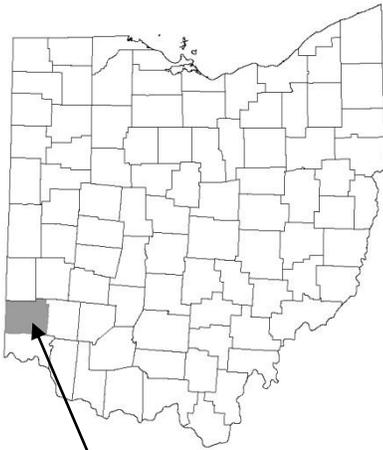


# FLOOD INSURANCE STUDY

## FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 2 OF 3



Butler County

## BUTLER COUNTY, OHIO AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
BUTLER COUNTY (UNINCORPORATED AREAS)	390037
**COLLEGE CORNER, VILLAGE OF	390943
FAIRFIELD, CITY OF	390038
HAMILTON, CITY OF	390039
*JACKSONBURG, VILLAGE OF	390081
MIDDLETOWN, CITY OF	390040
MILLVILLE, VILLAGE OF	390041
MONROE, CITY OF	390042
NEW MIAMI, VILLAGE OF	390043
OXFORD, CITY OF	390731
SEVEN MILE, VILLAGE OF	390045
**SHARONVILLE, CITY OF	390236
SOMERVILLE, VILLAGE OF	390046
TRENTON, CITY OF	390047
* NO SPECIAL FLOOD HAZARD AREAS IDENTIFIED	
** AREA NOT INCLUDED	



# FEMA

REVISED PRELIMINARY  
SEPTEMBER 18, 2015

**REVISED:**  
PRELIMINARY

**APRIL 25, 2014**

FLOOD INSURANCE STUDY NUMBER  
39017CV002B

Version Number 2.3.2.1

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### Exhibits

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### **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](http://www.ngs.noaa.gov), or contact the National Geodetic Survey at the following address:

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

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

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

The datum conversion locations and values that were calculated for Butler County are provided in Table 20. The Datum Conversion was completed during the 12/17/2010 Countywide FIS.

**Table 20: Countywide Vertical Datum Conversion**

Quadrangle Name	Quadrangle Corner	Latitude	Longitude	Conversion from NGVD29 to NAVD88 (feet)
Average Conversion from NGVD29 to NAVD88 = -0.6 feet				

**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
Digital Orthophoto	OSIP	2012	1 foot GSD	Color orthoimagery was provided for Butler County
Political boundaries	Butler County	2014	NA	Municipal and county boundaries
Transportation Features	OGRIP	2007	NA	Street Centerlines and Railroads
Surface Water Features	National Hydrography Dataset	2011	NA	Streams, rivers, and lakes were derived from NHD data
Surface Water Features	Butler County	2005	NA	Streams, rivers, and lakes.
PLSS	USGS	2004	24000	Public Land Survey System
Transportation Features	National Atlas of the United States	2005	NA	Railroads
Political boundaries, Transportation & Surface Water Features	Warren County	2008	NA	Political Boundaries, Water Polygons, Transportation Lines

## 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.”

Certain flooding sources may have been studied that do not have published BFEs on the FIRMs, or for which there is a need to report the 1% annual chance flood elevations at selected cross sections because a published Flood Profile does not exist in this FIS Report. These streams may have also been studied using methods to determine non-encroachment zones rather than floodways. For these flooding sources, the 1% annual chance floodplain boundaries 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. All topographic data used for modeling or mapping has been converted as necessary to NAVD 88. The 1% annual chance elevations for selected cross sections along these flooding sources, along with their non-encroachment widths, if calculated, are shown in Table 25, “Flood Hazard and Non-Encroachment Data for Selected Streams.”

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

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Scale	Contour Interval	Citation
Butler County and Incorporated Areas	All within Study Area	LiDAR	NA	4 ft.	OGRIP 2008

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

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>3</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BEALS RUN									
A	829	52		367	8.4	620.4	618.0 <sup>2</sup>	618.0	0.0
B	1,056	82		565	5.4	621.1	618.7 <sup>2</sup>	619.0	0.3
C	1,415	65		264	11.6	623.4	620.1 <sup>2</sup>	620.1	0.0
D	1,737	64		418	7.3	625.7	623.0 <sup>2</sup>	623.2	0.2
E	2,233	57		344	8.9	626.4	624.8 <sup>2</sup>	625.2	0.4
BEALS RUN TRIBUTARY									
A	185	44		290	6.9	620.8	617.1 <sup>2</sup>	618.1	1.0
B	401	78		584	3.4	621.4	619.9 <sup>2</sup>	620.0	0.1
C	766	76		461	4.4	621.9	621.9	622.3	0.4
D	1,373	57		205	9.8	623.7	623.7	624.1	0.4

<sup>1</sup> FEET ABOVE MOUTH

<sup>2</sup> ELEVATION COMPUTED WITHOUT CONSIDERING OVERFLOW EFFECT FROM INDIAN CREEK

<sup>3</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>BEALS RUN - BEALS RUN TRIBUTARY</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>3</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BROWNS RUN									
A	1,348	79		567	7.2	648.4	643.4 <sup>2</sup>	644.1	0.7
B	1,848	64		504	8.1	648.4	645.3 <sup>2</sup>	645.8	0.5
C	2,113	52		422	9.7	648.4	645.9 <sup>2</sup>	646.4	0.5
D	2,690	158		920	4.4	650.4	650.4	650.5	0.1
E	3,623	83		462	8.8	651.8	651.8	652.0	0.2
F	4,086	74		359	11.3	655.0	655.0	655.2	0.2
G	5,530	88		498	8.2	667.2	667.2	668.0	0.8
H	6,597	54		359	11.3	676.5	676.5	676.9	0.4
I	6,893	59		439	9.3	679.8	679.8	679.8	0.0
J	8,074	48		330	12.1	686.0	686.0	686.5	0.5
K	9,363	59		425	9.4	695.3	695.3	695.7	0.4
L	10,864	70		395	10.1	703.3	703.3	703.9	0.6
M	11,259	92		653	6.1	706.9	706.9	706.9	0.0
N	12,195	48		390	9.9	711.0	711.0	711.4	0.4
O	13,356	42		362	10.6	716.8	716.8	717.6	0.8
P	14,622	56		377	10.2	724.1	724.1	724.4	0.3
Q	14,876	60		428	9.0	726.1	726.1	726.3	0.2

