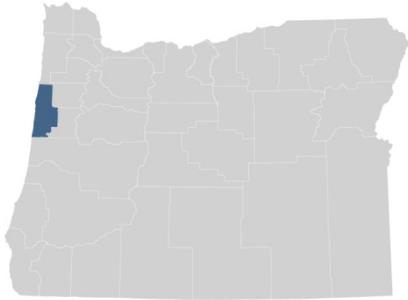


FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 2 OF 2



LINCOLN COUNTY, OREGON

AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
CITY OF DEPOE BAY	410283
CITY OF LINCOLN CITY	410130
CITY OF NEWPORT	410131
CITY OF SILETZ	410132
CITY OF TOLEDO	410133
CITY OF WALDPORT	410134
CITY OF YACHATS	410135
CONFEDERATED TRIBES OF SILETZ INDIANS	410244
LINCOLN COUNTY UNINCORPORATED AREAS	410129

PRELIMINARY
8/5/2016



FEMA

REVISED:

FLOOD INSURANCE STUDY NUMBER
41041CV002B

Version Number 2.3.2.1

TABLE OF CONTENTS

Volume 1

SECTION 1.0 – INTRODUCTION	1
1.1 The National Flood Insurance Program	1
1.2 Purpose of this Flood Insurance Study Report	2
1.3 Jurisdictions Included in the Flood Insurance Study Project	2
1.4 Considerations for using this Flood Insurance Study Report	5
SECTION 2.0 – FLOODPLAIN MANAGEMENT APPLICATIONS	16
2.1 Floodplain Boundaries	16
2.2 Floodways	16
2.3 Base Flood Elevations	32
2.4 Non-Encroachment Zones	32
2.5 Coastal Flood Hazard Areas	32
2.5.1 Water Elevations and the Effects of Waves	32
2.5.2 Floodplain Boundaries and BFEs for Coastal Areas	34
2.5.3 Coastal High Hazard Areas	35
2.5.4 Limit of Moderate Wave Action	36
SECTION 3.0 – INSURANCE APPLICATIONS	36
3.1 National Flood Insurance Program Insurance Zones	36
3.2 Coastal Barrier Resources System	37
SECTION 4.0 – AREA STUDIED	37
4.1 Basin Description	37
4.2 Principal Flood Problems	38
4.3 Non-Levee Flood Protection Measures	40
4.4 Levees	40
SECTION 5.0 – ENGINEERING METHODS	43
5.1 Hydrologic Analyses	43
5.2 Hydraulic Analyses	50
5.3 Coastal Analyses	72
5.3.1 Total Stillwater Elevations	73
5.3.2 Waves	75
5.3.3 Coastal Erosion	75
5.3.4 Wave Hazard Analyses	75
5.4 Alluvial Fan Analyses	97

TABLE OF CONTENTS (continued)
Volume 1

Figures

	<u>Page</u>
Figure 1: FIRM Panel Index	7
Figure 2: FIRM Notes to Users	9
Figure 3: Map Legend for FIRM	12
Figure 4: Floodway Schematic	17
Figure 5: Wave Runup Transect Schematic	34
Figure 6: Coastal Transect Schematic	36
Figure 7: Frequency Discharge-Drainage Area Curves	47
Figure 8: 1% Annual Chance Total Stillwater Elevations for Coastal Areas	74

Tables

	<u>Page</u>
Table 1: Listing of NFIP Jurisdictions	3
Table 2: Flooding Sources Included in this FIS Report	19
Table 3: Flood Zone Designations by Community	37
Table 4: Coastal Barrier Resources System Information	37
Table 5: Basin Characteristics	38
Table 6: Principal Flood Problems	38
Table 7: Historic Flooding Elevations	39
Table 8: Non-Levee Flood Protection Measures	40
Table 9: Levees	42
Table 10: Summary of Discharges	44
Table 11: Summary of Non-Coastal Stillwater Elevations	48
Table 12: Stream Gage Information used to Determine Discharges	50
Table 13: Summary of Hydrologic and Hydraulic Analyses	52
Table 14: Roughness Coefficients	70
Table 15: Summary of Coastal Analyses	72
Table 16: Tide Gage Analysis Specifics	75
Table 17: Coastal Transect Parameters	77

TABLE OF CONTENTS (continued)
Volume 2

SECTION 6.0 – MAPPING METHODS		98
6.1	Vertical and Horizontal Control	98
6.2	Base Map	98
6.3	Floodplain and Floodway Delineation	100
6.4	Coastal Flood Hazard Mapping	122
6.5	FIRM Revisions	135
6.5.1	Letters of Map Amendment	136
6.5.2	Letters of Map Revision Based on Fill	136
6.5.3	Letters of Map Revision	136
6.5.4	Physical Map Revisions	137
6.5.5	Contracted Restudies	137
6.5.6	Community Map History	137
SECTION 7.0 – CONTRACTED STUDIES AND COMMUNITY COORDINATION		139
7.1	Contracted Studies	139
7.2	Community Meetings	146
SECTION 8.0 – ADDITIONAL INFORMATION		149
SECTION 9.0 – BIBLIOGRAPHY AND REFERENCES		150

Figures (continued)

	<u>Page</u>
Figure 9: Transect Location Map	94

TABLE OF CONTENTS (continued)
Volume 2

Tables (continued)

	<u>Page</u>
Table 18: Summary of Alluvial Fan Analyses	97
Table 19: Results of Alluvial Fan Analyses	97
Table 20: Countywide Vertical Datum Conversion	98
Table 21: Stream-by-Stream Vertical Datum Conversion	98
Table 22: Base Map Sources	99
Table 23: Summary of Topographic Elevation Data used in Mapping	101
Table 24: Floodway Data	102
Table 25: Flood Hazard and Non-Encroachment Data for Selected Streams	122
Table 26: Summary of Coastal Transect Mapping Considerations	123
Table 27: Incorporated Letters of Map Change [Not Applicable to this FIS Project]	137
Table 28: Community Map History	138
Table 29: Summary of Contracted Studies Included in this FIS Report	139
Table 30: Community Meetings	147
Table 31: Map Repositories	149
Table 32: Additional Information	150
Table 33: Bibliography and References	151

Exhibits

	<u>Panel</u>
Flood Profiles	
Alsea River	01-06 P
Big Creek	07 P
Depoe Creek/Slough	08 P
Drift Creek	09-12 P
Olalla Creek/Slough	13-14 P
Salmon River	15-21 P
Schooner Creek	22-27 P
Siletz River	28-34 P
West Olalla Creek	35-36 P
Yachats River	37 P
Yaquina Bay (Upper Reach)	38 P
Yaquina River	39-42 P

Published Separately

Flood Insurance Rate Map (FIRM)

SECTION 6.0 – MAPPING METHODS

6.1 Vertical and Horizontal Control

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

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

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

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

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

The datum conversion locations and values that were calculated for Lincoln County are provided in Table 20.

Table 20: Countywide Vertical Datum Conversion

[Not Applicable to this FIS Project]

Table 21: Stream-by-Stream Vertical Datum Conversion

[Not Applicable to this FIS Project]

6.2 Base Map

The FIRMs and FIS Report for this project have been produced in a digital format. The flood hazard information was converted to a Geographic Information System (GIS) format that meets

FEMA’s FIRM database specifications and geographic information standards. This information is provided in a digital format so that it can be incorporated into a local GIS and be accessed more easily by the community. The FIRM Database includes most of the tabular information contained in the FIS Report in such a way that the data can be associated with pertinent spatial features. For example, the information contained in the Floodway Data table and Flood Profiles can be linked to the cross sections that are shown on the FIRMs. Additional information about the FIRM Database and its contents can be found in FEMA’s *Guidelines and Standards for Mapping Partners*, Appendix L.

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

Table 22: Base Map Sources

Data Type	Data Provider	Data Date	Data Scale	Data Description
Lidar collected in 2009-2012	Oregon Department of Geology and Mineral Industries	2012	1:2,500	Hillshade and slope derivatives of 1-meter resolution lidar DEMs were used to create the base image.
Oregon statewide 1-meter 2009 NAIP orthoimagery	Oregon Department of Administrative Services, Geospatial Enterprise Office	2010	1:2,500	Where lidar was not available, these orthophotos were used to infill the base map.
Hydrography	Oregon Department of Geology and Mineral Industries	2012	1:2,500	Stream centerlines and water bodies digitized from lidar collected 2009-2012.
National Hydrographic Dataset	U.S. Geological Survey	2012	1:24,000	Where lidar was not available, the National Hydrographic Dataset was incorporated and snapped to hydrography digitized by DOGAMI.
Hydraulic structures	Oregon Department of Geology and Mineral Industries	2012	1:2,500	Hydraulic structures (mainly bridges and culverts) digitized from lidar collected 2009-2012. Used Oregon Department of Transportation bridge layer and Oregon Department of Fish and Wildlife fish passage barrier layer to locate structures.
Roads	Geosolve, Inc.	2011	1:2,400	Lincoln County roads developed by Geosolve, Inc.

Table 22: Base Map Sources (continued)

Data Type	Data Provider	Data Date	Data Scale	Data Description
Railroads	Oregon Department of Transportation	2010	1:24,000	Railroad features created by the Oregon Department of Transportation in 2010 and downloaded from the Oregon Geospatial Data Clearinghouse.
Levees	Oregon Department of Land Conservation and Development	2011	1:2,500	Coastal levees created by the Oregon Department of Land Conservation and Development in 2011 and downloaded from the Oregon Coastal Atlas.
Land ownership	Bureau of Land Management	2013	1:24,000	Land ownership downloaded from the Bureau of Land Management website.
City limits	Oregon Department of Transportation	2012	1:24,000	City limits created by the Oregon Department of Land Conservation and Development in 2012 and downloaded from the Oregon Geospatial Data Clearinghouse.
Urban growth boundaries	Oregon Department of Land Conservation and Development	2012	1:24,000	Urban growth boundaries created the Oregon Department of Land Conservation and Development in 2012 and downloaded from the Oregon Geospatial Data Clearinghouse.
Public land survey sections	Bureau of Land Management	2013	1:24,000	Public land survey sections downloaded from the Bureau of Land Management website.

6.3 Floodplain and Floodway Delineation

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

For riverine flooding sources, the mapped floodplain boundaries shown on the FIRM have been delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using the topographic elevation data described in Table 23. For each coastal flooding source studied as part of this FIS Report, the mapped floodplain boundaries on the FIRM have been delineated using the flood and wave elevations determined at each transect; between transects, boundaries were delineated using land use and land cover data, the topographic elevation data described in Table 23, and knowledge of coastal flood processes. In ponding areas, flood elevations were determined at each junction of the model; between

junctions, boundaries were interpolated using the topographic elevation data described in Table 23.

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

The floodway widths presented in this FIS Report and on the FIRM were computed for certain stream segments on the basis of equal conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. Table 2 indicates the flooding sources for which floodways have been determined. The results of the floodway computations for those flooding sources have been tabulated for selected cross sections and are shown in Table 24, “Floodway Data.”

Table 23: Summary of Topographic Elevation Data used in Mapping

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Scale	Contour Interval	Citation
Lincoln County and Incorporated Areas	All flooding sources	Lidar	1:2,500	1 ft	OLC 2009-2012

BFEs shown at cross sections on the FIRM represent the 1% annual chance water surface elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report. Rounded whole-foot elevations may be shown on the FIRM in coastal areas, areas of ponding, and other areas with static base flood elevations.

Table 24: Floodway Data

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
A	30,660	457	8,215	6.2	13.7	13.7	13.7	0.0
B	31,740	503	8,731	5.9	13.8	13.8	13.9	0.1
C	33,170	453	7,572	6.7	13.9	13.9	14.0	0.1
D	34,720	376	7,010	7.3	14.1	14.1	14.3	0.2
E	36,600	436	8,432	6.1	14.7	14.7	14.8	0.1
F	38,150	329	6,636	7.7	14.9	14.9	14.9	0.0
G	39,790	246	5,552	9.2	15.1	15.1	15.1	0.0
H	41,450	416	7,566	6.8	15.5	15.5	16.4	0.9
I	43,170	655	9,732	5.3	16.1	16.1	17.0	0.9
J	44,090	298	7,491	6.8	16.4	16.4	17.3	0.9
K	45,480	585	9,479	5.4	17.1	17.1	17.8	0.7
L	46,510	485	8,979	5.7	17.3	17.3	18.1	0.8
M	48,510	560	9,838	5.2	18.1	18.1	19.0	0.9
N	49,470	620	12,551	4.0	18.6	18.6	19.5	0.9
O	52,070	271	6,582	7.5	19.1	19.1	20.1	1.0
P	53,440	232	6,273	7.9	19.8	19.8	20.8	1.0
Q	55,280	540 ²	9,661	5.1	21.3	21.3	22.1	0.8
R	56,880	495	8,163	6.1	21.8	21.8	22.7	0.9
S	57,850	482	8,813	5.6	22.4	22.4	23.2	0.8
T	59,650	353	7,165	6.9	22.7	22.7	23.7	1.0
U	61,790	322	8,405	5.9	24.0	24.0	24.8	0.8
V	62,600	319	6,557	7.6	24.0	24.0	24.8	0.8
W	64,200	682	8,782	5.6	24.7	24.7	25.7	1.0
X	65,670	378	7,360	6.7	25.3	25.3	26.3	1.0

¹Feet above mouth

²Widths have been adjusted from the previous effective FDT to match the redelineated floodway

TABLE 24

**FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OREGON
AND INCORPORATED AREAS**

FLOODWAY DATA

FLOODING SOURCE: ALSEA 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
Y	66,710	286	7,586	6.5	25.8	25.8	26.7	0.9
Z	68,010	526	8,013	6.2	26.4	26.4	27.2	0.8
AA	69,670	262 ²	7,720	6.4	27.5	27.5	28.3	0.8
AB	71,430	203	5,622	8.8	28.6	28.6	29.4	0.8
AC	73,350	346	7,685	6.5	30.5	30.5	31.5	1.0
AD	75,160	297	8,437	5.9	31.7	31.7	32.7	1.0
AE	76,010	254	6,707	7.4	32.0	32.0	33.0	1.0
AF	76,340	260	6,706	7.4	32.4	32.4	33.3	0.9
AG	76,910	228	5,625	8.8	32.8	32.8	33.7	0.9
AH	77,500	244	6,689	7.4	33.9	33.9	34.8	0.9
AI	78,900	273	6,621	7.5	34.9	34.9	35.8	0.9
AJ	80,650	230	6,780	7.3	36.4	36.4	37.4	1.0
AK	81,900	264	6,923	7.2	37.3	37.3	38.3	1.0
AL	83,370	195 ²	6,911	7.2	38.7	38.7	39.6	0.9
AM	84,590	202	4,835	10.3	39.5	39.5	40.3	0.8
AN	86,550	206	5,103	9.7	43.7	43.7	44.4	0.7
AO	88,370	228	5,235	9.5	47.0	47.0	47.6	0.6
AP	90,145	188	4,466	11.1	49.6	49.6	50.1	0.5
AQ	90,195	183	4,259	11.6	49.7	49.7	50.2	0.5
AR	90,235	262	4,921	10.1	49.8	49.8	50.4	0.6
AS	90,285	195	4,758	10.4	50.3	50.3	50.6	0.3
AT	90,895	230	6,444	7.7	51.7	51.7	52.1	0.4
AU	93,635	192	4,286	11.6	53.9	53.9	54.3	0.4
AV	95,035	180	5,222	9.5	57.2	57.2	57.7	0.5

¹Feet above mouth

²Widths have been adjusted from the previous effective FDT to match the redelineated floodway

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

LINCOLN COUNTY, OREGON

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: ALSEA 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
AW	97,485	203	4,979	9.3	60.5	60.5	61.1	0.6
AX	99,725	213	5,090	9.1	64.4	64.4	65.0	0.6
AY	102,295	271	6,182	7.5	68.5	68.5	69.4	0.9
AZ	104,745	182	4,336	10.7	72.3	72.3	73.3	1.0
BA	106,915	169	4,511	10.3	76.6	76.6	77.6	1.0
BB	108,615	217	5,873	7.9	79.7	79.7	80.5	0.8
BC	109,065	222	4,995	9.3	79.9	79.9	80.7	0.8
BD	109,115	220	4,883	9.5	80.0	80.0	80.8	0.8
BE	109,155	223	5,039	9.2	80.6	80.6	81.4	0.8
BF	109,205	227	5,212	8.9	80.8	80.8	81.6	0.8
BG	110,405	154	5,256	8.8	82.9	82.9	83.4	0.5
BH	112,505	696	7,697	6.0	84.9	84.9	85.6	0.7
BI	114,455	176	4,816	9.3	86.4	86.4	87.2	0.8
BJ	117,435	256	6,640	6.7	90.2	90.2	91.1	0.9
BK	119,645	230	5,352	8.4	92.5	92.5	93.3	0.8
BL	121,445	202	4,924	8.9	95.4	95.4	96.0	0.6
BM	123,965	206	5,146	8.5	99.0	99.0	99.7	0.7
BN	127,575	208	4,584	9.5	104.2	104.2	104.9	0.7
BO	129,285	138	3,294	9.2	107.4	107.4	107.9	0.5
BP	129,335	178	3,565	8.5	107.7	107.7	108.3	0.6
BQ	129,385	178	3,535	8.6	108.0	108.0	108.2	0.2
BR	129,435	139	3,335	9.1	108.0	108.0	108.2	0.2
BS	131,435	173	3,603	8.4	111.2	111.2	111.5	0.3
BT	133,475	160	3,640	8.4	114.4	114.4	114.6	0.2

¹Feet above mouth

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OREGON
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: ALSEA 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
BU	135,225	157	3,785	8.0	116.6	116.6	116.8	0.2
BV	136,575	174	4,082	7.4	118.3	118.3	118.6	0.3
BW	138,675	154	3,145	9.7	121.0	121.0	121.3	0.3
BX	140,845	144	2,982	10.2	126.3	126.3	126.6	0.3
BY	142,095	186	3,351	9.1	129.4	129.4	129.8	0.4
BZ	143,095	233	3,934	7.7	131.6	131.6	132.1	0.5
CA	144,105	155	3,490	8.7	133.0	133.0	133.5	0.5
CB	145,405	137	2,977	10.2	135.0	135.0	135.4	0.4
CC	146,105	149	3,730	8.1	137.0	137.0	137.3	0.3
CD	147,565	121	3,071	9.9	138.7	138.7	139.0	0.3
CE	149,775	140	3,694	8.2	142.2	142.2	142.8	0.6
CF	151,725	150	3,809	8.0	144.4	144.4	145.0	0.6
CG	153,925	143	3,386	9.0	147.3	147.3	147.9	0.6
CH	155,855	133	3,274	9.3	150.2	150.2	150.7	0.5
CI	157,325	121	3,015	10.1	152.7	152.7	153.2	0.5
CJ	158,295	131	3,093	9.8	155.0	155.0	155.4	0.4
CK	158,345	147 ²	3,568	8.5	155.6	155.6	156.3	0.7
CL	158,375	140 ²	3,522	8.6	155.7	155.7	156.1	0.4
CM	158,425	133	3,184	9.5	155.7	155.7	156.1	0.4
CN	159,635	197	5,252	5.8	157.8	157.8	158.4	0.6
CO	161,135	156	3,625	8.3	158.6	158.6	159.2	0.6
CP	163,175	117	2,561	11.9	161.8	161.8	162.5	0.7
CQ	165,625	344	6,687	4.5	166.5	166.5	167.3	0.8
CR	167,615	131	3,012	9.7	167.3	167.3	168.0	0.7
CS	169,215	199	3,939	7.4	170.2	170.2	170.8	0.6

¹Feet above mouth

²Widths have been adjusted from the previous effective FDT to match the redelineated floodway

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

LINCOLN COUNTY, OREGON

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: ALSEA RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET) ²	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	1,100	200	1,040	1.2	24.6	24.6	25.6	1.0
B	1,750	77	334	3.7	25.6	25.6	26.6	1.0
C	2,190	98	428	2.9	27.6	27.6	28.6	1.0
D	2,790	131 ²	747	1.7	29.2	29.2	30.2	1.0
E	3,330	72 ²	612	2.0	30.0	30.0	31.0	1.0

¹Feet above mouth

²Widths have been adjusted from the previous effective FDT to match the redelineated floodway

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

LINCOLN COUNTY, OREGON

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: BIG 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 ²	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	5,180	290	3,128	1.2	16.3	8.6	9.6	1.0
B	7,390	280	3,270	1.2	16.3	9.6	10.6	1.0
C	8,690	100	802	4.8	16.3	9.7	10.5	0.8
D	8,740	80	576	6.7	16.3	10.1	10.2	0.1
E	8,870	27	342	11.3	16.3	13.1	13.3	0.2
F	9,120	68	974	4.0	16.3	15.8	16.0	0.2
G	9,440	68	1,060	3.6	16.3	15.9	16.3	0.4
H	10,115	83	1,249	3.1	16.3	15.9	16.6	0.7
I	10,205	120	1,526	2.5	16.3	15.9	16.6	0.7
J	10,515	180	2,041	1.9	16.3	16.0	16.8	0.8
K	11,025	200	1,860	2.1	16.3	16.0	16.8	0.8
L	11,585	285	3,344	1.2	16.3	16.1	17.0	0.9
M	12,805	350	4,280	0.9	16.3	16.1	17.1	1.0
N	13,620	390	4,735	0.8	16.3	16.1	17.1	1.0
O	13,785	420	5,088	0.8	16.3	16.1	17.1	1.0
P	13,855	350	4,227	0.9	16.3	16.2	17.2	1.0
Q	14,105	410	4,130	0.9	16.3	16.2	17.2	1.0
R	14,155	410	4,112	0.9	16.3	16.2	17.2	1.0
S	14,625	350	4,137	0.9	16.4	16.2	17.2	1.0
T	15,555	440	4,642	0.8	16.4	16.2	17.2	1.0
U	16,335	515	5,454	0.7	16.4	16.2	17.2	1.0
V	17,095	515	5,820	0.7	16.4	16.3	17.3	1.0

¹Feet above mouth

²Elevations reflect backwater from Yaquina River

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OREGON
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: DEPOT CREEK/SLOUGH

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
A	580	171 ²	2,155	4.4	13.4	13.4	13.4	0.0
B	3,420	700	5,740	1.7	14.6	14.6	14.9	0.3
C	4,420	1231	8,270	1.1	15.1	15.1	15.9	0.8
D	4,450	1223	8,267	1.1	15.1	15.1	16.0	0.9
E	4,470	1228	8,305	1.1	15.1	15.1	16.0	0.9
F	4,520	1229	8,411	1.1	15.2	15.2	16.1	0.9
G	8,320	940	5,728	1.7	17.9	17.9	18.9	1.0
H	9,370	547	3,183	3.0	18.4	18.4	19.4	1.0
I	11,670	840	2,279	4.2	20.1	20.1	21.1	1.0
J	11,970	650 ³	2,514	3.8	21.1	21.1	21.6	0.5
K	12,020	700 ³	2,515	3.8	21.1	21.1	21.6	0.5
L	12,050	730 ³	2,569	3.7	21.2	21.2	21.6	0.4
M	12,090	790 ³	2,733	3.5	21.3	21.3	21.7	0.4
N	12,440	850 ³	2,603	3.6	21.6	21.6	21.7	0.1
O	13,460	1050 ³	5,203	1.8	22.3	22.3	23.2	0.9
P	15,460	720 ³	3,354	2.8	24.1	24.1	25.1	1.0
Q	18,110	111	1,051	9.0	30.5	30.5	31.2	0.7

¹Feet above mouth

²Widths have been adjusted from the previous effective FDT to match the redelineated floodway

³Width does not include island

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

LINCOLN COUNTY, OREGON

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: DRIFT 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
A	4,720	123	637	3.4	16.7 ²	1.8	2.8	1.0
B	7,425	96	879	2.5	16.7 ²	3.8	4.3	0.5
C	12,695	289	798	2.7	16.7 ²	6.3	6.9	0.6
D	17,695	232	1,075	0.9	16.7 ²	7.9	8.7	0.8
E	18,135	385	1,513	0.6	16.7 ²	8.4	8.7	0.3
F	18,185	528	4,351	0.2	16.7 ²	12.8	13.1	0.3
G	18,235	340	2,777	0.3	16.7 ²	12.8	13.1	0.3
H	19,145	521	4,262	0.2	16.7 ²	12.8	13.1	0.3
I	20,985	427	3,680	0.3	16.7 ²	12.8	13.1	0.3
J	23,565	330	1,674	0.5	16.7 ²	12.8	13.1	0.3
K	26,190	129	263	3.5	16.7 ²	16.0	17.0	1.0
L	27,960	45	160	4.5	23.3	23.3	23.4	0.1
M	29,995	100/21 ³	342	2.1	27.4	27.4	28.3	0.9
N	30,295	21	142	5.1	28.6	28.6	28.9	0.3
O	31,215	33	135	5.4	32.4	32.4	32.7	0.3
P	31,465	26	132	5.4	33.3	33.3	33.7	0.4
Q	31,765	25	133	5.4	34.5	34.5	35.2	0.7
R	32,635	32	126	5.7	38.7	38.7	38.9	0.2
S	33,025	25	123	5.9	39.9	39.9	40.6	0.7
T	34,200	24	131	5.5	45.7	45.7	46.5	0.8
U	34,950	32	88	8.2	51.5	51.5	51.9	0.4
V	35,570	21	142	3.1	54.4	54.4	55.3	0.9

¹Feet above mouth

²Elevations reflect backwater from Yaquina River

³Right Channel/Left Channel

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

LINCOLN COUNTY, OREGON

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: OLALLA CREEK/SLOUGH

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
A	22,620	309 ²	2,564	5.1	22.3	22.3	23.3	1.0
B	22,810	253 ²	2,516	5.2	22.4	22.4	23.4	1.0
C	23,210	249 ²	2,346	5.5	23.3	23.3	23.8	0.5
D	24,510	174 ²	2,110	6.2	24.5	24.5	25.4	0.9
E	25,250	251 ²	2,045	6.3	26.7	26.7	27.0	0.3
F	26,210	287 ²	2,417	5.4	27.5	27.5	28.2	0.7
G	26,790	263 ²	3,868	3.5	28.6	28.6	29.4	0.8
H	26,800	262 ²	2,572	5.1	28.8	28.8	29.4	0.6
I	26,810	262 ²	4,094	3.2	28.8	28.8	29.8	1.0
J	27,080	175 ²	2,991	4.3	29.2	29.2	30.2	1.0
K	28,220	160 ²	1,900	6.8	30.1	30.1	31.0	0.9
L	29,040	156 ²	1,711	7.2	31.8	31.8	32.4	0.6
M	29,640	124 ²	1,773	6.9	33.3	33.3	33.7	0.4
N	31,440	80 ²	1,213	10.1	37.8	37.8	38.5	0.7
O	32,500	89 ²	953	12.9	45.5	45.5	45.8	0.3
P	35,125	128 ²	1,441	8.0	62.1	62.1	63.0	0.9
Q	37,050	120 ²	958	12.1	72.3	72.3	72.5	0.2
R	39,325	126	1,340	8.6	91.7	91.7	92.7	1.0
S	39,975	141	1,339	7.8	96.4	96.4	97.3	0.9
T	40,575	136	1,347	7.7	99.2	99.2	100.2	1.0
U	42,425	90 ²	870	12.0	112.5	112.5	113.3	0.8
V	43,575	111 ²	1,089	9.4	123.2	123.2	123.6	0.4
W	45,100	66	949	10.8	132.7	132.7	133.0	0.3
X	45,130	73 ²	*	*	133.4	*	*	*

¹Feet above mouth

²Widths have been adjusted from the previous effective FDT to match the redelineated floodway

*Data not available

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

LINCOLN COUNTY, OREGON

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: SALMON RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET) ²	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Y	45,350	140	*	*	135.0	*	*	*
Z	47,100	92	*	*	150.6	*	*	*
AA	47,450	65	*	*	152.5	*	*	*
AB	47,470	65	*	*	153.0	*	*	*
AC	49,570	98	*	*	167.3	*	*	*
AD	51,545	71	*	*	177.6	*	*	*
AE	52,025	80	*	*	185.0	*	*	*
AF	52,055	81	*	*	185.2	*	*	*
AG	52,175	35	*	*	185.8	*	*	*
AH	52,375	55	*	*	191.0	*	*	*
AI	52,925	57	*	*	199.0	*	*	*
AJ	53,275	59	*	*	204.7	*	*	*
AK	53,276	57	*	*	204.9	*	*	*
AL	53,296	57	*	*	205.0	*	*	*
AM	56,016	95	*	*	221.6	*	*	*
AN	57,296	59	*	*	235.4	*	*	*
AO	57,316	53	*	*	236.8	*	*	*
AP	59,571	82	*	*	255.8	*	*	*
AQ	61,071	104	*	*	268.7	*	*	*
AR	63,221	81	*	*	290.8	*	*	*
AS	64,221	91	*	*	300.2	*	*	*
AT	65,021	76	*	*	309.3	*	*	*

¹Feet above mouth

²Widths have been adjusted from the previous effective FDT to match the redelineated floodway

