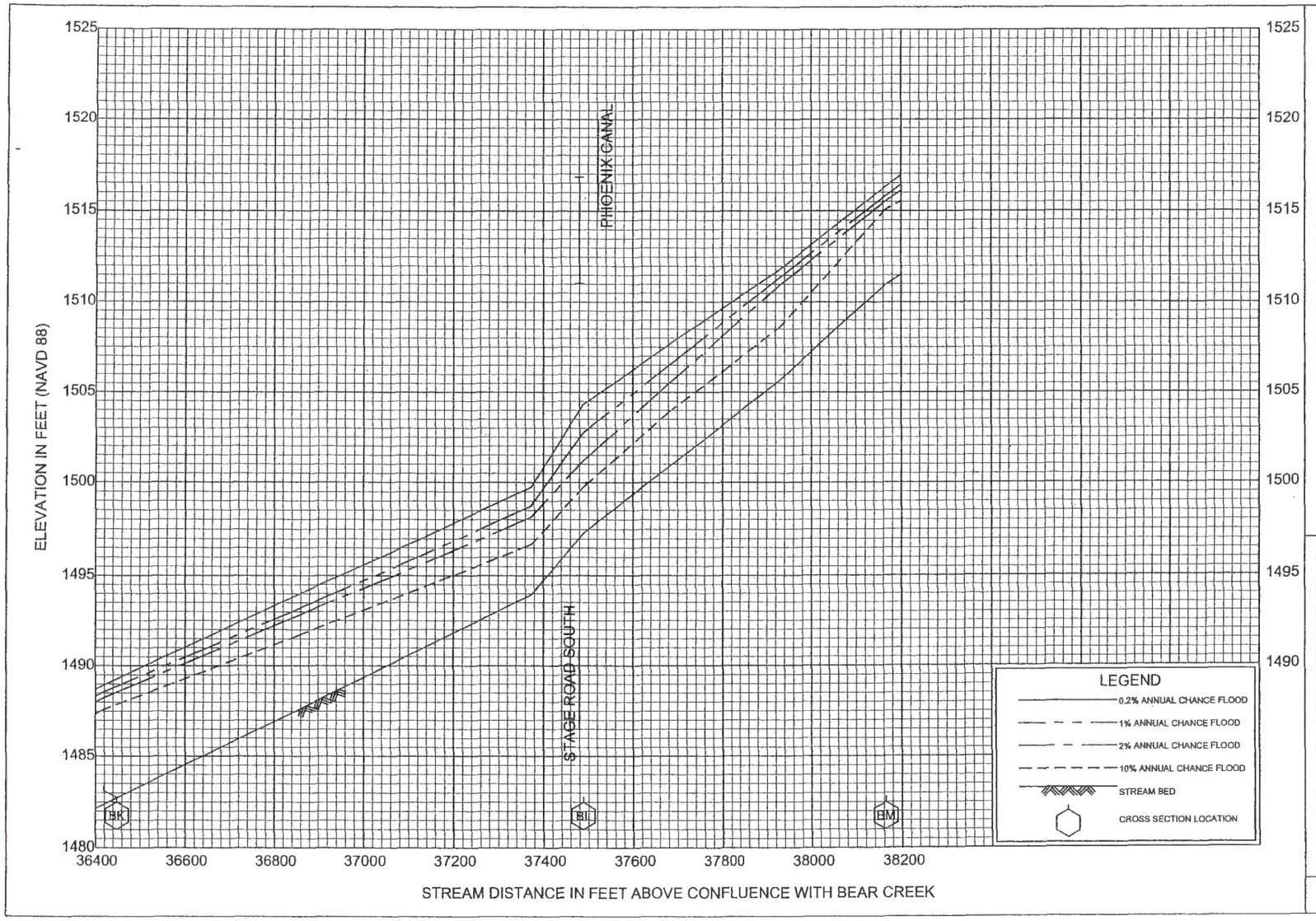
FLOOD PROFILES

GRIFFIN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

107P



FLOOD PROFILES

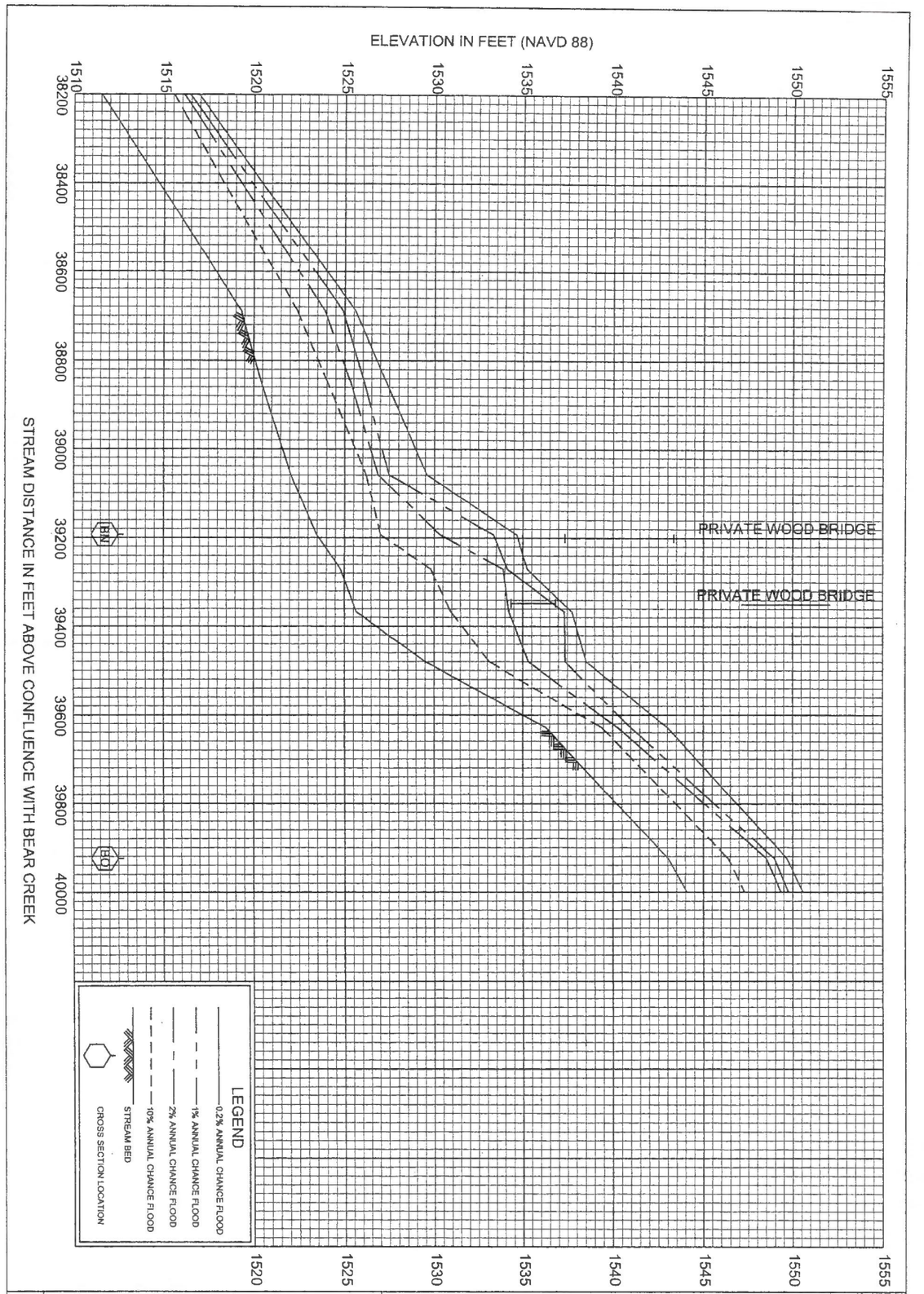
GRIFFIN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

108P



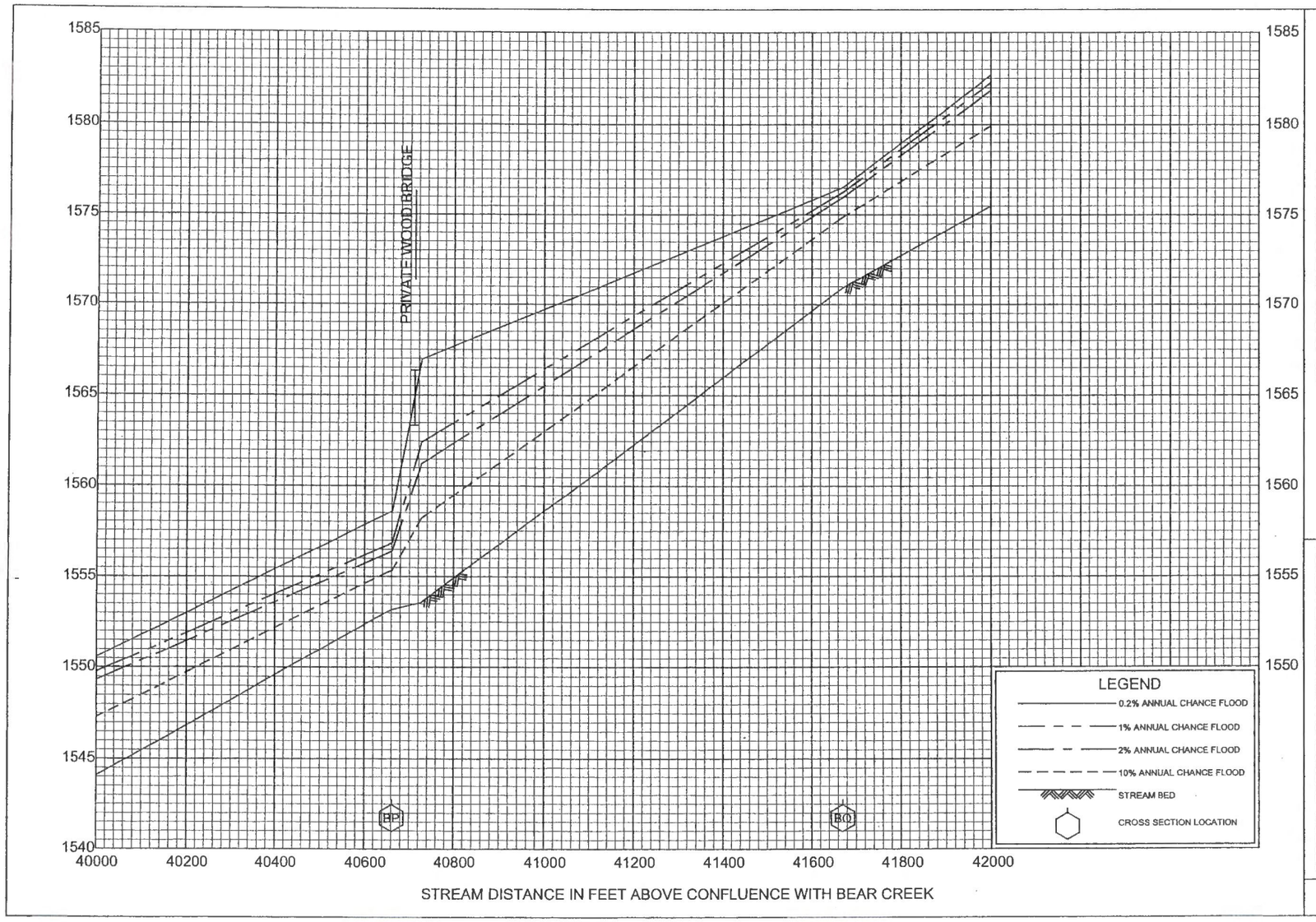
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

GRIFFIN CREEK



FLOOD PROFILES

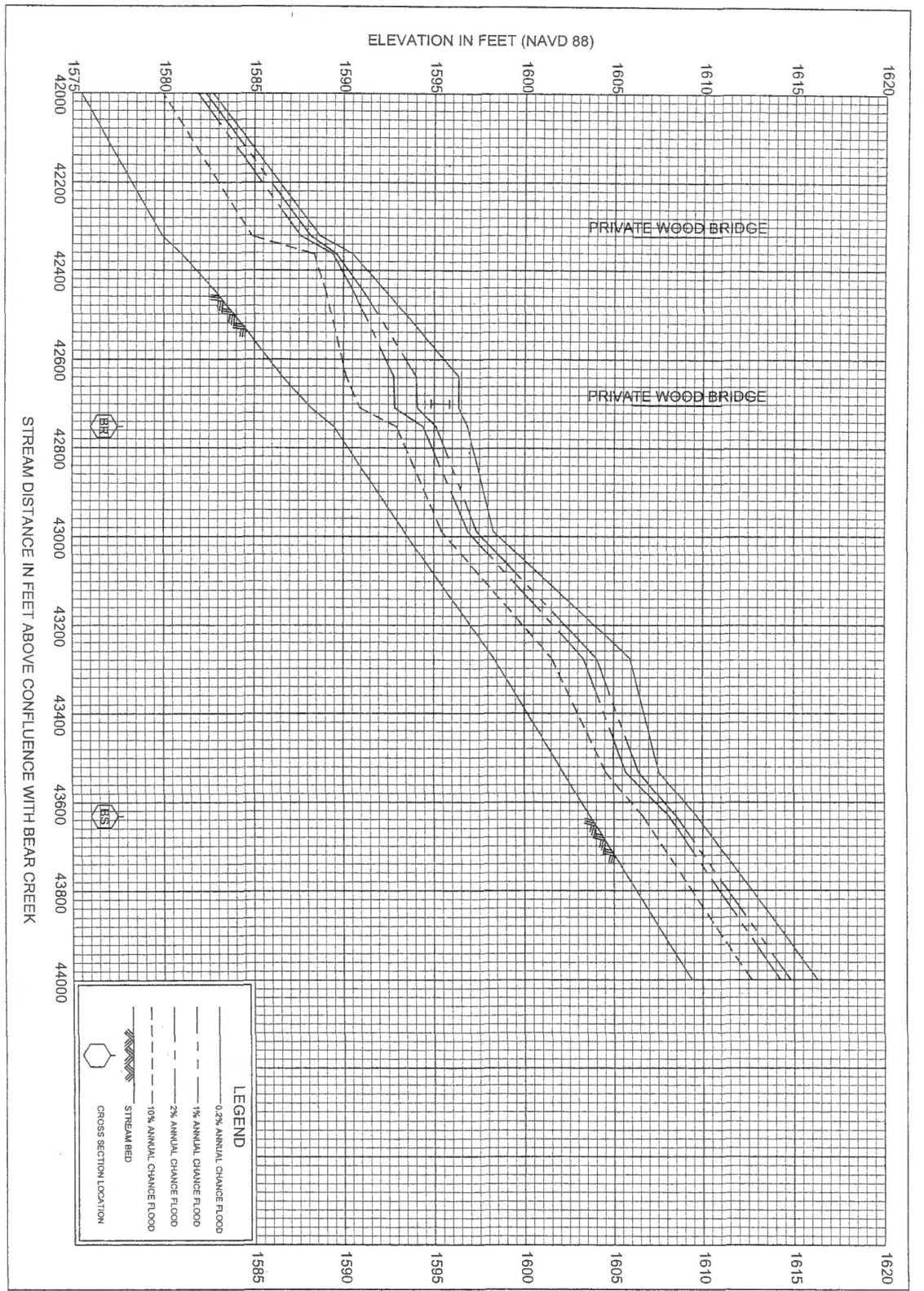
GRIFFIN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

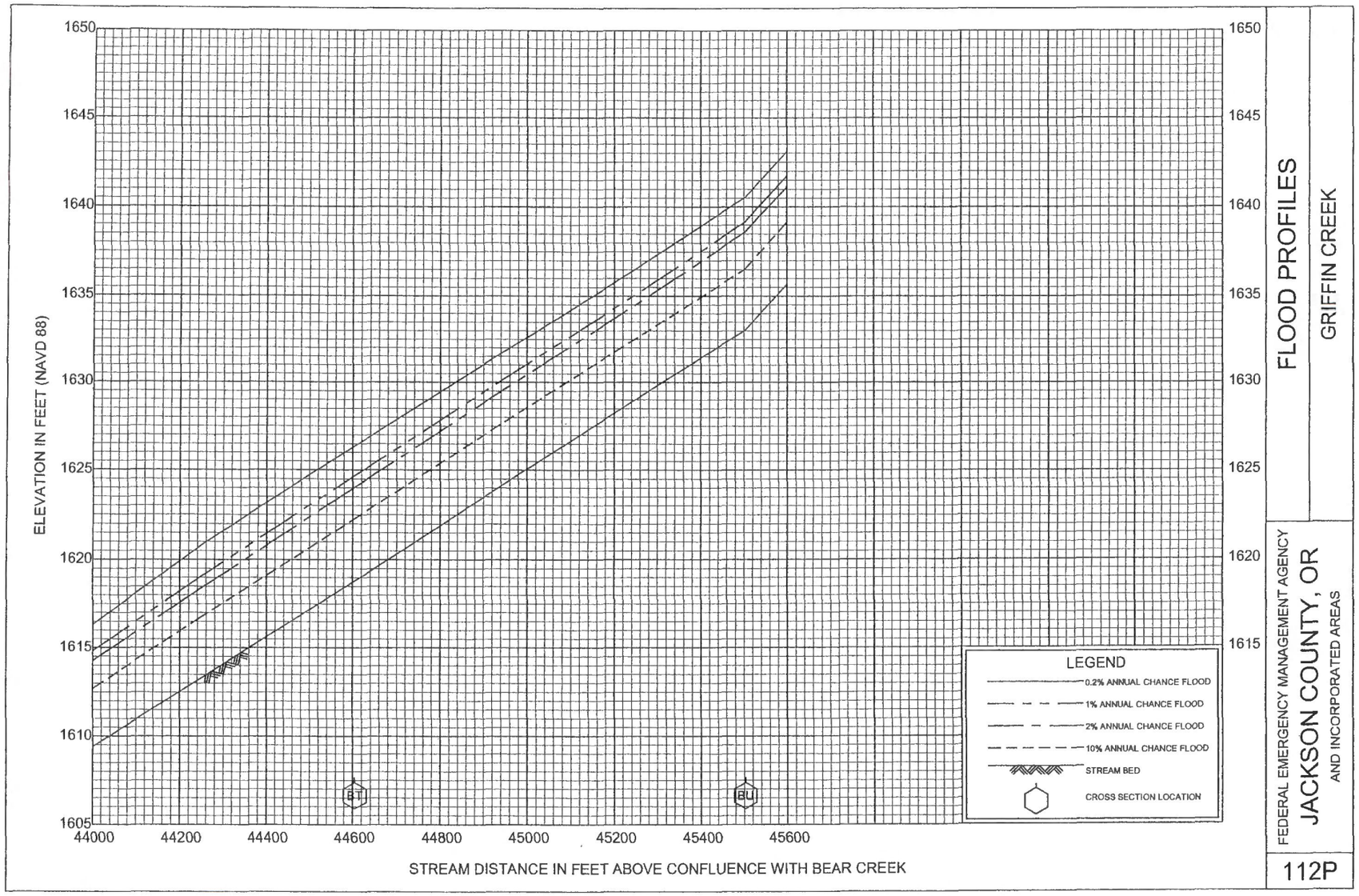
JACKSON COUNTY, OR

AND INCORPORATED AREAS

110P



111P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES GRIFFIN CREEK



FLOOD PROFILES

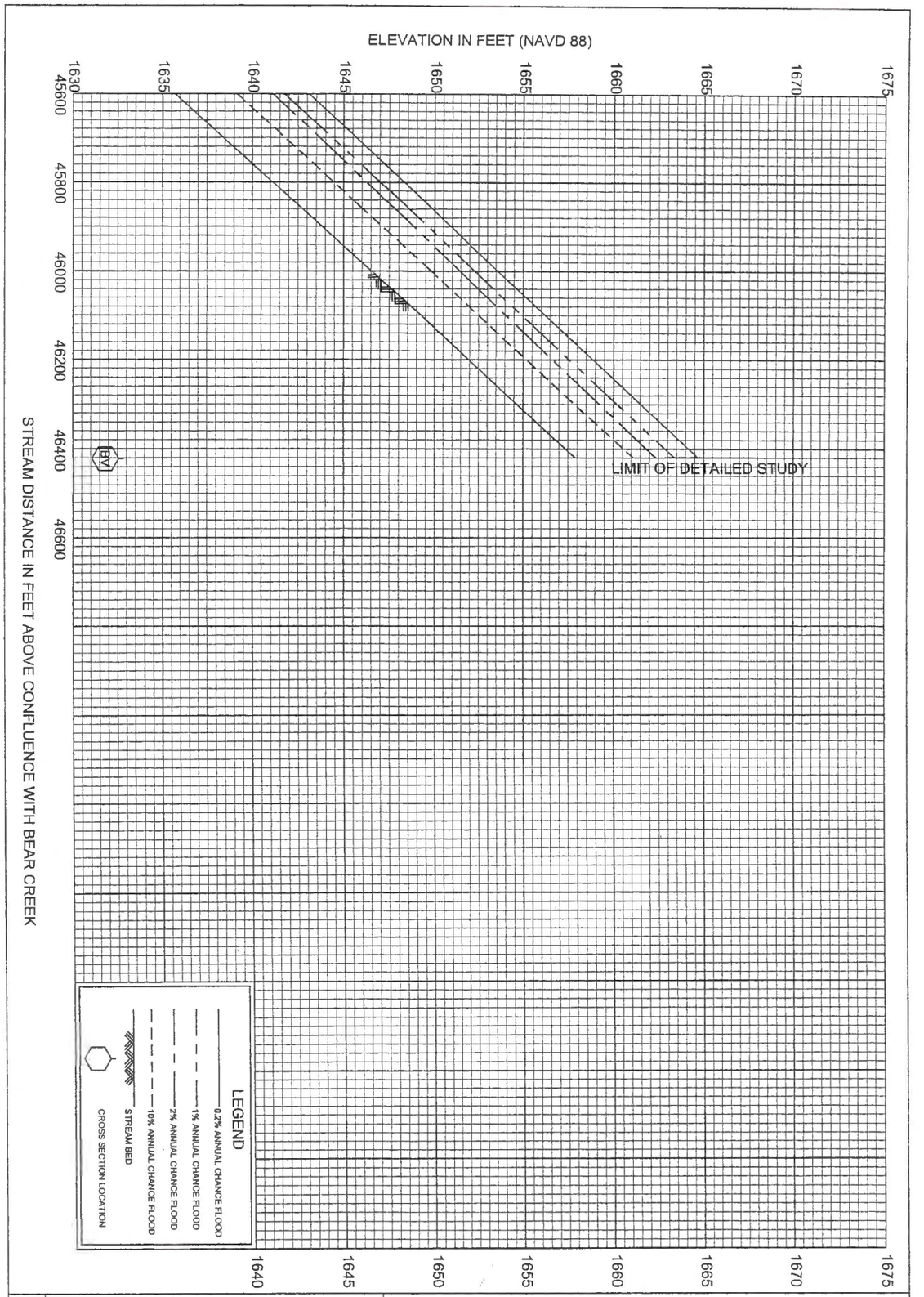
GRIFFIN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

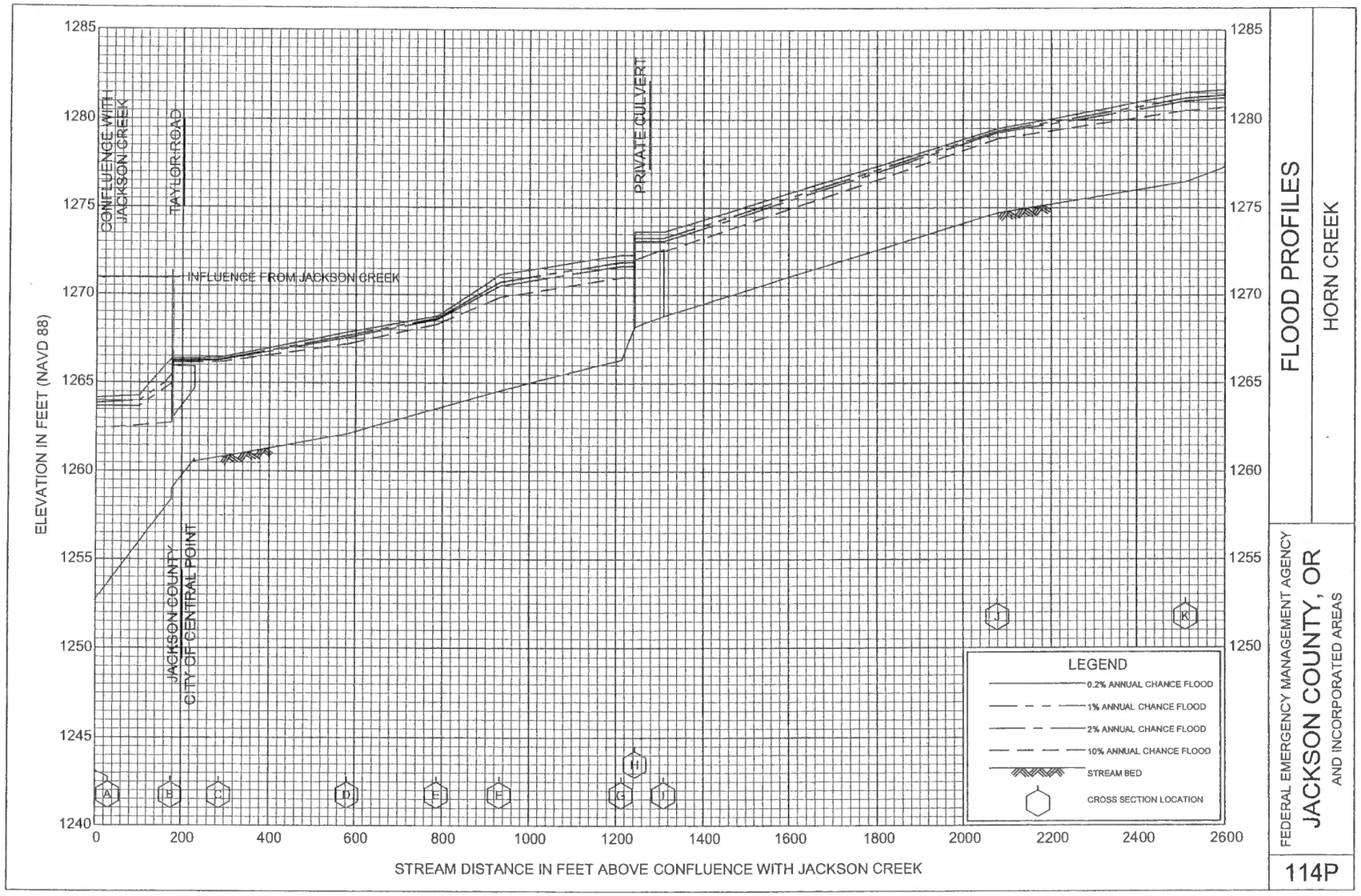
JACKSON COUNTY, OR

AND INCORPORATED AREAS

112P



113P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES GRIFFIN CREEK



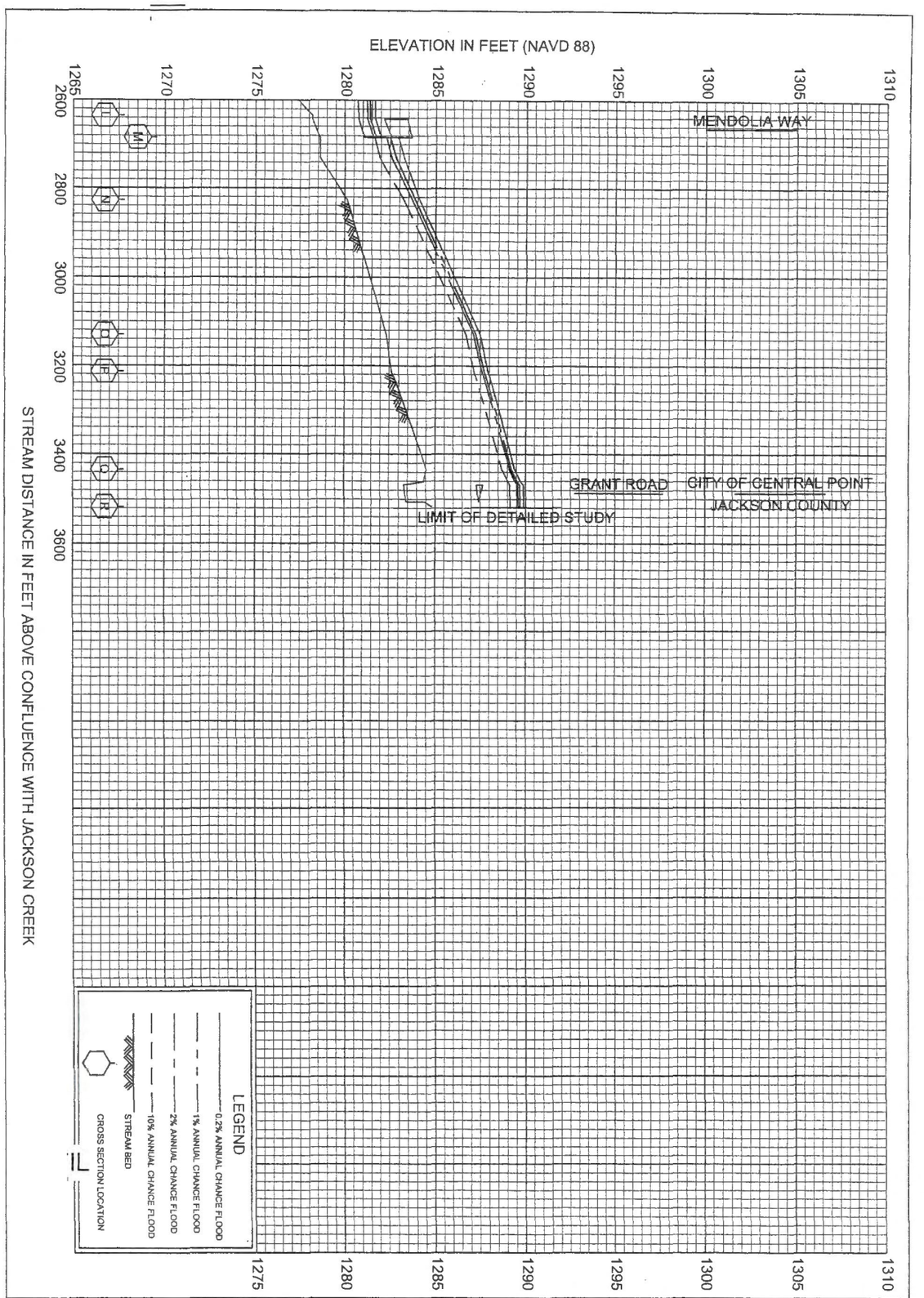
FLOOD PROFILES

HORN CREEK

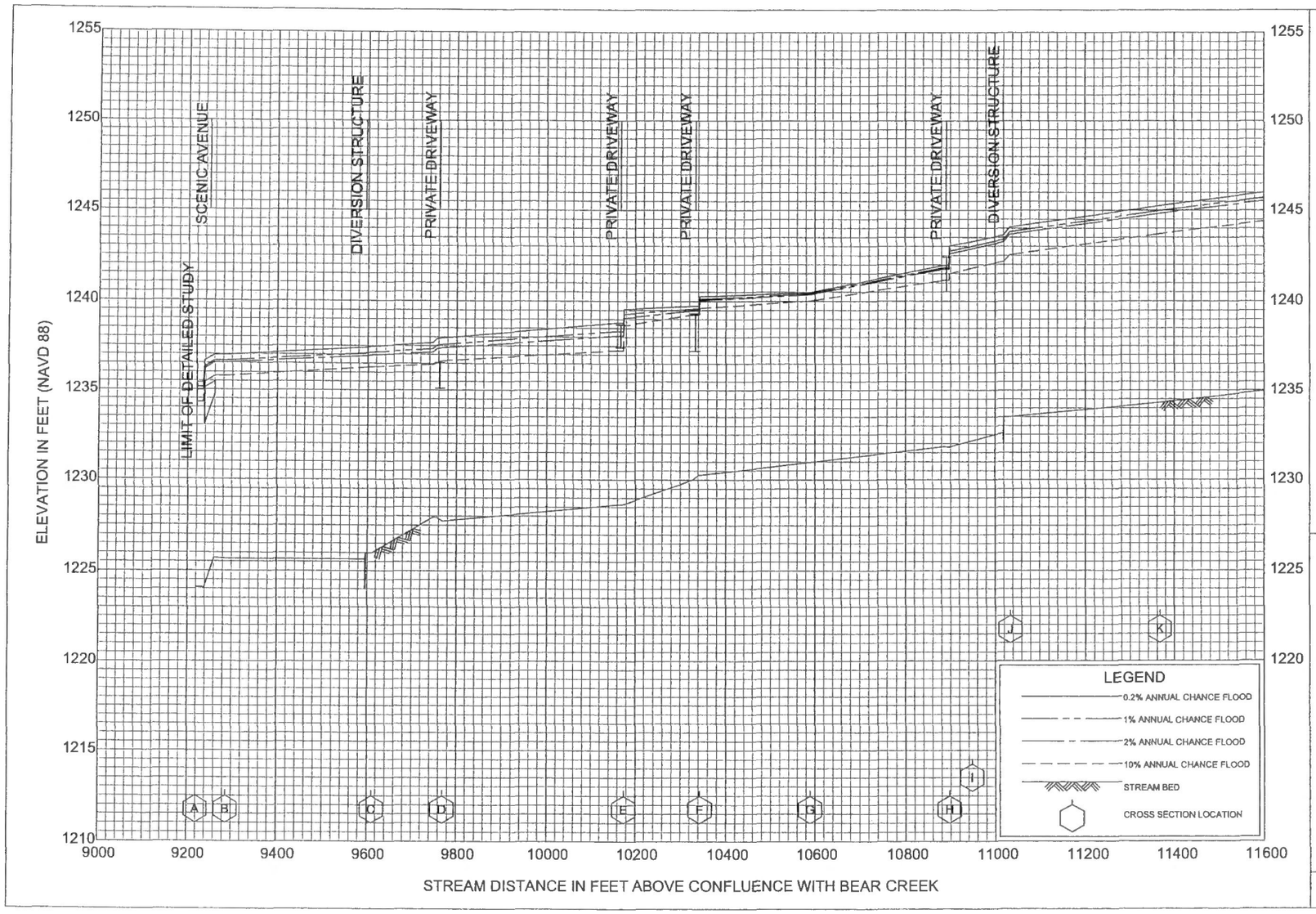
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS



115P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES HORN CREEK



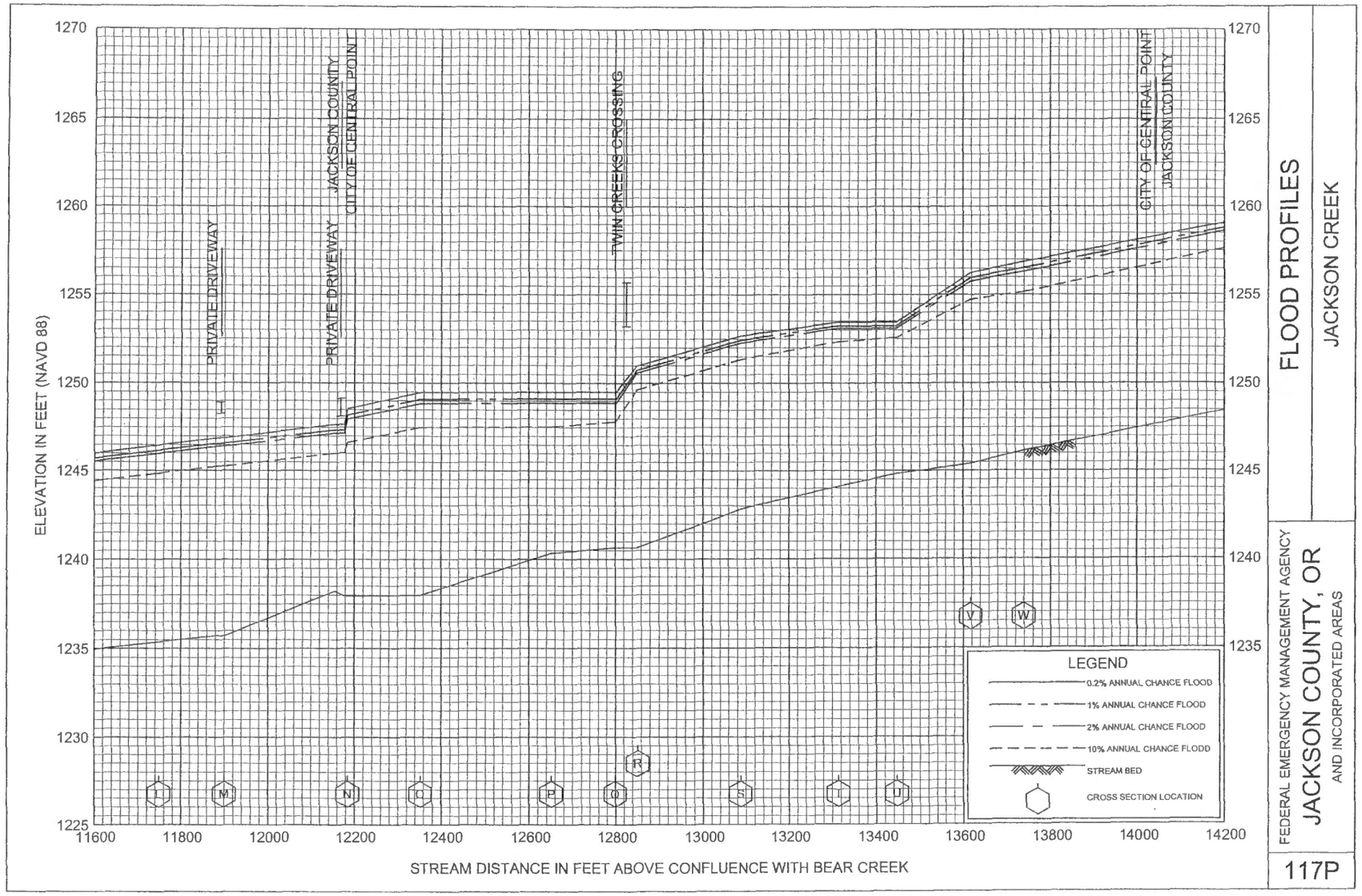
FLOOD PROFILES

JACKSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

116P



FLOOD PROFILES

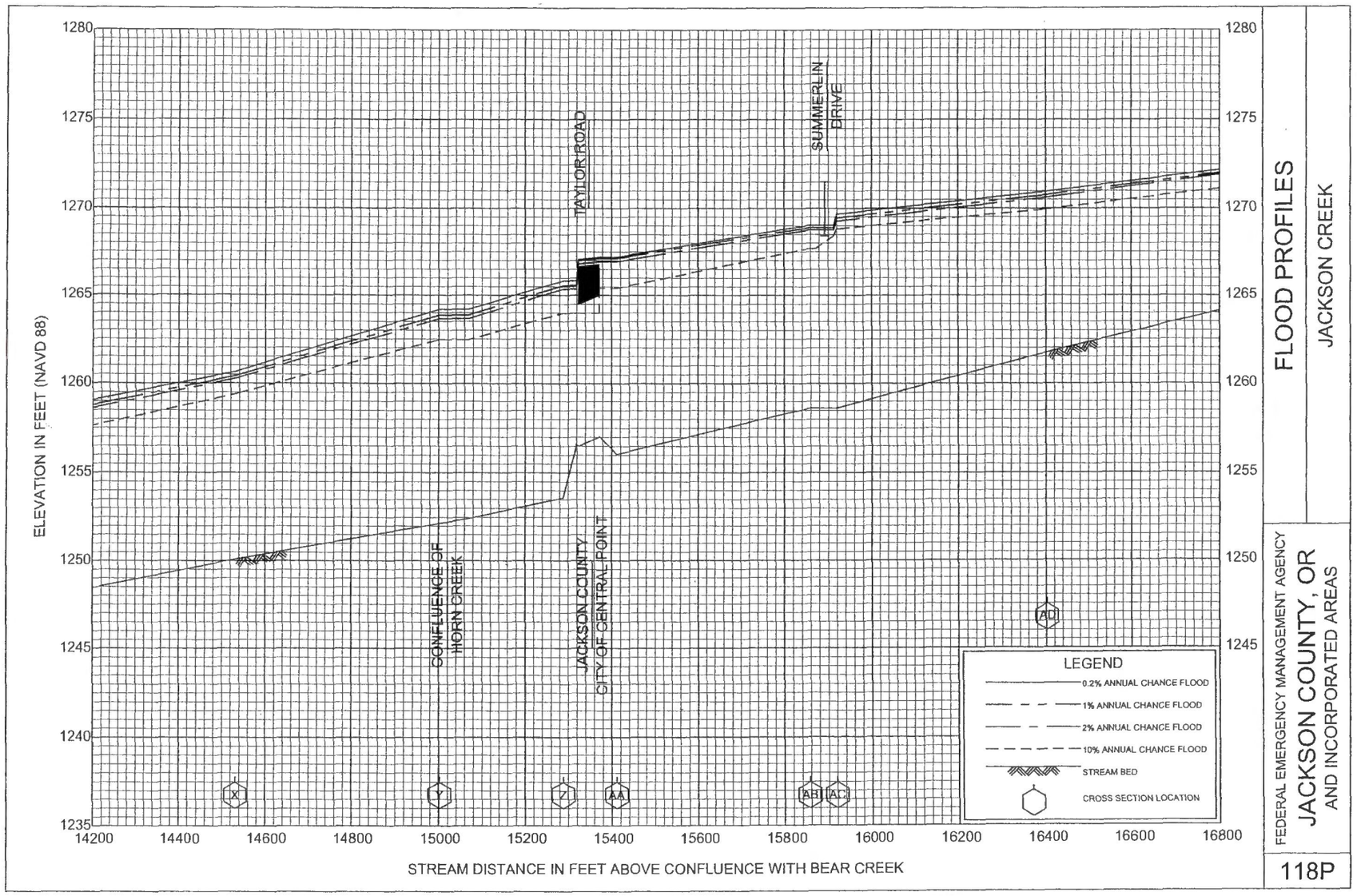
JACKSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