<sup>1</sup> FEET ABOVE CONFLUENCE WITH GREAT MIAMI RIVER

<sup>2</sup> ELEVATIONS WITHOUT CONSIDERING BACKWATER EFFECT FROM GREAT MIAMI RIVER

<sup>3</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

(AND INCORPORATED AREAS)

**FLOODWAY DATA**

**BROWNS RUN**

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BULL RUN/COLLINS CREEK									
A	1,080	*		*	*	780.6	*	*	*
B	2,903	*		*	*	792.9	*	*	*
C	3,803	*		*	*	800.7	*	*	*
D	4,126	*		*	*	805.3	*	*	*
E	5,270	*		*	*	812.4	*	*	*
F	6,218	*		*	*	820.9	*	*	*
G	6,915	*		*	*	837.9	*	*	*
H	7,110	*		*	*	837.9	*	*	*
I	7,793	*		*	*	839.8	*	*	*
J	8,971	*		*	*	846.3	*	*	*
K	9,641	*		*	*	854.4	*	*	*
L	9,853	*		*	*	858.7	*	*	*
M	10,468	*		*	*	861.0	*	*	*
N	11,999	*		*	*	874.7	*	*	*
O	13,054	*		*	*	890.1	*	*	*
P	13,716	*		*	*	902.2	*	*	*
Q	15,060	*		*	*	910.5	*	*	*
R	16,398	*		*	*	926.8	*	*	*
S	17,643	*		*	*	940.9	*	*	*
T	18,433	*		*	*	952.4	*	*	*
U	19,368	*		*	*	952.7	*	*	*
V	20,596	*		*	*	959.6	*	*	*
W	22,155	*		*	*	979.9	*	*	*

<sup>1</sup> FEET ABOVE CONFLUENCE WITH FOUR MILE CREEK

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

\* DATA NOT AVAILABLE - NO FLOODWAY ANALYSIS

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

(AND INCORPORATED AREAS)

**FLOODWAY DATA**

**BULL RUN/COLLINS CREEK**

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>3</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
COLDWATER CREEK									
A	211	50		356	8.6	624.8	619.3 <sup>2</sup>	620.3	1.0
B	528	67		499	6.1	624.8	621.9 <sup>2</sup>	622.7	0.8
C	2,112	58		474	6.5	625.9	625.9	626.9	1.0
D	2,640	111		533	5.7	628.0	628.0	628.8	0.8
E	3,168	180		1,205	2.5	633.5	633.5	633.9	0.4
F	3,696	96		769	4.0	633.7	633.7	634.2	0.5
G	4,224	61		281	10.9	634.0	634.0	634.4	0.4

<sup>1</sup> FEET ABOVE MOUTH  
<sup>2</sup> ELEVATION COMPUTED WITHOUT CONSIDERING BACKWATER EFFECT FROM GREGORY CREEK  
<sup>3</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>COLDWATER CREEK</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>3</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
DICKS CREEK									
A	4,830	395		2,303	7.1	630.0	629.3 <sup>2</sup>	629.9	0.6
B	6,048	189		1,356	7.8	631.9	631.9	632.0	0.1
C	6,534	230		1,225	8.6	632.6	632.6	632.7	0.1
D	6,808	298		2,260	6.4	634.0	634.0	634.1	0.1
E	7,162	170		2,498	4.7	634.5	634.5	634.6	0.1
F	7,282	448		4,495	3.0	636.6	636.6	636.6	0.0
G	8,744	400		3,524	4.5	637.2	637.2	637.3	0.1
H	10,075	584		4,065	4.0	637.5	637.5	637.7	0.2
I	11,646	366		2,203	6.4	637.8	637.8	638.2	0.4
J	13,523	181		1,495	6.6	639.0	639.0	639.7	0.7
K	13,716	266		2,028	4.9	640.2	640.2	640.8	0.6
L	14,418	100		1,827	5.5	640.7	640.7	641.1	0.4
M	14,731	220		2,267	4.3	641.2	641.2	641.8	0.6
N	17,379	181		1,828	4.9	642.0	642.0	642.8	0.8
O	18,466	190		2,051	4.4	644.1	644.1	644.5	0.4
P	19,706	178		1,720	5.2	644.7	644.7	645.1	0.4
Q	20,739	197		2,283	3.9	649.1	649.1	649.6	0.5
R	23,549	419		3,963	2.7	649.7	649.7	650.3	0.6
S	24,309	175		2,128	4.0	649.8	649.8	650.3	0.5

<sup>1</sup> FEET ABOVE MOUTH AT CONFLUENCE WITH GREAT MIAMI RIVER

<sup>2</sup> ELEVATION COMPUTED WITHOUT CONSIDERING BACKWATER EFFECT FROM GREAT MIAMI RIVER

<sup>3</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY	<b>FLOODWAY DATA</b>
	<b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>DICKS CREEK</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
DICKS CREEK (CONTINUED)									
T	25,062	470		3,179	3.3	650.0	650.0	650.5	0.5
U	25,257	145		1,393	4.4	650.4	650.4	651.0	0.6
V	26,400	215		1,333	4.5	651.2	651.2	651.7	0.5
W	27,274	142		1,221	5.0	651.8	651.8	652.2	0.4
X	27,919	137		1,134	5.3	652.3	652.3	652.7	0.4
Y	28,017	127		1,143	3.4	652.7	652.7	653.0	0.3
Z	28,142	129		1,216	3.2	652.8	652.8	653.1	0.3
AA	28,444	128		955	4.0	652.9	652.9	653.2	0.3
AB	29,784	103		407	9.4	654.1	654.1	654.4	0.3
AC	30,066	100		595	6.5	657.6	657.6	657.6	0.0
AD	31,157	110		572	6.7	660.4	660.4	660.4	0.0
AE	38,386	143		365	8.3	679.6	679.6	679.8	0.2
AF	40,075	323		1,047	2.9	688.1	688.1	688.7	0.6
AG	42,134	100		536	4.3	699.0	699.0	699.8	0.8
AH	42,187	59		395	5.9	699.1	699.1	699.8	0.7
AI	43,085	62		443	5.2	705.0	705.0	705.8	0.8
AJ	43,190	153		1,058	2.2	705.8	705.8	706.4	0.6
AK	45,197	56		349	6.7	724.6	724.6	725.3	0.7
AL	47,309	162		652	3.6	736.9	736.9	737.3	0.4