*Data not available

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

LINCOLN COUNTY, OREGON

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: SALMON 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
A	750	289	2,416	1.7	13.6 ³	12.4	13.4	1.0
B	2,450	705	3,093	1.3	13.6 ³	12.6	13.6	1.0
C	4,350	555	3,400	1.2	13.6 ³	12.8	13.8	1.0
D	7,850	584	2,399	1.7	13.6 ³	13.5	14.5	1.0
E	9,800	411	815	4.9	16.9	16.9	17.9	1.0
F	10,680	553	1,567	2.6	21.8	21.8	22.8	1.0
G	10,730	530	1,445	2.8	21.9	21.9	22.9	1.0
H	10,750	530	1,450	2.8	22.0	22.0	22.9	0.9
I	10,800	522	1,385	2.9	22.1	22.1	23.0	0.9
J	12,450	752	1,471	2.7	27.5	27.5	28.4	0.9
K	15,030	110 ²	686	5.9	39.2	39.2	39.8	0.6
L	15,080	56 ²	514	7.8	39.1	39.1	39.9	0.8
M	15,100	85 ²	548	7.4	39.6	39.6	40.4	0.8
N	15,260	638	2,555	1.6	40.9	40.9	41.7	0.8
O	16,870	79	503	8.0	49.6	49.6	50.6	1.0
P	19,100	133 ²	*	*	60.7	*	*	*
Q	19,150	106 ²	*	*	61.2	*	*	*
R	19,170	87 ²	*	*	61.4	*	*	*
S	19,220	74 ²	*	*	61.7	*	*	*
T	20,195	67 ²	*	*	66.5	*	*	*
U	21,195	87 ²	*	*	77.2	*	*	*
V	21,895	99 ²	*	*	81.0	*	*	*
W	22,625	241 ²	*	*	86.0	*	*	*
X	22,675	218 ²	*	*	86.3	*	*	*

¹Feet above mouth

²Widths have been adjusted from the previous effective FDT to match the redelineated floodway

³Elevations reflect backwater from Siletz Bay

*Data not available

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

LINCOLN COUNTY, OREGON

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: SCHOONER 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
Y	22,695	215 ²	*	*	86.7	*	*	*
Z	22,745	203	*	*	86.9	*	*	*
AA	24,195	67	*	*	96.4	*	*	*
AB	25,375	35	*	*	105.2	*	*	*
AC	25,425	25	*	*	105.4	*	*	*
AD	25,445	53	*	*	105.7	*	*	*
AE	25,495	131	*	*	107.2	*	*	*
AF	27,341	83	*	*	115.0	*	*	*

¹Feet above mouth

²Widths have been adjusted from the previous effective FDT to match the redelineated floodway

*Data not available

TABLE 24	FEDERAL EMERGENCY MANAGEMENT AGENCY LINCOLN COUNTY, OREGON AND INCORPORATED AREAS	FLOODWAY DATA
		FLOODING SOURCE: SCHOONER 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
A	4,560	610 ³	11,250	5.4	13.4	13.4	13.4	0.0
B	6,160	635 ³	12,200	5.0	14.5	14.5	14.6	0.1
C	9,010	410 ³	9,100	6.7	16.1	16.1	16.2	0.1
D	10,610	721	12,657	4.8	18.0	18.0	18.2	0.2
E	12,160	763	13,614	4.5	18.8	18.8	19.2	0.4
F	14,160	630	11,587	5.3	19.8	19.8	20.3	0.5
G	16,560	468	14,181	4.3	21.0	21.0	21.7	0.7
H	19,785	1422 ²	26,650	2.3	21.7	21.7	22.4	0.7
I	22,560	889	16,588	3.6	22.2	22.2	23.1	0.9
J	24,435	552	11,851	5.1	22.8	22.8	23.8	1.0
K	26,460	639	14,689	4.1	23.8	23.8	24.8	1.0
L	27,910	352	10,103	6.0	24.2	24.2	25.2	1.0
M	29,710	633	15,025	4.0	25.0	25.0	26.0	1.0
N	30,810	343	10,585	5.7	25.3	25.3	26.3	1.0
O	32,510	798	16,756	3.6	26.0	26.0	27.0	1.0
P	33,960	666	14,695	4.1	26.4	26.4	27.4	1.0
Q	35,610	589	14,305	4.1	26.8	26.8	27.8	1.0
R	37,510	790	18,978	3.1	27.3	27.3	28.3	1.0
S	39,110	584	13,664	4.3	27.7	27.7	28.7	1.0
T	40,860	815	20,966	2.8	28.3	28.3	29.3	1.0
U	42,110	805	17,926	3.3	28.4	28.4	29.4	1.0
V	43,610	848	19,078	3.1	28.9	28.9	29.9	1.0
W	45,060	811	20,414	2.9	29.2	29.2	30.2	1.0
X	47,260	1233	25,034	2.4	29.6	29.6	30.6	1.0

¹Feet above mouth

²Widths have been adjusted from the previous effective FDT to match the redelineated floodway

³Includes Millport Slough

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

LINCOLN COUNTY, OREGON

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: SILETZ 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
Y	48,510	598	16,046	3.7	29.7	29.7	30.7	1.0
Z	49,810	790	19,642	3.0	30.1	30.1	31.1	1.0
AA	51,310	819	18,055	3.3	30.4	30.4	31.4	1.0
AB	52,910	942	20,210	2.9	30.8	30.8	31.8	1.0
AC	113,400	716	15,961	3.4	53.8	53.8	54.8	1.0
AD	114,230	973	20,884	2.6	54.0	54.0	55.0	1.0
AE	116,110	1628	33,541	1.6	54.8	54.8	55.8	1.0
AF	117,090	1772	32,860	1.6	54.8	54.8	55.8	1.0
AG	118,720	1688	25,694	2.1	55.0	55.0	56.0	1.0
AH	120,520	1664	27,849	1.9	55.6	55.6	56.6	1.0
AI	122,170	1549	27,464	1.9	56.0	56.0	57.0	1.0
AJ	123,795	998	17,540	2.9	56.3	56.3	57.3	1.0
AK	125,295	931	13,826	3.7	56.5	56.5	57.5	1.0
AL	126,820	748	13,669	3.7	57.4	57.4	58.4	1.0
AM	128,895	1080	13,282	3.8	57.8	57.8	58.8	1.0
AN	130,045	231	8,817	5.8	58.5	58.5	59.5	1.0
AO	182,525	171 ²	5,306	8.4	90.6	90.6	91.6	1.0
AP	184,410	190	5,755	7.8	93.5	93.5	94.4	0.9
AQ	186,435	237	6,992	6.4	95.9	95.9	96.9	1.0
AR	188,060	198 ²	6,866	6.5	97.2	97.2	98.1	0.9
AS	190,795	273	6,181	7.2	99.5	99.5	100.2	0.7
AT	192,530	226	6,802	6.6	101.5	101.5	102.1	0.6
AU	192,680	227	6,842	6.5	101.6	101.6	102.3	0.7
AV	194,140	426	8,425	5.3	102.8	102.8	103.4	0.6

¹Feet above mouth

²Widths have been adjusted from the previous effective FDT to match the redelineated floodway

TABLE 24

**FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OREGON
AND INCORPORATED AREAS**

FLOODWAY DATA

FLOODING SOURCE: SILETZ 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
AW	196,210	466 ²	9,642	4.6	104.6	104.6	105.2	0.6
AX	198,000	869	13,611	3.3	105.8	105.8	106.3	0.5
AY	199,865	517	8,101	5.5	107.0	107.0	107.5	0.5
AZ	201,350	249 ²	6,754	6.6	108.4	108.4	108.9	0.5
BA	202,760	201	5,426	8.2	110.1	110.1	110.5	0.4
BB	204,670	255 ²	5,989	7.5	112.4	112.4	112.9	0.5
BC	206,080	183	5,346	8.4	114.1	114.1	114.6	0.5
BD	208,245	408	9,364	4.8	116.7	116.7	117.2	0.5
BE	209,420	396	8,897	4.8	117.5	117.5	118.0	0.5
BF	211,770	261	5,474	7.8	119.0	119.0	119.4	0.4
BG	213,540	172	5,133	8.4	121.7	121.7	122.2	0.5
BH	215,070	198	5,133	7.2	123.6	123.6	124.1	0.5
BI	215,310	196	5,876	7.3	123.8	123.8	124.4	0.6
BJ	216,890	220	5,922	7.2	125.7	125.7	126.3	0.6
BK	218,380	194	4,594	9.3	127.5	127.5	128.1	0.6
BL	220,530	494	7,869	5.5	131.6	131.6	132.5	0.9
BM	222,255	223	5,596	7.3	133.3	133.3	134.1	0.8
BN	224,305	187	5,348	7.7	135.8	135.8	136.5	0.7
BO	226,920	191	5,111	8.0	138.8	138.8	139.4	0.6
BP	228,770	197	4,993	8.2	141.2	141.2	141.7	0.5
BQ	230,670	267 ²	6,549	6.3	144.1	144.1	144.4	0.3
BR	232,370	256 ²	*	*	146.4	*	*	*
BS	234,230	225 ²	*	*	149.0	*	*	*
BT	235,880	256 ²	*	*	151.3	*	*	*

¹Feet above mouth

²Widths have been adjusted from the previous effective FDT to match the redelineated floodway

*Data not available

TABLE 24	FEDERAL EMERGENCY MANAGEMENT AGENCY LINCOLN COUNTY, OREGON AND INCORPORATED AREAS	FLOODWAY DATA FLOODING SOURCE: SILETZ RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET) ²	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BU	238,205	240	*	*	154.4	*	*	*
BV	239,955	175	*	*	156.4	*	*	*
BW	240,205	257	*	*	156.7	*	*	*
BX	241,205	235	*	*	158.6	*	*	*
BY	243,305	200	*	*	162.0	*	*	*
BZ	244,955	256	*	*	164.3	*	*	*
CA	247,155	220	*	*	168.5	*	*	*
CB	248,755	219	*	*	169.9	*	*	*
CC	250,855	226	*	*	173.2	*	*	*
CD	253,305	343	*	*	178.5	*	*	*
CE	256,205	258	*	*	186.7	*	*	*
CF	256,355	263	*	*	187.2	*	*	*
CG	258,205	279	*	*	191.7	*	*	*

¹Feet above mouth

²Widths have been adjusted from the previous effective FDT to match the redelineated floodway

*Data not available

TABLE 24

**FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OREGON
AND INCORPORATED AREAS**

FLOODWAY DATA

FLOODING SOURCE: SILETZ 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
A	150	100	471	1.9	16.7 ³	7.2	8.2	1.0
B	1,900	87	307	2.9	16.7 ³	9.7	9.7	0.0
C	1,950	13	70	12.5	16.7 ³	10.0	10.3	0.3
D	1,985	16	82	10.7	16.7 ³	10.2	10.5	0.3
E	2,035	77	288	3.1	16.7 ³	11.9	12.7	0.8
F	3,085	156 ²	1,097	0.8	16.7 ³	12.5	13.2	0.7
G	4,410	74	229	3.8	16.7 ³	12.8	13.5	0.7
H	4,450	130	110	8.0	16.7 ³	13.2	13.3	0.1
I	4,460	186	112	7.0	16.7 ³	13.2	13.5	0.3
J	4,475	120	211	4.2	16.7 ³	14.9	15.0	0.1
K	4,485	105	316	2.8	16.7 ³	14.9	15.2	0.3
L	4,535	30	251	3.5	16.7 ³	14.9	15.2	0.3
M	4,610	31	259	3.4	16.7 ³	15.0	15.4	0.4
N	4,660	10	92	9.6	16.7 ³	15.0	15.4	0.4
O	4,950	0 ²	108	8.2	16.7 ³	15.0	15.4	0.4
P	5,000	179 ²	1,683	0.5	18.8	18.8	19.1	0.3
Q	5,700	171	706	1.2	18.8	18.8	19.1	0.3
R	6,800	133	419	2.1	19.3	19.3	19.7	0.4
S	7,775	212	528	1.7	20.6	20.6	20.9	0.3
T	8,800	22	115	7.7	22.2	22.2	22.9	0.7
U	9,820	154	348	2.5	28.9	28.9	29.6	0.7
V	11,075	57	184	3.5	34.4	34.4	35.0	0.6
W	12,565	37 ²	106	6.1	44.4	44.4	44.9	0.5

¹Feet above mouth

²Widths have been adjusted from previous effective FDT to match the redelineated floodway

³Elevations reflect backwater from Yaquina River

TABLE 24	FEDERAL EMERGENCY MANAGEMENT AGENCY LINCOLN COUNTY, OREGON AND INCORPORATED AREAS	FLOODWAY DATA FLOODING SOURCE: WEST OLALLA 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
A	2,670	145	1,256	7.3	12.4	12.4	13.4	1.0
B	3,870	115	1,277	7.1	14.9	14.9	15.3	0.4
C	6,070	111	1,338	6.8	17.6	17.6	17.9	0.3
D	8,150	95	1,128	7.9	19.6	19.6	20.3	0.7
E	10,950	182	1,611	5.5	23.1	23.1	23.9	0.8
F	12,200	91	1,259	7.0	24.1	24.1	25.0	0.9

¹Feet above mouth

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OREGON
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: YACHATS 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
A	116,130	396	6,435	4.4	21.8	21.8	22.8	1.0
B	117,320	378	6,243	4.5	22.2	22.2	23.2	1.0
C	117,655	381	7,484	3.7	22.5	22.5	23.4	0.9
D	117,685	382	7,745	3.6	22.6	22.6	23.5	0.9
E	119,410	226	2,995	4.7	22.8	22.8	23.8	1.0
F	121,270	323	4,207	3.3	23.7	23.7	24.6	0.9
G	122,720	349	4,110	3.4	24.2	24.2	25.2	1.0
H	186,795	219 ²	*	*	90.7	*	*	*
I	188,800	191	*	*	93.0	*	*	*
J	188,830	202	*	*	93.1	*	*	*
K	188,880	210 ²	*	*	93.3	*	*	*
L	189,295	200	*	*	93.5	*	*	*
M	189,325	214	*	*	93.7	*	*	*
N	189,370	319	*	*	93.8	*	*	*
O	191,790	259	*	*	95.9	*	*	*
P	191,890	247 ²	*	*	96.3	*	*	*
Q	191,940	275 ²	*	*	96.3	*	*	*
R	192,020	352 ²	*	*	96.4	*	*	*
S	193,170	442	*	*	96.8	*	*	*
T	195,420	238	*	*	97.8	*	*	*
U	197,970	204	*	*	100.6	*	*	*
V	199,920	174	*	*	102.8	*	*	*
W	201,670	107 ²	*	*	105.3	*	*	*
X	201,750	92 ²	*	*	105.5	*	*	*

¹Feet above mouth

²Widths have been adjusted from the previous effective FDT to match the redelineated floodway

*Data not available

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

LINCOLN COUNTY, OREGON

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: YAQUINA RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET) ²	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Y	202,385	110 ²	*	*	106.5	*	*	*
Z	204,435	620	*	*	109.4	*	*	*
AA	206,060	102 ²	*	*	111.2	*	*	*

¹Feet above mouth

²Widths have been adjusted from the previous effective FDT to match the redelineated floodway

*Data not available

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OREGON
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: YAQUINA RIVER

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

[Not Applicable to this FIS Project]

6.4 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. Sources for topographic data are shown in Table 23.

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 (hv^2) is greater than or equal to $200 \text{ ft}^3/\text{sec}^2$. 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 26 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 26: 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 30	NA	Runup	Runup
2		VE 37	NA	Runup	Runup
3		VE 30	NA	Runup	Runup
4		VE 28	NA	Runup	Runup
5		VE 28	NA	Runup	Runup
6		VE 32	NA	Runup	Runup
7		VE 27	NA	Runup	Runup
8		VE 24	NA	Runup	Runup
9		VE 26	NA	Runup	Runup
10		NA	VE 26, VE 21, AE 20	High Velocity	High Velocity Limit
11		VE 35	NA	Runup	Runup
12		VE 40	NA	Runup	Runup
13		NA	VE 34	Splash Zone	Splash Zone
14		NA	VE 35	Splash Zone	Splash Zone
15		VE 29	NA	Runup	Runup
16		VE 31	NA	Runup	Runup
17		NA	VE 35, VE 29, AE 30	High Velocity	High Velocity Limit
18		NA	VE 30, VE 27, VE 23, AE 27, AE 22	High Velocity	High Velocity Limit
19		NA	VE 31, VE 25	High Velocity	High Velocity Limit
20		NA	VE 30, VE 24, AE 22	High Velocity	High Velocity Limit
21		NA	VE 34, VE 23, AE 22	High Velocity	High Velocity Limit
22		NA	VE 33, VE 23, AE 22	High Velocity	High Velocity Limit

Table 26: 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)		
23		NA	VE 37, VE 25, VE, 21, AE 24, AE 21	High Velocity	High Velocity Limit
24		NA	VE 27, VE 21, AE 20	High Velocity	High Velocity Limit
25		NA	VE 38, VE 23, VE 22, AE 21	High Velocity	High Velocity Limit
26		NA	VE 28, VE 19, AE 18	High Velocity	High Velocity Limit
27		VE 26	NA	Runup	Runup
28		NA	VE 33, VE 22, AE 21	High Velocity	High Velocity Limit
29		NA	VE 34, VE 22, AE 21	High Velocity	High Velocity Limit
30		VE 25	NA	Runup	Runup
31		VE 24	NA	Runup	Runup
32		NA	VE 27, AE 21	High Velocity	High Velocity Limit
33		NA	VE 41, VE 29, VE 24	High Velocity	High Velocity Limit
34		NA	VE 35, VE 24, VE 26	High Velocity	High Velocity Limit
35		NA	VE 44, VE 31, VE 30, AE 28	High Velocity	High Velocity Limit
36		NA	VE 38, VE 29, AE 28	High Velocity	High Velocity Limit
37		NA	VE 36, VE 25, AE 24	High Velocity	High Velocity Limit
38		NA	VE 28, AE 22	High Velocity	High Velocity Limit
39		NA	VE 36, VE 29, AE 32, AE 28	High Velocity	High Velocity Limit

Table 26: 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)		
40		NA	VE 31, AE 27	High Velocity	High Velocity Limit
41		NA	VE 33, AE 30	High Velocity	High Velocity Limit
42		NA	VE 33, VE 31, AE 30	High Velocity	High Velocity Limit
43		NA	VE 36, VE 35, VE 31, AE 33, AE 30	High Velocity	High Velocity Limit
44		VE 36	NA	Runup	Runup
45		NA	VE 35, VE 33, AE 32	High Velocity	High Velocity Limit
46		NA	VE 38, VE 33, AE 32	High Velocity	High Velocity Limit
47		VE 33	NA	Runup	Runup
48		VE 30	NA	Runup	Runup
49		NA	VE 36, VE 31, AE 30	High Velocity	High Velocity Limit
50		NA	VE 32, VE 30, AE 29	High Velocity	High Velocity Limit
51		NA	VE 34, VE 26, AE 24	High Velocity	High Velocity Limit
52	✓	VE 25	NA	PFD	PFD
53	✓	VE 23	NA	PFD	PFD
54	✓	NA	VE 25	Splash Zone	Splash Zone
55		VE 36	NA	Runup	Runup
56		VE 26	NA	Runup	Runup
57		NA	VE 34, AE 27	High Velocity	High Velocity Limit
58		VE 24	NA	Runup	Runup
59		NA	VE 28	Splash Zone	Splash Zone

Table 26: 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)		
60		VE 25	NA	Runup	Runup
61		VE 31	NA	Runup	Runup
62		VE 25	NA	Runup	Runup
63		NA	VE 29, VE 25, AE 24	High Velocity	High Velocity Limit
64		NA	VE 31, AE 25	High Velocity	High Velocity Limit
65		NA	VE 29	Splash Zone	Splash Zone
66		VE 24	NA	Runup	Runup
67		VE 26	NA	Runup	Runup
68		VE 25	NA	Runup	Runup
69	✓	VE 27	NA	PFD	PFD
70		VE 23	NA	Runup	Runup
71		VE 23	NA	Runup	Runup
72		NA	VE 23	Splash Zone	Splash Zone
73		VE 25	NA	Runup	Runup
74	✓	VE 27	NA	PFD	PFD
75	✓	VE 36	NA	PFD	PFD
76	✓	VE 25	NA	PFD	PFD
77	✓	VE 26	NA	PFD	PFD
78	✓	VE 26	NA	PFD	PFD
79	✓	VE 24	NA	PFD	PFD
80	✓	VE 30	NA	PFD	PFD
81	✓	VE 25	NA	Runup	Runup
82		NA	VE 30, VE 25	High Velocity	High Velocity Limit
83		VE 29	NA	Runup	Runup
84		VE 25	NA	Runup	Runup
85		VE 24	NA	Runup	Runup
86		VE 24	NA	Runup	Runup

Table 26: 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)		
87		VE 23	NA	Runup	Runup
88		VE 23	NA	Runup	Runup
89		VE 33	NA	Runup	Runup
90		VE 24	NA	Runup	Runup
91		NA	VE 35	Splash Zone	Splash Zone
92		VE 24	NA	Runup	Runup
93		VE 36	NA	Runup	Runup
94		VE 36	NA	Runup	Runup
95		VE 29	NA	Runup	Runup
96		VE 44	NA	Runup	Runup
97		VE 39	NA	Runup	Runup
98		VE 44	NA	Runup	Runup
99		NA	VE 42, VE 34, AE 33	High Velocity	High Velocity Limit
100		VE 37	NA	Runup	Runup
101		VE 36	NA	Runup	Runup
102		VE 34	NA	Runup	Runup
103		VE 43	NA	Runup	Runup
104		VE 35	NA	Runup	Runup
105		NA	VE 21	Splash Zone	Splash Zone
106		NA	VE 21, AE 17	High Velocity	High Velocity Limit
107	✓	NA	VE 30, AE 20	High Velocity	High Velocity Limit
108	✓	VE 26	NA	PFD	PFD
109		NA	VE 34	Splash Zone	Splash Zone
110		VE 33	NA	Runup	Runup
111		VE 36	NA	Runup	Runup
112		VE 32	NA	Runup	Runup
113		VE 44	NA	Runup	Runup

Table 26: 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)		
114		VE 42	NA	Runup	Runup
115		NA	VE 38, VE 33	High Velocity	High Velocity Limit
116		VE 38	NA	Runup	Runup
117		VE 36	NA	Runup	Runup
118		NA	VE 26	Splash Zone	Splash Zone
119		NA	VE 34, VE 23	High Velocity	High Velocity Limit
120		NA	VE 36, VE 27	High Velocity	High Velocity Limit
121		VE 39	NA	Runup	Runup
122		VE 42	NA	Runup	Runup
123		VE 39	NA	Runup	Runup
124		VE 45	NA	Runup	Runup
125		VE 35	NA	Runup	Runup
126		VE 25	NA	Runup	Runup
127		NA	VE 36, VE 33	High Velocity	High Velocity Limit
136		VE 30	NA	Runup	Runup
137		VE 39	NA	Runup	Runup
138		VE 36	NA	Runup	Runup
139	✓	NA	VE 28, VE 27, VE 21, AE 26, AE 20	High Velocity	High Velocity Limit
140	✓	NA	VE 31	Splash Zone	Splash Zone
141	✓	VE 29	NA	Runup	Runup
142	✓	VE 31	NA	PFD	PFD
143	✓	VE 25	NA	PFD	PFD
144	✓	VE 25	NA	PFD	PFD
145		VE 35	NA	Runup	Runup
146		VE 37	NA	Runup	Runup

Table 26: 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)		
147		VE 27	NA	Runup	Runup
148		VE 39	NA	Runup	Runup
149		NA	VE 37, VE 28, AE 27	High Velocity	High Velocity Limit
150		VE 31	NA	Runup	Runup
151		VE 25	NA	Runup	Runup
152		VE 22	NA	Runup	Runup
153		VE 33	NA	Runup	Runup
154		VE 22	NA	Runup	Runup
155		VE 22	NA	Runup	Runup
156		VE 23	NA	Runup	Runup
157		VE 23	NA	Runup	Runup
158		VE 23	NA	Runup	Runup
159		VE 22	NA	Runup	Runup
160		VE 25	NA	Runup	Runup
161		VE 38	NA	Runup	Runup
162		VE 54	NA	Runup	Runup
163		VE 30	NA	Runup	Runup
164		VE 34	NA	Runup	Runup
165		VE 39	NA	Runup	Runup
166		NA	VE 32	Splash Zone	Splash Zone
167		NA	VE 31	Splash Zone	Splash Zone
168		VE 39	NA	Runup	Runup
169		VE 32	NA	Runup	Runup
170		VE 45	NA	Runup	Runup
171		VE 40	NA	Runup	Runup
172		VE 36	NA	Runup	Runup
173		VE 38	NA	Runup	Runup

Table 26: 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)		
174		NA	VE 33, AE 31, AE 26	High Velocity	High Velocity Limit
175		VE 35	NA	Runup	Runup
176		VE 46	NA	Runup	Runup
177		VE 43	NA	Runup	Runup
178		VE 34	NA	Runup	Runup
179		VE 42	NA	Runup	Runup
180		VE 36	NA	Runup	Runup
181		NA	VE 25, VE 18	High Velocity	High Velocity Limit
182		VE 31	NA	Runup	Runup
183		VE 31	NA	Runup	Runup
184		VE 34	NA	Runup	Runup
185		VE 37	NA	Runup	Runup
186		VE 37	NA	Runup	Runup
187		VE 33	NA	Runup	Runup
188		VE 48	NA	Runup	Runup
189		VE 50	NA	Runup	Runup
190		VE 52	NA	Runup	Runup
191		VE 49	NA	Runup	Runup
192		VE 48	NA	Runup	Runup
193		VE 46	NA	Runup	Runup
194		VE 40	NA	Runup	Runup
195		VE 43	NA	Runup	Runup
196		VE 44	NA	Runup	Runup
197		VE 39	NA	Runup	Runup
198		VE 47	NA	Runup	Runup
199		NA	VE 56, AE 55	High Velocity	High Velocity Limit
200		VE 38	NA	Runup	Runup

Table 26: 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)		
201		VE 45	NA	Runup	Runup
202		VE 47	NA	Runup	Runup
203		VE 47	NA	Runup	Runup
204		VE 40	NA	Runup	Runup
205		VE 34	NA	Runup	Runup
206		VE 32	NA	Runup	Runup
207		VE 42	NA	Runup	Runup
208		VE 48	NA	Runup	Runup
209		VE 48	NA	Runup	Runup
209B		VE 41	NA	Runup	Runup
210		VE 50	NA	Runup	Runup
211		VE 39	NA	Runup	Runup
212		VE 39	NA	Runup	Runup
213		VE 45	NA	Runup	Runup
214		VE 49	NA	Runup	Runup
215		VE 33	NA	Runup	Runup
216		VE 46	NA	Runup	Runup
217		VE 33	NA	Runup	Runup
218		VE 22	NA	Runup	Runup
219		NA	VE 30, VE 23, VE 15	High Velocity	High Velocity Limit
220		VE 35	NA	Runup	Runup
221		VE 43	NA	Runup	Runup
222		VE 40	NA	Runup	Runup
223		VE 39	NA	Runup	Runup
224		VE 42	NA	Runup	Runup
225		VE 45	NA	Runup	Runup
226		VE 41	NA	Runup	Runup
227		VE 42	NA	Runup	Runup

Table 26: 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)		
228		VE 38	NA	Runup	Runup
229		NA	VE 35	Splash Zone	Splash Zone
230		NA	VE 38	High Velocity	High Velocity Limit
231		VE 38	NA	Runup	Runup
232		VE 45	NA	Runup	Runup
233		VE 42	NA	Runup	Runup
234		VE 39	NA	Runup	Runup
235		VE 42	NA	Runup	Runup
236		VE 29	NA	Runup	Runup
237		VE 41	NA	Runup	Runup
238		VE 40	NA	Runup	Runup
239		VE 34	NA	Runup	Runup
240		VE 29	NA	Runup	Runup
241		VE 36	NA	Runup	Runup
242		VE 34	NA	Runup	Runup
243		VE 47	NA	Runup	Runup
244		VE 31	NA	Runup	Runup
245		VE 30	NA	Runup	Runup
246		VE 33	NA	Runup	Runup
247	✓	VE 30	NA	PFD	PFD
248	✓	VE 29	NA	Runup	Runup
249	✓	VE 35	NA	Runup	Runup
250	✓	VE 30	NA	PFD	PFD
251	✓	VE 30	NA	PFD	PFD
252	✓	VE 33	NA	PFD	PFD
253	✓	VE 37	NA	PFD	PFD
254	✓	VE 36	NA	PFD	PFD
255	✓	VE 30	NA	PFD	PFD

Table 26: 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)		
256	✓	VE 30	NA	PFD	PFD
257	✓	VE 33	NA	PFD	PFD
258	✓	VE 37	NA	PFD	PFD
259	✓	VE 30	NA	PFD	PFD
260		VE 24	NA	Runup	Runup
261		VE 29	NA	Runup	Runup
262		VE 29	NA	Runup	Runup
263		NA	VE 36	Splash Zone	Splash Zone
264		VE 31	NA	Runup	Runup
265		VE 30	NA	Runup	Runup
266		NA	VE 36, VE 29	High Velocity	High Velocity Limit
267		NA	VE 39, VE 27, VE 26, AE 25	High Velocity	High Velocity Limit
268		NA	VE 38, VE 29, AE 29	High Velocity	High Velocity Limit
269		VE 28	NA	Runup	Runup
270		VE 31	NA	Runup	Runup
271		VE 32	NA	Runup	Runup
272		VE 35	NA	Runup	Runup
273		VE 29	NA	Runup	Runup
274		VE 35	NA	Runup	Runup
275		NA	VE 45, AE 33, AE 30	High Velocity	High Velocity Limit
276		VE 35	NA	Runup	Runup
277		VE 28	NA	Runup	Runup
278		VE 37	NA	Runup	Runup
279		NA	VE 37, VE 40	High Velocity	High Velocity Limit

Table 26: 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)		
280		NA	VE 34	Splash Zone	Splash Zone
281		NA	VE 33, VE 24, AE 24	High Velocity	High Velocity Limit
282		NA	VE 31, VE 24, AE 23	High Velocity	High Velocity Limit
283		VE 24	NA	Runup	Runup
284		NA	VE 34, VE 27, AE 26	High Velocity	High Velocity Limit
285		VE 29	NA	Runup	Runup
286		VE 37	NA	Runup	Runup
287		VE 39	NA	Runup	Runup
288		VE 29	NA	Runup	Runup
289		VE 38	NA	Runup	Runup
290		VE 31	NA	Runup	Runup
291		VE 32	NA	Runup	Runup
292		VE 36	NA	Runup	Runup
293		VE 38	NA	Runup	Runup
294		NA	VE 42, VE 38	High Velocity	High Velocity Limit
295		VE 32	NA	Runup	Runup
296		NA	VE 41, VE 31	High Velocity	High Velocity Limit
297		VE 30	NA	Runup	Runup
298		VE 23	NA	Runup	Runup
299		VE 27	NA	Runup	Runup
300		VE 27	NA	Runup	Runup
301		VE 31	NA	Runup	Runup
302		VE 25	NA	Runup	Runup
303		VE 27	NA	Runup	Runup
304		VE 39	NA	Runup	Runup

Table 26: 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)		
305		VE 36	NA	Runup	Runup
306		VE 41	NA	Runup	Runup
307		VE 35	NA	Runup	Runup
308		VE 39	NA	Runup	Runup
309		VE 39	NA	Runup	Runup
310		VE 25	NA	Runup	Runup
311		NA	VE 36	Splash Zone	Splash Zone
312		VE 28	NA	Runup	Runup
313		VE 35	NA	Runup	Runup
314		VE 31	NA	Runup	Runup
315		VE 33	NA	Runup	Runup
316		VE 38	NA	Runup	Runup
317		VE 30	NA	Runup	Runup
318		VE 42	NA	Runup	Runup
319		VE 27	NA	Runup	Runup
320		VE 34	NA	Runup	Runup
321		VE 33	NA	Runup	Runup
322		VE 36	NA	Runup	Runup
323		VE 40	NA	Runup	Runup
324	✓	VE 30	NA	PFD	PFD

6.5 FIRM Revisions

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

advisable to contact the community repository of flood-hazard data (shown in Table 31, “Map Repositories”).