117P



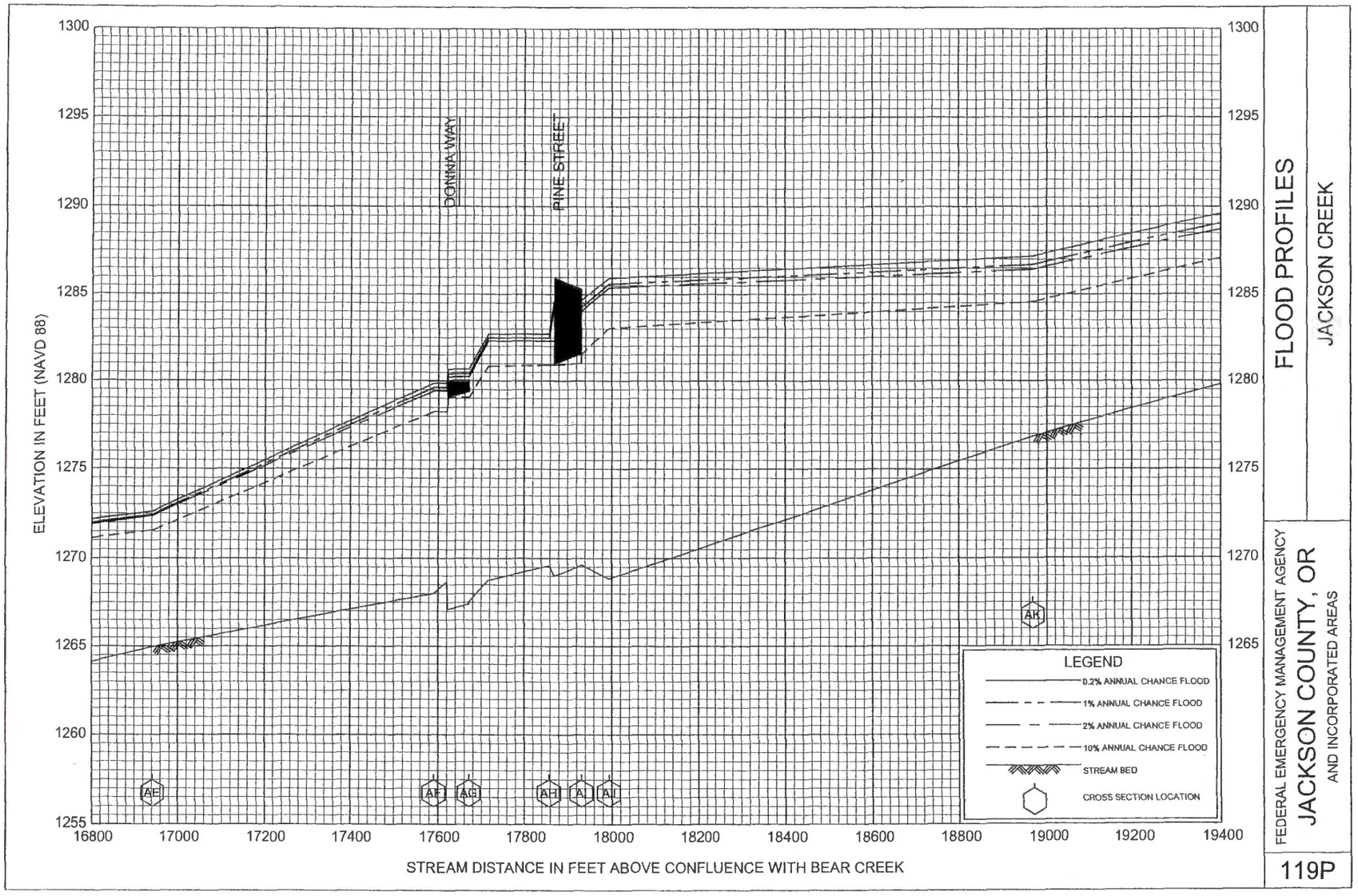
FLOOD PROFILES

JACKSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

118P



FLOOD PROFILES

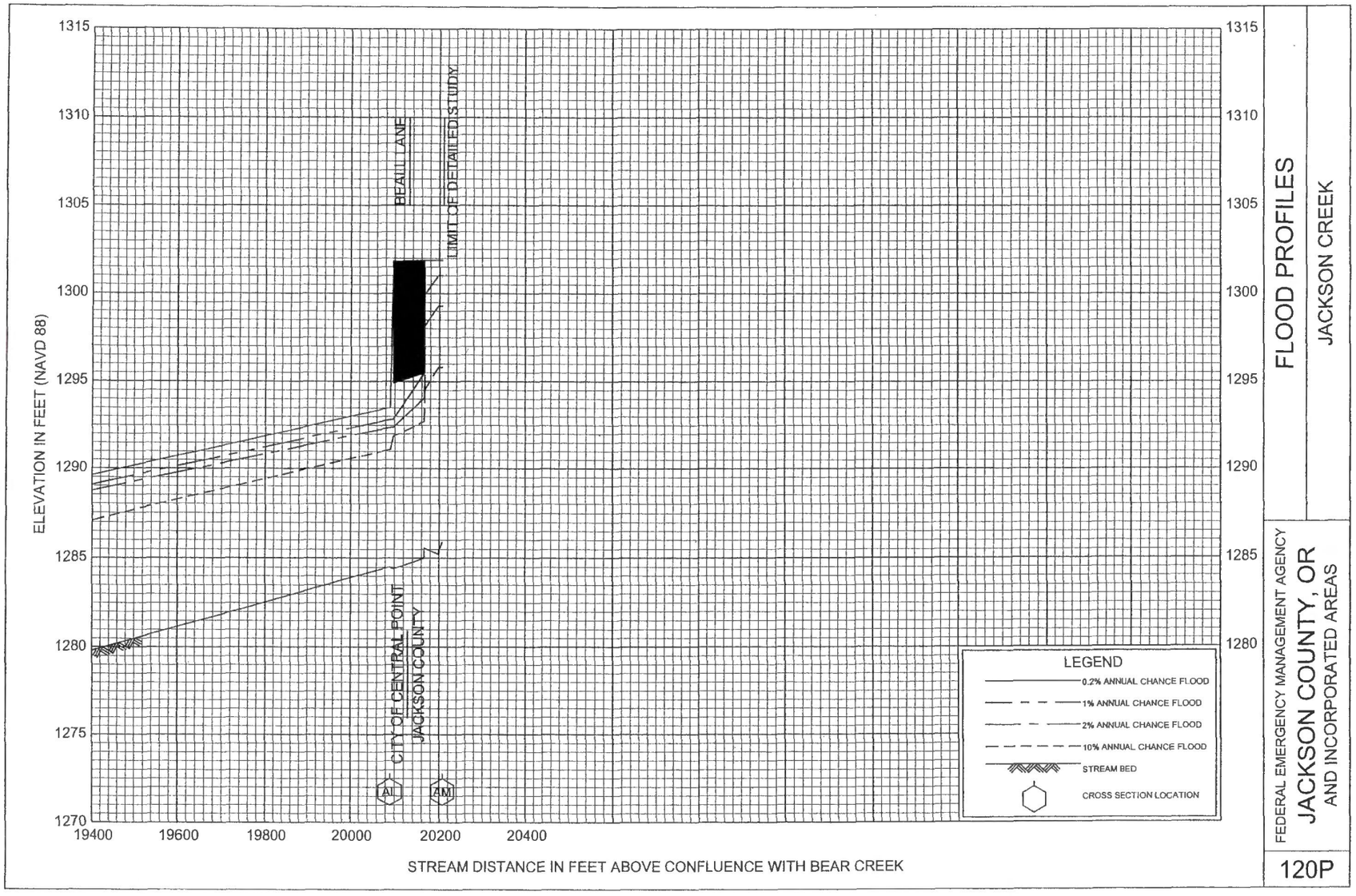
JACKSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

119P



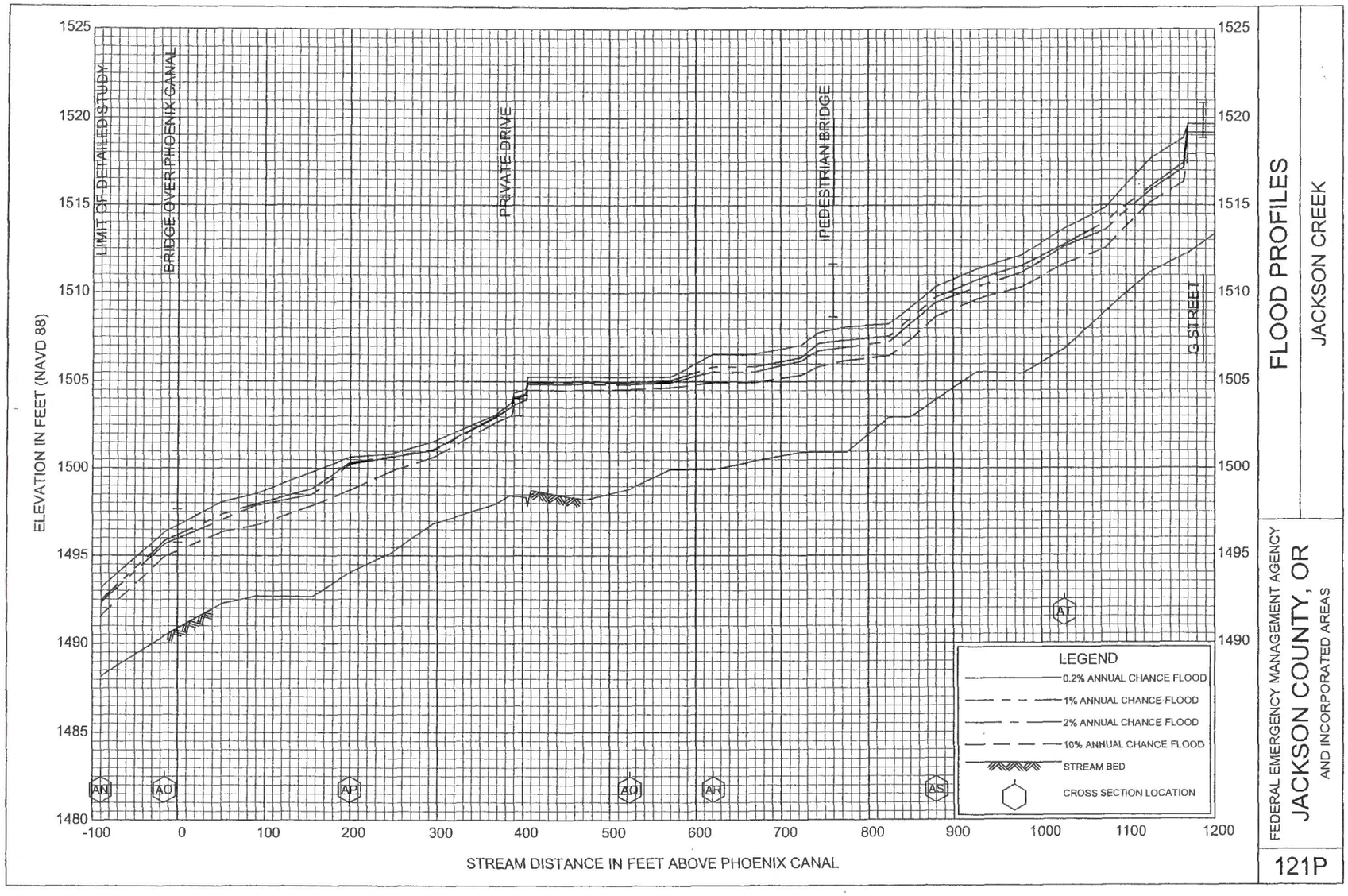
FLOOD PROFILES

JACKSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

120P



FLOOD PROFILES

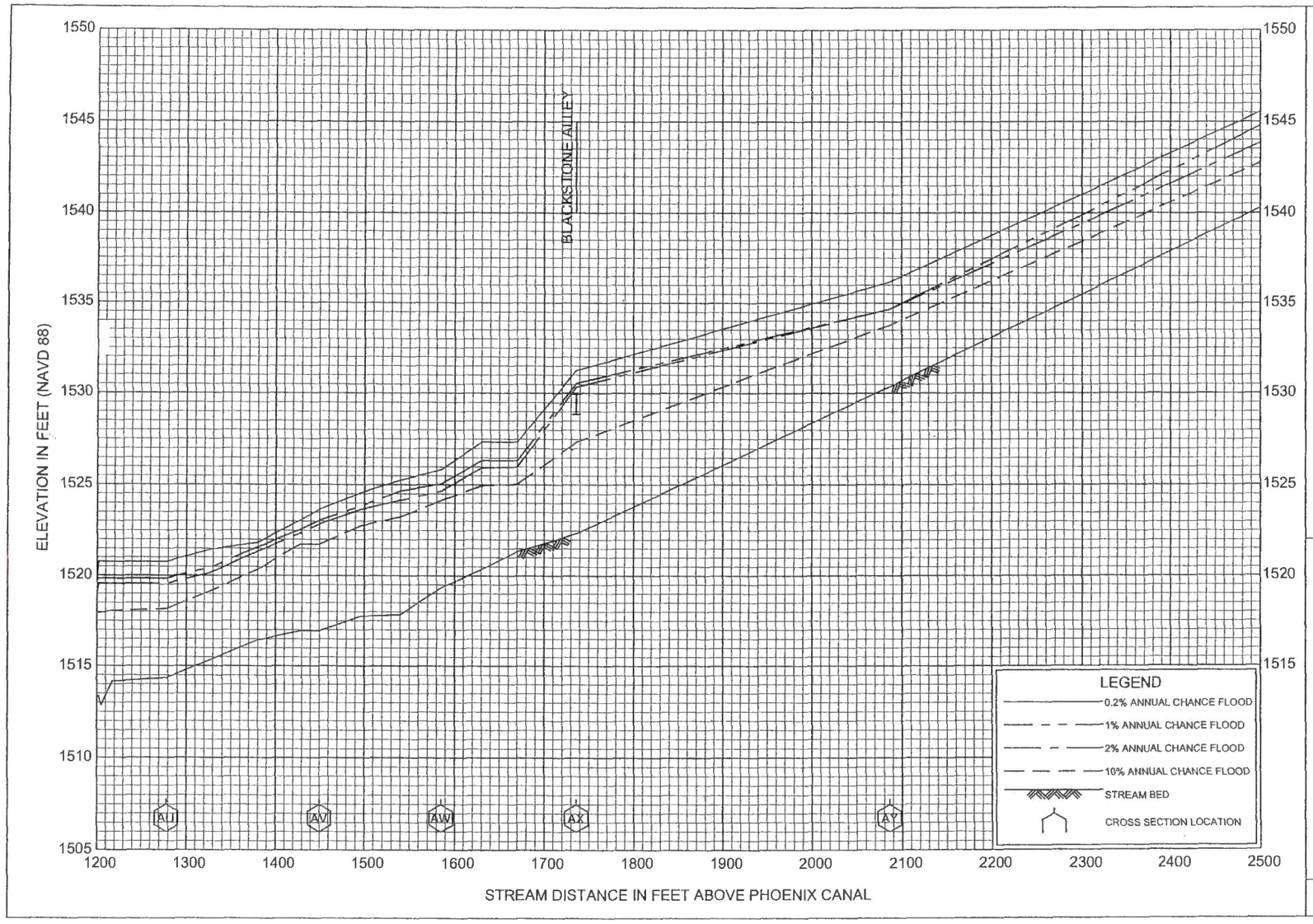
JACKSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

121P



FLOOD PROFILES

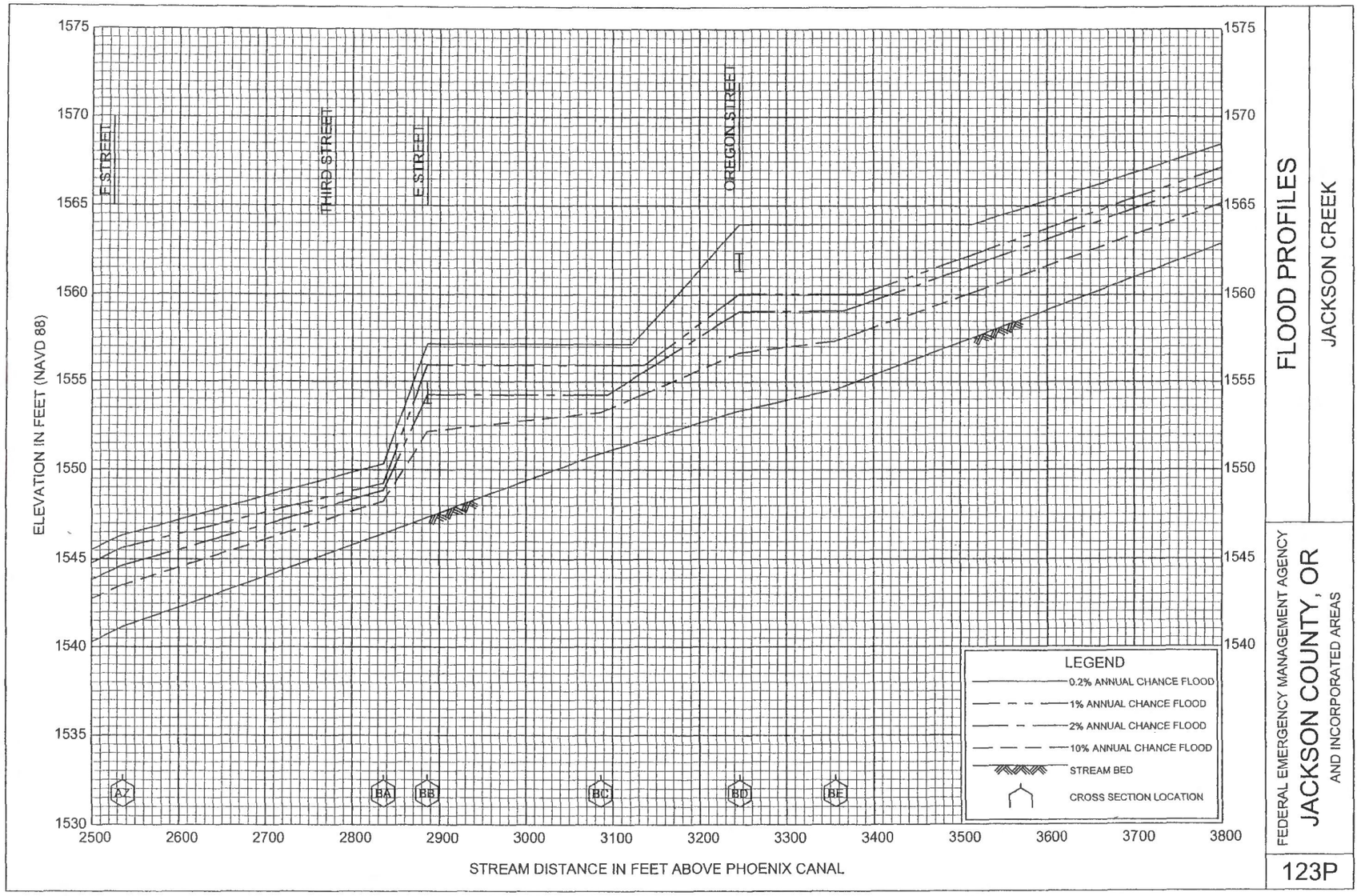
JACKSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

122P



FLOOD PROFILES

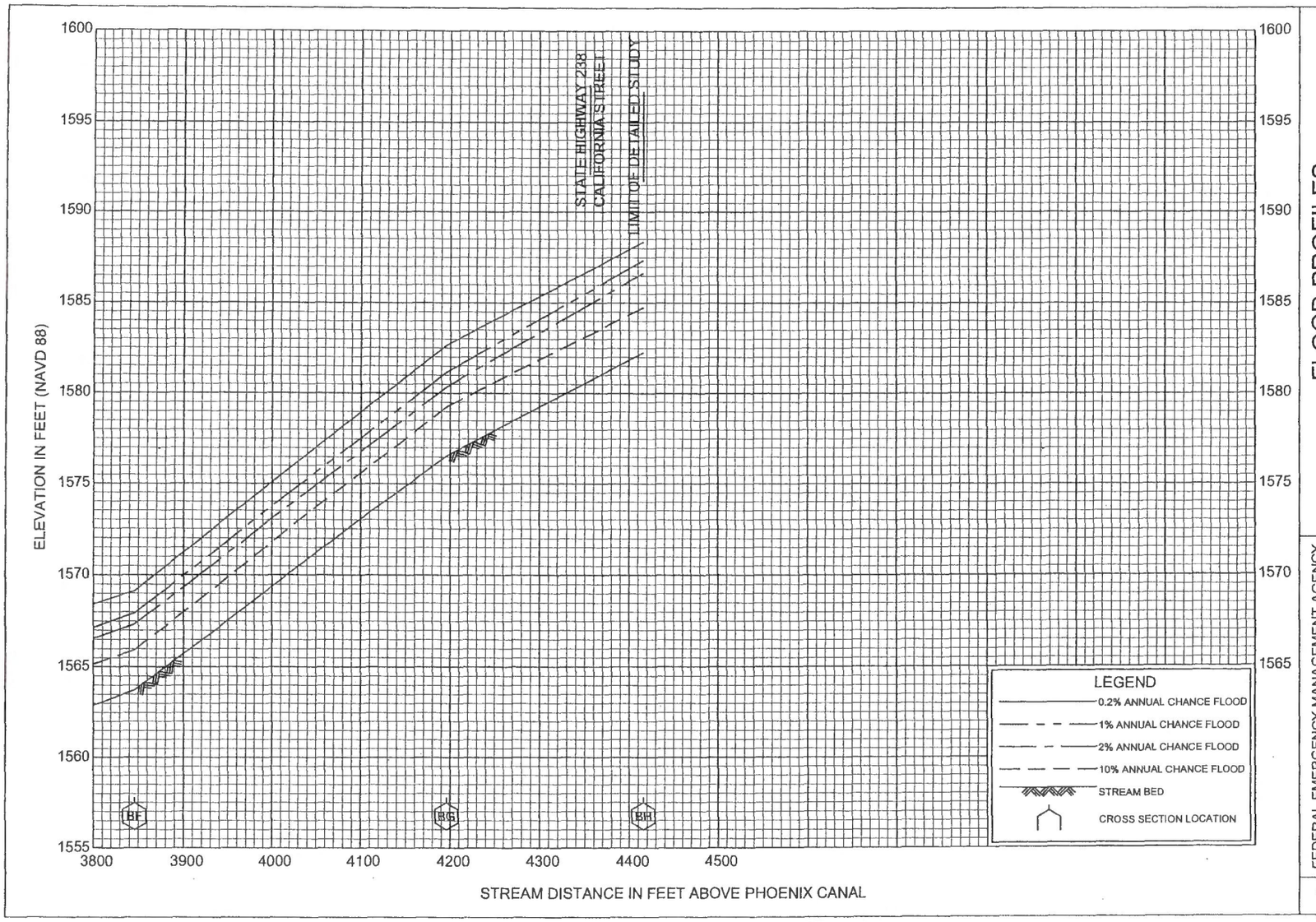
JACKSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

123P



FLOOD PROFILES

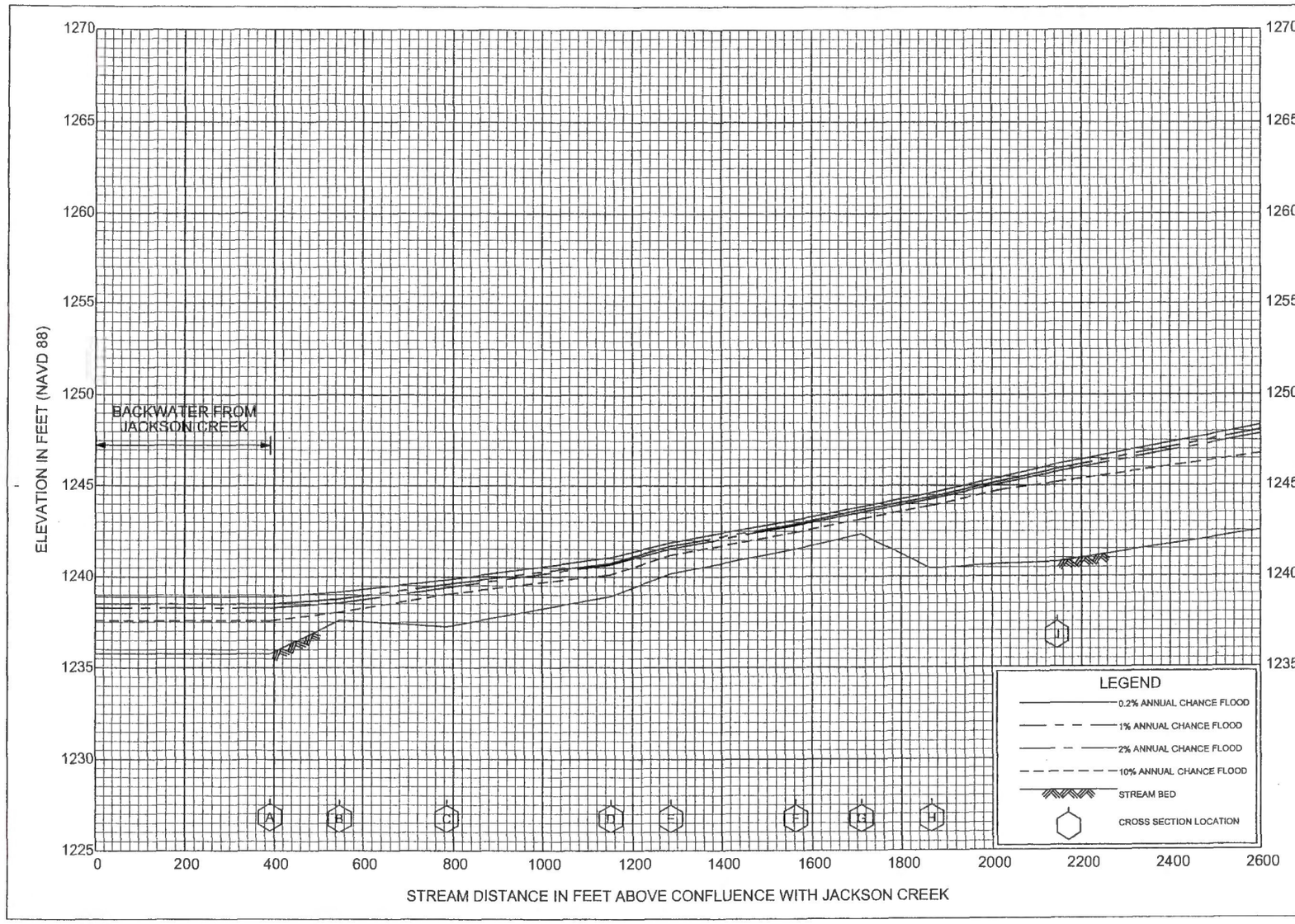
JACKSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

124P



FLOOD PROFILES

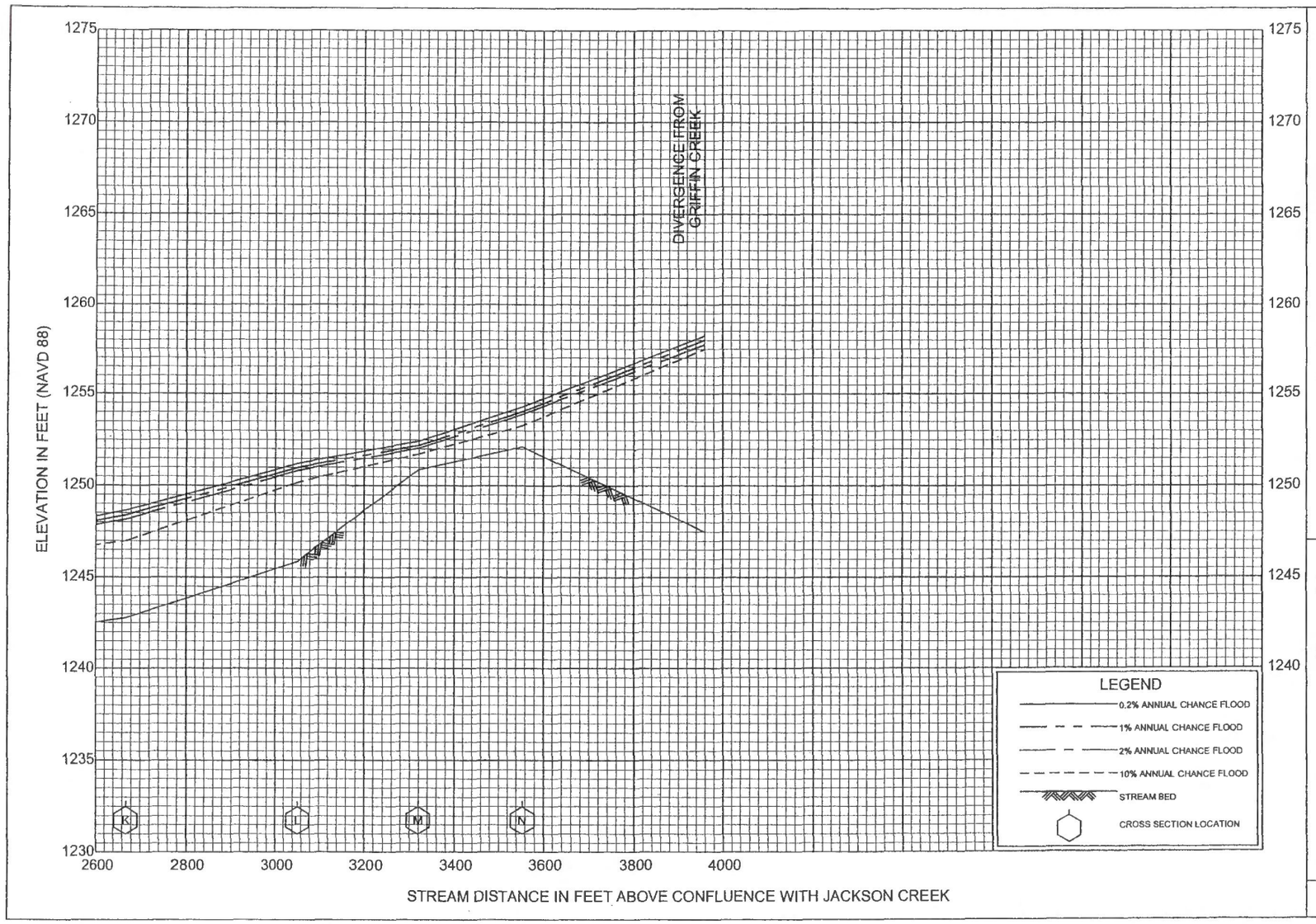
JACKSON CREEK OVERBANK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

125P



FLOOD PROFILES

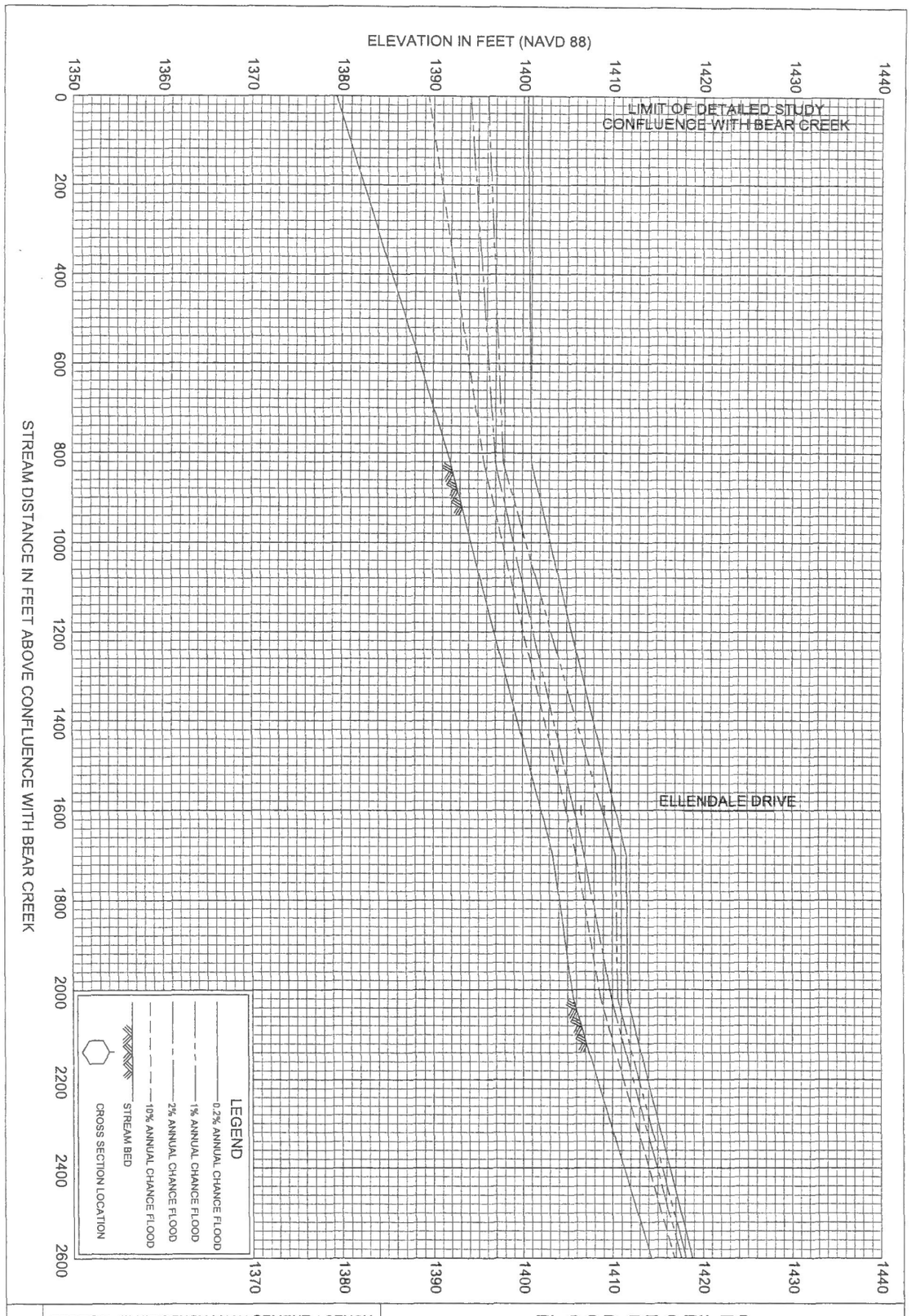
JACKSON CREEK OVERBANK

FEDERAL EMERGENCY MANAGEMENT AGENCY

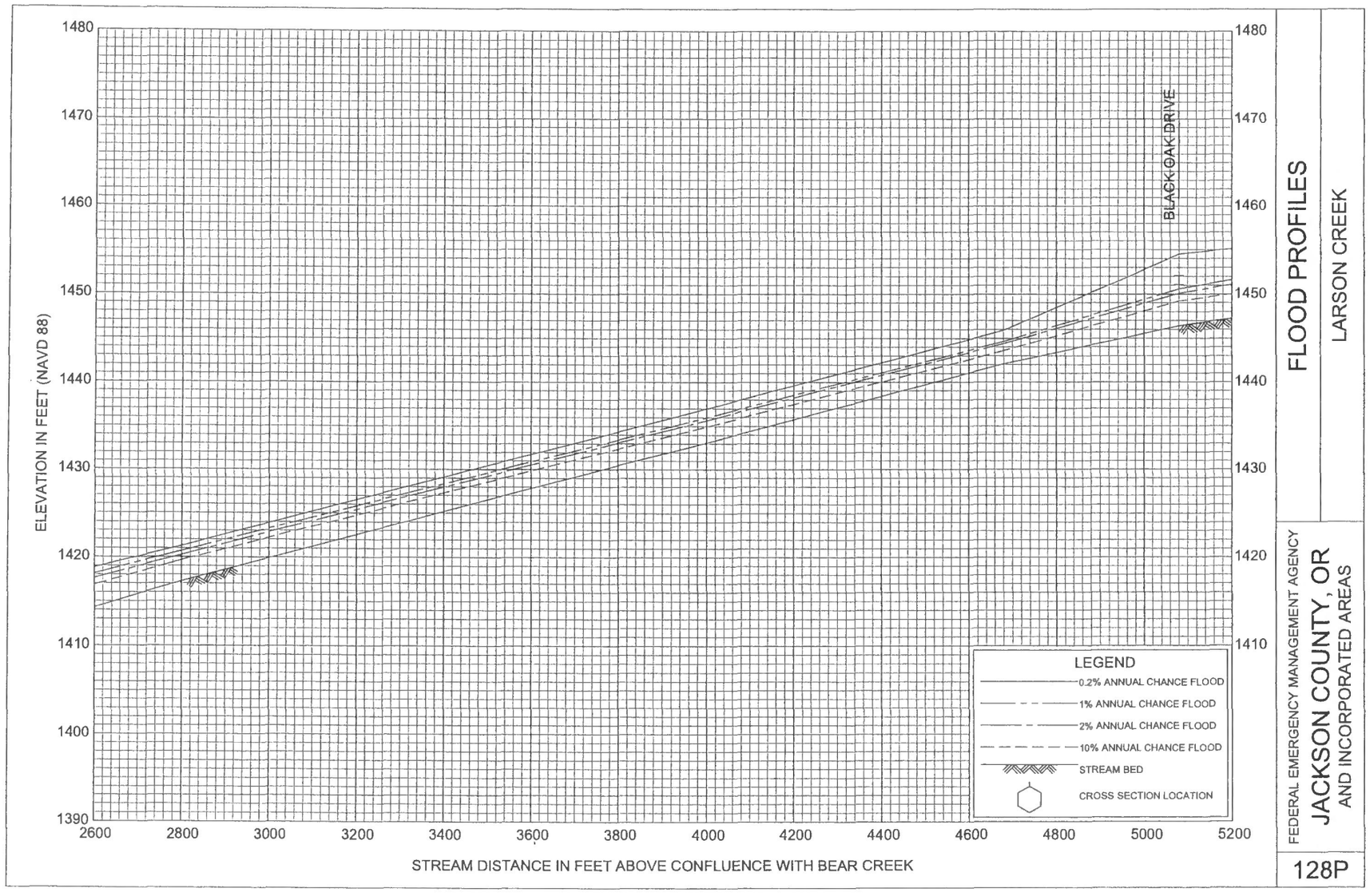
JACKSON COUNTY, OR

AND INCORPORATED AREAS

126P



127P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES LARSON CREEK



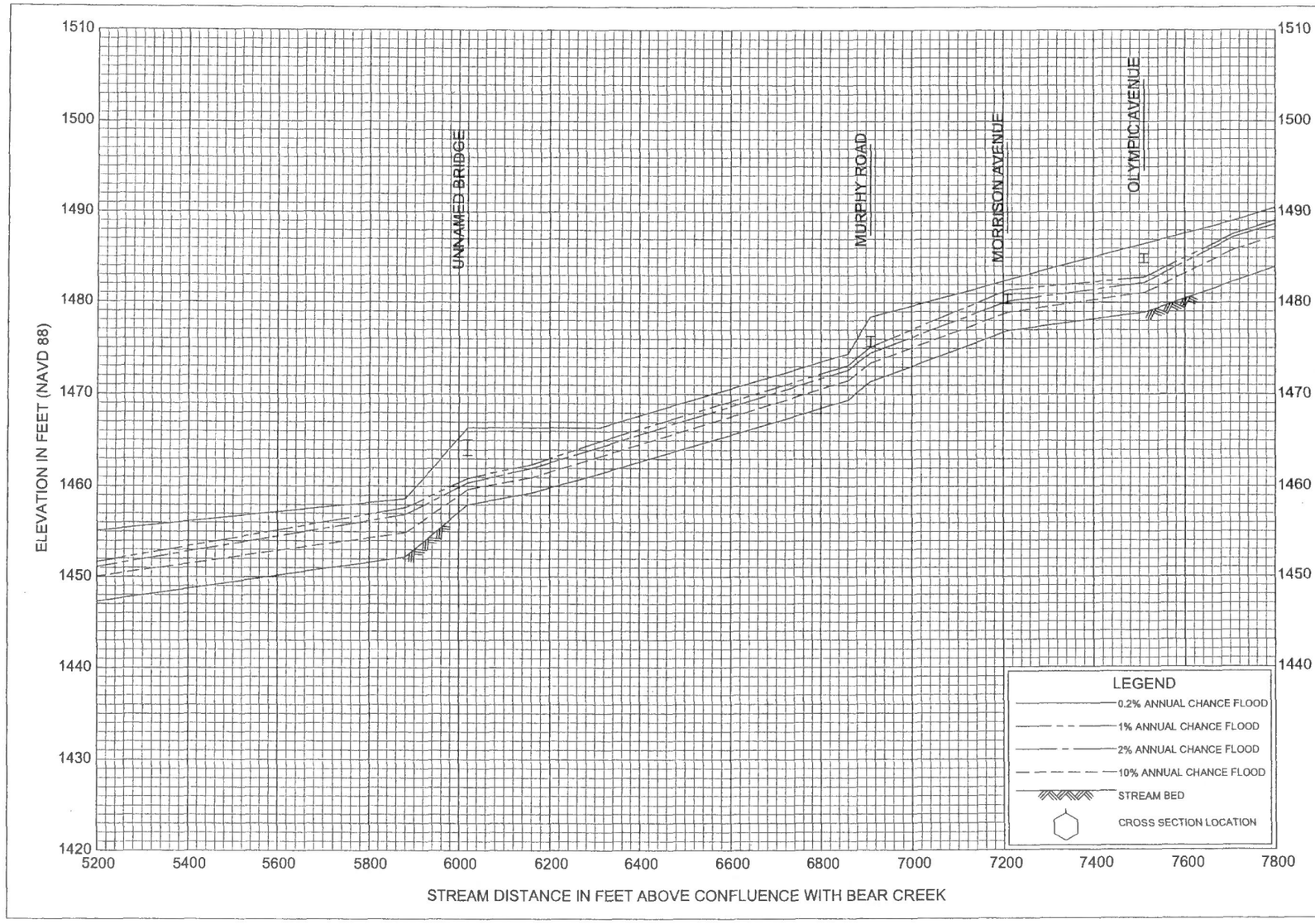
FLOOD PROFILES

LARSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

128P



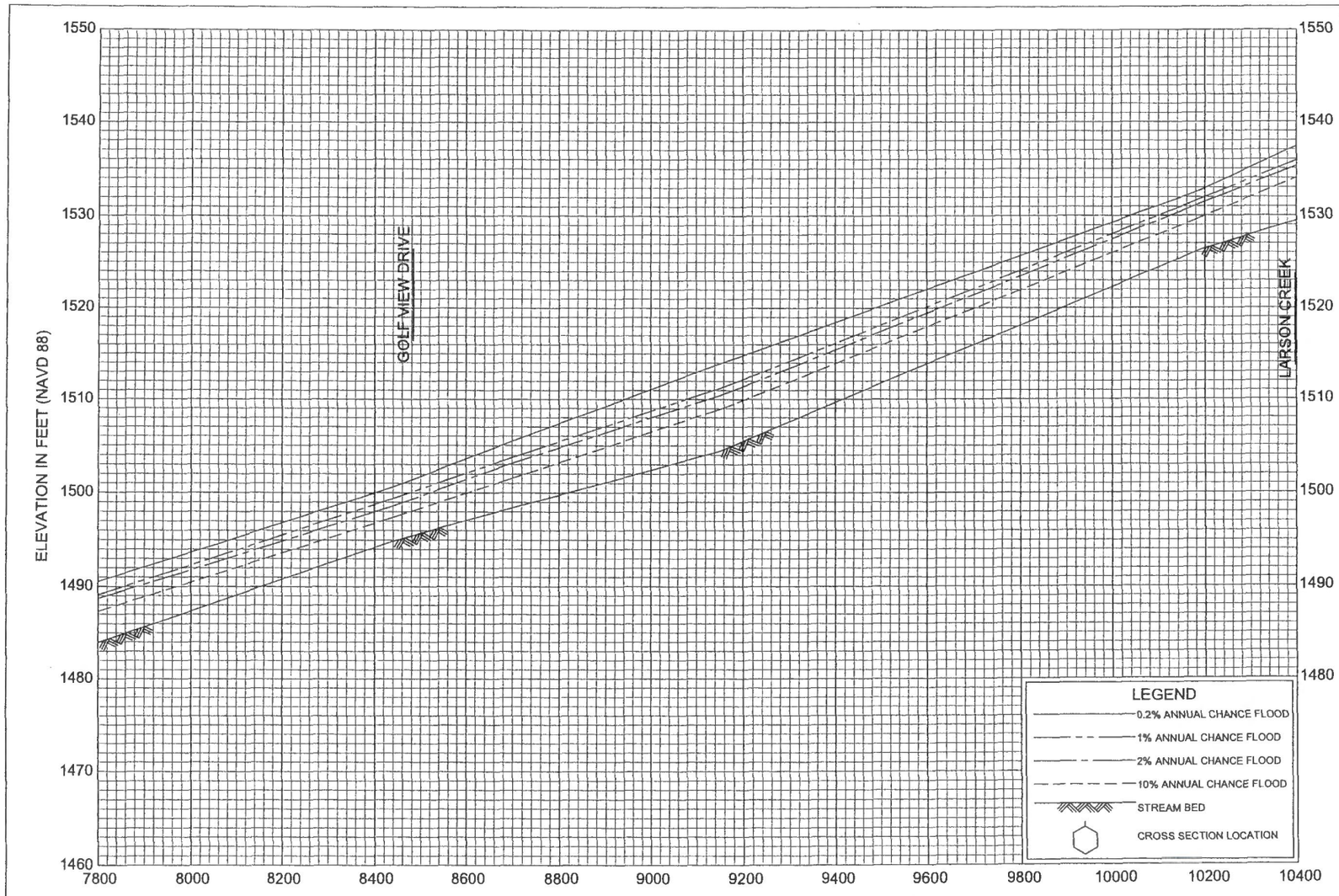
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