<sup>1</sup> FEET ABOVE MOUTH AT CONFLUENCE WITH GREAT MIAMI RIVER

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>DICKS CREEK</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
DRY FORK WHITEWATER RIVER									
A	71,280	792		2,824	3.8	616.8	616.8	617.8	1.0
B	72,864	522		2,266	4.8	620.9	620.9	621.9	1.0
C	74,448	371		2,096	5.2	625.0	625.0	626.0	1.0
D	76,032	962		4,209	2.6	631.5	631.5	631.7	0.2
E	78,144	367		1,621	6.7	634.2	634.2	635.1	0.9
F	79,464	315		1,987	5.4	639.2	639.2	639.9	0.7
G	80,256	171		1,249	8.6	641.7	641.7	642.4	0.7
H	80,678	365		2,314	4.7	644.2	644.2	645.2	1.0
I	81,840	138		1,327	8.1	647.0	647.0	647.7	0.7
J	82,738	305		2,036	5.3	650.1	650.1	651.0	0.9
K	83,002	327		1,866	5.8	651.3	651.3	651.9	0.6
L	83,952	283		1,835	5.9	653.5	653.5	654.2	0.7

<sup>1</sup> FEET ABOVE MOUTH

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>DRY FORK WHITEWATER RIVER</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
EAST BRANCH PLEASANT RUN									
A	597	79		238	4.9	610.2	610.2	610.8	0.6
B	818	41		205	5.7	611.0	611.0	611.4	0.4
C	1,267	46		195	6.0	612.9	612.9	613.0	0.1
D	1,663	41		161	5.5	614.7	614.7	614.7	0.0
E	2,160	33		116	7.7	617.3	617.3	617.3	0.0
F	2,730	43		146	6.1	621.7	621.7	621.7	0.0
G	3,300	30		130	6.9	624.8	624.8	624.8	0.0
H	4,050	33		97	9.3	631.4	631.4	631.4	0.0
I	4,208	78		177	5.1	633.7	633.7	633.7	0.0
J	4,487	*		*	*	652.5	*	*	*
K	5,327	*		*	*	652.5	*	*	*
L	5,854	*		*	*	654.4	*	*	*
M	6,640	*		*	*	660.9	*	*	*
N	6,796	*		*	*	665.5	*	*	*
O	7,022	*		*	*	665.9	*	*	*
P	7,250	*		*	*	668.7	*	*	*
Q	7,584	*		*	*	677.4	*	*	*
R	8,587	*		*	*	678.0	*	*	*
S	10,382	*		*	*	694.8	*	*	*
T	11,147	*		*	*	723.0	*	*	*
U	12,303	*		*	*	746.3	*	*	*
V	13,656	*		*	*	771.8	*	*	*
W	14,250	*		*	*	793.8	*	*	*
X	14,656	*		*	*	806.7	*	*	*
Y	15,224	*		*	*	814.0	*	*	*

<sup>1</sup> FEET ABOVE CONFLUENCE WITH PLEASANT RUN

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

\* DATA NOT AVAILABLE - NO FLOODWAY ANALYSIS

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

(AND INCORPORATED AREAS)

**FLOODWAY DATA**

**EAST BRANCH PLEASANT RUN**

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
EAST FORK MILL CREEK									
A	215	401		2,191	3.0	590.0	588.0	588.6	0.7
B	985	208		1,327	3.9	588.5	588.5	589.1	0.6
C	1,876	272		1,901	4.7	589.7	589.7	590.1	0.4
D	2,997	542		3,193	2.7	590.7	590.7	591.4	0.7
E	3,875	532		2,651	2.0	591.7	591.7	592.4	0.7
F	5,803	250		1,246	4.2	593.2	593.2	594.0	0.8
G	6,087	406		2,184	3.6	593.8	593.8	594.5	0.7
H	6,166	364		1,890	3.2	595.0	595.0	595.9	0.9
I	7,449	131		696	7.5	596.3	596.3	596.8	0.5
J	8,199	204		1,009	5.2	599.4	599.4	599.5	0.1
K	9,689	77		465	7.3	605.6	605.6	605.7	0.1
L	10,173	62		394	8.7	607.9	607.9	607.9	0.1
M	10,511	556		2,338	1.7	610.9	610.9	610.9	0.0
N	11,766	250		686	5.0	613.5	613.5	613.5	0.1
O	13,024	89		370	9.2	619.3	619.3	619.7	0.5
P	13,930	271		1,081	5.1	625.8	625.8	625.8	0.0
Q	15,030	172		469	7.3	631.6	631.6	631.6	0.0
R	15,560	53		225	9.0	633.5	633.5	633.5	0.0
S	16,038	42		245	8.3	639.2	639.2	639.4	0.2
T	16,589	57		272	7.5	644.4	644.4	644.7	0.4
U	17,091	65		204	10.0	649.1	649.1	649.1	0.0
V	17,632	35		206	9.9	655.8	655.8	656.2	0.4

<sup>1</sup> FEET ABOVE COUNTY BOUNDARY  
<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

TABLE 24	FEDERAL EMERGENCY MANAGEMENT AGENCY	FLOODWAY DATA
	<b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>EAST FORK MILL CREEK</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
EAST FORK MILL CREEK (CONT.)									
W	18,696	29		177	11.5	668.3	668.3	669.0	0.8
X	19,699	45		192	10.6	679.9	679.9	679.9	0.1
Y	20,647	38		213	9.5	691.0	691.0	691.6	0.6
Z	21,054	42		176	11.5	695.2	695.2	695.2	0.0
AA	21,423	38		182	8.8	700.8	700.8	701.3	0.6
AB	21,666	54		523	3.1	713.0	713.0	713.0	0.0
AC	23,033	32		150	10.7	729.1	729.1	729.4	0.3
AD	24,513	33		161	9.9	755.2	755.2	755.5	0.3
AE	25,872	33		180	8.9	779.5	779.5	779.6	0.1
AF	27,382	34		173	9.3	804.2	804.2	804.7	0.5
AG	29,334	32		145	8.5	833.5	833.5	833.9	0.4
AH	29,562	82		339	3.6	839.5	839.5	839.5	0.0
AI	31,089	46		187	6.6	846.5	846.5	846.7	0.2
AJ	31,946	35		180	6.9	851.7	851.7	852.2	0.5
AK	32,135	102		581	2.1	855.6	855.6	856.2	0.7
AL	32,615	87		411	2.1	855.8	855.8	856.5	0.7
AM	33,525	34		159	5.4	858.8	585.8	859.2	0.5
AN	33,686	73		287	3.0	860.3	860.3	861.2	0.9
AO	34,166	61		196	4.4	861.4	861.4	862.1	0.7