6.5.1 Letters of Map Amendment

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

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

FEMA offers a tutorial on how to apply for a LOMA. The LOMA Tutorial Series can be accessed at http://www.fema.gov/plan/prevent/fhm/ot_lmreq.shtm.

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

6.5.2 Letters of Map Revision Based on Fill

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

Information about obtaining an application for a LOMR-F can be obtained in the same manner as that for a LOMA, by visiting <http://www.fema.gov> for the “MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill” or by calling the FEMA Map Information eXchange, toll free, at 1-877-FEMA MAP (1-877-336-2627). Fees for applying for a LOMR-F, if any, are listed in the “Flood Map-Related Fees” section.

A tutorial for LOMR-F is available at http://www.fema.gov/plan/prevent/fhm/ot_lmreq.shtm.

6.5.3 Letters of Map Revision

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

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

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

**Table 27: Incorporated Letters of Map Change
[Not Applicable to this FIS Project]**

6.5.4 Physical Map Revisions

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

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

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

6.5.5 Contracted Restudies

The NFIP provides for a periodic review and restudy of flood hazards within a given community. FEMA accomplishes this through a national watershed-based mapping needs assessment strategy, known as the Coordinated Needs Management Strategy (CNMS). The CNMS is used by FEMA to assign priorities and allocate funding for new flood hazard analyses used to update the FIS Report and FIRM. The goal of CNMS is to define the validity of the engineering study data within a mapped inventory. The CNMS is used to track the assessment process, document engineering gaps and their resolution, and aid in prioritization for using flood risk as a key factor for areas identified for flood map updates. Visit www.fema.gov to learn more about the CNMS or contact the FEMA Regional Office listed in Section 8 of this FIS Report.

6.5.6 Community Map History

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

- *Community Name* includes communities falling within the geographic area shown on the FIRM, including those that fall on the boundary line, nonparticipating communities, and communities with maps that have been rescinded. Communities with No Special Flood Hazards are indicated by a footnote. If all maps (FHBM, FBFM, and FIRM) were rescinded for a community, it is not listed in this table unless SFHAs have been identified in this community.

- *Initial Identification Date (First NFIP Map Published)* is the date of the first NFIP map that identified flood hazards in the community. If the FHBM has been converted to a FIRM, the initial FHBM date is shown. If the community has never been mapped, the upcoming effective date or “pending” (for Preliminary FIS Reports) is shown. If the community is listed in Table 28 but not identified on the map, the community is treated as if it were unmapped.
- *Initial FHBM Effective Date* is the effective date of the first Flood Hazard Boundary Map (FHBM). This date may be the same date as the Initial NFIP Map Date.
- *FHBM Revision Date(s)* is the date(s) that the FHBM was revised, if applicable.
- *Initial FIRM Effective Date* is the date of the first effective FIRM for the community. This is the first effective date that is shown on the FIRM panel.
- *FIRM Revision Date(s)* is the date(s) the FIRM was revised, if applicable. This is the revised date that is shown on the FIRM panel, if applicable. As countywide studies are completed or revised, each community listed should have its FIRM dates updated accordingly to reflect the date of the countywide study. Once the FIRMs exist in countywide format, as Physical Map Revisions (PMR) of FIRM panels within the county are completed, the FIRM Revision Dates in the table for each community affected by the PMR are updated with the date of the PMR, even if the PMR did not revise all the panels within that community.

The initial effective date for the Lincoln County FIRMs in countywide format was 12/18/2009.

Table 28: Community Map History

Community Name	Initial Identification Date (First NFIP Map Published)	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
City of Depoe Bay	6/12/1979	6/12/1979	NA	10/15/1980	12/18/2009
City of Lincoln City	11/8/1974	11/8/1974	NA	4/17/1978	12/18/2009
Lincoln County, Unincorporated Areas	1/17/1975	1/17/1975	8/9/1977	9/3/1980	12/18/2009
City of Newport	5/24/1974	5/24/1974	7/2/1976	4/15/1980	12/18/2009
City of Siletz	3/19/1976	3/19/1976	NA	3/1/1979	12/18/2009
City of Toledo	9/14/1973	9/14/1973	NA	3/1/1979	12/18/2009
City of Waldport	3/22/1974	3/22/1974	NA	3/15/1979	12/18/2009
City of Yachats	11/1/1974	11/1/1974	NA	3/1/1979	12/18/2009
Confederated Tribes of Siletz Indians	NA	NA	NA	NA	NA

SECTION 7.0 – CONTRACTED STUDIES AND COMMUNITY COORDINATION

7.1 Contracted Studies

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

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

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Alsea Bay	3/15/1979	CH2M HILL, Inc.	H-3994	October 1977	City of Waldport, Lincoln County Unincorporated Areas
Alsea River	9/3/1980	CH2M HILL, Inc.	H-3994	October 1977	Lincoln County Unincorporated Areas
Anderson Creek	TBD	DOGAMI	EMS-2010-GR-0014	April 2013	City of Newport, Lincoln County Unincorporated Areas
Anderson Creek (Drift Creek Tributary)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Baldy Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	City of Lincoln City
Bales Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Bear Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Beaver Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Beaver Creek (Depot Creek Tributary)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Big Creek	4/15/1980	CH2M HILL, Inc.	H-3994	October 1977	City of Newport
Big Elk Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas

Table 29: Summary of Contracted Studies Included in this FIS Report (continued)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Big Rock Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Buck Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Canal Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Cascade Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Cedar Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Cherry Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Cougar Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Coyote Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Crab Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Deer Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Depot Bay	10/15/1980	CH2M HILL, Inc.	H-3994	October 1977	City of Depoe Bay
Depot Creek (Upper, Approximate)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Depot Creek / Slough	3/1/1979	CH2M HILL, Inc.	H-3994	October 1977	City of Toledo, Lincoln County Unincorporated Areas

Table 29: Summary of Contracted Studies Included in this FIS Report (continued)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Devils Lake	4/17/1978	CH2M HILL, Inc.	H-3803	February 1977	City of Lincoln City, Lincoln County Unincorporated Areas
Drift Creek (Lower, Detailed)	9/3/1980	CH2M HILL, Inc.	H-3994	October 1977	Lincoln County Unincorporated Areas
Drift Creek (Upper, Approximate)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Drift Creek (Alsea River Tributary)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Elkhorn Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Fall Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Feagles Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Five Rivers	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Grant Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Helms Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Hymes Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Jeffries Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	City of Newport
Keller Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas

Table 29: Summary of Contracted Studies Included in this FIS Report (continued)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Little Beaver Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Little Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	City of Newport
Little Depot Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Little Elk Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Mill Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
North Depoe Bay Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	City of Depoe Bay
North Fork Yachats River	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Nute Slough	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Olalla Creek / Slough	3/1/1979	CH2M HILL, Inc.	H-3994	October 1977	City of Toledo, Lincoln County Unincorporated Areas
Oliver Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Pacific Ocean	TBD	DOGAMI	EMS-2010-GR-0014	July 2014	City of Depoe Bay, City of Lincoln City, City of Newport, City of Waldport, City of Yachats, Lincoln County Unincorporated Areas
Reynolds Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas

Table 29: Summary of Contracted Studies Included in this FIS Report (continued)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Rock Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Salmon Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Salmon River (Lower, Approximate)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Salmon River (Lower, Detailed)	9/3/1980	CH2M HILL, Inc.	H-3994	October 1977	Lincoln County Unincorporated Areas
Salmon River (Upper, Approximate)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Schoolhouse Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Schooner Creek	4/17/1978	CH2M HILL, Inc.	H-3994	October 1977	City of Lincoln City, Lincoln County Unincorporated Areas
Shotpouch Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Sijota Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Siletz Bay	4/17/1978	CH2M HILL, Inc.	H-3994	October 1977	City of Lincoln City, Lincoln County Unincorporated Areas
Siletz Bay (Coastal Analysis)	8/17/1998	CH2M HILL, Inc.	EMW-94-4526	August 1998	City of Lincoln City, Lincoln County Unincorporated Areas

Table 29: Summary of Contracted Studies Included in this FIS Report (continued)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Siletz River (Lower, Detailed)	9/3/1980	CH2M HILL, Inc.	H-3994	October 1977	Lincoln County Unincorporated Areas
Siletz River (Lower, Approximate)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Siletz River (Middle, Detailed)	9/3/1980	CH2M HILL, Inc.	H-3994	October 1977	Lincoln County Unincorporated Areas
Siletz River (Middle, Approximate)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Siletz River (Upper, Detailed)	3/1/1979	CH2M HILL, Inc.	H-3994	October 1977	City of Siletz, Lincoln County Unincorporated Areas
Siletz River (Upper, Approximate)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Skunk Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Slick Rock Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
South Beaver Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
South Depot Bay Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	City of Depoe Bay
Spout Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Sugarbowl Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Sunshine Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas

Table 29: Summary of Contracted Studies Included in this FIS Report (continued)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Thiel Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	City of Newport, Lincoln County Unincorporated Areas
Trout Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Tumtum River	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Unnamed Stream (Tumtum River Tributary 1)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Unnamed Stream (Tumtum River Tributary 2)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Unnamed Stream (Depot Creek Tributary)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Unnamed Stream (Sugarbowl Creek Tributary)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Walker Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
West Olalla Creek (Lower, Detailed)	9/3/1980	CH2M HILL, Inc.	H-3994	October 1977	Lincoln County Unincorporated Areas
West Olalla Creek (Upper, Approximate)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Wilson Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas

Table 29: Summary of Contracted Studies Included in this FIS Report (continued)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Wolf Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Wright Creek	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Yachats River (Lower, Detailed)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	City of Yachats, Lincoln County Unincorporated Areas
Yachats River (Upper, Approximate)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Yaquina Bay	TBD	DOGAMI	EMS-2010-GR-0014	July 2014	City of Newport
Yaquina River (Lower, Detailed)	3/1/1979	CH2M HILL, Inc.	H-3994	October 1977	City of Newport, City of Toledo, Lincoln County Unincorporated Areas
Yaquina River (Lower, Approximate)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Yaquina River (Middle, Detailed)	9/3/1980	CH2M HILL, Inc.	H-3994	October 1977	Lincoln County Unincorporated Areas
Yaquina River (Middle, Approximate)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas
Yaquina River (Upper, Detailed)	9/3/1980	CH2M HILL, Inc.	H-3994	October 1977	Lincoln County Unincorporated Areas
Yaquina River (Upper, Approximate)	TBD	DOGAMI	EMS-2010-GR-0014	February 2016	Lincoln County Unincorporated Areas

7.2 Community Meetings

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

Table 30: Community Meetings

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Lincoln County and Incorporated Areas	TBD	5/28/2014	Flood Study Review	Lincoln County, Cities of Depoe Bay, Lincoln City, Newport, Waldport, Yachats, FEMA, DLCD and DOGAMI
		12/5/2012	Discovery	Lincoln County, Cities of Newport, Toledo, FEMA, DLCD, and DOGAMI
		9/8/2011	Stakeholder Coordination	Lincoln County, Cities of Depoe Bay, Lincoln City, Newport, Siletz, Toledo, Waldport, Yachats, Grand Ronde Tribe, Confederated Tribes of Siletz, and DOGAMI
City of Depoe Bay	10/15/1980	3/1976	Initial CCO	FEMA, the community, and the study contractor
		9/28/1978	Final CCO	
City of Lincoln City	4/17/1978	9/1975	Initial CCO	FEMA, the community, and the study contractor
		4/20/1977	Final CCO	FEMA, OWRD, the community, and the study contractor
Lincoln County, Unincorporated Areas	9/3/1980	[date unknown]	Initial CCO	FEMA, OWRD, the community, and the study contractor
		9/28/1978	Final CCO	
City of Newport	4/15/1980	3/1976	Initial CCO	FEMA, the community, and the study contractor
		[date unknown]	Final CCO	
City of Siletz	3/1/1979	3/1976	Initial CCO	FEMA, the community, and the study contractor
		4/19/1978	Final CCO	
City of Toledo	3/1/1979	3/1976	Initial CCO	FEMA, the community, and the study contractor
		4/19/1978	Final CCO	
City of Waldport	3/15/1979	3/1976	Initial CCO	FEMA, the community, and the study contractor
		4/19/1978	Final CCO	

Table 30: Community Meetings (continued)

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
City of Yachats	3/1/1979	3/1976	Initial CCO	FEMA, the community, and the study contractor
		4/20/1978	Final CCO	

SECTION 8.0 – ADDITIONAL INFORMATION

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

The additional data that was used for this project includes the FIS Report and FIRM that were previously prepared for Lincoln County and Incorporated Areas (FEMA 2009).

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

Table 31: Map Repositories

Community	Address	City	State	Zip Code
City of Depoe Bay	570 Southeast Shell Avenue	Depoe Bay	OR	97341
City of Lincoln City	801 Southwest Highway 101	Lincoln City	OR	97367
Lincoln County Unincorporated Areas	210 Southwest 2nd Street	Newport	OR	97365
City of Newport	810 Southwest Alder Street	Newport	OR	97365
City of Siletz	215 West Buford Street	Siletz	OR	97380
City of Toledo	206 North Main Street	Toledo	OR	97391
City of Waldport	125 Alsea Highway	Waldport	OR	97394
City of Yachats	441 Highway 101N	Yachats	OR	97498
Confederated Tribes of Siletz Indians	201 Southeast Swan Avenue	Siletz	OR	97380

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

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

Table 32: Additional Information

FEMA and the NFIP	
FEMA and FEMA Engineering Library website	http://www.fema.gov
NFIP website	http://www.fema.gov/business/nfip
NFHL Dataset	http://msc.fema.gov
FEMA Region X	Federal Regional Center, 130 228 th Street SW, Bothell, WA 98021-9796 (425) 487-4657
Other Federal Agencies	
USGS website	http://www.usgs.gov
Hydraulic Engineering Center website	http://www.hec.usace.army.mil
State Agencies and Organizations	
State NFIP Coordinator	Christine Shirley Oregon Department of Land Conservation and Development 635 Capitol Street NE, Suite 150 Salem, Oregon 97301 503-934-0027 christine.shirley@state.or.us
State GIS Coordinator	Cy Smith Geospatial Enterprise Office Oregon Department of Administrative Services 155 Cottage Street NE, 4 th Floor Salem, Oregon 97301 503-378-6066 cy.smith@state.or.us
State FEMA Cooperating Technical Partner	Jed Roberts Oregon Department of Geology and Mineral Industries 800 NE Oregon Street, Suite 965 Portland, Oregon 97232 971-673-1546 jed.roberts@dogami.state.or.us

SECTION 9.0 – BIBLIOGRAPHY AND REFERENCES

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

Table 33: Bibliography and References

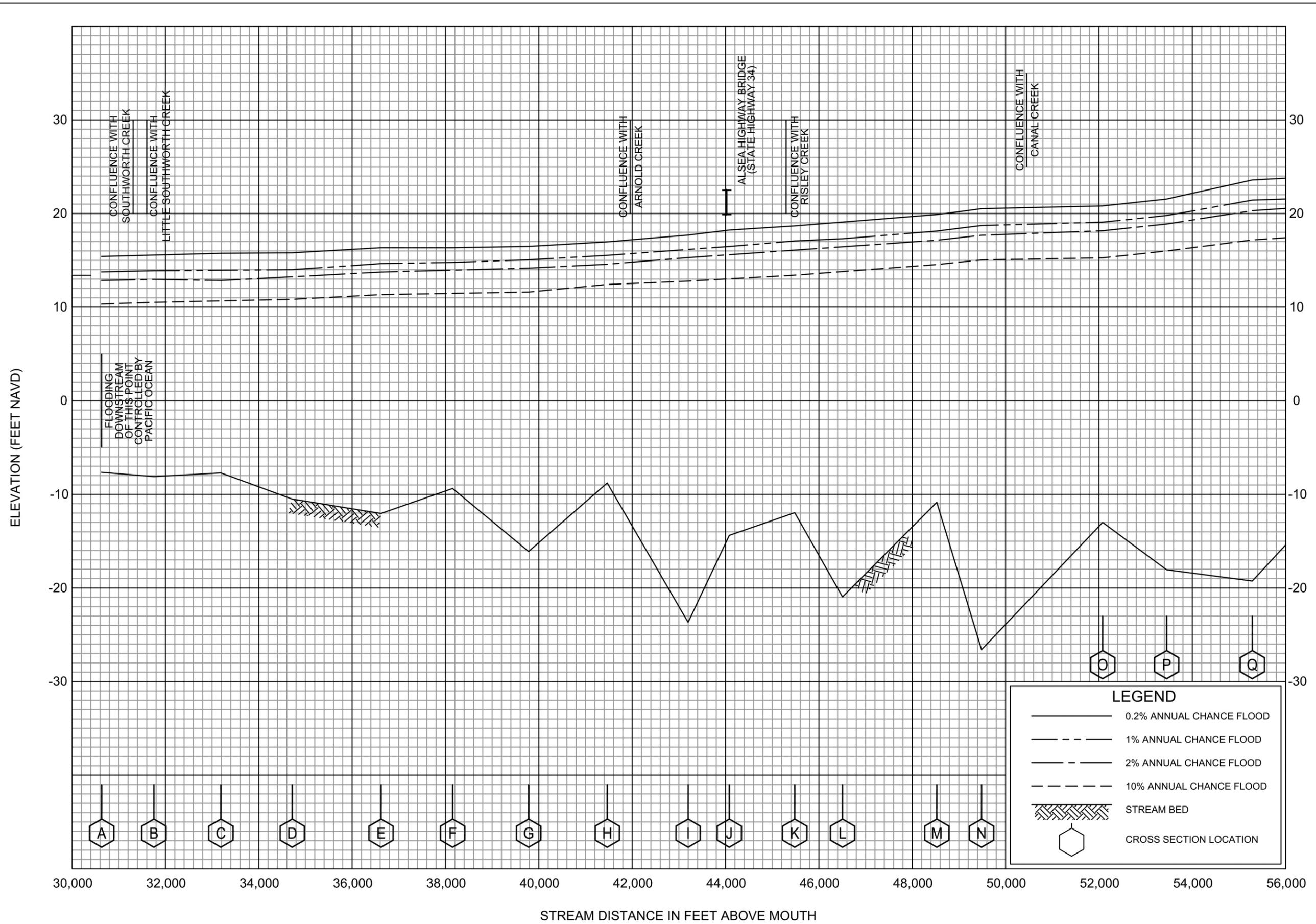
Citation in this FIS	Publisher/ Issuer	Publication Title, "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
Booij et al. 1999	American Geophysical Union	<i>Journal of Geophysical Research, "A third-generation wave model for coastal regions, part 1: model description and validation," Volume 104, Number C4</i>	N. Booij, R.C. Ris, and L.H. Holthuijsen	Malden, Massachusetts, USA	April 1999	N/A
Boon 2004	Woodhead Publishing	<i>"Secrets of the tide: tide and tidal current analysis and applications, storms surges and sea level trends", CRC Marine Science</i>	J.D. Boon	Cambridge, UK	October 2004	N/A
Cooper 2005	U.S. Geological Survey, U.S. Department of the Interior	<i>U.S. Geological Survey Scientific Investigations Report 2005-5116, "Estimation of peak discharges for rural, unregulated streams in Western Oregon"</i>	R.M. Cooper	Washington, DC, USA	2005	N/A
FEMA 2009	U.S. Department of Homeland Security, Federal Emergency Management Agency	<i>"Flood insurance study for Lincoln County, Oregon and incorporated areas,"</i>	Federal Emergency Management Agency	Washington, DC, USA	September 2009	http://msc.fema.gov

Table 33: 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
Kriebel and Dean 1993	American Society of Civil Engineers	<i>Journal of Waterway, Port, Coastal, and Ocean Engineering</i> , "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
Ris et al. 1999	American Geophysical Union	<i>Journal of Geophysical Research</i> , "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	<i>Coastal Engineering</i> , "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
WRC 1976	U.S. Department of the Interior	"Guidelines for Determining Flood Flow Frequencies," Bulletin #17	Water Resources Council, Hydrology Committee	Washington, DC, USA	1976	N/A

Table 33: Bibliography and References (continued)

Citation in this FIS	Publisher/ Issuer	<i>Publication Title, "Article," Volume, Number, etc.</i>	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
USACE 2010	U.S. Army Corps of Engineers	<i>"HEC-RAS Version 4.1.0"</i>	Hydrologic Engineering Center	Davis, California, USA	January 2010	N/A