LARSON CREEK

129P



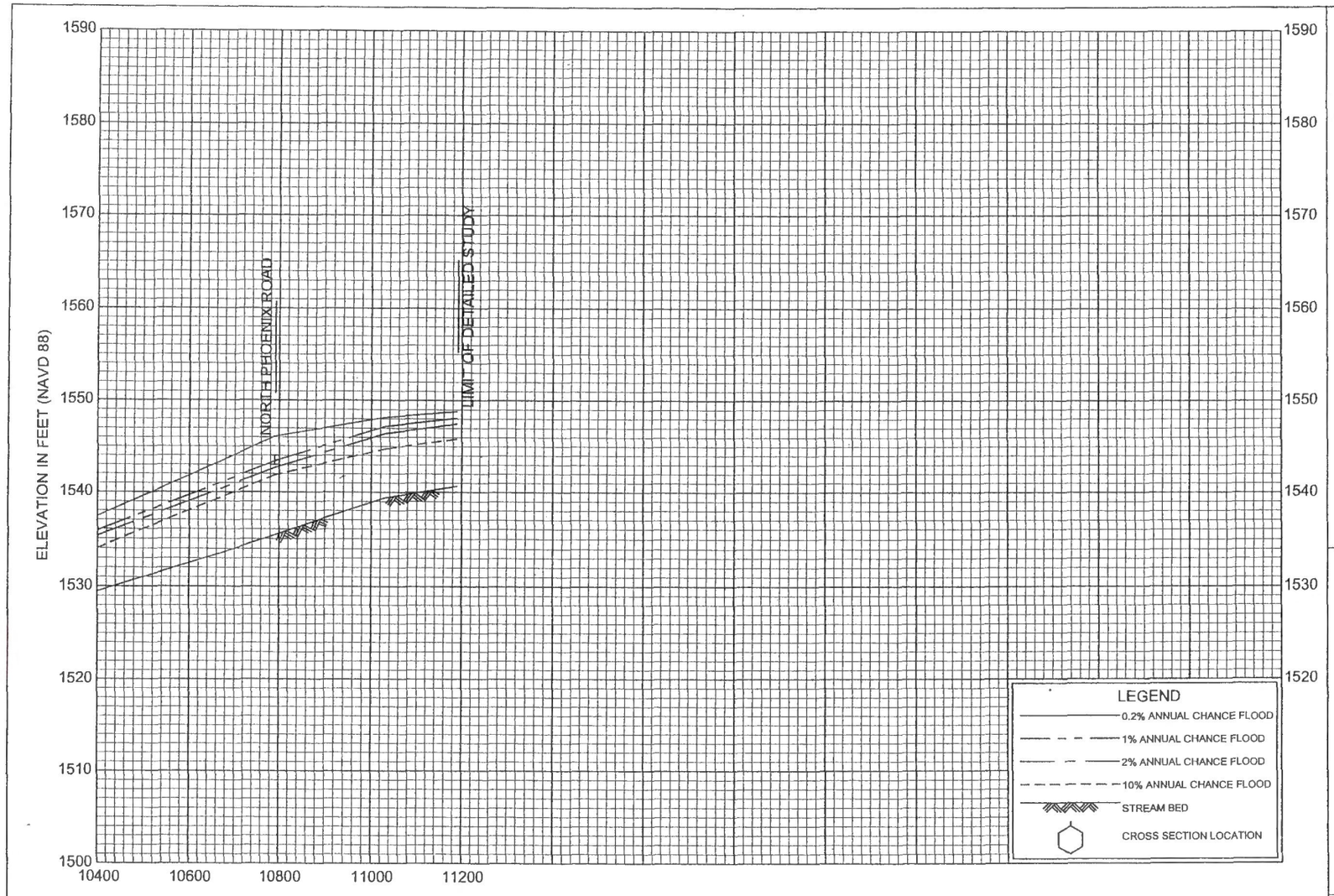
FLOOD PROFILES

LARSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

130P



FLOOD PROFILES

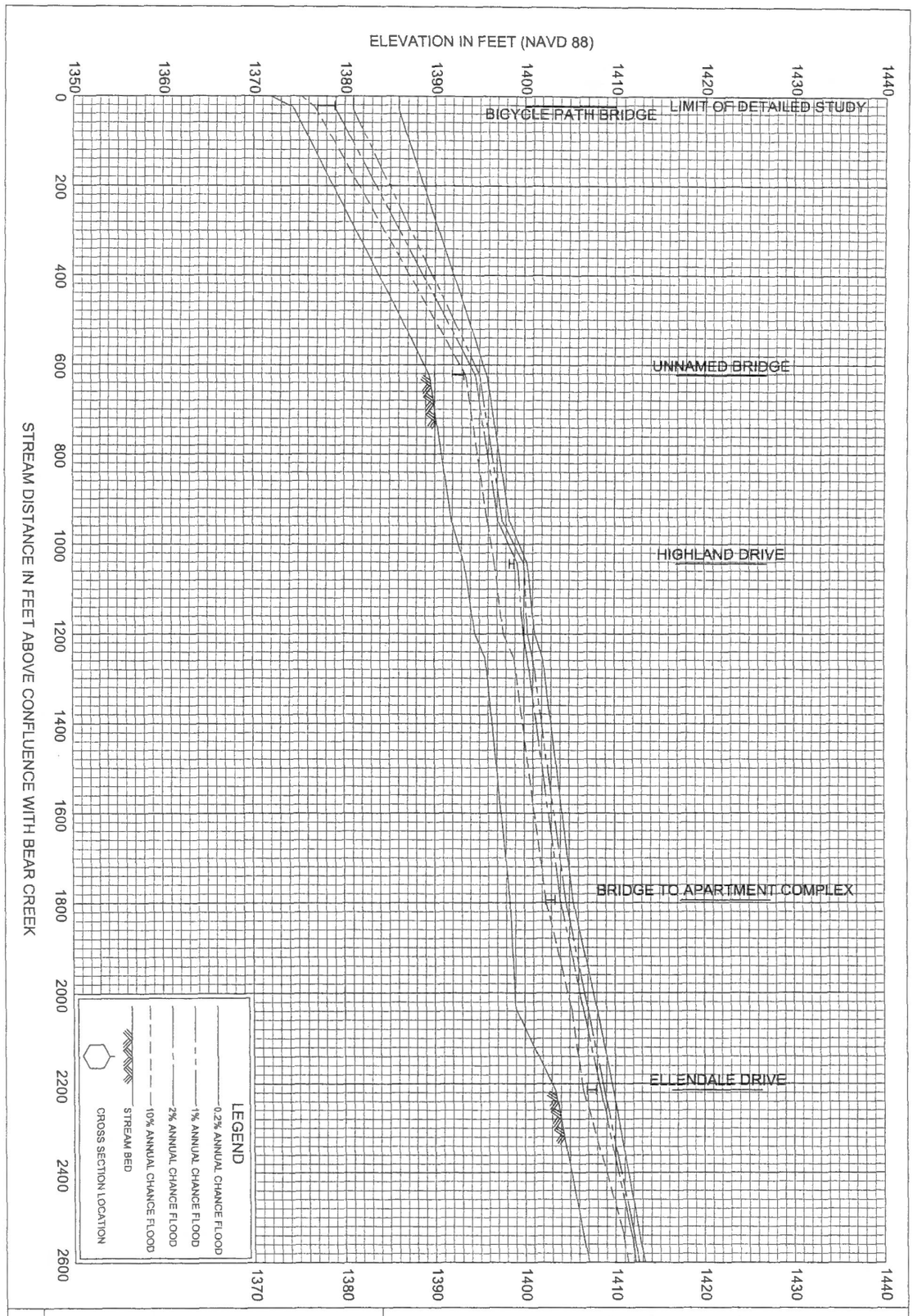
LARSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

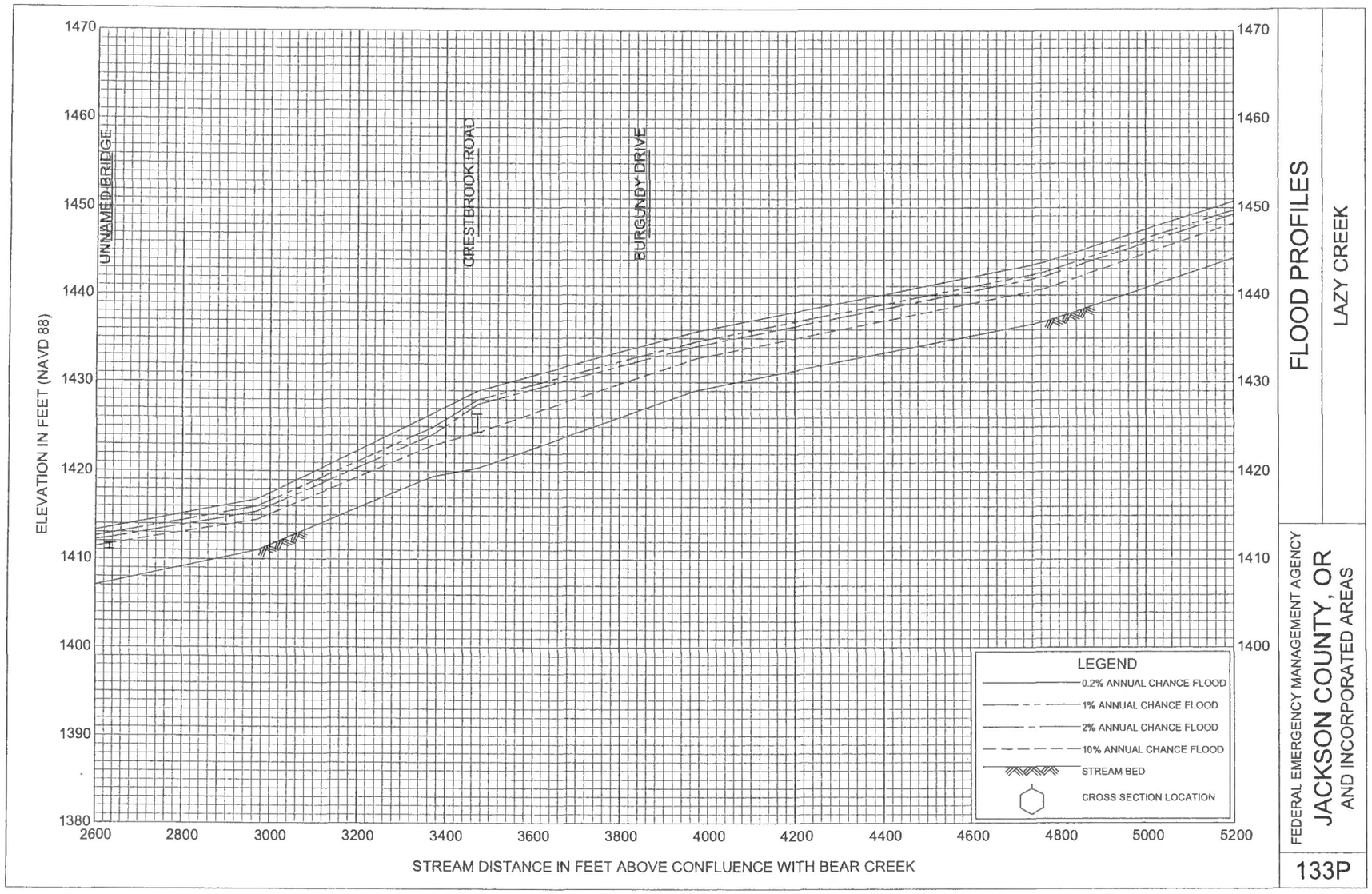
JACKSON COUNTY, OR

AND INCORPORATED AREAS

131P



132P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES LAZY CREEK



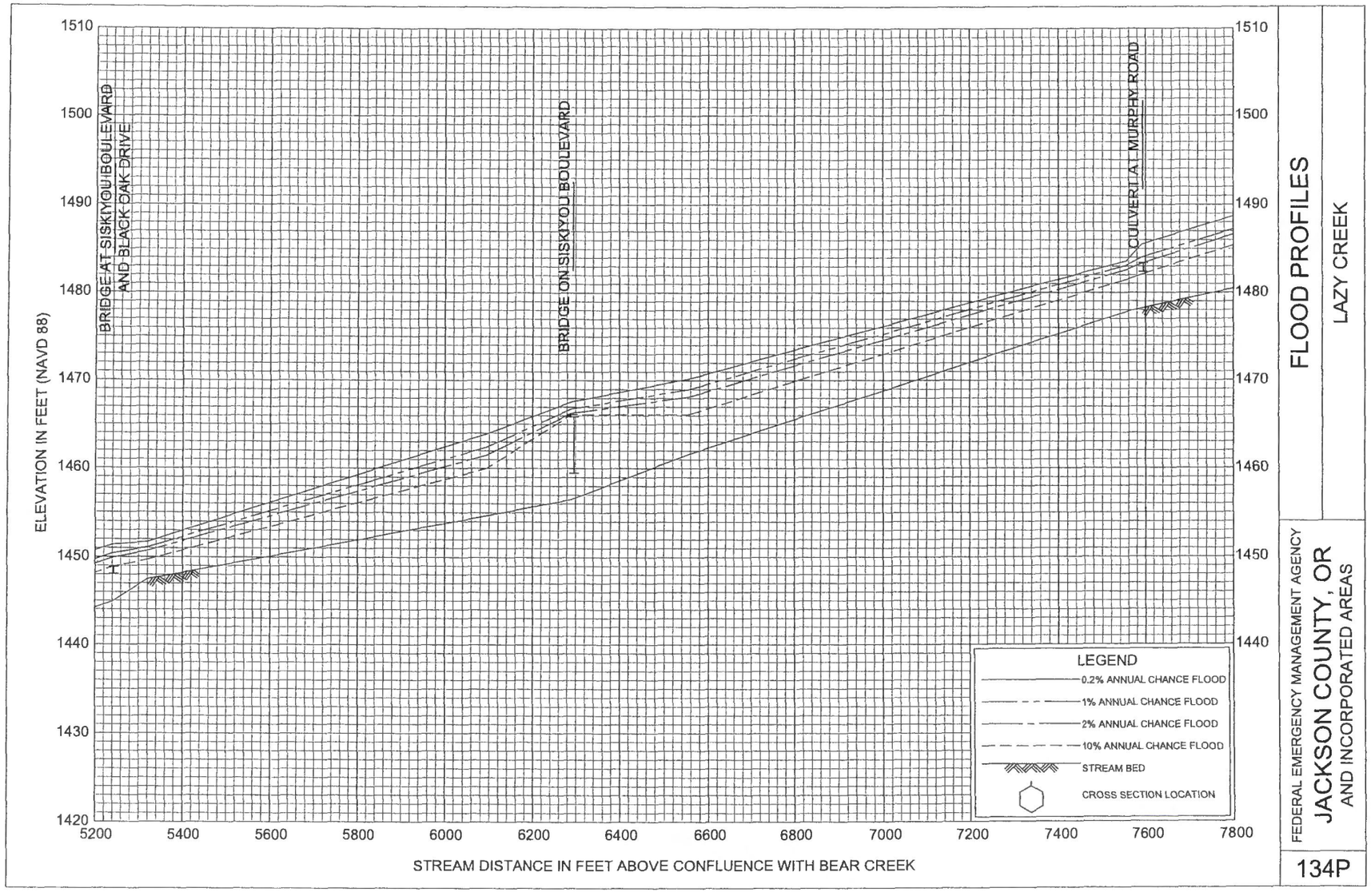
FLOOD PROFILES

LAZY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

133P



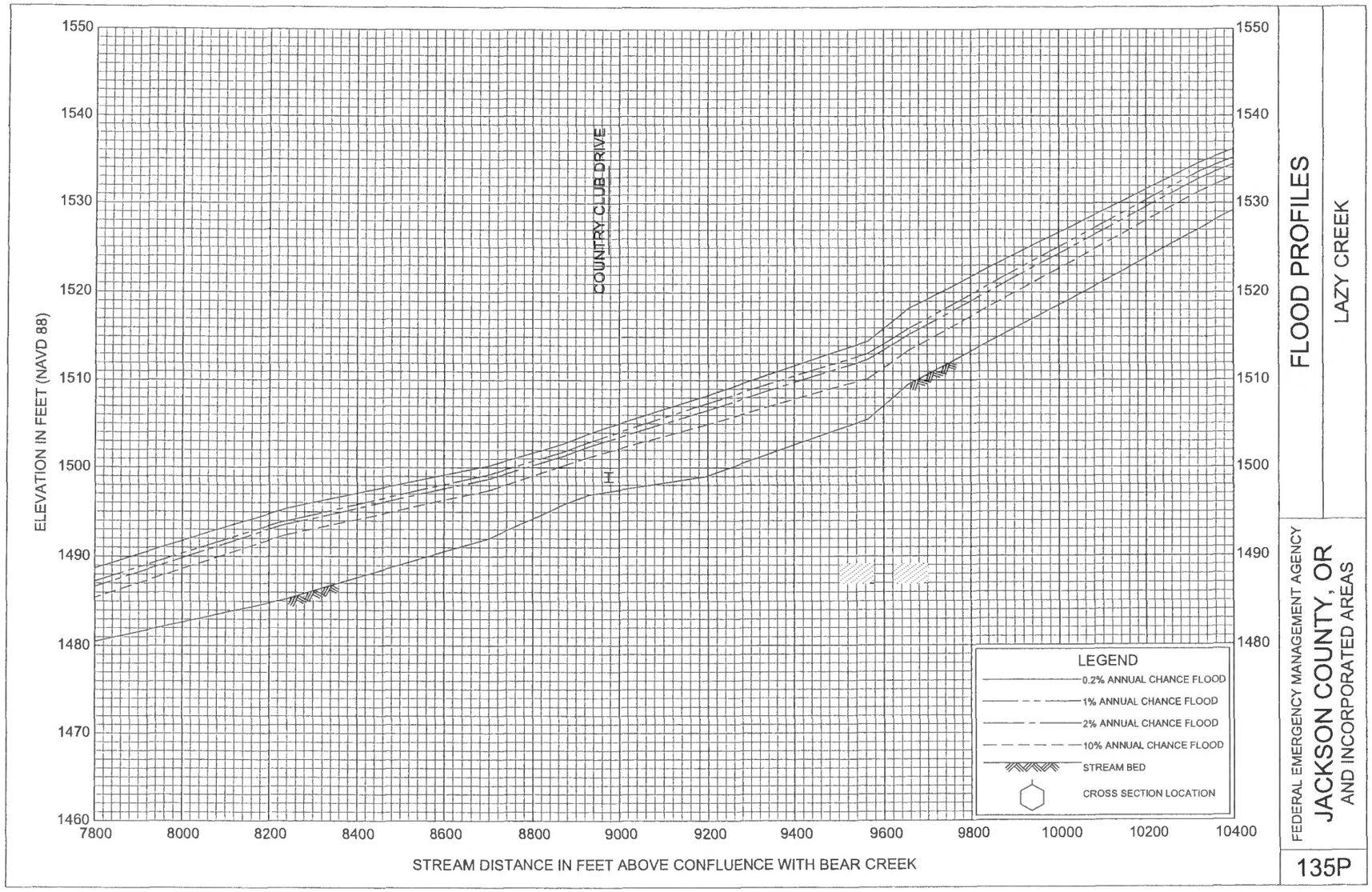
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

LAZY CREEK

134P



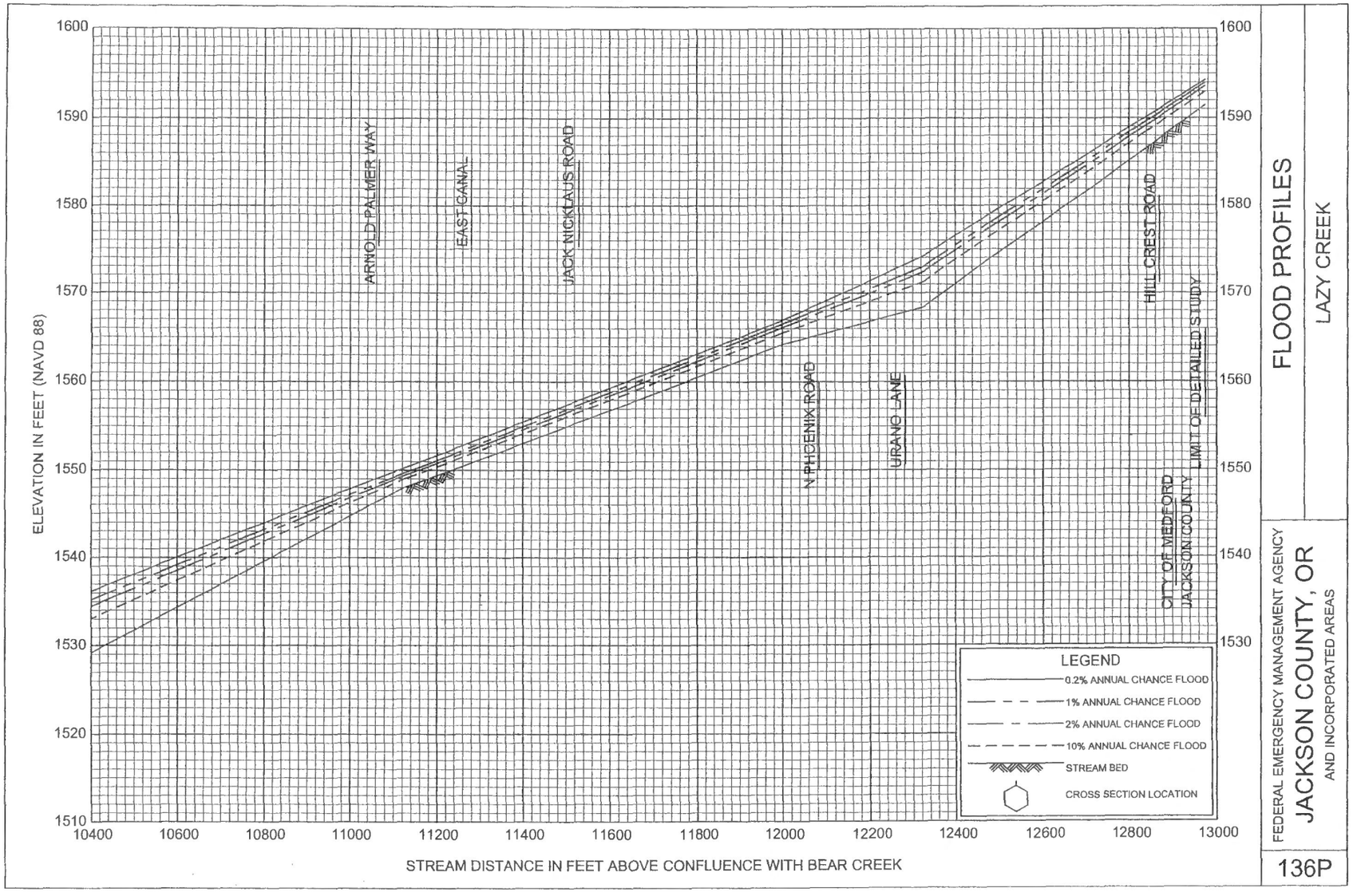
FLOOD PROFILES

LAZY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

135P



FLOOD PROFILES

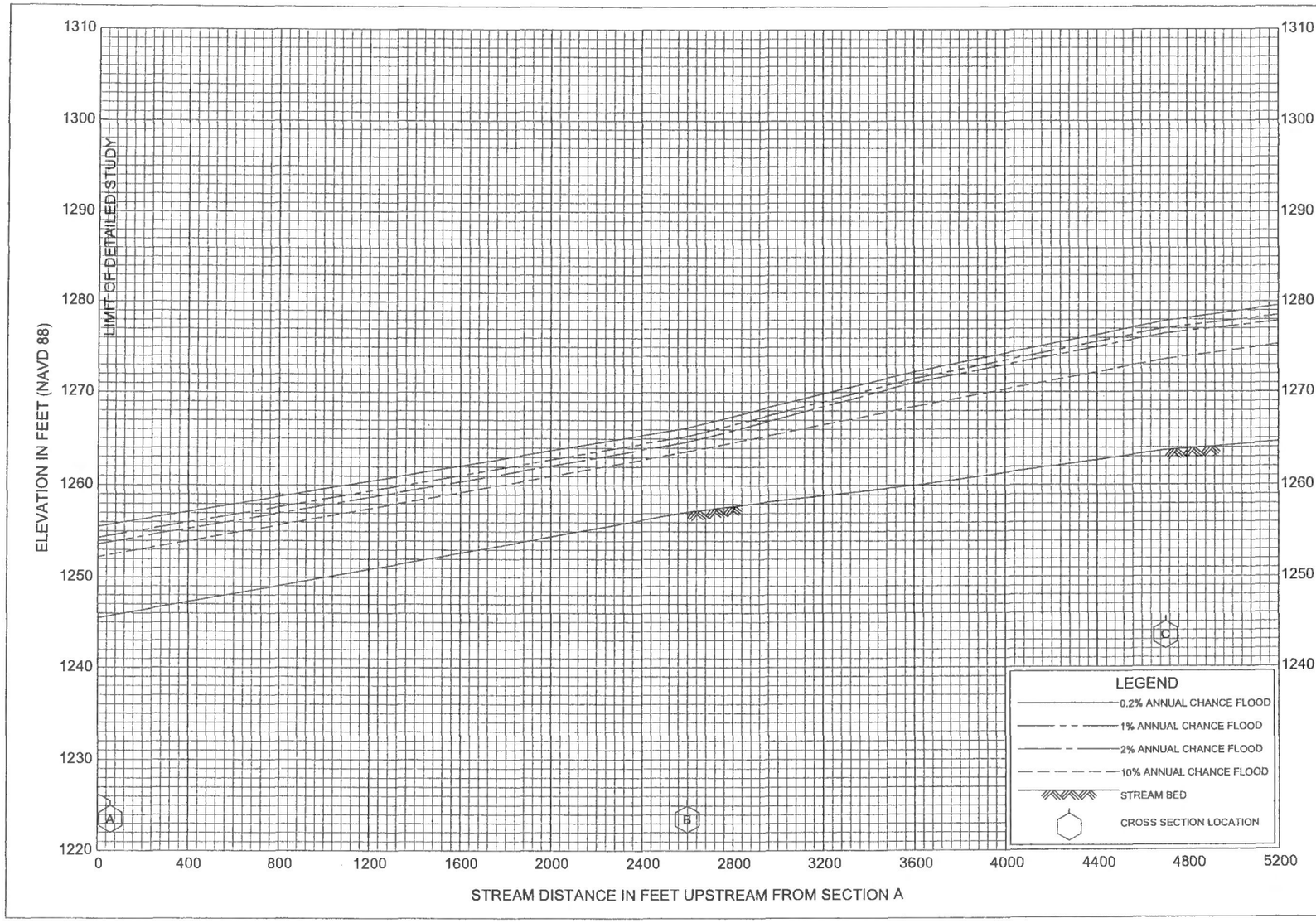
LAZY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

136P



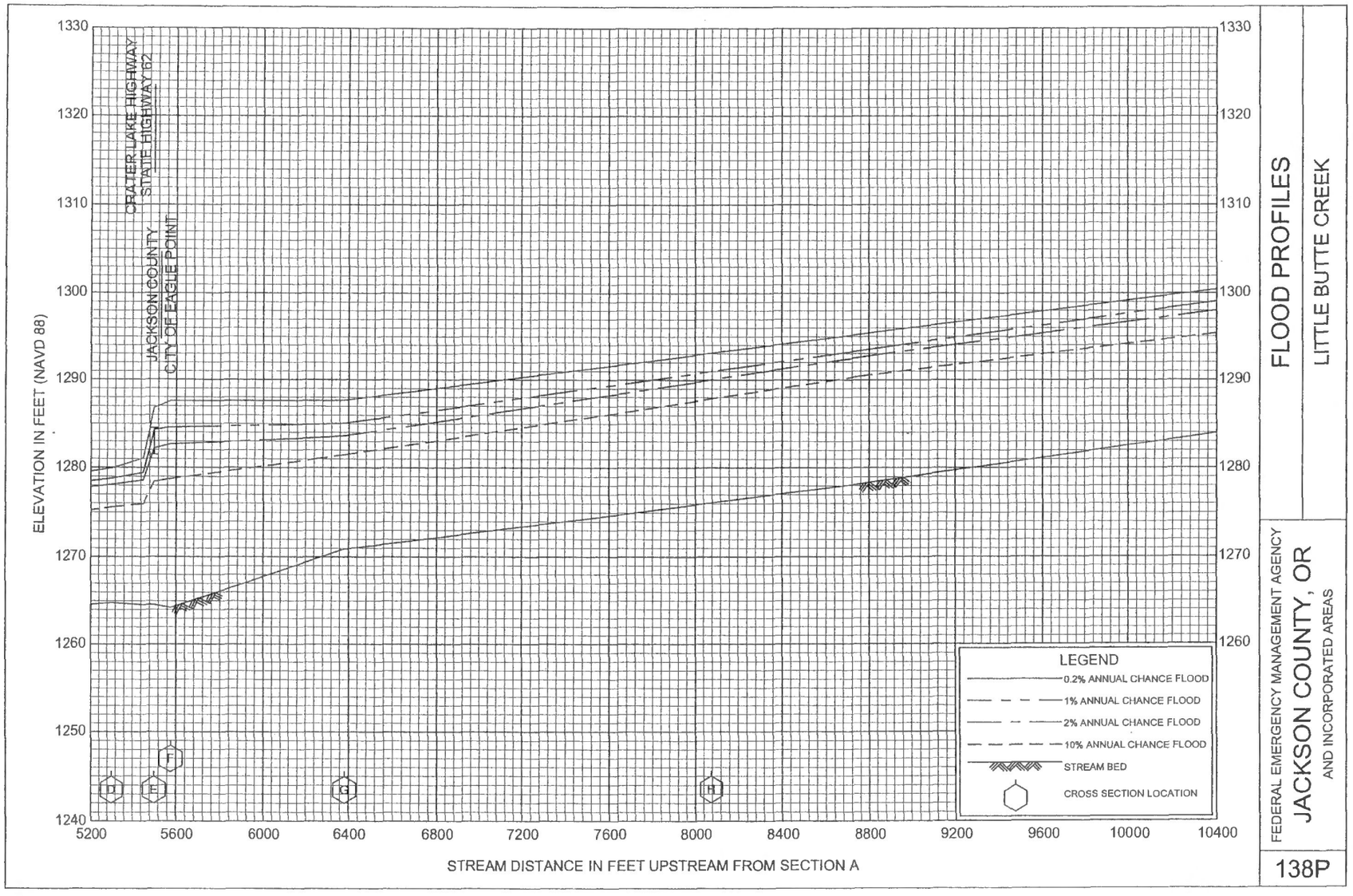
FLOOD PROFILES

LITTLE BUTTE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

137P



FLOOD PROFILES

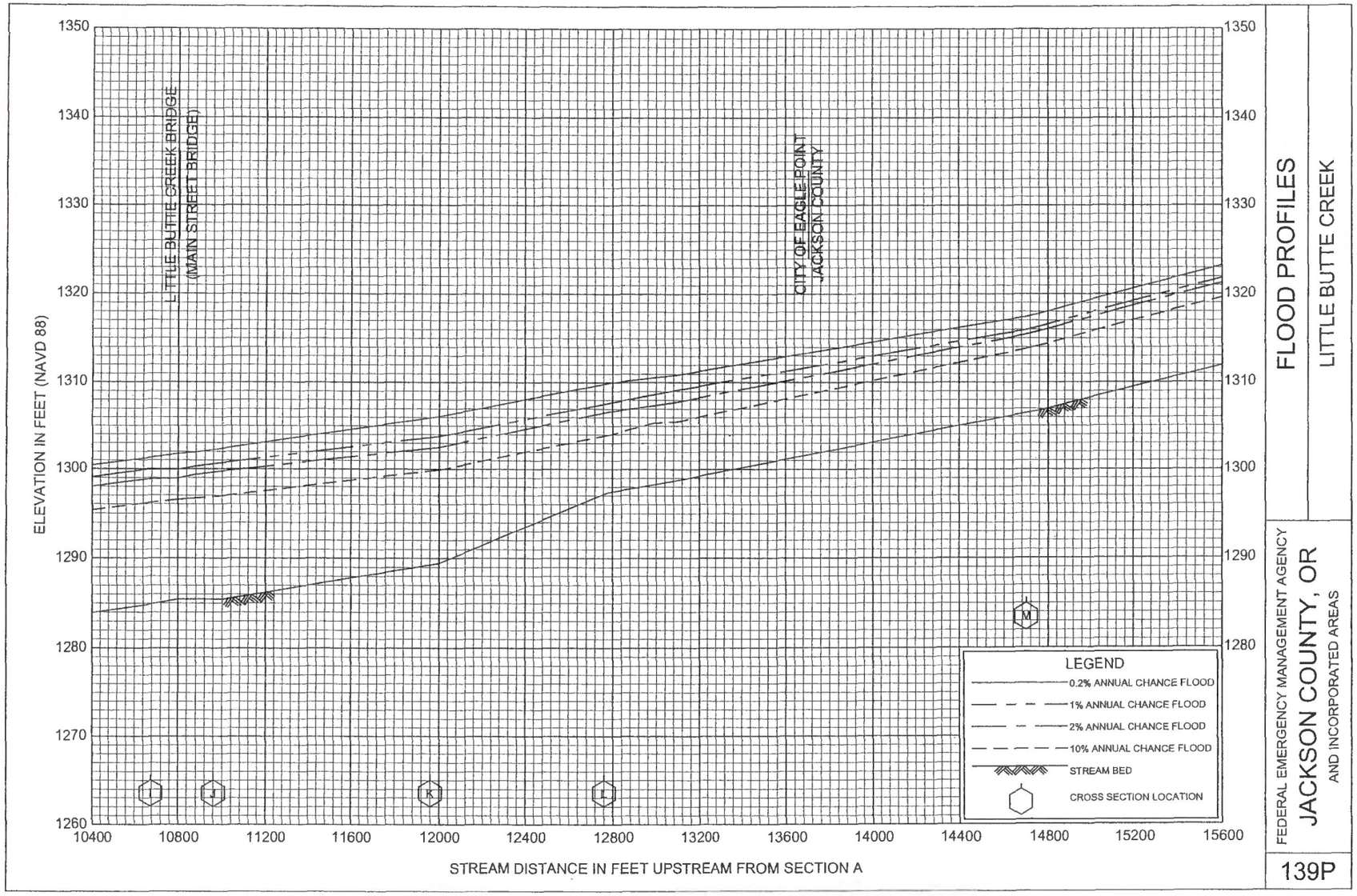
LITTLE BUTTE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

138P



FLOOD PROFILES

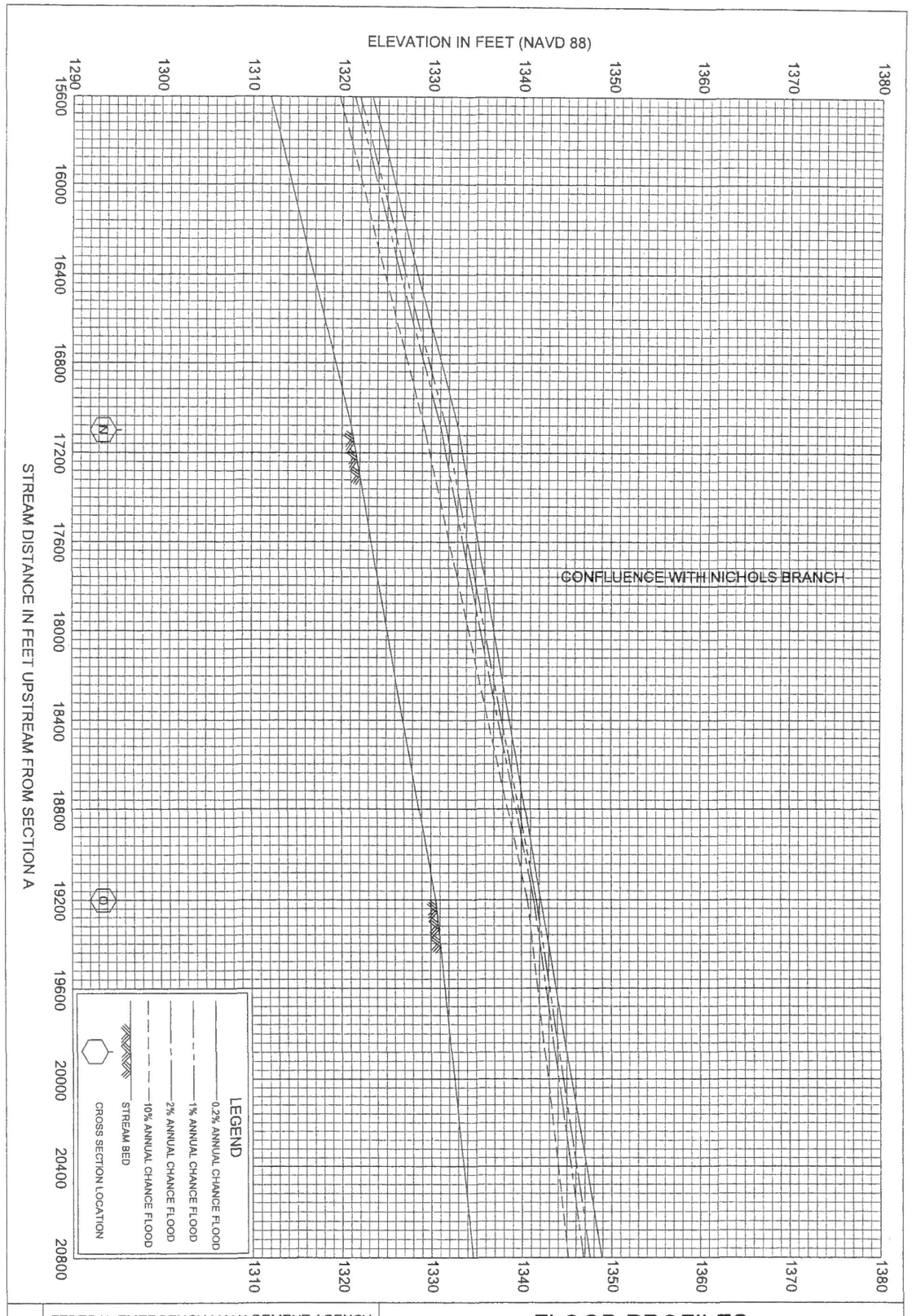
LITTLE BUTTE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

