CITY OF FLORENCE
ORDINANCE NO. 2, SERIES 2020

AN ORDINANCE ADOPTING AMENDMENTS TO FLORENCE CITY CODE AND THE FLORENCE REALIZATION 2020 COMPREHENSIVE PLAN AND ADOPTING THE REVISED FEMA FLOOD INSURANCE RATE MAP AND FLOOD INSURANCE STUDY.

RECITALS:

1. City Council via their 2019/2021 City of Florence Work Plan, Section "Miscellaneous Code & Process Amendments, Flood Insurance Map Amendments, Objective 1", tasked amendments to the governing documents related to Flood Insurance Rate Map amendments.

2. Planning Commission on February 11, 2020 initiated legislative amendments to Florence City Code Title 10 and the Florence Realization Comprehensive Plan. Notice of the proposed amendments was sent on February 18, 2020 to the Department of Land Conservation and Development, 35 days prior to the first evidentiary hearing.

3. Planning Commission opened their public hearing March 24, 2020 and deliberated to a decision for a recommendation to the City Council, titled Resolution PC 20 02 CPA 01/PC 20 03 TA 01.

4. On April 4, 2020, notice of the City Council hearing was published in the Siuslaw News prior to their hearing of April 20, 2020.

5. City Council conducted a public hearing on April 20, 2020 and found the amendments consistent with applicable criteria in Florence City Code, Realization 2020 Florence Comprehensive Plan, Oregon Administrative Rules and Oregon Revised Statutes.

Based on these findings,

THE CITY COUNCIL OF THE CITY OF FLORENCE ORDAINS AS FOLLOWS:

1. Florence Realization 2020 Comprehensive Plan and Title 10 Chapter 2 are amended as explained in Exhibit A Findings of Fact, and shown in Exhibits B through E, and initiated through Planning Commission.

2. This ordinance shall become effective on June 5, 2020, in accordance with the FEMA's Letter of Determination dated December 5, 2019.

3. The City Recorder is authorized to administratively correct any reference errors contained herein or in other provisions of the Florence Comprehensive Plan or City Code to the provisions added, amended, or repealed herein.

ADOPTION:

First Reading on the 20th day of April 2020.
Second Reading on the 20th day of April 2020.
This Ordinance is passed and adopted on the 20th day of April 2020.

AYES	5	Councilors Woodbury, Preisler, Greene, Lucio and Mayor Henry
NAYS	0	
ABSTAIN	0	
ABSENT	0	

Joe Henry, Mayor

Attest:

Kelli Weese

Kelli Weese, City Recorder

Ordinance 2, Series 2020
CITY OF FLORENCE---FINDINGS OF FACT

Public Hearing Date: April 20, 2020
File Numbers: PC 20 02 CPA 01/PC 20 03 TA 01
CC 20 01 CPA 01/CC 20 03 ZC 01

I. PROPOSAL DESCRIPTION

The proposal amends the Florence City Code (FCC) and elements of the Florence Realization 2020 Comprehensive Plan by revising standards related to a FEMA issued Letter of Final Determination dated December 5, 2020 signifying completion of the process of updating the Flood Insurance Study (FIS) and Flood Insurance Rate Map (FIRM) for Florence and the surrounding area. The code amendments update definitions to floodplain management regulations that meet the standards of National Flood Insurance Program (NFIP) regulations. The Comp Plan amendments update definitions for the same purpose and update the narrative in Chapter 7 and adopt the revised FIS and FIRM. There are also minor edits to the Table of Contents to include recently adopted or acknowledged studies.

II. NOTICE AND REFERRALS

1. Notice:

Notice of the proposed City Code Amendments was sent to the Department of Land, Conservation and Development (DLCD) on February 18, 2020, not less than 35 days prior to the proposed first evidentiary hearing of March 24, 2020, as required by State law and the Florence City Code.

The notice of the Planning Commission public hearing was posted to the Siuslaw News on March 17th and published March 21st prior to the public hearing held on March 24th. The notice for the City Council public hearing was published in the Siuslaw News on April 4th prior to the April 20th City Council public hearing as required by State law and the Florence City Code

Notice was also sent to property owners potentially affected by the implementation of the changes on March 3, 2020, as required by State law and the Florence City Code.

III. APPLICABLE CRITERIA

1. Florence City Code (FCC) Title 10: Zoning Regulations

- Chapter 1: Zoning Administration, Section 10-1-3 Amendments and Changes, Section C Legislative Changes
- Chapter 1: Zoning Administration, Section 10-1-6-4 Type IV Procedure (Legislative)

2. Florence Realization 2020 Comprehensive Plan

- Plan Adoption, Amendments, Review and Implementation
- Chapter 1 Citizen Involvement
- Chapter 7 Development Hazards
- Chapter 14 Urbanization

4. Oregon Revised Statutes (ORS)

- ORS: 197.610(1)-(6), 227.186

5. Oregon Administrative Rules (OAR)

- OAR 660-015 (1, 2, 7, 14) & 660-018-0020

IV. FINDINGS

Florence City Code (FCC)
Title 10 Zoning Regulations, Chapter 1 Zoning Administration

FCC 10-1-3 Amendments and Changes,

A. Purpose: As the Comprehensive Plan for the City is periodically reviewed and revised, there will be a need for changes of the zoning district boundaries and the various regulations of this Title. Such changes or amendments shall be made in accordance with the procedures in this Section.

Section C Legislative Changes
1. Initiation: A legislative change in zoning district boundaries, in the text of this Title, Title 11 or in the Comprehensive Plan may be initiated by resolution of the Planning Commission or by a request of the Council to the Planning Commission that proposes changes be considered by the Commission and its recommendation returned to the Council.

Finding: This legislative change was initiated and adopted by a resolution of the Florence Planning Commission (Resolution PC 20 01 IN 01) on February 11, 2020. The resolution noted the need to update the city zoning code and Florence Realization 2020 Comprehensive Plan to address the City Work Plan and FEMA NFIP updates to address flood risk.

2. Notice and Public Hearing: Such notice and hearing as prescribed by state law and the Comprehensive Plan then in effect.

Finding: Notification of the public hearings for this application was discussed earlier in the report. Noticing for this public hearing meets the criterion.

<u>Realization 2020, Florence Comprehensive Plan</u>

Plan Adoption, Amendments, Review and Implementation

Adoption of the Plan represents a commitment by the City to attempt the achievement of what the Plan proposes and is considered by other governmental units, the courts and the public to be a statement of policy. City ordinances covering development and land use must be consistent with the intent of the Plan. Federal, State, County and Special District land use actions must also be consistent with the Plan. (pp. 2-3)

Finding: The proposed amendments to the City comprehensive plan and development code refine the Plan and support flood damage prevention. The proposed Plan and code amendments are internally consistent. The applicable Plan policies for the proposed amendments are addressed in the policies that follow. These findings are incorporated herein.

Chapter 1: Citizen Involvement

Citizen Involvement Goal: To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.

<u>Policies</u>

2. A Citizen Advisory Committee, appointed by the City Council, shall serve in an advisory capacity to the Florence Planning Commission to assure the broadest input during periodic review and post acknowledgment Plan and zoning amendments. (pg. I-1)

Finding: This policy is met. The Florence Planning Commission appointed by the Council advises on changes needed and proposed to the Florence City Code and Realization 2020 Comprehensive Plan. The Planning Commission held a meeting on the proposed amendments on January 28, 2020 and the Florence City Council also met on this topic March 3, 2020 prior to the public hearings held on March 24th and April 20th.

3. **The City Council shall ensure that a cross-section of Florence citizens is involved in the planning process, primarily through their appointments to the Planning Commission, Design Review Board, Citizen Advisory Committee and other special committees.** (pg. I-1)

   Finding: This policy is met. The City Council appointed a cross-section of Florence citizens to serve on the Planning Commission, including those in the insurance, hazard protection, social services, utility provider, land use, and retirement communities.

4. **Official City meeting shall be well publicized and held at regular times. Agendas will provide the opportunity for citizen comment.** (pg. I-1)

   Finding: This policy is met. The proposed code amendments are consistent with this policy because the notices of the public hearings were noticed in the newspaper prior to public hearings before regularly scheduled meetings. The City website has had a webpage with information on the proposed changes available since 2018. There have been two public open houses on the proposed changes that were publicized on the city website and in the Siuslaw News. Staff also updated the City's website to state when City meetings are scheduled. Materials for City meetings were posted on the website prior to the meetings. The agendas are also posted in City Hall.

5. **Records of all meetings where official action is taken shall be kept at City Hall and made available on request to the public.** (pg. I-1)

   Finding: The proposal for these actions is consistent with this policy because minutes and related materials of all meetings are kept at City Hall, posted on the City's website, and made available on request to the public.

6. **Planning documents and background data shall be available to interested citizens.** (pg. I-1)

   Finding: The proposal for these actions is consistent with this policy because the Resolution, Ordinance, Findings of Fact, staff report and proposed amendments were available prior to the public hearings. The documents for Planning Commission's hearing were available to view at the Planning Department or online on the City's website. The documents for the City Council hearing were available to view online on the City's website or in-person by appointment due the Covid-19 Virus social distancing requirements and stay home order set by Governor Kate Brown's Executive Order.

Chapter 7: Development Hazards and Constraints

Development Hazards and Constraints Goal: To protect life and property from natural disasters and hazards.

Policies

1. **The City shall restrict or prohibit development in known areas of natural hazard or disaster in order to minimize risk to citizens, reduce the hazard of loss of life and economic investments, the costs of expensive protection works, and public and private expenditures for disaster relief.** (pg. VII-1)

   Finding: The proposal for these actions is consistent with this policy because the proposed code standards supported by the adoption of new Flood Insurance Rate Map and Flood Insurance Study and in combination with existing flood damage prevention code in Title 4 Chapter 4 and Title 10 Chapter 7 restrict or prohibit development in the Special Flood Hazard Areas (SFHA) reducing the hazard of loss as set in policy.

2. **Prior to development taking place in known areas of potential natural hazard, applicants shall provide a Site Investigation Report which clearly determines the degree of hazard present and receive City approval for the measures to be taken to reduce the hazard.** (pg. VII-1)

   Finding: The proposal is consistent with this policy because applications for development proposed in areas of known or suspected hazards require, in accordance with Title 10 Chapter 7, completion of a Phase 1 Site Investigation Report and in some cases a Phase 2 Site Investigation Report. Both reports through the code standards require analysis of the presence of hazards and remedy through engineering, building codes or construction to National Flood Insurance Program (NFIP) standards to reduce or eliminate the hazard.

3. **All new development shall conform to City Code, the adopted Building Code and Flood Insurance Program requirements in flood-prone areas.**

   Finding: The proposal for these actions is consistent with this policy because the code presently exists requiring conformance with the measures as stated and the proposed updates and FIS/FIRM adoptions provide the basis for identifying properties subject to the standards.

4. **For those areas that have excessive slopes or conditions which constitute a geological hazard, proposed developments shall be keyed to the degree of hazard and to the limitation on the use imposed by such hazard. Accepted engineering practices shall determine the extent of development allowed. The City may require a professional engineer's report to fulfill this requirement.**

   Finding: The proposal for these actions is consistent with this policy because the current code standards in Title 10 Chapter 7 require engineering of the development in the case of a property in an area of geologic hazard.

5. **The City shall participate in a Western Lane emergency preparedness plan and its implementation.**

   Finding: The proposal for these actions is consistent with this policy because the City has adopted the Western Lane emergency preparedness plan and has been involved in its update in 2016 and again presently in 2020. The FIS and FIRM updates shall be incorporated in the 2020 proposed plan changes at a later date.

<u>Chapter 14: Urbanization</u>

Urbanization Goal

To provide for an orderly and efficient transition from County/rural land uses to City/urban land uses.

Annexation Policies

3. **Conversion of lands within the UGB outside City limits shall be based on consideration of:**

   a. orderly, economic provision for public facilities and services;
   b. conformance with the acknowledged City of Florence Comprehensive Plan;
   c. consistency with state law. (pg. XIX-1)

   Finding: The proposal for these actions is consistent with this policy because the future annexations of property in the UGB will include adoption of applicable FIRM panels not included in this proposal. Those annexations will consider conformance of the Comprehensive Plan and apply consistency with state law as it applies to the NFIP and flood prevention in general.

Oregon Revised Statutes (ORS)

The procedures for legislative decisions and public hearings are set out in the Florence City Code, which has been acknowledged by DLCD and these local regulations effectively implement state law. The sections of State statute that relate to the proposed amendments to the City code are listed below with findings to address consistency with these State laws.

ORS 197.610: Submission of proposed comprehensive plan or land use regulation changes to Department of Land Conservation and Development; rules.

(1) Before a local government adopts a change, including additions and deletions, to an acknowledged comprehensive plan or a land use regulation, the local government shall submit the proposed change to the Director of the Department of Land Conservation and Development. The Land Conservation and Development Commission shall specify, by rule, the deadline for submitting proposed changes, but in all cases the proposed change must be submitted at least 20 days before the local government holds the first evidentiary hearing on adoption of the proposed change. The commission may not require a local government to submit the proposed change more than 35 days before the first evidentiary hearing.

(2) If a local government determines that emergency circumstances beyond the control of the local government require expedited review, the local government shall submit the proposed changes as soon as practicable, but may submit the proposed changes after the applicable deadline.

(3) Submission of the proposed change must include all of the following materials:

(a) The text of the proposed change to the comprehensive plan or land use regulation implementing the plan;

(b) If a comprehensive plan map or zoning map is created or altered by the proposed change, a copy of the map that is created or altered;

(c) A brief narrative summary of the proposed change and any supplemental information that the local government believes may be useful to inform the director or members of the public of the effect of the proposed change;

(d) The date set for the first evidentiary hearing;

(e) The form of notice or a draft of the notice to be provided under ORS 197.763, if applicable; and

(f) Any staff report on the proposed change or information describing when the staff report will be available, and how a copy of the staff report can be obtained.

(4) The director shall cause notice of the proposed change to the acknowledged comprehensive plan or the land use regulation to be provided to:

(a) Persons that have requested notice of changes to the acknowledged comprehensive plan of the particular local government, using electronic mail, electronic bulletin board, electronic mailing list server or similar electronic method; and

(b) Persons that are generally interested in changes to acknowledged comprehensive plans, by posting notices periodically on a public website using the Internet or a similar electronic method.

(5) When a local government determines that the land use statutes, statewide land use planning goals and administrative rules of the commission that implement either the statutes or the goals do not apply to a proposed change to the acknowledged comprehensive plan and the land use regulations, submission of the proposed change under this section is not required.

(6) If, after submitting the materials described in subsection (3) of this section, the proposed change is altered to such an extent that the materials submitted no longer reasonably describe the proposed change, the local government must notify the Department of Land Conservation and Development of the alterations to the proposed change and provide a summary of the alterations along with any alterations to the proposed text or map to the director at least 10 days before the final evidentiary hearing on the proposal. The director shall cause notice of the alterations to be given in the manner described in subsection (4) of this section. Circumstances requiring resubmission of a proposed change may include, but are not limited to, a change in the principal uses allowed under the proposed change or a significant change in the location at which the principal uses would be allowed, limited or prohibited.

Finding: The proposal is consistent with this statute because notice to DLCD was sent on February 18, 2020 at least 35 days prior to the March 24, 2020 (first) public hearing and the notice contained the information required in this statute. The notice of proposed change was circulated widely within the city consistent with subsection (4), as detailed in response to Comprehensive Plan Goal 1.

<u>ORS 227.186:</u> Notice to property owners of hearing on certain zone change

(4) At least 20 days but not more than 40 days before the date of the first hearing on an ordinance that proposes to rezone property, a city shall cause a written individual notice of a land use change to be mailed to the owner of each lot or parcel of property that the ordinance proposes to rezone.

(5) An additional individual notice of land use change required by subsection (3) or (4) of this section shall be approved by the city and shall describe in detail how the proposed ordinance would affect the use of the property. The notice shall: […*details of required notice format*…]

(9) For purposes of this section, property is rezoned when the city:
(a) Changes the base zoning classification of the property; or
(b) Adopts or amends an ordinance in a manner that limits or prohibits land uses previously allowed in the affected zone.

Finding: The proposal is consistent with this statute because notice was mailed to property owners advising of a proposed zone change meeting the definition of (9)(b); the proposed adoption of updated FIRM and FIS potentially limits land uses compared to previous standards that did not include their property on the FIRM panel for their property. The notice contained all elements required by subsection (5) and was mailed on March 3, 2020, in advance of the March 24, 2020 first hearing.

<u>Oregon Administrative Rules (OAR)</u>

The procedures for legislative decisions and public hearings are set out in the Florence City Code, which has been acknowledged by DLCD and these local regulations effectively implement state law. The sections of State rules that relate to the proposed amendments to the City code are listed below with findings to address consistency with these State laws.

<u>OAR 660-015-0000:</u> Statewide Planning Goals and Guidelines #1 through #14.

<u>OAR 660-015-0000(1):</u>

To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.

Finding: This goal is implemented by the Florence Realization Comprehensive Plan 2020. The proposal is consistent with this rule as detailed in the findings for those sections.

<u>OAR 660-015-0000(02):</u>

To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions.

Finding: This goal is implemented by OAR 660-018 reviewed below, ORS 197.610 and City Code. The proposal is consistent with this rule as detailed in the findings for those sections.

<u>OAR 660-015-0000(07):</u>

To protect people and property from natural hazards.

A. NATURAL HAZARD PLANNING

1. Local governments shall adopt comprehensive plans (inventories, policies and implementing measures) to reduce risk to people and property from natural hazards.

2. Natural hazards for purposes of this goal are: floods (coastal and riverine), landslides,[1] earthquakes and related hazards, tsunamis, coastal erosion, and wildfires. Local governments may identify and plan for other natural hazards.

Finding: This goal is implemented by the adoption of revised FIS and FIRM and updated definitions into the Florence Realization Comprehensive Plan for which there are already policies in place and also into the Florence City Code Title 10 Chapter 2 to comply with the NFIP model code.

B. RESPONSE TO NEW HAZARD INFORMATION

1. New hazard inventory information provided by federal and state agencies shall be reviewed by the Department in consultation with affected state and local government representatives.

2. After such consultation, the Department shall notify local governments if the new hazard information requires a local response.

3. Local governments shall respond to new inventory information on natural hazards within 36 months after being notified by the Department of Land Conservation and Development, unless extended by the Department.

Finding: This goal is implemented by the adoption of a revised FIS and FIRM issued by FEMA on December 5, 2019 after extensive coordination with the Department of Land Conservation and Development, Oregon Department of Geology and Mineral Industries, Lane County, and the City of Florence. FEMA letter of determination dated December 5, 2019 states the City has until June 5, 2020 to adopt the revised maps, study and implementing NFIP standards. Standards meeting the NFIP requirements were completed in December 2019. This proposal completes this requirement.

C. IMPLEMENTATION
Upon receiving notice from the Department, a local government shall:

1. Evaluate the risk to people and property based on the new inventory information and an assessment of: a. the frequency, severity and location of the hazard; b. the effects of the hazard on existing and future development; c. the potential for development in the hazard area to increase the frequency and severity of the hazard; and d. the types and intensities of land uses to be allowed in the hazard area.

2. Allow an opportunity for citizen review and comment on the new inventory information and the results of the evaluation and incorporate such information into the comprehensive plan, as necessary.

3. Adopt or amend, as necessary, based on the evaluation of risk, plan policies and implementing measures consistent with the following principles: a. avoiding development in hazard areas where the risk to people and property cannot be mitigated; and b. prohibiting the siting of essential facilities, major structures, hazardous facilities and special occupancy structures, as defined in the state building code (ORS 455.447(1) (a)(b)(c) and (e)), in identified hazard areas, where the risk to public safety cannot be mitigated, unless an essential facility is needed within a hazard area in order to provide essential emergency response services in a timely manner.[2]

4. Local governments will be deemed to comply with Goal 7 for coastal and riverine flood hazards by adopting and implementing local floodplain regulations that meet the minimum National Flood Insurance Program (NFIP) requirements.

Finding: This goal is implemented by the adoption of revised FIS and FIRM and updated definitions into the Florence Realization Comprehensive Plan for which there are already policies in place and also into the Florence City Code Title 10 Chapter 2 to comply with the NFIP model code. The NFIP map update process included ample opportunity for citizen review through a public open house on the proposed amendments in 2018, an appeal process in 2019 and this hearings process. Floodplain regulations were updated in 2019 to meet the newly published NFIP model code requirements. The adoption of the updated FIRM and FIS will conclude the Goal 7 implementing requirements.

D. COORDINATION

1. In accordance with ORS 197.180 and Goal 2, state agencies shall coordinate their natural hazard plans and programs with local governments and provide local governments with hazard inventory information and technical assistance including development of model ordinances and risk evaluation methodologies.

Finding: This goal is implemented by the adoption of a revised FIS and FIRM issued by FEMA on December 5, 2019 after extensive coordination starting in 2012 with the Department of Land Conservation and Development, Oregon Department of Geology and Mineral Industries, Lane County, and the City of Florence concluding with the FEMA letter of determination issued to the City dated December 5, 2019. In June of 2019 DLCD provided the City with a review of its existing Code (Title 4 Chapter 4) and its deficiencies in complying with then proposed FEMA model code and recommended language to update it.

GUIDELINES

B. IMPLEMENTATION

2. Local governments should consider programs to manage stormwater runoff as a means to help address flood and landslide hazards.

4. When reviewing development requests in high hazard areas, local governments should require site-specific reports, appropriate for the level and type of hazard (e.g., hydrologic reports, geotechnical reports or other scientific or engineering reports) prepared by a licensed professional. Such reports should evaluate the risk to the site as well as the risk the proposed development may pose to other properties.

5. Local governments should consider measures that exceed the National Flood Insurance Program (NFIP) such as: a. limiting placement of fill in floodplains; b. prohibiting the storage of hazardous materials in floodplains or providing for safe storage of such materials; and c. elevating structures to a

level higher than that required by the NFIP and the state building code. Flood insurance policy holders may be eligible for reduced insurance rates through the NFIP's Community Rating System Program when local governments adopt these and other flood protection measures.

Finding: This goal is implemented by the Florence Realization Comprehensive Plan 2020, Florence City Code (FCC) Title 9 Chapter 5 Stormwater Management, FCC Title 10 Chapter 7 and FCC Title 4 Chapter 4. The code sections require stormwater management plans, Site Investigation Reports with associated engineering, and floodplain permits with elevation certificates. Title 4 Chapter 4 includes a provision for 1' of freeboard above the Base Flood Elevation.

OAR 660-015-0000(14): GOAL 14: Urbanization

To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.

GUIDELINES
A. PLANNING

3. Plans providing for the transition from rural to urban land use should take into consideration as to a major determinant the carrying capacity of the air, land and water resources of the planning area. The land conservation and development actions provided for by such plans should not exceed the carrying capacity of such resources.

Finding: The proposal for these actions is consistent with this policy because future annexations of property in the UGB will include adoption of applicable FIRM panels not included in this proposal. Those annexations will consider conformance of the Comprehensive Plan and apply consistency with state law as it applies to the NFIP and flood prevention to reducing impacts to water resources and the land resources (SFHA) needed and protected to manage flooding events.

OAR 660-018-0020: Notice of a Proposed Change to a Comprehensive Plan or Land Use Regulation
(1) Before a local government adopts a change to an acknowledged comprehensive plan or a land use regulation, unless circumstances described in OAR 660-018-0022 apply, the local government shall submit the proposed change to the department, including the information described in section (2) of this rule. The local government must submit the proposed change to the director at the department's Salem office at least 35 days before holding the first evidentiary hearing on adoption of the proposed change.

Finding: The proposal is consistent with this rule as detailed in the findings for ORS 197.610.

V. CONCLUSION

The proposed amendments to the Florence Realization 2020 Comprehensive Plan and Florence City Code Title 10 are consistent with the applicable criteria in the Florence Realization 2020 Comprehensive Plan, Florence City Code, Oregon Revised Statutes and Oregon Administrative Rules.

Exhibit B
Ordinance 2, Series 2020

Amendments to
Florence Realization 2020 Comprehensive Plan

Amend Table of Contents as follows. Only the amended portions are shown below.

Table of Contents

Part II: Comprehensive Plan Appendices

(Located in binder in Community Development Department, Florence City Hall)

Introduction

Chapters:

7. Areas Subject to Natural Disasters and Hazards

a. National Flood Insurance Program - Flood Insurance Rate Maps, June 5, 2020~~1999~~ (under separate cover) and Flood Insurance Study, June 5, 2020
b. City of Florence Hazards Map
c. Natural Resources Conservation Service Soils Map, 2009
d. Relative Earthquake Hazard Maps for selected coastal communities, DOGAMI, 1999 (Large maps available at City Hall, Community Development Department.)
e. Tsunami Inundation Zone Maps ~~-~~ – Florence, 2013
f. ~~Siuslaw Valley Fire/Rescue Disaster Plan~~ Western Lane Emergency Operations Group, Emergency Operations Plan, 2016 (under separate cover)

Amend Introduction: Definitions section as follows. Only the amended portions are

Definitions

AREA OF SPECIAL FLOOD HAZARD. The land in the floodplain subject to a one percent (1%) or greater chance of flooding in any given year. It is shown on the Flood Insurance Rate Map (FIRM) as Zone A, AO, AH, A1-30, AE, A99, AR, V, VO, V1-30, or VE. “Special flood hazard area” is synonymous in meaning with the phrase “area of special flood hazard”.

FLOODWAY. ~~The normal stream channel and that adjoining area of the natural flood-plain needed to convey the waters of a regional flood while causing less than one foot in-~~

~~crease in upstream flood elevations.~~ The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Also referred to as "Regulatory Floodway."

Amend Chapter 7 as follows. Only the amended portions are shown below.

Chapter 7
Development Hazards and Constraints

Policies

3. All new development shall conform to City Code, the adopted Building Code and National Flood Insurance Program requirements in ~~flood-prone areas~~ Areas of Special Flood Hazard.

Flooding

On ~~In~~ June 5, ~~1999~~2020, the revised Federal Emergency Management Agency (FEMA) ~~f~~Flood Insurance Rate Map ~~area maps~~ became effective. The 1999 revision included ~~together with~~ a requirement for elevation certificates for structures in the flood~~-~~plain. The FEMA 1999 map~~s~~ revision included an expanded North Fork floodplain impacting residences and businesses on Lower Munsel Lake ~~Creek~~ Road. According to local knowledge of historic flooding trends over the past 50 or more years, the 1999 FEMA maps included areas which ~~have~~ never flooded. Beginning in 2000 and continuing through 2005 the ~~The~~ City ~~is~~ worked~~ing~~ with FEMA and property owners to apply for an area-wide map correction. Several landowners had~~ve~~ already applied for and received individual map amendments for their properties. The revised June 2020 FIRM found the lots or structures for which the corrections were issued to be outside the Special Flood Hazard Area.

~~Several landowners have already applied for and received individual map amendments for their properties.~~ The Maps and Study, June 5, 2020~~1999~~, are recognized as the official floodplain maps and study and are included by reference in Appendix 7 of this Plan,~~ subject to any revision agreed to in resolution of the North Fork area of dispute~~. The City's Floodplain Ordinance was updated to meet federal requirements in ~~1999~~2019. The amendments were approved by the ~~State Flood Management Office~~ Oregon Department of Land Conservation and Development.

A Floodplain Development Permit, e~~E~~levation certificates and substantial improvement/damage assessments are required as part of applications for a building permit. Groundwater flooding is addressed under stormwater which is covered in Chapter 11, Utilities and Facilities Management.

EXHIBIT C

Ordinance 2, Series 2020

Title 10 Chapter 2 -- Only those sections proposed for amendment listed.

TITLE 10
CHAPTER 2

GENERAL ZONING PROVISIONS

10-2-13: DEFINITIONS: For the purpose of this Title, certain words, terms and phrases are defined below. Words used in the present tense include the future; the singular number includes the plural; and the word "shall" is mandatory and not directory. Whenever the term "this Title" is used herewith it shall be deemed to include all amendments thereto as may hereafter from time to time be adopted. Definition contained in the Florence Comprehensive Plan shall also be used to define terms used in this Title of the Florence City Code, and, where conflicts exist, the terms used in this Code shall apply to the respective Code requirements. Terms not defined in this Code shall have their ordinary accepted meanings within the context in which they are used. Webster's Third New International Dictionary of the English Language, Unabridged, shall be considered a standard reference.

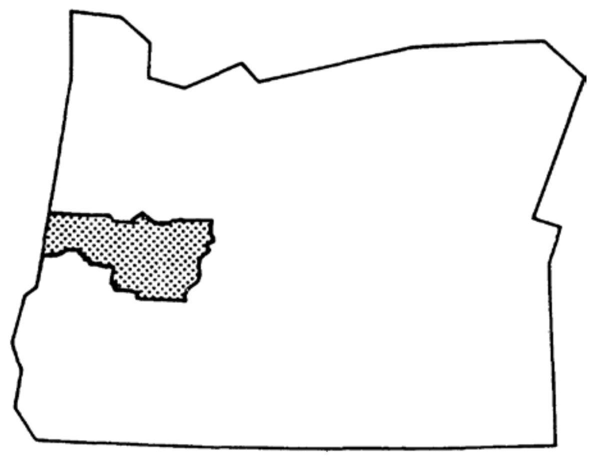
FLOODWAY	~~The normal stream channel and that adjoining areas of the natural floodplain needed to convey the waters of a regional flood while causing less than one foot increase in upstream flood elevations.~~ The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Also referred to as "Regulatory Floodway."

Amended by Ordinance No. 15, Series 1988
Amended by Ordinance No. 2, Series 2000
Amended by Ordinance No. 12, Series 2002
Sections 10-2-14 and 10-2-15 removed by Ordinance No. 9, Series 2009
Section 10-2-8 deleted and all subsequent sections renumbered by Ord. No. 4, Series 2011 (Exhibit 4E) effective 4-22-11
Section 10-2-9 amended by Ordinance No. 21, Series 2011 (exhibit D) – effective 1-5-12
Section 10-2-12 amended by Ordinance No. 5, Series 2012 (exhibit C) – effective 1-16-13
Section 10-2-6 Amended by Ord. No. 3, Series 2013 – See Exhibit B (effective 7-31-13)
Sections 10-2-13 and 10-2-14 amended by Ord. No. 11, Series 2016 (effective 11-16-16)
Section 10-2-13 amended by Ord. No. 4, Series 2018 (effective 6-21-18)
Section 10-2-13 amended by Ord. No. 13, Series 2018 (effective 11-21-18)
Section 10-2-4, 10-2-9, 10-2-13 amended by Ord. 7, Series 2019 (effective 12-18-19)
Section 10-2-13 amended by Ord. 2, Series 2020 (effective 6-5-20)

Exhibit D

FLOOD INSURANCE STUDY

LANE COUNTY, OREGON
AND INCORPORATED AREAS
VOLUME 1 OF 4



COMMUNITY NAME	COMMUNITY NUMBER
COBURG, CITY OF	410119
COTTAGE GROVE, CITY OF	410120
CRESWELL, CITY OF	410121
DUNES CITY, CITY OF	410262
EUGENE, CITY OF	410122
FLORENCE, CITY OF	410123
JUNCTION CITY, CITY OF	410124
LOWELL, CITY OF	410125
OAKRIDGE, CITY OF	410126
SPRINGFIELD, CITY OF	415592
VENETA, CITY OF	410128
WESTFIR, CITY OF	410289
LANE COUNTY, UNINCORPORATED AREAS	415591

REVISED:
JUNE 5, 2020

Federal Emergency Management Agency

Flood Insurance Study Number
41039CV001B

Ordinance 2, Series 2020

Exhibit D

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

The Federal Emergency Management Agency (FEMA) may revise and republish part or all of this 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 publication incorporates revisions to the original Flood Insurance Study. These revisions are presented in Section 10.0. Volume 2 of this FIS Report pertains to the Physical Map Revision for Lane County, Oregon. All elevations in Section 10.2 are in NAVD88 and the floodway data table and profile graph for the Siuslaw River have been converted to NAVD88.

Initial Countywide FIS Effective Date: June 2, 1999

Revised Countywide Date: June 5, 2020

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Exhibit 1 – Flood Profiles (Continued)

PUBLISHED SEPARATELY

FLOOD INSURANCE STUDY
LANE COUNTY, OREGON AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study revises and updates information on the existence and severity of flood hazards in the geographic area of Lane County, including the Cities of Coburg, Cottage Grove, Creswell, Dunes City, Eugene, Florence, Junction City, Lowell, Oakridge, Springfield, Veneta, and Westfir and the unincorporated areas of Lane County (referred to collectively herein as Lane County), and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood-risk data for various areas of the community that will be used to establish actuarial flood insurance rates and to assist the community in its efforts to promote sound floodplain management. Minimum floodplain management requirements for participation in the National Flood Insurance Program (NFIP) are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

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

1.2 Authority and Acknowledgments

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

Hydrologic and hydraulic analyses along Salmon Creek within the City of Oakridge were performed by the U.S. Army Corps of Engineers (USACE), Portland District, for the Federal Emergency Management Agency (FEMA), under Interagency Agreement No. EMW-E-1137, Project Order No. 34, and Interagency Agreement No. EMW-87-E-2549, Project Order No. 9. This work was completed in March 1988.

An analysis of the Long Tom River within the City of Veneta was performed by the USACE, Portland District, and submitted in March 1985.

Hydrologic and hydraulic analyses along Amazon Creek, from Beltline Highway to West 11th Avenue, were based on new topographic information provided in a report entitled "Limited Map Maintenance Study of Amazon Creek Beltline Highway to Bailey Hill Road-Eugene, Oregon," prepared by Northwest Hydraulic Consultants, Inc., and dated July 1993.

Hydrologic and hydraulic analyses along the Siuslaw and McKenzie Rivers and Cedar and Lost Creeks were prepared by Ogden Beeman & Associates, Inc., for FEMA, under Contract No. EMW-89-C-2848. This work was completed in March 1992.

The hydrologic and hydraulic analyses for all remaining sources of flooding were performed by CH2M Hill Northwest, Inc., for FEMA, under Contract No. H-4582. This work was completed between November 1980 and September 1983.

1.3 Coordination

Streams requiring detailed or approximate study were identified at a Consultation Coordination Officer (CCO) meeting held in June 1977 and attended by representatives of FEMA; Lane County; the Cities of Cottage Grove, Eugene, Florence, Junction City, Springfield, and Veneta; and the study contractor.

Streams requiring detailed or approximate study for the City of Oakridge were identified at a CCO meeting held in July 1977 and attended by representatives of FEMA, the City of Oakridge, and the study contractor.

The final CCO meeting for the City of Oakridge was held on May 29, 1985, and attended by representatives of FEMA, the City of Oakridge, and the study contractor. No problems were raised at that meeting.

The revision to Salmon Creek for the City of Oakridge was initiated by FEMA under the Limited Map Maintenance Program. The restudy of Salmon Creek was performed by the USACE and completed in March 1988.

On July 1, 1980, an intermediate CCO meeting was held in the City of Veneta to review the results of the study. There was considerable disagreement as to the extent of flooding from the Long Tom River. As a result of these disagreements, on July 23, 1980, the City of Veneta asked the USACE to prepare a flood-hazard analysis of the Long Tom River using detailed methods.

On August 12, 1981, FEMA approved the preparation of a Flood Insurance Study using a USACE report for the detailed analysis on the Long Tom River and approximate information from the original report for an unnamed local drainage.

The final CCO meeting for the City of Veneta was held on March 8, 1982, and attended by representatives of FEMA, the City of Veneta, and the study contractor. No problems were raised at that meeting.

Intermediate CCO meetings were held for the Cities of Florence and Junction City on July 2, 1980. Attending the meetings were representatives of FEMA, the Cities of Florence and Junction City, and the study contractor. Representatives of the City of Florence wanted clarification of flood elevations on Munsel Creek. Elevation information for Munsel Creek, which was studied by approximate methods, was made available to City representatives.

The final CCO meetings for the Cities of Florence and Junction City were held on May 28, 1981, and attended by representatives of FEMA, the Cities of Florence and Junction City, and the study contractor. No problems were raised at those meetings.

In February 1983, the results of the study were reviewed at an intermediate CCO meeting attended by representatives of FEMA; Lane County; the Cities of Cottage Grove, Oakridge, and Springfield; and the study contractor. At that meeting, it was determined that a Flood Insurance Study would be prepared for the City of Creswell. Also at that meeting, it was determined that the following additional streams should be studied by detailed methods: the downstream area of the Coast Fork Willamette River (known locally as the Seavey Loop area); along Silk Creek, upstream of the City of Cottage Grove; and the North Fork Middle Fork Willamette River, in the City of Westfir.

Results of the hydrologic analysis for the Mohawk River were coordinated with the U.S. Geological Survey (USGS). The hydrologic analysis for regulated streams in Lane County was coordinated by the USACE. The USACE and the Natural Resources Conservation Service (NRCS) (formerly the Soil Conservation Service) were contacted for information concerning this study.

Residents of the City of Springfield stated that they had seen more extensive flooding on Q-Street Canal than the 100-year boundaries shown on the draft Flood Insurance Rate Map. This problem was subsequently resolved.

City of Westfir officials commented that the approximate flooding was too extensive and requested that the North Fork Middle Fork Willamette River be reanalyzed using detailed methods. As a result, FEMA authorized the study contractor to obtain field-surveyed cross sections and to reanalyze the area using detailed methods.

On February 23, 1984, a review draft of the study was presented to the community at an intermediate CCO meeting attended by representatives of FEMA, the City of Eugene, and the study contractor. Several items were brought to the attention of the study contractor. Each of these involved new developments within the floodplain or floodway that occurred after the meeting held in June 1977. These items have been resolved and are included in this study.

Results of the hydrologic analyses on the Coast Fork Willamette River and Amazon Creek were coordinated with the USACE. The USACE was contacted for information concerning this study.

The final CCO meeting for the City of Westfir was held on September 28, 1984, and attended by representatives of FEMA, the City of Westfir, and the study contractor. No problems were raised at that meeting.

The final CCO meetings for the unincorporated areas of Lane County and City of Eugene were held in June 1985 and attended by representatives of FEMA, Lane County, and the study contractor. No problems were raised at those meetings.

The results of the restudies along the Siuslaw and McKenzie Rivers and Cedar and Lost Creeks were reviewed at the final CCO meeting held on April 27, 1993, and attended by representatives of Lane County and the City of Springfield.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the geographic area of Lane County, Oregon, including the incorporated communities listed in Section 1.1.

The areas studied by detailed methods were selected with priority given to all known flood hazards and areas of projected development or proposed construction through 1988.

Approximate analyses were used to study those areas having a low development potential or minimal flood hazards. The scope and methods of study were proposed to, and agreed upon, by FEMA; Lane County; and the Cities of Eugene, Florence, Junction City, Springfield, and Veneta.

2.2 Community Description

Lane County is located in west-central Oregon. It is bordered on the north by Benton, Lincoln, and Linn Counties; on the south by Douglas County; on the east by Deschutes and Klamath Counties; and on the west by the Pacific Ocean.

Lane County extends from the Pacific Ocean to the summits of the Cascade Mountains. The County varies in width from 25 to 60 miles and contains an area of approximately 4,600 square miles. According to the U.S. Bureau of the Census, Lane County had a 1990 population of approximately 282,900 (Reference 1).

The City of Cottage Grove is located in south-central Lane County, straddling the Coast Fork Willamette River a short distance above its confluence with the Row River. The City is situated approximately 18 miles south of the City of Eugene and 30 miles west of the City of Oakridge. It is completely surrounded by the unincorporated areas of Lane County. The City of Cottage Grove is situated in a valley, formed by the Coast Fork Willamette River, between the Coast and Cascade Mountain Ranges. The total land area contained within the corporate limits is 2.3 square miles. According to the U.S. Bureau of the Census, the City of Cottage Grove had a 1990 population of approximately 7,400 (Reference 1). The economy of the City depends primarily on the wood-products industry, although it is becoming more dependent on tourism and recreation (Reference 2).

The City of Creswell is located in central Lane County, approximately 10 miles south of the City of Eugene and 8 miles north of the City of Cottage Grove along Interstate Highway 5. The total land area within the City is 1 square mile. According to the U.S. Bureau of the Census, the City of Creswell had a 1990 population of 2,431 (Reference 1). The economy primarily depends on the wood-products industry, although tourism and recreation are being promoted. The City of Creswell is surrounded by the unincorporated areas of Lane County.

The City of Junction City is located in northwestern Lane County, near the southern end of the Willamette Valley. It is entirely surrounded by the unincorporated areas of Lane County. The City is situated approximately 14 miles northwest of the City of Eugene and 31 miles southwest of the City of Albany. The total land area contained within the corporate limits is 1.2 square miles. According to the U.S. Bureau of the Census, the City of Junction City had a 1990 population of approximately 3,670 (Reference 1). The economy of the City of Junction City is based on the wood-products industry and agriculture.

The City of Eugene is located at the head of the Willamette Valley in central Lane County. The City is bordered by the unincorporated areas of Lane County to the north, west, and south, and is adjacent to the City of Springfield to the east. The City of Eugene is approximately 130 miles south of the City of Portland. The Willamette Valley lies north of the City of Eugene, flanked by the Coast and Cascade Mountain Ranges.

Most of the City of Eugene lies in the alluvial plain of the valley at an elevation of approximately 425 feet. The remaining area extends into the hills to the south. The total land area contained within the City limits is 32.9 square miles. According to the U.S. Bureau of the Census, the City of Eugene had a 1990 population of approximately 112,670 (Reference 1).

The City of Florence is located in coastal Oregon, near the mouth of the Siuslaw River, in western Lane County. It is situated approximately 60 miles west of the City of Eugene, and is entirely surrounded by the unincorporated areas of Lane County. The City is sited on the north bank of the Siuslaw River at an elevation of approximately 30 feet. Hills to the east of the City rise to elevations of over 400 feet, while sand dunes to the northwest and northeast rise to elevations over 80 feet. According to the U.S. Bureau of the Census, the City of Florence had a 1990 population of approximately 5,160 (Reference 1). The main employers in the City are the lumber and pulp and paper industries.

The City of Oakridge is located in southeastern Lane County, near the headwaters of the Willamette River system. The City is situated approximately 40 miles southeast of the City of Eugene and 30 miles east of the City of Cottage Grove. It is surrounded by the unincorporated areas of Lane County. The City is located in a valley formed by old river terraces at approximately 1,200 feet in elevation on the western slopes of the Cascade Mountain Range. The surrounding mountains rise from 400 to 1,200 feet above the valley terraces.

The total land area contained within the corporate limits of the City of Oakridge is 1.3 square miles. According to the U.S. Bureau of the Census, the City of Oakridge had a 1990 population of approximately 3,060 (Reference 1). This increase was due primarily to annexation of the Willamette City area, which had a population of approximately 1,400. The economy of the City of Oakridge depends primarily on the wood-products industry and the Willamette National Forest.

The City of Springfield is located in central Lane County, at the head of the Willamette Valley, approximately 130 miles south of the City of Portland. It is adjacent to the City of Eugene to the west and unincorporated areas of Lane County to the north, east, and south. The Willamette Valley lies north of the City of Springfield, flanked by the Coast and Cascade Mountain Ranges. The major portion of the City is sited in the alluvial plain of the Willamette Valley at approximately 425 feet, with the remaining portion extending into the southern hills. The total land area contained within the corporate limits is 12.32 square miles. According to the U.S. Bureau of the Census, the City of Springfield had a 1990 population of 44,680 (Reference 1).

The City of Veneta is located in west-central Lane County, approximately 12 miles west of the City of Eugene and 1 mile south of the community of Elmira. The City of Veneta is located at the edge of the upper Willamette Valley and the Coast Range in the upper Long Tom River basin. According to the U.S. Bureau of the Census, the City of Veneta had a 1990 population of 2,519 (Reference 1).

The land within the City of Veneta is relatively flat. The downtown area and most of the City are at an elevation of 400 feet. Beginning within the City and extending and rising westward are the foothills and mountains of the Coast Range. These hills reach an elevation of approximately 850 feet at the highest point in the City of Veneta, but generally vary between

1,000 and 2,000 feet across a large portion of the west Lane County area. The slopes to the southwest limit development potential in some areas (Reference 3).

The City of Westfir is located in southeastern Lane County, in the foothills of the Cascade Mountains. The City is at an approximate elevation of 1,100 feet. Hills with elevations of 1,600 to 2,000 feet rise to the north and south. The City of Westfir is approximately 40 miles southeast of the City of Eugene, 30 miles east of the City of Cottage Grove, and less than 1 mile northwest of the City of Oakridge. The total land area contained within the corporate limits is 0.4 square mile. According to the U.S. Bureau of the Census, the City of Westfir had a 1990 population of 278 (Reference 1). The economy of the City of Westfir depends primarily on the wood-products industry and the Willamette National Forest.

The topography of Lane County is quite varied. The County is divided by the Coast Range, which runs in a north-south direction. The land west of the Coast Range consists of rugged hills and extensive forests. All the streams in this region flow either into the Pacific Ocean or the Siuslaw River. The remainder of Lane County lies between the Coast and Cascade Ranges, which form the eastern County boundary. Between these ranges is the Willamette Valley. Major streams in this area are the Willamette River, which originates at the confluence of the Coast Fork and Middle Fork Willamette Rivers, and the McKenzie River. All streams in the Willamette Valley eventually empty into the Willamette River, which flows northerly before emptying into the Columbia River.

Development within the floodplains studied is mostly agricultural, scattered residential, and limited industrial and commercial.

Most of Lane County has a temperate marine climate, with temperatures averaging in the mid-60°F range in July and mid- to low-30°F range in January (Reference 4). Average annual precipitation ranges from 80 to 100 inches in the coastal areas, 40 inches in the Willamette Valley, and 60 to 90 inches in the Cascade Mountains (Reference 5). Most of the precipitation occurs from November through February.

The general soil groups found in Lane County are derived from alluvium, marine sediments, igneous materials, and sedimentary rock (Reference 5).

The vegetation in Lane County varies with the climate. Coniferous trees, especially the Douglas fir, are the predominant vegetation form in the Siuslaw River and upper McKenzie River floodplains. In the Willamette Valley floodplains, the vegetation consists of willows, oaks, maples, cottonwoods, alders, and other deciduous trees, along with blackberry vines and small bushes. Plant life flourishes because of the damp climate. The floodplains normally have a wide variety of bushes, weeds, flowers, and small trees, with larger trees on the fringes.

Silk Creek, a tributary flowing southeasterly to the Coast Fork Willamette River in the City of Cottage Grove, is 6.5 miles long and drains an area of 16.3 square miles.

The Row River flows northwesterly, east of the City of Cottage Grove. It has a drainage area of approximately 375 square miles and is approximately 20.8 miles long from its confluence with the Coast Fork Willamette River.

In the City of Cottage Grove, the 100-year floodplain is highly developed. Development within the floodplains studied includes the central business district, a shopping center, and many single-family residences.

The Coast Fork Willamette River flows generally in a northerly direction through the southern end of the Willamette Valley and northerly through the City of Cottage Grove. It then joins the Row River and passes just east of the City of Creswell. Downstream near the City of Eugene, the Coast Fork Willamette River joins the Middle Fork Willamette River to become the Willamette River. At the confluence with the Middle Fork Willamette River, the Coast Fork Willamette River has a drainage area of 665 square miles and a length of 52 miles. Above its confluence with Silk Creek, the Coast Fork Willamette River has a drainage area of approximately 129 square miles. Above Camas Swale, which drains the area west of the City of Creswell, the Coast Fork Willamette River has a drainage area of 578 square miles.

The Willamette River flows generally northerly to the Columbia River. It is 187 miles long and drains an area of 11,463 square miles at its confluence with the Columbia River. It drains an area of approximately 2,030 square miles at the State Highway 126 crossing, approximately 185 miles upstream of its mouth. Dedrick Slough flows parallel to the Willamette River and, at flood stage, acts as an overflow channel for the Willamette River. At the City of Harrisburg, just downstream of the City of Junction City, the Willamette River has a drainage area of 3,420 square miles.

Flat Creek is an overflow channel of the Willamette River, with two branches, Channels F1 and F1B, flowing through the City of Junction City.

Amazon Creek originates in the hills south of the City of Eugene and then flows northerly to the center of the City, where it turns westerly toward Fern Ridge Reservoir. At the diversion structure just west of the corporate limits, part of the flow is diverted toward the reservoir. The remainder flows northwesterly to the Long Tom River. Amazon Creek drains 21.3 square miles at the diversion, most of which lies within the corporate limits.

Channel A3 flows westerly through the northwestern portion of the City of Eugene to its confluence with Amazon Creek. It drains an area of approximately 2.6 square miles.

Q-Street Canal flows westerly through the eastern portion of the City of Eugene and central portion of the City of Springfield to its confluence with the Willamette River. It drains an area of approximately 7.5 square miles in the City of Eugene and approximately 5.96 square miles of residential land in the City of Springfield. Within the corporate limits of the City of Eugene, Q-Street Canal is included in the Willamette River floodplain.

The McKenzie River flows westerly. The drainage area at the Coburg Road crossing is approximately 1,337 square miles.

The Siuslaw River is one of the principal rivers in the Coastal Basin of Oregon. It is 109.4 miles long from its mouth at the Pacific Ocean to its confluence with the South Fork Siuslaw River, and its total drainage area encompasses 773 square miles.

The North Fork Siuslaw River flows southwesterly to join the main stem of the Siuslaw River 0.9 mile to the east of the City of Florence corporate limits. The North Fork Siuslaw River drains an area of 65 square miles.

In the upstream lengths of the Siuslaw River, the valley floor is narrow with high slopes on both sides. The highest point in the drainage basin is Roman Nose Mountain, with an elevation of 2,856 feet.

Munsel Creek flows southerly through the eastern sector of the City of Florence and drains a chain of upstream lakes before flowing into the Siuslaw River in a low, tidal area. It has a drainage area of 3 square miles.

Development within the flood-hazard areas along the Siuslaw River is generally oriented towards water uses, such as piers, wharves, and marinas.

The Middle Fork Willamette River, which forms the southern boundary of the City of Oakridge, flows northwesterly to its confluence with the Coast Fork Willamette River, where the Willamette River is formed. It has a length of 84 miles and drains an area of 1,354 square miles.

Salmon Creek, a tributary flowing southwesterly to the Middle Fork Willamette River, is 24.3 miles in length, with a drainage area of 126 square miles.

The North Fork Middle Fork Willamette River flows westerly through the center of the City of Westfir to its confluence with the Middle Fork Willamette River at the western corporate limits of the City of Westfir. The North Fork Middle Fork Willamette River drains an area of 251 square miles, is 43.6 miles long, and runs from the outlet of Waldo Lake to its confluence with the Middle Fork Willamette River (Reference 6).

2.3 Principal Flood Problems

Major flooding usually occurs in Lane County during December and January as a result of heavy rains combining with increased snowmelt. Normal spring snowmelt usually causes only minor flooding.

Along the coast, high spring tides combine with surges produced by strong winds from winter storms, causing coastal flooding. Storms that produce coastal flooding often bring heavy rain, producing high river flows. These flows are held back at the mouth of the stream by high ocean levels, thus increasing flood hazards.

During periods of heavy flooding, vegetation in the floodplains may be uprooted, often blocking culverts and bridge openings. The logging industry compounds this problem by storing logs in the rivers. Logs have been known to breech private levees and cause extensive damage.

Several major floods have occurred in Lane County. The largest of these was the December 1964 flood. Other major floods occurred in 1861, 1890, 1945, and 1956. All of these floods occurred during winter, lasting several days, and were caused by the combination of snowmelt, heavy rainfall, and saturated soils.

Flooding has been altered significantly since the construction by the USACE of several reservoirs (described in Section 2.4). The highest recorded peak discharges prior to and since regulation are shown in Table 1, "Recorded Peak Flows" (References 7, 8, and 9). The gaging stations are operated by the USGS.

Levees were built along both banks of Amazon Creek downstream of Bailey Hill Road that contain only the 10-year flood; therefore, greater floods exceed the tops of the levees and spill into the overbanks.

Recent major floods occurred on Amazon Creek in February 1961 and December 1964. Discharges associated with these events are 3,070 cubic feet per second (cfs) and 2,040 cfs, respectively. They were measured at USGS Gage No. 14169500, located 250 feet upstream from the diversion structure (References 7, 8, and 9). The estimated return periods for floods of these magnitudes are 6 and 2 years, respectively. The estimated 100-year flood discharge at USGS Gage No. 14169500 is 5,050 cfs.

In the past 20 years, Silk Creek has flooded twice, in December 1964 and December 1968. During the 1964 flood, several homes were flooded. Silk Creek is not gaged, so the discharges of the 1964 and 1968 floods are unknown.

The largest recent flow on the Coast Fork Willamette River was recorded at USGS Gage No. 14153500, located upstream from the City of Cottage Grove and below Cottage Grove Dam, during the December 1964 flood (References 7, 8, and 9). The peak flow at this gage was 5,910 cfs, with an estimated return period of 52 years. At USGS Gage No. 14157500, the peak flow was 32,100 cfs, with an estimated return period of 22 years (Reference 10). The flow at USGS Gage No. 14153500 was regulated by Cottage Grove Reservoir, while the flow at USGS Gage No. 14157500 was regulated by both Cottage Grove and Dorena Reservoirs. Although the Coast Fork Willamette River did not flood any buildings in the City of Cottage Grove during the December 1964 flood, major flooding occurred in other areas along the river.

Before regulation by Cottage Grove and Dorena Reservoirs, the highest recorded flow in the Coast Fork occurred on November 22, 1909. The flow at USGS Gage No. 14157500, located at the State Highway 58 bridge approximately 6.4 miles downstream of the City of Creswell, was 58,500 cfs during the November 1909 flood.

The peak recorded flow at USGS Gage No. 14153500, located below Cottage Grove Dam and approximately 16.6 miles upstream of the City of Creswell, was 5,910 cfs during the December 1964 flood. The peak recorded flow at USGS Gage No. 14155500, located below Dorena Dam and approximately 13.4 miles upstream of the City of Creswell, was 17,200 cfs during the December 1964 flood (References 7, 8, and 9). The 1964 floodflow at USGS Gage No. 14157500 was 32,100 cfs and had an estimated return period of 22 years. The 1964 floodflows at USGS Gage Nos. 14153500 and 14155500 had return periods of 52 and 77 years, respectively (Reference 10). Cottage Grove and Dorena Reservoirs were operating during the December 1964 flood regulating the flow at these three gages.

Flooding on Q-Street Canal and Channel A3 is normally confined to the channel. Historical data on these drainages are not available.

Table 1. Recorded Peak Flows

USGS Gage No.	USGS Gage Location	Prior to Regulation			Since Regulation		
		Flow (cfs)	Date	Frequency	Flow (cfs)	Date	Frequency
14145500	Middle Fork Willamette River, above Salt Creek	34,000	December 1954	16-Year[1]	11,800	December 1964	90-Year[2]
14146500	Salmon Creek, near the City of Oakridge	11,600	December 1964	50-Year[1]	No Regulation		
14148000	Middle Fork Willamette River, below North Fork Middle Fork Willamette River	81,800	December 1945	35-Year[1]	55,800	December 1964	90-Year[2]
14150000	Middle Fork Willamette River, near the community of Dexter	62,600	January 1953	10-Year[1]	29,500	December 1964	540-Year[2]
14151000	Fall Creek, below Winberry Creek	24,700	December 1956	40-Year[1]	4,640	January 1972	22-Year[2]
14152000	Middle Fork Willamette River, at community of Jasper	94,000	November 1909	14-Year[1]	43,500	December 1964	161-Year[2]
14153500	Coast Fork Willamette River, below Cottage Grove Dam	No Record Prior to Regulation			5,910	December 1964	52-Year[2]
14155500	Row River, near City of Cottage Grove	21,400	December 1945	7-Year[1]	17,200	December 1964	77-Year[2]
14157000	Coast Fork Willamette River, at community of Saginaw (discontinued in 1951)	32,500	February 1927	4-Year[1]	32,900	December 1945	40-Year[2]
14157500	Coast Fork Willamette River, near community of Goshen	58,500	November 1909	18-Year[1]	32,100	December 1964	22-Year[2]
14158000	Willamette River, at City of Springfield (discontinued in 1957)	140,000[3]	December 1945	22-Year[1]	60,400[4]	December 1964	55-Year[2]

[1]Estimated return period based on natural frequency curves
[2]Estimated return period based on regulated frequency curves
[3]Regulated by Cottage Grove Reservoir only
[4]Flow estimated by USACE

Table 1. Recorded Peak Flows (Cont'd)

USGS Gage No.	USGS Gage Location	Prior to Regulation			Since Regulation		
		Flow (cfs)	Date	Frequency	Flow (cfs)	Date	Frequency
14159000	McKenzie River, at McKenzie Bridge	19,100	December 1964	118-Year[1]	No Regulation		
14159500	South Fork McKenzie River, near community of Rainbow	17,600	December 1956	9-Year[1]	6,520	January 1971	111-Year[2]
14162000	Blue River, at mouth	19,600	December 1964	167-Year[1]	Discontinued -- See Gage No. 14162200		
14162200	Blue River, at mouth	See Gage No. 14162000			4,970	December 1968	139-Year[2]
14162500	McKenzie River, near community of Vida	64,400	December 1945	45-Year[1]	54,700	December 1964	556-Year[2]
14165000	Mohawk River, near City of Springfield	21,000[3]	December 1964	56-Year	No Regulation		
14165500	McKenzie River, near City of Coburg (discontinued in 1972)	88,200	December 1945	18-Year[1]	87,300	December 1964	91-Year[2]
14307620	Siuslaw River, near community of Mapleton	49,400	January 1972	6-Year	No Regulation		

[1]Estimated return period based on natural frequency curves
[2]Estimated return period based on regulated frequency curves
[3]Flow adjusted by CH2M Hill, Inc., to include flow bypassing the gage

The annual flood season on the Siuslaw River extends from November through March, with the largest floods occurring during December and January. Floods are caused primarily by intense marine rainfall of 1- to 4-day duration falling on a catchment saturated by previous rainfall. Runoff is observed almost immediately because of steep canyons and short streams with high gradients, and because the underlying bedrock in most of the area is composed of impermeable sedimentary rocks. Because of the area's proximity to the coast and the duration of the flood stage in the Siuslaw River, tidal effects also need to be considered. Normal high tide levels of 3.4 feet can be significantly increased by wind effects. High tides in the area have been seen to aggrade and prolong the flood problem and are, therefore, considered to be directly additive to riverine flood peaks in the derivation of flood profiles.

The Siuslaw River responds rapidly to intense rainfall. The water-surface elevation rises from low water to flood crest in approximately 3 days following a storm. Major floods remain above bankfull stage for 3 to 4 days, with flood durations prolonged by high ocean tides (Reference 11).

Extensive road systems and clear-cut logging operations in the mountainous upper watershed areas during the last 30 years have increased runoff rates and added wood debris and sediment to floodwaters. Floating materials, including log rafts, are a serious threat as potential debris jams. Natural and manmade obstructions, such as bridges, marinas, docks, and landfills, can impede floodflows and increase flooding effects. No significant attempts have been made around the City of Florence to contain riverflows by diking.

Recent major floods occurred on the Siuslaw River in December 1964, January 1972, and January 1974. Although no gage records are available for the 1964 flood, the NRCS compiled extensive information that documents the probable crest from high-water marks (Reference 12). Based on that information and gage data on floods since October 1967, it is estimated that the December 1964 flood had a peak discharge of approximately 69,000 cfs at the City of Florence and was the maximum flood of record. It was reported that rainfall at the City of Florence for the 8-day period beginning December 20, 1964, was 9.25 inches; during the same period at the community of Mapleton, 19 miles upstream from the City of Florence, rainfall was 20.09 inches (Reference 9).

In October 1967, the USGS installed a gaging station, USGS Gage No. 14307620, upstream of the community of Mapleton near Shoemaker Creek (River Mile (RM) 23.7). Major floods were recorded in January 1972 and January 1974. Both floods had almost identical peaks of approximately 64,000 cfs at the City of Florence. These flood peaks correspond to approximately 10-year floods. The 1974 flood stayed above flood stage for 3 days, while the 1972 flood was above flood stage for 2 days. Tidal influences had a marked effect on the duration and severity of flooding, especially upstream in the community of Mapleton area. The estimated 100-year discharge at USGS Gage No. 14307620 is 78,100 cfs, and at the U.S. Highway 101 bridge in the City of Florence, it is estimated to be 99,300 cfs. The USACE estimated the 100-year discharge to be 84,000 cfs at the community of Mapleton (Reference 9).

The major area of flooding along the Willamette River is referred to as Goodpasture Island. Overflow from the Willamette River causes flooding in Dedrick Slough near Goodpasture Island.

A major flood occurred on the Willamette River in December 1964. The discharge associated with this event was established by the USACE as 60,400 cfs at discontinued USGS Gage No. 14158000 (Reference 13). This gage was located on the downstream side of the State Highway 126 bridge at the City of Springfield, and records were kept until 1977 (References 7, 8, and 9). The estimated return period for a flood of this magnitude is 55 years. The estimated 100-year flood discharge is 71,000 cfs (Reference 6).

The two largest known floods on the Willamette River occurred before the river was gaged or regulated, in November-December 1861 and January-February 1890. At the City of Harrisburg, the 1861 flood crested approximately 0.5 foot higher than the 1890 flood. Since 1945, the following major floods (Reference 14) have been recorded at the USGS gage on the Willamette River at the City of Harrisburg, USGS Gage No. 14166000:

Date of Crest	Estimated Peak Discharge (cfs)	Estimated Return Period (Years)[1]
December 29, 1945	210,000	1,200
January 7, 1948	163,000	380
January 19, 1953	149,000	250
October 30, 1950	139,000	190
December 14, 1946	134,000	170
December 13, 1948	131,000	140
February 11, 1961	126,000	125
December 23, 1964	125,000	120
November 24, 1953	117,000	83
December 23, 1955	114,000	77

[1]Estimated return period based on 1979 regulated flows presented in USACE letter reports (Reference 10).

The record at USGS Gage No. 14166000 covers the period from October 1944 to 1978 (References 7, 8, 9, and 15).

The December 1945 flood, the largest of record at the City of Harrisburg, was regulated only by Cottage Grove Reservoir. During this flood, most of the houses east of the Southern Pacific Railroad (SPRR) in the City of Junction City had 10 to 16 inches of water inside, and several houses west of the railroad were flooded.

The 1964 flood, the most recent of significant magnitude, was regulated by five multiple-purpose reservoirs on tributaries to the Willamette River: Cottage Grove, Cougar, Dorena, Hills Creek, and Lookout Point. If the flood had not been regulated, it would have been of the same magnitude as the 1861 flood. During the 1964 flood, most of the area east of the SPRR was inundated by floodwaters, but only a few homes had to be evacuated. Flat Creek Channel F1 on the east side of the SPRR carried away some of the floodwater, reducing the amount of flood damage (Reference 14).

Major floods have occurred on Salmon Creek in recent years. The floodflows, measured at USGS Gage No. 14146500, located 4.6 miles east of the City of Oakridge, are:

Period	Peak Flow (cfs)	Return Period
December 1956	10,400	34 Years
December 1964	11,600	50 Years
January 1971	9,020	22 Years

Levees built along both banks of Salmon Creek after the 1956 flood were intended to prevent a recurrence of flooding in Lane County and the City of Oakridge. However, during the 1964 and 1971 floods, the City was again flooded because the western levee failed in several locations. The flooding was not caused by floodwaters overtopping the levee, but by erosion that caused the levee to collapse, allowing water into the City of Oakridge. The highest peak discharge of record, 11,600 cfs, occurred on December 22, 1964.

Prior to construction of Hills Creek Reservoir, the highest recorded flows on the Middle Fork Willamette River were measured on December 28, 1945. USGS Gage No. 14145500, which is located upstream from the City of Oakridge near the mouth of Salt Creek, recorded 34,000 cfs, and USGS Gage No. 14148000, which is located downstream from the City of Oakridge near the mouth of the North Fork Middle Fork Willamette River, recorded 81,800 cfs (References 7, 8, and 9).

Since construction of Hills Creek Dam, one major flood has occurred on the Middle Fork Willamette River at the City of Oakridge, in December 1964. Peak recorded flows at the principal stream gages are shown below:

USGS Gage No.	Peak Flow (cfs)	Return Period
14145500	11,800	90 Years
14148000	55,800	90 Years

Prior to regulation, the highest recorded flow on the Willamette River was measured at 140,000 cfs on December 9, 1945 (References 7, 8, and 9).

Major floods occurred on the McKenzie River in December 1964 and November 1973. The discharges associated with these events were 87,300 and 70,000 cfs, respectively. They were measured at discontinued USGS Gage No. 14165500, which was located near the downstream side of the Armitage Bridge on Coburg Road, located downstream of the City of Springfield. The estimated return periods for floods of these magnitudes are 91 and 28 years, respectively.

Prior to regulation by Cougar Reservoir, the highest recorded flow on the McKenzie River was measured on December 19, 1945. USGS Gage No. 14165500 measured the flow at 88,200 cfs (References 7, 8, and 9).

The City of Veneta lies in the upper Long Tom River basin, which drains into Fern Ridge Reservoir. Upstream from the reservoir, the lowlands along the Long Tom River are subject to periodic overflow and drainage problems when heavy winter rainfall causes the river to flood or causes excess water to build up in or on the soil (Reference 3).

Major floods on the Long Tom River occurred on December 22, 1955, and December 22, 1964, with respective peak discharges of 6,990 cfs and 6,450 cfs and respective return intervals of 33 and 15 years.

No flooding has occurred recently in the City of Westfir. The highest recorded flow at USGS Gage No. 14147500, which is located on the North Fork Middle Fork Willamette River in the City of Westfir, was 24,400 cfs in December 1964 (References 7, 8, and 9). This flow, which has a return period of approximately 100 years, was confined to the channel.

2.4 Flood Protection Measures

Levees and flood-control reservoirs are the principal flood-protection structures in Lane County. There are eight flood-control reservoirs in Lane County. These reservoirs, built and operated by the USACE, are shown, with their storage capacities, in Table 2, "Summary of Reservoir Data." The effects of the reservoirs on the peak flows of the 100- and 500-year floods are listed in Table 3, "Effect of Reservoirs on Peak Flows."

Levees exist in the County that provide some degree of protection against flooding. However, it has been ascertained that the levees along Salmon Creek near the City of Oakridge and those along Amazon Creek near the City of Eugene, as well as many private levees, may not protect the community from the 100-year flood. The criteria used to evaluate protection against the 100-year flood are: 1) adequate design, including freeboard, 2) structural stability, and 3) proper operation and maintenance. Levees that do not protect against the 100-year flood are not considered in the hydraulic analysis of the 100-year floodplain.

Permanent levees were built along both banks of Salmon Creek by the USACE in the late 1950s. Because of development behind the levees and the damage caused to the levees by recent floods, Lane County and the City of Oakridge have requested heavier riprap to eliminate flood potential along the levees. FEMA was notified by the USACE that it would not certify the Salmon Creek levees as providing protection from the 100-year flood due to problems involving water-borne debris; therefore, the analyses for this Flood Insurance Study were conducted based on the levees being in both failed and intact conditions.

Channel improvements on Q-Street Canal and Amazon Creek in the upstream portion reduce flooding problems in these areas.

Nonstructural measures of flood protection are also being used to aid in the prevention of future flood damage. Lane County has passed an ordinance that limits development within areas that have a high risk of flooding. Ordinances have also been enacted by the Cities of Cottage Grove, Creswell, Eugene, Junction City, Oakridge, and Springfield to control development in the identified flood-hazard areas.

Capable flood-predicting and warning systems, combined with cooperation from local authorities, facilitate the evacuation of persons and property from floodprone areas during emergencies.

Hill Creek, which has a channel through the City of Creswell, has been diverted south of the City of Creswell, thus minimizing the flow in Hill and Lane Creeks within the City.

Table 2. Summary of Reservoir Data

Reservoir	Stream	Storage Capacity (acre-feet)		Completion Date
		Flood Control	Total	by USACE
Blue River	Blue River	85,000	89,000	1968
Cottage Grove	Coast Fork Willamette River	30,000	33,000	1942
Cougar	South Fork McKenzie River	155,000	219,000	1963
Dorena	Row River	70,500	77,500	1949
Fall Creek	Fall Creek	115,000	125,000	1965
Fern Ridge	Long Tom River	110,000	--[1]	1941
Hill Creek	Middle Fork Willamette River	200,000	356,000	1961
Lookout Point	Middle Fork Willamette River	337,000	456,000	1953

[1]Data not available

Table 3. Effect of Reservoirs on Peak Flows

	Natural Flow		Regulated Flow		Percent Decrease[2]	
Reservoir	100-Year[1]	500-Year[1]	100-Year[1]	500-Year[1]	100-Year	500-Year
Blue River	19,600	25,200	3,300	9,400	83	63
Cottage Grove	18,900	25,700	8,400	20,500	56	20
Cougar	31,900	43,100	6,300	14,100	80	67
Dorena	39,800	52,000	19,300	40,300	52	22
Fall Creek	29,600	38,700	7,600	13,200	74	66
Fern Ridge	46,800	63,300	23,200	47,000	50	26
Hill Creek	105,000	145,000	57,000	95,000	46	34
Lookout Point	111,000	155,000	20,300	53,000	82	34

[1]Discharge in cfs

[2]Percent Decrease $= \dfrac{\text{Natural Flow - Regulated Flow}}{\text{Natural Flow}} \times 100$

Levees and flood-control reservoirs are the main protection measures for the City of Eugene. Five reservoirs operated by the USACE within the Willamette River basin upstream of the City of Eugene provide major flood protection for the City. These reservoirs are summarized in Table 2, "Summary of Reservoir Data" (Reference 16). Other flood-protection measures are the channel improvements on Channel A3, Amazon Creek, and Q-Street Canal.

The five reservoirs have a significant combined effect on reducing major floodflows on the Willamette River throughout the City of Eugene. The 100-year floodflow is reduced from 193,000 to 71,000 cfs, and the 500-year floodflow is reduced from 253,000 to 111,000 cfs.

Channel A3 contains the 100-year flood. A levee improvement constructed on the lower Amazon Creek will not contain the 100-year floodflow. Q-Street Canal is located within the 100-year backwater flooding of the Willamette River.

Flood-warning information for the Siuslaw River is prepared by the Portland River Forecast Center of the National Weather Service (NWS). That information is disseminated through the City of Eugene office of the NWS, the American Red Cross, the Lane County Division of Emergency Services, and the local media.

Flat Creek Channels F1 and F1B have been improved to carry floodwater more efficiently through the City of Junction City. Flat Creek Channel F1 drains the area to the east of the SPRR, and Flat Creek Channel F1B drains the western portion of the City of Junction City (Reference 17).

Major flood control on the Willamette River upstream of the City of Harrisburg is provided by seven reservoirs (Reference 16). They are Cottage Grove Reservoir on the Coast Fork Willamette River (flood storage of 30,000 acre-feet), Dorena Reservoir on the Row River (flood storage of 70,500 acre-feet), Lookout Point Reservoir on the Middle Fork Willamette River (flood storage of 337,000 acre-feet), Hills Creek Reservoir on the Middle Fork Willamette River (flood storage of 200,000 acre-feet), Cougar Reservoir on the South Fork McKenzie River (flood storage of 155,000 acre-feet), Fall Creek Reservoir on Fall Creek (flood storage of 115,000 acre-feet), and Blue River Reservoir on the Blue River (flood storage of 85,000 acre-feet).

It is estimated that had the existing reservoir system been in operation, the 1945 flood peak at the City of Harrisburg could have been reduced from the observed 210,000 cfs to 100,000 cfs, the 1948 peak from 163,000 cfs to 75,000 cfs, and the 1953 peak from 149,000 cfs to 70,000 cfs. With five of the seven storage projects in operation during the 1964 flood, the peak discharge was reduced from an estimated natural peak of more than 250,000 cfs to the observed peak of 125,000 cfs.

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 that equals or exceeds the 100-year flood (1-percent chance of annual exceedence) in any 50-year period is approximately 40 percent (4 in 10); 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.

Regulated discharge values for the Coast Fork Willamette, McKenzie, Middle Fork Willamette (Near Springfield and Near Oakridge), Row, and Willamette Rivers and Fall Creek were determined by the USACE as the result of a request by FEMA to update the hydrology on regulated streams in Lane County. The USACE also determined discharges for the South Fork McKenzie and Blue Rivers, both of which are regulated and studied as approximate streams (Reference 10).

Stream-gage records were statistically analyzed using the standard log-Pearson Type III methods as outlined by the U.S. Water Resources Council (Reference 18). Natural discharge-frequency curves were developed for these gages. On the regulated streams, regulated discharge-frequency curves were then prepared using the USACE flood-routing computations for the Blue River, Cottage Grove, Cougar, Dorena, Fall Creek, Hills Creek, and Lookout Point Reservoirs to reduce expected flood discharges. The regulated and natural discharge-frequency curves at the stream gages were then used to obtain peak-discharge values for the selected recurrence intervals used in this study.

Natural-flow-transfer equations in the form of $Q = KA^{n+1}$ were developed to determine peak flows at points between gages. "Q" is the peak flow in cfs. The exponent "n" and constant "K" are the slope and intercept, respectively, of the best fit line on a log-log plot of runoff per square mile versus drainage area. "A" is the drainage area at the point where the flow is to be calculated.

The equations used for the selected return intervals along the Coast Fork Willamette and Row Rivers are as follows:

$$Q_{10} = 177.14A^{0.874}$$

$$Q_{50} = 353.82A^{0.821}$$

$$Q_{100} = 457.67A^{0.800}$$

$$Q_{500} = 740.01A^{0.762}$$

Equations used for the North Fork Middle Fork Willamette River for the selected return intervals are as follows:

$$Q_{10} = 265.98A^{0.786}$$

$$Q_{50} = 530.33A^{0.751}$$

$$Q_{100} = 692.92A^{0.735}$$

$$Q_{500} = 1.150.44A^{0.708}$$

The regulated flow at points between the gages was calculated by adding the difference between the natural flows to the regulated flow at the gage. The releases from the reservoir after the regulated natural peak and at the regulated natural peak were compared and the greater value was used for this Flood Insurance Study.

Drainage areas at points between gaging stations were measured on USGS topographic maps (Reference 19).

Discharges on the Long Tom, Mohawk, North Fork Middle Fork Willamette, and Siuslaw Rivers and Salmon Creek, all unregulated streams, were also based on stream-gage records. These records were statistically analyzed using the standard log-Pearson Type III methods, as outlined by the U.S. Water Resources Council (Reference 18).

Discharges at points along the stream were determined by transferring the discharge at the gage upstream or downstream using the following relationship:

$$Q = Q_g \left(\frac{A}{A_g} \right)^m$$

"Q_g" and "A_g" are the discharge area at the gage. "Q" and "A" are the discharge and drainage area at some other point on the river. The exponent "m" was determined using a log-log plot of drainage area versus frequency-discharge relationship for the unregulated stream gages. Drainage areas at points between gaging stations were measured on USGS topographic maps (Reference 19).

During this study, it was determined that recorded flows on the Mohawk River did not include the overbank flows at higher stages. The flows at the higher stages were adjusted by estimating the overbank flows based on high-water marks. The results of this adjustment were coordinated with the USGS. A list of stream gages, their locations, and years of record that were used to determine the discharges in Lane County is presented in Table 4, "USGS Stream Gage Locations and Years of Record."

Peak flows from natural nonurbanized runoff along the Q-Street Canal, Channel A3, and Amazon and Cedar Creeks were based on the USGS publication "Magnitude and Frequency of Floods in Western Oregon" (Reference 20). Because the drainage basins of these streams have been urbanized to some degree, the natural peak flows obtained with the USGS method (Reference 18) were increased to account for the effects of urbanization. These flows were increased by the method presented in "An Approach to Estimating Flood Frequency for Urban Areas in Oklahoma" (Reference 21), which considers the percentage of storm-sewered and impervious areas in the urbanized basin.

Table 4. USGS Stream Gage Locations and Years of Record		
USGS Gage No.	Location	Years of Record
14144800	Middle Fork Willamette River, near City of Oakridge	20
14144900	Hills Creek, above Hills Creek Lake near City of Oakridge	20
14145500	Middle Fork Willamette River, above Salt Creek	44
14146500	Salmon Creek, near City of Oakridge	51
14147500	North Fork Middle Fork Willamette River, near City of Oakridge	49
14148000	Middle Fork Willamette River, below North Fork Middle Fork Willamette River	56
14150000	Middle Fork Willamette River, near community of Dexter	32
14150300	Fall Creek, near City of Lowell	15
14150800	Winberry Creek, near City of Lowell	15
14151000	Fall Creek, below Winberry Creek near Fall Creek	43
14152000	Middle Fork Willamette River, at community of Jasper	35
14152500	Coast Fork Willamette River, at community of London	43
14153500	Coast Fork Willamette River, below Cottage Grove Dam	39
14154500	Row River, above Pitcher Creek near community of Dorena	43
14155500	Row River, near City of Cottage Grove	39
14156500	Mosby Creek, at mouth near City of Cottage Grove	32
14157000	Coast Fork Willamette River, at community of Saginaw	28
14157500	Coast Fork Willamette River, at community of Goshen	34
14158000	Willamette River, at City of Springfield	40
14158500	McKenzie River, at outlet of Clear Lake	34
14158790	Smith River, above Smith Reservoir	18
14158850	McKenzie River, below Trail Bridge Dam	19

Table 4. USGS Stream Gage Locations and Years of Record (Cont'd)		
USGS Gage No.	Location	Years of Record
14159000	McKenzie River, at McKenzie Bridge	68
14159200	South Fork McKenzie River, above Cougar Lake	21
14159500	South Fork McKenzie River, near community of Rainbow	31
14161100	Blue River, below Tidbits Creek	15
14161500	Lookout Creek, near Blue River	21
14162000	Blue River, near Blue River	29
14162200	Blue River, at Blue River	12
14162500	McKenzie River, near community of Vida	54
14163000	Gate Creek, at community of Vida	18
14165000	Mohawk River, near City of Springfield	32
14165500	McKenzie River, near City of Coburg	28
14166000	Willamette River, at City of Harrisburg	34
14166500	Long Tom River, near community of Noti	43
14167000	Coyote Creek, near community of Crow	38
14172000	Calapooia River, at community of Holley	43
14307620	Siuslaw River, near community of Mapleton	13
14316700	Steamboat Creek, near community of Glide	22
14318000	Little River, at community of Peel	24
14169500	Amazon Creek, near City of Eugene	14

The Silk Creek basin is ungaged. Therefore, the peak discharge-frequency relationship is based on statistical analysis of discharge records at unregulated gages on other streams draining an area on the east slope of the Coast Mountain Range. This analysis followed the standard log-Pearson Type III method as outlined by the U.S. Water Resources Council (Reference 18). The peak annual discharge data, used for determining frequency-discharge relationships, were collected at the following USGS gaging stations: Gage Nos. 14152500, 14154500, 14155600, 14166500, and 14167000. At each gage, for each frequency, the ratio of discharge to drainage area was plotted against drainage area on log-log paper. The five gages established discharge-area relationships for the 10-, 50-, 100-, and 500-year events. The discharges for Silk Creek were determined from this relationship.

The peak discharges on the Coast Fork Willamette River Overflow, Oxley Slough, Berkshire Slough, Middle Fork Willamette River Overflow, and McKenzie River-East Channel, all overflow areas, were determined using engineering judgment and were based on topography of the area, the capacity of the main stream channel, high-water marks, and accounts of residents who witnessed previous flooding.

Discharges on Dedrick Slough in the City of Eugene were based on overflows from the Willamette River at the upstream confluence of the two streams.

In 1985, the analysis along Salmon Creek was updated in the City of Oakridge using 57 years of record through 1983 and the discharges increased slightly; however, they fell within the 50-percent confidence band of the existing discharges and so the existing discharges were used in this update.

Peak discharges for the Willamette and Middle Fork Willamette Rivers at the City of Springfield were not adjusted because of the small change in drainage area.

Peak discharges for the Long Tom River at the City of Veneta were obtained from an analysis of USGS stream-gage records for the Long Tom River near the community of Noti, with a period of record of 42 years (1936 to 1978). A natural cumulative-frequency curve was prepared graphically, and the selected recurrence intervals were taken from the plot. Flows at the City of Veneta were determined from the community of Noti flows using drainage area versus discharge relationships (where the drainage areas at the community of Noti and City of Veneta equal 89.3 and 100.3 square miles, respectively).

Revised hydrologic analyses along the Long Tom River as a result of a 1984 USACE reanalysis have been included in this study.

Peak discharge-drainage area relationships for the flooding sources studied by detailed methods are shown in Table 5, "Summary of Discharges."

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.

Water-surface elevations of floods of the selected recurrence intervals were computed using the USACE HEC-2 computer program (Reference 22) on all detailed-study streams with the exception of the Willamette River between RMs 159.8 and 174.8 (northern County boundary

Table 5. Summary of Discharges

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Year	50-Year	100-Year	500-Year
Amazon Creek					
At USGS Gage No. 14169500	21.3	3,380	4,510	5,050	6,200
At SPRR	19.3	3,200	4,270	4,780	5,610
Below confluence with Willow Creek	19.3	3,100	3,390	3,530	5,610
At Beltline Highway	--[1]	2,330	3,110	3,480	--[2]
At Garfield Street	9.0	1,550	2,060	2,310	2,840
At 19th Avenue	6.8	1,200	1,500	1,590	1,930
At Snell Avenue	1.3	200	260	290	360
Berkshire Slough					
At State Highway 58	--[2]	4,200	11,200	15,500	30,000
Cedar Creek					
At confluence with McKenzie River	11.2	--[1]	--[1]	1,895	--[1]
At 62nd Street	10.4	--[1]	--[1]	1,755	--[1]
At Weaver Road	6.5	--[1]	--[1]	1,125	--[1]
At Highway 126	5.6	--[1]	--[1]	980	--[1]
Channel A3					
At confluence with Amazon Creek	2.6	502	676	757	935
At Bertelson Road	1.7	416	547	609	740
Coast Fork Willamette River					
At confluence with Middle Fork Willamette River	665.0	26,800	43,400	52,200	79,900
At USGS Gage No. 14157500	642.0	25,500	41,500	50,000	77,000
At Camus Swale Creek	578.0	21,100	35,600	43,500	69,100
At USGS Gage No. 14157000	529.0	17,500	30,800	38,200	62,700
At Row River	154.0	5,900	10,800	13,600	22,300
At Silk Creek	133.0	3,900	7,600	9,800	20,500[3]
At USGS Gage No. 14153500	104.0	2,900[3]	5,600[3]	8,400[3]	20,500[3]

[1]Data not available
[2]Data not applicable
[3]Peak flow resulting from reservoir releases after the regulated natural peak

Table 5. Summary of Discharges (Cont'd)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Year	50-Year	100-Year	500-Year
Coast Fork Willamette River Overflow					
At Saginaw East Road	--[1]	--[2]	8,100	12,500	28,600
Dedrick Slough					
At Beltline Road	--[3]	800	5,500	9,000	19,000
Fall Creek					
At confluence with Middle Fork Willamette River	251.0	8,000	11,200	15,600	25,400
At USGS Gage No. 14151000	186.0	3,800[4]	5,950[4]	7,600[4]	13,200[4]
Long Tom River					
At City of Veneta	100.3	6,470	8,090	8,310	8,400
Lost Creek					
At Rattlesnake Road	51.3	--[3]	--[3]	8,225	--[3]
At Abernathy Creek	39.6	--[3]	--[3]	6,550	--[3]
At Middle Creek	32.1	--[3]	--[3]	5,440	--[3]
McKenzie River					
At USGS Gage No. 14165500	1,337.0	61,400	78,000	89,900	125,400
At Mohawk River	1,156.0	45,000	59,300	70,000	96,200
At Camp Creek	1,109.0	33,800	54,400	60,400	88,600
At Leaburg Dam	1,021.8	31,200	41,300	47,800	66,300
At Gate Creek	958.8	26,500	35,700	41,300	57,300
At USGS Gage No. 14162500	930.0	24,500	33,300	38,500	53,300
At Quartz Creek	854.8	22,000	32,700	37,700	51,600
At Blue River	752.3	21,500	31,800	36,500	49,100
At South Fork McKenzie River	530.0	21,000	29,400	33,300	42,800
At USGS Gage No. 14159000	348.0	11,300	16,200	18,500	24,500
At Lost Creek	259.0	8,200	11,800	13,500	17,800

[1]Data not applicable
[2]The 10-year flood is not applicable
[3]Data not available
[4]Peak flow resulting from reservoir releases after the regulated natural peak

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Table 5. Summary of Discharges (Cont'd)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Year	50-Year	100-Year	500-Year
McKenzie River - East Channel					
At confluence with Mill Creek	--[1]	10,200	13,600	14,800	17,900
McKenzie River - North Channel					
At convergence with McKenzie River main channel	--[2]	--[2]	--[2]	34,500	--[2]
Middle Fork Willamette River (Near Oakridge)					
At USGS Gage No. 14148000	924	26,300	46,000	57,000	95,000
At Deception Creek	895	24,900	43,900	54,600	91,800
At North Fork Middle Fork Willamette River	649	12,500	25,100	33,000	62,900
At Salmon Creek	507	6,000[3]	13,400[3]	19,500[3]	44,800[3]
At USGS Gage No. 14145500	392	6,000[3]	8,500[3]	12,500[3]	33,000[3]
Middle Fork Willamette River (Near Springfield)					
At confluence with Coast Fork Willamette River	1,354.0	20,700	25,900	36,300	81,700
At USGS Gage No. 14152000	1,340.0	20,000	25,100	35,500	81,000
At Hills Creek	1,322.0	19,300	23,700	33,800	78,600
At Fall Creek	1,065.0	13,400	15,000	20,500	55,300
At USGS Gage No. 14150000	1,001.0	12,000[3]	14,100[3]	20,300[3]	53,000[3]
Middle Fork Willamette River Overflow					
At Mahogany Lane	--[1]	1,000	2,500	5,000	17,000
Mohawk River					
At confluence with McKenzie River	178.7	14,520	20,980	23,900	31,260
At USGS Gage No. 14165000	177.0	14,400	20,800	23,700	31,000
At Allison Creek	146.7	12,210	17,630	20,090	26,280
At Cartwright Creek	115.0	9,850	14,230	16,220	21,210
At Cash Creek	78.5	7,040	10,170	11,590	15,160

[1]Data not applicable
[2]Data not available
[3]Peak flow resulting from reservoir releases after the regulated natural peak

Table 5. Summary of Discharges (Cont'd)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Year	50-Year	100-Year	500-Year
North Fork Middle Fork Willamette River					
At USGS Gage No. 14147500	251	14,500	21,300	24,300	31,700
Oxley Slough					
At Seavey Loop Road	--[1]	6,200	17,350	23,900	45,200
Q-Street Canal					
At confluence with Willamette River	7.5	1,530	2,020	2,240	2,850
At Centennial Boulevard	6.5	1,435	1,870	2,080	2,630
At Interstate Highway 5	5.96	1,330	1,730	1,430	2,440
Row River					
At confluence with Coast Fork Willamette River	375.0	12,700	22,600	28,000	46,000
At USGS Gage No. 14155500	270.0	7,700[2]	14,700[2]	19,300[2]	40,300[2]
Salmon Creek					
At confluence with Middle Fork Willamette River	126	7,500	12,400	14,500	20,450
At USGS Gage No. 14146500	117	7,000	11,500	13,700	19,500
Silk Creek					
At confluence with Coast Fork Willamette River	16.3	2,150	3,160	3,550	4,770
Siuslaw River					
At mouth at Pacific Ocean	773.0	55,900	72,800	79,400	94,500
At Cushman Creek	685.0	49,900	65,000	71,100	84,700
At Karnowsky Creek	671.1	48,900	63,800	69,700	83,100
At Hoffman Creek	658.8	48,100	62,700	68,600	81,730
At Sweet Creek	628.2	46,000	60,000	65,600	78,300
At Hadsall Creek	615.0	45,100	58,800	64,400	76,800
At Knowles Creek	594.0	43,600	57,000	62,300	74,400
At USGS Gage No. 14307620	588.0	43,200	56,400	61,800	73,700
At Thompson Creek	582.6	--[3]	--[3]	61,200	--[3]
At Lake Creek, below confluence	575.1	--[3]	--[3]	60,500	--[3]
At Lake Creek, above confluence	351.2	--[3]	--[3]	28,000	--[3]

[1]Data not applicable

[2]Peak flow resulting from reservoir releases after the regulated natural peak

Table 5. Summary of Discharges (Cont'd)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Year	50-Year	100-Year	500-Year
Willamette River					
At USGS Gage No. 14166000 at City of Harrisburg	3,420	80,000	104,000	121,000	172,000
At McKenzie River	2,049.2	40,000	59,000	71,000	111,000
At USGS Gage No. 14158000 at State Highway 126, near City of Springfield	2,030.0	40,000	59,000	71,000	111,000

upstream to the confluence with the McKenzie River). Water-surface elevations on this length of the Willamette River were determined by using stage-frequency curves developed by the USACE for staff gages along the stream (References 23 and 24).

Elevations on the Siuslaw River from its mouth to approximately 3.4 miles upstream were determined by high-water marks, accounts from local residents, and confirming these elevations with other areas of coastal Oregon where the Pacific Ocean has influence on elevations.

Cross sections for the backwater analyses of the Siuslaw, Willamette, Middle Fork Willamette (Near Oakridge), and North Fork Middle Fork Willamette Rivers; Salmon Creek; McKenzie River; McKenzie River-East Channel; Dedrick Slough; Cedar Creek; and parts of Fall Creek were obtained by field measurements.

Cross sections for the Coast Fork Willamette River; Coast Fork Willamette River Overflow; Oxley and Berkshire Sloughs; Row River; Silk Creek; Middle Fork Willamette River (Near Springfield); Middle Fork Willamette River Overflow; Mohawk River; and parts of Fall Creek were obtained by aerial mapping methods. The underwater portions were obtained by field measurements.

Aerial photographs (Reference 25) were used to determine initially the best location for the cross sections. Field reconnaissance verified that the cross sections were in the best location for accurately predicting flood elevations. Bridges and culverts were field measured to obtain elevation data and structural geometry, or, when available, bridge plans were used.

Cross sections for the Long Tom River were composites of data taken from 1981 USACE field surveys and topographic maps (Reference 26) developed from aerial photographs flown on April 25, 1979.

Cross sections for the backwater analyses of Amazon Creek, Amazon Creek Split Flow, Channel A3, and Q-Street Canal were determined from as-built plans (References 27, 28, and 29). In certain areas, field measurements were obtained to verify the accuracy of the plans.

Starting water-surface elevations for Channel A3, Siuslaw River, Willamette River, Silk Creek, Middle Fork Willamette River (Near Oakridge), North Fork Middle Fork Willamette River, Fall Creek, Salmon Creek, Cedar Creek, McKenzie River (at its mouth), Mohawk River, Amazon Creek, Long Tom River, and Q-Street Canal were calculated using the slope-area method. Starting water-surface elevations for the Coast Fork Willamette River, Coast Fork Willamette River Overflow, Oxley Slough, Berkshire Slough, Row River, Middle Fork Willamette River (Near Springfield), Middle Fork Willamette River Overflow, Dedrick Slough, Amazon Creek Split Flow, and McKenzie River-East Channel were based on flood elevations computed for the rivers into which they flow. Starting water-surface elevations for the McKenzie River at Leaburg Dam were determined by analyzing the spillway hydraulics of the dam using the HEC-2 computer program (Reference 22).

Due to the nature of flooding on Q-Street Canal, a flood profile is not shown.

The levees along Salmon Creek are not considered to provide effective 100-year flood protection because of their susceptibility to damage by water-borne debris; therefore, an additional hydraulic analysis was performed removing both levees from the analysis.

The profile labeled "Salmon Creek" represents elevations that would occur if flooding was contained by the levees. The profile labeled "Salmon Creek-Without Consideration of Levees" represents elevations that would occur by ignoring the existence of the levees.

Only the 100-year flood on Amazon Creek Split Flow was computed. No 500-year elevations on Amazon Creek were computed. The flood causes sheet flow over a large area. This type of flooding requires complicated methods to determine elevations, and such methods are beyond the scope of this study.

The elevations on Amazon Creek, just upstream of the SPRR, represent ponding in the overbanks that cannot return to the channel because the water is trapped behind the levees and the railroad embankment.

Shallow flooding occurs along Amazon Creek between Jefferson and Chambers Streets. The extent of shallow flooding was determined by normal-depth calculations, field inspection, and engineering judgment.

Flooding on streams studied by approximate methods was determined by engineering judgment. Factors that went into this judgment were normal-depth calculations, soil-hazard maps, high-water marks, and conversations with local residents who witnessed major floods.

Because of the uncertainties of flow distribution and discharge downstream from the North Fork Siuslaw River, flood profiles were projected downstream from the community of Cushman. This projection was based on observed high-water marks of the December 1964 and January 1974 floods, channel configuration, and predicted high-tide data (Reference 30).

The USACE prepared water-surface profiles for the Willamette River from RM 142 to RM 168.5 (Reference 24). These profiles were based on elevations determined from several USACE crest-stage gages and the USGS gage at the City of Harrisburg. Water-surface elevations corresponding to the predicted discharges were obtained from stage-discharge rating curves (unpublished), prepared in April 1970 for the USACE gages and in June 1978 for the USGS gage.

The 100-year flood elevations at the City of Junction City were determined by adding the average difference in elevation between the 100-year flood profiles (Reference 24) and 1964 flood profiles (Reference 23) for the Willamette River to the 1964 flood elevations at the City of Junction City that were documented in the "Junction City Floodplain Management Survey" (Reference 31).

It was assumed the 100-year water surface on the Willamette River floodplain would be approximately parallel to the water surface of the 1964 flood. To determine the 1964 water surface, high-water marks in the City of Junction City during the 1964 flood (Reference 30) were compared to the 1964 flood profile for the Willamette River (Reference 23). Water-surface elevation contours were then drawn from the Willamette River to the SPRR in the City of Junction City.

On Q-Street Canal, flooding is contained in the channel, except in the area upstream of the westernmost crossing of U.S. Interstate Highway 105. Inadequate culvert capacity causes shallow flooding (less than 1 foot deep) to flow from the Q-Street Canal northwesterly into Channel 6. The extent of the shallow flooding was determined by HEC-2 calculations, aerial photographs at a scale of 1:12,000 (Reference 25), and engineering judgment.

Roughness coefficients (Manning's "n" values) used in the hydraulic computations were chosen by engineering judgment and based on field observations of the streams and floodplain areas. Roughness coefficients used for the streams in Lane County are shown in Table 6, "Manning's "n" Values."

The acceptability of all assumed hydraulic factors, cross sections, and hydraulic structure data was checked by computations that duplicated the December 1964 flood.

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

A study of the tidal effects was made to determine the additional flooding caused by high tides near the mouth of the Siuslaw River. Data collected by the National Oceanic and Atmospheric Administration indicate a mean high-water tide of 3.4 feet. High tide/riverine floodmarks from the floods of 1972 and 1974 indicate a probable crest of 8.7 feet. Detailed coastal studies in Lincoln County (Reference 32) indicate 100-year flood elevations on the order of 10 feet.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 4.2), selected cross-section locations are also shown on the Flood Insurance Rate Map (Exhibit 2).

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

All elevations are referenced to the National Geodetic Vertical Datum of 1929 (NGVD). Elevation reference marks and their descriptions are shown on the maps.

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages State and local governments to adopt sound floodplain management programs. Therefore, each Flood Insurance Study provides 100-year flood elevations and delineations of the 100- and 500-year floodplain boundaries and 100-year floodway to assist communities in developing floodplain management measures.

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent annual chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent annual chance (500-year) flood is employed to indicate additional areas of flood risk in the community. For each stream studied by detailed methods, the 100- and 500-year floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using stereo pairs of aerial photographs at a scale of 1:12,000 (Reference 25); 1:600-scale topographic maps, with a contour interval of 2 feet (Reference 33); 1:1,200-scale topographic maps, with contour intervals of 2 and 5 feet (Reference 34); 1:2,400-scale topographic maps, with a contour interval of 2 feet (Reference 35); 1:4,800-scale topographic maps, with contour intervals of 2 and 5 feet (References 36 and 37); and 1:24,000-scale topographic maps, with contour intervals of 5 and 20 feet (Reference 19).

Table 6. Manning's "n" Values

Flooding Source	Roughness Coefficients Channel	Roughness Coefficients Overbanks
Amazon Creek	0.020 to 0.035	0.040 to 0.045
Berkshire Slough	0.030 to 0.060	0.030 to 0.045
Cedar Creek	0.034 to 0.047	0.040 to 0.090
Channel A3	0.031	0.040
Coast Fork Willamette River	0.035 to 0.055	0.045 to 0.100
Coast Fork Willamette River Overflow	0.040 to 0.080	0.040 to 0.080
Dedrick Slough	0.045	0.055 to 0.060
Fall Creek	0.040 to 0.045	0.040 to 0.100
Long Tom River	0.050 to 0.065	0.080 to 0.150
Lost Creek	0.050 to 0.060	0.060 to 0.100
McKenzie River	0.030 to 0.064	0.040 to 0.190
McKenzie River - East Channel	0.070	0.040 to 0.070
Middle Fork Willamette River (Near Oakridge)	0.050 to 0.060	0.045 to 0.065
Middle Fork Willamette River (Near Springfield)	0.040 to 0.060	0.050 to 0.100
Middle Fork Willamette River Overflow	0.070	0.040 to 0.070
Mohawk River	0.040 to 0.060	0.055 to 0.075
North Fork Middle Fork Willamette River	0.040 to 0.060	0.080
Oxley Slough	0.055 to 0.060	0.040 to 0.075
Q-Street Canal	0.020 to 0.035	0.040
Row River	0.035 to 0.050	0.045 to 0.075
Salmon Creek	0.045 to 0.068	0.050
Silk Creek	0.040 to 0.050	0.060 to 0.080
Siuslaw River	0.030 to 0.055	0.030 to 0.130
Willamette River	0.035 to 0.055	0.045 to 0.060

For Q-Street Canal, designated "Zone A Contained in Channel," the 100-year flood boundaries are based on the existing channel alignment and right-of-way.

For the streams studied by approximate methods, only the 100-year floodplain boundary is shown on the Flood Insurance Rate Map (Exhibit 2). Flood boundaries were delineated using topographic maps at scales of 1:24,000 and 1:62,500, with contour intervals of 5, 20, 25, 40, 50, and 80 feet (Reference 19).

Flood boundaries on the Long Tom River near the City of Veneta were taken from the 1981 report performed by the USACE (Reference 26).

As a result of a 1984 USACE reanalysis, the floodplain boundaries were revised to reflect new information as shown on the 1:6,000-scale topographic workmap (Reference 38).

The 100- and 500-year floodplain boundaries are shown on the Flood Insurance Rate Map (Exhibit 2). On this map, the 100-year floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A, AE, and AO), and the 500-year floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 100- and 500-year floodplain boundaries are close together, only the 100-year floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

Approximate 100-year floodplain boundaries in some portions of the study area were taken directly from the Flood Hazard Boundary Map for Lane County dated February 1981 (Reference 39).

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the NFIP, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 100-year floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 100-year flood can be carried without substantial increases in flood heights. Minimum Federal standards limit such increases to 1 foot, provided that hazardous velocities are not produced. The floodways in this study are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodways presented in this study were computed for certain stream segments on the basis of equal-conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. The results of the floodway computations are tabulated for selected cross sections (see Table 7, "Floodway Data"). In cases where the floodway and 100-year floodplain boundaries are either close together or collinear, only the floodway boundary is shown.

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
Amazon Creek								
A	67,577	107	821	5.8	384.4[2]	382.6	383.6	1.0
B	67,612	107	824	5.8	384.4[2]	382.7	383.7	1.0
C	67,880	351	1,643	2.9	384.4[2]	383.6	384.3	0.7
D	68,080	757	2,276	2.1	384.4[2]	383.7	384.4	0.7
E	69,617	85	642	5.3	384.4[2]	384.3	385.2	0.9
F	70,917	87	699	4.9	385.7	385.7	386.6	0.9
G[3]	70,942	640	1,645	2.8	385.9	385.9	386.8	0.9
H	72,617	280	920	5.0	387.8	387.8	388.2	0.4
I	72,783	270	761	6.1	387.8	387.8	388.4	0.6
J	72,807	591	948	4.9	388.0	388.0	389.0	1.0
K	73,507	131	795	5.8	389.8	389.8	390.2	0.4
L	74,167	136	857	4.1	390.4	390.4	391.1	0.7
M	74,307	136	774	4.5	390.3	390.3	391.0	0.7
N	75,312	223	926	3.8	391.1/391.0[4]	391.0	391.7	0.7
O	75,992	262	783	4.4	391.7	391.7	392.4	0.7
P	77,102	80	569	6.1	392.9/392.5[4]	392.5	393.4	0.9
Q	77,673	83	630	5.5	393.7/393.3[4]	393.3	394.1	0.8
R	78,159	75	616	5.7	394.2/393.7[4]	393.7	394.5	0.8
S	78,259	142	646	5.4	394.6	394.6	394.8	0.2
T	79,787	115	607	5.4	395.1	395.1	396.0	0.9
U	81,323	70	497	5.6	396.4	396.4	397.3	0.9
V	81,379	71	534	5.2	396.9	396.9	397.8	0.9
W	82,654	70	518	5.4	398.4	398.4	398.9	0.5
X	83,929	69	485	5.8	399.5	399.5	400.2	0.7
Y	83,954	70	505	5.5	399.9	399.9	400.4	0.5
Z	84,452	70	497	5.6	400.4	400.4	401.0	0.6

[1]Feet above mouth [2]Elevations reflect ponding outside levee [3]Combined floodway data for Amazon Creek and Amazon Creek Split Flow [4]Riverside of levees/landside of levees

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

AMAZON CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
Amazon Creek (Cont'd)								
AA	84,708	65	408	6.9	400.4	400.4	410.1	0.7
AB	84,938	65	416	6.7	401.1	401.1	401.6	0.5
AC	84,990	65	446	6.3	401.5	401.5	402.1	0.6
AD	86,054	66	461	5.7	403.3	403.3	403.5	0.2
AE	87,117	67	449	5.9	404.6	404.6	404.7	0.1
AF	87,175	67	442	6.0	404.6	404.6	404.7	0.1
AG	87,987	68	453	5.3	405.7	405.7	405.8	0.1
AH	88,717	67	453	5.1	406.5	406.5	406.6	0.1
AI	88,776	67	447	5.2	406.5	406.5	406.6	0.1
AJ	89,575	66	438	5.3	407.2	407.2	407.2	0.0
AK	90,436	67	441	5.2	408.1	408.1	408.1	0.0
AL	90,562	73	659	3.5	410.8	410.8	411.2	0.4
AM	91,237	69	530	3.2	411.1	411.1	411.5	0.4
AN	91,882	65	409	4.0	411.3	411.3	411.6	0.3
AO	91,922	49	301	5.5	411.3	411.3	411.6	0.3
AP	91,992	55	397	4.1	413.1	413.1	413.4	0.3
AQ	92,032	65	540	3.0	413.4	413.4	413.7	0.3
AR	92,052	72	541	2.9	413.4	413.4	413.7	0.3
AS	93,239	68	460	3.5	413.8	413.8	414.1	0.3
AT	93,909	65	419	3.8	414.1	414.1	414.3	0.2
AU	94,470	48	335	4.7	414.4	414.4	414.6	0.2
AV	94,495	48	336	4.7	414.4	414.4	414.6	0.2
AW	94,795	54	365	4.4	414.6	414.6	414.8	0.2
AX	94,945	32	221	4.2	414.6	414.6	414.8	0.2
AY	95,073	21	163	11.0	414.6	414.6	414.8	0.2
AZ	95,118	21	177	10.1	414.6	414.6	415.1	0.5

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

AMAZON CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
Amazon Creek (Cont'd)								
BA	95,282	22	164	10.9	414.8	414.8	415.3	0.5
BB	95,446	122	253	7.1	415.8	415.8	416.5	0.7
BC	95,488	122	302	5.9	416.3	416.3	416.8	0.5
BD	95,653	31	221	8.1	416.5	416.5	416.9	0.4
BE	95,817	28	221	7.9	416.7	416.7	417.2	0.5
BF	95,863	31	240	7.3	417.3	417.3	417.8	0.5
BG	96,030	30	237	7.3	417.5	417.5	418.0	0.5
BH	96,197	30	236	7.4	417.6	417.6	418.2	0.6
BI	96,241	32	246	7.1	418.2	418.2	418.6	0.4
BJ	96,423	29	245	7.1	418.3	418.3	418.7	0.4
BK	96,604	29	244	7.1	418.5	418.5	419.0	0.5
BL	96,648	31	260	6.7	418.9	418.9	419.5	0.6
BM	96,711	30	258	6.8	418.9	418.9	419.5	0.6
BN	96,774	30	257	6.6	419.0	419.0	419.6	0.6
BO	96,816	31	267	6.3	419.4	419.4	420.0	0.6
BP	96,929	31	264	6.4	419.5	419.5	420.1	0.6
BQ	97,041	122	307	5.5	419.5	419.5	420.1	0.6
BR	97,091	122	348	4.9	419.9	419.9	420.5	0.6
BS	97,279	122	317	5.3	420.0	420.0	420.5	0.5
BT	97,467	122	316	5.4	420.1	420.1	420.6	0.5
BU	97,585	122	357	4.7	420.6	420.6	421.1	0.5
BV	97,799	122	367	4.6	420.7	420.7	421.2	0.5
BW	98,013	122	440	3.8	420.9	420.9	421.4	0.5
BX	98,065	122	411	4.1	420.9	420.9	421.4	0.5
BY	98,250	122	426	3.9	421.0	421.0	421.5	0.5
BZ	98,434	122	482	3.5	421.2	421.2	421.7	0.5

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

AMAZON CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
Amazon Creek (Cont'd)								
CA	98,502	122	457	3.7	421.3	421.3	421.7	0.4
CB	98,704	122	392	4.3	421.4	421.4	421.8	0.4
CC	98,906	122	380	4.4	421.5	421.5	421.9	0.4
CD	98,962	122	349	4.8	421.7	421.7	422.0	0.3
CE	99,133	122	419	4.0	421.9	421.9	422.3	0.4
CF	99,305	122	474	3.3	422.1	422.1	422.5	0.4
CG	99,360	120	459	3.4	422.2	422.2	422.6	0.4
CH	99,460	120	424	3.7	422.2	422.2	422.6	0.4
CI	100,397	41	225	7.0	422.5	422.5	422.9	0.4
CJ	101,335	48	171	9.2	423.3	423.3	423.9	0.6
CK	101,381	64	258	6.1	424.9	424.9	425.5	0.6
CL	101,424	47	262	6.0	425.7	425.7	426.1	0.4
CM	101,686	47	263	6.0	426.1	426.1	426.4	0.3
CN	101,786	95	533	3.0	426.7	426.7	426.9	0.2
CO	103,069	87	449	2.9	427.4	427.4	427.5	0.1
CP	104,340	75	329	3.4	428.3	428.3	428.4	0.1
CQ	104,508	54	336	3.4	434.6	434.6	434.6	0.0
CR	104,832	51	299	3.8	434.8	434.8	434.8	0.0
CS	105,169	49	271	4.2	435.1	435.1	435.1	0.0
CT	105,221	49	268	4.2	435.1	435.1	435.1	0.0
CU	105,393	48	255	4.2	435.3	435.3	435.3	0.0
CV	105,516	48	252	4.3	435.4	435.4	435.4	0.0
CW	105,683	54	338	3.2	437.6	437.6	437.6	0.0
CX	105,978	52	304	3.6	437.8	437.8	437.8	0.0
CY	106,273	50	279	3.9	438.0	438.0	438.0	0.0
CZ	106,573	92	331	3.3	441.2	441.2	441.2	0.0

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

AMAZON CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
Amazon Creek (Cont'd)								
DA	106,743	83	280	3.4	441.3	441.3	441.3	0.0
DB	108,533	32	115	6.8	445.5	445.5	445.5	0.0
DC	110,413	30	120	6.5	454.4	454.4	454.4	0.0
DD	110,743	107	254	1.7	458.5	458.5	458.5	0.0
DE	111,880	20	49	8.8	461.4	461.4	461.4	0.0
DF	113,017	28	65	4.5	470.6	470.6	470.6	0.0
DG	113,257	65	218	1.3	474.8	474.8	474.8	0.0
DH	114,365	21	38	7.7	478.7	478.7	478.7	0.0
DI	115,507	8	27	10.7	518.3	518.3	518.3	0.0
DJ	115,547	28	67	4.3	521.1	521.1	521.1	0.0

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

AMAZON CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Amazon Creek Split Flow								
A	825	190	671	1.8	384.4[2]	384.3	385.3	1.0
B	2,050	236	594	2.1	385.9	385.9	386.8	0.9
C-F[3]								
G[4]	2,100	640	1,645	2.8	385.9	385.9	386.8	0.9

[1]Feet above confluence with Amazon Creek (Profile Baseline) [2] Elevation reflects ponding outside levee [3]Cross sections not used [4] Matching cross section from Amazon Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

AMAZON CREEK SPLIT FLOW

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[2]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Berkshire Slough								
A-D[1]								
E	650	1,900	5,769	4.1	462.4	462.4	462.9	0.5
F	1,820	1,923	7,240	3.3	465.2	465.2	466.1	0.9
G	3,200	2,117	6,245	3.8	468.0	468.0	468.6	0.6
H	6,310	1,996	12,522	1.9	470.5	470.5	471.1	0.6
I	7,830	1,012	6,393	3.7	471.3	471.3	472.0	0.7
J	8,850	1,925	4,048	3.8	472.9	472.9	473.6	0.7
K	8,900	2,099	2,487	6.2	476.5	476.5	476.5	0.0
L	8,950	2,119	14,731	1.1	477.2	477.2	477.3	0.1
M	11,300	624	1,667	9.3	478.9	478.9	479.8	0.9
N	14,920	1,252	6,535	2.4	487.7	487.7	488.7	1.0
O	15,530	1,180	3,079	5.0	488.6	488.6	489.5	0.9
P	17,160	820	4,897	3.2	492.6	492.6	492.8	0.2

[1]Floodway not computed [2]Feet above Oxley Slough

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

BERKSHIRE SLOUGH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE
Cedar Creek								
A	5,000	100[2]	571	3.3	495.1[3]	491.1[4]	492.1[4]	1.0
B	6,493	77	489	3.9	497.1[3]	492.8[4]	493.3[4]	0.5
C	9,123	101	441	4.3	499.2[3]	498.5[4]	498.7[4]	0.2
D	11,255	234	706	2.5	506.3[3]	502.1[4]	502.1[4]	0.0
E	13,255	128	543	3.2	513.5[3]	504.2[4]	504.2[4]	0.0
F	15,405	140	330	3.4	517.0[3]	510.5[4]	510.5[4]	0.0
G	17,247	117	373	3.0	518.8[3]	513.9[4]	513.9[4]	0.0
H	18,398	71	278	4.0	520.9[3]	516.1[4]	516.1[4]	0.0
I	20,002	99[2]	357	3.2	525.1[3]	519.8[4]	519.8[4]	0.0
J	21,522	100	288	3.9	528.9[3]	522.7[4]	522.7[4]	0.0
K	23,072	88	184	6.1	531.3[3]	528.4[4]	528.6[4]	0.2
L	23,897	138	712	1.6	532.0[3]	530.0[4]	530.7[4]	0.7
M	26,017	74	312	3.6	536.4[3]	531.9[4]	532.2[4]	0.3
N	27,849	38	174	5.6	540.9[3]	540.5[4]	540.7[4]	0.2
O	28,719	47	176	5.6	543.4	543.4	543.5	0.1
P	30,088	75	327	3.0	546.9	546.9	547.8	0.9
Q	31,320	61	295	3.3	552.7	552.7	553.2	0.5
R	31,582	85	345	2.8	554.0	554.0	554.6	0.6
S	32,294	38	276	3.6	554.6	554.6	555.2	0.6

[1] Feet above confluence with McKenzie River [2] Cross section not shown; floodway contained entirely within floodway for McKenzie River backwater and contributing flow from Mckenzie River. [3]Elevations controlled by McKenzie River [4]Elevations computed without consideration of

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

CEDAR CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
Coast Fork Willamette River								
A	2,640	1,860	14,433	3.6	451.8	451.8	452.8	1.0
B	4,720	2,930	13,767	3.8	453.9	453.9	454.7	0.8
C	6,720	570	5,531	5.1	457.5	457.5	458.3	0.8
D	8,120	261	3,463	8.2	459.6	459.6	460.0	0.4
E	9,580	264	3,258	8.7	462.3	462.3	462.5	0.2
F	12,050	231	3,585	7.9	467.6	467.6	467.6	0.0
G	13,460	417	4,142	6.8	470.8	470.8	470.8	0.0
H	14,580	239	3,216	8.8	472.9	472.9	472.9	0.0
I	16,500	1,224	8,260	3.4	475.9	475.9	476.3	0.4
J	18,860	2,124	8,696	4.2	478.3	478.3	479.0	0.7
K	24,120	1,681	11,343	3.2	484.8	484.8	485.6	0.8
L	25,400	2,506	11,582	3.2	485.8	485.8	486.8	1.0
M	28,080	1,073	7,211	4.8	488.9	488.9	489.7	0.8
N	29,580	407	5,174	6.7	491.0	491.0	491.5	0.5
O	29,630	407	5,203	6.6	491.1	491.1	491.6	0.5
P	32,000	1,875	10,860	4.6	494.4	494.4	494.9	0.5
Q	33,400	2,260	14,078	3.6	495.8	495.8	496.6	0.8
R	35,890	2,132	10,219	4.9	498.3	498.3	499.0	0.7
S	38,190	2,161	12,490	4.0	501.4	501.4	502.4	1.0
T	43,310	3,529	18,880	2.6	506.6	506.6	507.4	0.8
U	44,750	2,906	13,287	3.3	507.2	507.2	508.0	0.8
V	46,530	3,361	14,240	3.1	510.0	510.0	510.8	0.8
W	50,080	2,740	9,543	4.6	516.1	516.1	516.6	0.5
X	51,760	2,680	12,260	3.5	519.4	519.4	520.3	0.9
Y	55,160	2,716	11,054	3.9	524.8	524.8	525.7	0.9
Z	58,790	1,891	7,660	5.7	532.6	532.6	533.4	0.8

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

COAST FORK WILLAMETTE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
Coast Fork Willamette River (Cont'd)								
AA	60,700	2,660	6,410	6.8	538.0	538.0	538.8	0.8
AB	60,750	2,010	6,812	6.4	538.6	538.6	539.0	0.4
AC	63,290	2,125	9,277	4.7	542.9	542.9	543.3	0.4
AD	68,050	295	3,919	11.1	550.0	550.0	551.0	1.0
AE	69,380	218	3,940	11.0	552.8	552.8	553.5	0.7
AF	72,460	335	5,331	8.2	557.6	557.6	558.1	0.5
AG	74,040	272	3,916	11.1	559.4	559.4	559.7	0.3
AH	76,500	406	4,827	9.0	565.1	565.1	565.9	0.8
AI	77,390	517	8,100	5.4	567.3	567.3	568.3	1.0
AJ	77,520	549	8,310	5.2	567.3	567.3	568.3	1.0
AK	79,100	1,965	19,937	2.2	568.4	568.4	569.3	0.9
AL	81,540	1,184	6,265	6.9	568.8	568.8	569.6	0.8
AM	82,250	922	6,486	6.7	572.1	572.1	572.6	0.5
AN	83,590	679	6,557	6.6	575.3	575.3	576.2	0.9
AO	85,790	1,980	17,885	2.4	578.4	578.4	579.4	1.0
AP	88,870	1,370[2]	4,699	8.1	581.4	581.4	581.9	0.5
AQ	90,725	3,080[2]	10,045	3.8	588.4	588.4	589.4	1.0
AR	92,525	982	4,568	5.6	592.3	592.3	593.3	1.0
AS	94,105	877	3,340	7.7	596.4	596.4	597.2	0.8
AT	94,865	1,248	9,050	2.8	598.4	598.4	599.4	1.0
AU	96,345	1,035	10,635	2.4	599.2	599.2	600.2	1.0
AV	97,283	642	5,950	4.3	599.9	599.9	600.7	0.8
AW	98,221	320	3,441	7.5	601.5	601.5	602.1	0.6
AX	99,159	337	3,075	8.4	603.5	603.5	604.1	0.6
AY	100,097	260	2,995	8.6	606.6	606.6	606.9	0.3
AZ	100,447	301	3,390	7.6	607.9	607.9	608.1	0.2

[1]Feet above mouth [2]Includes Coast Fork Willamette River Overflow

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

COAST FORK WILLAMETTE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Coast Fork Willamette River (Cont'd)								
BA	100,547	301	3,406	7.5	607.9	607.9	608.1	0.2
BB	100,897	260	3,175	8.1	608.8	608.8	608.9	0.1
BC	101,422	2,474[2]	8,834	4.3	610.2	610.2	610.5	0.3
BD	102,222	1,985	6,555	5.8	611.5	611.5	612.2	0.7
BE	104,502	969	6,965	5.5	616.2	616.2	617.2	1.0
BF[3]								
BG	109,382	168	1,277	10.6	625.7	625.7	625.9	0.2
BH	110,277	162	1,639	8.3	628.6	628.6	628.6	0.0
BI	110,357	162	1,622	8.4	628.7	628.7	628.7	0.0
BJ	110,757	138	1,558	8.7	629.4	629.4	629.4	0.0
BK	112,052	135	1,400	9.7	631.5	631.5	631.6	0.1
BL	113,532	105	1,185	11.5	634.2	634.2	634.3	0.1
BM	113,732	102	1,169	11.8	634.6	634.6	634.7	0.1
BN	113,812	300	1,453	10.6	636.5	636.5	636.5	0.0
BO	114,012	106	1,316	10.6	636.8	636.8	636.8	0.0
BP	116,312	121	1,551	8.8	639.6	639.6	640.1	0.5
BQ	116,512	110	1,539	8.8	639.8	639.8	640.3	0.5
BR	116,612	110	1,674	8.1	640.9	640.9	641.9	1.0
BS	116,812	123	1,663	8.2	641.1	641.1	642.1	1.0
BT	118,372	158	1,825	5.4	643.3	643.3	644.0	0.7
BU	118,832	187	1,820	5.4	643.7	643.7	644.3	0.6
BV	119,642	160	1,082	9.1	644.2	644.2	644.8	0.6
BW	119,742	179	1,178	8.3	644.9	644.9	645.3	0.4
BX	119,802	179	1,606	6.1	646.8	646.8	647.7	0.9
BY	119,982	117	1,228	8.0	646.8	646.8	647.7	0.9
BZ	120,082	117	1,212	8.1	647.0	647.0	647.9	0.9

[1]Feet above mouth [2]Includes Coast Fork Willamette River Overflow [3]Cross section not used

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

COAST FORK WILLAMETTE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
Coast Fork Willamette River (Cont'd)								
CA	120,342	116	1,161	8.4	647.6	647.6	648.4	0.8
CB	121,802	193	1,385	7.1	651.4	651.4	651.6	0.2
CC	122,002	189	1,296	7.6	651.5	651.5	651.7	0.2
CD	122,202	159	1,076	9.1	651.7	651.7	651.8	0.1
CE	123,662	221	1,122	8.7	656.9	656.9	656.9	0.0
CF	124,942	197	1,435	6.8	661.5	661.5	662.1	0.6
CG	125,212	203	1,354	7.2	662.4	662.4	662.7	0.3
CH	125,252	208	1,645	6.0	662.7	662.7	663.3	0.6
CI	125,412	184	1,249	7.8	662.7	662.7	663.5	0.8
CJ	125,552	136	894	11.0	663.4	663.4	663.6	0.2
CK	126,122	255	1,158	8.5	665.9	665.9	666.8	0.9
CL	127,572	271	1,942	5.0	670.3	670.3	670.7	0.4
CM	128,772	190	1,497	6.5	672.1	672.1	672.7	0.6
CN	128,982	192	1,598	5.3	672.8	672.8	673.3	0.5
CO	128,992	192	1,601	5.2	672.9	672.9	673.3	0.4
CP	129,202	135	1,457	5.8	673.1	673.1	673.5	0.4
CQ	129,342	135	1,380	6.1	673.3	673.3	673.7	0.4
CR	130,982	172	1,256	6.7	676.3	676.3	676.4	0.1
CS	131,062	172	1,192	7.0	676.4	676.4	676.5	0.1
CT	131,362	151	1,182	7.1	677.5	677.5	677.5	0.0
CU	132,612	139	1,132	7.4	679.8	679.8	680.5	0.7
CV	133,862	139	1,109	7.6	683.8	683.8	683.9	0.1
CW	135,662	157	1,416	5.9	688.7	688.7	688.7	0.0
CX	136,882	169	1,089	7.7	692.5	692.5	692.7	0.2
CY	137,902	278	2,188	3.8	695.0	695.0	695.7	0.7
CZ	140,877	163	1,253	6.7	699.8	699.8	700.6	0.8

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

COAST FORK WILLAMETTE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
Coast Fork Willamette River (Cont'd)								
DA	143,557	122	1,217	6.9	708.6	708.6	708.6	0.0
DB	145,617	234	1,407	6.0	714.5	714.5	715.2	0.7
DC	147,617	183	1,677	5.0	718.6	718.6	719.6	1.0
DD	148,667	117	1,169	7.2	720.6	720.6	721.3	0.7
DE	149,667	116	1,113	7.5	723.8	723.8	724.4	0.6

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

COAST FORK WILLAMETTE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[2]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
Coast Fork Willamette River Overflow								
A-AO[1]								
AP	480	1,370[3]	4,699	8.1	581.4	581.4	581.9	0.5
AQ	1,700	3,080[3]	10,045	3.8	588.4	588.4	589.4	1.0
AR	2,800	1,419	7,781	1.6	591.0	591.0	592.0	1.0
AS	4,500	1,308	7,087	1.8	592.5	592.5	593.3	0.8
AT	5,060	1,225	5,769	2.2	593.1	593.1	594.0	0.9
AU	5,680	895	4,735	2.6	594.2	594.2	595.2	1.0
AV	6,260	1,109	5,955	2.1	595.2	595.2	596.1	0.9
AW	6,880	1,050	1,620	7.7	600.6	600.6	600.9	0.3
AX	7,770	1,500	7,563	1.7	603.5	603.5	604.5	1.0
AY	8,750	950	2,704	4.6	605.6	605.6	606.6	1.0
AZ	9,100	688	2,250	5.6	609.1	609.1	609.1	0.0
BA	9,200	688	2,588	4.8	609.5	609.5	609.7	0.2
BB	9,550	879	5,905	2.1	610.0	610.0	610.5	0.5
BC	10,480	2,474[3]	8,834	4.3	610.2	610.2	610.5	0.3

[1]Cross sections not used [2]Feet above Coast Fork Willamette River [3]Includes Coast Fork Willamette River

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

COAST FORK WILLAMETTE RIVER OVERFLOW

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
Dedrick Slough								
A	1,830	125	1,582	5.7	391.2	391.2	391.8	0.6
B	1,950	125	1,640	5.5	391.6	391.6	392.2	0.6
C	2,590	210	1,590	5.7	392.6	392.6	392.9	0.3
D	3,310	98	1,220	7.4	393.1	393.1	394.1	1.0
E	4,300	280	2,267	4.0	395.0	395.0	395.7	0.7
F	4,600	114	1,684	5.3	395.2	395.2	395.8	0.6
G	4,680	114	1,756	5.1	395.9	395.9	396.5	0.6
H	4,980	290	2,607	3.5	396.3	396.3	396.9	0.6
I	5,930	420	4,504	2.0	396.8	396.8	397.3	0.5
J	6,850	1,115	10,053	0.9	396.9	396.9	397.5	0.6
K	9,350	569	7,418	1.2	401.2	401.2	401.2	0.0

[1]Feet above confluence with Willamette River along profile baseline

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

DEDRICK SLOUGH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Fall Creek								
A	1,700	450	3,216	4.9	565.9	565.9	566.9	1.0
B	2,140	327	3,443	4.5	566.6	566.6	567.4	0.8
C	2,645	146	1,693	9.2	566.7	566.7	567.5	0.8
D	2,680	146	1,725	9.0	566.9	566.9	567.7	0.8
E	3,020	160	1,673	9.3	568.5	568.5	568.7	0.2
F	4,460	250	2,321	6.7	571.5	571.5	572.4	0.9
G	5,240	320	2,822	5.5	573.1	573.1	573.7	0.6
H	6,060	235	2,557	6.1	574.2	574.2	574.7	0.5
I	6,285	296	2,287	6.8	574.2	574.2	575.2	1.0
J	6,975	340	2,061	7.6	577.0	577.0	577.2	0.2
K	7,520	234	1,282	12.2	579.8	579.8	579.8	0.0
L	7,580	249	1,609	9.7	581.3	581.3	581.3	0.0
M	7,956	262	2,008	7.8	583.4	583.4	583.4	0.0
N	9,581	417	2,880	5.1	587.1	587.1	587.5	0.4
O	10,906	216	1,678	8.8	589.6	589.6	590.5	0.9
P	12,956	200	1,969	7.5	596.8	596.8	597.2	0.4
Q	15,956	358	2,761	5.4	603.3	603.3	604.1	0.8
R	17,116	148	1,131	13.1	606.5	606.5	606.9	0.4
S	19,036	177	1,859	4.1	614.7	614.7	614.8	0.1
T	20,636	206	1,394	5.5	616.3	616.3	616.5	0.2
U	22,236	126	1,032	7.4	619.9	619.9	620.5	0.6
V	23,556	212	1,444	5.3	624.2	624.2	624.4	0.2
W	25,636	203	1,223	6.2	629.4	629.4	629.6	0.2
X	27,136	135	1,043	7.3	634.4	634.4	634.5	0.1
Y	29,376	143	1,245	6.1	640.4	640.4	640.5	0.1
Z	30,816	143	1,131	6.7	643.7	643.7	643.8	0.1

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

FALL CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Fall Creek (Cont'd)								
AA	31,976	131	1,044	7.3	647.1	647.1	647.1	0.0
AB	32,386	133	1,125	6.8	648.4	648.4	648.4	0.0
AC	32,446	136	1,252	6.1	648.5	648.5	649.5	1.0
AD	32,621	135	1,234	6.2	649.0	649.0	649.9	0.9
AE	34,871	144	916	6.3	656.6	656.6	656.6	0.0

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

FALL CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[2]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
McKenzie River								
A[1]								
B	5,300	764	11,105	8.1	388.7	388.7	389.5	0.8
C	9,700	1,002	18,083	5.0	395.0	395.0	395.9	0.9
D	13,360	622	10,540	8.5	400.2	400.2	400.9	0.7
E	15,715	696	7,561	11.9	408.0	408.0	408.2	0.2
F	16,965	420	9,589	9.4	412.9	412.9	413.1	0.2
G	17,115	420	9,619	9.3	412.9	412.9	413.1	0.2
H	17,415	520	9,356	9.6	413.6	413.6	413.8	0.2
I	17,595	520	9,457	9.5	413.8	413.8	414.0	0.2
J	18,315	640	11,518	7.8	415.3	415.3	415.3	0.0
K	21,175	1,089	14,222	6.3	419.3	419.3	420.0	0.7
L	26,655	1,400	16,644	5.4	425.7	425.7	426.7	1.0
M	29,175	1,230	10,723	8.4	430.7	430.7	431.4	0.7
N	32,495	2,460	19,921	4.5	436.0	436.0	436.9	0.9
O	36,015	4,647	47,489	1.9	438.9	438.9	439.9	1.0
P	39,335	3,100	15,813	5.7	441.3	441.3	442.0	0.7
Q	42,875	1,450	14,821	6.1	449.9	449.9	450.9	1.0
R	46,595	1,586	16,407	5.5	455.8	455.8	456.5	0.7
S	49,455	2,019	21,917	4.1	459.3	459.3	460.1	0.8
T[1]								
U	52,015	1,978	11,694	6.0	461.2	461.2	462.0	0.8
V	55,015	950	11,865	5.9	466.3	466.3	466.5	0.2
W	56,215	243	7,610	9.2	466.9	466.9	467.1	0.2
X	56,365	243	7,610	9.2	466.9	466.9	467.1	0.2
Y	56,775	515	6,257	11.2	467.0	467.0	467.2	0.2
Z	59,895	3,278	23,680	3.0	474.7	474.7	475.2	0.5

[1]Cross sections not shown on Flood Insurance Rate Map [2]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

MCKENZIE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
McKenzie River (Cont'd)								
AA	63,695	1,316	11,570	6.1	479.8	479.8	480.6	0.8
AB	65,955	1,853	15,570	4.5	484.8	484.8	485.7	0.9
AC	69,275	2,281	14,375	4.9	489.9	489.9	490.7	0.8
AD	72,965	2,570	18,423	3.8	494.5	494.5	495.4	0.9
AE	76,505	1,630	8,890	7.9	499.9	499.9	500.6	0.7
AF	80,685	2,050	12,031	5.8	508.8	508.8	509.5	0.7
AG	85,785	2,139	11,662	6.0	518.8	518.8	519.8	1.0
AH	92,405	3,651	20,039	3.0	532.2	532.2	533.1	0.9
AI	96,165	1,908	10,540	5.7	540.9	540.9	541.7	0.8
AJ	99,365	2,639	13,112	4.6	550.5	550.5	551.3	0.8
AK	103,605	1,450	11,084	5.4	560.7	560.7	561.3	0.6
AL	106,905	545	6,750	8.5	569.2	569.2	569.8	0.6
AM	107,015	613	7,505	7.7	569.7	569.7	570.6	0.9
AN	107,075	651	7,735	7.4	569.8	569.8	570.7	0.9
AO	108,525	670	9,005	6.4	573.1	573.1	573.7	0.6
AP	109,475	655	6,830	8.4	575.1	575.1	575.8	0.7
AQ	110,525	532	8,214	7.0	578.0	578.0	578.3	0.3
AR	111,725	623	8,175	7.0	580.7	580.7	580.7	0.0
AS	113,125	1,000	12,892	4.5	583.1	583.1	584.0	0.9
AT	113,875	1,425	14,974	3.8	584.1[3]	584.2	585.0	0.8
AU	114,825	453	5,058	4.5	585.4[3]	586.4	586.9	0.5
AV	115,925	619	5,653	4.0	587.9[3]	587.9	588.3	0.4
AW	116,745	430	4,101	5.5	589.3[3]	588.9	589.2	0.3
AX	118,735	456	4,797	4.7	595.8[3]	595.9	596.3	0.4
AY	120,380	1,188	10,093	5.5	598.8	598.8	599.7	0.9
AZ	121,520	1,014[2]	12,018[2]	4.6[2]	602.9[2]	602.9[2]	603.4[2]	0.5

[1]Feet above mouth [2]Taken from computer printout for "McKenzie River Flood Hazard Analysis Floodway Determination," dated October 1977, prepared by Brown and Caldwell
[3]Computed by two-dimensional flow model FESWMS-2DH

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

MCKENZIE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH[2] (FEET)	SECTION AREA[2] (SQUARE FEET)	MEAN VELOCITY[2] (FEET PER SECOND)	REGULATORY[2] (FEET NGVD)	WITHOUT FLOODWAY[2] (FEET NGVD)	WITH FLOODWAY[2] (FEET NGVD)	INCREASE (FEET NGVD)
McKenzie River (Cont'd)								
BA	123,190	593	7,986	7.0	604.9	604.9	605.4	0.5
BB	124,940	374	6,282	8.9	606.9	606.9	607.7	0.8
BC	125,760	586	5,729	9.8	607.8	607.8	609.7	0.9
BD	126,470	1,008	6,205	9.0	608.8	608.8	609.7	0.9
BE	127,490	1,484	10,673	5.2	612.9	612.9	612.9	0.0
BF	127,700	1,852	12,968	4.3	613.9	613.9	614.3	0.4
BG	128,160	1,815	12,347	4.5	615.2	615.2	615.4	0.2
BH	128,940	1,577	11,971	4.7	616.8	616.8	617.0	0.2
BI	129,990	1,022	9,464	5.9	618.3	618.3	618.4	0.1
BJ	131,280	900	12,325	4.4	619.0	619.0	619.2	0.2
BK	132,290	800	7,299	7.4	619.3	619.3	619.5	0.2
BL	133,290	910	4,322	12.5	621.3	621.3	621.3	0.0
BM	134,500	700	6,334	8.5	626.5	626.5	626.5	0.0
BN	135,260	510	6,270	8.6	629.0	629.0	629.0	0.0
BO	136,610	434	5,288	10.2	631.4	631.4	631.5	0.1
BP	137,670	612	5,804	9.3	634.9	634.9	634.9	0.0
BQ	138,470	533	7,203	7.5	636.5	636.5	637.0	0.5
BR	139,340	595	6,168	8.8	638.7	638.7	639.2	0.5
BS	140,460	391	4,710	11.5	641.6	641.6	642.0	0.4
BT	141,370	260	4,549	11.9	643.9	643.9	644.2	0.3
BU	142,190	278	4,186	12.9	645.3	645.3	645.8	0.5
BV	143,040	333	6,711	8.0	648.2	648.2	648.3	0.1
BW	143,490	287	4,821	11.2	648.8	648.8	648.8	0.0
BX[3]								
BY	143,560	266	4,505	12.0	649.8	649.8	650.4	0.6
BZ	143,620	339	6,321	8.5	651.7	651.7	652.2	0.5

[1]Feet above mouth [2]Taken from computer printout for "McKenzie River Flood Hazard Analysis Floodway Determination," dated October 1977, prepared by Brown and Caldwell [3]Cross section not used

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

MCKENZIE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH[2] (FEET)	SECTION AREA[2] (SQUARE FEET)	MEAN VELOCITY[2] (FEET PER SECOND)	REGULATORY[2] (FEET NGVD)	WITHOUT FLOODWAY[2] (FEET NGVD)	WITH FLOODWAY[2] (FEET NGVD)	INCREASE (FEET NGVD)
McKenzie River (Cont'd)								
CA	144,590	345	7,921	6.8	652.5	652.5	653.2	0.7
CB	145,450	243	4,486	12.0	652.7	652.7	653.4	0.7
CC	147,180	326	4,995	10.5	655.7	655.7	656.3	0.6
CD	148,770	232	4,392	12.0	657.6	657.6	658.1	0.5
CE	149,500	268	4,262	12.3	658.3	658.3	658.9	0.6
CF	150,310	281	4,781	11.0	660.4	660.4	660.9	0.5
CG	151,350	210	3,337	15.5	661.0	661.0	661.6	0.6
CH	152,450	269	4,880	10.8	666.3	666.3	666.3	0.0
CI	153,580	340	4,982	10.5	667.4	667.4	667.5	0.1
CJ	154,490	416	5,847	9.0	670.9	670.9	671.0	0.1
CK	155,350	266	4,150	12.6	671.3	671.3	671.4	0.1
CL	156,460	261	4,338	12.1	673.4	673.4	673.7	0.3
CM	157,260	331	5,166	10.2	675.3	675.3	675.6	0.3
CN	158,210	281	4,533	11.6	676.4	676.4	676.7	0.3
CO	159,110	282	3,969	13.2	677.4	677.4	677.7	0.3
CP	160,840	270	3,917	13.4	681.5	681.5	681.8	0.3
CQ	162,530	840	8,819	6.0	687.1	687.1	687.8	0.7
CR	163,400	454	6,298	8.3	688.0	688.0	688.6	0.6
CS	164,290	587	4,125	12.2	689.2	689.2	689.2	0.0
CT	165,180	250	2,663	19.0	694.9	694.9	694.9	0.0
CU	166,280	381	8,390	6.0	702.2	702.2	702.2	0.0
CV	167,700	281	4,415	11.4	702.6	702.6	702.6	0.0
CW	168,720	275	4,450	11.3	704.0	704.0	704.2	0.2
CX	169,580	228	3,573	14.1	705.1	705.1	705.1	0.0
CY	170,540	265	3,411	14.8	706.8	706.8	707.3	0.5
CZ	171,890	340	4,511	11.2	712.8	712.8	712.8	0.0