<sup>1</sup> FEET ABOVE COUNTY BOUNDARY

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

(AND INCORPORATED AREAS)

**FLOODWAY DATA**

**EAST FORK MILL CREEK**

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
EBERHARTS RUN A B	1,015	60		159	7.8	703.1	703.1	703.5	0.4
	1,520	44		220	5.5	709.8	709.8	709.9	0.1

<sup>1</sup> FEET ABOVE MOUTH

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>EBERHARTS RUN</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
ELK CREEK									
A	990	485		1,757	5.9	633.0	633.0	633.1	0.1
B	1,793	75		787	13.3	635.5	635.5	635.7	0.2
C	3,613	110		1,030	10.1	644.5	644.5	644.6	0.1
D	5,767	99		867	12.0	653.5	653.5	653.8	0.3
E	7,181	163		1,234	8.5	661.7	661.7	661.8	0.1
F	8,191	111		1,111	9.4	665.4	665.4	665.4	0.0
G	10,228	176		1,541	6.8	672.0	672.0	672.4	0.4
H	12,212	188		1,232	8.5	679.5	679.5	679.7	0.2
I	13,620	350		1,282	8.2	685.9	685.9	686.1	0.2
J	15,268	380		1,136	9.2	691.9	691.9	691.9	0.0
K	17,301	131		913	11.4	697.1	697.1	697.5	0.4
L	18,304	97		874	11.9	702.1	702.1	702.1	0.0
M	19,572	174		1,475	7.1	707.6	707.6	707.6	0.0
N	21,558	191		1,402	6.3	715.0	715.0	715.7	0.7
O	23,888	95		769	11.4	721.4	721.4	721.9	0.5
P	25,210	135		759	10.7	727.0	727.0	727.1	0.1
Q	27,148	139		926	8.7	734.4	734.4	735.1	0.7
R	28,422	444		1,804	4.5	738.5	738.5	739.4	0.9
S	29,575	441		1,045	7.7	743.4	743.4	743.4	0.0
T	30,749	191		867	8.8	747.1	747.1	747.6	0.5
U	32,745	96		811	9.4	757.1	757.1	757.5	0.4
V	34,089	94		717	10.7	761.3	761.3	762.0	0.7
W	35,675	86		763	10.0	769.4	769.4	769.5	0.1
X	37,546	209		1,172	6.5	776.2	776.2	777.2	1.0
Y	38,957	95		847	9.0	782.7	782.7	783.5	0.8

<sup>1</sup> FEET ABOVE CONFLUENCE WITH GREAT MIAMI RIVER

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

(AND INCORPORATED AREAS)

**FLOODWAY DATA**

**ELK CREEK**

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>3</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
FOUR MILE CREEK									
A	1,060	260		3,597	10.7	588.2	588.1 <sup>2</sup>	589.0	0.9
B	1,542	279		3,317	12.1	590.4	590.4	591.0	0.6
C	1,764	315		5,278	8.8	595.1	595.1	595.4	0.3
D	2,496	441		6,675	6.5	596.8	596.8	596.9	0.1
E	3,472	1,119		10,697	4.4	597.2	597.2	598.0	0.8
F	5,983	1,782		10,895	5.2	597.6	597.6	598.5	0.9
G	7,108	816		4,672	9.8	598.1	598.1	598.7	0.6
H	8,365	638		6,630	6.9	600.7	600.7	601.2	0.5
I	9,026	723		5,892	7.9	601.3	601.3	601.7	0.4
J	10,045	943		8,173	6.3	602.6	602.6	603.1	0.5
K	12,169	555		6,522	6.5	605.1	605.1	605.6	0.5
L	12,990	867		9,304	5.4	606.5	606.5	606.9	0.4
M	14,926	1,605		15,745	3.0	607.9	607.9	608.6	0.7
N	16,304	698		4,262	10.5	608.7	608.7	608.9	0.2
O	17,273	446		5,252	7.6	612.1	612.1	612.9	0.8
P	19,183	541		5,924	7.5	615.7	615.7	616.4	0.7
Q	21,857	1,965		18,350	2.3	618.6	618.6	619.2	0.6
R	23,906	1,089		5,667	4.0	619.2	619.2	620.1	0.9
S	24,693	1,528		6,100	3.5	619.8	619.8	620.8	1.0
T	25,362	954		4,104	5.1	620.7	620.7	621.5	0.8
U	26,155	419		2,767	6.6	622.2	622.2	623.1	0.9
V	27,136	258		2,386	7.1	625.1	625.1	625.9	0.8
W	28,195	275		2,808	7.2	628.7	628.7	629.0	0.3

<sup>1</sup> FEET ABOVE CONFLUENCE WITH GREAT MIAMI RIVER

<sup>2</sup> ELEVATIONS WITHOUT CONSIDERING BACKWATER EFFECT FROM GREAT MIAMI RIVER

<sup>3</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY	<b>FLOODWAY DATA</b>
	<b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FOUR MILE CREEK</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
FOUR MILE CREEK (CONTINUED)									
X	29,058	569		4,422	5.1	630.2	630.2	630.8	0.6
Y	30,371	777		4,738	5.4	631.7	631.7	632.3	0.6
Z	32,393	725		5,507	4.8	636.1	636.1	637.0	0.9
AA	33,196	900		5,443	5.3	637.3	637.3	637.9	0.6
AB	34,285 <sup>3</sup>	640		3,496	7.5	639.1	639.1	639.5	0.4
AC	35,151	831		6,709	3.6	641.0	641.0	641.8	0.8
AD	37,739	673		5,250	4.6	646.9	646.9	647.8	0.9
AE	39,481	317		3,088	7.9	651.9	651.9	652.7	0.8
AF	42,227	445		4,095	5.9	658.8	658.8	659.5	0.7
AG	44,022	381		3,631	6.7	663.2	663.2	664.0	0.8
AH	45,606	386		4,016	6.1	666.7	666.7	667.5	0.8
AI	48,668	1,109		6,174	3.9	672.8	672.8	673.6	0.8
AJ	49,883	508		3,529	6.9	675.2	675.2	675.9	0.7
AK	51,519	623		4,367	5.6	680.3	680.3	681.0	0.7
AL	53,051	1,013		6,149	4.0	683.5	683.5	684.2	0.7
AM	55,110	952		6,201	3.9	686.5	686.5	687.1	0.6
AN	56,641	438		3,034	8.0	690.3	690.3	690.8	0.5
AO	58,700	912		5,104	3.9	696.4	696.4	697.1	0.7
AP	60,390	383		4,522	4.4	703.4	703.4	704.4	1.0
AQ	61,974	174		1,868	10.6	705.7	705.7	706.4	0.7
AR	63,663	263		2,965	6.7	711.6	711.6	712.4	0.8
AS	64,403	433		4,973	4.0	713.8	713.8	714.5	0.7
AT	66,039	433		3,416	5.8	715.8	715.8	716.4	0.6