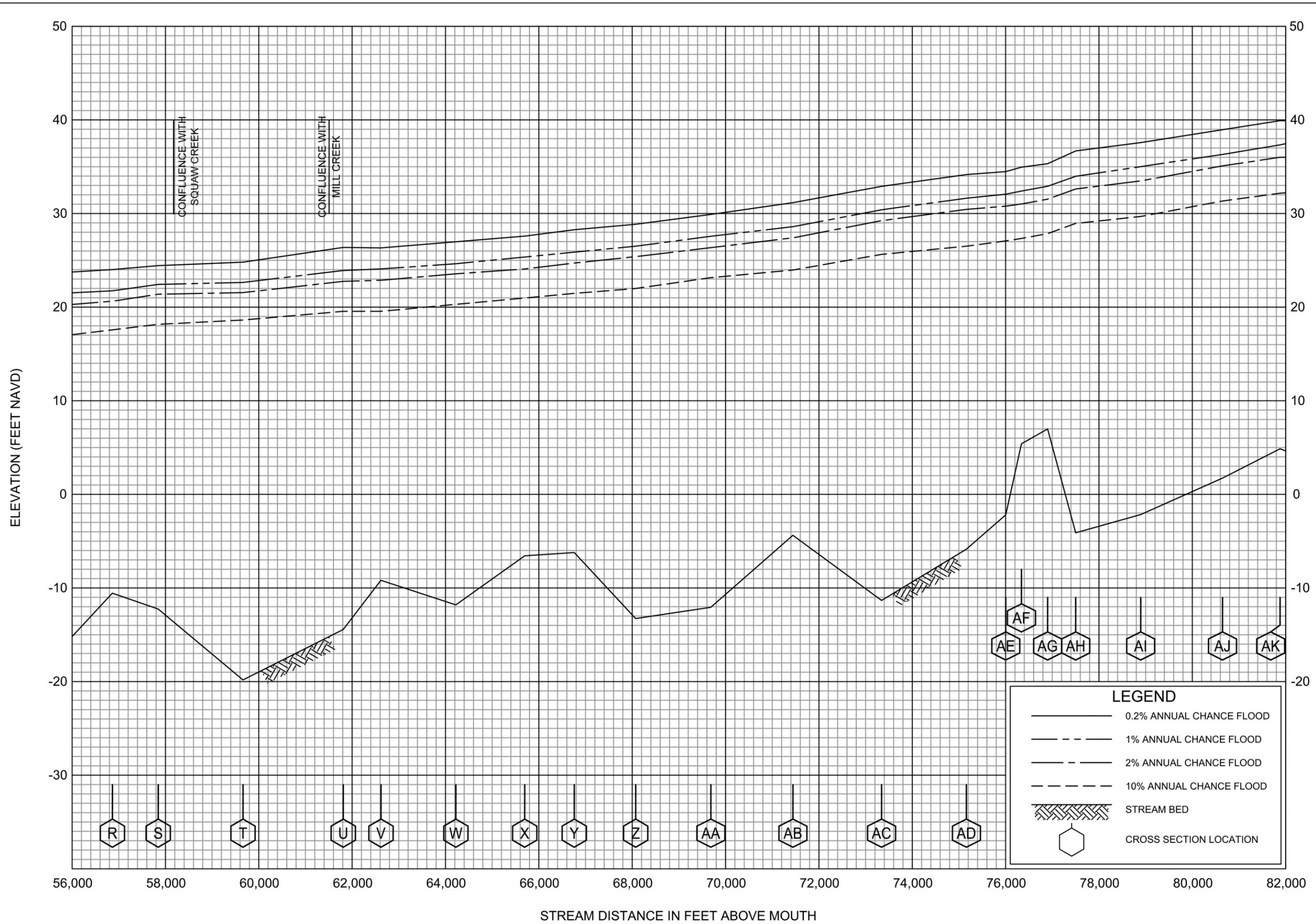


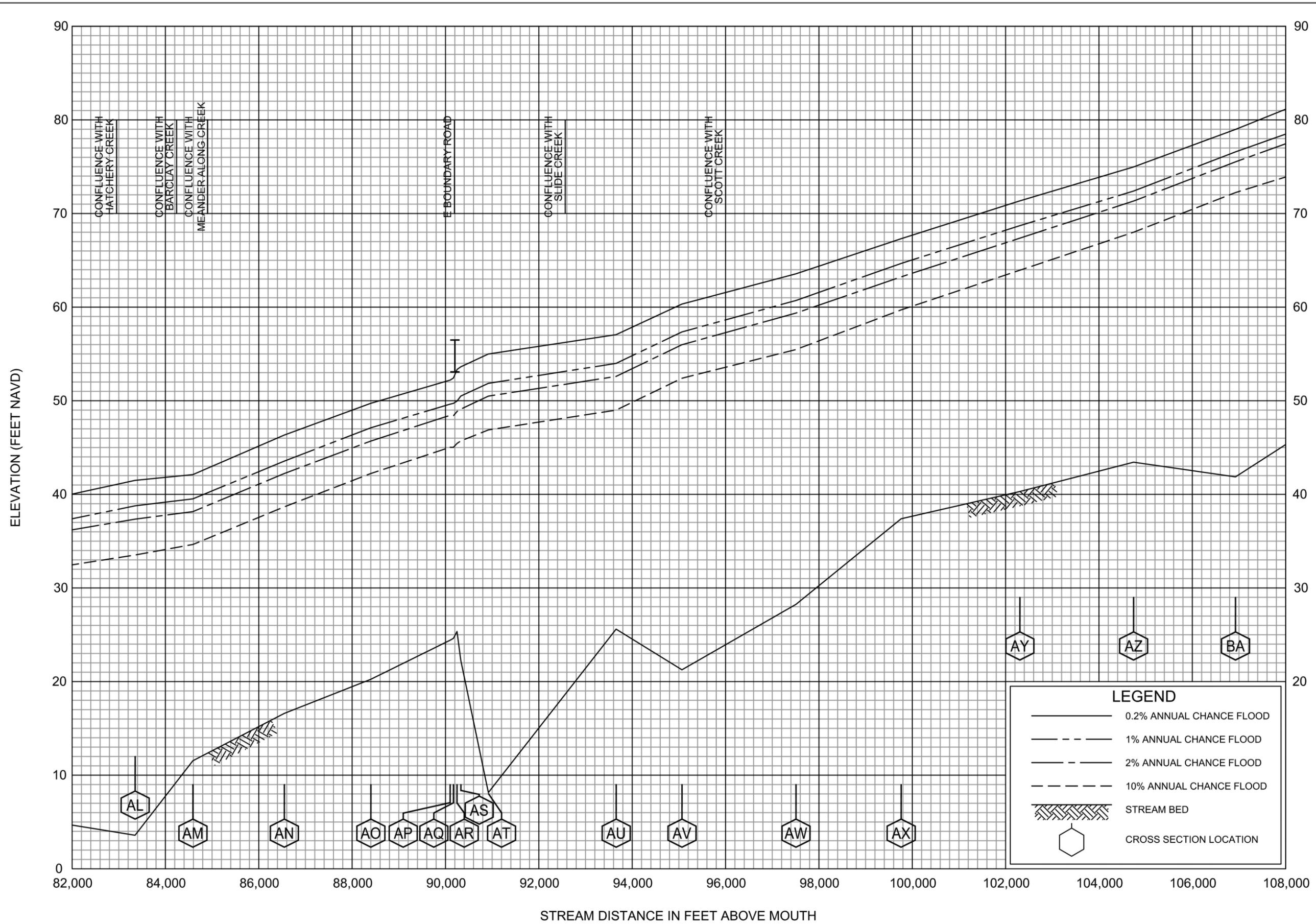
FLOOD PROFILES

ALSEA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LINCOLN COUNTY, OR
AND INCORPORATED AREAS



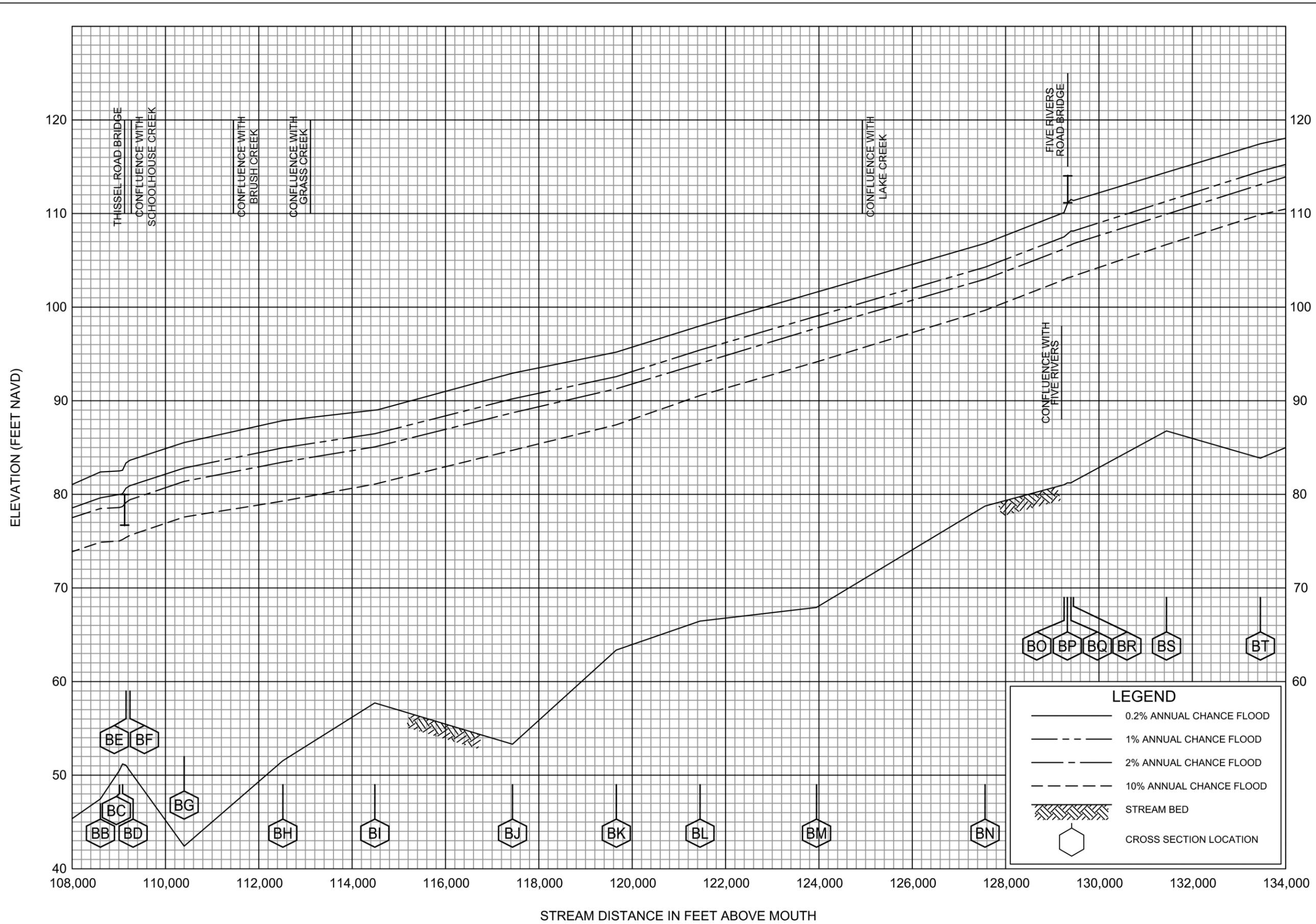


FLOOD PROFILES

ALSEA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

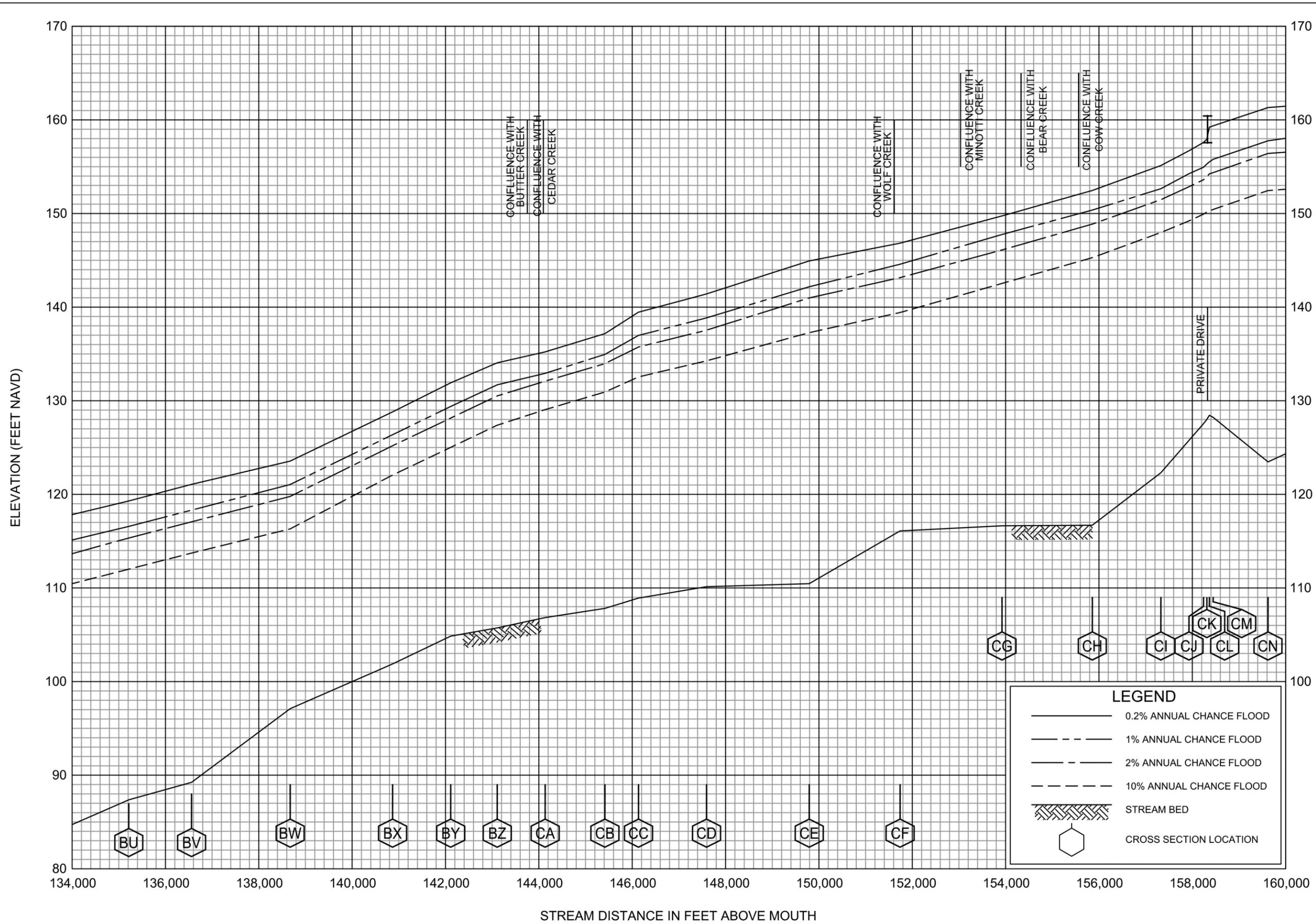
LINCOLN COUNTY, OR
AND INCORPORATED AREAS



FLOOD PROFILES

ALSEA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
 AND INCORPORATED AREAS

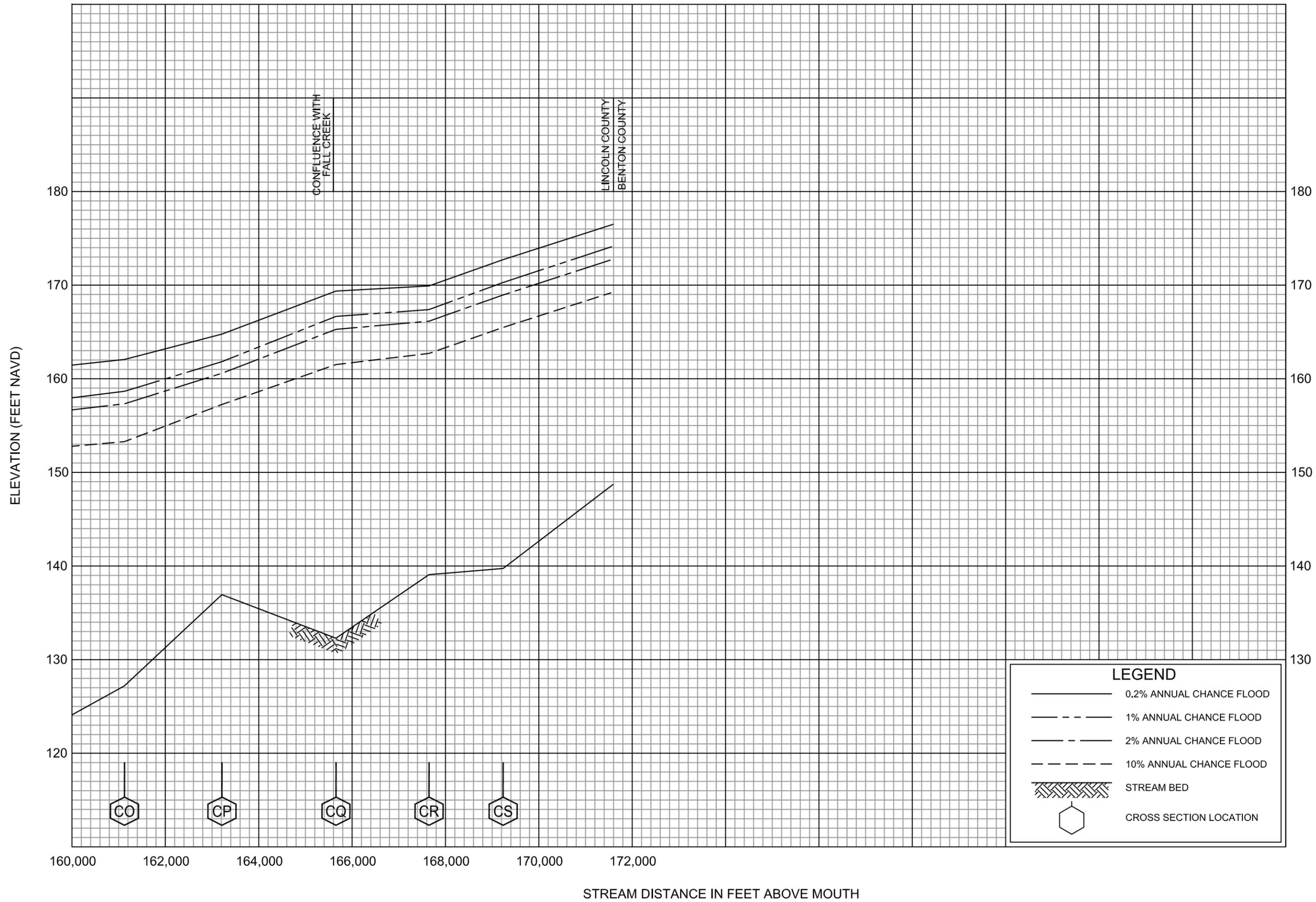


FLOOD PROFILES

ALSEA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LINCOLN COUNTY, OR
AND INCORPORATED AREAS

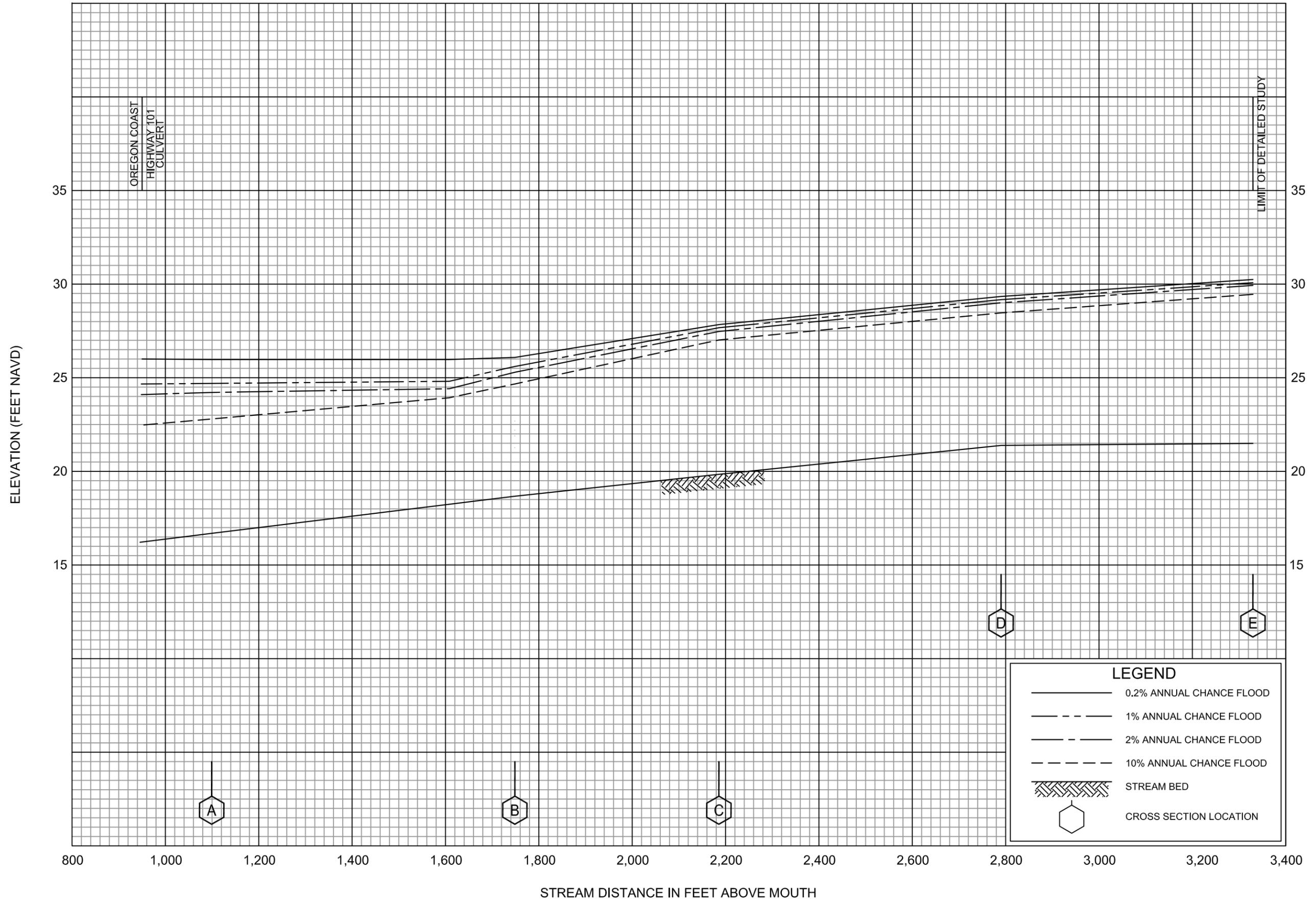


FLOOD PROFILES

ALSEA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

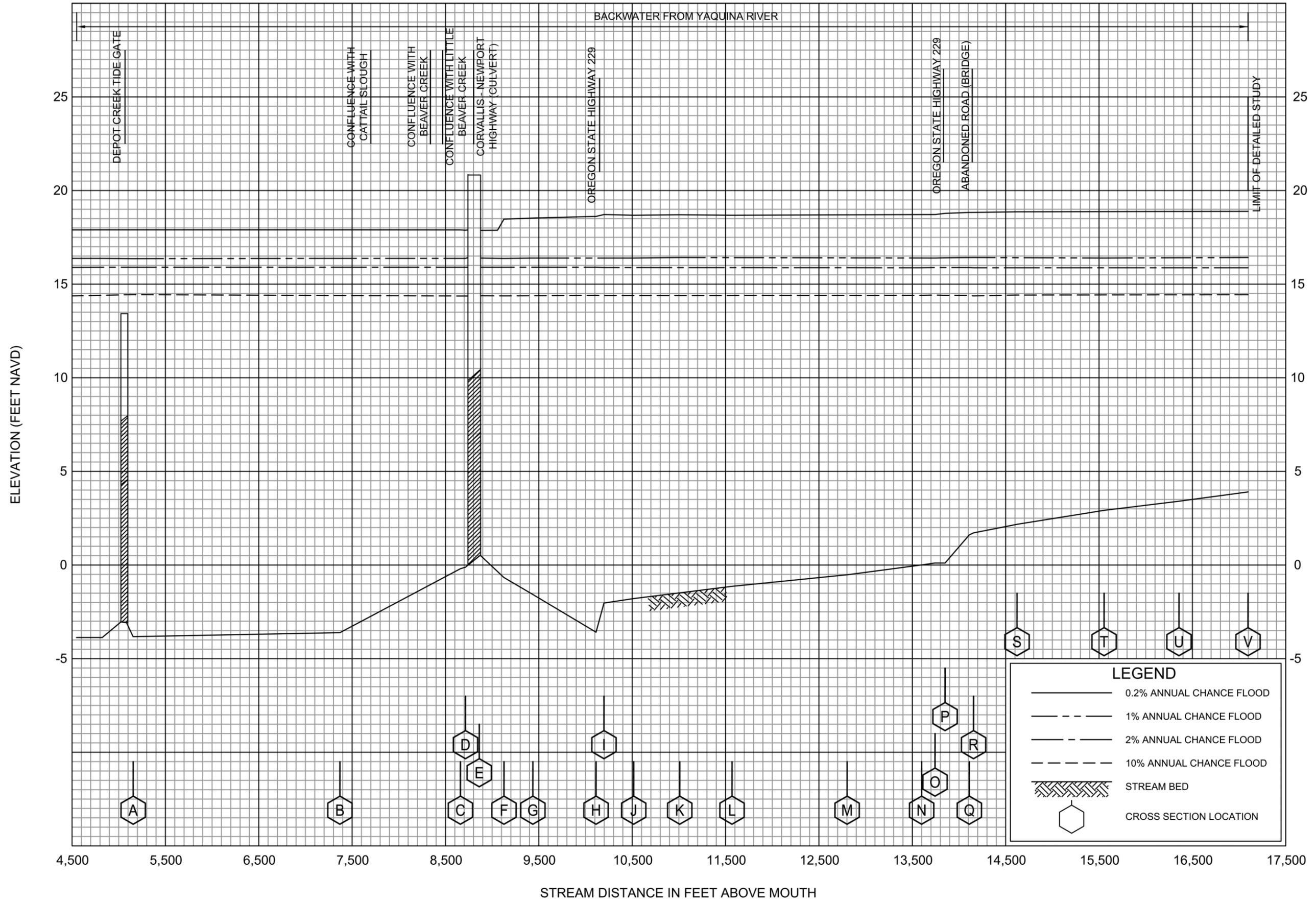
LINCOLN COUNTY, OR
AND INCORPORATED AREAS



FLOOD PROFILES

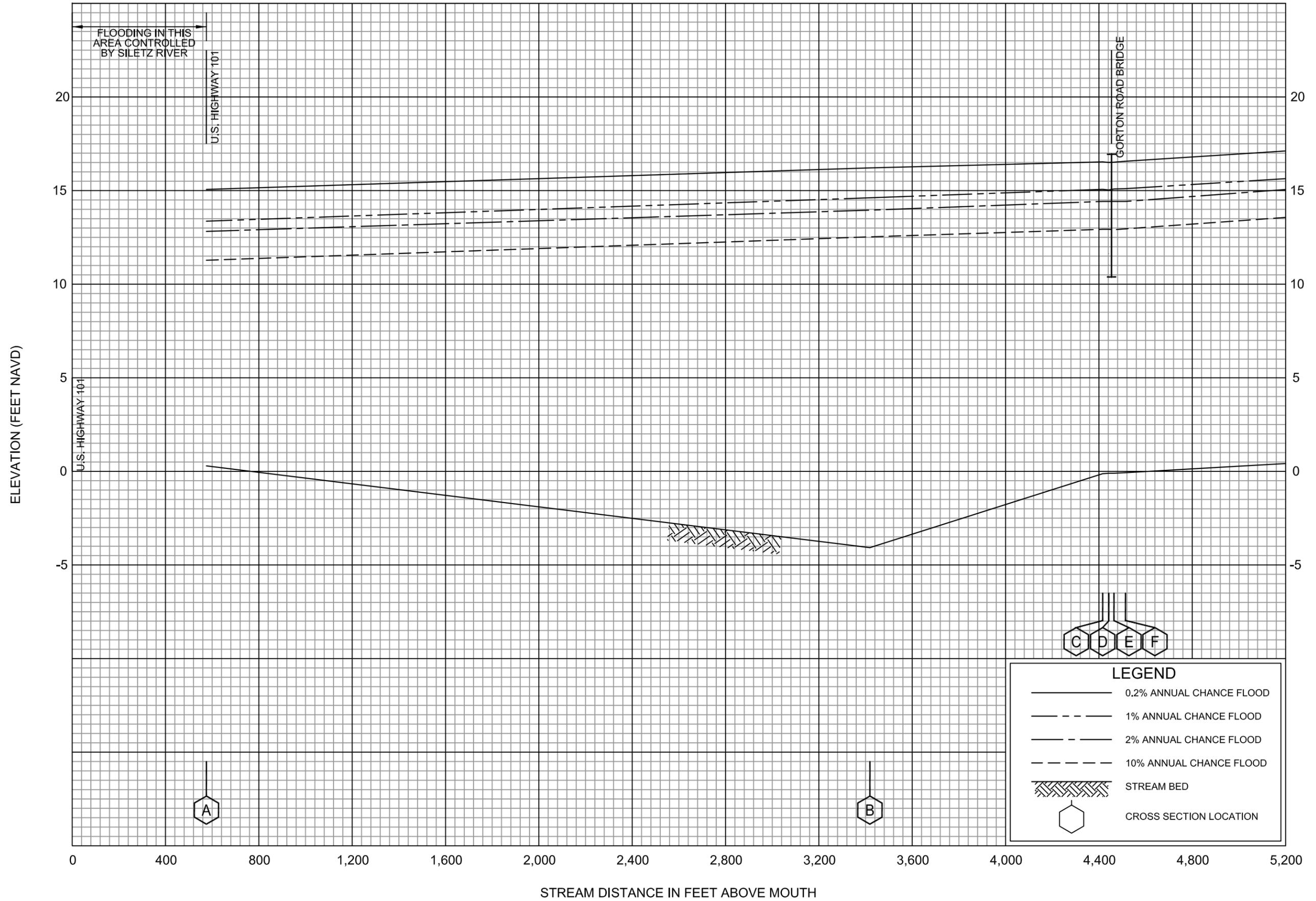
BIG CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
 AND INCORPORATED AREAS



FLOOD PROFILES
DEPOT CREEK / SLOUGH

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
 AND INCORPORATED AREAS

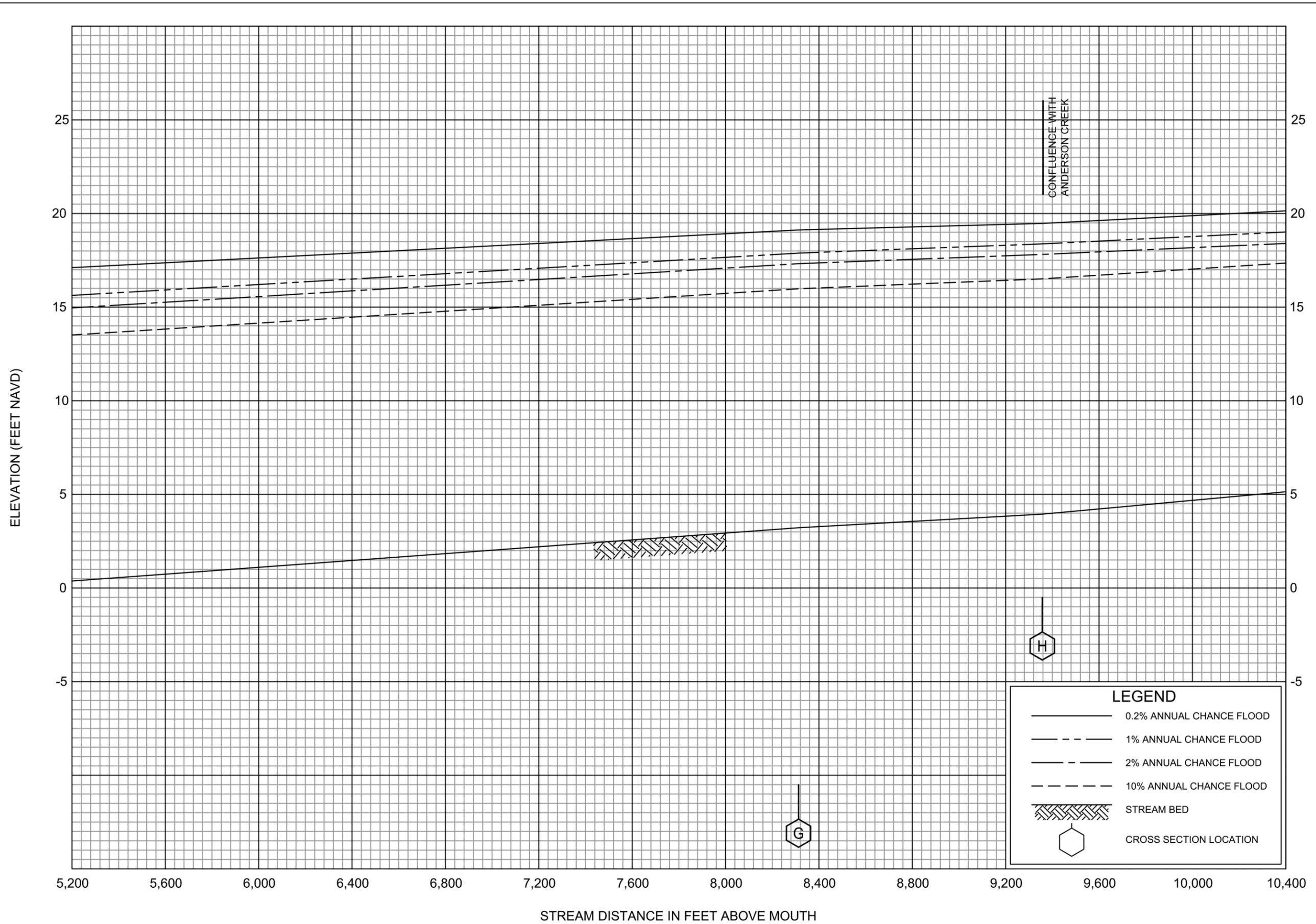


LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- - - 1% ANNUAL CHANCE FLOOD
- · - 2% ANNUAL CHANCE FLOOD
- - - 10% ANNUAL CHANCE FLOOD
- ▨ STREAM BED
- ⬡ CROSS SECTION LOCATION