[1]Feet above mouth [2]Taken from computer printout for "McKenzie River Flood Hazard Analysis Floodway Determination," dated October 1977, prepared by Brown and Caldwell

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

MCKENZIE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
McKenzie River (Cont'd)								
DA	173,150	285[2]	4,096[2]	12.3[2]	714.8[2]	714.8[2]	714.8[2]	0.0
DB	174,360	218[2]	3,389[2]	14.9[2]	716.6[2]	716.6[2]	716.6[2]	0.0
DC	175,210	626[2]	6,408[2]	7.9[2]	720.7[2]	720.7[2]	720.7[2]	0.0
DD	176,170	185[2]	3,126[2]	16.2[2]	721.9[2]	721.9[2]	721.9[2]	0.0
DE	177,110	207[2]	3,442[2]	14.7[2]	724.4[2]	724.4[2]	724.8[2]	0.4
DF	178,670	523[2]	6,011[2]	8.4[2]	729.8[2]	729.8[2]	730.8[2]	1.0
DG	180,180	335[2]	5,573[2]	9.1[2]	733.1[2]	733.1[2]	733.7[2]	0.6
DH	181,030	410[2]	6,537[2]	7.7[2]	734.6[2]	734.6[2]	735.3[2]	0.7
DI	181,080	487	9,869	4.8	742.0	742.0	743.0	1.0
DJ	182,520	595	6,336	7.5	743.5	743.5	744.3	0.8
DK	184,220	385	4,596	10.4	745.5	745.5	745.8	0.3
DL	186,320	315	5,569	8.6	748.4	748.4	748.6	0.2
DM	188,060	291	3,447	13.9	749.4	749.4	749.8	0.4
DN	189,200	311	5,718	14.4	754.6	754.6	755.0	0.4
DO	190,080	225	3,370	14.2	754.9	754.9	755.3	0.4
DP	190,170	226	3,420	14.0	755.0	755.0	755.4	0.4
DQ	191,170	223	4,824	9.9	759.4	759.4	759.4	0.0
DR	192,090	229	4,164	11.5	760.3	760.3	760.4	0.1
DS	194,090	204	3,569	11.6	764.6	764.6	765.3	0.7
DT	194,630	230	3,383	12.2	765.6	765.6	766.6	1.0
DU	195,170	256	3,190	12.9	767.9	767.9	768.7	0.8
DV	196,200	403	4,522	9.1	773.3	773.3	773.5	0.2
DW	197,230	242	3,750	11.0	775.5	775.5	775.6	0.1
DX	198,730	256	3,871	10.7	779.9	779.9	780.3	0.4
DY	200,310	326	4,709	8.8	785.3	785.3	785.9	0.6
DZ	202,110	302	4,789	8.6	790.5	790.5	790.6	0.1

[1]Feet above mouth [2]Taken from computer printout for "McKenzie River Flood Hazard Analysis Floodway Determination," dated October 1977, prepared by Brown and Caldwell

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

MCKENZIE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
McKenzie River (Cont'd)								
EA	204,370	200	4,082	10.1	796.1	796.1	796.5	0.4
EB	205,970	214	4,433	9.3	799.9	799.9	800.7	0.8
EC	207,770	244	4,068	10.2	804.7	804.7	805.5	0.8
ED	209,610	243	4,350	9.5	810.4	810.4	811.4	1.0
EE	211,290	313	5,066	7.6	815.1	815.1	815.8	0.7
EF	212,510	340	4,660	8.3	818.3	818.3	819.0	0.7
EG	214,230	179	3,565	10.8	821.6	821.6	822.3	0.7
EH	215,370	225	3,632	10.6	824.0	824.0	825.0	1.0
EI	217,029	222	2,500	15.4	829.4	829.4	830.1	0.7
EJ	217,489	304	3,280	11.7	833.0	833.0	833.5	0.5
EK	217,949	304	3,284	11.7	834.6	834.6	834.9	0.3
EL	218,869	246	4,409	8.7	838.0	838.0	838.6	0.6
EM	220,929	214	3,339	11.5	840.9	840.9	841.3	0.4
EN	221,949	198	2,714	14.2	844.0	844.0	844.4	0.4
EO	222,316	266	2,245	17.2	846.4	846.4	846.4	0.0
EP	222,683	253	2,273	16.9	849.7	849.7	849.7	0.0
EQ	223,050	208	2,206	17.5	853.3	853.3	853.3	0.0
ER	223,435	250	3,615	10.7	857.9	857.9	858.6	0.7
ES	224,590	326	4,754	8.1	860.8	860.8	861.5	0.7
ET	226,510	254	3,936	9.8	864.1	864.1	864.7	0.6
EU	228,430	233	3,673	10.5	867.9	867.9	868.7	0.8
EV	230,410	459	4,197	9.2	873.3	873.3	874.1	0.8
EW	231,970	330	4,099	9.4	878.1	878.1	879.1	1.0
EX	233,570	339	4,129	9.3	883.2	883.2	883.6	0.4
EY	235,590	228	2,802	13.7	889.6	889.6	889.9	0.3
EZ	237,730	367	4,316	8.9	897.8	897.8	898.7	0.9

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

MCKENZIE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
McKenzie River (Cont'd)								
FA	239,410	293	3,606	10.7	902.4	902.4	902.6	0.2
FB	241,430	397	3,647	10.6	909.8	909.8	910.0	0.2
FC	243,470	488	5,024	7.7	915.5	915.5	915.7	0.2
FD	245,250	223	2,187	17.6	918.2	918.2	918.2	0.0
FE	246,990	352	3,937	9.8	928.6	928.6	928.7	0.1
FF	247,650	210	2,416	15.9	929.6	929.6	929.7	0.1
FG	248,130	220	3,495	11.0	933.7	933.7	933.8	0.1
FH	248,180	220	3,550	10.8	933.9	933.9	934.0	0.1
FI	248,850	225	3,138	12.3	935.1	935.1	935.1	0.0
FJ	249,590	500	4,992	7.7	937.6	937.6	937.9	0.3
FK	251,750	302	3,491	11.0	942.1	942.1	942.4	0.3
FL	253,750	214	3,308	11.6	948.1	948.1	948.6	0.5
FM	255,770	318	3,841	10.0	955.9	955.9	956.4	0.5
FN	257,390	322	3,583	10.7	962.4	962.4	962.7	0.3
FO	259,150	556	4,769	8.1	969.4	969.4	969.6	0.2
FP	260,610	781	5,046	7.6	975.1	975.1	975.2	0.1
FQ	261,330	668	5,130	7.3	977.8	977.8	977.8	0.0
FR	262,130	314	4,424	8.5	979.8	979.8	980.4	0.6
FS	262,190	314	4,433	8.5	979.8	979.8	980.4	0.6
FT	262,405	250	3,296	11.4	980.2	980.2	980.7	0.5
FU	262,840	337	4,001	9.4	984.0	984.0	984.3	0.3
FV	264,140	338	4,299	8.8	988.5	988.5	988.9	0.4
FW	265,940	446	4,520	8.3	992.7	992.7	993.4	0.7
FX	267,740	960	6,015	6.3	998.9	998.9	999.7	0.8
FY	269,140	877	6,030	6.3	1,004.3	1,004.3	1,004.4	0.1
FZ	270,620	1,413	5,351	7.0	1,008.6	1,008.6	1,009.3	0.7

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

MCKENZIE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
McKenzie River (Cont'd)								
GA	272,280	701	3,724	10.1	1,015.2	1,015.2	1,016.2	1.0
GB	274,100	435	2,633	14.3	1,022.9	1,022.9	1,023.3	0.4
GC	275,720	582	3,933	9.6	1,029.9	1,029.9	1,030.9	1.0
GD	277,040	651	3,202	11.4	1,035.6	1,035.6	1,035.6	0.0
GE	278,860	204	2,516	14.5	1,042.8	1,042.8	1,043.1	0.3
GF	280,880	218	2,629	13.9	1,049.4	1,049.4	1,050.0	0.6
GG	282,960	202	2,024	18.0	1,057.7	1,057.7	1,057.7	0.0
GH	284,640	250	2,660	13.7	1,067.4	1,067.4	1,067.9	0.5
GI	286,400	237	2,818	13.0	1,073.5	1,073.5	1,073.6	0.1
GJ	288,140	236	2,234	16.3	1,078.9	1,078.9	1,079.2	0.3
GK	289,940	282	2,511	14.5	1,088.9	1,088.9	1,088.9	0.0
GL	291,520	240	2,285	14.6	1,097.7	1,097.7	1,098.1	0.4
GM	292,820	399	3,507	9.5	1,105.1	1,105.1	1,105.6	0.5
GN	294,640	166	1,784	18.7	1,113.5	1,113.5	1,113.5	0.0
GO	297,100	540	3,605	9.2	1,130.8	1,130.8	1,131.7	0.9
GP	298,720	519	4,284	7.8	1,138.5	1,138.5	1,139.5	1.0
GQ	300,480	264	2,813	11.8	1,142.8	1,142.8	1,143.8	1.0
GR	302,400	354	2,892	11.5	1,153.2	1,153.2	1,153.9	0.7
GS	303,640	407	3,710	9.0	1,159.0	1,159.0	1,159.5	0.5
GT	304,180	218	2,676	12.4	1,160.4	1,160.4	1,161.2	0.8
GU	304,230	219	2,724	12.2	1,160.4	1,160.4	1,161.4	1.0
GV	304,820	220	2,678	12.4	1,163.7	1,163.7	1,163.8	0.1
GW	306,180	196	2,480	13.4	1,169.2	1,169.2	1,169.5	0.3
GX	307,840	205	2,252	14.8	1,178.1	1,178.1	1,178.5	0.4
GY	311,520	315	2,328	7.9	1,199.8	1,199.8	1,200.3	0.5
GZ	312,980	311	2,829	11.8	1,205.8	1,205.8	1,206.8	1.0

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

MCKENZIE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
McKenzie River (Cont'd)								
HA	314,040	208	2,054	16.2	1,210.9	1,210.9	1,211.5	0.6
HB	315,160	145	2,187	15.2	1,218.1	1,218.1	1,218.1	0.0
HC	315,230	145	2,244	14.8	1,218.5	1,218.5	1,218.5	0.0
HD	316,156	170	1,849	18.0	1,221.9	1,221.9	1,221.9	0.0
HE	317,040	367	3,491	9.5	1,230.1	1,230.1	1,230.2	0.1
HF	318,780	168	1,781	18.7	1,240.9	1,240.9	1,240.9	0.0
HG	320,360	217	2,926	11.4	1,254.0	1,254.0	1,254.5	0.5
HH	321,520	212	2,254	14.8	1,260.6	1,260.6	1,260.7	0.1
HI	322,520	185	2,249	8.2	1,269.4	1,269.4	1,269.4	0.0
HJ	323,540	178	1,791	10.3	1,273.1	1,273.1	1,273.2	0.1
HK	324,700	174	1,223	15.1	1,284.7	1,284.7	1,284.7	0.0
HL	325,940	171	2,031	9.1	1,296.0	1,296.0	1,296.3	0.3
HM	327,760	182	1,441	12.8	1,305.5	1,305.5	1,305.9	0.4
HN	329,520	372	1,992	9.3	1,321.4	1,321.4	1,321.5	0.1
HO	331,380	207	1,712	10.8	1,333.2	1,333.2	1,333.8	0.6
HP	333,460	393	1,593	11.6	1,351.4	1,351.4	1,351.4	0.0
HQ	334,360	342	2,153	8.6	1,358.2	1,358.2	1,359.0	0.8
HR	334,900	292	2,300	8.0	1,361.1	1,361.1	1,362.0	0.9
HS	334,980	292	2,313	8.0	1,361.2	1,361.2	1,362.1	0.9
HT	335,380	175	1,499	12.3	1,363.3	1,363.3	1,363.5	0.2
HU	336,720	176	1,848	12.5	1,374.6	1,374.6	1,374.9	0.3
HV	339,200	204	1,796	10.3	1,392.5	1,392.5	1,392.9	0.4
HW	341,560	164	1,415	13.1	1,408.4	1,408.4	1,408.8	0.4
HX	343,100	241	2,027	9.1	1,421.9	1,421.9	1,422.4	0.5
HY	344,460	145	1,707	10.8	1,430.5	1,430.5	1,431.1	0.6
HZ	345,980	160	1,455	12.7	1,443.7	1,443.7	1,444.0	0.3

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

MCKENZIE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
McKenzie River (Cont'd)								
IA	349,280	183	1,802	10.3	1,475.2	1,475.2	1,475.8	0.6
IB	350,560	183	1,810	10.2	1,484.6	1,484.6	1,485.0	0.4
IC	352,000	178	1,719	10.8	1,495.6	1,495.6	1,496.0	0.4
ID	353,480	178	1,671	11.1	1,509.0	1,509.0	1,509.0	0.0
IE	355,160	178	1,697	10.9	1,524.0	1,524.0	1,524.2	0.2
IF	356,580	168	1,621	11.4	1,536.5	1,536.5	1,537.0	0.5
IG	358,080	150	1,796	10.3	1,547.3	1,547.3	1,548.3	1.0
IH	360,120	167	1,967	9.4	1,559.5	1,559.5	1,560.0	0.5
II	361,460	285	1,517	12.2	1,572.1	1,572.1	1,572.1	0.0
IJ	363,700	241	2,296	8.1	1,591.5	1,591.5	1,592.4	0.9
IK	365,380	164	976	13.8	1,610.9	1,610.9	1,610.9	0.0
IL	367,060	179	1,864	7.2	1,625.4	1,625.4	1,625.4	0.0
IM	368,740	173	1,505	9.0	1,632.6	1,632.6	1,632.6	0.0
IN	370,620	142	1,158	11.7	1,648.0	1,648.0	1,648.2	0.2

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

MCKENZIE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[2]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
McKenzie River - East Channel								
A-GX[1]								
GY	970	128	1,389	10.7	1,192.6	1,192.6	1,192.7	0.1

[1]See McKenzie River floodway data [2]Feet above McKenzie River

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

MCKENZIE RIVER - EAST CHANNEL

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[2]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY[3] (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
McKenzie River - North Channel								
A-AS[1]								
AT	113,875	1,425	14,974	3.8	584.1	584.2	585.0	0.8
AU	115,885	370	5,208	6.6	590.2	590.5	590.6	0.1
AV	117,315	400	4,194	8.0	592.8	592.4	593.2	0.8
AW	119,165	1,100	11,319	3.0	595.9	596.0	596.3	0.3
AX	120,785	1,200	11,101	3.0	596.8	596.8	597.1	0.3

[1]See McKenzie River floodway data [2]Feet above mouth of McKenzie River main channel [3] Computed by two-dimensional flow model FESWMS-2DH

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

MCKENZIE RIVER - NORTH CHANNEL

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Middle Fork Willamette River (Near Oakridge)								
A	0	306	4,534	12.0	1,019.0	1,019.0	1,020.0	1.0
B	1,760	402	5,623	9.7	1,025.0	1,025.0	1,025.5	0.5
C	3,440	405	4,272	7.7	1,029.2	1,029.2	1,029.9	0.7
D	4,350	470	3,274	10.1	1,032.5	1,032.5	1,033.4	0.9
E	4,400	485	3,633	9.1	1,033.1	1,033.1	1,034.1	1.0
F	4,830	470	3,666	9.0	1,036.5	1,036.5	1,036.5	0.0
G	7,040	390	3,068	10.8	1,049.0	1,049.0	1,049.1	0.1
H	8,320	789	4,349	7.6	1,056.8	1,056.8	1,057.0	0.2
I	10,220	217	2,937	11.2	1,063.8	1,063.8	1,064.2	0.4
J	11,140	214	2,496	13.2	1,068.1	1,068.1	1,068.2	0.1
K	11,640	469	3,165	10.4	1,073.1	1,073.1	1,073.1	0.0
L	11,700	547	3,878	8.5	1,073.5	1,073.5	1,074.5	1.0
M	12,100	482	3,530	9.3	1,075.4	1,075.4	1,075.9	0.5
N	14,020	863	4,413	7.5	1,084.5	1,084.5	1,084.5	0.0
O	16,480	680	4,425	7.5	1,095.0	1,095.0	1,095.7	0.7
P	18,940	511	3,226	10.2	1,107.5	1,107.5	1,107.6	0.1
Q	21,180	400	3,302	10.0	1,118.6	1,118.6	1,119.1	0.5
R	22,820	382	3,770	8.8	1,127.2	1,127.2	1,127.4	0.2
S	24,460	727	4,645	7.1	1,135.2	1,135.2	1,136.0	0.8
T	24,960	531	3,695	8.9	1,138.1	1,138.1	1,139.1	1.0
U	26,660	291	2,673	12.3	1,151.3	1,151.3	1,152.1	0.8
V	28,900	262	2,288	8.5	1,165.9	1,165.9	1,166.7	0.8
W	30,860	297	1,754	11.1	1,177.5	1,177.5	1,177.5	0.0
X	32,980	300	2,095	9.3	1,191.0	1,191.0	1,191.3	0.3
Y	34,990	535	2,015	9.7	1,204.8	1,204.8	1,204.8	0.0
Z	37,105	200	1,996	6.3	1,215.8	1,215.8	1,215.8	0.0

[1]Feet above a point approximately 4,370 feet downstream of State Highway 58

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

MIDDLE FORK WILLAMETTE RIVER (NEAR OAKRIDGE)

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
Middle Fork Willamette River (Near Springfield)								
A	2,180	488	5,486	6.6	451.4	451.4	452.4	1.0
B	4,380	493	5,262	6.9	454.7	454.7	455.6	0.9
C	6,180	433	5,082	7.1	458.2	458.2	458.6	0.4
D	8,880	900	8,231	4.4	461.4	461.4	462.3	0.9
E	10,560	554	5,246	6.9	463.0	463.0	464.0	1.0
F	13,580	470	4,680	7.8	470.6	470.6	470.8	0.2
G	15,540	1,021	10,643	3.4	473.9	473.9	474.5	0.6
H	18,220	680	4,322	8.2	477.6	477.6	478.3	0.7
I	20,600	1,370	7,989	4.4	485.2	485.2	486.2	1.0
J	22,800	1,300	7,078	5.0	489.8	489.8	490.5	0.7
K	25,360	3,071	9,948	3.6	495.6	495.6	496.1	0.5
L	27,240	2,720	10,641	3.3	498.6	498.6	499.2	0.6
M	30,420	2,054	8,598	4.1	504.1	504.1	504.8	0.7
N	33,060	1,300	7,110	5.0	510.1	510.1	510.7	0.6
O	35,940	912	6,523	5.4	514.8	514.8	515.8	1.0
P	37,940	944	5,901	6.0	518.6	518.6	519.6	1.0
Q	40,100	582	5,048	7.0	522.8	522.8	523.8	1.0
R	42,140	423	4,845	7.3	526.5	526.5	527.2	0.7
S	42,200	423	4,844	7.3	526.5	526.5	527.2	0.7
T	44,080	478	4,710	7.2	530.0	530.0	530.4	0.4
U	45,800	717	5,222	6.5	533.2	533.2	534.1	0.9
V	47,880	727	4,712	7.2	537.6	537.6	538.6	1.0
W	49,520	868	7,082	4.8	540.8	540.8	541.8	1.0
X	51,520	1,189	8,692	3.9	544.0	544.0	544.7	0.7
Y	52,700	575	2,838	11.9	546.1	546.1	546.7	0.6
Z	52,790	600	2,997	11.3	546.3	546.3	547.0	0.7

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

MIDDLE FORK WILLAMETTE RIVER (NEAR SPRINGFIELD)

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
Middle Fork Willamette River (Near Springfield) (Cont'd)								
AA	54,390	995	6,991	4.8	553.1	553.1	554.1	1.0
AB	56,250	443	4,050	8.3	557.5	557.5	558.1	0.6
AC	57,830	1,048	6,305	5.4	563.8	563.8	564.3	0.5
AD	60,830	2,305	10,319	2.0	570.5	570.5	570.5	0.0
AE	62,530	619	2,551	8.0	573.6	573.6	573.7	0.1
AF	63,890	2,254	8,258	2.5	580.1	580.1	580.1	0.0
AG	66,050	1,327	5,179	4.0	585.5	585.5	585.5	0.0
AH	67,670	778	4,022	5.1	591.9	591.9	592.6	0.7
AI	69,750	590	3,915	5.2	597.4	597.4	598.3	0.9
AJ	72,490	833	3,905	5.2	603.6	603.6	604.2	0.6
AK	74,130	457	5,006	4.1	606.4	606.4	606.9	0.5
AL	76,850	450	1,697	12.0	611.1	611.1	611.2	0.1
AM	78,850	497	3,578	5.7	622.1	622.1	623.0	0.9
AN	80,830	942	4,667	4.3	627.8	627.8	628.8	1.0
AO	84,810	1,419	6,744	3.0	636.2	636.2	636.7	0.5
AP	86,310	426	2,768	7.3	639.1	639.1	639.2	0.1

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

MIDDLE FORK WILLAMETTE RIVER (NEAR SPRINGFIELD)

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
Mohawk River								
A	720	1,199	11,910	2.0	460.0	460.0	461.0	1.0
B	721	1,036	11,475	2.1	460.1	460.1	461.1	1.0
C	2,201	573	2,848	8.4	460.5	460.5	461.5	1.0
D	7,861	1,250	12,127	2.0	466.1	466.1	466.9	0.8
E	7,981	1,219	11,703	2.0	466.2	466.2	467.0	0.8
F	8,081	1,209	11,307	2.1	466.2	466.2	467.0	0.8
G	8,181	1,220	11,763	2.0	466.4	466.4	467.2	0.8
H	8,291	706	5,443	4.4	466.4	466.4	467.2	0.8
I[2]								
J	8,431	626	4,581	5.2	466.7	466.7	467.4	0.7
K	9,971	849	12,893	1.8	467.8	467.8	468.6	0.8
L	12,751	786	11,229	2.1	468.2	468.2	469.0	0.8
M	14,771	841	10,623	2.2	468.7	468.7	469.5	0.8
N	17,611	1,195	11,230	2.1	469.5	469.5	470.4	0.9
O	20,171	1,657	11,174	2.1	470.3	470.3	471.2	0.9
P	23,121	594	4,285	5.3	472.0	472.0	473.0	1.0
Q	25,221	1,399	6,764	3.3	474.8	474.8	475.8	1.0
R	26,196	740	6,748	3.3	475.8	475.8	476.8	1.0
S	26,711	2,103	6,966	3.2	476.4	476.4	477.4	1.0
T	26,831	2,154	8,153	2.8	477.3	477.3	477.9	0.6
U	27,171	1,868	8,247	2.7	477.7	477.7	478.2	0.5
V	28,186	1,524	8,629	2.6	478.3	478.3	478.7	0.4
W	31,246	576	4,140	5.5	480.4	480.4	481.1	0.7
X	32,546	723	5,577	4.1	482.0	482.0	482.9	0.9
Y	34,496	1,075	6,925	3.3	483.5	483.5	484.5	1.0
Z	36,896	1,127	6,042	3.7	484.8	484.8	485.8	1.0

[1]Feet above mouth [2]Cross section not used

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

MOHAWK RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Mohawk River (Cont'd)								
AA	38,236	1,223	6,370	3.5	486.0	486.0	487.0	1.0
AB	40,216	1,272	5,741	3.5	487.9	487.9	488.9	1.0
AC	40,776	1,074	5,455	3.7	488.6	488.6	489.5	0.9
AD	41,416	630	4,077	4.9	490.0	490.0	490.6	0.6
AE	41,471	873	4,829	4.2	490.2	490.2	490.8	0.6
AF	41,701	895	3,946	5.1	490.4	490.4	491.1	0.7
AG	42,176	1,125	4,262	4.7	491.6	491.6	492.1	0.5
AH	44,306	1,450	6,713	3.0	494.8	494.8	495.6	0.8
AI	45,566	1,182	4,692	4.3	496.1	496.1	497.1	1.0
AJ	46,081	1,050	3,178	6.3	498.4	498.4	498.7	0.3
AK	47,401	889	4,855	4.1	501.8	501.8	502.5	0.7
AL	48,841	980	4,834	4.2	503.8	503.8	504.6	0.8
AM	49,871	861	4,473	4.5	505.7	505.7	506.4	0.7
AN	51,321	682	5,180	3.9	508.5	508.5	509.3	0.8
AO	52,761	285	2,641	7.6	511.7	511.7	512.5	0.8
AP	54,111	499	3,611	5.6	516.0	516.0	516.9	0.9
AQ	55,461	650	4,285	4.7	518.3	518.3	519.2	0.9
AR	57,181	1,126	6,966	2.5	520.6	520.6	521.5	0.9
AS	58,801	123	1,322	13.2	522.1	522.1	523.0	0.9
AT	60,451	277	3,226	5.4	530.6	530.6	531.2	0.6
AU	61,771	145	2,061	8.5	533.2	533.2	533.9	0.7
AV	62,211	201	2,590	6.3	534.9	534.9	535.6	0.7
AW	62,271	201	2,714	6.0	535.2	535.2	536.2	1.0
AX	62,471	211	2,810	5.8	535.6	535.6	536.6	1.0
AY	63,701	380	3,418	4.7	537.8	537.8	538.8	1.0
AZ	65,151	458	2,569	6.3	540.8	540.8	541.6	0.8

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

MOHAWK RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
Mohawk River (Cont'd)								
BA	66,731	140	2,019	8.0	545.8	545.8	546.7	0.9
BB	68,271	141	2,063	7.9	549.4	549.4	550.2	0.8
BC	69,951	140	1,890	8.6	552.7	552.7	553.3	0.6
BD	71,451	205	1,979	5.9	556.5	556.5	556.8	0.3
BE	72,851	140	1,323	8.9	558.7	558.7	559.3	0.6
BF	74,411	95	1,105	10.6	564.0	564.0	564.3	0.3
BG	75,261	93	968	12.1	567.0	567.0	567.7	0.7
BH	75,591	122	1,434	8.2	569.8	569.8	570.1	0.3
BI	75,656	126	1,611	7.3	570.0	570.0	571.0	1.0
BJ	75,976	107	1,428	8.2	570.7	570.7	571.4	0.7
BK	77,376	119	1,274	9.1	573.5	573.5	574.3	0.8
BL	78,536	98	1,106	10.5	576.8	576.8	577.8	1.0
BM	78,971	113	1,101	10.5	579.0	579.0	579.6	0.6
BN	79,061	118	1,202	9.6	579.4	579.4	580.4	1.0
BO	79,461	118	1,217	9.5	581.2	581.2	581.7	0.5
BP	80,981	110	1,264	9.2	586.0	586.0	586.3	0.3

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

MOHAWK RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
North Fork Middle Fork Willamette River								
A	850	201	3,066	7.9	1,031.9	1,031.9	1,032.9	1.0
B	2,050	157	2,155	11.3	1,034.5	1,034.5	1,035.1	0.6
C	3,540	132	2,125	11.4	1,040.5	1,040.5	1,040.6	0.1
D	3,640	132	2,161	11.2	1,041.0	1,041.0	1041.1	0.1
E	3,700	132	2,450	9.9	1,043.2	1,043.2	1,043.4	0.2
F	3,800	132	2,417	10.1	1,043.5	1,043.5	1,043.7	0.2
G	5,610	159	2,658	9.1	1,048.6	1,048.6	1,048.8	0.2
H	6,940	226	2,827	8.6	1,052.4	1,052.4	1,052.5	0.1
I	7,040	259	1,682	14.5	1,061.7	1,061.7	1,061.7	0.0
J	7,090	276	3,473	7.0	1,068.4	1,068.4	1,068.4	0.0
K	7,190	276	3,534	6.9	1,068.6	1,068.6	1,068.6	0.0
L	7,950	165	1,901	12.8	1,070.1	1,070.1	1,070.1	0.0
M	8,050	168	2,081	11.7	1,071.2	1,071.2	1,071.2	0.0
N	8,112	169	2,162	11.2	1,071.7	1,071.7	1,071.7	0.0
O	8,212	169	2,269	10.7	1,072.3	1,072.3	1,072.3	0.0
P	8,794	184	2,730	8.9	1,075.1	1,075.1	1,075.1	0.0
Q	8,914	184	2,627	9.3	1,075.3	1,075.3	1,075.3	0.0
R	9,914	194	2,681	9.1	1,077.9	1,077.9	1,077.9	0.0

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

NORTH FORK MIDDLE FORK WILLAMETTE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[2]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
Oxley Slough								
A-B[1]								
C	2,200	2,610	9,614	2.5	457.7	457.7	458.7	1.0
D	3,900	1,670	7,821	3.1	459.7	459.7	460.5	0.8

[1]Cross sections not used [2]Feet above Coast Fork Willamette River

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

OXLEY SLOUGH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[2]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Row River								
A[1]								
B	1,880	1,110	5,277	5.3	619.0	618.9[3]	619.9[3]	1.0
C	2,610	412	3,109	9.0	620.7	620.7	621.3	0.6
D	2,722	419	3,437	8.1	621.7	621.7	622.0	0.3
E	3,502	500	4,117	6.8	624.8	624.8	624.8	0.0
F	4,262	463	3,702	7.6	626.7	626.7	627.2	0.5
G	5,562	697	4,064	6.9	631.3	631.3	632.3	1.0
H	7,742	463	4,983	5.6	636.3	636.3	637.2	0.9
I	8,742	543	4,068	6.9	638.0	638.0	638.8	0.8
J	10,232	836	6,243	4.5	642.1	642.1	643.0	0.9
K	12,552	442	4,186	6.7	646.9	646.9	647.7	0.8
L	13,792	346	3,084	9.1	651.1	651.1	652.1	1.0
M	14,282	197	2,108	13.3	653.7	653.7	654.6	0.9
N	14,402	198	2,139	13.1	654.6	654.6	655.4	0.8
O	15,872	521	4,458	6.3	662.4	662.4	662.7	0.3
P	17,532	556	4,846	5.8	665.8	665.8	666.6	0.8
Q	19,092	395	3,511	8.0	669.8	669.8	670.5	0.7
R	21,172	622	3,920	4.9	676.7	676.7	676.9	0.2
S	22,772	547	3,206	6.0	684.0	684.0	685.0	1.0
T	25,012	208	1,827	10.6	690.8	690.8	691.7	0.9
U	25,242	303	2,032	9.5	693.2	693.2	693.6	0.4
V	25,422	206	1,996	9.7	694.1	694.1	694.6	0.5
W	26,122	192	1,979	9.8	696.7	696.7	697.3	0.6
X	26,682	192	2,368	8.1	699.0	699.0	699.4	0.4
Y	26,716	191	2,337	8.3	699.2	699.2	699.6	0.4
Z	27,256	189	2,237	8.6	700.5	700.5	700.8	0.3

[1]Cross section not used [2]Feet above mouth [3]Elevations computed without consideration of influence from Coast Fork Willamette River

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

ROW RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
Row River (Cont'd)								
AA	28,036	140	2,151	9.0	702.3	702.3	702.4	0.1
AB	28,256	239	2,778	6.9	702.8	702.8	703.4	0.6
AC	28,426	239	2,799	6.9	702.9	702.9	703.5	0.6
AD	28,626	237	2,552	7.6	703.2	703.2	703.8	0.6
AE	30,266	130	1,615	12.0	706.3	706.3	706.8	0.5
AF	30,966	136	1,485	13.0	711.1	711.1	711.6	0.5
AG	31,206	105	1,382	14.0	713.8	713.8	714.2	0.4
AH	31,546	276	2,787	6.9	717.6	717.6	718.3	0.7
AI	33,266	153	1,824	10.6	722.8	722.8	723.5	0.7
AJ	33,946	174	2,195	8.8	726.0	726.0	726.9	0.9
AK	34,446	161	1,971	9.8	727.5	727.5	728.5	1.0
AL	34,496	186	2,166	8.9	727.7	727.7	728.6	0.9
AM	35,056	418	4,516	4.3	730.1	730.1	730.6	0.5
AN	36,736	270	1,485	13.0	733.1	733.1	733.1	0.0
AO	37,616	252	2,934	6.6	737.4	737.4	738.2	0.8

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

ROW RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
Salmon Creek-Without Consideration of Levees								
A	700	297	2,304	6.3	1,157.8	1,157.8	1,158.7	0.9
B	895	175	1,298	11.2	1,159.6	1,159.6	1,159.9	0.3
C	995	147	1,207	12.0	1,161.5	1,161.5	1,161.6	0.1
D	1,095	155	1,391	10.4	1,163.4	1,163.4	1,163.4	0.0
E	1,195	161	1,657	8.8	1,165.6	1,165.6	1,165.6	0.0
F	1,395	189	1,778	8.2	1,166.9	1,166.9	1,167.0	0.1
G	1,685	208	1,436	10.1	1,168.9	1,168.9	1,169.3	0.4
H	1,995	197	1,346	10.8	1,172.8	1,172.8	1,172.8	0.0
I	2,195	200	1,534	9.5	1,174.9	1,174.9	1,175.2	0.3
J	2,605	214	1,439	10.1	1,178.1	1,178.1	1,179.0	0.9
K	3,195	200	1,462	9.9	1,185.5	1,185.5	1,185.5	0.0
L	4,361	290	1,479	9.8	1,198.9	1,198.9	1,199.6	0.7
M	4,856	290	1,309	11.1	1,203.1	1,203.1	1,203.6	0.5
N	5,671	300	1,294	11.2	1,212.1	1,212.1	1,212.1	0.0
O	5,951	270	1,348	10.8	1,215.1	1,215.1	1,215.1	0.0
P	6,011	250	1,493	9.7	1,215.4	1,215.4	1,216.4	1.0
Q	6,611	280	1,226	11.8	1,222.0	1,222.0	1,222.0	0.0
R	8,271	306	1,351	10.7	1,238.5	1,238.5	1,239.5	1.0
S	10,351	310	1,419	10.2	1,264.0	1,264.0	1,264.2	0.2
T	10,821	254	1,306	11.1	1,269.9	1,269.9	1,269.9	0.0
U	10,871	254	1,412	10.3	1,270.8	1,270.8	1,270.8	0.0

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

SALMON CREEK-WITHOUT CONSIDERATION OF LEVEES

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Silk Creek								
A	50	56	521	6.8	642.5	638.0[2]	639.0[2]	1.0
B	180	49	501	7.1	642.5	638.6[2]	639.4[2]	0.8
C	219	48	468	7.6	642.5	638.8[2]	638.8[2]	0.0
D	319	89	641	5.5	642.5	639.6[2]	640.2[2]	0.6
E	499	45	400	8.9	642.5	639.9[2]	640.4[2]	0.5
F	874	36	342	10.4	642.5	642.4[2]	643.1[2]	0.7
G	924	30	318	11.2	642.5	642.4[2]	643.4[2]	1.0
H	946	30	334	10.6	643.0	643.0	644.0	1.0
I	996	37	452	7.8	644.9	644.9	645.2	0.3
J	1,501	125	990	3.6	645.8	645.8	646.8	1.0
K	2,351	57	487	7.3	647.2	647.2	647.9	0.7
L	2,681	58	428	8.3	648.8	648.8	649.4	0.6
M	2,771	61	521	6.8	650.5	650.5	651.2	0.7
N	2,876	61	533	6.7	651.1	651.1	651.6	0.5
O	3,341	94	499	7.1	652.7	652.7	653.0	0.3
P	3,791	118	678	4.9	654.3	654.3	654.7	0.4
Q	3,911	111	647	5.1	654.5	654.5	654.9	0.4
R	3,961	111	678	4.9	654.7	654.7	655.4	0.7
S	4,061	120	718	4.6	654.9	654.9	655.6	0.7
T	4,696	57	608	5.5	655.9	655.9	656.5	0.6
U	4,831	57	600	5.6	656.0	656.0	656.6	0.6
V	4,901	57	623	5.3	656.5	656.5	657.2	0.7
W	5,096	101	969	3.4	657.0	657.0	657.6	0.6
X	5,291	70	496	6.7	657.0	657.0	657.6	0.6
Y	5,341	70	487	6.8	657.0	657.0	657.6	0.6
Z	5,441	70	494	6.7	657.5	657.5	658.0	0.5

[1]Feet above mouth [2]Elevations computed without consideration of backwater from Coast Fork Willamette River

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

SILK CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Silk Creek (Cont'd)								
AA	6,261	65	428	7.8	660.3	660.3	660.6	0.3
AB	7,331	119	882	3.8	662.5	662.5	663.4	0.9
AC	8,451	109	399	7.9	665.8	665.8	665.8	0.0
AD	9,066	138	702	4.5	668.3	668.3	669.3	1.0

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

SILK CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Siuslaw River								
A	40,000	2,537	29,548	2.4	13.5	13.5	13.8	0.3
B	42,300	2,485	34,233	2.1	13.6	13.6	13.9	0.3
C	42,400	2,507	33,192	2.1	13.6	13.6	13.9	0.3
D	42,450	2,508	33,149	2.1	13.6	13.6	13.9	0.3
E	42,500	2,514	34,319	2.1	13.7	13.7	14.0	0.3
F	43,880	2,387	28,659	2.5	13.7	13.7	14.0	0.3
G	46,360	2,269	23,757	3.0	14.0	14.0	14.3	0.3
H	48,100	2,150	28,598	2.5	14.2	14.2	14.6	0.4
I	50,500	2,954	35,242	2.0	14.4	14.4	14.8	0.4
J	52,290	2,277	30,321	2.3	14.6	14.6	15.0	0.4
K	54,130	1,489	23,022	3.1	14.7	14.7	15.2	0.5
L	55,490	1,943	26,673	2.7	14.8	14.8	15.4	0.6
M	57,590	1,794	28,457	2.5	15.0	15.0	15.7	0.7
N	60,130	1,657	27,736	2.5	15.1	15.1	15.9	0.8
O	62,010	1,421	25,905	2.7	15.3	15.3	16.2	0.9
P	64,730	650	15,353	4.5	15.4	15.4	16.3	0.9
Q	66,730	1,182	20,209	3.5	15.8	15.8	16.8	1.0
R	68,370	1,110	19,231	3.6	16.0	16.0	17.0	1.0
S	70,090	803	15,846	4.4	16.2	16.2	17.2	1.0
T	71,910	935	15,127	4.6	16.4	16.4	17.4	1.0
U	73,910	902	16,583	4.2	16.8	16.8	17.7	0.9
V	76,090	574	13,507	5.1	17.1	17.1	18.0	0.9
W	77,770	658	13,735	5.0	17.3	17.3	18.2	0.9
X	79,770	892	15,637	4.4	17.8	17.8	18.7	0.9
Y	81,730	450	11,413	6.0	17.9	17.9	18.8	0.9
Z	83,770	1,216	18,634	3.5	18.7	18.7	19.5	0.8

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: SIUSLAW RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Siuslaw River (Cont'd)								
AA	85,690	804	15,198	4.3	18.9	18.9	19.7	0.8
AB	87,790	609	10,547	6.2	19.3	19.3	20.1	0.8
AC	89,290	683	13,651	4.8	19.9	19.9	20.8	0.9
AD	92,530	748	14,696	4.5	20.5	20.5	21.4	0.9
AE	94,330	829	16,743	3.9	20.9	20.9	21.8	0.9
AF	94,745	859	14,717	4.5	20.9	20.9	21.8	0.9
AG	96,435	737	15,062	4.4	21.3	21.3	22.2	0.9
AH	98,555	991	21,665	3.0	22.2	22.2	23.2	1.0
AI	100,605	1,234	17,812	3.7	22.7	22.7	23.7	1.0
AJ	102,865	1,138	17,646	3.7	23.6	23.6	24.5	0.9
AK	104,865	402	13,002	4.9	24.3	24.3	25.2	0.9
AL	106,465	560	14,177	4.5	24.8	24.8	25.7	0.9
AM	107,535	462	14,717	5.7	25.0	25.0	25.9	0.9
AN	107,585	504	11,231	5.7	25.0	25.0	25.9	0.9
AO	108,185	810	11,231	3.7	25.3	25.3	26.2	0.9
AP	109,105	612	16,815	4.6	25.5	25.5	26.4	0.9
AQ	111,155	458	13,569	5.2	26.4	26.4	27.4	1.0
AR	113,075	248	12,011	8.1	27.2	27.2	28.1	0.9
AS	114,835	291	7,706	6.4	28.9	28.9	29.8	0.9
AT	115,785	439	9,741	7.4	29.3	29.3	30.3	1.0
AU	116,135	333	8,470	7.8	29.5	29.5	30.5	1.0
AV	116,485	366	7,996	7.9	30.6	30.6	31.5	0.9
AW	116,805	337	7,894	8.1	31.8	31.8	32.5	0.7

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: SIUSLAW RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE
Willamette River								
A	84,600	4,194	37,034	1.9	382.6	382.6	383.6	1.0
B	87,040	4,050	26,988	2.6	383.0	383.0	384.0	1.0
C	89,760	3,670	25,745	2.8	383.7	383.7	384.7	1.0
D	91,360	2,900	21,425	3.3	384.3	384.3	385.2	0.9
E	93,200	2,070	9,558	7.4	385.5	385.5	386.5	1.0
F	94,860	1,913	13,658	5.2	389.2	389.2	390.2	1.0
G	96,160	548	6,952	8.9	391.2	391.2	391.8	0.6
H	96,270	548	7,142	8.7	391.6	391.6	392.1	0.5
I	98,050	630	10,955	5.7	394.4	394.4	394.7	0.3
J	99,690	562	6,871	9.0	395.1	395.1	395.4	0.3
K	101,450	848	10,138	6.1	397.9	397.9	398.1	0.2
L	102,690	650	8,532	7.3	399.2	399.2	399.3	0.1
M	103,470	492	7,592	8.2	399.8	399.8	400.1	0.3
N	104,310	550	8,185	1.6	401.0	401.0	401.2	0.2
O	104,930	450	7,331	8.5	401.6	401.6	401.8	0.2
P	106,210	1,084	14,961	4.7	403.3	403.3	403.5	0.2
Q	108,390	584	8,083	8.8	403.7	403.7	404.1	0.4
R	110,100	594	8,288	8.6	406.3	406.3	406.5	0.2
S	111,570	392	6,717	10.6	408.3	408.3	408.4	0.1
T	111,670	393	6,810	10.4	408.6	408.6	408.7	0.1
U	113,350	434	8,112	8.8	412.4	412.4	412.6	0.2
V	115,160	513	10,279	6.9	414.7	414.7	415.0	0.3
W	116,530	335	8,194	8.7	415.7	415.7	416.1	0.4
X	116,610	335	8,227	8.6	415.8	415.8	416.2	0.4
Y	117,770	727	14,852	4.8	417.5	417.5	418.0	0.5
Z	119,150	871	13,926	5.1	417.7	417.7	418.5	0.8

[1] Feet above a point approximately 11,850 feet downstream of US Highway 99E

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

FLOODWAY DATA

WILLAMETTE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET NGVD)
Willamette River (Cont'd)								
AA	121,480	587	8,885	8.0	419.5	419.5	420.3	0.8
AB	123,250	575	9,010	7.9	422.7	422.7	423.1	0.4
AC	124,250	875	9,486	7.5	424.3	424.3	424.5	0.2
AD	126,030	800	9,290	7.6	426.1	426.1	426.7	0.6
AE	127,540	812	10,759	6.6	428.5	428.5	429.5	1.0
AF	129,020	503	8,080	8.8	430.7	430.7	431.4	0.7
AG	130,330	503	8,755	8.1	432.8	432.8	433.3	0.5
AH	132,080	626	8,097	8.8	435.3	435.3	435.7	0.4
AI	133,190	627	8,382	8.5	437.5	437.5	437.7	0.2
AJ	134,090	590	8,345	8.5	439.1	439.1	439.1	0.0
AK	134,140	590	8,402	8.4	439.2	439.2	439.3	0.1
AL	134,230	590	8,503	8.4	439.3	439.3	439.4	0.1
AM	134,280	590	8,556	8.3	439.3	439.3	439.4	0.1
AN	135,050	427	6,888	10.3	440.4	440.4	440.5	0.1
AO	135,090	427	6,933	10.2	440.5	440.5	440.6	0.1
AP	136,730	500	7,891	9.0	443.1	443.1	443.4	0.3
AQ	139,130	800	10,035	7.1	446.5	446.5	446.8	0.3
AR	140,280	925	8,747	8.1	447.9	447.9	448.3	0.4
AS	142,530	1,530	17,047	4.2	450.2	450.2	451.2	1.0

[1] Feet above a point approximately 11,850 feet downstream of US Highway 99E

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOODWAY DATA

WILLAMETTE RIVER

The area between the floodway and 100-year floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood more than 1 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 1.

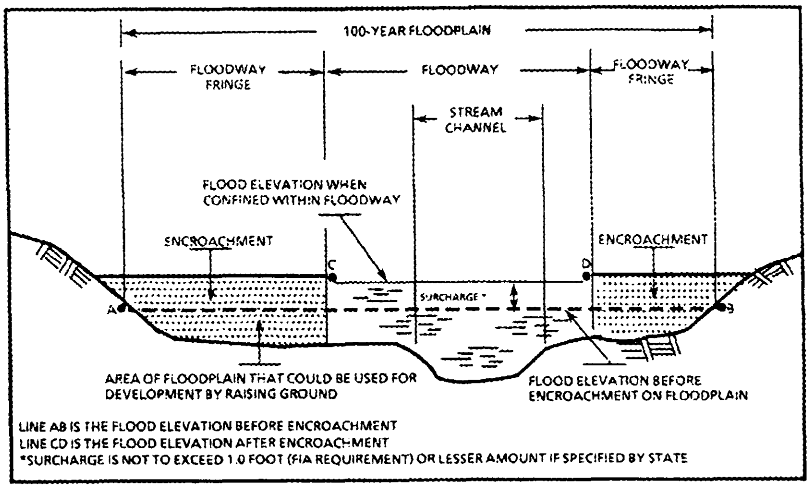

Figure 1. Floodway Schematic

The floodways of Amazon and Salmon Creeks were developed assuming the levees fail.

A floodway was not developed for Q-Street Canal because the 100-year flood is contained within the channel.

A floodway was not developed for the Middle Fork Willamette River Overflow because it was not part of the original analysis.

In areas where velocities were over 5 feet per second, the increase in velocity attributed to encroachment was limited to 20 percent of the natural velocity. These velocities, however, could be hazardous and should be carefully considered in floodway-fringe development.

A floodway was not computed for Channel A3 because the 100-year flood is contained within the channel for most of the stream. The only portion of Channel A3 in which the 100-year flood is not contained in the channel is an area called Teitzel Lake. This lake is a wetlands conservation area that is protected by State law from development; thus, a floodway here is not applicable.

Due to the tidal nature of flooding on the Siuslaw River, no floodway determination was made in coastal areas of this study.

As a result of a USACE reanalysis, it was determined that a floodway was not appropriate for the Long Tom River; therefore, no floodway has been delineated.

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 rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base (100-year) flood elevations (BFEs) or depths are shown within this zone.

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by detailed methods. 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 rate zone that corresponds to the areas of 100-year shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the detailed hydraulic analyses are shown within this zone.

Zone X

Zone X is the flood insurance rate zone that corresponds to areas outside the 500-year floodplain, areas within the 500-year floodplain, areas of 100-year flooding where average depths are less than 1 foot, areas of 100-year flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 100-year flood by levees. No BFEs or depths are shown within this zone.

Zone D

Zone D is the flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.

6.0 FLOOD INSURANCE RATE MAP

The Flood Insurance Rate Map is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance rate zones as described in Section 5.0 and, in the 100-year floodplains that were studied by detailed methods, shows selected whole-foot 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 100- and 500-year floodplains, floodways, and the locations of selected cross sections used in the hydraulic analyses and floodway computations.

The countywide Flood Insurance Rate Map presents flooding information for the entire geographic area of Lane County. Previously, Flood Insurance Rate Maps were prepared for each incorporated community and the unincorporated areas of the County identified as floodprone. This countywide Flood Insurance Rate Map also includes flood-hazard information that was presented separately on Flood Boundary and Floodway Maps, where applicable. Historical data relating to the maps prepared for each community are presented in Table 8, "Community Map History."

7.0 OTHER STUDIES

Flood Insurance Studies have been prepared for Deschutes, Douglas, and Lincoln Counties and the City of Harrisburg (References 40, 41, 32, and 42, respectively). Flood Insurance Studies are being prepared for Benton, Klamath, and Linn Counties (References 43, 44, and 45). Those studies are in agreement with this restudy.

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

8.0 LOCATION OF DATA

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

9.0 BIBLIOGRAPHY AND REFERENCES

1. U.S. Department of Commerce, Bureau of the Census, 1990 Census of Population, Oregon, December 1990.

2. Cottage Grove City Council, Comprehensive Plan for Cottage Grove, Oregon, October 1978.

3. City of Veneta, Oregon, Veneta Comprehensive Plan, December 1977.

4. Pacific Northwest River Basins Commission, Meteorology Committee, Climatological Handbook, Columbia Basin States, Volume 1, Part A, Temperature, and Volume 2, Precipitation, 1969.

5. Lane Council of Governments, L-COG's Lane County Atlas, May 1975.

6. Columbia Basin Inter-Agency Committee, Hydrology Subcommittee, River Mile Index, Willamette River and Tributaries, Columbia River Basin, Oregon, June 1963.

7. U.S. Department of the Interior, Geological Survey, Water-Supply Paper 1318, Compilation of Records of Surface Waters of the United States through September 1950, Part 14, 1958.

8. U.S. Department of the Interior, Geological Survey, Water-Supply Paper 1738, Compilation of Records of Surface Waters of the United States, October 1950 to September 1960, Part 14, 1963.

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISION DATE(S)	FLOOD INSURANCE RATE MAP EFFECTIVE DATE	FLOOD INSURANCE RATE MAP REVISION DATE(S)
Lane County (Unincorporated Areas)	August 16, 1977	February 10, 1981	December 18, 1985	April 5, 1988 and May 2, 1994
Coburg, City of	December 21, 1973	January 9, 1976	January 6, 1984	
Cottage Grove, City of	February 22, 1974	February 6, 1976	November 15, 1985	
Creswell, City of	September 18, 1985	--	September 18, 1985	
Dunes City, City of	January 28, 1977	--	March 24, 1981	October 18, 1994
Eugene, City of	June 7, 1974	October 31, 1975	September 29, 1986	
Florence, City of	May 31, 1974	April 2, 1976	May 17, 1982	
Junction City, City of	May 10, 1974	August 6, 1976	June 15, 1982	September 19, 1984
Lowell, City of*	June 2, 1999	--	June 2, 1999	
Oakridge, City of	May 10, 1974	November 12, 1976	June 3, 1986	July 4, 1989
Springfield, City of	July 26, 1974	--	September 27, 1985	
Veneta, City of	March 22, 1974	January 16, 1976	February 1, 1984	March 18, 1987
Westfir, City of	December 4, 1984	--	August 19, 1985	

*This community did not have a FIRM prior to the first countywide FIRM for Lane County

TABLE 8

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

9. U.S. Department of the Interior, Geological Survey, Water Resources Data for Oregon, Part 1, Surface Water Records, 1961-1977.

10. U.S. Department of the Army, Corps of Engineers, Portland District, Letter Reports of Frequency Discharge Data for Lane County, Patrick J. Keough, Chief, Planning Branch, Portland, Oregon, April 13 and 30 and May 29, 1979, and February 17, 1982.

11. State of Oregon, Department of Geology and Mineral Industries, Bulletin 85, Environmental Geology of Coastal Lane County Oregon, Portland, Oregon, 1974.

12. U.S. Department of Agriculture, Soil Conservation Service, Flood Plain Reference Report, Siuslaw River, Lane County, Oregon, Portland, Oregon, May 1974.

13. U.S. Department of the Army, Corps of Engineers, Portland District, Water Surface Profiles, Willamette River and Tributaries, Oregon, Portland, Oregon, May 1973.

14. U.S. Department of the Army, Corps of Engineers, Portland District, Flood Plain Information, Willamette River, Harrisburg, Oregon, December 1972.

15. U.S. Department of the Interior, Geological Survey, Water Resources Data for Oregon, Water Year 1978.

16. Pacific Northwest River Basins Commission, Willamette Basin Task Force, Willamette Basin Comprehensive Study, Appendix E, Flood Control, 1969.

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10.0 REVISION DESCRIPTIONS

This section has been added to provide information regarding significant revisions made since the original Flood Insurance Study was printed. Future revisions may be made that do not result in the republishing of the Flood Insurance Study report. To assure that any user is aware of all revisions, it is advisable to contact the community repository of flood-hazard data.

10.1 First Revision

Countywide Update (June 2, 1999)

This update combined the Flood Insurance Rate Maps and Flood Insurance Study reports for Lane County and incorporated communities into the countywide format. Under the countywide format, Flood Insurance Rate Map panels have been produced using a single-layout format for the entire area within the County instead of separate layout formats for each community. The single-layout format facilitates the matching of adjacent panels and depicts the flood-hazard area within the entire panel border, even in areas beyond a community's corporate boundary line. In addition, under the countywide format, this single Flood Insurance Study report provides all Flood Insurance Study information and data for the entire County area.

As part of this update, the format of the map panels has changed. Previously, flood-hazard information was shown on both the Flood Insurance Rate Map and Flood Boundary and Floodway Map. In the new format, all BFEs, cross sections, zone designations, and floodplain and floodway boundary delineations are shown on the Flood Insurance Rate Map and the Flood Boundary and Floodway Map has been eliminated. Some of the flood insurance zone designations were changed to reflect the new format. Areas previously shown as numbered Zone A were changed to Zone AE. Areas previously shown as Zone B were changed to Zone X (shaded). Areas previously shown as Zone C were changed to Zone X (unshaded). In addition, all Flood Insurance Zone Data Tables were removed from the Flood Insurance Study report and all zone designations and reach determinations were removed from the profile panels.

The mapping for the countywide conversion has been prepared using digital data. Previously published Flood Insurance Rate Map data produced manually have been converted to vector digital data by a digitizing process. These vector data were fit to raster digital images of the USGS quadrangle maps of the County area to provide horizontal positioning.

Locally owned digital base map data have been provided by the City of Springfield. For all remaining communities, road and highway name and centerline data were obtained from the Lane County Council of Governments. The centerline data were computer plotted with the digitized floodplain data to produce the countywide Flood Insurance Rate Map.

This update incorporates the determinations of mappable Letters of Map Change (LOMCs) issued by FEMA for the projects listed by community in Table 9, "Letters of Map Change." Changes established by those LOMCs have been incorporated into the tables and onto the Flood Insurance Rate Map and profile panels where applicable.

The floodplain boundary of Fern Ridge Reservoir has been refined to approximate the 377-foot NGVD contour, as developed by the USACE (Reference 46). This is based on a maximum pool elevation of 375 feet NGVD, plus wind-generated waves of 2 feet.

Table 9. Letters of Map Change

Community	Type	Case No.	Project/Flooding Source	Letter Date
Lane County (Unincorporated Areas)	LOMA	96-10-137A	95796 Howard Lane/Willamette River	June 7, 1996
	LOMA	96-10-242A	92891 Allens Alley/Bear Creek	September 20, 1996
	LOMR	97-10-232P	Revised Analysis/McKenzie River	August 29, 1997
	LOMR	97-10-394P	Street Corrections/McKenzie River	October 17, 1997
	LOMA	98-10-267A	Lot 2, Block 4, Peppermint Park Sixth Addition, 3286 Arrowhead Street/Flat Creek	May 14, 1998
	LOMA	98-10-324A	Portion of Lot 25, Lee Estates, 4068 Hampshire Lane/Spring Creek	June 19, 1998
City of Eugene	LOMR-F	93-10-001A	Lakeridge of Eugene, Phase I/Dodson Slough	April 16, 1993
	LOMR	93-10-053P	Walnut Grove/Spring Creek	May 24, 1994
	LOMR	95-10-006P	Woodland Park/Unnamed Tributary to Amazon Creek	March 20, 1995
	LOMR	95-10-024P	A-1 Channel/Spring Creek	April 10, 1995
	LOMA	96-10-023A	2333 North Terry Street/Ponding	April 11, 1996
	LOMR-F	96-10-061A	Willamette View/Willamette River	May 17, 1996
	LOMA	96-10-066A	River Pointe Second Addition/Unnamed Stream	June 7, 1996
	LOMR	96-10-123P	Calumet Heights/Unnamed Drainage Ditch	October 4, 1996
	LOMR	97-10-185P	Wilkes Meadows/Unnamed Drainage Ditch	April 28, 1997
	LOMR	98-10-098P	Halvorson Property/Unnamed Tributary to Amazon Creek	January 22, 1998
	LOMA	98-10-400A	Lots 2 and 6-7 of Pacific Industrial Park/ Amazon Creek	August 28, 1998
	LOMA	98-10-401A	Lots 1-4, Block 2, Central Manufacturing Industrial Park/Amazon Creek	August 28, 1998

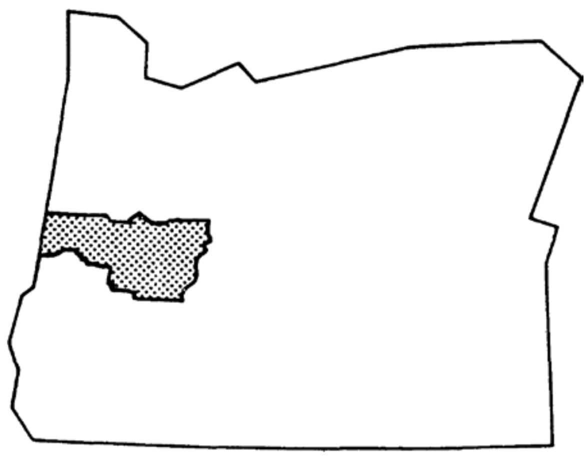
*U.S. GOVERNMENT PRINTING OFFICE: 1998-432-423/80296 Region 3

FLOOD INSURANCE STUDY

LANE COUNTY, OREGON

AND INCORPORATED AREAS

VOLUME 2 OF 4



COMMUNITY NAME	COMMUNITY NUMBER
COBURG, CITY OF	410119
COTTAGE GROVE, CITY OF	410120
CRESWELL, CITY OF	410121
DUNES CITY, CITY OF	410262
EUGENE, CITY OF	410122
FLORENCE, CITY OF	410123
JUNCTION CITY, CITY OF	410124
LOWELL, CITY OF	410125
OAKRIDGE, CITY OF	410126
SPRINGFIELD, CITY OF	415592
VENETA, CITY OF	410128
WESTFIR, CITY OF	410289
LANE COUNTY, UNINCORPORATED AREAS	415591

REVISED:
JUNE 5, 2020

Federal Emergency Management Agency

Flood Insurance Study Number
41039CV002B

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

The Federal Emergency Management Agency (FEMA) may revise and republish part or all of this 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 publication incorporates revisions to the original Flood Insurance Study. These revisions are presented in Section 10.0. Volume 2 of this FIS Report pertains to the Physical Map Revision for Lane County, Oregon. All elevations in Section 10.2 are in NAVD88 and the floodway data table and profile graph for the Siuslaw River have been converted to NAVD88.

Initial Countywide FIS Effective Date: June 2, 1999

Revised Countywide Date: June 5, 2020

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VOLUME 4

Exhibit 1 – Flood Profiles (Continued)

PUBLISHED SEPARATELY

10.2 Second Revision

a. Authority and Acknowledgements

This Physical Map Revision (PMR) was prepared to incorporate revised detailed and approximate coastal mapping and revised approximate riverine and lacustrine mapping in Lane County, Oregon, including the City of Florence and the City of Dunes City. This PMR was completed by the Oregon Department of Geology and Mineral Industries (DOGAMI) in 2020 under contract EMS-2013-CA-0007.

The detailed and approximate coastal engineering, lacustrine mapping and detailed redelineation was completed by DOGAMI in 2015 under contract EMS-2013-CA-0007. The approximate riverine engineering for this project was initialed in 2014 by DOGAMI and was completed by the Strategic Alliance for Risk Reduction (STARR) in 2016 under contract HSFEHQ-09-D-0370.

The jurisdictions that are included in this project area, along with the Community Identification Number (CID) for each community and the USGS 8-digit Hydrologic Unit Code (HUC-8) sub-basins affecting each, are shown in Table 10. The FIRM panel numbers that affect each community are listed. If the flood hazard data for the community is not included in this FIS Report, the location of that data is identified.

Table 10: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
City of Coburg	410119	17090003	41039C0639F, 41039C0643F	
City of Cottage Grove	410120	17090002	41039C2085F, 41039C2087F, 41039C2090F, 41039C2091F, 41039C2092F, 41039C2095F	
City of Creswell	410121	17090002	41039C1642F, 41039C1645F, 41039C1661F	
City of Dunes City	410262	17100207	41039C1428G, 41039C1429G, 41039C1440G, 41039C1930G	
City of Eugene	410122	17090002, 17090003, 17090004	41039C0619F, 41039C0640F, 41039C1102F, 41039C1104F, 41039C1106F, 41039C1107F, 41039C1108F, 41039C1109F, 41039C1112F, 41039C1116F, 41039C1117F, 41039C1120F*, 41039C1126F, 41039C1127F, 41039C1128F, 41039C1129F, 41039C1133F, 41039C1135F, 41039C1136F, 41039C1137F, 41039C1138F*, 41039C1139F, 41039C1141F, 41039C1142F, 41039C1143F*, 41039C1144F, 41039C1627F, 41039C1635F, 41039C1650F	
City of Florence	410123	17100206	41039C0917G, 41039C0919G, 41039C0938G, 41039C0939G,	

*Panel Not Printed

Table 10: Listing of NFIP Jurisdictions (continued)

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
City of Florence	410123	17100206	41039C1426G, 41039C1427G, 41039C1428G, 41039C1429G	
City of Junction City	410124	17090003	41039C0602F, 41039C0604F	
City of Lowell	410125	17090001	41039C1695F	
City of Oakridge	410126	17090001	41039C2213F, 41039C2225F*, 41039C2476F, 41039C2477F	
City of Springfield	415592	17090001, 17090003, 17090004	41039C1133F, 41039C1134F, 41039C1141F, 41039C1142F, 41039C1153F, 41039C1154F, 41039C1158F, 41039C1161F, 41039C1162F, 41039C1166F, 41039C1167F, 41039C1170F	
City of Veneta	410128	17090003	41039C1086F, 41039C1087F	
City of Westfir	410289	17090001	41039C2194F, 41039C2213F	
Lane County, Unincorporated Areas	415591	17090001, 17090002, 17090003, 17090004, 17100205, 17100206, 17100207, 17100301, 17100303	41039C0025G, 41039C0050F*, 41039C0075F*, 41039C0100F*, 41039C0125F*, 41039C0150F, 41039C0175F, 41039C0190F, 41039C0195F, 41039C0225F*, 41039C0250F*, 41039C0275F*, 41039C0300F*, 41039C0325F*, 41039C0350F*, 41039C0375F*, 41039C0400F*, 41039C0420G*, 41039C0430G, 41039C0450G, 41039C0465G, 41039C0470G, 41039C0475G*, 41039C0500F*, 41039C0525F, 41039C0550F, 41039C0575F, 41039C0600F, 41039C0602F, 41039C0604F, 41039C0605F, 41039C0610F, 41039C0615F, 41039C0619F, 41039C0620F, 41039C0630F, 41039C0639F, 41039C0640F, 41039C0643F, 41039C0650F, 41039C0670F, 41039C0675F*, 41039C0680F, 41039C0690F, 41039C0700F, 41039C0725F*, 41039C0740F, 41039C0745F, 41039C0750F*, 41039C0765F, 41039C0770F, 41039C0775F*, 41039C0790F, 41039C0795F, 41039C0800F, 41039C0815F, 41039C0820F, 41039C0825F*, 41039C0830F, 41039C0835F, 41039C0840F, 41039C0845F, 41039C0875F*, 41039C0900F*, 41039C0917G, 41039C0919G, 41039C0925G, 41039C0938G, 41039C0939G, 41039C0940G, 41039C0945G, 41039C0950G, 41039C0955G, 41039C0960G,	

*Panel Not Printed

Table 10: Listing of NFIP Jurisdictions (continued)

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Lane County, Unincorporated Areas (Continued)	415591	17090001, 17090002, 17090003, 17090004, 17100205, 17100206, 17100207, 17100301, 17100303	41039C0965G, 41039C0970G, 41039C0980G, 41039C0985F, 41039C0990G, 41039C0995G, 41039C1025F, 41039C1050F, 41039C1070F, 41039C1075F, 41039C1080F, 41039C1086F, 41039C1087F, 41039C1090F, 41039C1100F, 41039C1102F, 41039C1104F, 41039C1105F, 41039C1106F, 41039C1107F, 41039C1108F, 41039C1109F, 41039C1112F, 41039C1115F, 41039C1116F, 41039C1117F, 41039C1120F*, 41039C1126F, 41039C1127F, 41039C1128F, 41039C1133F, 41039C1134F, 41039C1135F, 41039C1138F*, 41039C1139F, 41039C1141F, 41039C1142F, 41039C1143F*, 41039C1144F, 41039C1153F, 41039C1154F, 41039C1155F, 41039C1158F, 41039C1160F, 41039C1161F, 41039C1162F, 41039C1165F, 41039C1166F, 41039C1167F, 41039C1170F, 41039C1180F, 41039C1185F, 41039C1190F, 41039C1195F, 41039C1205F, 41039C1210F, 41039C1225F*, 41039C1230F, 41039C1250F*, 41039C1255F, 41039C1260F, 41039C1275F*, 41039C1300F, 41039C1325F*, 41039C1350F*, 41039C1375F*, 41039C1400F*, 41039C1407G, 41039C1425G, 41039C1426G, 41039C1427G, 41039C1428G, 41039C1429G, 41039C1435G, 41039C1440G, 41039C1445G, 41039C1455G, 41039C1465G, 41039C1475G*, 41039C1500F*, 41039C1525F, 41039C1550F, 41039C1575F, 41039C1600F, 41039C1625F, 41039C1627F, 41039C1635F, 41039C1642F, 41039C1645F, 41039C1650F, 41039C1655F, 41039C1660F, 41039C1661F, 41039C1665F, 41039C1670F, 41039C1680F, 41039C1685F, 41039C1690F, 41039C1695F, 41039C1725F, 41039C1750F*, 41039C1775F*,	

*Panel Not Printed

Table 10: Listing of NFIP Jurisdictions (continued)

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Lane County, Unincorporated Areas (Continued)	415591	17090001, 17090002, 17090003, 17090004, 17100205, 17100206, 17100207, 17100301, 17100303	41039C1800F*, 41039C1825F*, 41039C1850F*, 41039C1875F*, 41039C1900F*, 41039C1910G, 41039C1930G, 41039C1935G, 41039C1955G, 41039C1975G*, 41039C2000F, 41039C2025F, 41039C2050F, 41039C2075F, 41039C2080F*, 41039C2085F, 41039C2087F, 41039C2090F, 41039C2091F, 41039C2092F, 41039C2095F, 41039C2115F, 41039C2125F, 41039C2135F, 41039C2150F*, 41039C2175F, 41039C2194F, 41039C2200F*, 41039C2213F, 41039C2225F*, 41039C2250F*, 41039C2275F*, 41039C2300F*, 41039C2325F*, 41039C2350F, 41039C2360F, 41039C2375F, 41039C2400F, 41039C2425F, 41039C2450F, 41039C2457F, 41039C2475F*, 41039C2476F, 41039C2477F, 41039C2481F, 41039C2500F*, 41039C2525F*, 41039C2550F*, 41039C2575F*, 41039C2600F*, 41039C2625F*, 41039C2650F, 41039C2675F, 41039C2700F, 41039C2725F*, 41039C2750F*, 41039C2775F*, 41039C2800F*, 41039C2825F*, 41039C2850F*, 41039C2875F*, 41039C2900F*, 41039C2925F*, 41039C2950F*, 41039C2975F*	

*Panel Not Printed

b. Coordination

The results of the Lane County, Oregon PMR were reviewed at a Final Consultation Coordination Officer meeting held on July 9, 2018 and attended by representatives of Lane County, City of Florence, Dunes City, DLCD, DOGAMI and FEMA. All problems raised at that meeting have been addressed.

c. Scope of Study

Flooding sources included in this FIS revision are presented in Table 11.

Table 11: Flooding Sources Included in this FIS Revision

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Ackerley Lake	Lane County Unincorporated Areas	Outlet to Munsel Lake	Outlet from Clear Lake	17100206		0.1	N	A	August 2015
Alder Creek	Lane County Unincorporated Areas	Confluence with Fiddle Creek	860 feet upstream of Cougar Creek	17100207	0.8		N	A	February 2016
Bailey Creek	Lane County Unincorporated Areas	Confluence with Mercer Lake	2.7 miles upstream of Mercer Lake	17100205	2.7		N	A	February 2016
Bear Creek	Lane County Unincorporated Areas	Confluence with Fiddle Creek	750 feet upstream of South Fork Bear Creek	17100207	4.1		N	A	February 2016
Bernhardt Creek	Lane County Unincorporated Areas	Confluence with Siuslaw River	2.1 miles upstream of Siuslaw River	17100206	2.1		N	A	February 2016
Clear Lake	Lane County Unincorporated Areas	Outlet from Collard Lake	Outlet to Ackerley Lake	17100206		0.2	N	A	August 2015
Collard Lake	Lane County Unincorporated Areas	Outlet to Clear Lake	NA	17100206		0.1	N	A	August 2015
Condon Creek	Lane County Unincorporated Areas	Confluence with North Fork Siuslaw River	0.9 miles upstream of Condon Creek Road	17100206	2.2		N	A	February 2016

Table 11: Flooding Sources Included in this FIS Revision (continued)

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Demming Creek	Lane County Unincorporated Areas	Confluence with South Inlet	1.4 miles upstream of South Inlet	17100206	1.4		N	A	February 2016
Drew Creek	Lane County Unincorporated Areas	Confluence with North Fork Siuslaw River	0.5 miles upstream of Right Fork Dew Creek	17100206	2.5		N	A	February 2016
Fiddle Creek	Lane County Unincorporated Areas	Lane County southern boundary	2.3 miles upstream of Morris Creek	17100207	8.8		N	A	February 2016
Hadsall Creek	Lane County Unincorporated Areas	Confluence with Siuslaw River	1.1 miles upstream of Rice Creek	17100206	2.1		N	A	February 2016
Hoffman Creek	Lane County Unincorporated Areas	Confluence with Siuslaw River	0.8 miles upstream of Bernhardt Creek Road	17100206	0.9		N	A	February 2016
Knowles Creek	Lane County Unincorporated Areas	Confluence with Siuslaw River	1.0 miles downstream of Jackson Creek	17100206	2.3		N	A	February 2016
Levage Creek	Lane County Unincorporated Areas	Confluence with Mercer Lake	0.9 miles upstream of Mercer Lake	17100205	0.9		N	A	February 2016
Maple Creek	Lane County Unincorporated Areas	Confluence with Siltcoos Lake	510 feet upstream of North Prong Maple Creek	17100207	8.8		N	A	February 2016

Table 11: Flooding Sources Included in this FIS Revision (continued)

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Mcleod Creek	Lane County Unincorporated Areas	Confluence with North Fork Siuslaw River	0.3 miles downstream of North Fork Siuslaw Road	17100206	2.8		N	A	February 2016
Mercer Lake	Lane County Unincorporated Areas	Outlet to Sutton Lake	NA	17100205		0.6	N	A	August 2015
Munsel Lake	Lane County Unincorporated Areas	NA	Outlet from Ackerley Lake	17100206		0.2	N	A	August 2015
North Fork Siuslaw River	City of Florence, Lane County Unincorporated Areas	Confluence with Siuslaw River	At the confluence of West Branch North Fork Siuslaw River and Sam Creek	17100206	29.7		N	A	February 2016
Pacific Ocean	City of Florence, Lane County Unincorporated Areas	Entire Lane County coastline	Entire Lane County coastline	NA	29		N	VE, AE, V	December 2015
Siltcoos Lake	City of Dunes City, Lane County Unincorporated Areas	Dam on Siltcoos River	NA	17100207		4.0	N	A	August 2015
Siuslaw River	City of Florence, Lane County Unincorporated Areas	700 feet downstream of Spruce Point.	1300 feet upstream of confluence of Lake Creek.	17100206	25.5		Y	AE	March 1992

Table 11: Flooding Sources Included in this FIS Revision (continued)

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Sutton Creek	Lane County Unincorporated Areas	1.1 miles downstream of Highway 101	Outlet of Sutton Lake	17100205	1.2		N	A	February 2016
Sutton Lake	Lane County Unincorporated Areas	Highway 101	Outlet from Mercer Lake	17100205		0.2	N	A	August 2015
Sweet Creek	Lane County Unincorporated Areas	Confluence with Siuslaw River	1.8 miles upstream of Siuslaw River	17100206	1.8		N	A	February 2016
Tenmile Creek	Lane County Unincorporated Areas	Confluence with Pacific Ocean	4.4 miiles upstream of Highway 101	17100205	4.5		N	A	February 2016
Wilhelm Creek	Lane County Unincorporated Areas	Confluence with North Fork Siuslaw River	0.3 miles downstream of Left Fork Wilhelm River	17100206	2.3		N	A	February 2016
Woahink Lake	City of Dunes City, Lane County Unincorporated Areas	Outlet to Woahink Creek	NA	17100207		1.2	N	A	August 2015

d. Considerations for using this Flood Insurance Study Revision

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

This section presents important considerations for using the information contained in this FIS Report and the FIRM, including changes in format and content. Figures 2, 3, and 4 present information that applies to using the FIRM with the FIS Report.

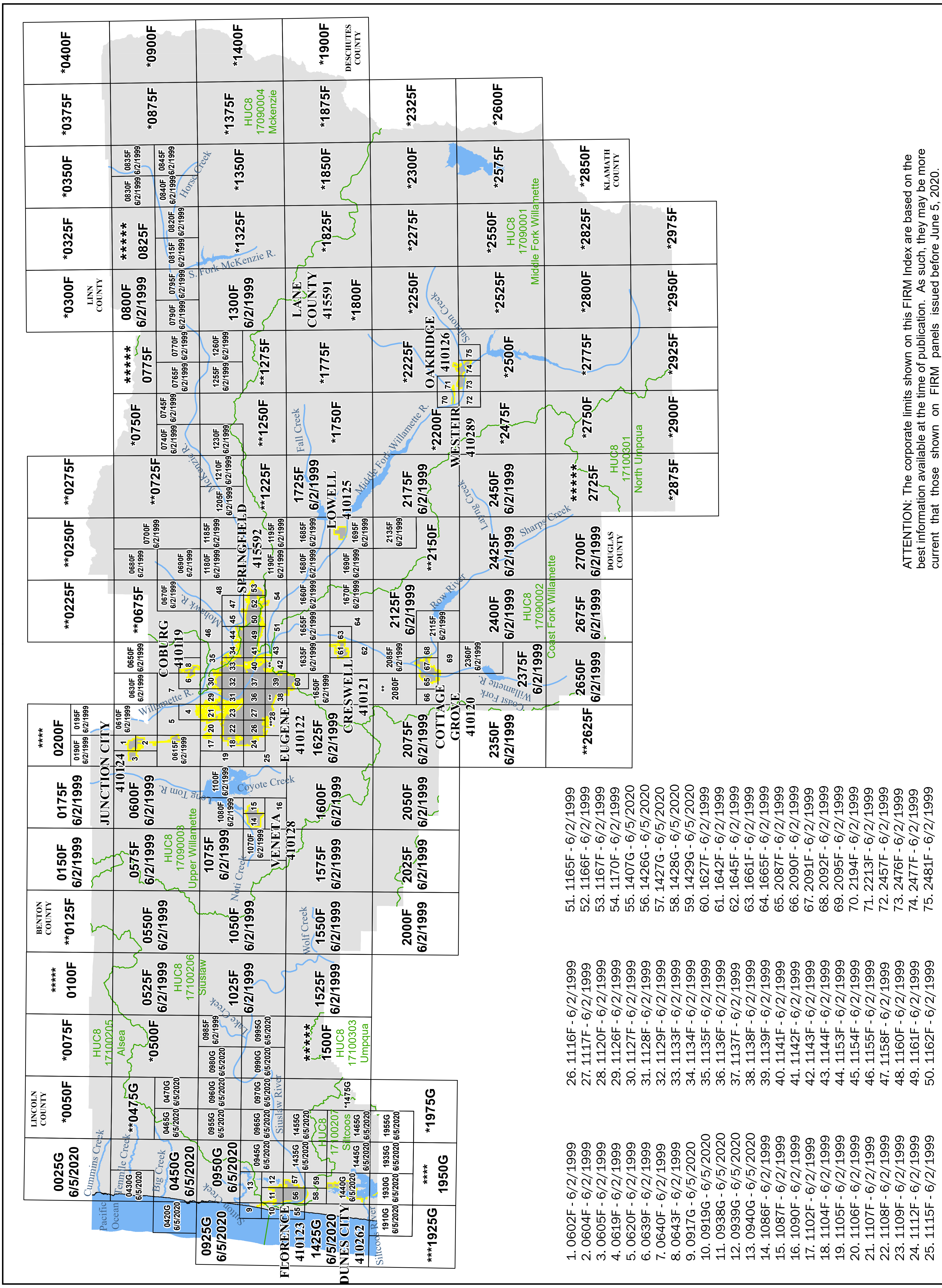
Part or all of this FIS Report may be revised and republished at any time. In addition, part of this FIS Report may be revised by a Letter of Map Revision (LOMR), which does not involve republication or redistribution of the FIS Report.

It is, therefore, the responsibility of the user to consult with community officials by contacting the community repository to obtain the most current FIS Report components. Communities participating in the NFIP have established repositories of flood hazard data for floodplain management and flood insurance purposes. Community map repository addresses are provided in Table 21, “Map Repositories,” within this FIS Report.

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

Figures 2, 3, and 4 present important considerations for using the information contained in this revised FIS report and the FIRM and is provided in response to changes in format and content.

Figure 2: FIRM Panel Index



1 inch = 50,000 feet 1:600,000

0 22,500 45,000 90,000 Feet

Map Projection:
Universal Transverse Mercator Zone 10 North;
North American Datum 1983

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTPS://MSC.FEMA.GOV

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION

* PANEL NOT PRINTED - AREA IN ZONE D
** PANEL NOT PRINTED - NO SPECIAL FLOOD HAZARD AREAS
*** PANEL NOT PRINTED - OPEN WATER AREA
**** PANEL NOT PRINTED - OUTSIDE STUDY AREA
***** PANEL NOT PRINTED - NATIONAL FOREST IN ZONE D, REST OF PANEL IN ZONE X

COUNTY LOCATOR

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP INDEX

LANE COUNTY, OREGON and Incorporated Areas

PANELS PRINTED:

0025, 0150, 0175, 0190, 0195, 0420, 0430, 0450, 0465, 0470, 0525, 0550, 0575, 0600, 0602, 0604, 0605, 0610, 0615, 0619, 0620, 0630, 0639, 0640, 0643, 0650, 0670, 0680, 0690, 0700, 0740, 0745, 0765, 0770, 0790, 0795, 0800, 0815, 0820, 0830, 0835, 0840, 0845, 0917, 0919, 0925, 0938, 0939, 0940, 0945, 0950, 0955, 0960, 0965, 0970, 0980, 0985, 0990, 0995, 1025, 1050, 1070, 1075, 1080, 1086, 1087, 1090, 1100, 1102, 1104, 1105, 1106, 1107, 1108, 1109, 1112, 1115, 1116, 1117, 1126, 1127, 1128, 1129, 1133, 1134, 1135, 1136, 1137, 1139, 1141, 1142, 1144, 1153, 1154, 1155, 1158, 1160, 1161, 1162, 1165, 1166, 1167, 1170, 1180, 1185, 1190, 1195, 1205, 1210, 1230, 1255, 1260, 1300, 1407, 1425, 1426, 1427, 1428, 1429, 1435, 1440, 1445, 1455, 1465, 1525, 1550, 1575, 1600, 1625, 1627, 1635, 1642, 1645, 1650, 1655, 1660, 1661, 1665, 1670, 1680, 1685, 1690, 1695, 1725, 1910, 1930, 1935, 1955, 2000, 2025, 2050, 2075, 2085, 2087, 2090, 2091, 2092, 2095, 2115, 2125, 2135, 2175, 2194, 2213, 2350, 2360, 2375, 2400, 2425, 2450, 2457, 2476, 2477, 2481, 2650, 2675, 2700

FEMA

MAP NUMBER
41039CIND0B

MAP REVISED
JUNE 5, 2020

Figure 3: FIRM Notes to Users

NOTES TO USERS

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

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

For community and countywide map dates, refer to Table 8 in this FIS Report.

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

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

Coastal Base Flood Elevations shown on the map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the FIS Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on the FIRM.

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

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

Figure 3: FIRM Notes to Users

PROJECTION INFORMATION: The projection used in the preparation of the map was Universal Transverse Mercator (UTM) Zone 10. The horizontal datum was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

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

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

Local vertical monuments may have been used to create the map. To obtain current monument information, please contact the appropriate local community listed in Table 21 of this FIS Report.

BASE MAP INFORMATION: Base map information shown on the FIRM was provided by the Oregon Department of Geology and Mineral Industries (DOGAMI). Data sources include DOGAMI, Lane County, the Bureau of Land Management and the U.S. Geological Survey. Base map information was rectified to 3-foot resolution lidar topographic data acquired from 2008-2013.

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

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

NOTES FOR FIRM INDEX

REVISIONS TO INDEX: As new studies are performed and FIRM panels are updated within Lane County, Oregon, corresponding revisions to the FIRM Index will be incorporated within the FIS Report to reflect the effective dates of those panels. Please refer to Table 8 of this FIS Report to determine the most recent FIRM revision date for each community. The most recent FIRM panel effective date will correspond to the most recent index date.

Figure 3: FIRM Notes to Users

SPECIAL NOTES FOR SPECIFIC FIRM PANELS

This Notes to Users section was created specifically for Lane County, Oregon, effective June 5, 2020.

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

Figure 4: Map Legend for FIRM

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

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

Figure 4: Map Legend for FIRM (continued)

OTHER AREAS OF FLOOD HAZARD	
	Shaded Zone X: Areas of 0.2% annual chance flood hazards and areas of 1% annual chance flood hazards with average depths of less than 1 foot or with drainage areas less than 1 square mile.
	Future Conditions 1% Annual Chance Flood Hazard – Zone X: The flood insurance rate zone that corresponds to the 1% annual chance floodplains that are determined based on future-conditions hydrology. No base flood elevations or flood depths are shown within this zone.
	Area with Reduced Flood Risk due to Levee: Areas where an accredited levee, dike, or other flood control structure has reduced the flood risk from the 1% annual chance flood. See Notes to Users for important information.
OTHER AREAS	
	Zone D (Areas of Undetermined Flood Hazard): The flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible
NO SCREEN	Unshaded Zone X: Areas determined to be outside the 0.2% annual chance flood hazard
FLOOD HAZARD AND OTHER BOUNDARY LINES	
(ortho) (vector)	Flood Zone Boundary (white line on ortho-photography-based mapping; gray line on vector-based mapping)
	Limit of Study
	Jurisdiction Boundary
	Limit of Moderate Wave Action (LiMWA): Indicates the inland limit of the area affected by waves greater than 1.5 feet
GENERAL STRUCTURES	
Aqueduct *Channel* *Culvert* *Storm Sewer*	Channel, Culvert, Aqueduct, or Storm Sewer
Dam *Jetty* *Weir*	Dam, Jetty, Weir

Figure 4: Map Legend for FIRM (continued)

	Levee, Dike, or Floodwall accredited or provisionally accredited to reduce the flood risk from the 1% annual chance flood.
	Levee, Dike or Floodwall not accredited to reduce the flood risk from the 1% annual chance flood.
Bridge	Bridge
COASTAL BARRIER RESOURCES SYSTEM (CBRS) AND OTHERWISE PROTECTED AREAS (OPA): *CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas. See Notes to Users for important information.*	
CBRS AREA **09/30/2009**	Coastal Barrier Resources System Area: Labels are shown to clarify where this area shares a boundary with an incorporated area or overlaps with the floodway.
OTHERWISE PROTECTED AREA **09/30/2009**	Otherwise Protected Area
REFERENCE MARKERS	
22.0	River mile Markers
CROSS SECTION & TRANSECT INFORMATION	
B 20.2	Lettered Cross Section with Regulatory Water Surface Elevation (BFE)
5280 21.1	Numbered Cross Section with Regulatory Water Surface Elevation (BFE)
17.5	Unlettered Cross Section with Regulatory Water Surface Elevation (BFE)
8	Coastal Transect
	Profile Baseline: Indicates the modeled flow path of a stream and is shown on FIRM panels for all valid studies with profiles or otherwise established base flood elevation.
	Coastal Transect Baseline: Used in the coastal flood hazard model to represent the 0.0-foot elevation contour and the starting point for the transect and the measuring point for the coastal mapping.

Figure 4: Map Legend for FIRM (continued)

513	Base Flood Elevation Line (shown for flooding sources for which no cross sections or profile are available)
ZONE AE (EL 16)	Static Base Flood Elevation value (shown under zone label)
ZONE AO (DEPTH 2)	Zone designation with Depth
ZONE AO (DEPTH 2) (VEL 15 FPS)	Zone designation with Depth and Velocity
BASE MAP FEATURES	
Missouri Creek	River, Stream or Other Hydrographic Feature
234	Interstate Highway
234	U.S. Highway
234	State Highway
234	County Highway
MAPLE LANE	Street, Road, Avenue Name, or Private Drive if shown on Flood Profile
RAILROAD	Railroad
	Horizontal Reference Grid Line
	Horizontal Reference Grid Ticks
+	Secondary Grid Crosshairs
Land Grant	Name of Land Grant
7	Section Number
R. 43 W. T. 22 N.	Range, Township Number
^{42}76^{000m}E	Horizontal Reference Grid Coordinates (UTM)
365000 FT	Horizontal Reference Grid Coordinates (State Plane)
80° 16’ 52.5”	Corner Coordinates (Latitude, Longitude)

e. Hydrologic Analyses

DOGAMI estimated the discharges that were used for the approximate riverine model.

A summary of stillwater elevations developed for non-coastal flooding sources is provided in Table 12. Coastal stillwater elevations are shown in Table 17.

Table 12: Summary of Non-Coastal Stillwater Elevations

Flooding Source	Location	Elevations (feet NAVD88)				
		10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Ackerley Lake	Entire lake	*	*	*	97	*
Clear Lake	Entire lake	*	*	*	103	*
Collard Lake	Entire lake	*	*	*	116	*
Mercer Lake	Entire lake	*	*	*	34	*
Munsel Lake	Entire lake	*	*	*	95	*
Siltcoos Lake	Portion of lake inside Lane County	*	*	*	15.5	*
Siltcoos River Mouth	Lower 1.4 miles of river at the Pacific Ocean	10.9	11.1	11.3	11.4	11.7
Sutton Lake	Entire lake	*	*	*	35	*
Woahink Lake	Entire lake	*	*	*	44	*

*Not calculated for this FIS revision

f. Hydraulic Analyses

The hydraulic model used for the approximate riverine studies was the USACE Hydraulic Engineering Center River Analysis System (HEC-RAS), version 4.1.0 (USACE, 2010). Steady flow HEC-RAS models were developed for the 50-, 20-, 10-, 4-, 2-, 1-, and 0.2-percent-annual-chance-flood events. Topographic data for the floodplain models was developed using LiDAR data from Oregon Department of Geology and Mineral Industries (OLC 2009-2013).

Topographic data was converted into 1-meter and 3-meter digital elevation models (DEM). The data is in UTM Zone 10 coordinates system, (units feet), horizontal datum NAD83, vertical datum NAVD 88, (units feet). No field survey data was used in this analysis.

The downstream starting water-surface elevations in the HEC-RAS models were calculated using the normal depth method.

Stream and valley cross sections were placed at representative locations along the stream centerline perpendicular to the flow direction.

Cross section spacing varied for all streams. Cross section geometries were obtained from the DEM topography. Ineffective flow areas were added on the upstream and downstream cross sections based on contraction and expansion ratios.

The contraction and expansion coefficients were set to 0.3 and 0.5 respectively for two sections upstream of the structure and one section downstream.

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

Table 13: Summary of Hydrologic and Hydraulic Analyses

Flooding Source	Study Limits Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Alder Creek	Confluence with Fiddle Creek	860 feet upstream of Cougar Creek	USGS/OWRD Regional Regression Model for Western Oregon[1]	HEC-RAS 4.1.0[2]	February 2016	A	Approximate study based on lidar topographic data with generalized roughness and assumed hydraulic structure dimensions.
Bailey Creek	Confluence with Mercer Lake	2.7 miles upstream of Mercer Lake	USGS/OWRD Regional Regression Model for Western Oregon[1]	HEC-RAS 4.1.0[2]	February 2016	A	Approximate study based on lidar topographic data with generalized roughness and assumed hydraulic structure dimensions.
Bear Creek	Confluence with Fiddle Creek	750 feet upstream of South Fork Bear Creek	USGS/OWRD Regional Regression Model for Western Oregon[1]	HEC-RAS 4.1.0[2]	February 2016	A	Approximate study based on lidar topographic data with generalized roughness and assumed hydraulic structure dimensions.
Bernhardt Creek	Confluence with Siuslaw River	2.1 miles upstream of Siuslaw River	USGS/OWRD Regional Regression Model for Western Oregon[1]	HEC-RAS 4.1.0[2]	February 2016	A	Approximate study based on lidar topographic data with generalized roughness and assumed hydraulic structure dimensions.
Condon Creek	Confluence with North Fork Siuslaw River	0.9 miles upstream of Condon Creek Road	USGS/OWRD Regional Regression Model for Western Oregon[1]	HEC-RAS 4.1.0[2]	February 2016	A	Approximate study based on lidar topographic data with generalized roughness and assumed hydraulic structure dimensions.

Table 13: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Demming Creek	Confluence with South Inlet	1.4 miles upstream of South Inlet	USGS/OWRD Regional Regression Model for Western Oregon[1]	HEC-RAS 4.1.0[2]	February 2016	A	Approximate study based on lidar topographic data with generalized roughness and assumed hydraulic structure dimensions.
Drew Creek	Confluence with North Fork Siuslaw River	0.5 miles upstream of Right Fork Dew Creek	USGS/OWRD Regional Regression Model for Western Oregon[1]	HEC-RAS 4.1.0[2]	February 2016	A	Approximate study based on lidar topographic data with generalized roughness and assumed hydraulic structure dimensions.
Fiddle Creek	Lane County southern boundary	2.3 miles upstream of Morris Creek	USGS/OWRD Regional Regression Model for Western Oregon[1]	HEC-RAS 4.1.0[2]	February 2016	A	Approximate study based on lidar topographic data with generalized roughness and assumed hydraulic structure dimensions.
Hadsall Creek	Confluence with Siuslaw River	1.1 miles upstream of Rice Creek	USGS/OWRD Regional Regression Model for Western Oregon[1]	HEC-RAS 4.1.0[2]	February 2016	A	Approximate study based on lidar topographic data with generalized roughness and assumed hydraulic structure dimensions.
Hoffman Creek	Confluence with Siuslaw River	0.8 miles upstream of Bernhardt Creek Road	USGS/OWRD Regional Regression Model for Western Oregon[1]	HEC-RAS 4.1.0[2]	February 2016	A	Approximate study based on lidar topographic data with generalized roughness and assumed hydraulic structure dimensions.

Table 13: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Knowles Creek	Confluence with Siuslaw River	1.0 miles downstream of Jackson Creek	USGS/OWRD Regional Regression Model for Western Oregon[1]	HEC-RAS 4.1.0[2]	February 2016	A	Approximate study based on lidar topographic data with generalized roughness and assumed hydraulic structure dimensions.
Levage Creek	Confluence with Mercer Lake	0.9 miles upstream of Mercer Lake	USGS/OWRD Regional Regression Model for Western Oregon[1]	HEC-RAS 4.1.0[2]	February 2016	A	Approximate study based on lidar topographic data with generalized roughness and assumed hydraulic structure dimensions.
Maple Creek	Confluence with Siltcoos Lake	510 feet upstream of North Prong Maple Creek	USGS/OWRD Regional Regression Model for Western Oregon[1]	HEC-RAS 4.1.0[2]	February 2016	A	Approximate study based on lidar topographic data with generalized roughness and assumed hydraulic structure dimensions.
Mcleod Creek	Confluence with North Fork Siuslaw River	0.3 miles downstream of North Fork Siuslaw Road	USGS/OWRD Regional Regression Model for Western Oregon[1]	HEC-RAS 4.1.0[2]	February 2016	A	Approximate study based on lidar topographic data with generalized roughness and assumed hydraulic structure dimensions.
North Fork Siuslaw River	Confluence with Siuslaw River	At the confluence of West Branch North Fork Siuslaw River and Sam Creek	USGS/OWRD Regional Regression Model for Western Oregon[1]	HEC-RAS 4.1.0[2]	February 2016	A	Approximate study based on lidar topographic data with generalized roughness and assumed hydraulic structure dimensions.

Table 13: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Sutton Creek	1.1 miles downstream of Highway 101	Outlet of Sutton Lake	USGS/OWRD Regional Regression Model for Western Oregon[1]	HEC-RAS 4.1.0[2]	February 2016	A	Approximate study based on lidar topographic data with generalized roughness and assumed hydraulic structure dimensions.
Sweet Creek	Confluence with Siuslaw River	1.8 miles upstream of Siuslaw River	USGS/OWRD Regional Regression Model for Western Oregon[1]	HEC-RAS 4.1.0[2]	February 2016	A	Approximate study based on lidar topographic data with generalized roughness and assumed hydraulic structure dimensions.
Tenmile Creek	Confluence with Pacific Ocean	4.4 miles upstream of Highway 101	USGS/OWRD Regional Regression Model for Western Oregon[1]	HEC-RAS 4.1.0[2]	February 2016	A	Approximate study based on lidar topographic data with generalized roughness and assumed hydraulic structure dimensions.
Wilhelm Creek	Confluence with North Fork Siuslaw River	0.3 miles downstream of Left Fork Wilhelm River	USGS/OWRD Regional Regression Model for Western Oregon[1]	HEC-RAS 4.1.0[2]	February 2016	A	Approximate study based on lidar topographic data with generalized roughness and assumed hydraulic structure dimensions.

[1] Cooper 2005
[2] USACE 2010

Table 14: Roughness Coefficients

Flooding Source	Channel “n”	Overbank “n”
Alder Creek	0.05-0.09	0.05-0.09
Bailey Creek	0.065-0.09	0.065-0.09
Bear Creek	0.05-0.09	0.05-0.09
Bernhardt Creek	0.045-0.09	0.045-0.09
Condon Creek	0.05-0.09	0.05-0.09
Demming Creek	0.065-0.09	0.065-0.09
Drew Creek	0.065-0.09	0.065-0.09
Fiddle Creek	0.05-0.09	0.05-0.09
Hadsall Creek	0.065-0.09	0.065-0.09
Hoffman Creek	0.08-0.09	0.08-0.09
Knowles Creek	0.045-0.09	0.045-0.09
Levage Creek	0.032-0.09	0.032-0.09
Maple Creek	0.032-0.09	0.032-0.09
Mcleod Creek	0.05-0.09	0.05-0.09
North Fork Siuslaw River	0.045-0.09	0.045-0.09
Sutton Creek	0.045-0.09	0.045-0.09
Sweet Creek	0.065-0.09	0.065-0.09
Tenmile Creek	0.055-0.09	0.055-0.09
Wilhelm Creek	0.065-0.09	0.065-0.09

g. Floodplain Mapping

New and revised approximate lacustrine mapping was performed for lakes in Lane County. Ackerley Lake, Clear Lake, Collard Lake, Mercer Lake, Munsel Lake and Woahink Lake were mapped by adding 1’ to the ordinary high water line (OHWL). Sutton Lake was mapped by adding 2’ to the OHWL. Siltcoos Lake was mapped based on historic recorded high water levels.

Effective BFEs on the Siuslaw River was redelineated using lidar (OLC 2008-2013). Elevations on the Siuslaw River were converted from NGVD29 to NAVD88 for the revised FIRM panels and DFIRM; the converted floodway data table is shown in Table 7. A single conversion factor of +3.49’ was used for the Siuslaw River.

Coastal Floodplain Management Applications

For most areas along rivers, streams, and small lakes, BFEs and floodplain boundaries are based on the amount of water expected to enter the area during a 1% annual chance flood and the geometry of the floodplain. Floods in these areas are typically caused by storm events. However, for areas on or near ocean coasts, large rivers, or large bodies of water, BFE and floodplain boundaries may need to be based on additional components, including storm surges and waves. Communities on or near ocean coasts face flood hazards caused by offshore seismic events as well as storm events.

Coastal flooding sources that are included in this revision are shown in Table 11.

Water Elevations and the Effects of Waves

Specific terminology is used in coastal analyses to indicate which components have been included in evaluating flood hazards.

The stillwater elevation (SWEL or still water level) is the surface of the water resulting from astronomical tides, storm surge, and freshwater inputs, but excluding wave setup contribution or the effects of waves.

- *Astronomical tides* are periodic rises and falls in large bodies of water caused by the rotation of the earth and by the gravitational forces exerted by the earth, moon and sun.

- *Storm surge* is the additional water depth that occurs during large storm events. These events can bring air pressure changes and strong winds that force water up against the shore.

- *Freshwater inputs* include rainfall that falls directly on the body of water, runoff from surfaces and overland flow, and inputs from rivers.

The 1% annual chance stillwater elevation is the stillwater elevation that has been calculated for a storm surge from a 1% annual chance storm. The 1% annual chance storm surge can be determined from analyses of tidal gage records, statistical study of regional historical storms, or other modeling approaches. Stillwater elevations for storms of other frequencies can be developed using similar approaches.

The total stillwater elevation (also referred to as the mean water level) is the stillwater elevation plus wave setup contribution but excluding the effects of waves.

- *Wave setup* is the increase in stillwater elevation at the shoreline caused by the reduction of waves in shallow water. It occurs as breaking wave momentum is transferred to the water column.

Like the stillwater elevation, the total stillwater elevation is based on a storm of a particular frequency, such as the 1% annual chance storm. Wave setup is typically estimated using standard engineering practices or calculated using models, since tidal gages are often sited in areas sheltered from wave action and do not capture this information.

Coastal analyses may examine the effects of overland waves by analyzing storm-induced erosion, overland wave propagation, wave runup, and/or wave overtopping.

- *Storm-induced erosion* is the modification of existing topography by erosion caused by a specific storm event, as opposed to general erosion that occurs at a more constant rate.

- *Overland wave propagation* describes the combined effects of variation in ground elevation, vegetation, and physical features on wave characteristics as waves move onshore.

- *Wave runup* is the uprush of water from wave action on a shore barrier. It is a function of the roughness and geometry of the shoreline at the point where the stillwater elevation intersects the land.

- *Wave overtopping* refers to wave runup that occurs when waves pass over the crest of a barrier.

Floodplain Boundaries and BFEs for Coastal Areas

For coastal communities along the Atlantic and Pacific Oceans, the Gulf of Mexico, the Great Lakes, and the Caribbean Sea, flood hazards must take into account how storm surges, waves, and extreme tides interact with factors such as topography and vegetation. Storm surge and waves must also be considered in assessing flood risk for certain communities on rivers or large inland bodies of water.

Beyond areas that are affected by waves and tides, coastal communities can also have riverine floodplains with designated floodways, as described in previous sections.

Floodplain Boundaries

In many coastal areas, storm surge is the principle component of flooding. The extent of the 1% annual chance floodplain in these areas is derived from the total stillwater elevation (stillwater elevation including storm surge plus wave setup) for the 1% annual chance storm. Location of total stillwater elevations for coastal areas are shown in Figure 6, “1% Annual Chance Total Stillwater Levels for Coastal Areas.”

In some areas, the 1% annual chance floodplain is determined based on the limit of wave runup or wave overtopping for the 1% annual chance storm surge.

Table 18 presents the types of coastal analyses that were used in mapping the 1% annual chance floodplain in coastal areas.

Coastal BFEs

Coastal BFEs are calculated as the total stillwater elevation (stillwater elevation including storm surge plus wave setup) for the 1% annual chance storm plus the additional flood hazard from overland wave effects (storm-induced erosion, overland wave propagation, wave runup and wave overtopping).

Where they apply, coastal BFEs are calculated along transects extending from offshore to the limit of coastal flooding onshore. Results of these analyses are accurate until local topography, vegetation, or development type and density within the community undergoes major changes.

Parameters that were included in calculating coastal BFEs for each transect included in this FIS revision are presented in Table 17, "Coastal Transect Parameters." The locations of transects are shown in Figure 7, "Transect Location Map."

Coastal High Hazard Areas

Certain areas along the open coast and other areas may have higher risk of experiencing structural damage caused by wave action and/or high-velocity water during the 1% annual chance flood. These areas will be identified on the FIRM as Coastal High Hazard Areas.

- *Coastal High Hazard Area (CHHA)* is a SFHA extending from offshore to the inland limit of the primary frontal dune (PFD) or any other area subject to damages caused by wave action and/or high-velocity water during the 1% annual chance flood.
- *Primary Frontal Dune (PFD)* is a continuous or nearly continuous mound or ridge of sand with relatively steep slopes immediately landward and adjacent to the beach. The PFD is subject to erosion and overtopping from high tides and waves during major coastal storms.

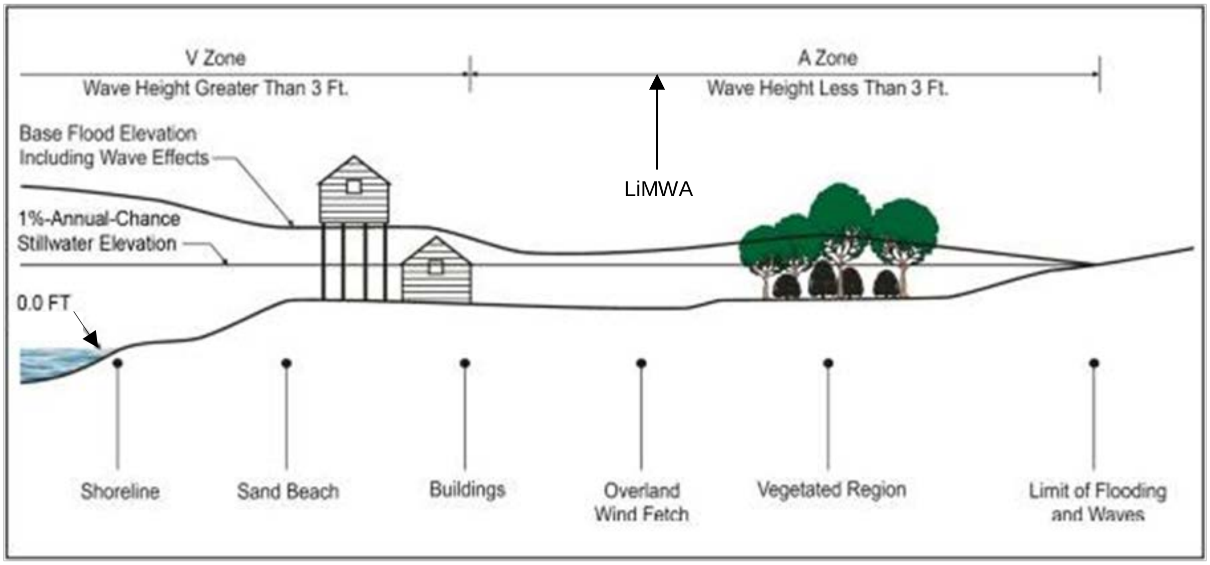
CHHAs are designated as "V" zones (for "velocity wave zones") and are subject to more stringent regulatory requirements and a different flood insurance rate structure. The areas of greatest risk are shown as VE on the FIRM. Zone VE is further subdivided into elevation zones and shown with BFEs on the FIRM.

The landward limit of the PFD occurs at a point where there is a distinct change from a relatively steep slope to a relatively mild slope; this point represents the landward extension of Zone VE. Areas of lower risk in the CHHA are designated with Zone V on the FIRM.

Areas that are not within the CHHA but are SFHAs may still be impacted by coastal flooding and damaging waves; these areas are shown as "A" zones on the FIRM.

Figure 5, "Coastal Transect Schematic," illustrates the relationship between the base flood elevation, the 1% annual chance stillwater elevation, and the ground profile as well as the location of the Zone VE and Zone AE areas in an area without a PFD subject to overland wave propagation. This figure also illustrates energy dissipation and regeneration of a wave as it moves inland.

Figure 5: Coastal Transect Schematic



Coastal floodplains are shown on the FIRM using the symbology described in Figure 4, "Map Legend for FIRM." In many cases, the BFE on the FIRM is higher than the stillwater elevations shown in Table 17 due to the presence of wave effects. The higher elevation should be used for construction and/or floodplain management purposes.

h. Coastal Analyses

For the areas of Lane County that are impacted by coastal flooding processes, coastal flood hazard analyses were performed to provide estimates of coastal BFEs. Coastal BFEs reflect the increase in water levels during a flood event due to extreme tides and storm surge as well as overland wave effects.

The following sections provide summaries of how each coastal process was considered for this FIS revision. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation. Table 15 summarizes the methods and/or models used for the coastal analyses.

Table 15: Summary of Coastal Analyses

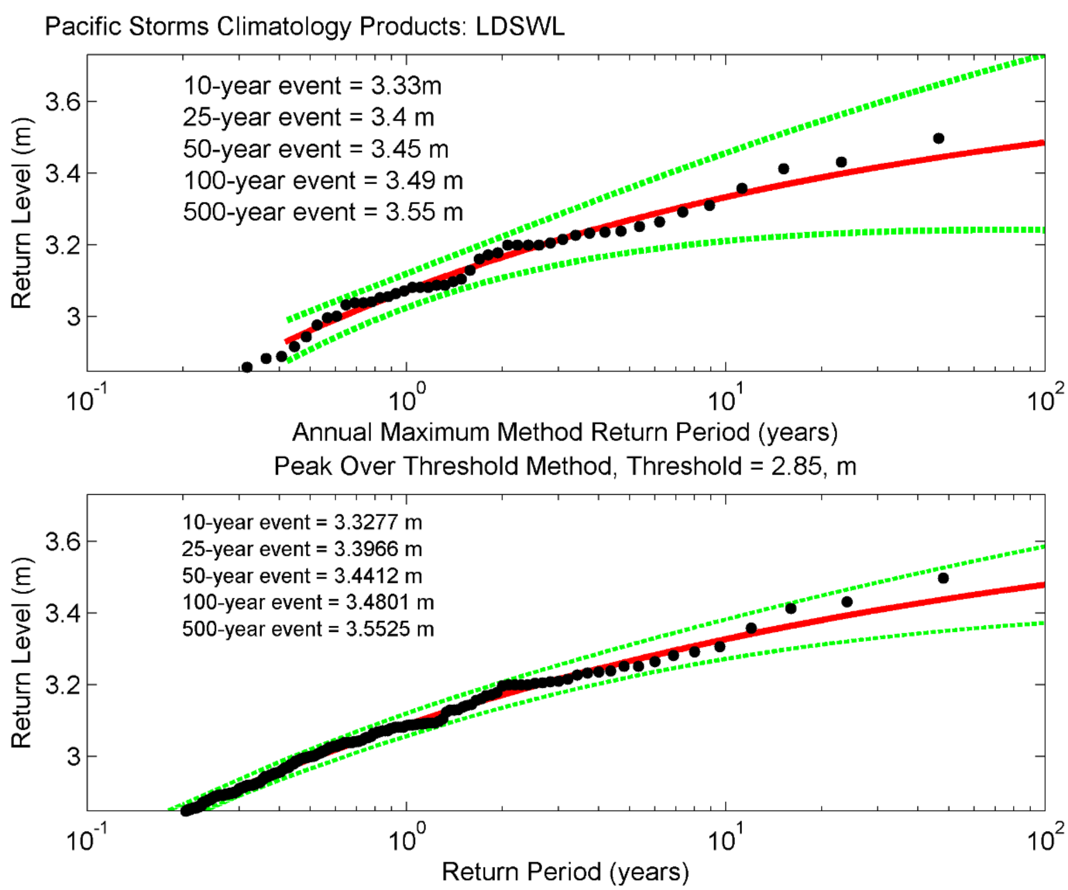
Flooding Source	Study Limits From	Study Limits To	Hazard Evaluated	Model or Method Used	Date Analysis was Completed
Pacific Ocean	Entire coastline of Lane County	Entire coastline of Lane County	Storm Surge	Statistical analyses of non-tidal residuals derived from measured tides (40-year record)	July 2015
Pacific Ocean	Entire coastline of Lane County	Entire coastline of Lane County	Stillwater Levels	Statistical analyses of non-tidal residuals derived from measured tides (40-year record) with GEV/Peak-over-threshold statistical analysis	July 2015
Pacific Ocean	Entire coastline of Lane County	Entire coastline of Lane County	Dune Erosion Analysis	Komar et al. 1999 & Kriebel and Dean 1993	July 2015
Pacific Ocean	Entire coastline of Lane County	Entire coastline of Lane County	Wave Generation	Measured time series of waves derived from NDBC buoys – 30-year record	January 2015
Pacific Ocean	Entire coastline of Lane County	Entire coastline of Lane County	Wave Modeling	SWAN	January 2015
Pacific Ocean	Entire coastline of Lane County	Entire coastline of Lane County	Wave Setup	Intergrated in the Stockdon et al. 2006 wave runup calculation. Can be calculated from equation #10 in Stockdon.	January 2015

Table 15: Summary of Coastal Analyses (continued)

Flooding Source	Study Limits From	To	Hazard Evaluated	Model or Method Used	Date Analysis was Completed
Pacific Ocean	Entire coastline of Lane County	Entire coastline of Lane County	Wave Runup	Stockdon et al. 2006/TAW (van der Meer 2002) with GEV/Peak-over-threshold statistical analysis	December 2015

The total stillwater elevations (stillwater including storm surge plus wave setup) for the 1% annual chance flood were determined for areas subject to coastal flooding. The models and methods that were used to determine storm surge and wave setup are listed in Table 15. The stillwater elevation that was used for each transect in coastal analyses is shown in Table 17, "Coastal Transect Parameters." Figure 6 shows the total stillwater elevations for the 1% annual chance flood that was determined for this coastal analysis.

Figure 6: 1% Annual Chance Total Stillwater Elevations for Coastal Areas



Astronomical Tide

Astronomical tidal statistics were generated directly from the measured tides using the harmonic analysis method of least squares approach (Boon 2004) to estimate the amplitude and phase for any set of tidal constituents in Matlab. This approach was used to define the predicted tides, which were then subtracted from the measured tides to yield non-tidal residuals used to assess the frequency and magnitudes of storms surges on the Oregon coast.

Storm Surge Statistics

Storm surge is modeled based on characteristics of actual storms responsible for significant coastal flooding. The characteristics of these storms are typically determined by statistical study of the regional historical record of storms or by statistical study of tidal gages.

Tidal gages can be used instead of historic records of storms when the available tidal gage record for the area represents both the astronomical tide component and the storm surge component. Table 16 provides the gage name, managing agency, gage type, gage identifier, start date, end date, and statistical methodology applied to each gage used to determine the stillwater elevations.

Table 16: Tide Gage Analysis Specifics

Gage Name	Managing Agency of Tide Gage Record	Gage Type	Start Date	End Date	Statistical Methodology
9435380	NOAA	Tide	1967	2015	Peak-Over-Threshold
9432780	NOAA	Tide	1970	2015	Peak-Over-Threshold
9431647	NOAA	Tide	1978	2015	Peak-Over-Threshold

Wave Setup Analysis

Wave setup was computed during the storm surge modeling through the methods and models listed in Table 15 and included in the frequency analysis for the determination of the total stillwater elevations. In all cases Stockdon et al., (2006) was used to derive calculations of the wave runup and ultimately the total water level for dune-backed beaches. For beaches backed with structures or bluffs, Stockdon was used to initially calculate the 2% water level at the structure or bluff toe and subsequently the bore height. TAW was used with the local structure slope to calculate the wave runup on the structure or bluff face.

Waves

SWAN (Simulating WAves Nearshore) version number 40.81, a third generation wave model developed at the Technical University of Delft in the Netherlands (Booij et al.

1999; Ris et al. 1999), was used in this study. The model solves the spectral action balance equation using finite differences for a spectral or parametric input specified along the boundaries. The SWAN runs were executed in stationary mode and included physics that account for shoaling, refraction, and breaking. A matrix of SWAN runs were executed in order to assist with the development of a lookup table for transforming waves offshore from Lane County.

Coastal Erosion

A single storm episode can cause extensive erosion in coastal areas. Storm-induced erosion was evaluated to determine the modification to existing topography that is expected to be associated with flooding events. Erosion was evaluated using the methods listed in Table 15. The post-event eroded profile was used for the subsequent transect-based onshore wave hazard analyses.

Wave Hazard Analyses

Overland wave hazards were evaluated to determine the combined effects of ground elevation, vegetation, and physical features on overland wave propagation and wave runup. These analyses were performed at representative transects along all shorelines for which waves were expected to be present during the floods of the selected recurrence intervals. The results of these analyses were used to determine elevations for the 1% annual chance flood.

Transect locations were chosen with consideration given to the physical land characteristics as well as development type and density so that they would closely represent conditions in their locality. Additional consideration was given to changes in the total stillwater elevation. Transects were spaced close together in areas of complex topography and dense development or where total stillwater elevations varied. In areas having more uniform characteristics, transects were spaced at larger intervals. Transects shown in Figure 7, “Transect Location Map,” are also depicted on the FIRM. Table 17 provides the location, stillwater elevations, and starting wave conditions for each transect evaluated for overland wave hazards. In this table, “starting” indicates the parameter value at the beginning of the transect.

Wave Height Analysis

Wave height analyses were performed to determine wave heights and corresponding wave crest elevations for the areas inundated by coastal flooding and subject to overland wave propagation hazards. Refer to Figure 5 for a schematic of a coastal transect evaluated for overland wave propagation hazards.

Wave heights and wave crest elevations were modeled using the methods and models listed in Table 15, “Summary of Coastal Analyses”.

Wave Runup Analysis

Wave runup analyses were performed to determine the height and extent of runup beyond the limit of stillwater inundation for the 1% annual chance flood. Wave runup elevations were modeled using the methods and models listed in Table 15.

Table 17: Coastal Transect Parameters

Flood Source	Coastal Transect	Total Water Levels T_{WL} (ft NAVD88)				Stillwater Elevations S_{WL} (ft NAVD88)	
		10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pacific Ocean	1	18.7	19.2	19.4	19.6	11.4	11.7
Pacific Ocean	2	21.6	22.3	22.5	22.9	11.4	11.7
Pacific Ocean	3	21.1	21.8	22.0	22.4	11.4	11.7
Pacific Ocean	4	20.2	20.8	21.0	21.3	11.4	11.7
Pacific Ocean	5	19.9	20.5	20.7	21.0	11.4	11.7
Pacific Ocean	6	19.8	20.6	20.9	21.5	11.4	11.7
Pacific Ocean	7	19.5	20.1	20.2	20.5	11.4	11.7
Pacific Ocean	8	18.8	19.4	19.5	19.8	11.4	11.7
Pacific Ocean	9	19.5	20.0	20.2	20.4	11.4	11.7
Pacific Ocean	10	19.4	19.9	20.1	20.3	11.4	11.7
Pacific Ocean	11	20.9	22.4	23.1	24.6	11.4	11.7
Pacific Ocean	12	20.5	21.1	21.3	21.7	11.4	11.7
Pacific Ocean	13	20.0	20.7	20.9	21.4	11.4	11.7
Pacific Ocean	14	20.2	21.1	21.5	22.2	11.4	11.7
Pacific Ocean	15	20.8	21.4	21.6	21.9	11.4	11.7
Pacific Ocean	16	22.9	24.0	24.3	24.8	11.4	11.7
Pacific Ocean	17	18.3	18.9	19.0	19.2	11.4	11.7

Table 17: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Total Water Levels T_{WL} (ft NAVD88)				Stillwater Elevations S_{WL} (ft NAVD88)	
		10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pacific Ocean	18	22.2	23.2	23.5	24.2	11.4	11.7
Pacific Ocean	19	21.1	21.7	21.8	22.1	11.4	11.7
Pacific Ocean	20	21.5	22.3	22.5	22.9	11.4	11.7
Pacific Ocean	21	21.1	21.7	21.9	22.2	11.4	11.7
Pacific Ocean	22	22.1	22.9	23.1	23.4	11.4	11.7
Pacific Ocean	23	17.8	18.3	18.4	18.6	11.4	11.7
Pacific Ocean	24	20.6	21.3	21.5	21.9	11.4	11.7
Pacific Ocean	25	42.9	45.3	46.1	47.3	11.4	11.7
Pacific Ocean	26	34.3	37.5	38.6	40.5	11.4	11.7
Pacific Ocean	27	55.0	56.3	56.6	57.0	11.4	11.7
Pacific Ocean	28	34.2	37.4	38.4	40.2	11.4	11.7
Pacific Ocean	29	21.5	22.2	22.4	22.8	11.4	11.7
Pacific Ocean	30	44.7	46.5	47.1	48.1	11.4	11.7
Pacific Ocean	31	29.0	31.3	32.1	33.4	11.4	11.7
Pacific Ocean	32	27.5	29.7	30.5	31.8	11.4	11.7
Pacific Ocean	33	28.0	29.9	30.5	31.4	11.4	11.7
Pacific Ocean	34	24.6	26.4	27.1	28.6	11.4	11.7
Pacific Ocean	35	26.1	29.1	30.2	32.6	11.4	11.7
Pacific Ocean	36	30.8	33.4	34.2	35.6	11.4	11.7

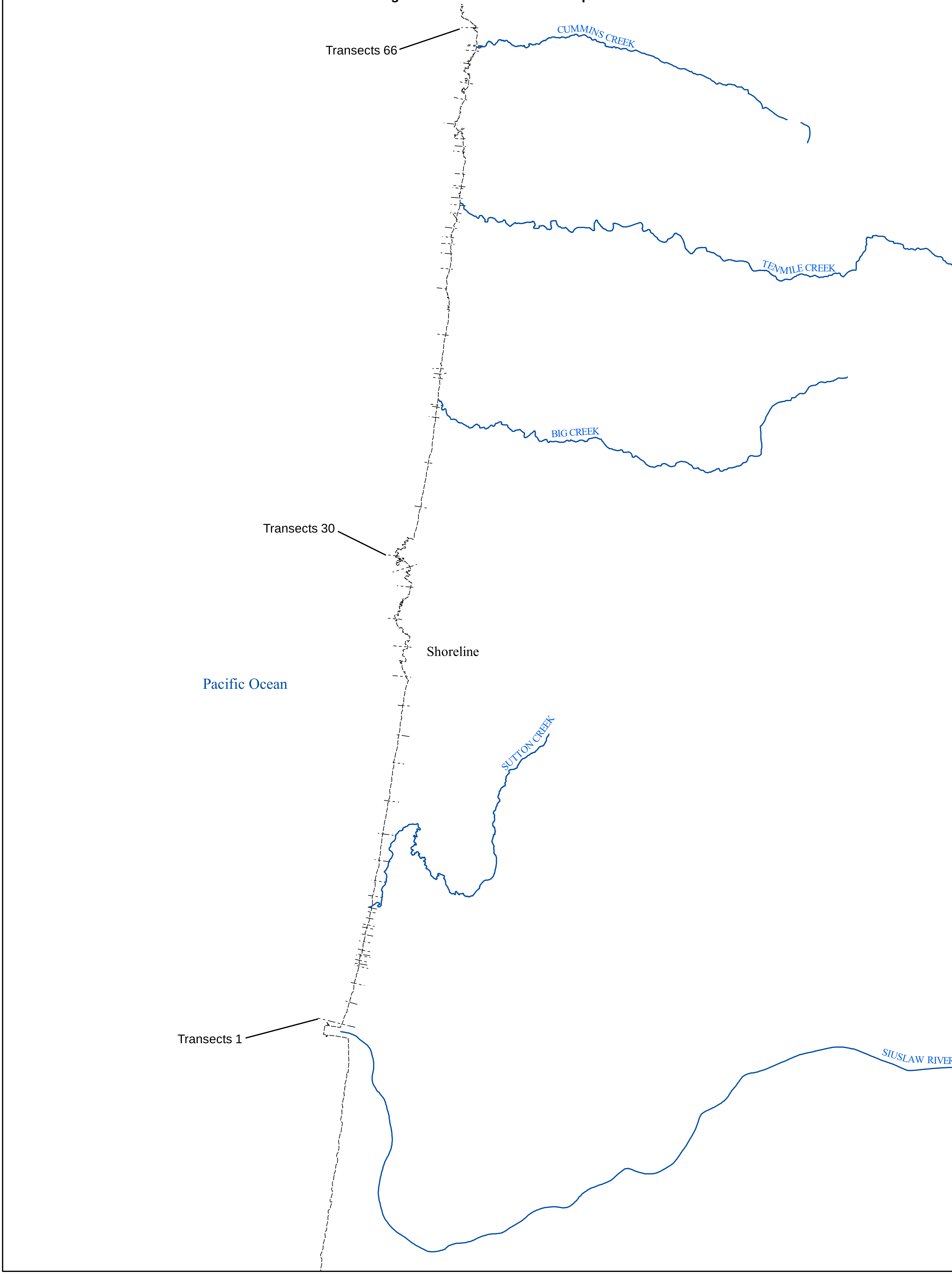
Table 17: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Total Water Levels T_{WL} (ft NAVD88)				Stillwater Elevations S_{WL} (ft NAVD88)	
		10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pacific Ocean	37	19.7	20.6	20.9	21.4	11.4	11.7
Pacific Ocean	38	30.8	32.9	33.6	34.6	11.4	11.7
Pacific Ocean	39	30.5	33.9	35.1	37.3	11.4	11.7
Pacific Ocean	40	24.7	28.0	29.5	33.1	11.4	11.7
Pacific Ocean	41	24.0	27.5	29.4	34.5	11.4	11.7
Pacific Ocean	42	30.6	35.4	37.7	43.7	11.4	11.7
Pacific Ocean	43	30.2	31.8	32.4	33.4	11.4	11.7
Pacific Ocean	44	34.3	37.8	39.0	41.3	11.4	11.7
Pacific Ocean	45	31.3	34.3	35.3	36.9	11.4	11.7
Pacific Ocean	46	30.9	34.2	35.3	37.3	11.4	11.7
Pacific Ocean	47	26.4	28.5	29.3	31.2	11.4	11.7
Pacific Ocean	48	24.6	26.9	27.7	29.0	11.4	11.7
Pacific Ocean	49	26.7	30.3	31.7	34.9	11.4	11.7
Pacific Ocean	50	28.2	31.1	32.1	34.2	11.4	11.7
Pacific Ocean	51	26.4	29.6	31.0	34.2	11.4	11.7
Pacific Ocean	52	26.6	29.2	30.1	31.8	11.4	11.7
Pacific Ocean	53	24.5	30.9	34.5	44.9	11.4	11.7
Pacific Ocean	54	29.0	33.9	36.1	41.7	11.4	11.7
Pacific Ocean	55	34.4	39.0	40.8	44.6	11.4	11.7

Table 17: Coastal Transect Parameters (continued)

Flood Source	Coastal Transect	Total Water Levels T_{WL} (ft NAVD88)				Stillwater Elevations S_{WL} (ft NAVD88)	
		10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pacific Ocean	56	29.6	31.9	32.6	34.0	11.4	11.7
Pacific Ocean	57	22.0	22.6	22.8	23.0	11.4	11.7
Pacific Ocean	58	22.0	22.6	22.8	23.0	11.4	11.7
Pacific Ocean	59	43.6	45.5	46.1	47.1	11.4	11.7
Pacific Ocean	60	36.7	40.7	42.1	44.6	11.4	11.7
Pacific Ocean	61	30.4	33.3	34.3	36.2	11.4	11.7
Pacific Ocean	62	36.8	42.2	43.9	47.0	11.4	11.7
Pacific Ocean	63	30.3	31.4	31.7	32.1	11.4	11.7
Pacific Ocean	64	19.3	20.0	20.2	20.6	11.4	11.7
Pacific Ocean	65	28.7	30.7	31.3	32.3	11.4	11.7
Pacific Ocean	66	20.4	22.6	23.6	26.0	11.4	11.7

Figure 7: Transect Location Map

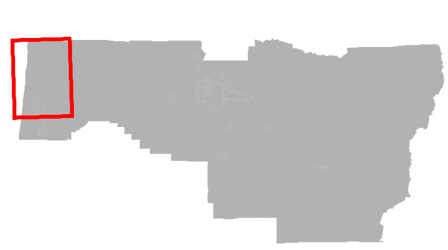


1 inch = 8,333 feet 1:100,000

N 0 2,650 5,300 10,600 15,900 21,200 Feet

Map Projection:
HARN Oregon Statewide Lambert (Intl Feet)
North American Datum 1983

COUNTY LOCATOR



NATIONAL FLOOD INSURANCE PROGRAM
Transect Locator Map

PANELS WITH TRANSECTS

0025C, 0420C, 0430C, 0450C, 0917C, 0919C, 0925C
0950C

i. Coastal Flood Hazard Mapping

Flood insurance zones and BFEs including the wave effects were identified on each transect based on the results from the onshore wave hazard analyses. Between transects, elevations were interpolated using topographic maps, land-use and land-cover data, and knowledge of coastal flood processes to determine the aerial extent of flooding.

Zone VE is subdivided into elevation zones and BFEs are provided on the FIRM.

The limit of Zone VE shown on the FIRM is defined as the farthest inland extent of any of these criteria (determined for the 1% annual chance flood condition):

- The *primary frontal dune zone* is defined in 44 CFR Section 59.1 of the NFIP regulations. The primary frontal dune represents a continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes that occur immediately landward and adjacent to the beach. The primary frontal dune zone is subject to erosion and overtopping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune zone occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope.

- The *wave runup zone* occurs where the (eroded) ground profile is 3.0 feet or more below the 2-percent wave runup elevation.

- The *wave overtopping splash zone* is the area landward of the crest of an overtopped barrier, in cases where the potential 2-percent wave runup exceeds the barrier crest elevation by 3.0 feet or more.

- The *breaking wave height zone* occurs where 3-foot or greater wave heights could occur (this is the area where the wave crest profile is 2.1 feet or more above the total stillwater elevation).

- The *high-velocity flow zone* is landward of the overtopping splash zone (or area on a sloping beach or other shore type), where the product of depth of flow times the flow velocity squared (hv2) is greater than or equal to 200 ft3/sec2. This zone may only be used on the Pacific Coast.

The SFHA boundary indicates the limit of SFHAs shown on the FIRM as either “V” zones or “A” zones.

Table 18 indicates the coastal analyses used for floodplain mapping and the criteria used to determine the inland limit of the open-coast Zone VE and the SFHA boundary at each transect.

Table 18: Summary of Coastal Transect Mapping Considerations

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD 88)	Zone Designation and BFE (ft NAVD 88)		
1	✓	VE 19	NA	PFD	PFD
2	✓	VE 22	NA	PFD	PFD
3	✓	VE 22	NA	PFD	PFD
4	✓	VE 21	NA	PFD	PFD
5	✓	VE 21	NA	Runup	Runup
6		VE 21	NA	Runup	Runup
7		VE 20	NA	Runup	Runup
8	✓	VE 20	NA	PFD	PFD
9	✓	VE 20	NA	PFD	PFD
10	✓	VE 20	NA	PFD	PFD
11	✓	VE 23	NA	PFD	PFD
12	✓	VE 21	NA	PFD	PFD
13	✓	VE 21	NA	PFD	PFD
14	✓	VE 21	NA	PFD	PFD
15	✓	VE 22	NA	PFD	PFD
16	✓	VE 24	NA	PFD	PFD
17	✓	VE 19	NA	Runup	Runup
18	✓	VE 24	NA	PFD	PFD
19	✓	VE 22	NA	PFD	PFD
20	✓	VE 22	NA	PFD	PFD
21	✓	VE 22	NA	PFD	PFD
22	✓	VE 23	NA	PFD	PFD
23	✓	VE 18	NA	Runup	Runup
24	✓	VE 22	NA	PFD	PFD
25		VE 46	NA	Runup	Runup
26		VE 39	NA	Runup	Runup
27		VE 57	NA	Runup	Runup
28		VE 38	NA	Runup	Runup
29		VE 22	NA	Runup	Runup

Table 18: Summary of Coastal Transect Mapping Considerations (continued)

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD 88)	Zone Designation and BFE (ft NAVD 88)		
30		VE 47	NA	Runup	Runup
31		VE 32	NA	Runup	Runup
32		VE 30	NA	Runup	Runup
33		NA	VE 31	Splash Zone	Splash Zone
34		NA	VE 27, VE 16, VE 14, VE 11, AE 11	High Velocity	High Velocity Limit
35		VE 30	NA	Runup	Runup
36		VE 34	NA	Runup	Runup
37		NA	VE 21, VE 18, AE 17	High Velocity	High Velocity Limit
38	✓	VE 34	NA	Runup	Runup
39		VE 35	NA	Runup	Runup
40		VE 29	NA	Runup	Runup
41		VE 29	NA	Runup	Runup
42		VE 38	NA	Runup	Runup
43		VE 32	NA	Runup	Runup
44		VE 39	NA	Runup	Runup
45		VE 35	NA	Runup	Runup
46		NA	VE 35, AE 31	High Velocity	High Velocity Limit
47	✓	NA	VE 29, VE 20, AE 29, AE 17	High Velocity	High Velocity Limit
48		NA	VE 28, AE 28, AE 22	High Velocity	High Velocity Limit
49		NA	VE 32	Splash Zone	Splash Zone
50		NA	VE 32	Splash Zone	Splash Zone
51		NA	VE 31, AE 27	High Velocity	High Velocity Limit
52		VE 30	NA	Runup	Runup
53		VE 34	NA	Runup	Runup
54		VE 36	NA	Runup	Runup
55		VE 41	NA	Runup	Runup
56		NA	VE 33	Splash Zone	Splash Zone
57		VE 23	NA	Runup	Runup

Table 18: Summary of Coastal Transect Mapping Considerations (continued)

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis: Zone Designation and BFE (ft NAVD 88)	Wave Height Analysis: Zone Designation and BFE (ft NAVD 88)	Zone VE Limit	SFHA Boundary
58		NA	VE 23, VE 18, AE 13	High Velocity	High Velocity Limit
59		VE 46	NA	Runup	Runup
60		VE 42	NA	Runup	Runup
61		VE 34	NA	Runup	Runup
62		VE 44	NA	Runup	Runup
63		NA	VE 32	Splash Zone	Splash Zone
64		NA	VE 20, VE 14, VE 13	High Velocity	High Velocity Limit
65		VE 31	NA	Runup	Runup
66		VE 24	NA	Runup	Runup

j. Additional Information

Letters of Map Change (LOMCs) were also incorporated during this PMR, and are listed in Table 19.

Table 19: Incorporated Letters of Map Change

Case Number	Effective Date	Flooding Source	FIRM Panel(s)
05-10-A519P-415591	1/3/2006	Siuslaw River	1435G

k. Vertical and Horizontal Control

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

Flood elevations shown in this FIS Report and on the FIRMs for the Siuslaw River are referenced to NAVD88. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between NGVD29 and NAVD88 or other datum conversion, visit the National Geodetic Survey website at www.ngs.noaa.gov.

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

To obtain current elevation, description, and/or location information for benchmarks in the area, please visit the NGS website at www.ngs.noaa.gov.

The datum conversion locations and values that were calculated for the Siuslaw River are provided in Table 20.

Table 20: Stream-Based Vertical Datum Conversion

Flooding Source	Average Vertical Datum Conversion Factor (feet)
Siuslaw River	+3.49

Table 21 provides a summary of the contracted studies by flooding source that are included in this revision.

Table 21: Summary of Contracted Studies Included in this FIS Revision

Flooding Source	FIS Report Dated	Contractor	Number	Work Complete d Date	Affected Communities
Ackerley Lake	June 5, 2020	DOGAMI	EMS-2013-CA-0007	August 2015	Lane County Unincorporated Areas
Alder Creek	June 5, 2020	STARR	HSFEHQ-09-D-0370	February 2016	Lane County Unincorporated Areas
Bailey Creek	June 5, 2020	STARR	HSFEHQ-09-D-0370	February 2016	Lane County Unincorporated Areas
Bear Creek	June 5, 2020	STARR	HSFEHQ-09-D-0370	February 2016	Lane County Unincorporated Areas
Bernhardt Creek	June 5, 2020	STARR	HSFEHQ-09-D-0370	February 2016	Lane County Unincorporated Areas
Clear Lake	June 5, 2020	DOGAMI	EMS-2013-CA-0007	August 2015	Lane County Unincorporated Areas
Collard Lake	June 5, 2020	DOGAMI	EMS-2013-CA-0007	August 2015	Lane County Unincorporated Areas
Condon Creek	June 5, 2020	STARR	HSFEHQ-09-D-0370	February 2016	Lane County Unincorporated Areas
Demming Creek	June 5, 2020	STARR	HSFEHQ-09-D-0370	February 2016	Lane County Unincorporated Areas

Table 21: Summary of Contracted Studies Included in this FIS Revision (continued)

Drew Creek	June 5, 2020	STARR	HSFEHQ-09-D-0370	February 2016	Lane County Unincorporated Areas
Fiddle Creek	June 5, 2020	STARR	HSFEHQ-09-D-0370	February 2016	Lane County Unincorporated Areas
Hadsall Creek	June 5, 2020	STARR	HSFEHQ-09-D-0370	February 2016	Lane County Unincorporated Areas
Hoffman Creek	June 5, 2020	STARR	HSFEHQ-09-D-0370	February 2016	Lane County Unincorporated Areas
Knowles Creek	June 5, 2020	STARR	HSFEHQ-09-D-0370	February 2016	Lane County Unincorporated Areas
Levage Creek	June 5, 2020	STARR	HSFEHQ-09-D-0370	February 2016	Lane County Unincorporated Areas
Maple Creek	June 5, 2020	STARR	HSFEHQ-09-D-0370	February 2016	Lane County Unincorporated Areas
Mcleod Creek	June 5, 2020	STARR	HSFEHQ-09-D-0370	February 2016	Lane County Unincorporated Areas
Mercer Lake	June 5, 2020	DOGAMI	EMS-2013-CA-0007	August 2015	Lane County Unincorporated Areas
Munsel Lake	June 5, 2020	DOGAMI	EMS-2013-CA-0007	August 2015	Lane County Unincorporated Areas
North Fork Siuslaw River	June 5, 2020	STARR	HSFEHQ-09-D-0370	February 2016	City of Florence, Lane County Unincorporated Areas
Pacific Ocean	June 5, 2020	DOGAMI	EMS-2013-CA-0007	December 2015	City of Florence, Lane County Unincorporated Areas
Siltcoos Lake	June 5, 2020	DOGAMI	EMS-2013-CA-0007	August 2015	City of Dunes City, Lane County Unincorporated Areas
Siuslaw River (Lower, Detailed)	June 2, 1999	Ogden Beeman & Associates, Inc.	EMW-89-C-2848	March 1992	City of Florence, Lane County Unincorporated Areas
Sutton Creek	June 5, 2020	STARR	HSFEHQ-09-D-0370	February 2016	Lane County Unincorporated Areas
Sutton Lake	June 5, 2020	DOGAMI	EMS-2013-CA-0007	August 2015	Lane County Unincorporated Areas
Sweet Creek	June 5, 2020	STARR	HSFEHQ-09-D-0370	February 2016	Lane County Unincorporated Areas
Tenmile Creek	June 5, 2020	STARR	HSFEHQ-09-D-0370	February 2016	Lane County Unincorporated Areas
Wilhelm Creek	June 5, 2020	STARR	HSFEHQ-09-D-0370	February 2016	Lane County Unincorporated Areas
Woahink Lake	June 5, 2020	DOGAMI	EMS-2013-CA-0007	August 2015	City of Dunes City, Lane County Unincorporated Areas

Communities participating in the NFIP have established repositories of flood hazard data for floodplain management and flood insurance purposes. Community map repository addresses are provided in Table 22.