139P



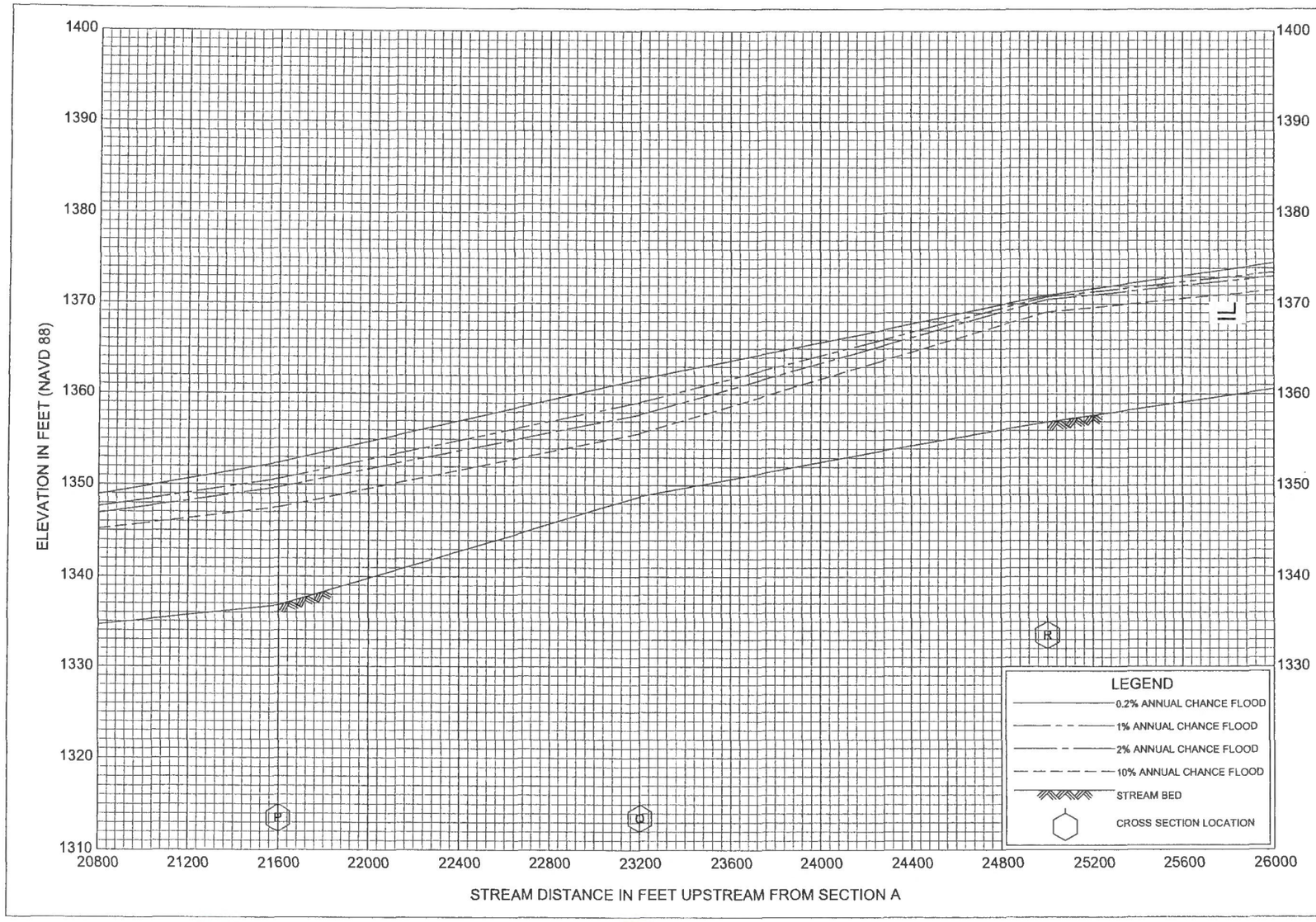
140P

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

LITTLE BUTTE CREEK



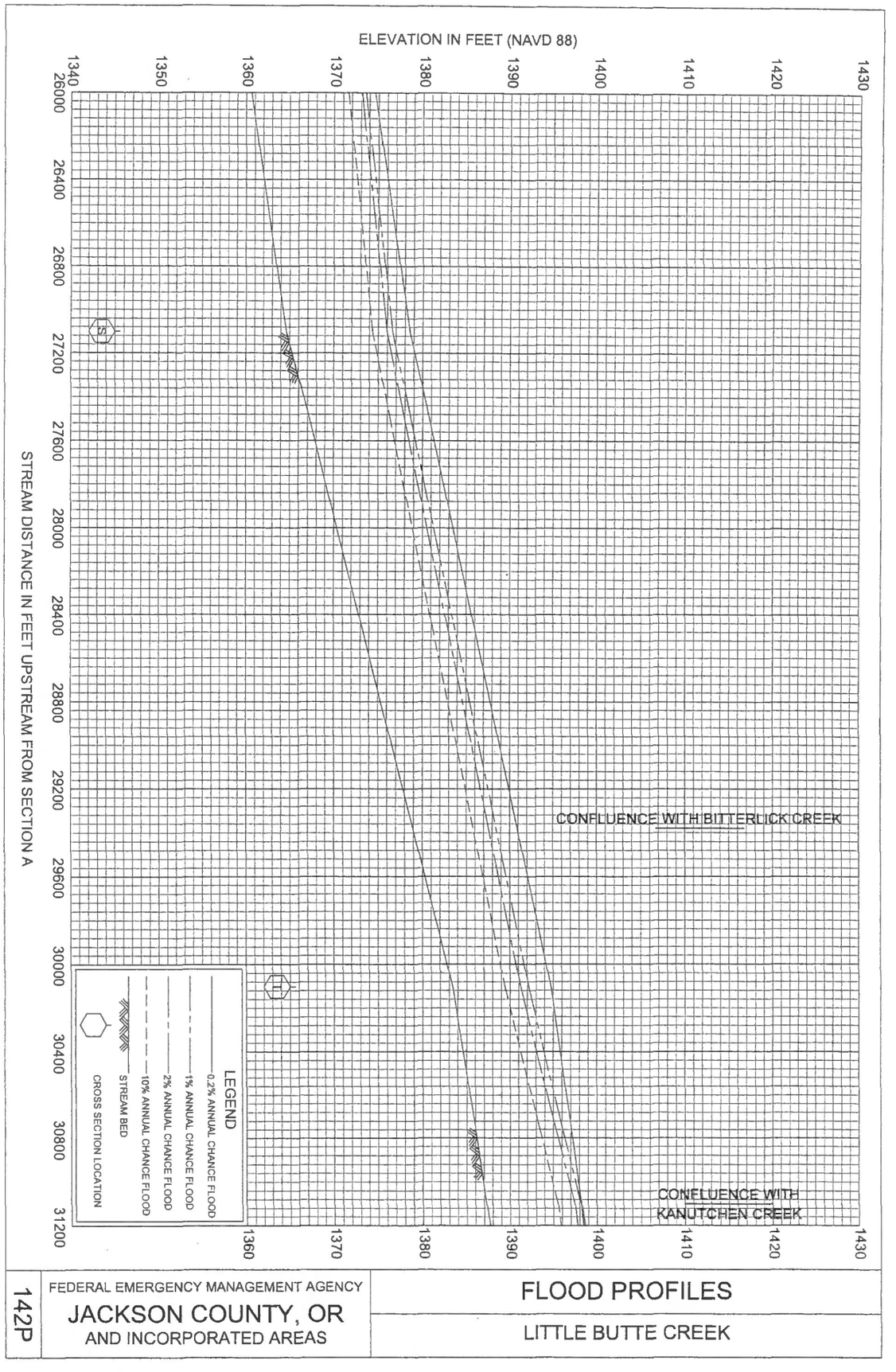
FLOOD PROFILES

LITTLE BUTTE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

141P



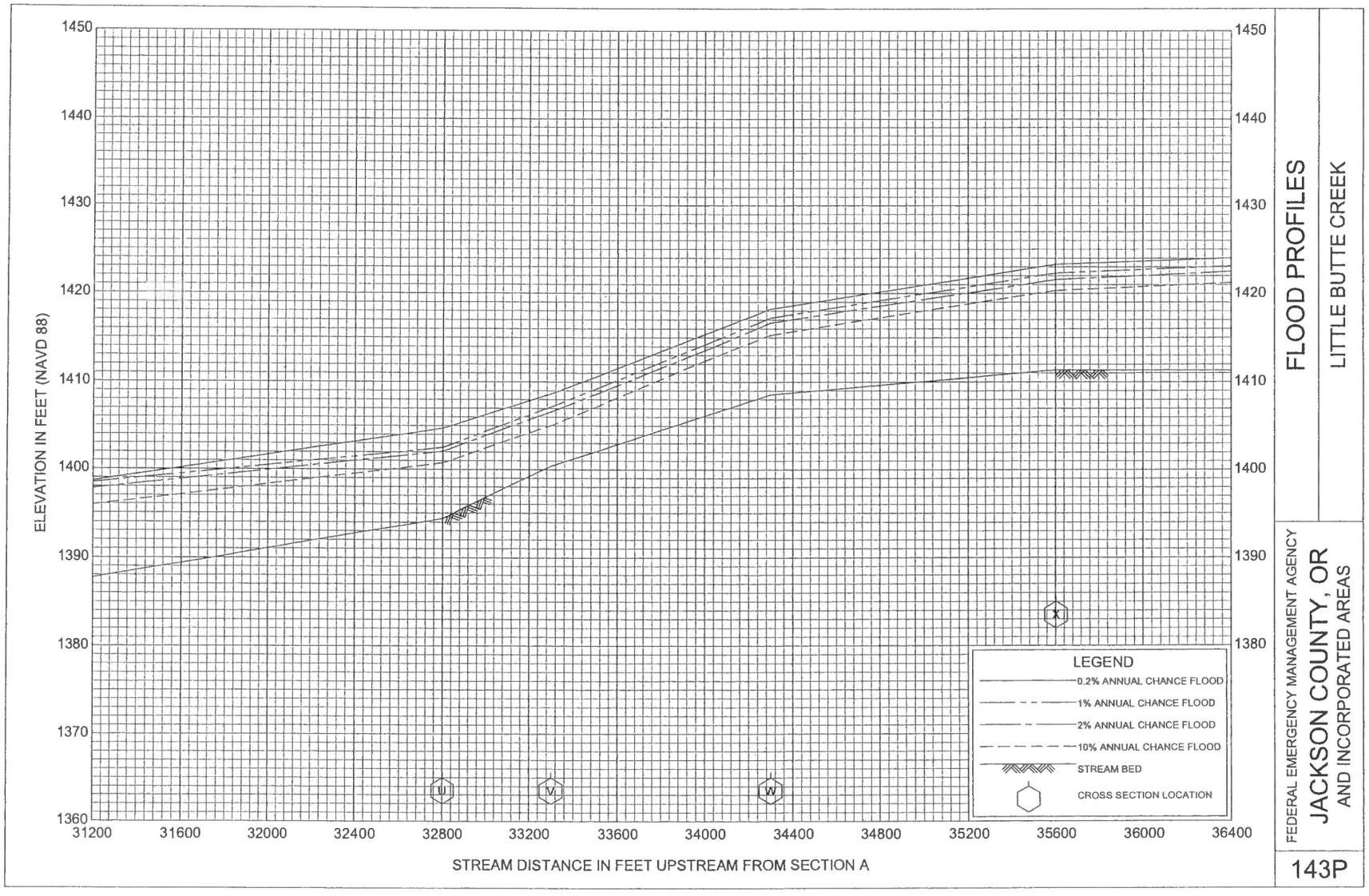
142P

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

LITTLE BUTTE CREEK



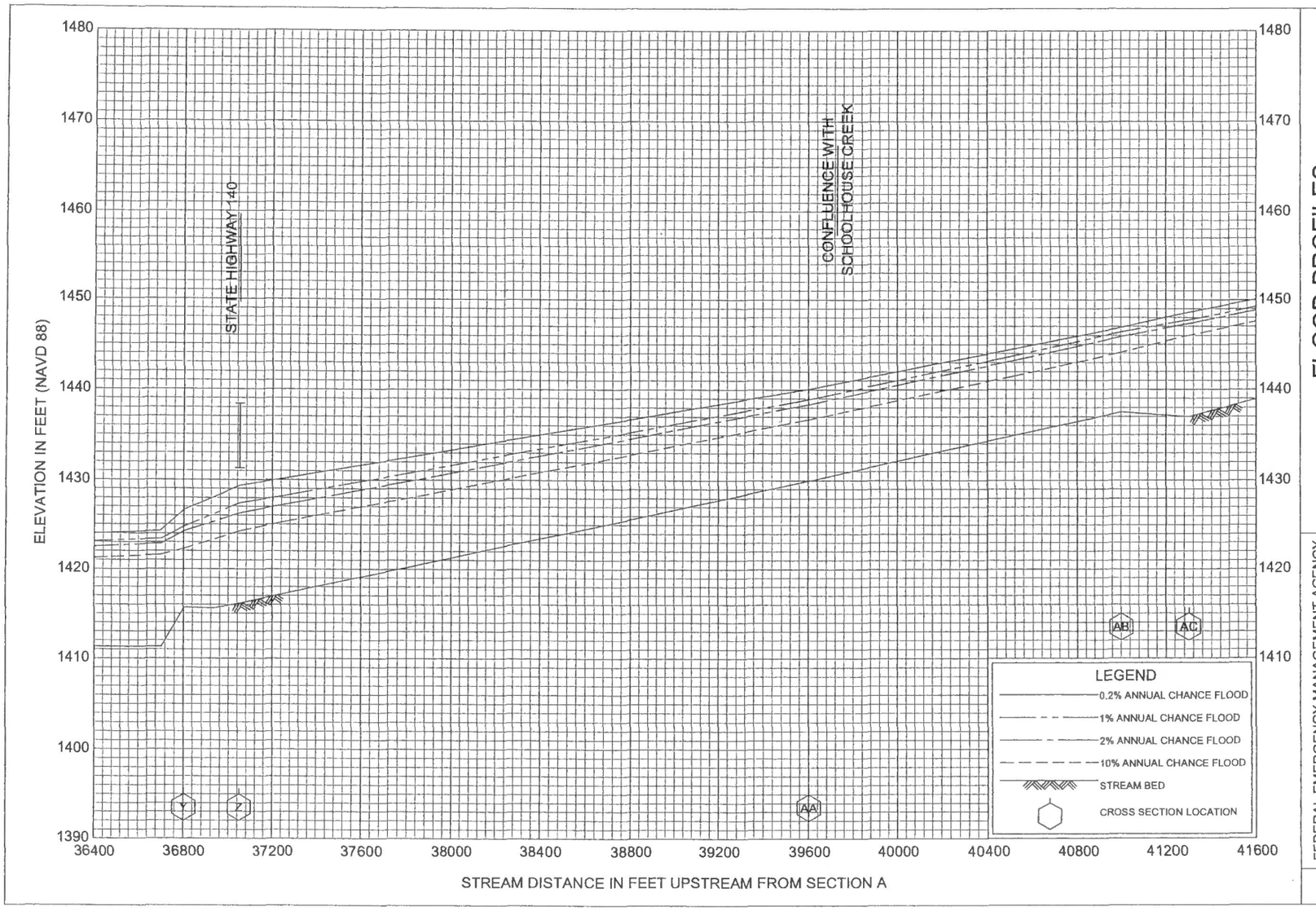
FLOOD PROFILES

LITTLE BUTTE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

143P



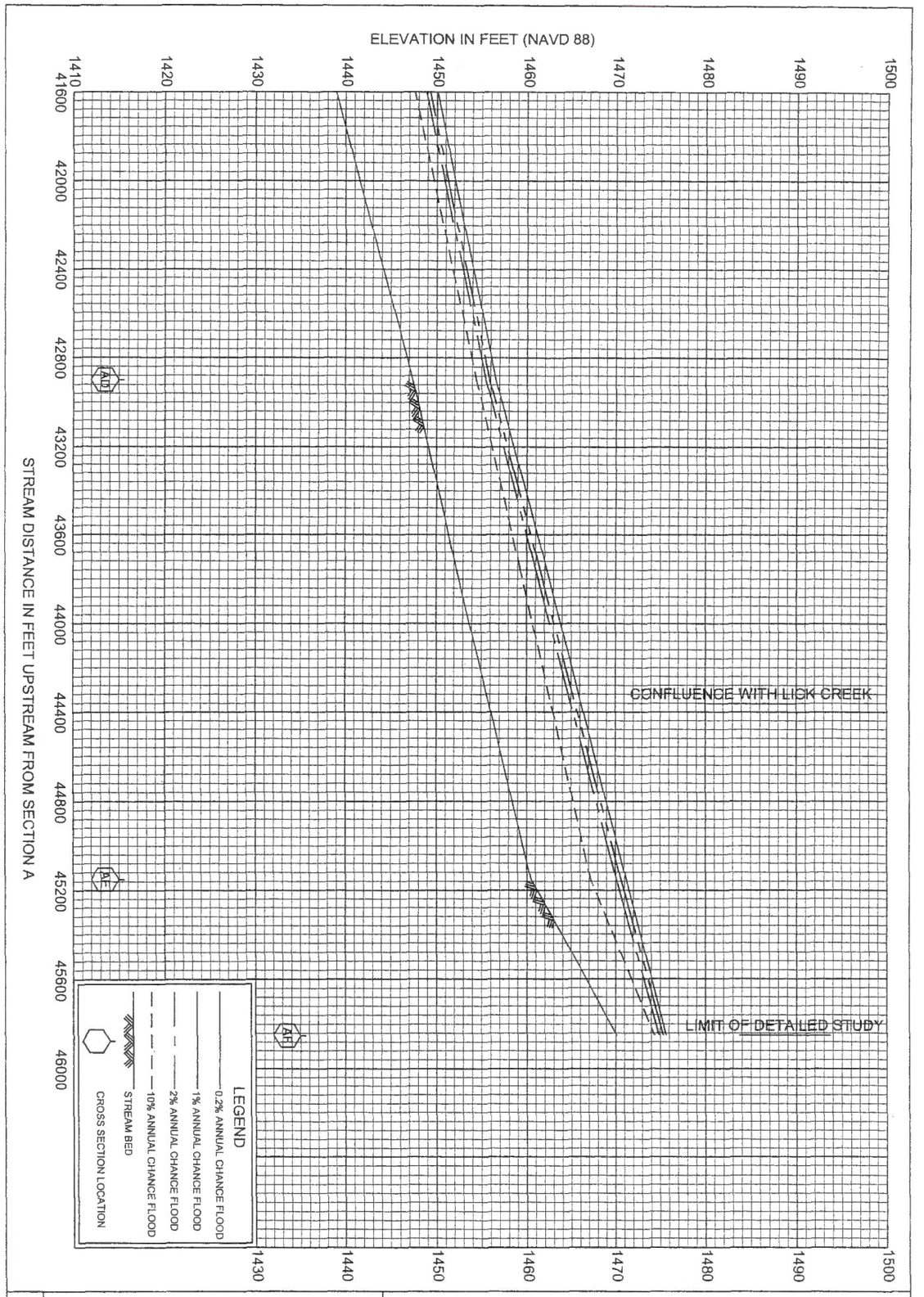
FLOOD PROFILES

LITTLE BUTTE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

144P



FEDERAL EMERGENCY MANAGEMENT AGENCY

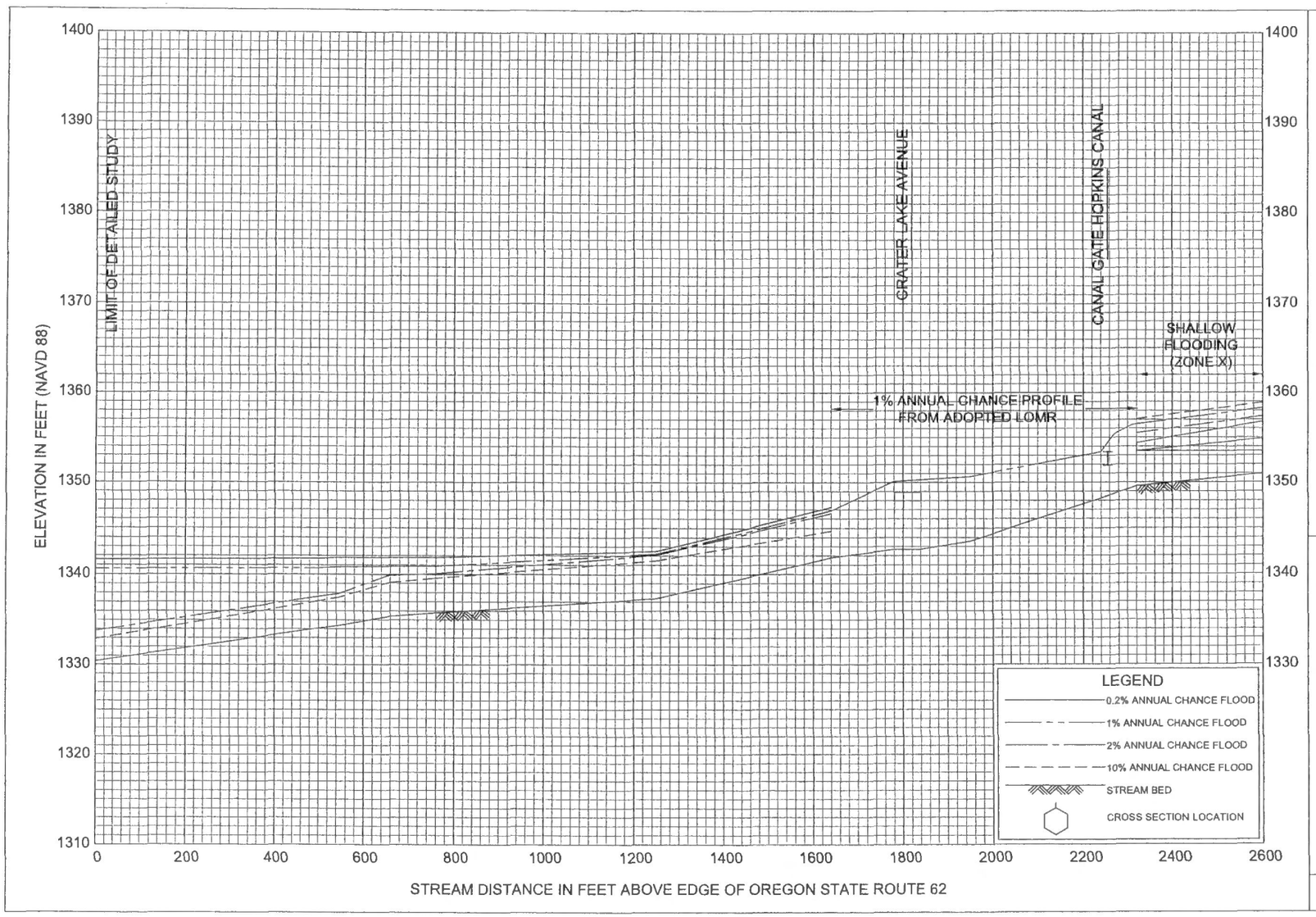
JACKSON COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

LITTLE BUTTE CREEK

145P



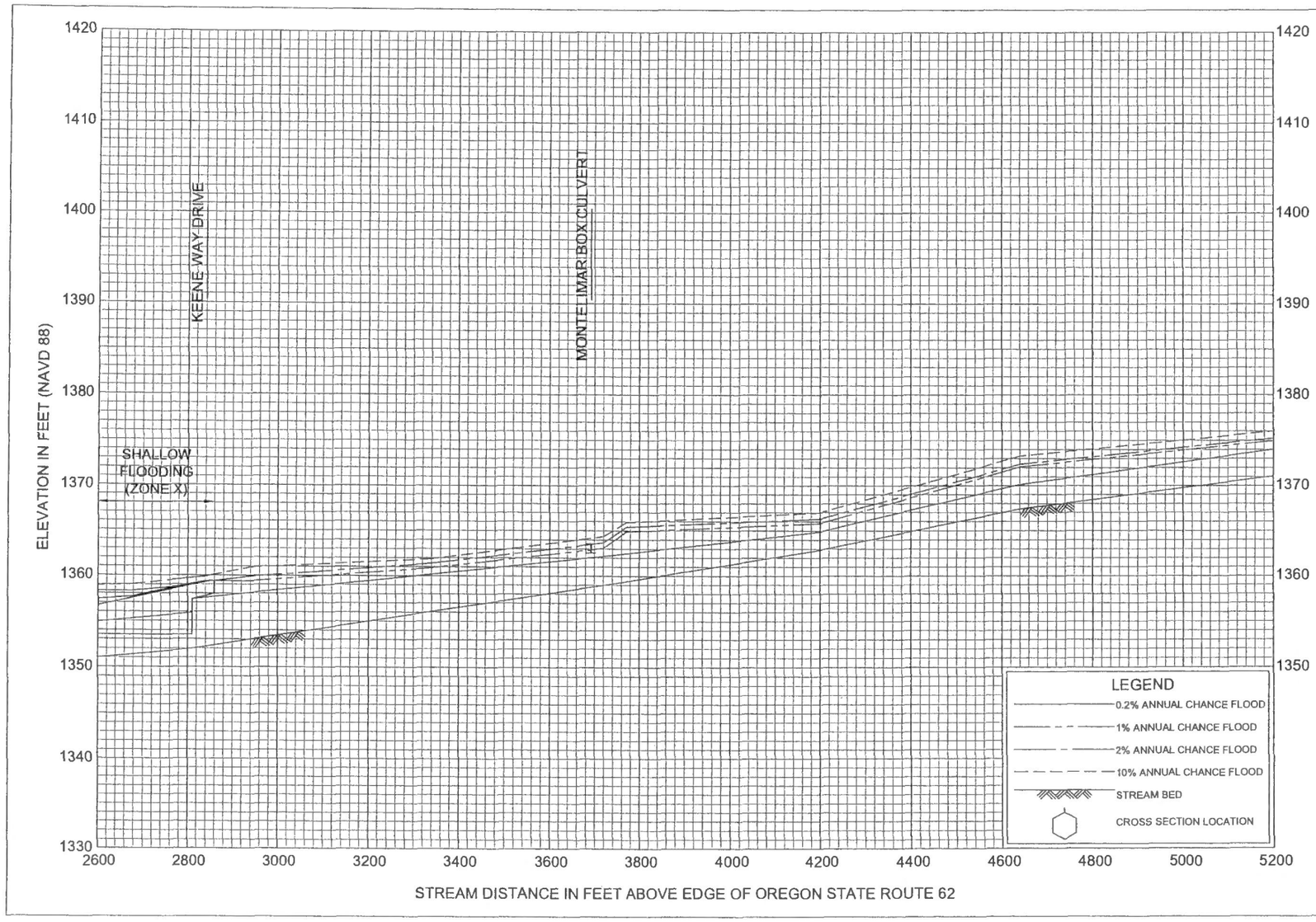
FLOOD PROFILES

LONE PINE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

146P



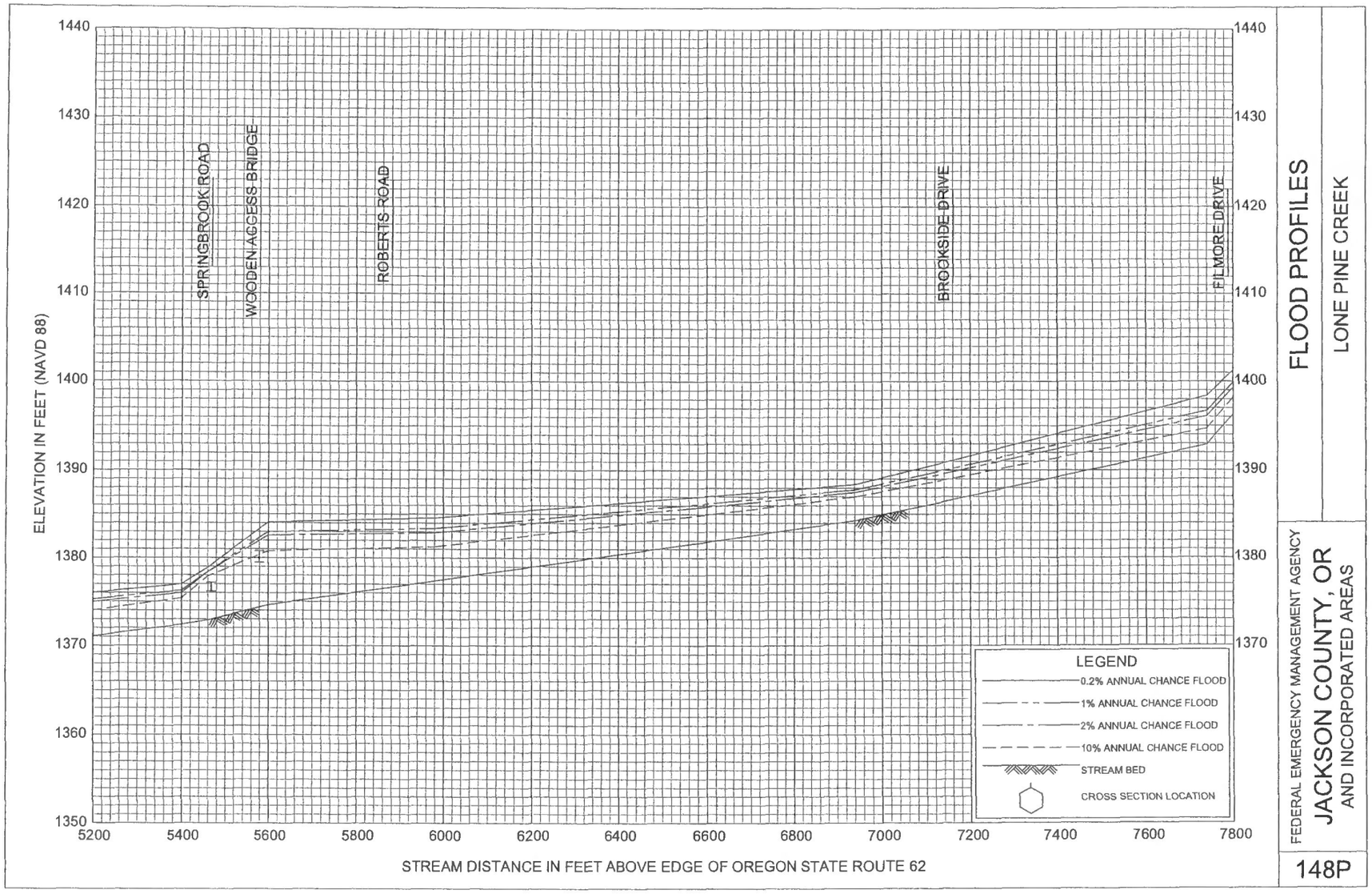
FLOOD PROFILES

LONE PINE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

147P



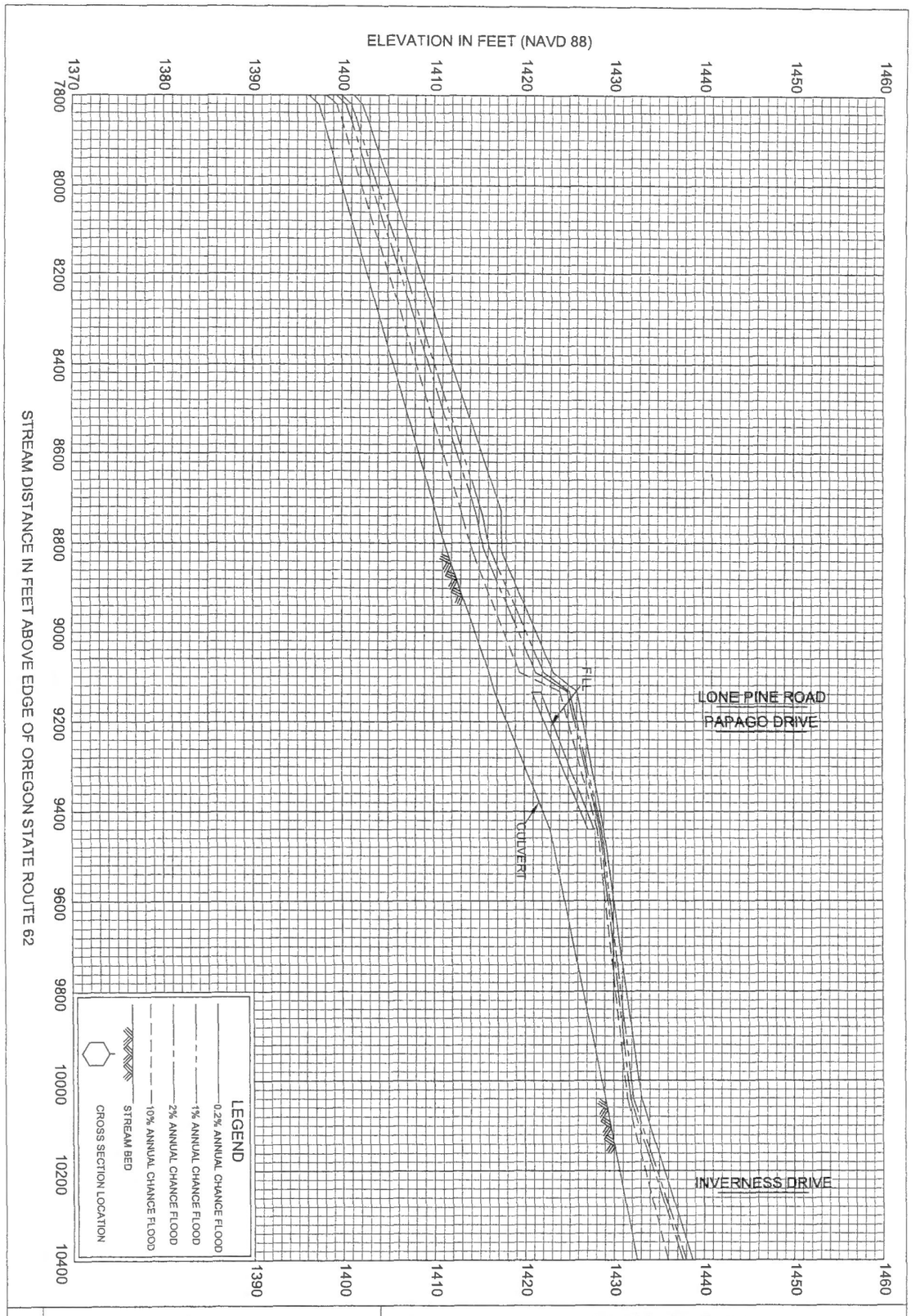
FLOOD PROFILES

LONE PINE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

148P



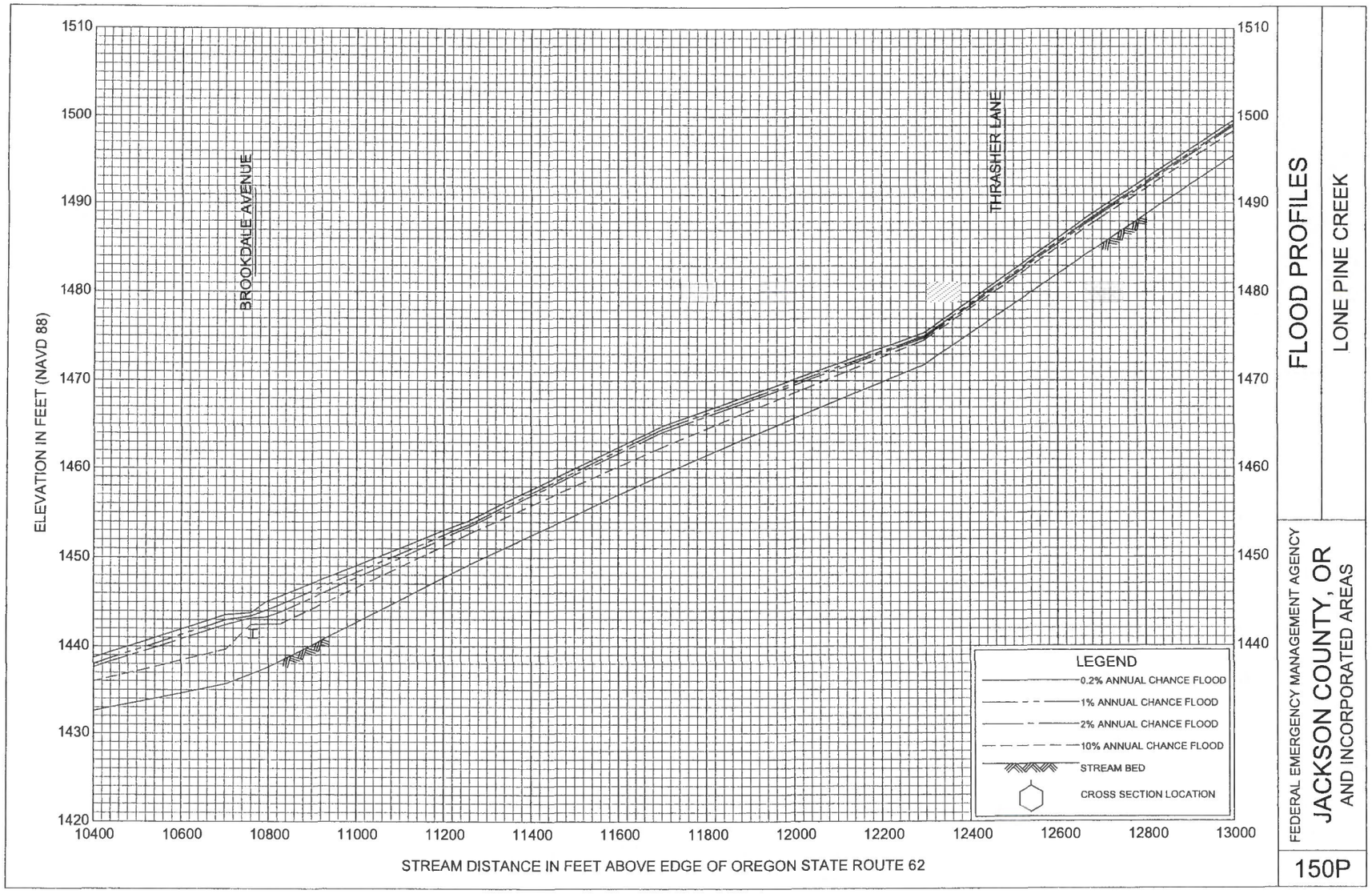
149P

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

LONE PINE CREEK

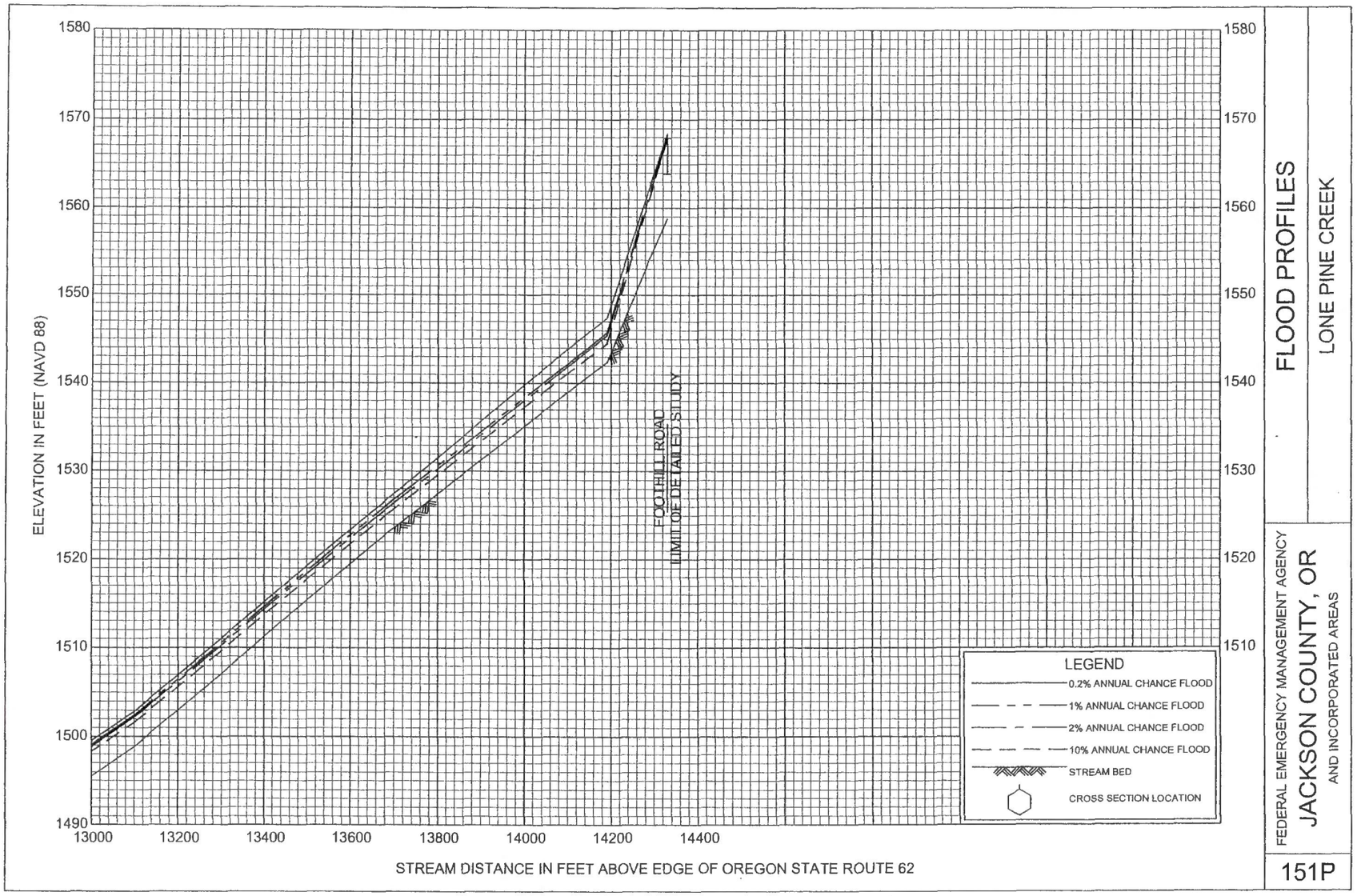


FLOOD PROFILES

LONE PINE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
JACKSON COUNTY, OR
AND INCORPORATED AREAS

150P



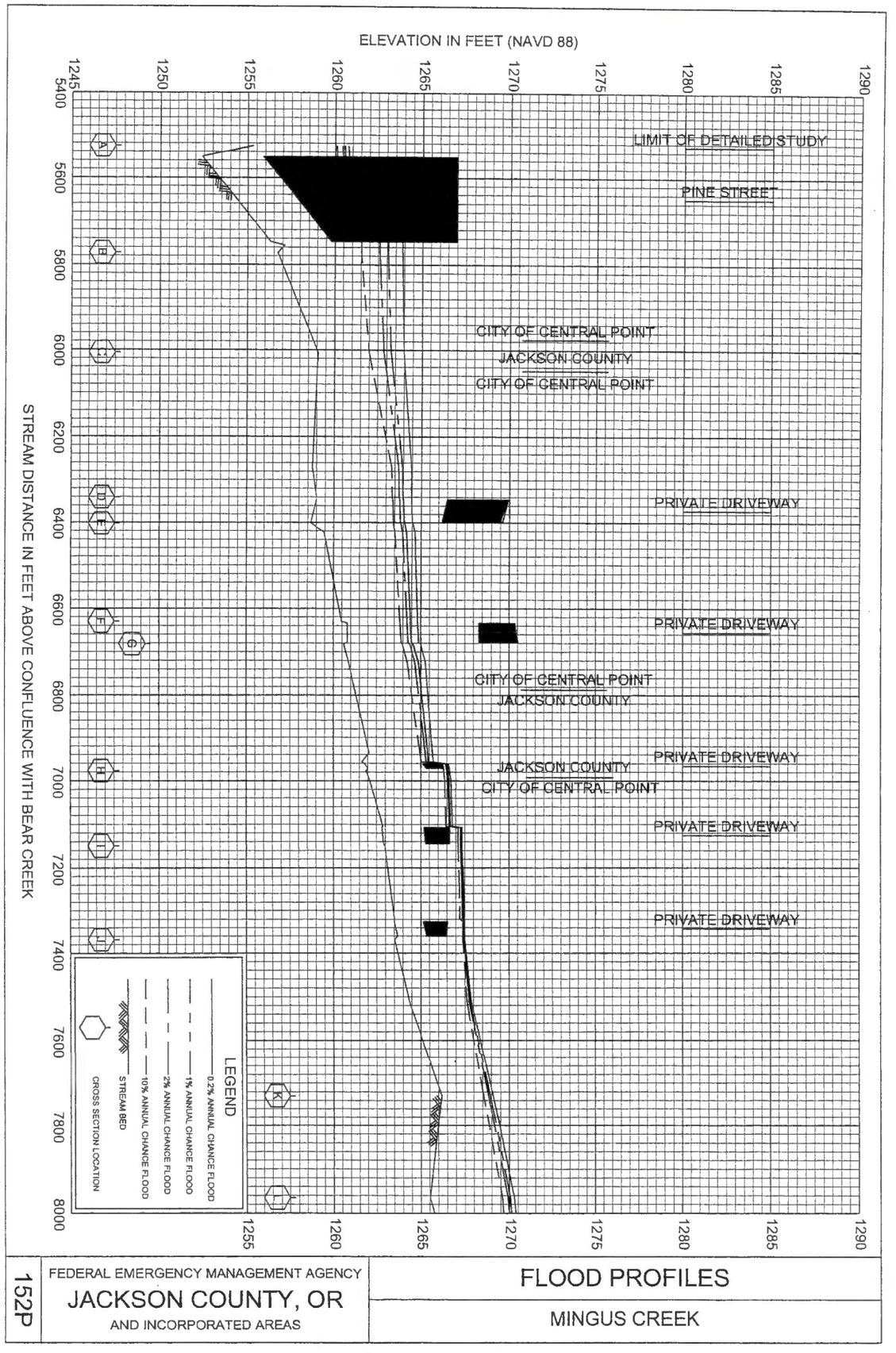
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