<sup>1</sup> FEET ABOVE CONFLUENCE WITH GREAT MIAMI RIVER  
<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS  
<sup>3</sup> 2010 Profile matched up to updated 2011 Hydraulic Model, Stations upstream of AB

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY	<b>FLOODWAY DATA</b>
	<b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FOUR MILE CREEK</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
FOUR MILE CREEK (CONTINUED)									
AU	69,313	467		3,389	5.8	722.8	722.8	723.6	0.8
AV	73,273	324		2,458	8.0	733.5	733.5	734.2	0.7
AW	74,487	160		1,653	11.9	735.9	735.9	736.9	1.0
AX	74,646	399		4,304	4.6	740.0	740.0	741.0	1.0
AY	75,068	563		4,669	4.2	740.5	740.5	741.5	1.0
AZ	76,863	281		1,973	10.0	744.9	744.9	745.2	0.3
BA	78,236	274		2,610	7.6	753.2	753.2	754.1	0.9
BB	80,295	163		1,906	10.4	761.2	761.2	762.1	0.9
BC	81,087	350		3,184	6.2	765.0	765.0	766.0	1.0
BD	83,516	363		3,992	4.9	770.4	770.4	771.3	0.9
BE	84,149	399		4,594	4.5	771.4	771.4	772.2	0.8
BF	86,011	965		5,664	3.2	772.0	772.0	772.9	0.9
BG	87,734	850		3,863	5.0	772.8	772.8	773.6	0.8
BH	91,488	507		2,269	8.7	779.0	779.0	779.6	0.6
BI	92,190	677		3,618	6.2	781.4	781.4	782.0	0.6
BJ	92,710	322		2,362	7.5	781.9	781.9	782.8	0.9
BK	93,040	429		3,015	6.6	783.9	783.9	784.5	0.6
BL	96,333	855		3,819	5.0	787.0	787.0	787.6	0.6
BM	98,395	1,446		4,502	4.9	789.8	789.8	790.5	0.7
BN	99,209	144		1,387	9.0	791.8	791.8	791.8	0.0
BO	99,358	442		2,652	5.8	792.5	792.5	793.5	1.0
BP	99,843	975		4,666	3.5	793.4	793.4	794.4	1.0
BQ	100,260	900		4,105	4.5	793.8	793.8	794.6	0.8

<sup>1</sup> FEET ABOVE CONFLUENCE WITH GREAT MIAMI RIVER  
<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY	<b>FLOODWAY DATA</b>
	<b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FOUR MILE CREEK</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
FOUR MILE CREEK (CONTINUED)									
BR	101,207	292		1,777	8.0	795.0	795.0	795.6	0.6
BS	101,377	854		5,644	3.1	799.7	799.7	800.0	0.3
BT	101,700	631		4,212	4.2	799.9	799.9	800.1	0.2
BU	103,920	943		4,845	3.6	802.8	802.8	803.8	1.0
BV	106,190	1,250		8,216	2.1	804.6	804.6	805.6	1.0
BW	109,125	180		1,182	14.9	813.0	813.0	813.0	0.0

<sup>1</sup> FEET ABOVE CONFLUENCE WITH GREAT MIAMI RIVER  
<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>FOUR MILE CREEK</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
GM DITCH									
A	136	31		149	5.0	595.2	585.9 <sup>3</sup>	586.9	1.0
B	371	31		139	5.3	595.2	586.9 <sup>3</sup>	587.4	0.5
C	637	31		124	5.9	595.2	588.0 <sup>3</sup>	588.2	0.2
D	932	41		297	2.5	595.2	594.3 <sup>3</sup>	594.3	0.0
E	1,069	38		239	3.2	595.2	594.3 <sup>3</sup>	594.3	0.0
F	1,250	41		296	1.9	595.2	594.6 <sup>3</sup>	594.6	0.0
G	1,579	35		222	2.6	595.2	594.6 <sup>3</sup>	594.6	0.0
H	1,817	37		223	2.3	595.2	594.8 <sup>3</sup>	594.8	0.0
I	2,124	34		208	2.4	595.2	594.9 <sup>3</sup>	594.9	0.0
J	2,471	36		183	2.7	595.2	595.1 <sup>3</sup>	595.1	0.0
K	2,831	40		199	2.5	595.2	595.2 <sup>3</sup>	595.2	0.0
L	3,072	90		330	1.9	596.4	596.4	596.6	0.2
M	3,198	90		314	2.0	596.4	596.4	596.6	0.2
N	3,373	90		340	1.8	596.5	596.5	596.7	0.2
O	3,548	145		469	1.8	596.5	596.5	596.7	0.2
P	3,699	70		242	3.0	596.5	596.5	596.8	0.3
Q	3,941	65		250	2.9	596.8	596.8	597.0	0.2
R	4,226	75		272	2.0	596.9	596.9	597.2	0.3
S	4,447	49		233	2.2	597.0	597.0	597.3	0.3
T	4,681	40		179	2.9	597.2	597.2	597.5	0.3
U	4,904	40		175	3.0	597.4	597.4	597.6	0.2
V	5,175	36		156	3.3	597.7	597.7	597.9	0.2
W	5,430	37		159	3.3	598.0	598.0	598.1	0.1
X	5,644	33		161	3.2	599.9	599.9	600.0	0.1

<sup>1</sup> FEET ABOVE MOUTH AT PLEASANT RUN

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<sup>3</sup> ELEVATION COMPUTED WITHOUT CONSIDERING BACKWATER EFFECT FROM PLEASANT RUN