Table 22: Map Repositories

Community	Address	City	State	Zip Code
City of Coburg	City Hall, 91136 North Willamette Street	Coburg	OR	97408
City of Cottage Grove	City Hall, 400 East Main Street	Cottage Grove	OR	97424
City of Creswell	City Hall, 13 South 1st Street	Creswell	OR	97426
City of Dunes City	City Hall, 82877 Spruce Street	Westlake	OR	97493
City of Eugene	Planning Department, 99 West 10th Avenue	Eugene	OR	97401
City of Florence	Planning Department, 250 Highway 101	Florence	OR	97439
City of Junction City	City Hall, 680 Greenwood Street	Junction City	OR	97448
City of Lowell	City Hall, 107 East 3rd Street	Lowell	OR	97452
City of Oakridge	City Hall, 48318 East 1st Street	Oakridge	OR	97463
City of Springfield	Planning Department, 225 5th Street	Springfield	OR	97477
City of Veneta	City Hall, 88184 8th Street	Veneta	OR	97487
City of Westfir	City Hall, 47441 West Oak Road	Westfir	OR	97492
Lane County, Unincorporated areas	Customer Service Center, 3050 North Delta Highway	Eugene	OR	97408

I. Bibliography for the Second Revision

Table 23 includes sources used in the preparation of and cited in this FIS revision.

Table 23 Bibliography and References

Citation in this FIS	Publisher/ Issuer	*Publication Title,* "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
Booij et al. 1999	American Geophysical Union	*Journal of Geophysical Research, "A third-generation wave model for coastal regions, part 1: model description and validation," Volume 104, Number C4*	N. Booij, R.C. Ris, and L.H. Holthuijsen	Malden, Massachusetts, USA	April 1999	N/A
Boon 2004	Woodhead Publishing	*"Secrets of the tide: tide and tidal current analysis and applications, storms surges and sea level trends", CRC Marine Science*	J.D. Boon	Cambridge, UK	October 2004	N/A
Cooper 2005	U.S. Geological Survey, U.S. Department of the Interior	*U.S. Geological Survey Scientific Investigations Report 2005-5116, "Estimation of peak discharges for rural, unregulated streams in Western Oregon"*	R.M. Cooper	Washington, DC, USA	2005	N/A
Kriebel and Dean 1993	American Society of Civil Engineers	*Journal of Waterway, Port, Coastal, and Ocean Engineering, "Convolution method for time-dependent beach-profile response," Volume 119, Issue 2*	D.L. Kriebel and R.G. Dean	Reston, Virginia, USA	March 1993	N/A

Table 23: Bibliography and References (continued)

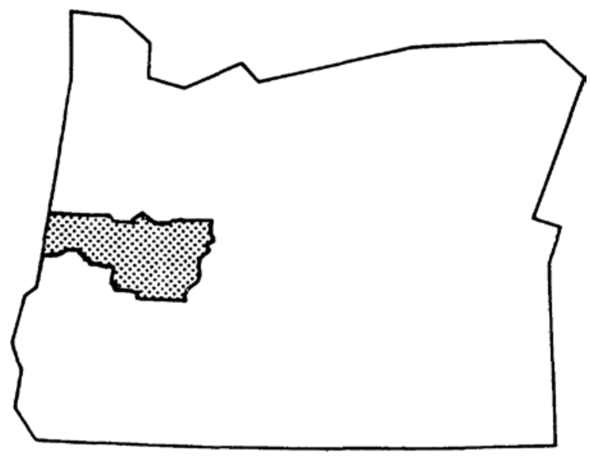
Citation in this FIS	Publisher/ Issuer	*Publication Title,* "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
OLC 2008-2013	DOGAMI	*Lidar published between 2008-2013*	Oregon Lidar Consortium (OLC)	Portland, OR, USA	2008-2009	N/A
Ris et al. 1999	American Geophysical Union	*Journal of Geophysical Research, "A third-generation wave model for coastal regions, part 2: verification," Volume 104, Number C4*	R.C. Ris, L.H. Holthuijsen, N. Booij	Malden, Massachusetts, USA	April 1999	N/A
Stockdon et al. 2006	World Scientific	*Coastal Engineering, "Empirical parameterization of setup, swash, and runup," Volume 53, Issue 7*	H.F. Stockdon, R.A. Holman, P.A. Howd, and A.H. Sellenger Jr.	Hackensack, New Jersey, USA	May 2006	N/A
van der Meer 2002	Technical Advisory Committee on Flood Defence, The Netherlands	*"Technical report: wave run-up and overtopping at dikes"*	J.W. van der Meer	Delft, Netherlands	May 2002	N/A
USACE 2010	U.S. Army Corps of Engineers	*"HEC-RAS Version 4.1.0"*	Hydrologic Engineering Center	Davis, California, USA	January 2010	N/A

FLOOD INSURANCE STUDY

LANE COUNTY, OREGON

AND INCORPORATED AREAS

VOLUME 3 OF 4



COMMUNITY NAME	COMMUNITY NUMBER
COBURG, CITY OF	410119
COTTAGE GROVE, CITY OF	410120
CRESWELL, CITY OF	410121
DUNES CITY, CITY OF	410262
EUGENE, CITY OF	410122
FLORENCE, CITY OF	410123
JUNCTION CITY, CITY OF	410124
LOWELL, CITY OF	410125
OAKRIDGE, CITY OF	410126
SPRINGFIELD, CITY OF	415592
VENETA, CITY OF	410128
WESTFIR, CITY OF	410289
LANE COUNTY, UNINCORPORATED AREAS	415591

REVISED:
JUNE 5, 2020

Federal Emergency Management Agency

Flood Insurance Study Number
41039CV003B

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

The Federal Emergency Management Agency (FEMA) may revise and republish part or all of this 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 publication incorporates revisions to the original Flood Insurance Study. These revisions are presented in Section 10.0. Volume 2 of this FIS Report pertains to the Physical Map Revision for Lane County, Oregon. All elevations in Section 10.2 are in NAVD88 and the floodway data table and profile graph for the Siuslaw River have been converted to NAVD88.

Initial Countywide FIS Effective Date: June 2, 1999

Revised Countywide Date: June 5, 2020

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VOLUME 4

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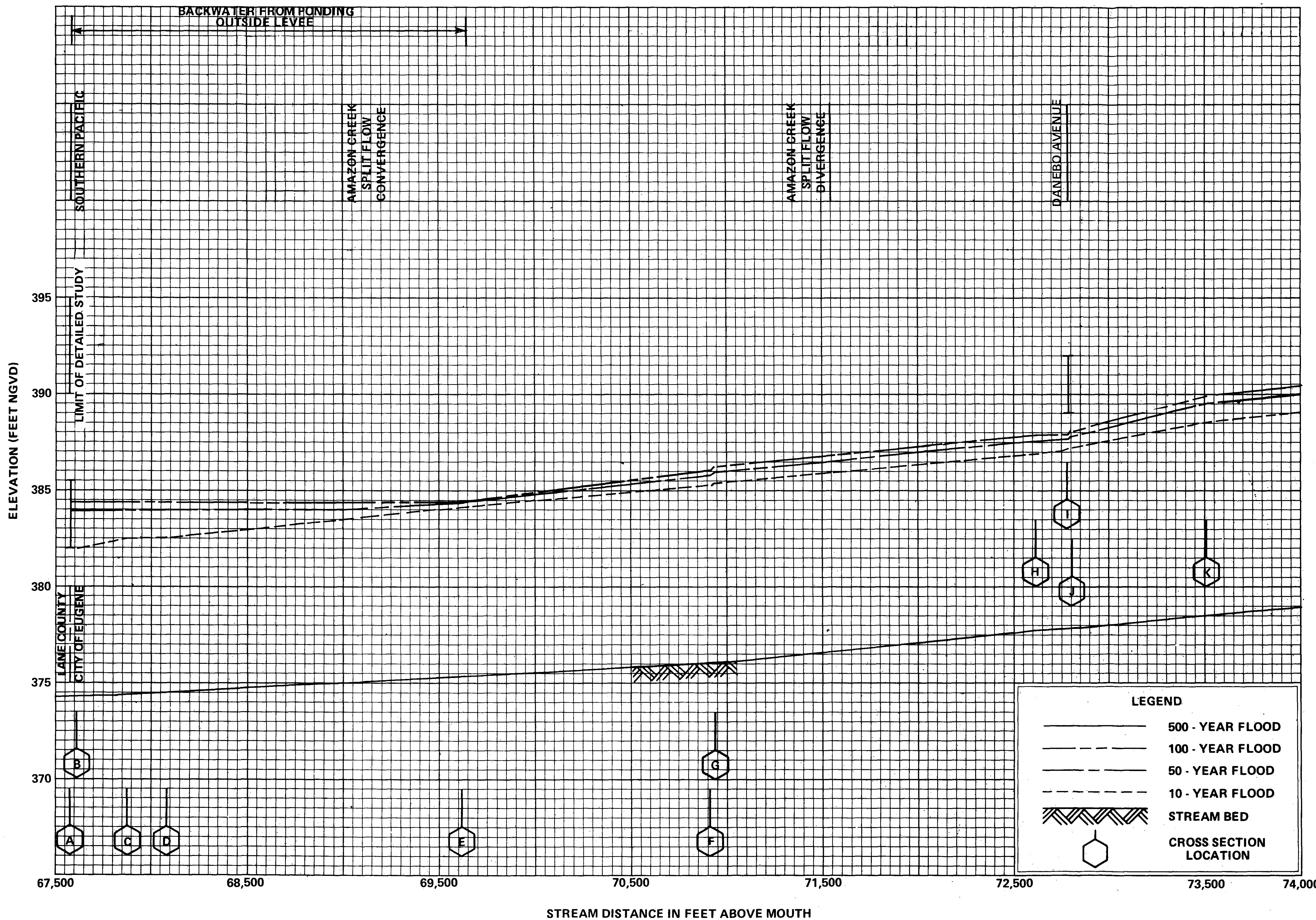
PUBLISHED SEPARATELY



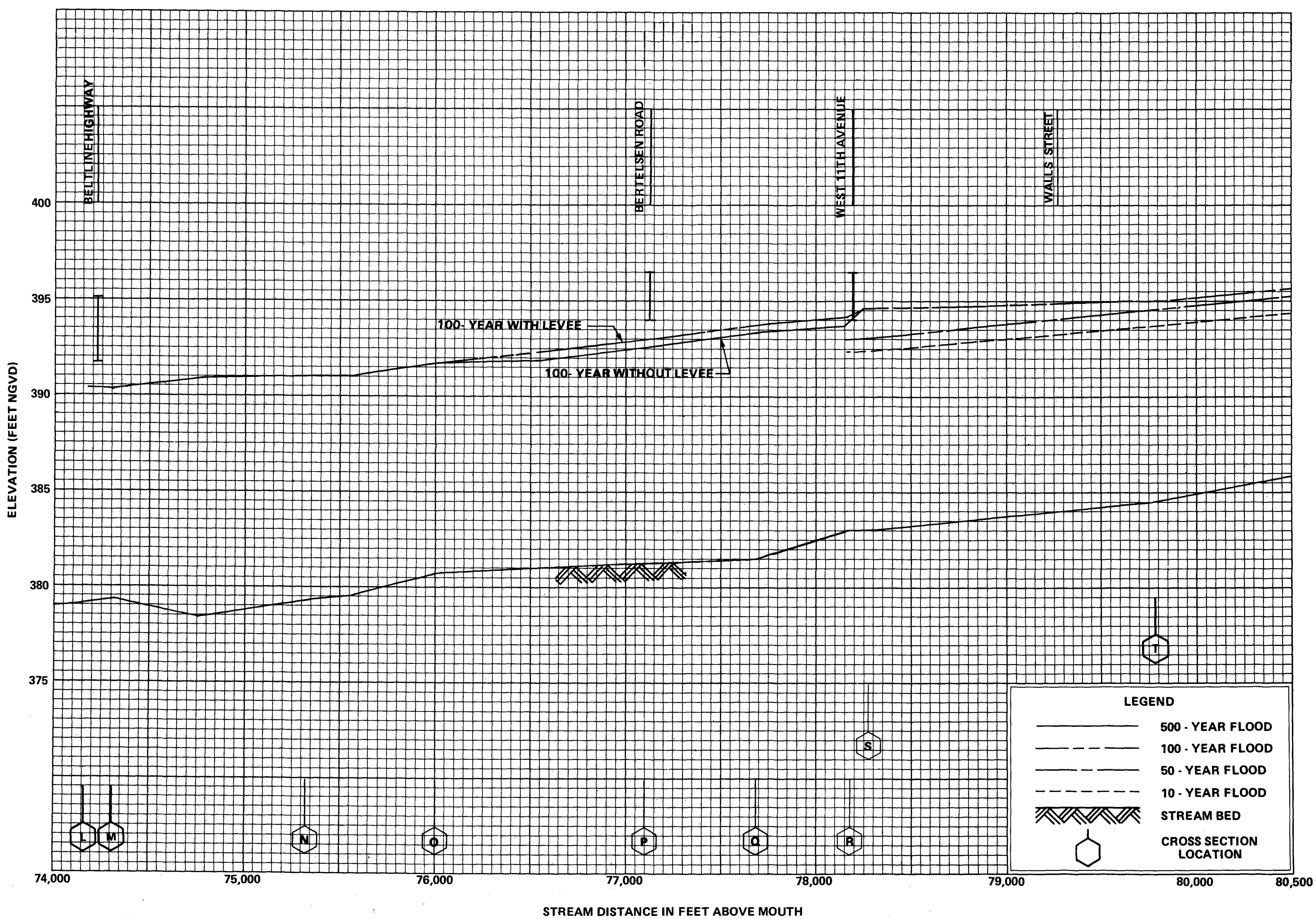
FLOOD PROFILES

AMAZON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

01P



FLOOD PROFILES

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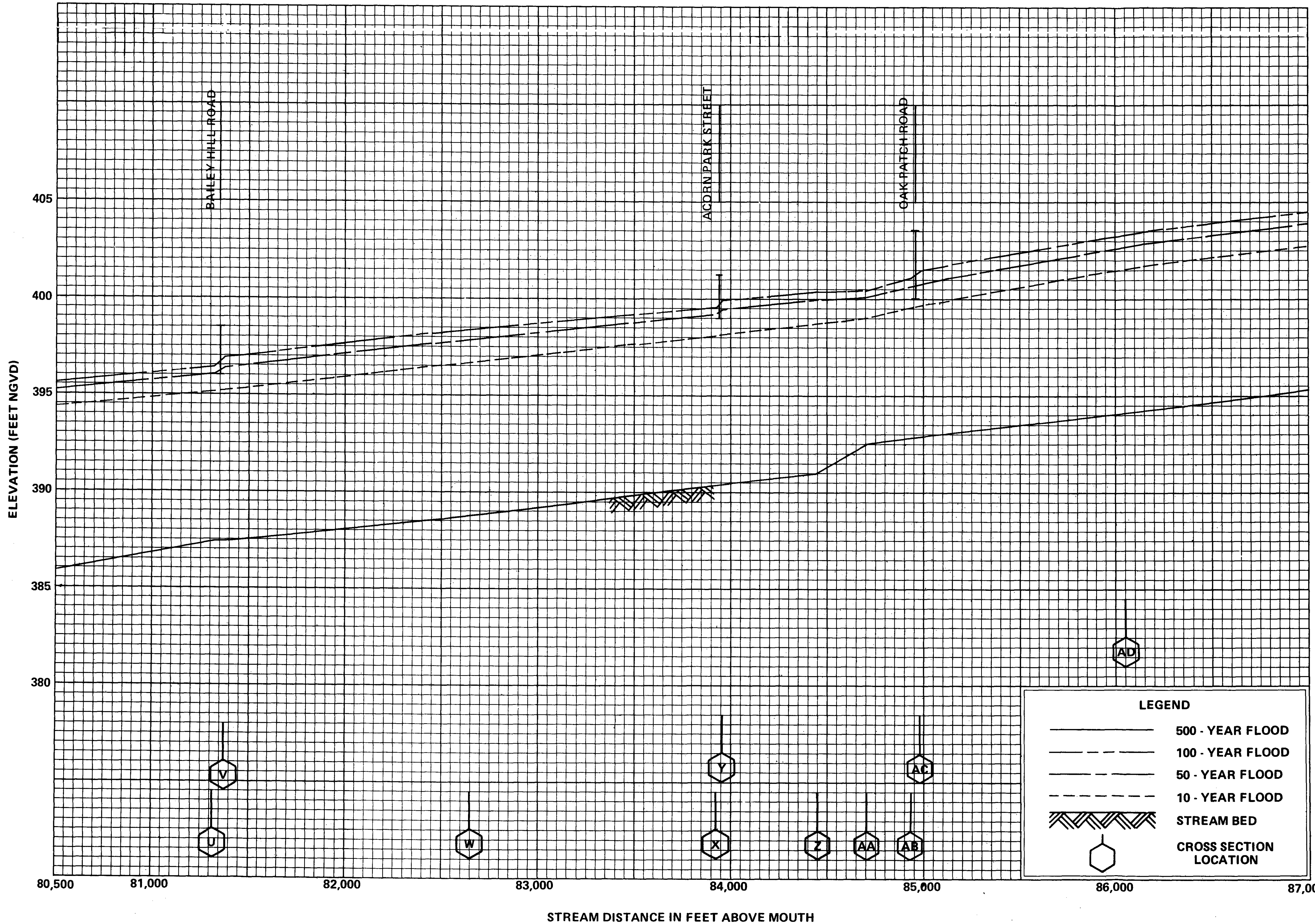

FLOOD PROFILES

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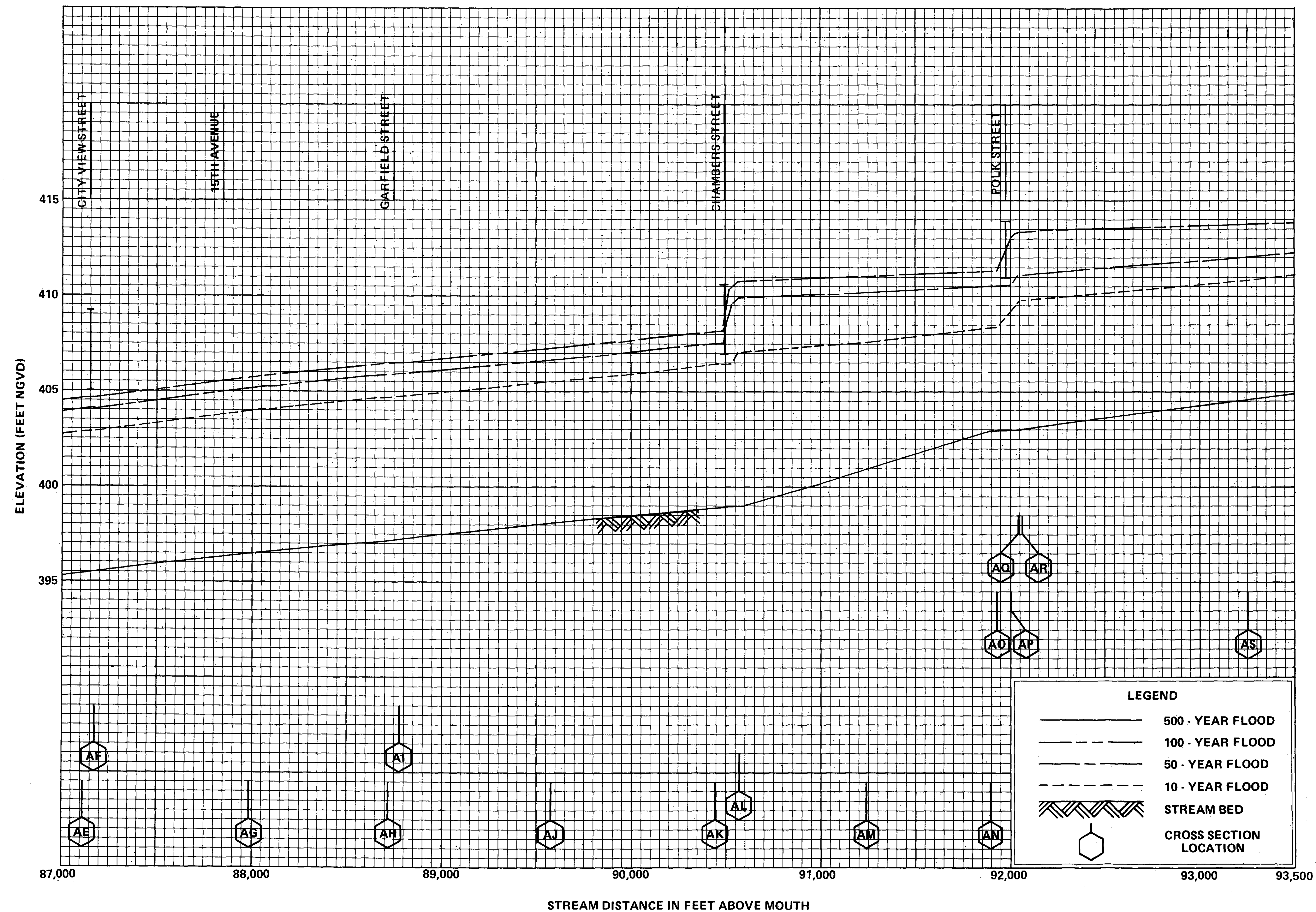

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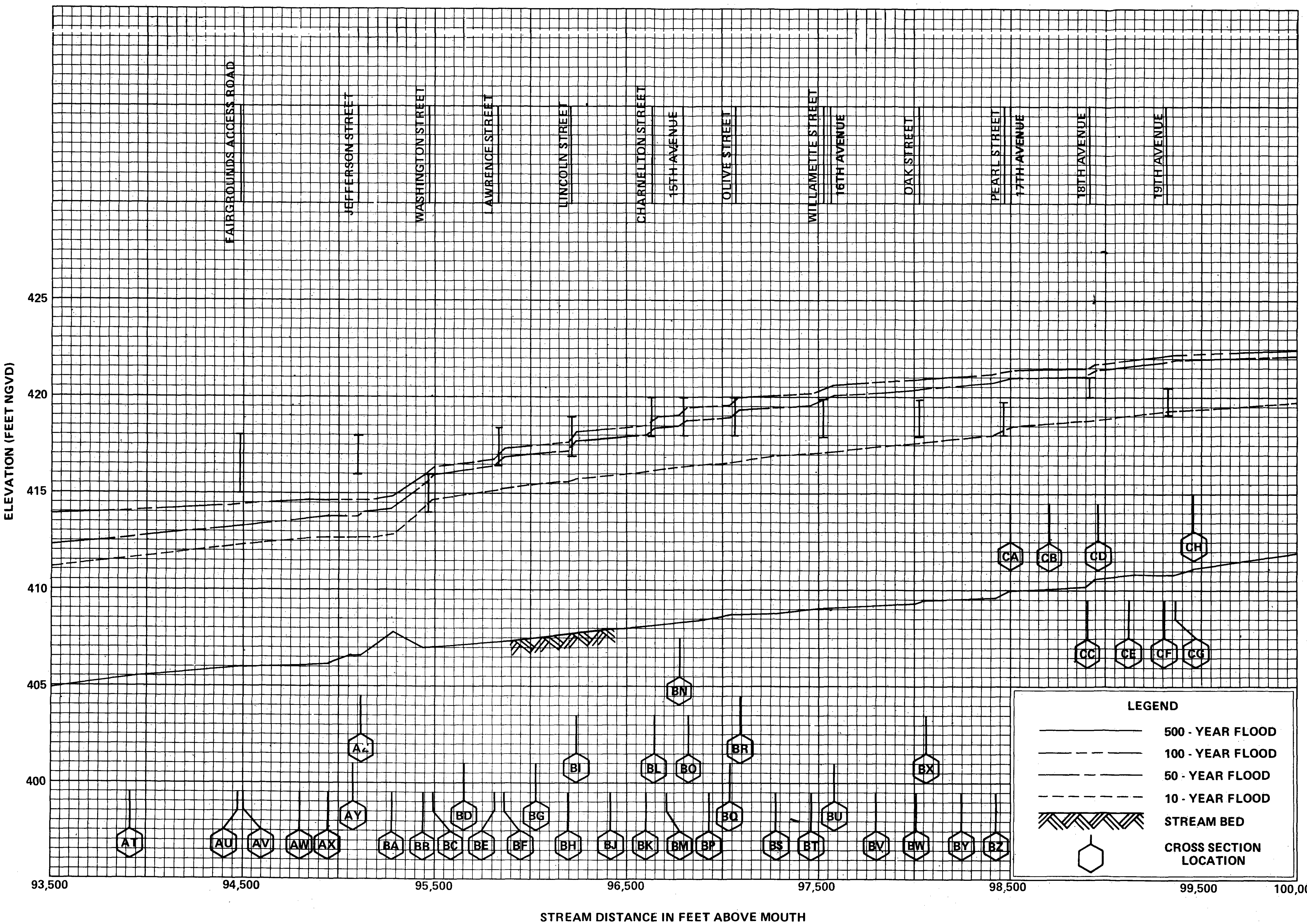

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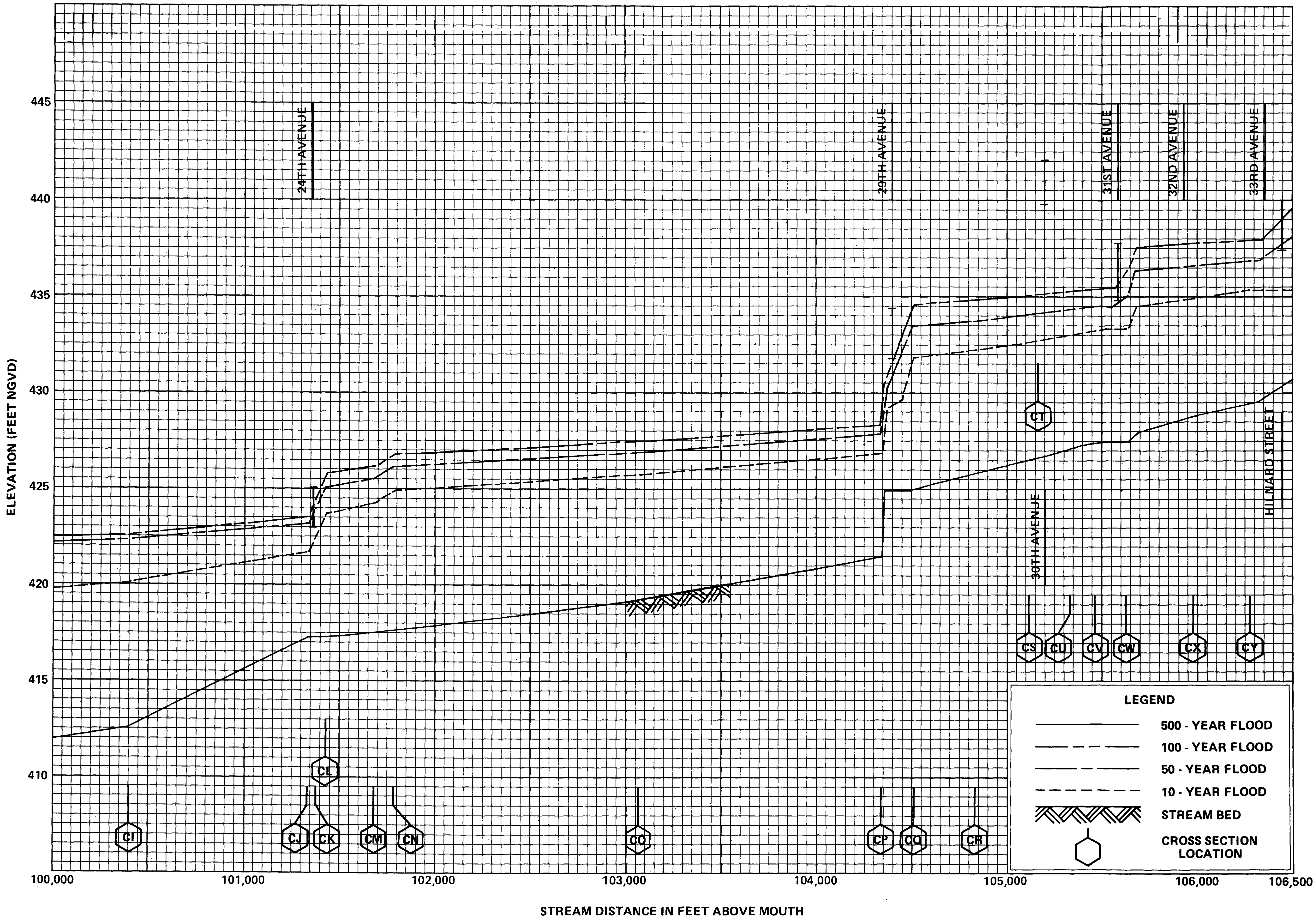

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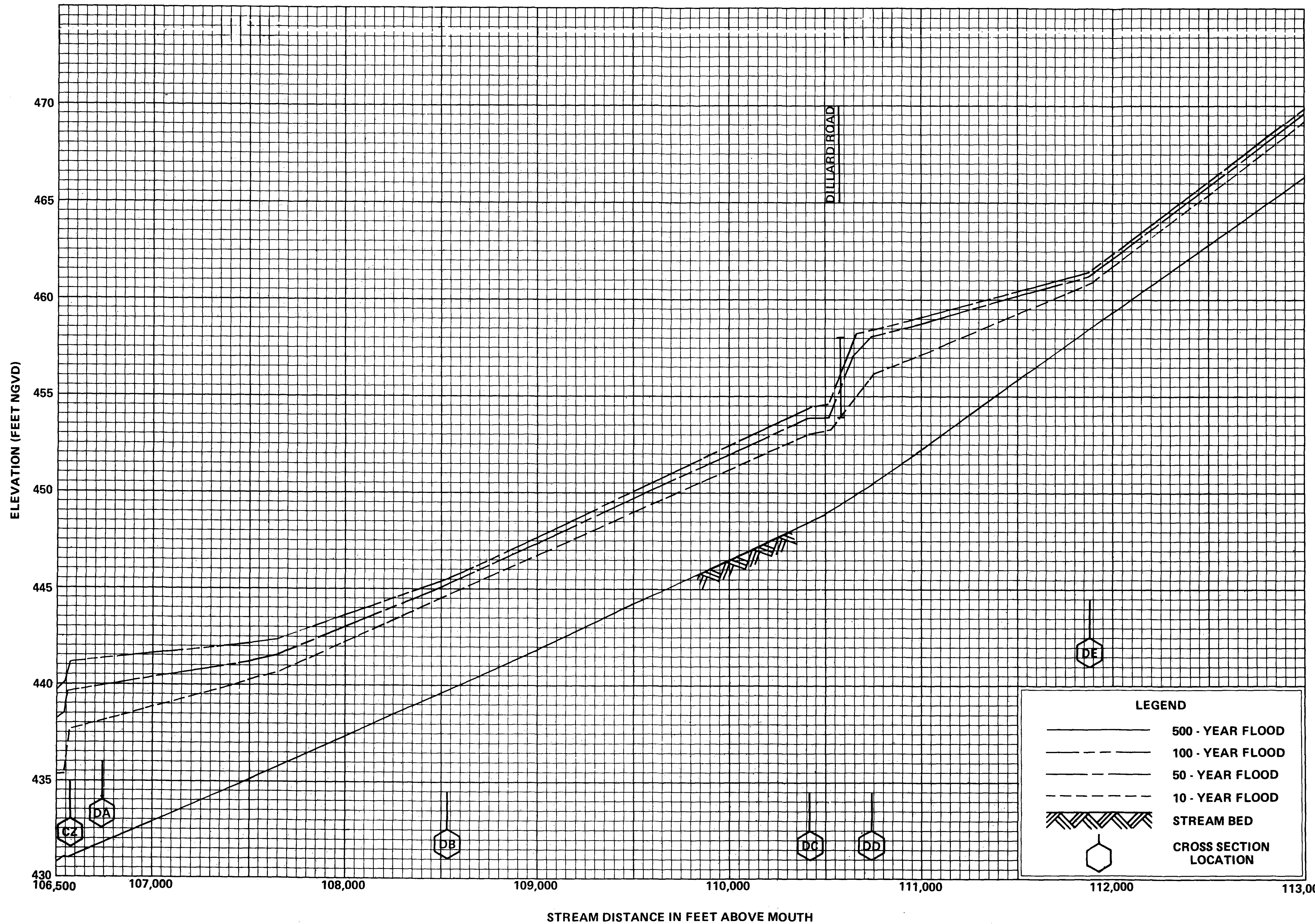

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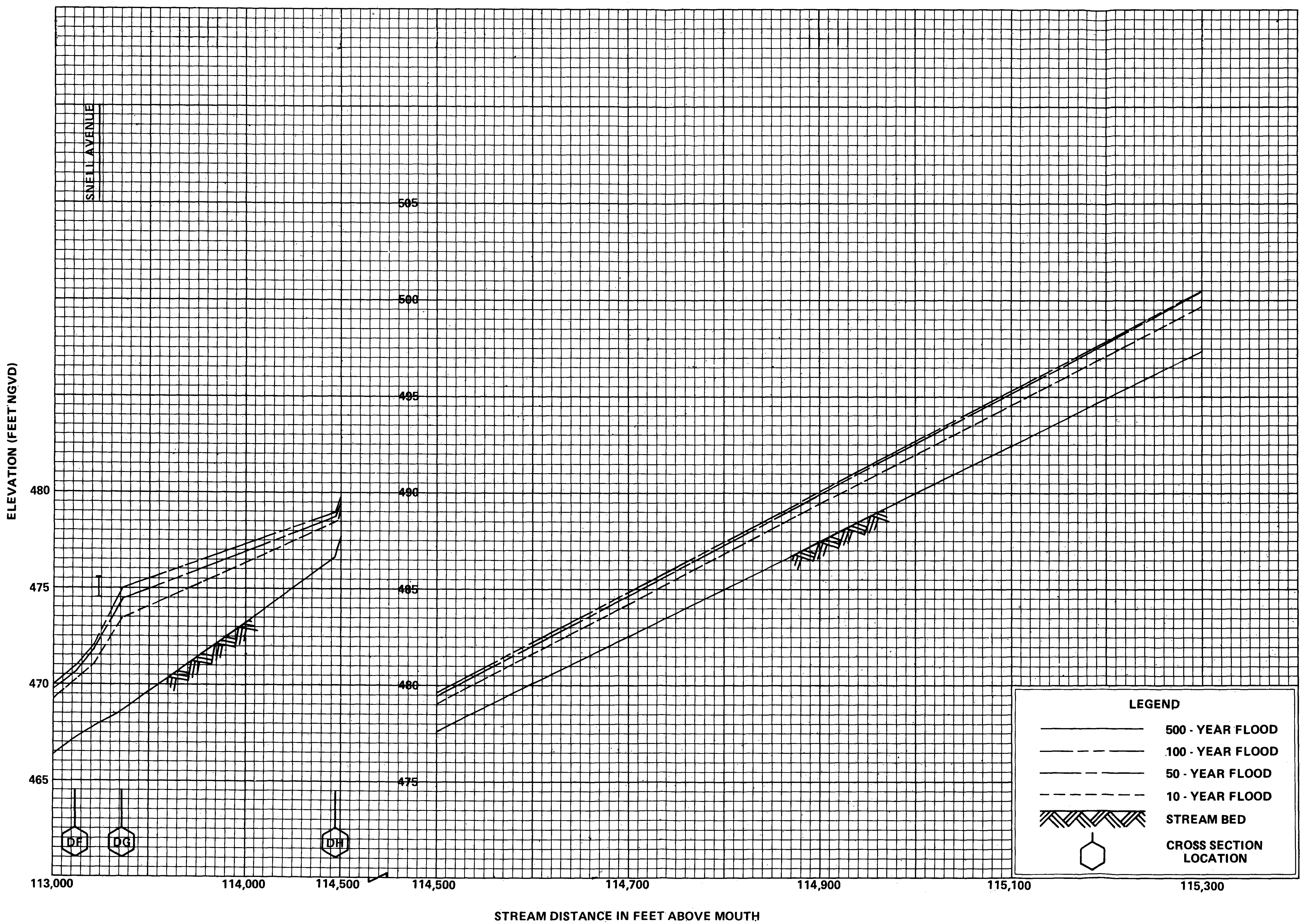

FLOOD PROFILES

AMAZON CREEK

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LANE COUNTY, OR
AND INCORPORATED AREAS

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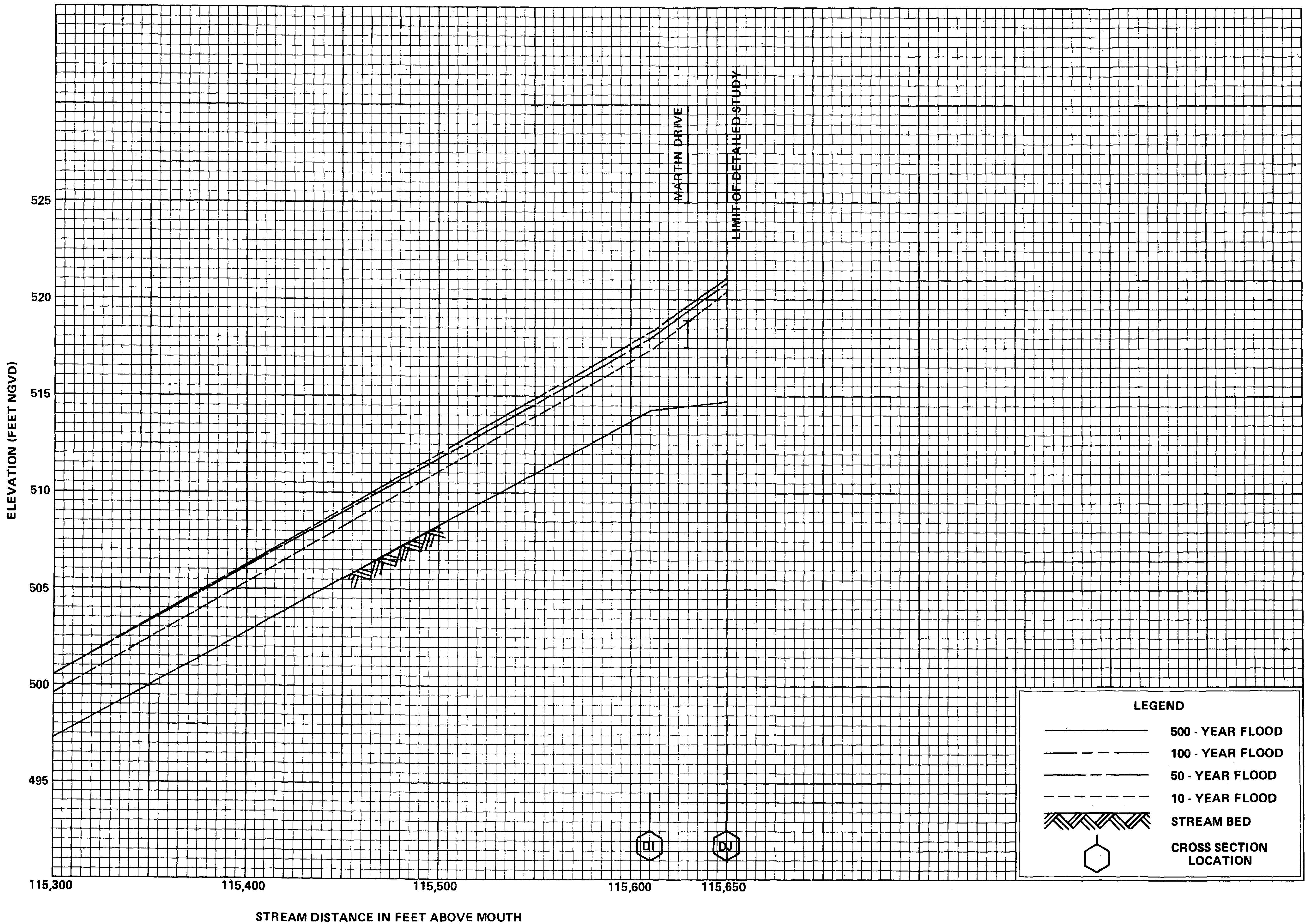

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AMAZON CREEK

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LANE COUNTY, OR
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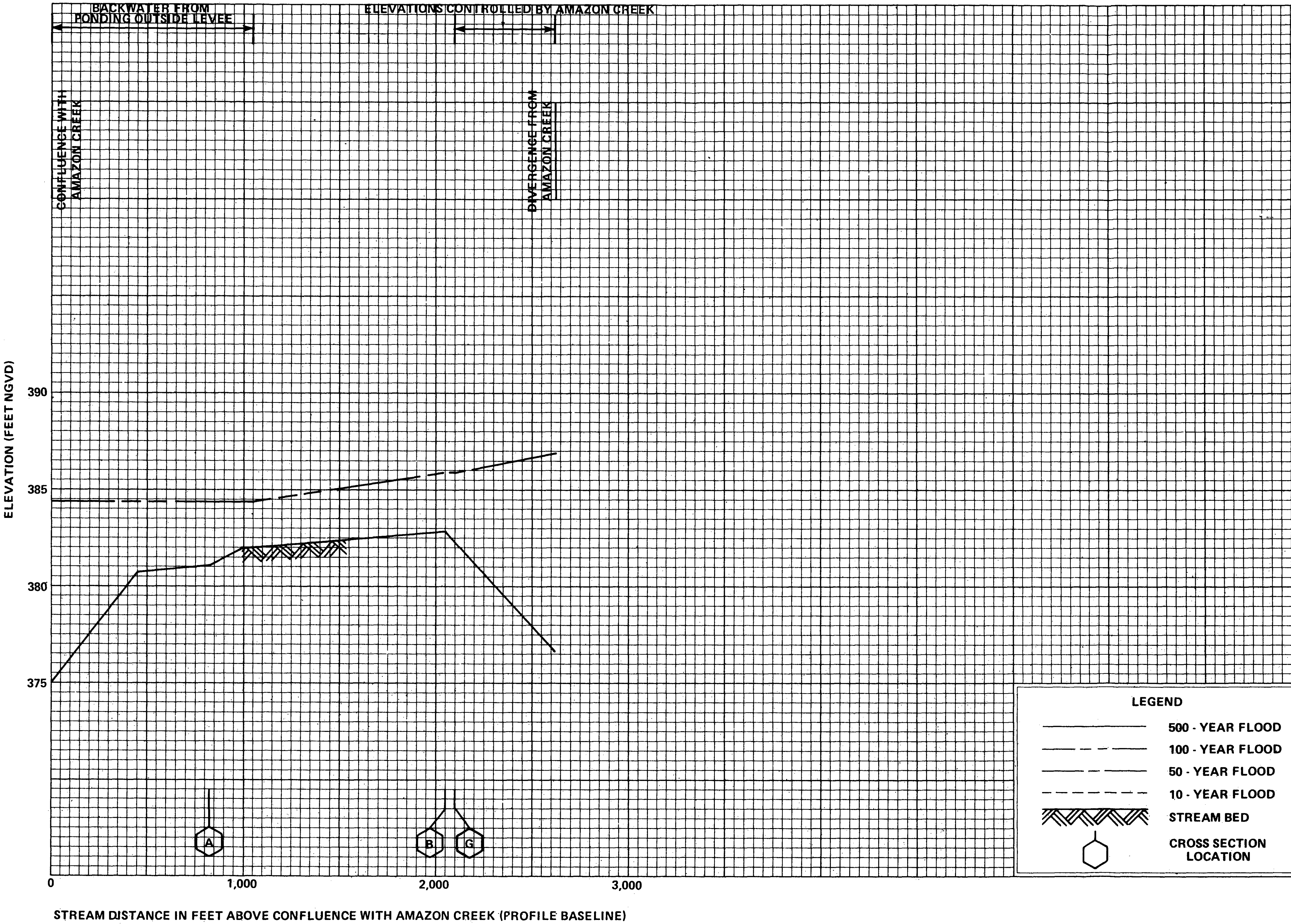

FLOOD PROFILES

AMAZON CREEK SPLIT-FLOW

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

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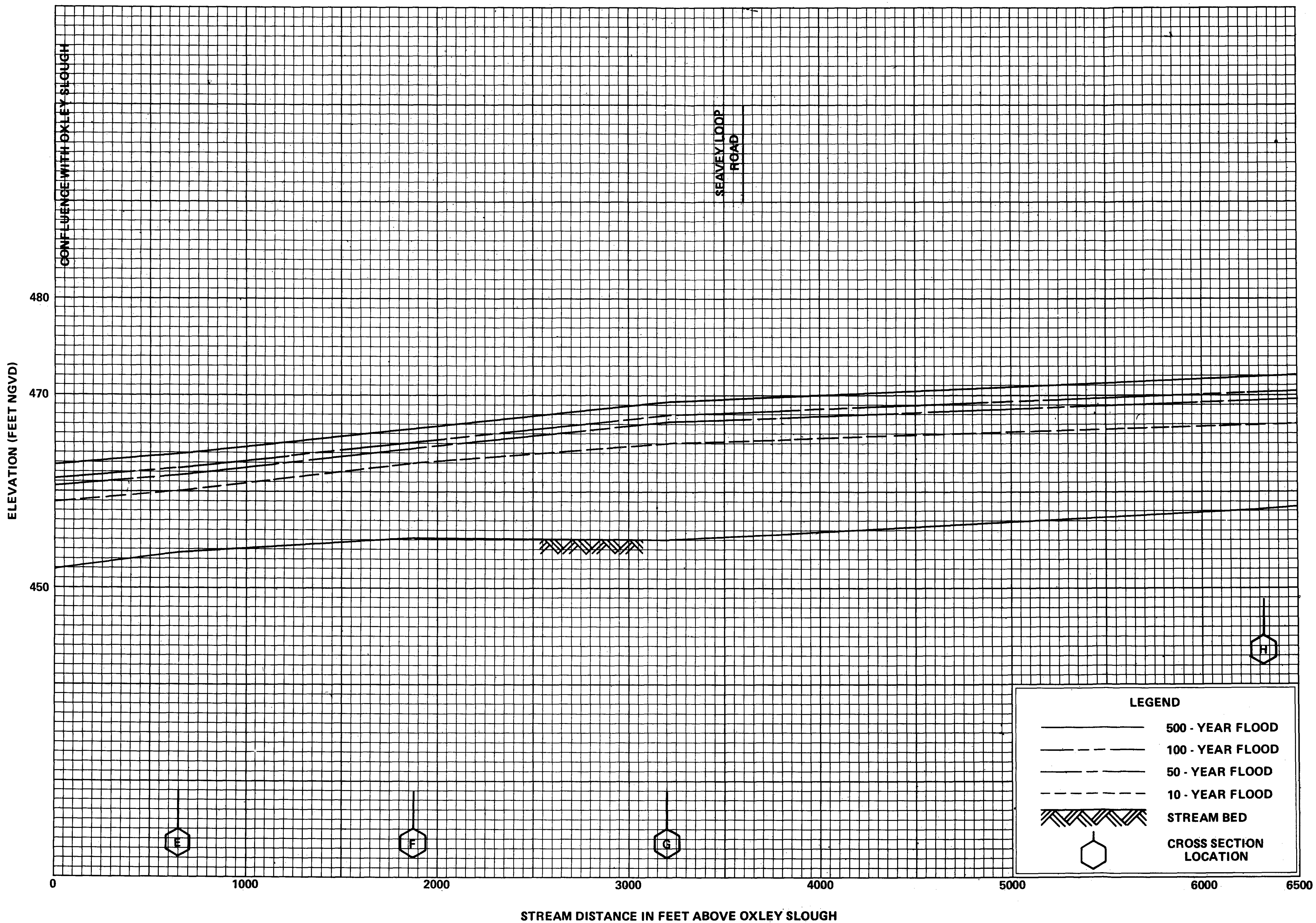
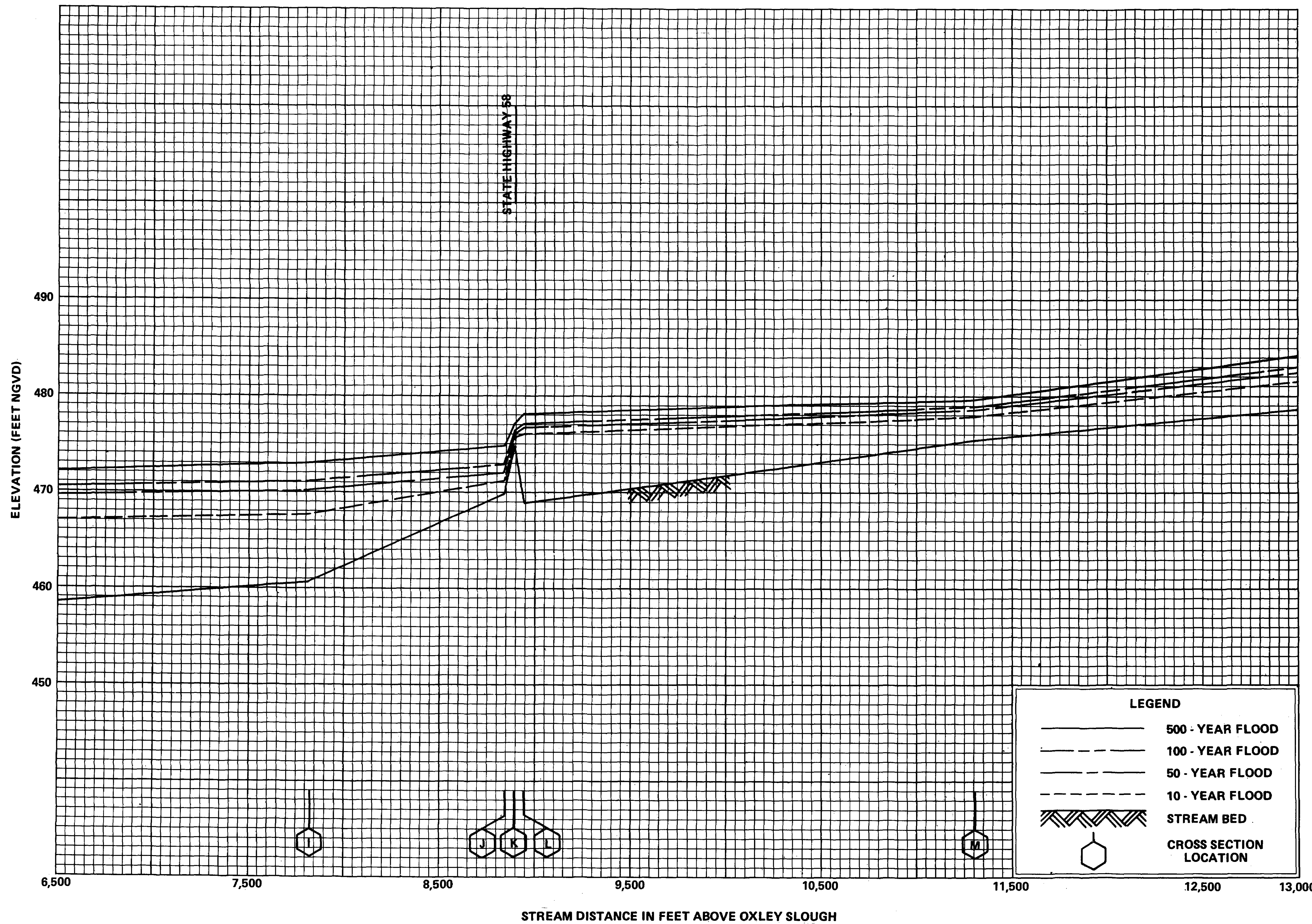


FLOOD PROFILES

BERKSHIRE SLOUGH

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



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BERKSHIRE SLOUGH

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AND INCORPORATED AREAS

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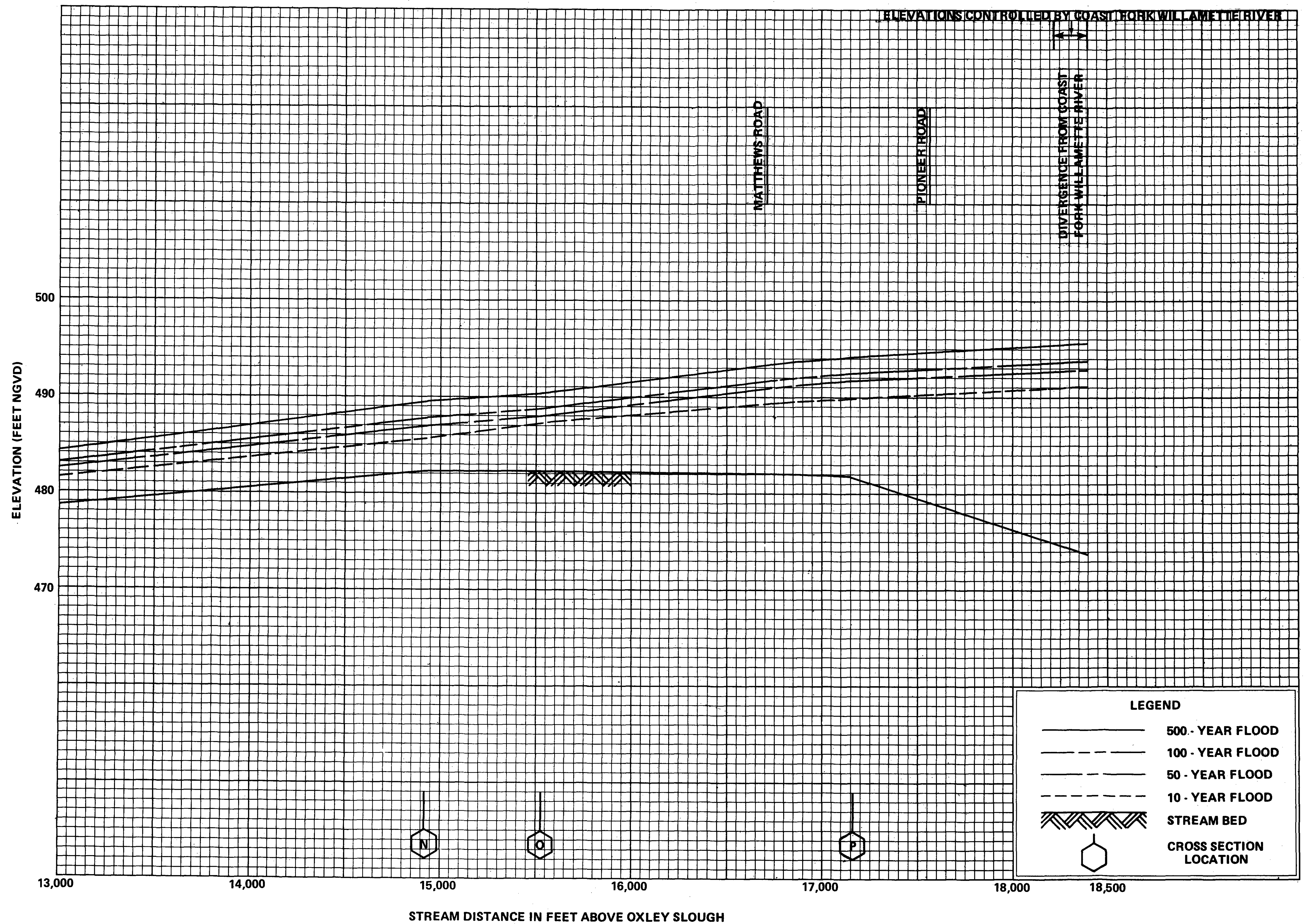
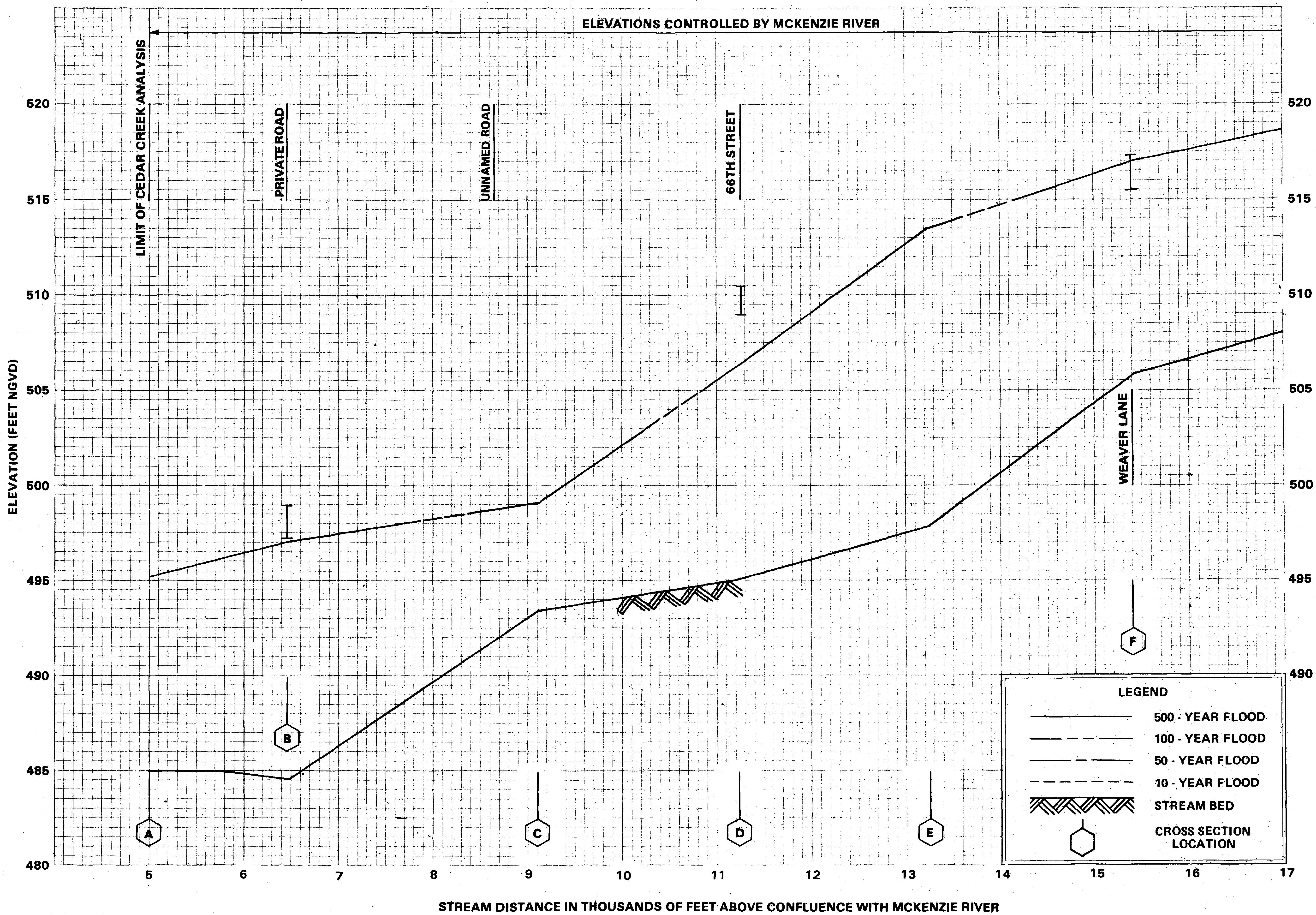


FLOOD PROFILES

BERKSHIRE SLOUGH

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



FLOOD PROFILES

CEDAR CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

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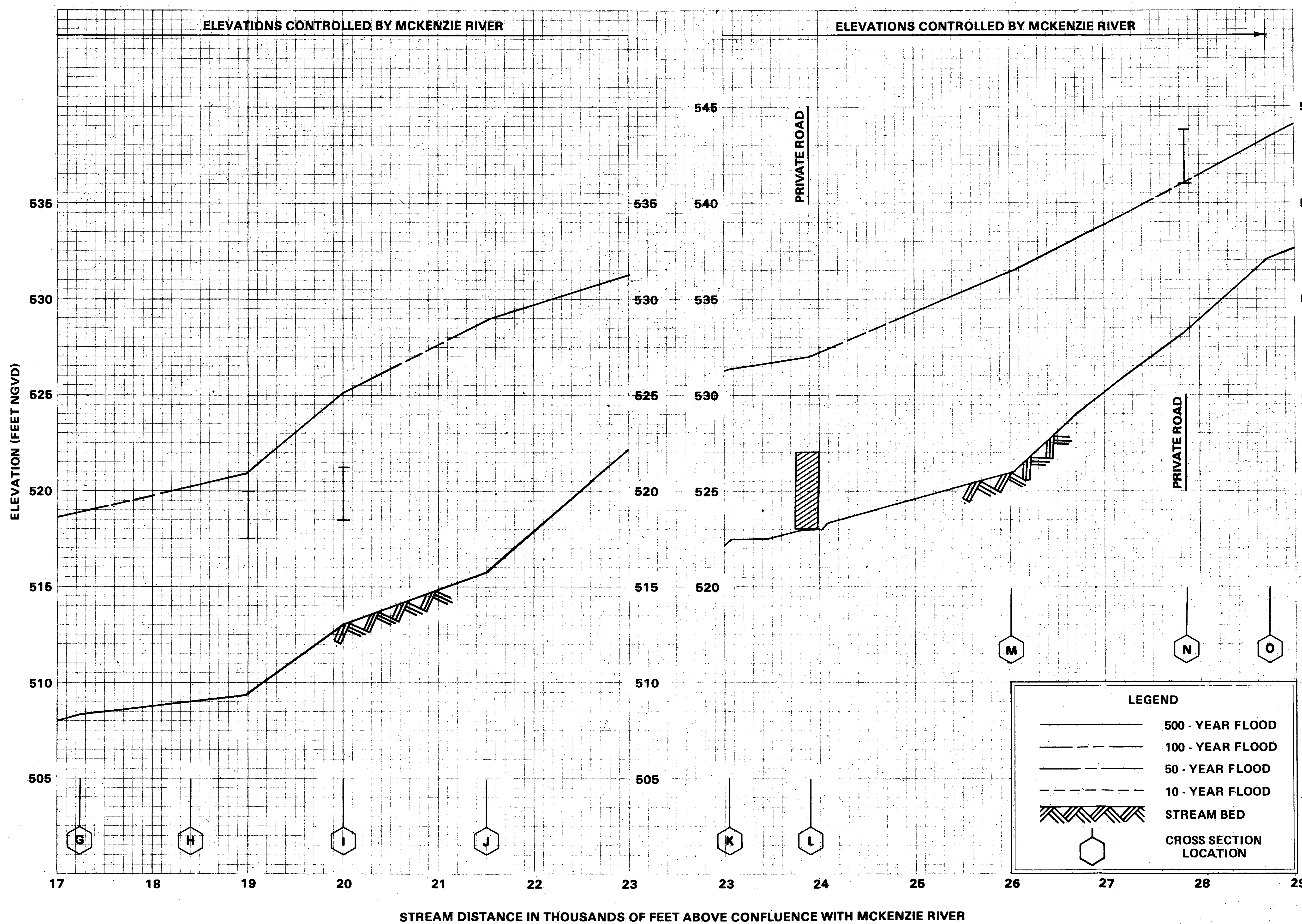


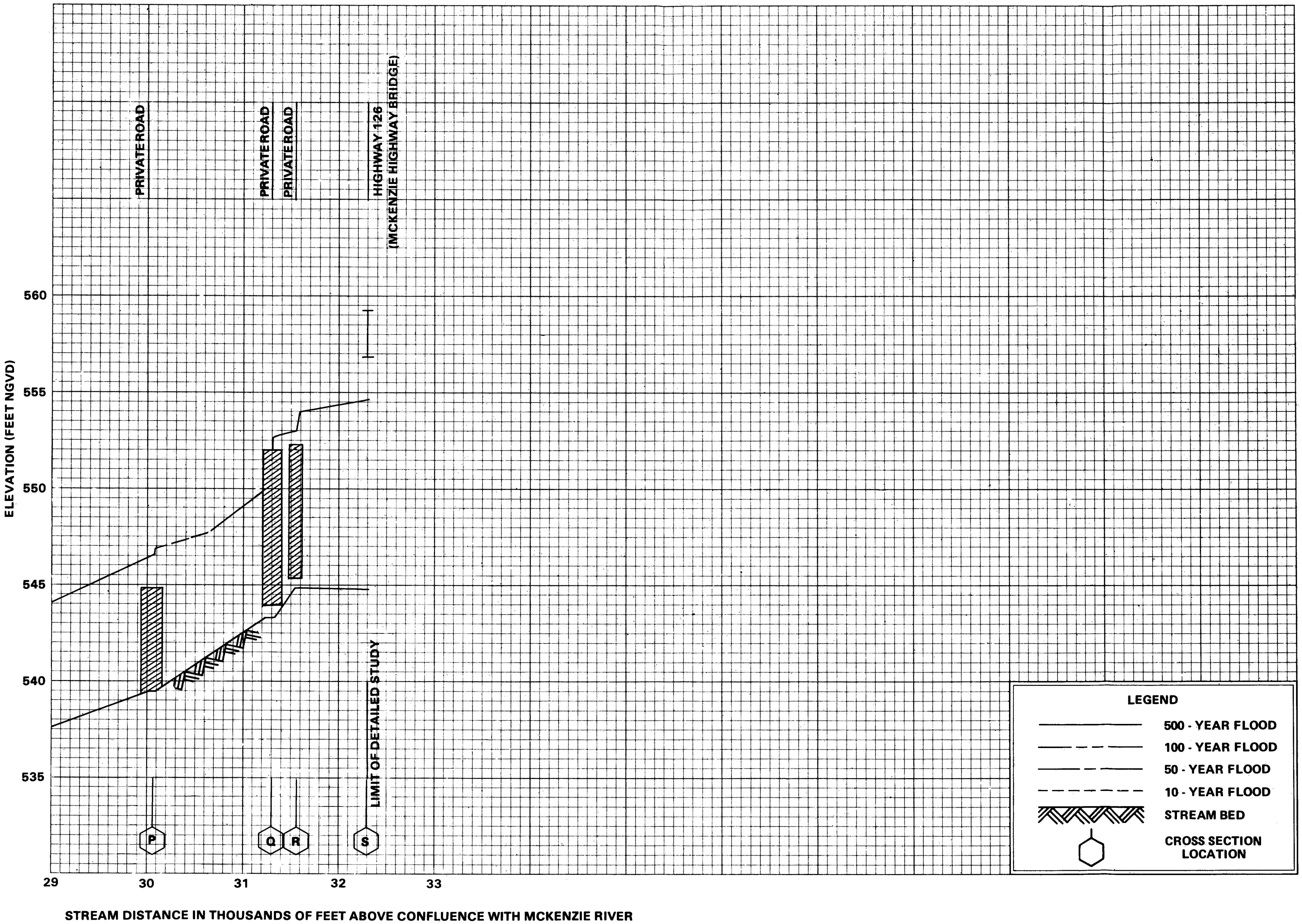
FLOOD PROFILES

CEDAR CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

15P

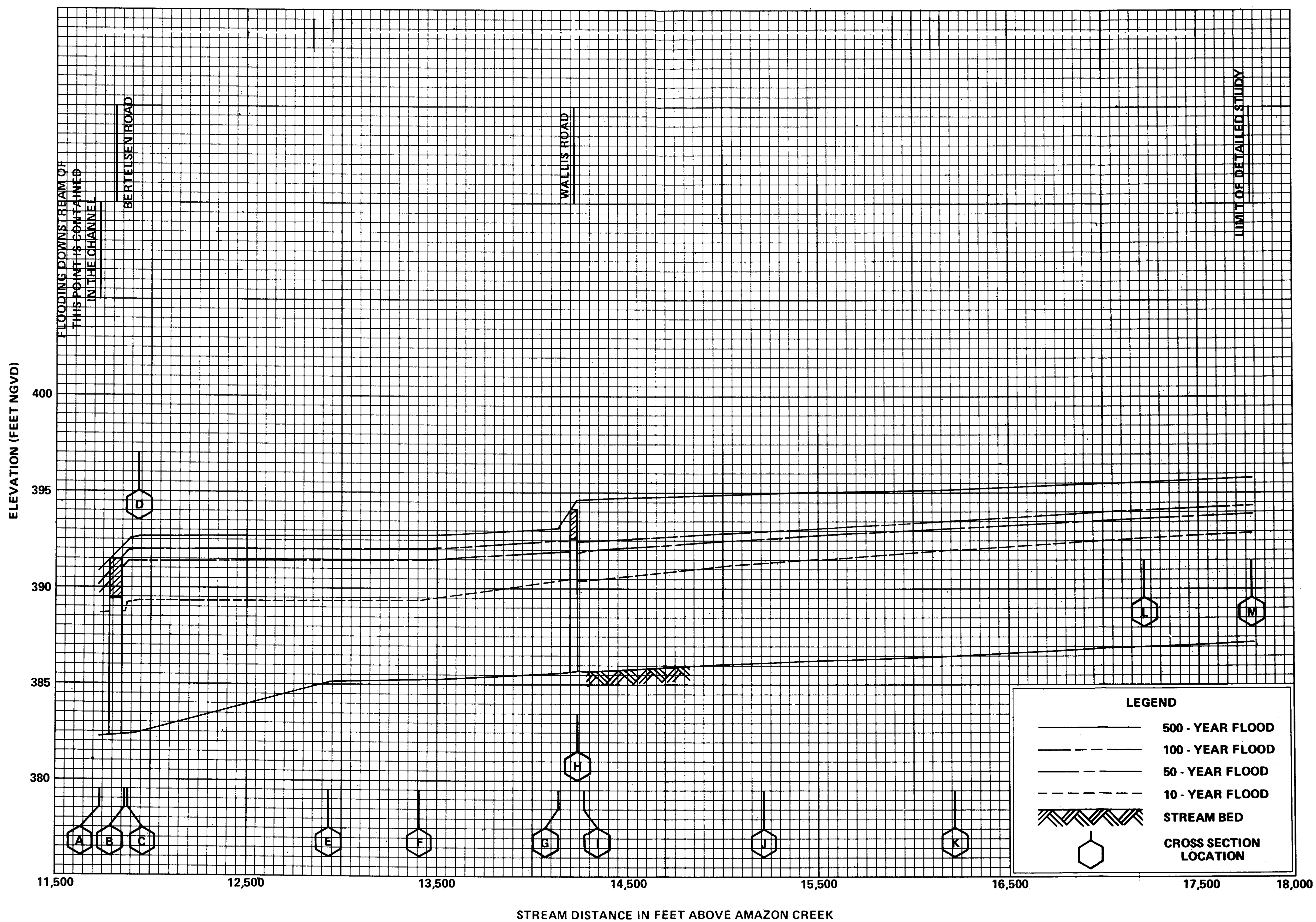


FLOOD PROFILES

CEDAR CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

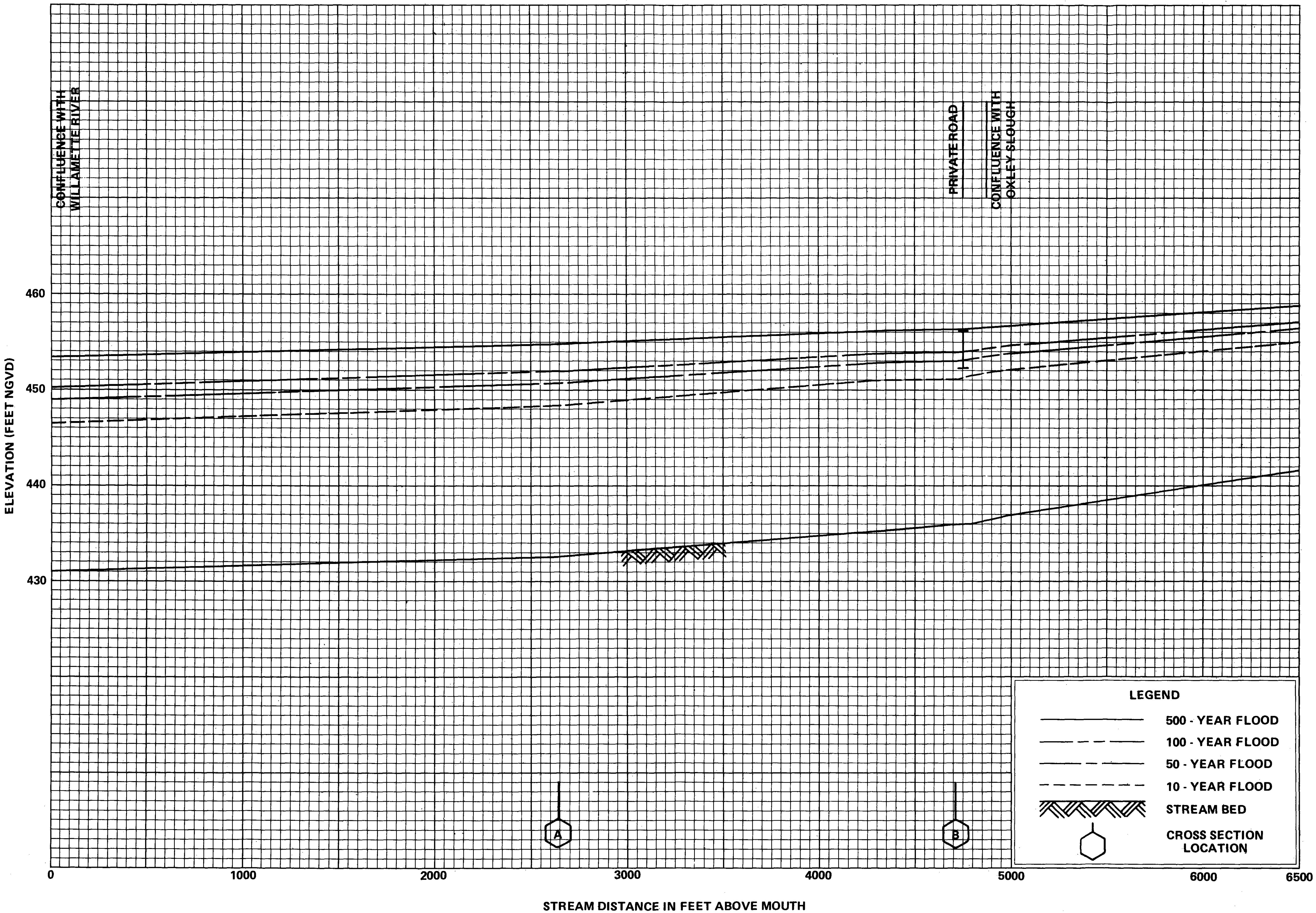


FLOOD PROFILES

CHANNEL A3

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



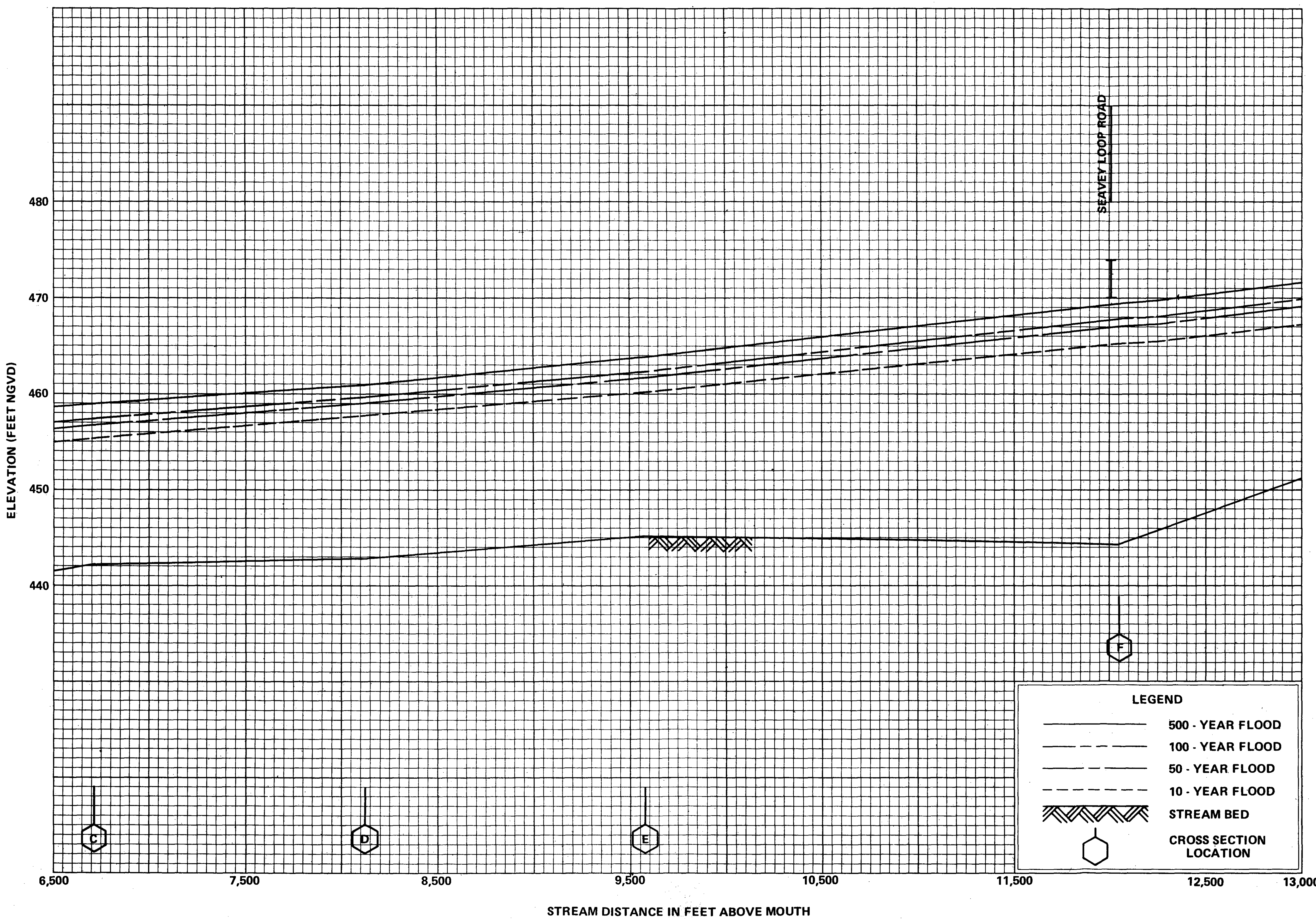
FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

18P

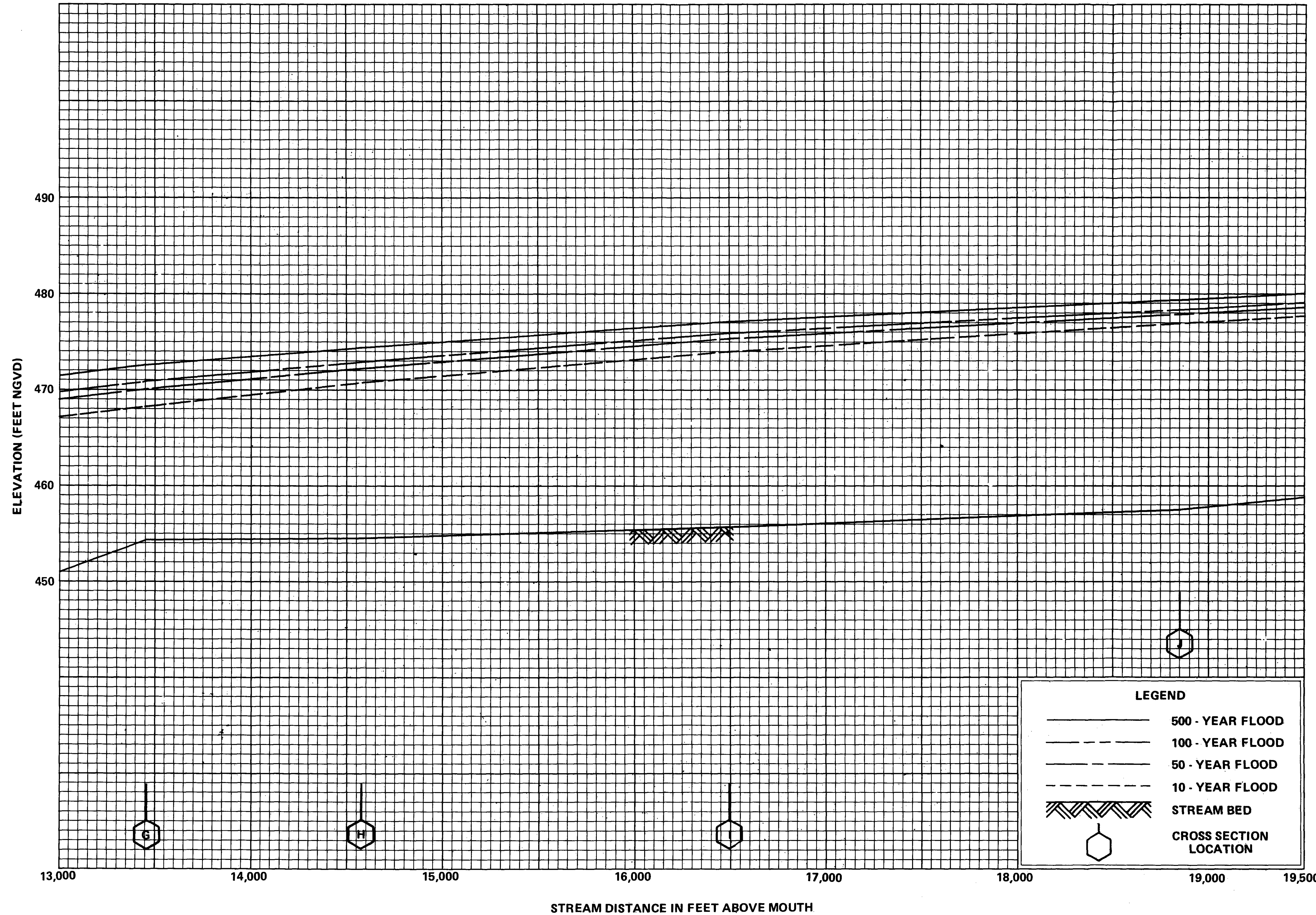


FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



FLOOD PROFILES

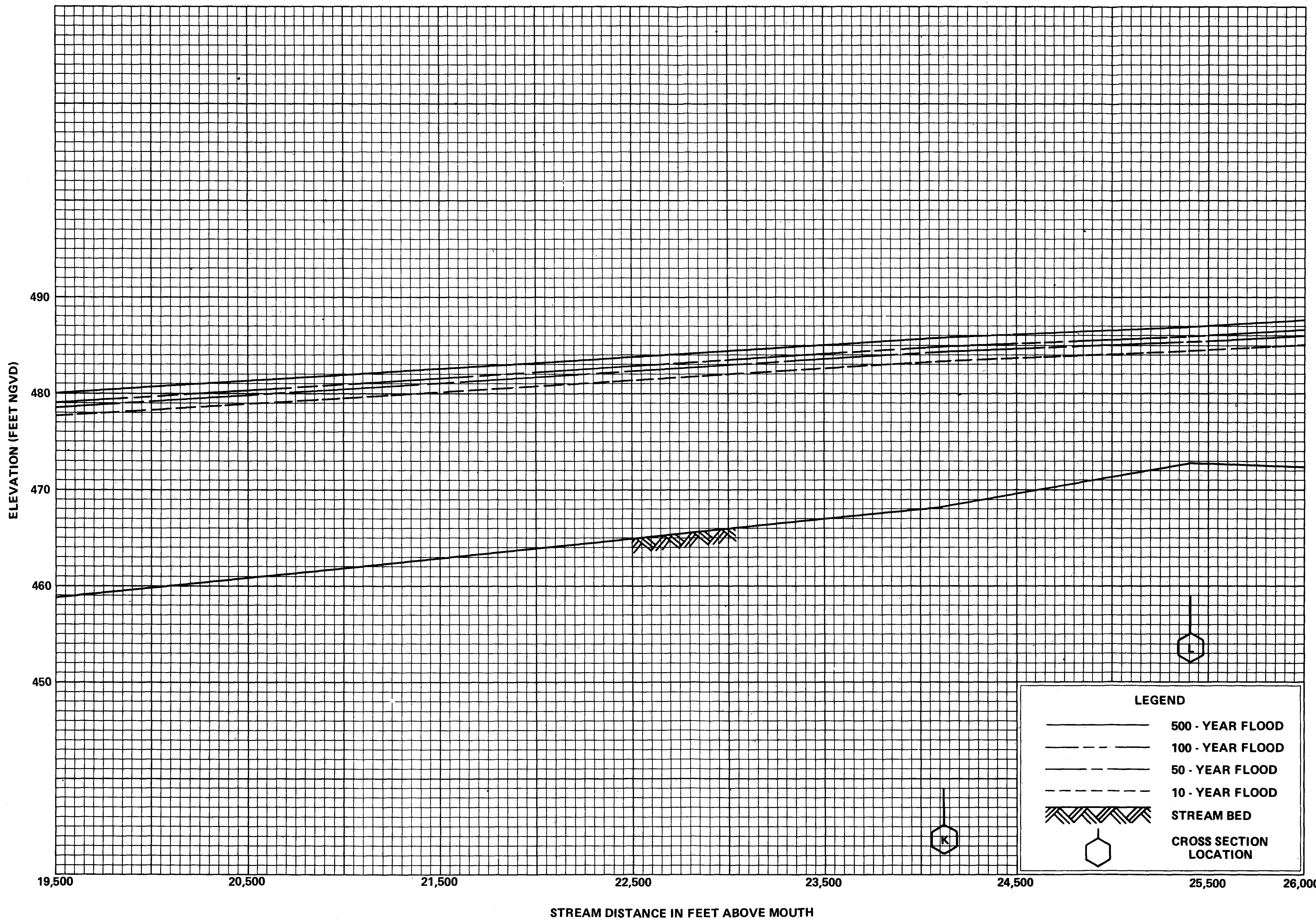
COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS

20P

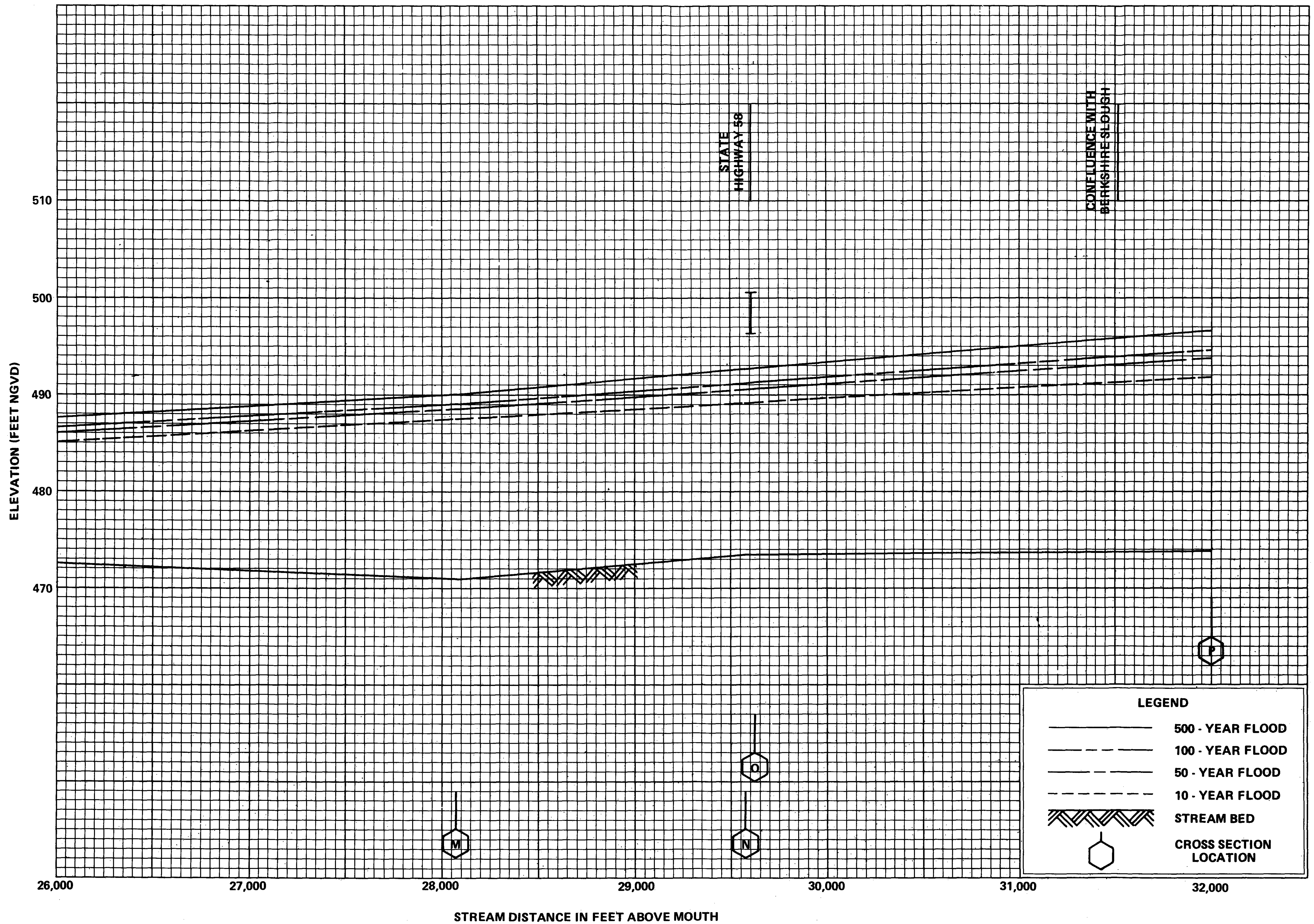


FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



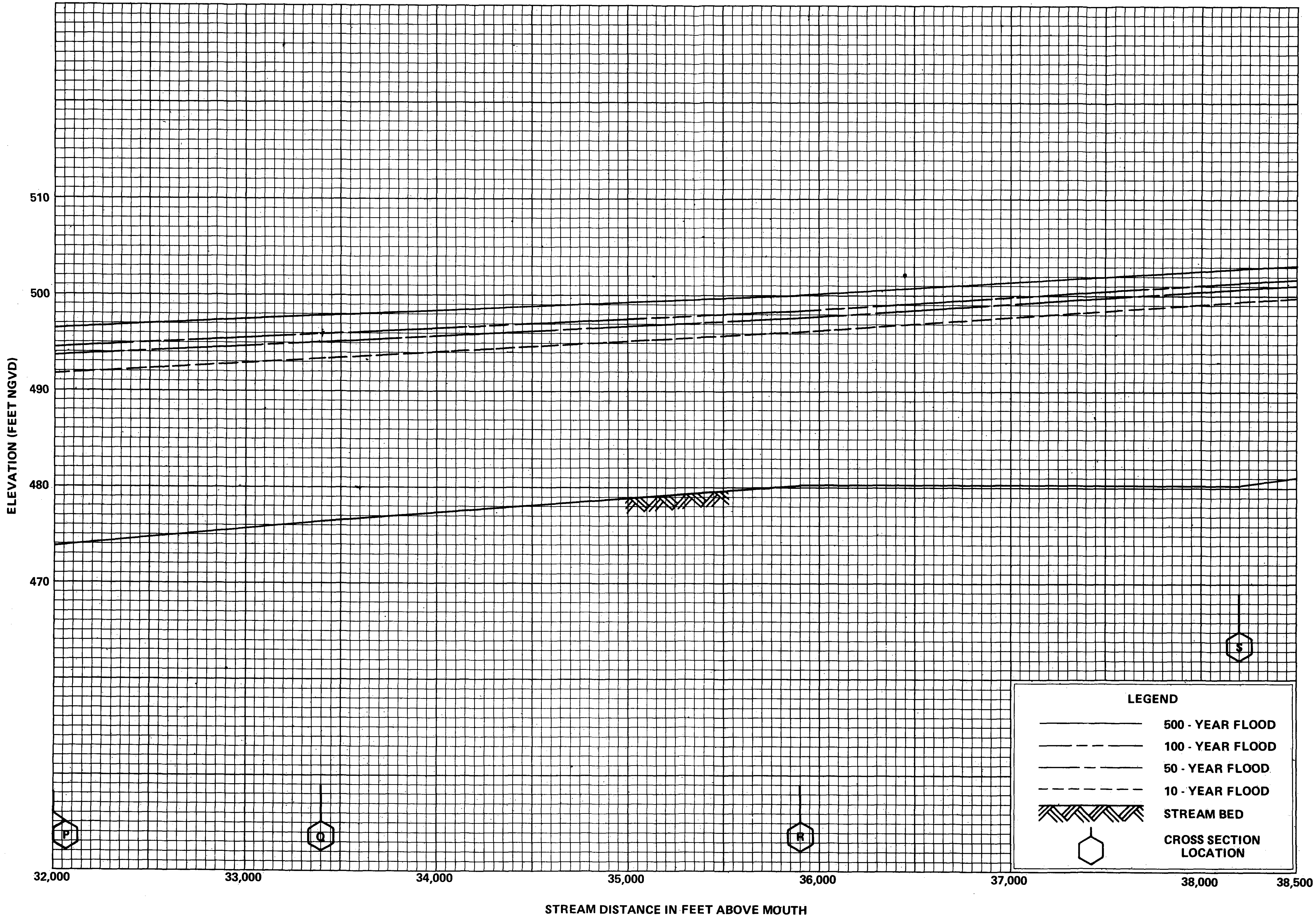
FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

22P

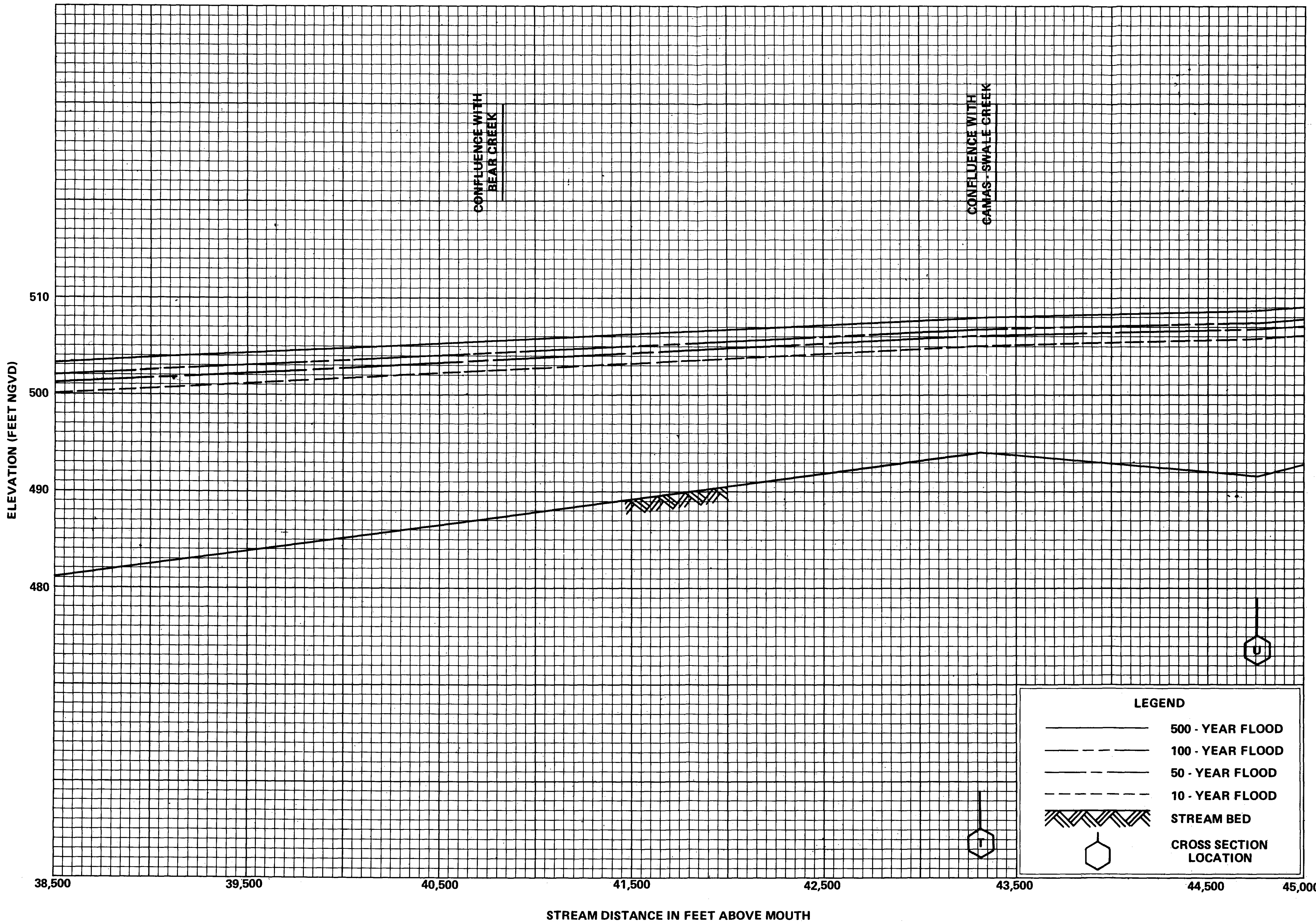


FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

COAST FORK WILLAMETTE RIVER



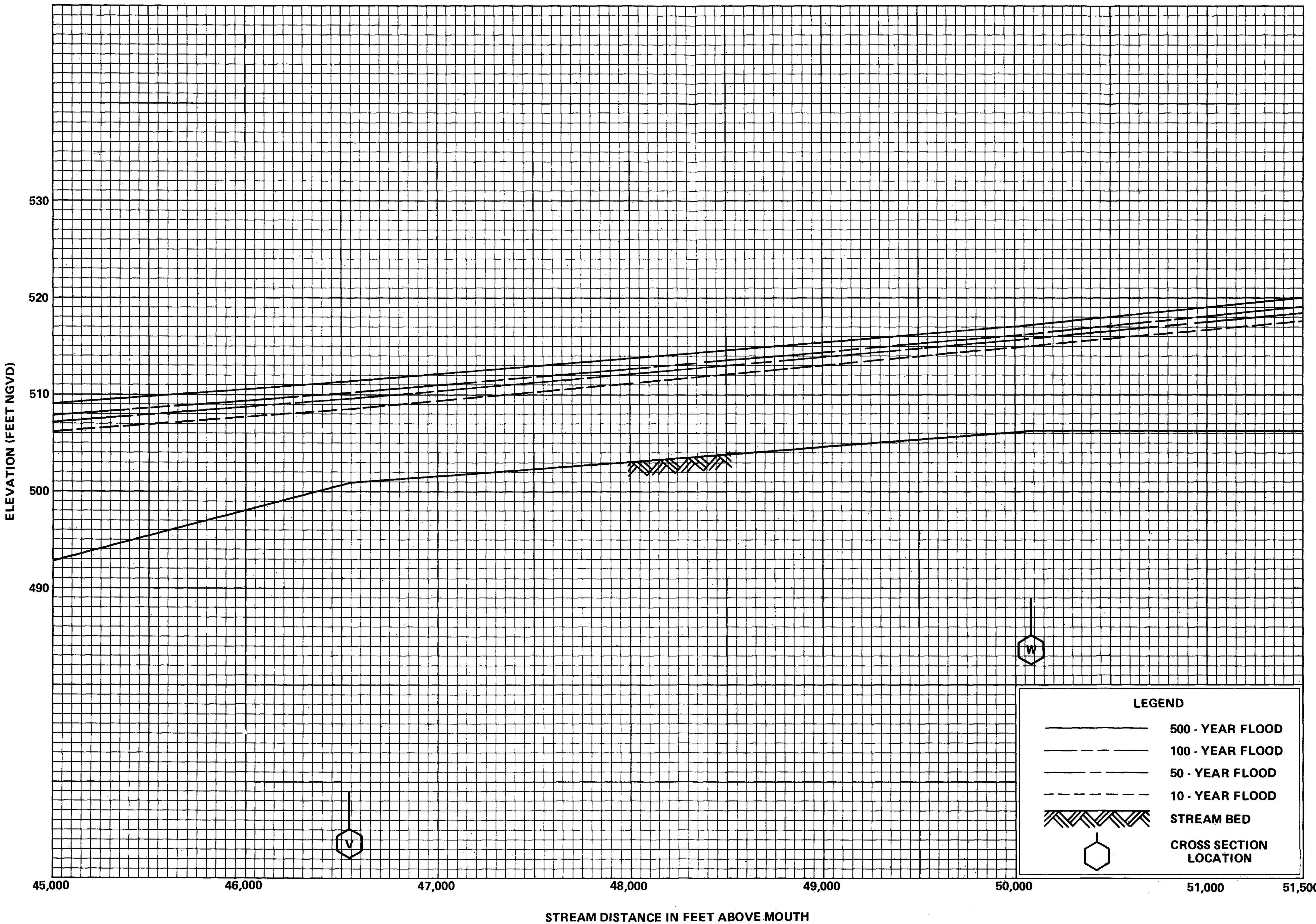
FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

24P



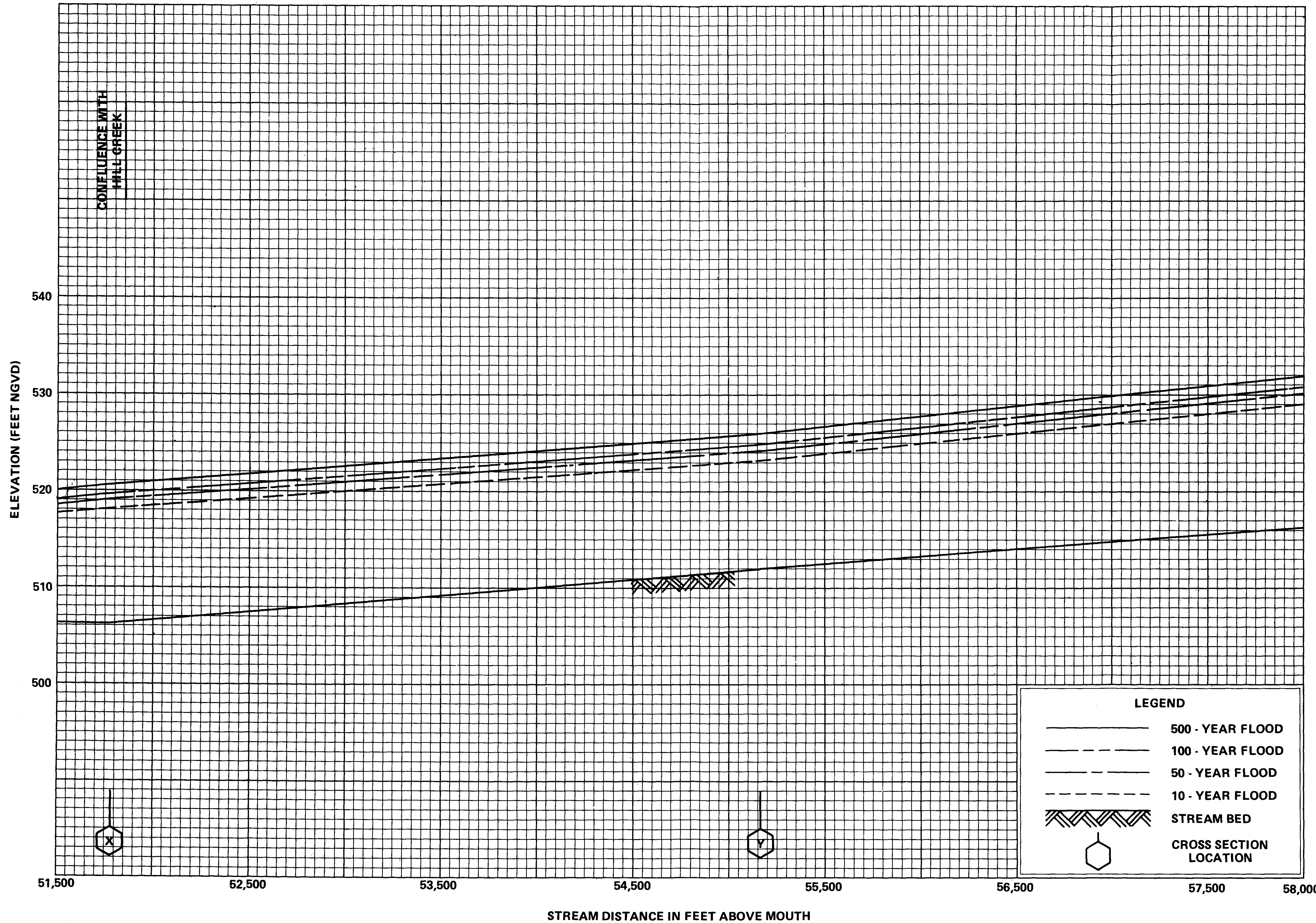
FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

25P

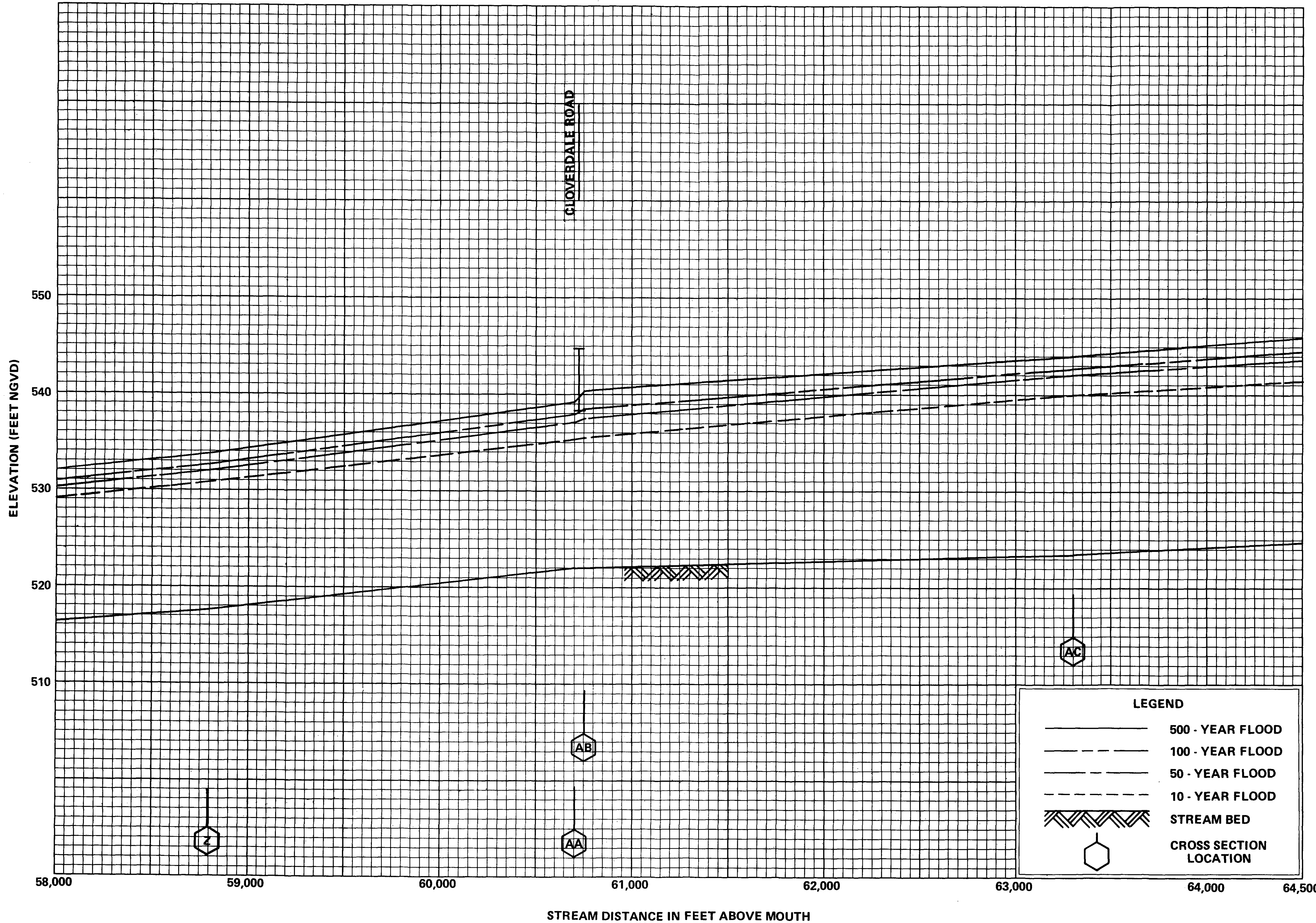


FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

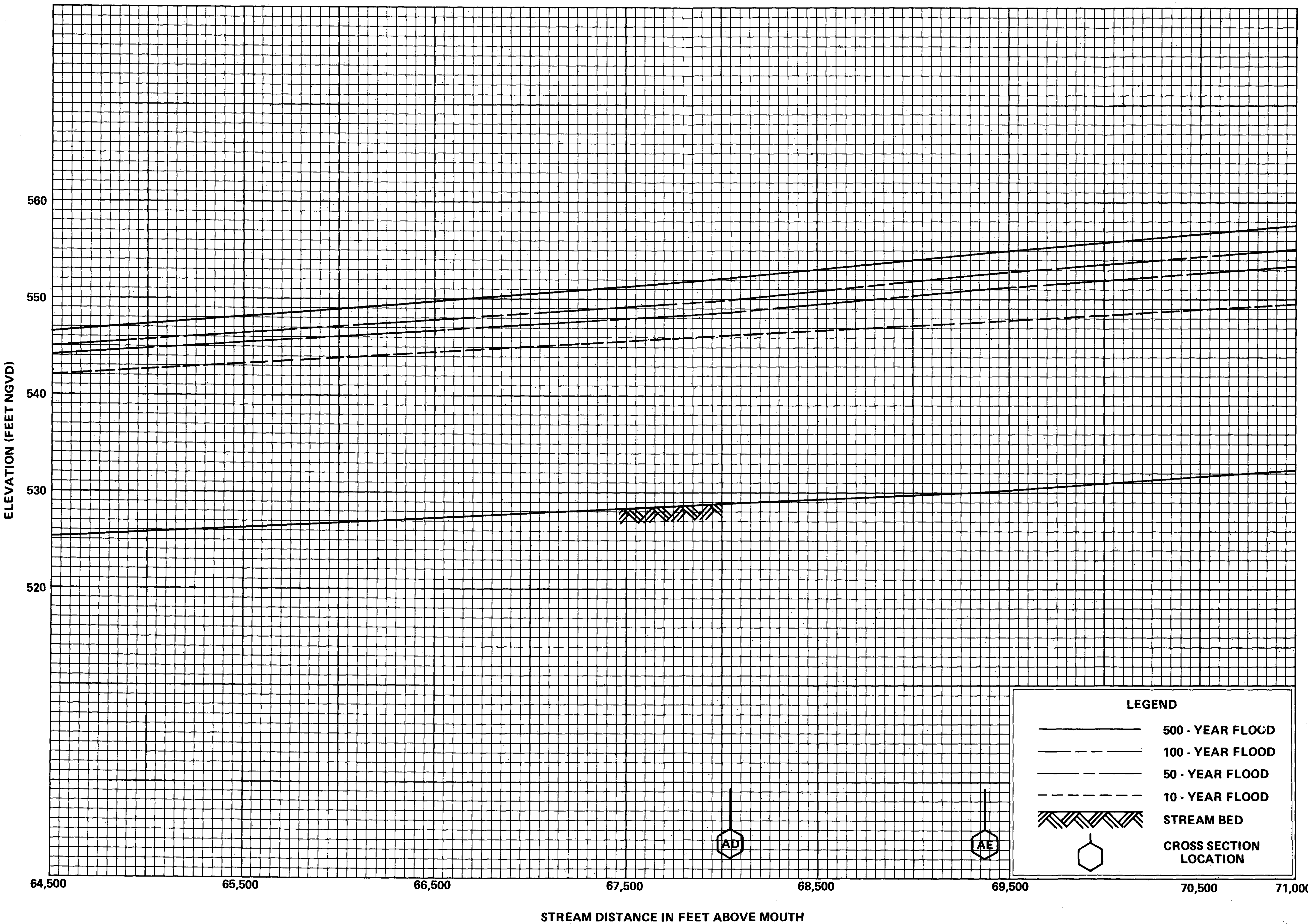


FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



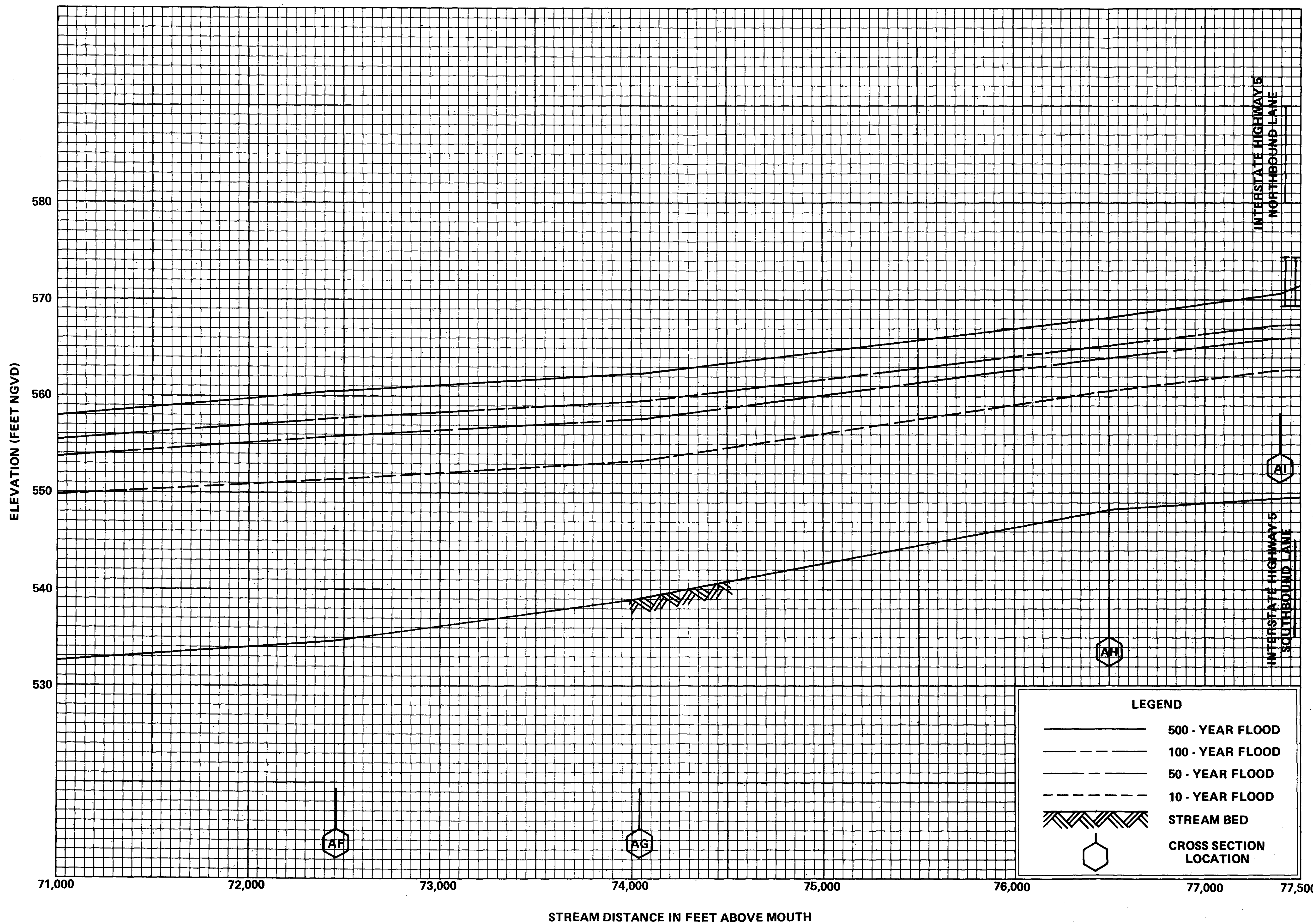
FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS

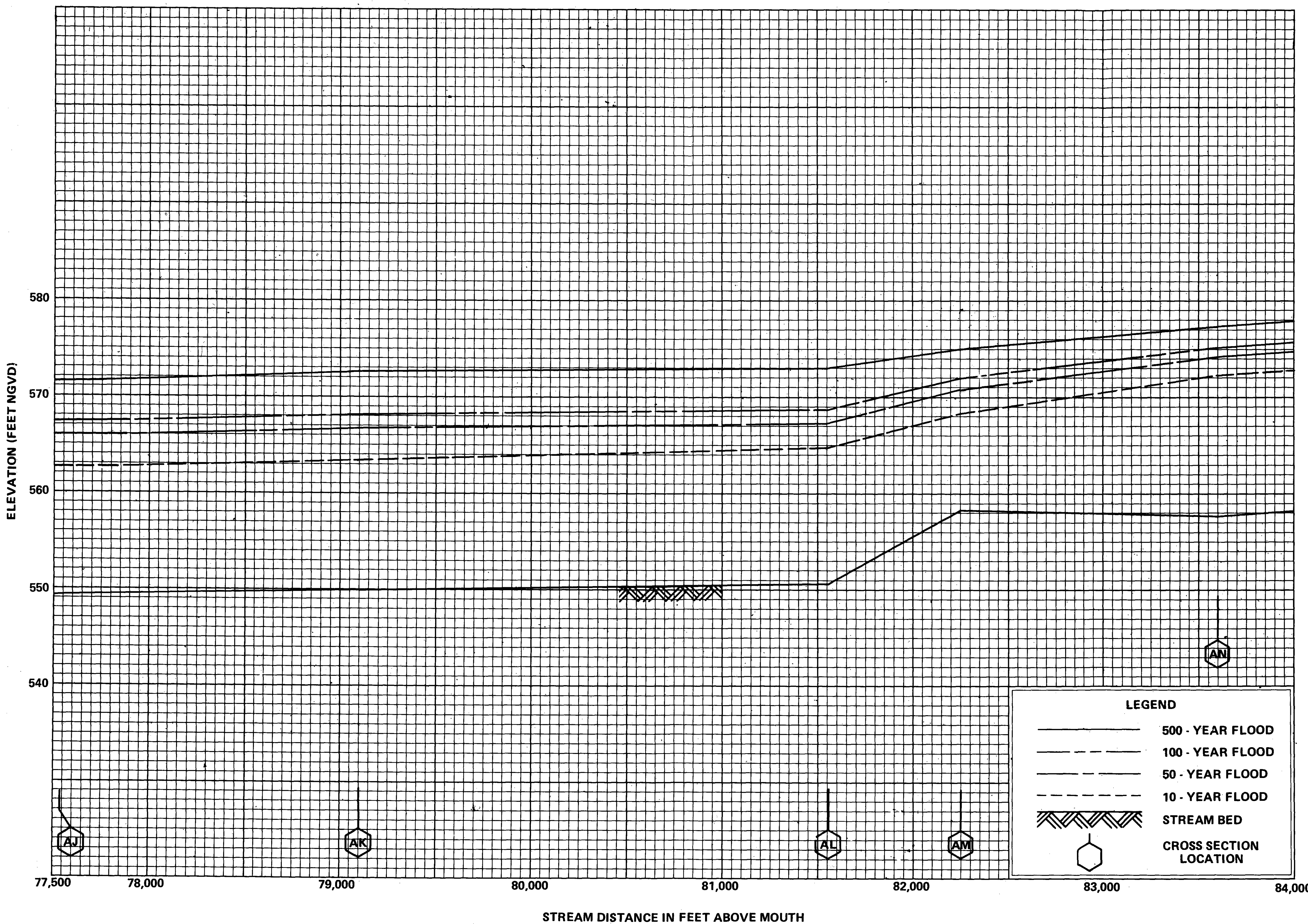


FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

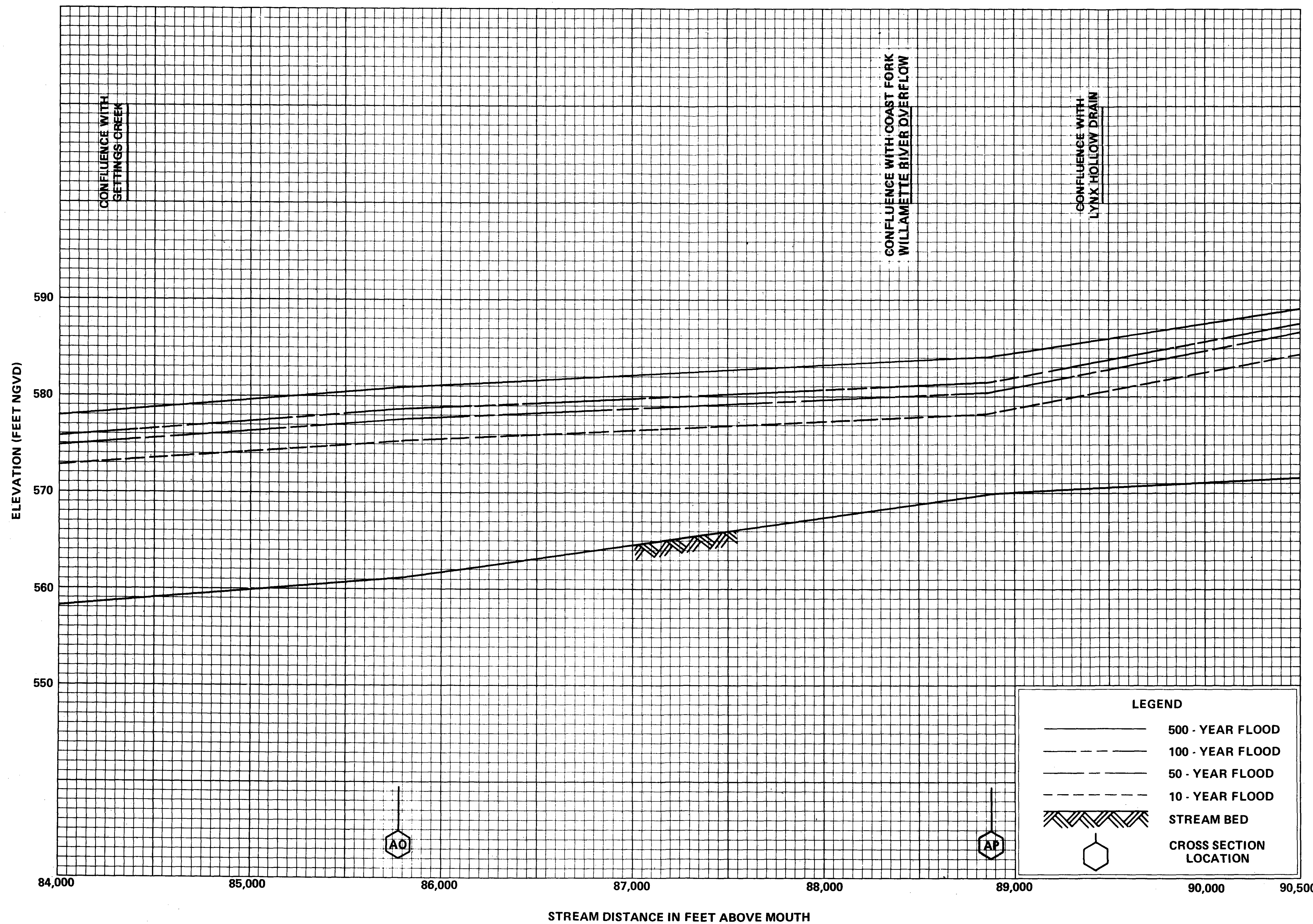


FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

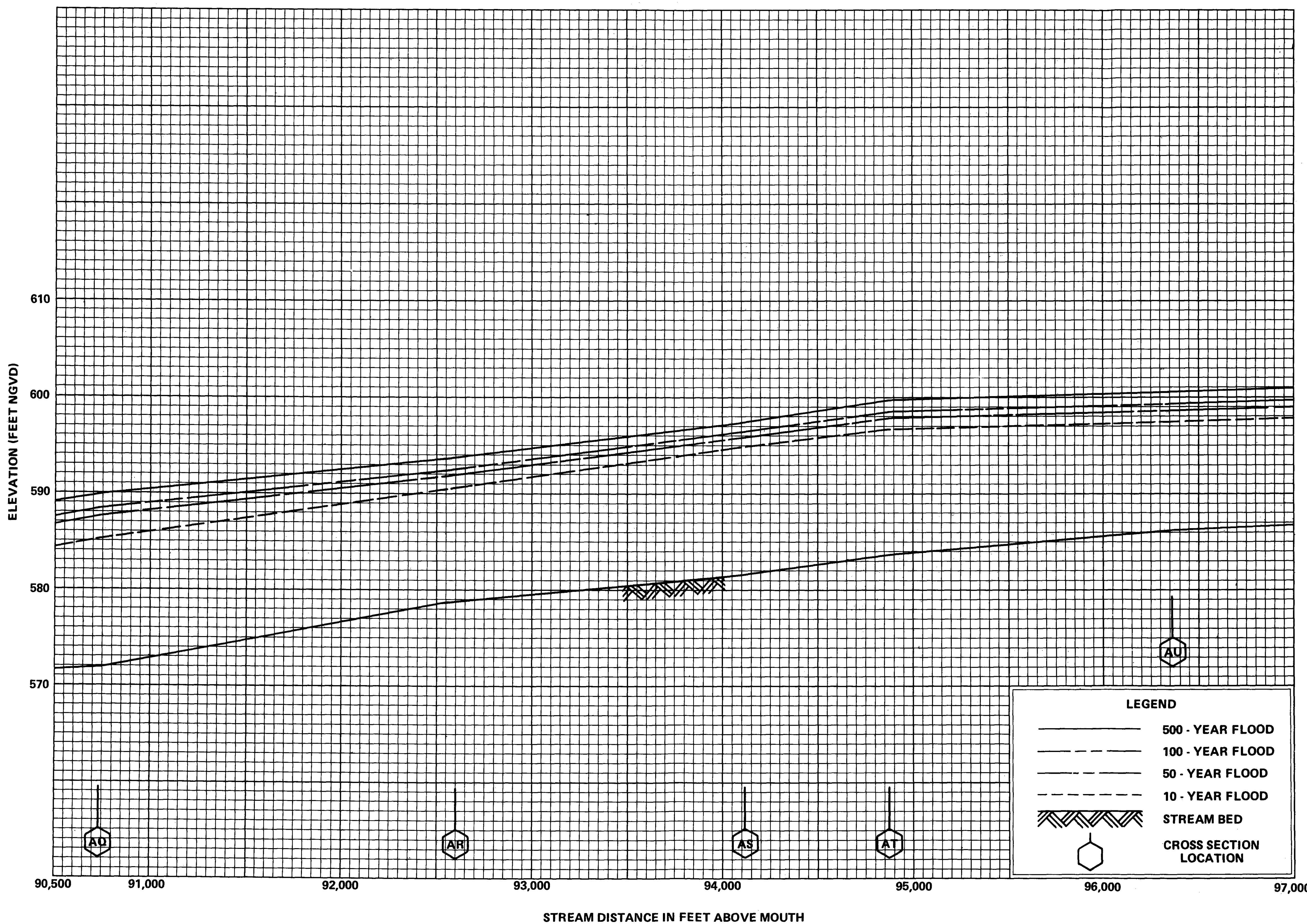


FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



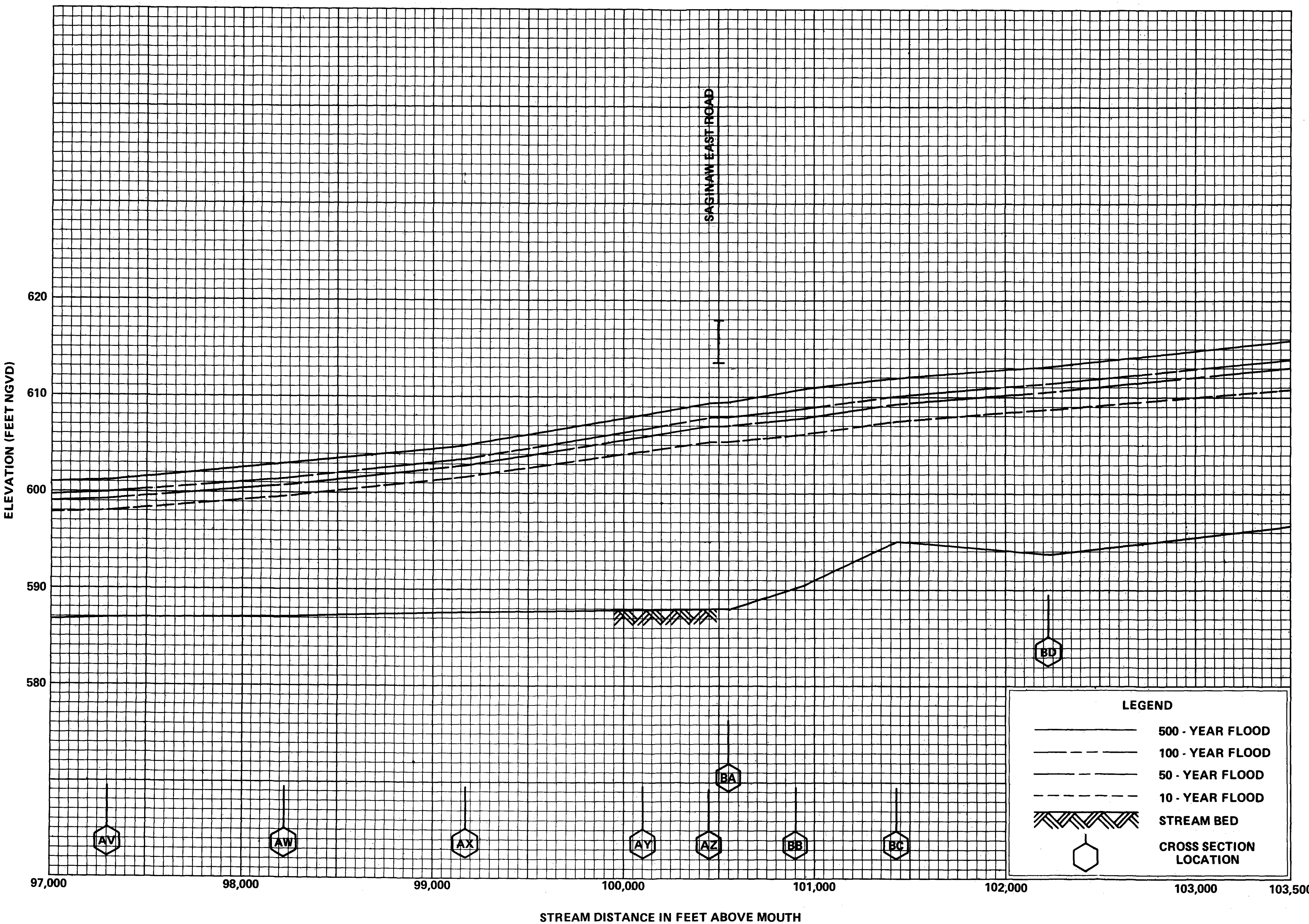
FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

32P



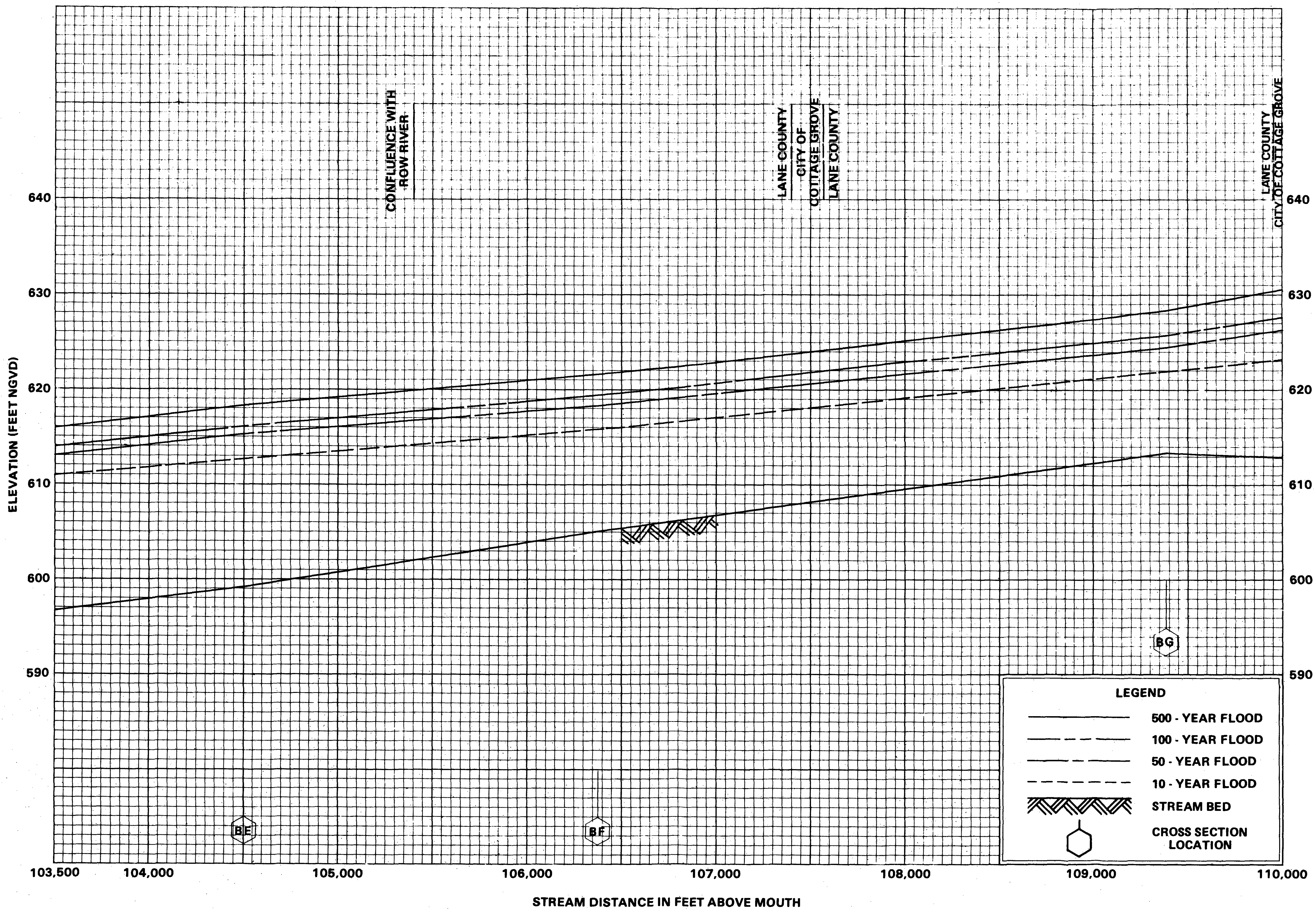
FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