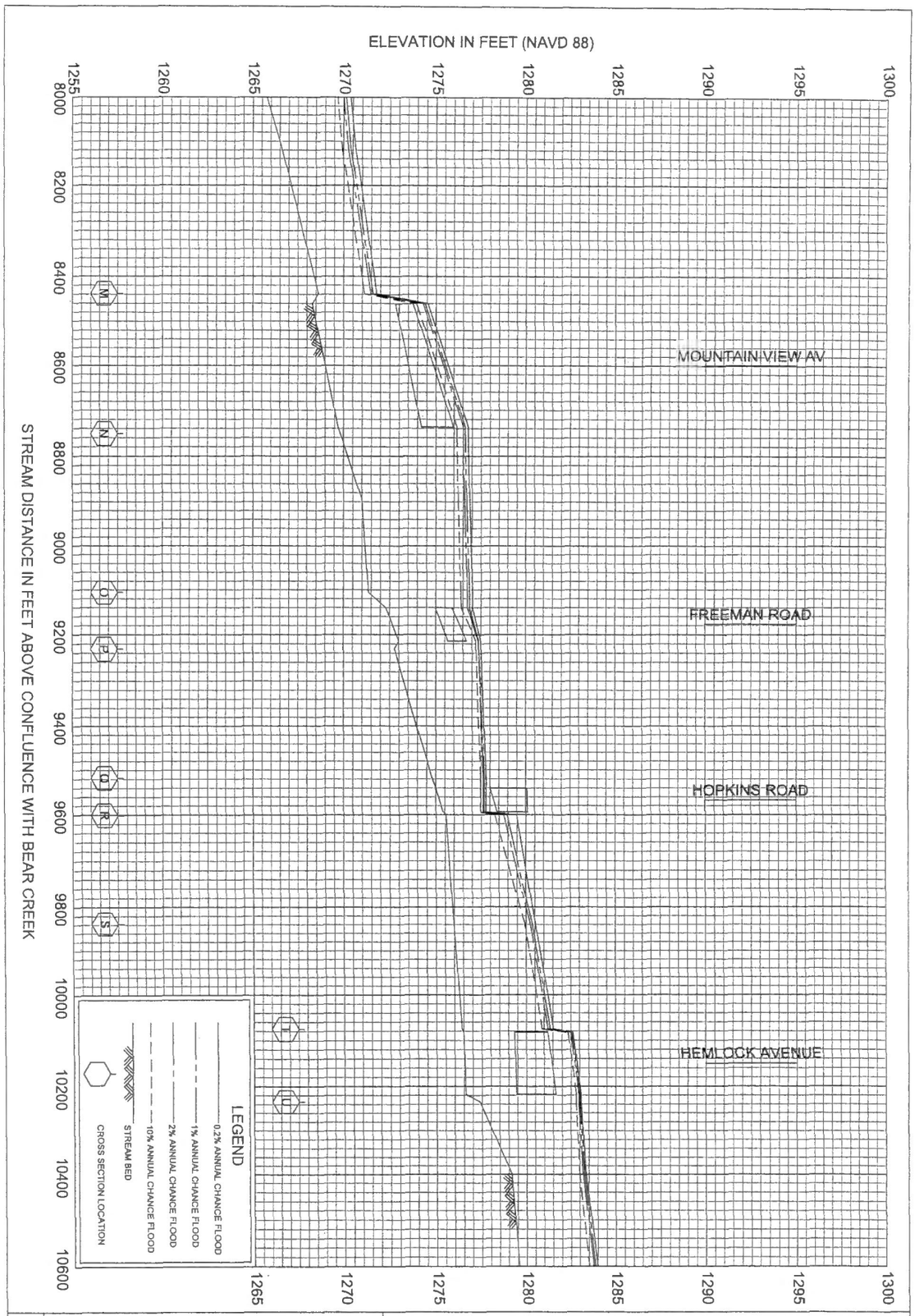
FLOOD PROFILES

LONE PINE CREEK

151P



152P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES MINGUS CREEK

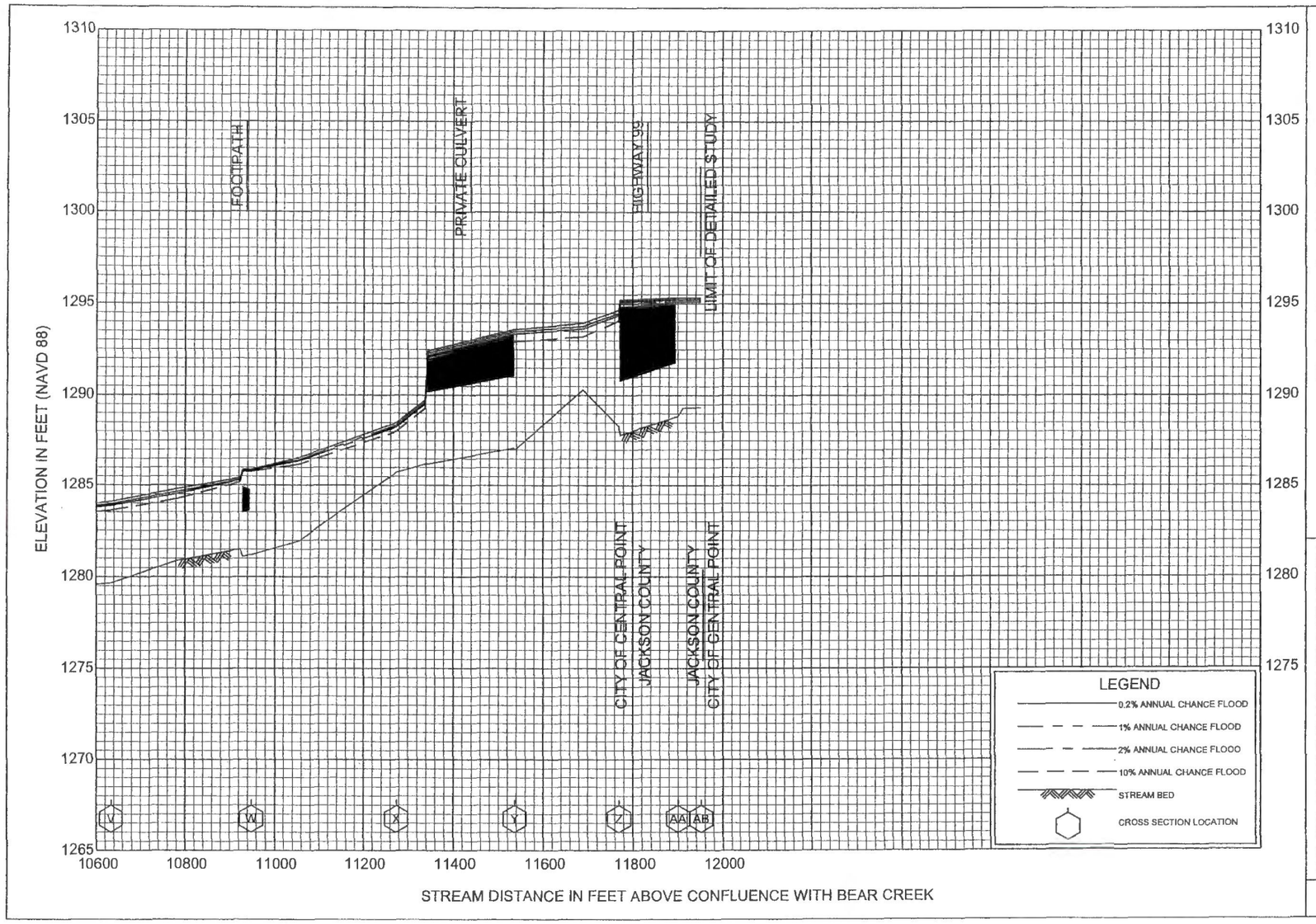


FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

MINGUS CREEK



FLOOD PROFILES

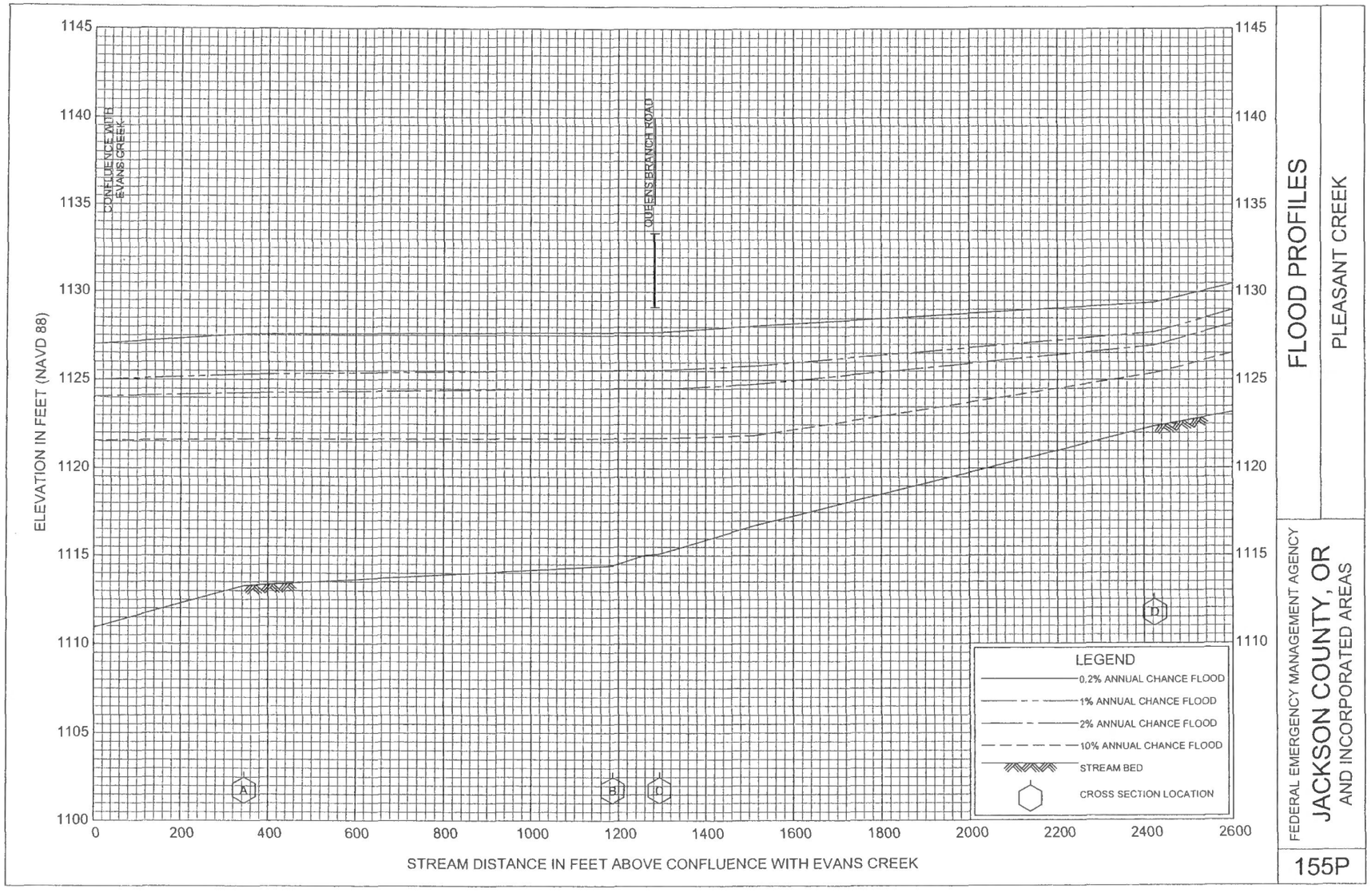
MINGUS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

154P



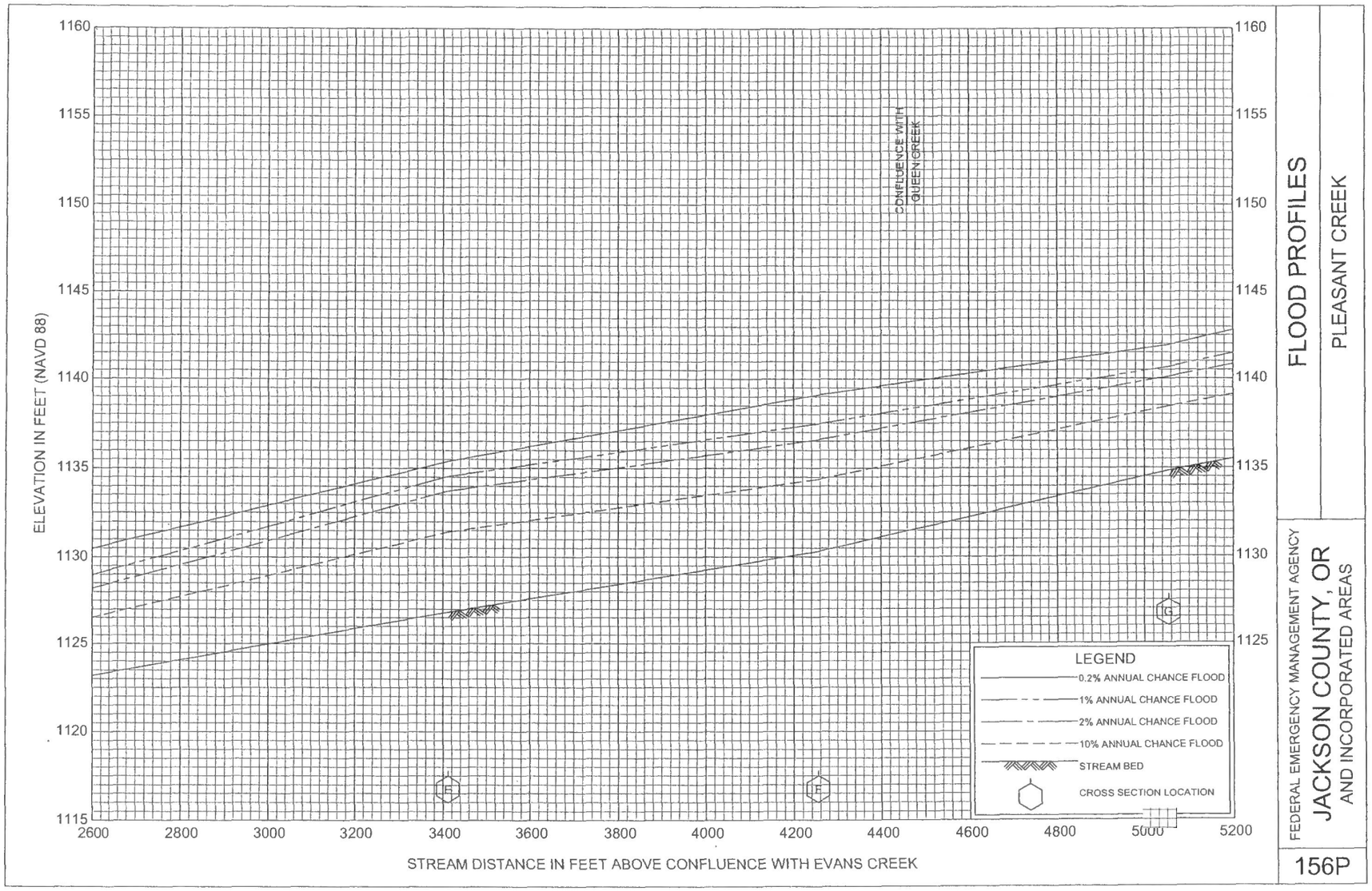
FLOOD PROFILES

PLEASANT CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

155P



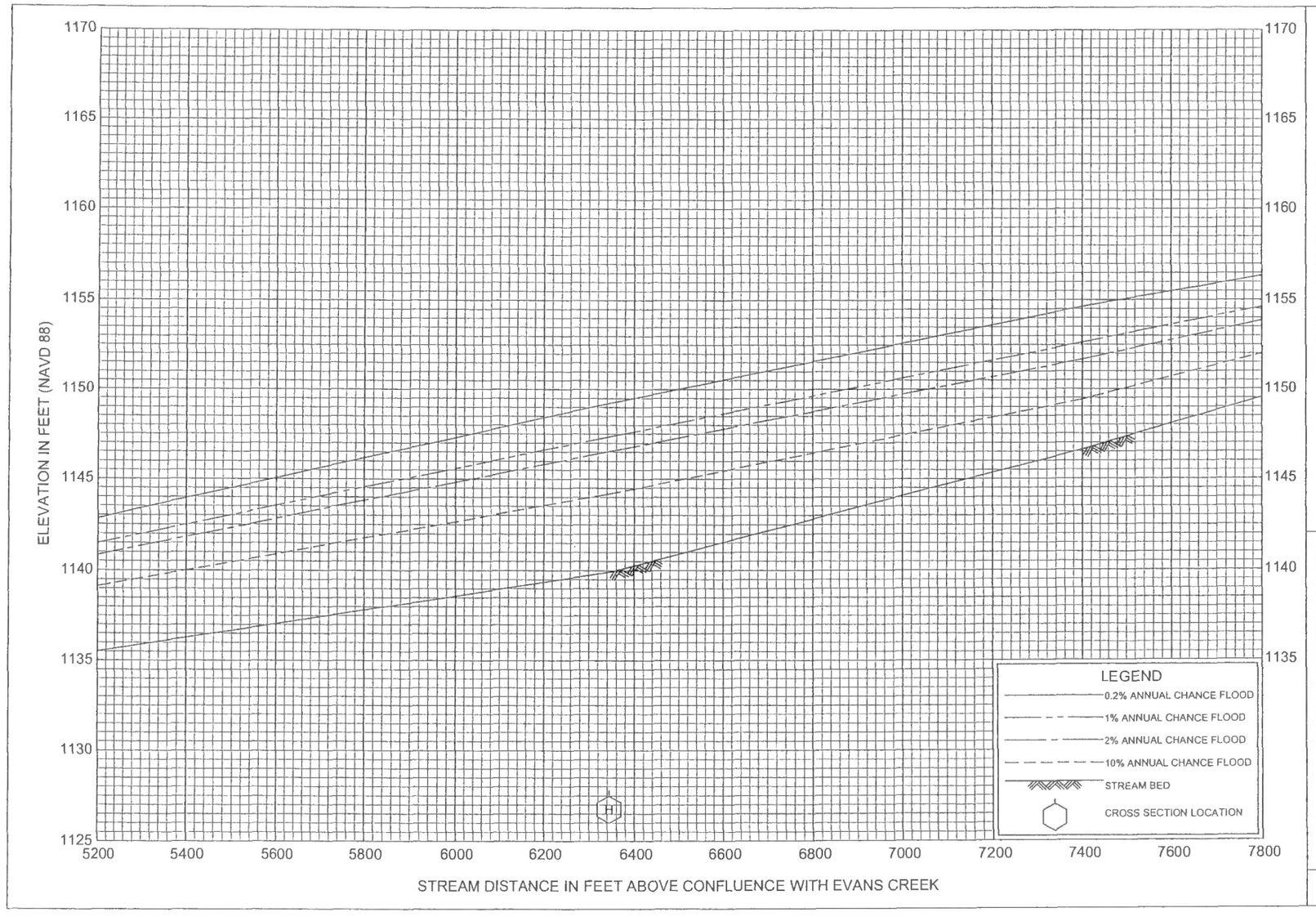
FLOOD PROFILES

PLEASANT CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

156P



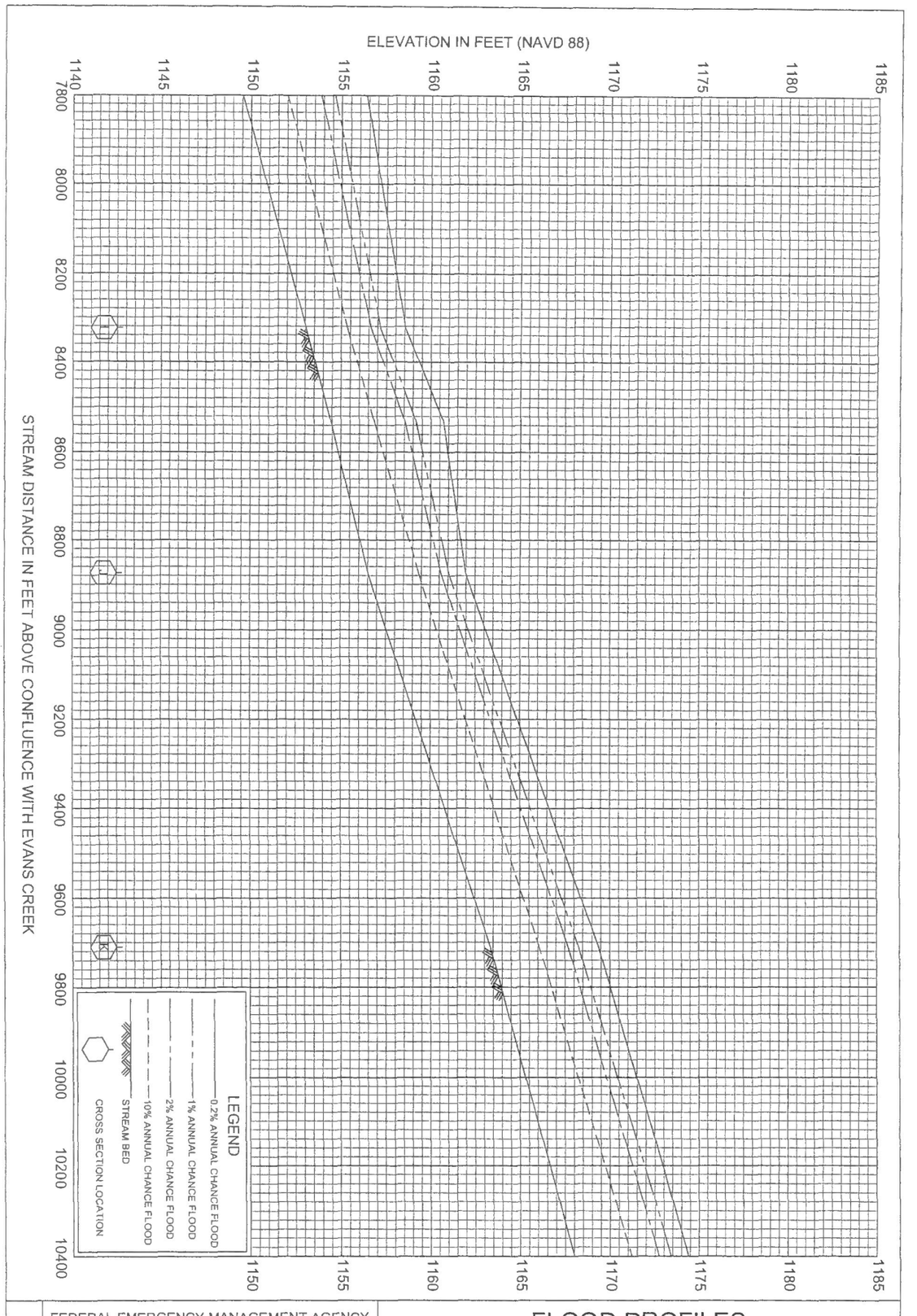
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PLEASANT CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

157P



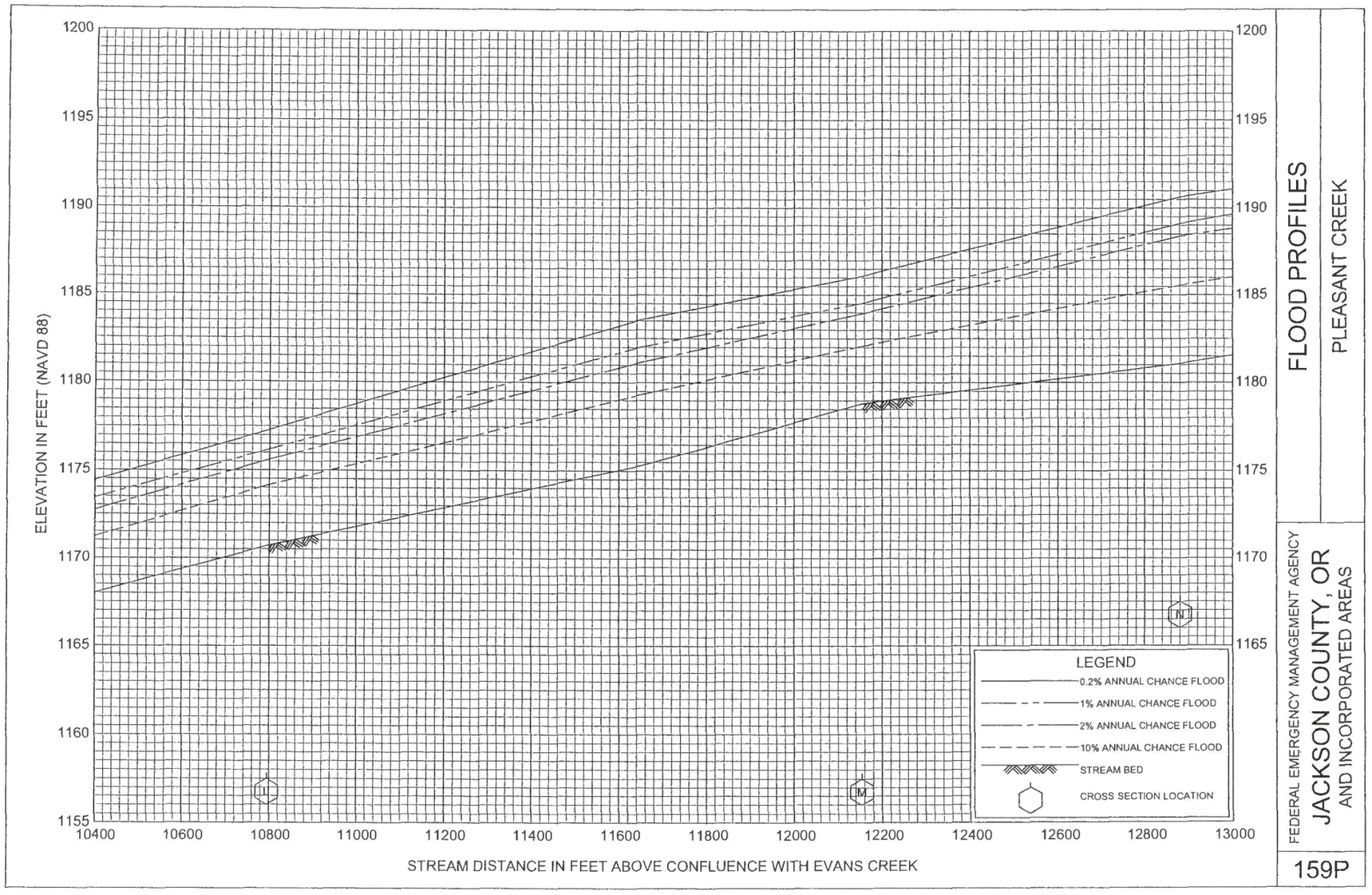
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JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

PLEASANT CREEK

158P



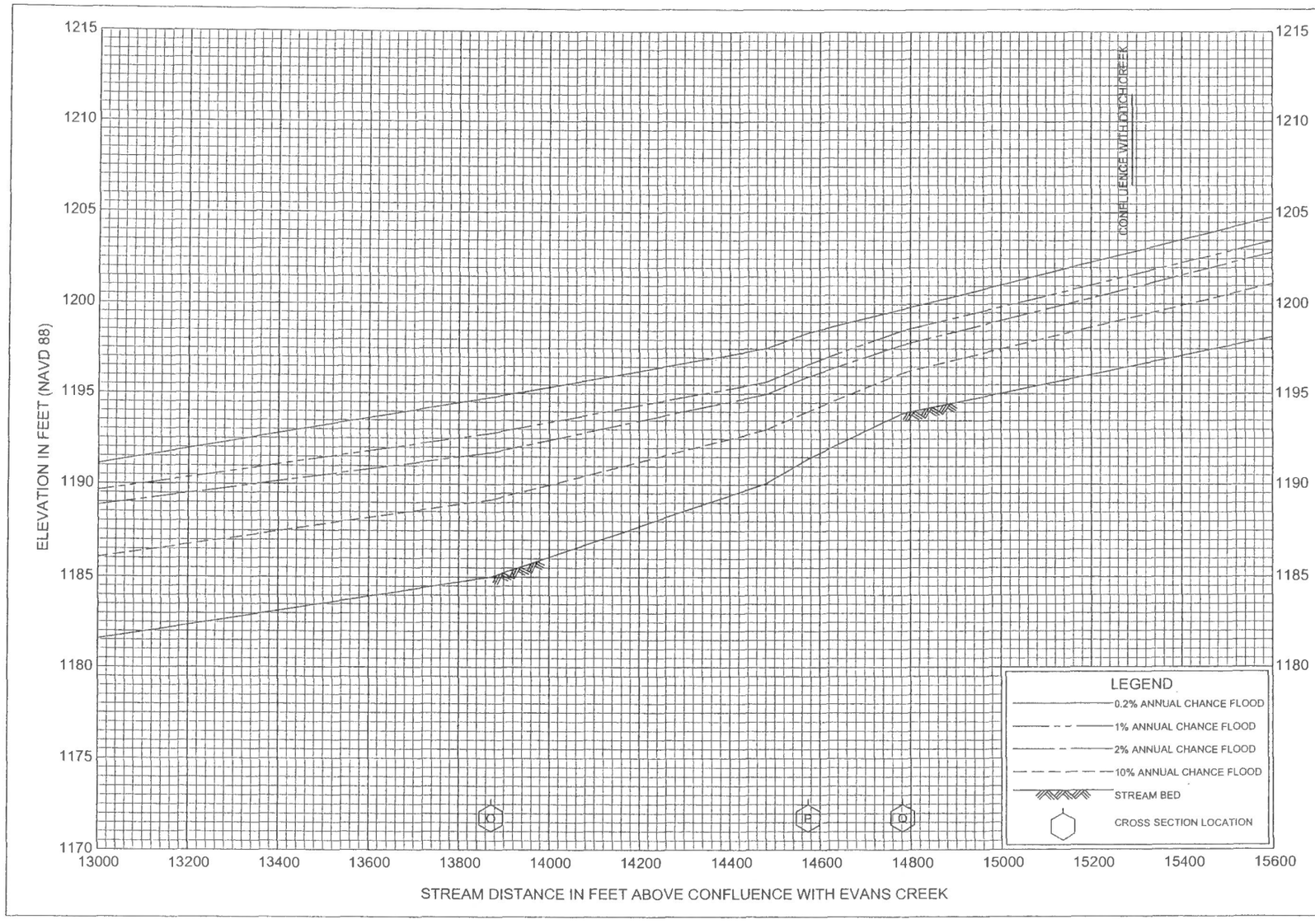
FLOOD PROFILES

PLEASANT CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

159P



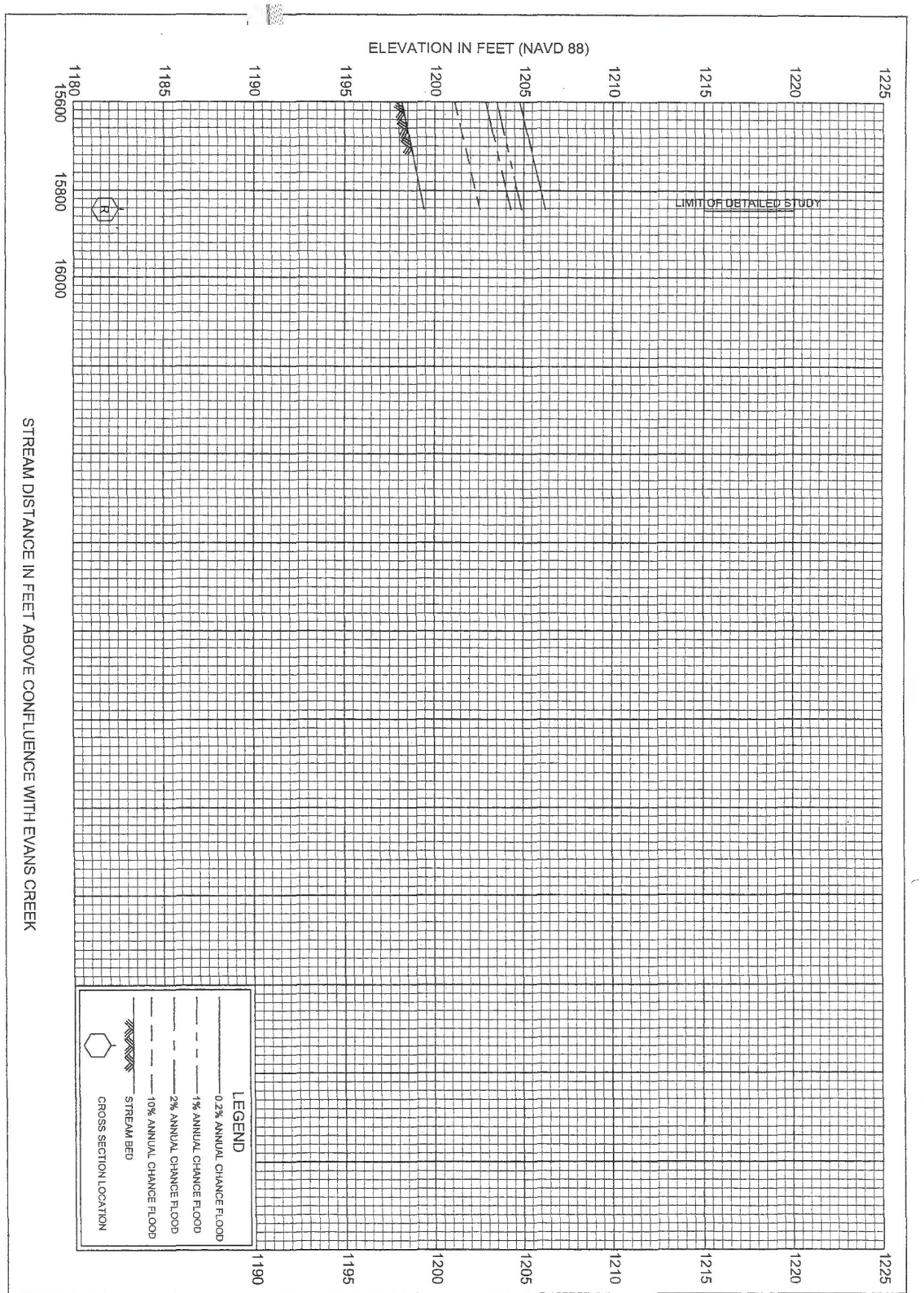
FLOOD PROFILES

PLEASANT CREEK

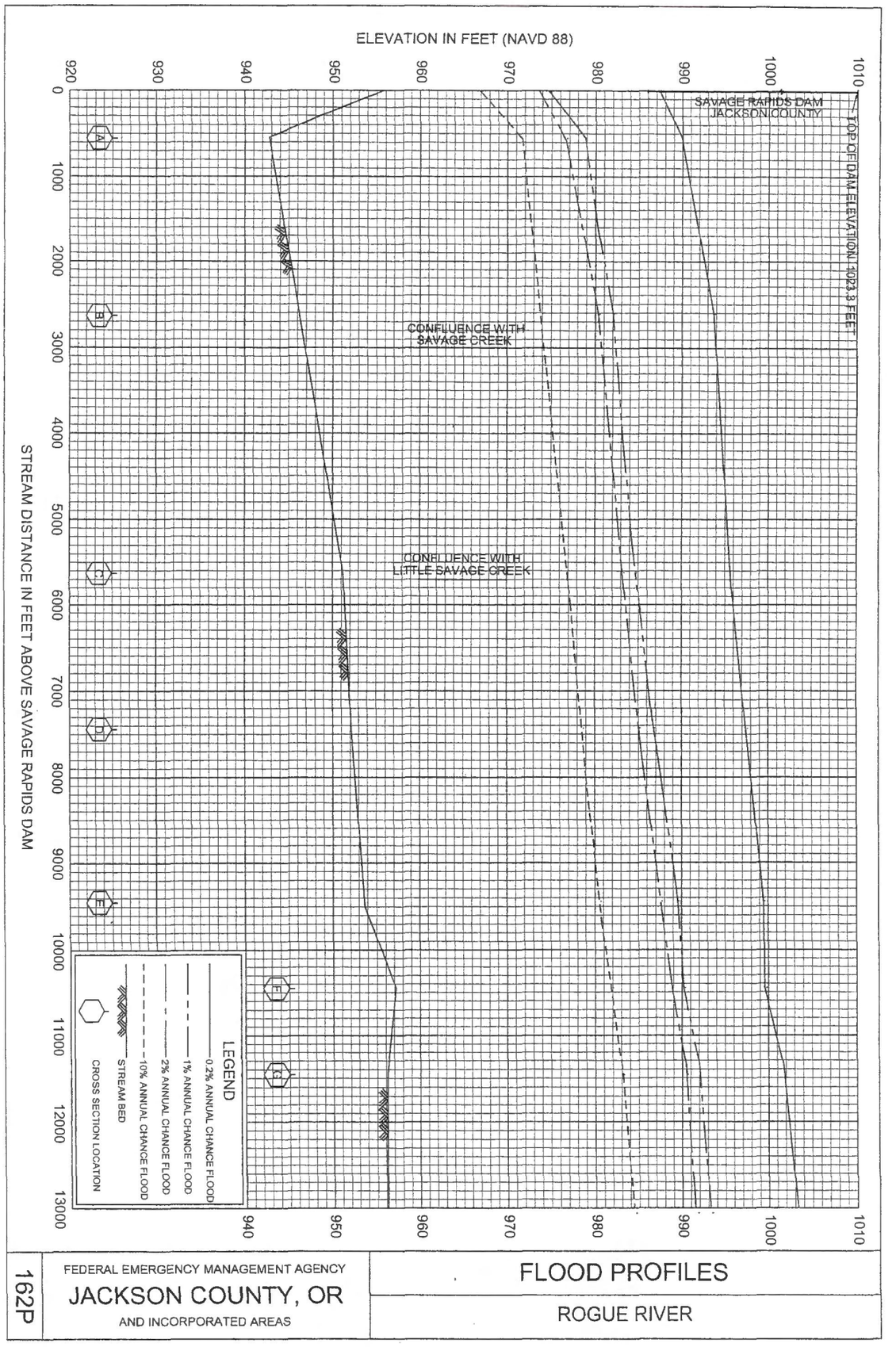
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

160P



161P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES PLEASANT CREEK



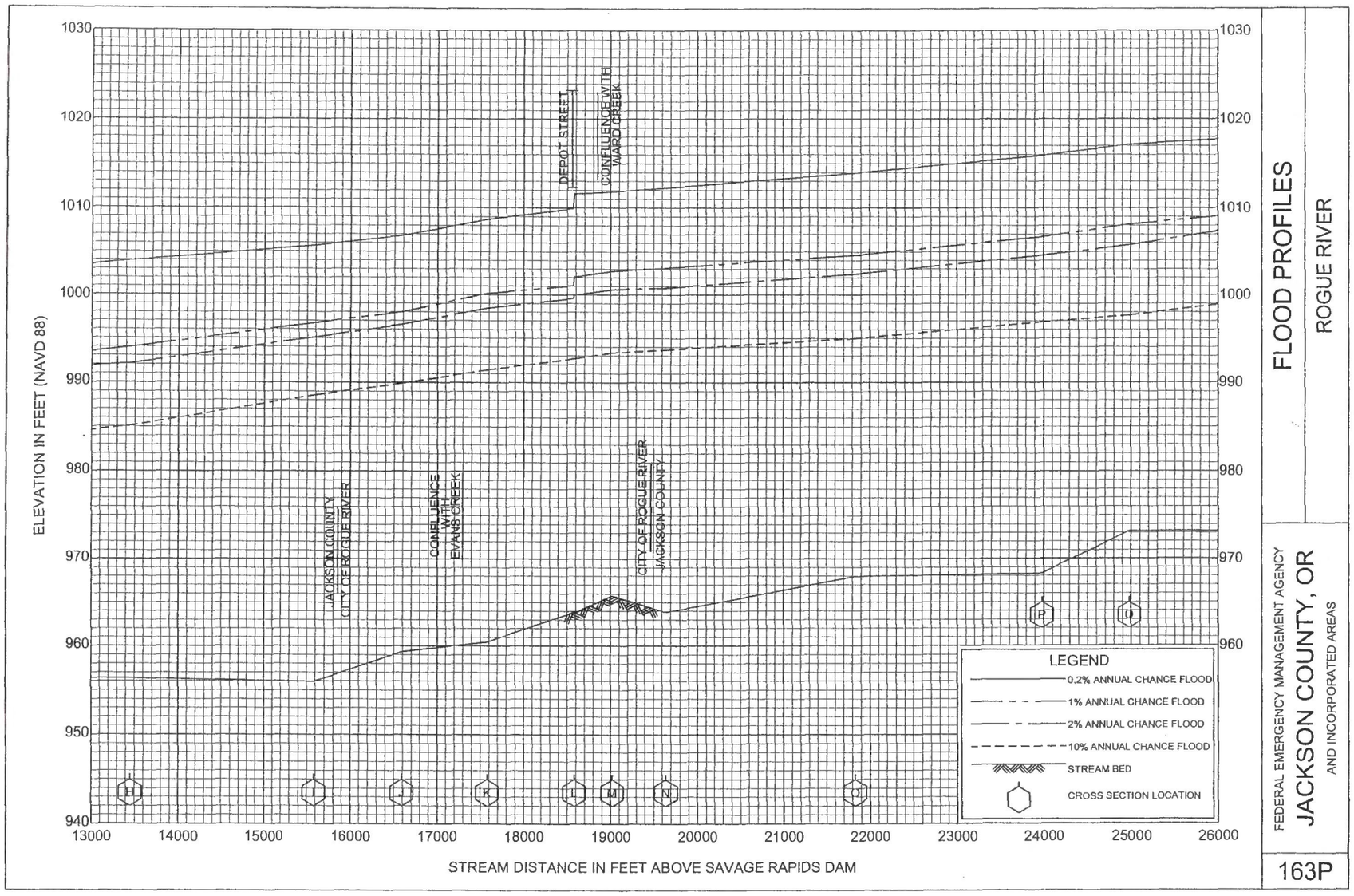
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