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>GM DITCH</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
GM DITCH (CONTINUED)									
Y	5,895	36		164	3.1	600.0	600.0	600.1	0.1
Z	6,133	35		160	3.2	600.1	600.1	600.2	0.1
AA	6,510	48		288	1.8	602.5	602.5	602.6	0.1
AB	6,674	48		284	1.8	602.5	602.5	602.6	0.1
AC	7,011	58		294	1.8	602.6	602.6	602.7	0.1
AD	7,346	46		234	2.2	602.7	602.7	602.8	0.1
AE	7,643	47		243	2.2	602.8	602.8	602.8	0.0
AF	7,941	69		365	2.3	602.8	602.8	602.9	0.1
AG	8,221	58		286	2.4	602.9	602.9	603.0	0.1
AH	8,474	45		252	2.6	603.0	603.0	603.1	0.1
AI	8,754	40		246	2.3	605.0	605.0	605.1	0.1
AJ	9,110	45		291	2.3	605.0	605.0	605.1	0.1
AK	9,457	40		229	3.2	605.0	605.0	605.2	0.2
AL	9,726	45		250	3.1	605.0	605.0	605.3	0.3
AM	9,855	35		127	8.0	605.0	605.0	605.2	0.2

<sup>1</sup> FEET ABOVE MOUTH AT PLEASANT RUN  
<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>GM DITCH</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>3</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
GREAT MIAMI RIVER									
A	139,575	3,096 / 1,716 <sup>2</sup>		35,087	3.7	550.3	550.3	551.2	0.9
B	143,830	1,101 / 687 <sup>2</sup>		29,064	4.4	554.3	554.3	555.1	0.8
C	147,887	1,579		29,840	3.4	556.7	556.7	557.5	0.8
D	152,949	4,759		85,333	1.6	557.2	557.2	558.1	0.9
E	157,084	3,169		45,483	2.8	557.2	557.2	558.1	0.9
F	159,364	1,133		14,692	6.7	557.3	557.3	558.2	0.9
G	166,673	576		11,557	8.3	560.0	560.0	560.8	0.8
H	169,412	949		14,431	6.6	561.8	561.8	562.5	0.7
I	171,406	451		8,667	11.0	562.1	562.1	562.7	0.6
J	174,451	464		9,252	10.3	565.4	565.4	566.0	0.6
K	176,445	335		7,239	13.0	566.5	566.5	566.9	0.4
L	179,173	291		7,718	12.2	570.0	570.0	570.4	0.4
M	180,512	564		12,372	7.6	572.2	572.2	572.4	0.2
N	182,983	440		10,393	9.0	572.7	572.7	573.1	0.4
O	185,411	455		10,561	7.9	575.0	575.0	575.3	0.3
P	189,669	577		11,770	8.0	576.8	576.8	577.3	0.5
Q	191,239	553		11,308	8.3	577.6	577.6	578.1	0.5
R	192,980	461		9,782	9.6	578.6	578.6	579.0	0.4
S	194,466	504		10,716	8.8	579.7	579.7	580.2	0.5
T	196,535	481		11,466	8.2	581.0	581.0	581.5	0.5
U	197,718	576		13,502	7.0	582.0	582.0	582.5	0.5
V	198,383	655		15,639	6.0	582.4	582.4	582.9	0.5
W	200,842	746		10,466	8.2	584.7	584.7	585.1	0.4
X	203,127	532		9,030	9.5	586.7	586.7	587.2	0.4

<sup>1</sup> FEET ABOVE CONFLUENCE WITH OHIO RIVER

<sup>2</sup> TOTAL WIDTH/WIDTH WITHIN COUNTY

<sup>3</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>GREAT MIAMI RIVER</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
GREAT MIAMI RIVER (CONT.)									
Y	204,181	418		8,423	10.1	587.6	587.6	588.1	0.5
Z	208,381	1,621		14,859	5.4	594.4	594.4	594.7	0.3
AA	212,301	2,523		16,428	4.9	595.9	595.9	596.7	0.8
AB	215,560	973		10,727	7.5	597.9	597.9	598.5	0.6
AC	217,394	885		12,255	6.6	599.5	599.5	600.0	0.5
AD	225,559	2,730		17,425	4.6	608.7	608.7	609.1	0.4
AE	228,046	812		12,897	6.2	609.8	609.8	610.8	1.0
AF	233,532	2,159		22,497	3.6	613.9	613.9	614.5	0.6
AG	235,982	1,513		18,080	4.5	614.8	614.8	615.6	0.8
AH	239,837	2,476		20,809	3.9	617.7	617.7	618.7	1.0
AI	247,751	1,329		12,520	6.3	622.2	622.2	623.2	0.9
AJ	253,194	2,485		22,037	3.6	626.9	626.9	627.8	0.9
AK	256,602	2,666		21,571	3.6	627.9	627.9	628.8	0.9
AL	259,500	2,098		16,926	4.6	628.5	628.5	629.4	0.9
AM	261,729	2,111		12,408	6.3	629.3	629.3	630.2	0.9
AN	262,590	2,639		19,425	4.4	631.4	631.4	632.0	0.6
AO	266,667	369		6,872	11.2	632.5	632.5	633.2	0.7
AP	270,616	656		11,430	6.7	635.1	635.1	636.0	0.9
AQ	274,863	714		10,267	7.5	637.5	637.5	638.4	0.9
AR	275,188	703		8,227	9.3	638.2	638.2	638.7	0.5
AS	279,361	1,521		18,866	4.7	641.0	641.0	642.0	1.0
AT	280,240	1,147		15,458	4.9	641.9	641.9	642.7	0.8
AU	283,048	428		6,944	11.0	643.5	643.5	644.3	0.8
AV	284,578	688		10,426	7.3	646.1	646.1	646.9	0.8

<sup>1</sup> FEET ABOVE CONFLUENCE WITH OHIO RIVER  
<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b> <b>BUTLER COUNTY, OH</b>  <b>(AND INCORPORATED AREAS)</b>	<b>FLOODWAY DATA</b>
		<b>GREAT MIAMI RIVER</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>3</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
GREAT MIAMI RIVER (CONT.)									
AW	289,634	1,036		12,967	5.9	647.9	647.9	648.8	0.9
AX	292,539	715		9,982	7.6	648.7	648.7	649.6	0.9
AY	293,802	773		15,264	5.0	650.5	650.5	651.2	0.7
AZ	296,425	934		14,889	5.1	651.9	651.9	652.7	0.8
BA	299,502	470		8,892	8.5	652.9	652.9	653.6	0.7
BB	303,802	515 / 18 <sup>2</sup>		8,732	8.7	656.0	656.0	656.9	0.9
BC	305,554	500 / 68 <sup>2</sup>		6,995	9.3	658.3	658.3	659.0	0.7
BD	306,681	430 / 63 <sup>2</sup>		6,592	9.9	661.2	661.2	661.6	0.4
BE	310,338	300		5,721	11.4	664.5	664.5	665.1	0.6