33P



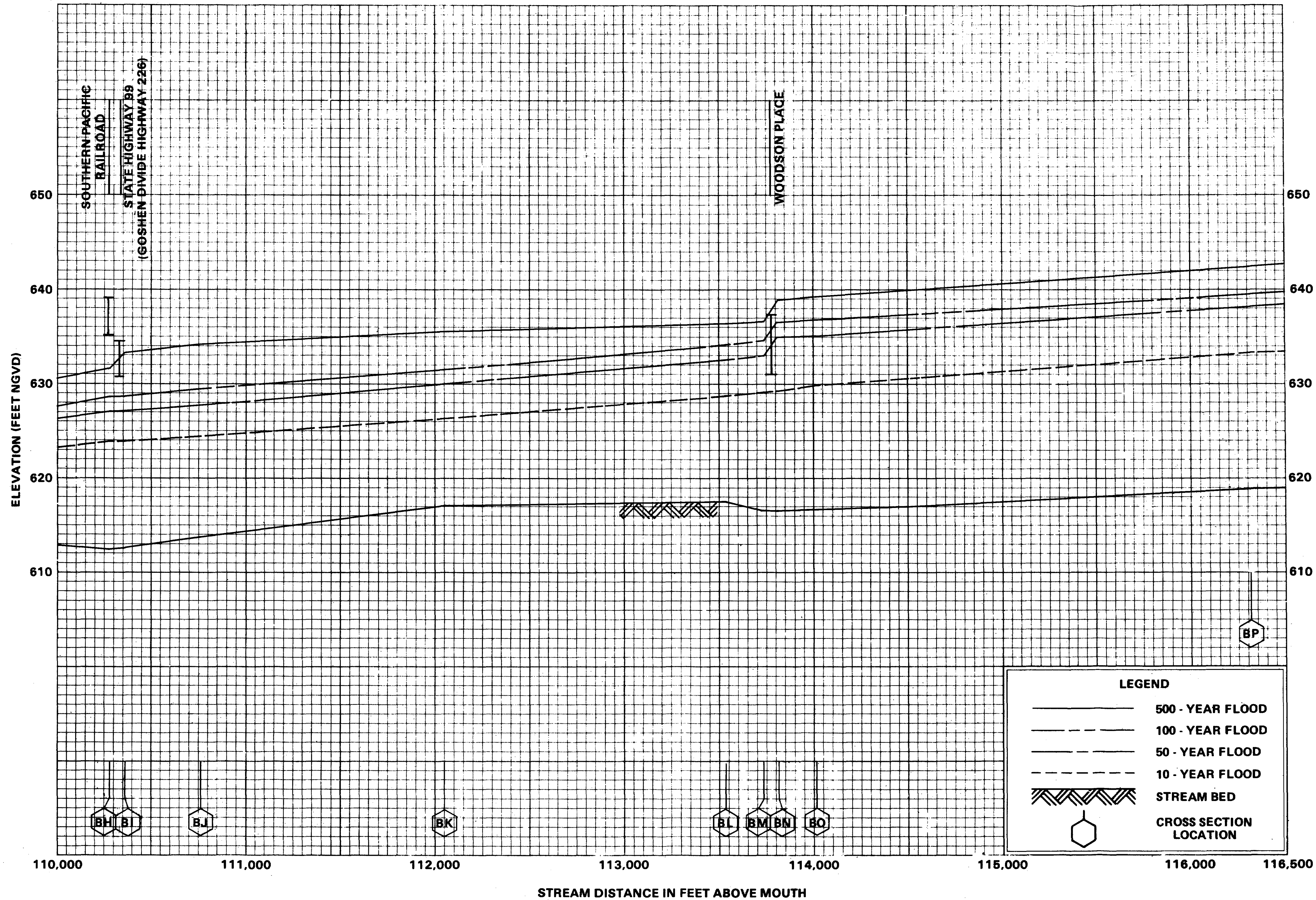
FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

34P

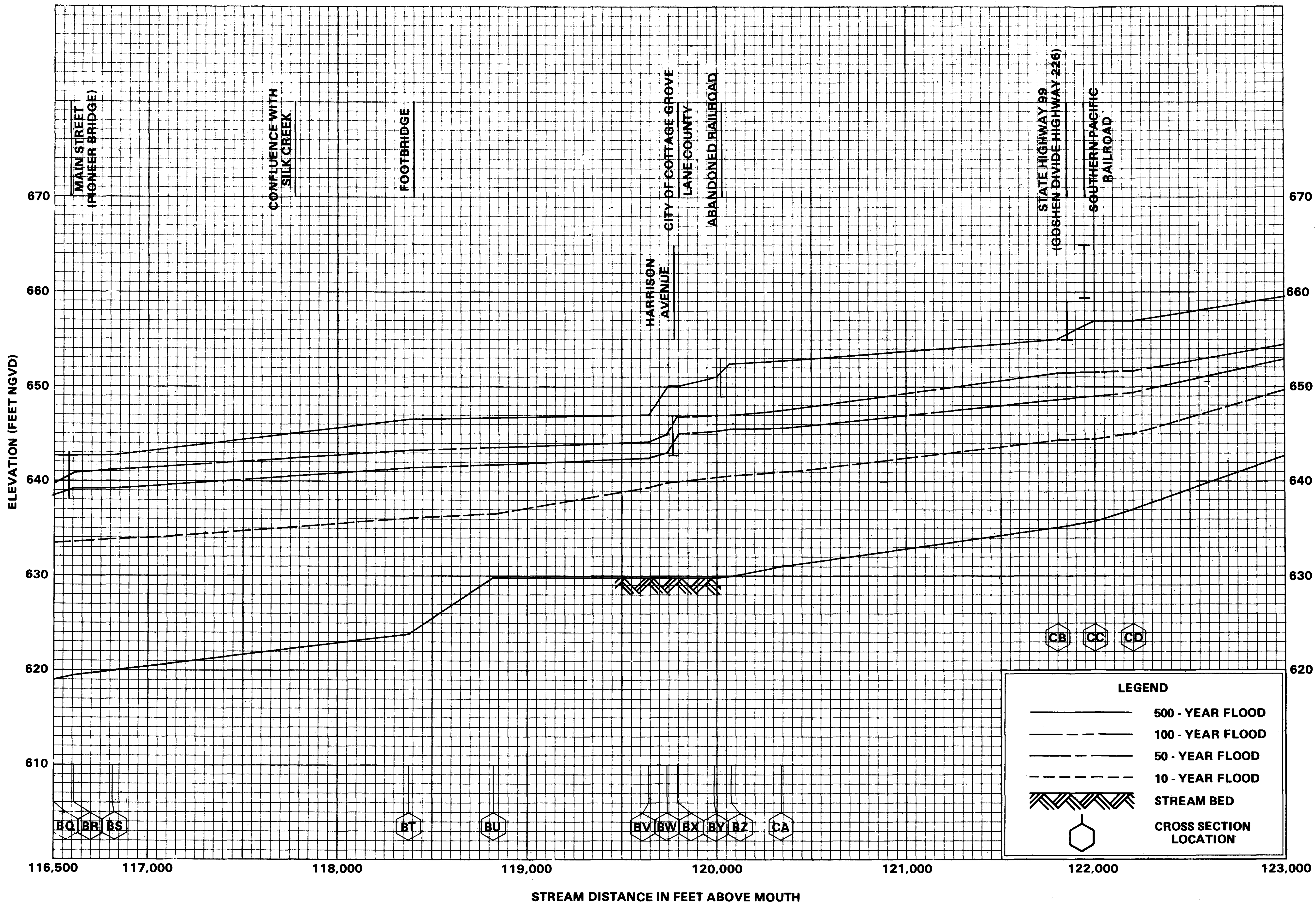


FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



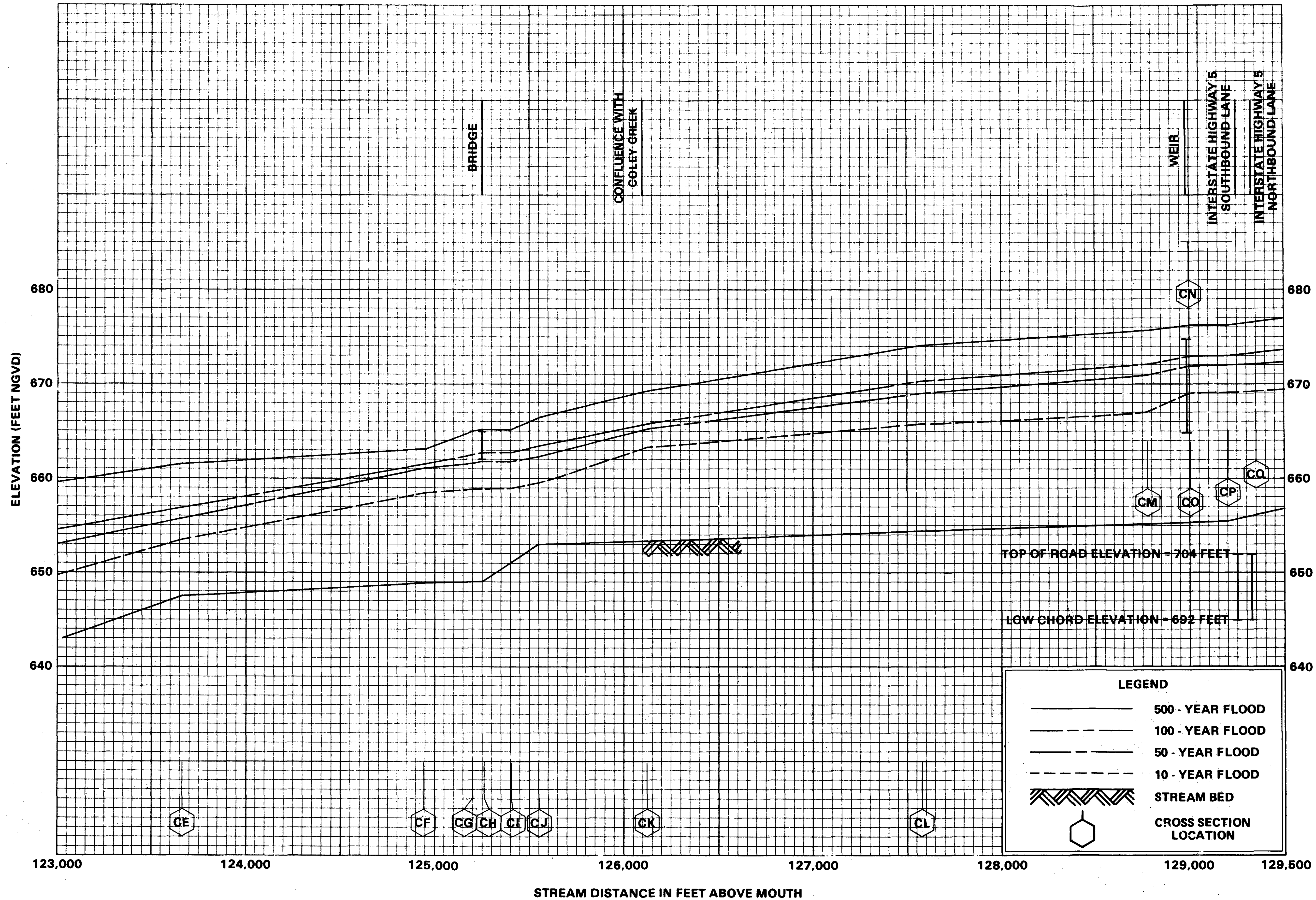
FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

36P

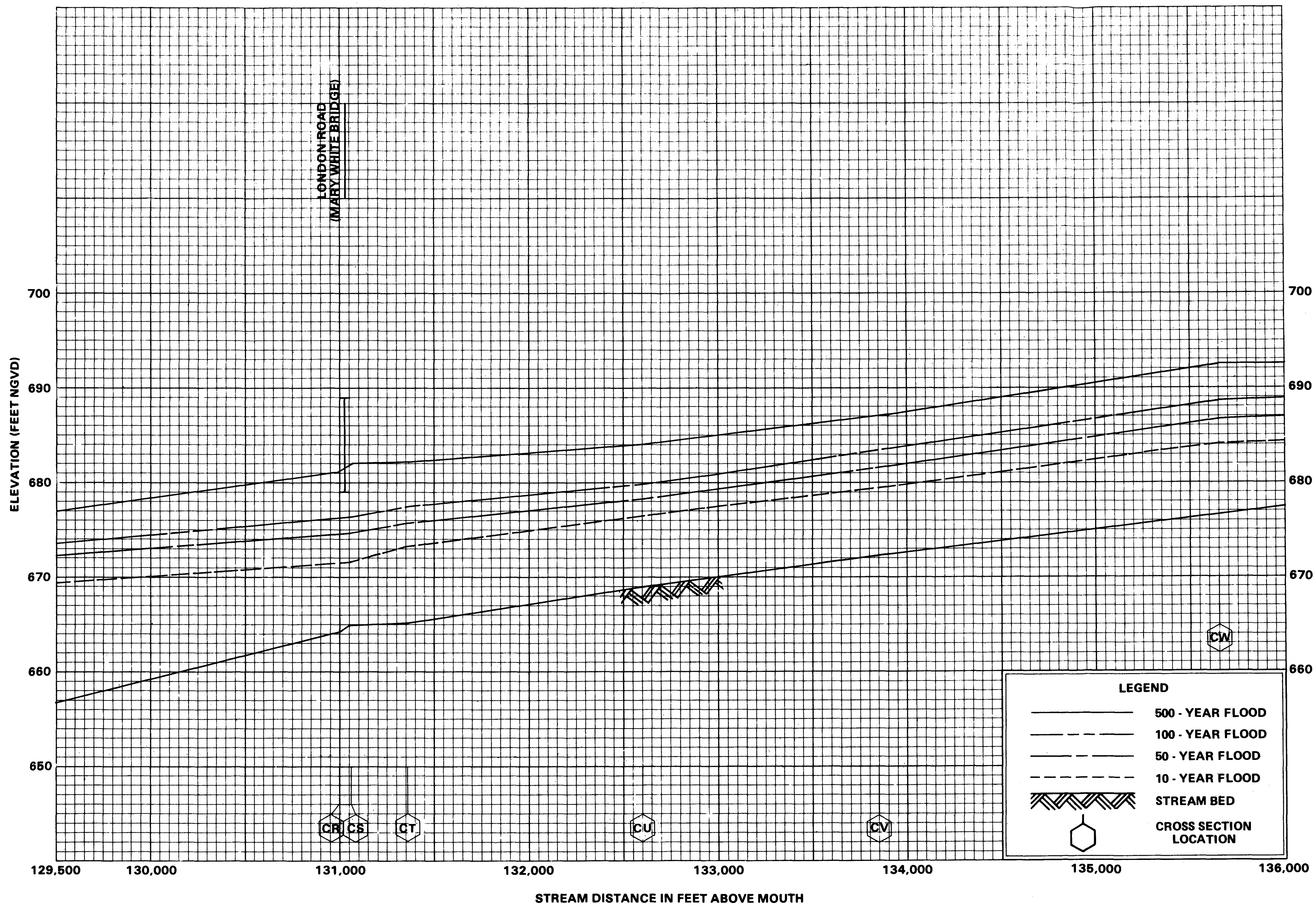


FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



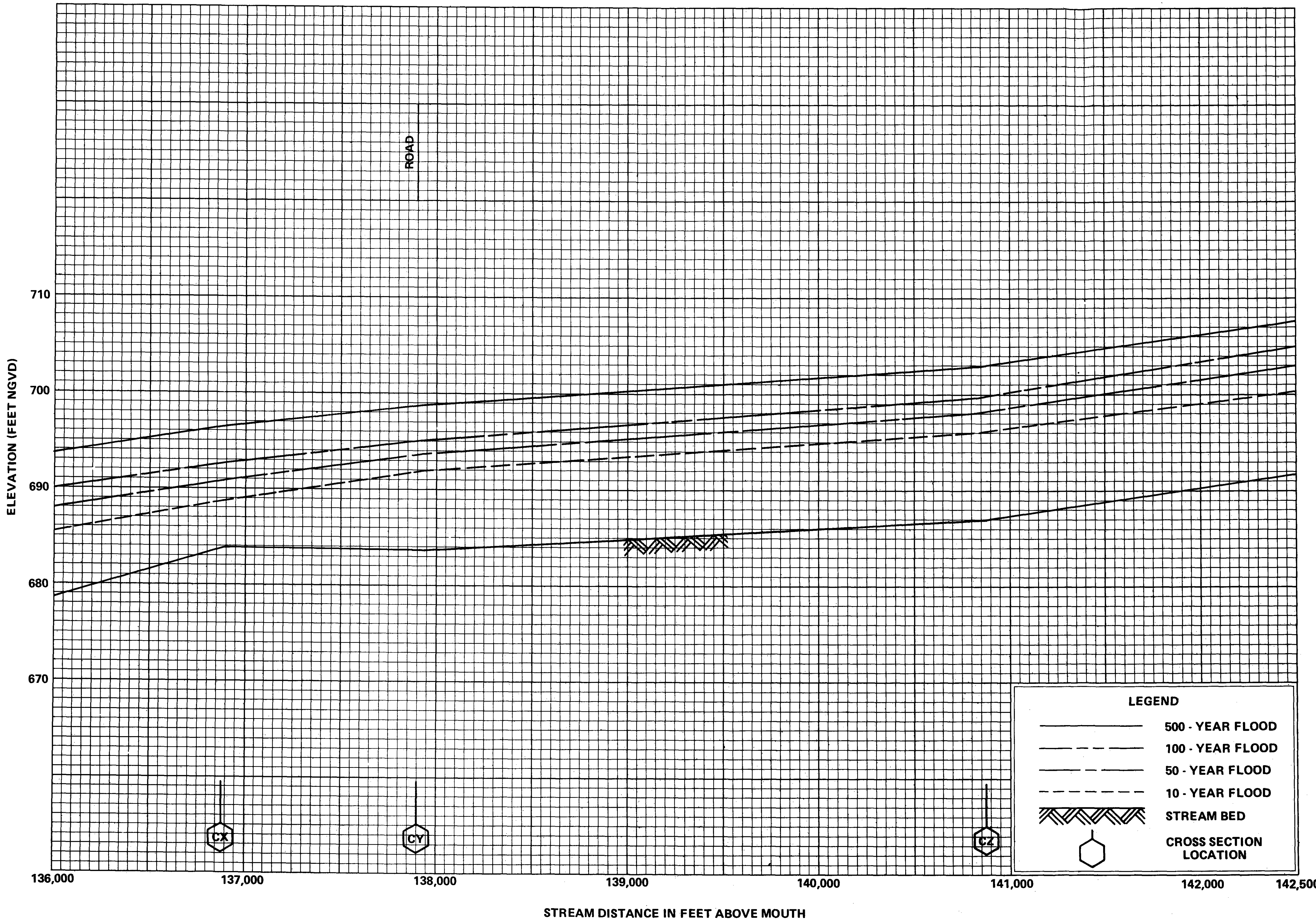
FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

38P



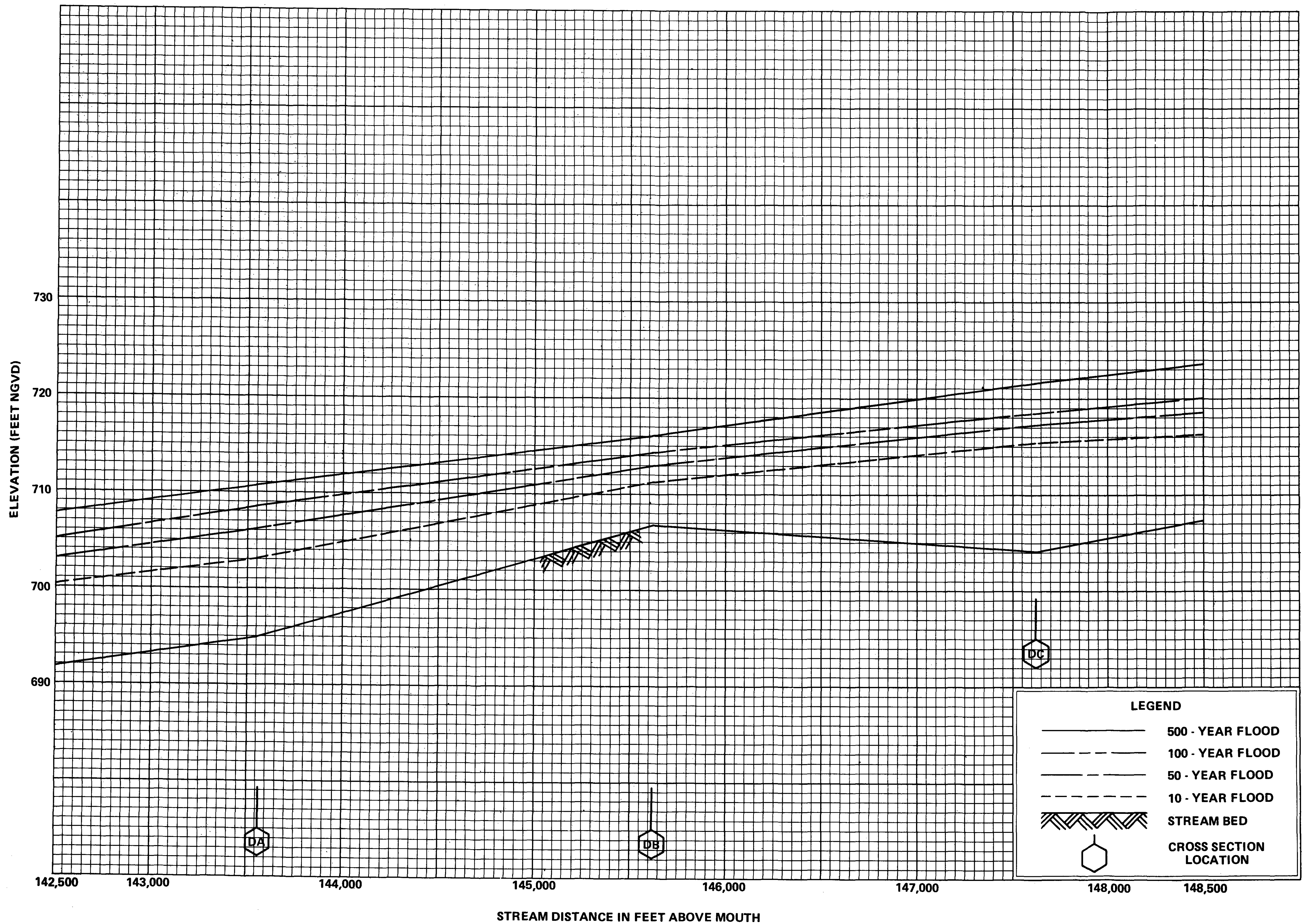
FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

39P



FLOOD PROFILES

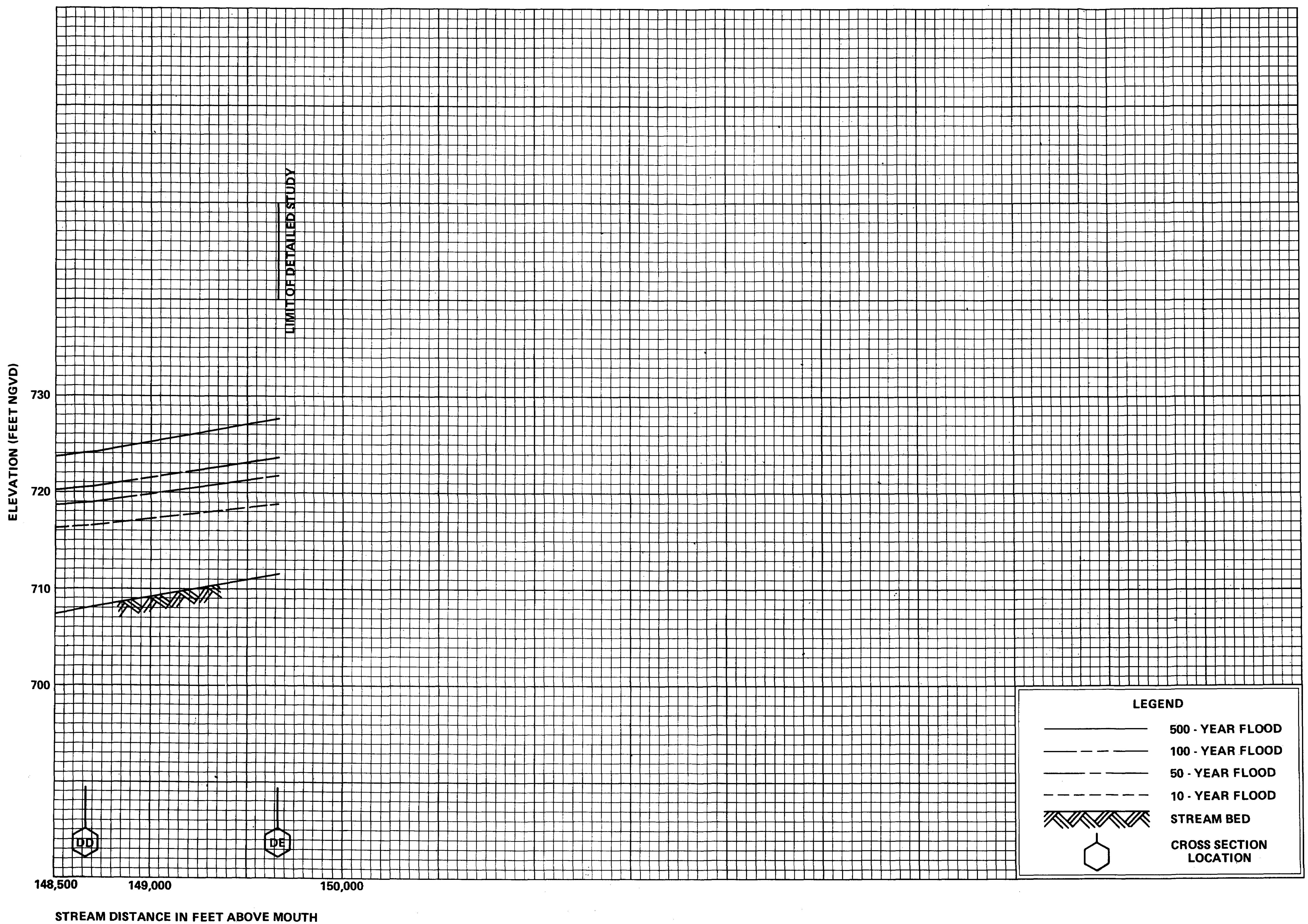
COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS

40P

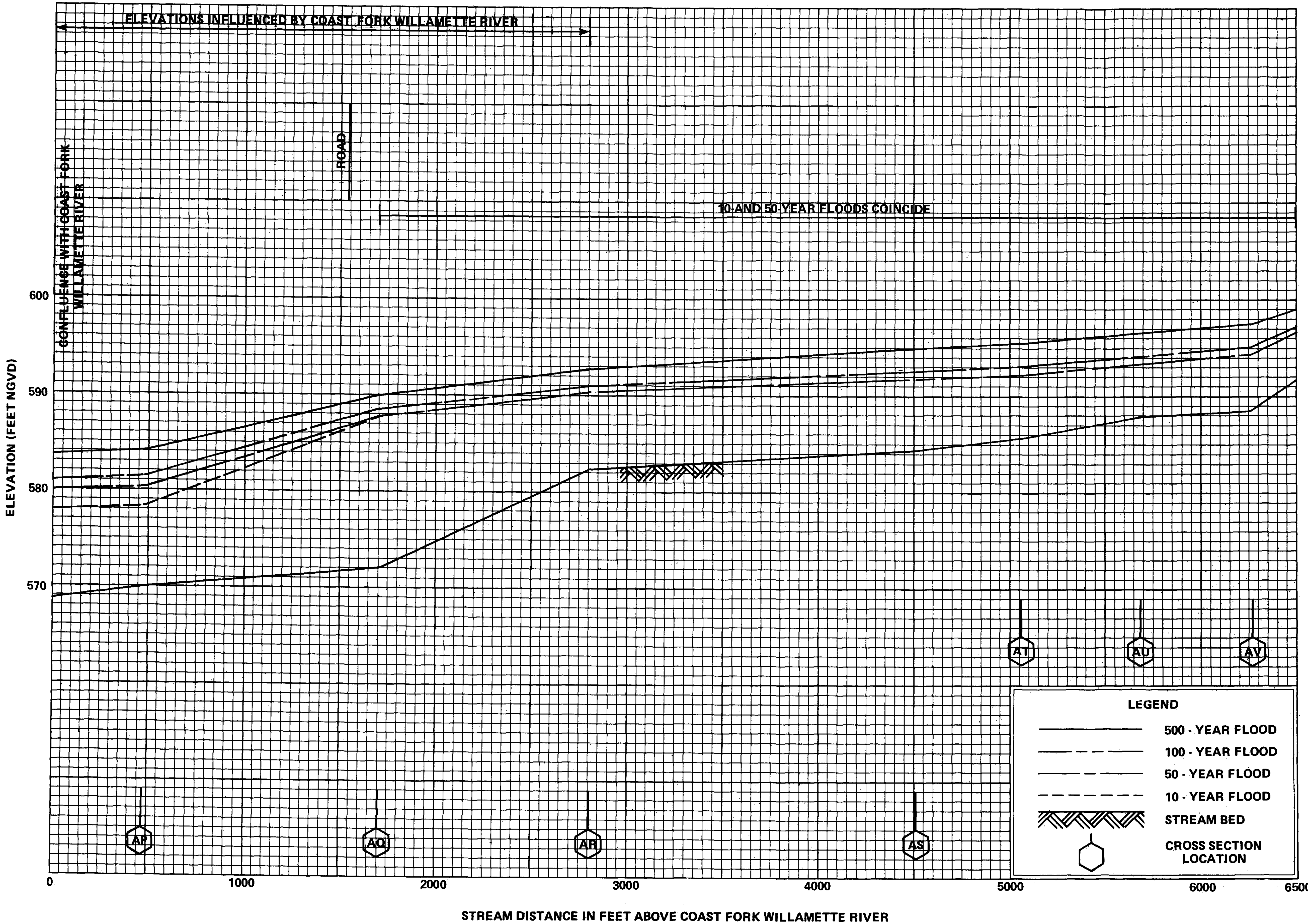


FLOOD PROFILES

COAST FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

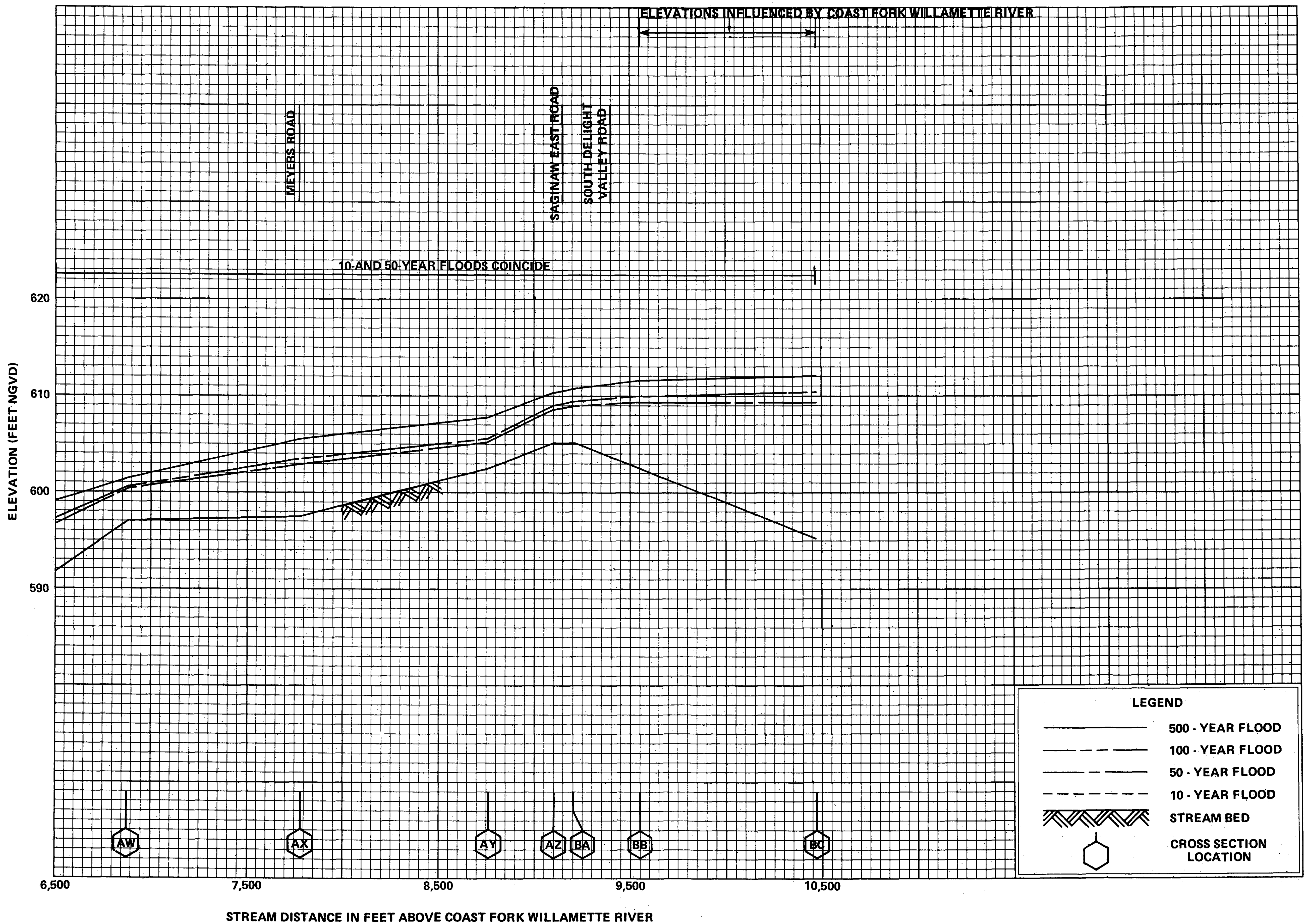


FLOOD PROFILES

COAST FORK WILLAMETTE RIVER OVERFLOW

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

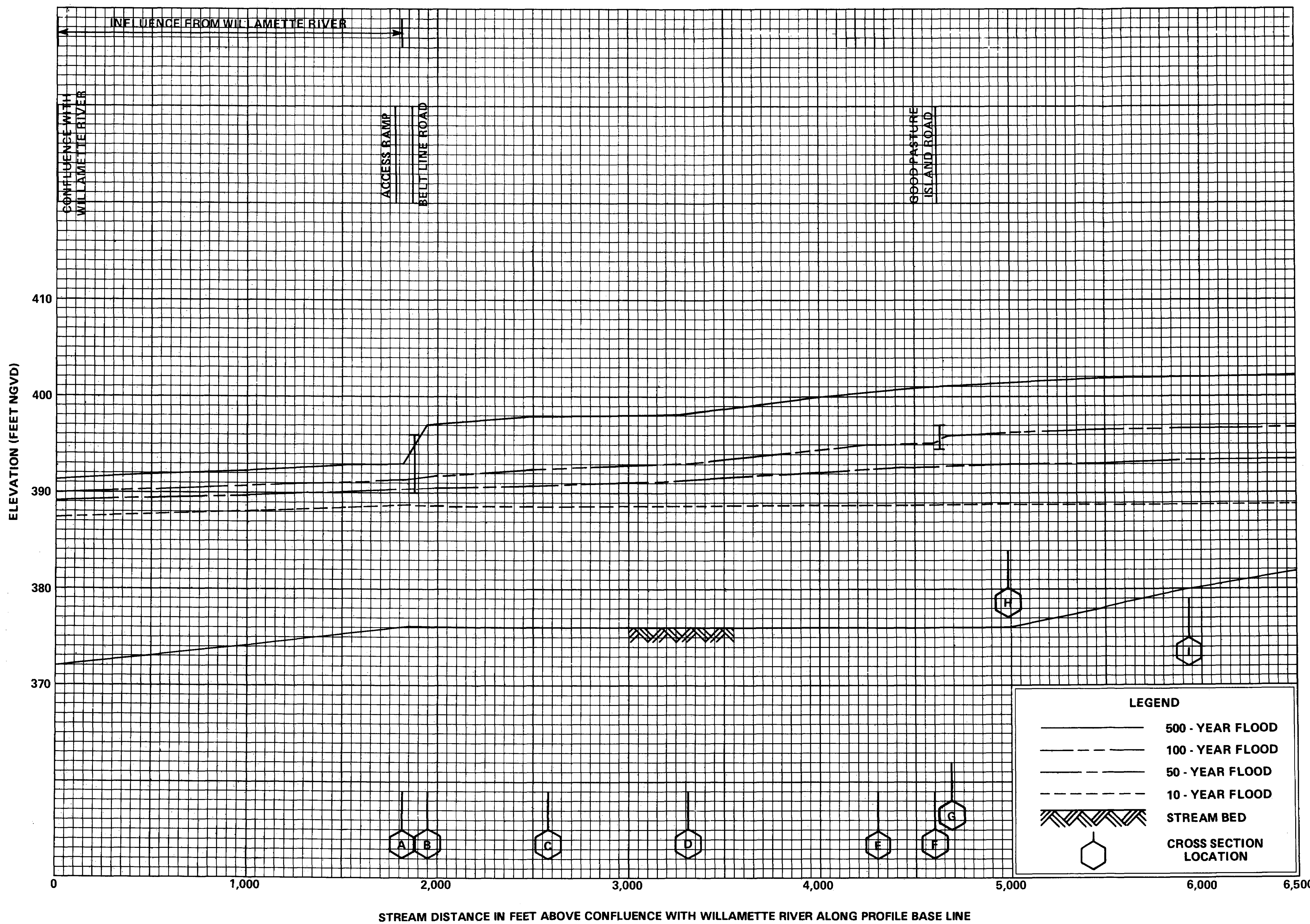


FLOOD PROFILES

COAST FORK WILLAMETTE RIVER OVERFLOW

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

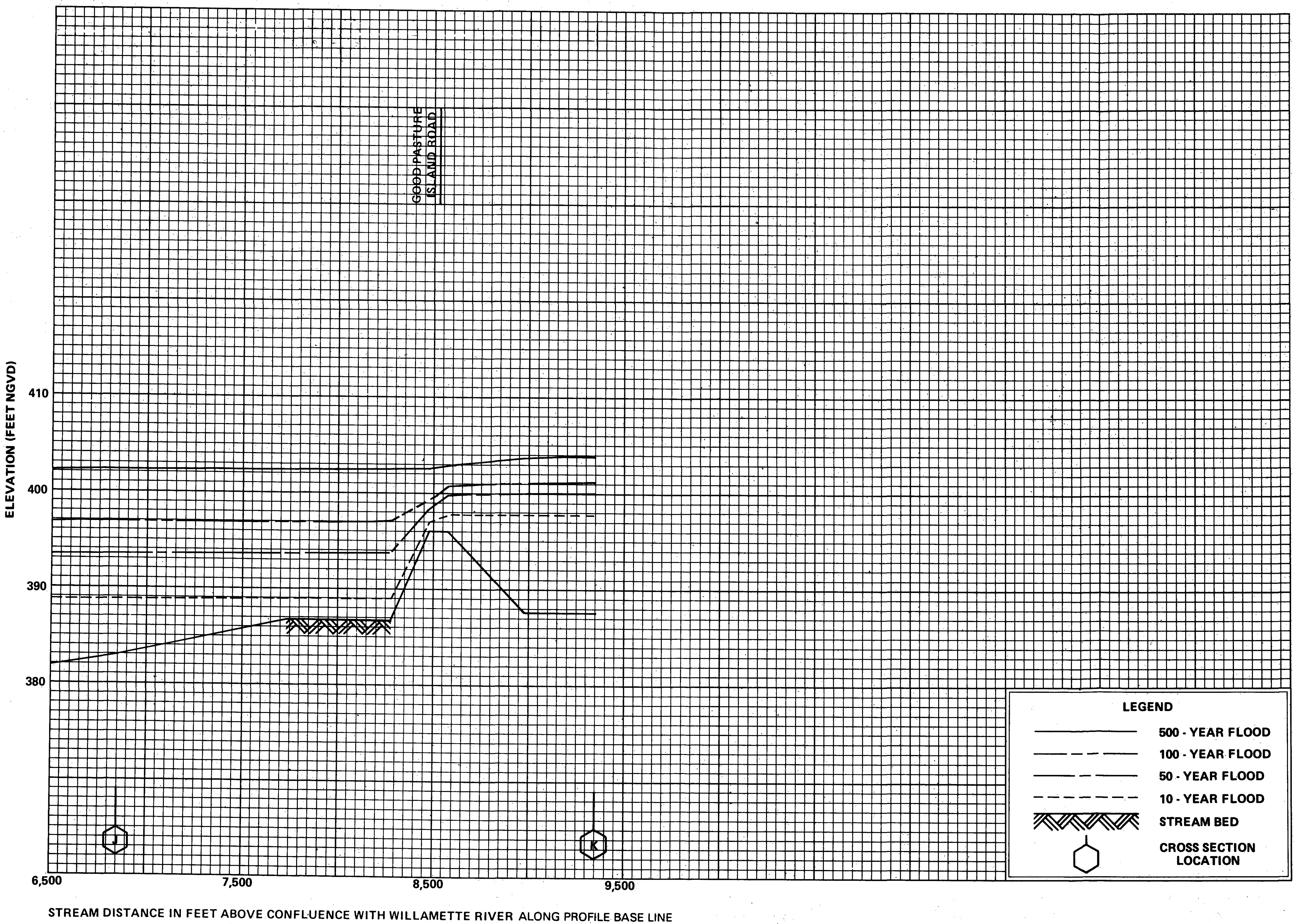


FLOOD PROFILES

DEDRICK SLOUGH

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

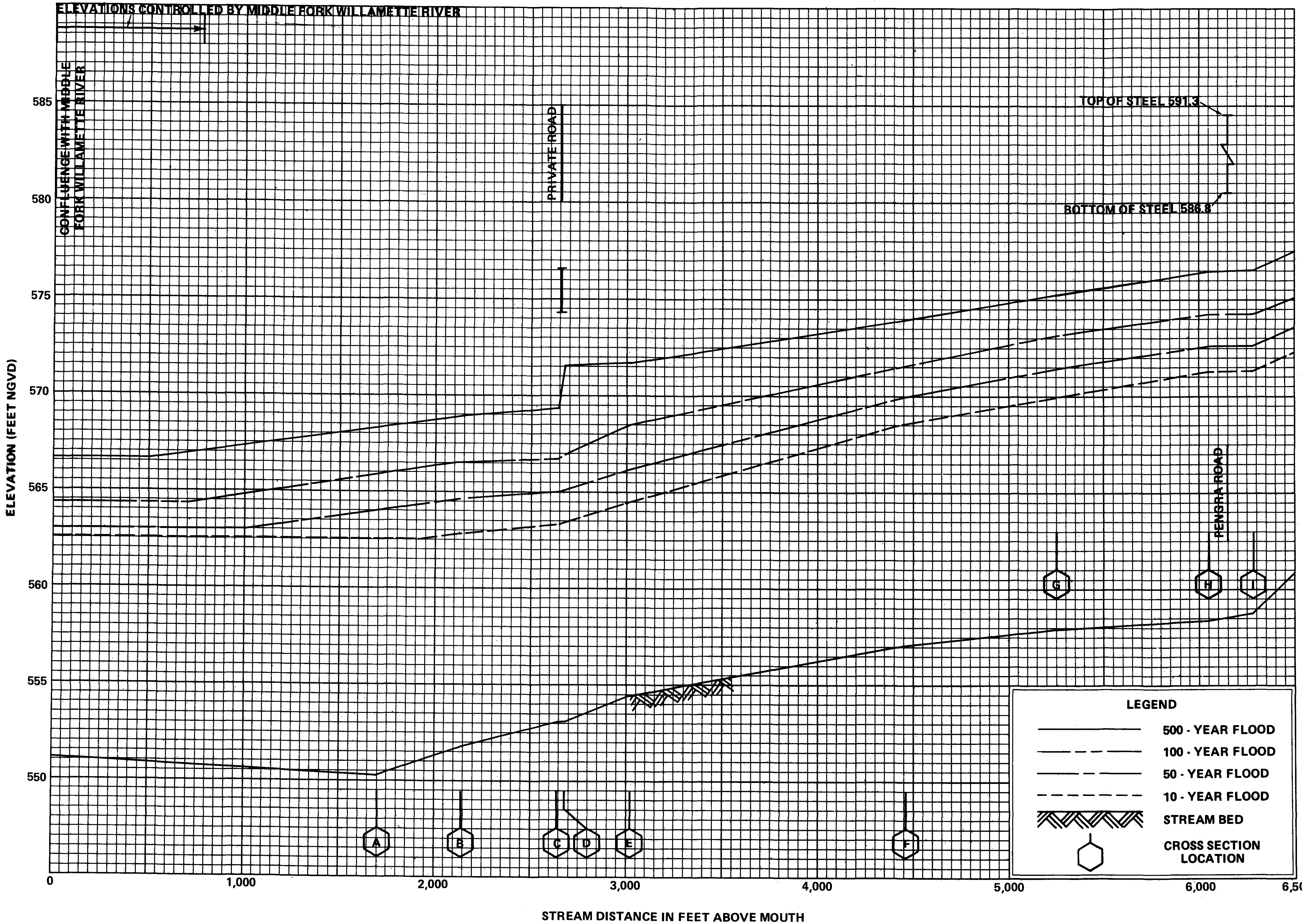


FLOOD PROFILES

DEDRICK SLOUGH

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

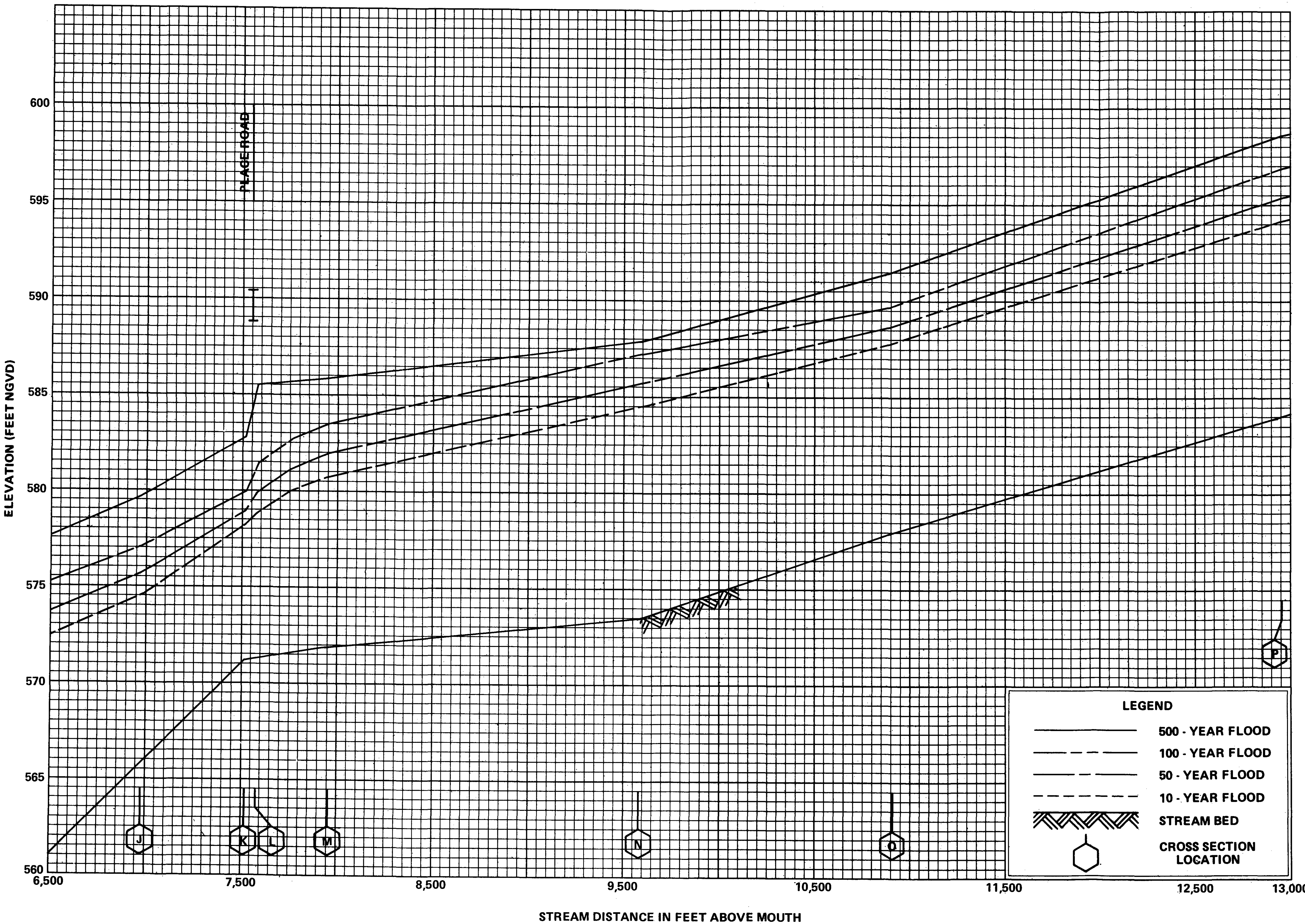


FLOOD PROFILES

FALL CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

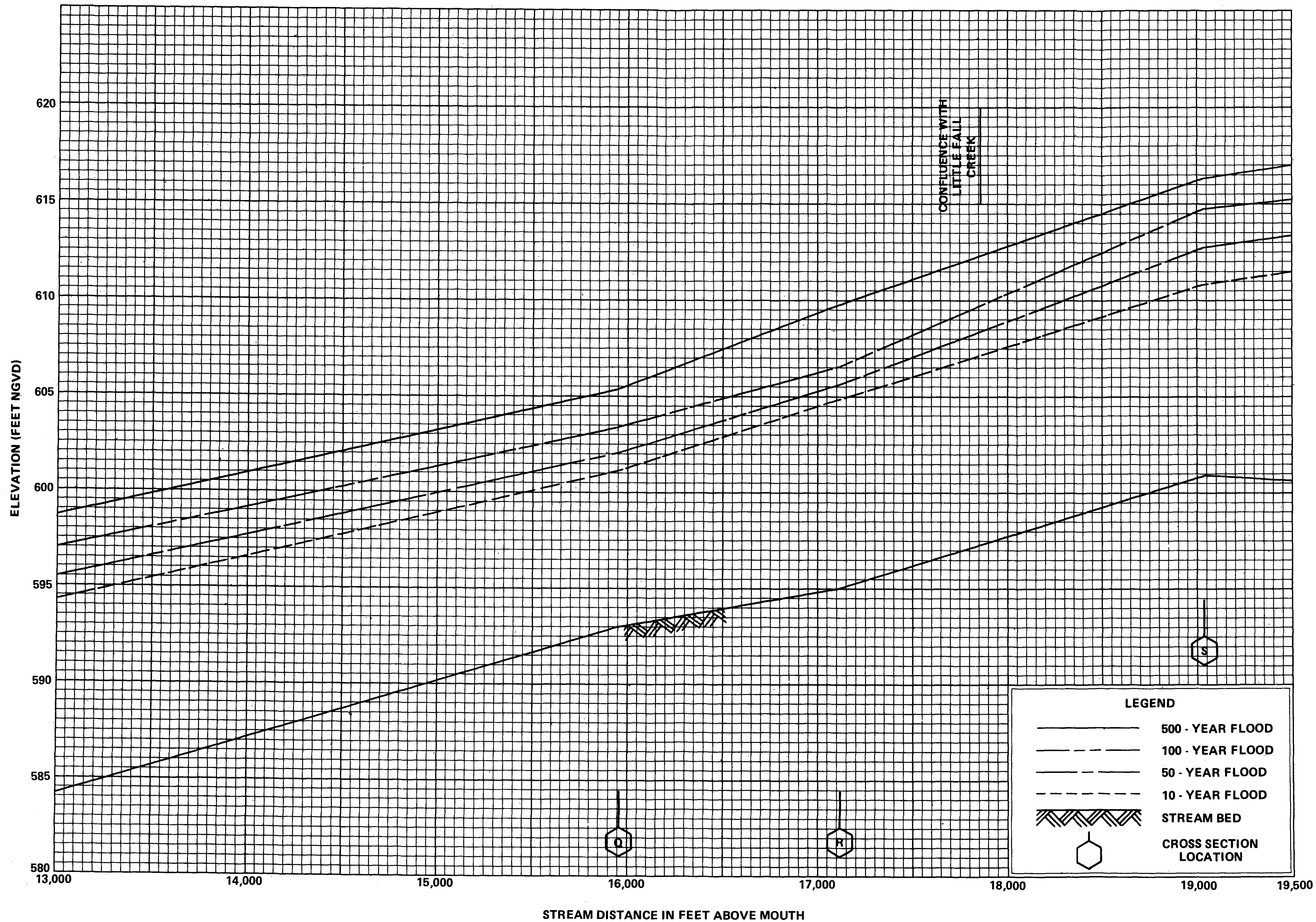


FLOOD PROFILES

FALL CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

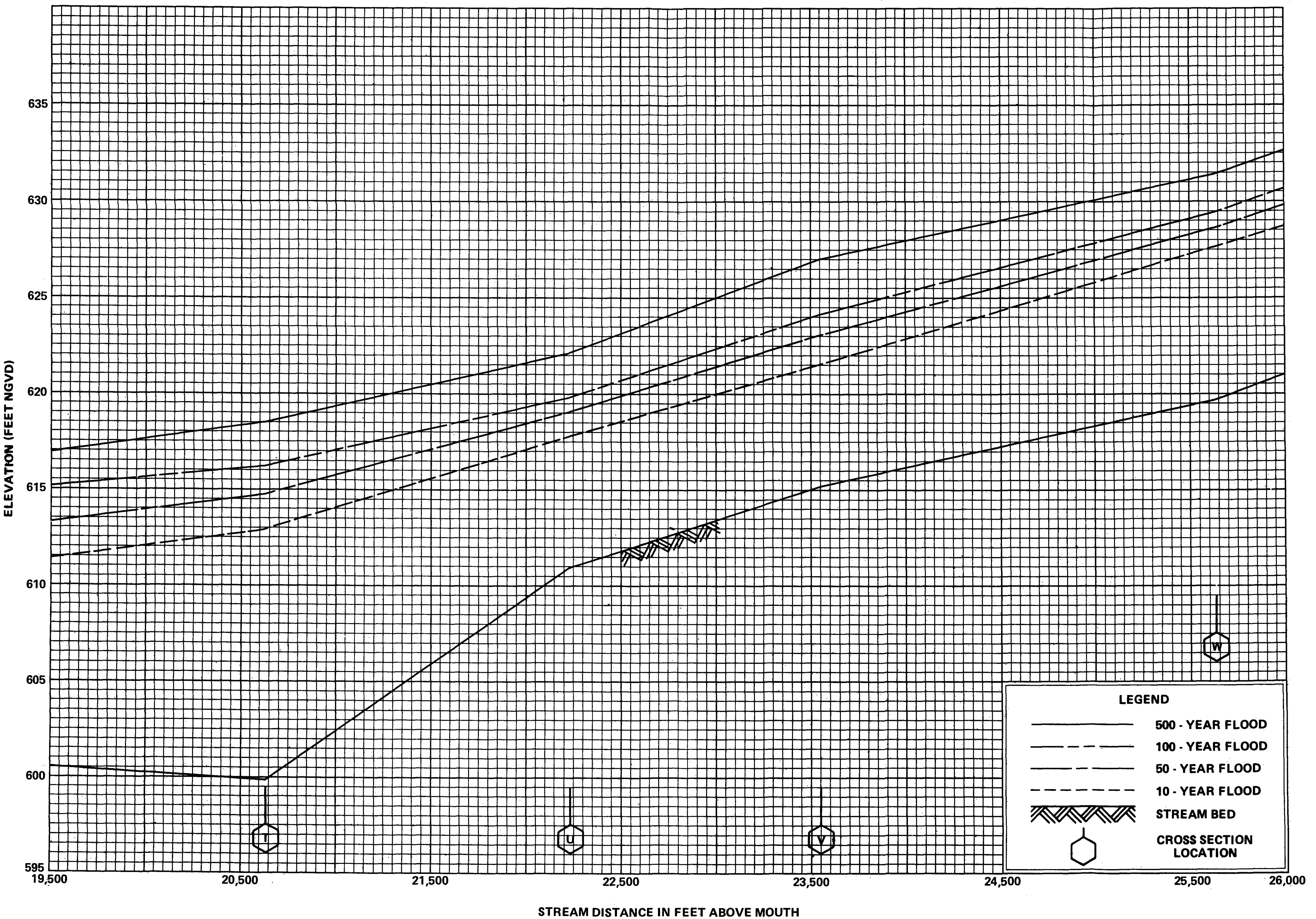


FLOOD PROFILES

FALL CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



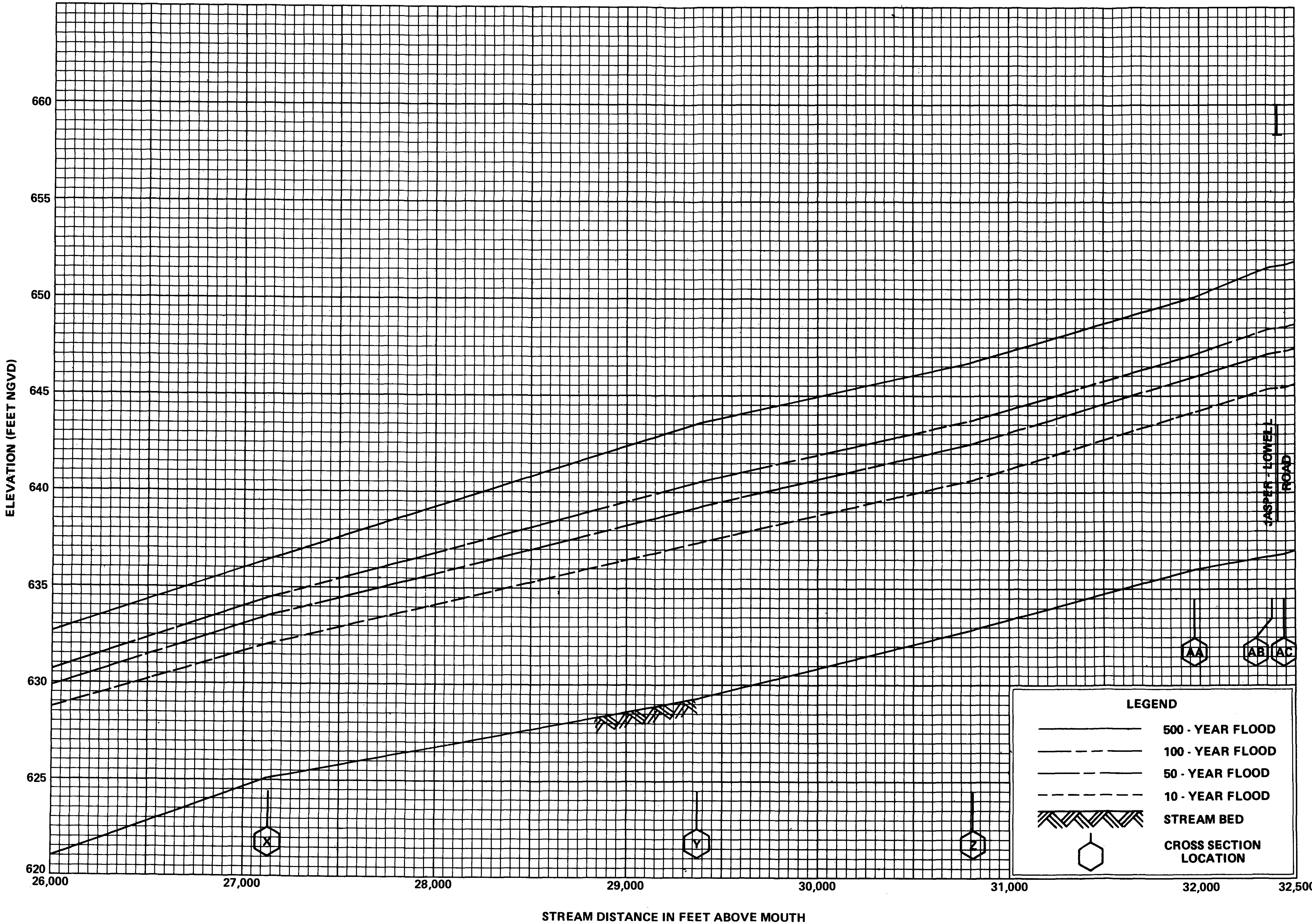
FLOOD PROFILES

FALL CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

49P

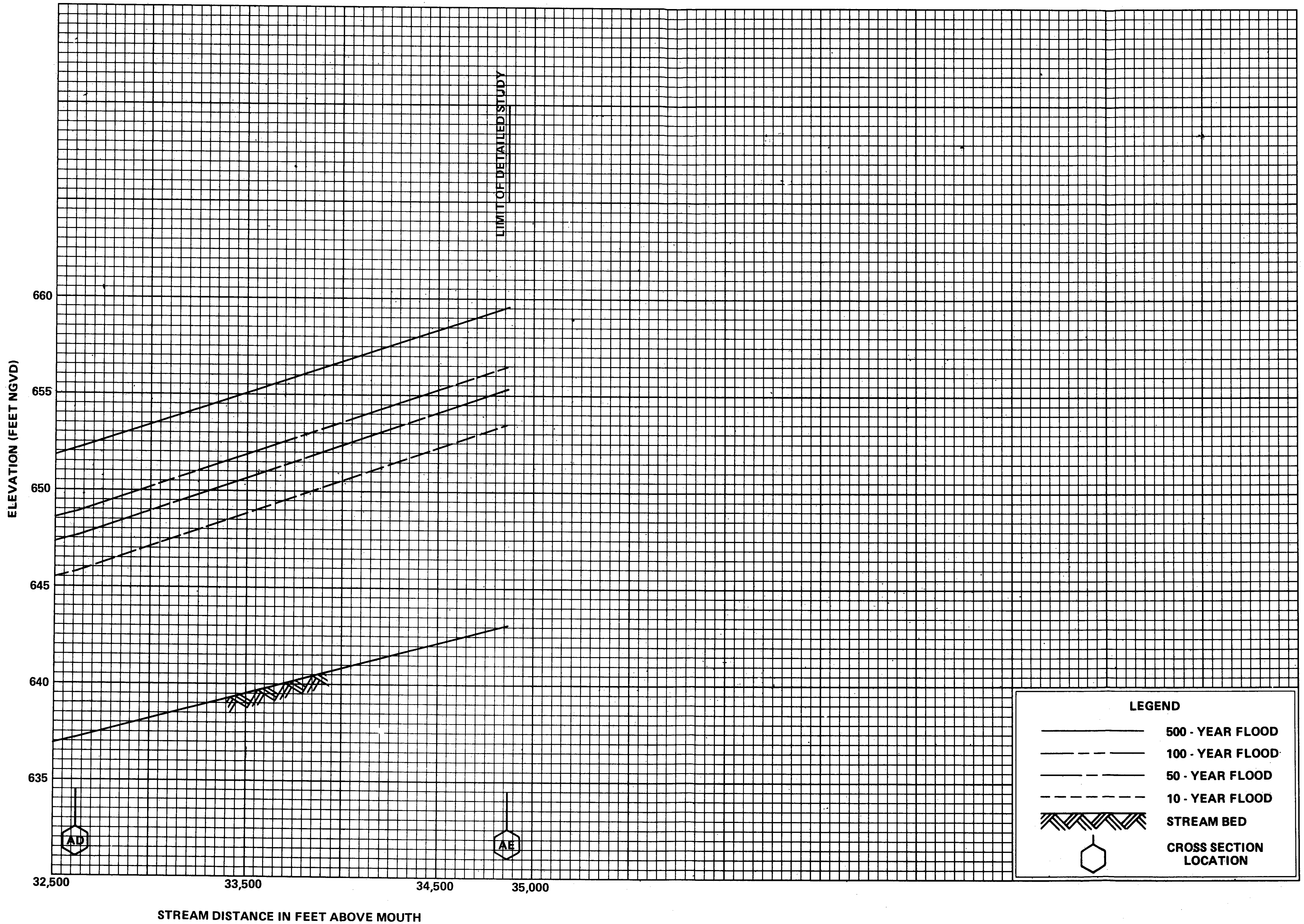


FLOOD PROFILES

FALL CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



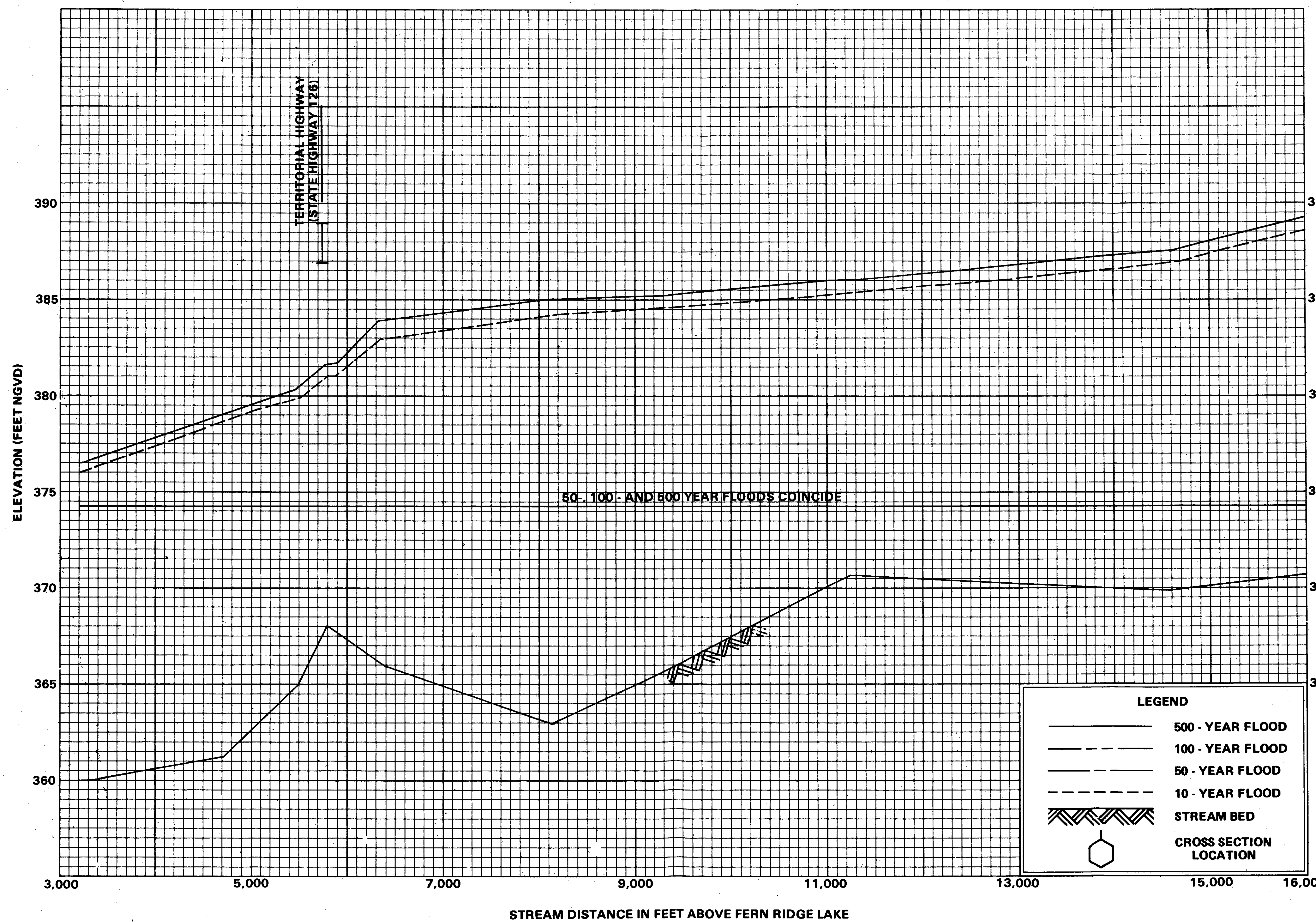
FLOOD PROFILES

FALL CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

51P



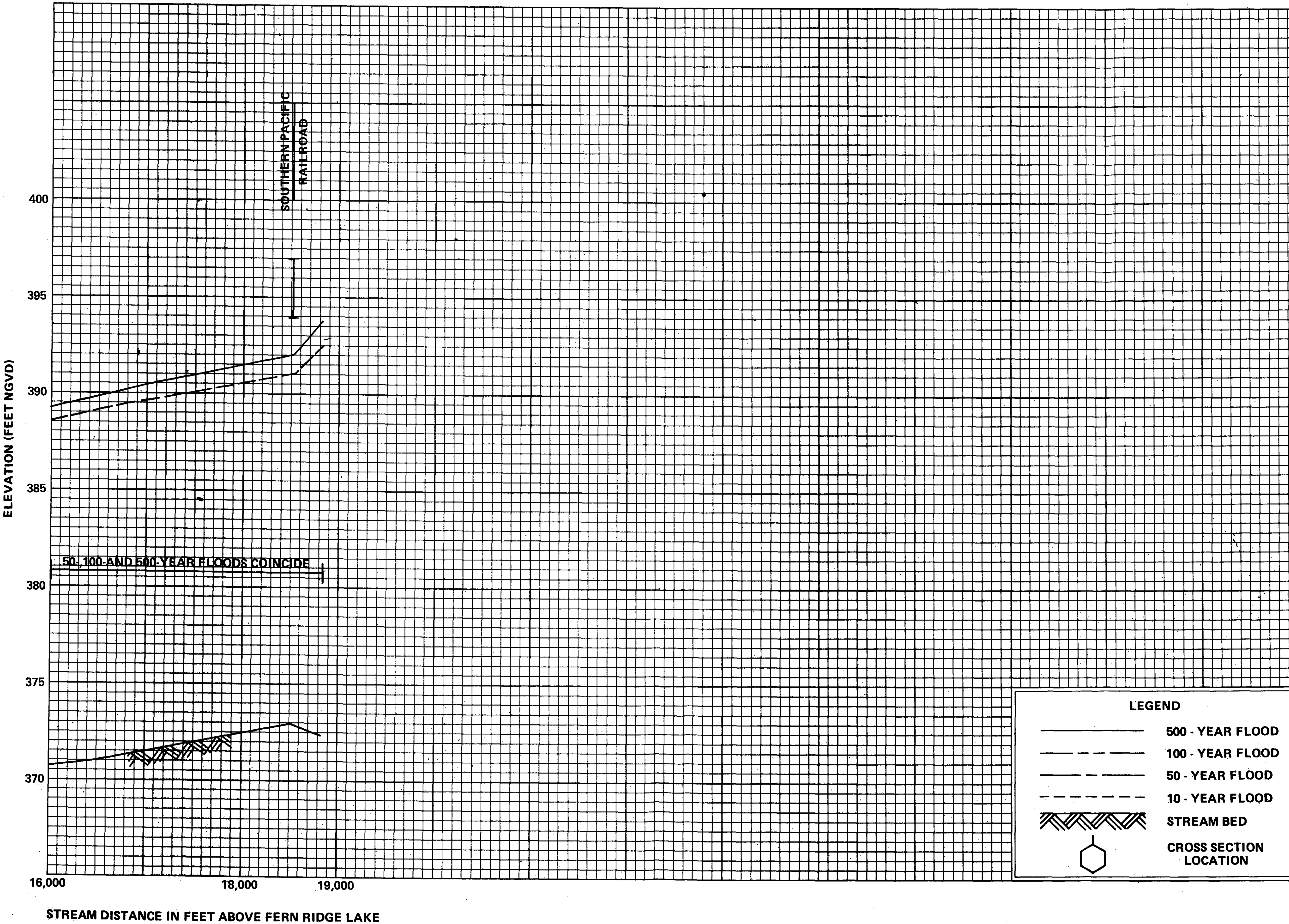
FLOOD PROFILES

LONG TOM RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

52P

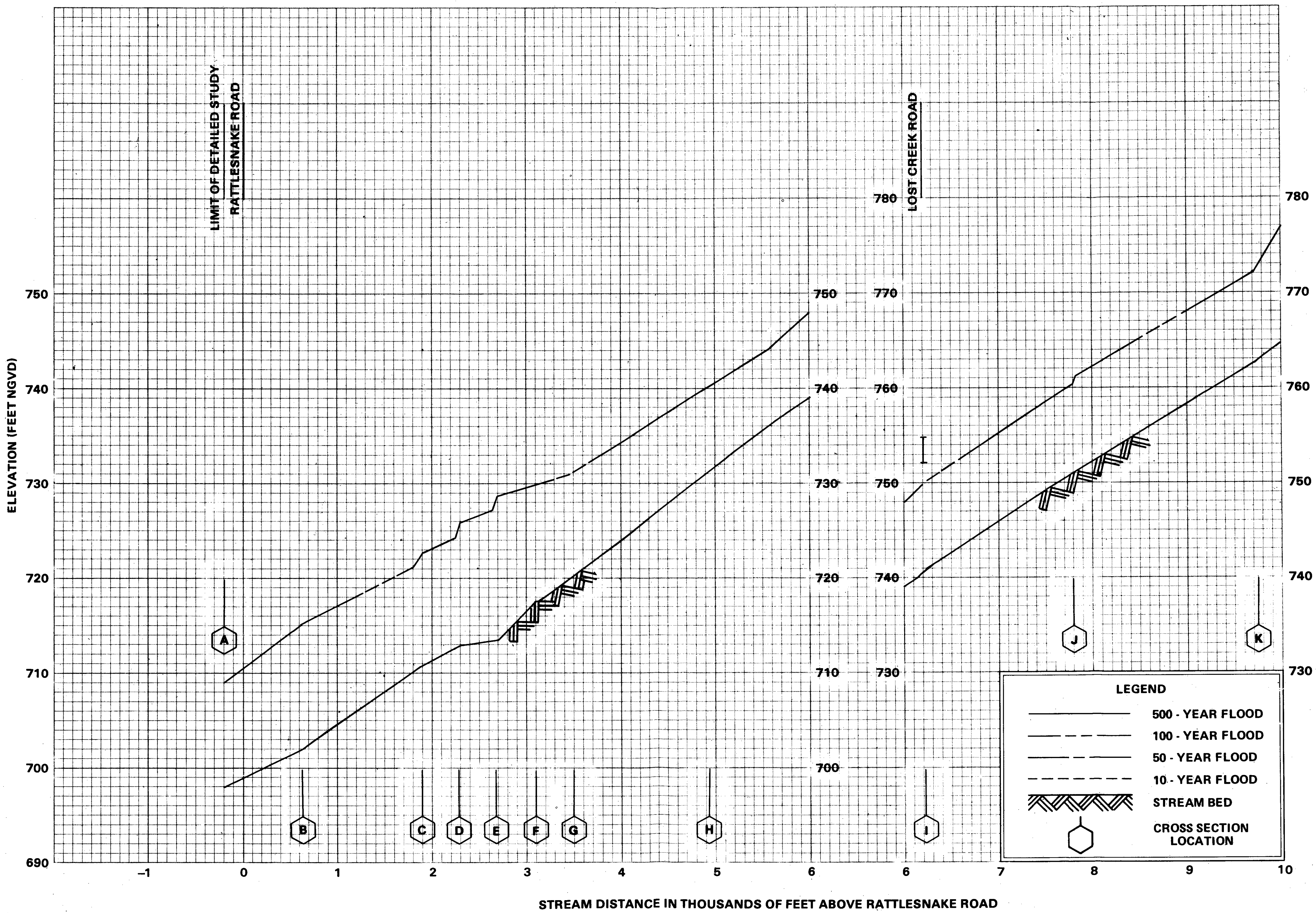


FLOOD PROFILES

LONG TOM RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



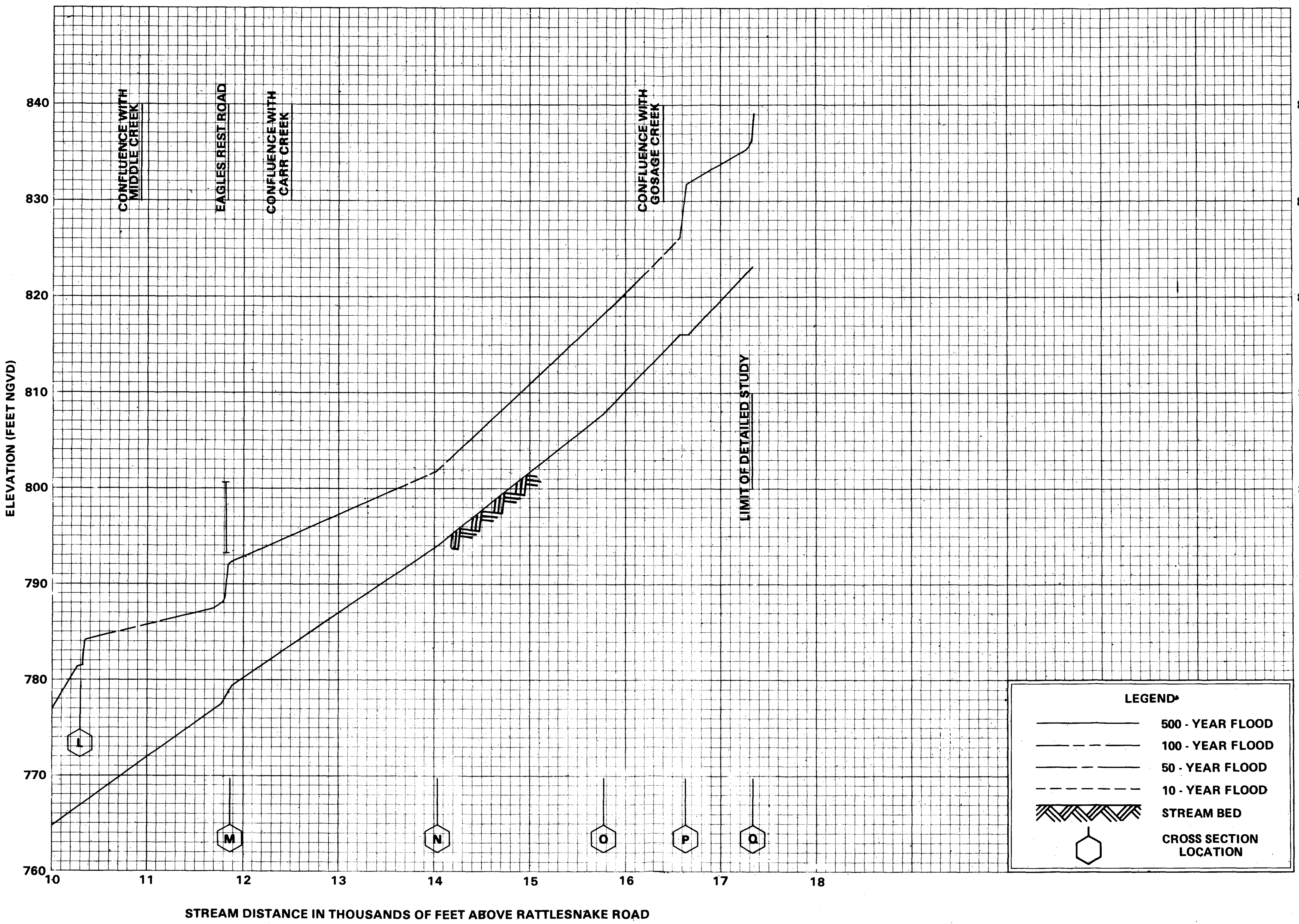
FLOOD PROFILES

LOST CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

54P



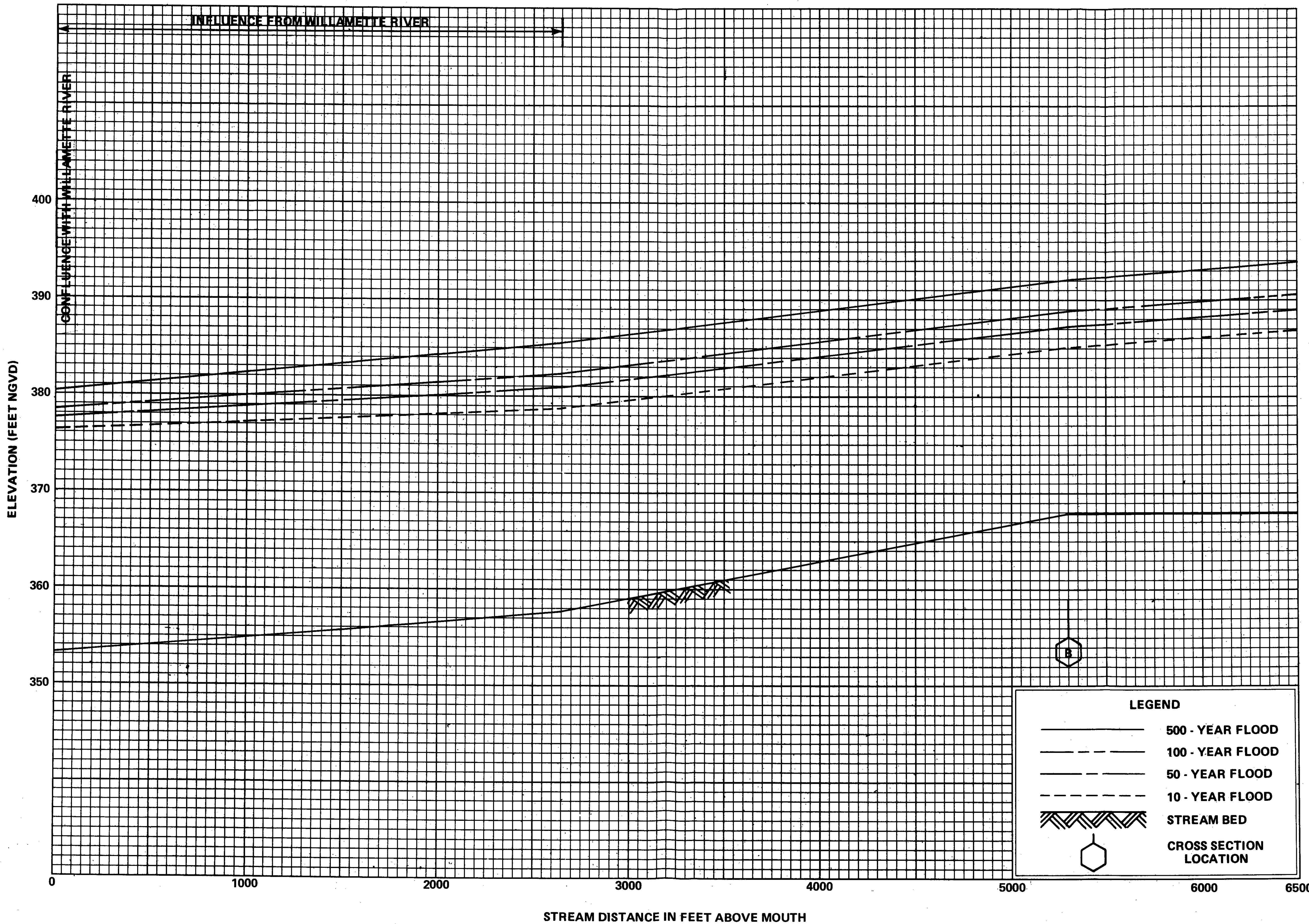
FLOOD PROFILES

LOST CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

55P

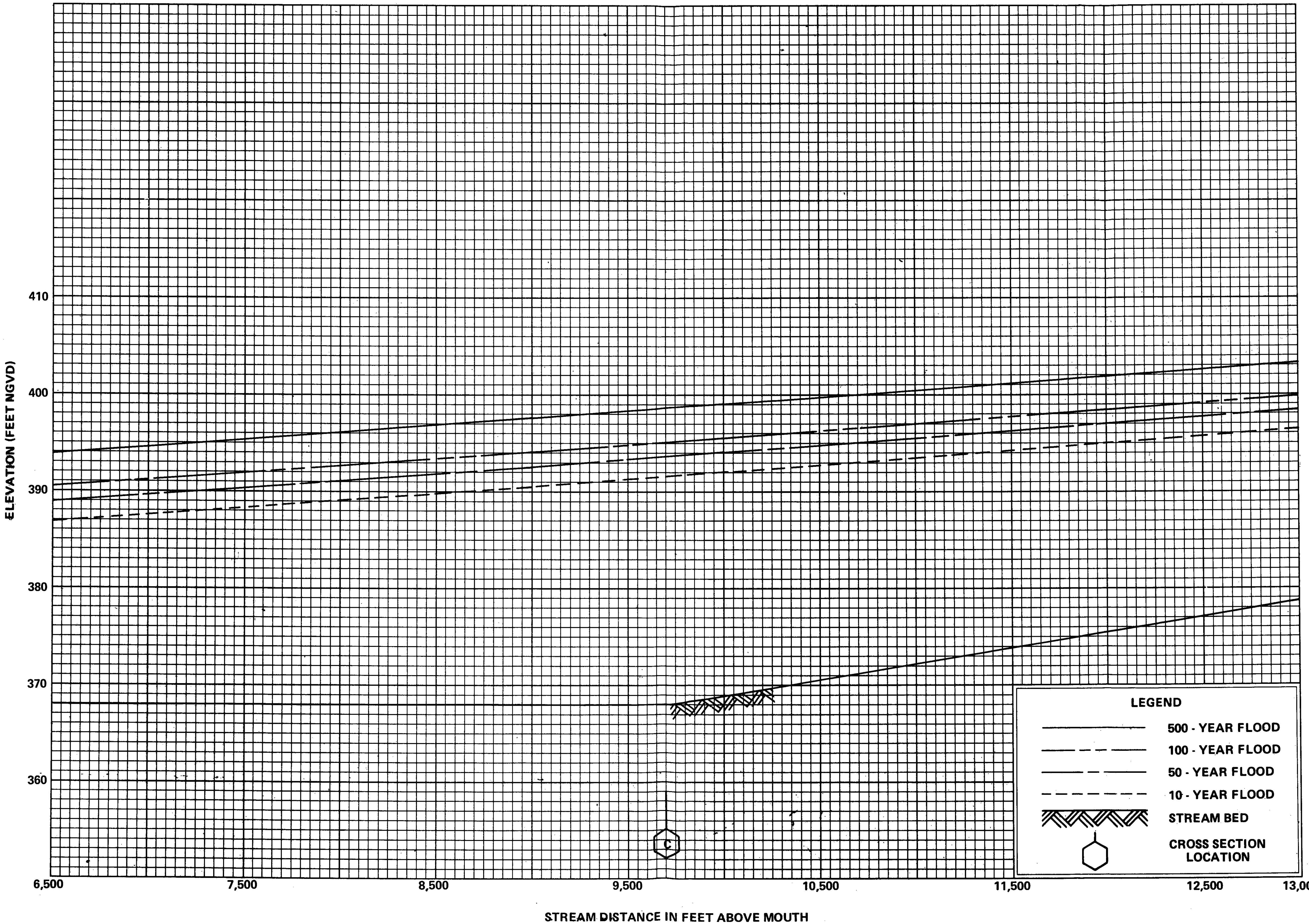


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



FLOOD PROFILES

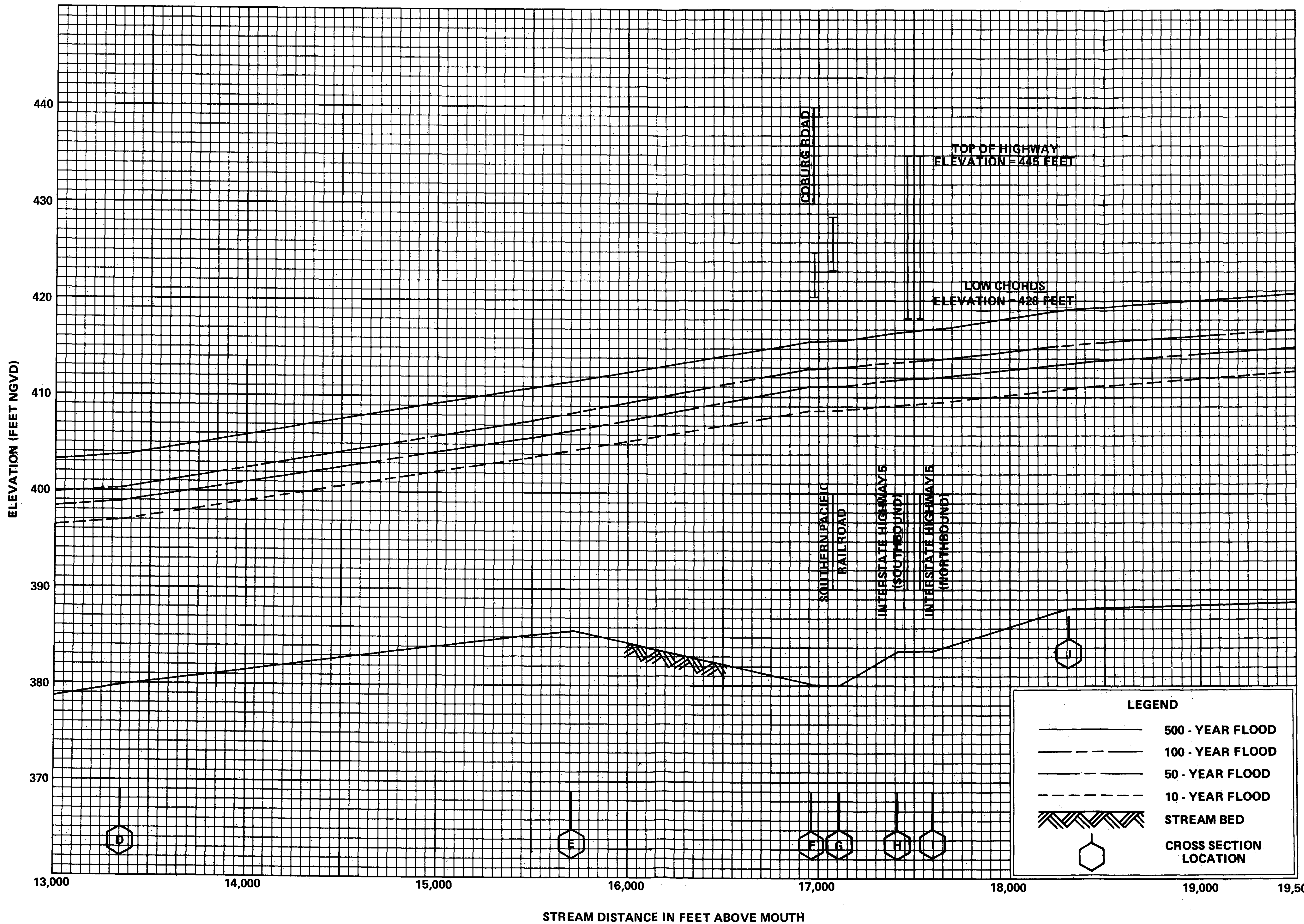
MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS

57P

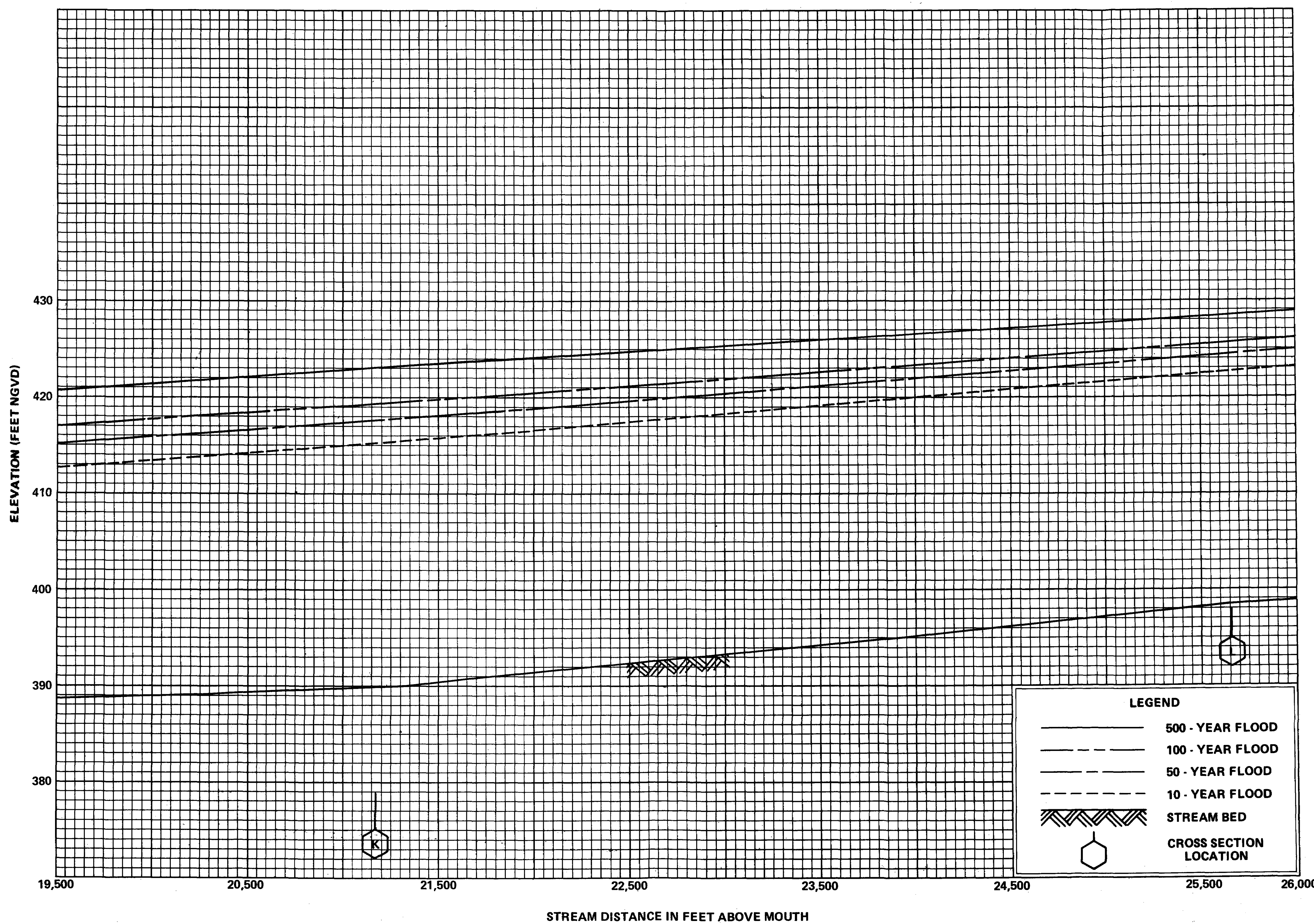


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

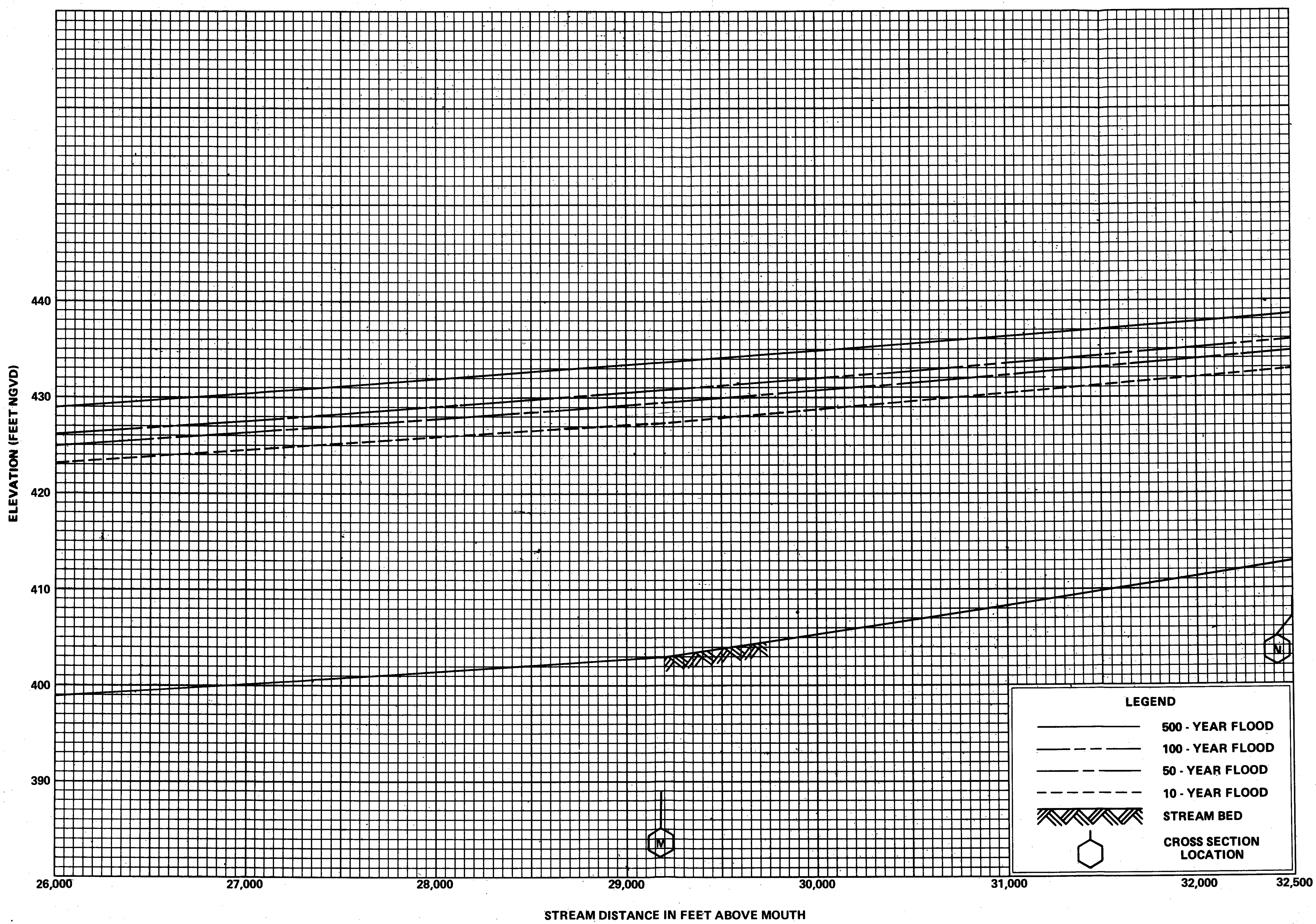


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



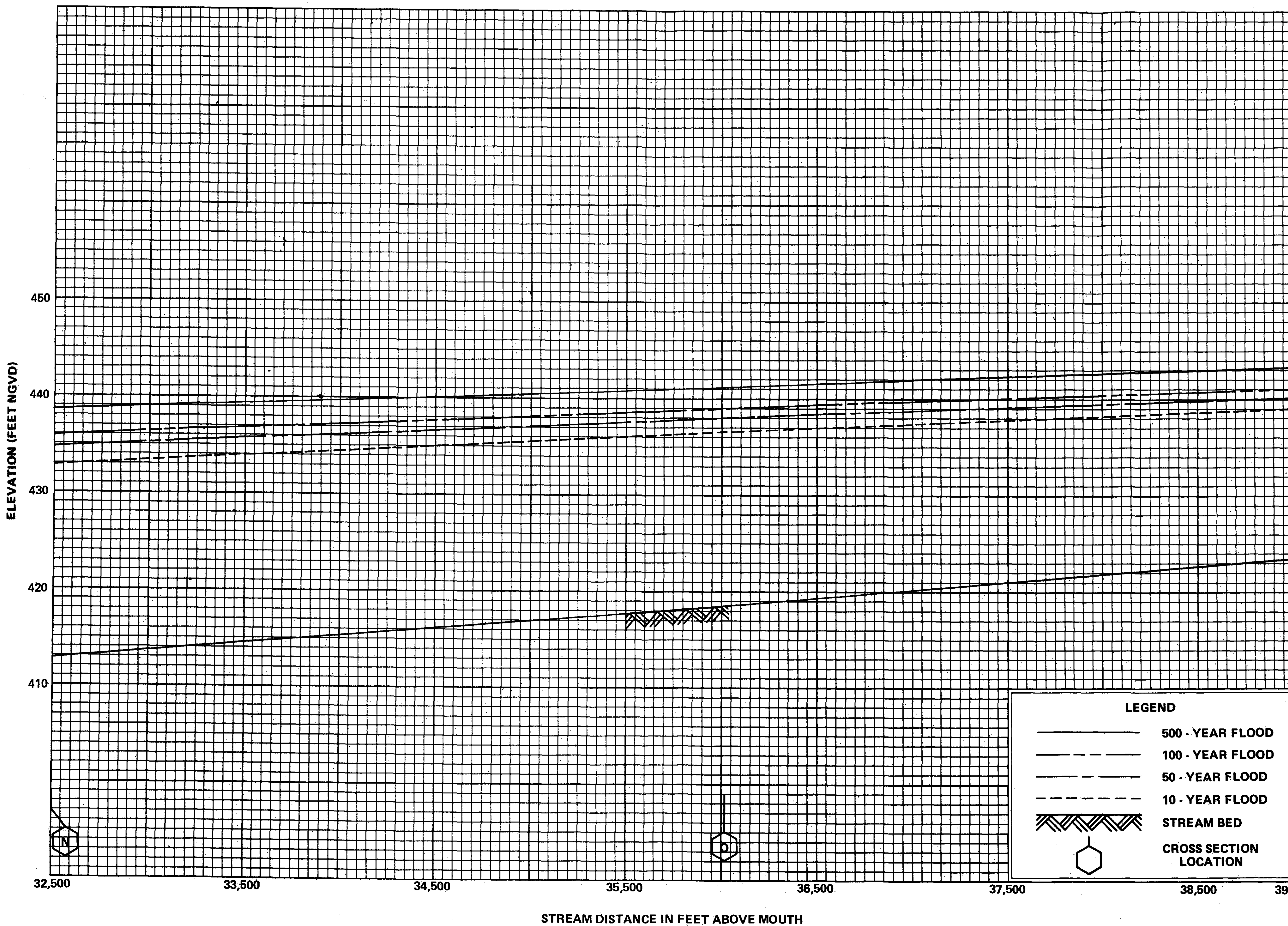
FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

60P



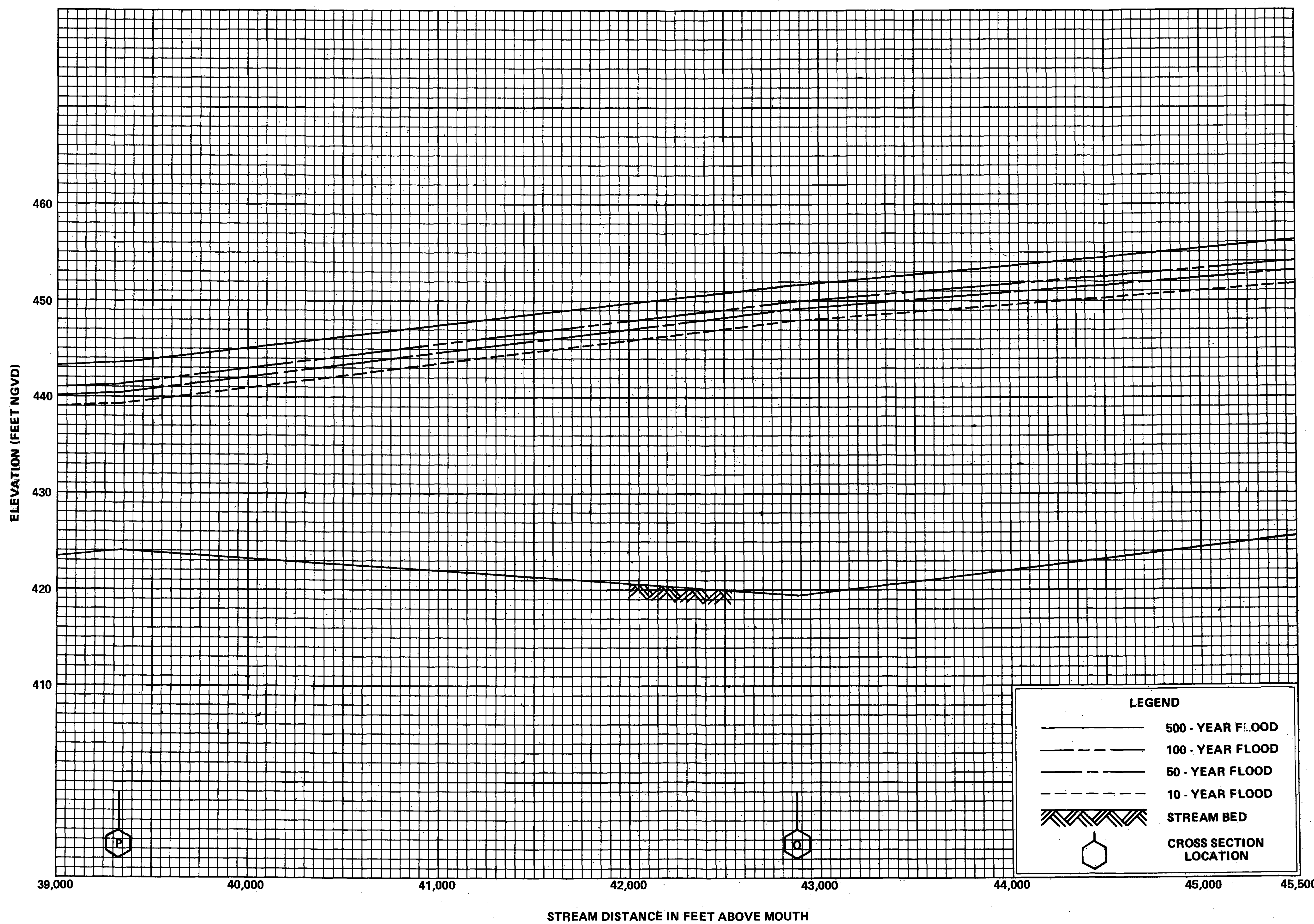
FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

61P



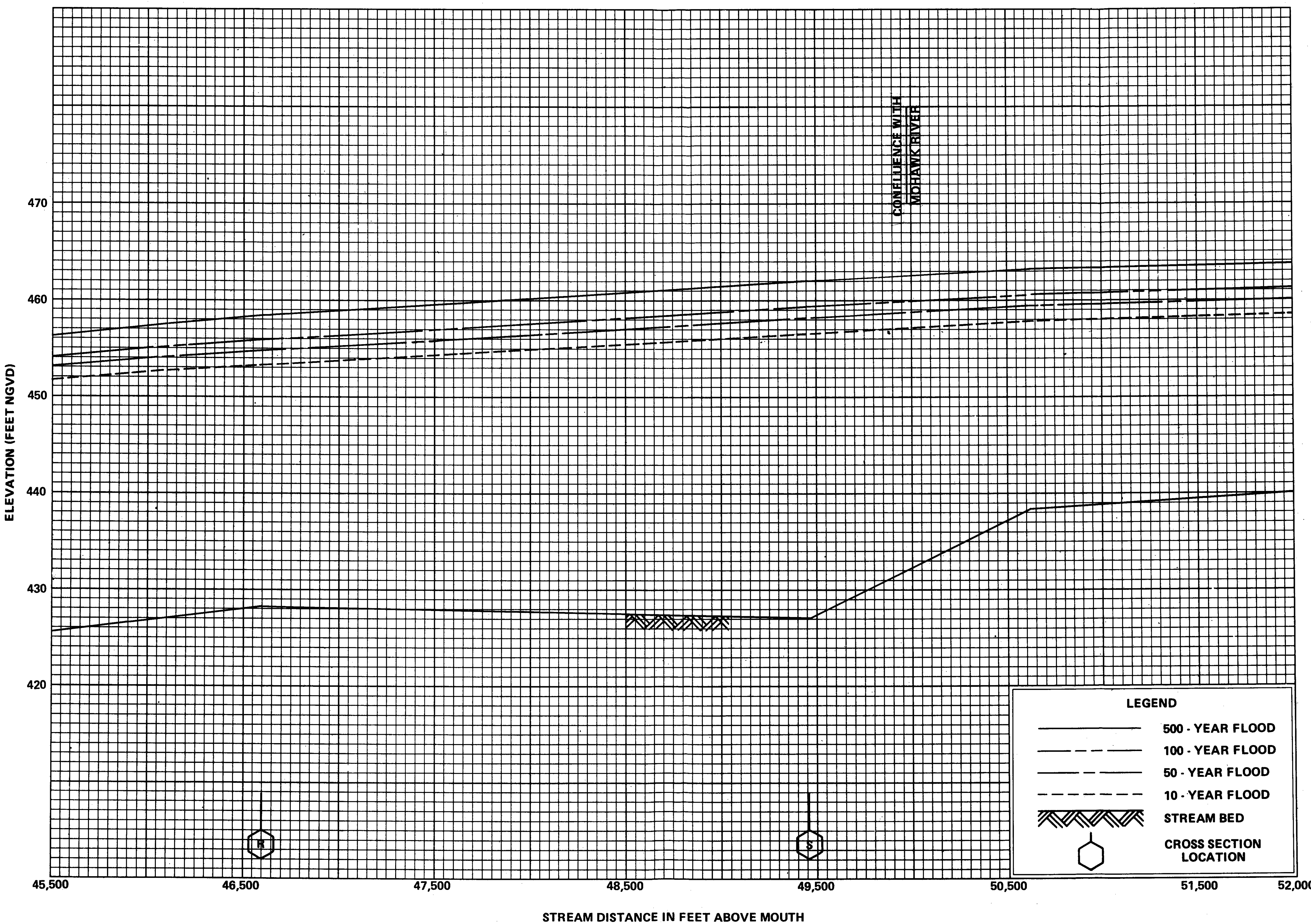
FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

62P

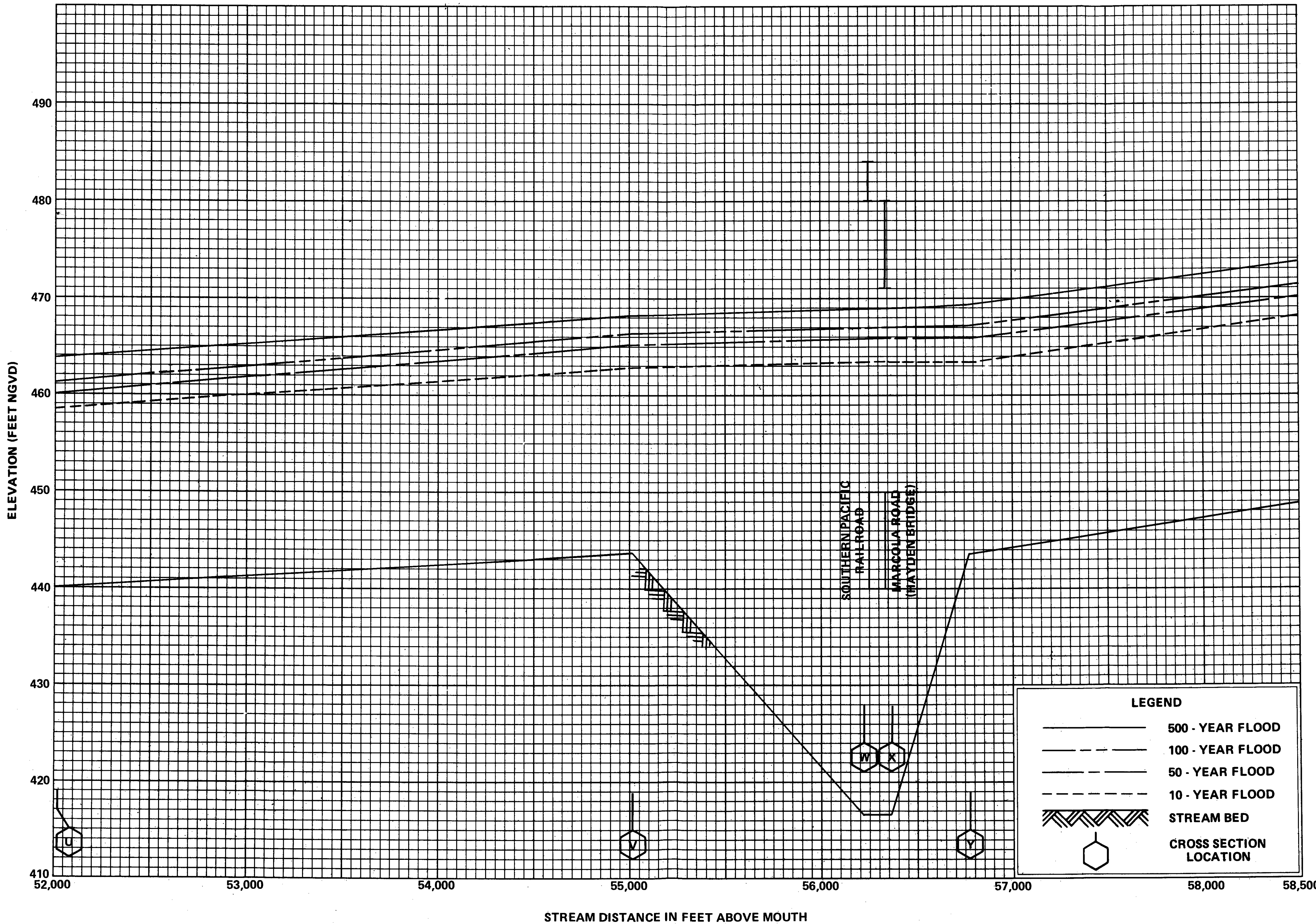


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

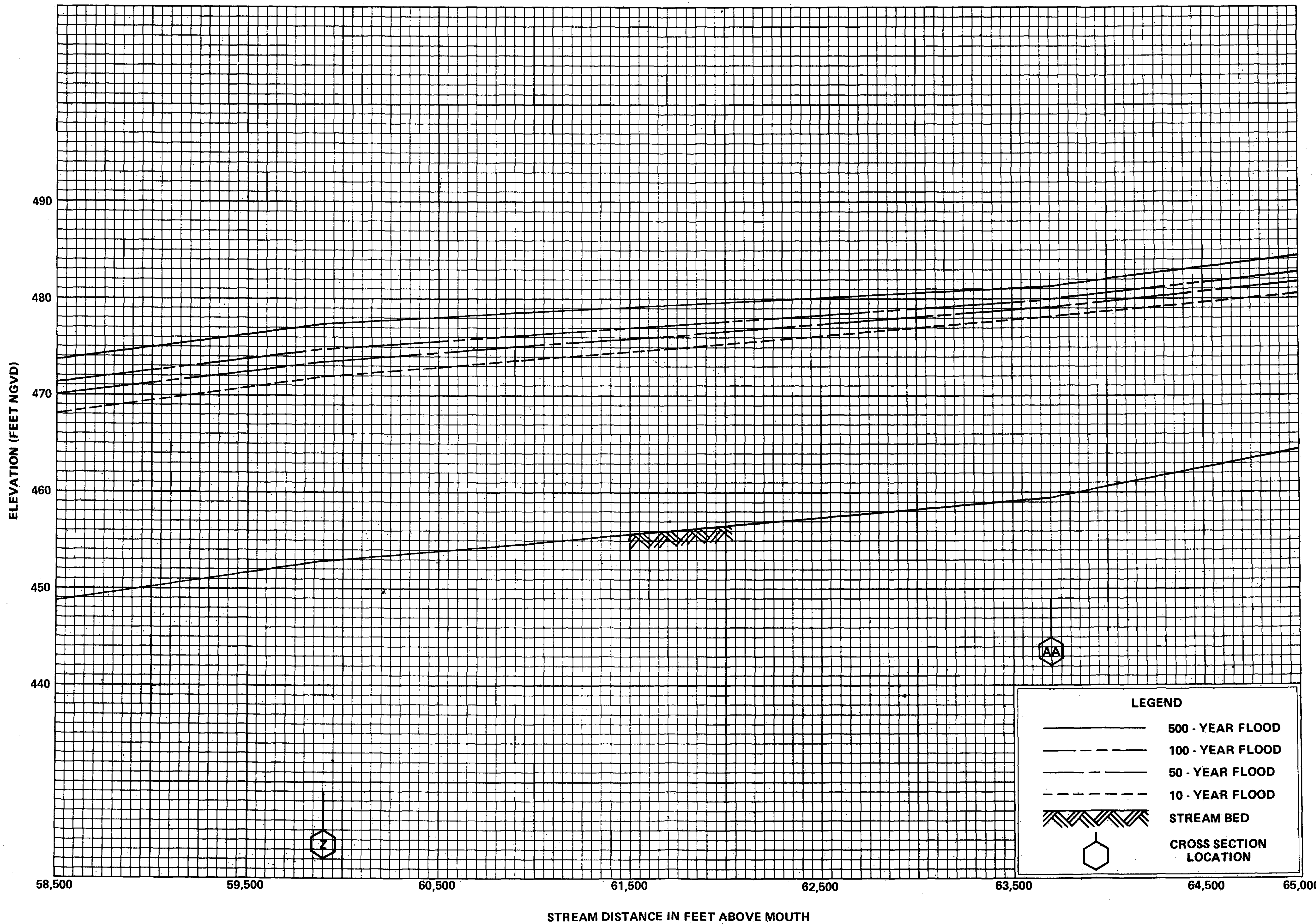


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

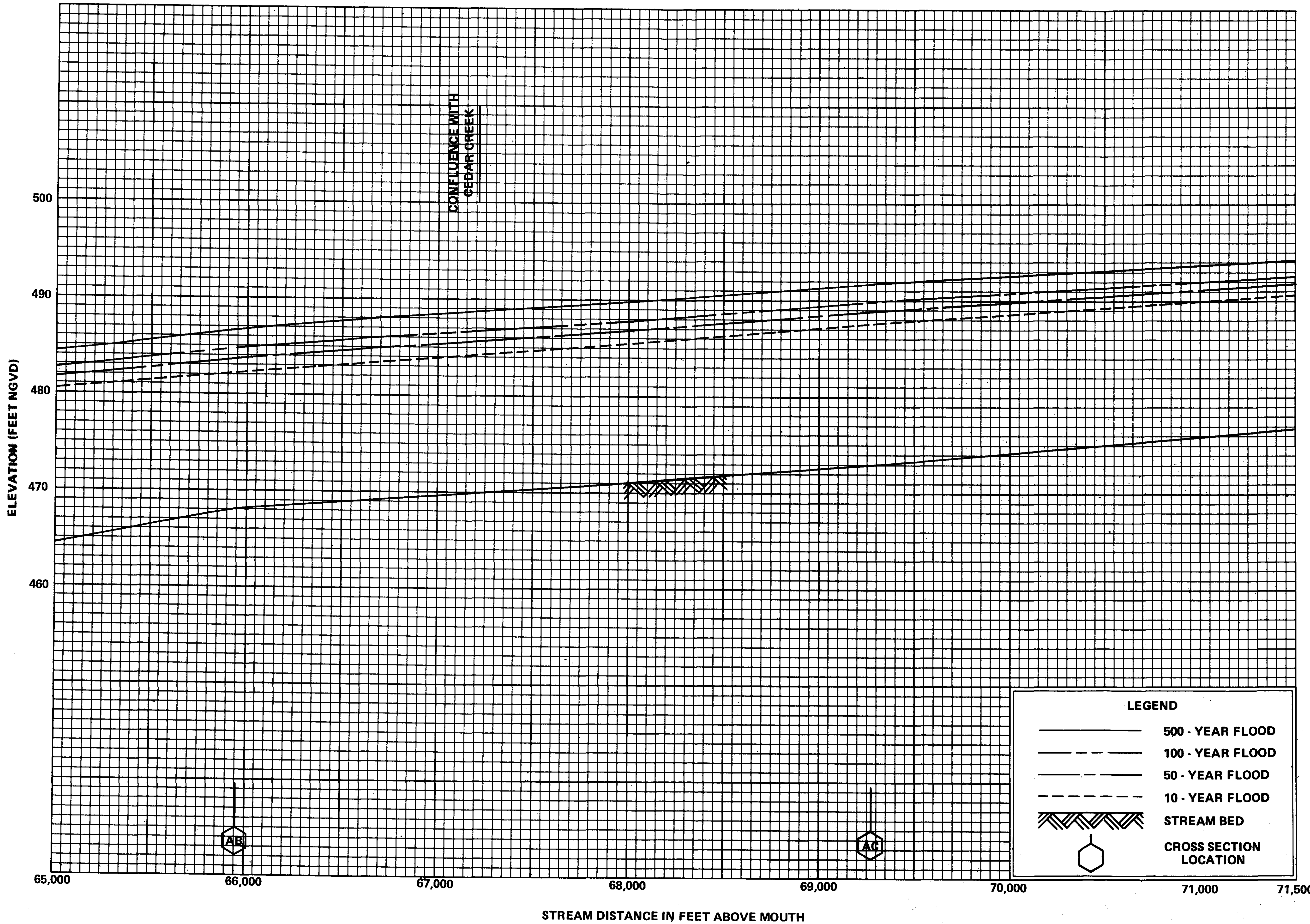


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

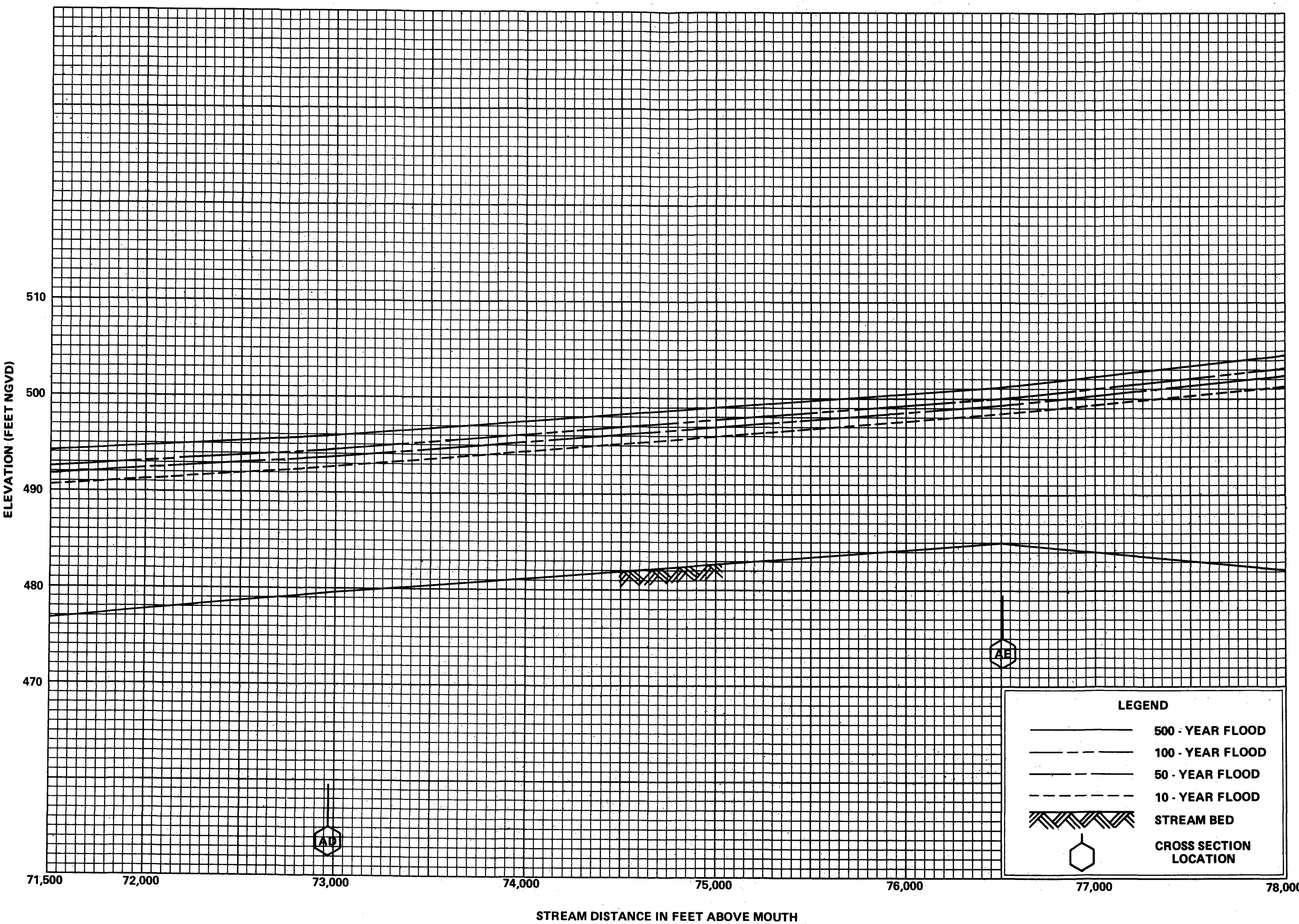


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



FLOOD PROFILES

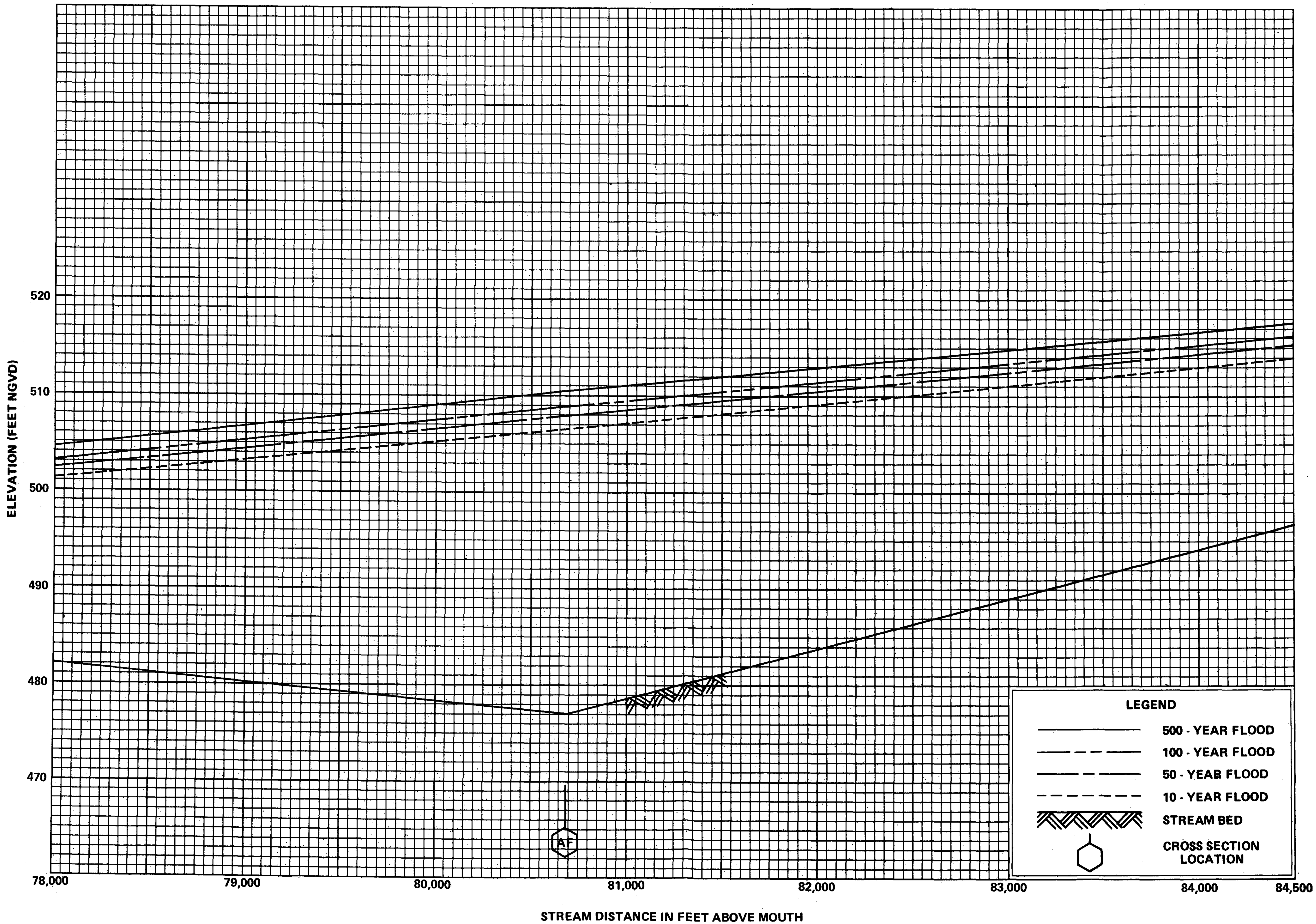
MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS

67P

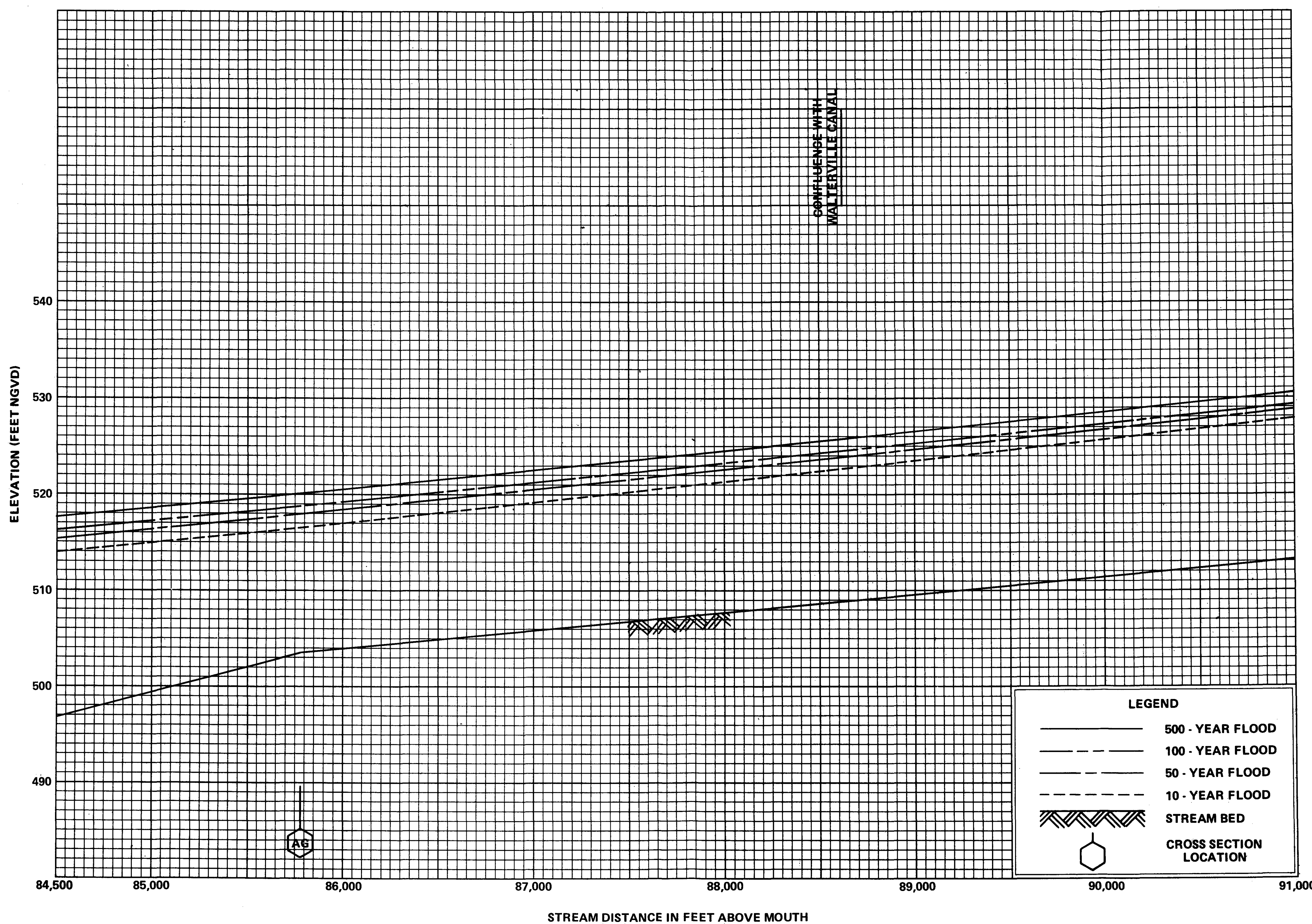


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



FLOOD PROFILES

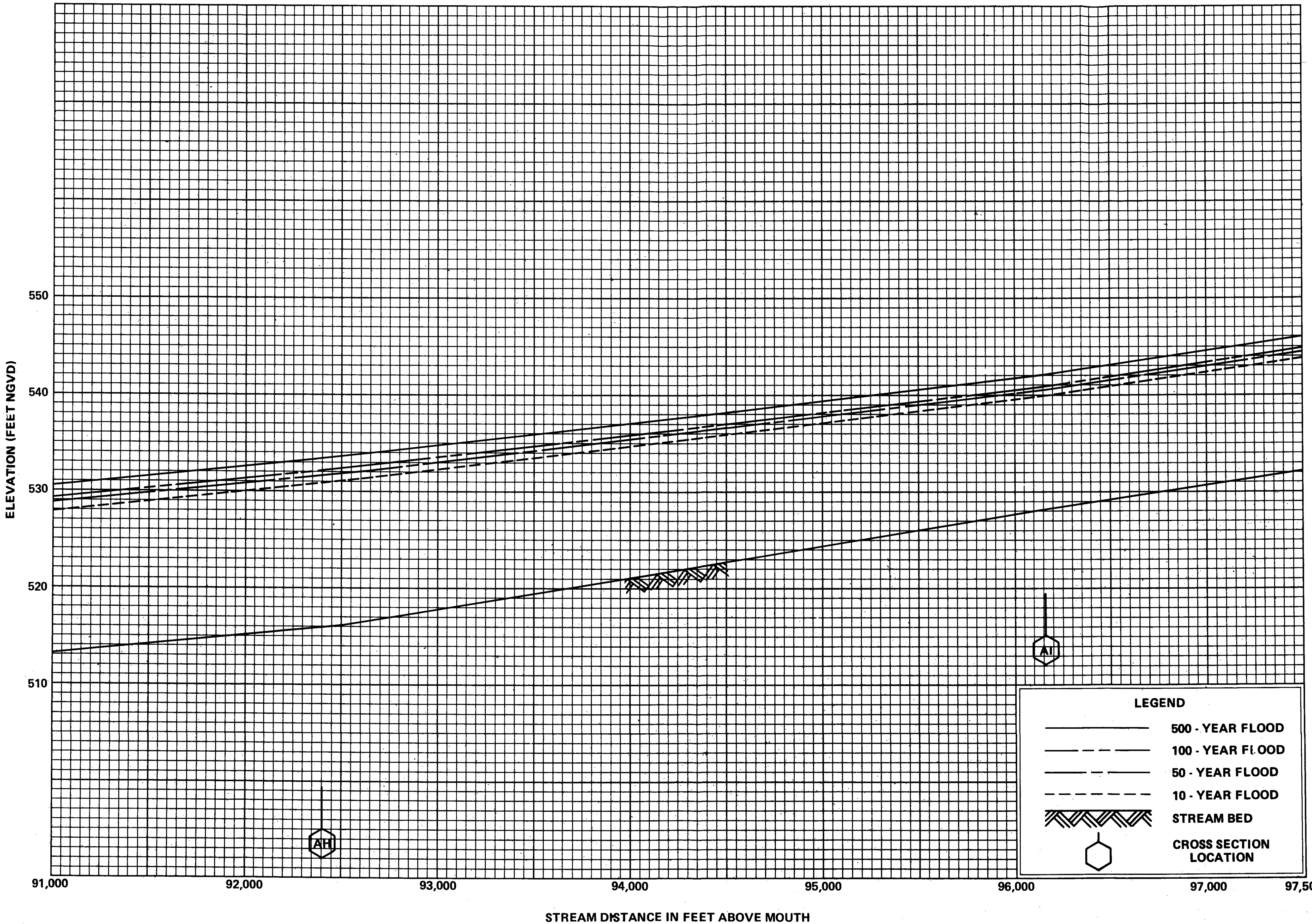
MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS

69P

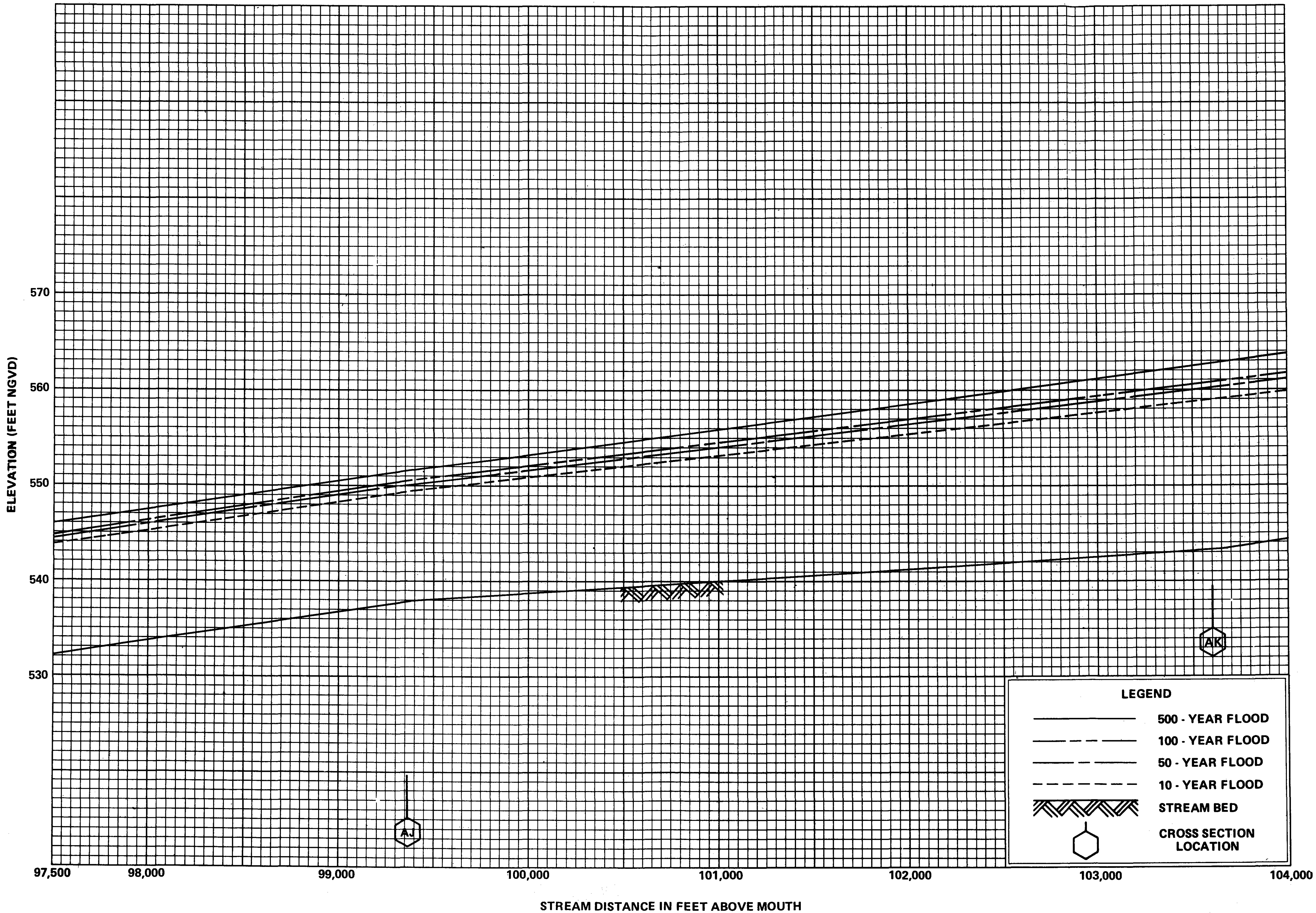


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS



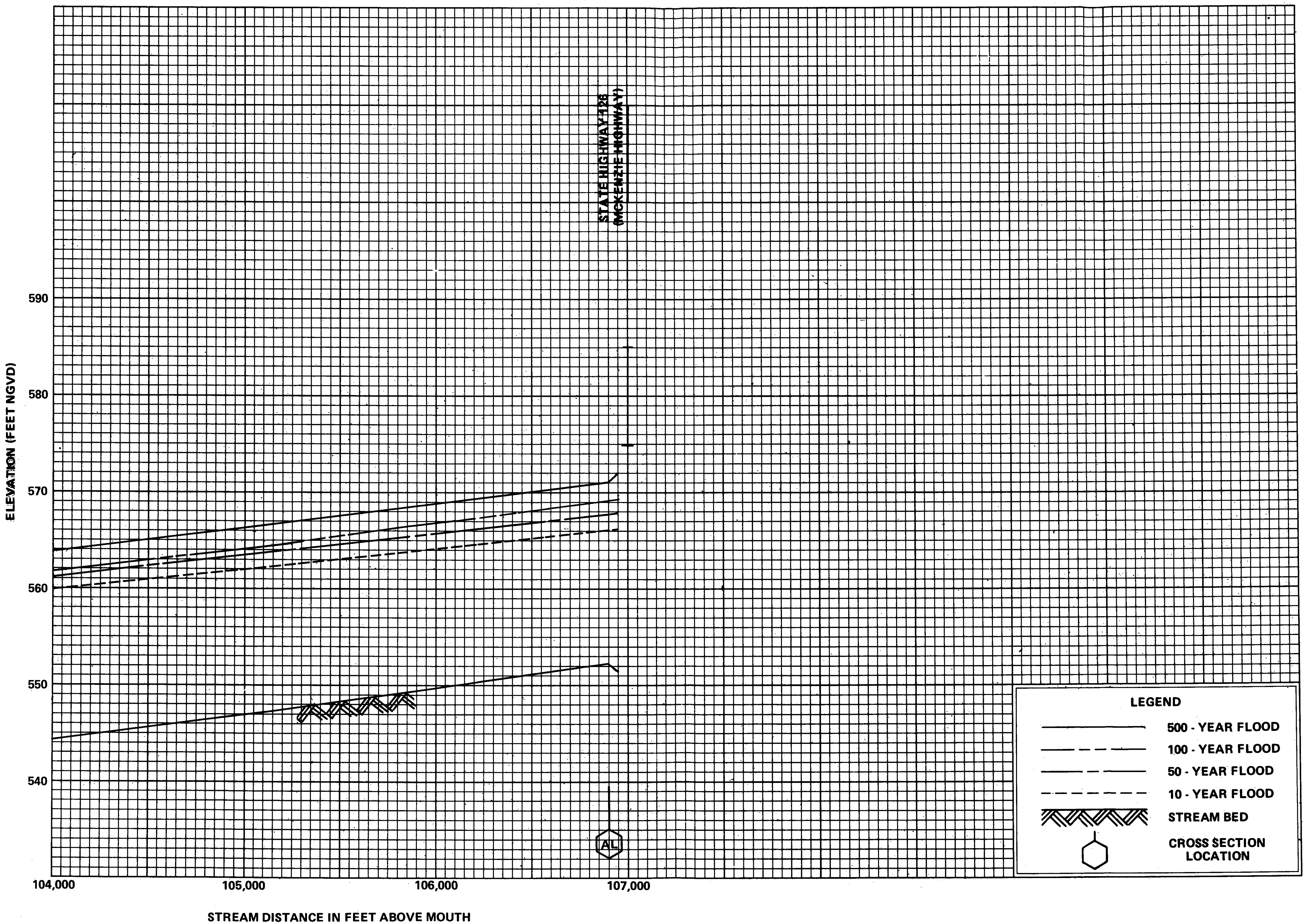
FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

71P

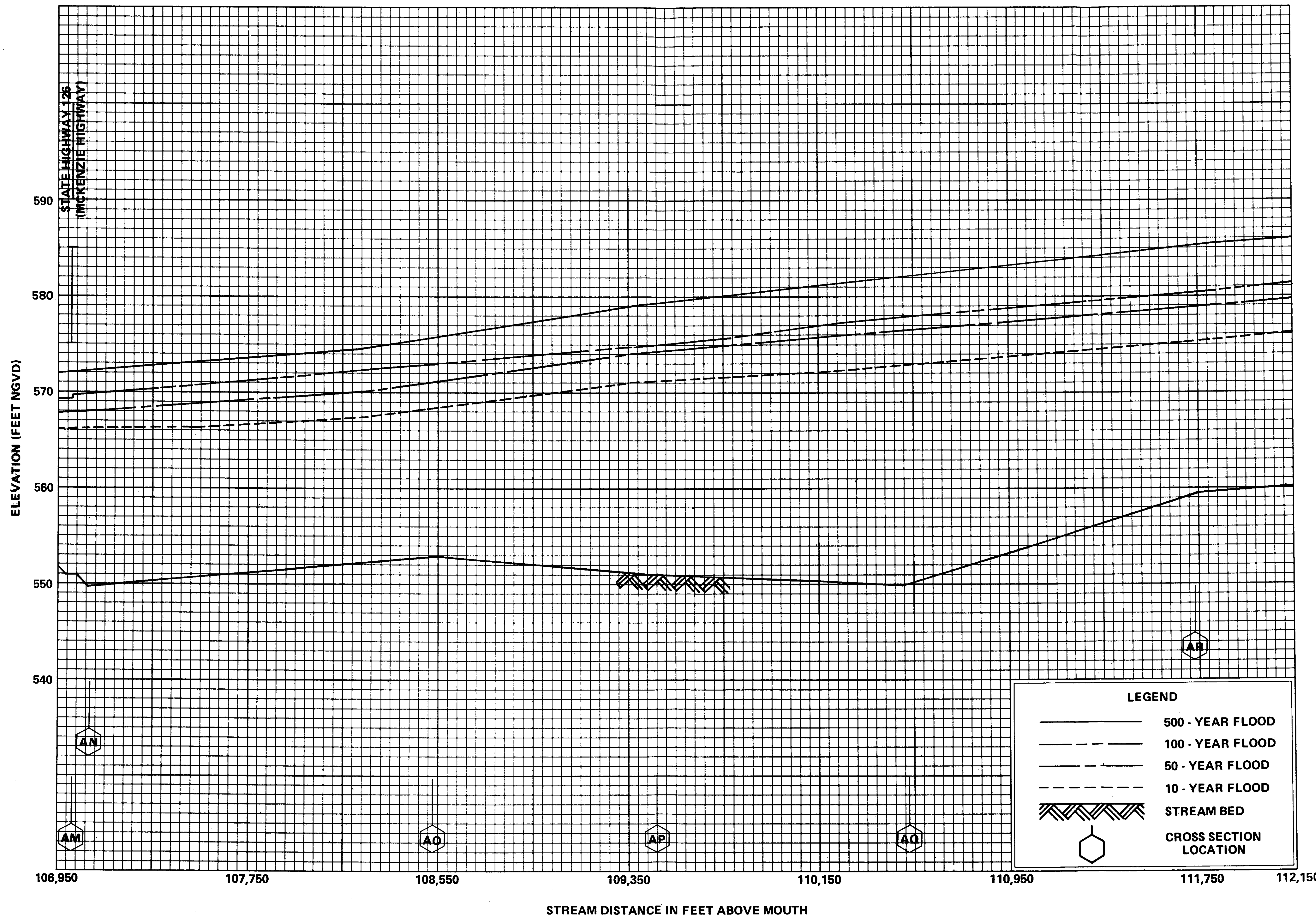


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

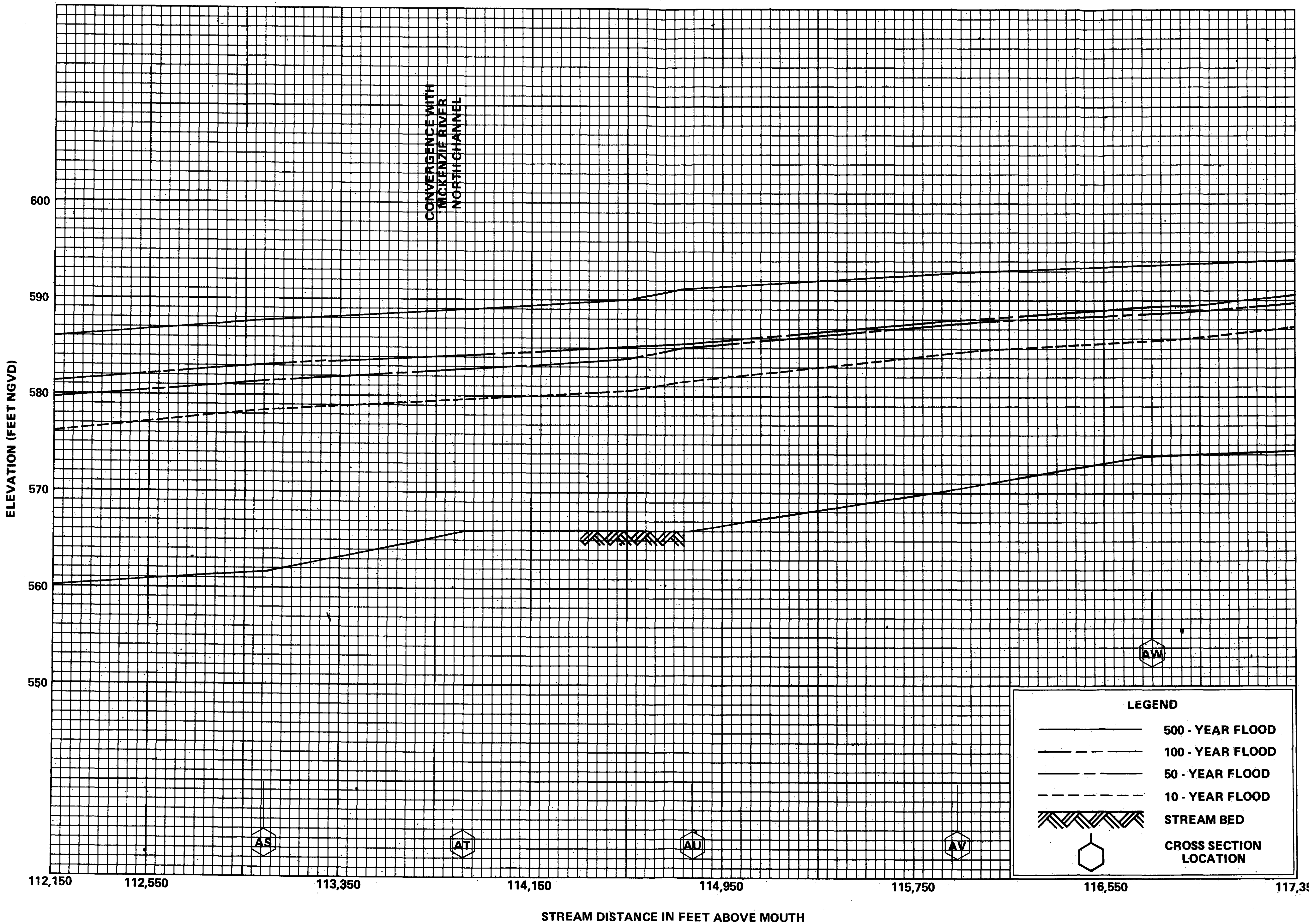


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



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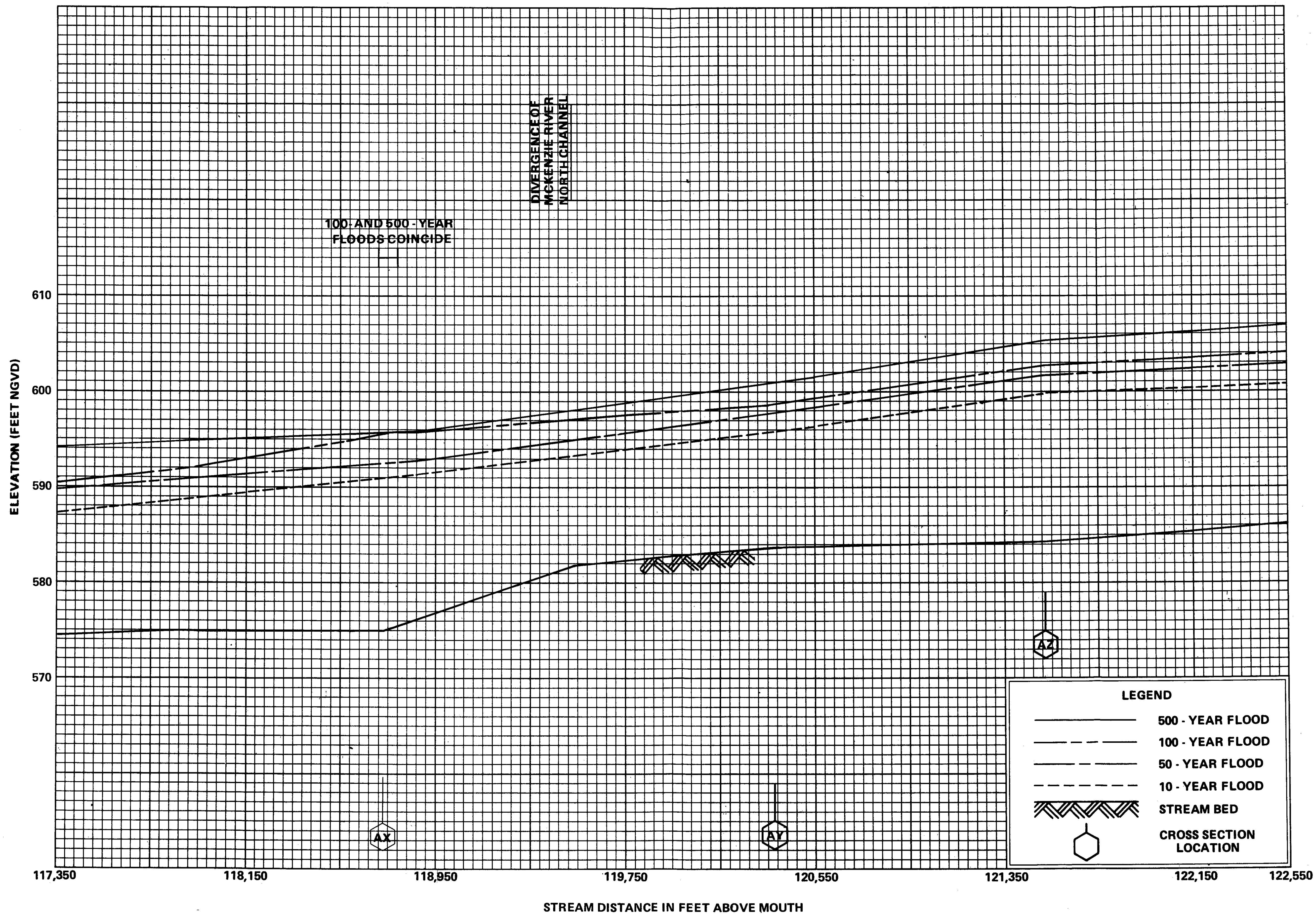
MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

74P



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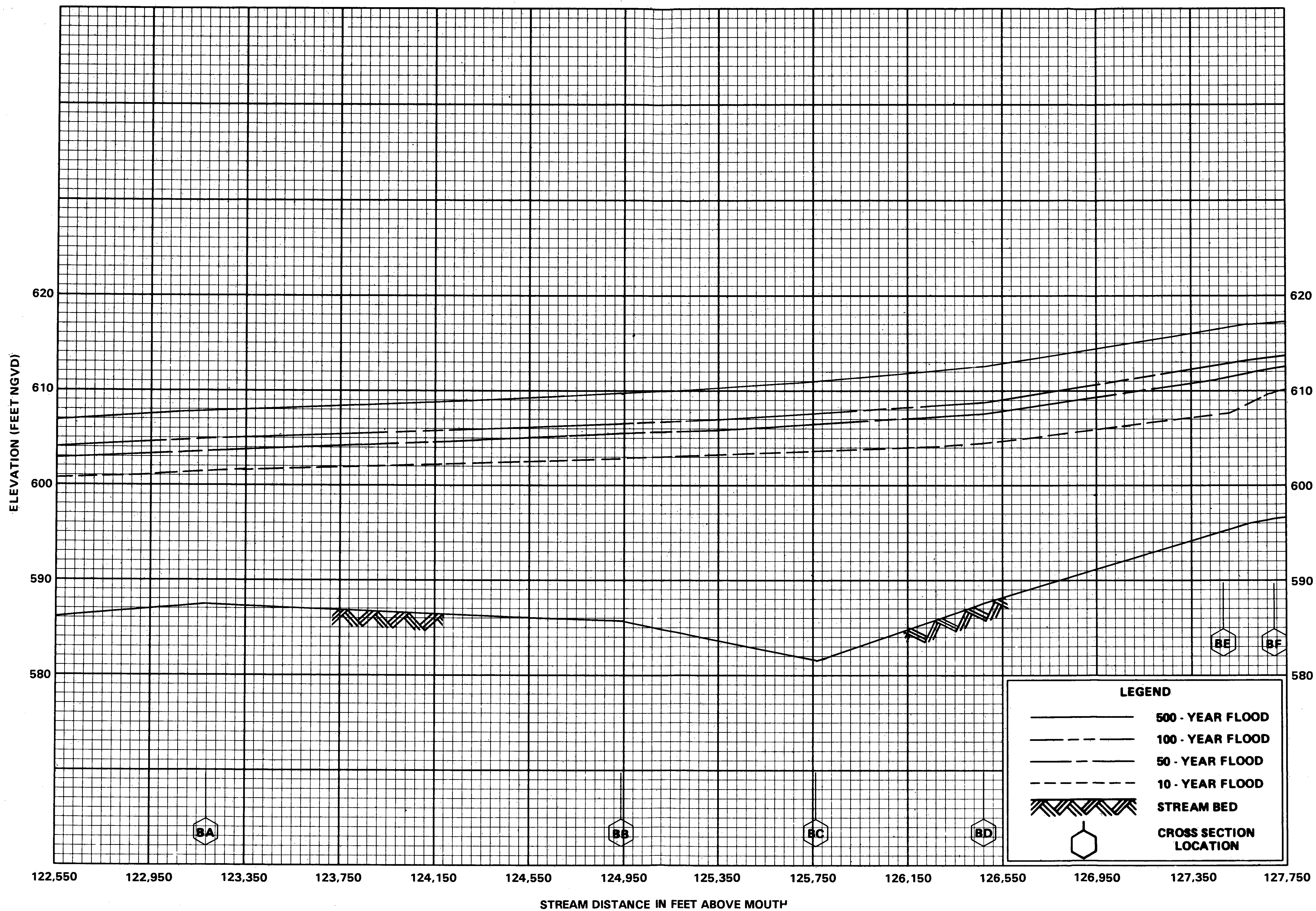
MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS

75P



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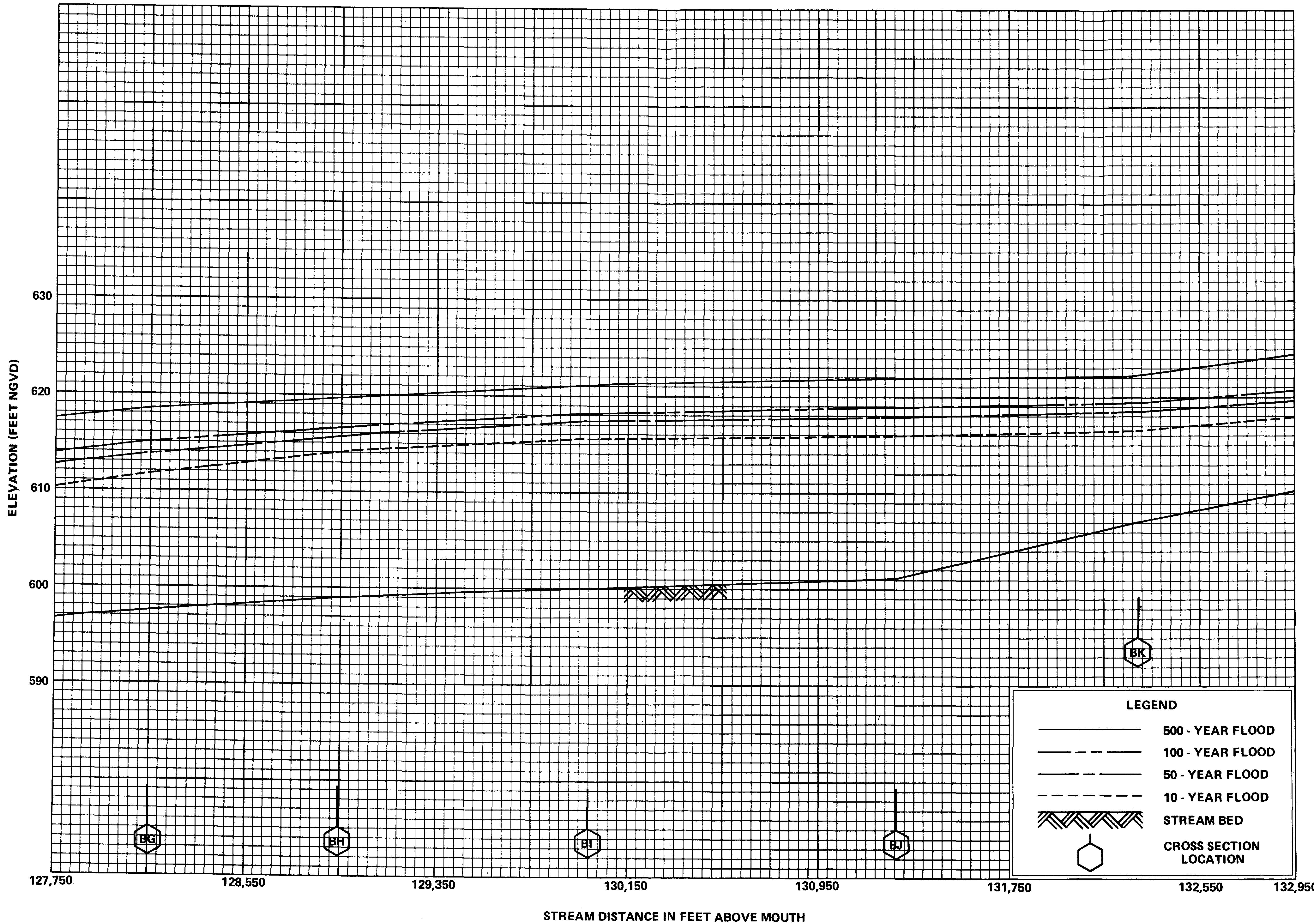
MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

76P



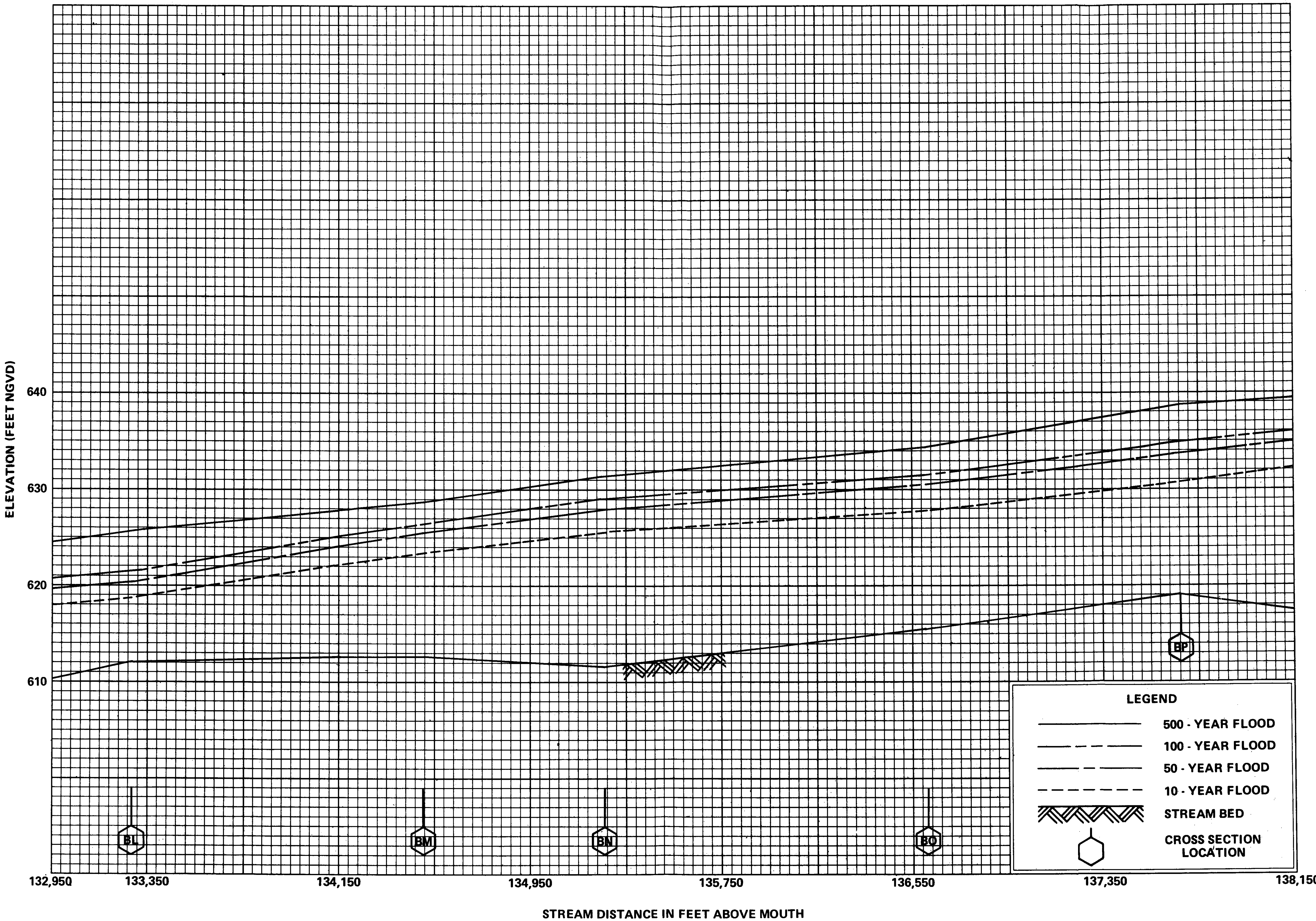
FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS



FLOOD PROFILES

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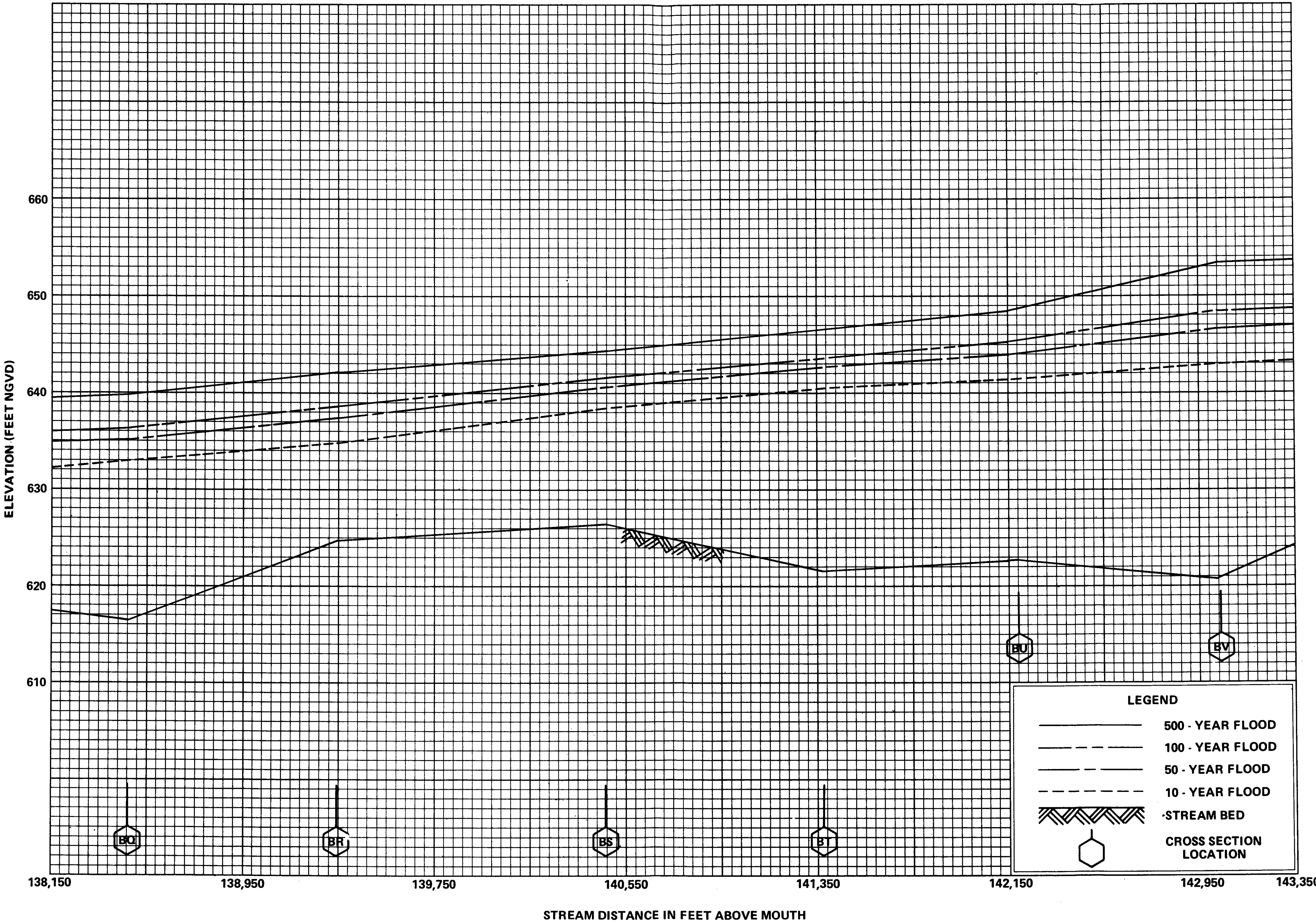
FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



FLOOD PROFILES

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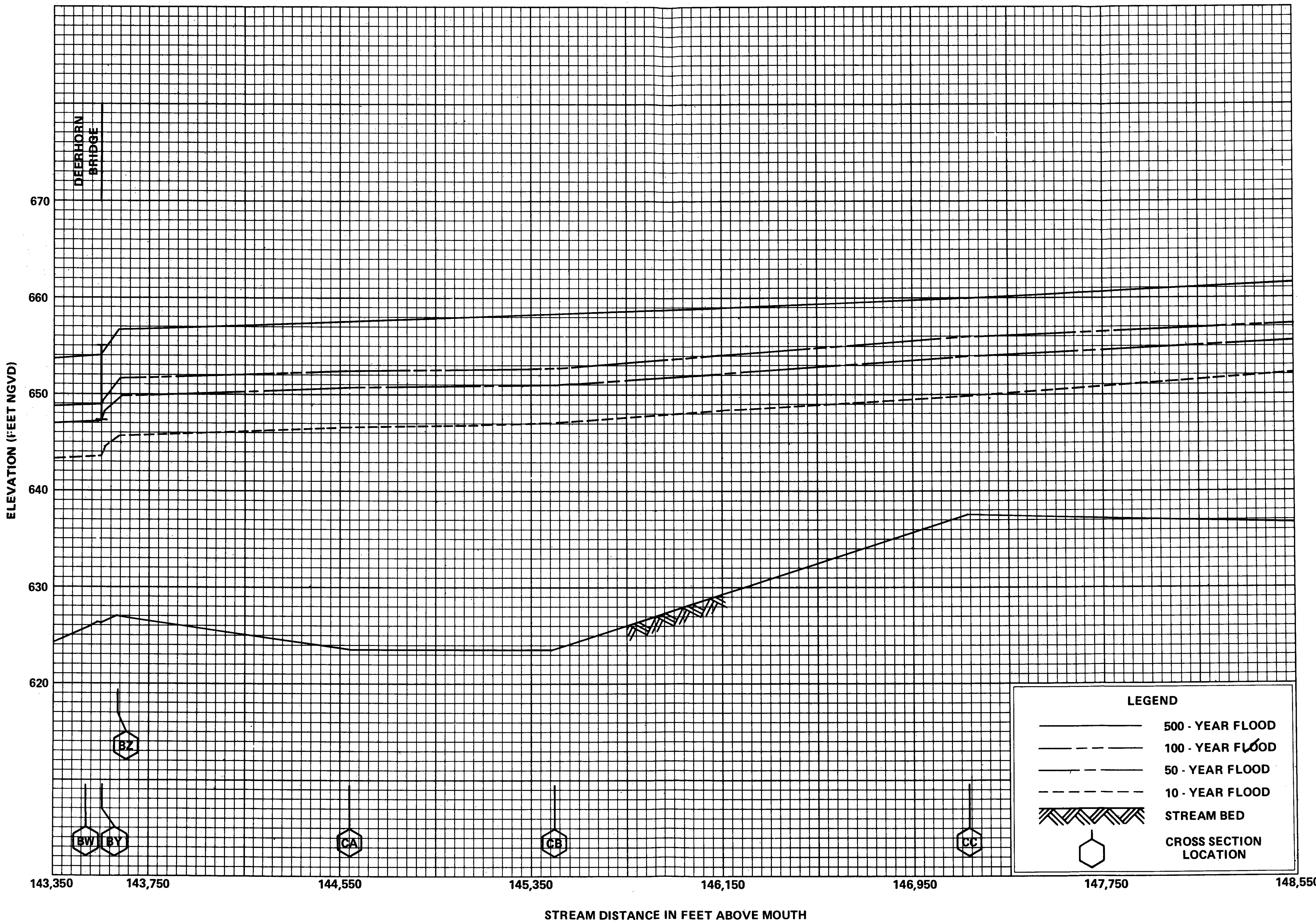
FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



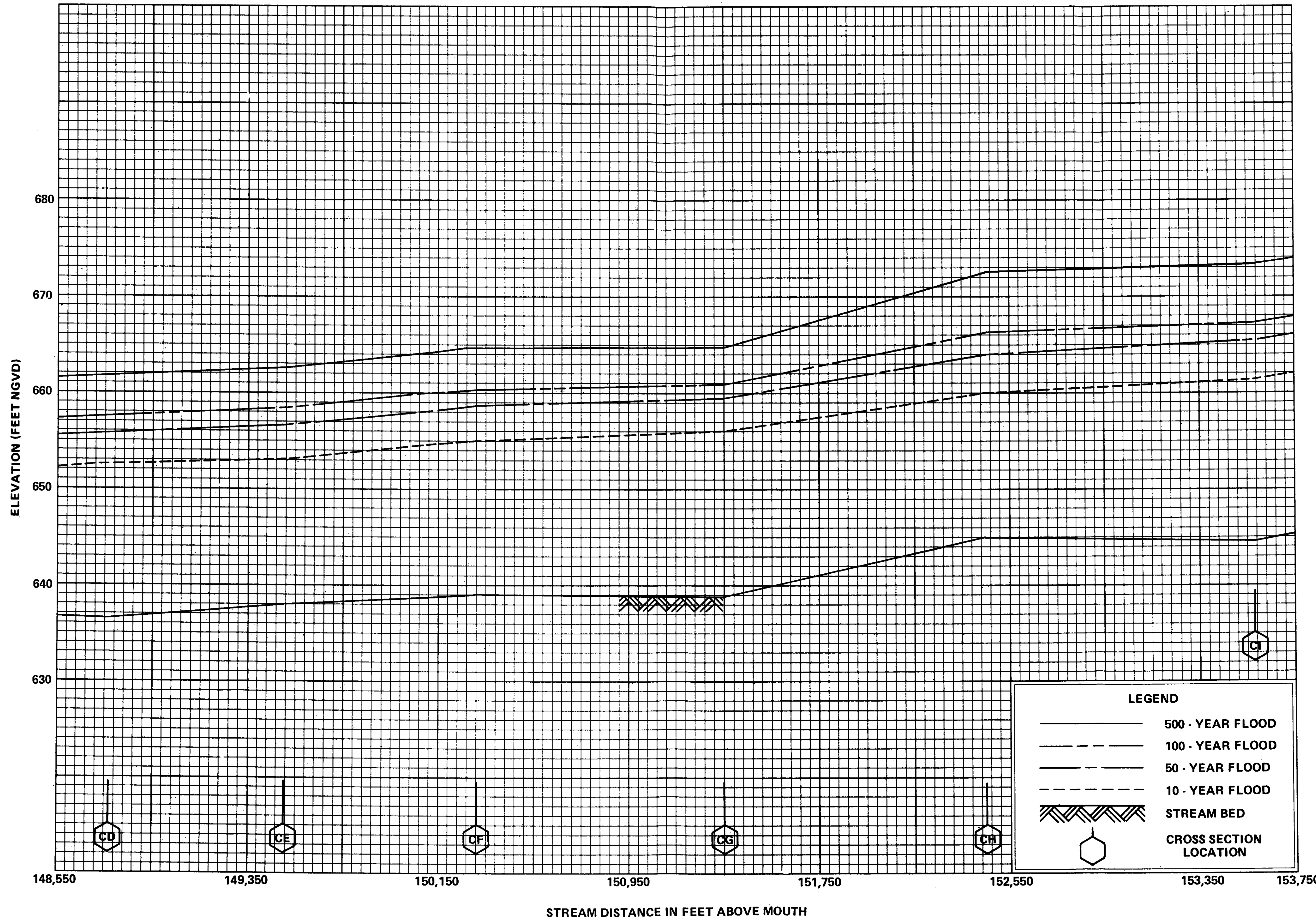
FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

80P



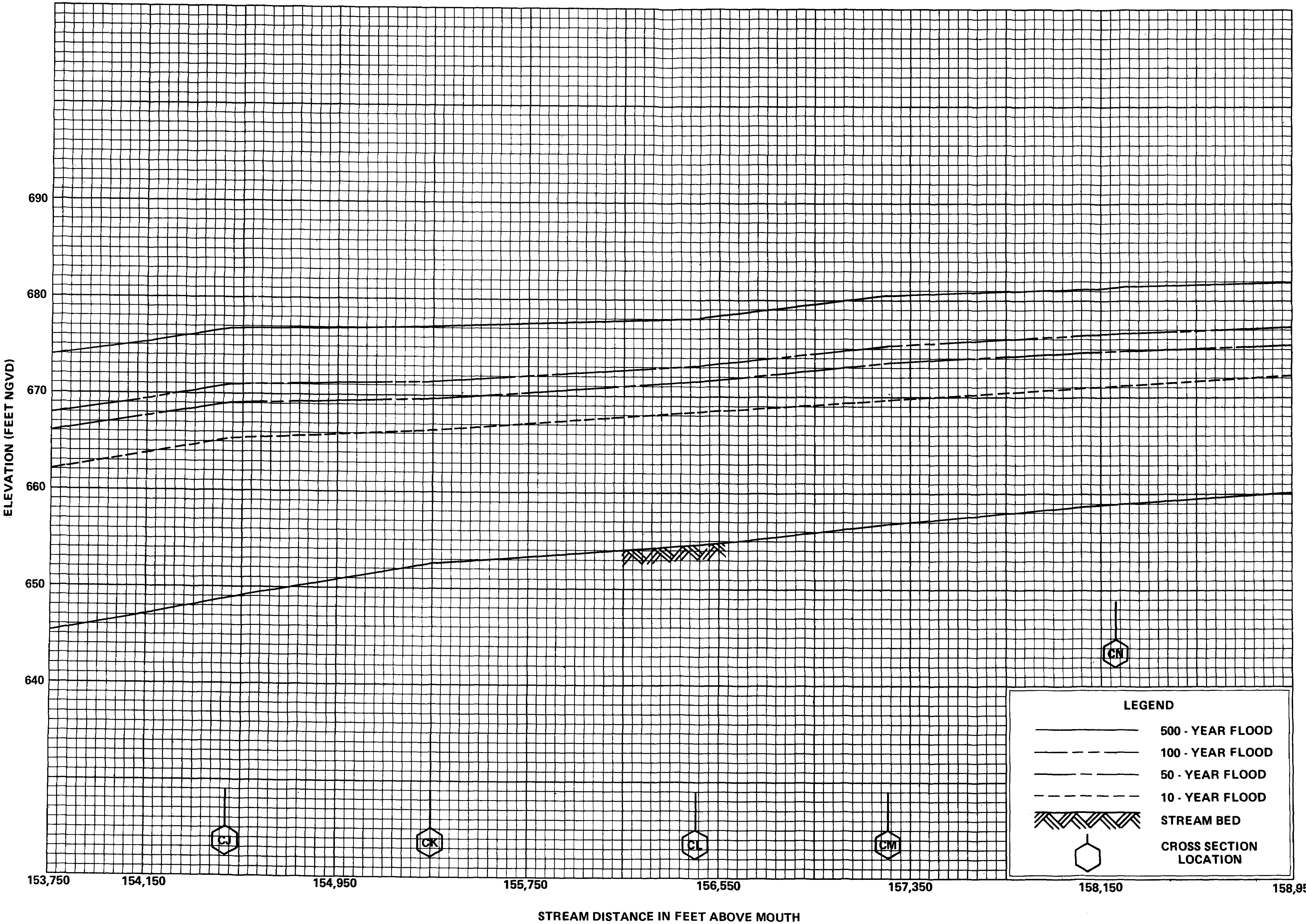
FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

81P



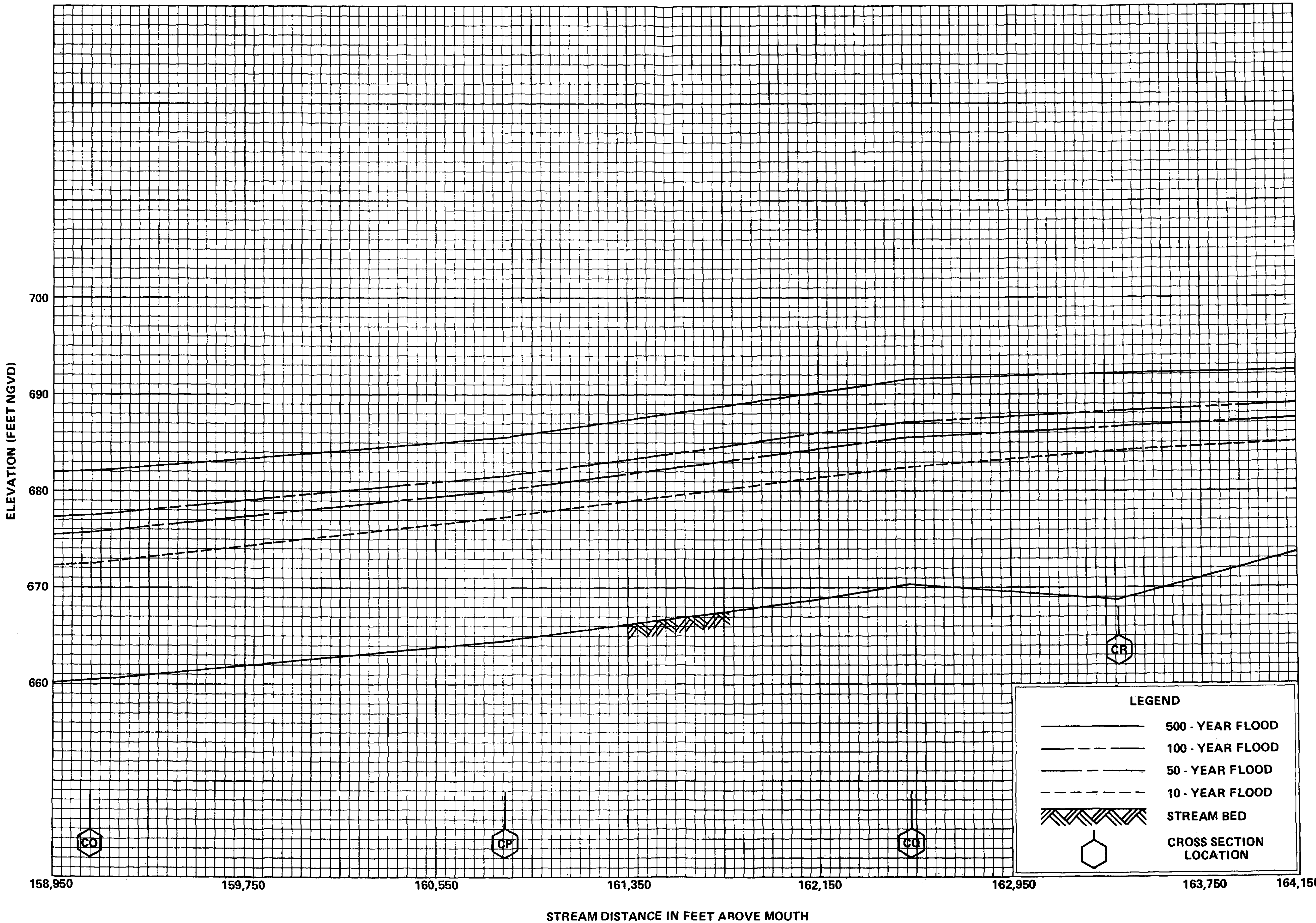
FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

82P

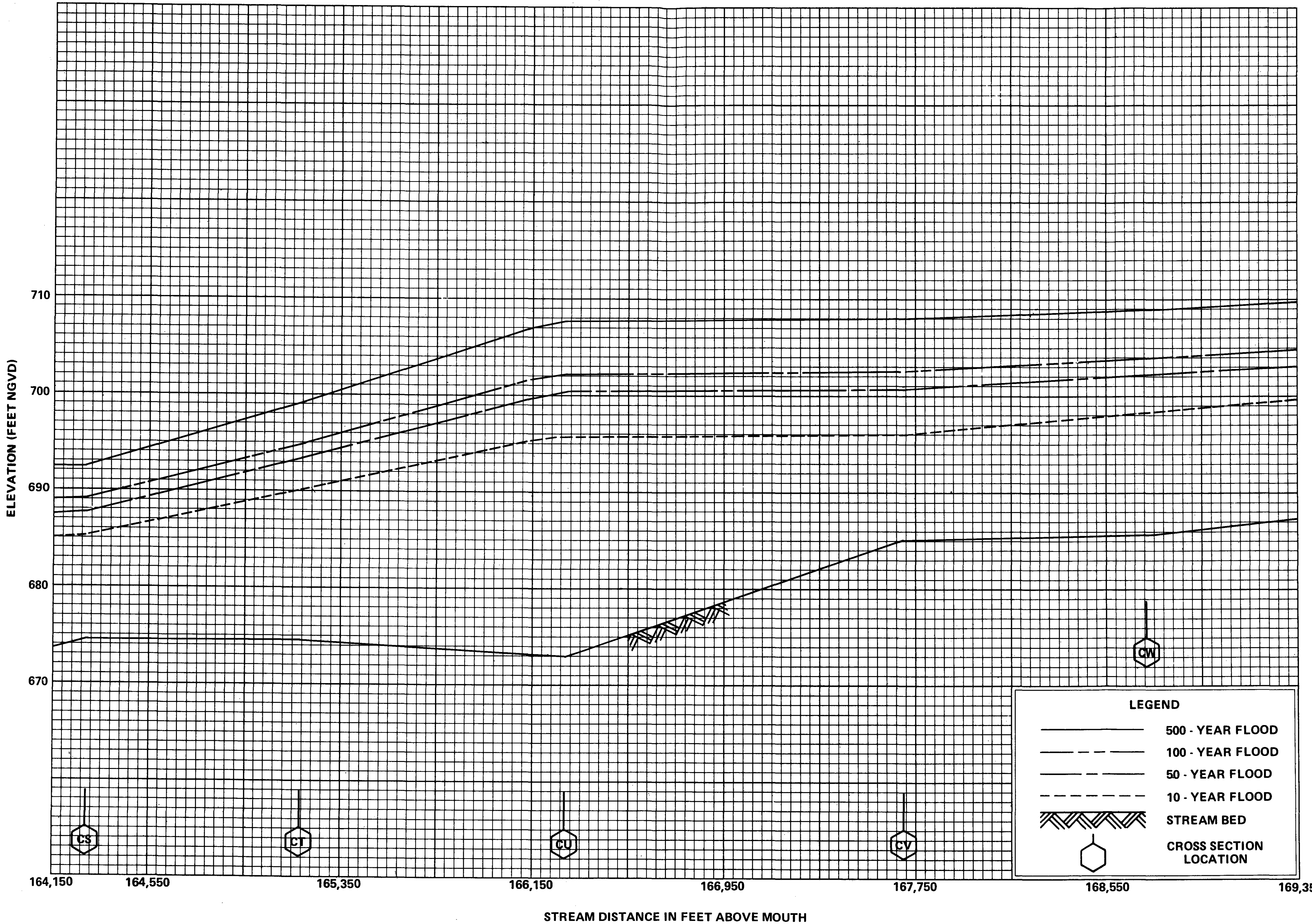


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

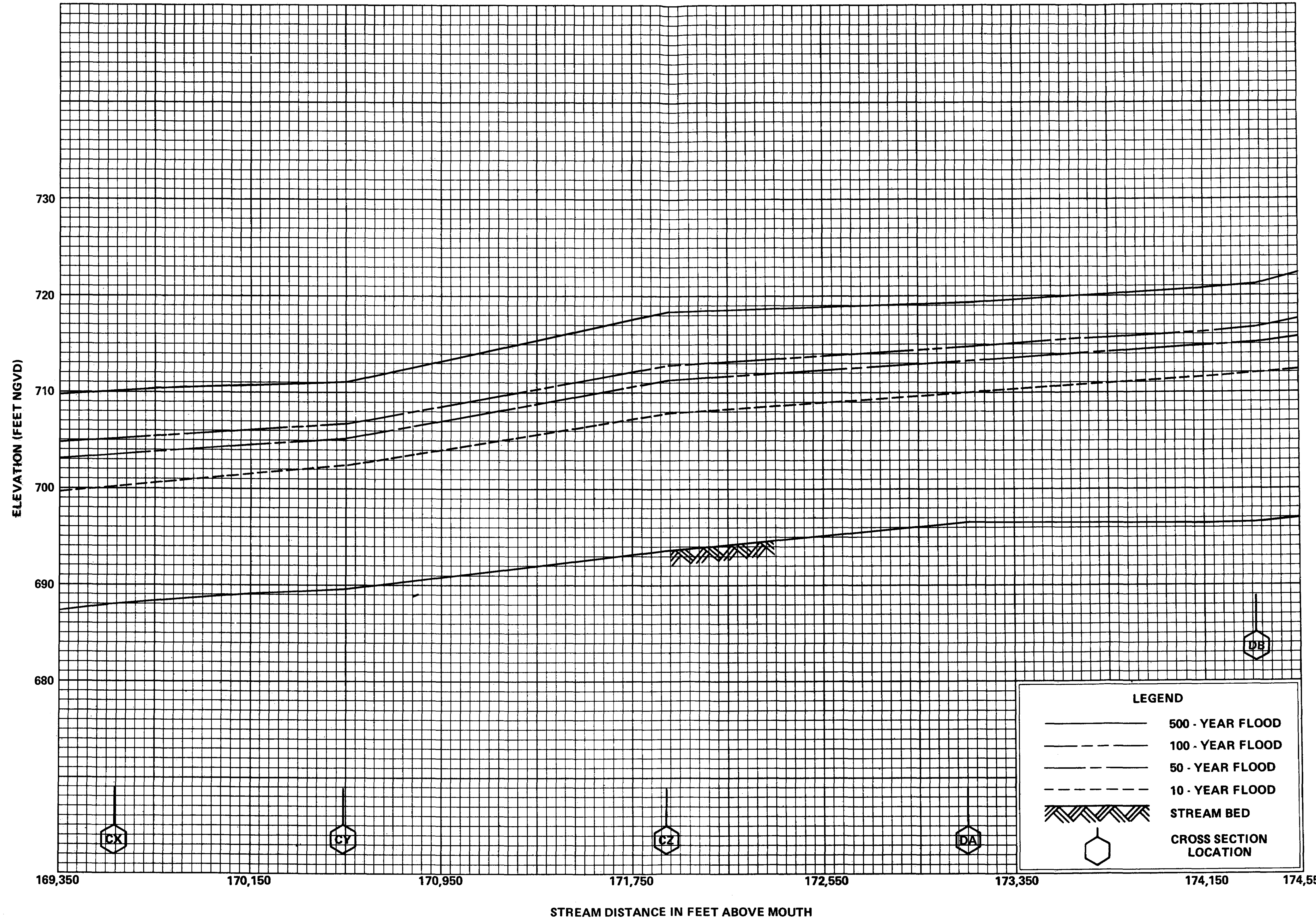


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



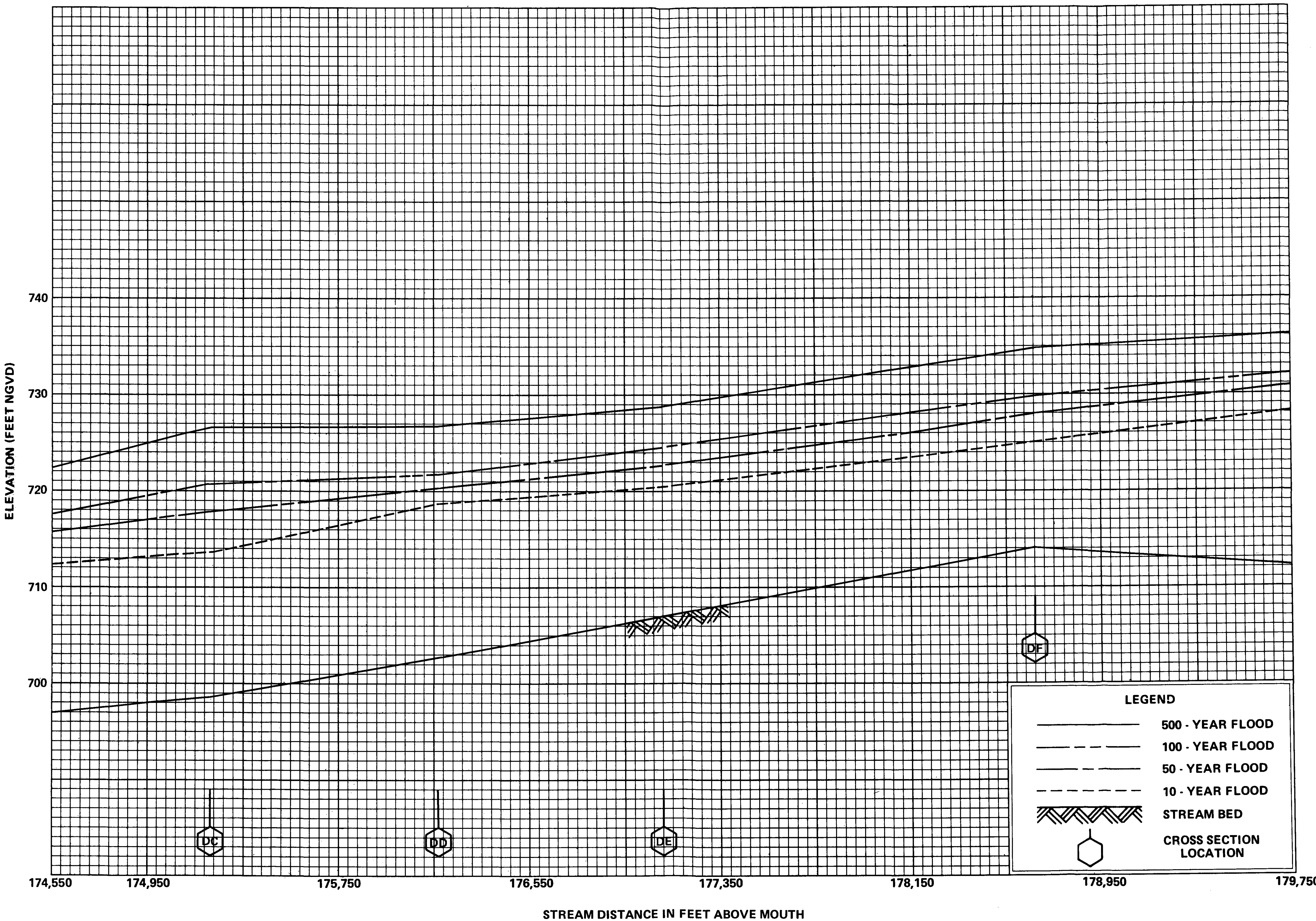
FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

MCKENZIE RIVER

85P



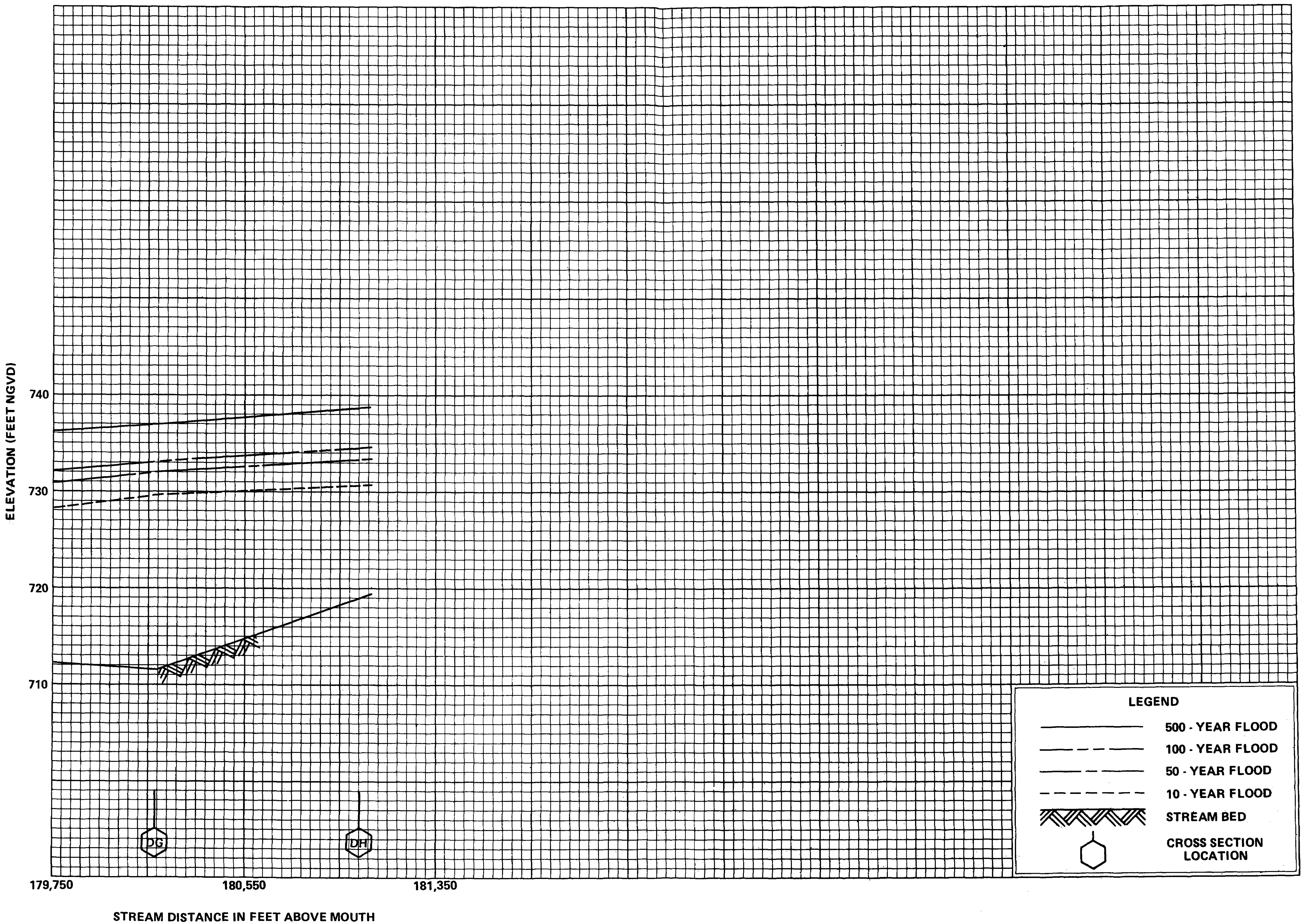
FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

86P



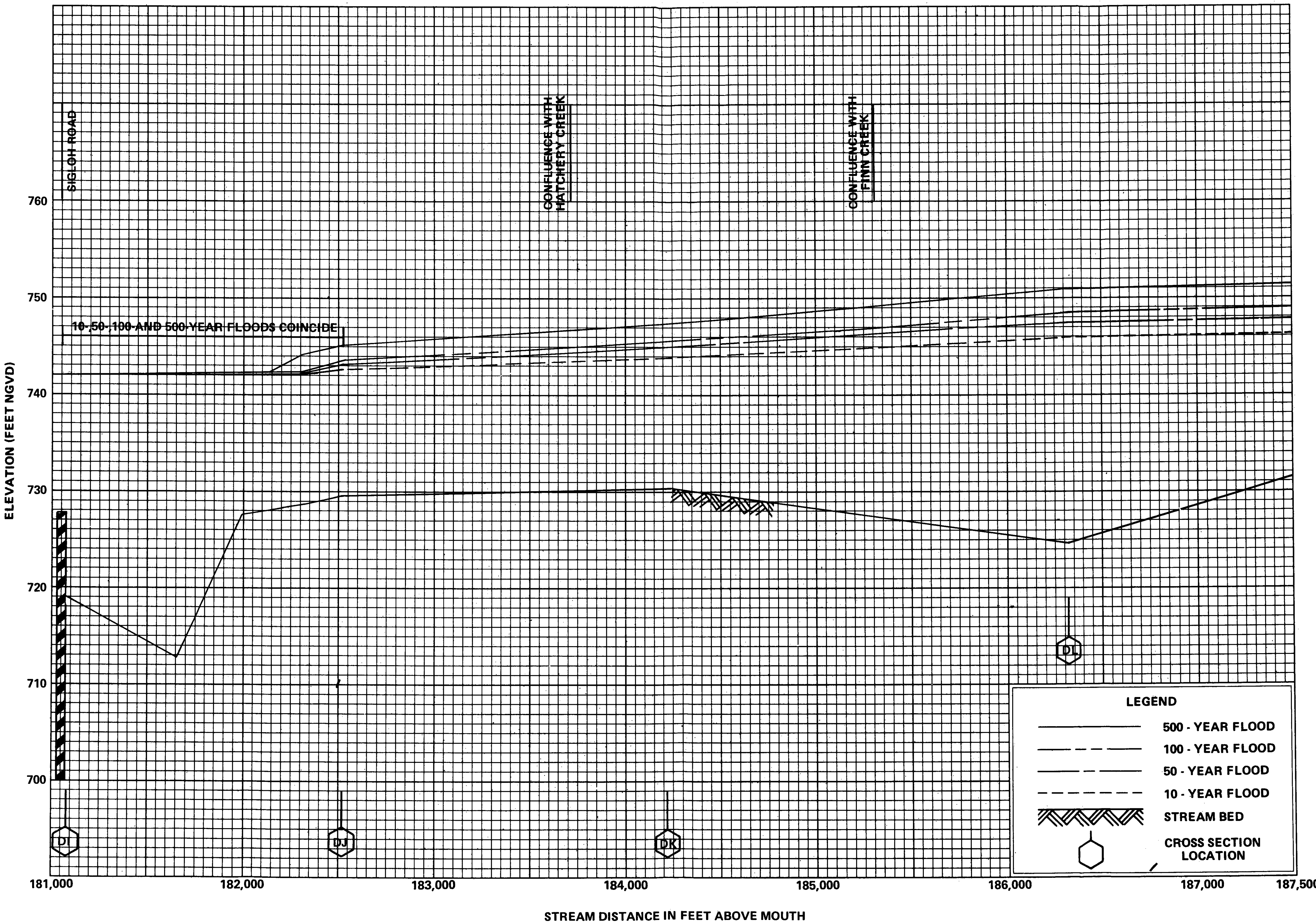
FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

87P

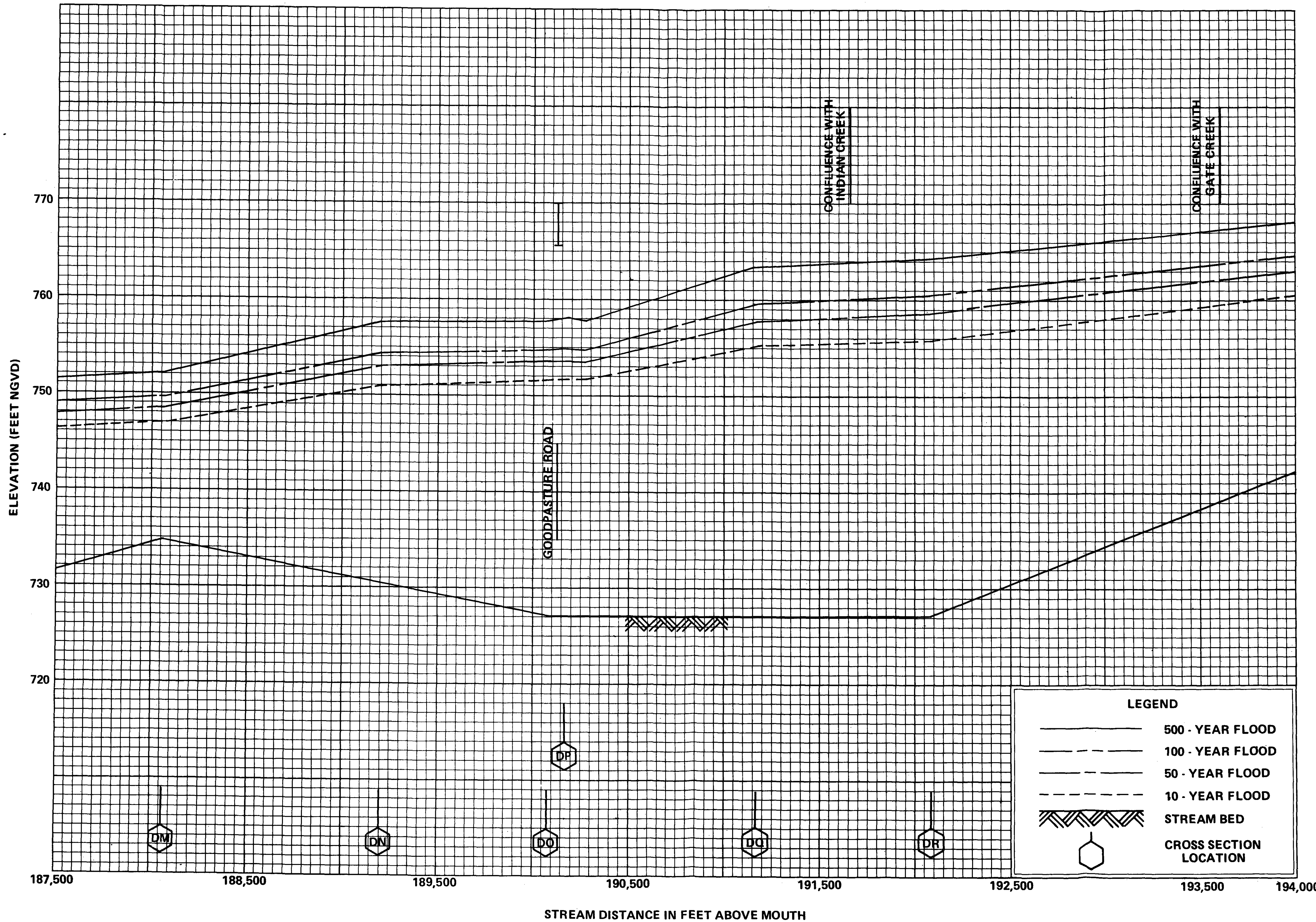


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



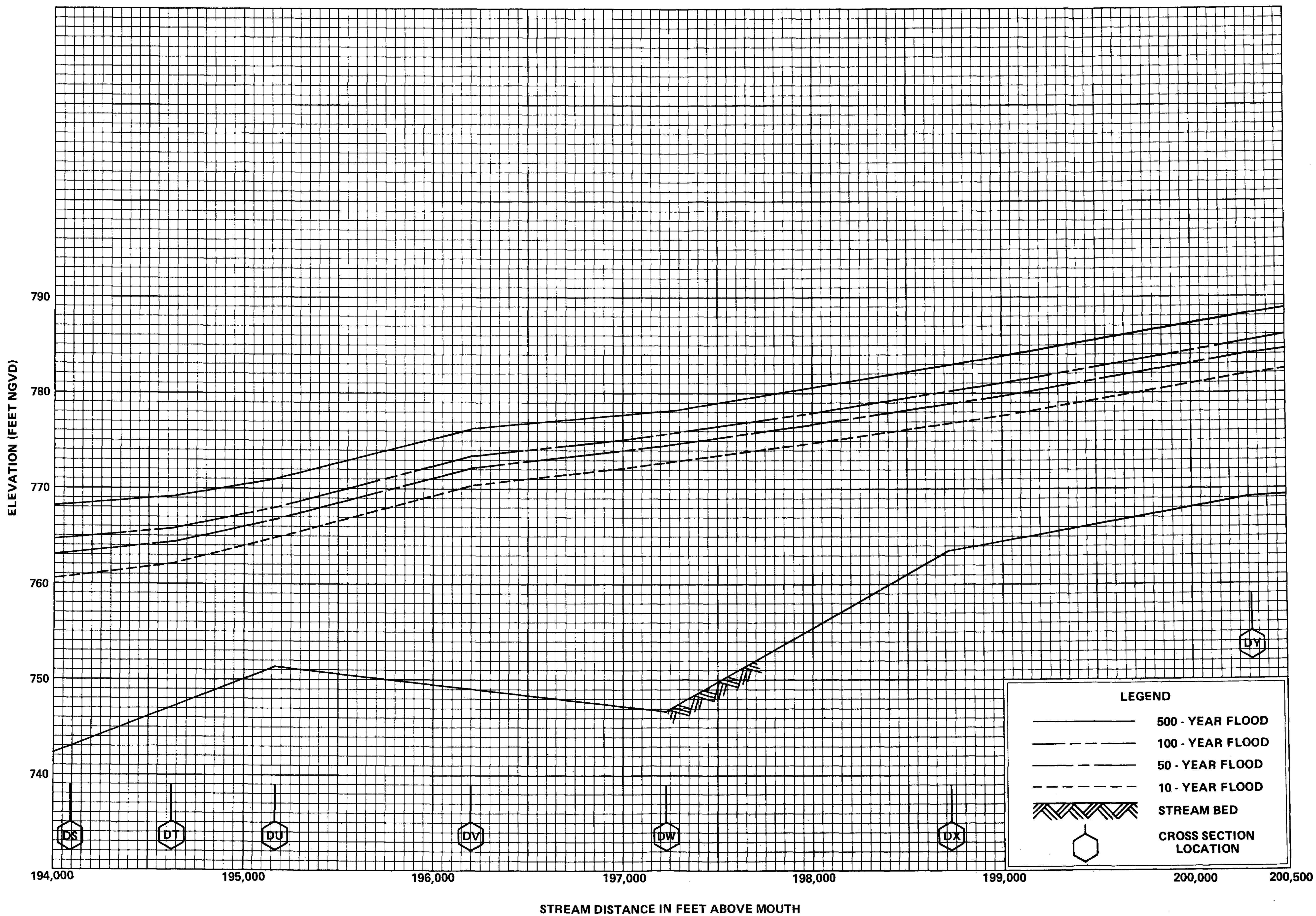
FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

89P



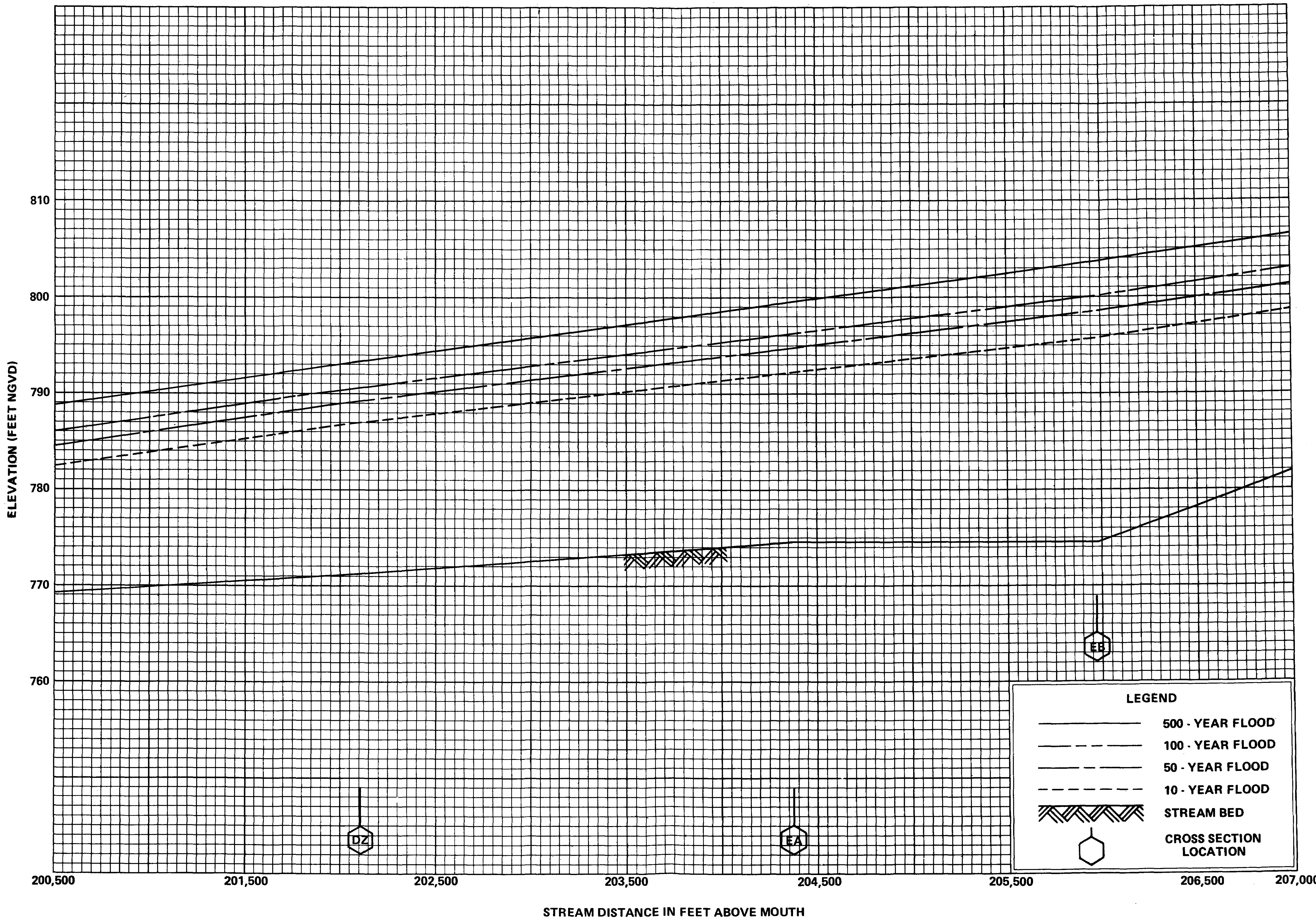
FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

90P

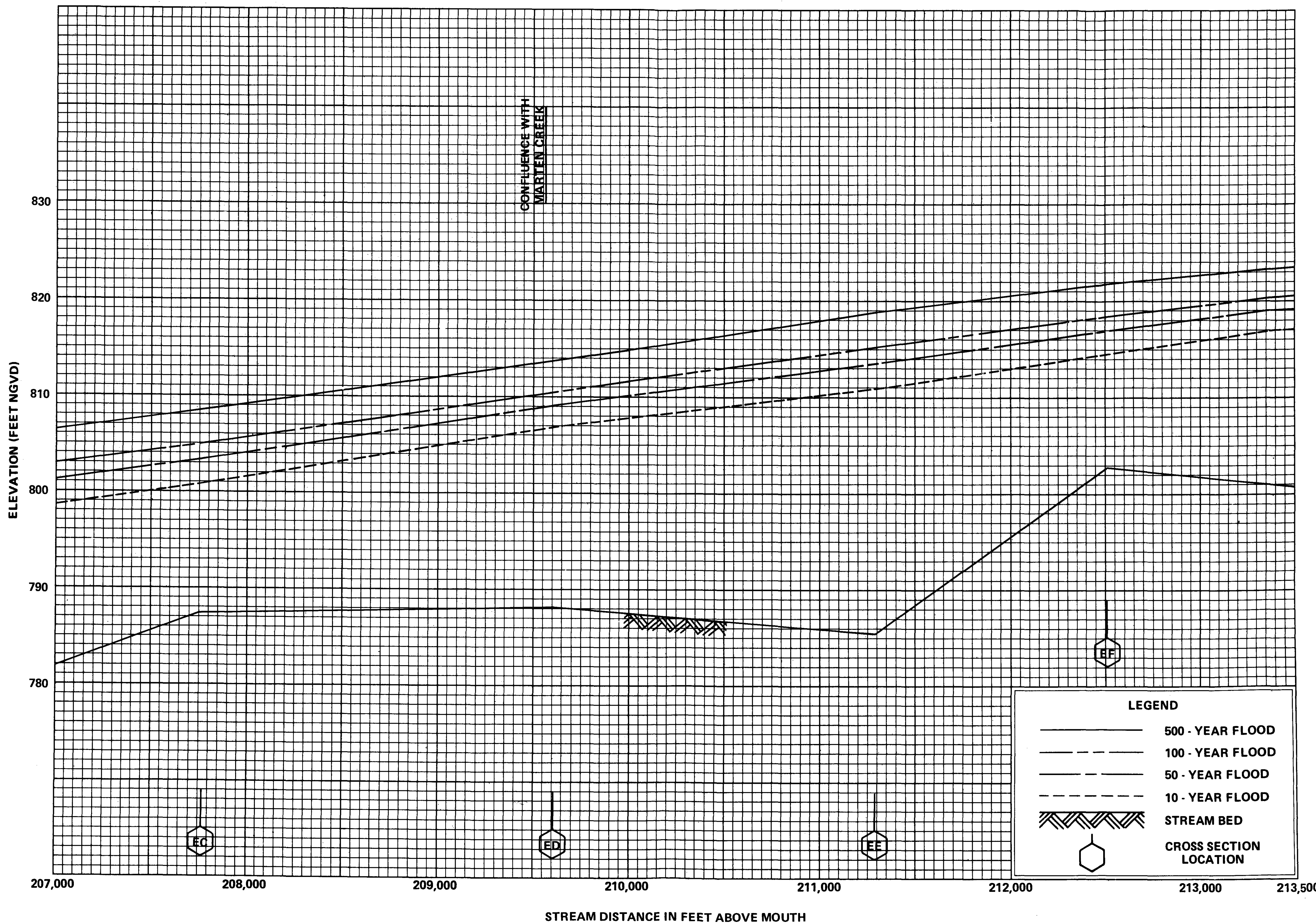


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



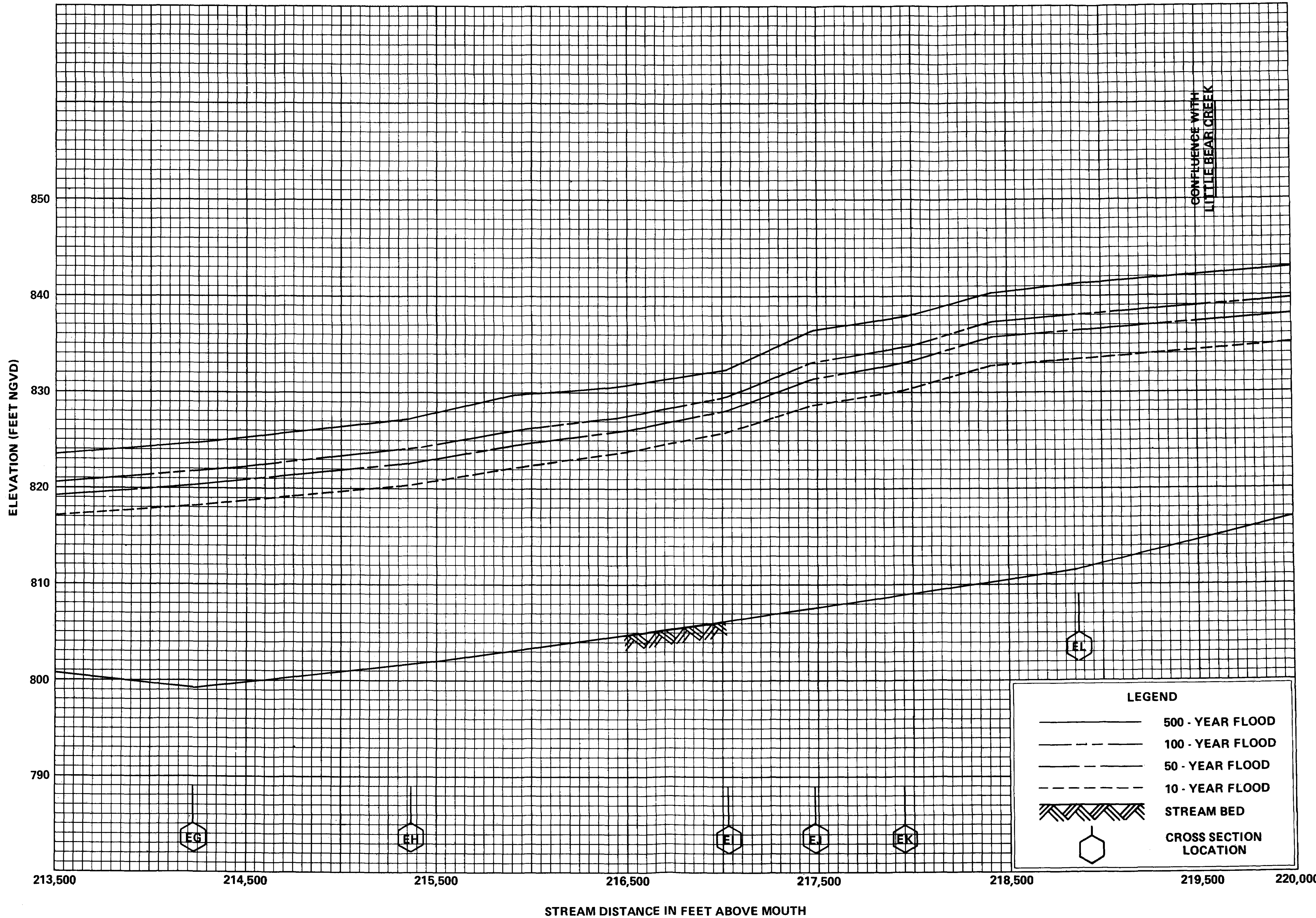
FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

92P

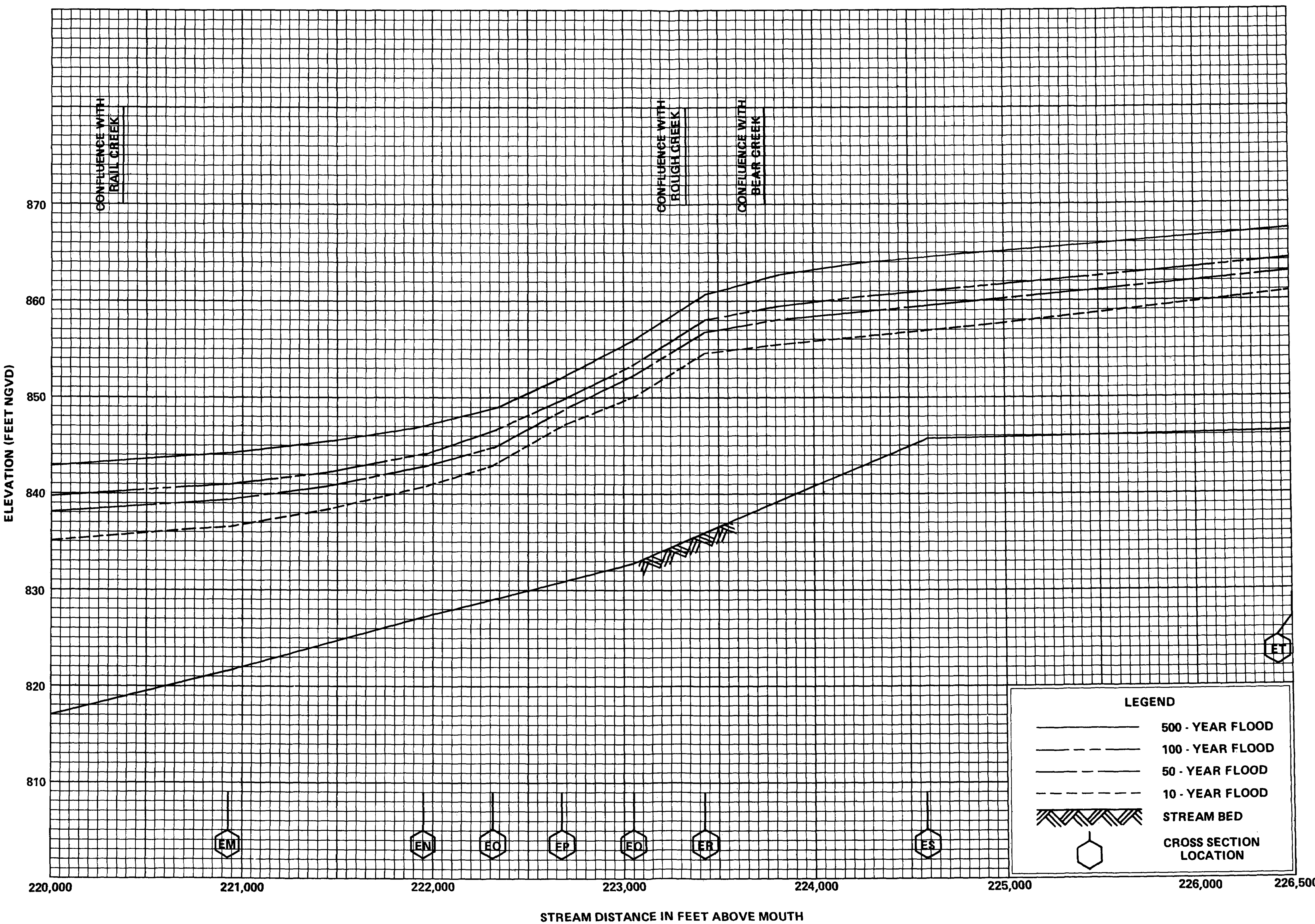


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



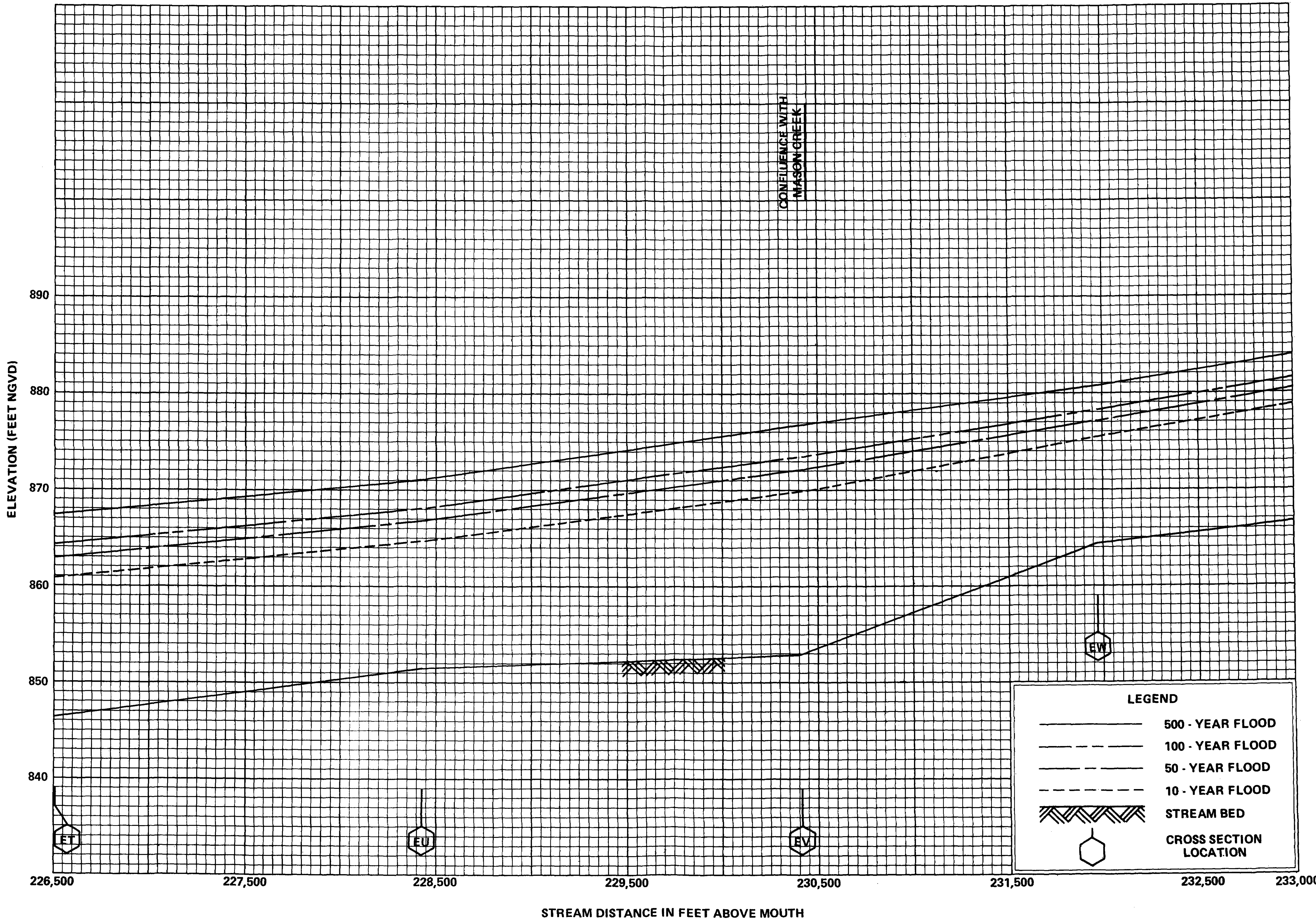
FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

94P

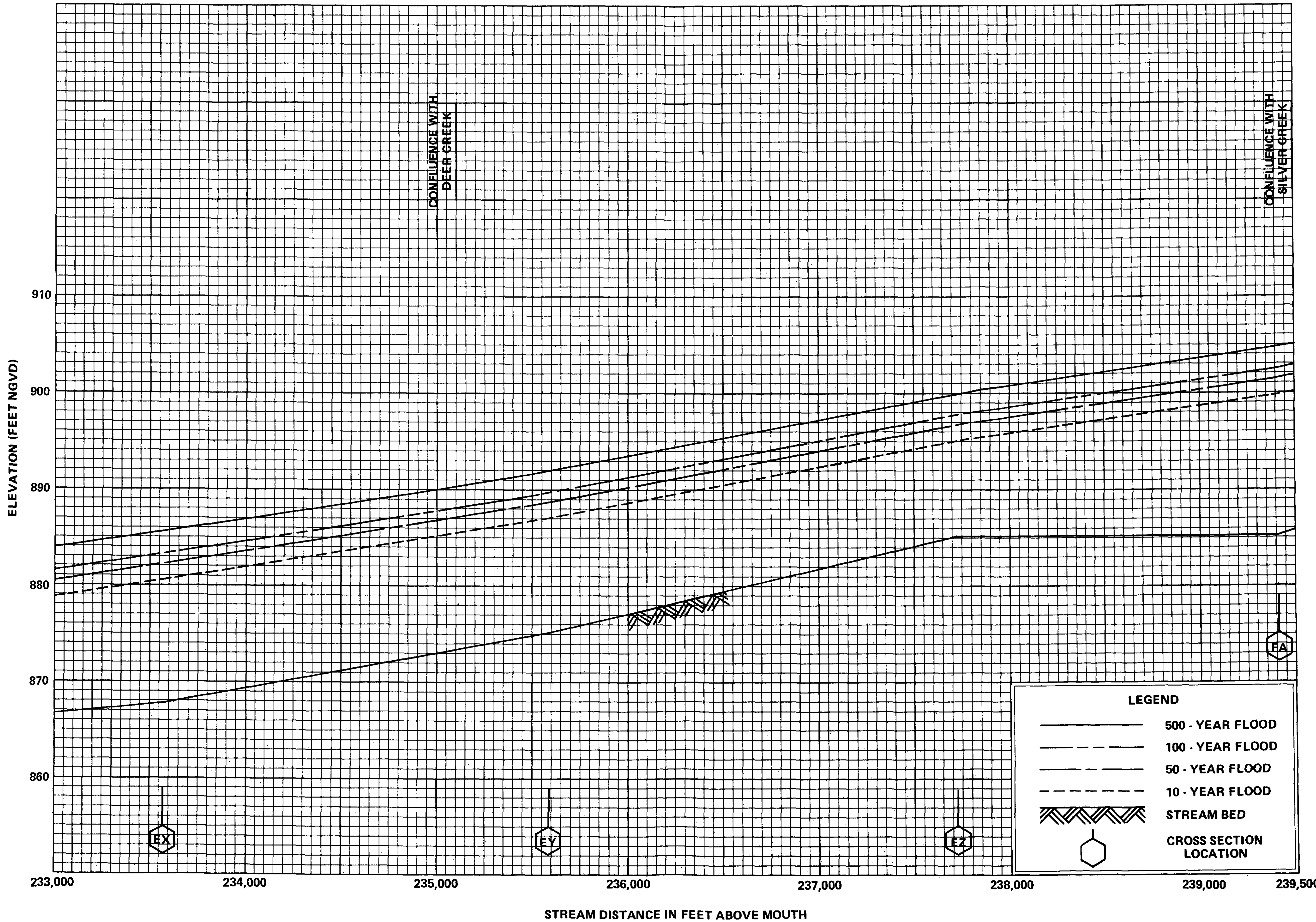


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

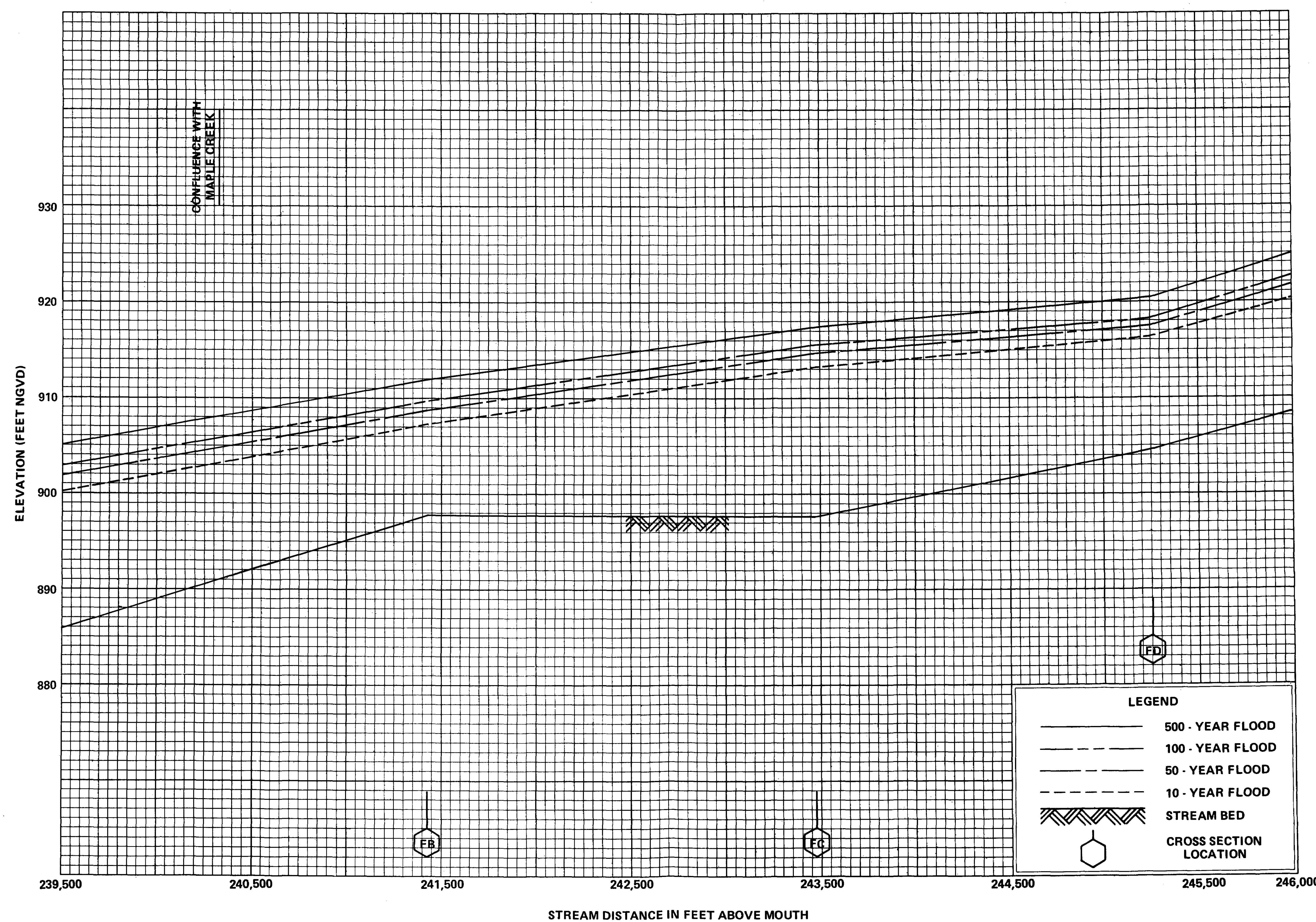


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



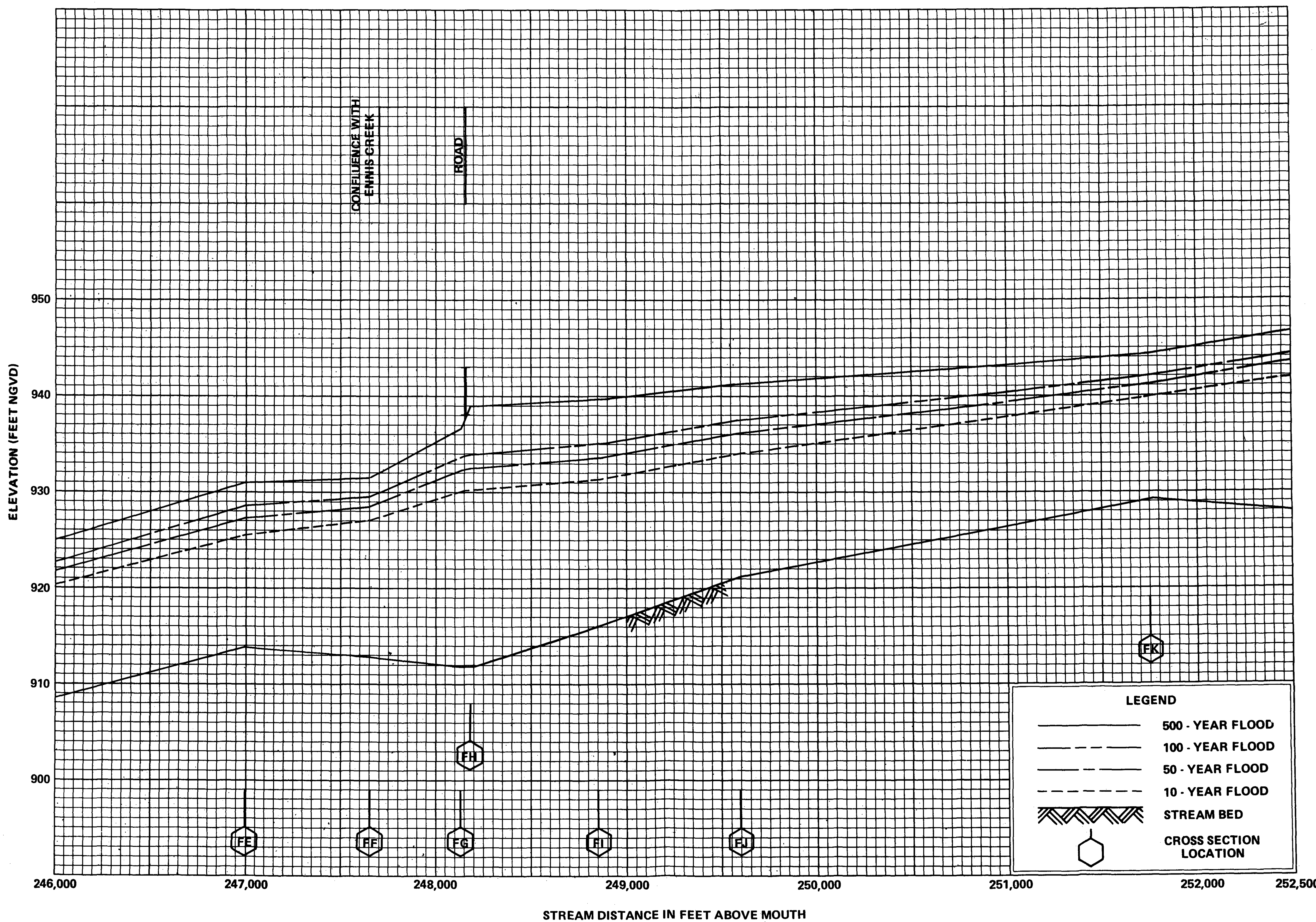
FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

97P



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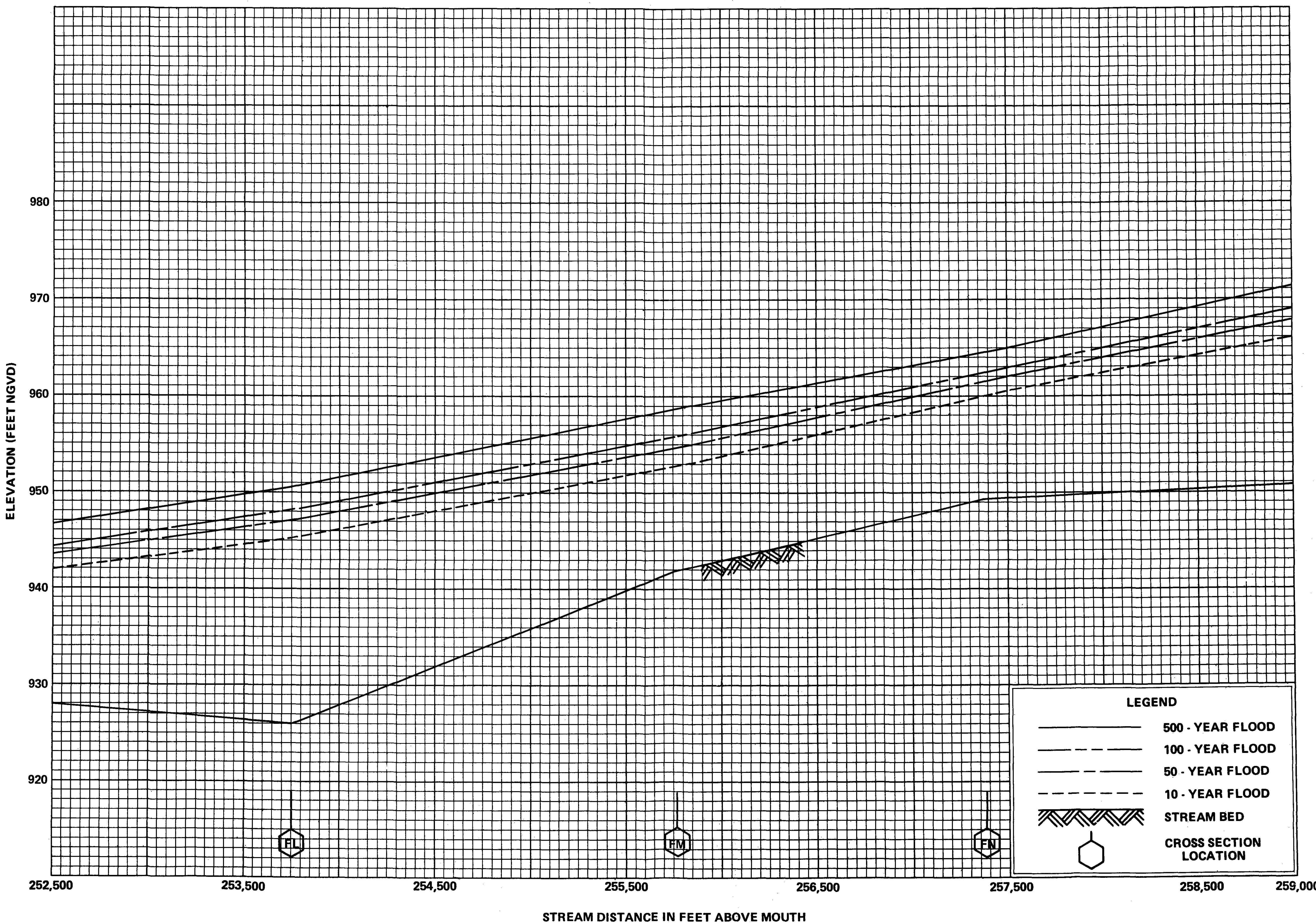
MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

98P



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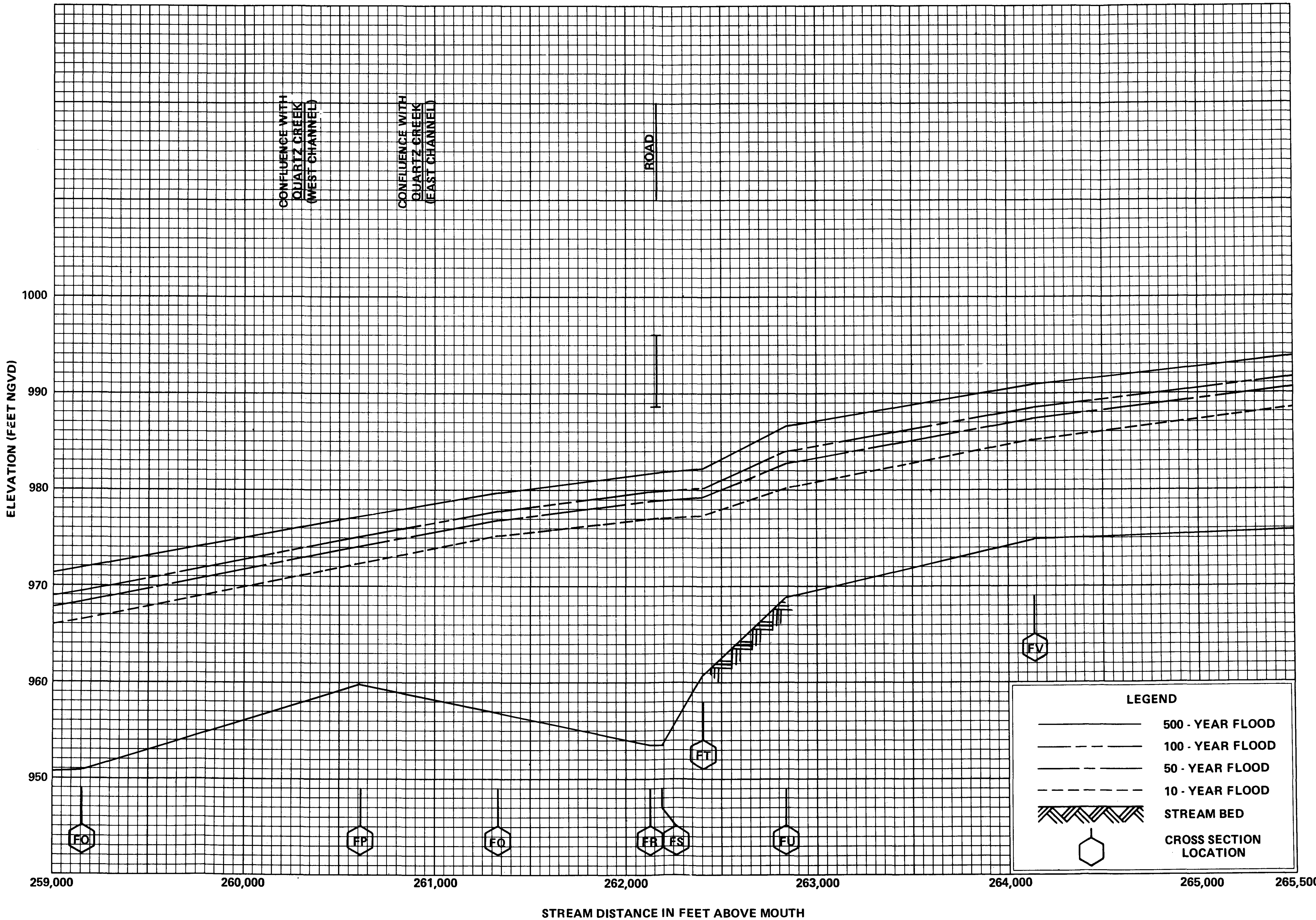
MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

99P



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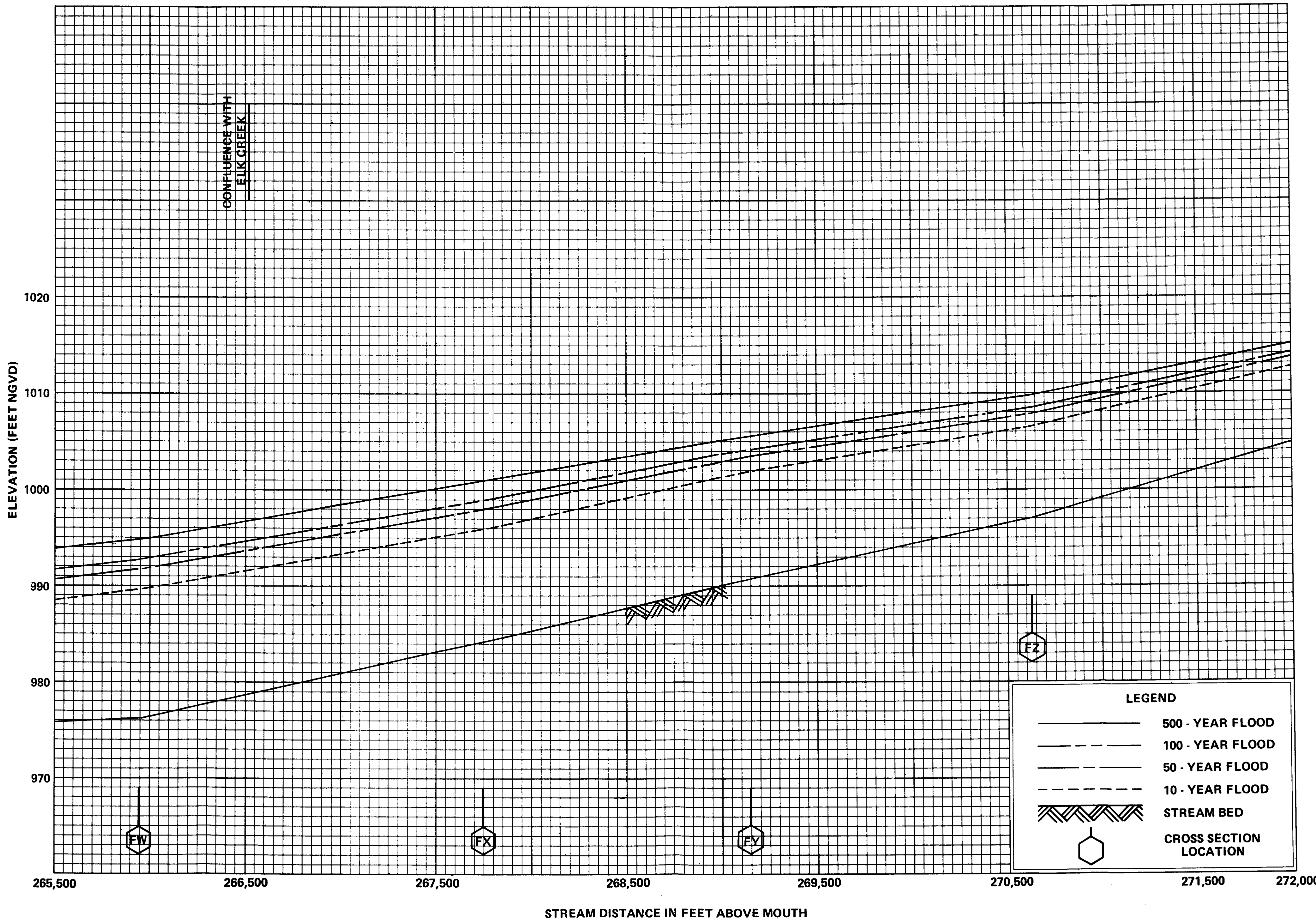
MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

100P



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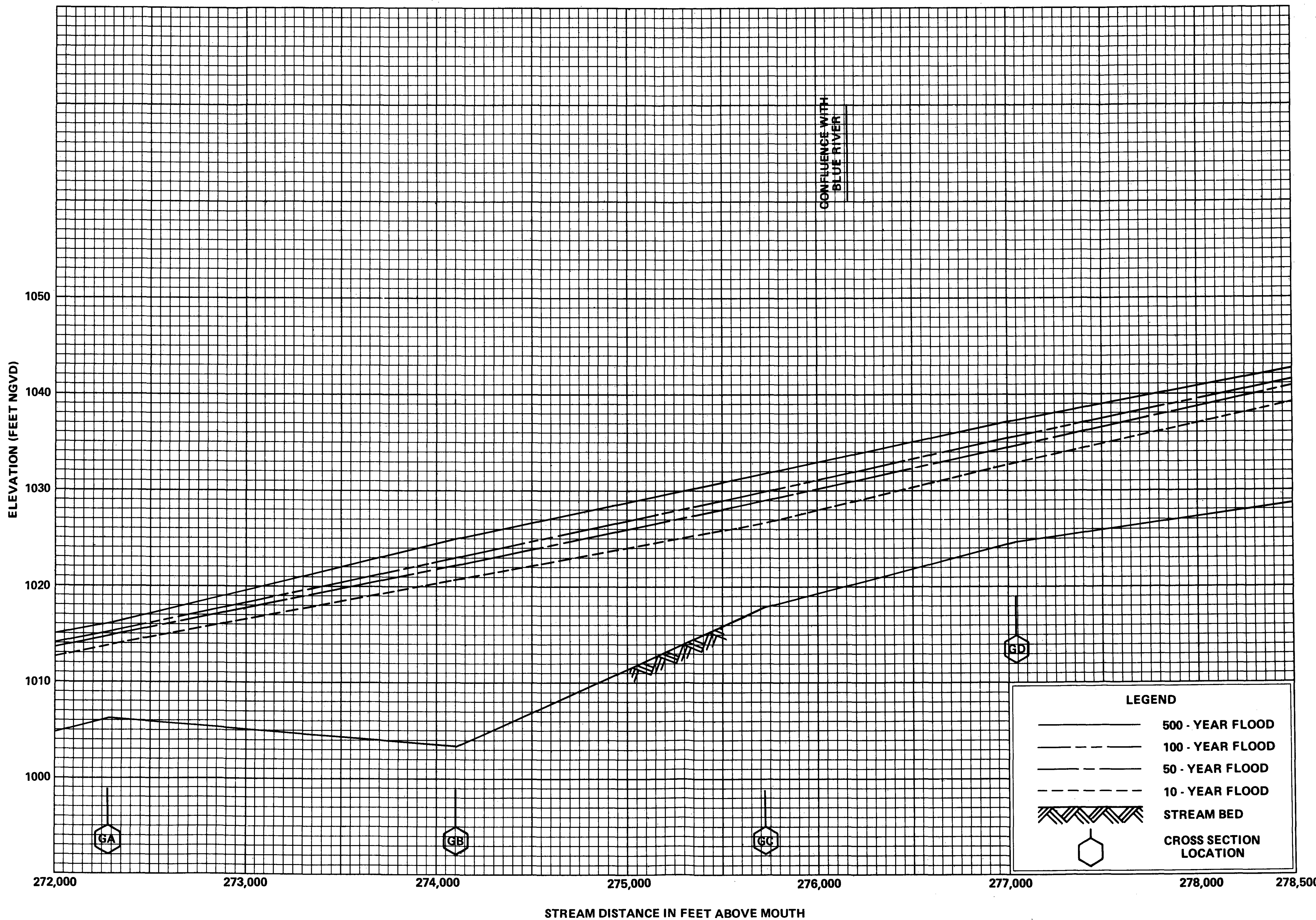
MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

101P



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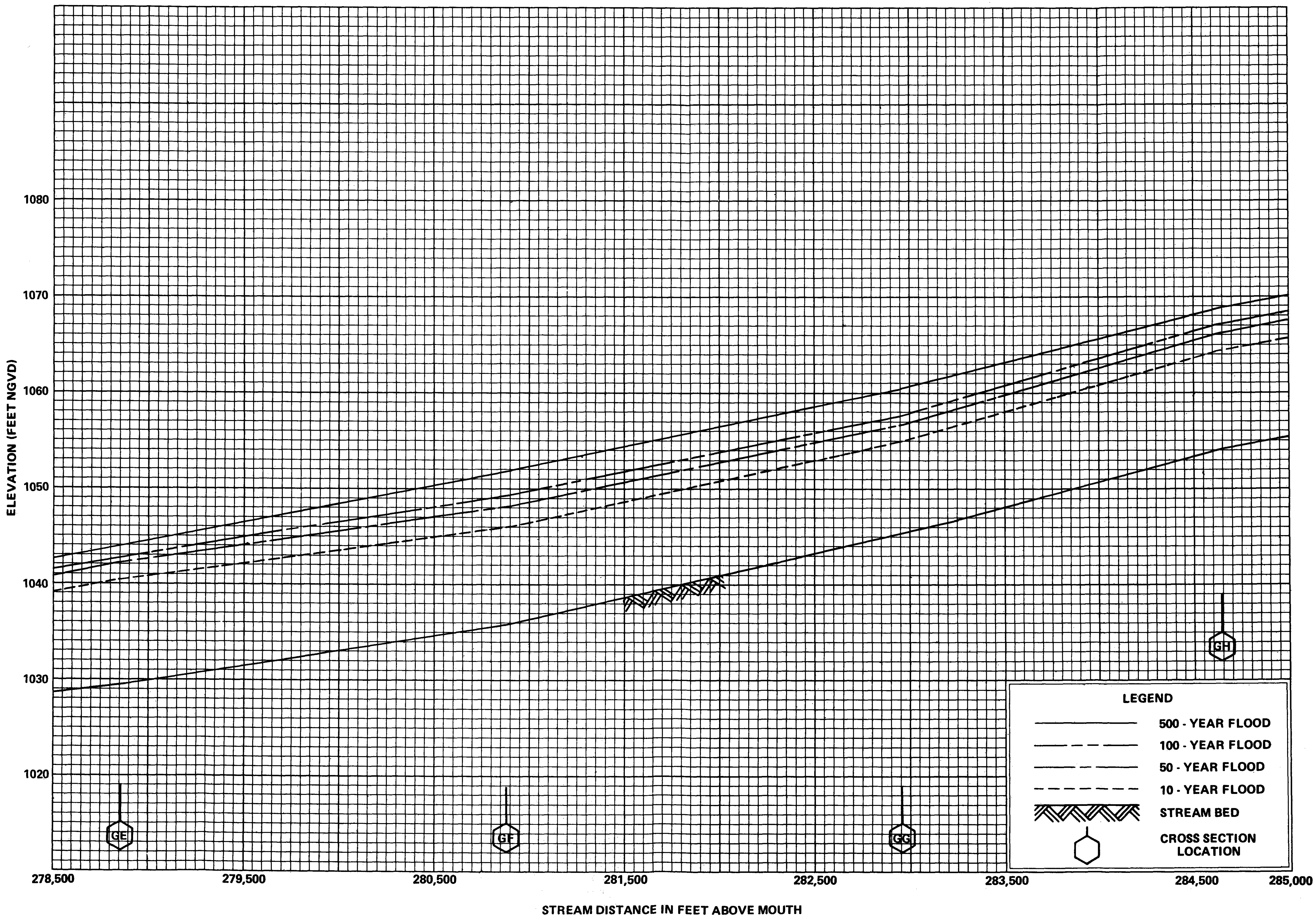
MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

102P



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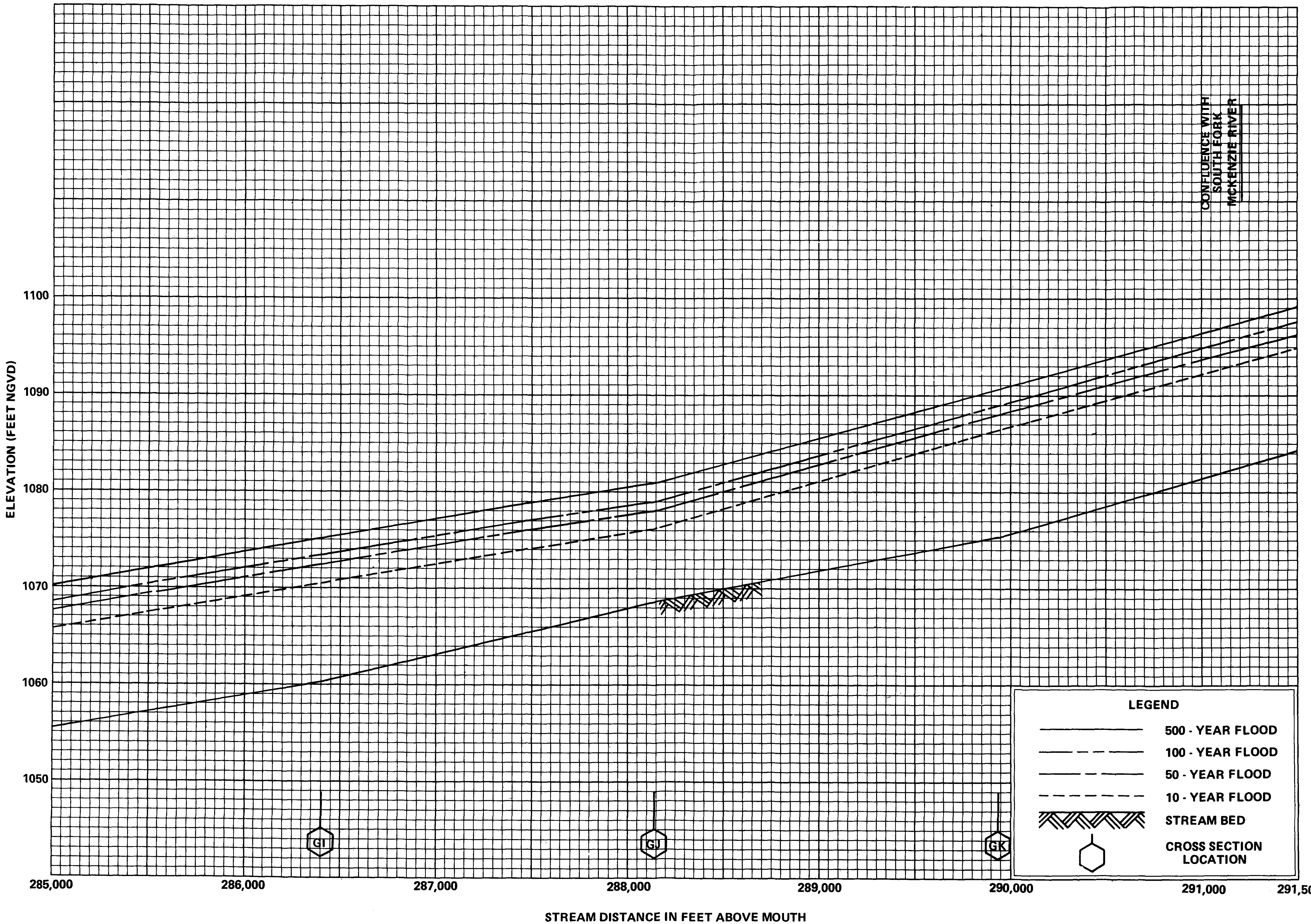
MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS

103P



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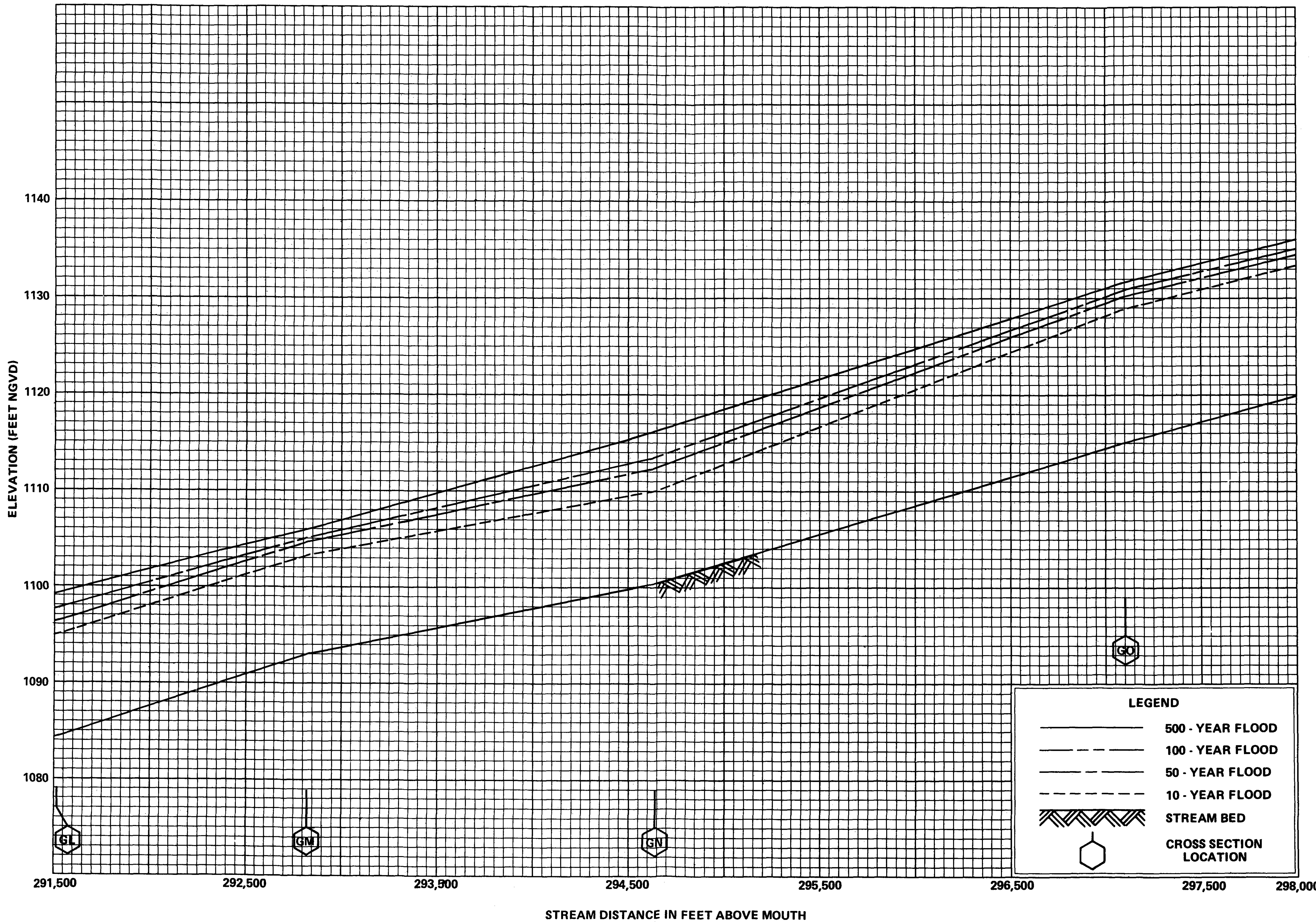
FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



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LANE COUNTY, OR
AND INCORPORATED AREAS

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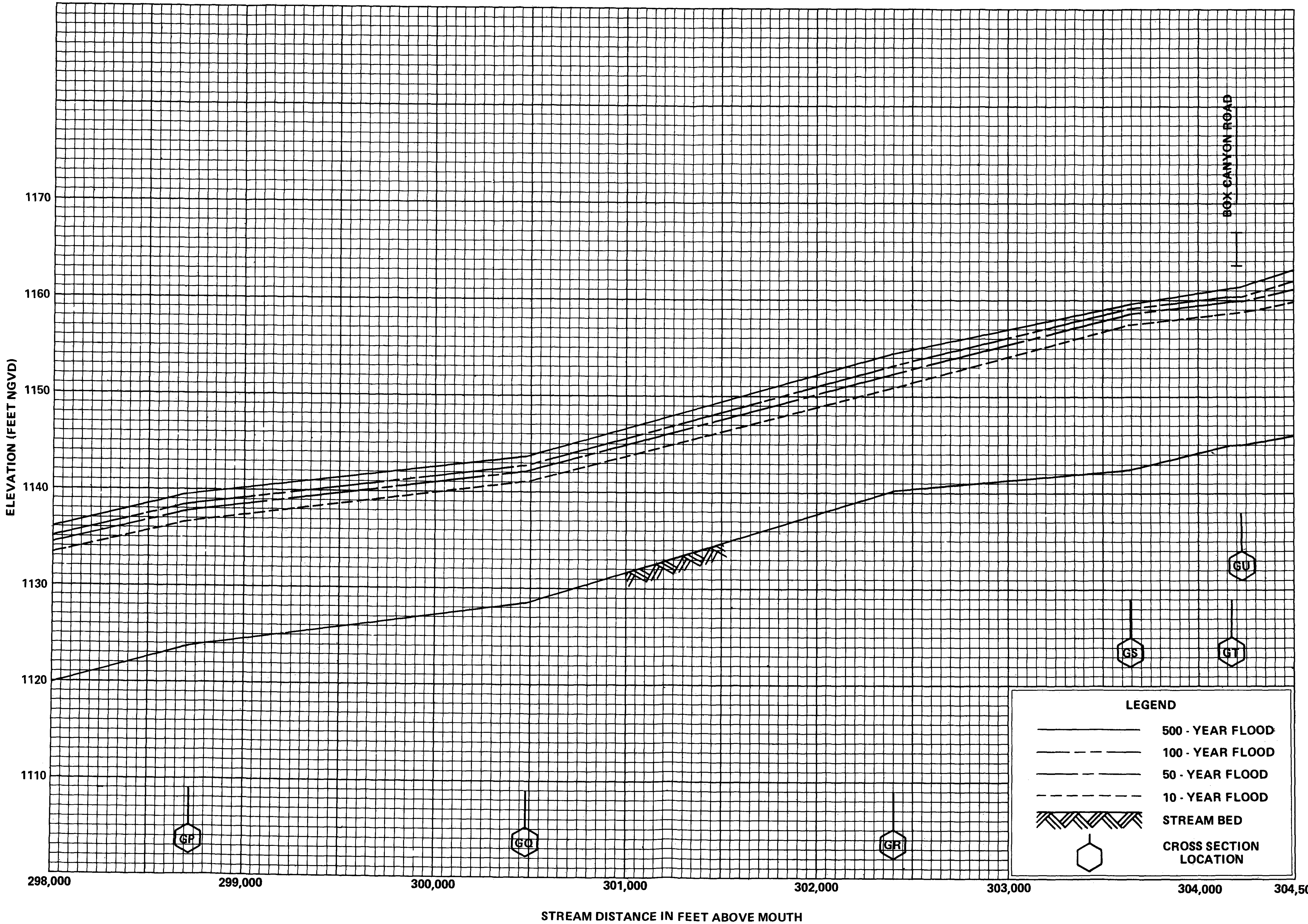

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FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