ROGUE RIVER



FEDERAL EMERGENCY MANAGEMENT AGENCY

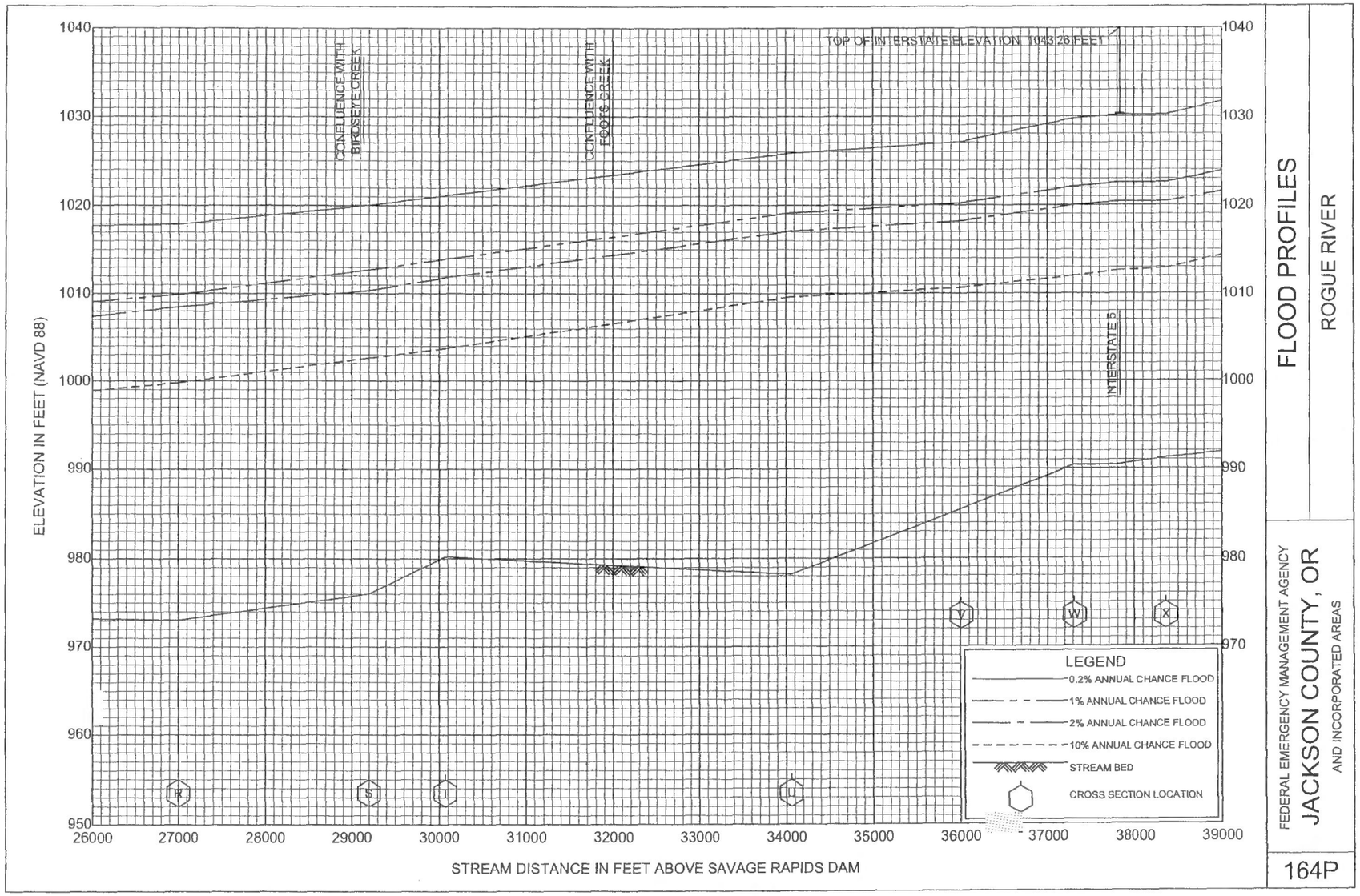
FLOOD PROFILES

ROGUE RIVER

JACKSON COUNTY, OR

AND INCORPORATED AREAS

163P



FLOOD PROFILES

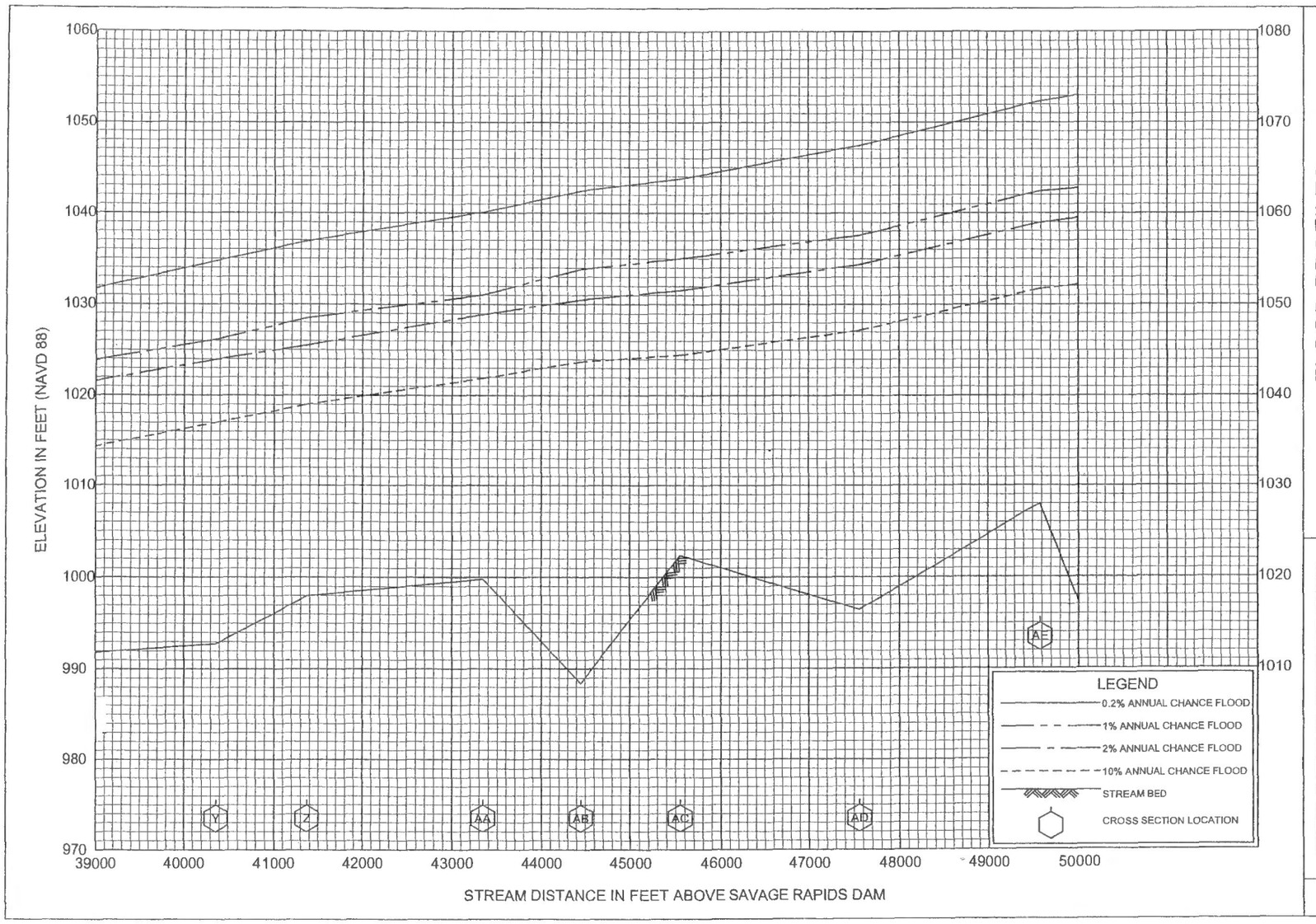
ROGUE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

164P



FLOOD PROFILES

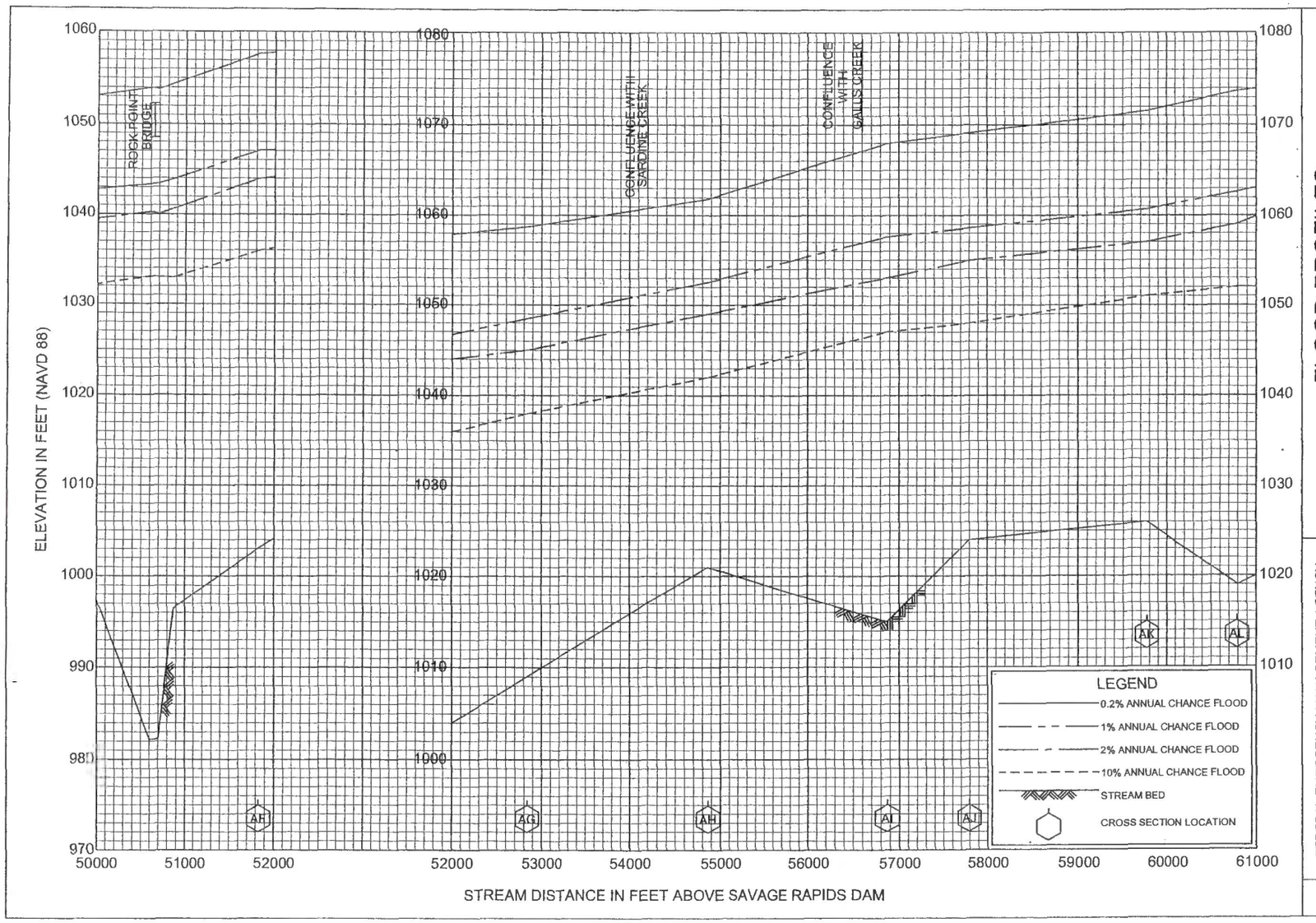
ROGUE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

165P



FLOOD PROFILES

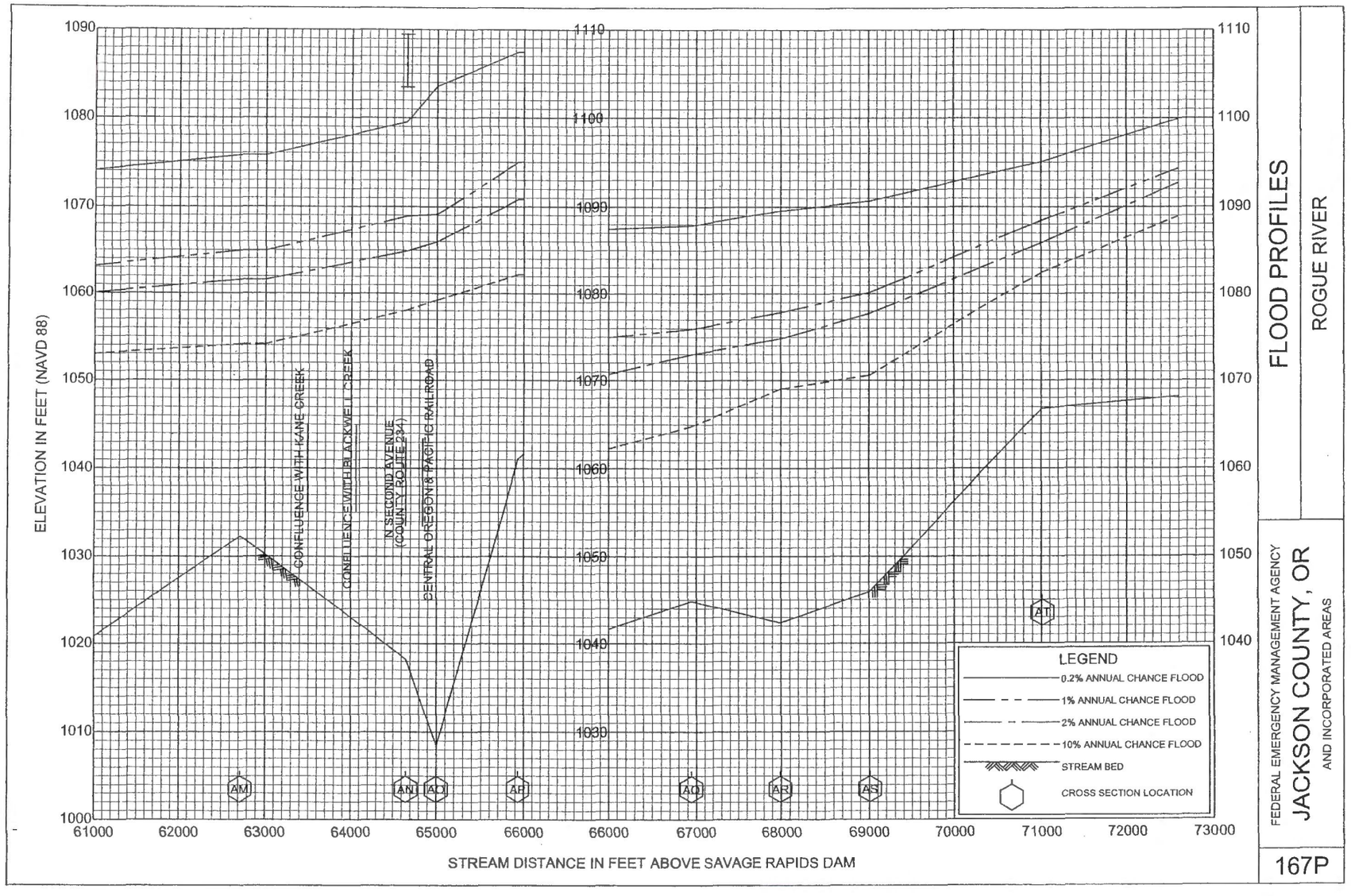
ROGUE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

166P



FLOOD PROFILES

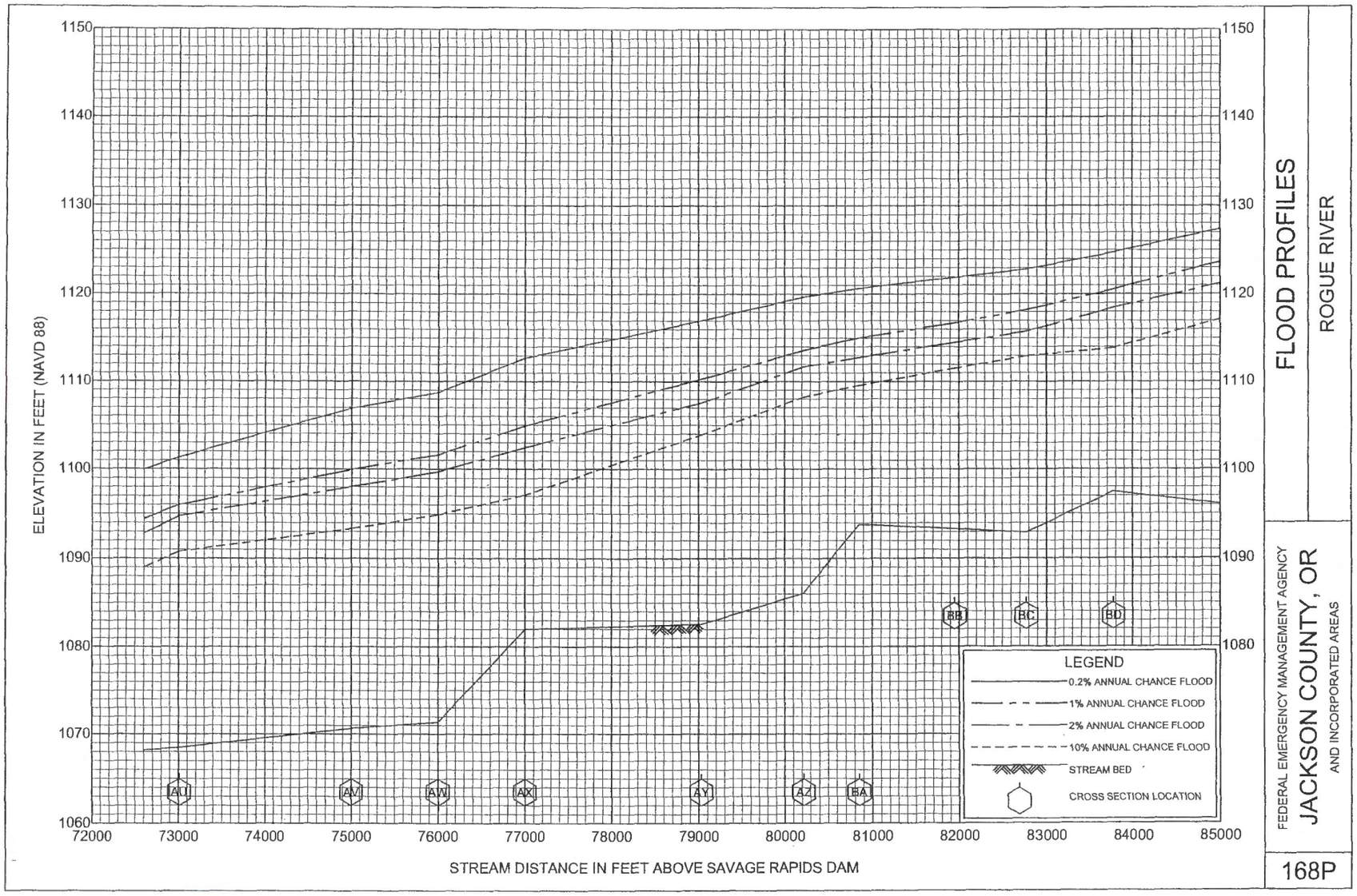
ROGUE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

167P



FLOOD PROFILES

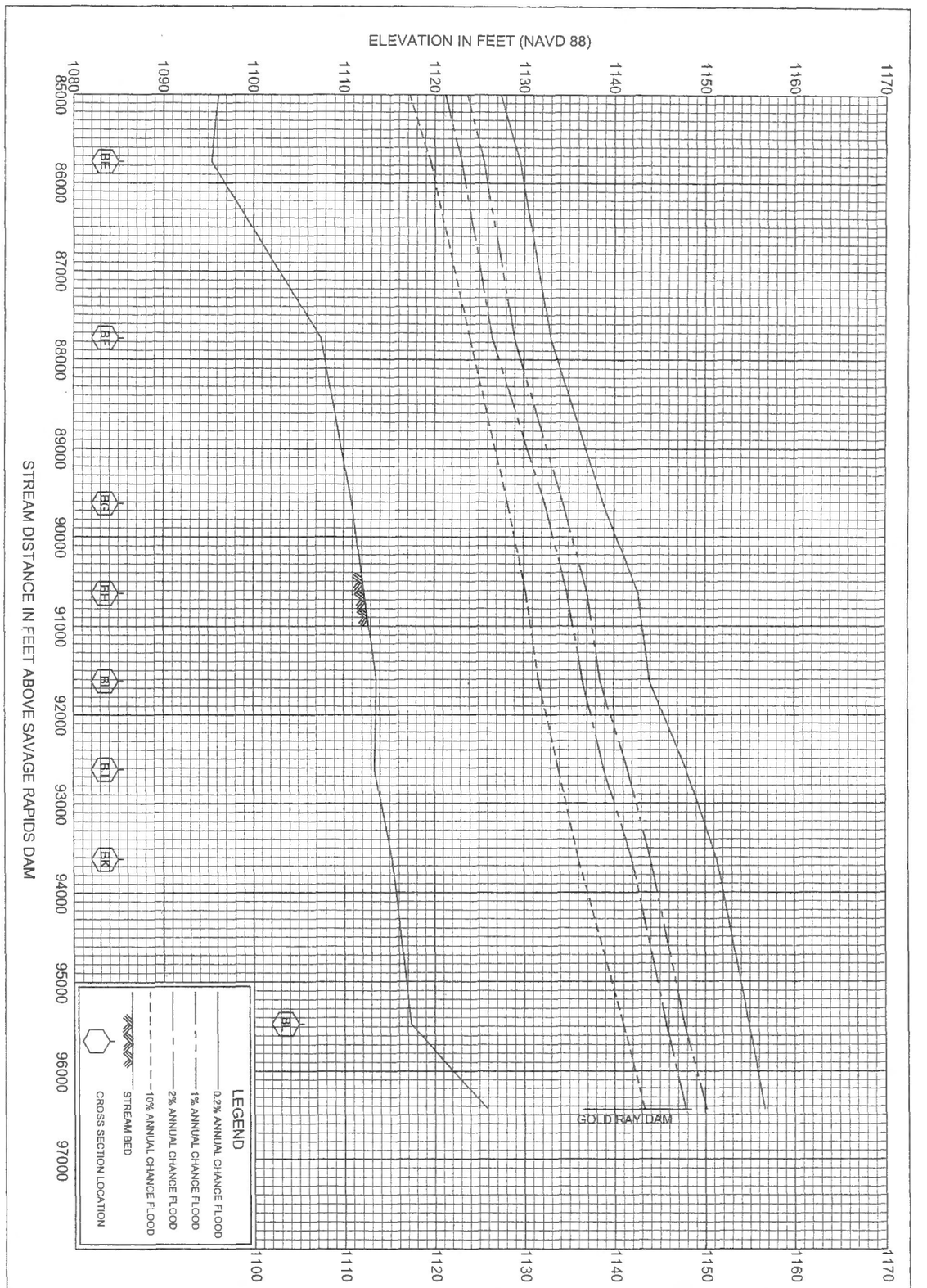
ROGUE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

168P



169P

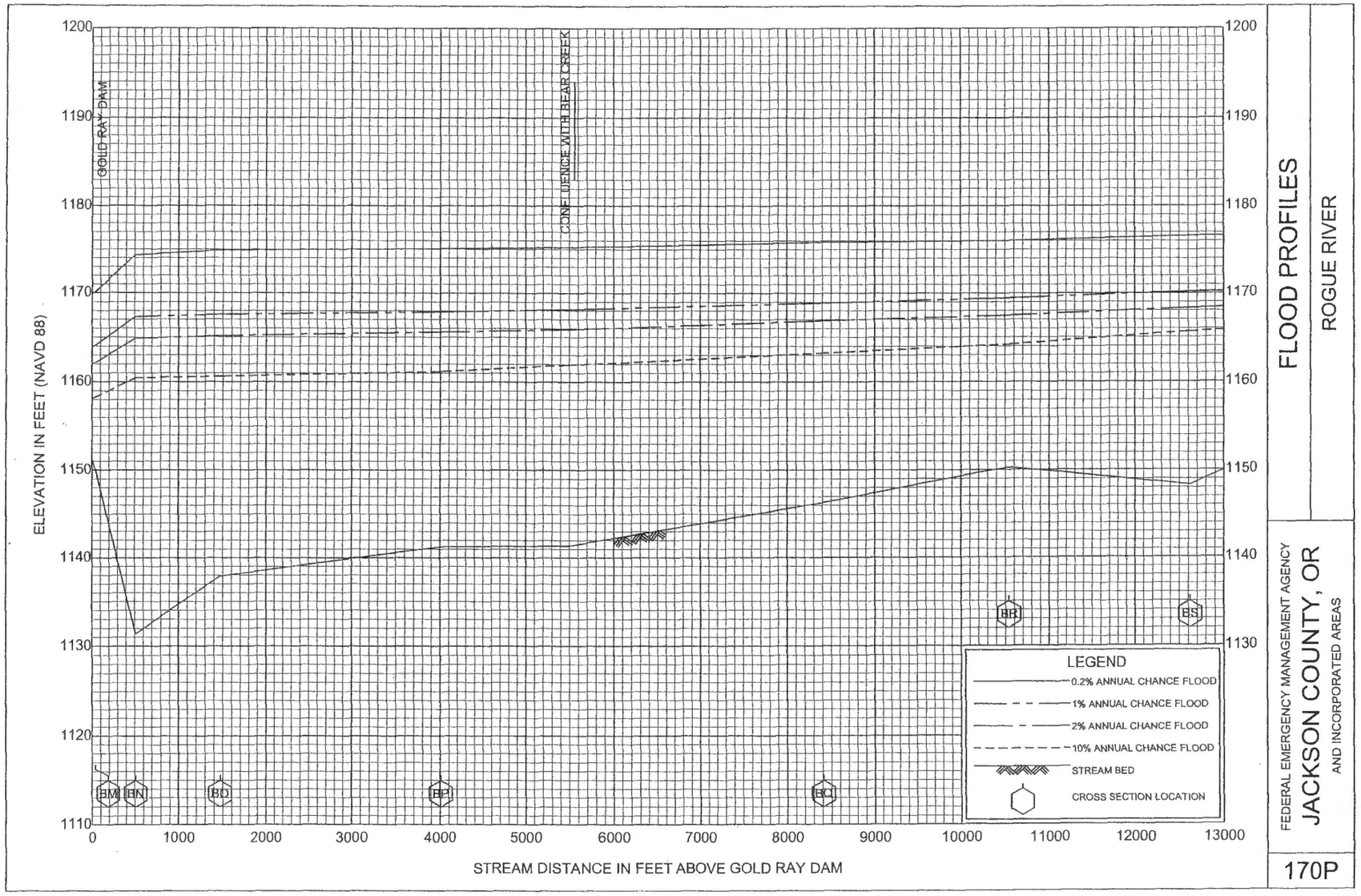
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

ROGUE RIVER



FLOOD PROFILES

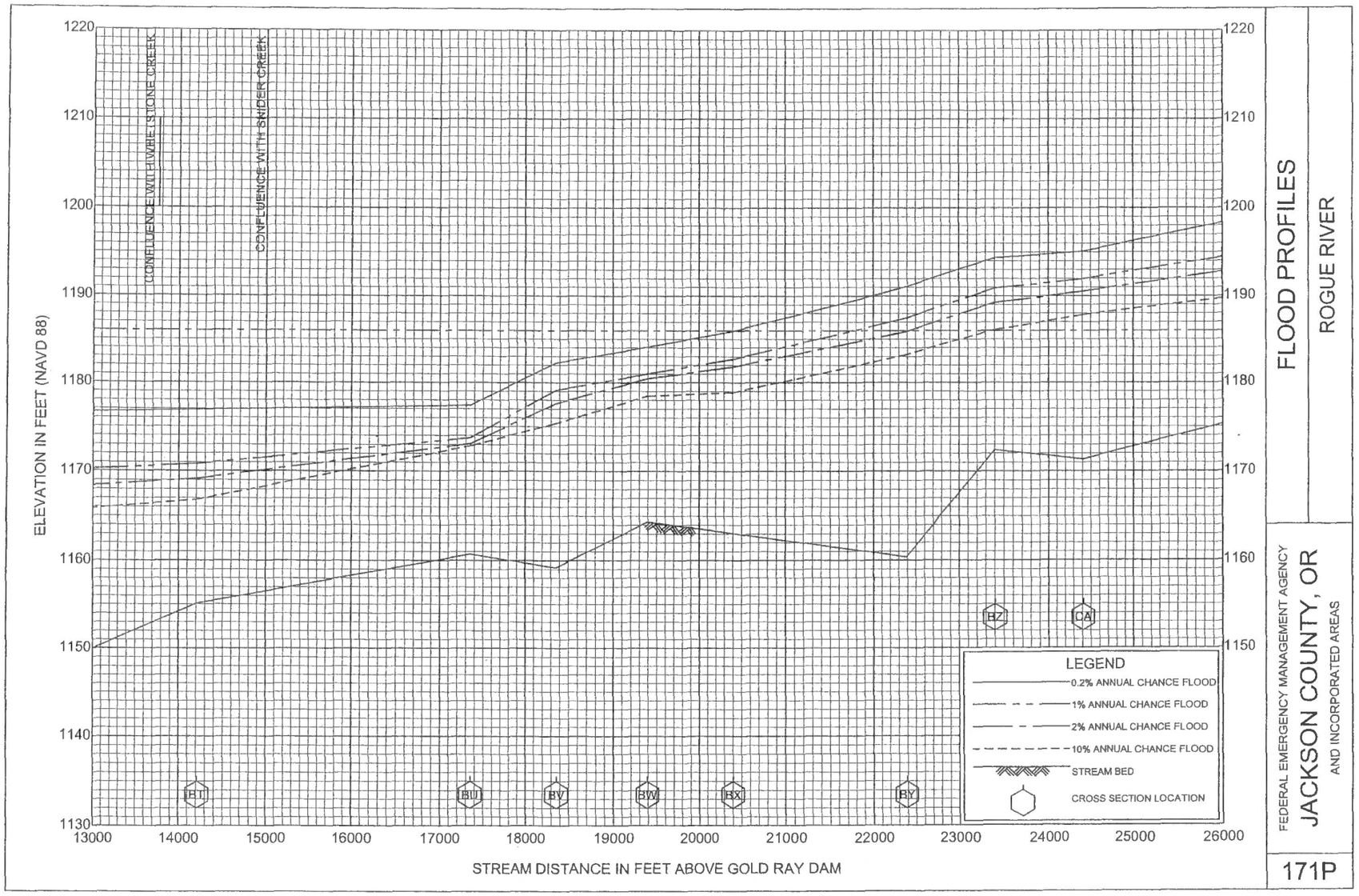
ROGUE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

170P



FLOOD PROFILES

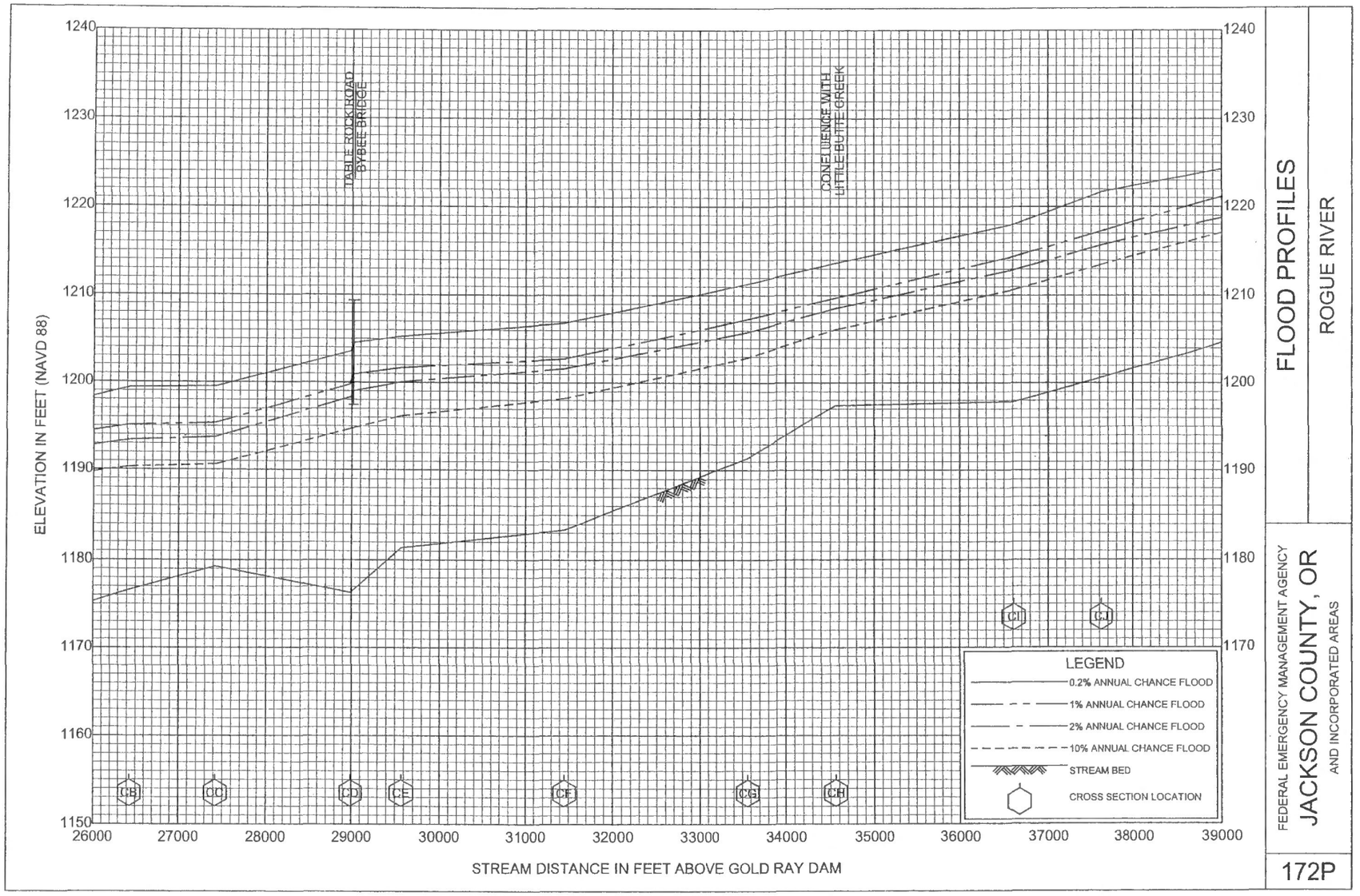
ROGUE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

171P



FLOOD PROFILES

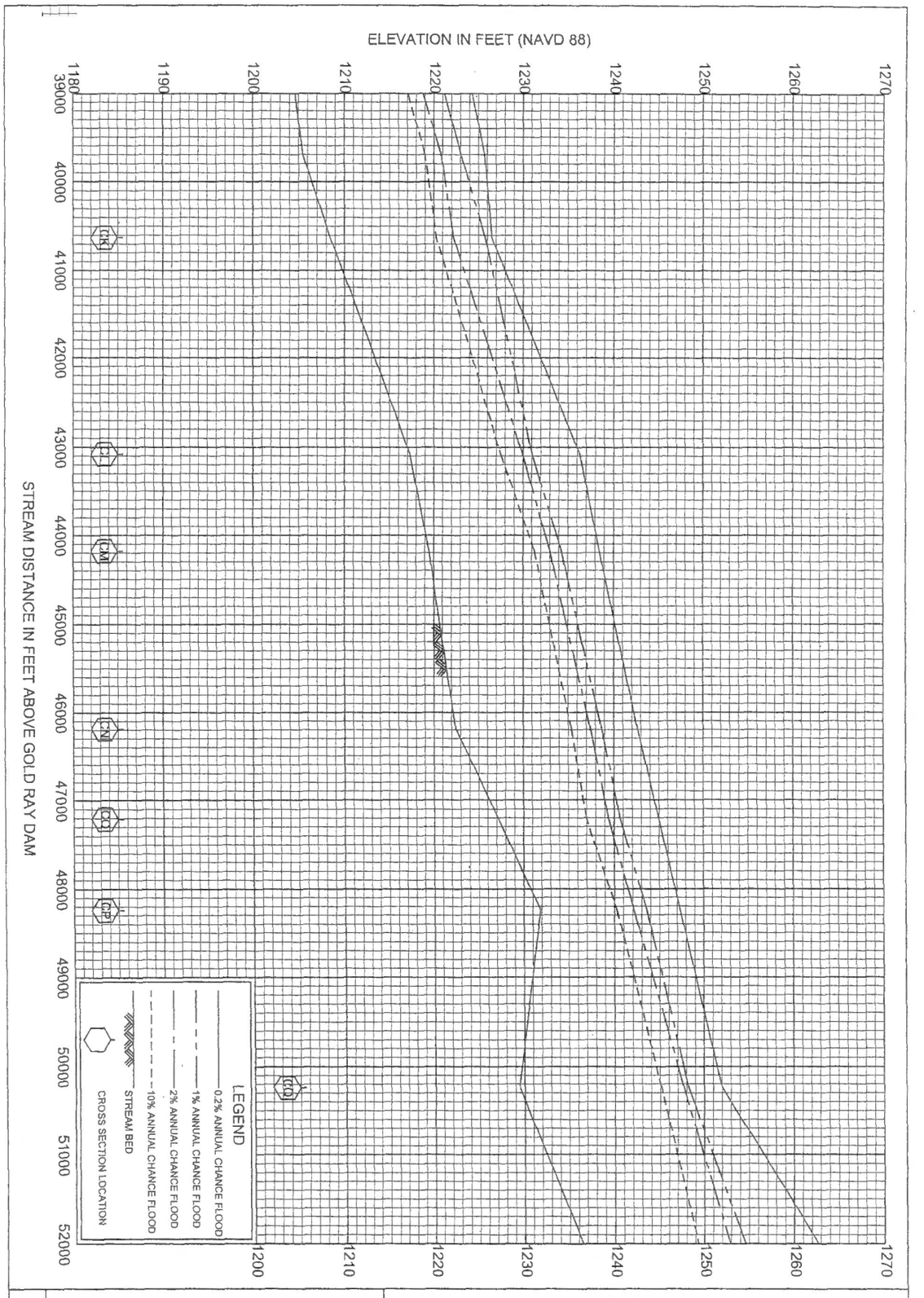
ROGUE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

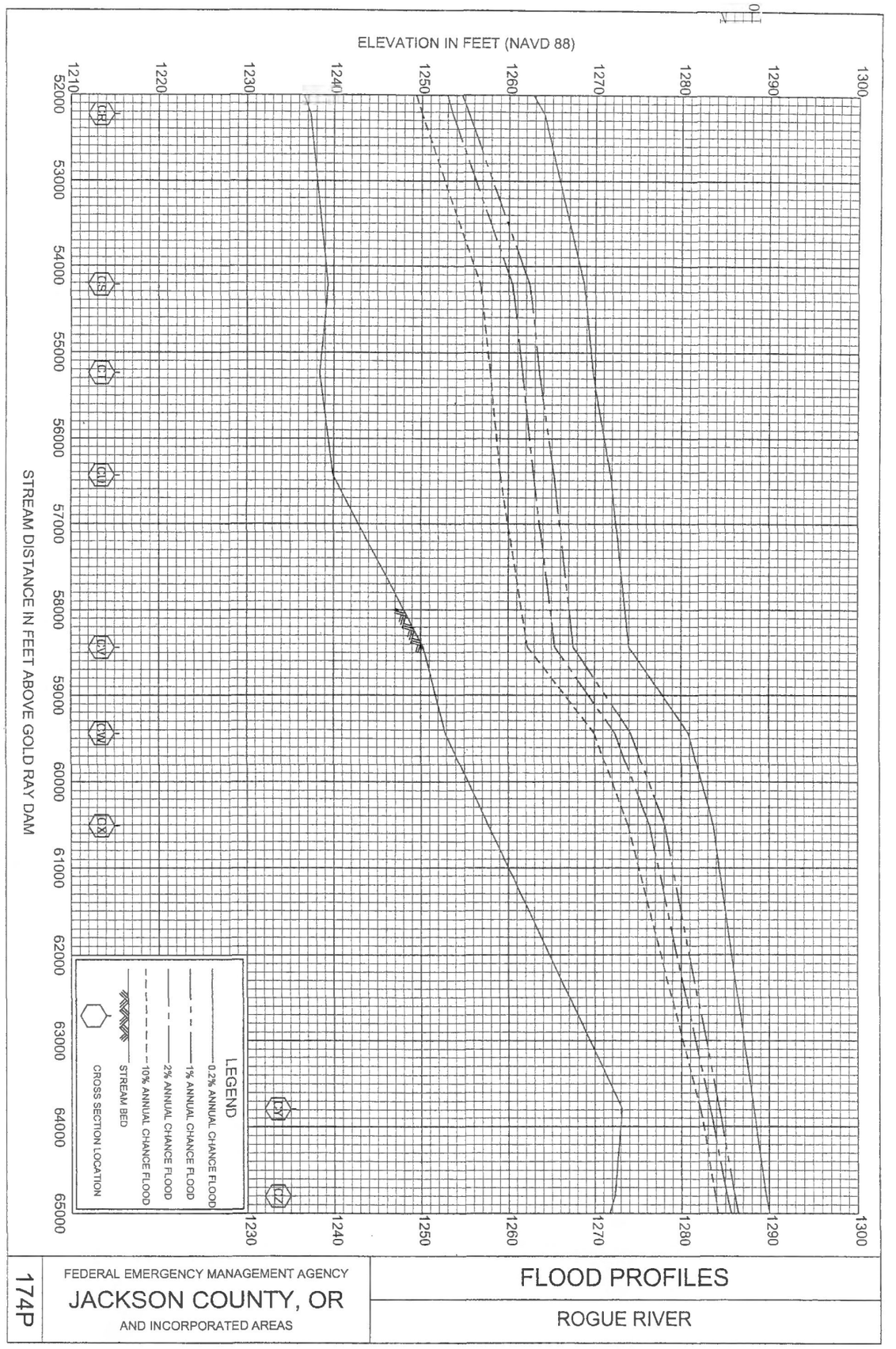
JACKSON COUNTY, OR

AND INCORPORATED AREAS

172P



173P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES ROGUE RIVER



FEDERAL EMERGENCY MANAGEMENT AGENCY

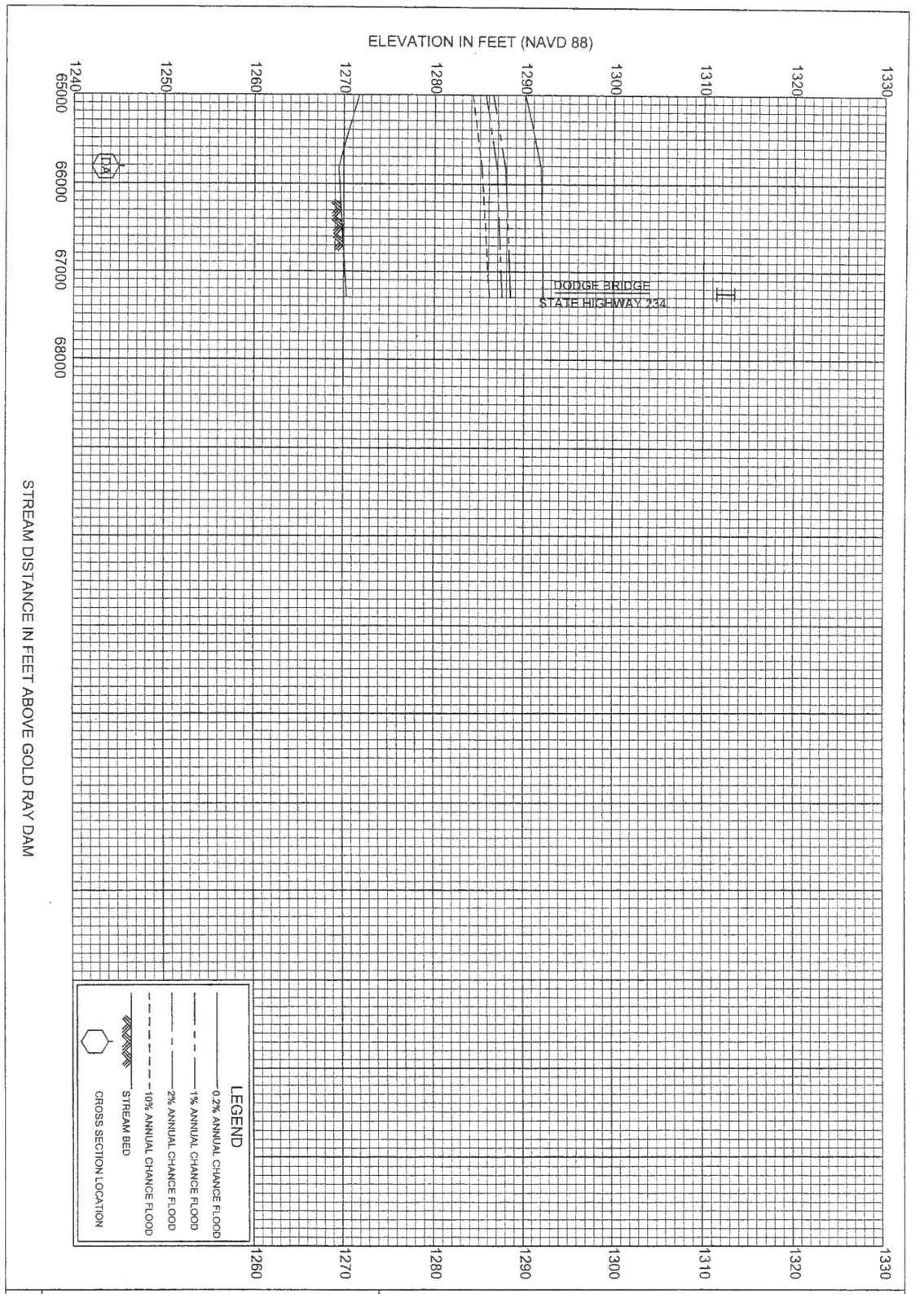
JACKSON COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