FLOOD PROFILES
DRIFT CREEK

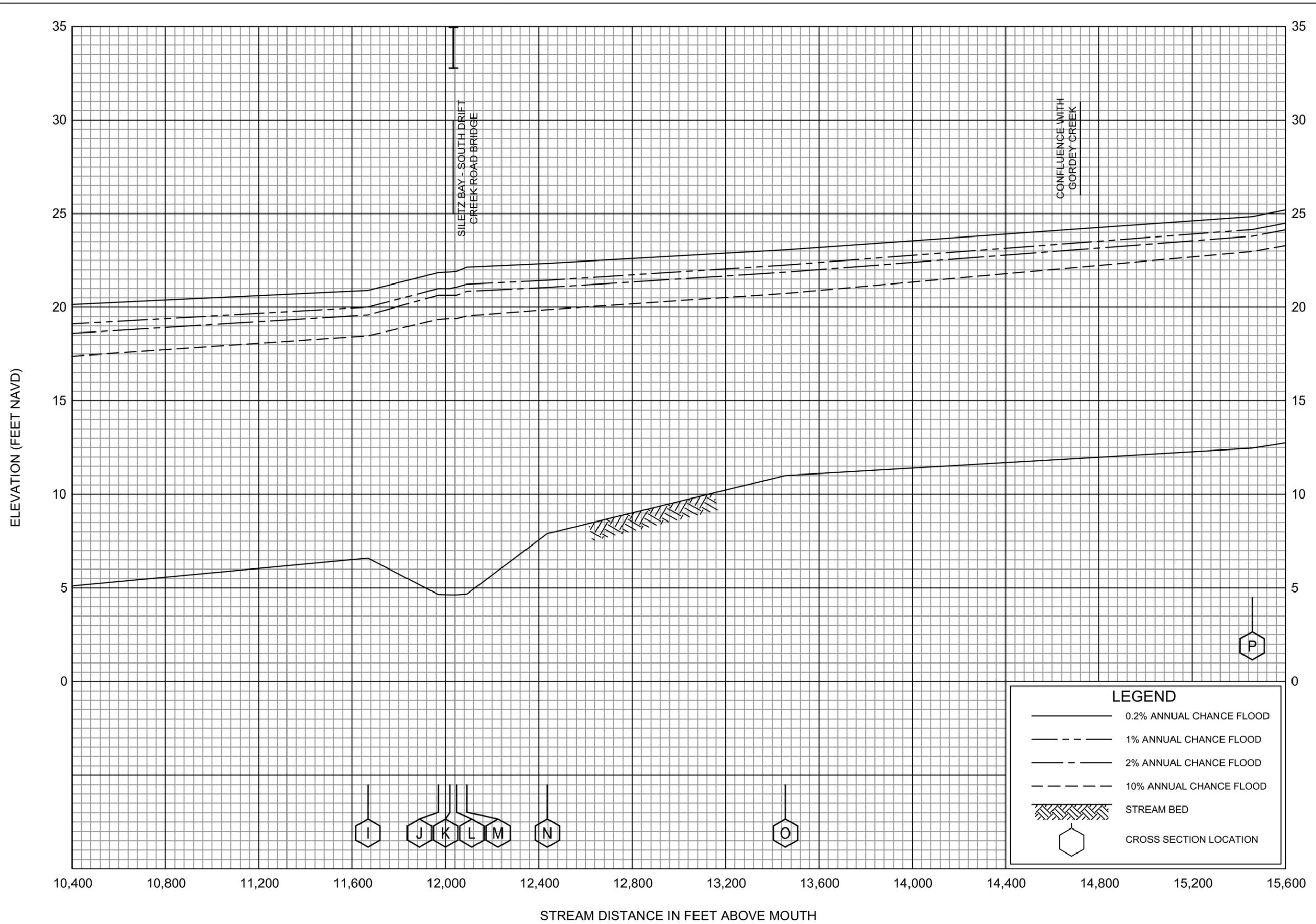
FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
 AND INCORPORATED AREAS



FLOOD PROFILES

DRIFT CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
 AND INCORPORATED AREAS

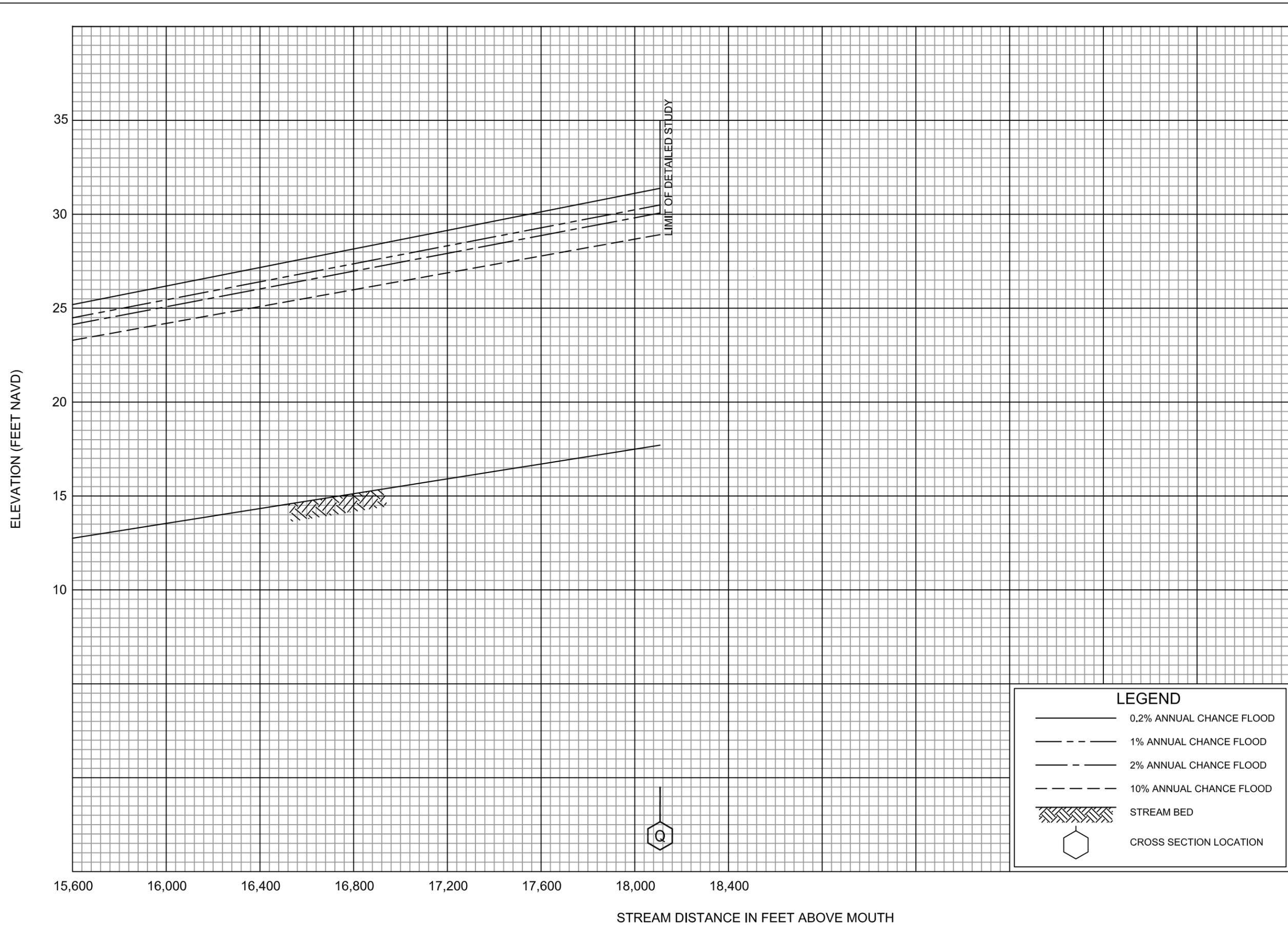


FLOOD PROFILES

DRIFT CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

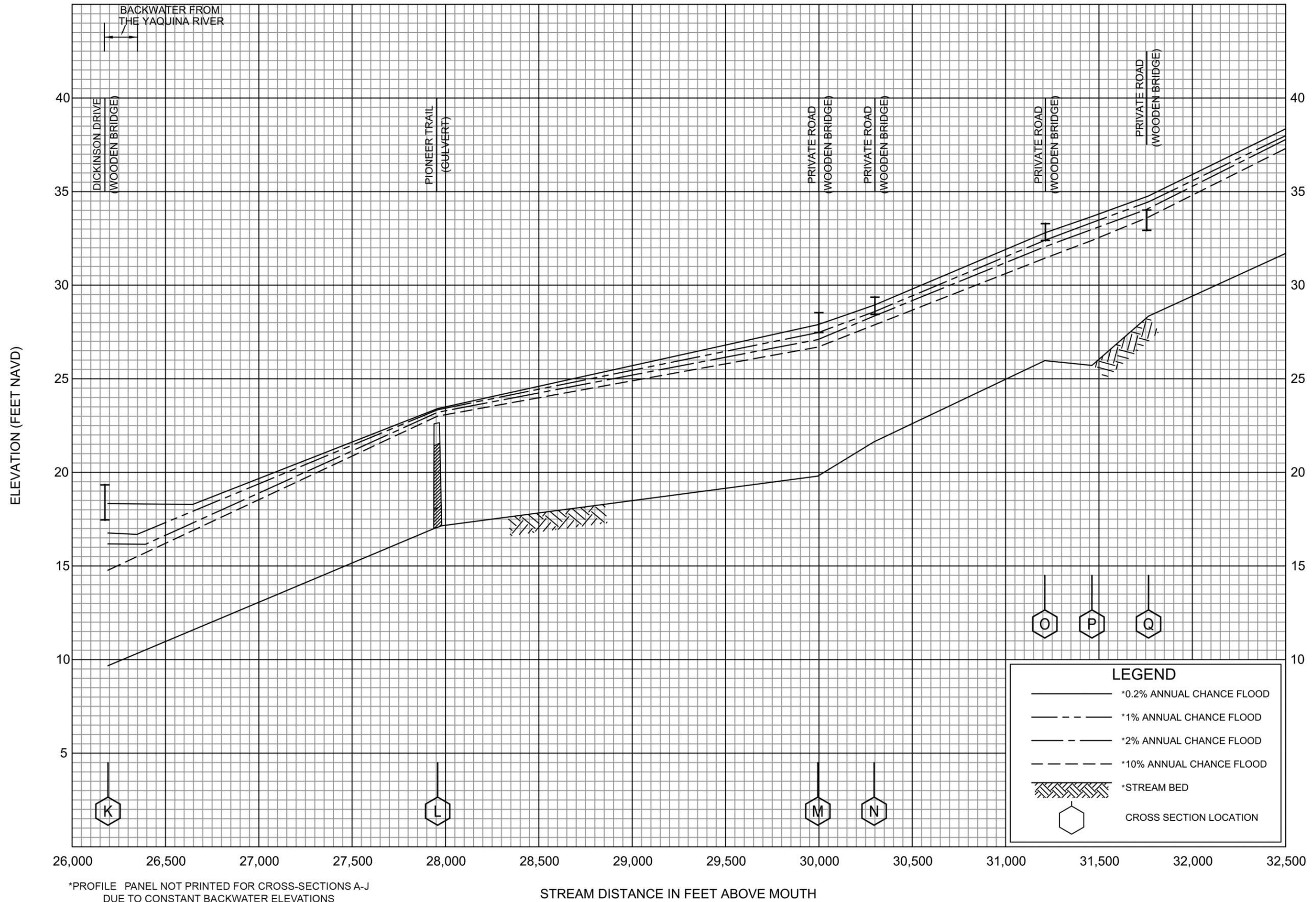
LINCOLN COUNTY, OR
AND INCORPORATED AREAS



FLOOD PROFILES

DRIFT CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
 AND INCORPORATED AREAS



*PROFILE PANEL NOT PRINTED FOR CROSS-SECTIONS A-J
DUE TO CONSTANT BACKWATER ELEVATIONS

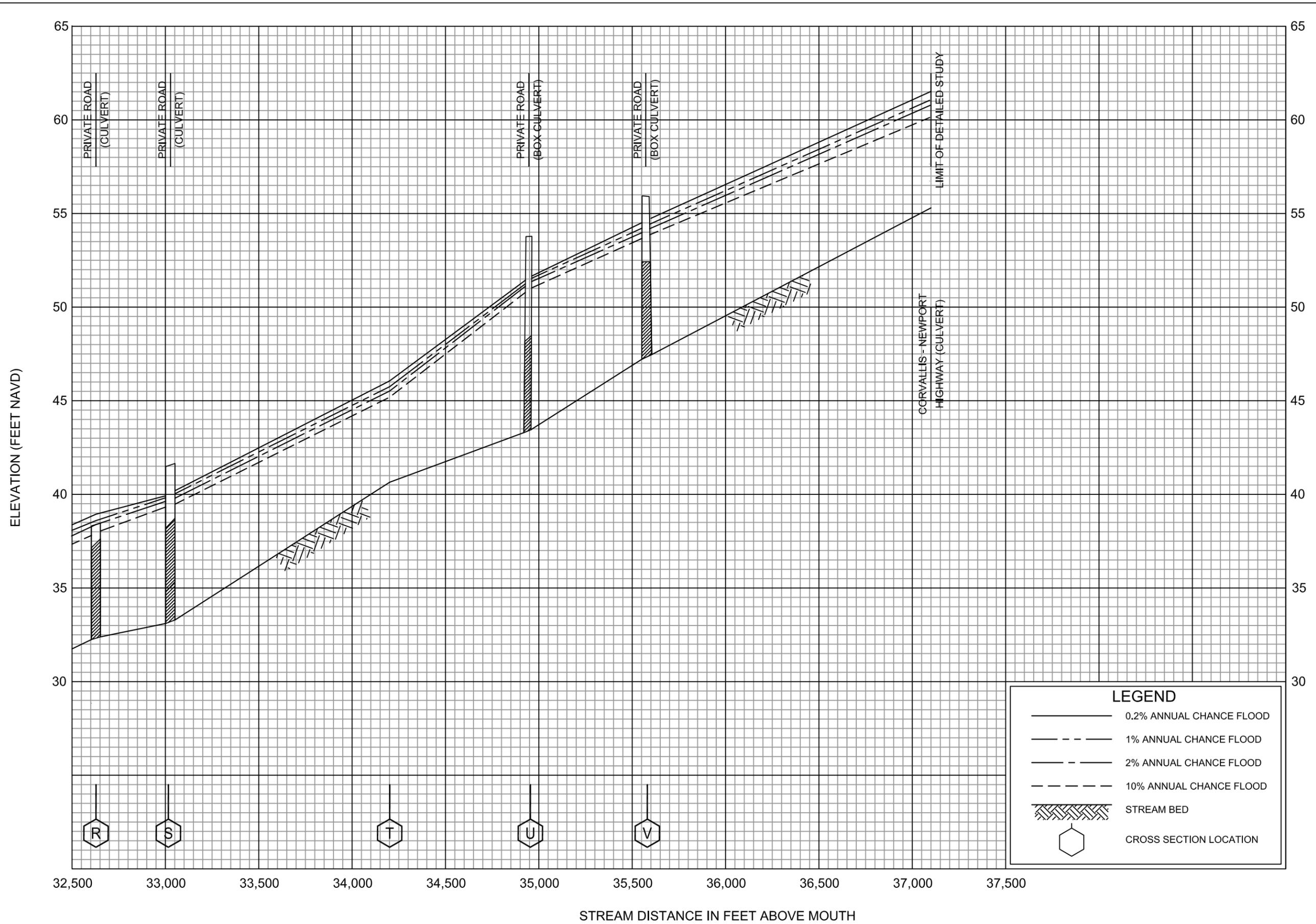
STREAM DISTANCE IN FEET ABOVE MOUTH

LEGEND

- *0.2% ANNUAL CHANCE FLOOD
- - - *1% ANNUAL CHANCE FLOOD
- · - *2% ANNUAL CHANCE FLOOD
- - - - *10% ANNUAL CHANCE FLOOD
- ▨ *STREAM BED
- ⬡ CROSS SECTION LOCATION

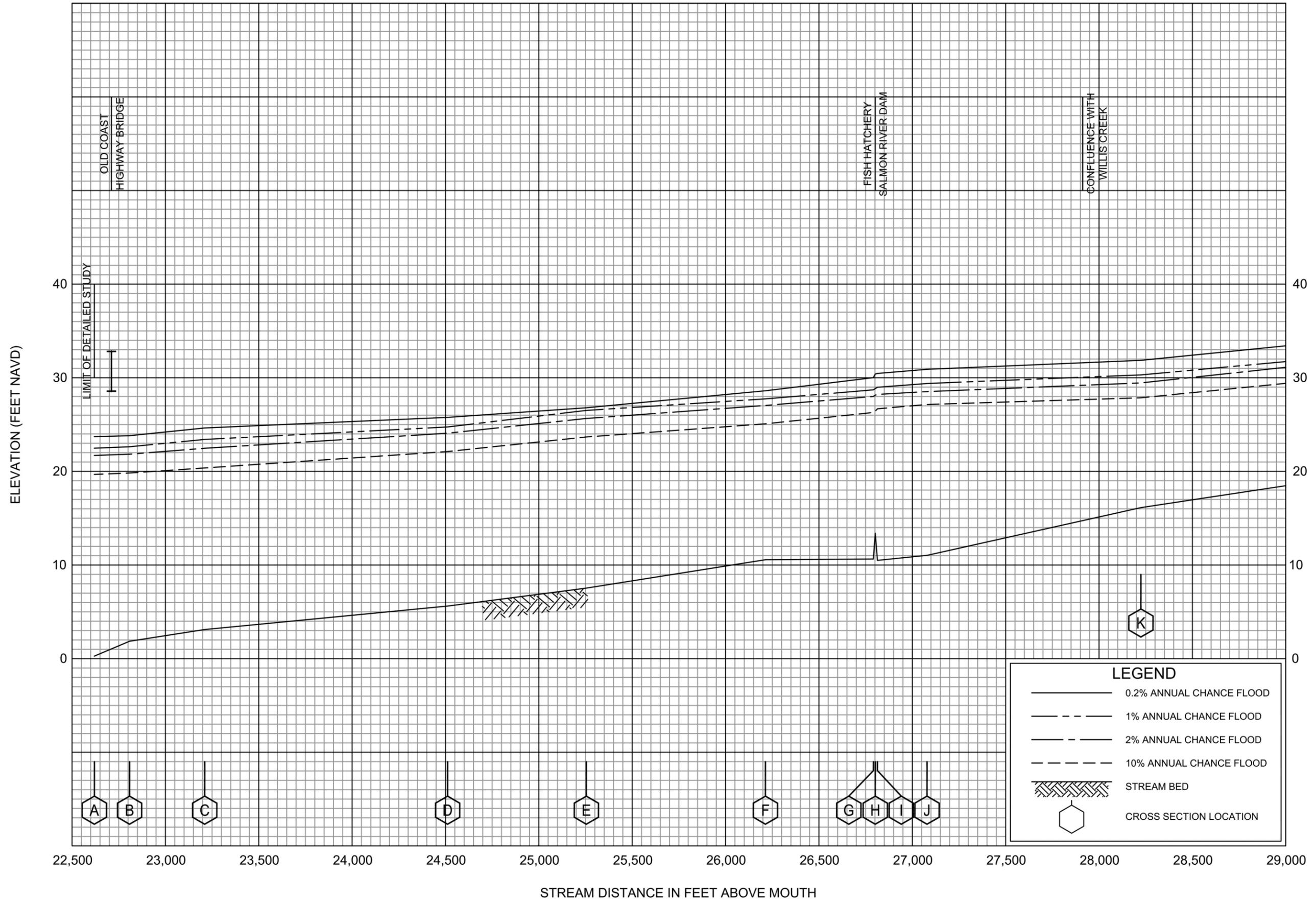
FLOOD PROFILES
OLALLA CREEK / SLOUGH

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
AND INCORPORATED AREAS



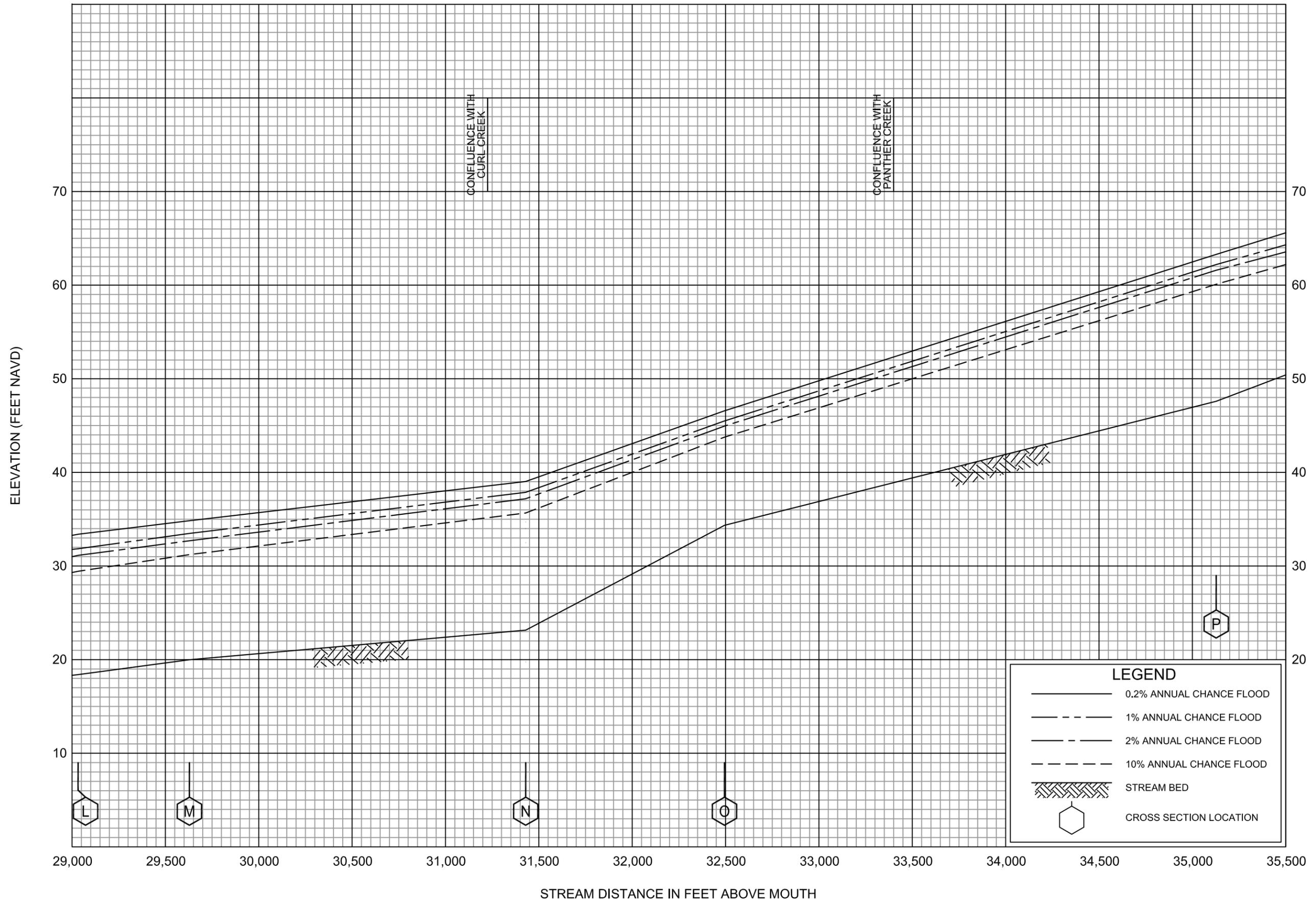
FLOOD PROFILES
OLALLA CREEK / SLOUGH

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
 AND INCORPORATED AREAS



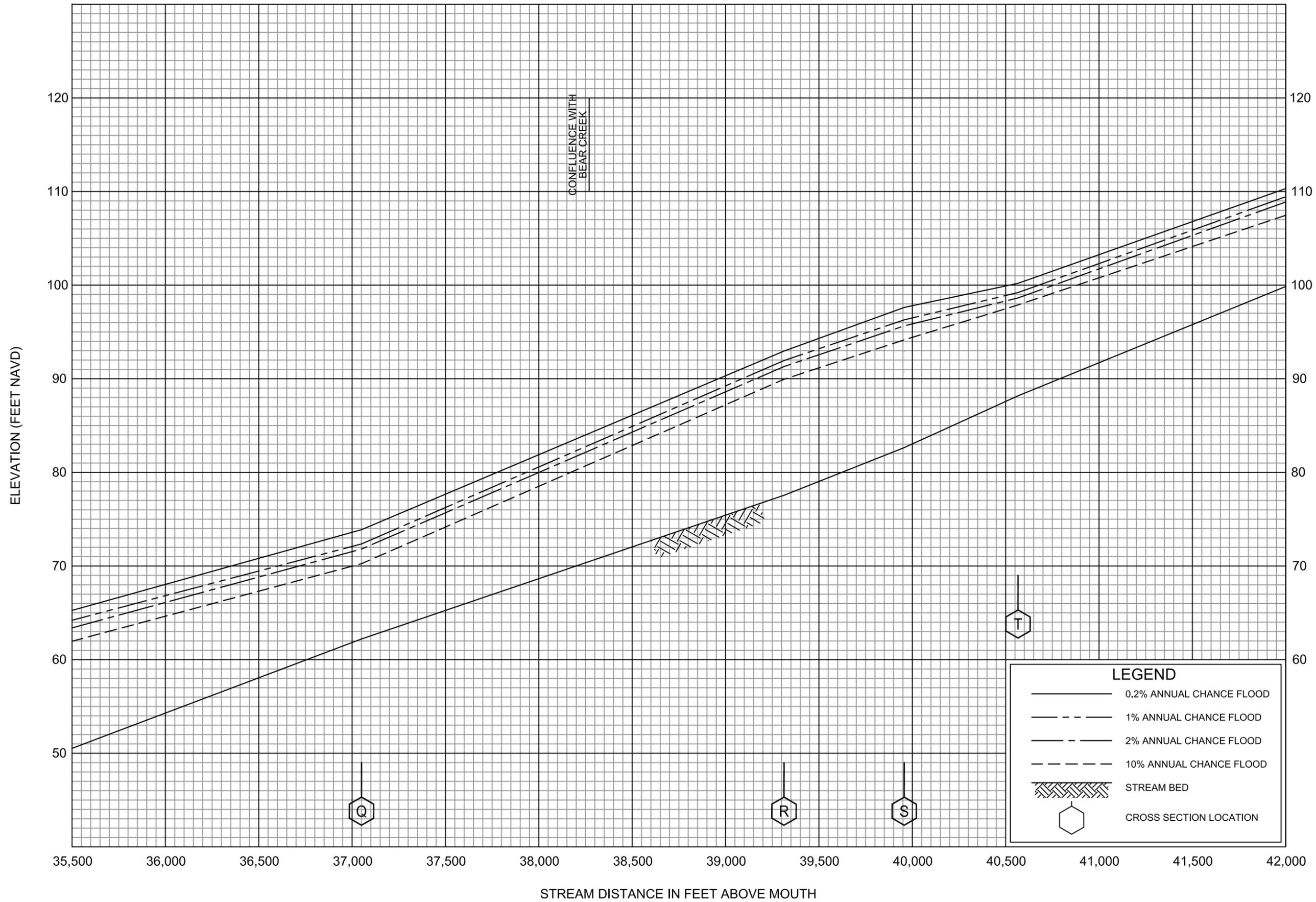
FLOOD PROFILES
SALMON RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
AND INCORPORATED AREAS