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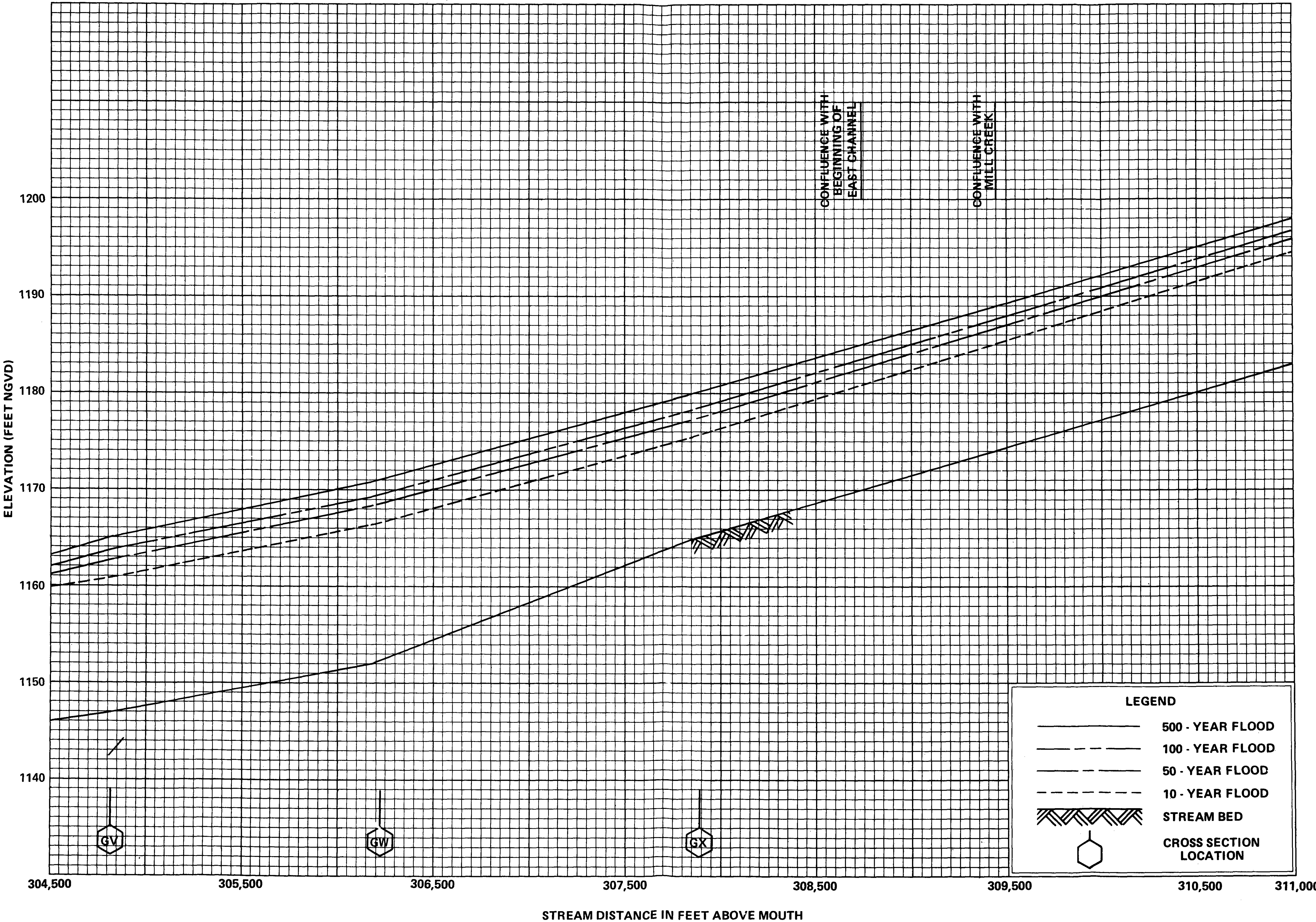

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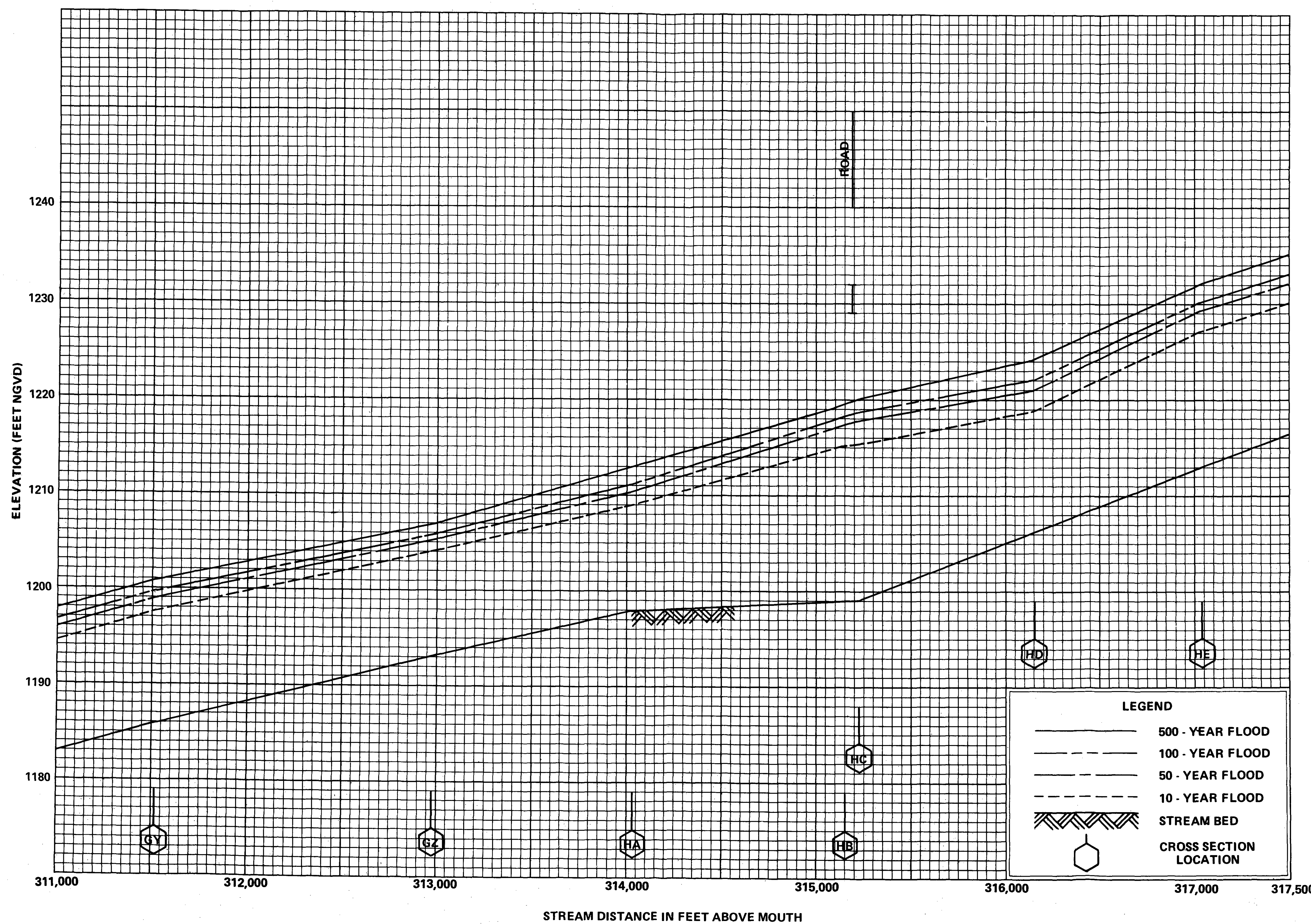
LANE COUNTY, OR
AND INCORPORATED AREAS

107P



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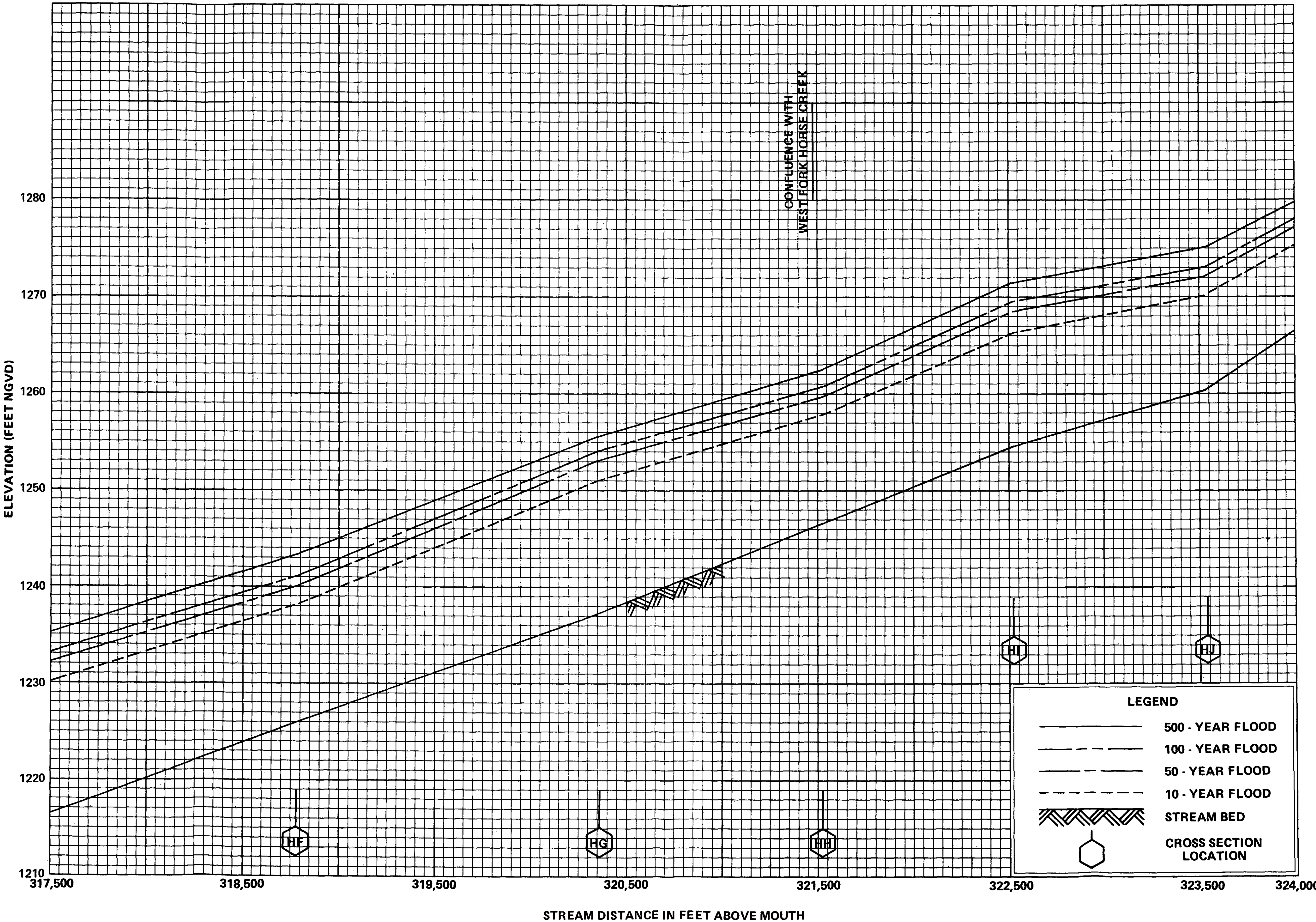
LANE COUNTY, OR
AND INCORPORATED AREAS

108P



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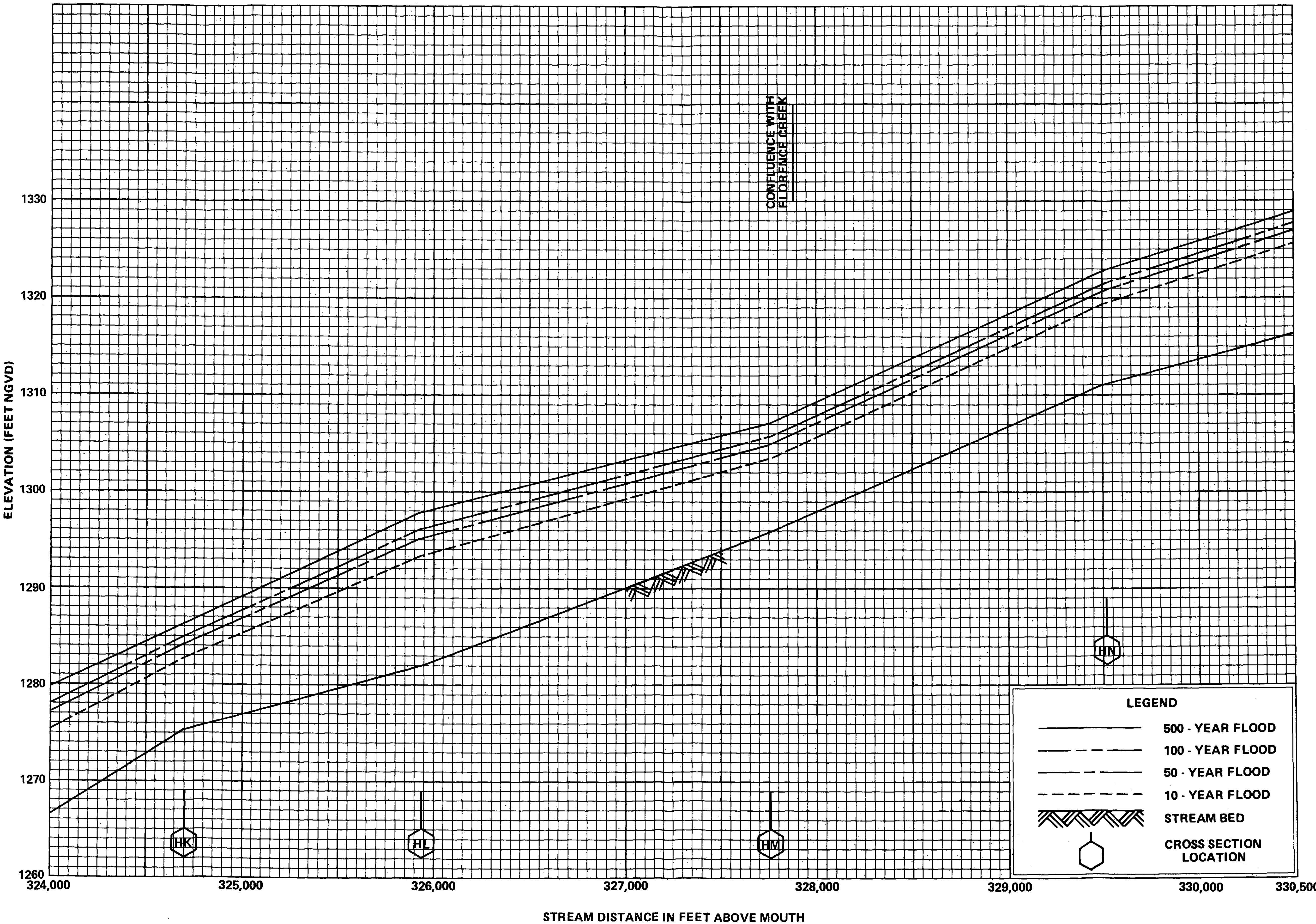
LANE COUNTY, OR
AND INCORPORATED AREAS

109P



FLOOD PROFILES

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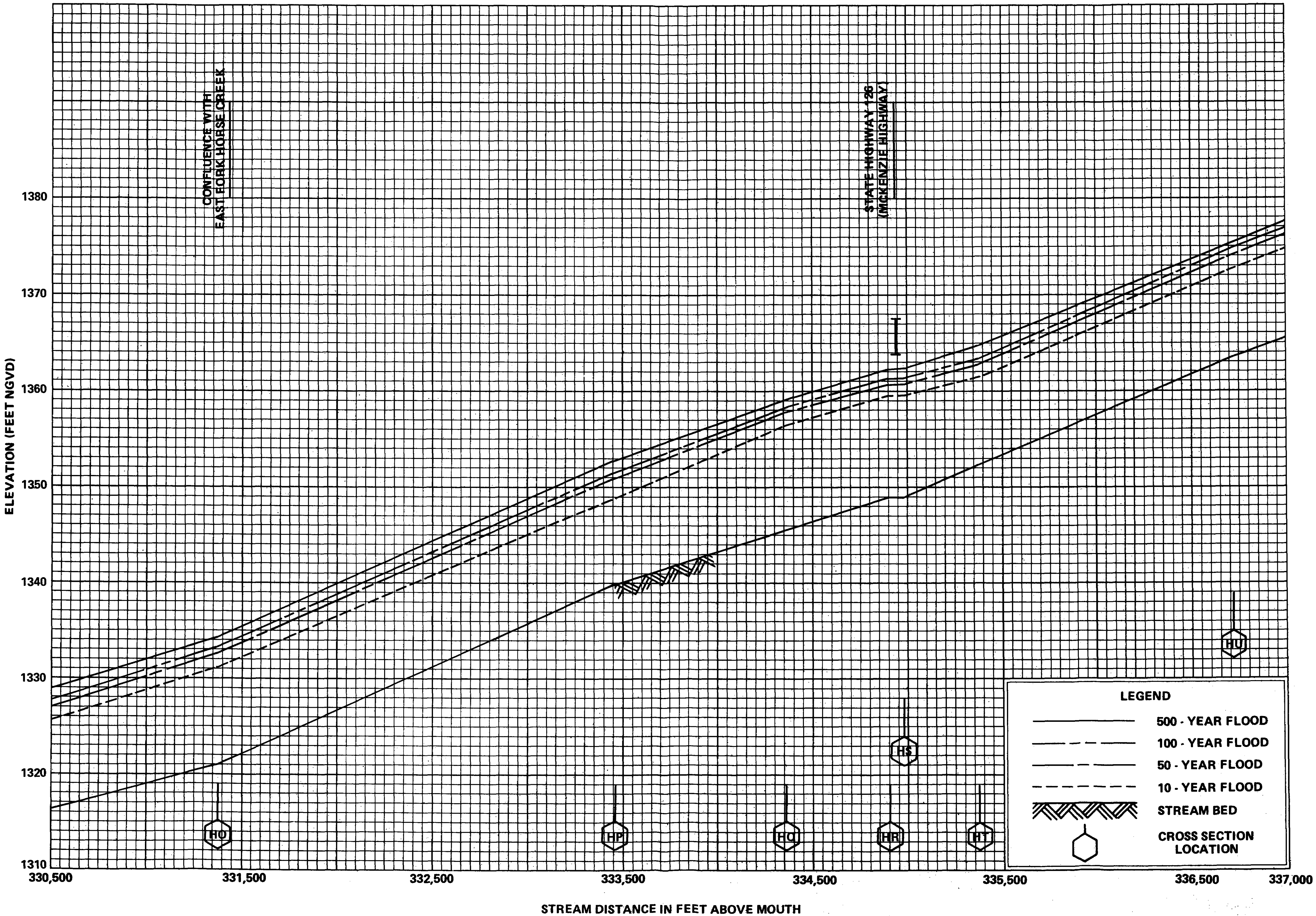
LANE COUNTY, OR
AND INCORPORATED AREAS



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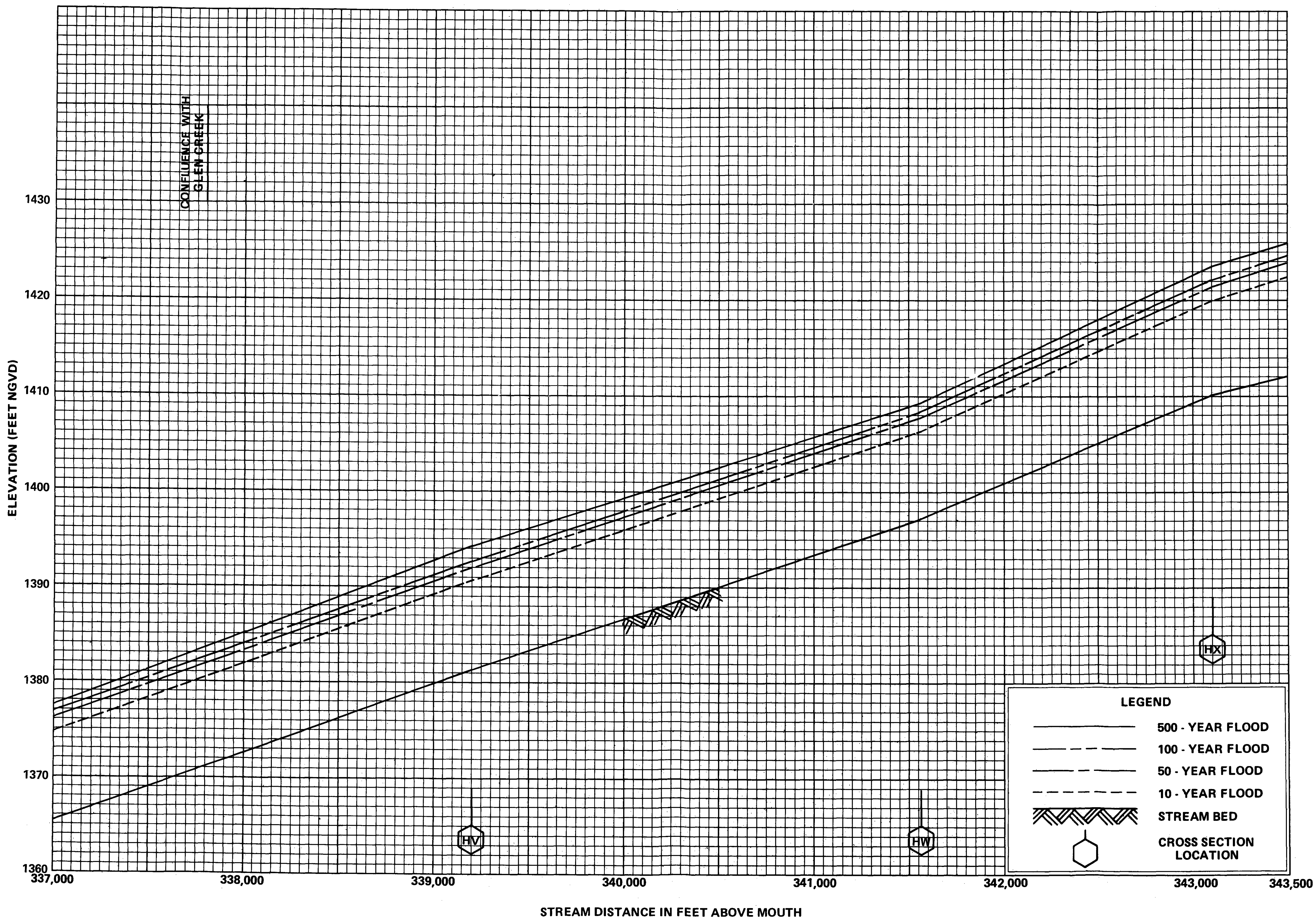
LANE COUNTY, OR
AND INCORPORATED AREAS

111P



FLOOD PROFILES

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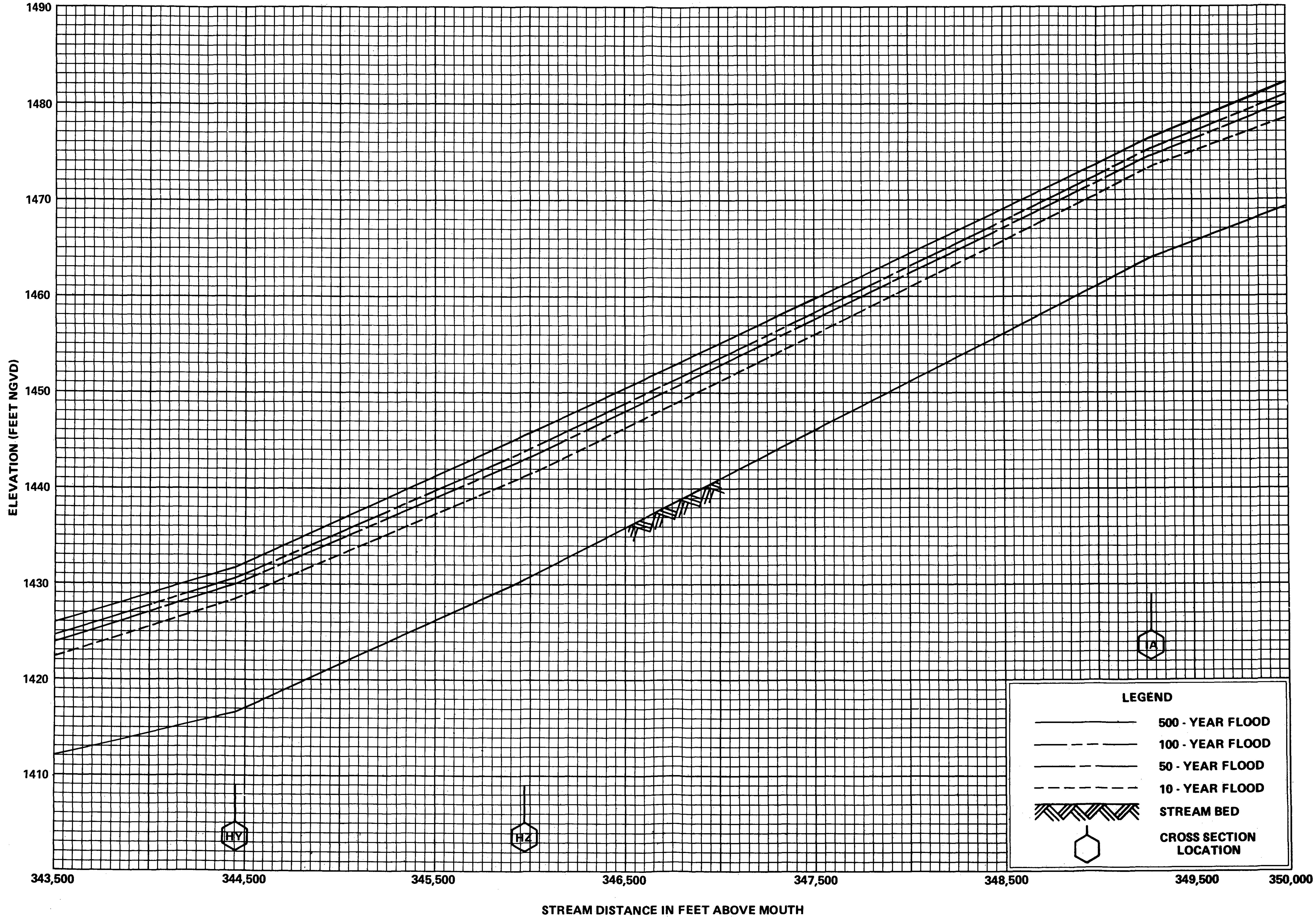
LANE COUNTY, OR
AND INCORPORATED AREAS



FLOOD PROFILES

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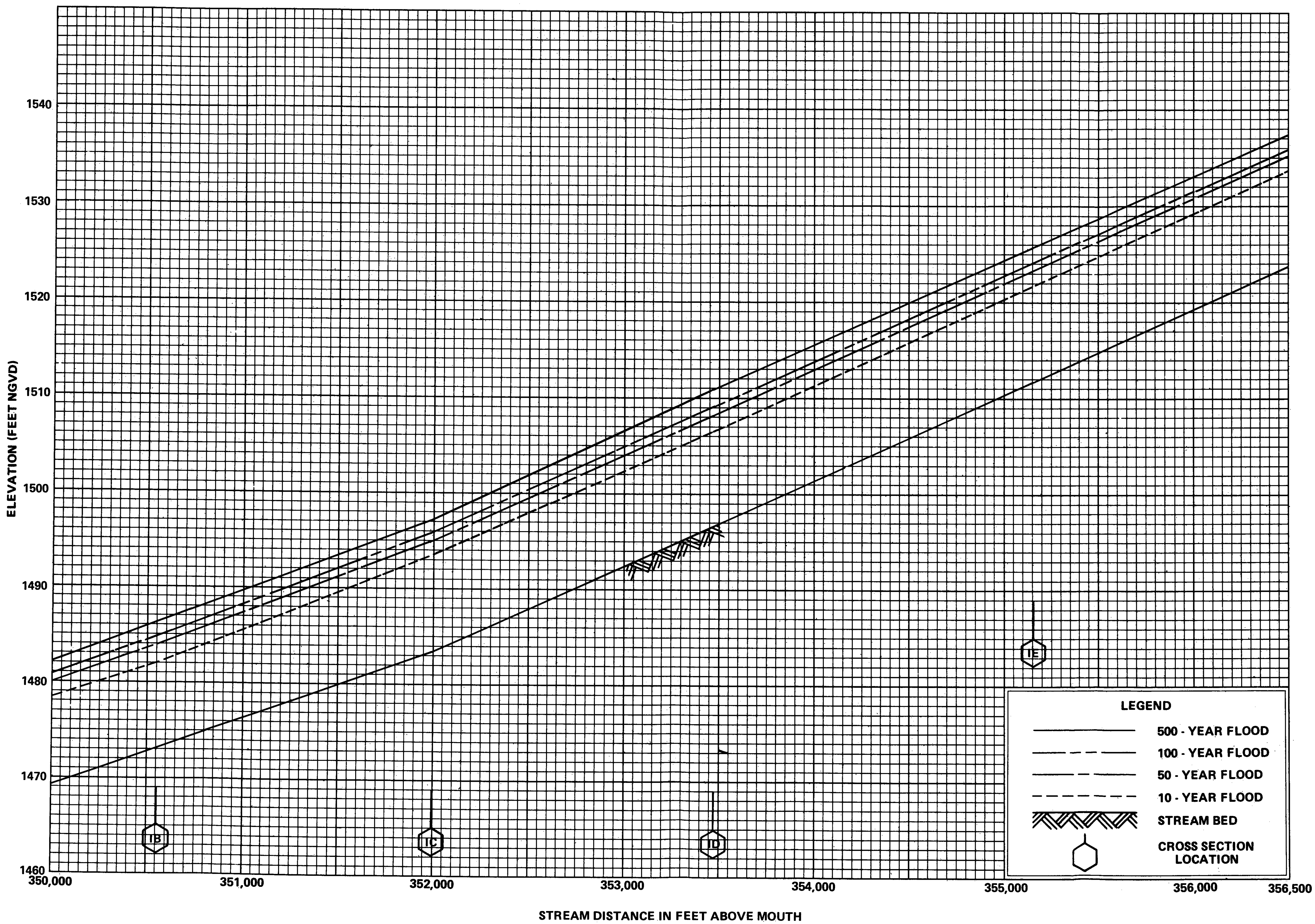
LANE COUNTY, OR
AND INCORPORATED AREAS

113P

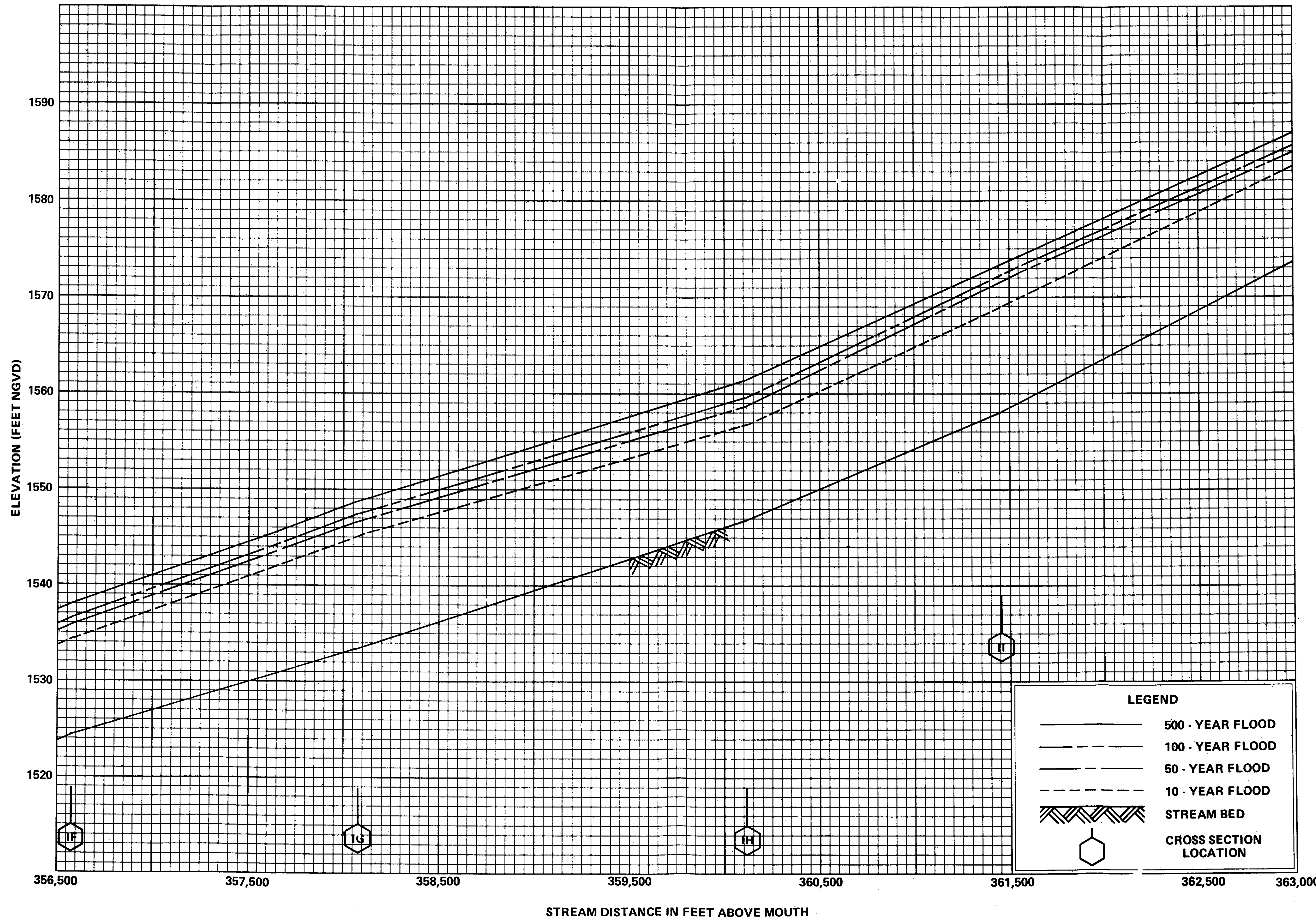


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

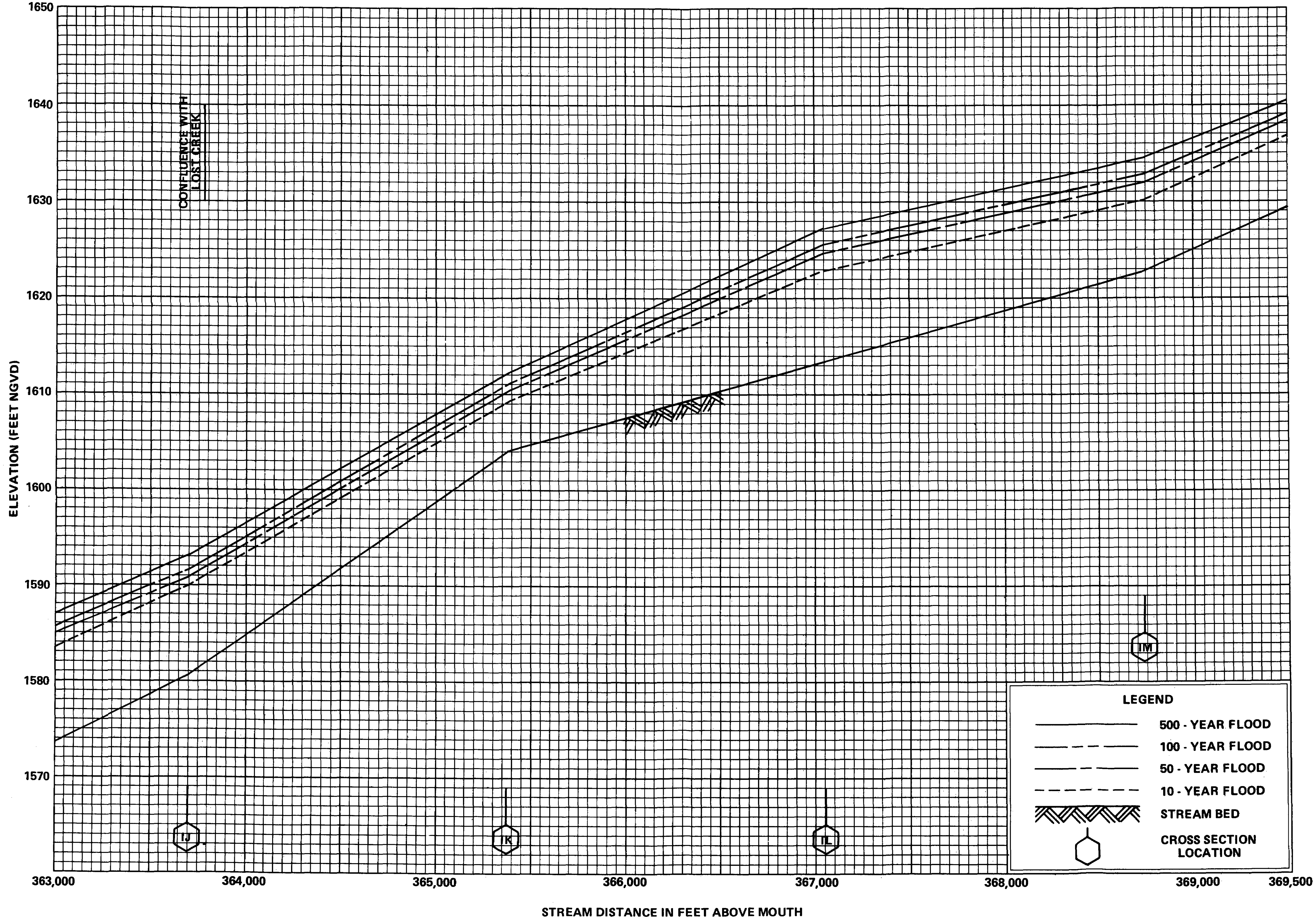


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

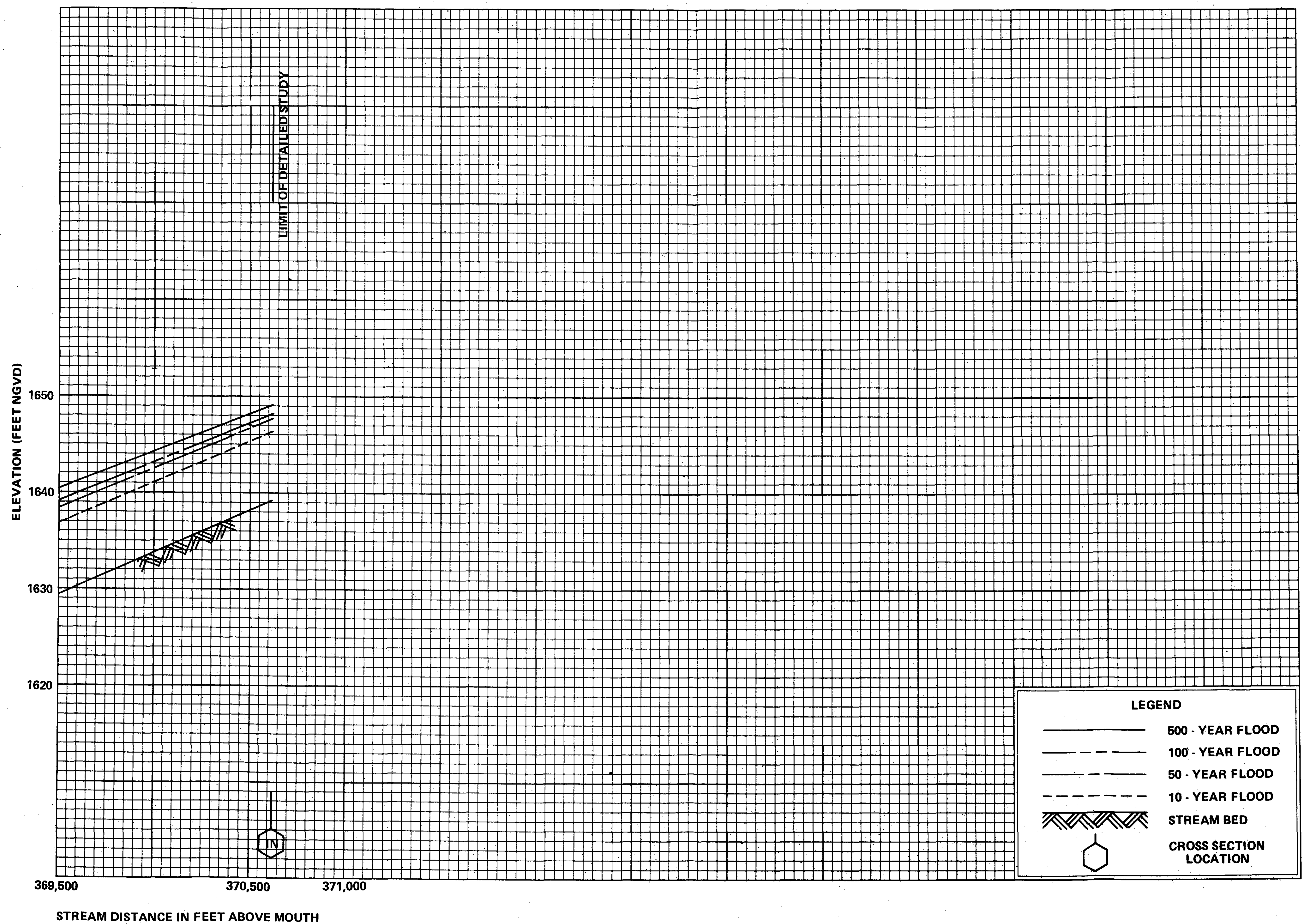


FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



FLOOD PROFILES

MCKENZIE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

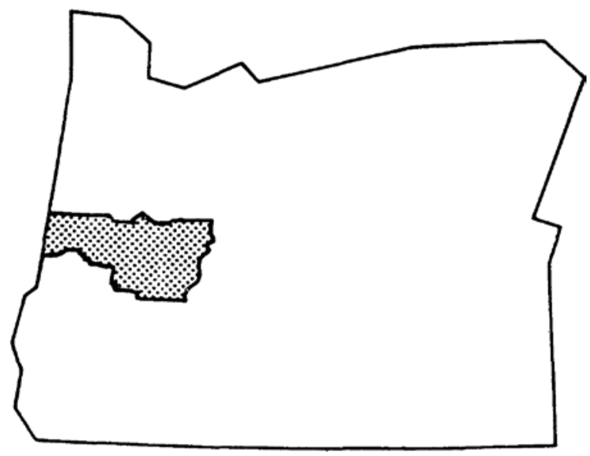
LANE COUNTY, OR
AND INCORPORATED AREAS

FLOOD INSURANCE STUDY

LANE COUNTY, OREGON

AND INCORPORATED AREAS

VOLUME 4 OF 4



COMMUNITY NAME	COMMUNITY NUMBER
COBURG, CITY OF	410119
COTTAGE GROVE, CITY OF	410120
CRESWELL, CITY OF	410121
DUNES CITY, CITY OF	410262
EUGENE, CITY OF	410122
FLORENCE, CITY OF	410123
JUNCTION CITY, CITY OF	410124
LOWELL, CITY OF	410125
OAKRIDGE, CITY OF	410126
SPRINGFIELD, CITY OF	415592
VENETA, CITY OF	410128
WESTFIR, CITY OF	410289
LANE COUNTY, UNINCORPORATED AREAS	415591

REVISED:
JUNE 5, 2020

Federal Emergency Management Agency

Flood Insurance Study Number
41039CV004B

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

The Federal Emergency Management Agency (FEMA) may revise and republish part or all of this 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 publication incorporates revisions to the original Flood Insurance Study. These revisions are presented in Section 10.0. Volume 2 of this FIS Report pertains to the Physical Map Revision for Lane County, Oregon. All elevations in Section 10.2 are in NAVD88 and the floodway data table and profile graph for the Siuslaw River have been converted to NAVD88.

Initial Countywide FIS Effective Date: June 2, 1999

Revised Countywide Date: June 5, 2020

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<u>Exhibits</u>

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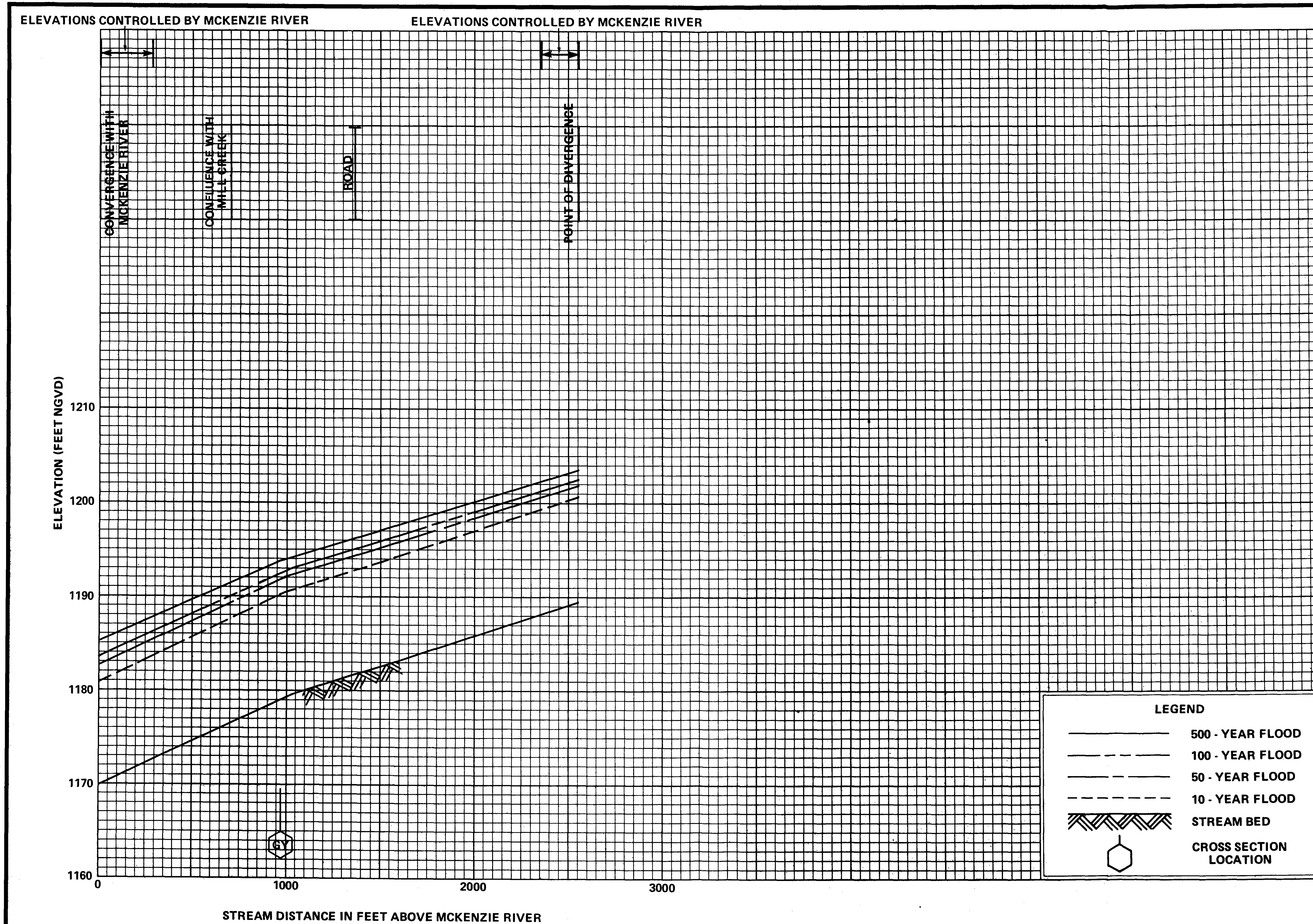
VOLUME 4

Exhibit 1 – Flood Profiles (Continued)

PUBLISHED SEPARATELY

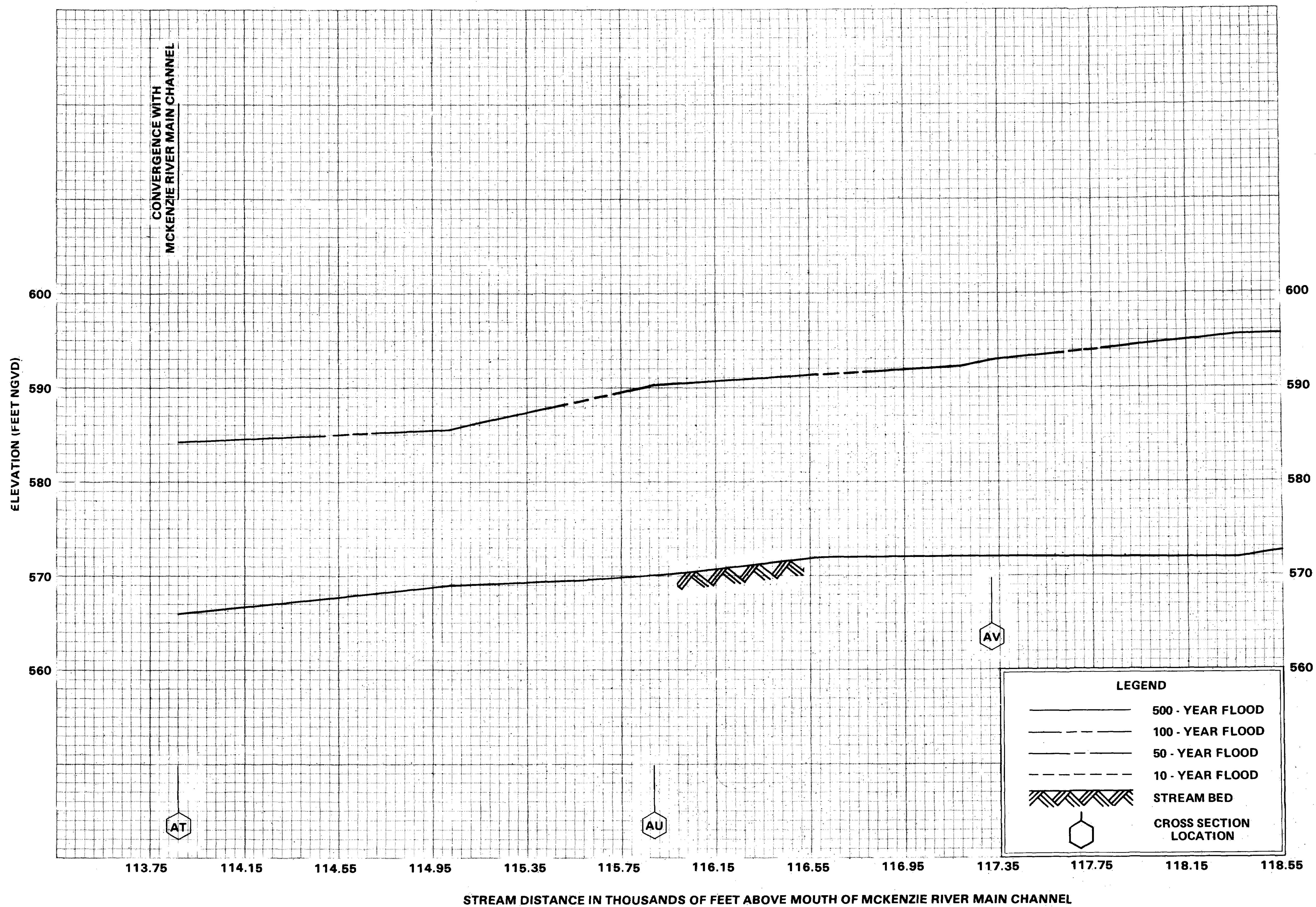


FLOOD PROFILES

MCKENZIE RIVER EAST CHANNEL

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

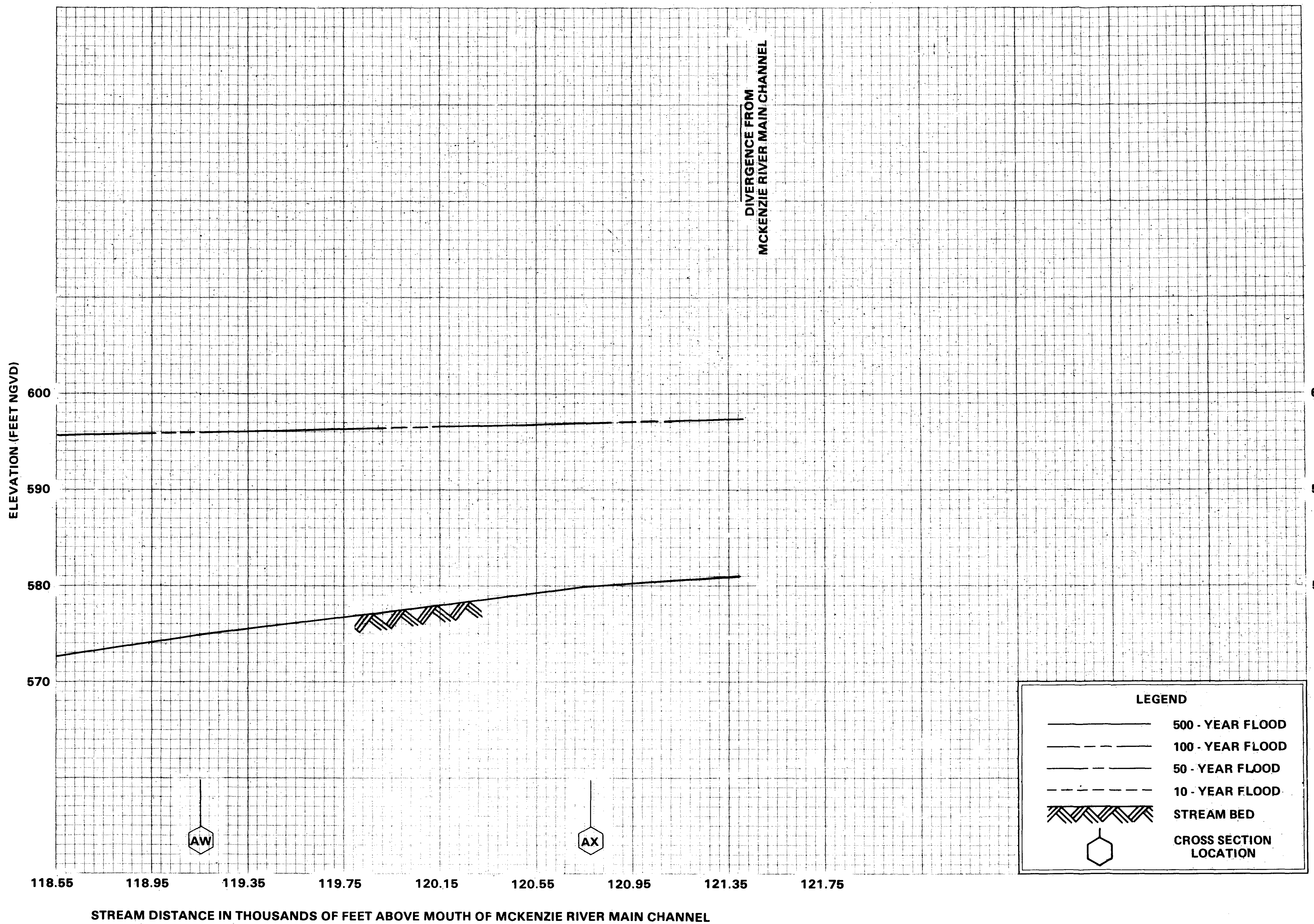


FLOOD PROFILES

MCKENZIE RIVER - NORTH CHANNEL

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

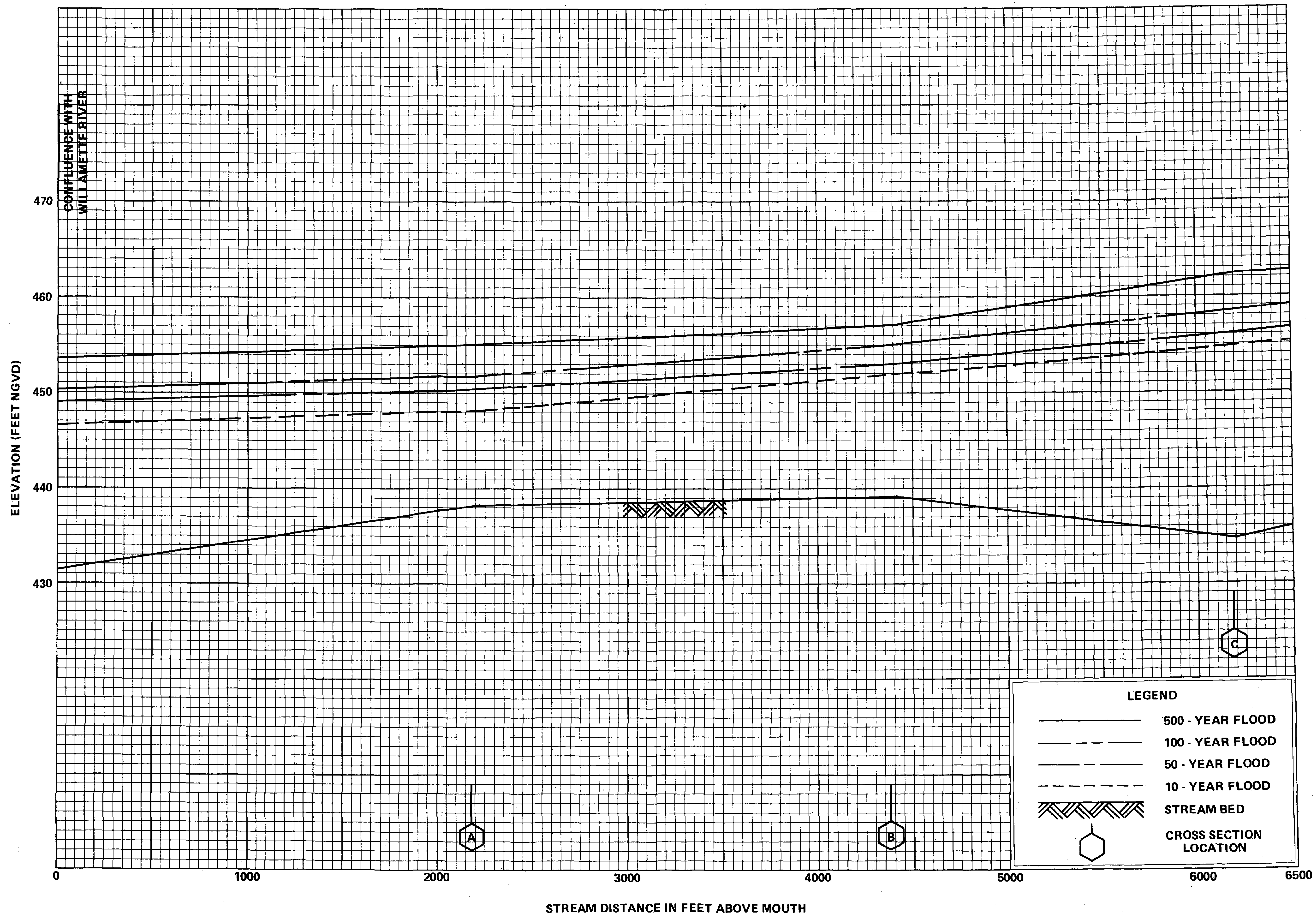


FLOOD PROFILES

MCKENZIE RIVER - NORTH CHANNEL

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



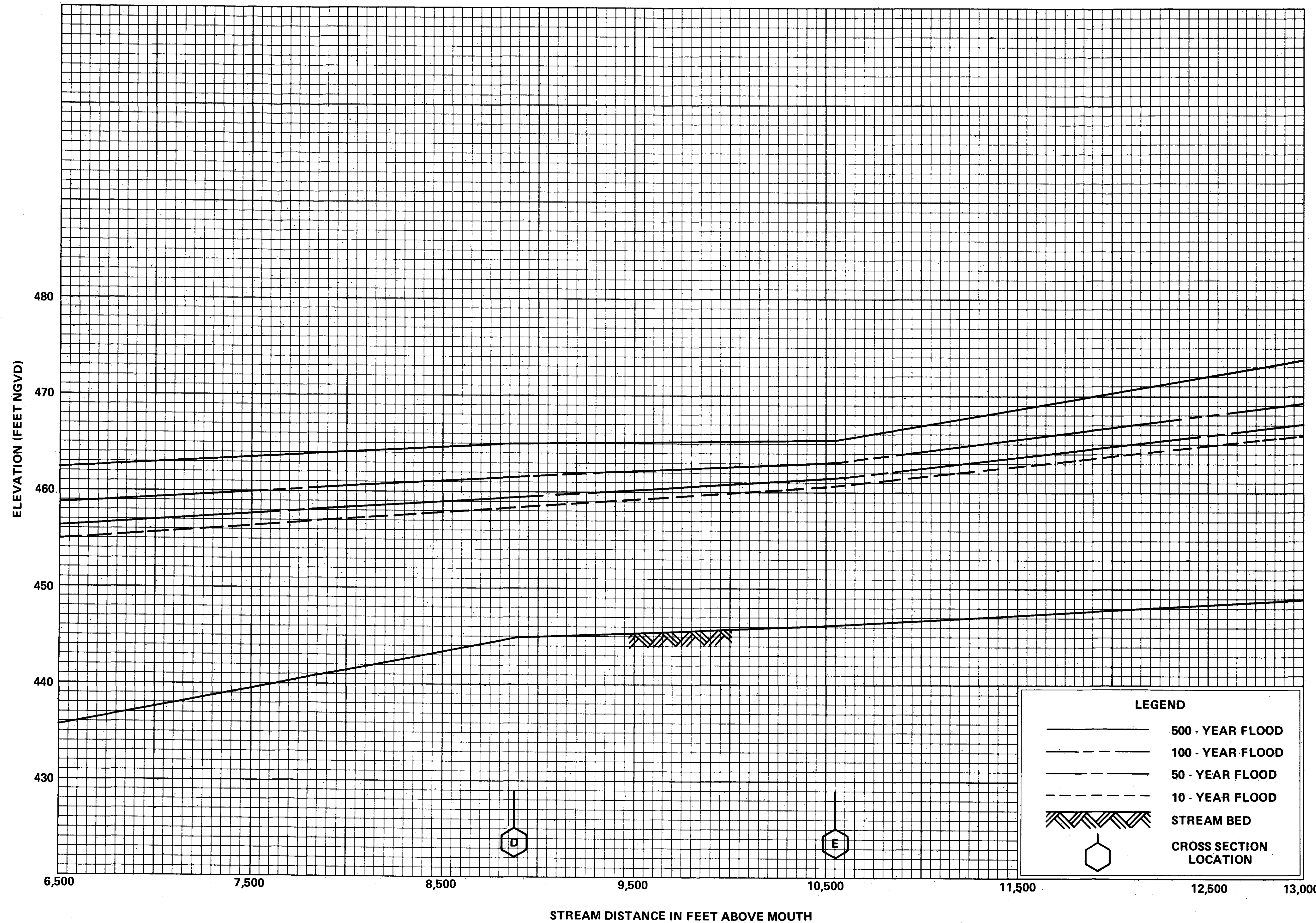
FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER (NEAR SPRINGFIELD)

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

121P



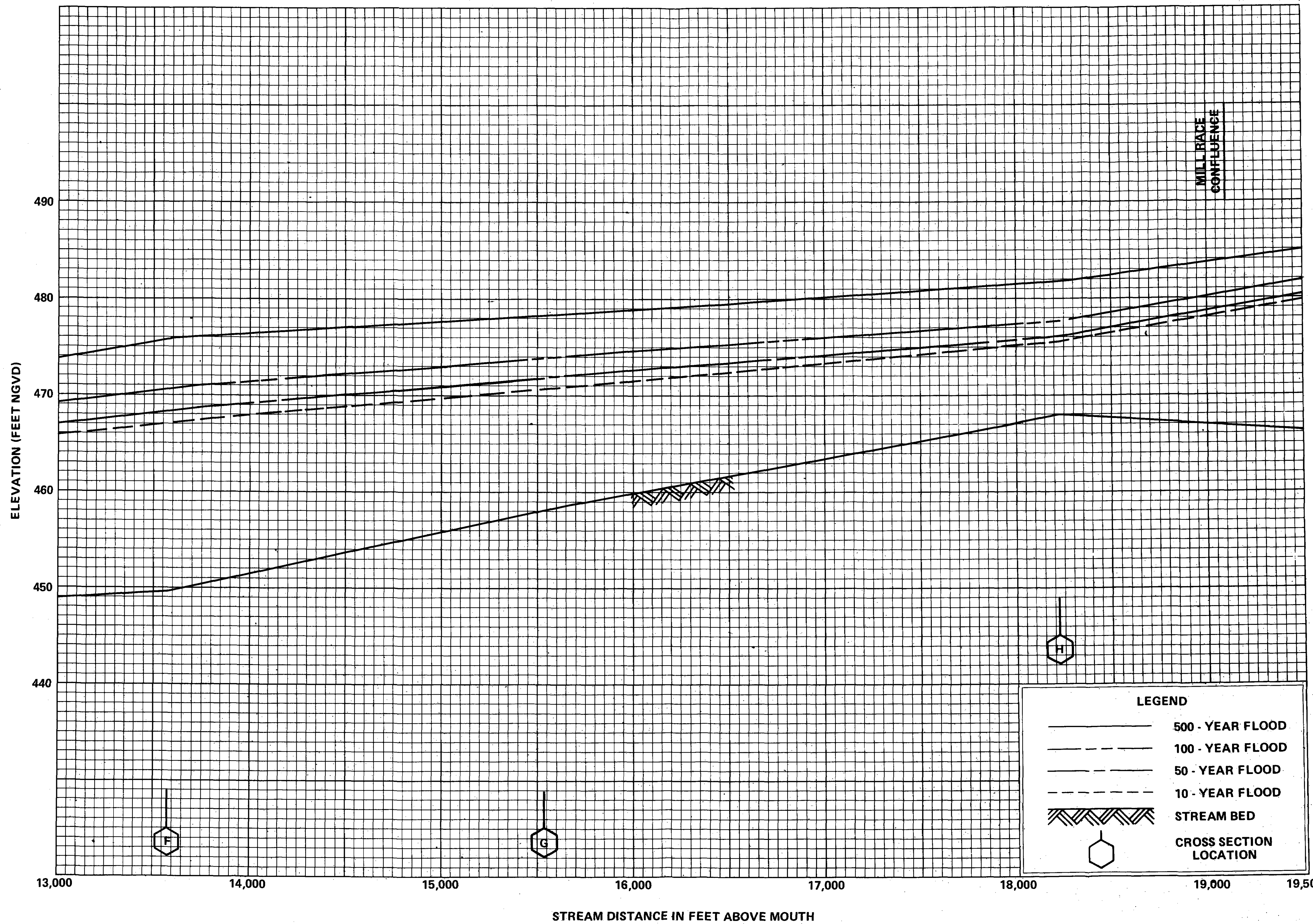
FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER (NEAR SPRINGFIELD)

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS



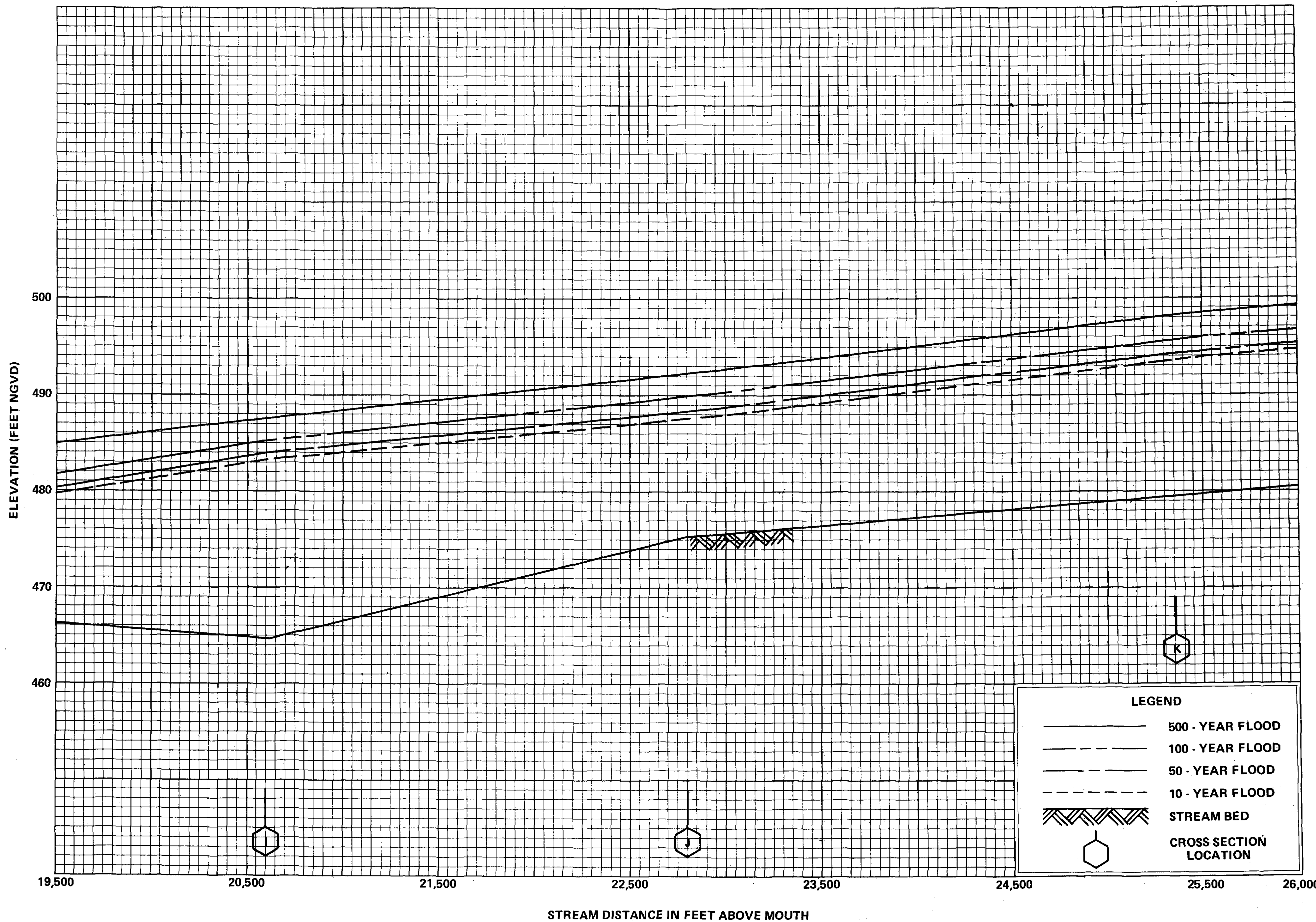
FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER (NEAR SPRINGFIELD)

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

123P

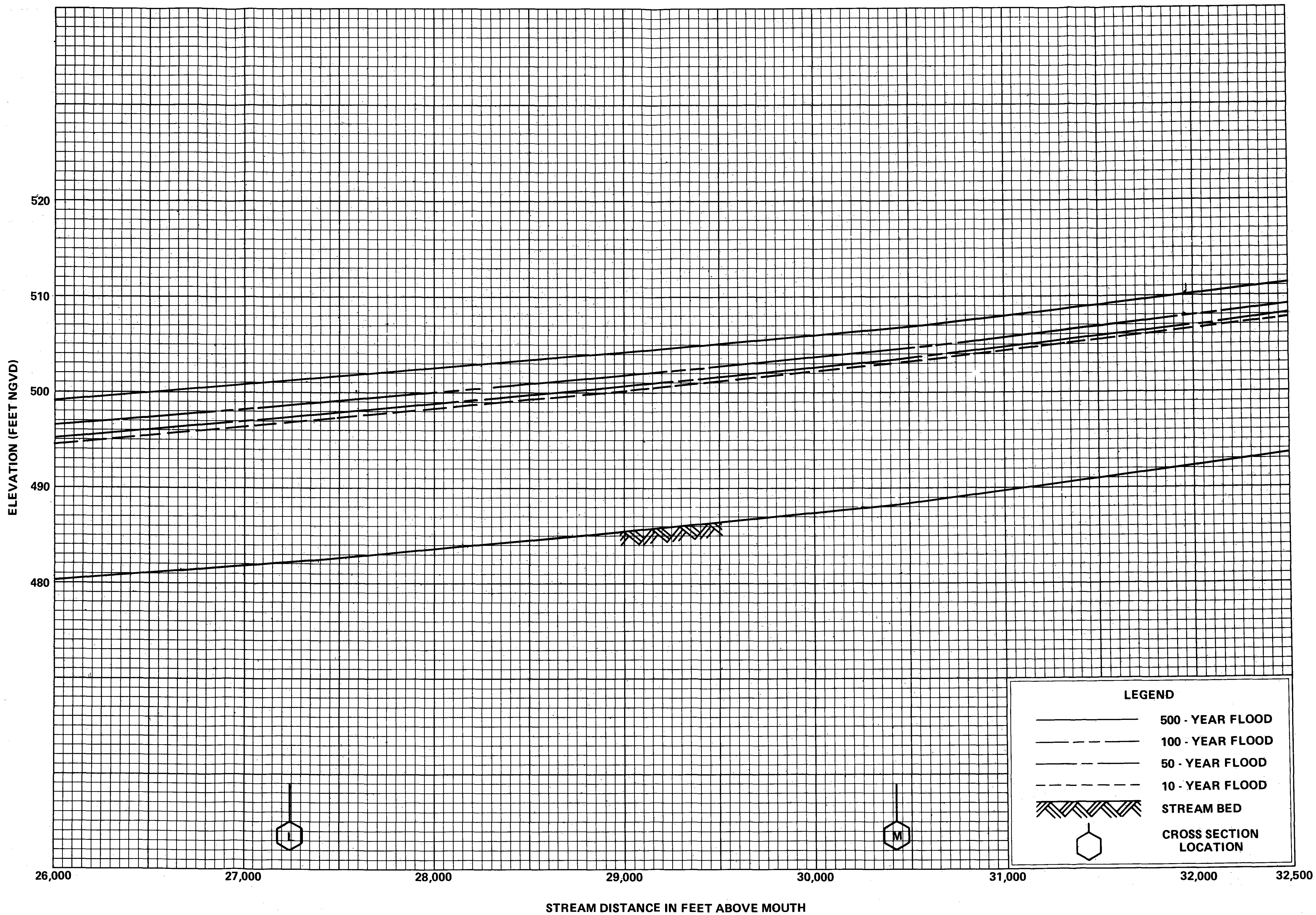


FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER (NEAR SPRINGFIELD)

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

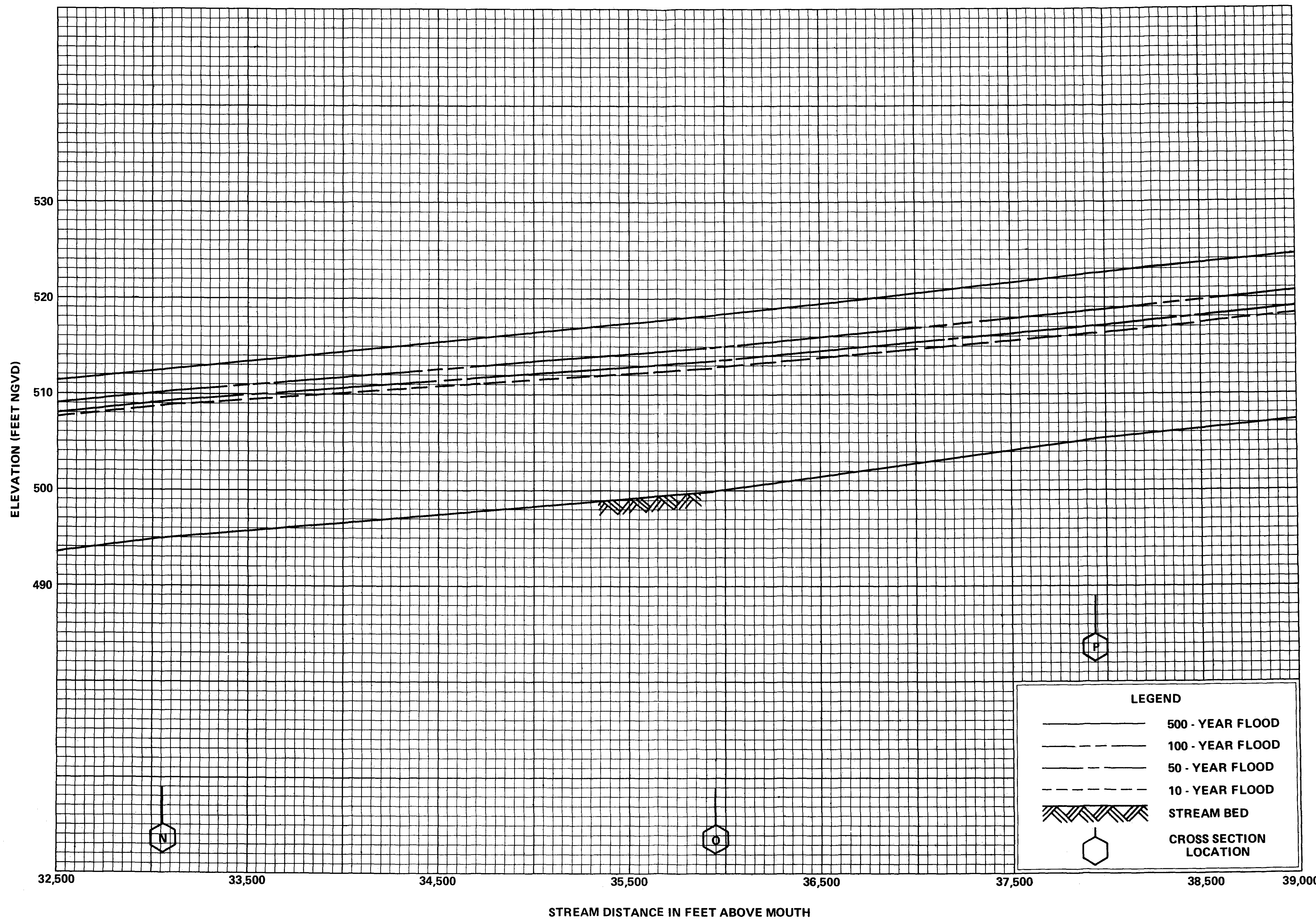


FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER (NEAR SPRINGFIELD)

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER (NEAR SPRINGFIELD)

FEDERAL EMERGENCY MANAGEMENT AGENCY

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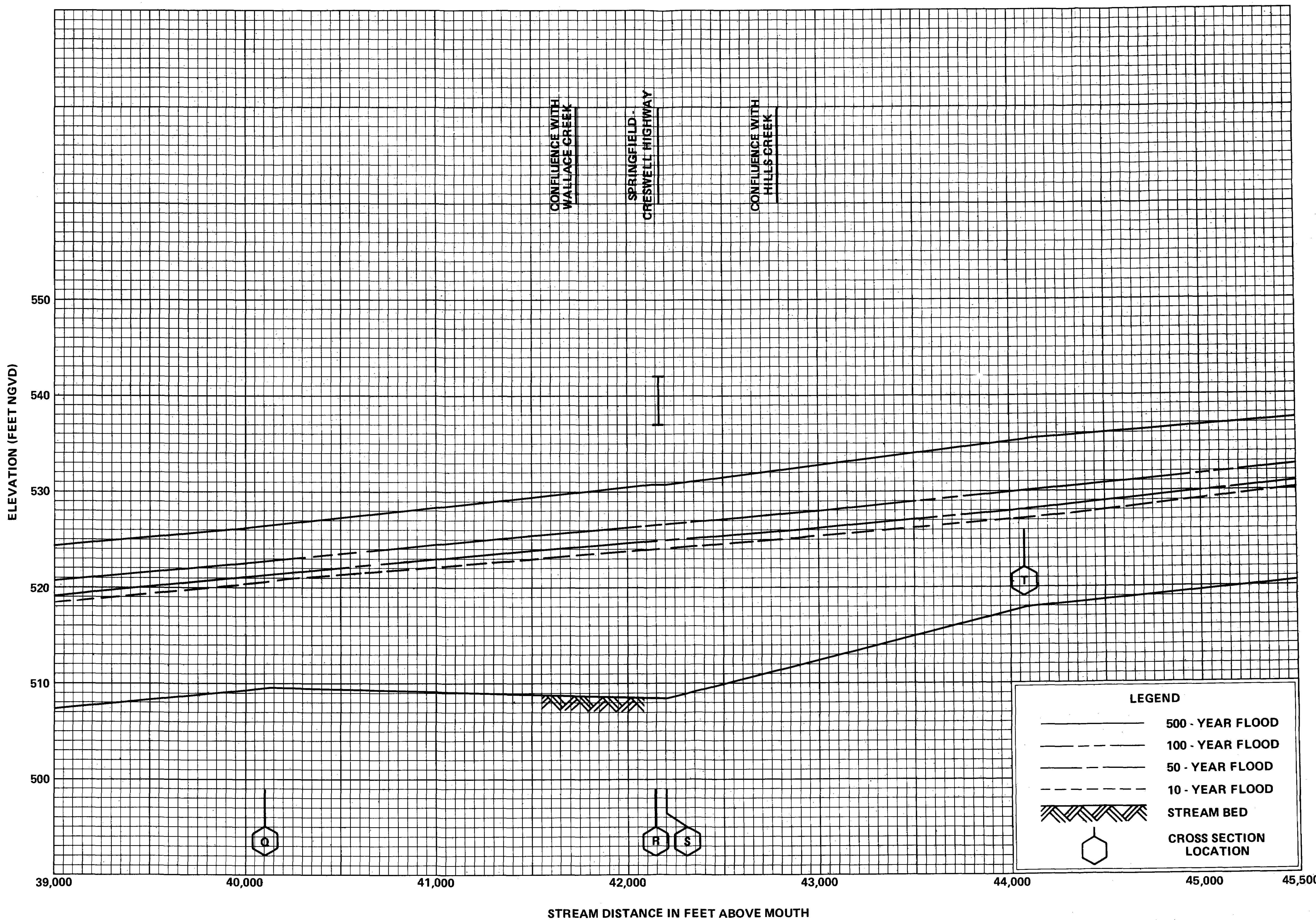

FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER (NEAR SPRINGFIELD)

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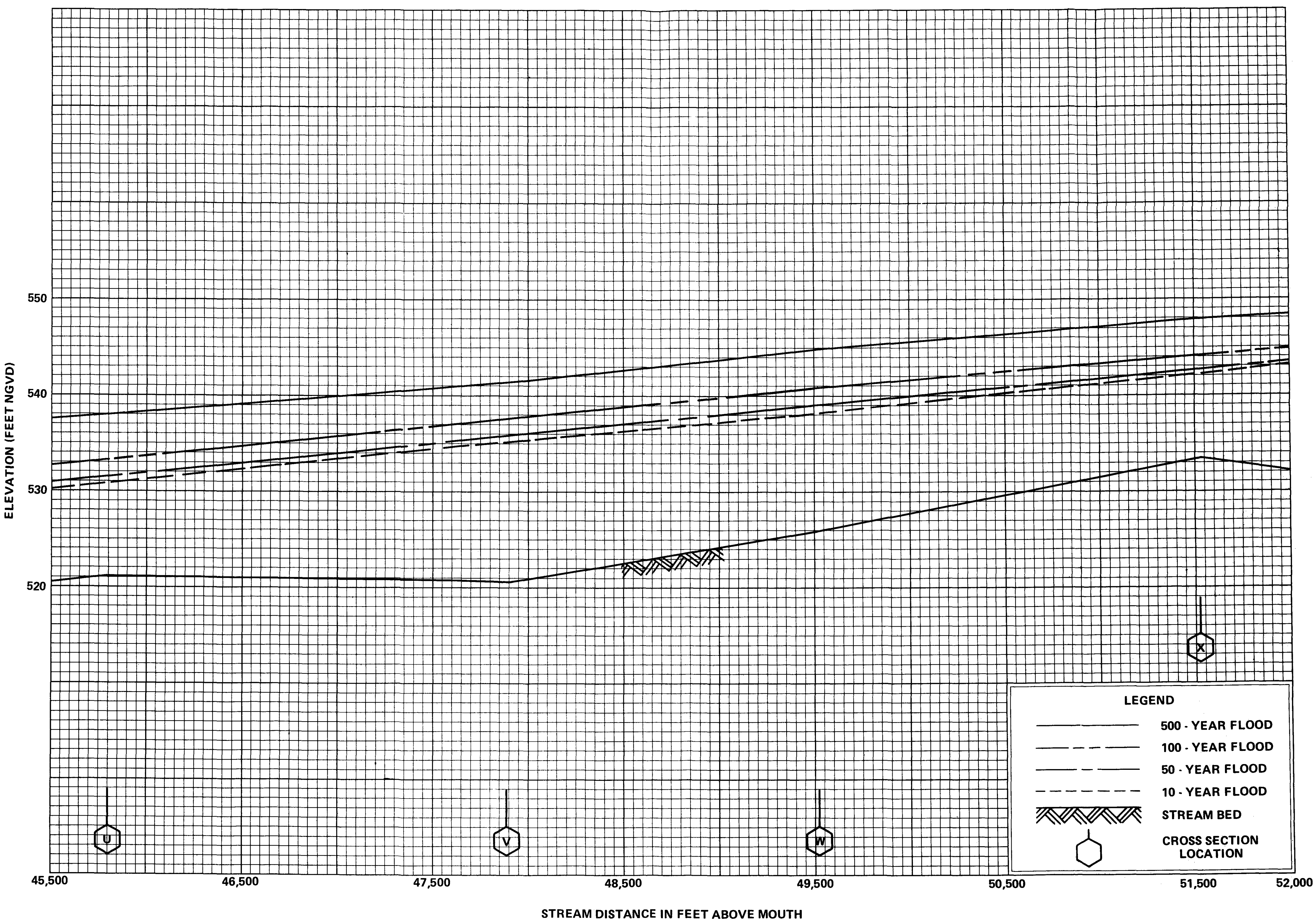

FLOOD PROFILES

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FEDERAL EMERGENCY MANAGEMENT AGENCY

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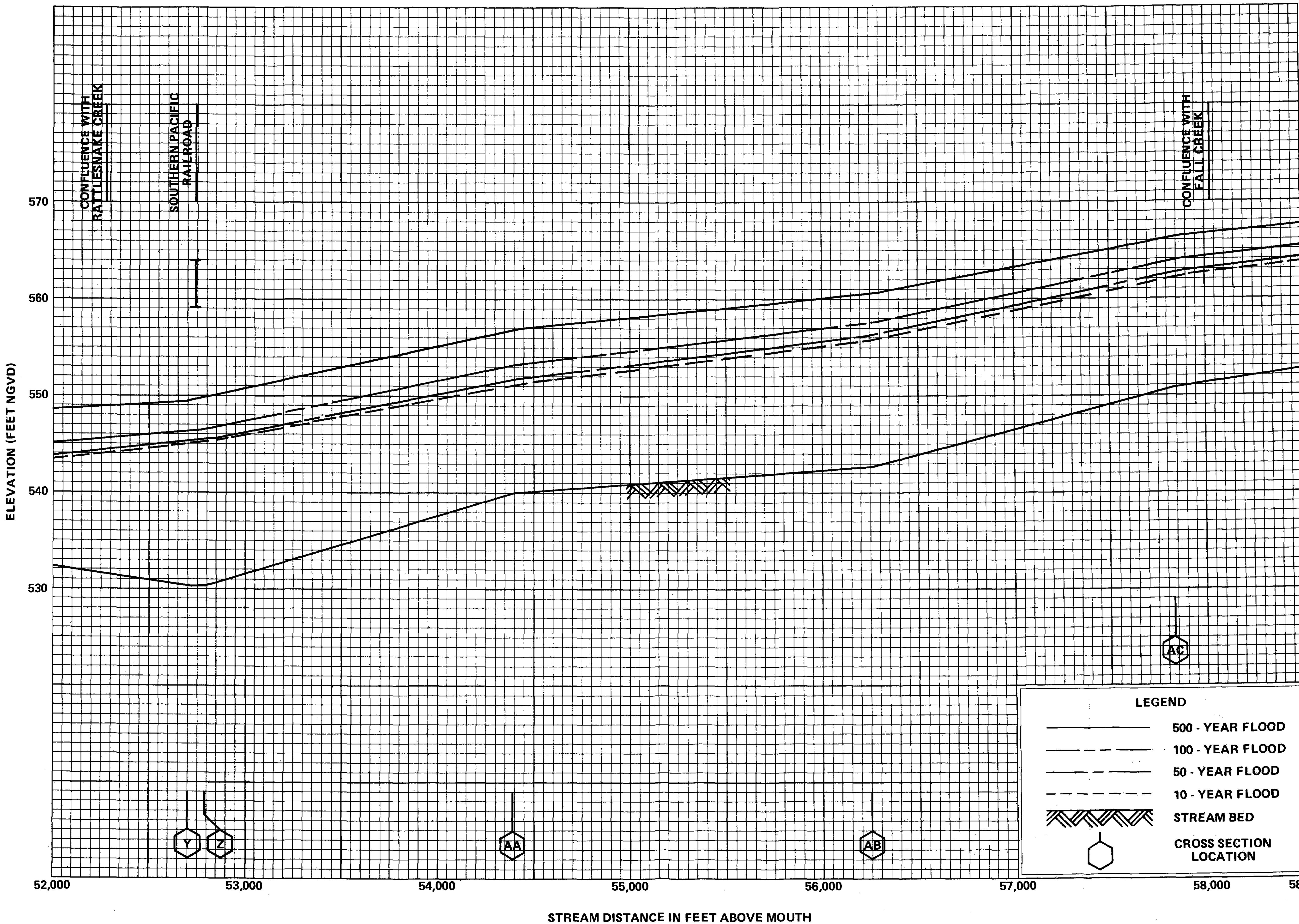

FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER (NEAR SPRINGFIELD)

FEDERAL EMERGENCY MANAGEMENT AGENCY

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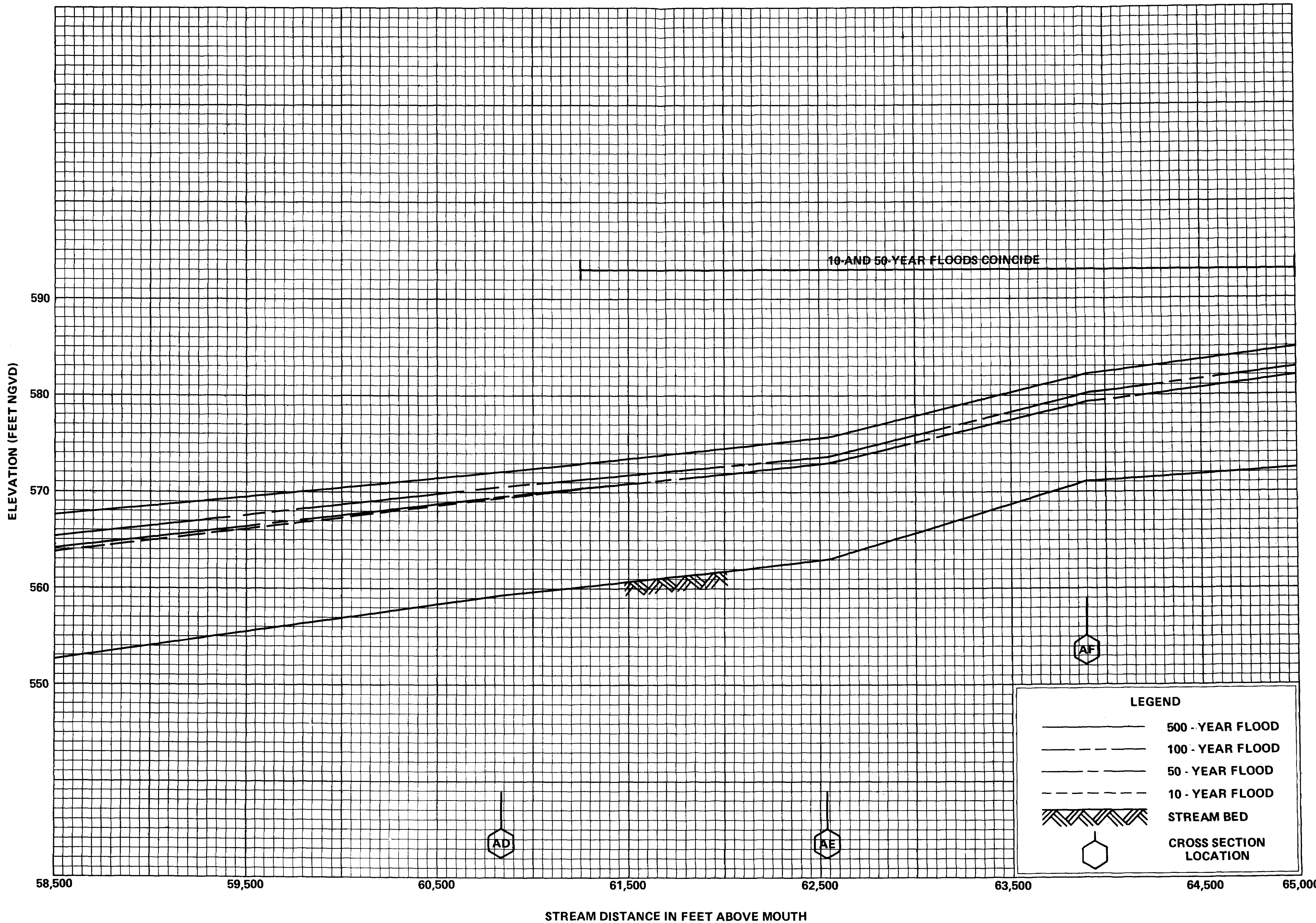

FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER (NEAR SPRINGFIELD)

FEDERAL EMERGENCY MANAGEMENT AGENCY

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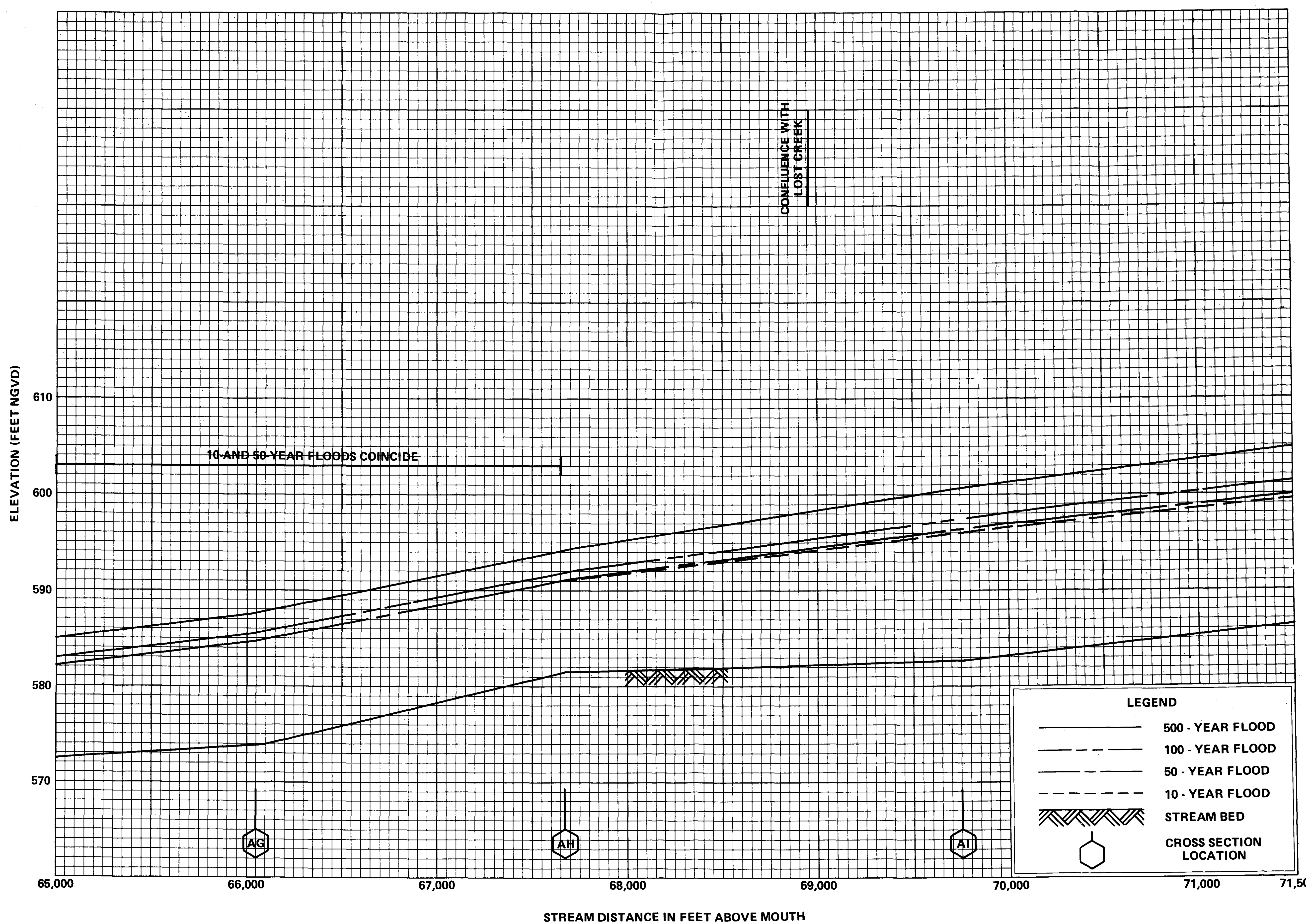


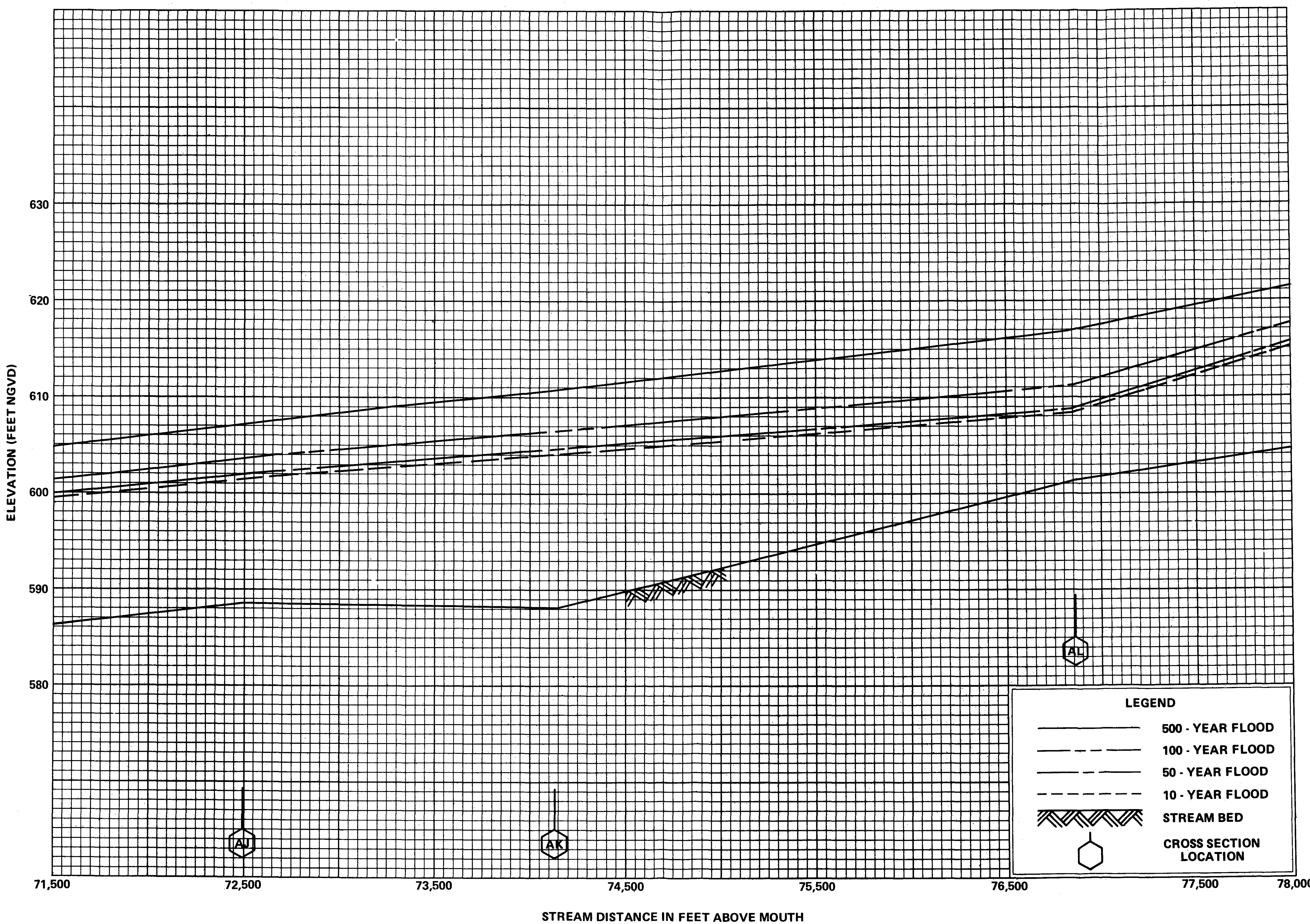
FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER (NEAR SPRINGFIELD)

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

130P



FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER (NEAR SPRINGFIELD)

FEDERAL EMERGENCY MANAGEMENT AGENCY

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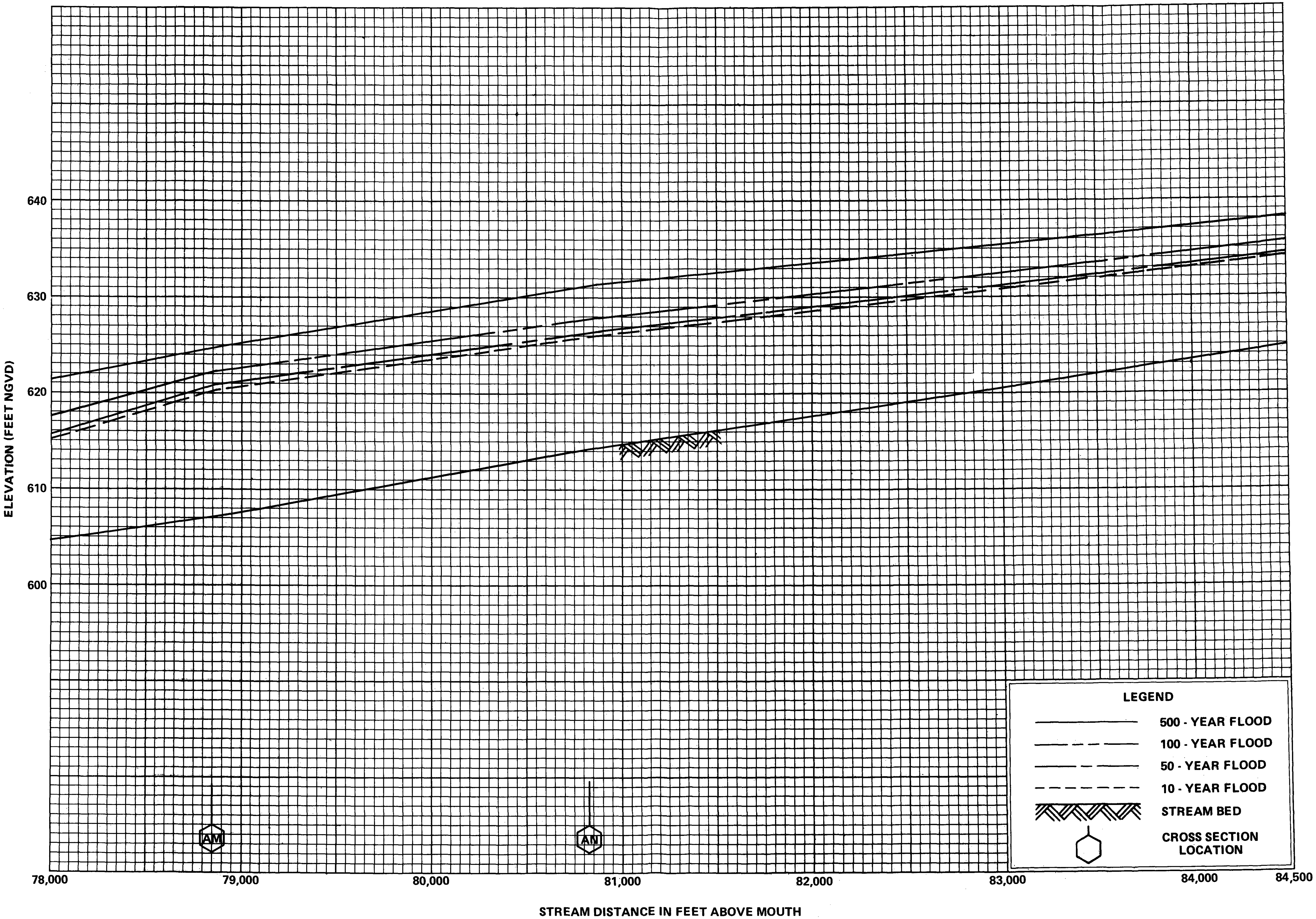

FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER (NEAR SPRINGFIELD)

FEDERAL EMERGENCY MANAGEMENT AGENCY

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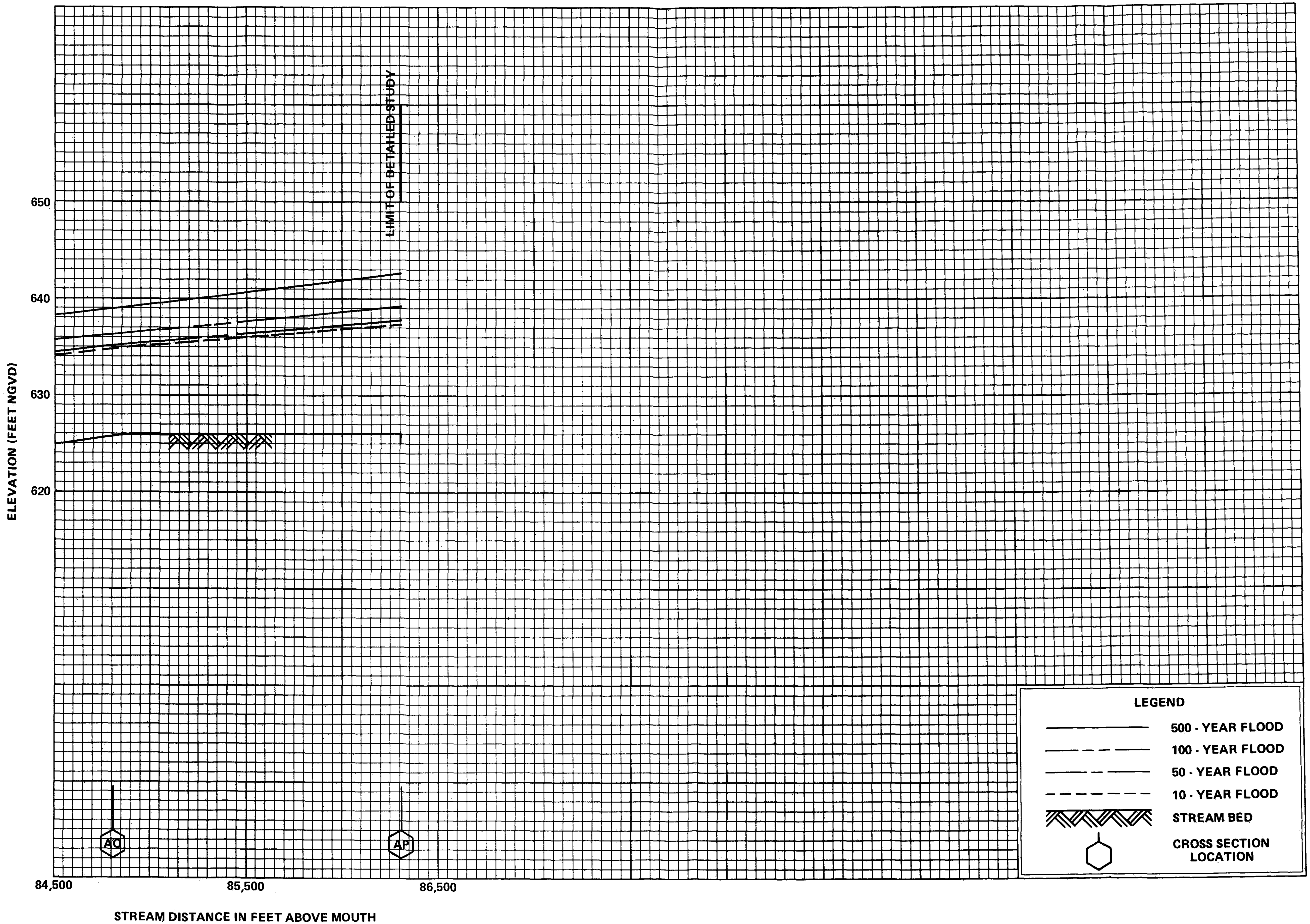
AND INCORPORATED AREAS



FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER (NEAR SPRINGFIELD)

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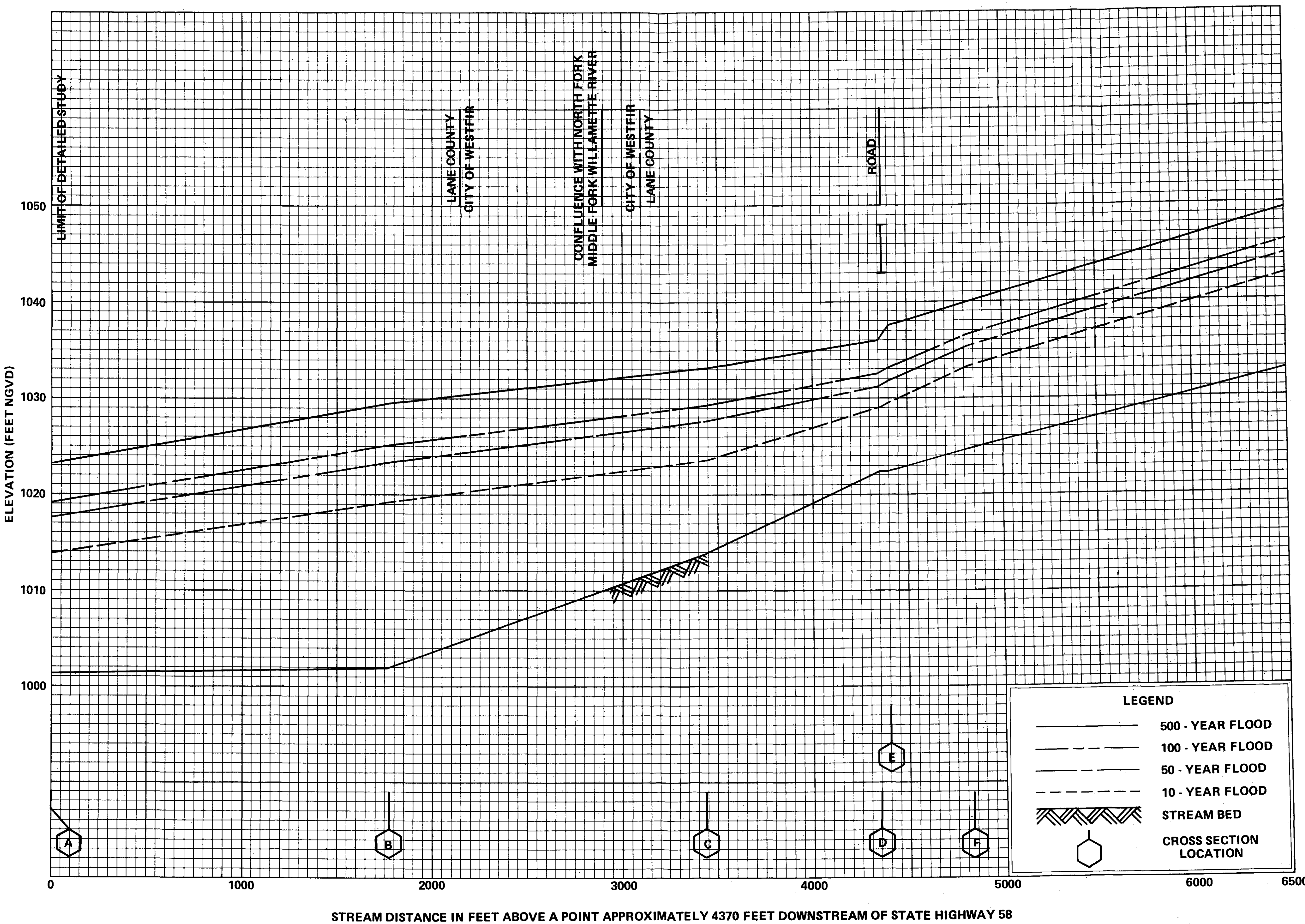
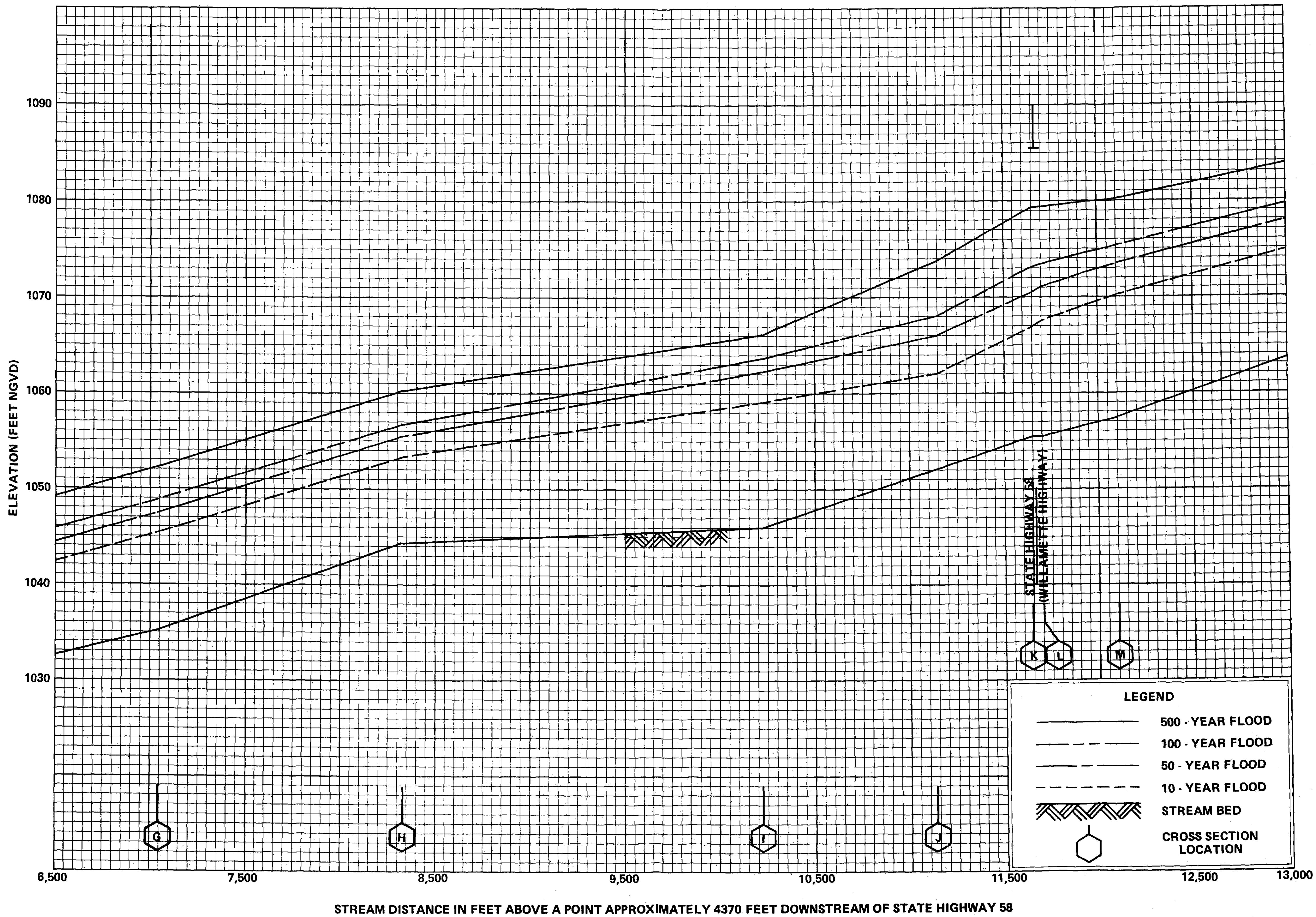


FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER (NEAR OAKRIDGE)

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

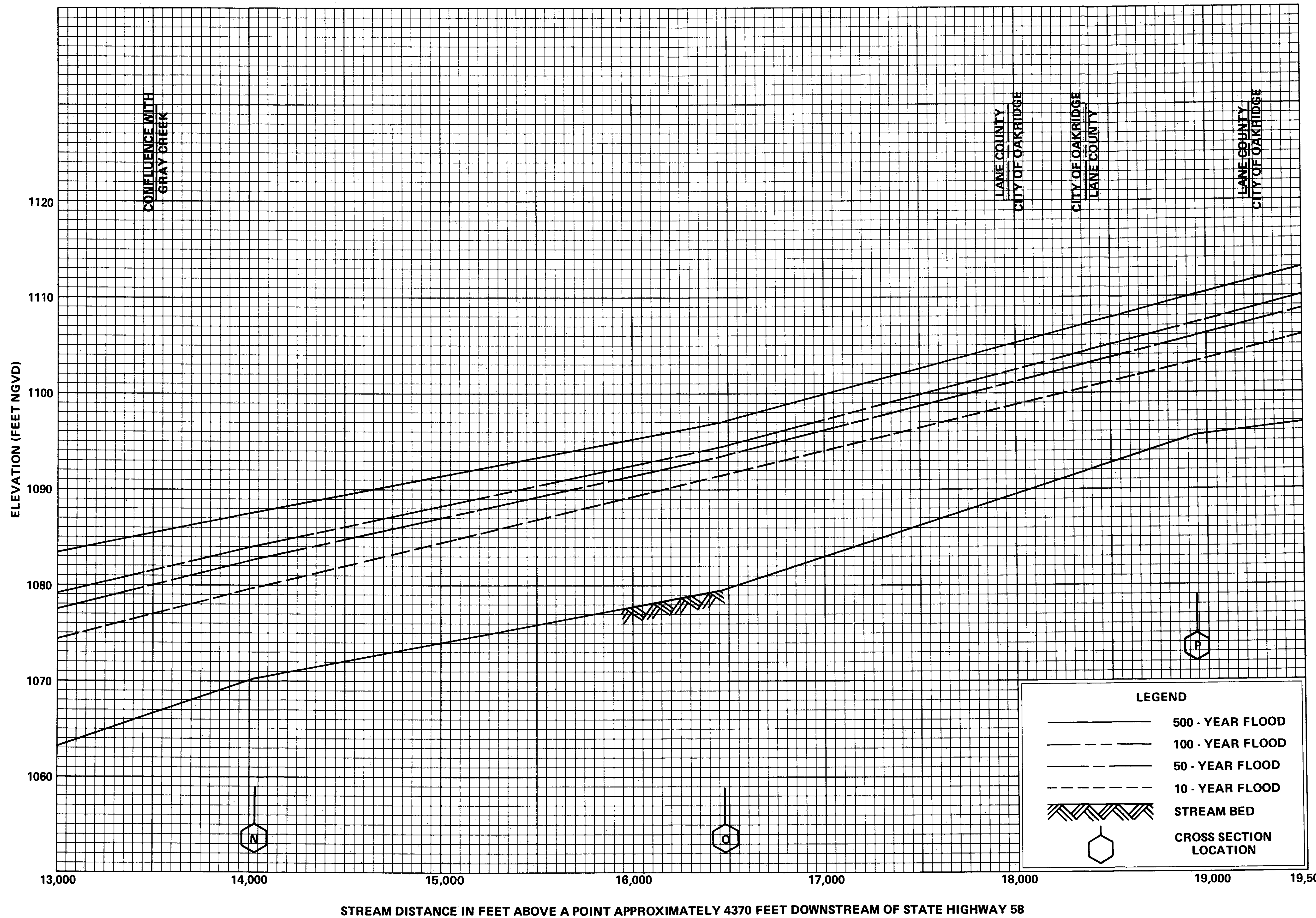


FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER (NEAR OAKRIDGE)

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER (NEAR OAKRIDGE)

FEDERAL EMERGENCY MANAGEMENT AGENCY

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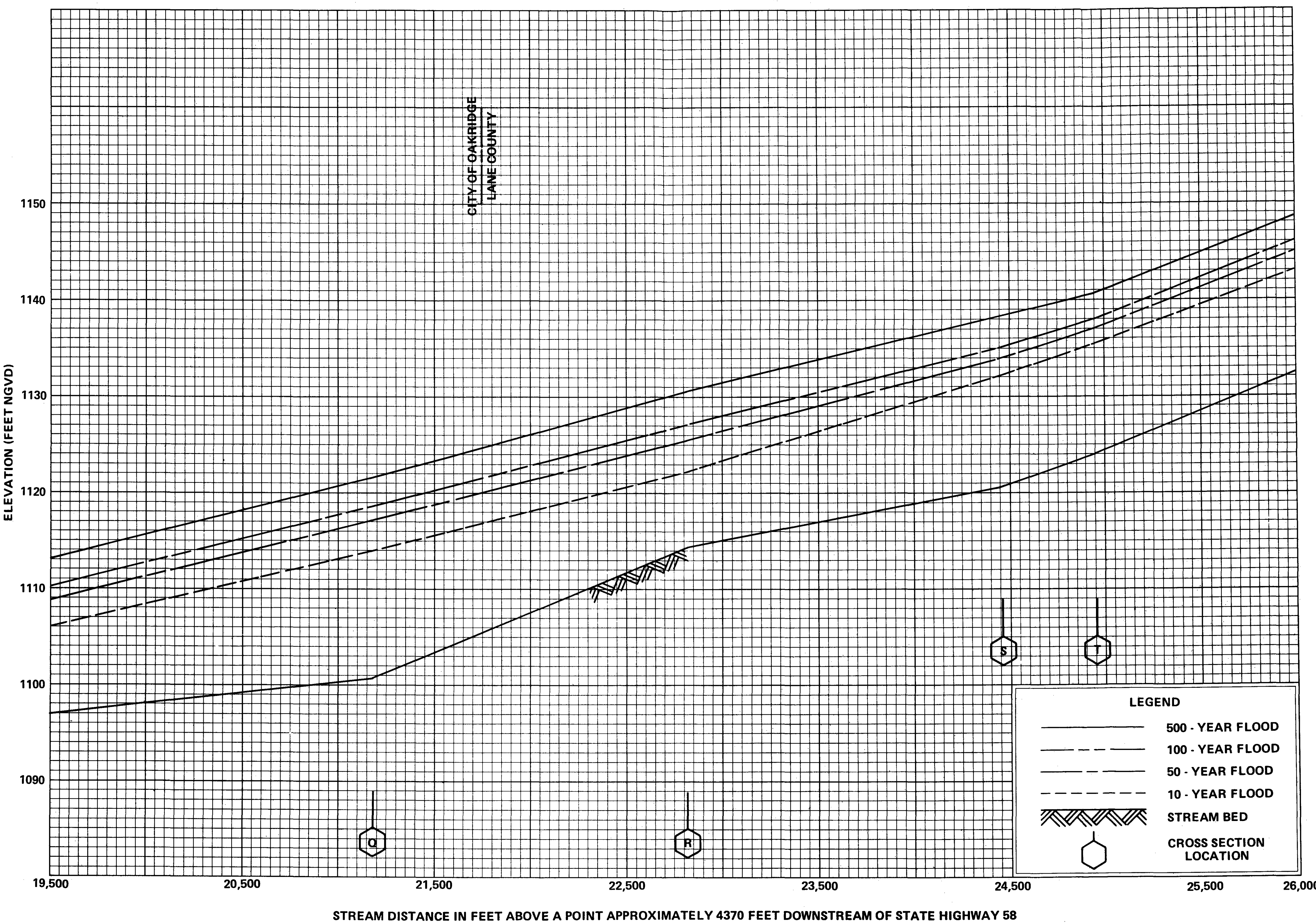
AND INCORPORATED AREAS



FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER (NEAR OAKRIDGE)

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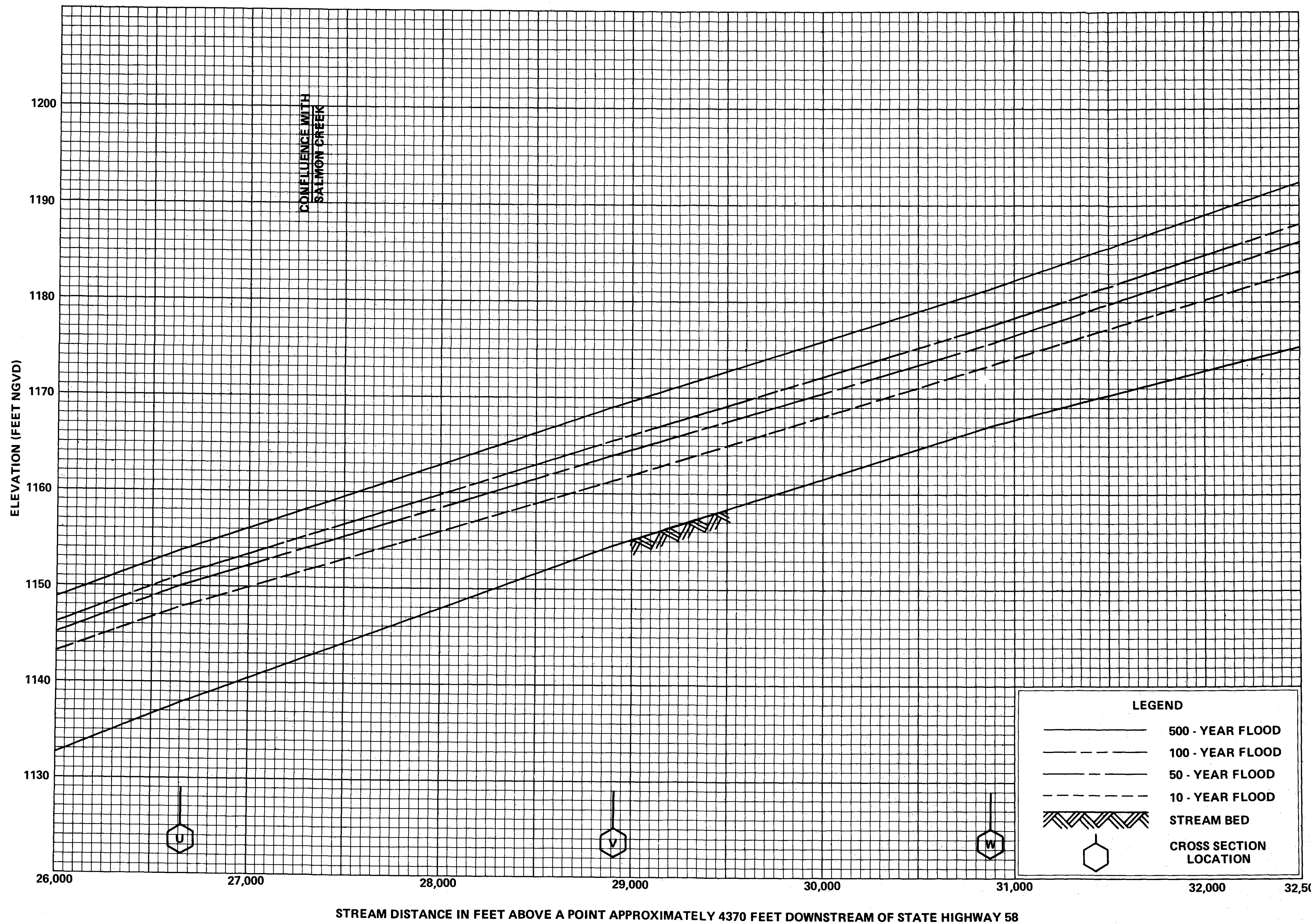

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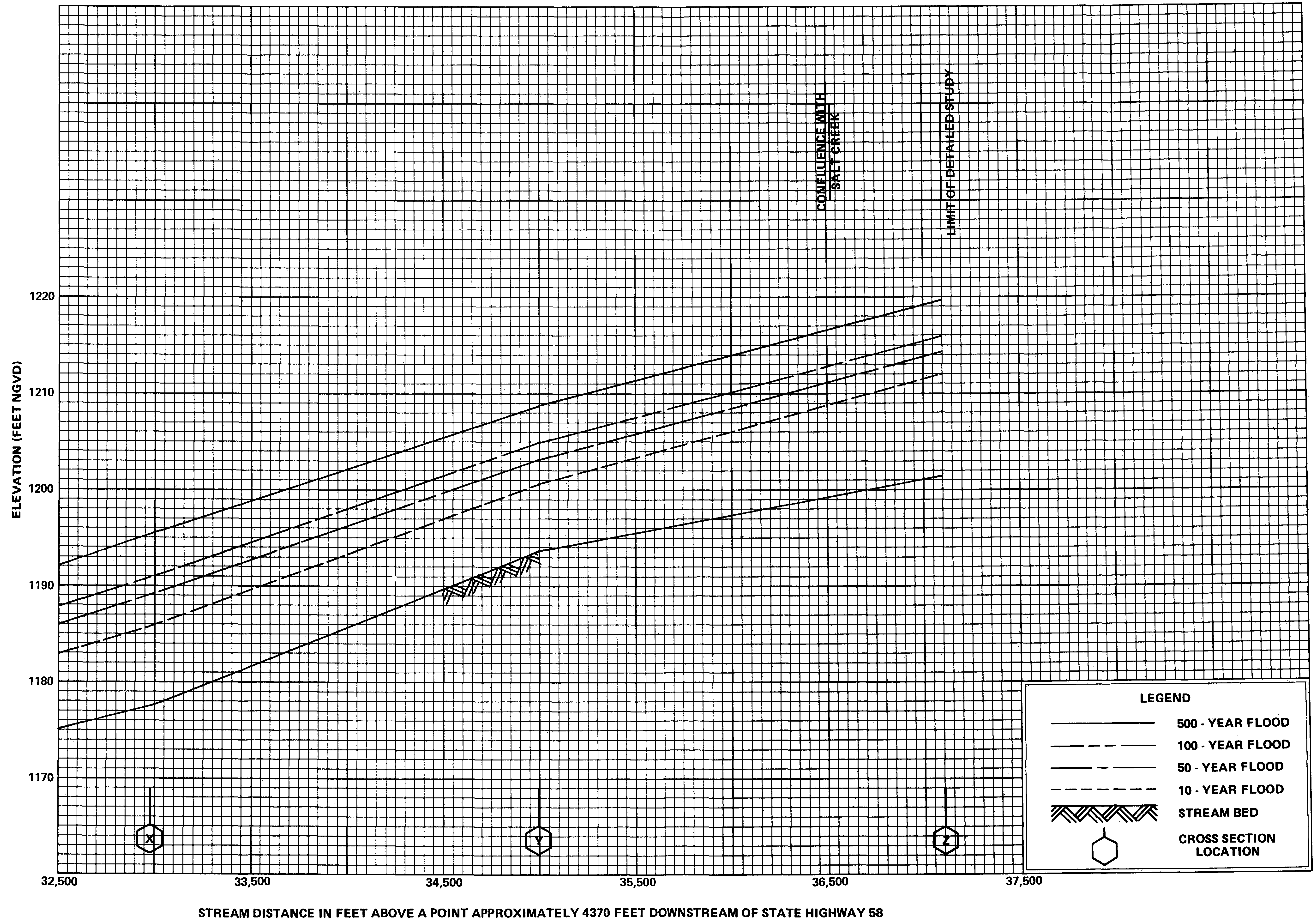

FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER (NEAR OAKRIDGE)

FEDERAL EMERGENCY MANAGEMENT AGENCY

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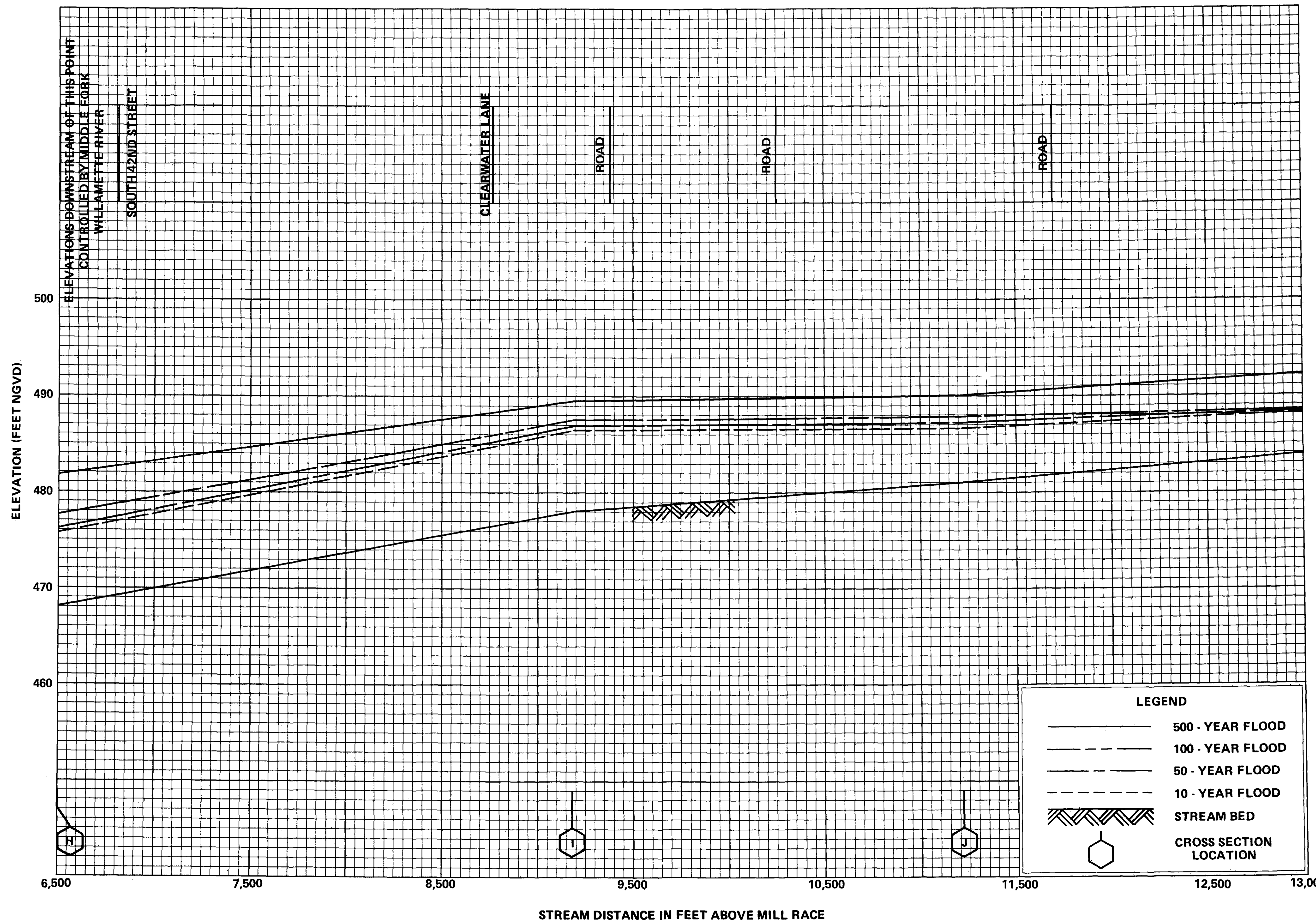
139P



FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER OVERFLOW

FEDERAL EMERGENCY MANAGEMENT AGENCY

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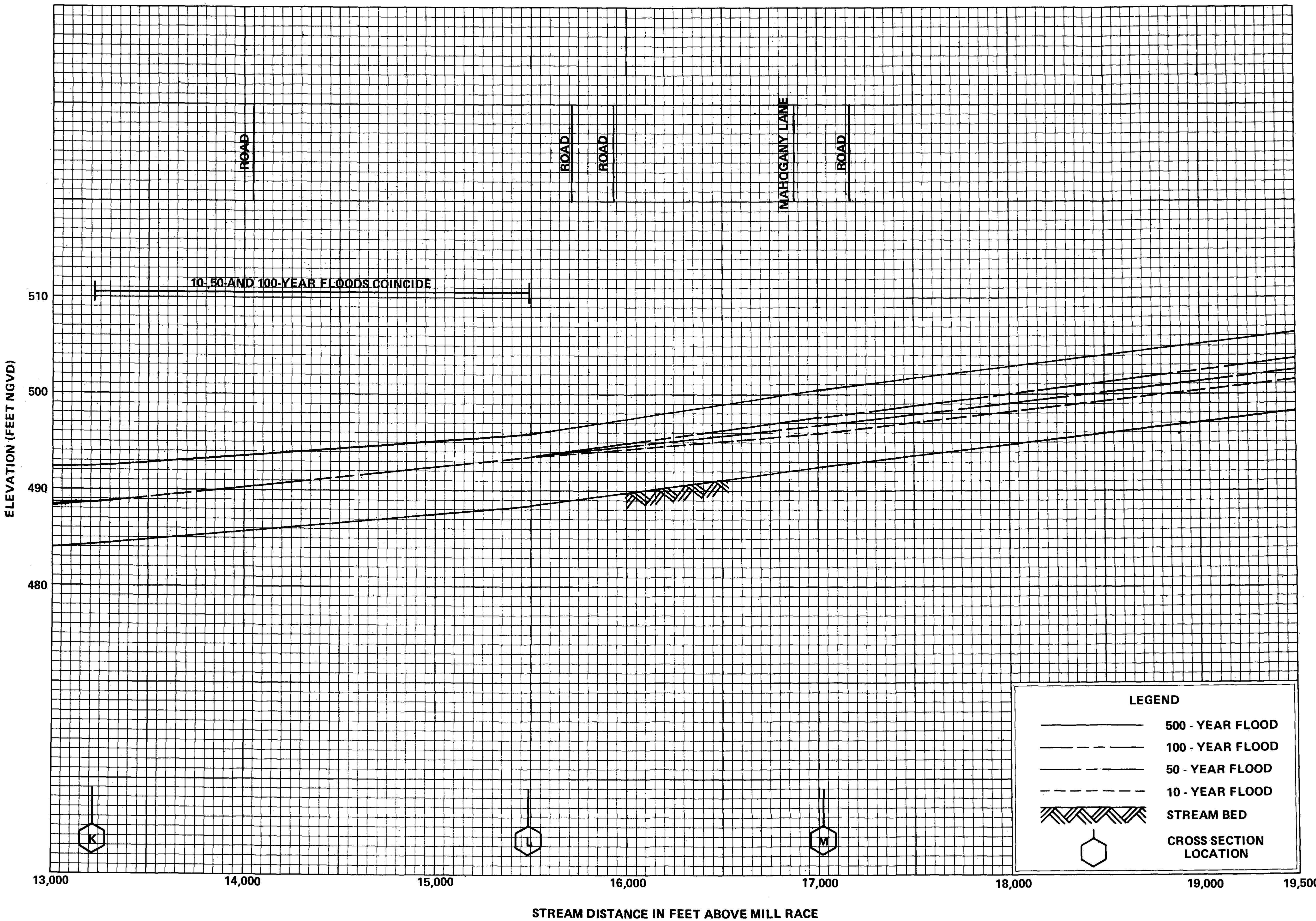
140P



FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER OVERFLOW

FEDERAL EMERGENCY MANAGEMENT AGENCY

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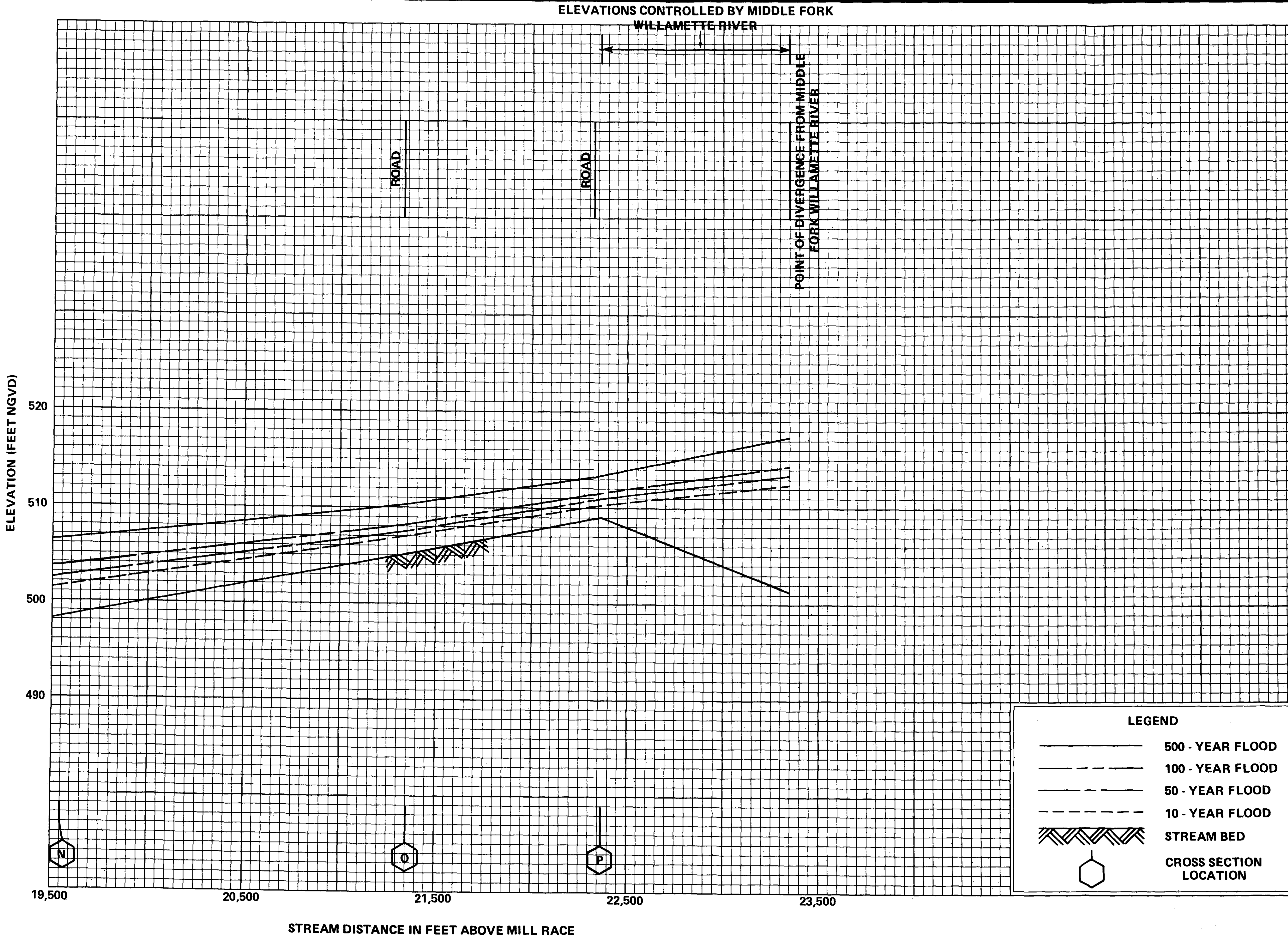
AND INCORPORATED AREAS

141P



FLOOD PROFILES

MIDDLE FORK WILLAMETTE RIVER OVERFLOW

FEDERAL EMERGENCY MANAGEMENT AGENCY

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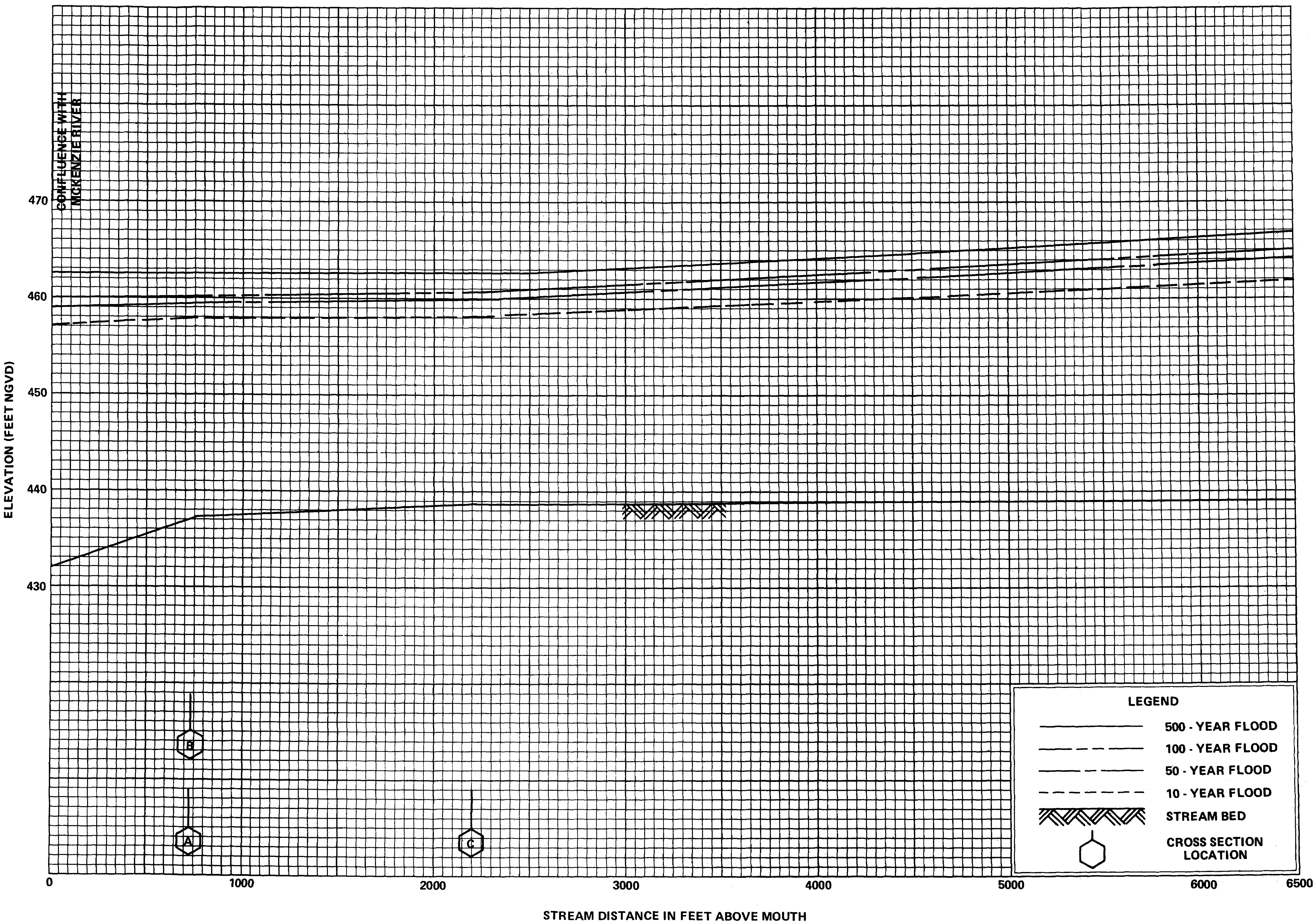

FLOOD PROFILES

MOHAWK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
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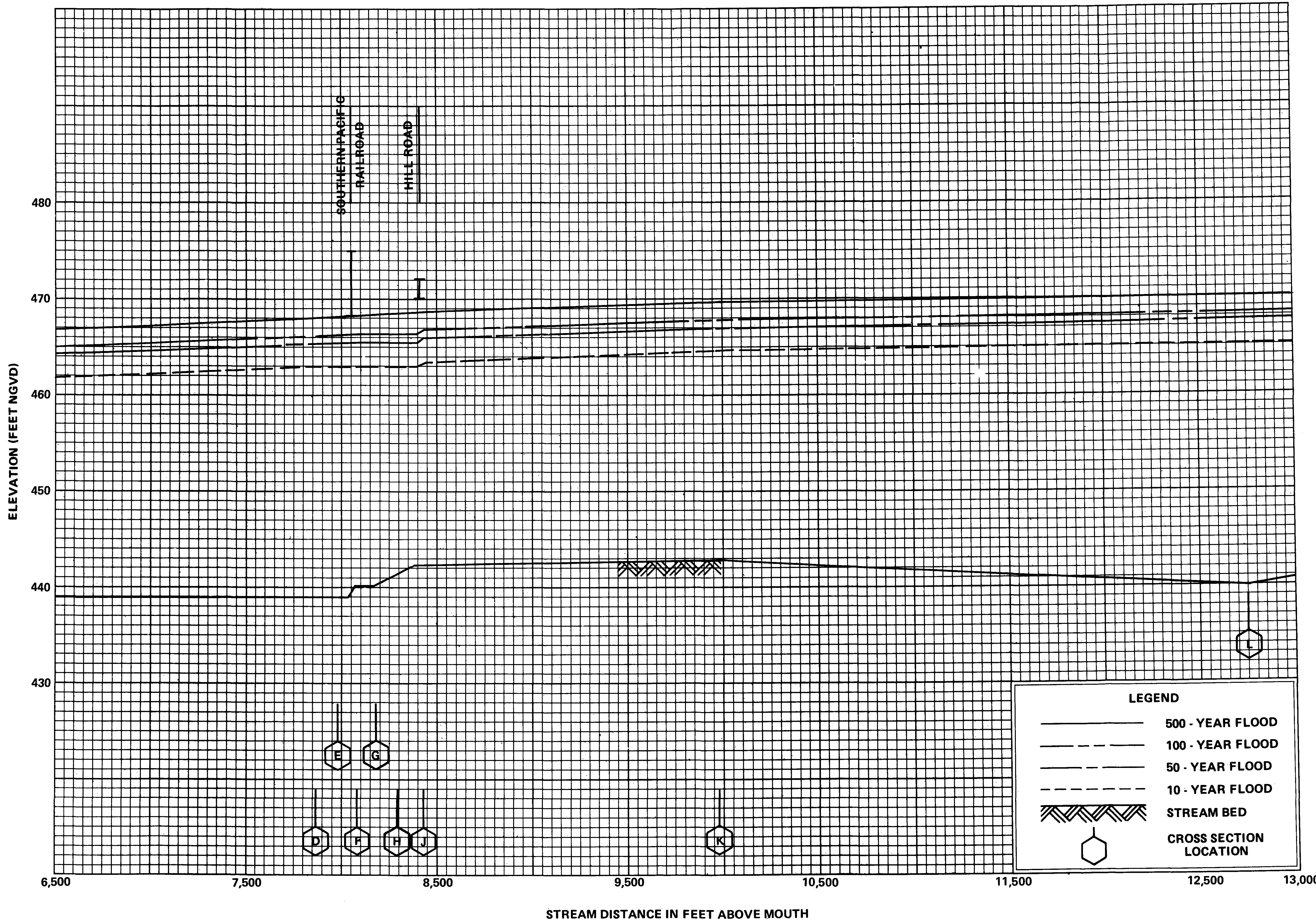
143P

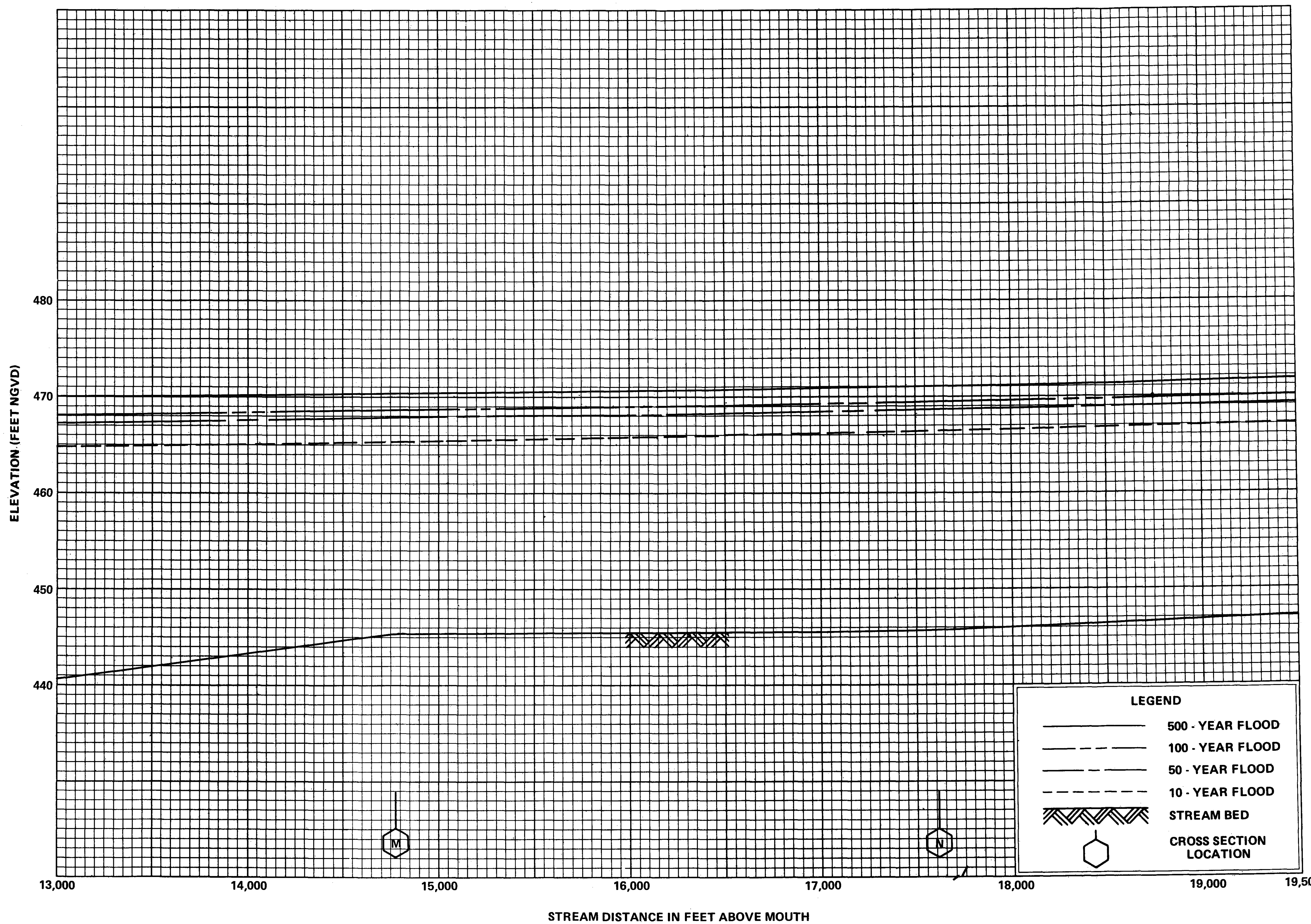


FLOOD PROFILES

MOHAWK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



FLOOD PROFILES

MOHAWK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
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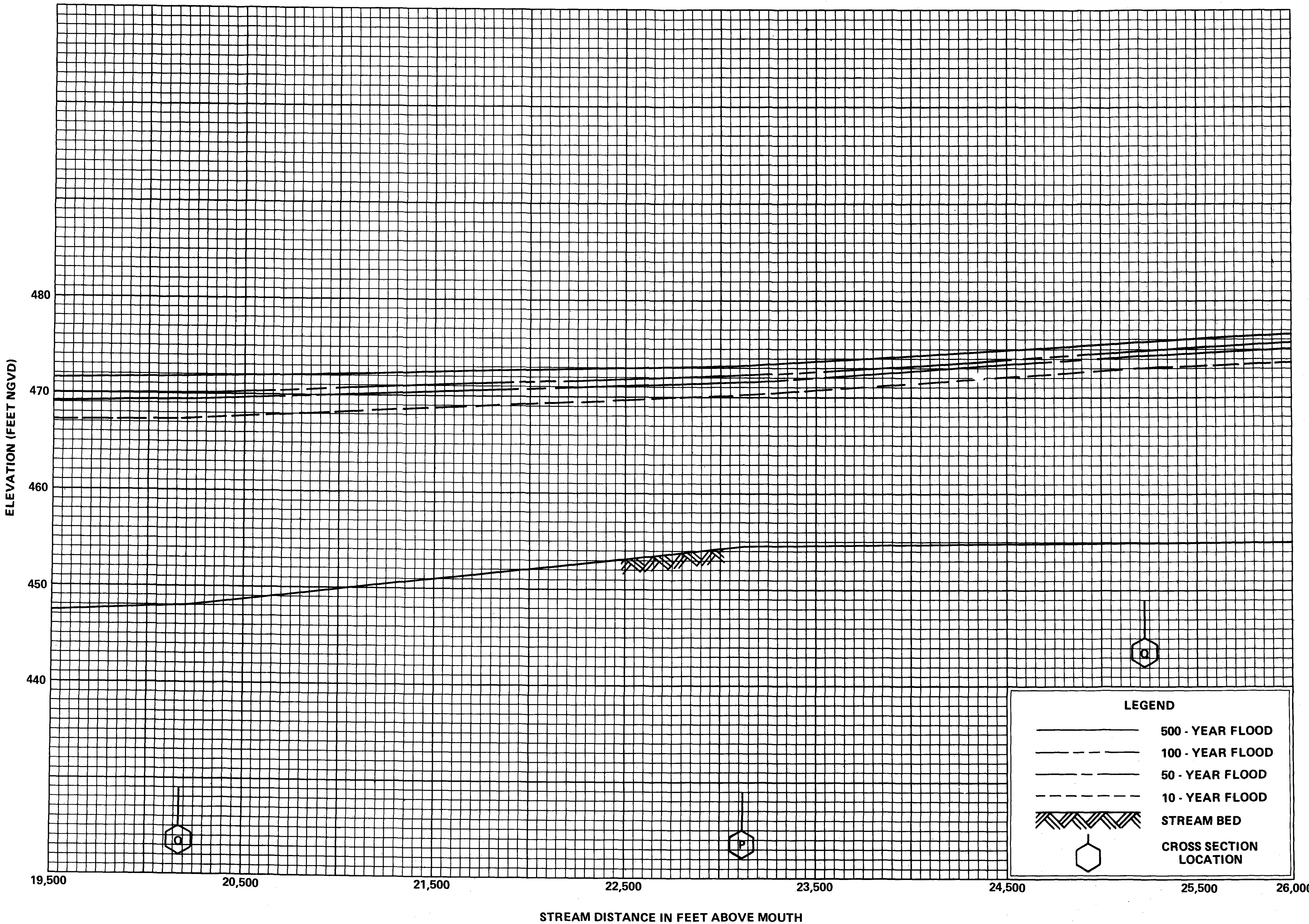
145P



FLOOD PROFILES

MOHAWK RIVER

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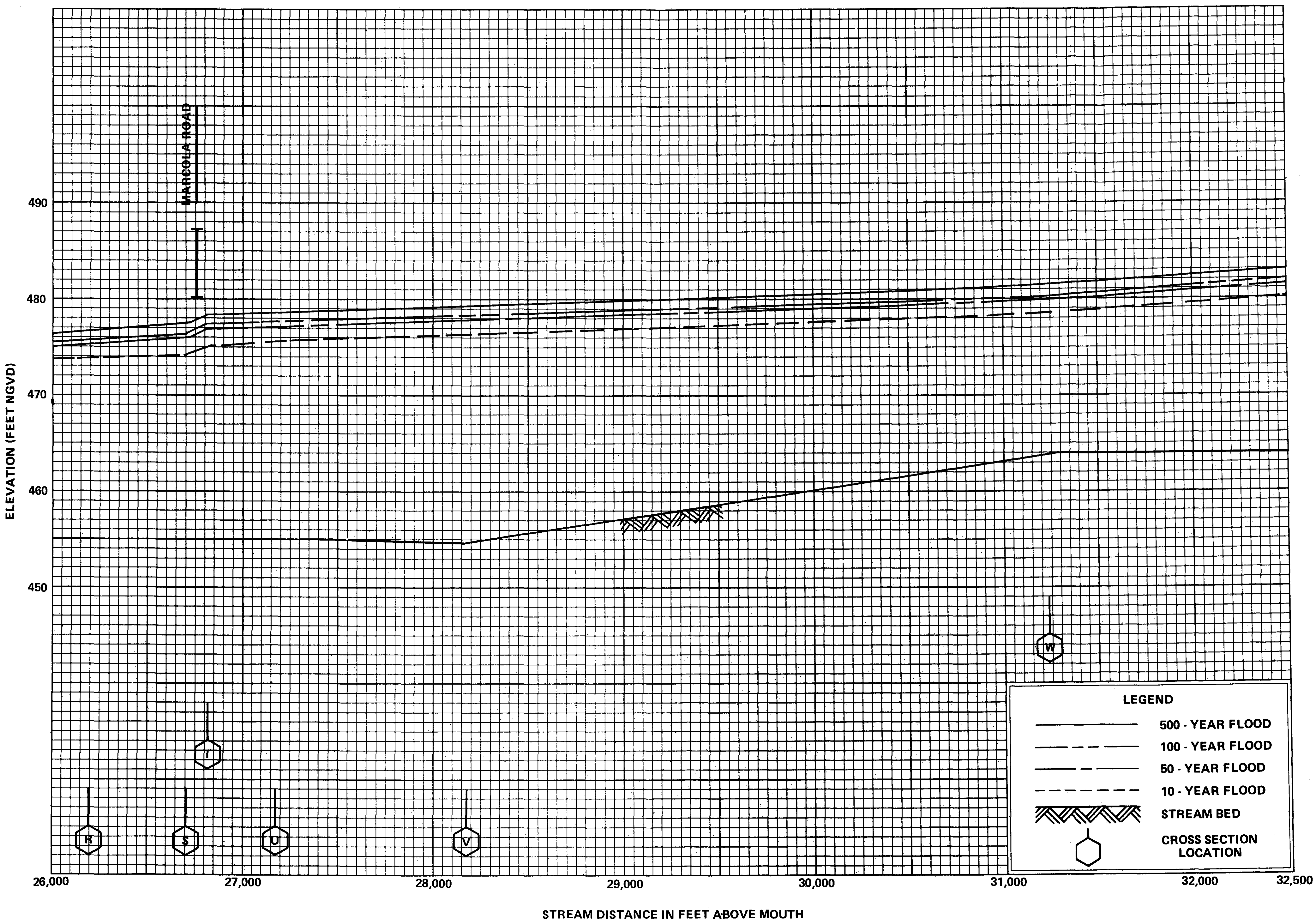

FLOOD PROFILES

MOHAWK RIVER

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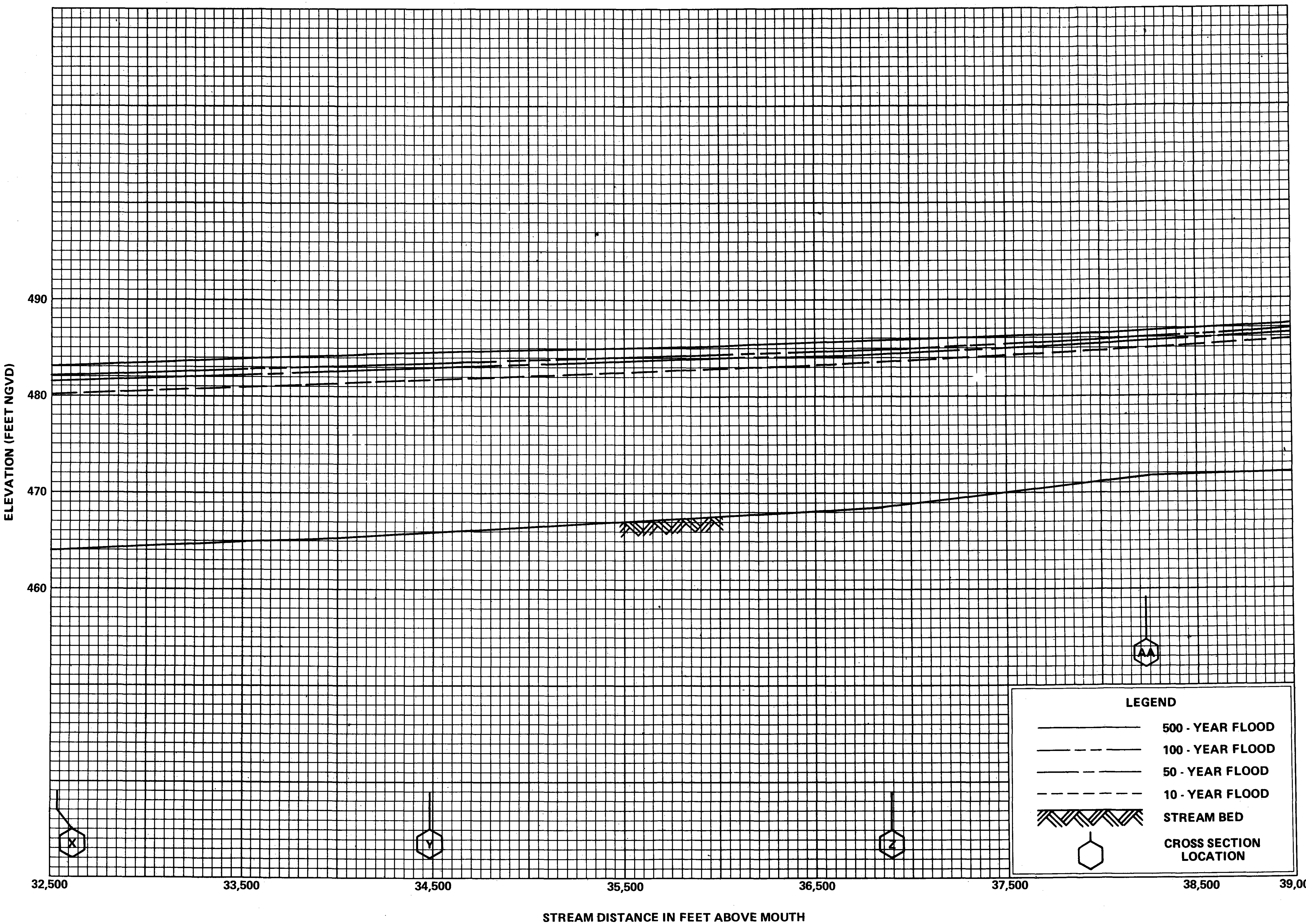

FLOOD PROFILES

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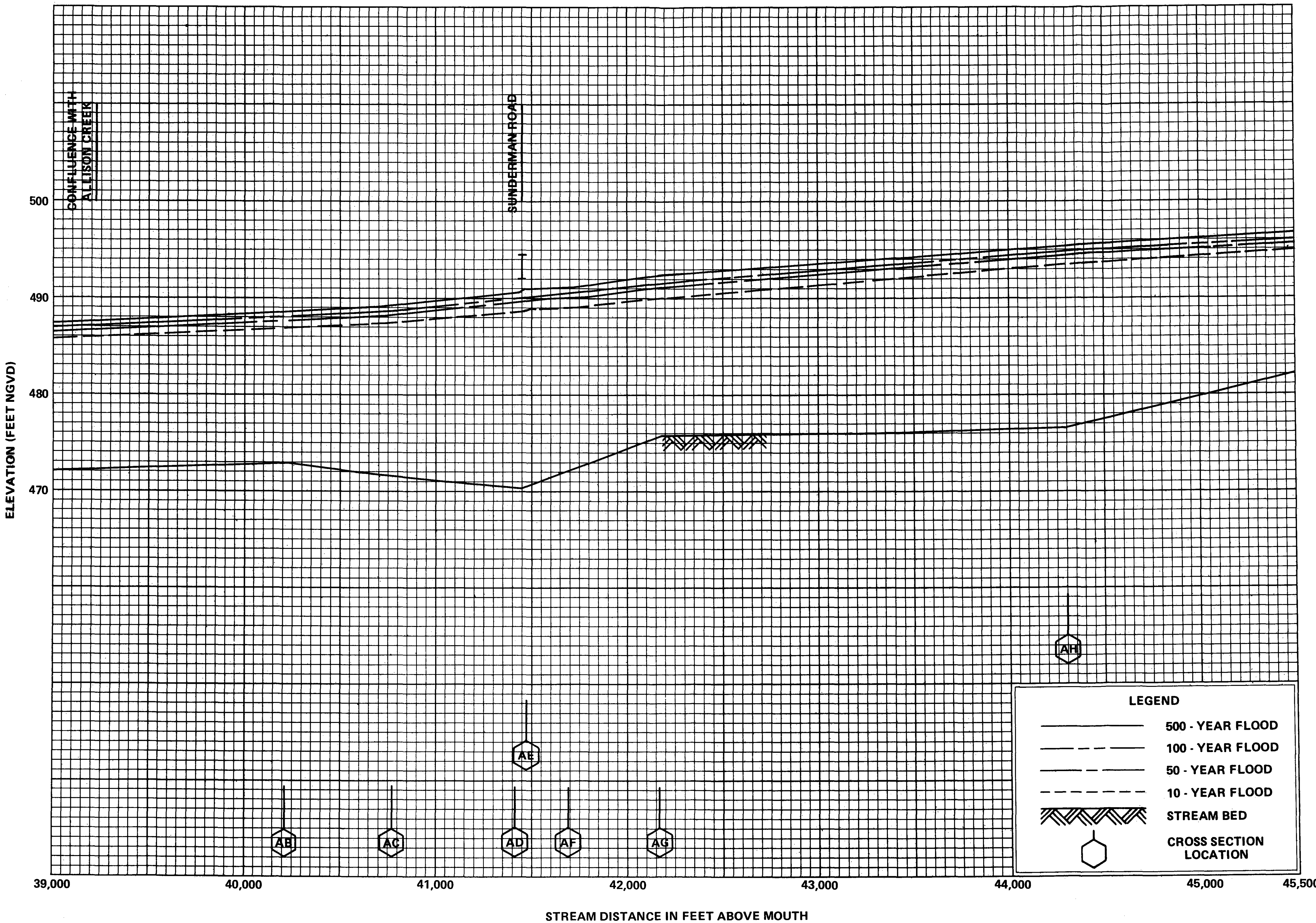

FLOOD PROFILES

MOHAWK RIVER

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LANE COUNTY, OR
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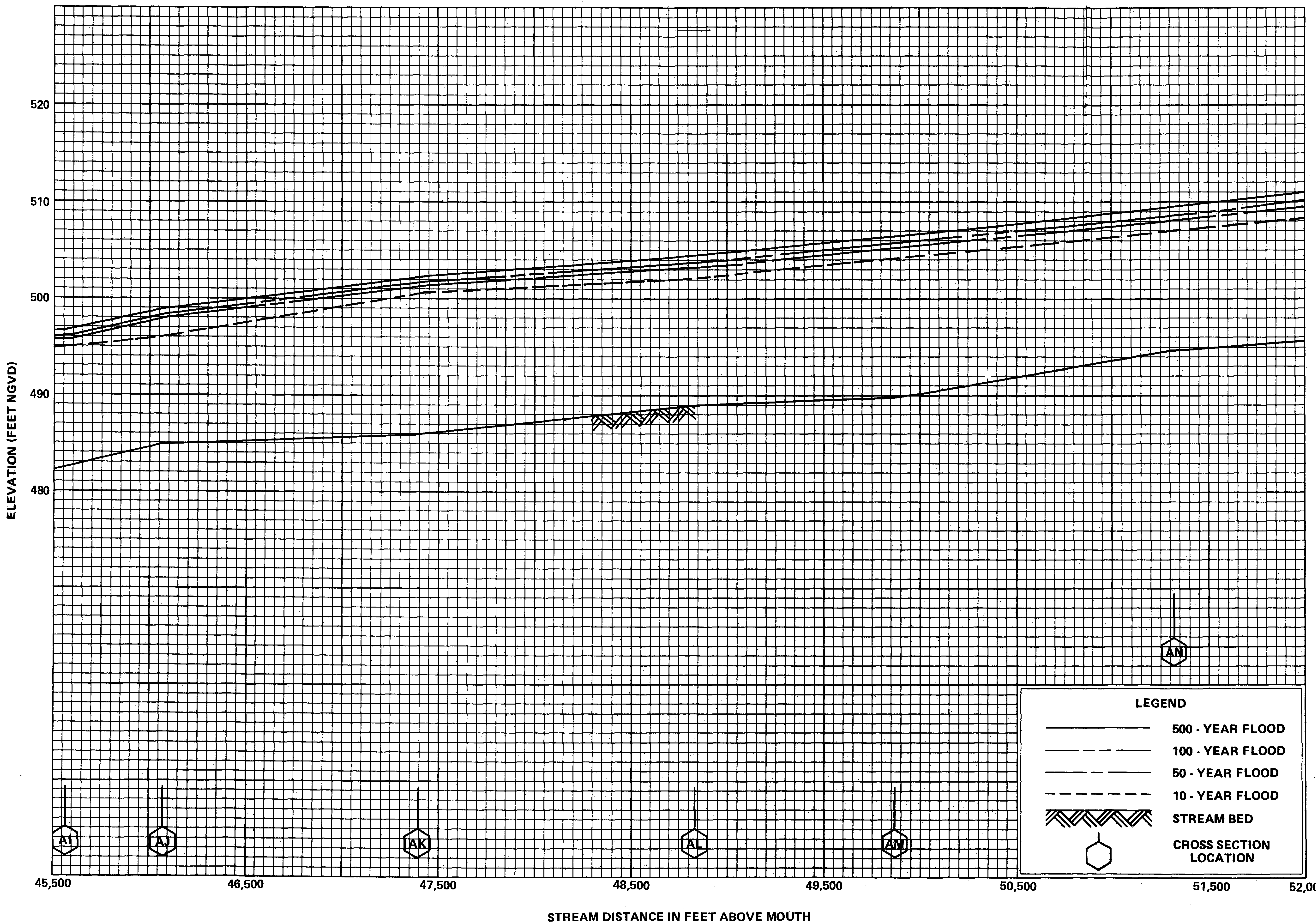

FLOOD PROFILES

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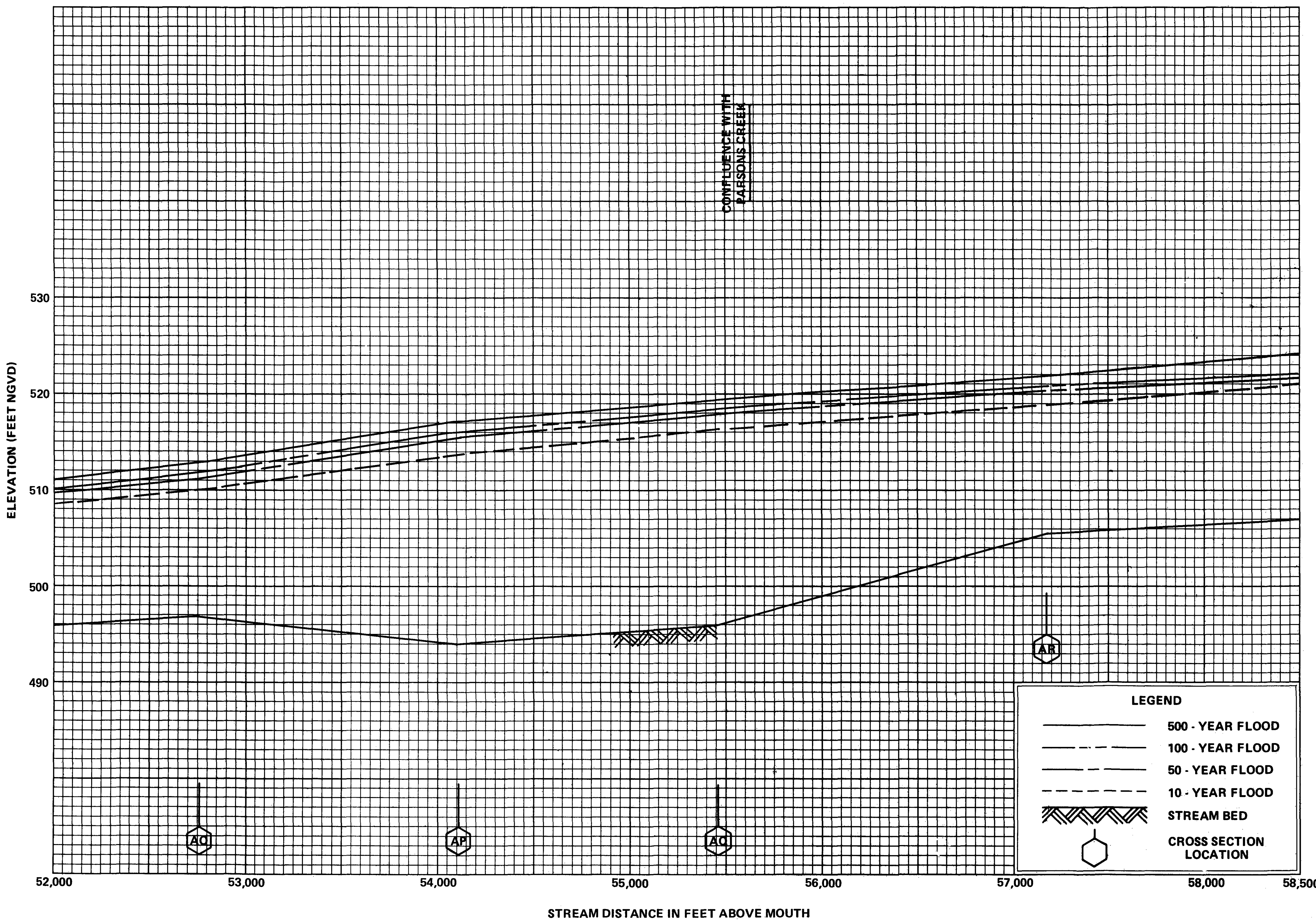

FLOOD PROFILES

MOHAWK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
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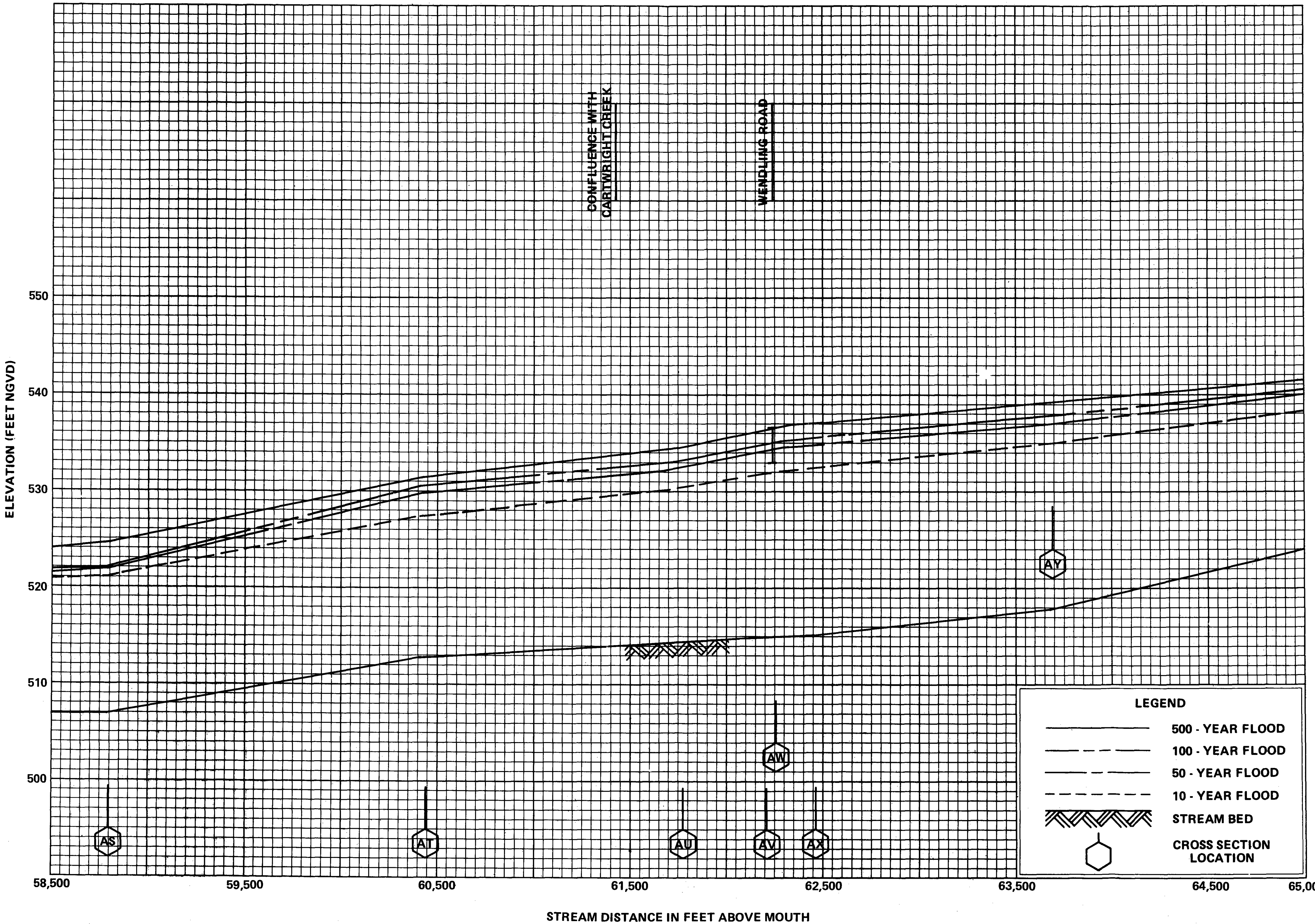
151P



FLOOD PROFILES

MOHAWK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

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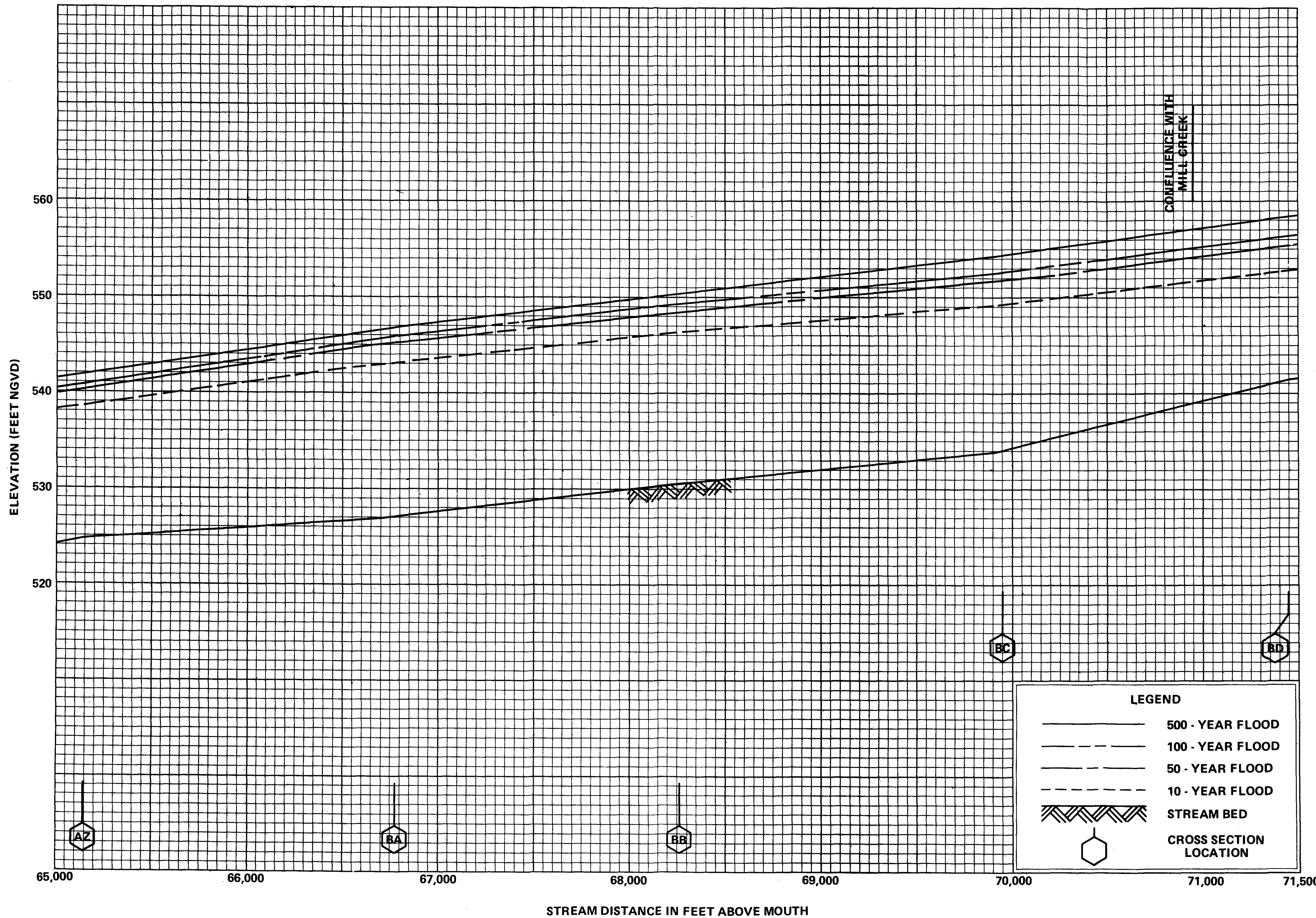


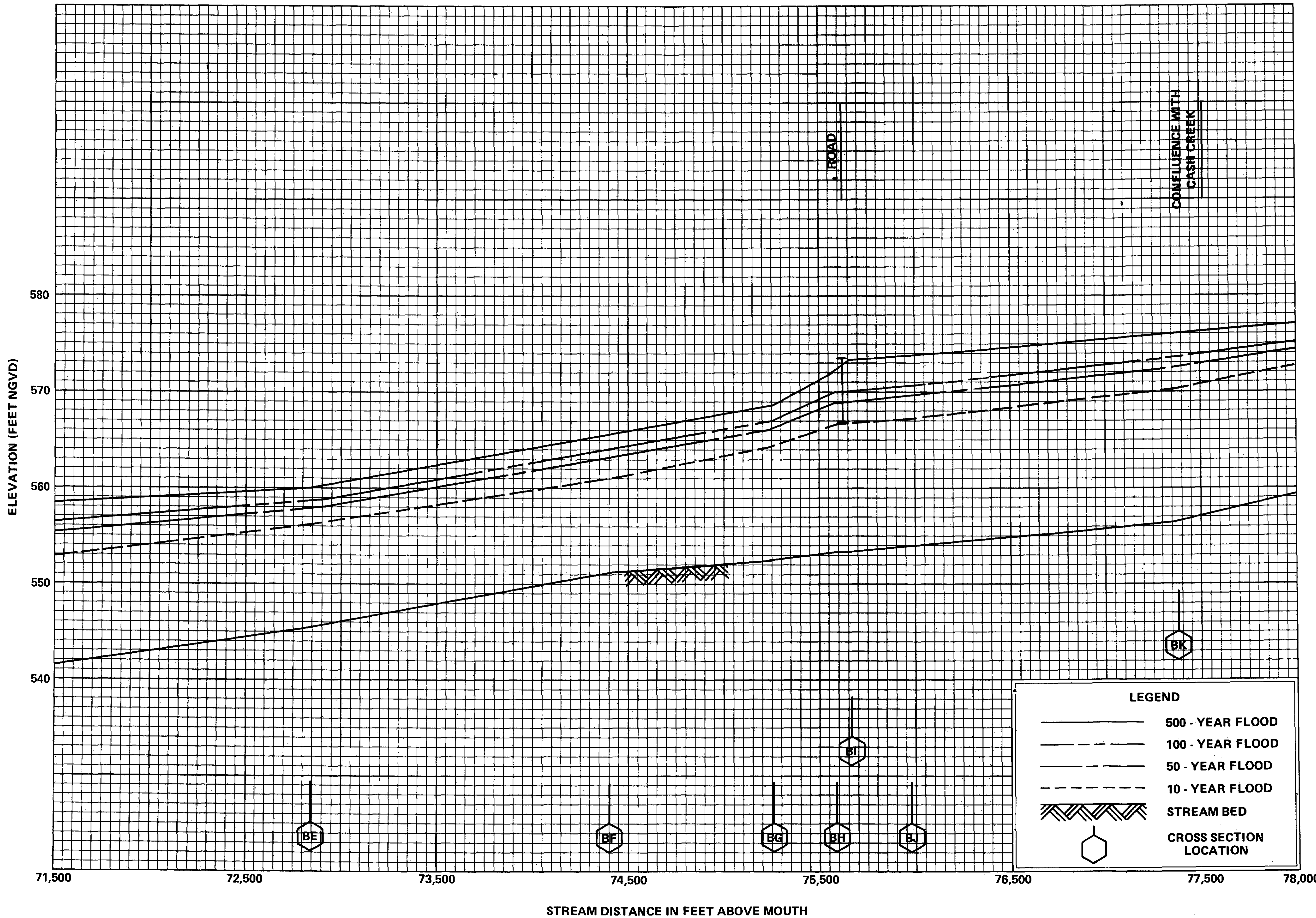
FLOOD PROFILES

MOHAWK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

153P



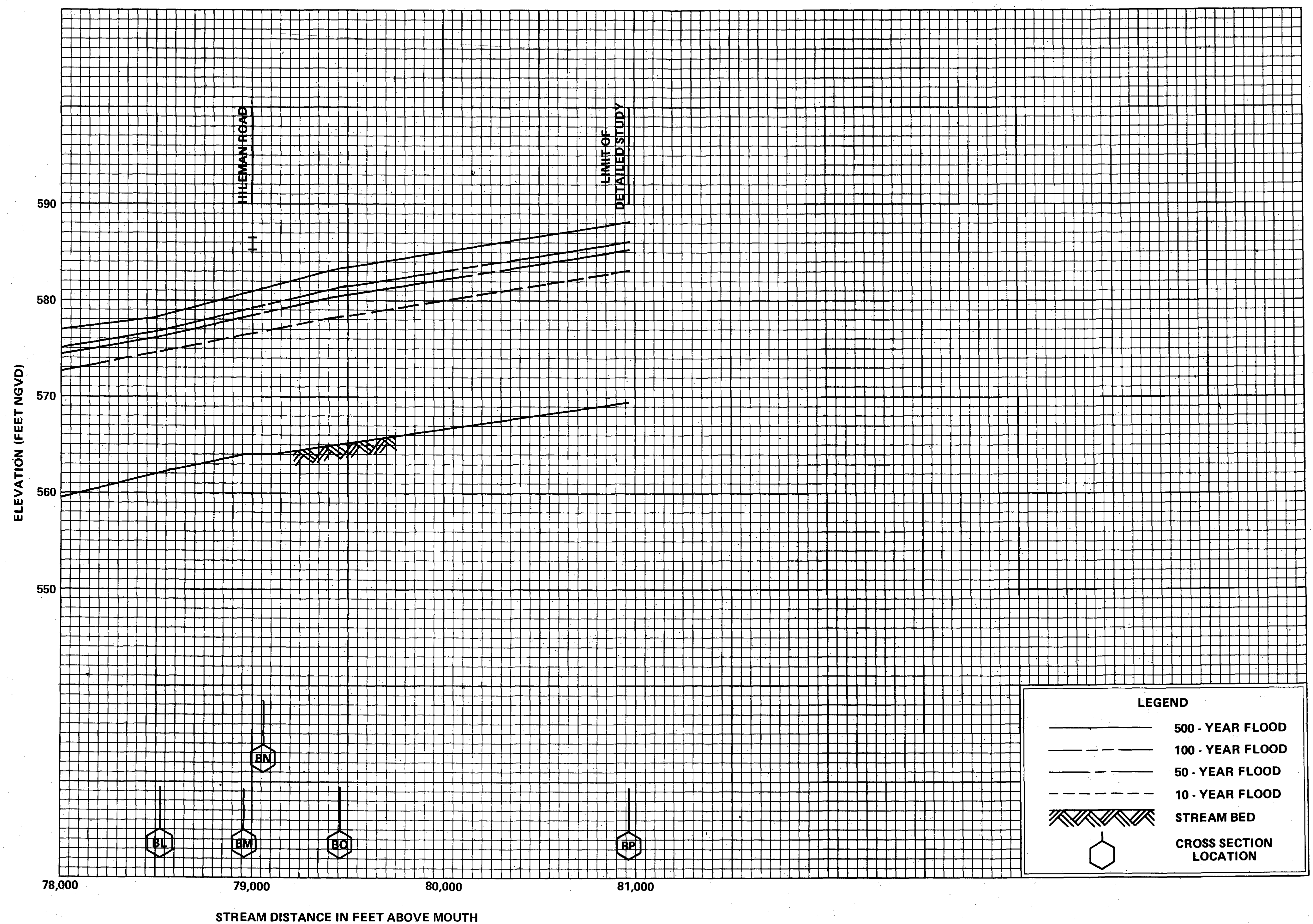
FLOOD PROFILES

MOHAWK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

154P



FLOOD PROFILES

MOHAWK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

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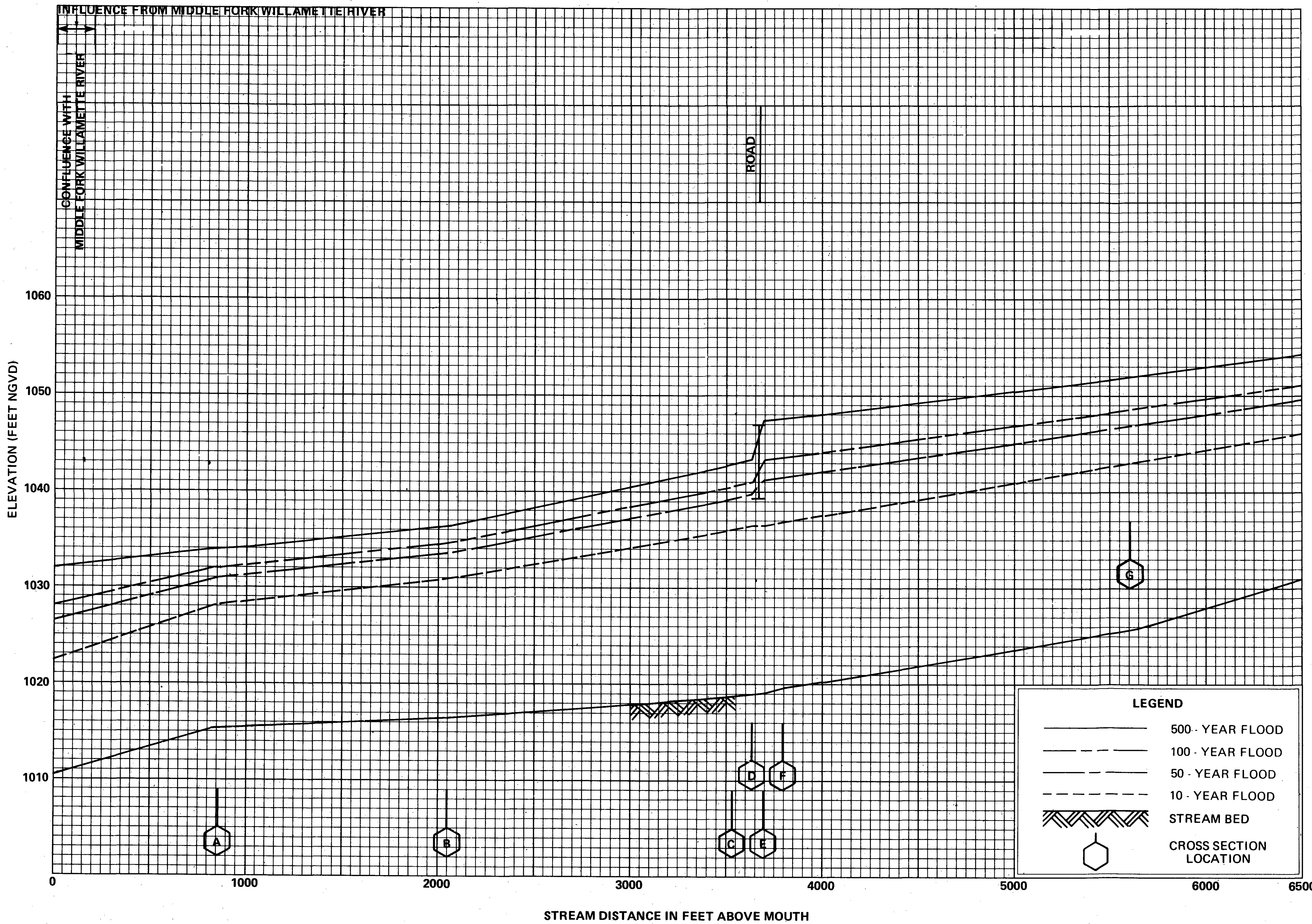


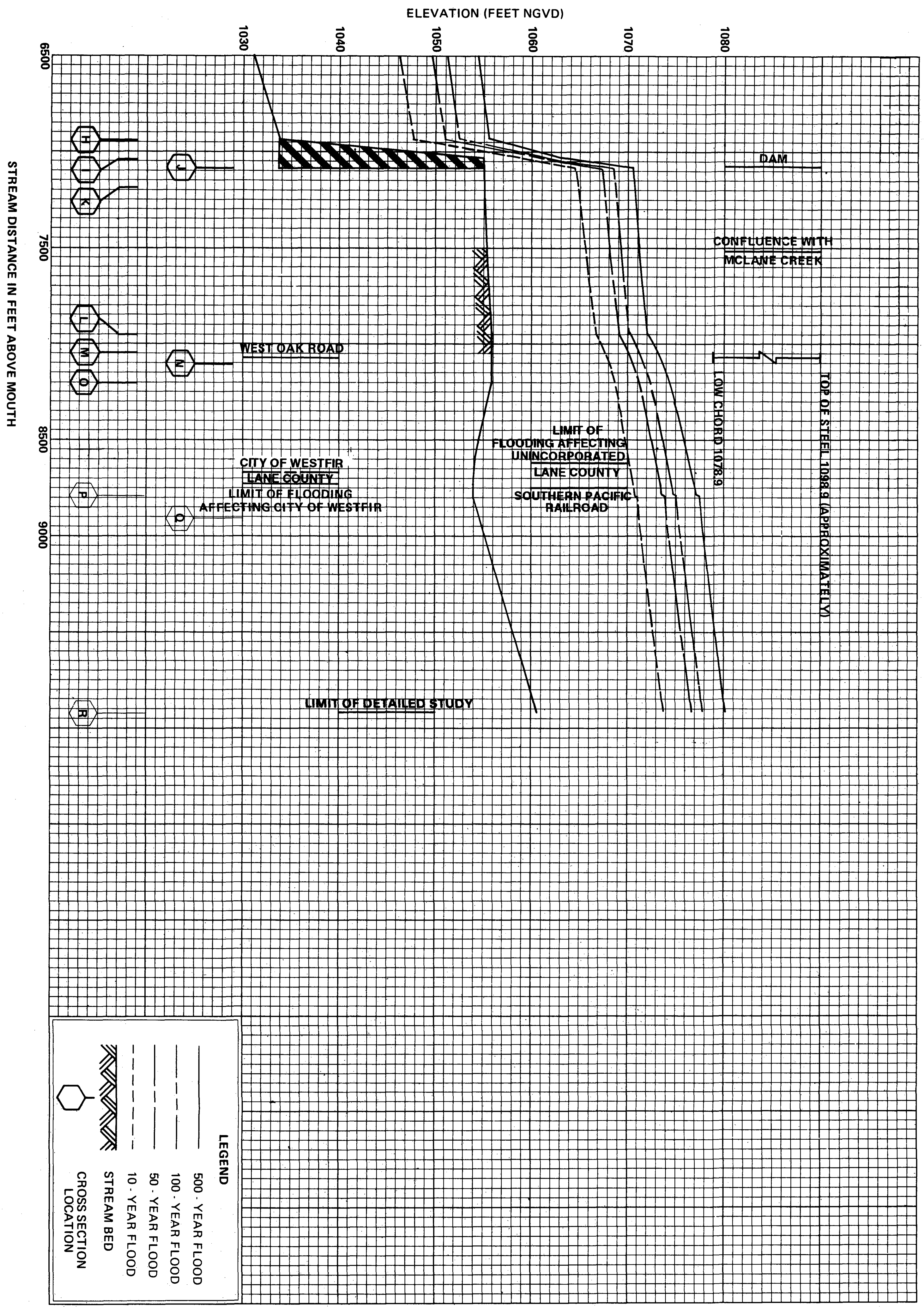
FLOOD PROFILES

NORTH FORK MIDDLE FORK WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS

156P

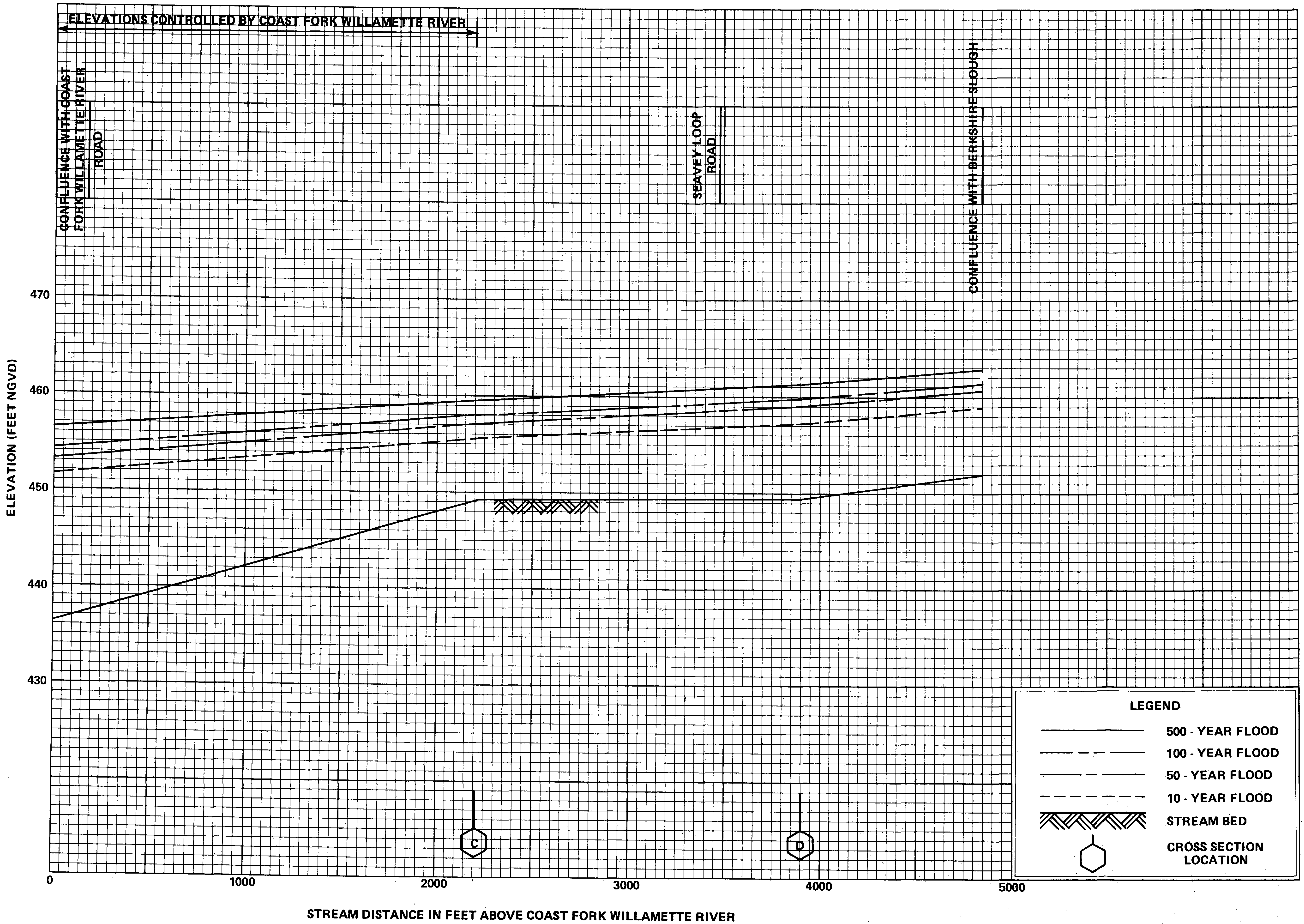


FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

FLOOD PROFILES

NORTH FORK MIDDLE FORK WILLAMETTE RIVER



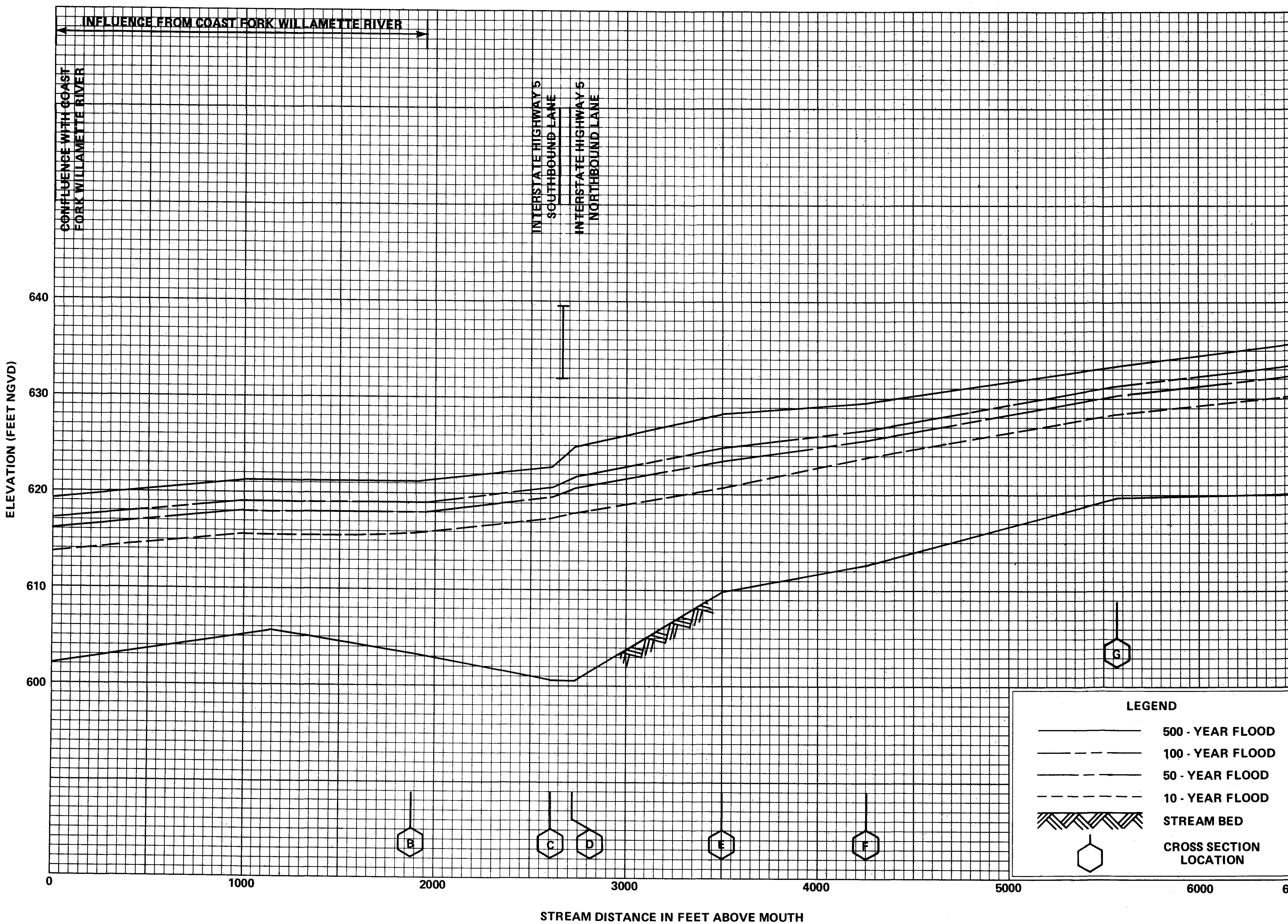
FLOOD PROFILES

OXLEY SLOUGH

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

158P

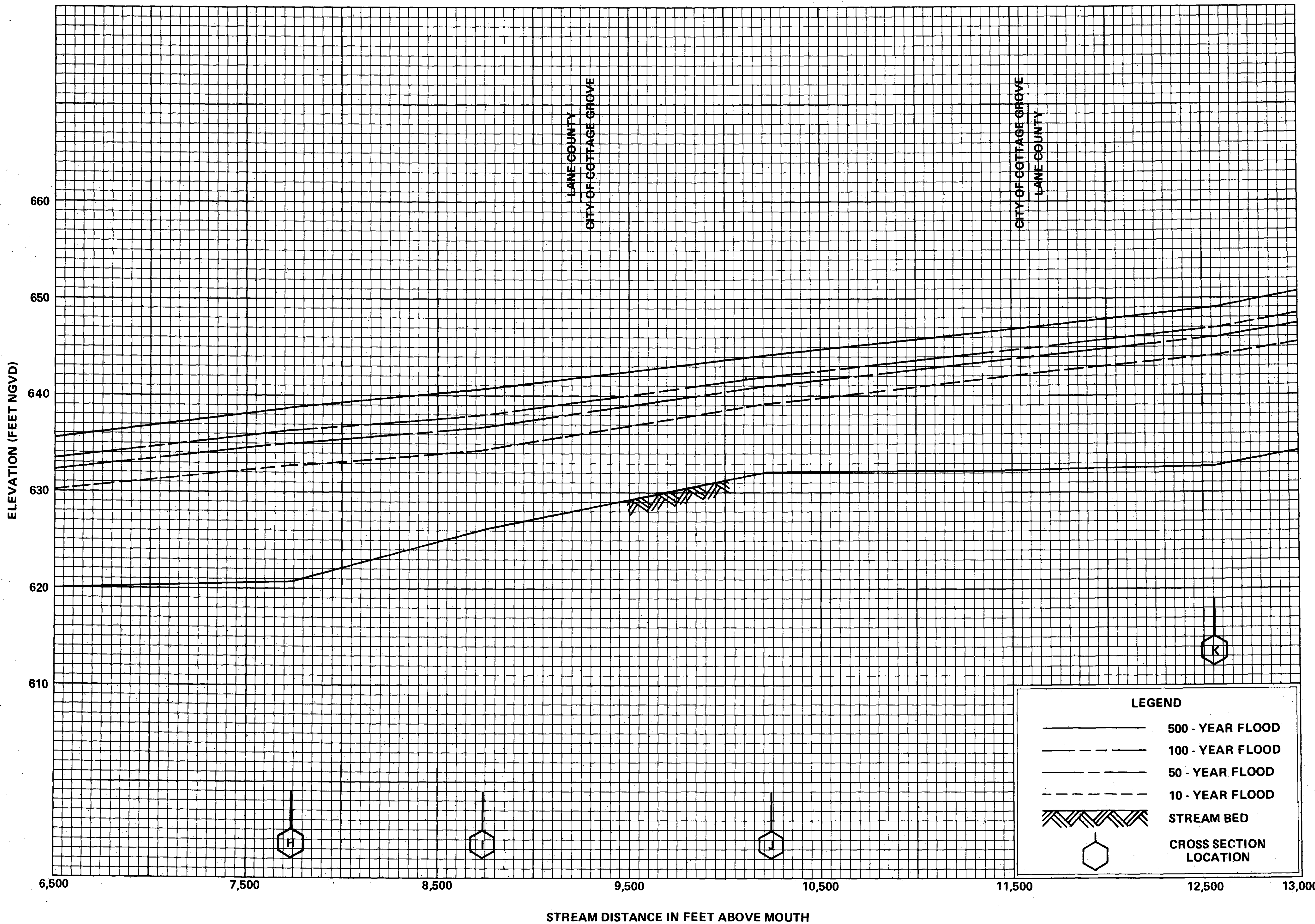


FLOOD PROFILES

ROW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



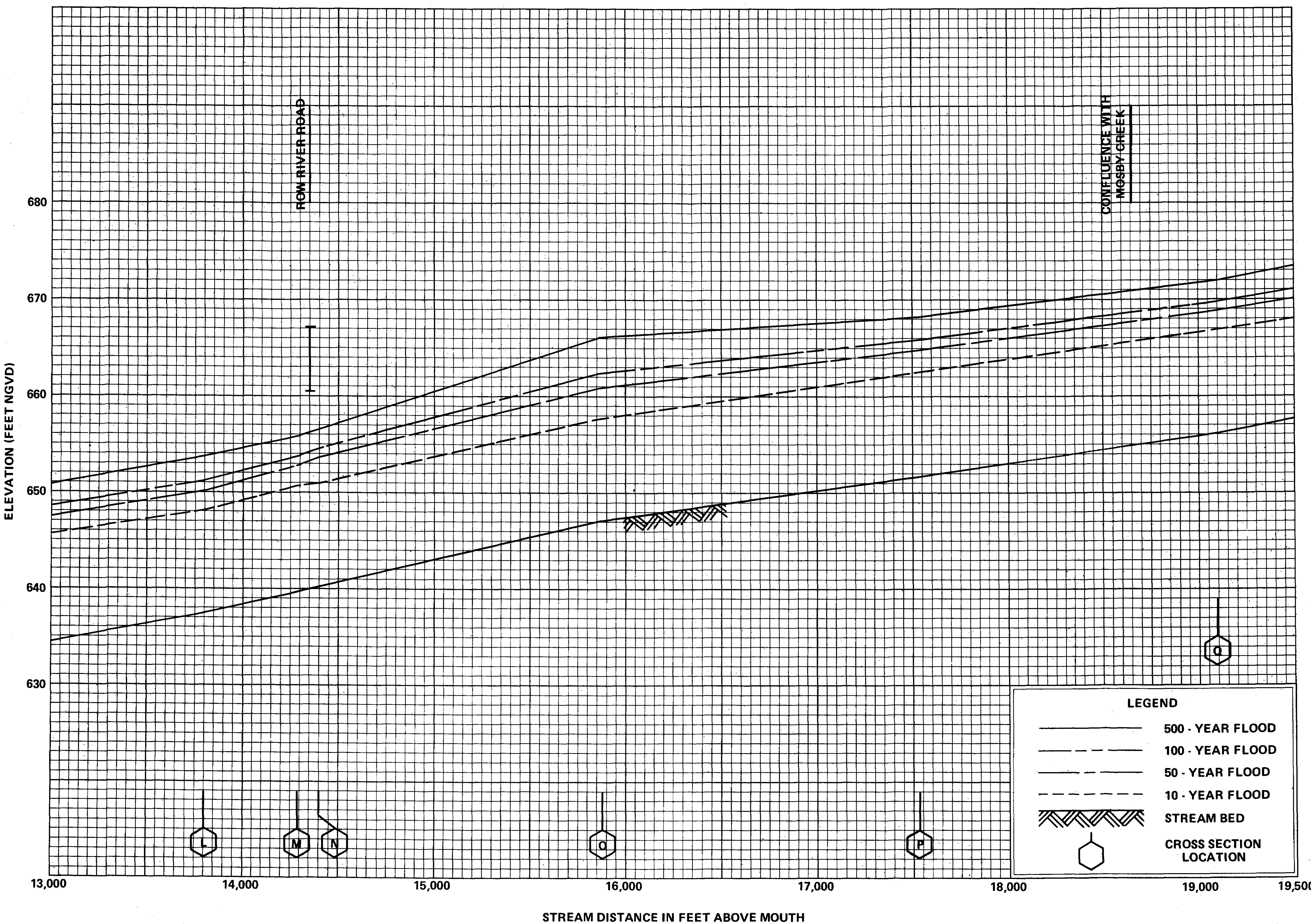
FLOOD PROFILES

ROW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

160P



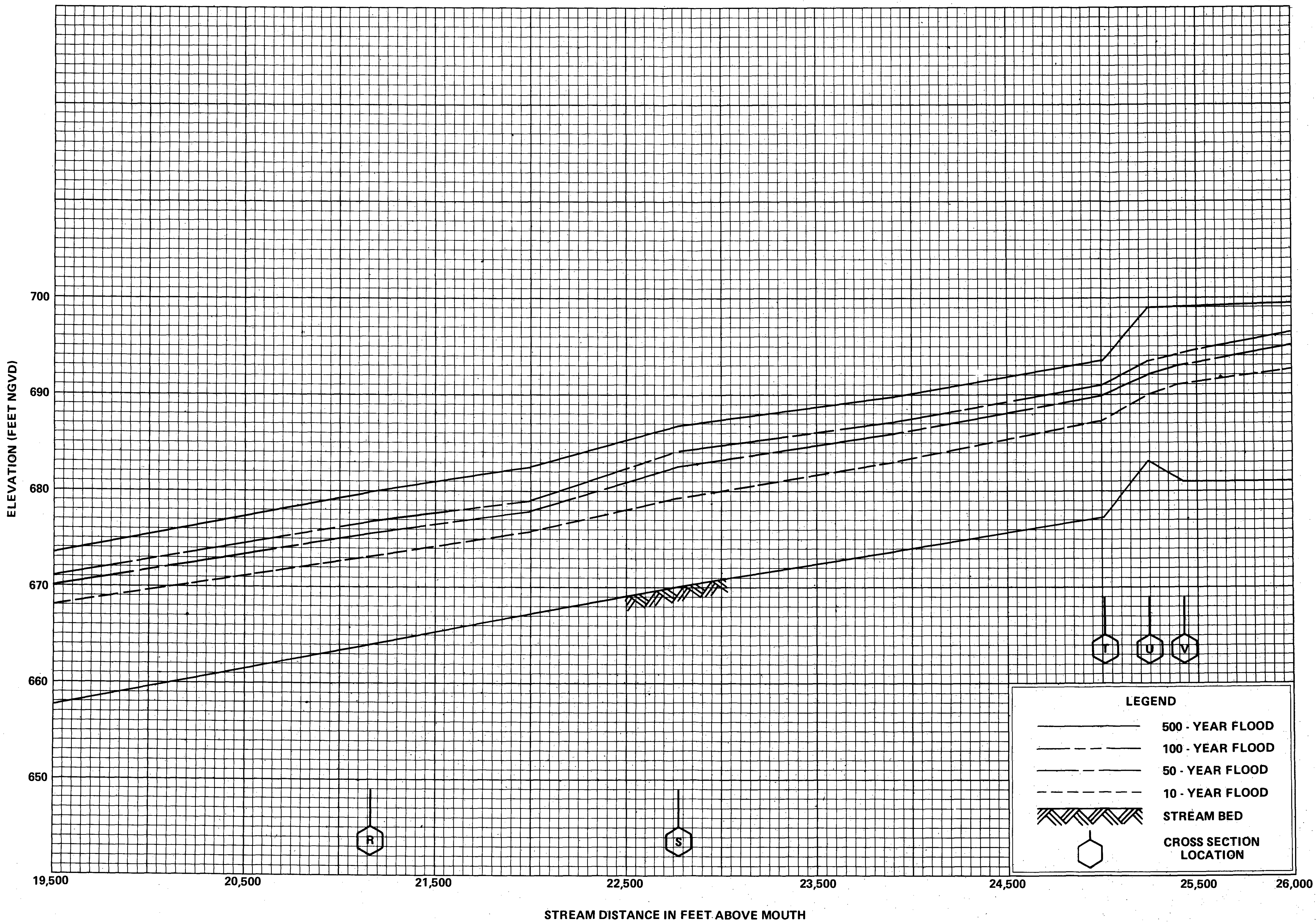
FLOOD PROFILES

ROW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

161P

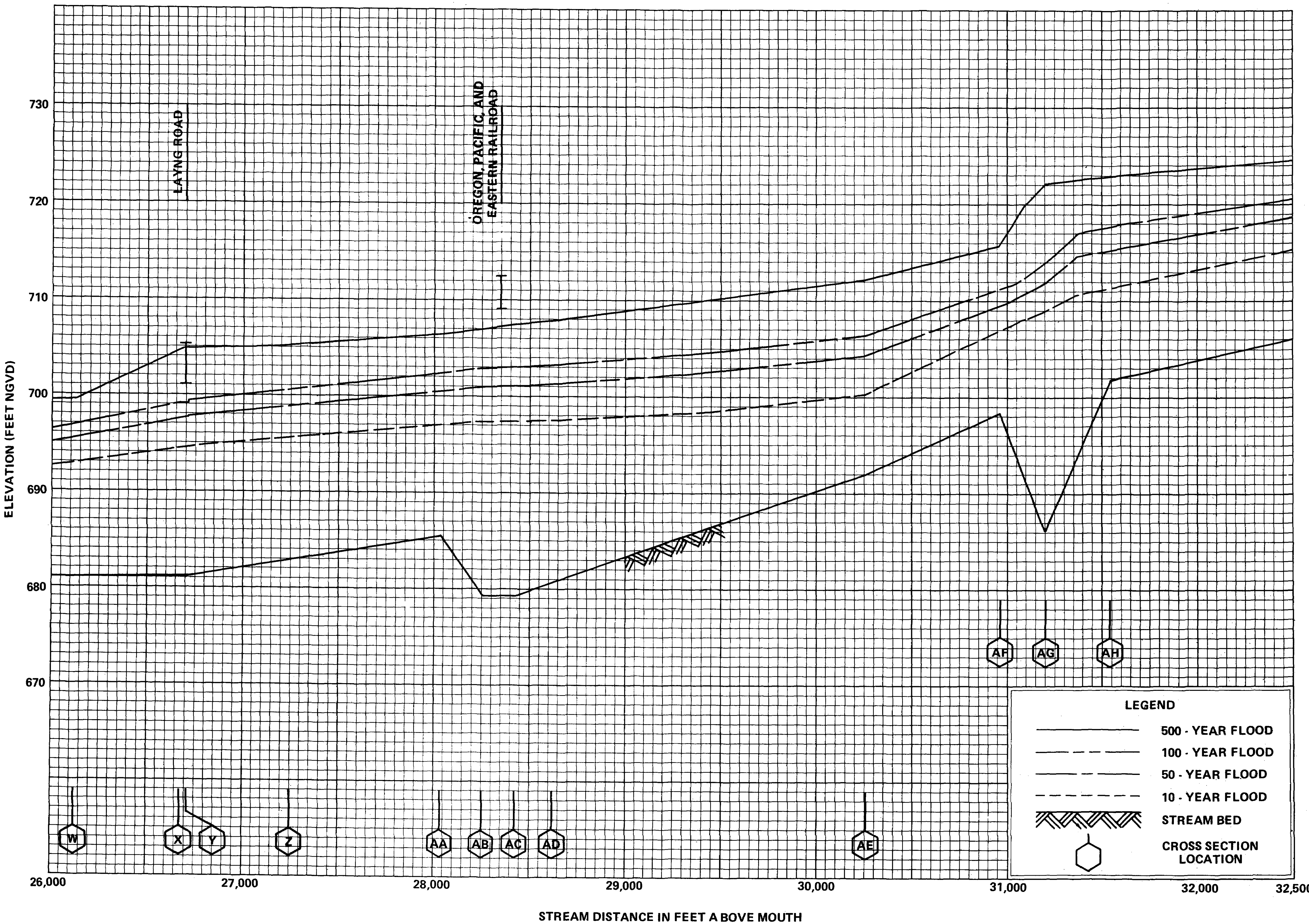


FLOOD PROFILES

ROW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



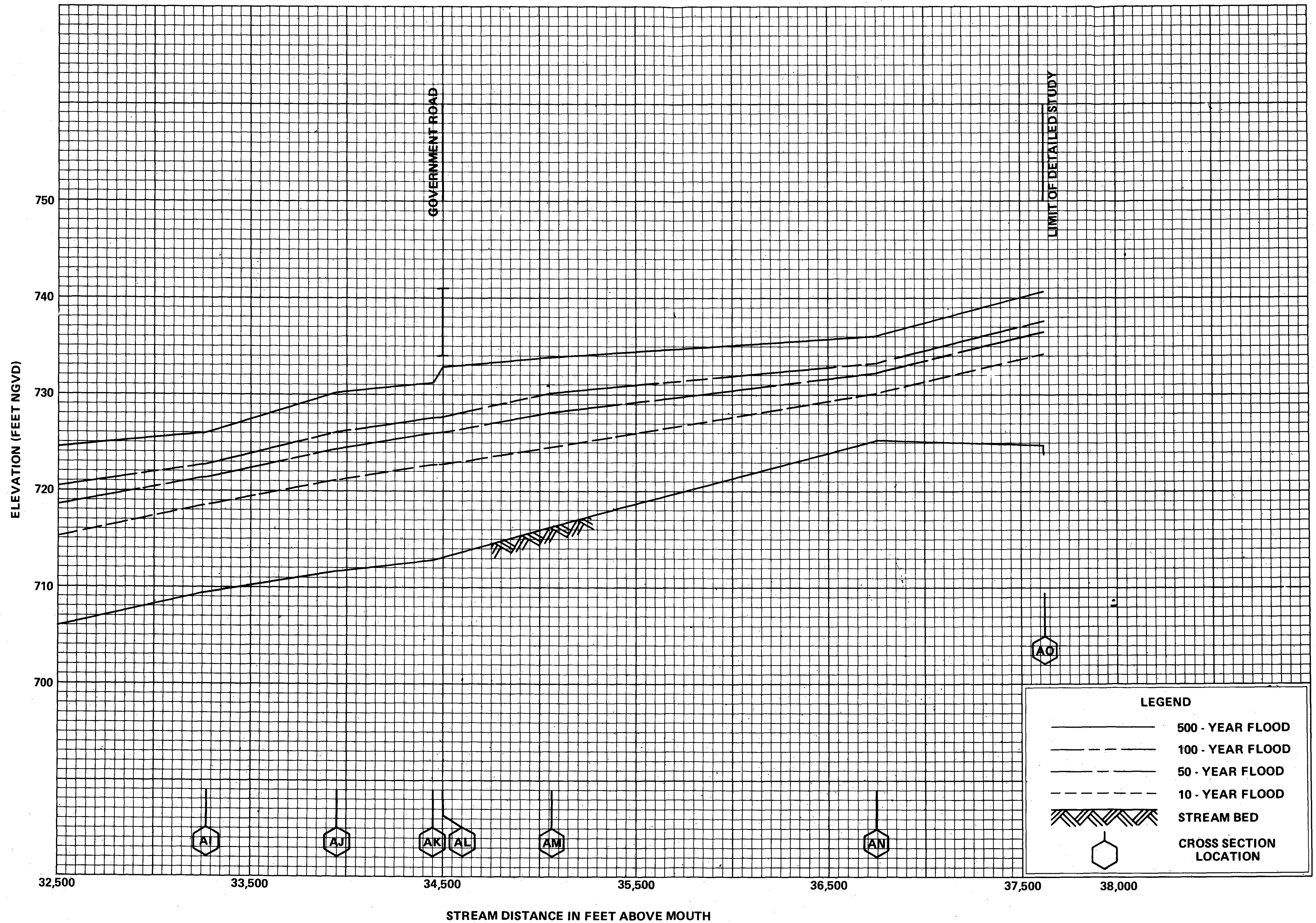
FLOOD PROFILES

ROW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

163P



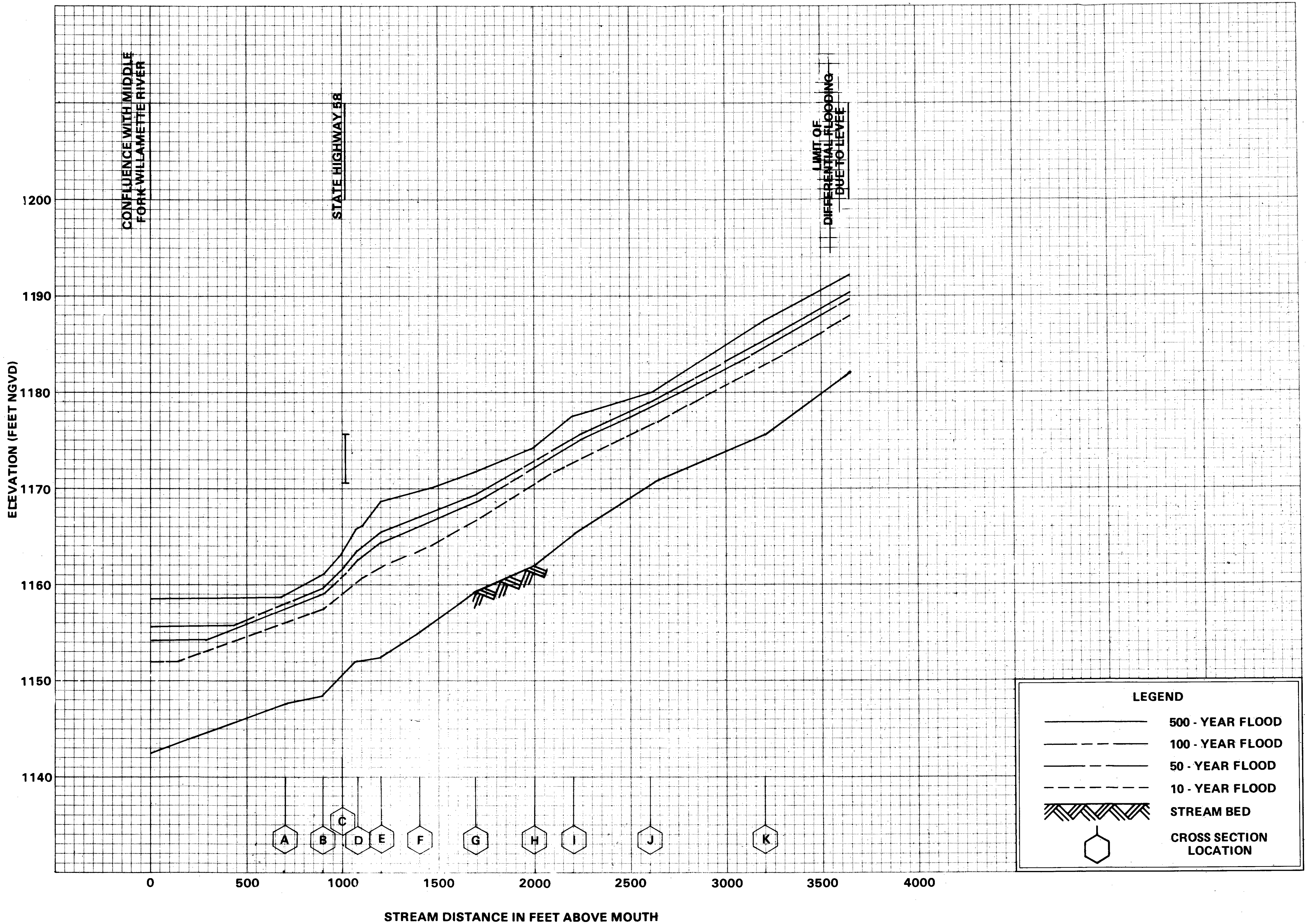
FLOOD PROFILES

ROW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

164P



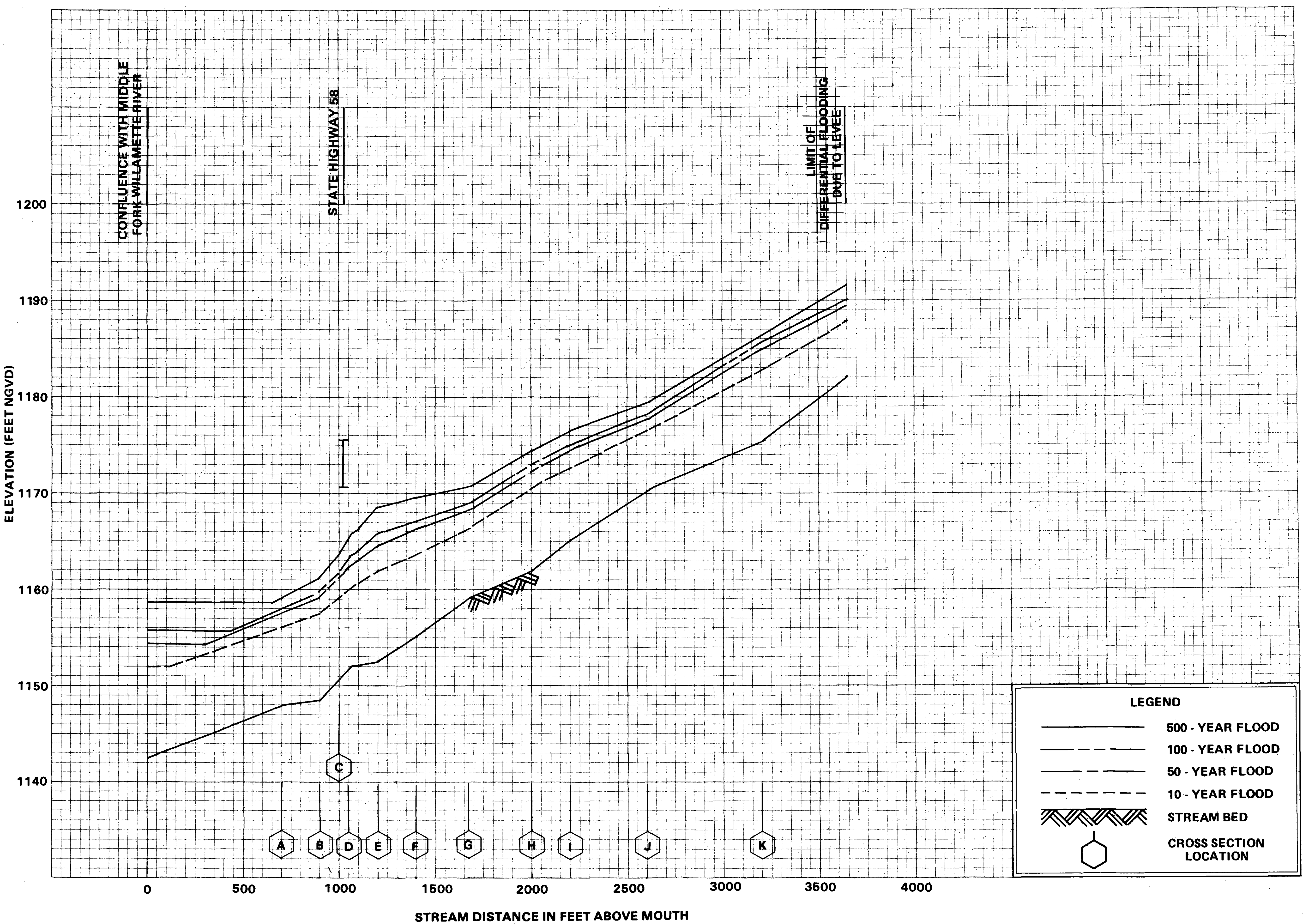
FLOOD PROFILES

SALMON CREEK (WITH LEVEE)

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

165P



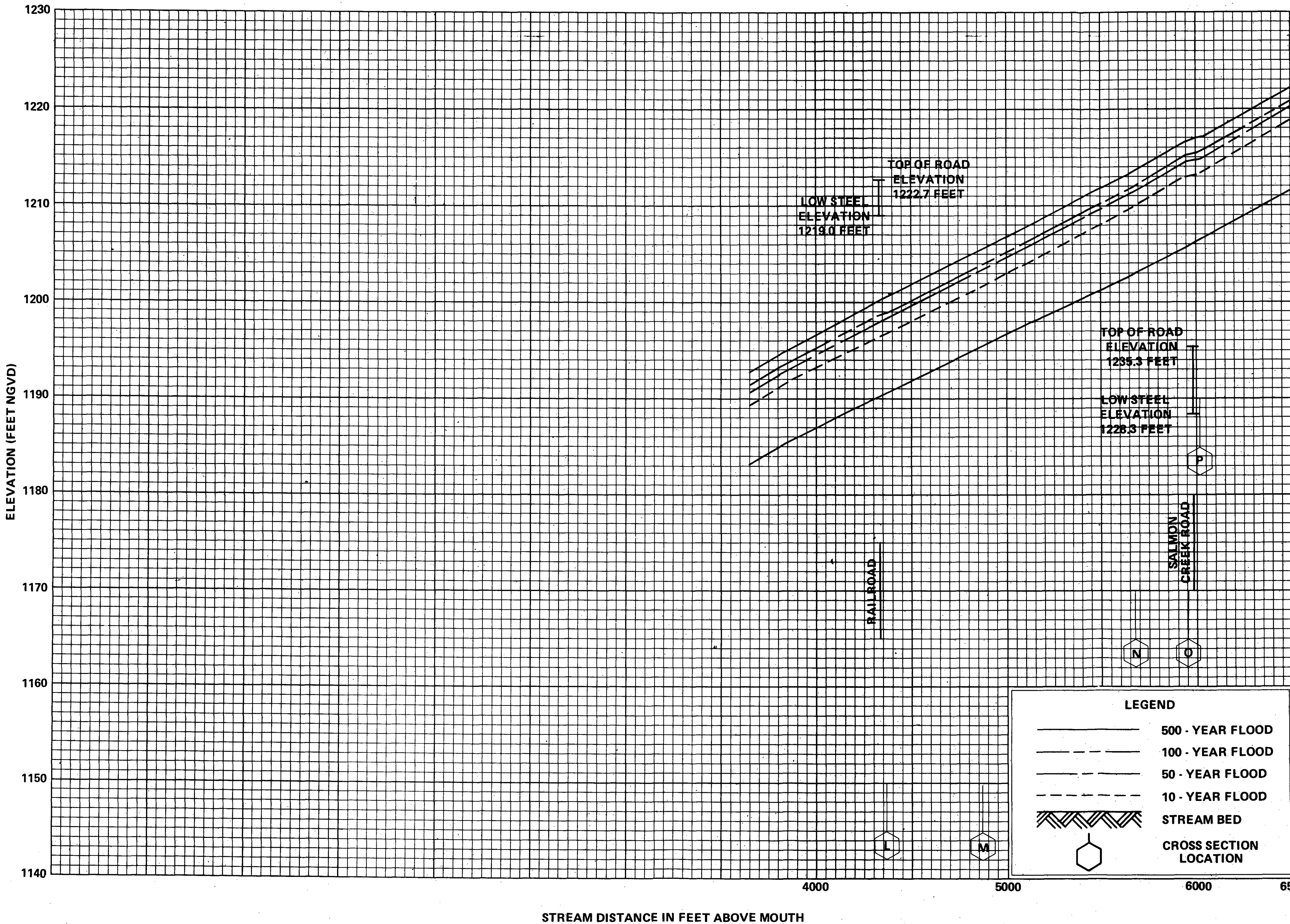
FLOOD PROFILES

SALMON CREEK(WITHOUT CONSIDERATION OF LEVEE)

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

166P

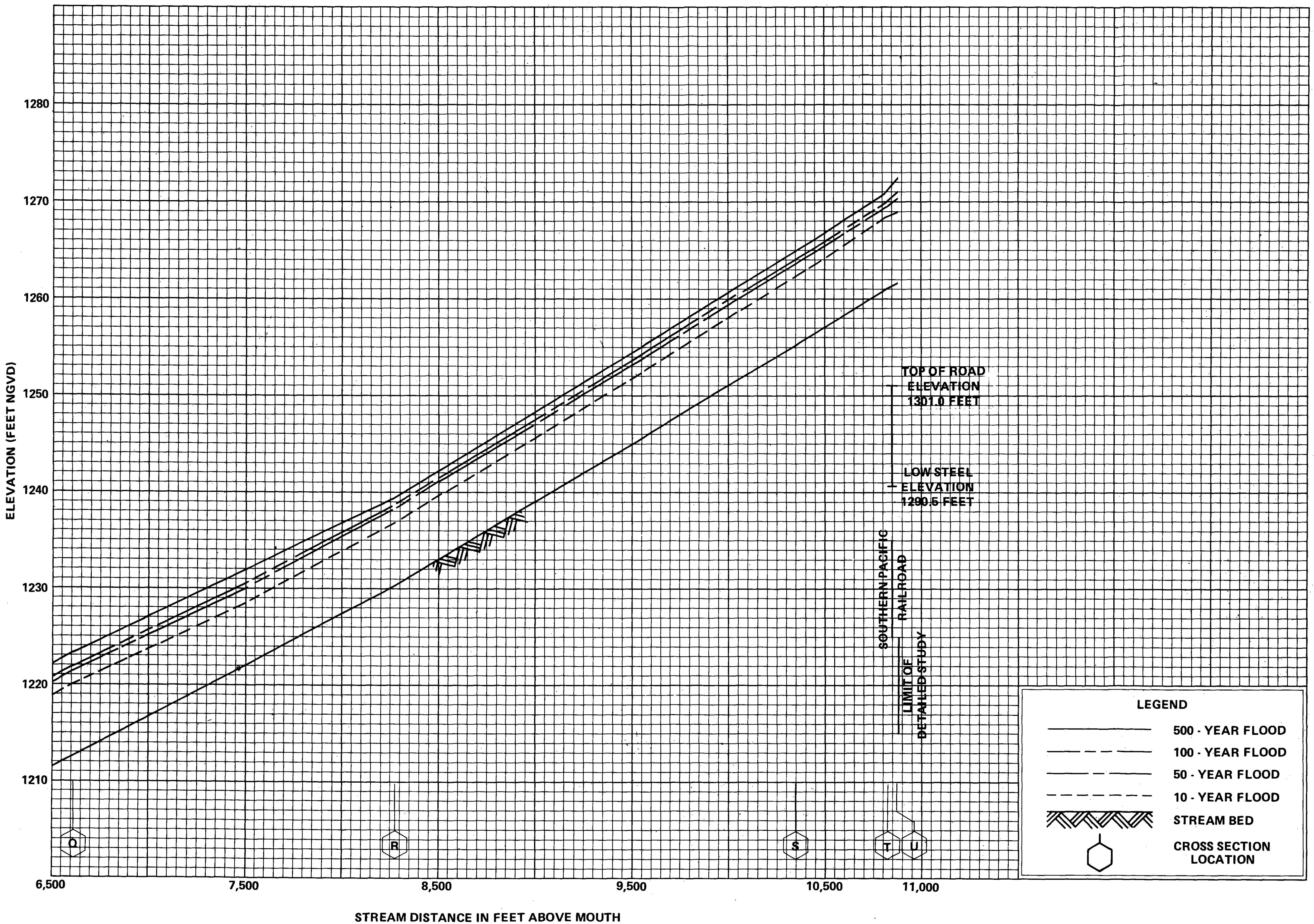


FLOOD PROFILES

SALMON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



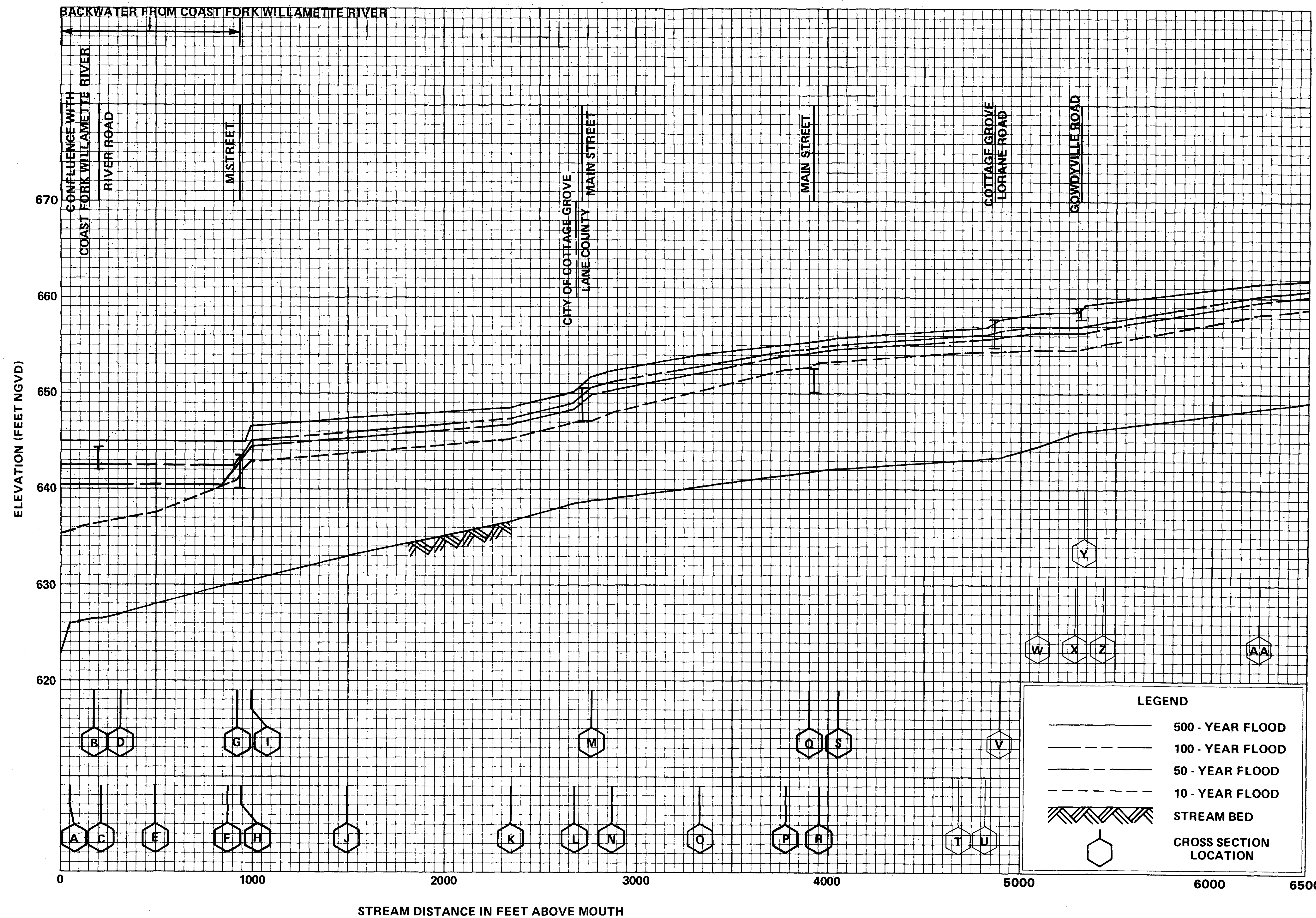
FLOOD PROFILES

SALMON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

168P

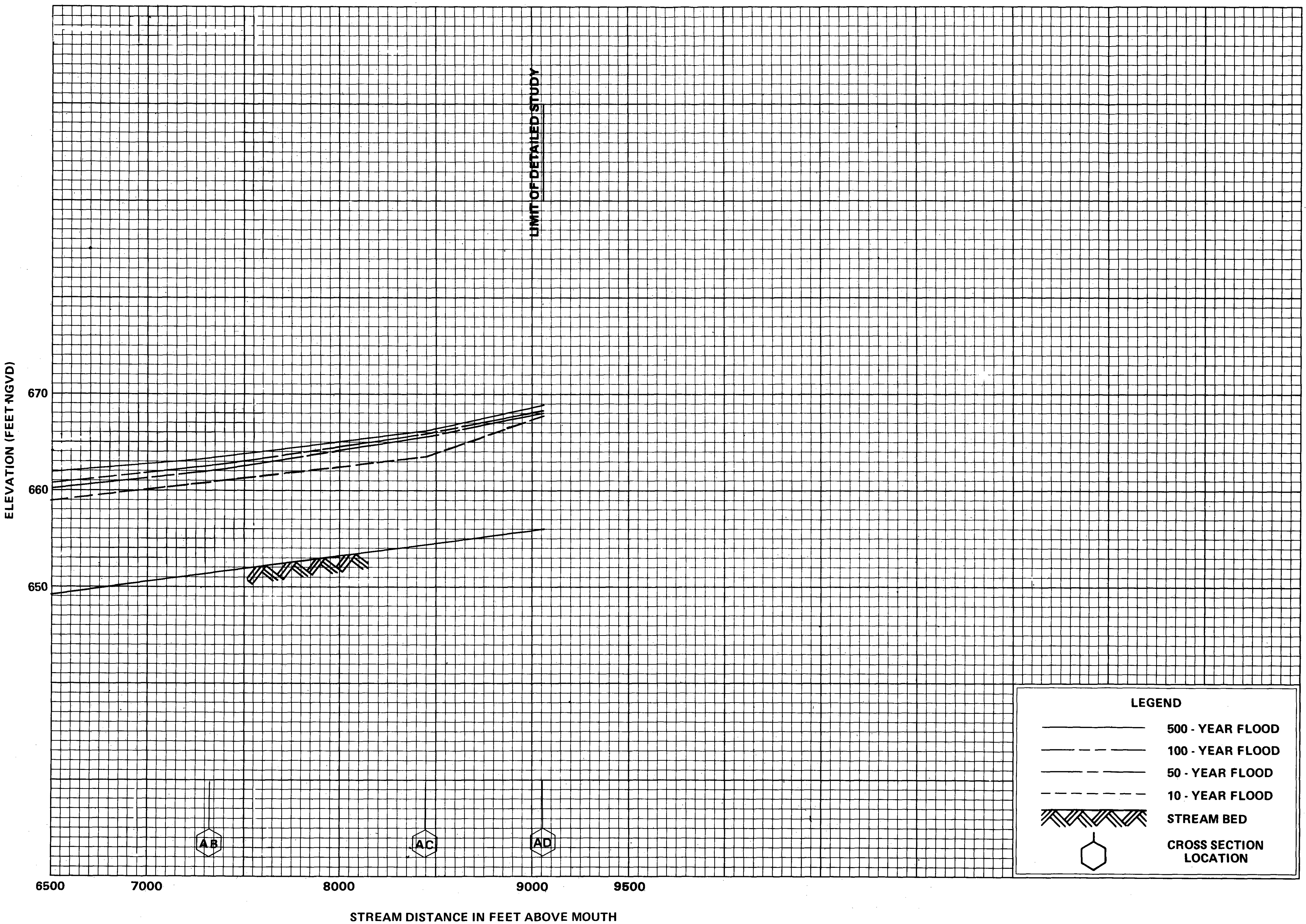


FLOOD PROFILES

SILK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



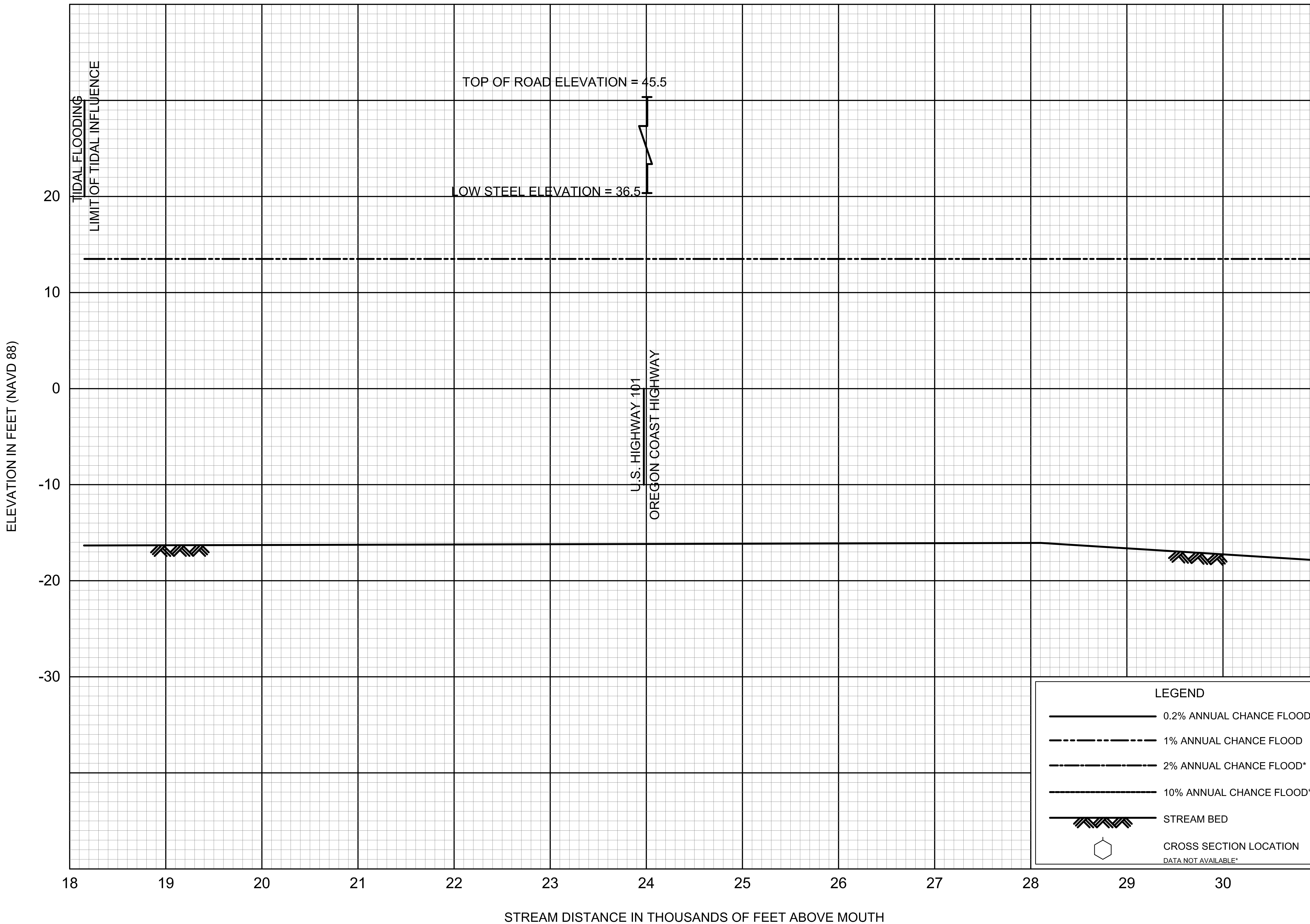
FLOOD PROFILES

SILK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

170P



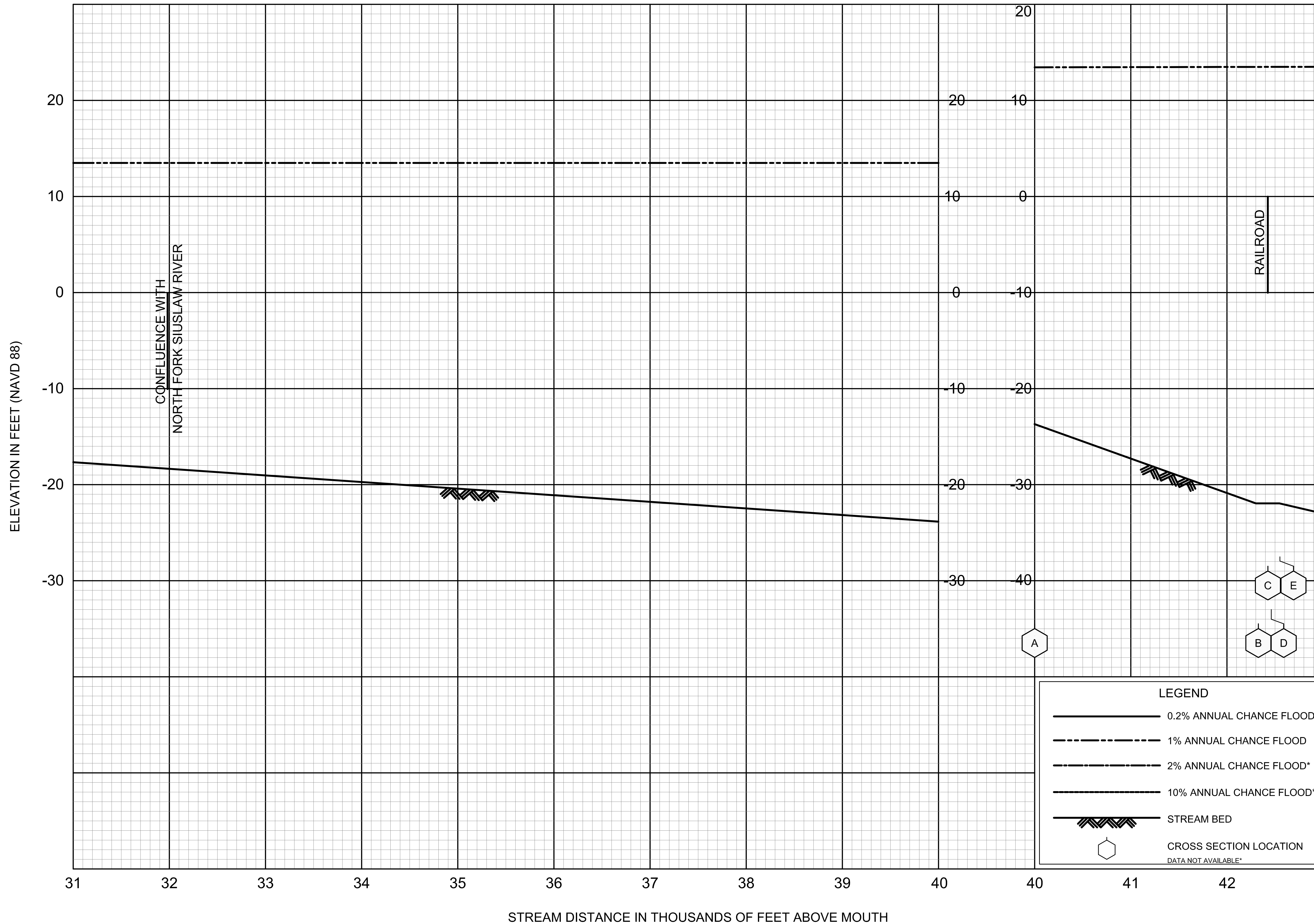
FLOOD PROFILES

SIUSLAW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS



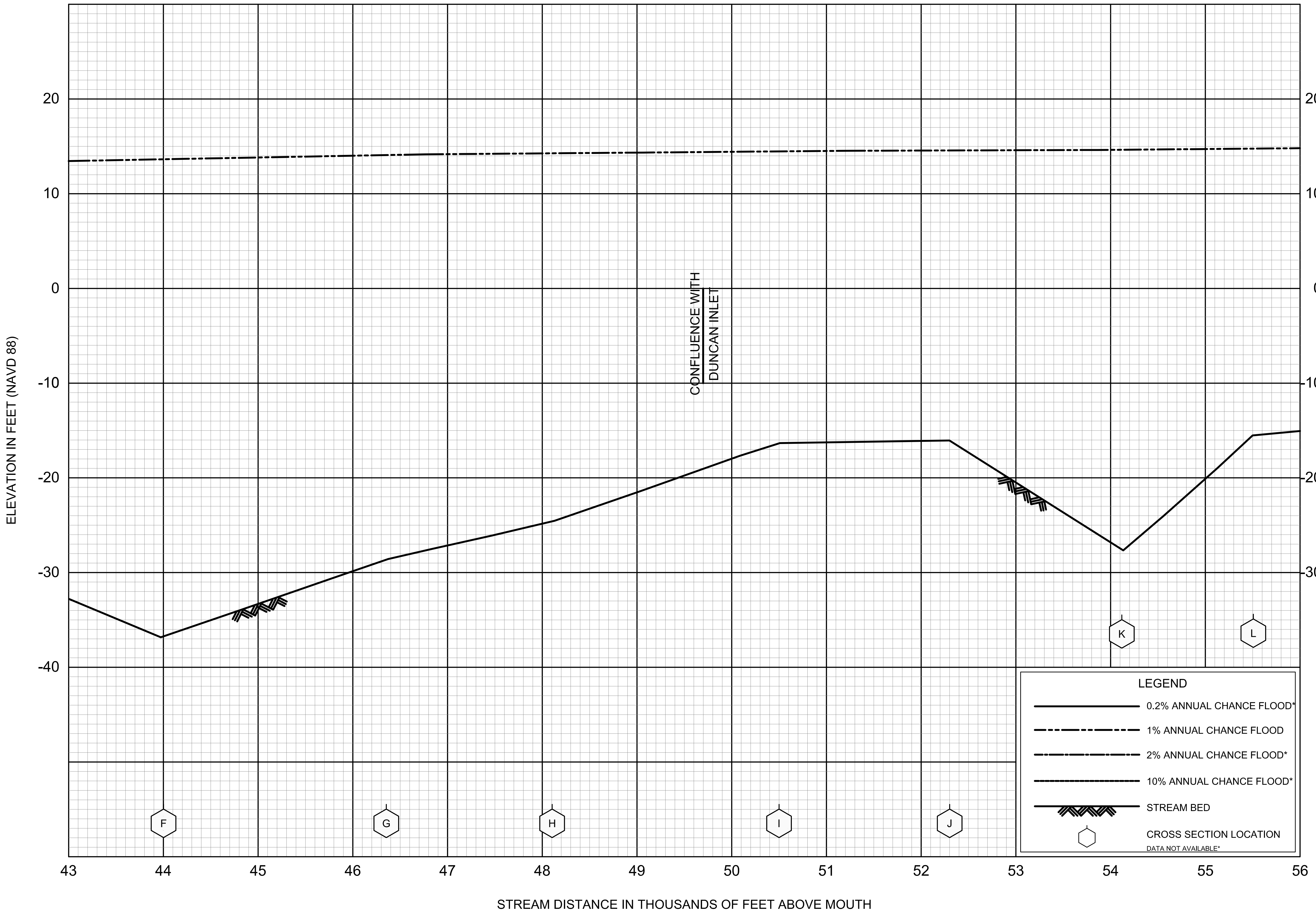
FLOOD PROFILES

SIUSLAW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS



FLOOD PROFILES

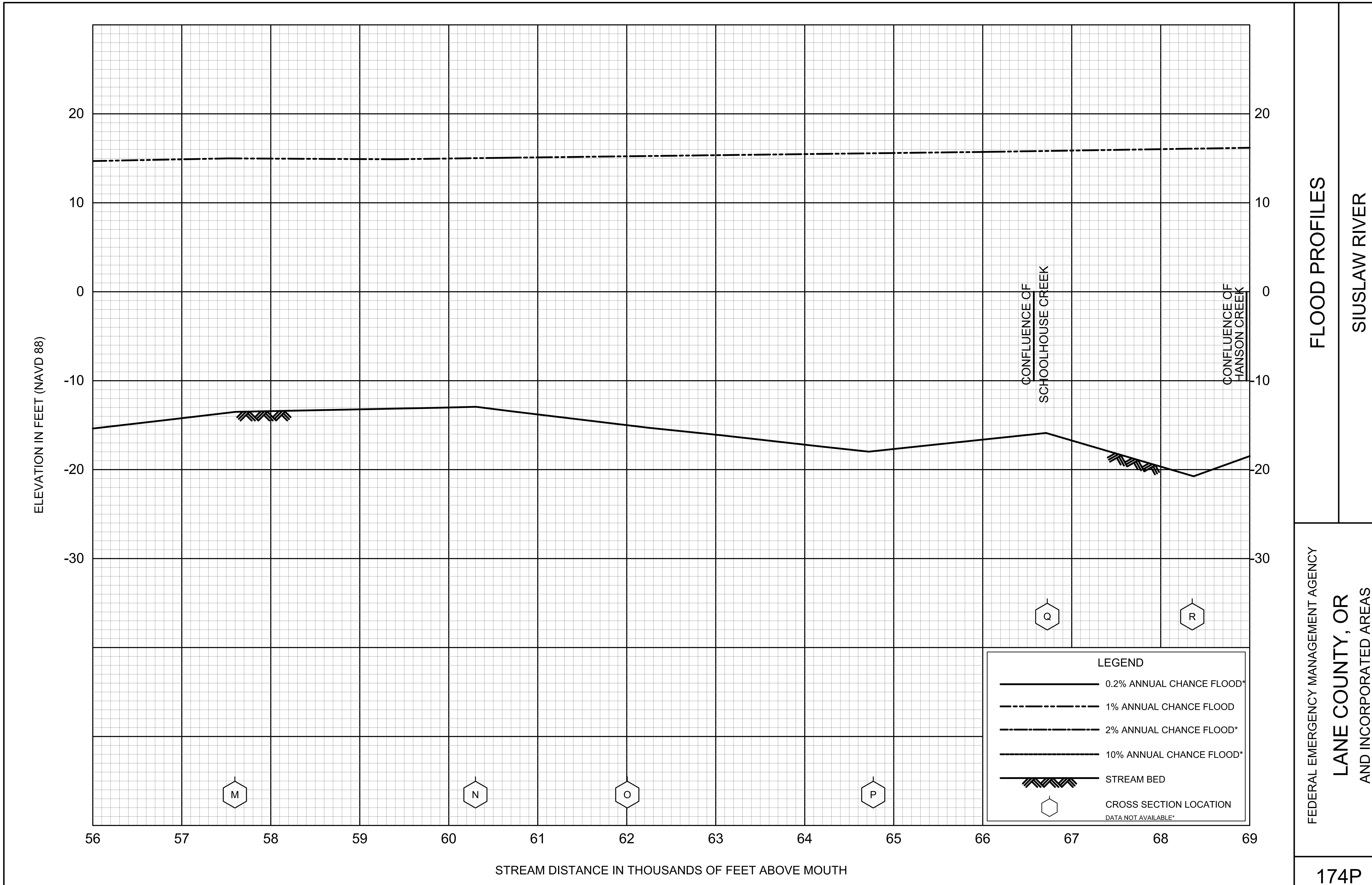
SIUSLAW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

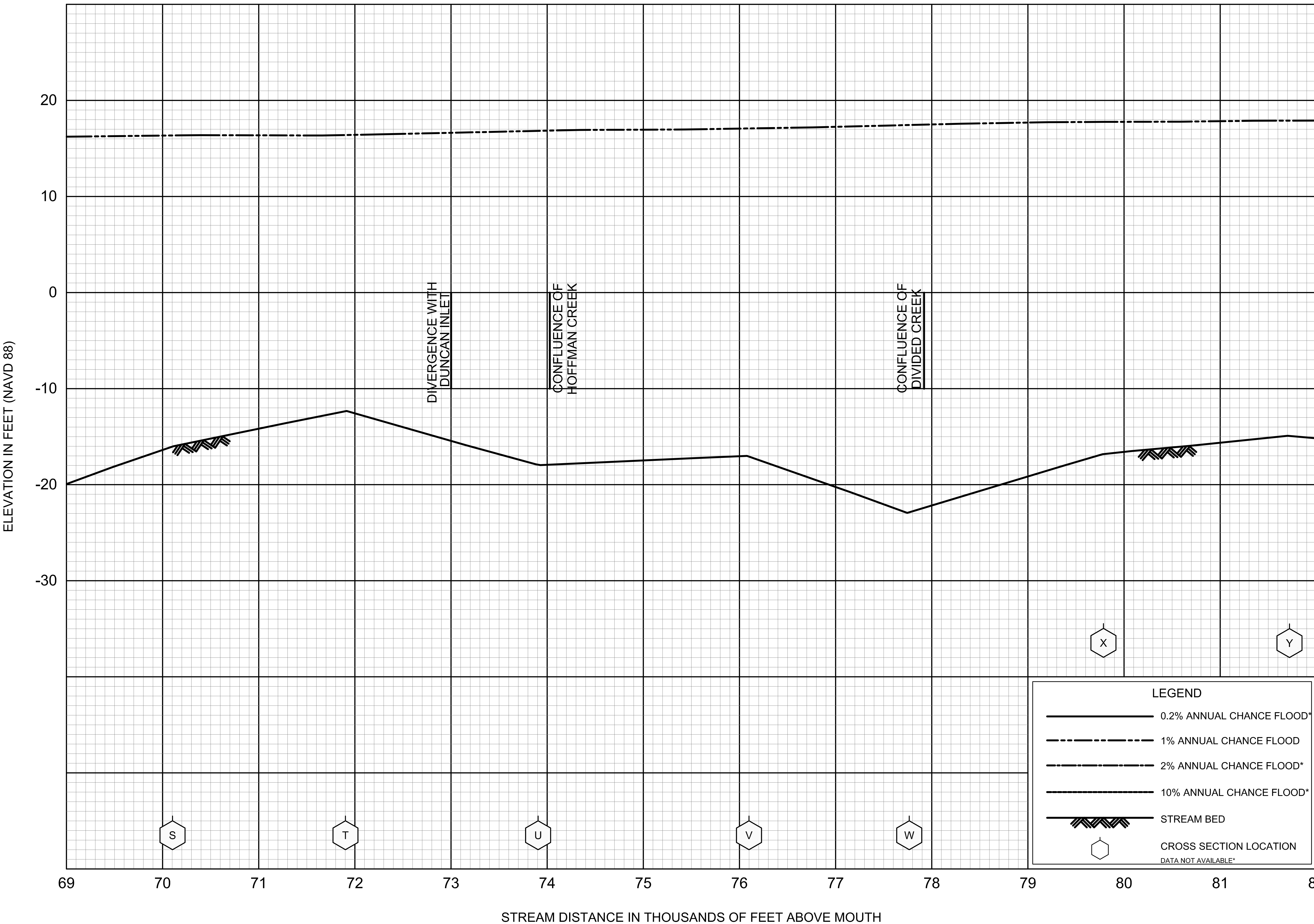
LANE COUNTY, OR

AND INCORPORATED AREAS

173P



FLOOD PROFILES
SIUSLAW RIVER
FEDERAL EMERGENCY MANAGEMENT AGENCY
LANE COUNTY, OR
AND INCORPORATED AREAS
174P
ELEVATION IN FEET (NAVD 88)
STREAM DISTANCE IN THOUSANDS OF FEET ABOVE MOUTH
CONFLUENCE OF SCHOOLHOUSE CREEK
CONFLUENCE OF HANSON CREEK
LEGEND
0.2% ANNUAL CHANCE FLOOD*
1% ANNUAL CHANCE FLOOD
2% ANNUAL CHANCE FLOOD*
10% ANNUAL CHANCE FLOOD*
STREAM BED
CROSS SECTION LOCATION
DATA NOT AVAILABLE*
M
N
O
P
Q
R
20
10
0
-10
-20
-30
56
57
58
59
60
61
62
63
64
65
66
67
68
69