ROGUE RIVER

174P



175P

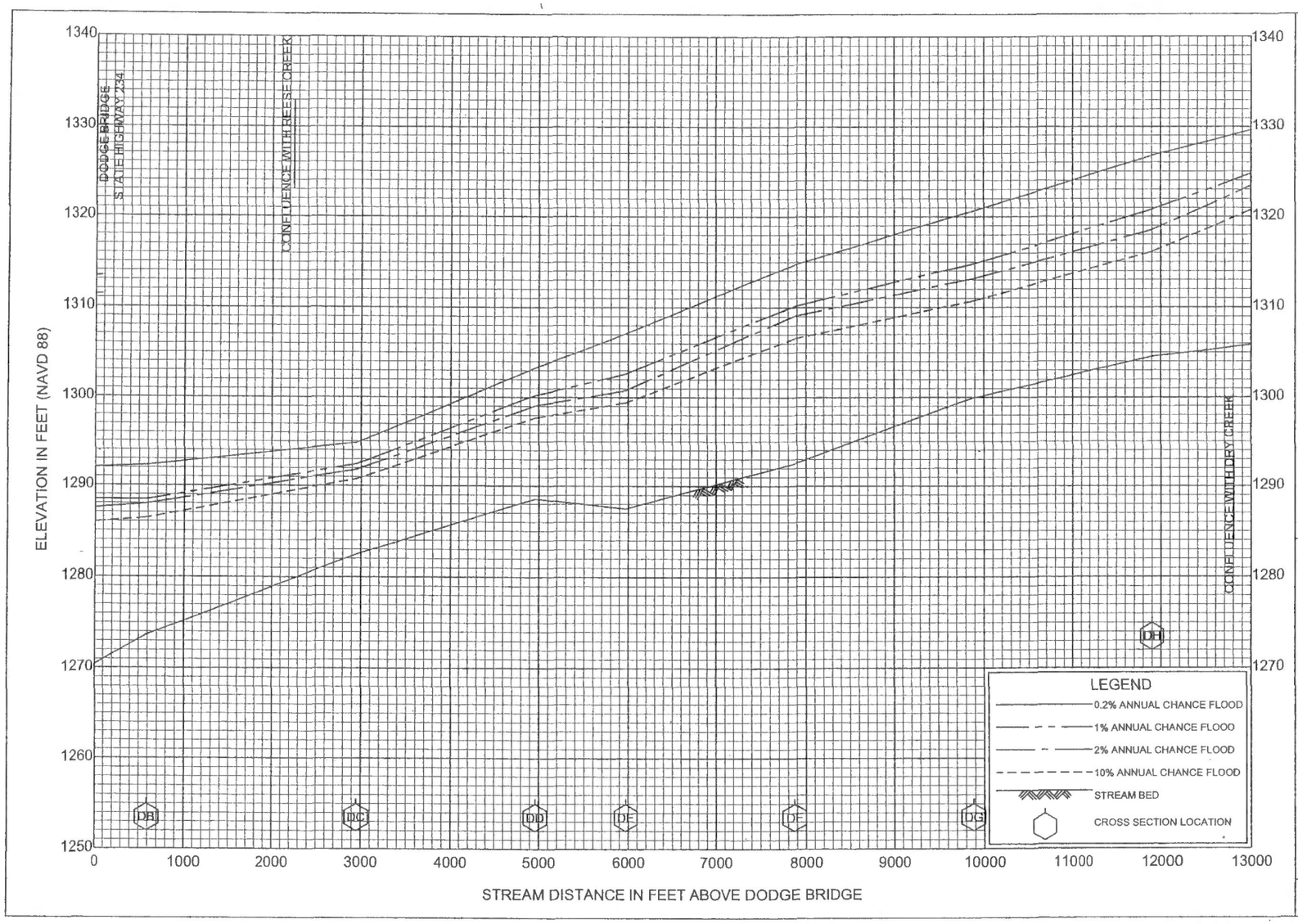
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

ROGUE RIVER



FLOOD PROFILES

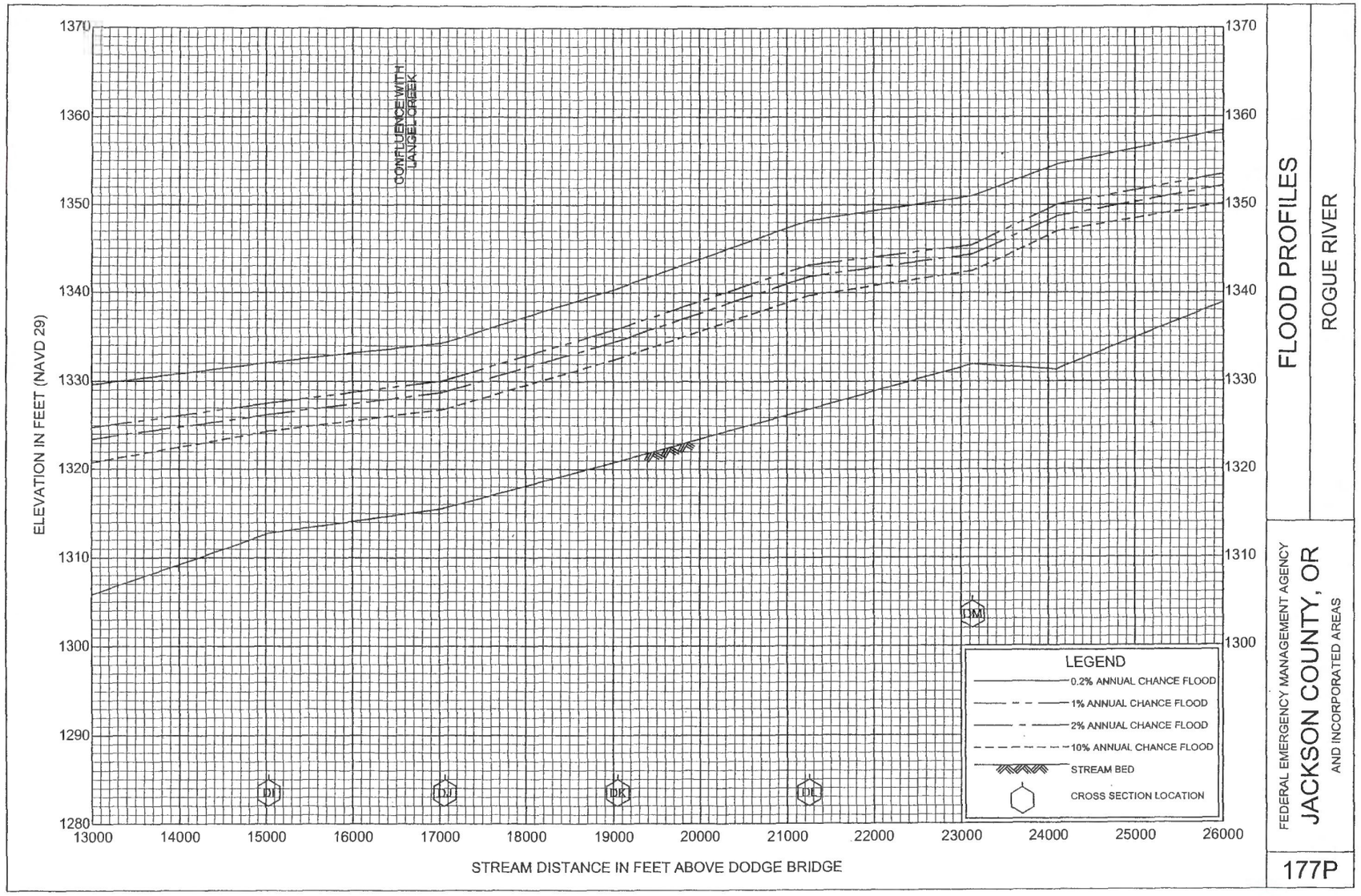
ROGUE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

176P



FLOOD PROFILES

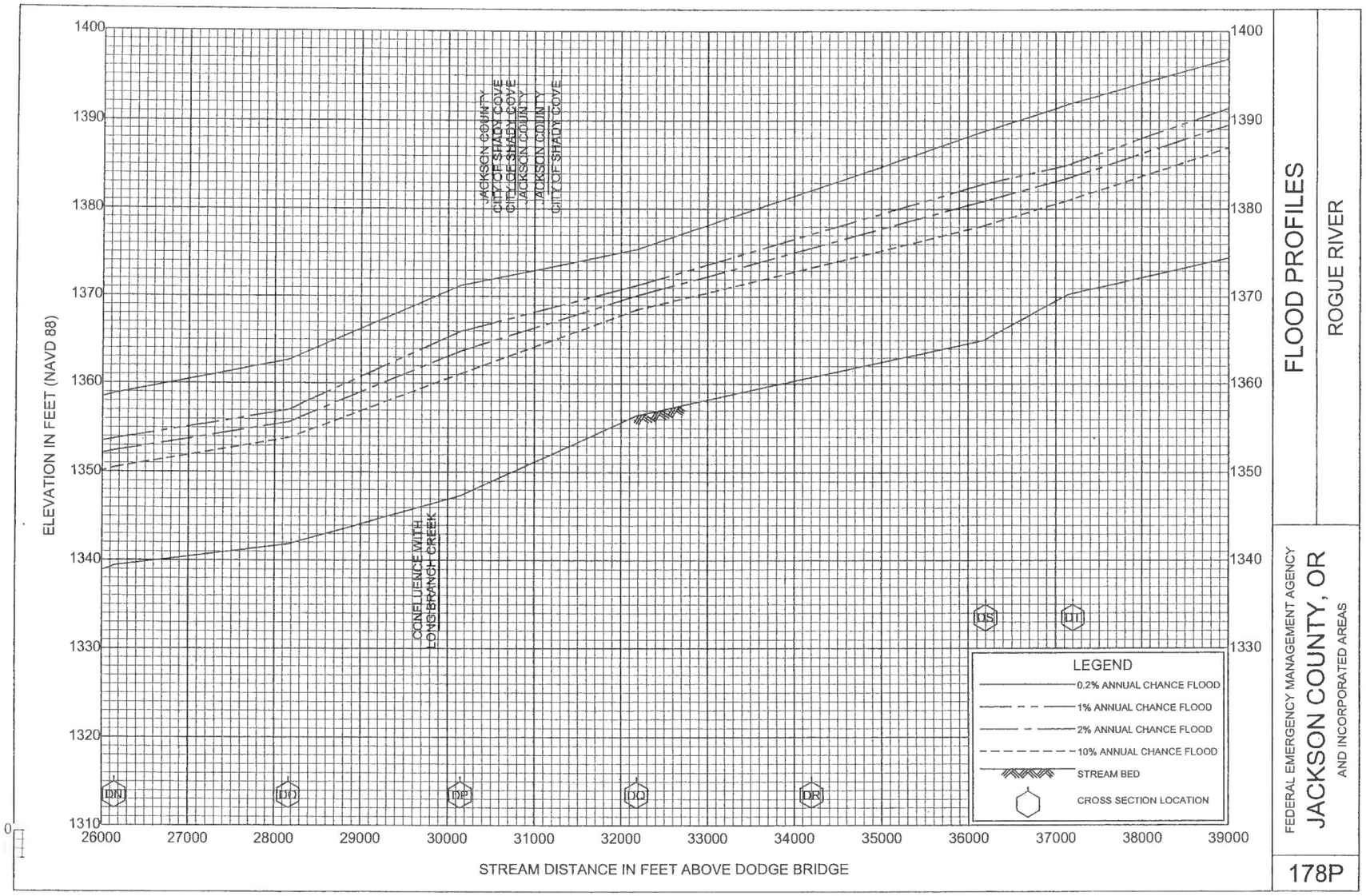
ROGUE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

177P



FLOOD PROFILES

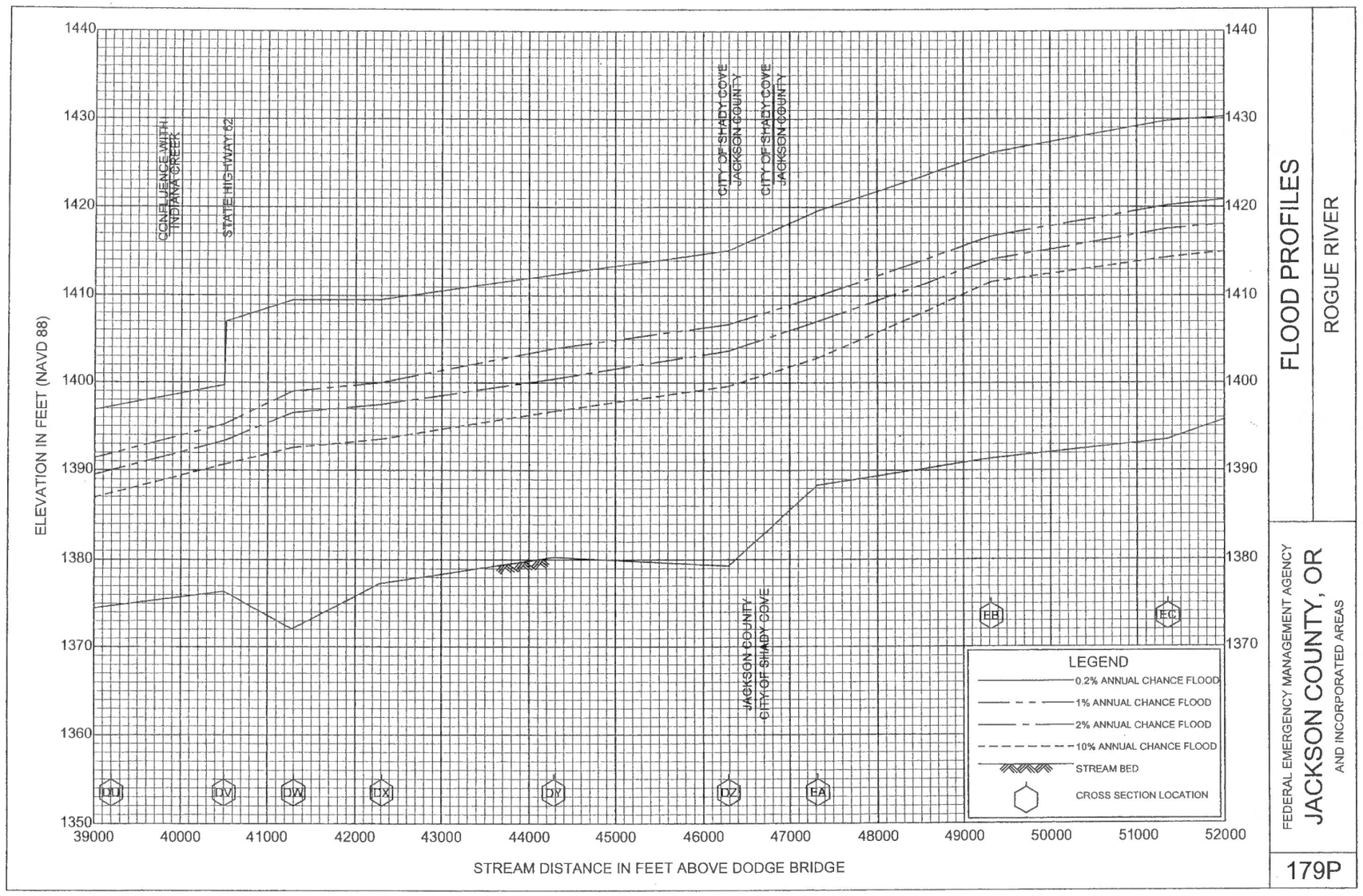
ROGUE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

178P



FLOOD PROFILES

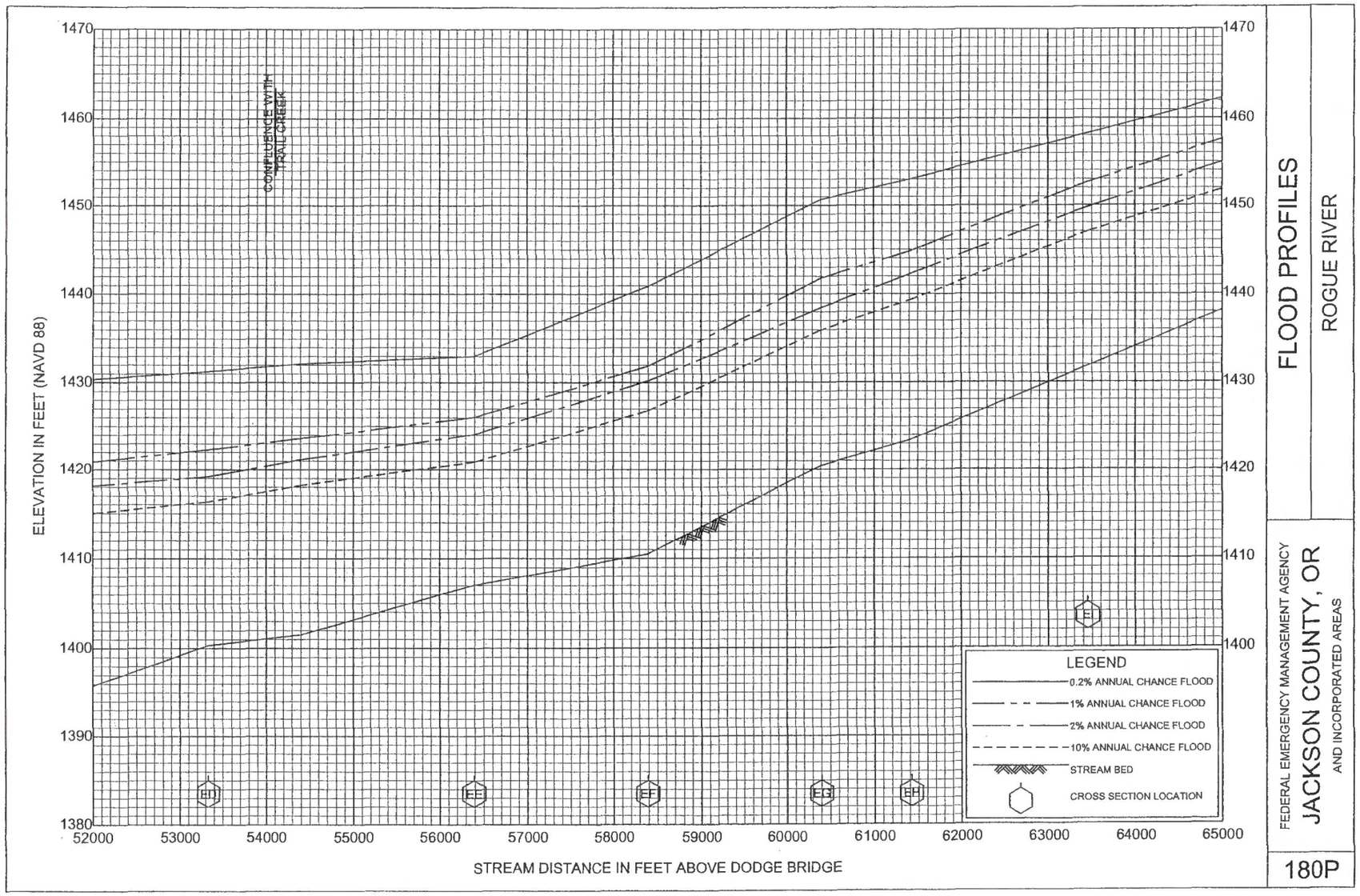
ROGUE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

179P



FLOOD PROFILES

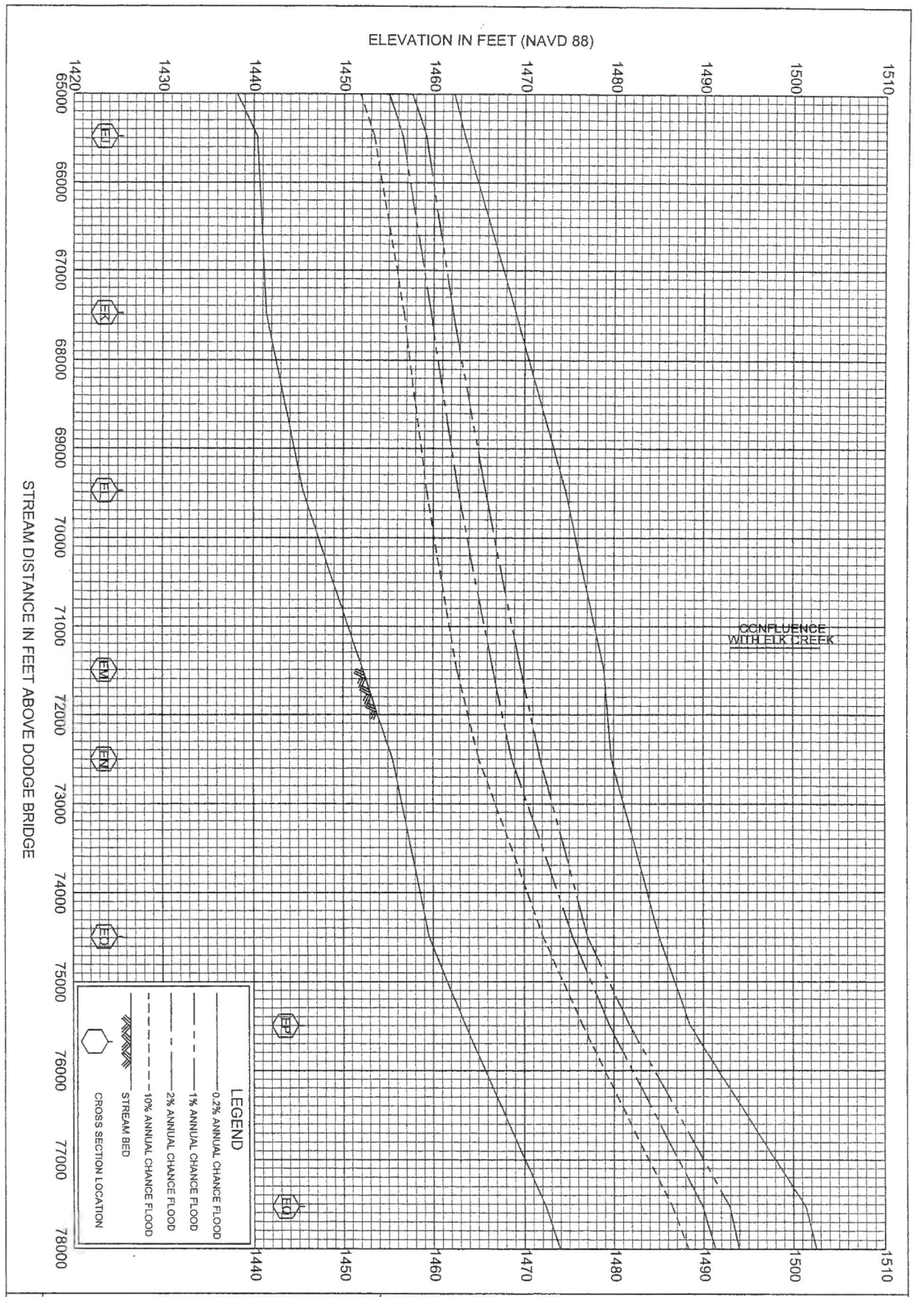
ROGUE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

180P



FEDERAL EMERGENCY MANAGEMENT AGENCY

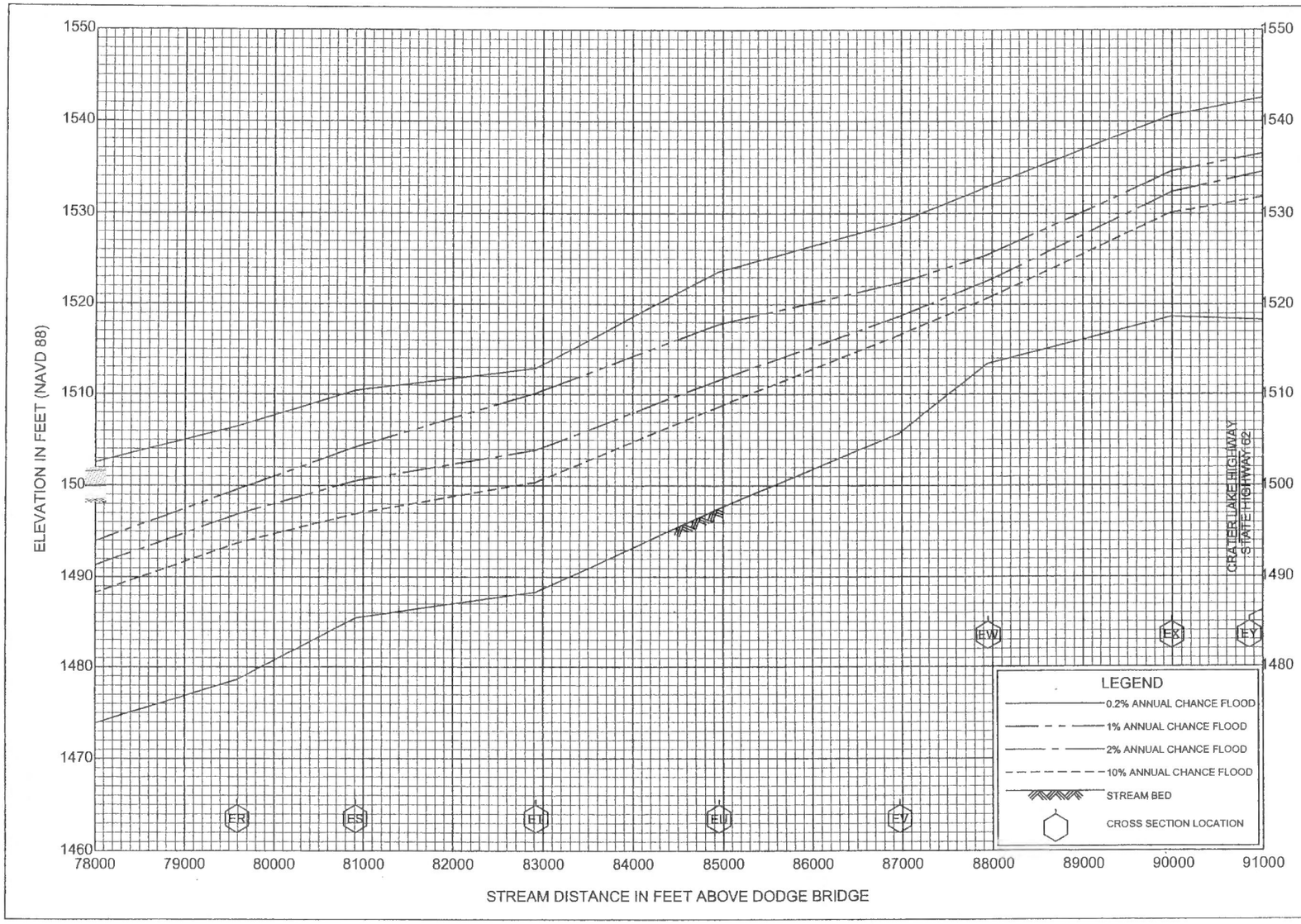
JACKSON COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

ROGUE RIVER

181P



FLOOD PROFILES

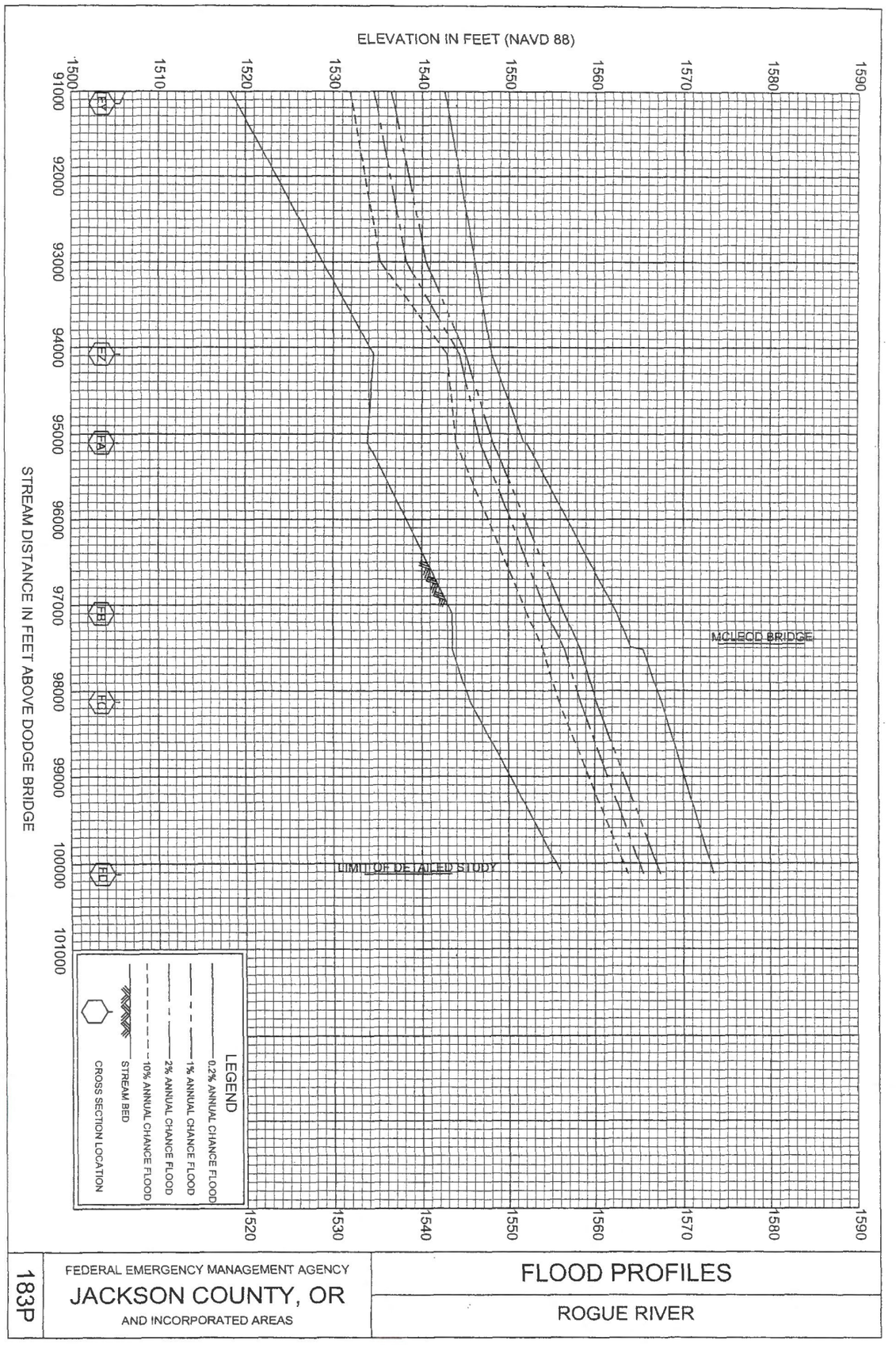
ROGUE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

182P



183P

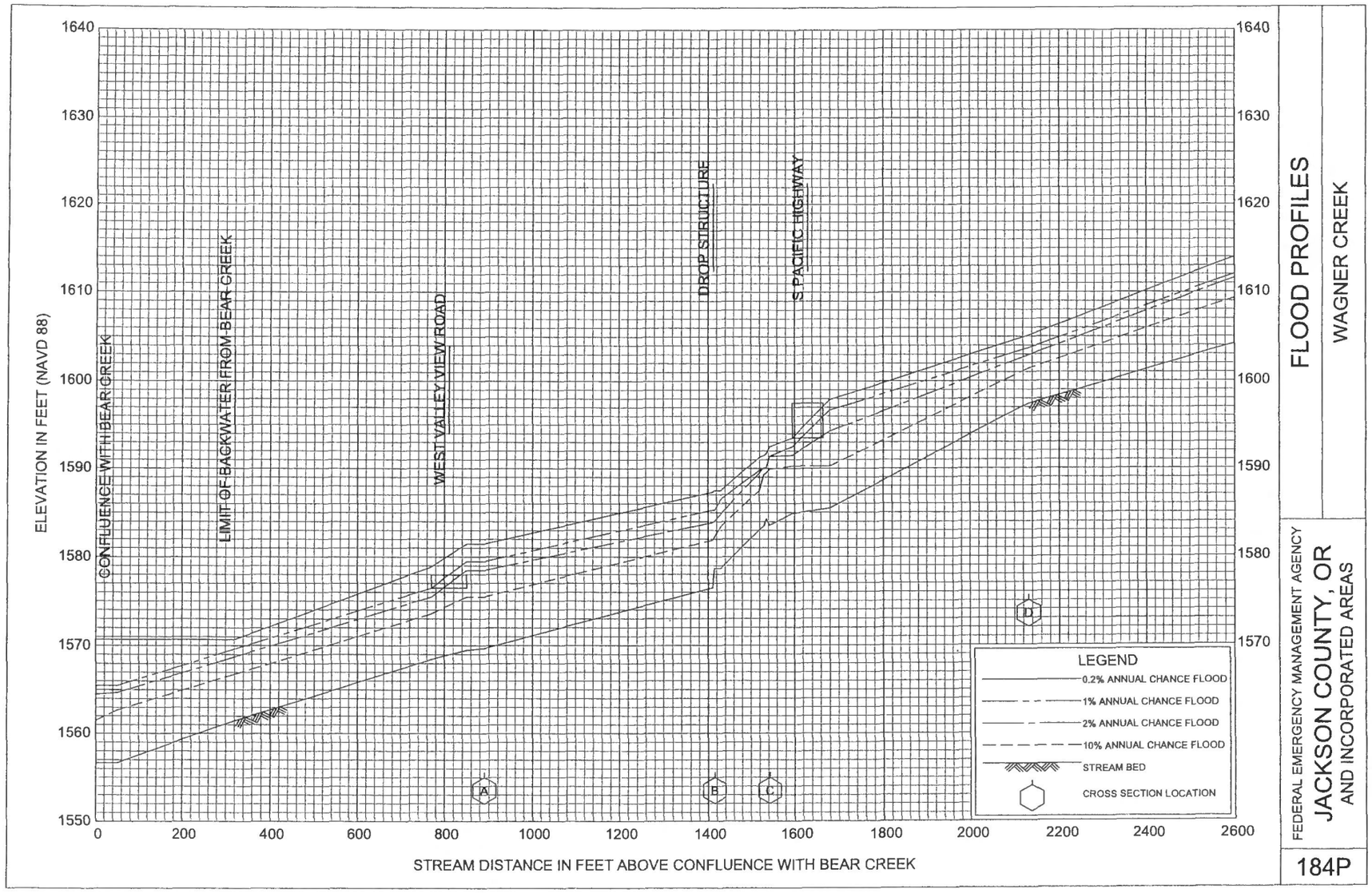
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

ROGUE RIVER



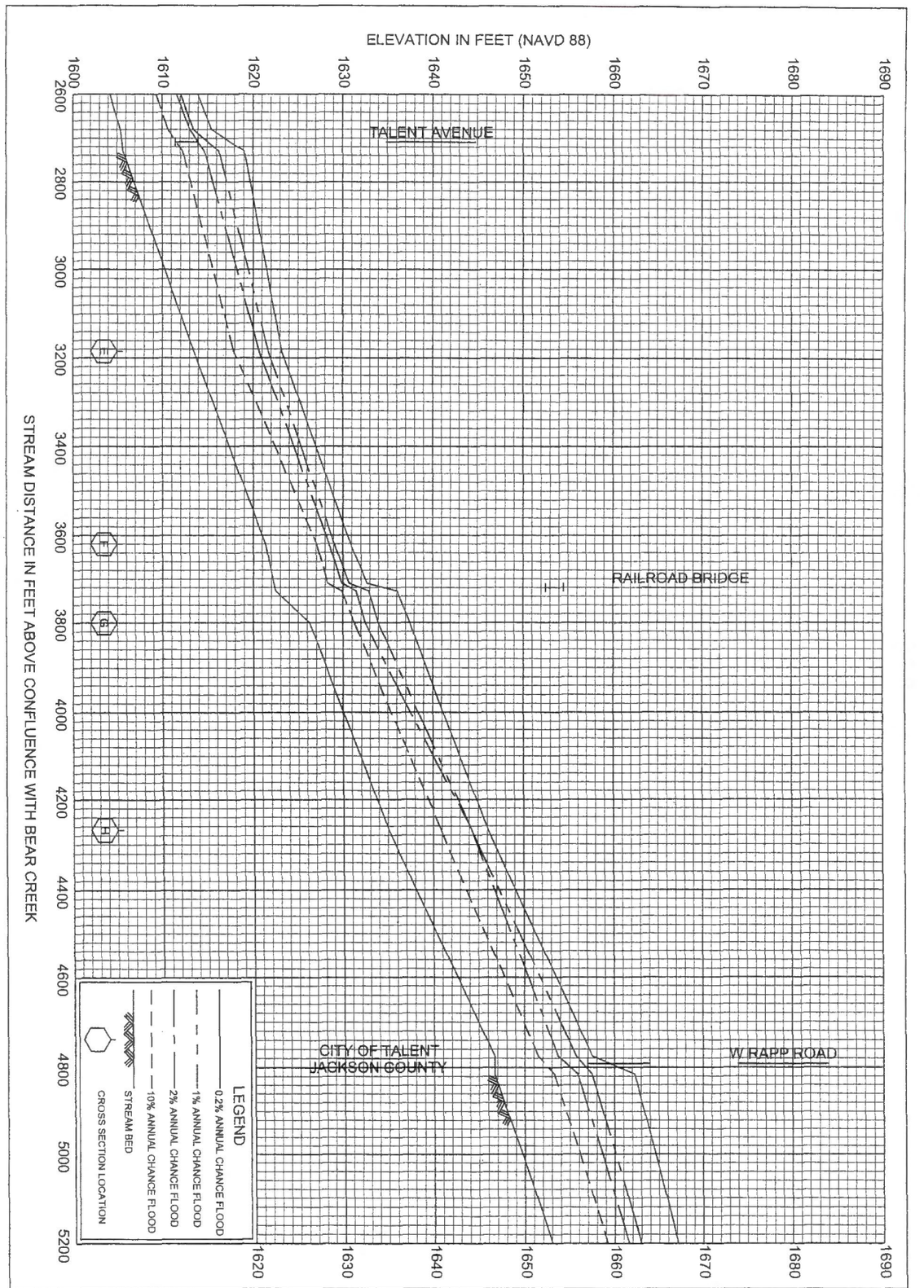
FLOOD PROFILES

WAGNER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

184P



185P

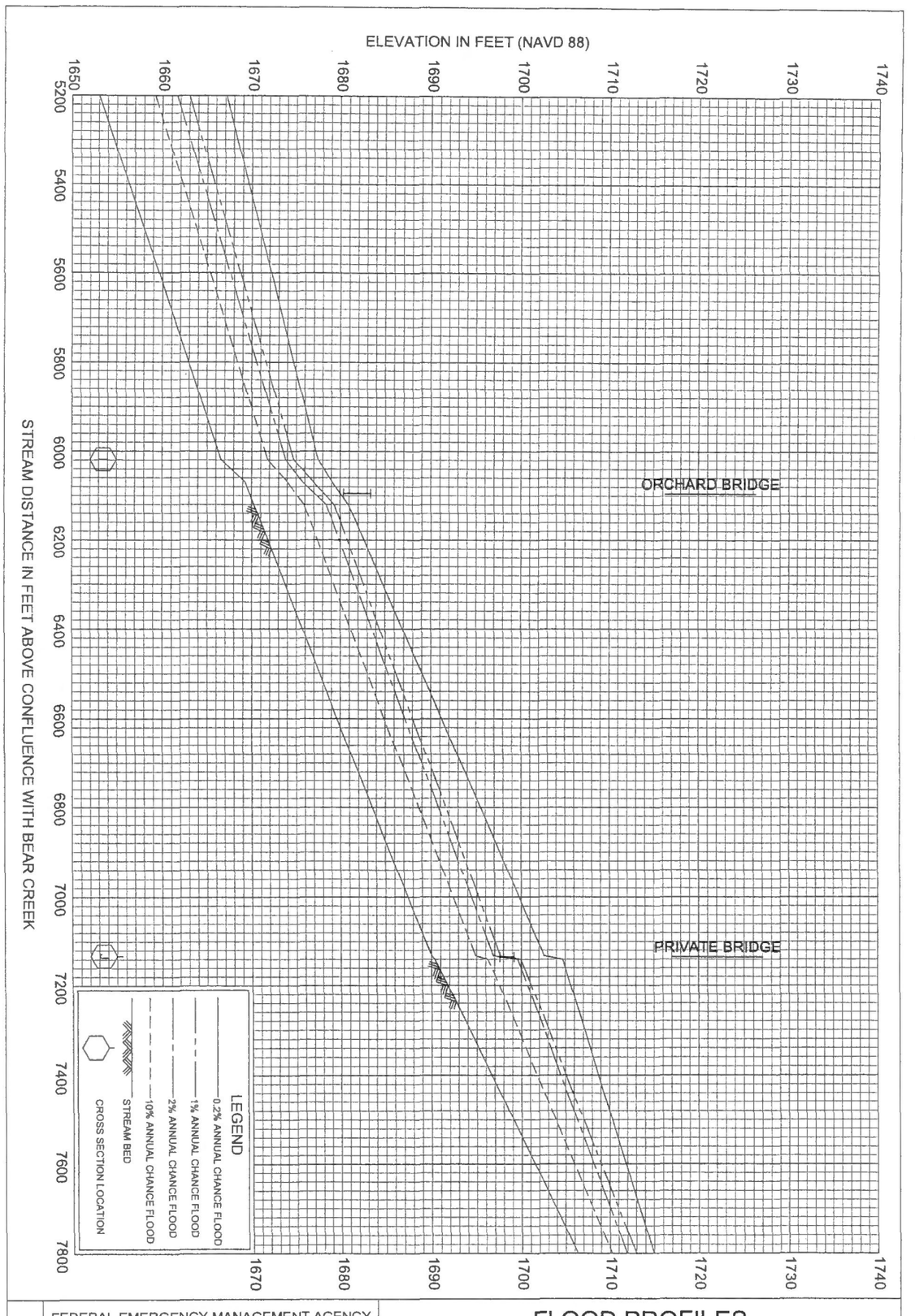
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