FLOOD PROFILES
SALMON RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
AND INCORPORATED AREAS

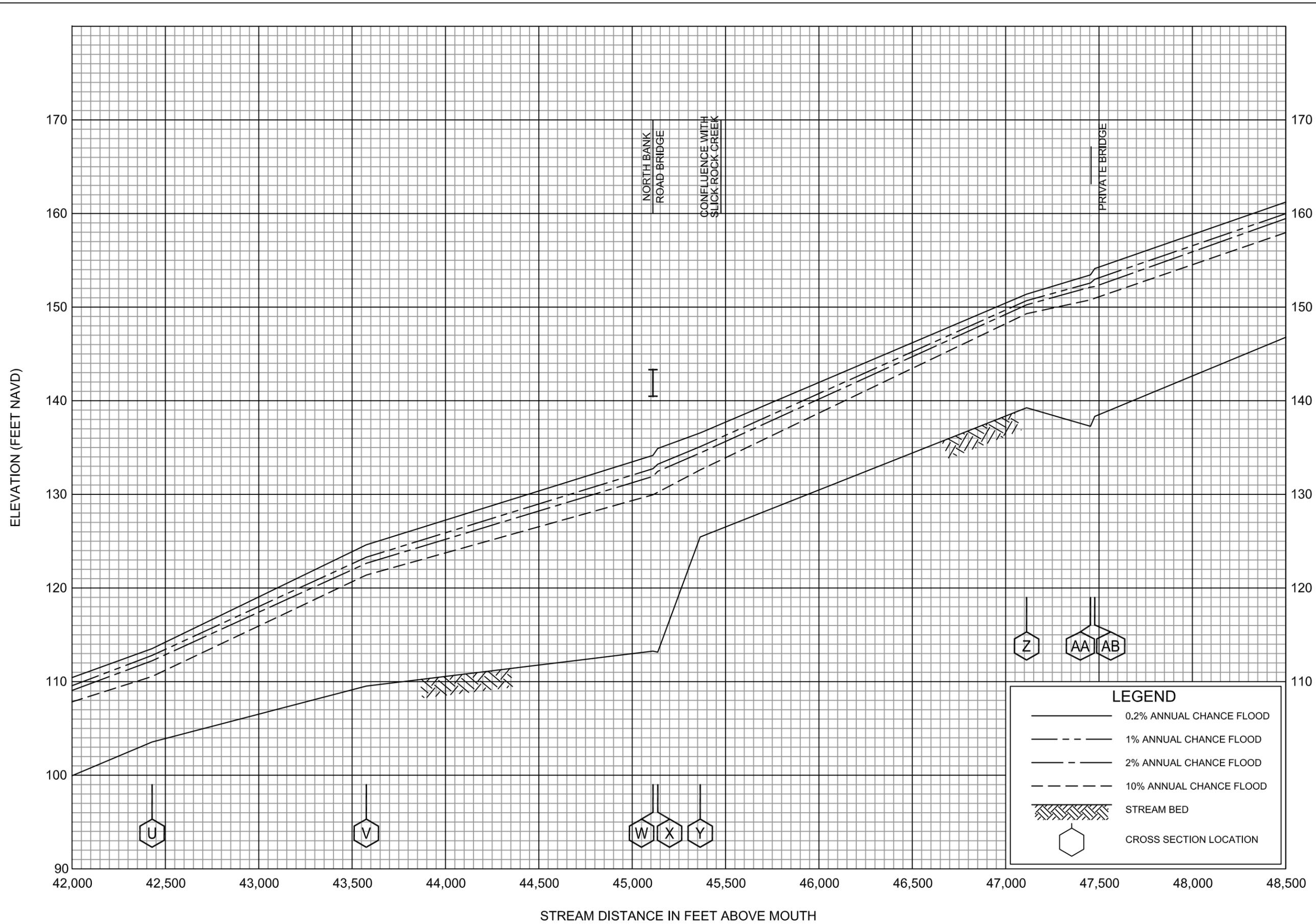


FLOOD PROFILES

SALMON RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LINCOLN COUNTY, OR
AND INCORPORATED AREAS



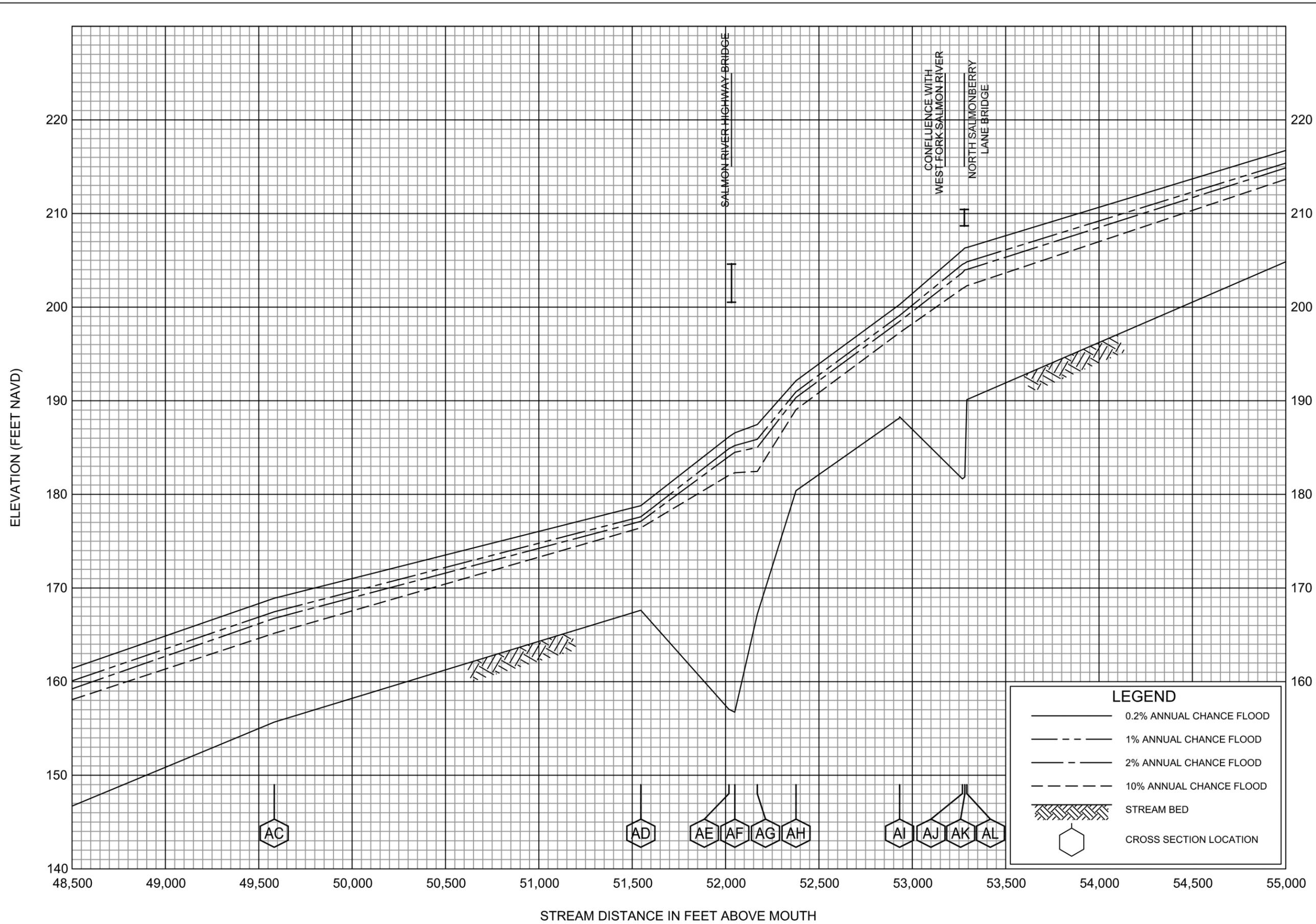
LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- - - 1% ANNUAL CHANCE FLOOD
- · - 2% ANNUAL CHANCE FLOOD
- · - 10% ANNUAL CHANCE FLOOD
- ▨ STREAM BED
- ⬡ CROSS SECTION LOCATION

FLOOD PROFILES

SALMON RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
 AND INCORPORATED AREAS

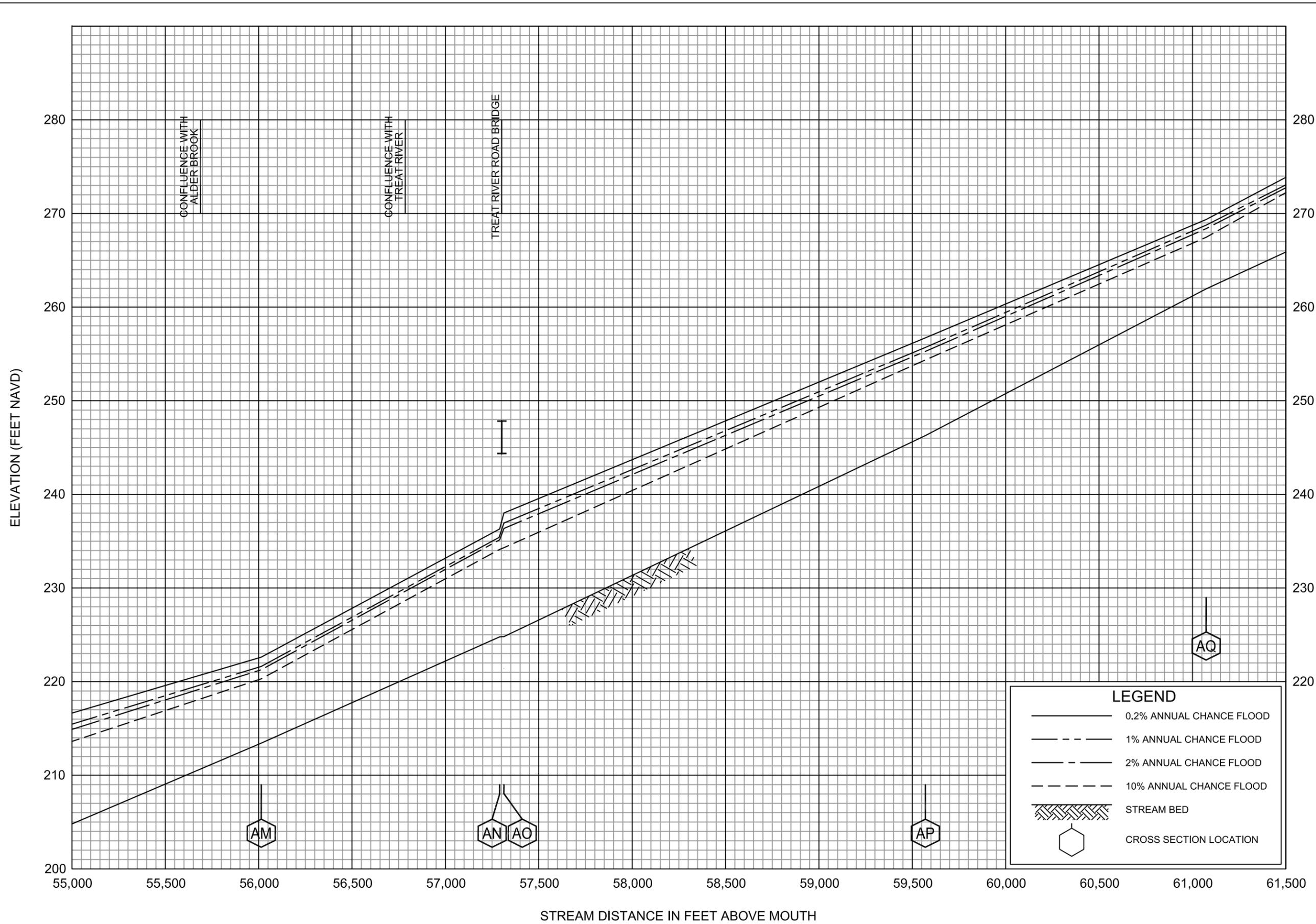


FLOOD PROFILES

SALMON RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LINCOLN COUNTY, OR
AND INCORPORATED AREAS

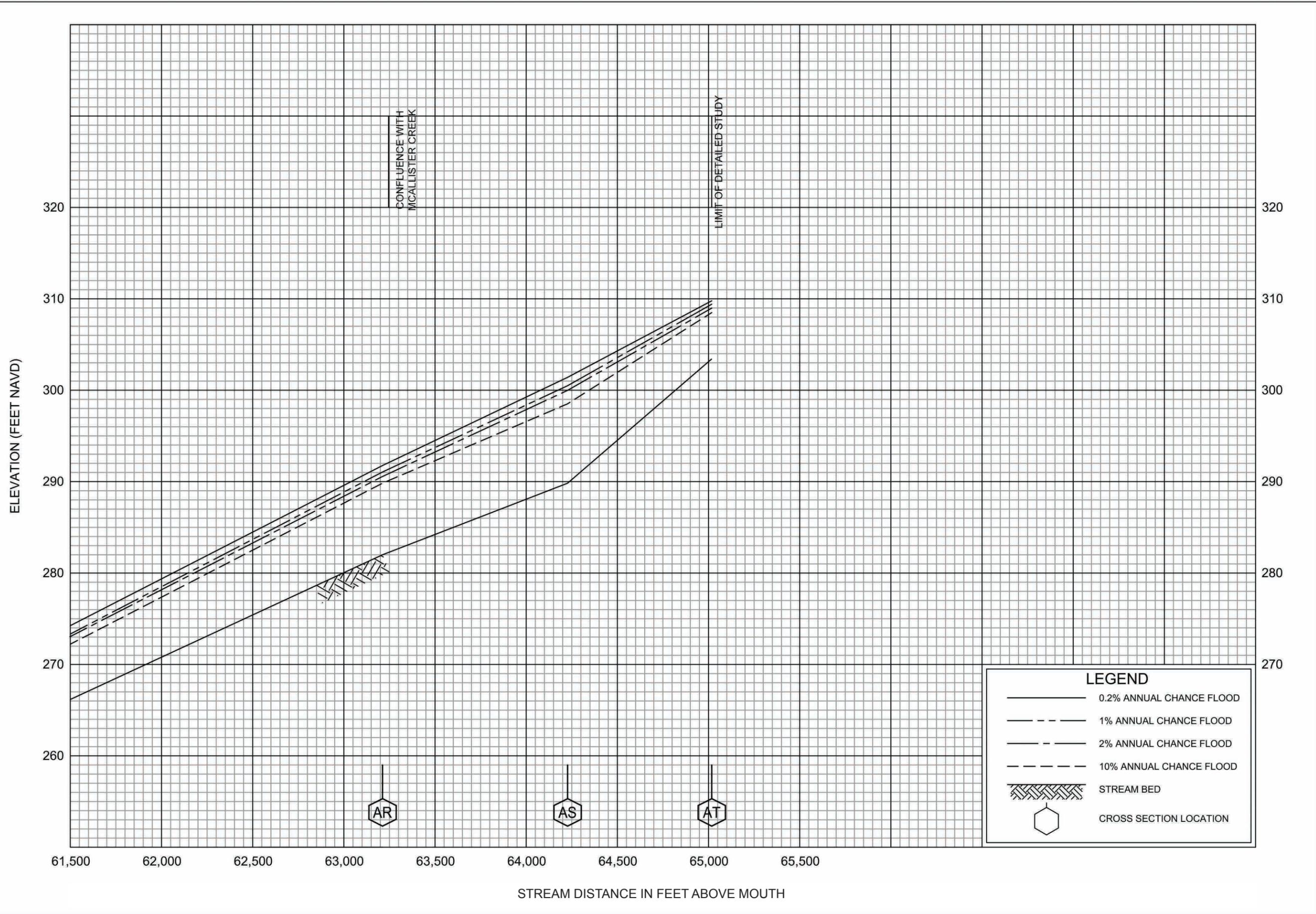


FLOOD PROFILES

SALMON RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LINCOLN COUNTY, OR
AND INCORPORATED AREAS



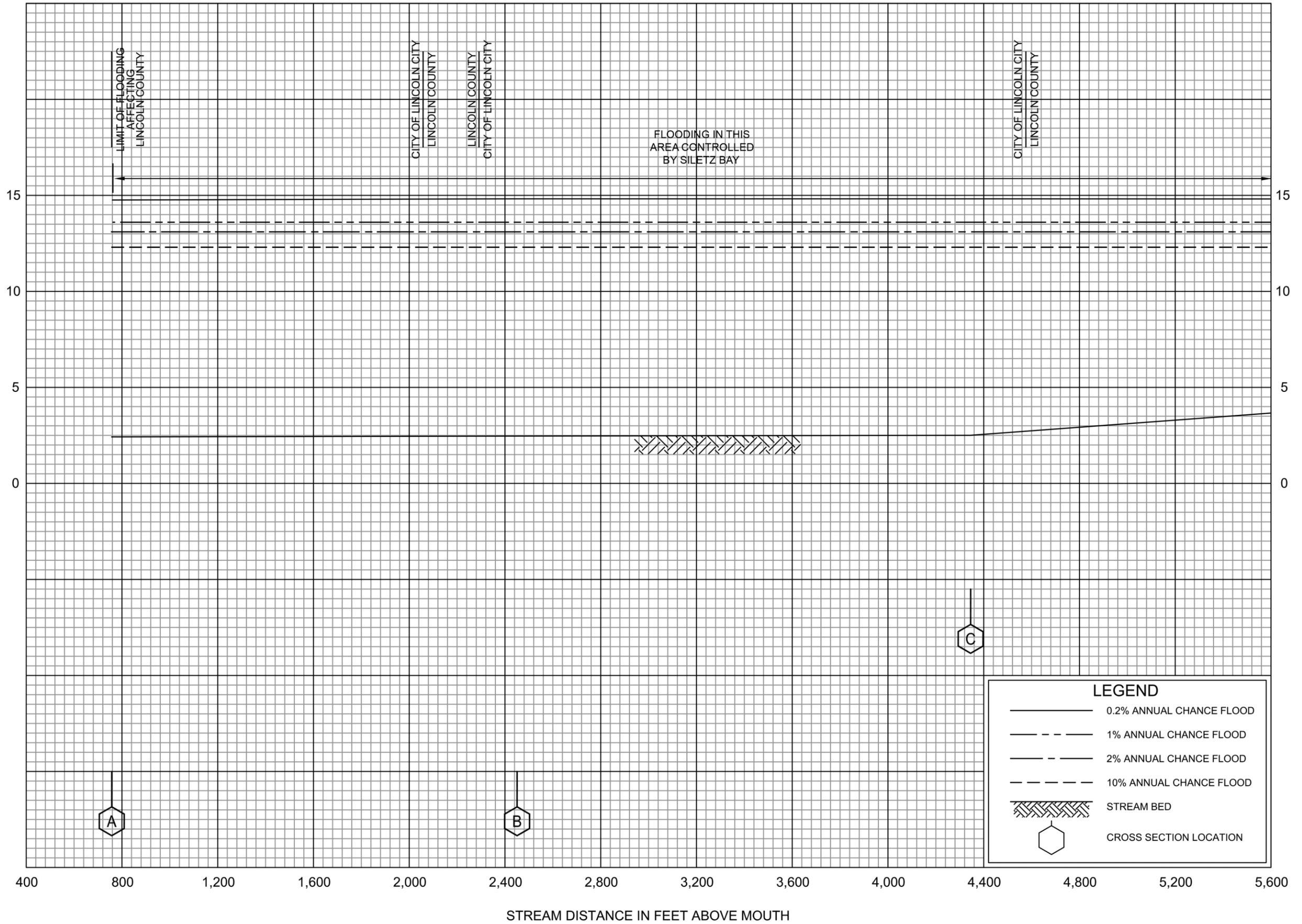
FLOOD PROFILES

SALMON RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

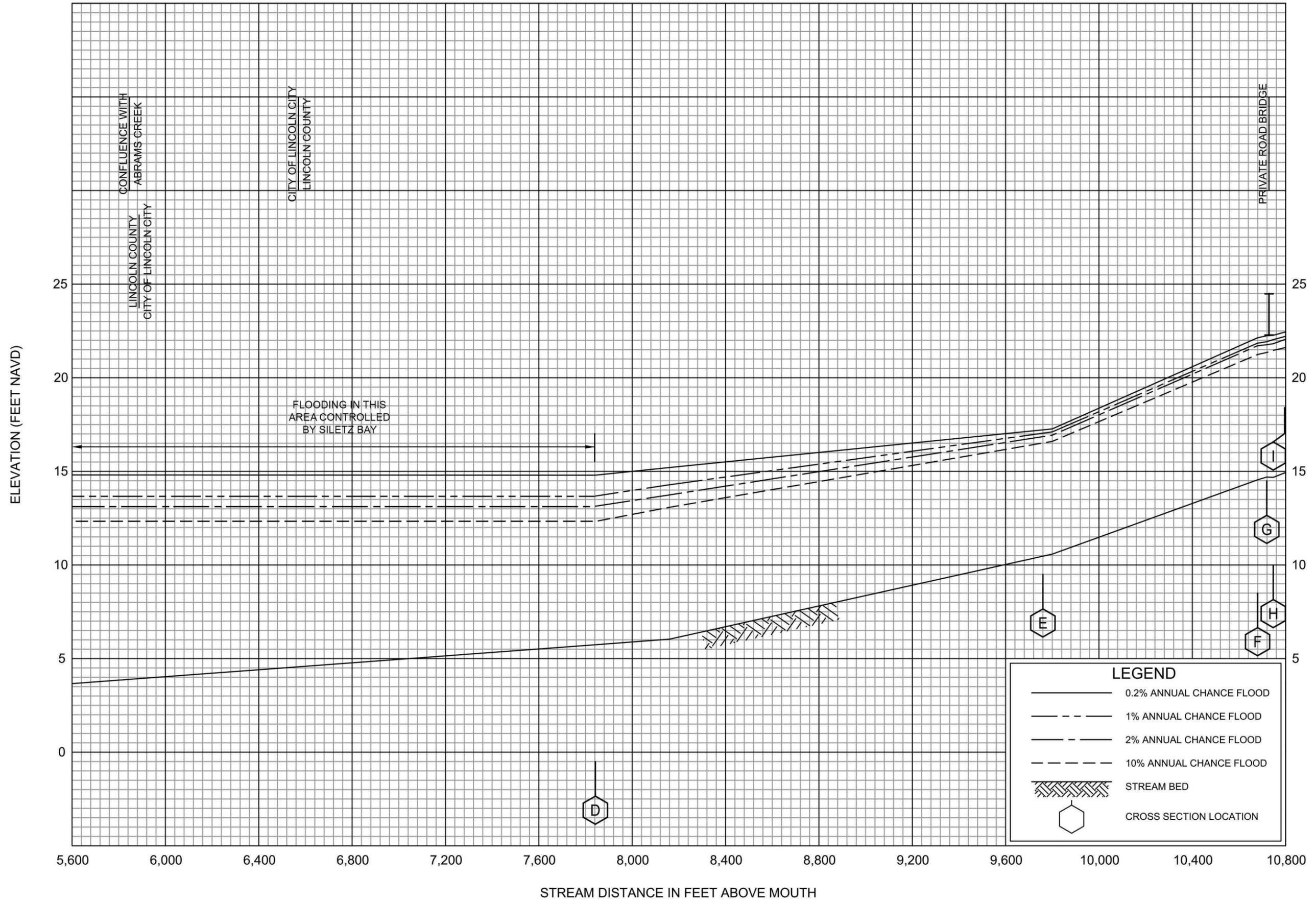
LINCOLN COUNTY, OR
AND INCORPORATED AREAS

ELEVATION (FEET NAVD)



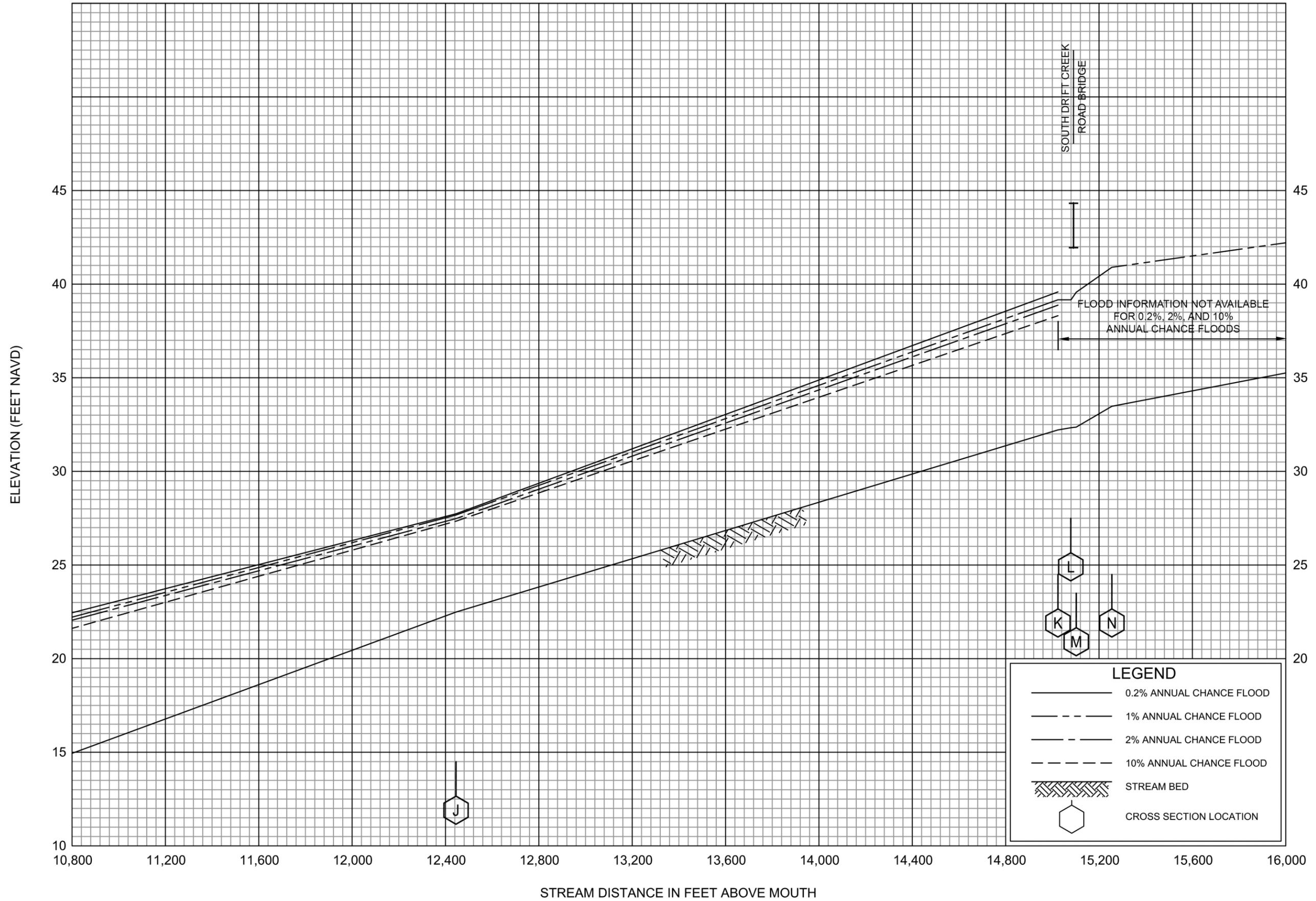
FLOOD PROFILES
SCHOONER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
AND INCORPORATED AREAS



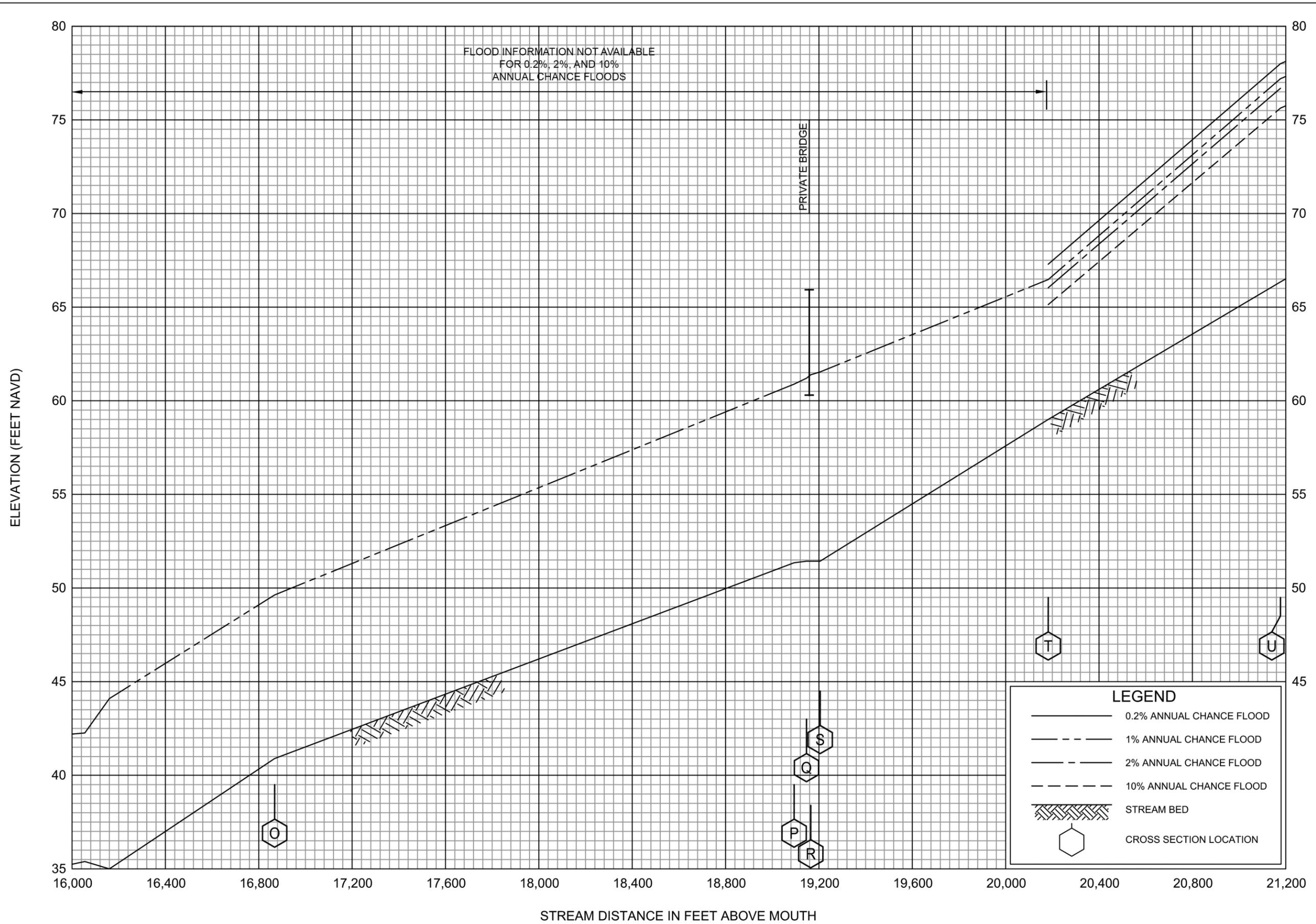
FLOOD PROFILES
SCHOONER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
 AND INCORPORATED AREAS