<sup>1</sup> FEET ABOVE CONFLUENCE WITH OHIO RIVER  
<sup>2</sup> TOTAL WIDTH/WIDTH WITHIN COUNTY  
<sup>3</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>GREAT MIAMI RIVER</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
GREGORY CREEK									
A	1,592	616		5,652	2.9	622.3	622.3	622.3	0.0
B	2,275	336		4,179	4.0	623.0	623.0	623.0	0.0
C	3,566	309		2,402	6.8	626.6	626.6	626.6	0.0
D	4,275	260		2,472	6.6	629.1	629.1	629.2	0.1
E	5,428	513		4,090	5.0	630.6	630.6	630.8	0.2
F	5,990	318		2,587	4.6	631.6	631.6	632.5	0.9
G	6,979	244		2,087	5.7	634.2	634.2	634.6	0.4
H	8,192	264		2,281	5.2	636.8	636.8	637.6	0.8
I	9,934	387		3,512	3.4	642.9	642.9	643.9	1.0
J	10,400	440		3,015	4.0	643.2	643.2	644.1	0.9
K	11,128	415		2,560	4.7	644.0	644.0	645.0	1.0
L	12,359	353		1,790	6.7	646.5	646.5	647.5	1.0
M	13,351	485		2,804	6.0	648.8	648.8	649.7	0.9
N	14,073	458		3,567	3.3	651.7	651.7	652.5	0.8
O	16,418	316		1,757	5.5	654.5	654.5	655.5	1.0
P	19,182	486		2,600	3.7	660.5	660.5	661.4	0.9
Q	20,262	321		1,736	5.6	662.4	662.4	663.1	0.7
R	21,758	104		927	9.7	669.4	669.4	669.9	0.5
S	22,109	221		2,206	4.0	673.7	673.7	674.2	0.5
T	23,748	319		2,307	3.9	675.0	675.0	675.9	0.9
U	26,189	338		1,711	5.2	679.2	679.2	679.6	0.4
V	28,027	525		2,396	3.7	682.1	682.1	683.0	0.9
W	29,852	230		1,484	6.0	688.0	688.0	688.9	0.9
X	30,390	140		1,312	5.5	692.3	692.3	692.4	0.1

<sup>1</sup> FEET ABOVE CONFLUENCE WITH GREAT MIAMI RIVER

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

(AND INCORPORATED AREAS)

**FLOODWAY DATA**

**GREGORY CREEK**

TABLE  
24

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
GREGORY CREEK (CONT.)									
Y	31,416	286		1,649	3.3	693.8	693.8	694.1	0.3
Z	32,606	174		969	5.6	695.7	695.7	696.2	0.5
AA	33,405	221		1,576	3.4	699.2	699.2	699.2	0.0
AB	34,586	280		1,426	3.8	701.3	701.3	701.3	0.0
AC	35,228	198		834	6.5	701.9	701.9	702.2	0.3
AD	36,581	127		657	9.7	706.2	706.2	706.8	0.6
AE	37,239	167		1,667	2.6	713.3	713.3	713.7	0.4
AF	38,577	152		714	6.1	715.7	715.7	716.1	0.4
AG	39,044	118		694	4.0	719.3	719.3	720.0	0.7
AH	40,122	95		523	5.2	725.7	725.7	726.5	0.8
AI	40,826	86		325	8.4	729.7	729.7	729.8	0.1
AJ	41,184	64		596	4.6	735.7	735.7	736.3	0.6
AK	41,871	87		417	6.6	736.9	736.9	737.6	0.7
AL	42,602	36		218	12.6	746.0	746.0	746.0	0.0
AM	43,706	26		141	12.1	758.7	758.7	759.1	0.4
AN	44,635	24		140	12.1	770.9	770.9	771.4	0.5
AO	45,004	112		452	3.8	779.4	779.4	779.4	0.0
AP	46,204	26		140	12.2	791.8	791.8	792.6	0.8
AQ	47,256	28		99	10.0	807.9	807.9	808.0	0.1
AR	47,989	23		94	10.6	818.3	818.3	818.4	0.1
AS	48,573	72		513	1.9	830.7	830.7	830.8	0.1
AT	48,769	41		233	4.3	830.7	830.7	830.9	0.2
AU	49,885	57		375	1.2	843.3	843.3	843.4	0.1
AV	50,789	20		59	7.69	846.0	846.0	846.2	0.2

<sup>1</sup> FEET ABOVE CONFLUENCE WITH GREAT MIAMI RIVER

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

TABLE  
24

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

(AND INCORPORATED AREAS)

**FLOODWAY DATA**

**GREGORY CREEK**

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
HIGH SCHOOL TRIBUTARY									
A	670	*		*	*	609.4	*	*	*
B	1,429	*		*	*	611.2	*	*	*
C	3,180	*		*	*	618.7	*	*	*
D	4,820	*		*	*	630.4	*	*	*
E	5,649	*		*	*	635.7	*	*	*
F	6,532	*		*	*	652.7	*	*	*
G	8,456	*		*	*	662.7	*	*	*
H	9,434	*		*	*	676.0	*	*	*
I	10,051	*		*	*	694.3	*	*	*
J	11,014	*		*	*	729.6	*	*	*
K	11,945	*		*	*	734.1	*	*	*
L	12,400	*		*	*	753.6	*	*	*
M	13,036	*		*	*	760.1	*	*	*

<sup>1</sup> FEET ABOVE CONFLUENCE WITH PLEASANT RUN

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

\* DATA NOT AVAILABLE

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

(AND INCORPORATED AREAS)