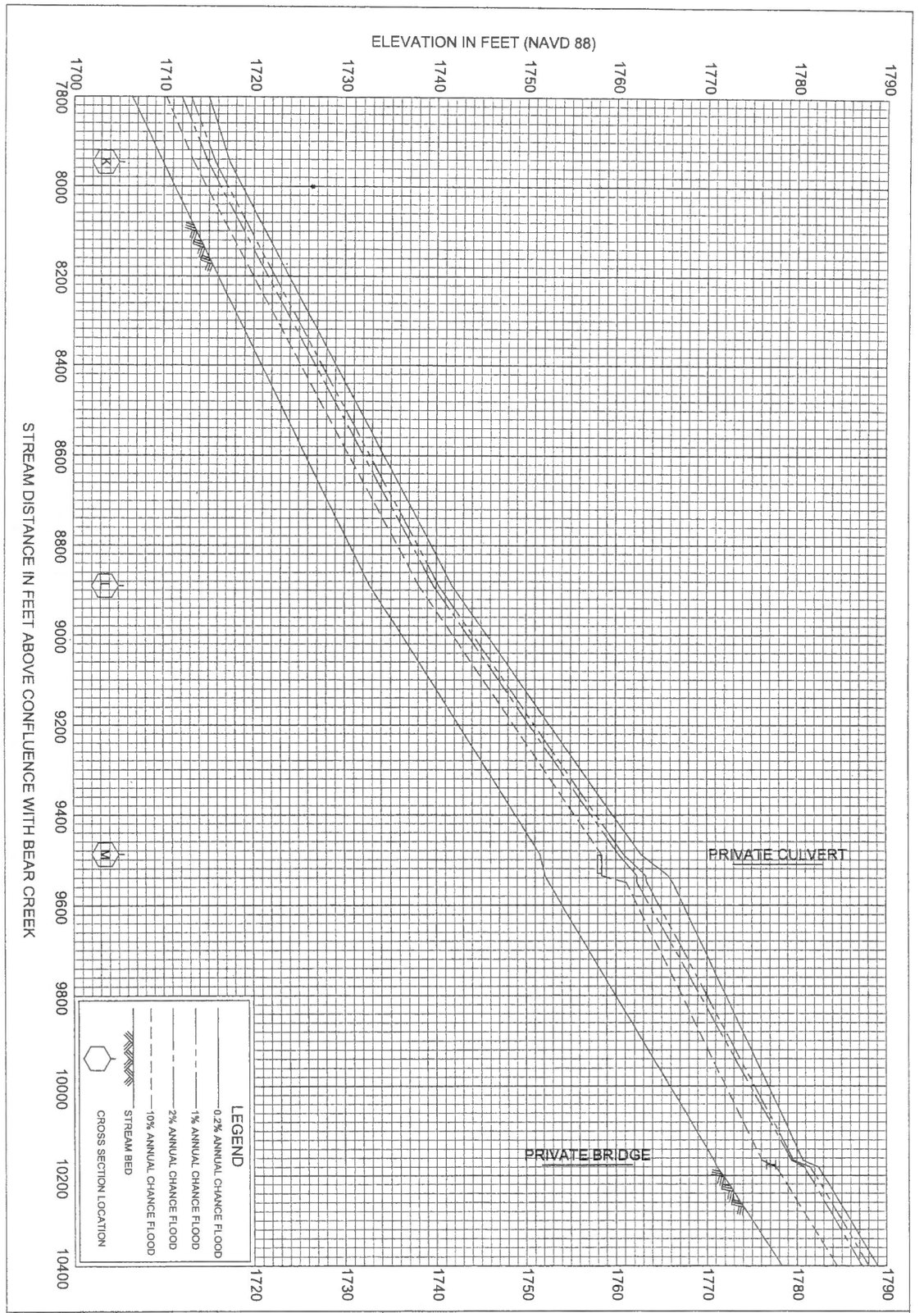
AND INCORPORATED AREAS

FLOOD PROFILES

WAGNER CREEK



186P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES WAGNER CREEK



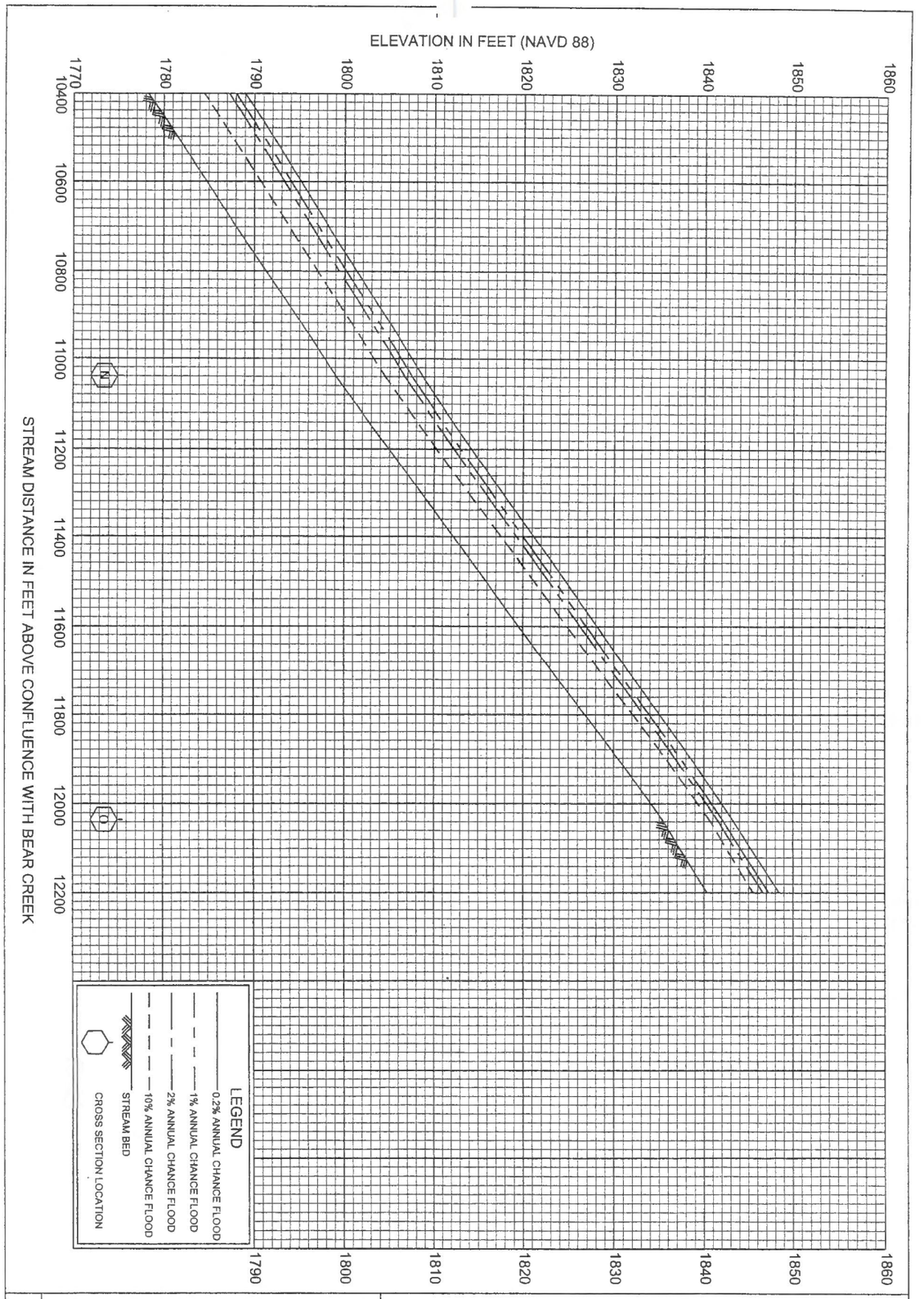
187P

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

WAGNER CREEK



188P

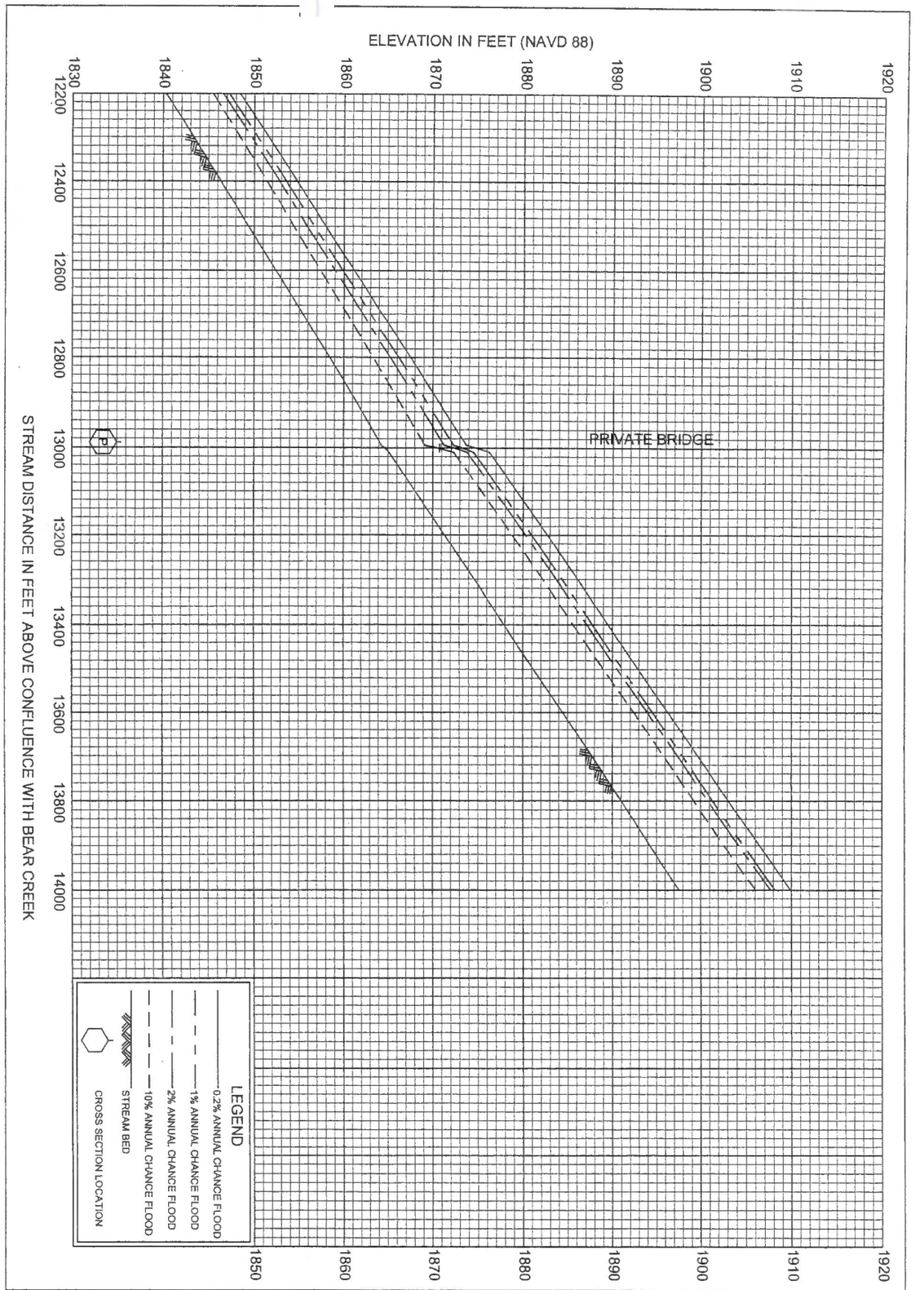
FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

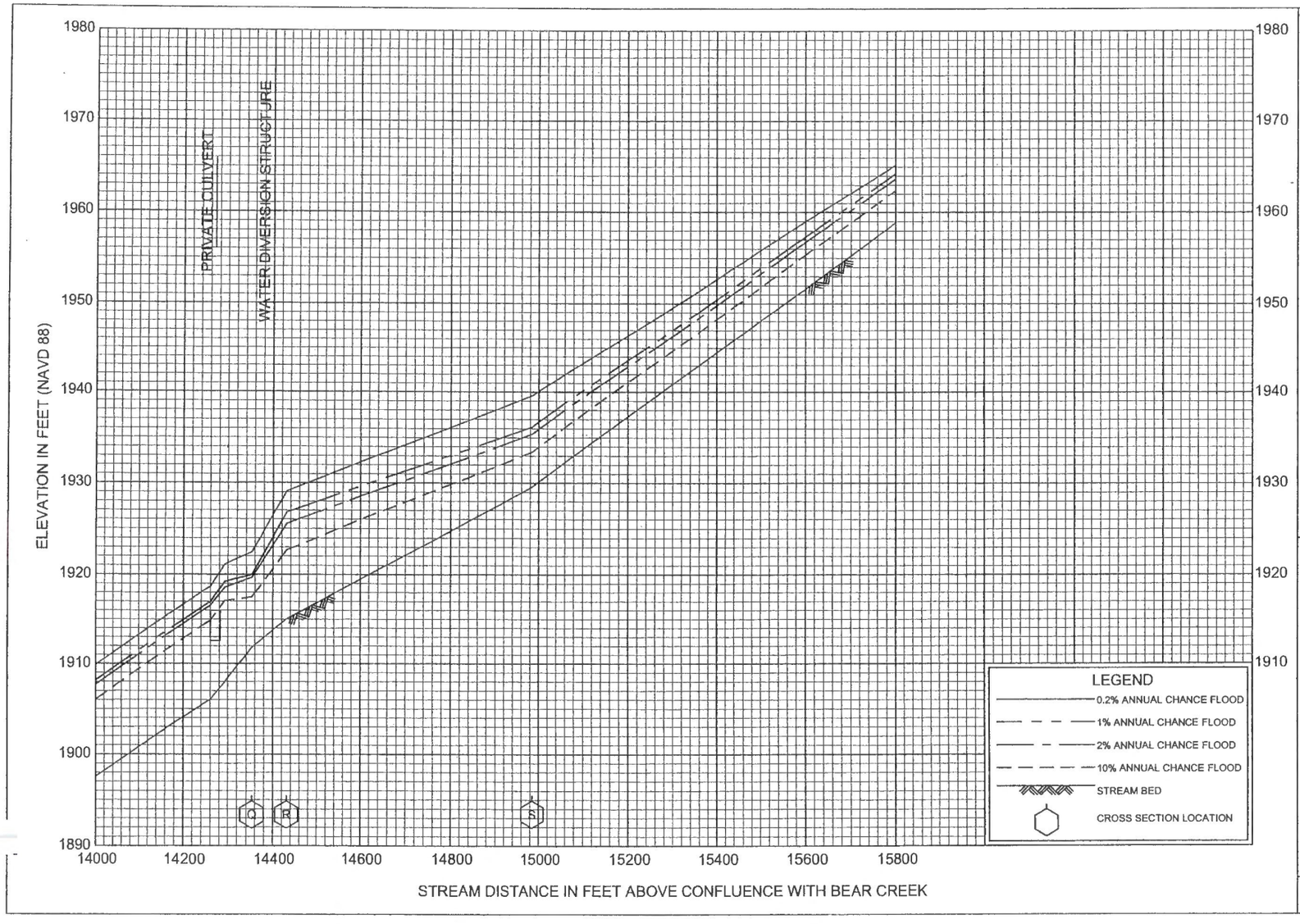
AND INCORPORATED AREAS

FLOOD PROFILES

WAGNER CREEK



189P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES WAGNER CREEK



FLOOD PROFILES

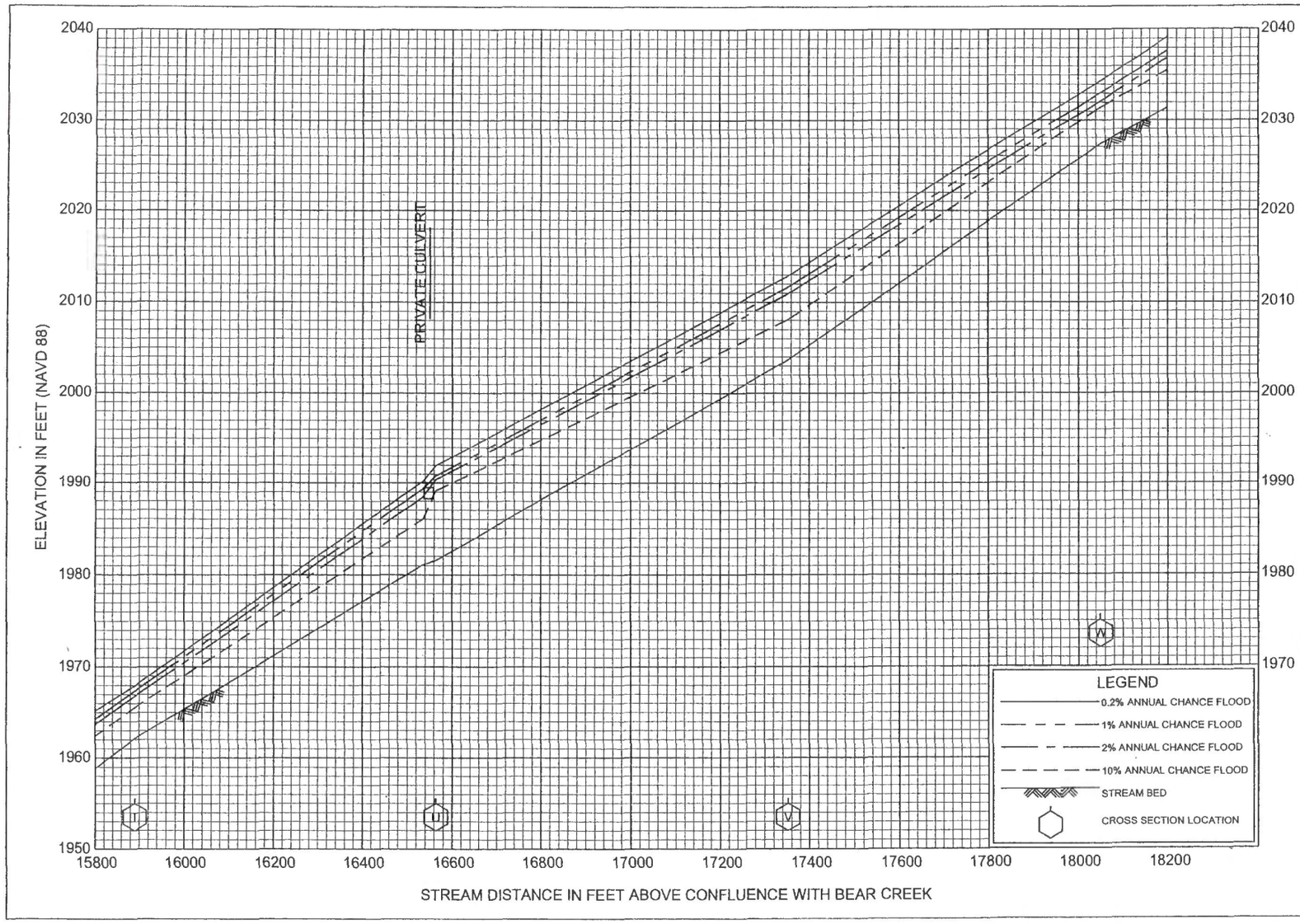
WAGNER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

190P



FLOOD PROFILES

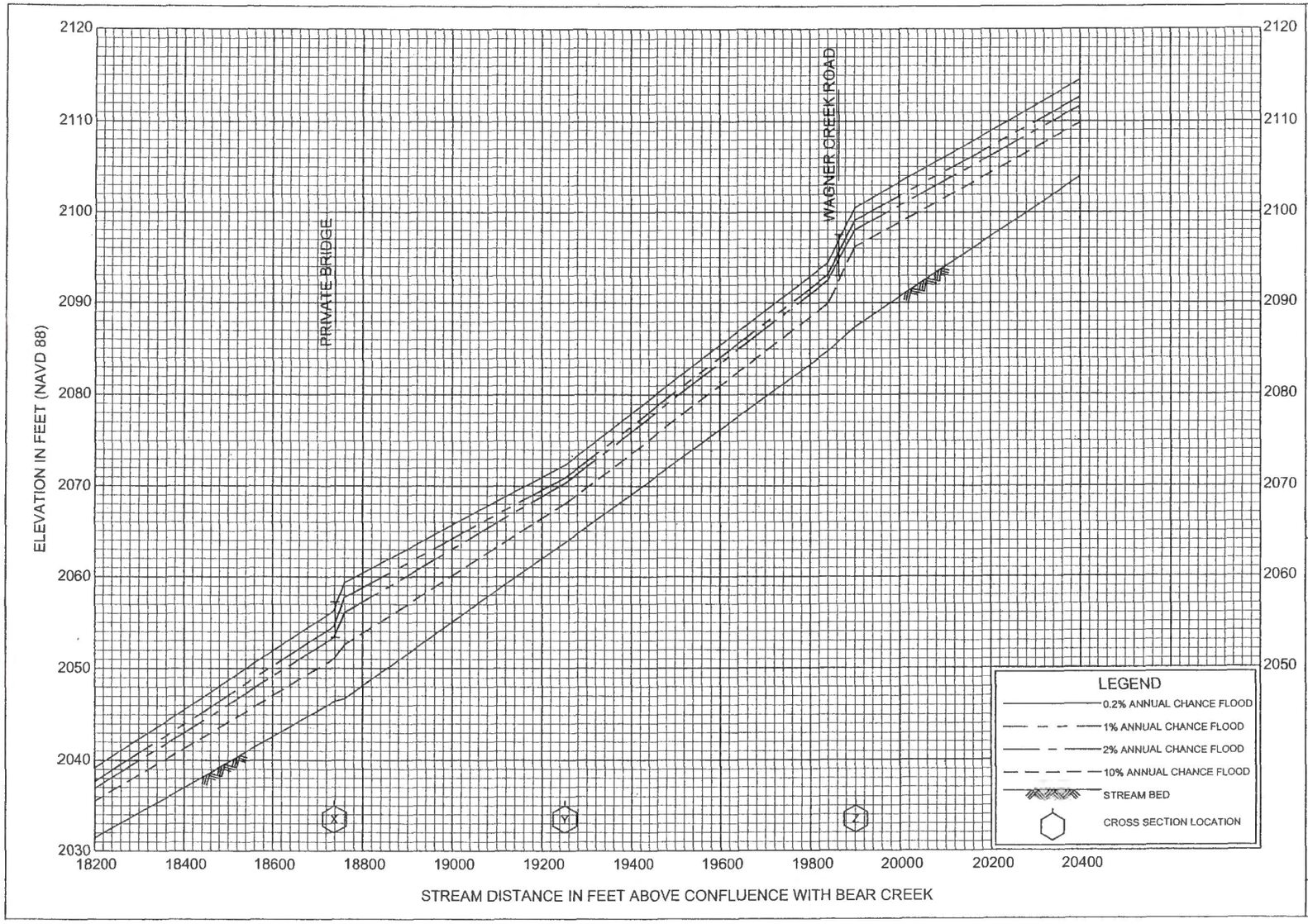
WAGNER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

191P



FLOOD PROFILES

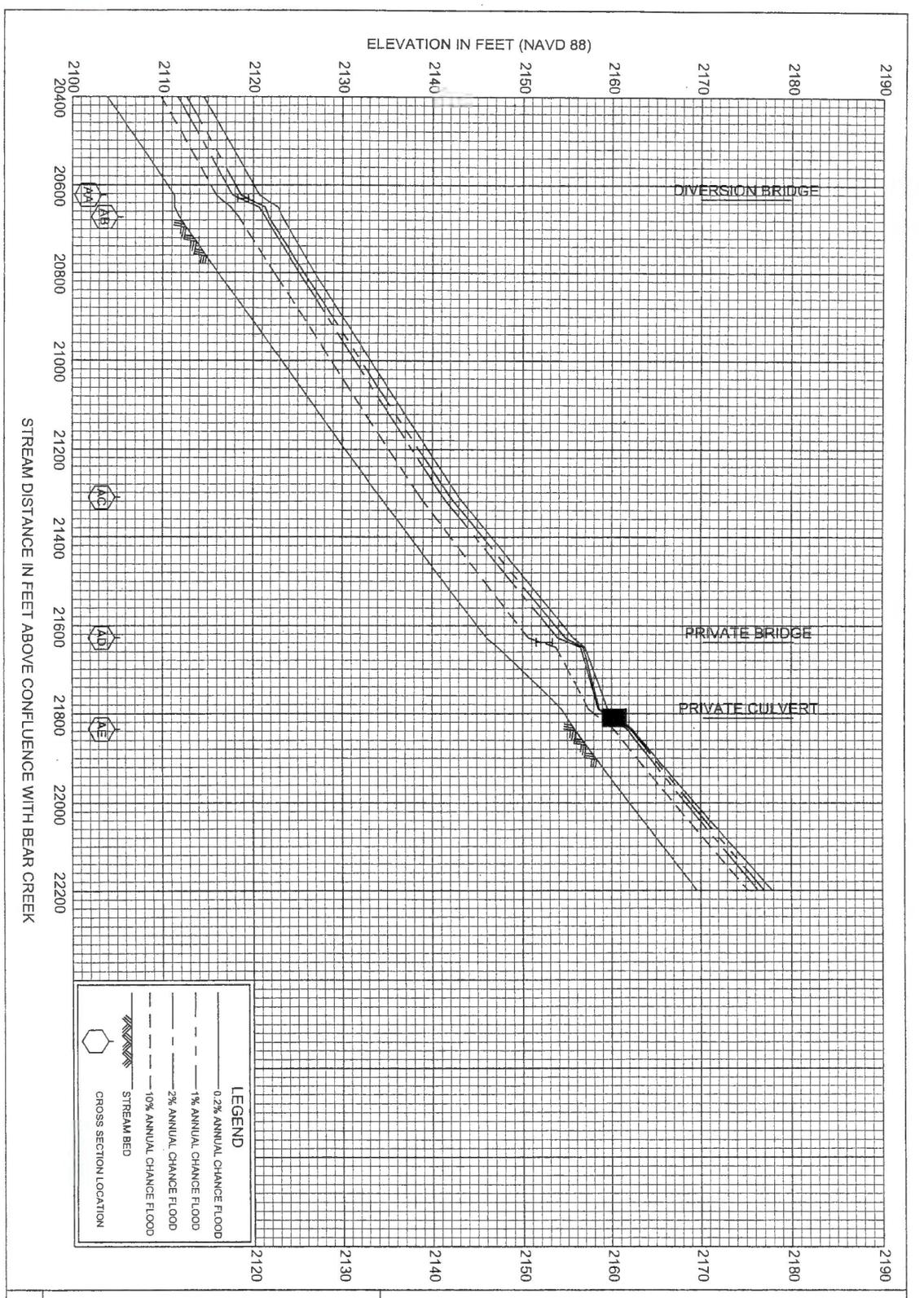
WAGNER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

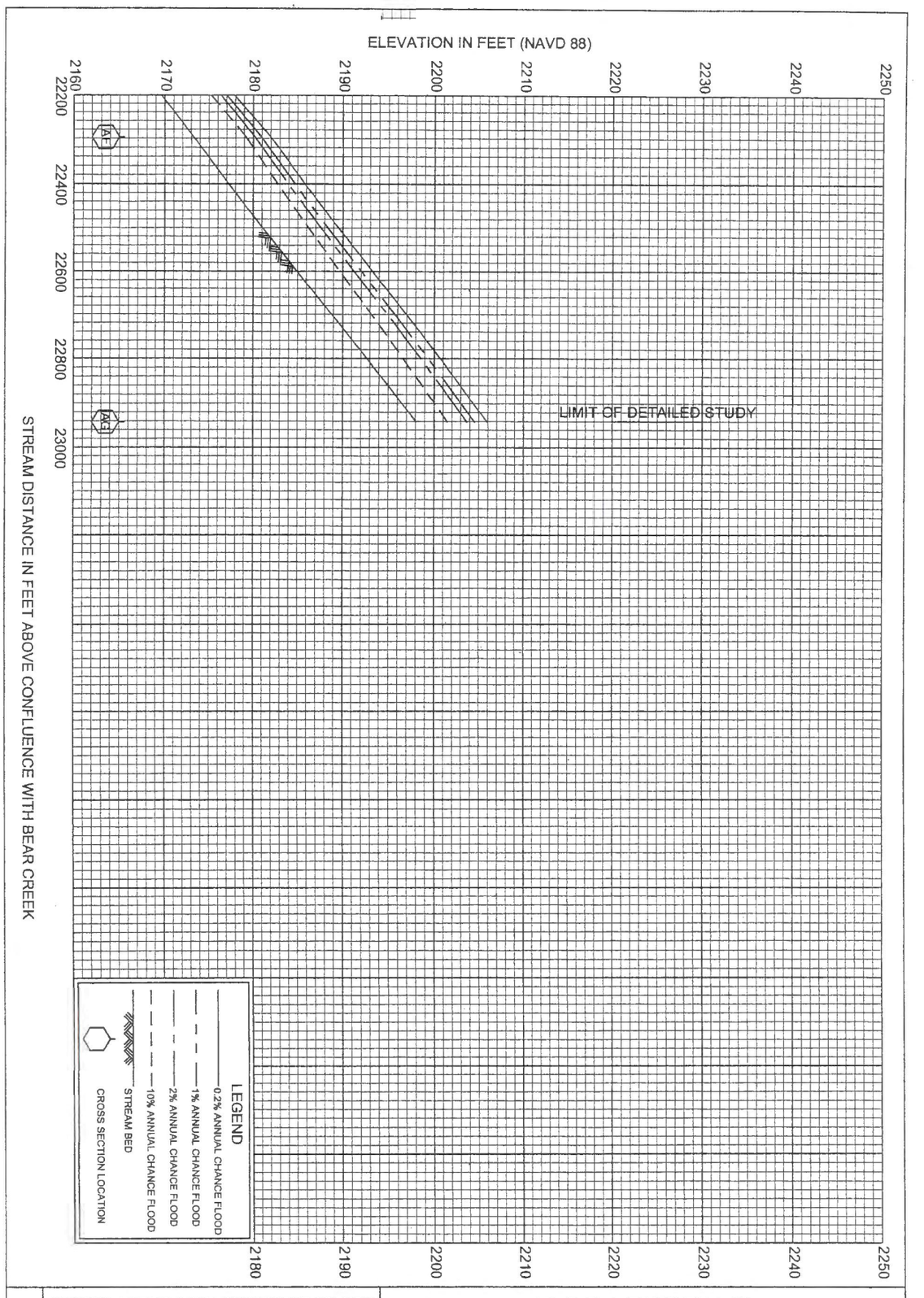
JACKSON COUNTY, OR

AND INCORPORATED AREAS

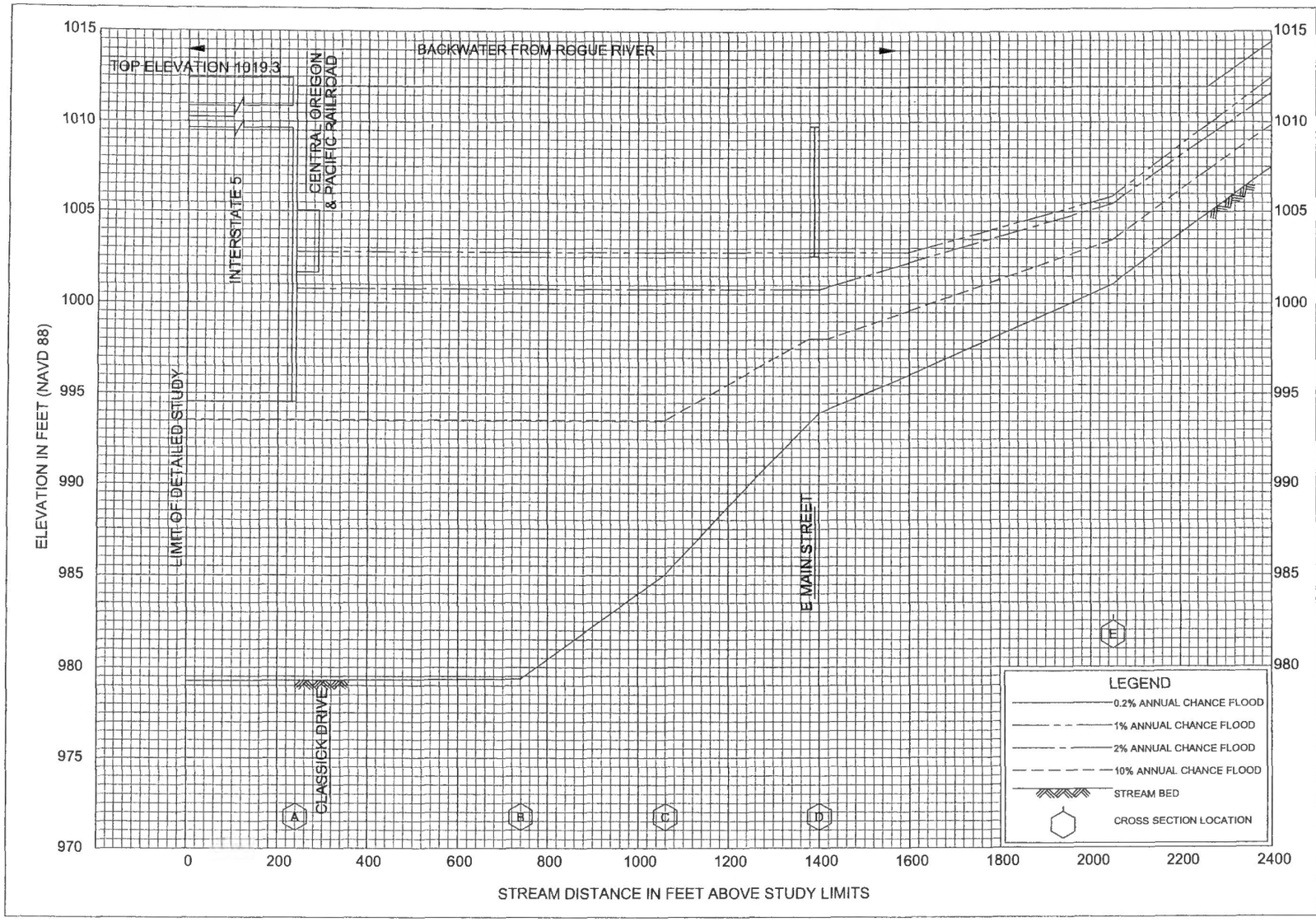
192P



193P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES WAGNER CREEK



194P	FEDERAL EMERGENCY MANAGEMENT AGENCY JACKSON COUNTY, OR AND INCORPORATED AREAS	FLOOD PROFILES WAGNER CREEK



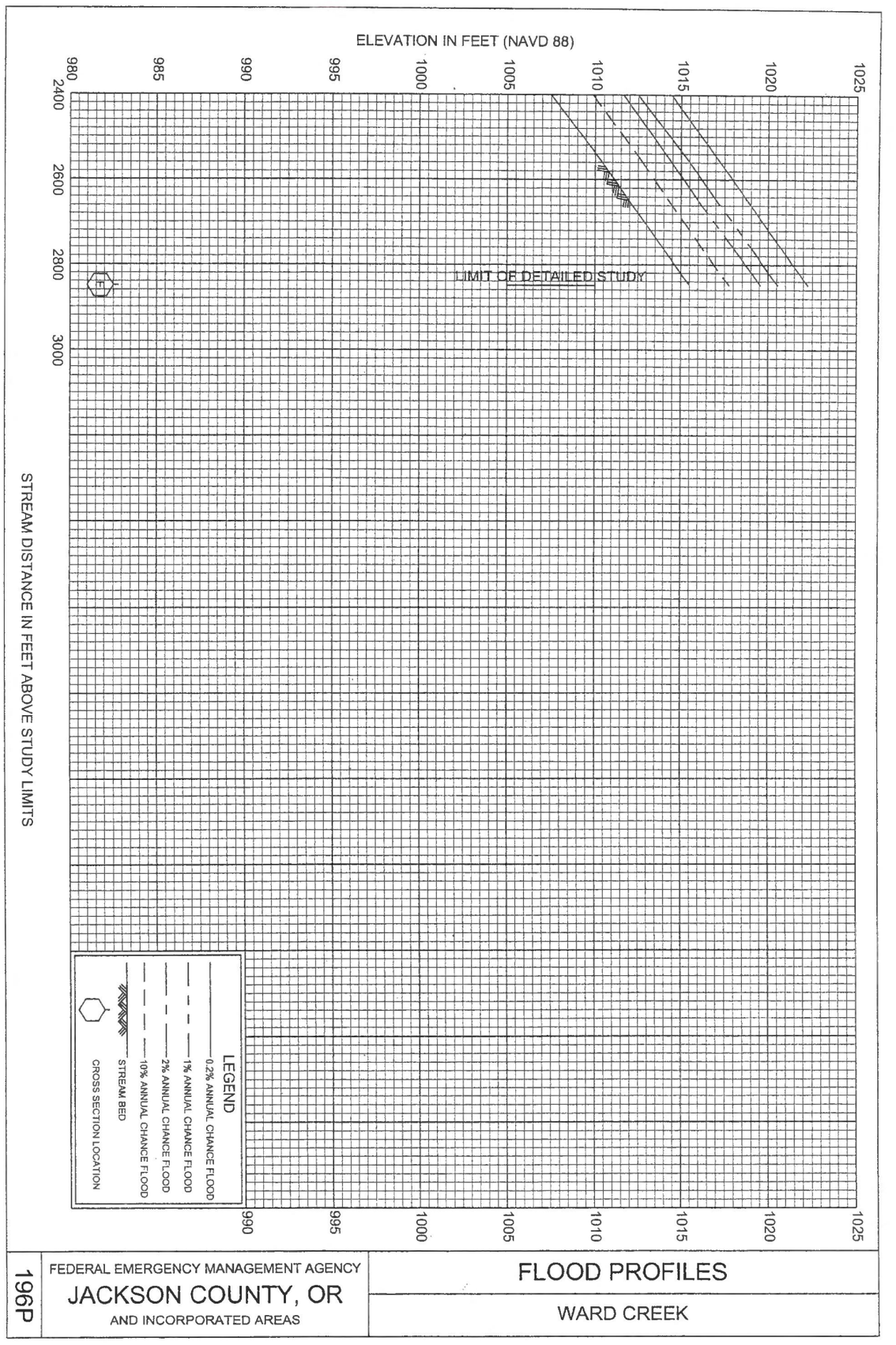
FLOOD PROFILES

WARD CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR
AND INCORPORATED AREAS

195P



196P

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, OR

AND INCORPORATED AREAS

FLOOD PROFILES

WARD CREEK

Exhibit C

Flood Insurance Rate Map (FIRM)

(*Too large to reproduce here. Original available to view upon request at Development Services, 10 S. Oakdale Ave. Room 100, Medford.*)

EXHIBIT C

JACKSON COUNTY FLOOD INSURANCE RATE MAPS (FIRM)

NEW FIRM PANELS	EFFECTIVE DATE: MAY 3, 2011
MAP NUMBER	PANEL NUMBER
41029C	1387F
41029C	1389F
41029C	1391F
41029C	1392F
41029C	1393F
41029C	1394F
41029C	1411F
41029C	1412F
41029C	1413F
41029C	1414F
41029C	1416F
41029C	1418F
41029C	1508F
41029C	1512F
41029C	1516F
41029C	1517F
41029C	1518F
41029C	1536F
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41029C	1741F
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41029C	1743F

EXHIBIT C

41029C	1744F
41029C	1753F
41029C	1754F
41029C	1756F
41029C	1757F
41029C	1758F
41029C	1759F
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41029C	1762F
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41029C	1767F
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41029C	1782F
41029C	1783F
41029C	1784F
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41029C	1787F
41029C	1788F
41029C	1789F
41029C	1801F
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41029C	1913F
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41029C	1954F
41029C	1956F
41029C	1957F
41029C	1958F
41029C	1959F
41029C	1961F
41029C	1962F
41029C	1966F
41029C	1967F
41029C	1968F

41029C	1969F	
41029C	1976F	
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41029C	1983F	
41029C	1986F	
41029C	1987F	
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41029C	1989F	
41029C	1993F	
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41029C	2107F	
41029C	2126F	
41029C	2127F	
41029C	2129F	
41029C	2131F	
41029C	2133F	
41029C	2139F	
41029C	2141F	
41029C	2143F	
41029C	2177F	
41029C	2181F	
41029C	2182F	
41029C	2183F	
41029C	2184F	
41029C	2201F	
41029C	2202F	
41029C	2203F	
41029C	2204F	
41029C	2208F	
41029C	2209F	
41029C	2211F	
41029C	2212F	
41029C	2216F	
41029C	2217F	
41029C	2219F	
41029C	2240F	
41029C	2327F	
41029C	INDOA	Index Map for Jackson County

PARTIAL FIRM PANELS EFFECTIVE DATE: MAY 3, 2011

MAP NUMBER	PANEL NUMBER
415589	0138C
415589	0139C

EXHIBIT C

415589	0186C
415589	0187C
415589	0188C
415589	0193C
415589	0219C
415589	0227C
415589	0229C
415589	0285C
415589	0305C
415589	0306C
415589	0308C
415589	0317C
415589	0319C
415589	0336C
415589	0337C
415589	0377C
415589	0385C
415589	0386D
415589	0389C
415589	0407C
415589	0478C
415589	0482C
415589	0484D
415589	0492D
415589	0505C
415589	0527C
415589	0529C
415589	0535C
415589	0581D

***** LRP2009-00005 *****

Exhibit D

Digital Flood Insurance Rate Map CD (DFIRM)

(*Too large to reproduce here. Original available to view upon request at Development Services, 10 S. Oakdale Ave. Room 100, Medford.*)

Exhibit E

Old Flood Insurance Rate Maps (FIRM)

(*Too large to reproduce here. Original available to view upon request at Development Services, 10 S. Oakdale Ave. Room 100, Medford.*)

EXHIBIT E

OLD FIRM PANELS EFFECTIVE DATE: APRIL 1, 1982 (PAPER MAPS)

MAP NUMBER	PANEL NUMBER
415589	0130B
415589	0136B
415589	0137B
415589	0145B
415589	0155B
415589	0165B
415589	0180B
415589	0185B
415589	0192B
415589	0194B
415589	0205B
415589	0215B
415589	0240B
415589	0338B
415589	0339B
415589	0345B
415589	0375B
415589	0395B
415589	0430B
415589	0435B
415589	0490B
415589	0511B
415589	0513B
415589	0575B
415589	0587B
415589	0589B
415589	0591B
415589	0592B

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