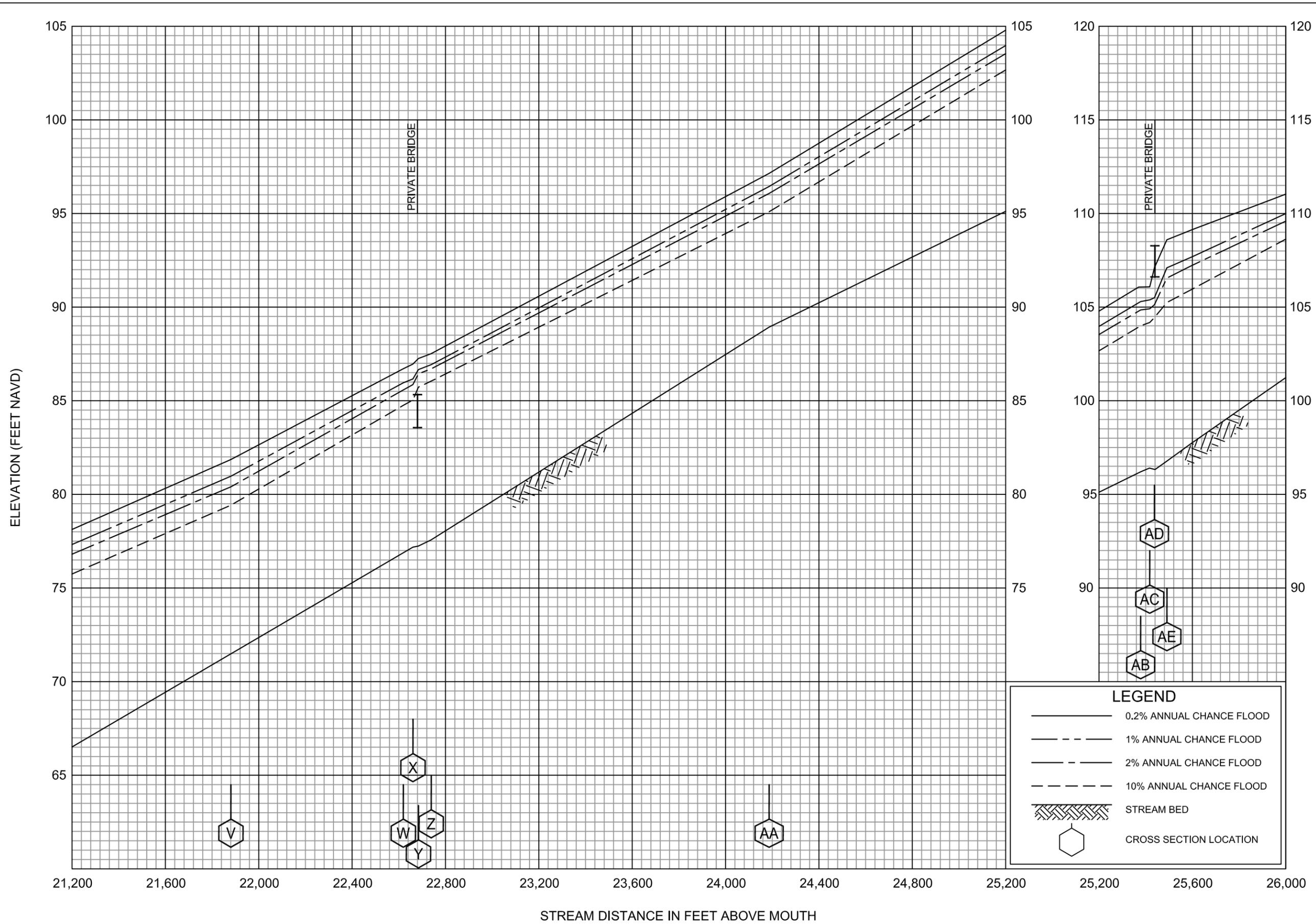
FLOOD PROFILES
SCHOONER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
 AND INCORPORATED AREAS



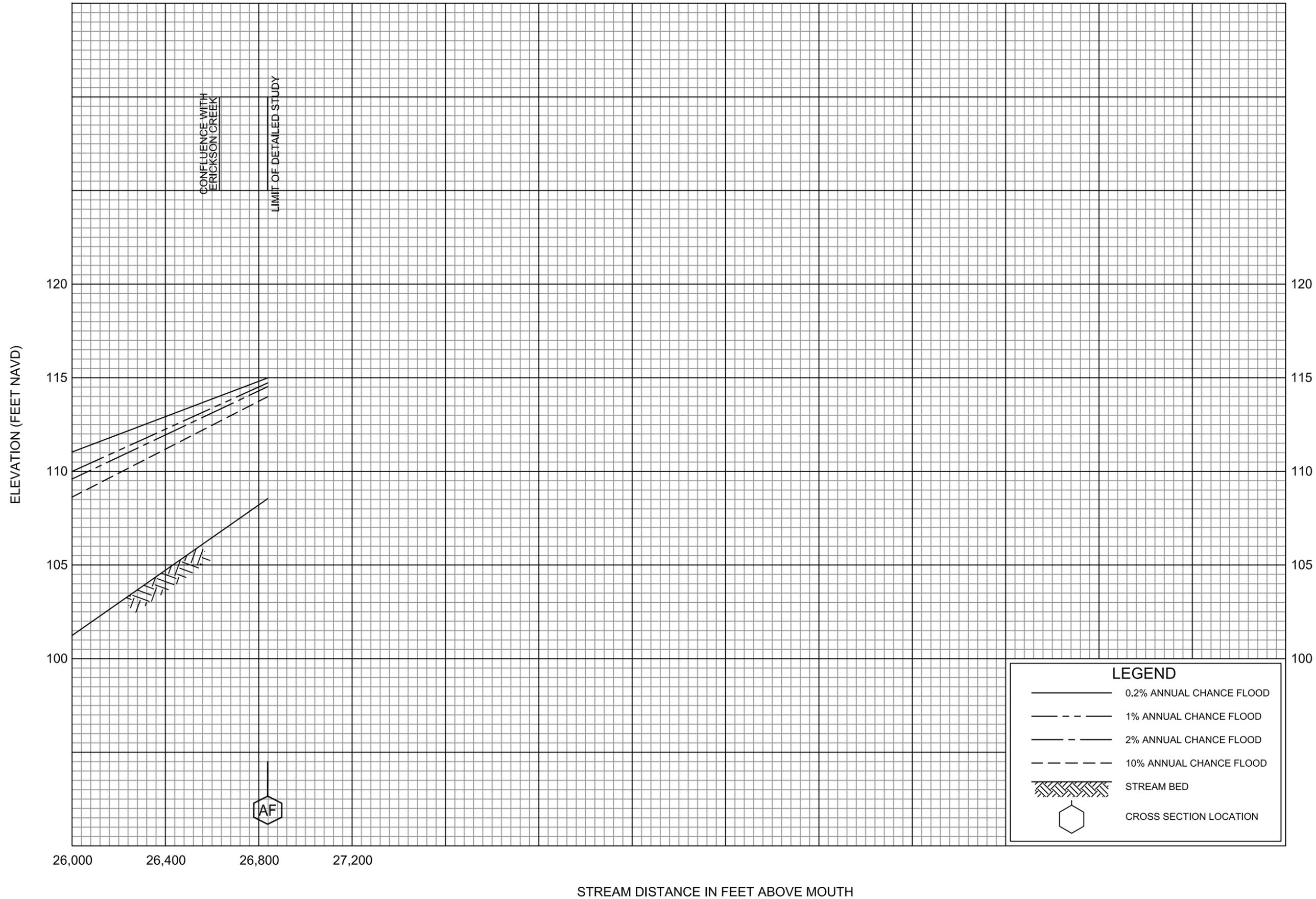
FLOOD PROFILES
SCHOONER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
AND INCORPORATED AREAS



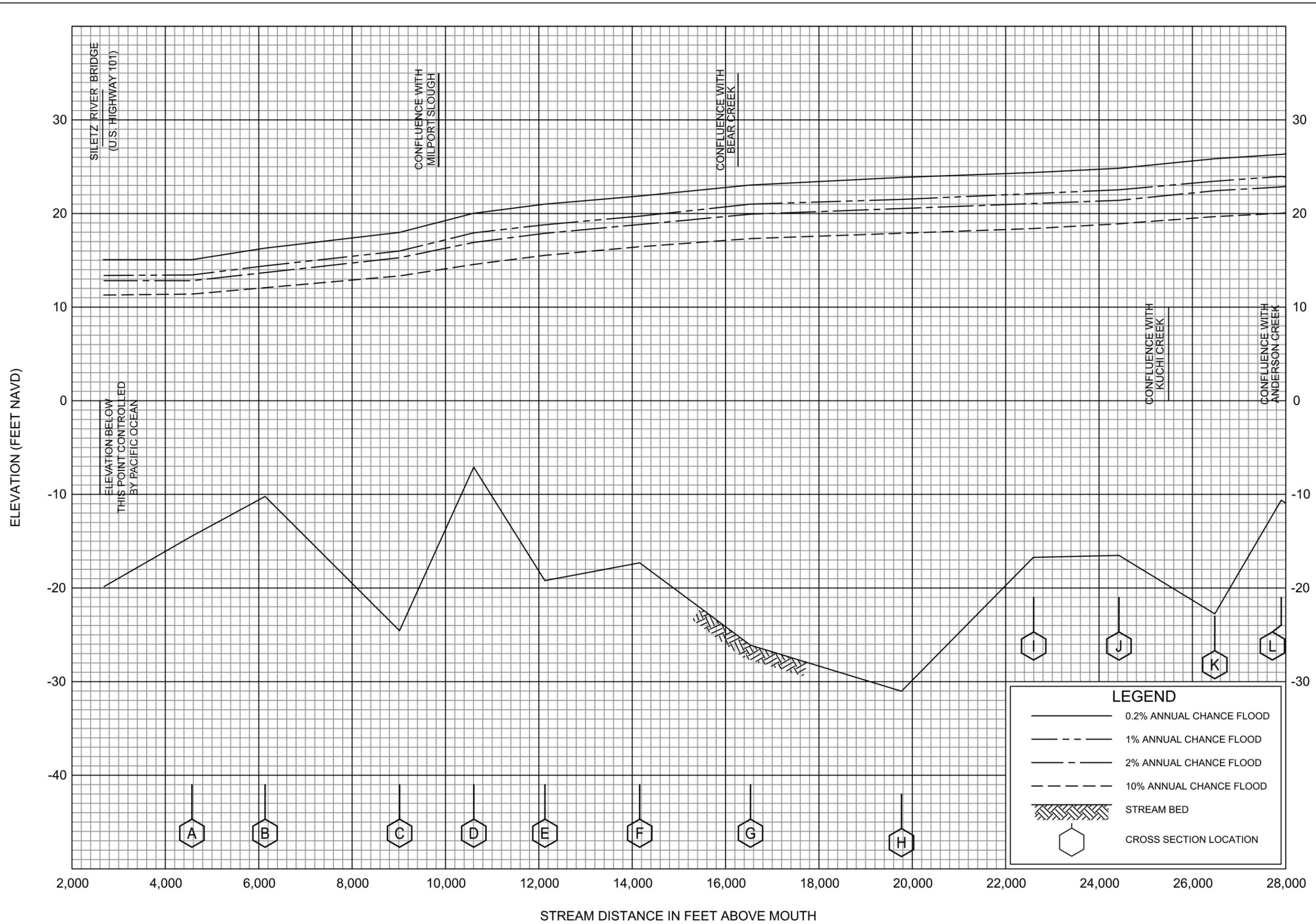
FLOOD PROFILES
SCHOONER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
 AND INCORPORATED AREAS



FLOOD PROFILES
SCHOONER CREEK

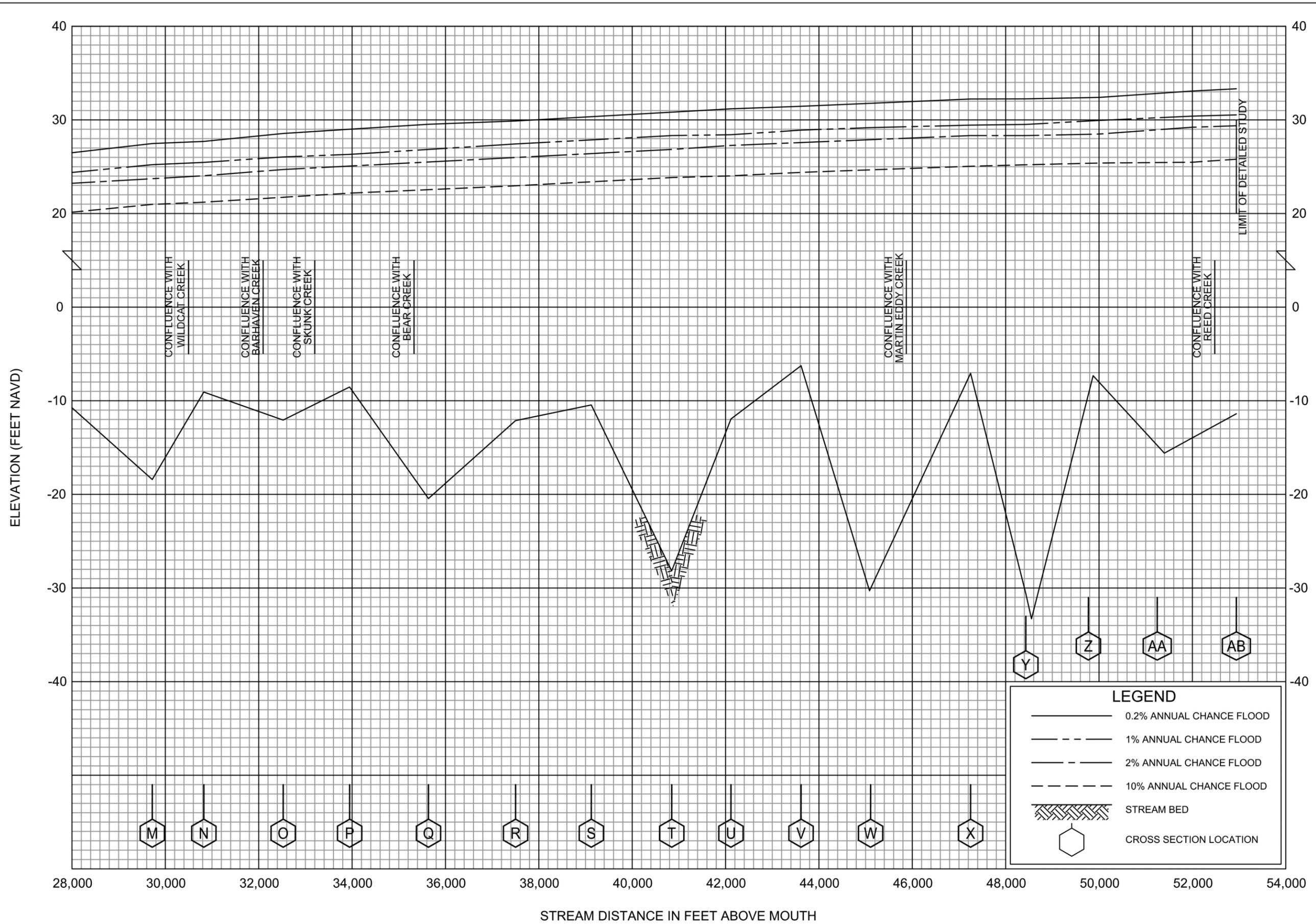
FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
 AND INCORPORATED AREAS

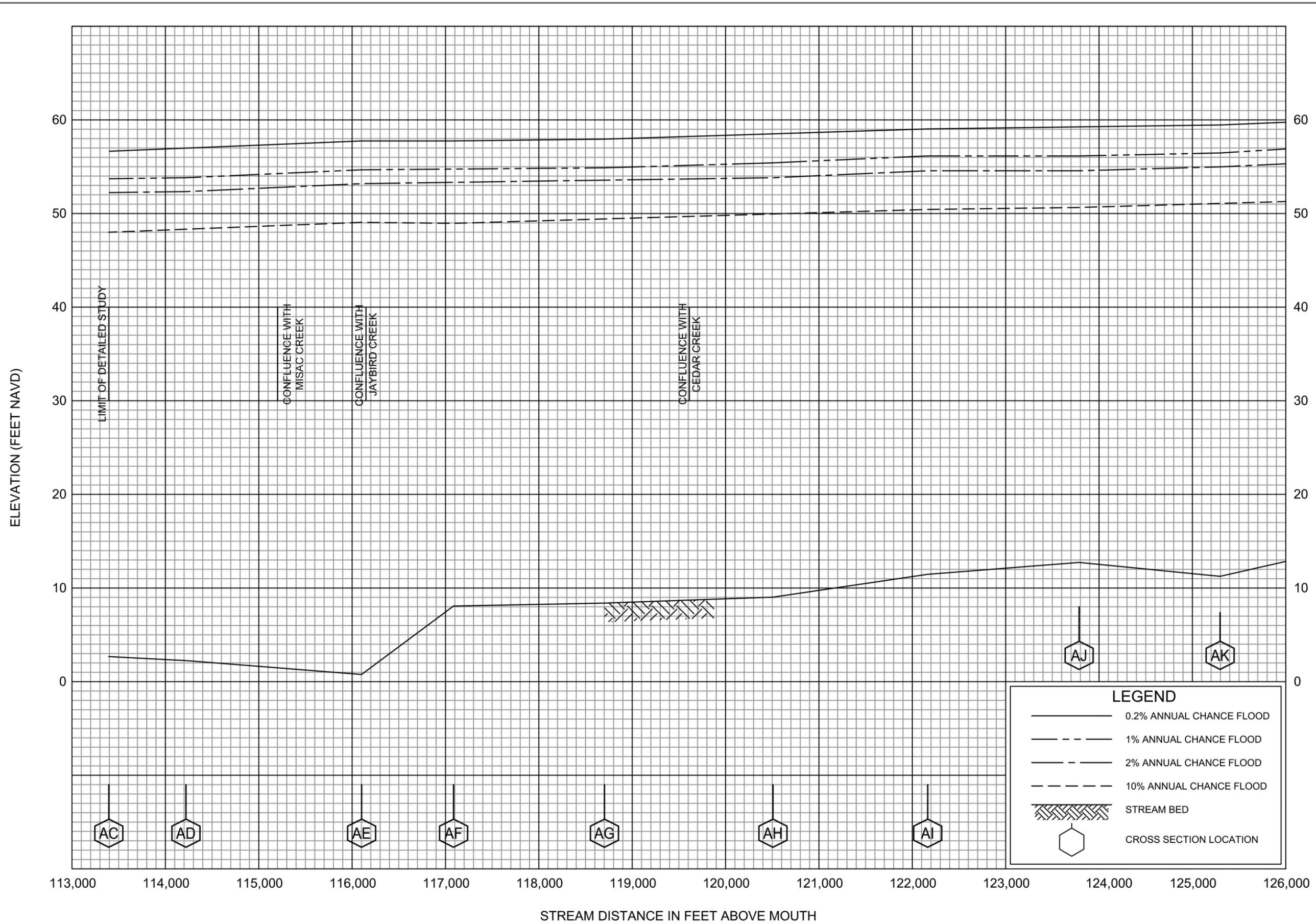


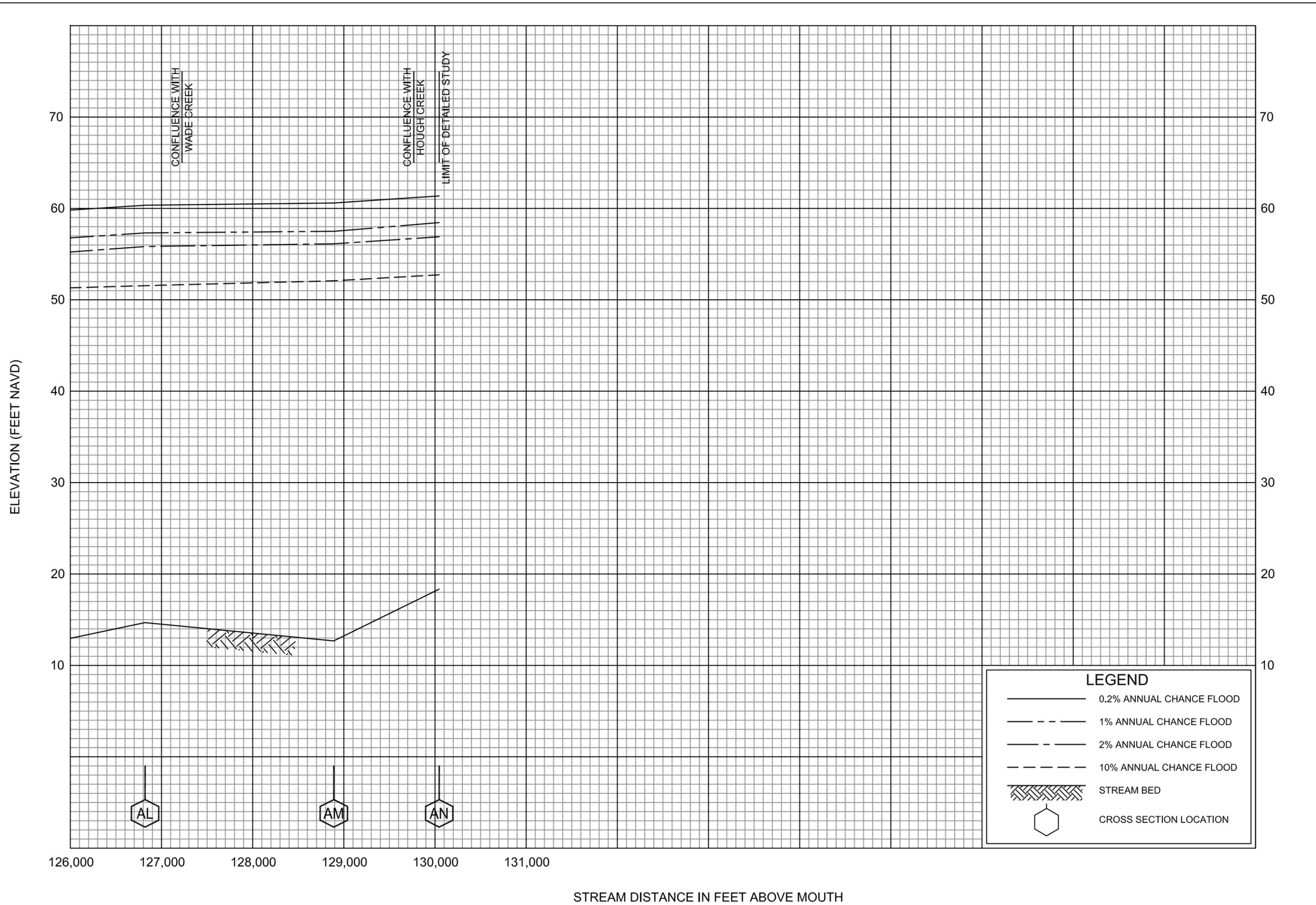
FLOOD PROFILES

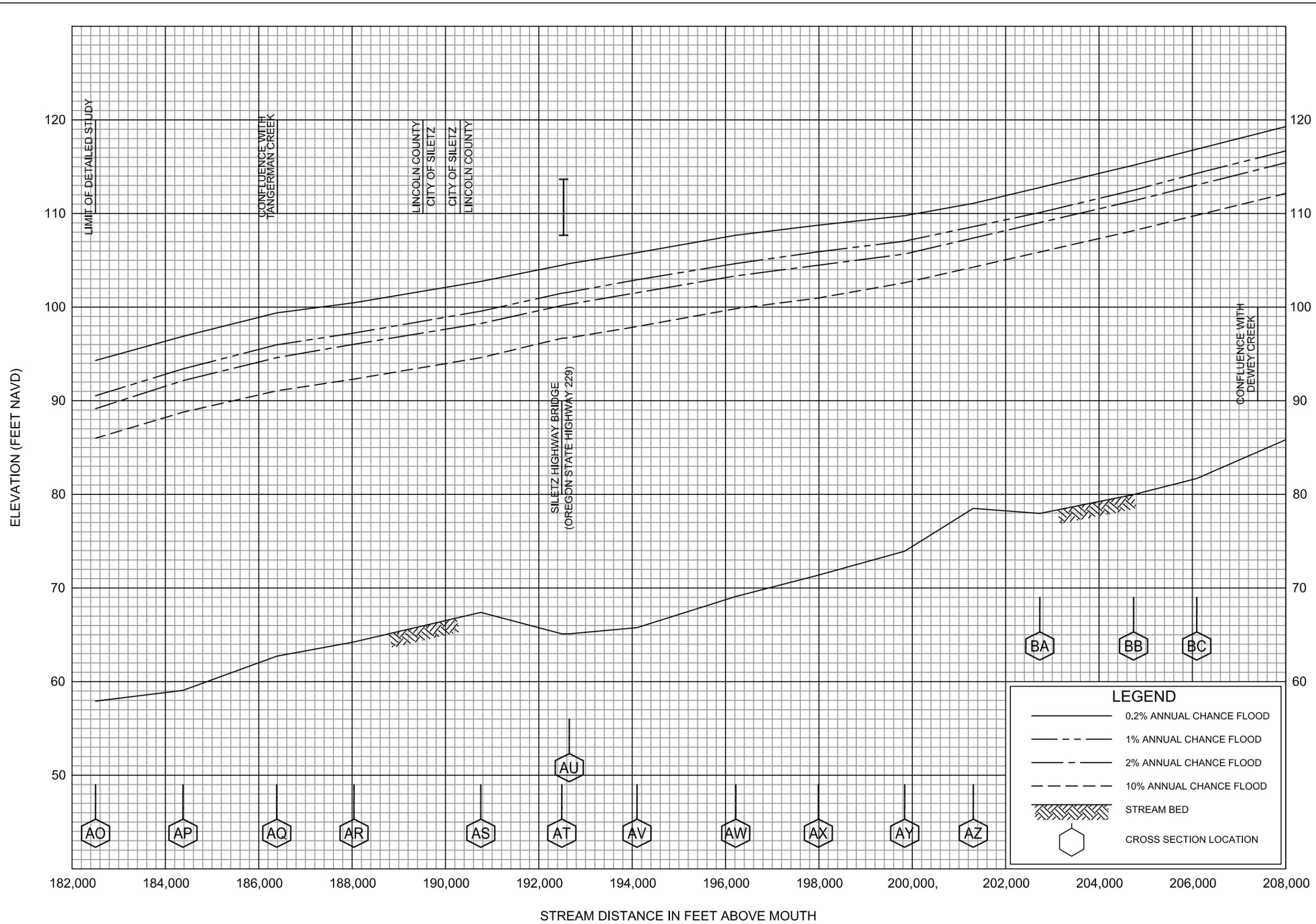
SILETZ RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
 AND INCORPORATED AREAS