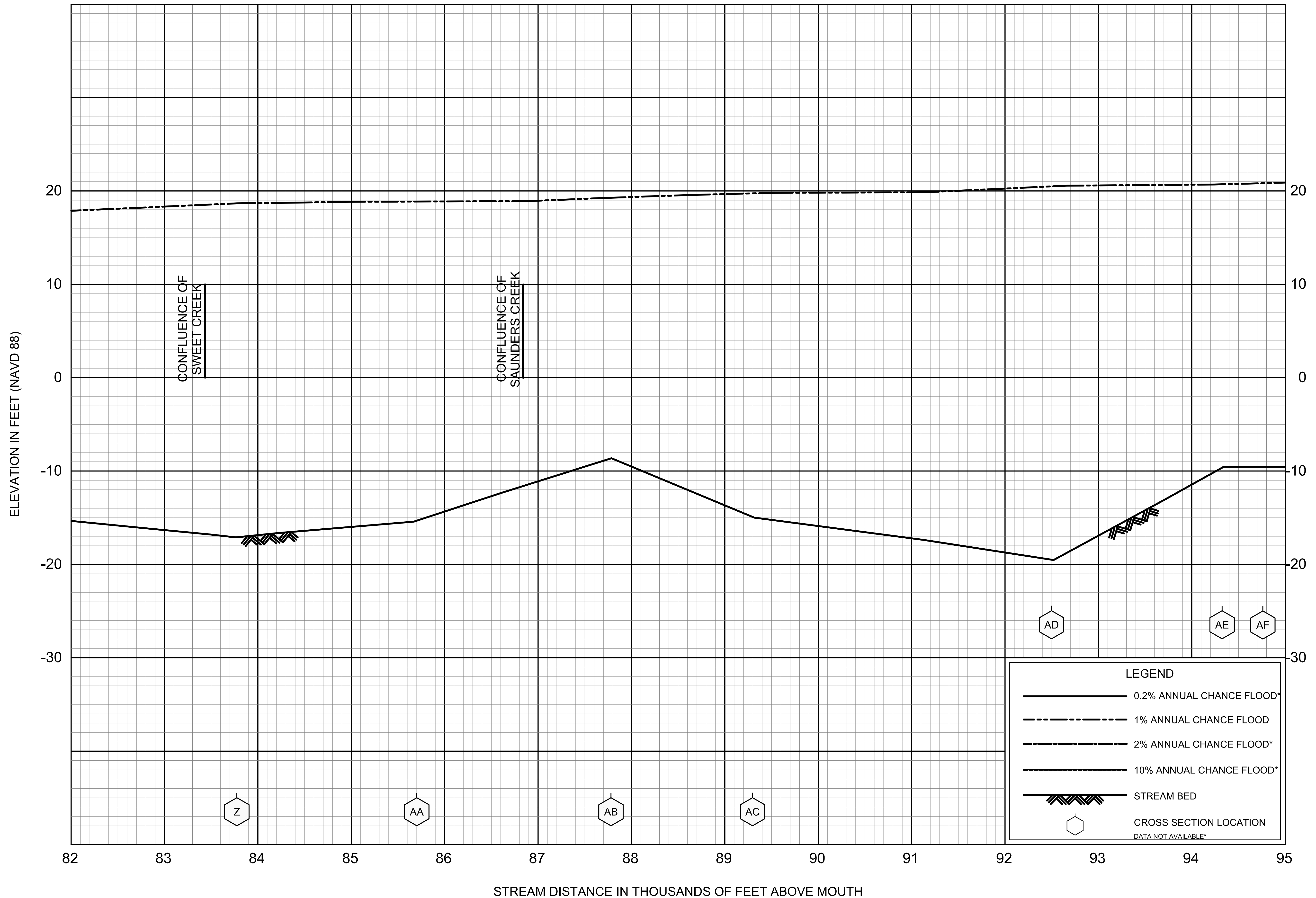


FLOOD PROFILES

SIUSLAW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



FLOOD PROFILES

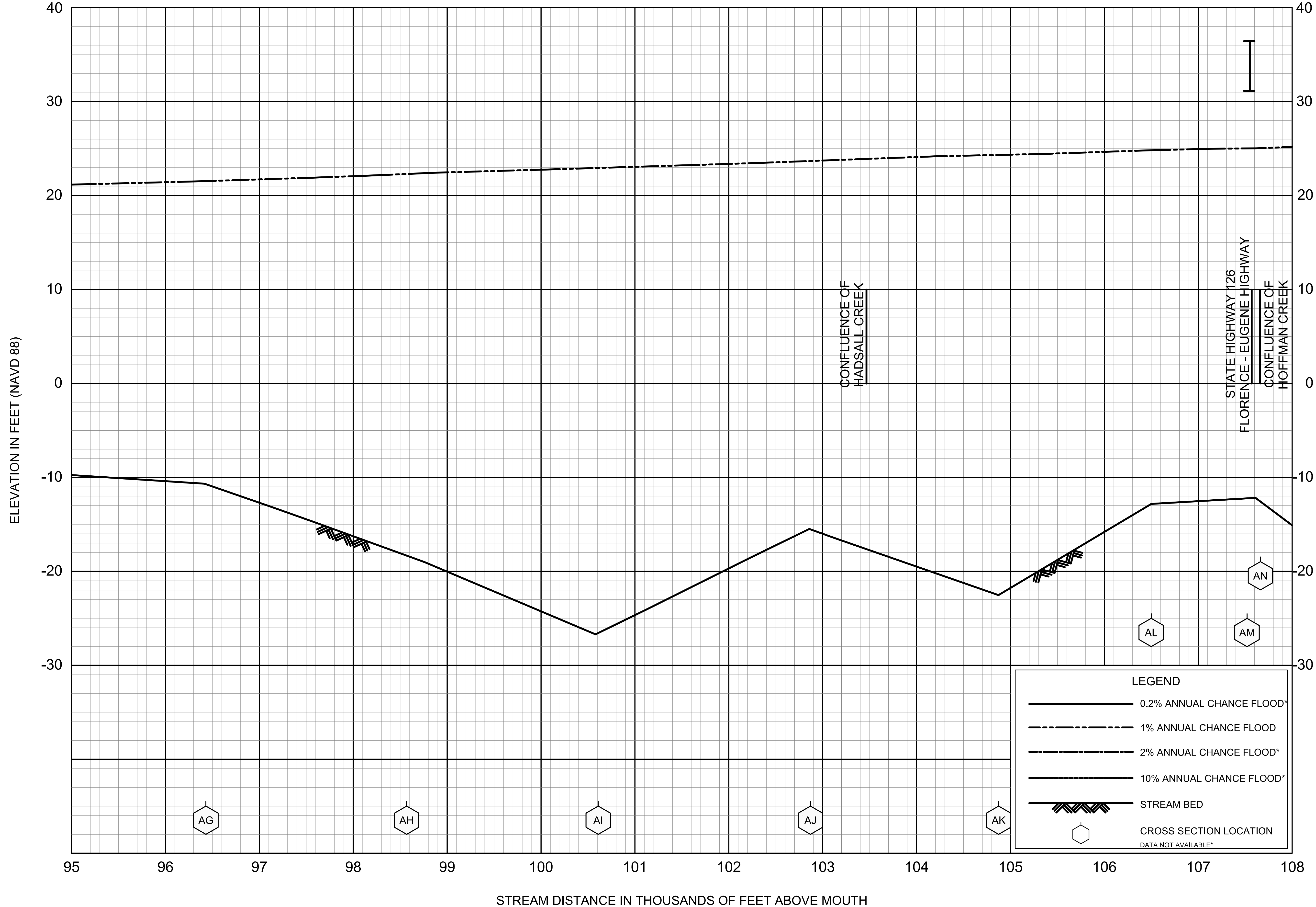
SIUSLAW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS

176P



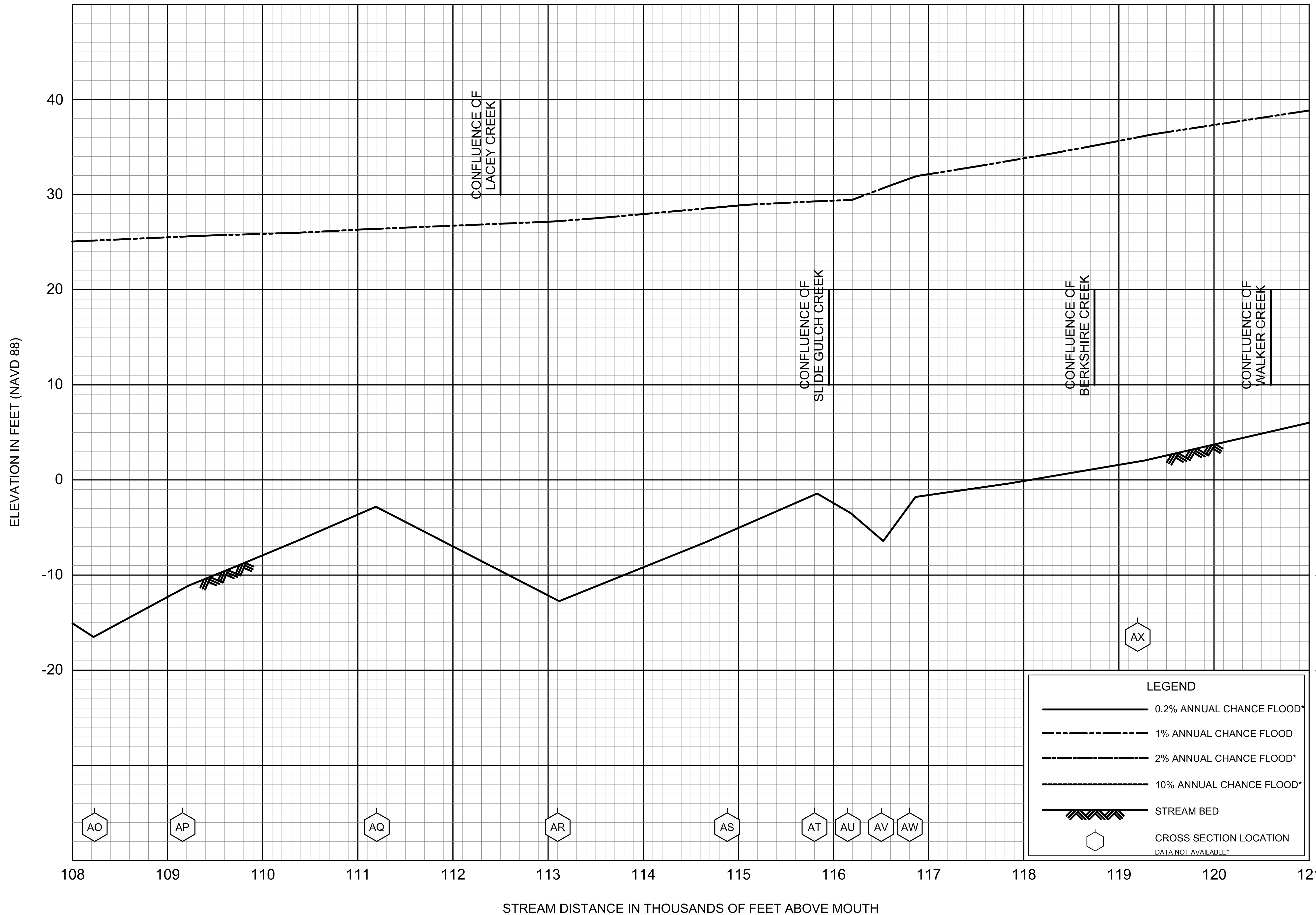
FLOOD PROFILES

SIUSLAW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS



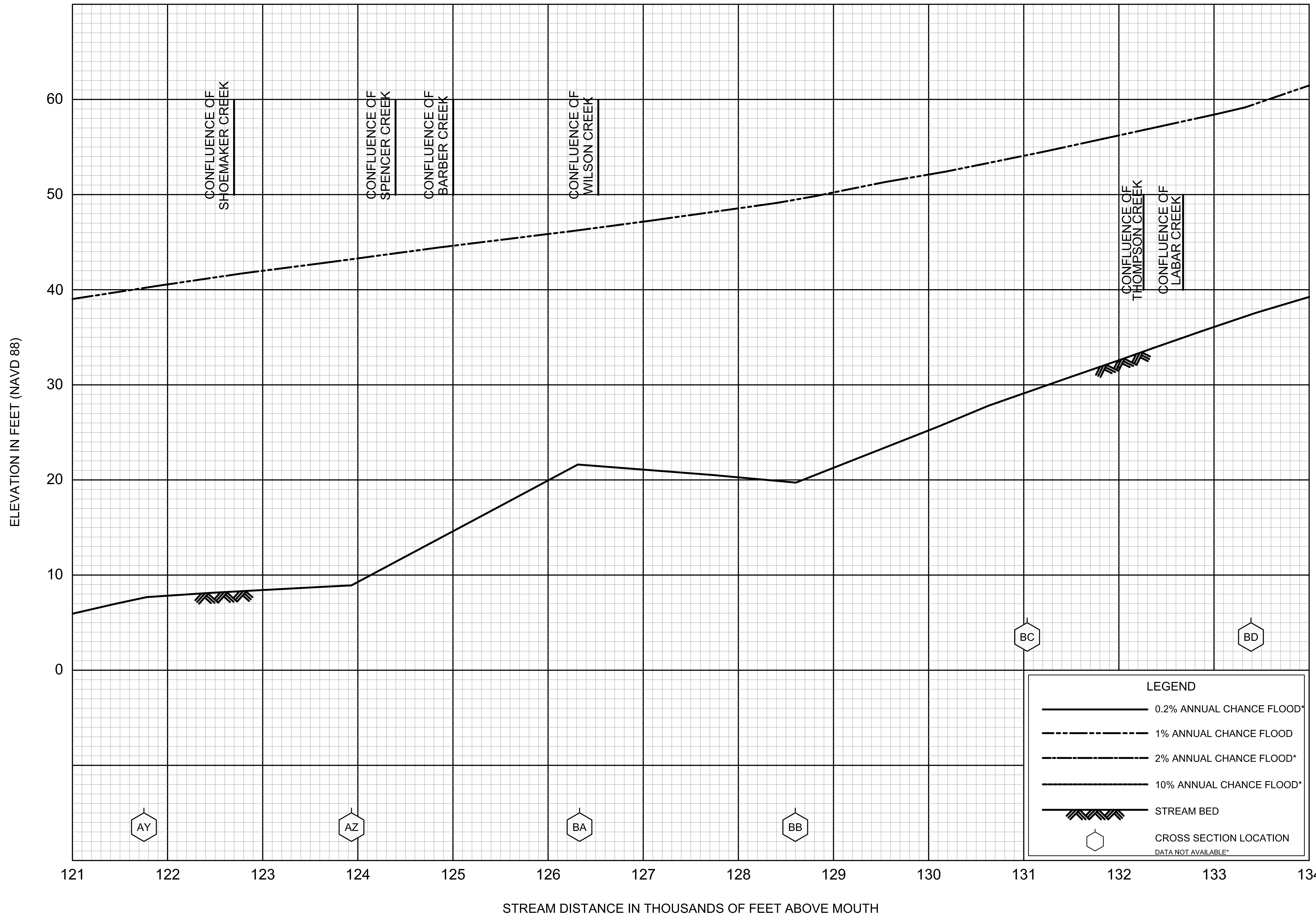
FLOOD PROFILES

SIUSLAW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS



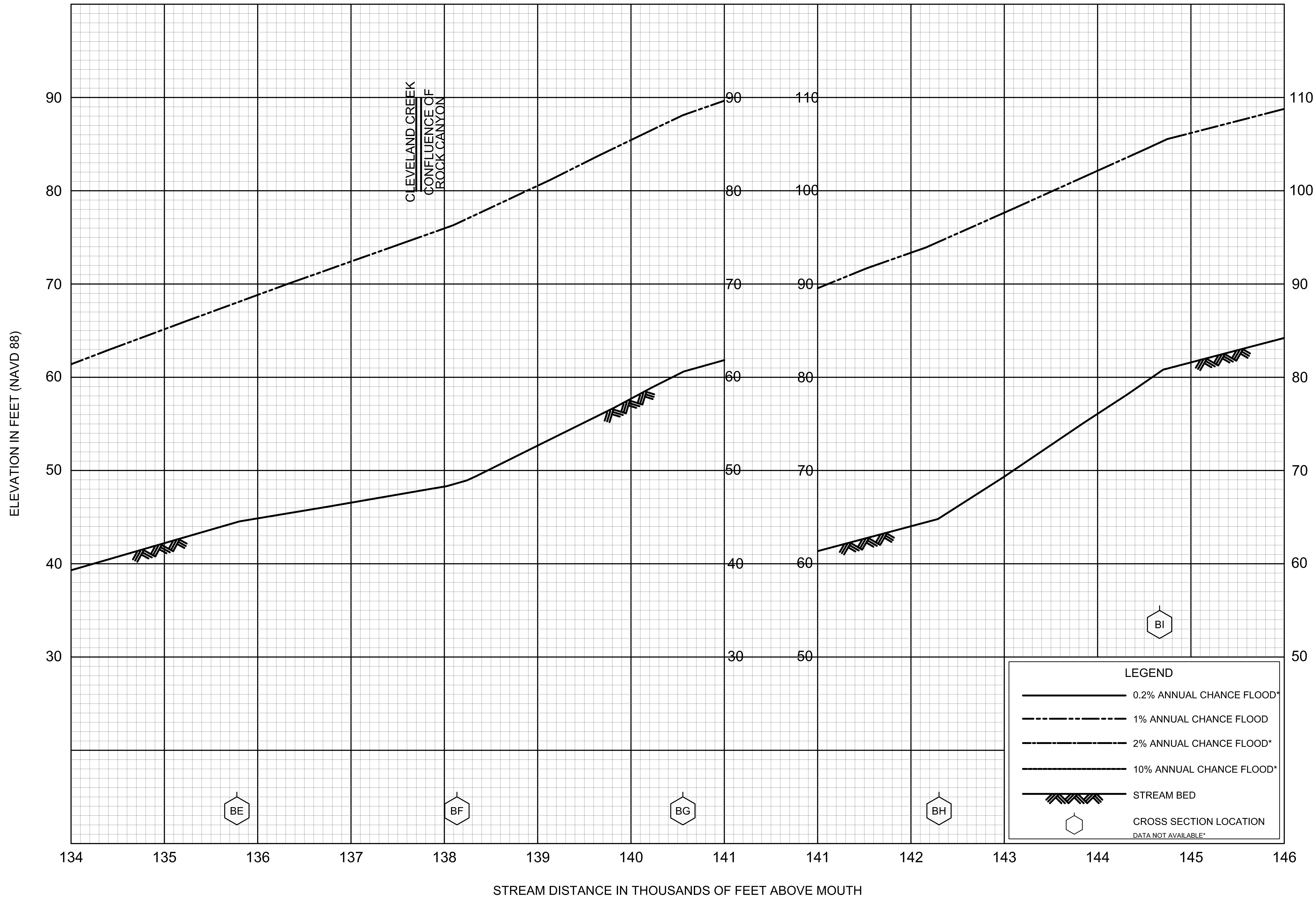
FLOOD PROFILES

SIUSLAW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS



FLOOD PROFILES

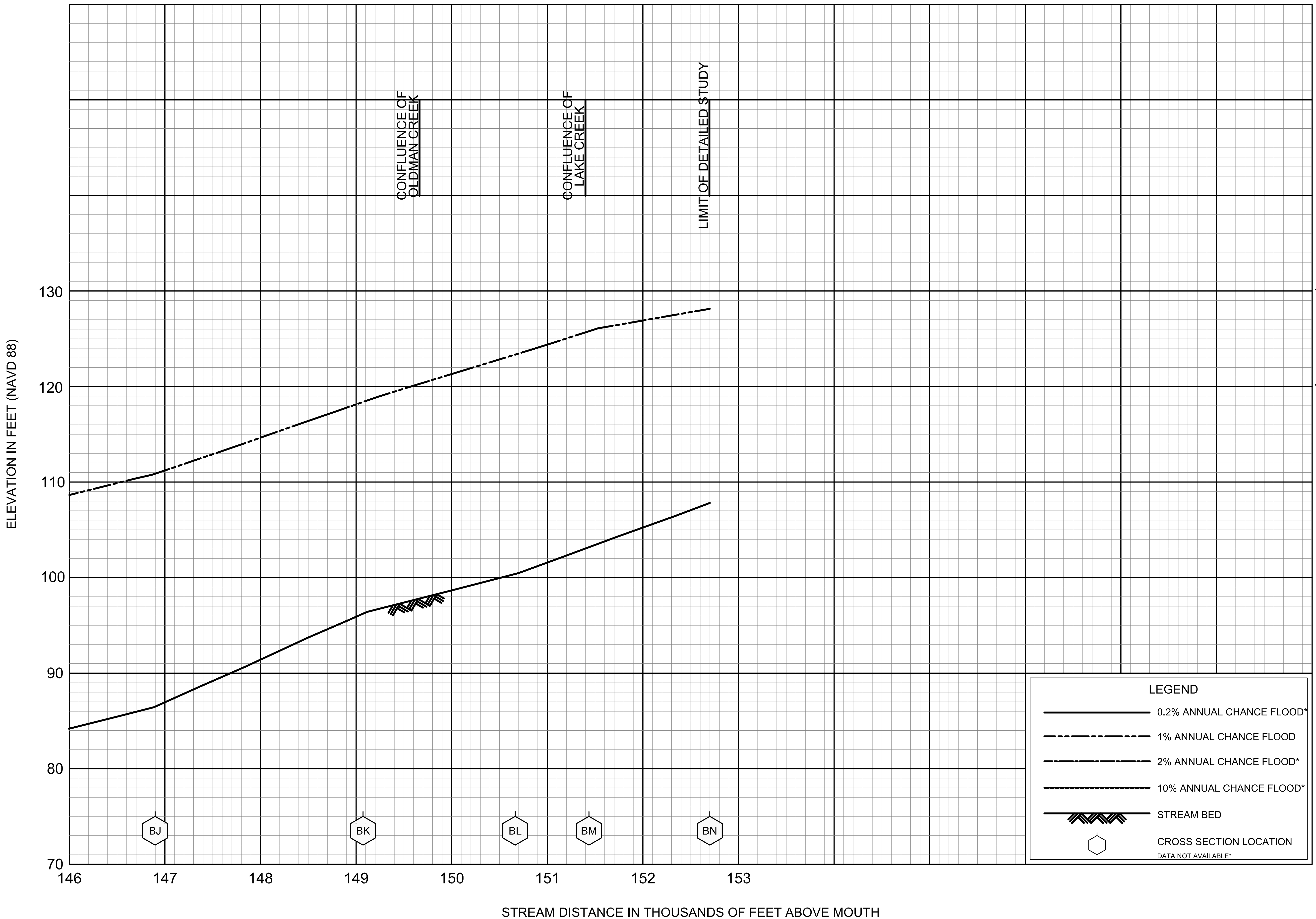
SIUSLAW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS

180P



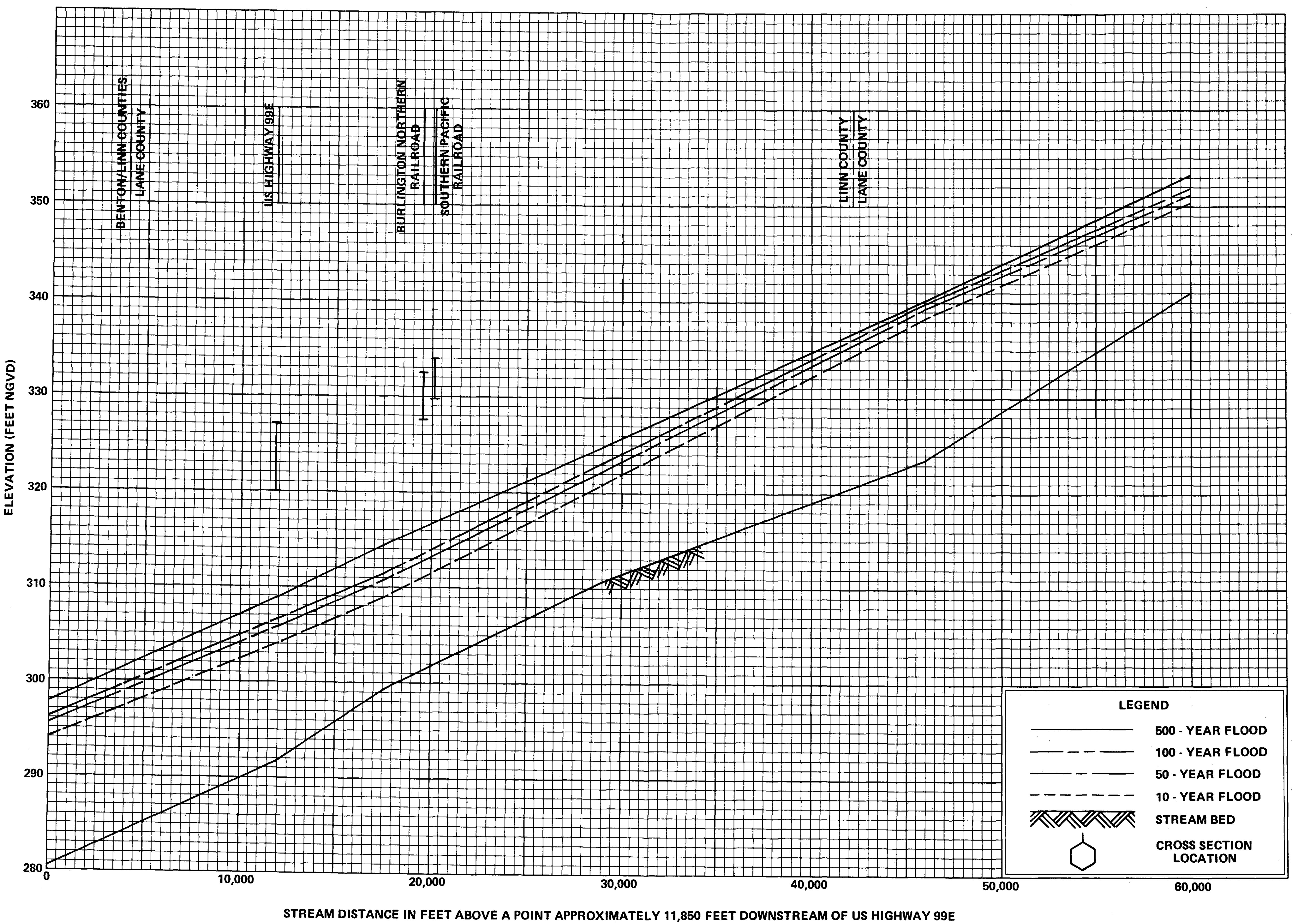
FLOOD PROFILES

SIUSLAW RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS



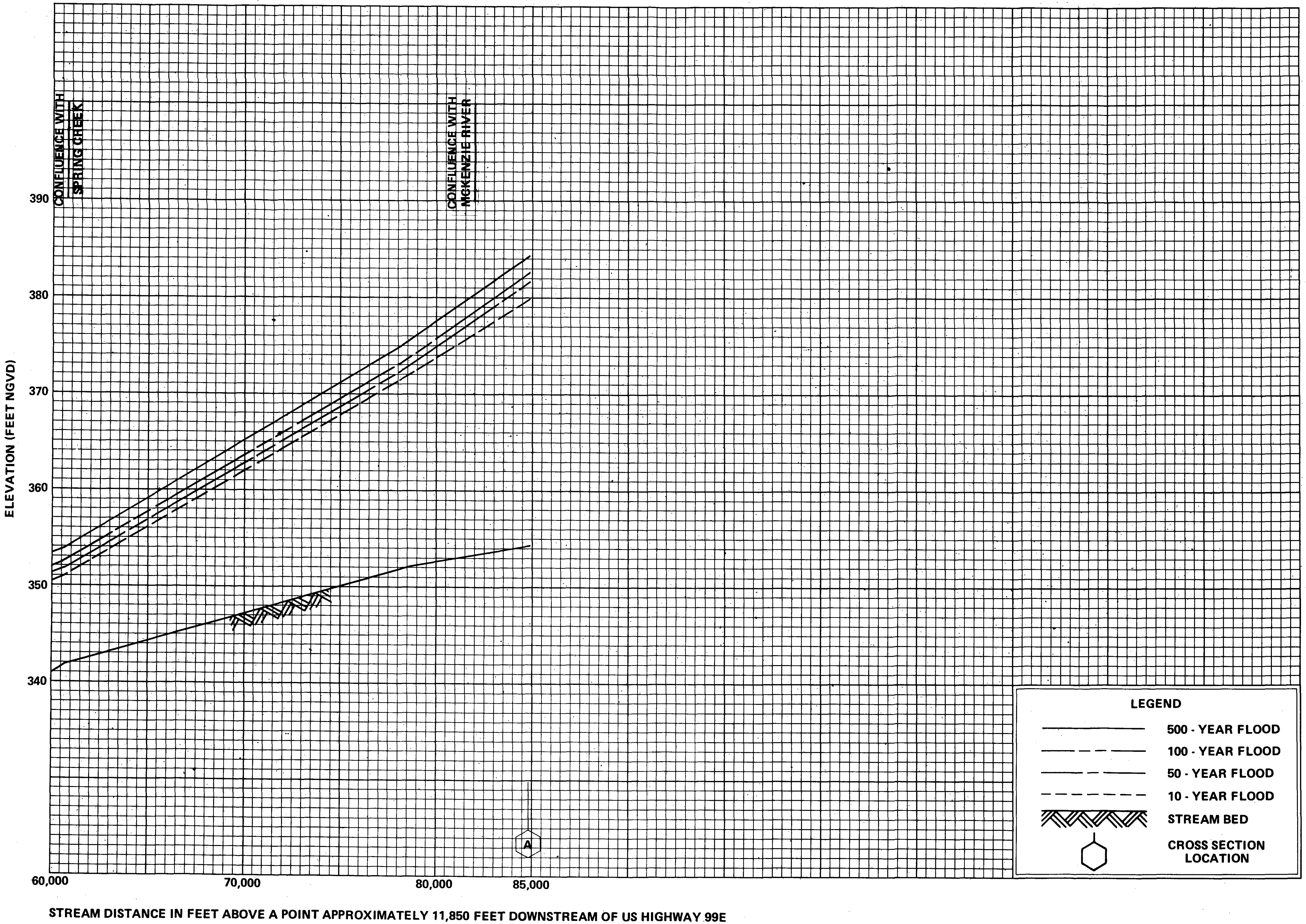
FLOOD PROFILES

WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

182P



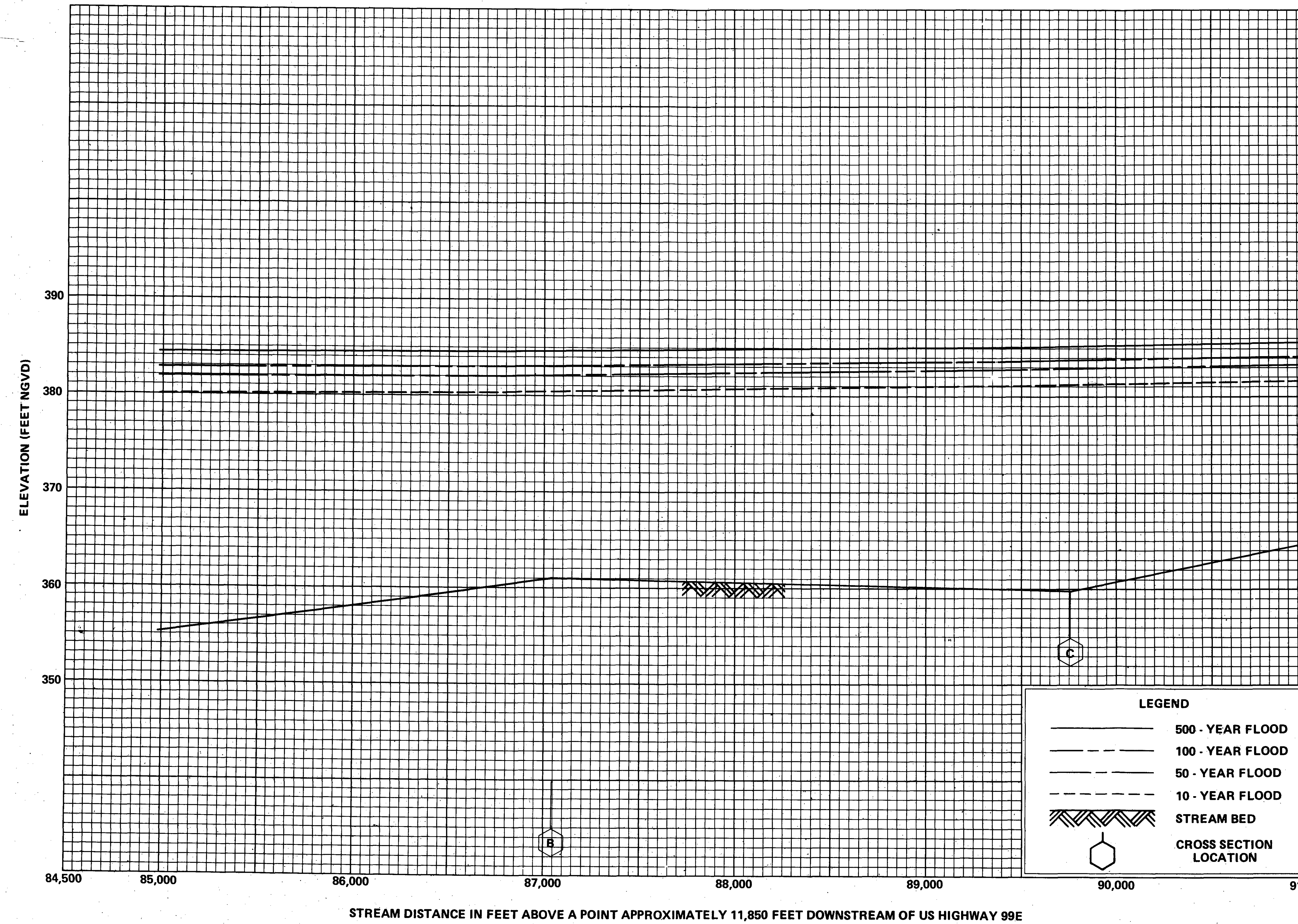
FLOOD PROFILES

WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

183P



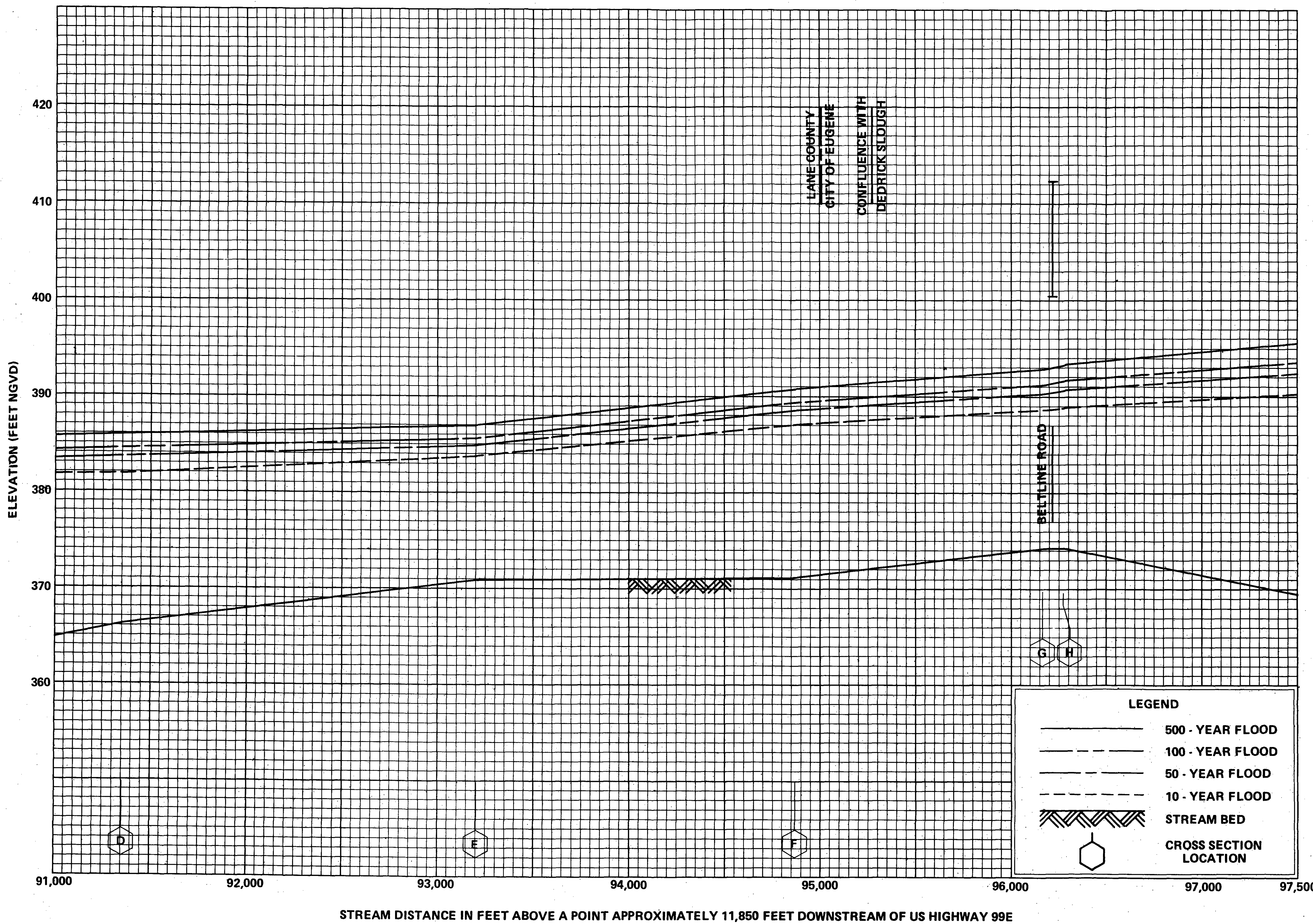
FLOOD PROFILES

WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

184P



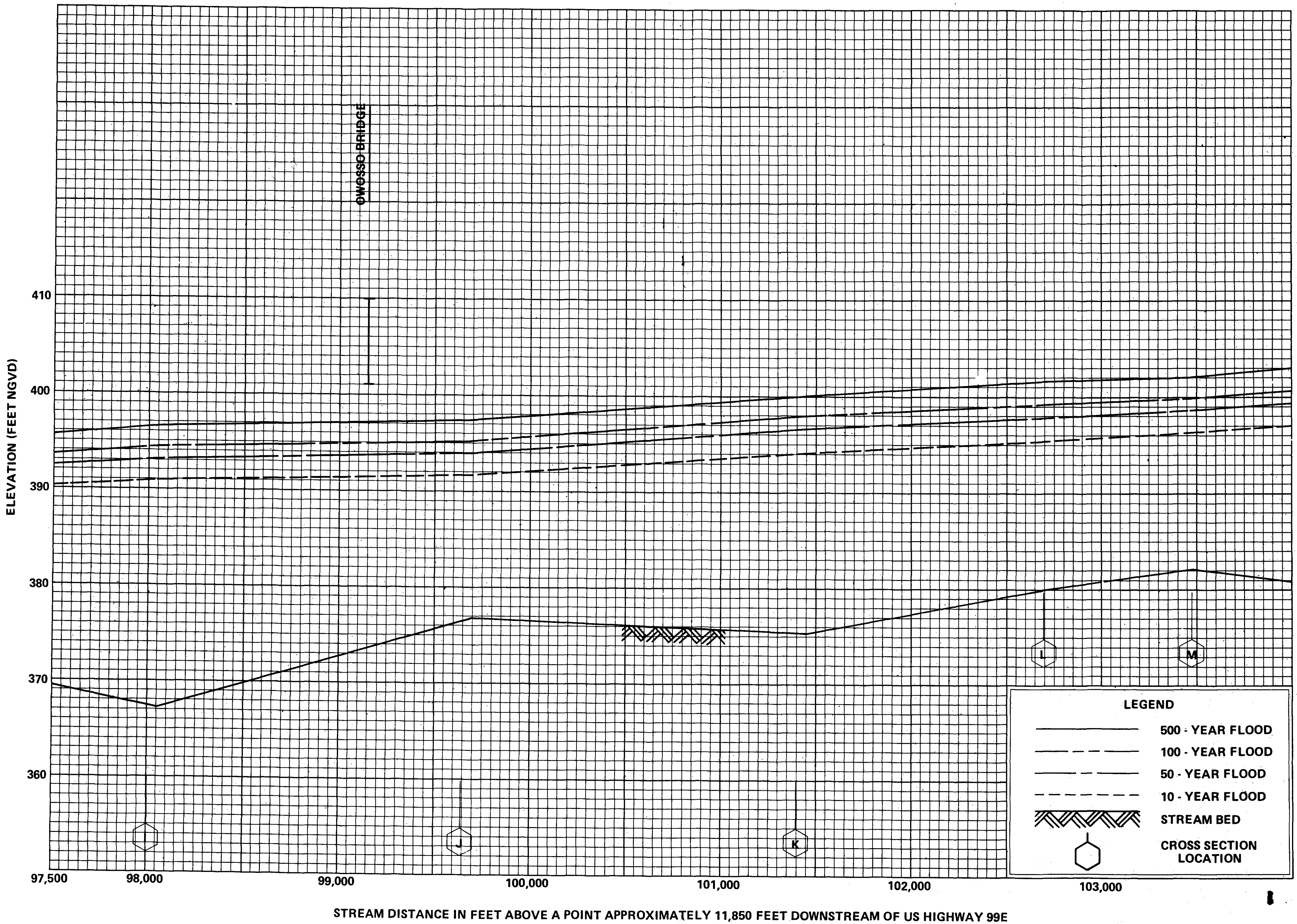
FLOOD PROFILES

WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR

AND INCORPORATED AREAS

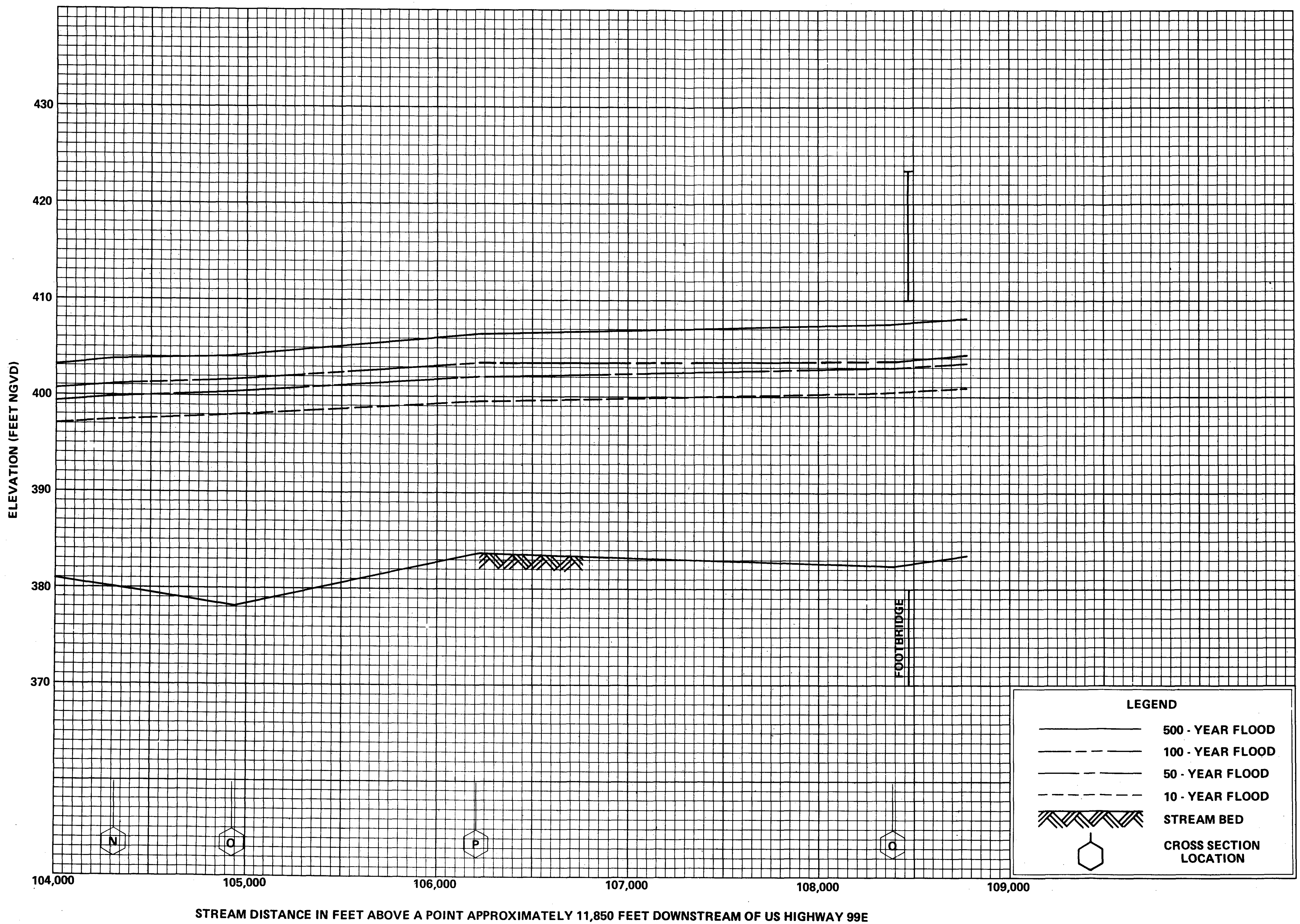


FLOOD PROFILES

WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

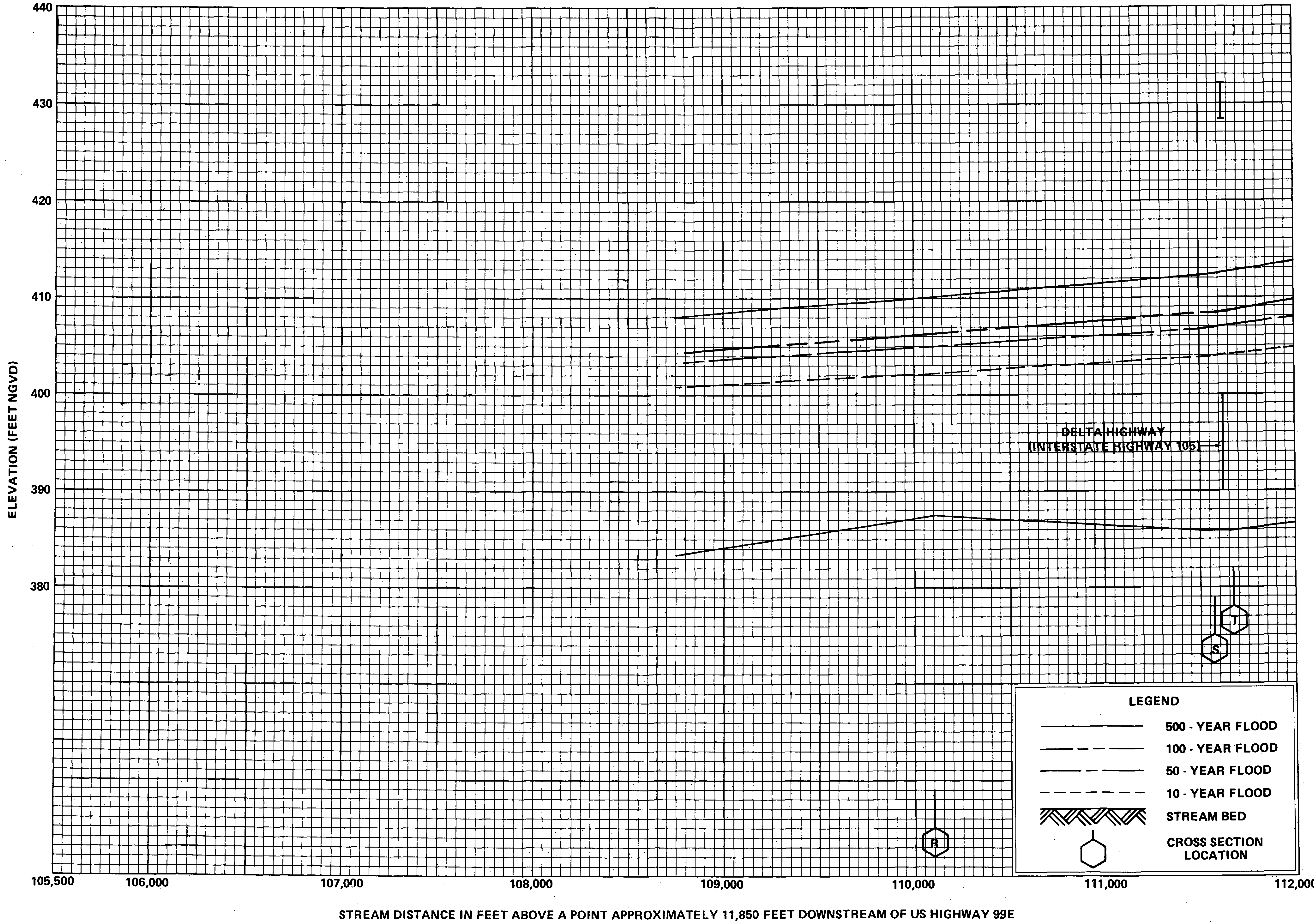


FLOOD PROFILES

WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS



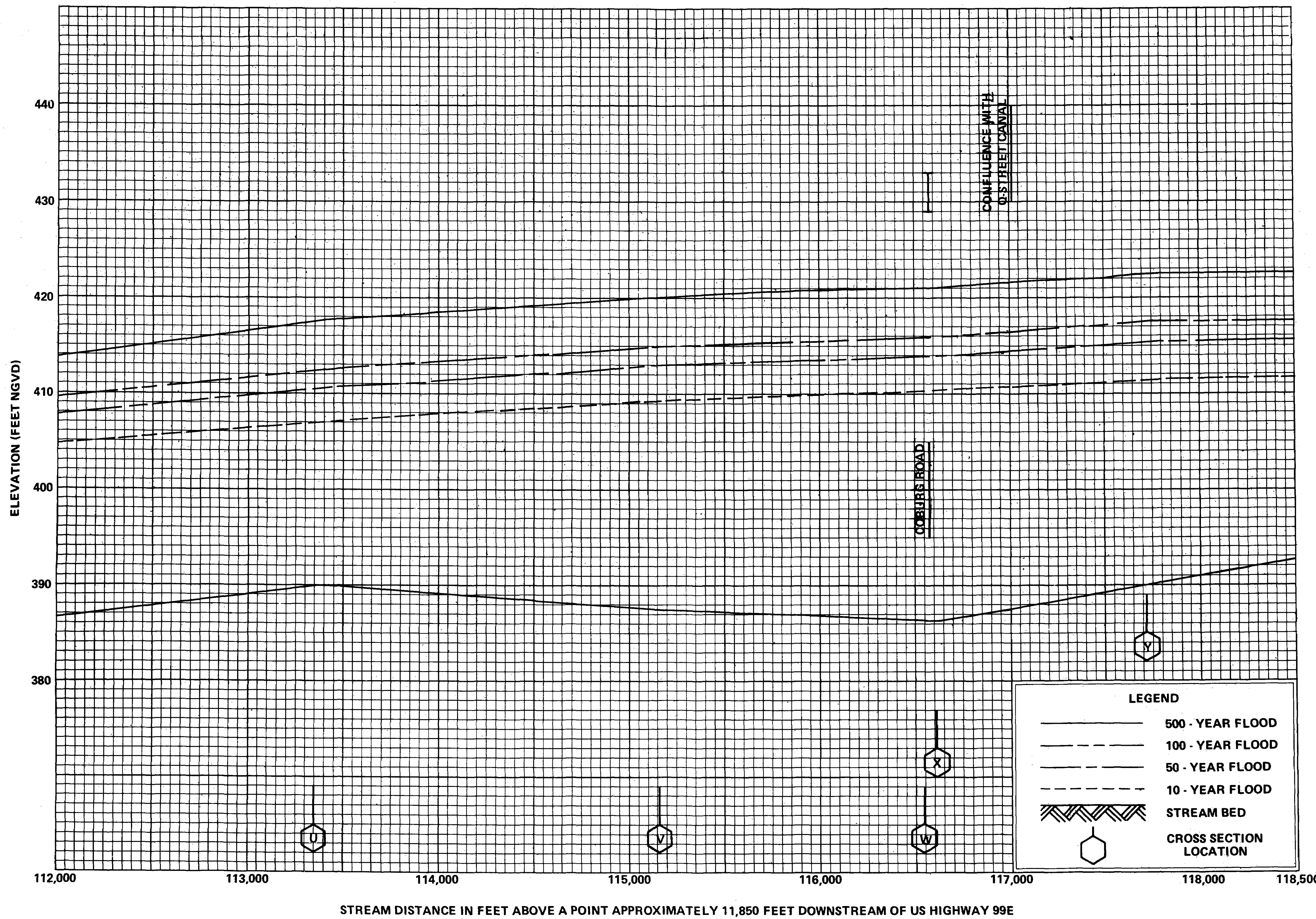
FLOOD PROFILES

WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

188P



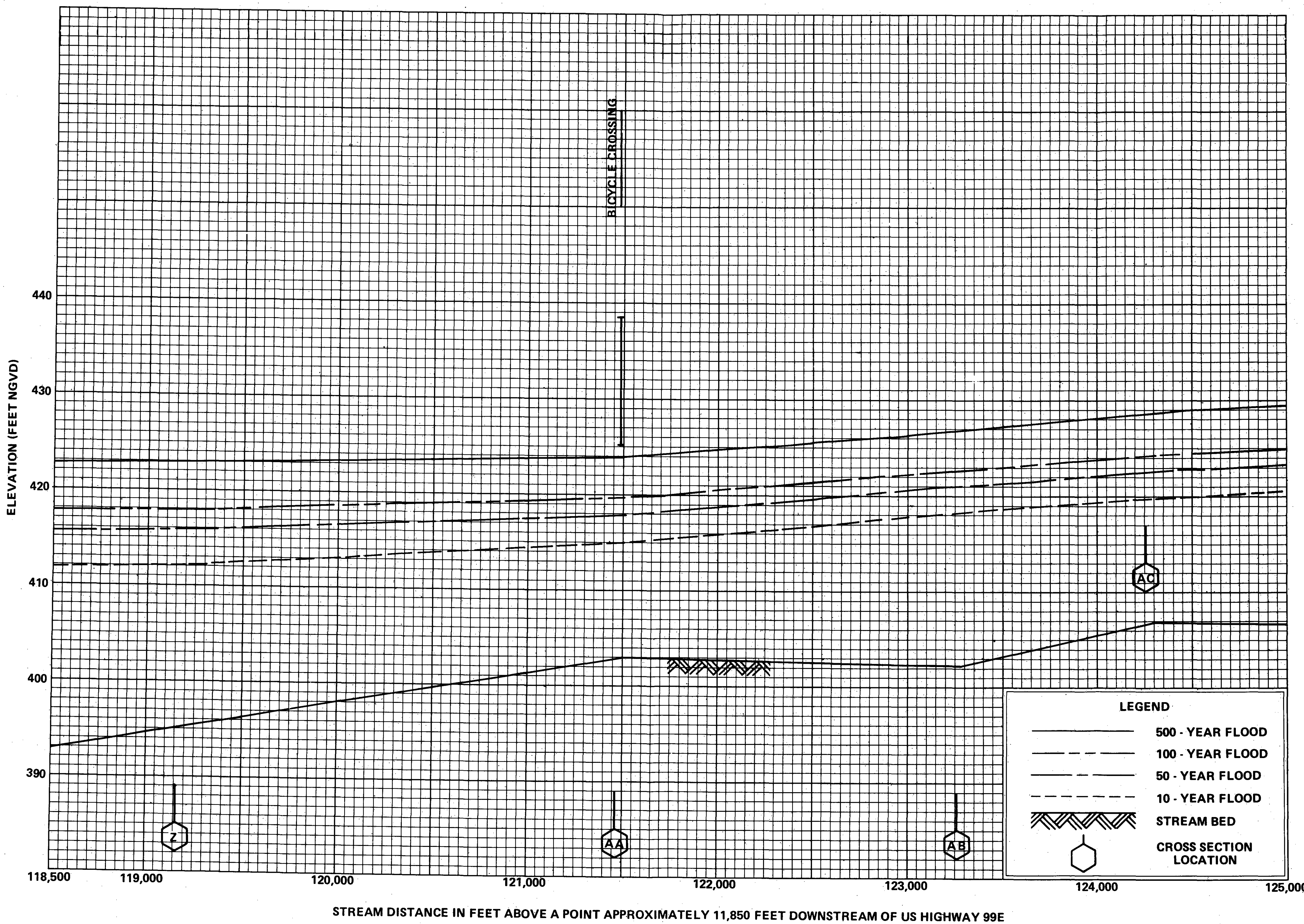
FLOOD PROFILES

WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

189P

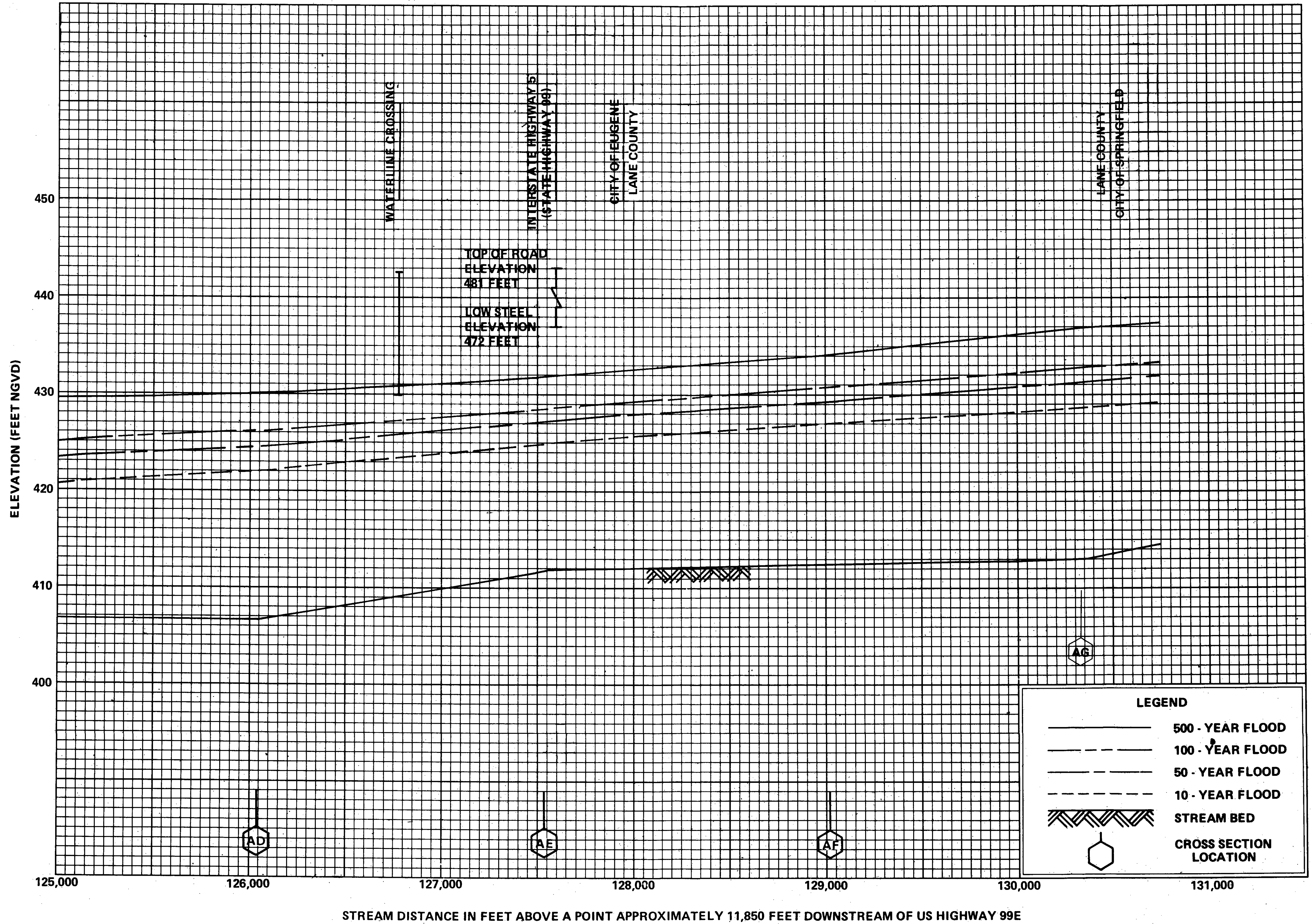


FLOOD PROFILES

WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

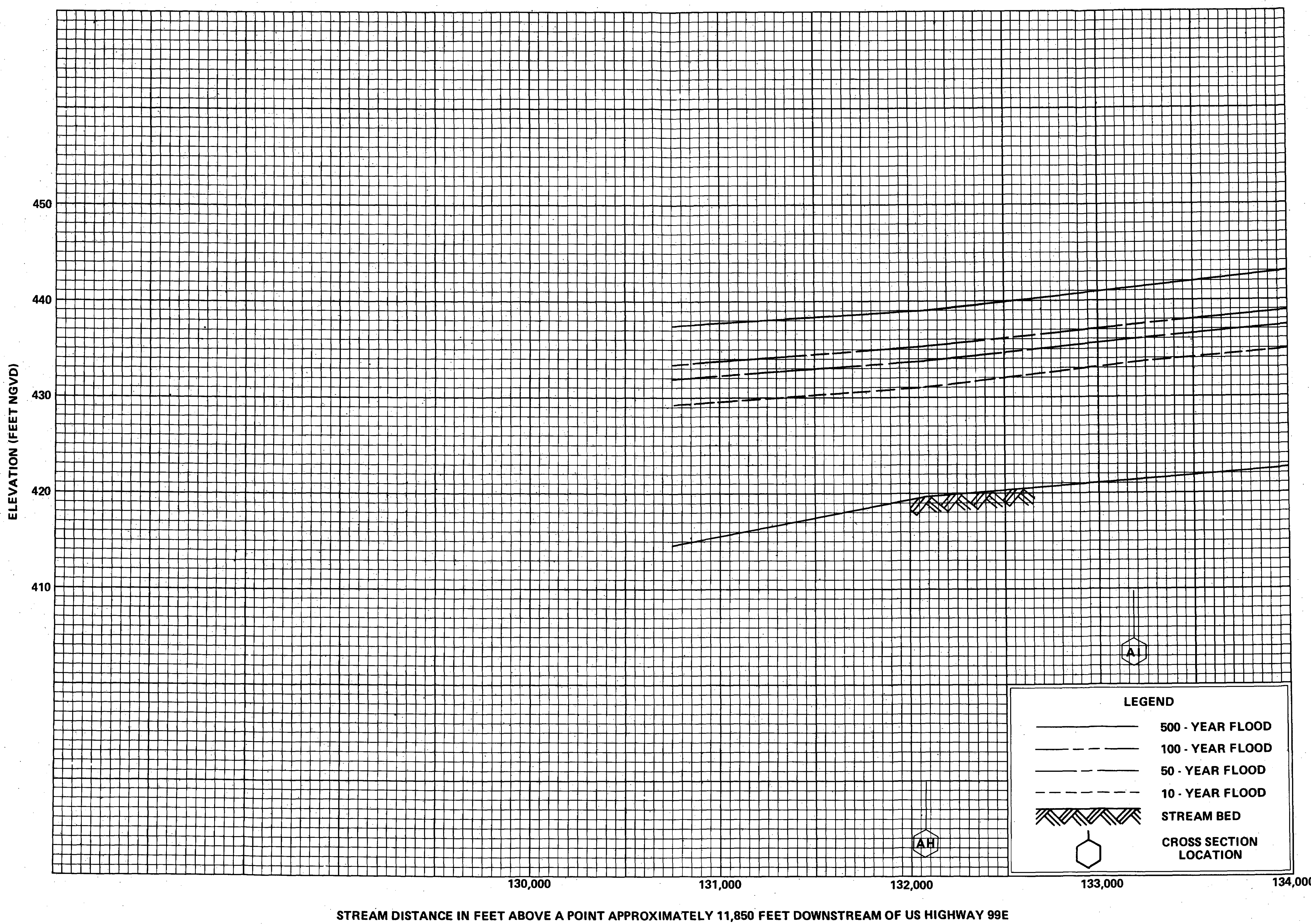


FLOOD PROFILES

WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

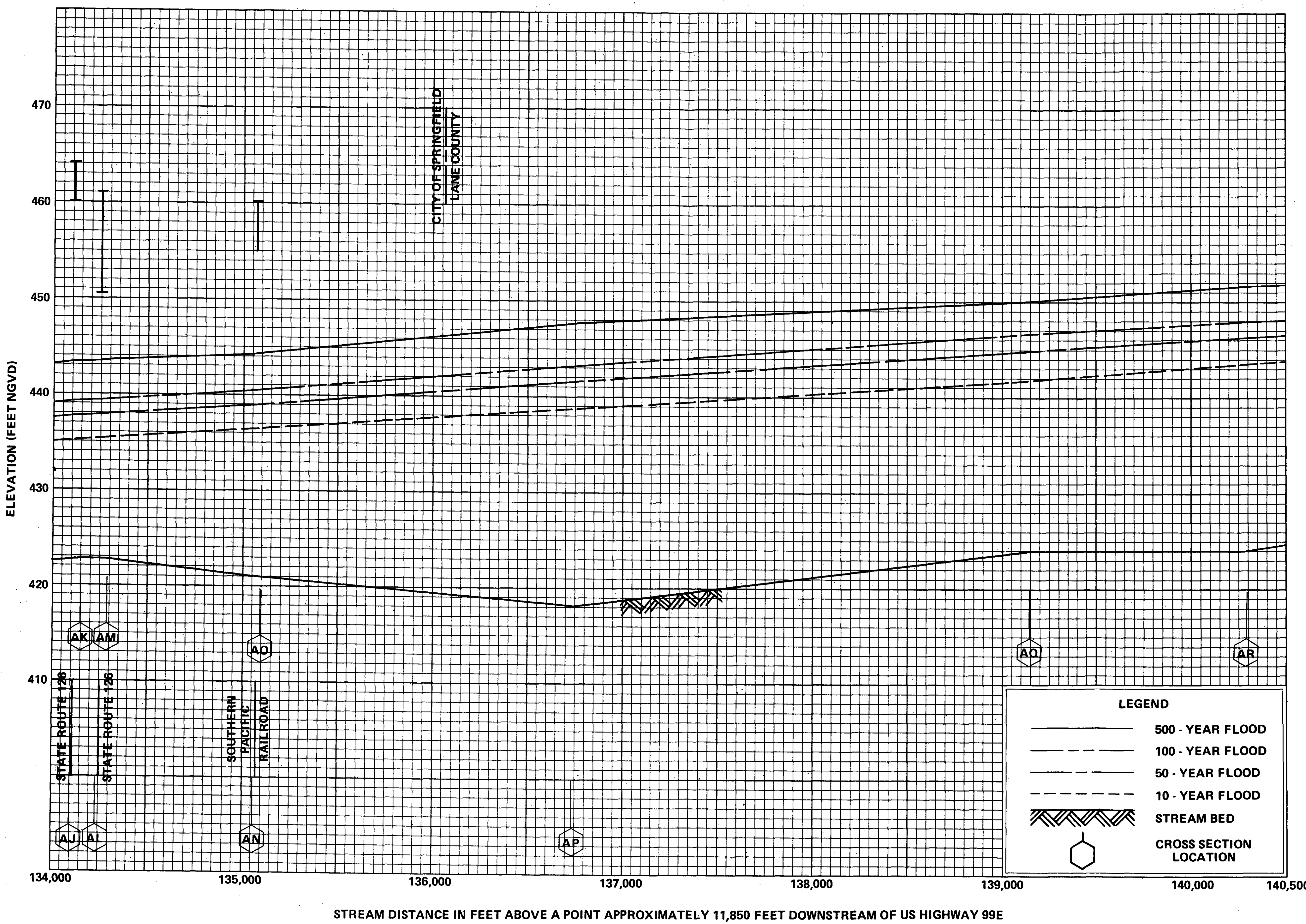


FLOOD PROFILES

WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

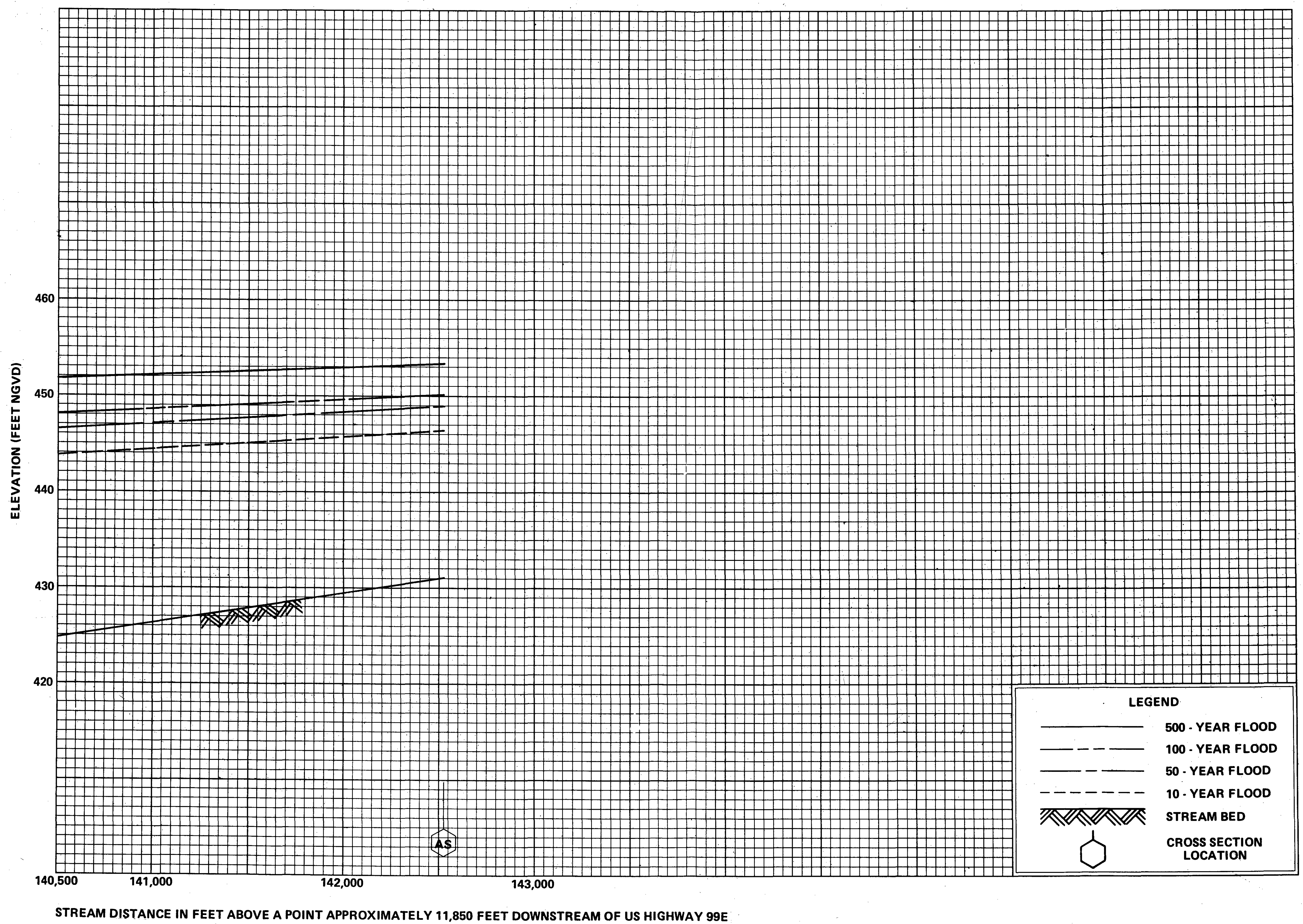


FLOOD PROFILES

WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR AND INCORPORATED AREAS



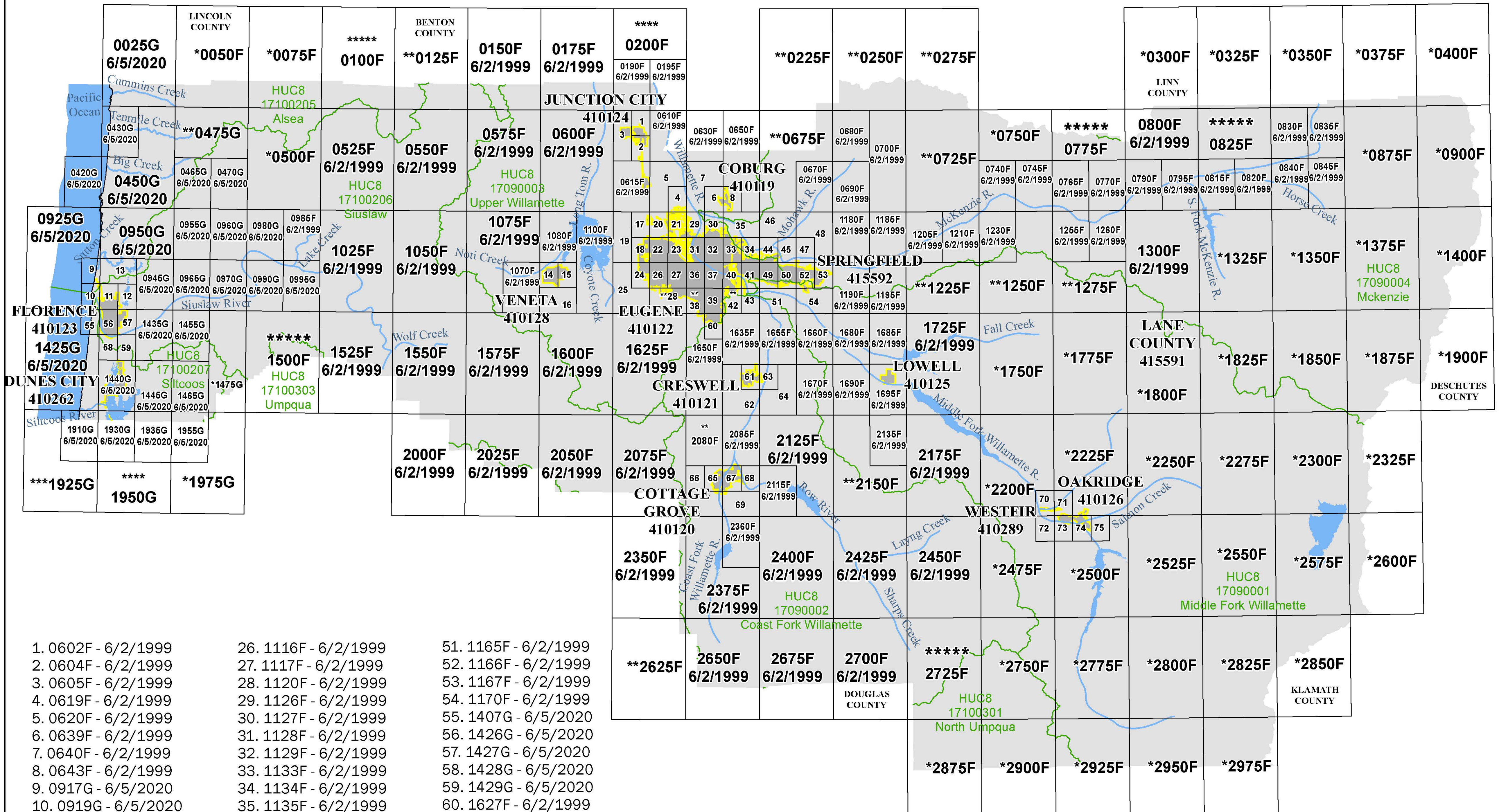
FLOOD PROFILES

WILLAMETTE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LANE COUNTY, OR
AND INCORPORATED AREAS

Exhibit E



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2. 0604F - 6/2/1999
3. 0605F - 6/2/1999
4. 0619F - 6/2/1999
5. 0620F - 6/2/1999
6. 0639F - 6/2/1999
7. 0640F - 6/2/1999
8. 0643F - 6/2/1999
9. 0917G - 6/5/2020
10. 0919G - 6/5/2020
11. 0938G - 6/5/2020
12. 0939G - 6/5/2020
13. 0940G - 6/5/2020
14. 1086F - 6/2/1999
15. 1087F - 6/2/1999
16. 1090F - 6/2/1999
17. 1102F - 6/2/1999
18. 1104F - 6/2/1999
19. 1105F - 6/2/1999
20. 1106F - 6/2/1999
21. 1107F - 6/2/1999
22. 1108F - 6/2/1999
23. 1109F - 6/2/1999
24. 1112F - 6/2/1999
25. 1115F - 6/2/1999
26. 1116F - 6/2/1999
27. 1117F - 6/2/1999
28. 1120F - 6/2/1999
29. 1126F - 6/2/1999
30. 1127F - 6/2/1999
31. 1128F - 6/2/1999
32. 1129F - 6/2/1999
33. 1133F - 6/2/1999
34. 1134F - 6/2/1999
35. 1135F - 6/2/1999
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37. 1137F - 6/2/1999
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53. 1167F - 6/2/1999
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55. 1407G - 6/5/2020
56. 1426G - 6/5/2020
57. 1427G - 6/5/2020
58. 1428G - 6/5/2020
59. 1429G - 6/5/2020
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62. 1645F - 6/2/1999
63. 1661F - 6/2/1999
64. 1665F - 6/2/1999
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67. 2091F - 6/2/1999
68. 2092F - 6/2/1999
69. 2095F - 6/2/1999
70. 2194F - 6/2/1999
71. 2213F - 6/2/1999
72. 2457F - 6/2/1999
73. 2476F - 6/2/1999
74. 2477F - 6/2/1999
75. 2481F - 6/2/1999

Ordinance 2, Series 2020

ATTENTION: The corporate limits shown on this FIRM Index are based on the best information available at the time of publication. As such, they may be more current that those shown on FIRM panels issued before June 5, 2020.

Exhibit E

1 inch = 50,000 feet 1:600,000

0 22,500 45,000 90,000 Feet

Map Projection:
Universal Transverse Mercator Zone 10 North;
North American Datum 1983

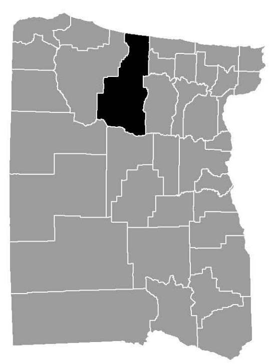
THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTPS://MSC.FEMA.GOV

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION

* PANEL NOT PRINTED - AREA IN ZONE D
** PANEL NOT PRINTED - NO SPECIAL FLOOD HAZARD AREAS
*** PANEL NOT PRINTED - OPEN WATER AREA
**** PANEL NOT PRINTED - OUTSIDE STUDY AREA
***** PANEL NOT PRINTED - NATIONAL FOREST IN ZONE D, REST OF PANEL IN ZONE X

COUNTY LOCATOR



NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP INDEX

LANE COUNTY, OREGON and Incorporated Areas

PANELS PRINTED:

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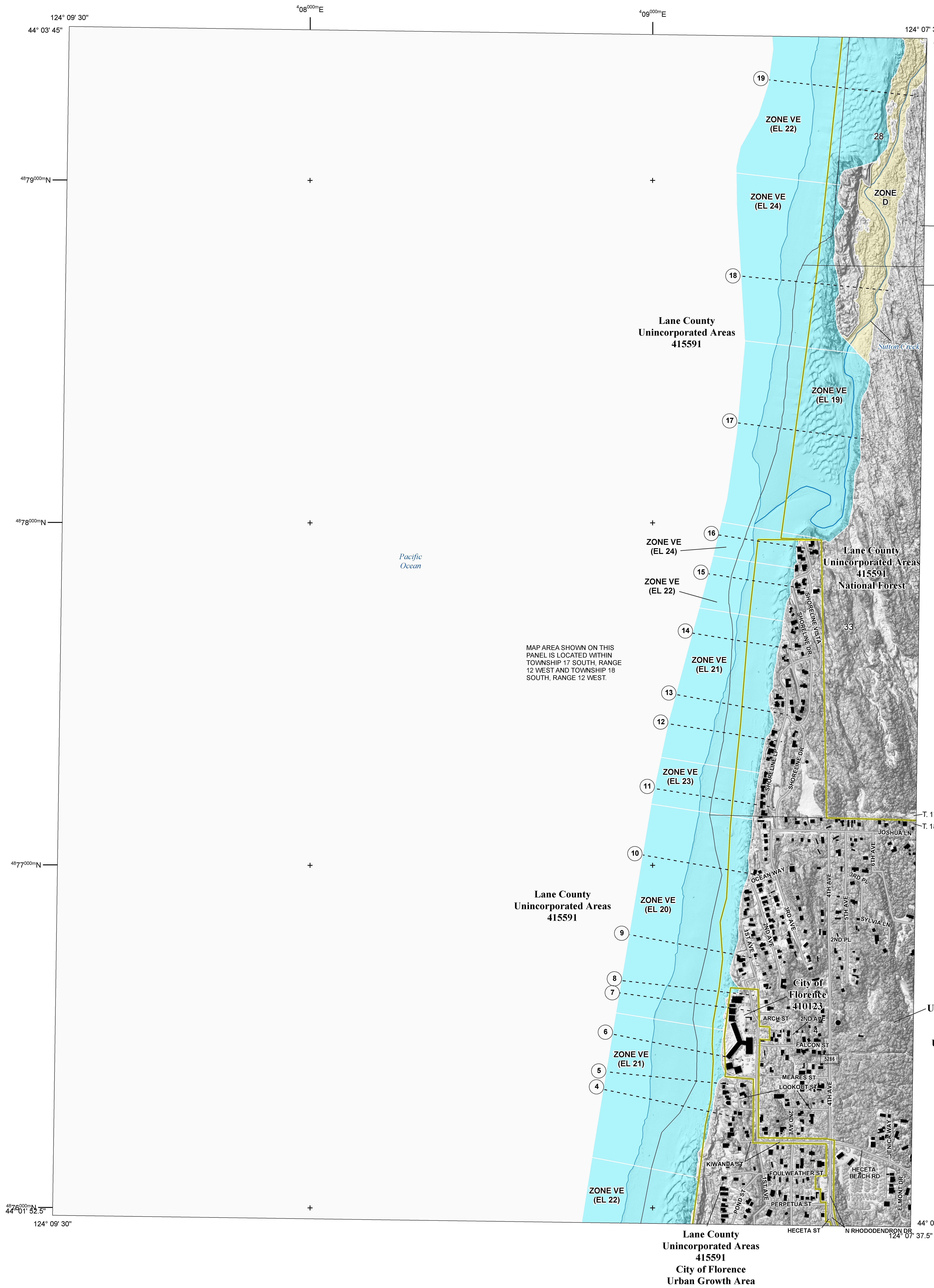
FEMA

MAP NUMBER
41039CIND0B

MAP REVISED
JUNE 5, 2020



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP
THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT
HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) *Zone A, V, A99*
	With BFE or Depth *Zone AE, AO, AH, VE, AR*
	Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
	Future Conditions 1% Annual Chance Flood Hazard *Zone X*
	Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
OTHER AREAS	NO SCREEN Areas Determined to be Outside the 0.2% Annual Chance Floodplain *Zone X*
	Area of Undetermined Flood Hazard *Zone D*
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
	Accredited or Provisionally Accredited Levee, Dike, or Floodwall
	Non-accredited Levee, Dike, or Floodwall
	E 18.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
	8 Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	513 Base Flood Elevation Line (BFE)
OTHER FEATURES	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

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

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

For community and countywide map dates refer to the Flood Insurance Study report for this jurisdiction.

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

Base map data shown on this map was developed and/or compiled by the Oregon Department of Geology and Mineral Industries (DOGAMI). Data sources include DOGAMI, Oregon Lidar Consortium, Bureau of Land Management, Oregon Department of Transportation, Oregon Department of Land Conservation and Development, U.S. Geological Survey and Lane County, dated 2009, 2012, and 2013. Base map information was rectified to 3-foot resolution lidar topographic data acquired in 2008, 2009, 2010, and 2013.

SCALE

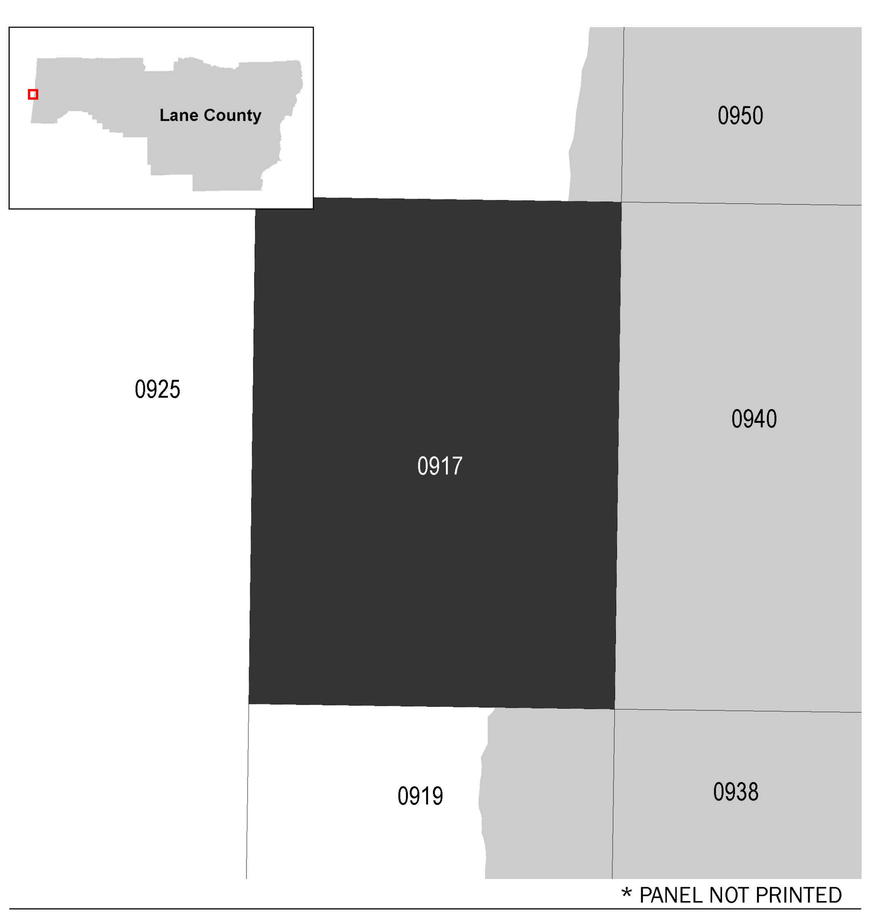
Map Projection:
NAD 1983 UTM Zone 10N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



* PANEL NOT PRINTED

FEMA
National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

LANE COUNTY, OREGON
and Incorporated Areas

PANEL **0917** OF **2975**

FEMA

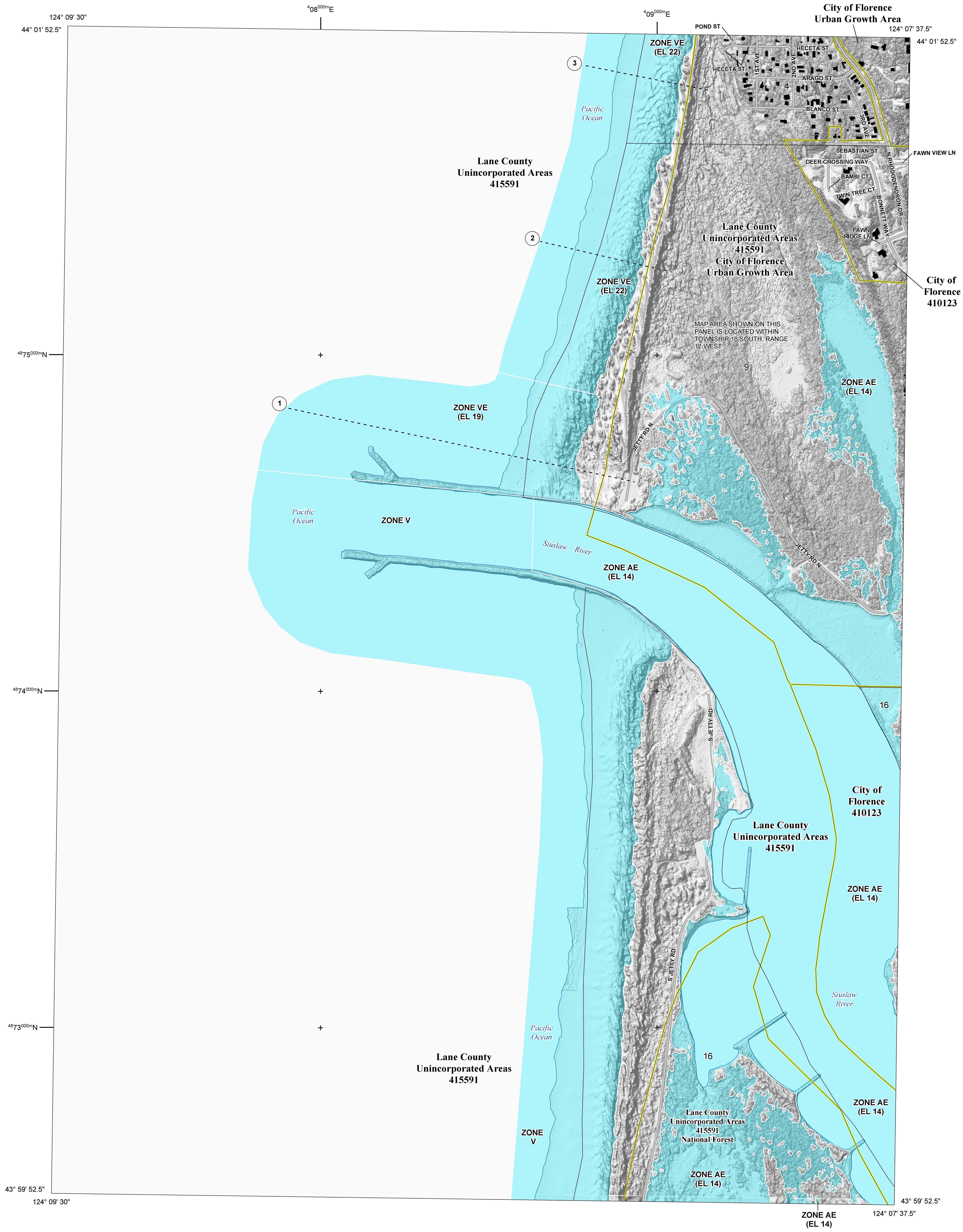
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CITY OF FLORENCE	410123	0917	G
LANE COUNTY	415591	0917	G

VERSION NUMBER
2.2.2.1

MAP NUMBER
41039C0917G

MAP REVISED
JUNE 5, 2020



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) *Zone A, V, A99*
	With BFE or Depth *Zone AE, AO, AH, VE, AR*
	Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
	Future Conditions 1% Annual Chance Flood Hazard *Zone X*
	Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
OTHER AREAS	NO SCREEN Areas Determined to be Outside the 0.2% Annual Chance Floodplain *Zone X*
	Area of Undetermined Flood Hazard *Zone D*
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
	Accredited or Provisionally Accredited Levee, Dike, or Floodwall
	Non-accredited Levee, Dike, or Floodwall
OTHER FEATURES	E 18.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
	8 Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	513 Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

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SCALE

N

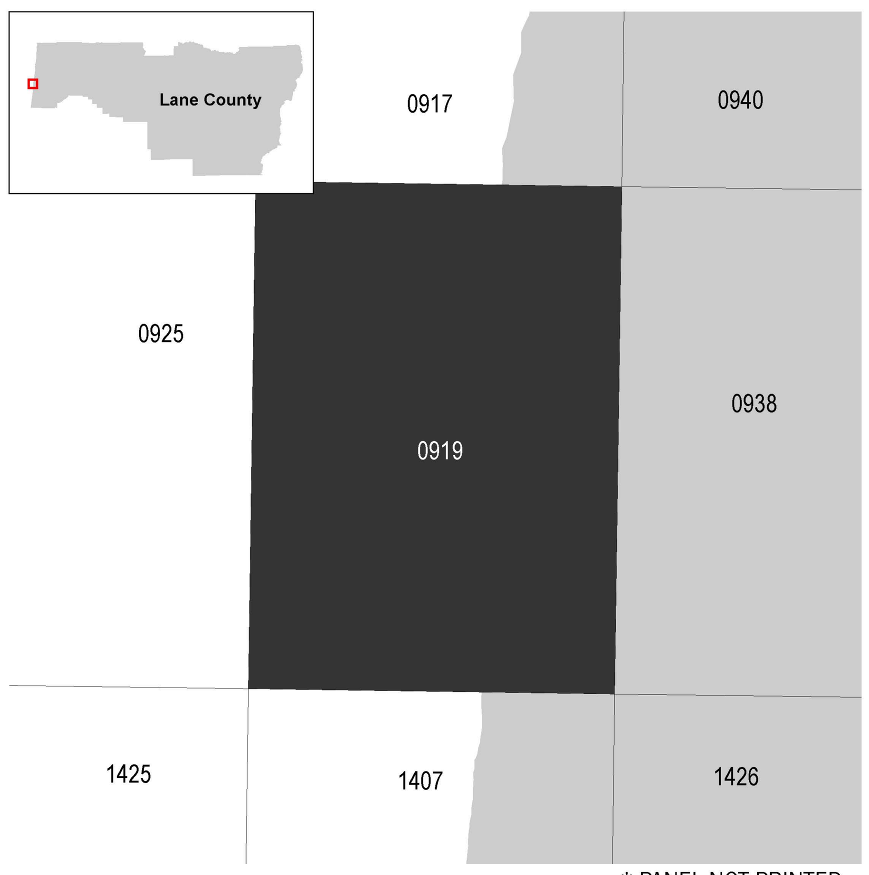
Map Projection:
NAD 1983 UTM Zone 10N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



* PANEL NOT PRINTED

FEMA
National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

LANE COUNTY, OREGON
and Incorporated Areas

PANEL **0919** OF **2975**

FEMA

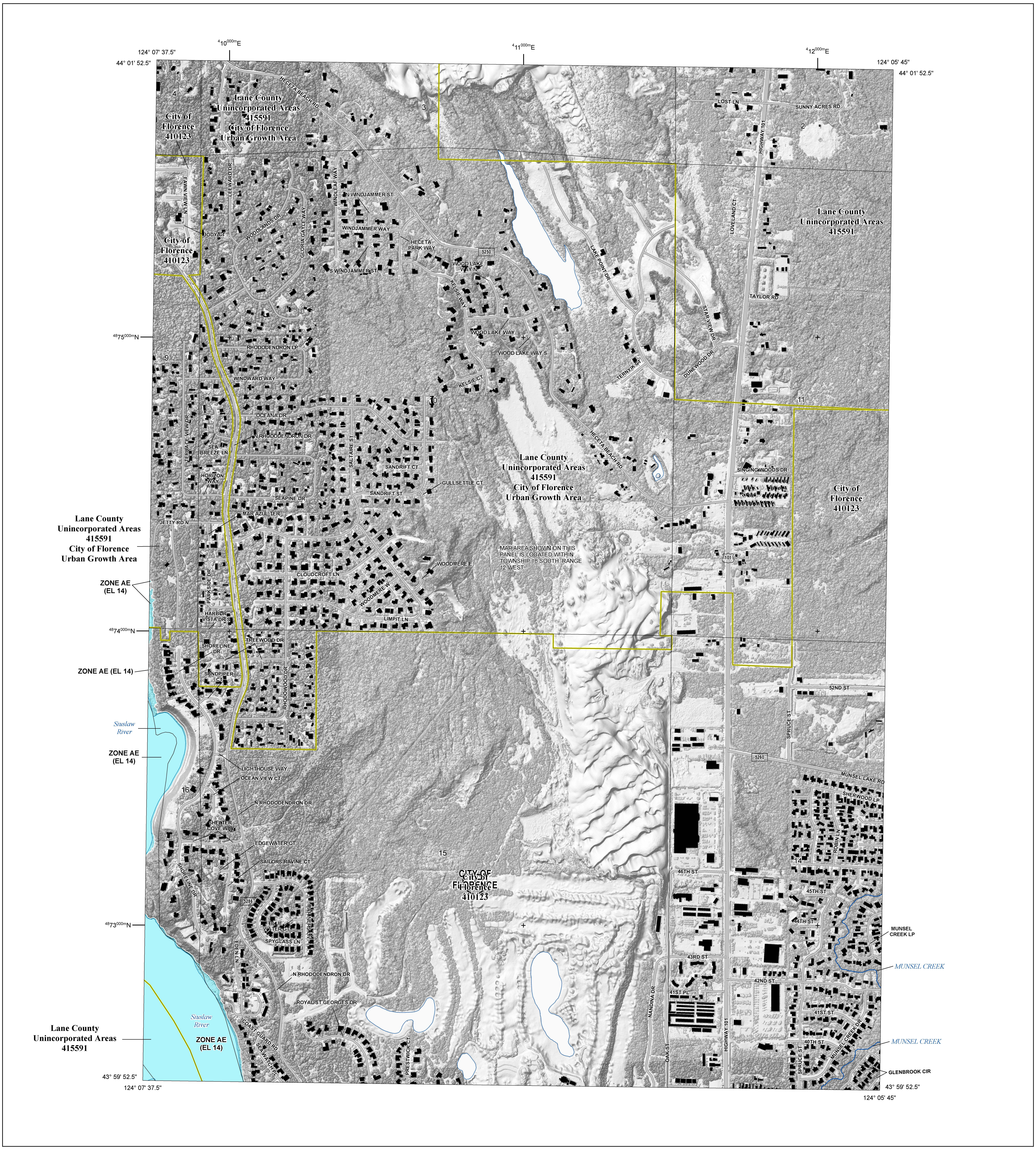
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CITY OF FLORENCE	410123	0919	G
LANE COUNTY	415591	0919	G

VERSION NUMBER
2.2.2.1

MAP NUMBER
41039C0919G

MAP REVISED
JUNE 5, 2020



FLOOD HAZARD INFORMATION

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OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
	Future Conditions 1% Annual Chance Flood Hazard *Zone X*
	Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
OTHER AREAS	NO SCREEN Areas Determined to be Outside the 0.2% Annual Chance Floodplain *Zone X*
	Area of Undetermined Flood Hazard *Zone D*
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
	Accredited or Provisionally Accredited Levee, Dike, or Floodwall
	Non-accredited Levee, Dike, or Floodwall
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	8 Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	513 Base Flood Elevation Line (BFE)
OTHER FEATURES	Limit of Study
	Jurisdiction Boundary

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SCALE

N

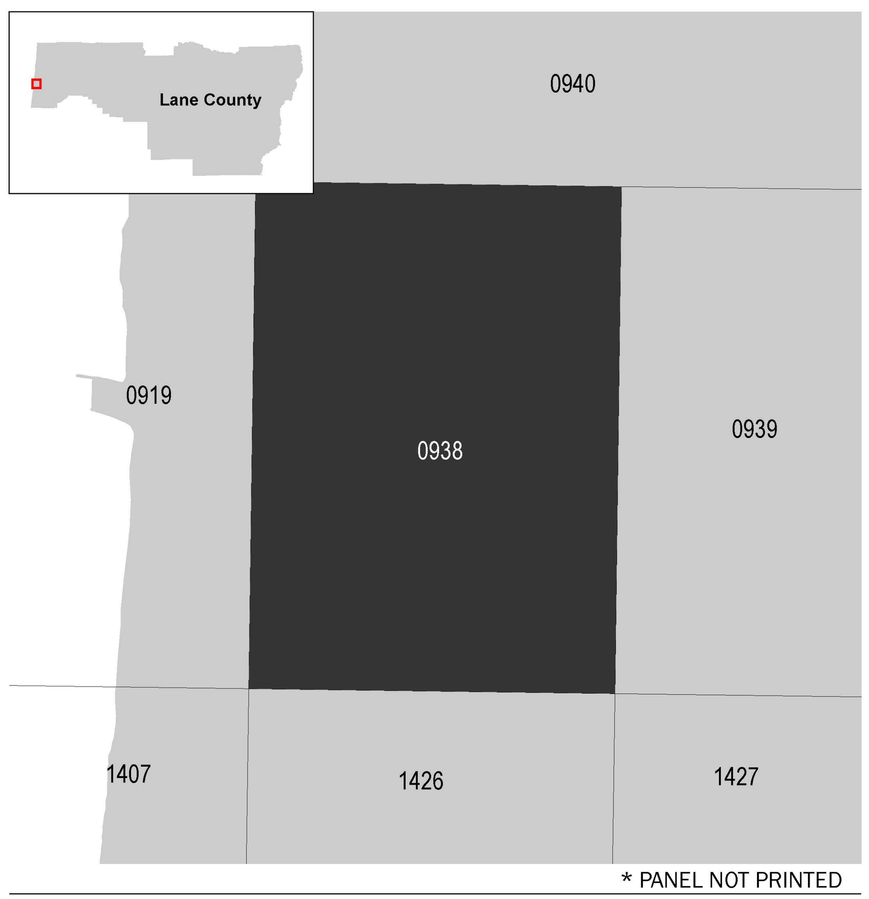
Map Projection:
NAD 1983 UTM Zone 10N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



* PANEL NOT PRINTED

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

LANE COUNTY, OREGON
and Incorporated Areas

PANEL **0938** OF **2975**

FEMA

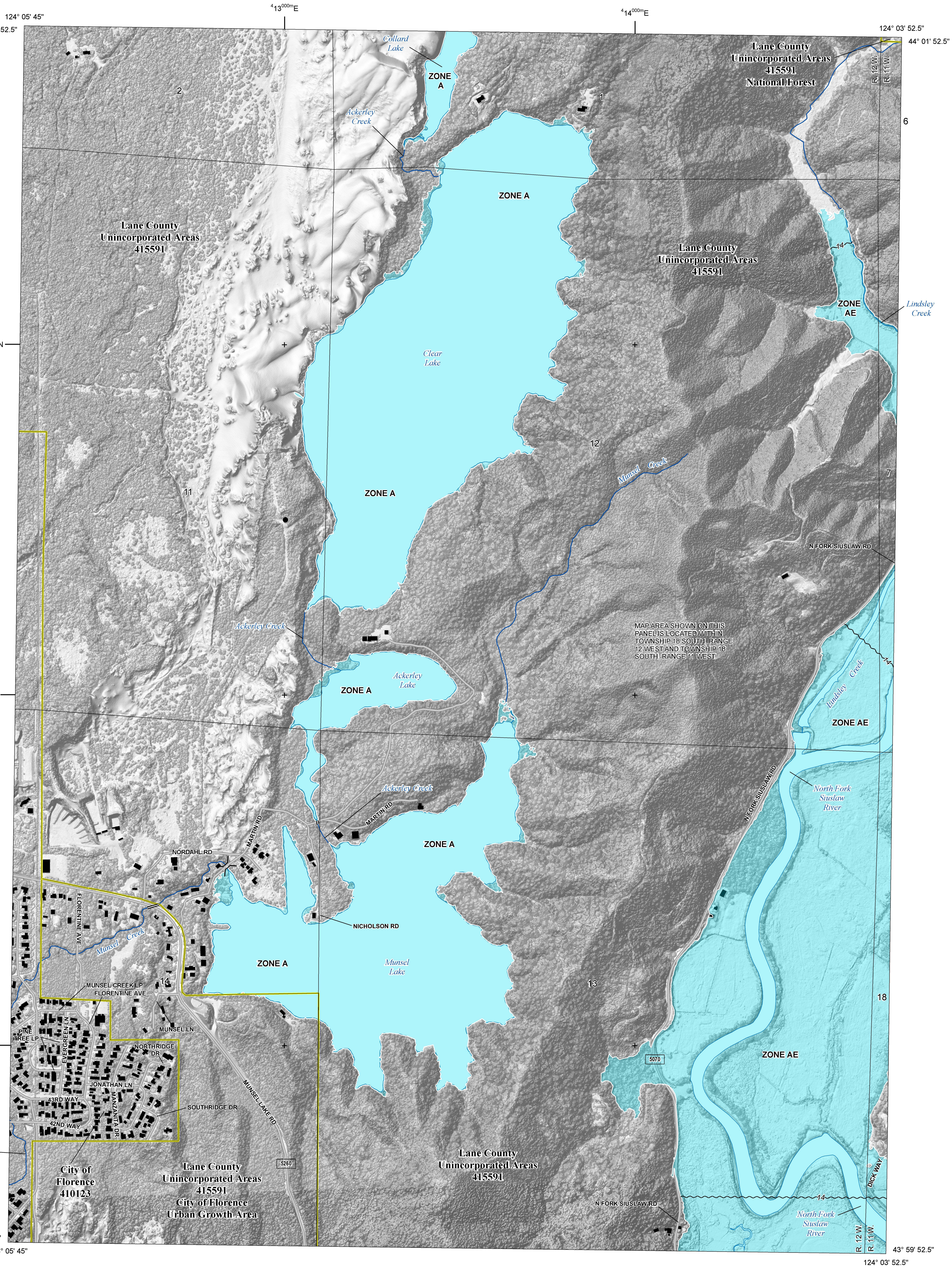
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CITY OF FLORENCE	410123	0938	G
LANE COUNTY	415591	0938	G

VERSION NUMBER
2.2.2.1

MAP NUMBER
41039C0938G

MAP REVISED
JUNE 5, 2020



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP

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SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes. *Zone X*

OTHER AREAS
- NO SCREEN — Areas Determined to be Outside the 0.2% Annual Chance Floodplain *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Accredited or Provisionally Accredited Levee, Dike, or Floodwall
- Non-accredited Levee, Dike, or Floodwall

OTHER FEATURES
- E 18.2 17.5 — Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
- 8 — Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

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SCALE

N

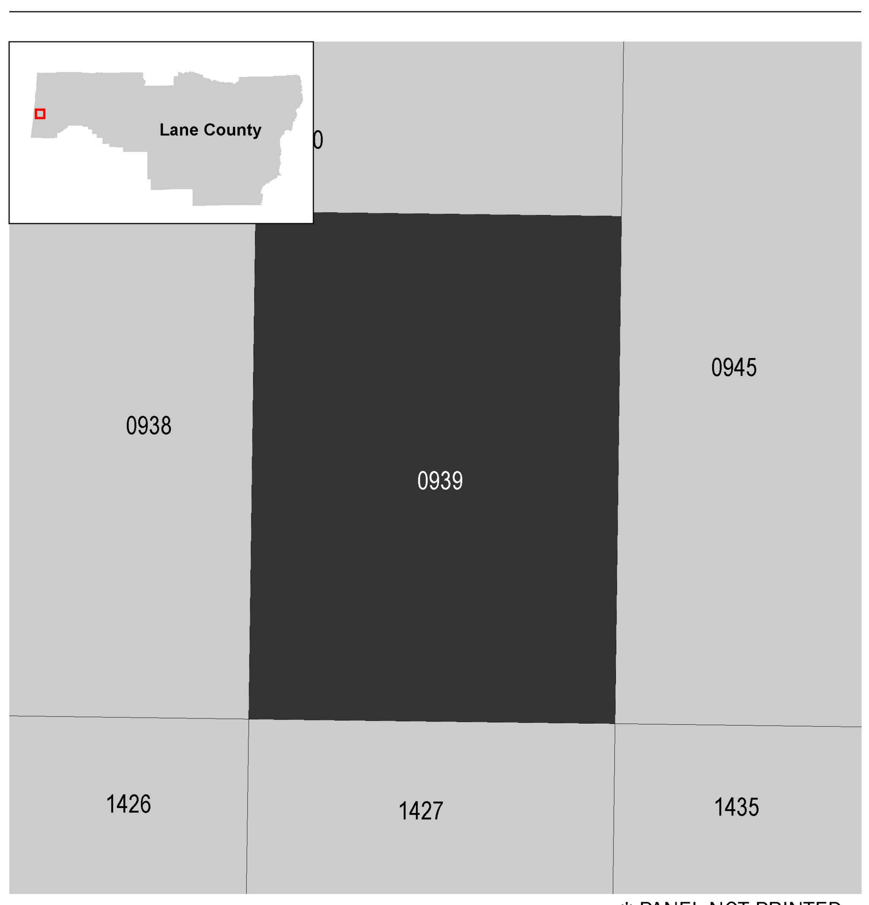
Map Projection:
NAD 1983 UTM Zone 10N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



* PANEL NOT PRINTED

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

LANE COUNTY, OREGON
and Incorporated Areas

PANEL **0939** OF **2975**

FEMA

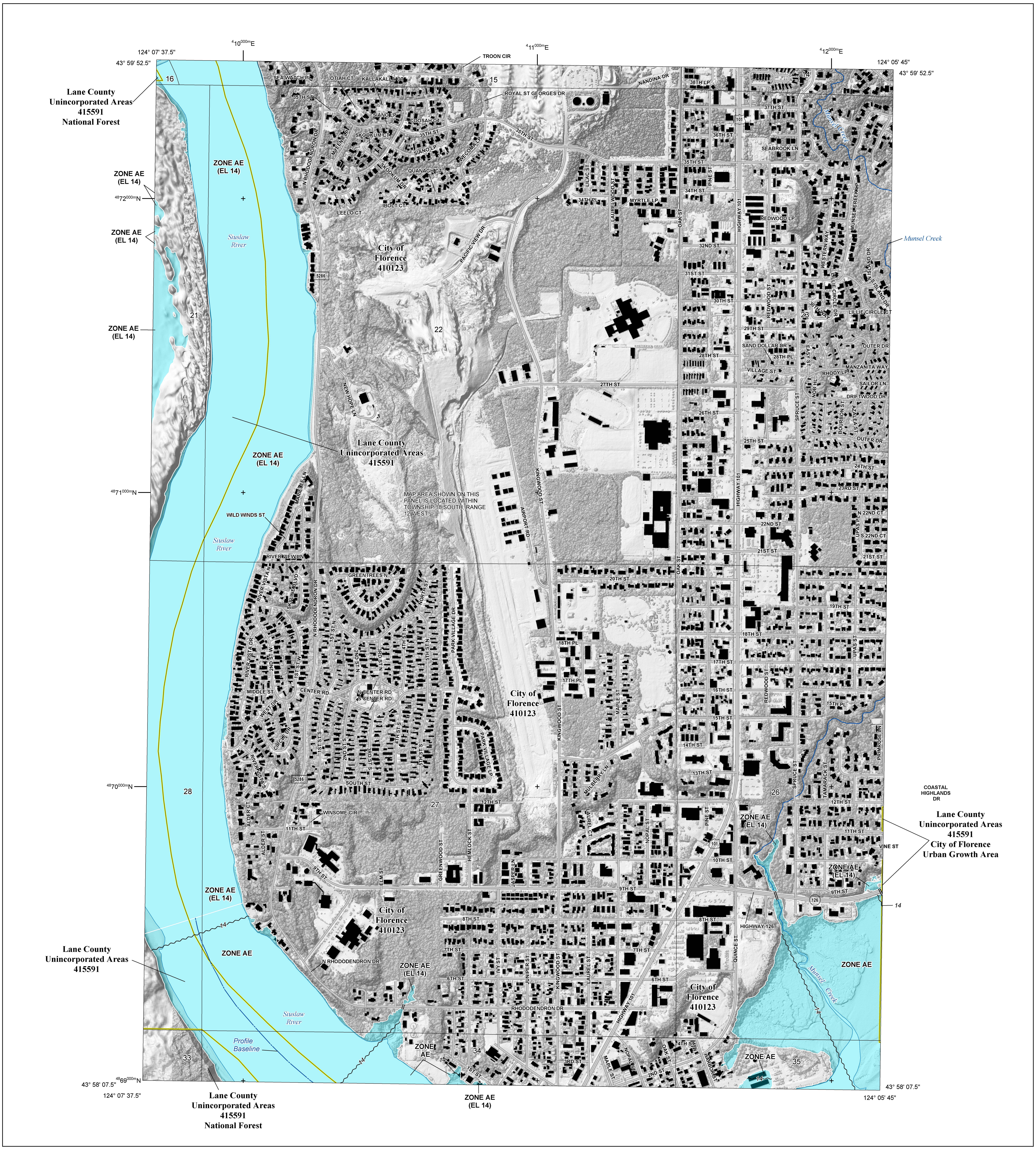
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CITY OF FLORENCE	410123	0939	G
LANE COUNTY	415591	0939	G

VERSION NUMBER
2.2.2.1

MAP NUMBER
41039C0939G

MAP REVISED
JUNE 5, 2020



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP
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HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) *Zone A,V, A99*	
	With BFE or Depth *Zone AE, AO, AH, VE, AR*	
	Regulatory Floodway	
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*	
	Future Conditions 1% Annual Chance Flood Hazard *Zone X*	
	Area with Reduced Flood Risk due to Levee See Notes. *Zone X*	
OTHER AREAS	NO SCREEN	Areas Determined to be Outside the 0.2% Annual Chance Floodplain *Zone X*
		Area of Undetermined Flood Hazard *Zone D*
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Accredited or Provisionally Accredited Levee, Dike, or Floodwall
		Non-accredited Levee, Dike, or Floodwall
	E 18.2 17.5	Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
	8	Coastal Transect
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
	513	Base Flood Elevation Line (BFE)
OTHER FEATURES		Limit of Study
		Jurisdiction Boundary

NOTES TO USERS

SCALE

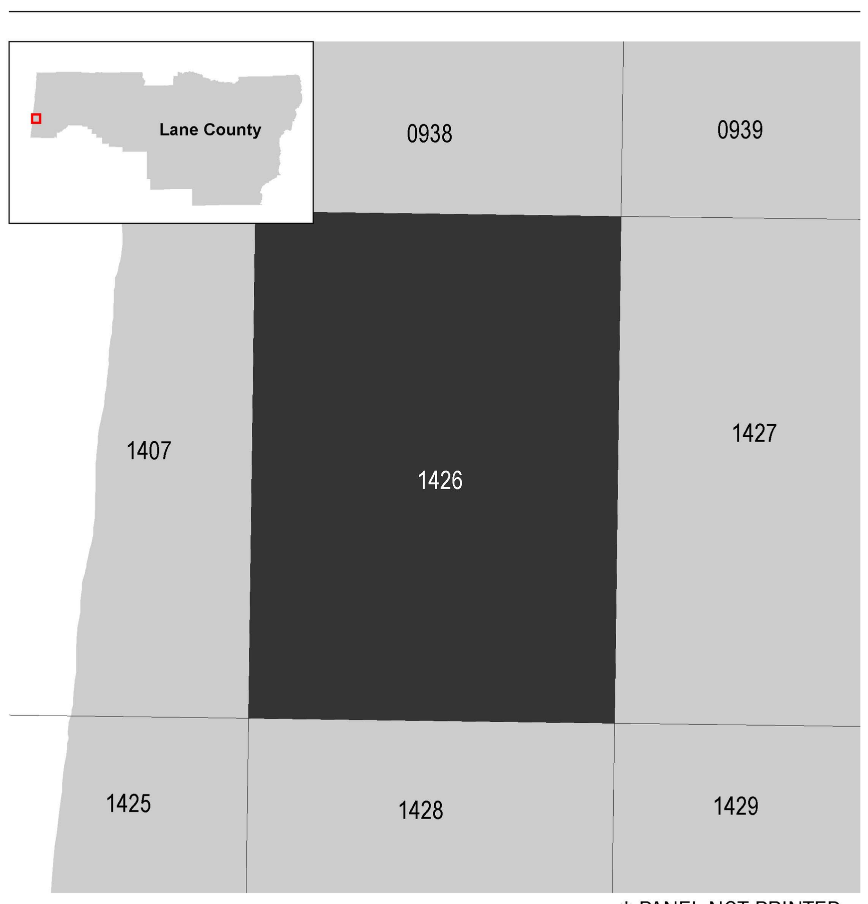
Map Projection:
NAD 1983 UTM Zone 10N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



* PANEL NOT PRINTED

FEMA
National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

LANE COUNTY, OREGON
and Incorporated Areas

PANEL **1426** OF **2975**

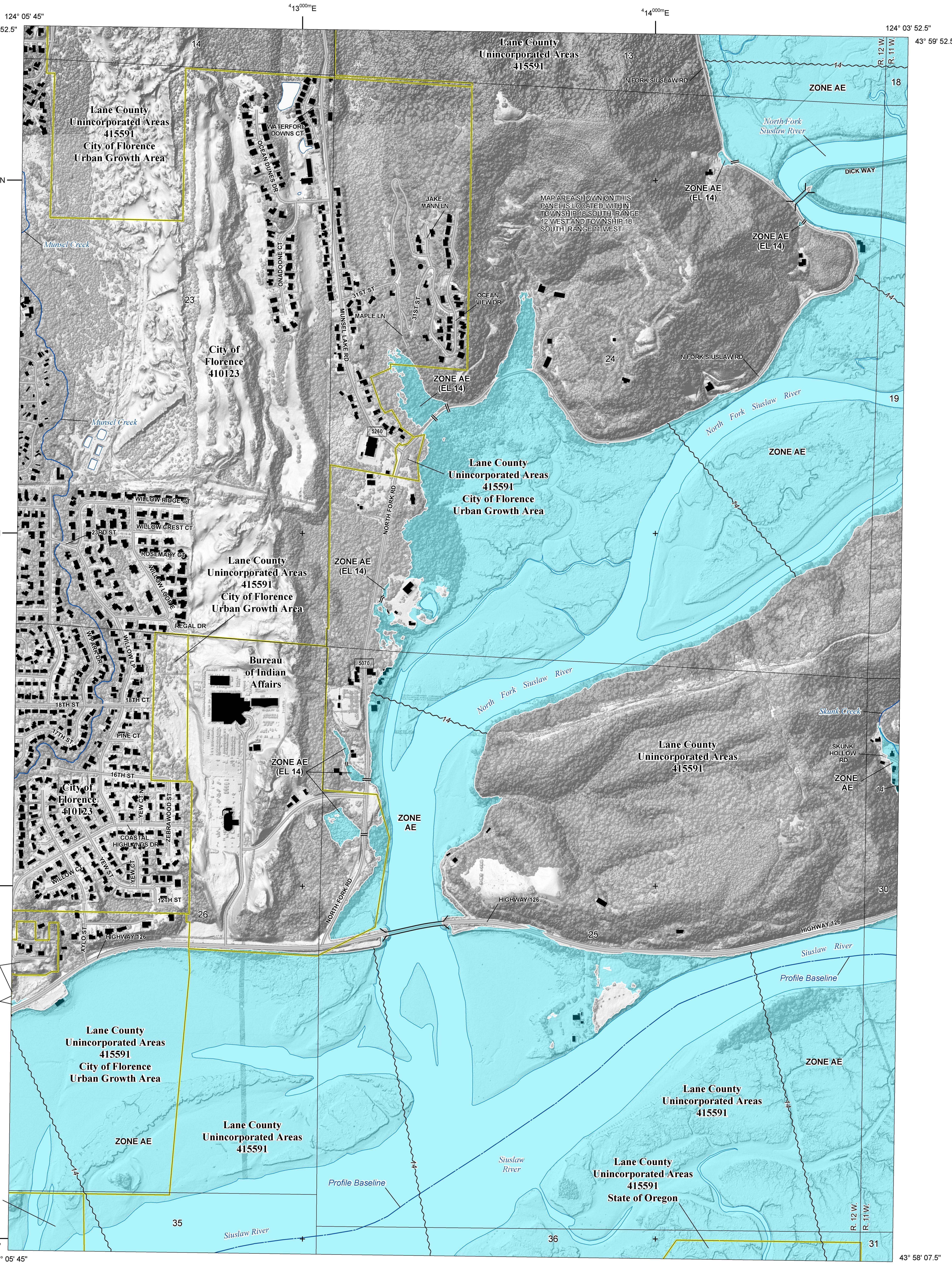
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CITY OF FLORENCE	410123	1426	G
LANE COUNTY	415591	1426	G

VERSION NUMBER
2.2.2.1

MAP NUMBER
41039C1426G

MAP REVISED
JUNE 5, 2020



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP

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SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) *Zone A,V, A99*
	With BFE or Depth *Zone AE, AO, AH, VE, AR*
	Regulatory Floodway
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	Future Conditions 1% Annual Chance Flood Hazard *Zone X*
	Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
OTHER AREAS	NO SCREEN Areas Determined to be Outside the 0.2% Annual Chance Floodplain *Zone X*
	Area of Undetermined Flood Hazard *Zone D*
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
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	8 Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	513 Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

SCALE

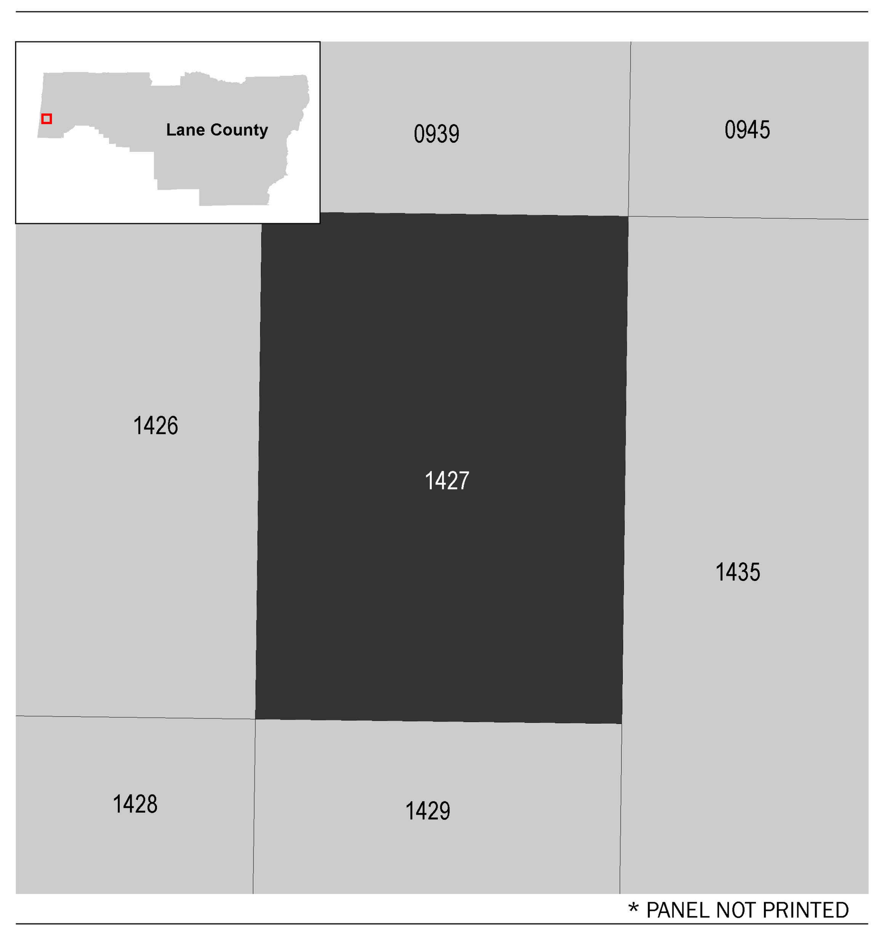
Map Projection:
NAD 1983 UTM Zone 10N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

Feet: 0, 500, 1,000, 2,000

Meters: 0, 125, 250, 500

PANEL LOCATOR



* PANEL NOT PRINTED

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

LANE COUNTY, OREGON
and Incorporated Areas

PANEL **1427** OF **2975**

FEMA

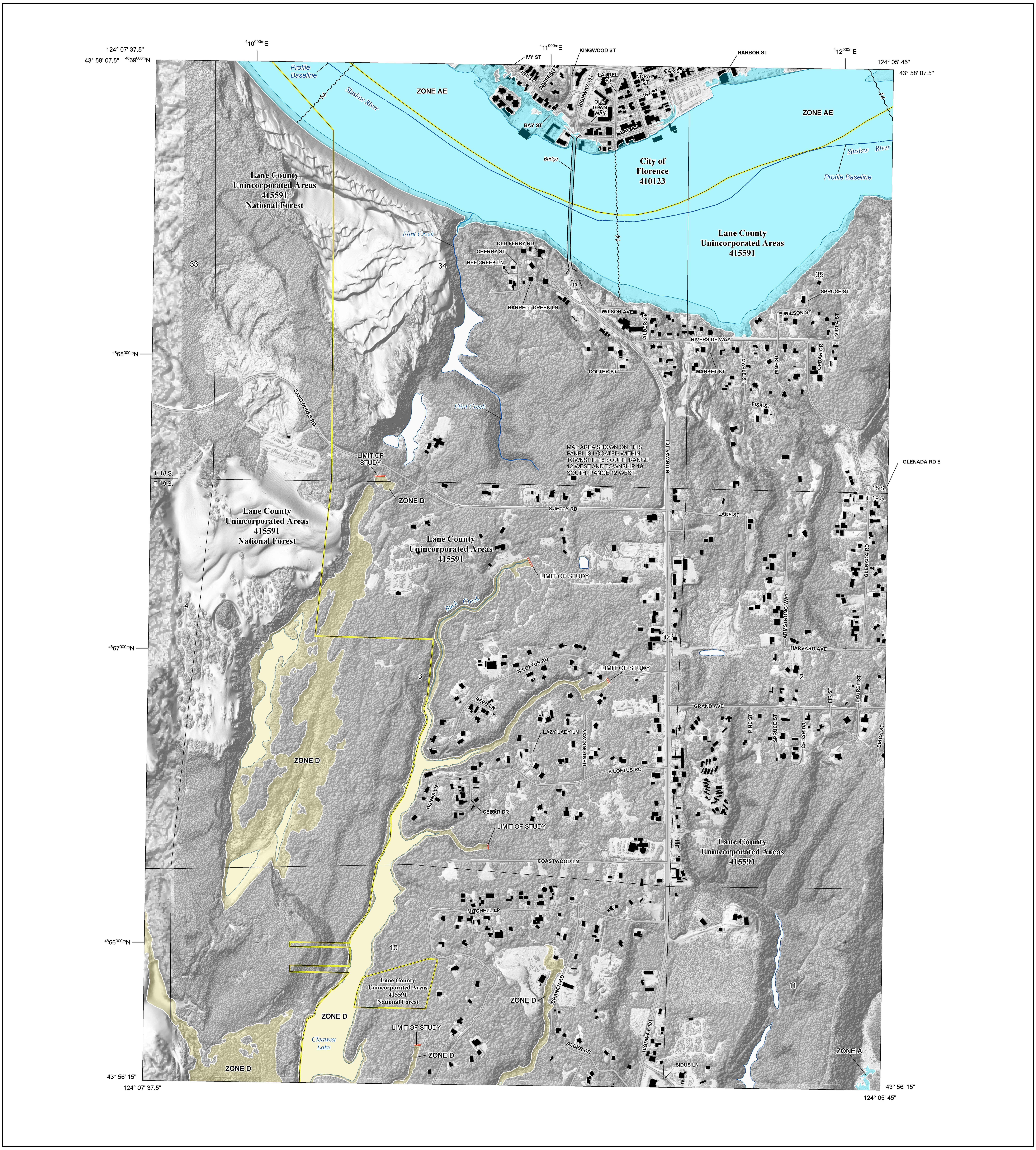
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CITY OF FLORENCE	410123	1427	G
LANE COUNTY	415591	1427	G

VERSION NUMBER
2.2.2.1

MAP NUMBER
41039C1427G

MAP REVISED
JUNE 5, 2020



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	Accredited or Provisionally Accredited Levee, Dike, or Floodwall
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OTHER FEATURES	E 18.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
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	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	513 Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary

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SCALE

N

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Western Hemisphere; Vertical Datum: NAVD 88

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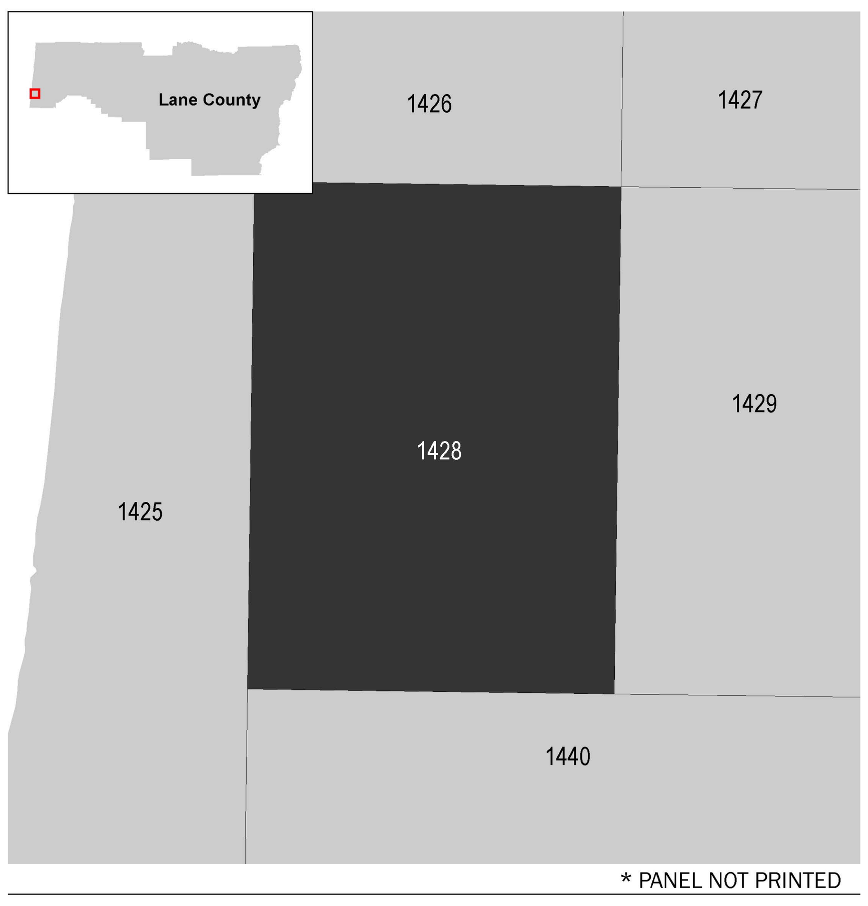
0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



* PANEL NOT PRINTED

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

LANE COUNTY, OREGON
and Incorporated Areas

PANEL **1428** OF **2975**

FEMA

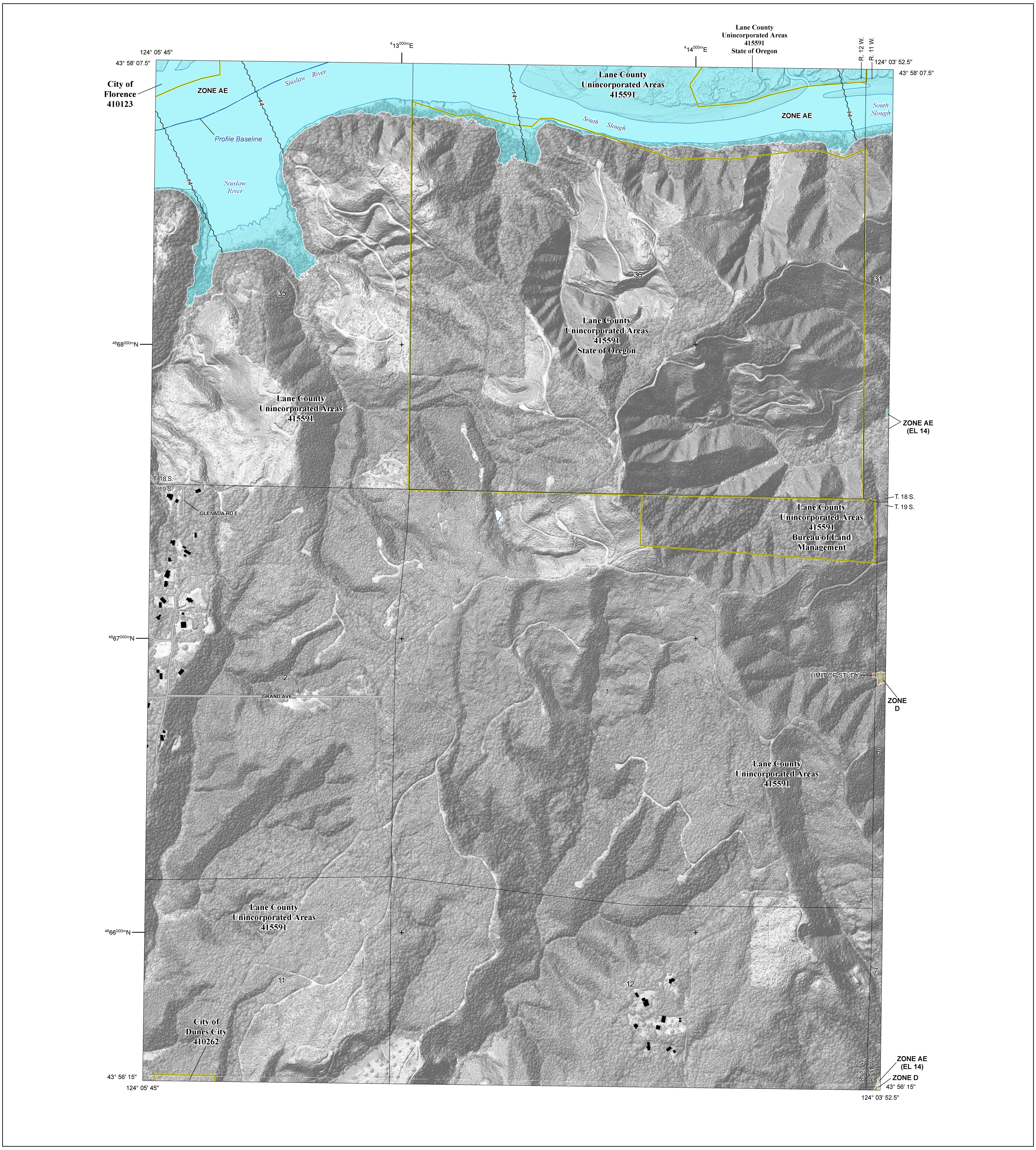
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CITY OF FLORENCE	410123	1428	G
LANE COUNTY	415591	1428	G

VERSION NUMBER
2.2.2.1

MAP NUMBER
41039C1428G

MAP REVISED
JUNE 5, 2020



FLOOD HAZARD INFORMATION

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	Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
OTHER AREAS	NO SCREEN Areas Determined to be Outside the 0.2% Annual Chance Floodplain *Zone X*
	Area of Undetermined Flood Hazard *Zone D*
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
	Accredited or Provisionally Accredited Levee, Dike, or Floodwall
	Non-accredited Levee, Dike, or Floodwall
OTHER FEATURES	E 18.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
	8 Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	513 Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary

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SCALE

N

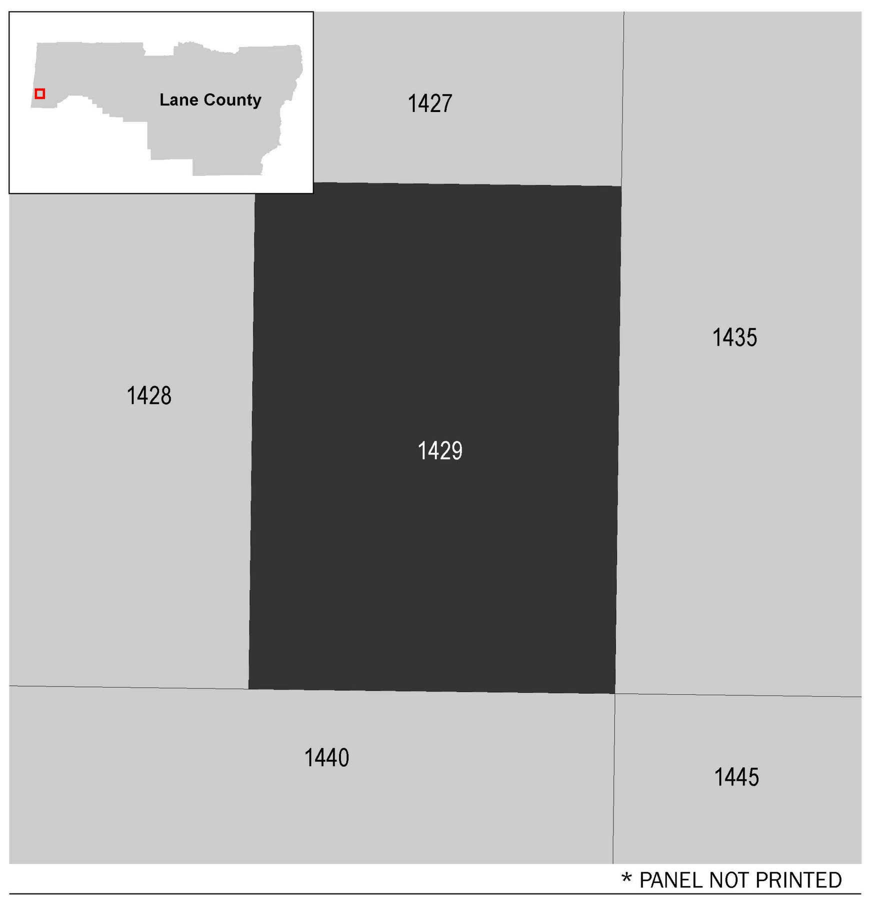
Map Projection:
NAD 1983 UTM Zone 10N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



* PANEL NOT PRINTED

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

LANE COUNTY, OREGON
and Incorporated Areas

PANEL **1429** OF **2975**

FEMA

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CITY OF DUNES CITY	410262	1429	G
CITY OF FLORENCE	410123	1429	G
LANE COUNTY	415591	1429	G

VERSION NUMBER
2.2.2.1

MAP NUMBER
41039C1429G

MAP REVISED
JUNE 5, 2020