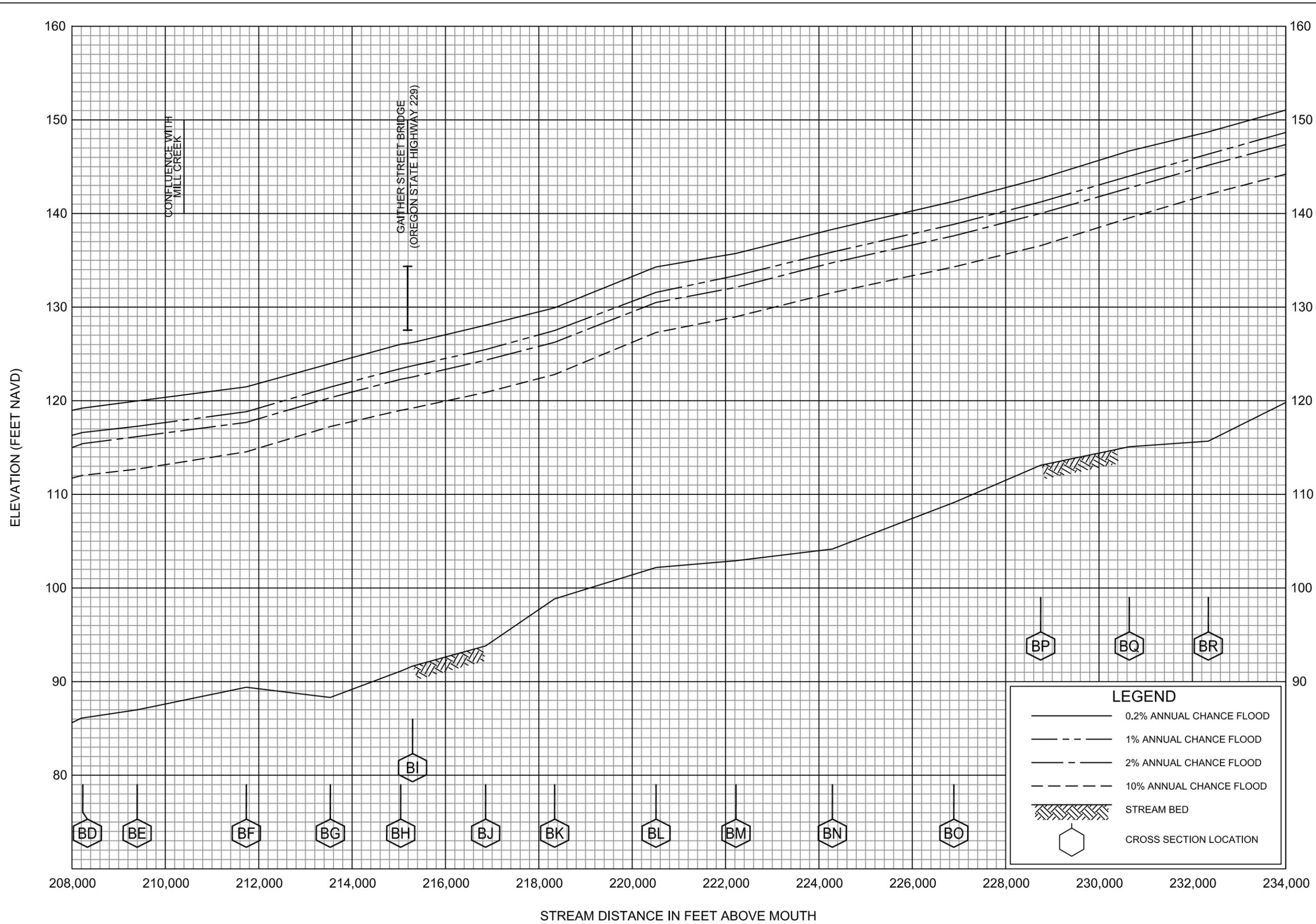




FLOOD PROFILES

SILETZ RIVER

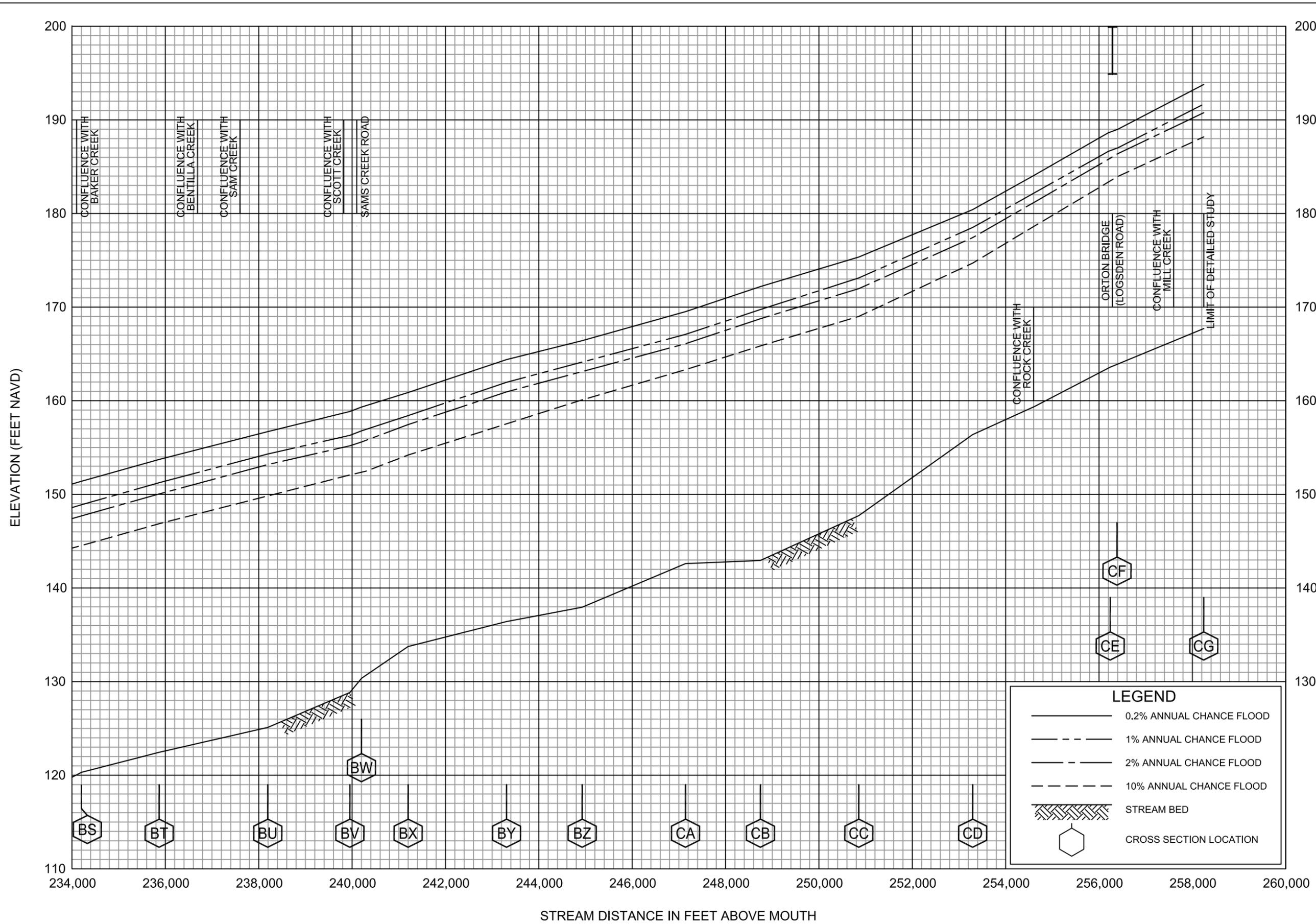
FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
 AND INCORPORATED AREAS



FLOOD PROFILES

SILETZ RIVER

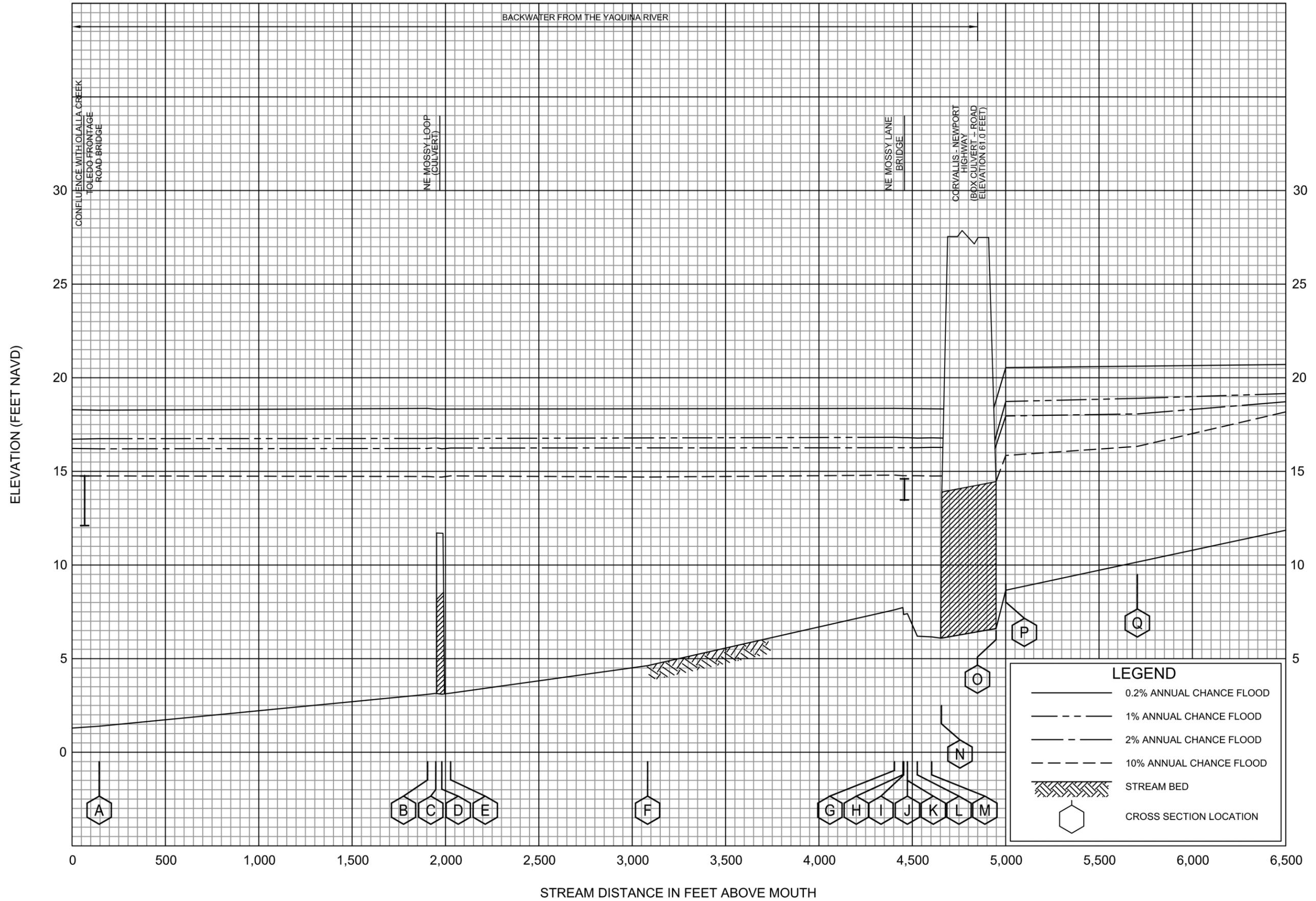
FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
 AND INCORPORATED AREAS



FLOOD PROFILES

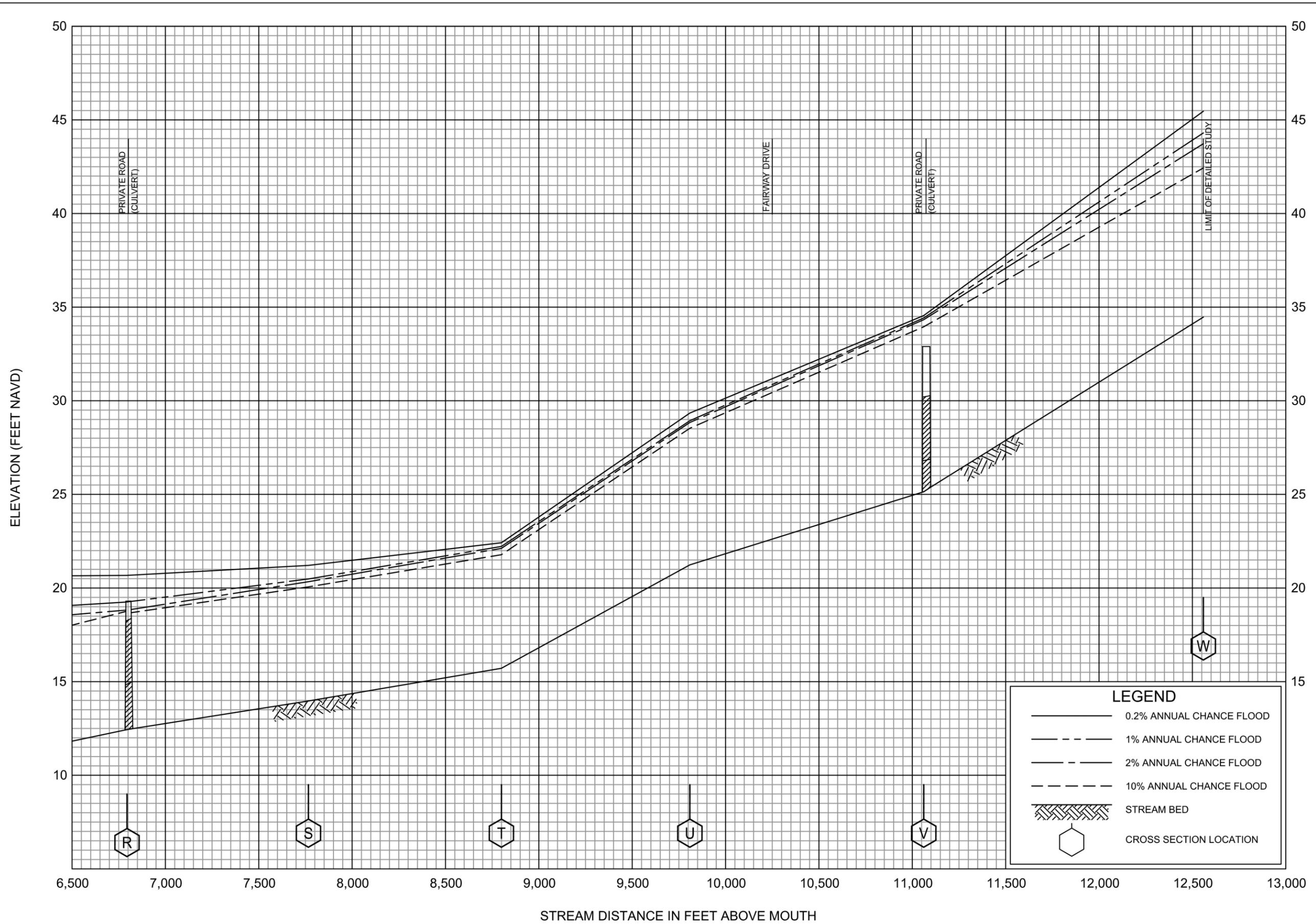
SILETZ RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
 LINCOLN COUNTY, OR
 AND INCORPORATED AREAS



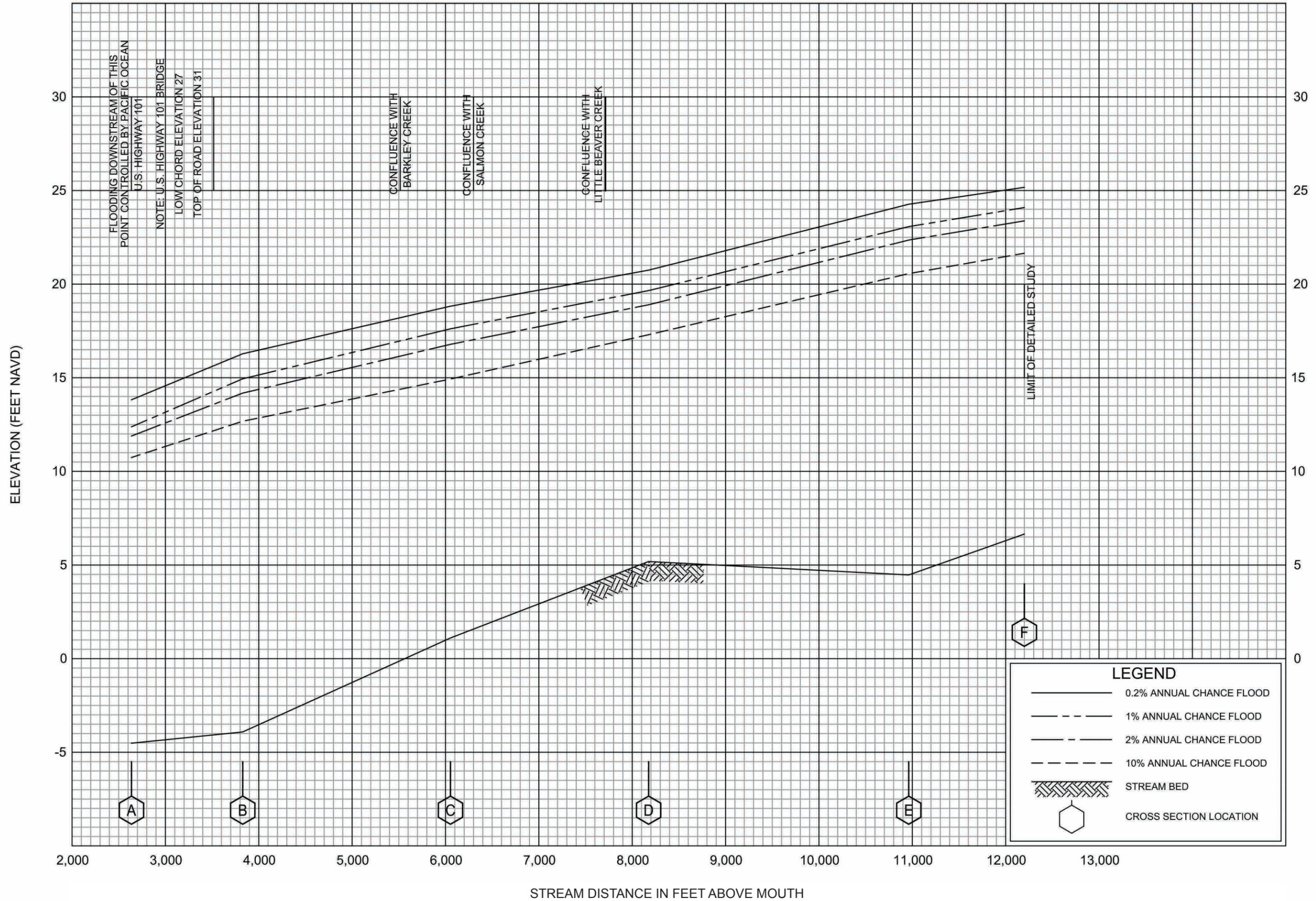
FLOOD PROFILES
WEST OLALLA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
 AND INCORPORATED AREAS



FLOOD PROFILES
WEST OLALLA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
AND INCORPORATED AREAS



FLOOD PROFILES

YACHATS RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
 AND INCORPORATED AREAS

ELEVATION (FEET NAVD)



NOTE: ELEVATIONS BELOW THIS POINT CONTROLLED BY THE PACIFIC OCEAN

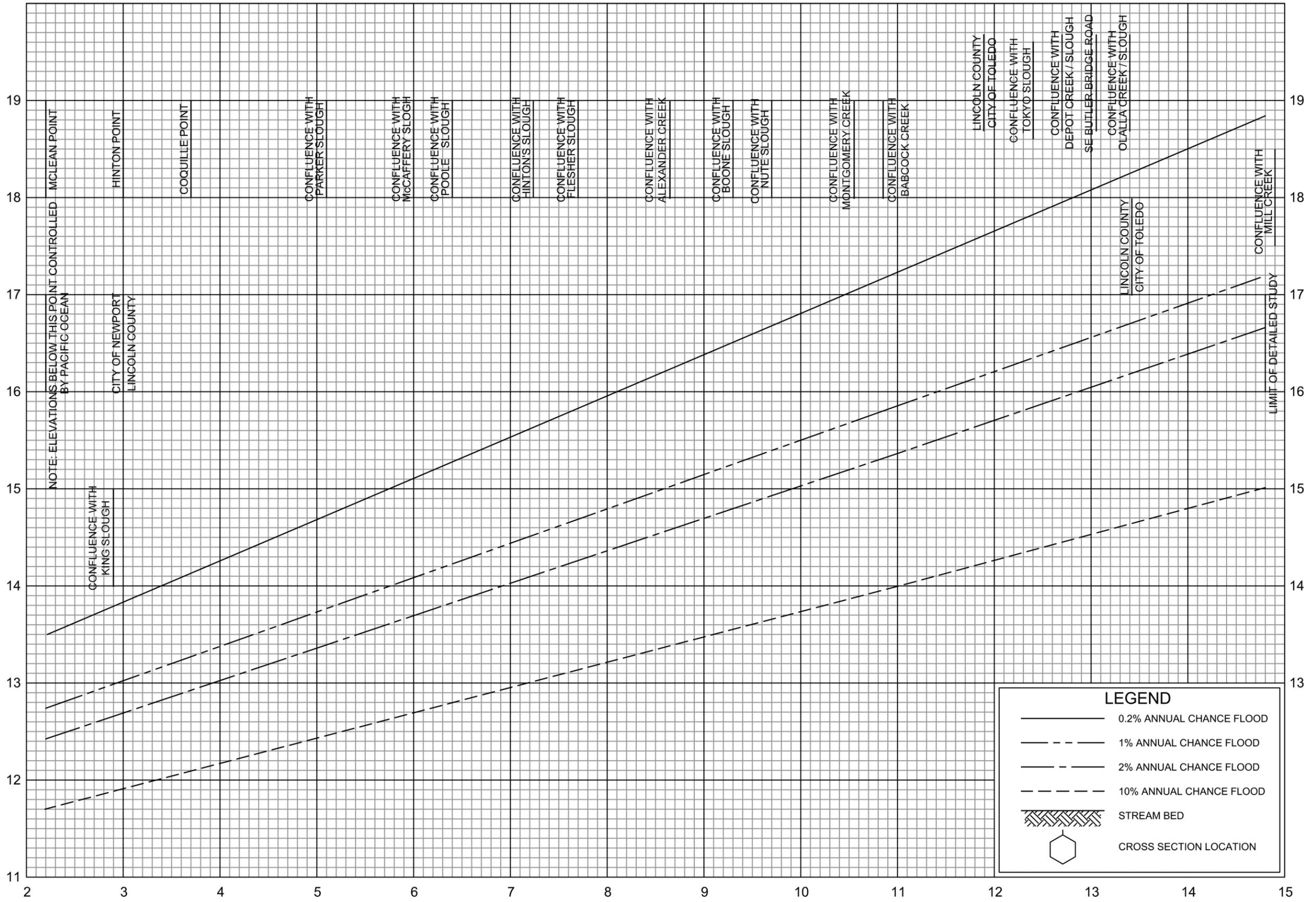
LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- - - 1% ANNUAL CHANCE FLOOD
- · - 2% ANNUAL CHANCE FLOOD
- - - 10% ANNUAL CHANCE FLOOD
- ▨ STREAM BED
- CROSS SECTION LOCATION

FLOOD PROFILES
YAQUINA BAY (UPPER REACH)

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
AND INCORPORATED AREAS

ELEVATION (FEET NAVD)



STREAM DISTANCE IN MILES ABOVE MOUTH

LEGEND

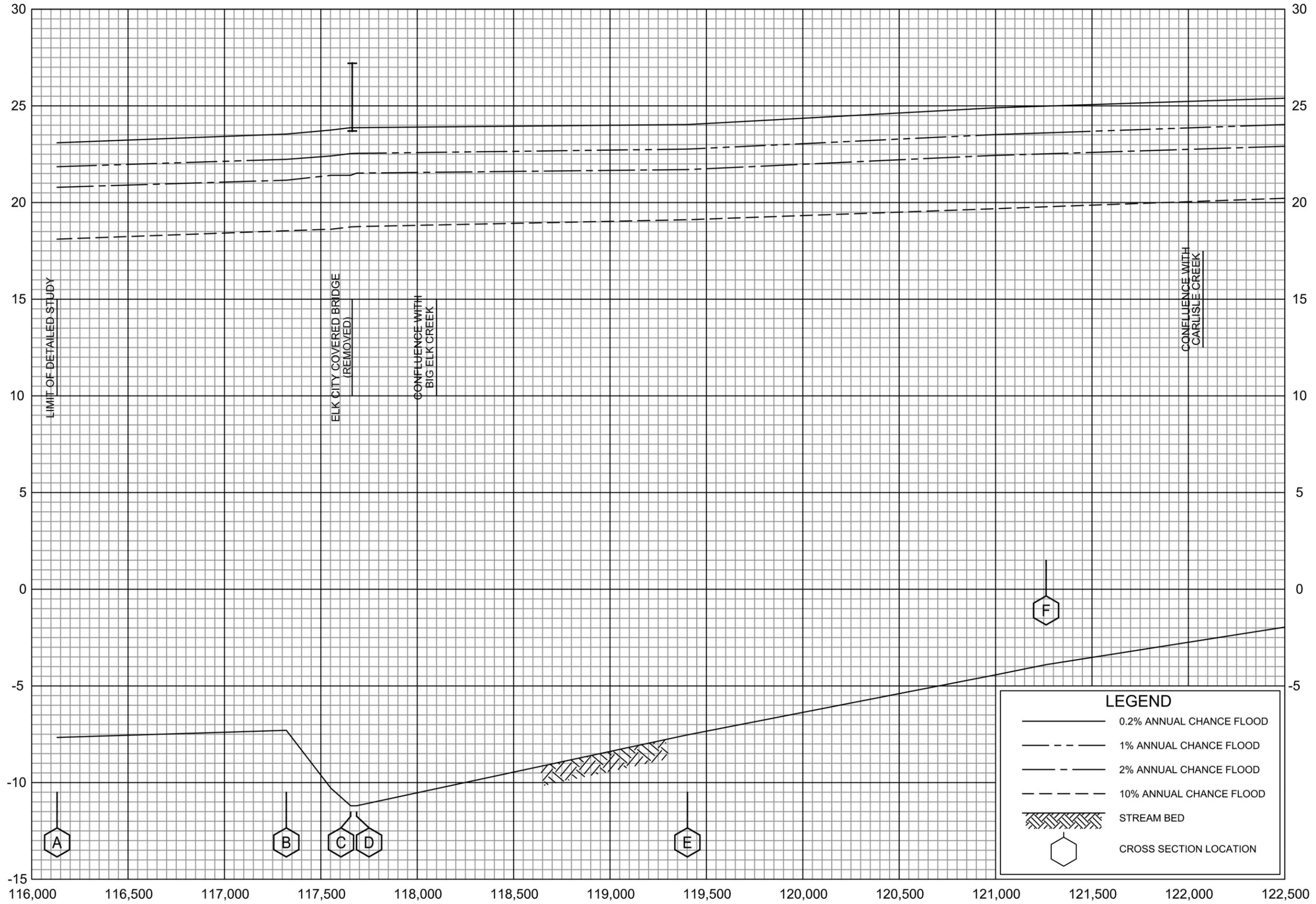
- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

FLOOD PROFILES

YAQUINA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
 AND INCORPORATED AREAS

ELEVATION (FEET NAVD)



STREAM DISTANCE IN FEET ABOVE MOUTH

LEGEND

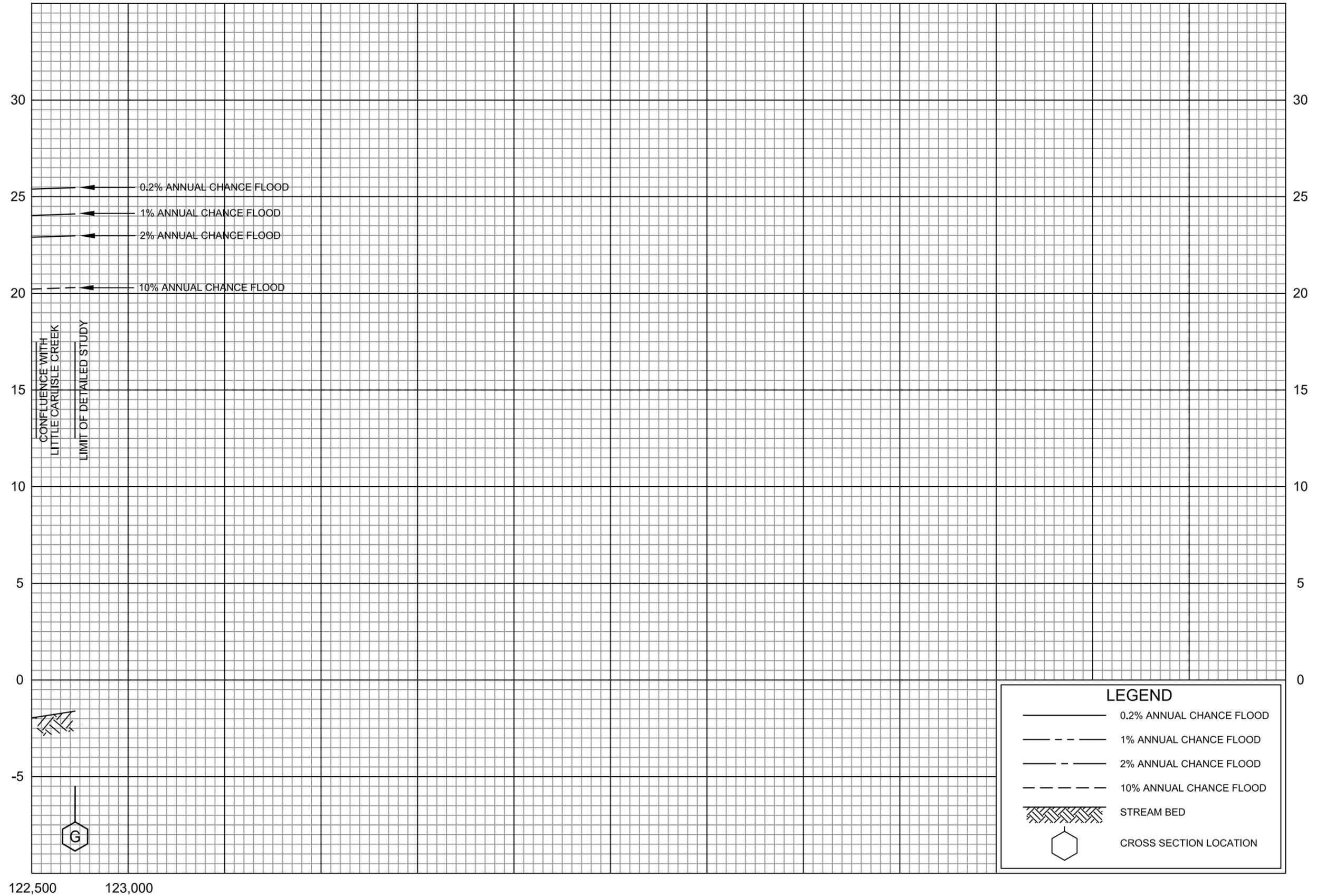
- 0.2% ANNUAL CHANCE FLOOD
- - - 1% ANNUAL CHANCE FLOOD
- · - 2% ANNUAL CHANCE FLOOD
- - - - 10% ANNUAL CHANCE FLOOD
- ▨ STREAM BED
- ⬡ CROSS SECTION LOCATION

FLOOD PROFILES

YAQUINA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
LINCOLN COUNTY, OR
AND INCORPORATED AREAS

ELEVATION (FEET NAVD)



122,500 123,000

STREAM DISTANCE IN FEET ABOVE MOUTH

FLOOD PROFILES

YAQUINA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LINCOLN COUNTY, OR
AND INCORPORATED AREAS

41P