**FLOODWAY DATA**

**HIGH SCHOOL TRIBUTARY**

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>3</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
INDIAN CREEK									
A	2,112	683 <sup>4</sup>		4,421	4.9	543.7 <sup>2</sup>	543.7	544.7	1.0
B	6,336	1,261		5,887	3.7	551.5 <sup>2</sup>	551.5	552.2	0.7
C	8,448	1,221		7,353	3.0	556.2 <sup>2</sup>	556.2	556.7	0.5
D	10,032	1,384		5,439	4.0	558.9	558.9	559.4	0.5
E	10,560	944		6,969	3.1	561.5	561.5	561.8	0.3
F	12,144	423		2,671	8.2	563.3	563.3	564.0	0.7
G	14,256	1,296		6,391	3.4	569.9	569.9	570.5	0.6
H	16,368	642		2,548	8.6	572.7	572.7	572.8	0.1
I	19,008	1,324		9,933	2.2	579.2	579.2	579.8	0.6
J	21,120	557		4,975	4.4	581.2	581.2	582.0	0.8
K	22,704	948		5,596	3.9	584.1	584.1	584.9	0.8
L	23,533	436		4,454	3.8	585.9	585.9	586.7	0.8
M	24,960	405		3,500	4.9	587.3	587.3	588.0	0.7
N	26,587	1,200		8,123	2.1	590.1	590.1	590.7	0.6
O	27,436	457		4,581	3.7	591.4	591.4	591.7	0.3
P	29,040	1,085		4,364	4.3	593.4	593.4	594.0	0.6
Q	29,747	137		1,377	12.4	594.3	594.3	595.1	0.8
R	30,307	627		3,182	5.4	598.2	598.2	599.0	0.8
S	31,900	223		2,063	8.3	600.9	600.9	601.7	0.8
T	34,014	748		5,010	3.4	607.3	607.3	608.1	0.8
U	35,741	586		3,257	5.2	611.5	611.5	612.4	0.9
V	36,636	547		2,326	7.3	613.3	613.3	613.9	0.6
W	38,552	903		5,667	3.0	618.1	618.1	618.5	0.4
X	40,449	379		2,544	6.1	621.1	621.1	621.9	0.8
Y	40,864	89		1,304	11.8	621.8	621.8	622.6	0.8
Z	41,742	972		4,567	3.4	625.6	625.6	626.5	0.9

<sup>1</sup> FEET ABOVE MOUTH AT GREAT MIAMI RIVER

<sup>3</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<sup>4</sup> FLOODWAY MERGED WITH GREAT MIAMI RIVER

<sup>2</sup> ELEVATION COMPUTED WITHOUT CONSIDERING BACKWATER EFFECT FROM GREAT MIAMI RIVER

TABLE  
24

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**BUTLER COUNTY, OH**  
(AND INCORPORATED AREAS)

**FLOODWAY DATA**

**INDIAN CREEK**

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
INDIAN CREEK (CONTINUED)									
AA	43,660	587		4,366	3.4	627.7	627.7	628.7	1.0
AB	45,210	491		2,863	5.1	631.9	631.9	632.4	0.5
AC	46,221	265		1,686	8.7	633.8	633.8	634.3	0.5
AD	48,257	573		3,064	4.8	639.2	639.2	640.1	0.9
AE	50,720	334		2,566	5.7	645.6	645.6	646.1	0.5
AF	51,455	729		3,577	4.1	647.8	647.8	648.7	0.9
AG	53,661	137		1,604	9.2	653.7	653.7	654.3	0.6
AH	55,457	685		3,874	3.6	661.0	661.0	661.8	0.8
AI	55,897	700		5,450	4.0	664.9	664.9	665.8	0.9
AJ	57,534	428		2,066	10.6	667.8	667.8	668.0	0.2
AK	60,174	1,263		7,389	3.0	675.9	675.9	677.0	1.1
AL	62,814	754		3,951	5.5	680.9	680.9	681.5	0.6
AM	64,926	590		4,532	4.8	686.9	686.9	687.7	0.8
AN	67,302	673		4,171	5.2	693.2	693.2	693.9	0.7
AO	67,988	387		2,963	7.4	696.6	696.6	697.3	0.7
AP	68,622	218		2,189	10.0	699.9	699.9	700.7	0.8
AQ	69,942	116		1,580	13.8	710.0	710.0	710.8	0.8
AR	72,318	1,290		12,920	1.7	716.5	716.5	717.0	0.5
AS	73,902	871		6,496	3.4	717.4	717.4	717.9	0.5
AT	75,232	530		4,285	2.7	723.3	723.3	724.1	0.8
AU	76,264	202		1,548	7.4	724.9	724.9	725.9	1.0
AV	78,256	385		2,730	4.2	732.5	732.5	733.5	1.0
AW	79,701	428		1,752	6.5	735.5	735.5	736.5	1.0
AX	80,789	307		1,841	5.7	741.4	741.4	741.8	0.4
AY	81,806	85		911	11.5	745.2	745.2	745.7	0.5
AZ	82,218	101		1,067	9.8	748.2	748.2	748.8	0.6

<sup>1</sup> FEET ABOVE MOUTH AT GREAT MIAMI RIVER  
<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

TABLE 24	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>INDIAN CREEK</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
INDIAN CREEK (CONTINUED)									
BA	82,652	121		1,210	8.6	750.3	750.3	750.9	0.6
BB	84,170	277		1,464	7.1	758.6	758.6	759.4	0.8
BC	86,156	101		925	11.3	769.0	769.0	769.7	0.7
BD	87,101	279		2,402	4.3	776.8	776.8	777.8	1.0
BE	88,849	84		783	13.3	782.0	782.0	782.8	0.8
BF	90,165	121		1,084	9.6	789.6	789.6	790.1	0.5
BG	92,506	258		2,082	5.0	798.7	798.7	799.4	0.7
BH	93,690	1,240		6,114	1.7	800.3	800.3	801.0	0.7
BI	94,939	398		1,850	5.6	801.4	801.4	802.3	0.9
BJ	95,255	874		3,312	3.2	802.8	802.8	803.5	0.7
BK	95,648	965		2,687	3.9	803.5	803.5	804.0	0.5

<sup>1</sup> FEET ABOVE MOUTH AT GREAT MIAMI RIVER  
<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

TABLE 24	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>INDIAN CREEK</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
JACKSON DITCH									
A	203	255		475	0.5	627.1	627.1	628.1	1.0
B	1,428	88		251	0.9	629.6	629.6	630.3	0.7
C	1,836	78		173	0.9	629.6	629.6	630.3	0.7
D	2,644	35		156	1.0	632.3	632.3	632.5	0.2
E	3,544	31		178	1.6	632.3	632.3	632.9	0.6
F	4,181	222		827	0.3	632.3	632.3	633.0	0.7
G	4,427	21		120	2.3	632.3	632.3	633.0	0.7
H	4,792	97		387	0.5	632.5	632.5	633.2	0.7
I	5,830	91		57	3.3	632.8	632.8	633.6	0.8
J	6,837	41		123	1.2	634.5	634.5	635.1	0.6
K	7,087	46		164	0.9	635.1	635.1	635.5	0.4
L	7,546	33		52	2.8	635.1	635.1	635.7	0.6
M	7,765	76		167	0.9	638.8	638.8	638.8	0.0
N	8,310	171		284	2.1	638.9	638.9	639.2	0.3
O	8,676	430		423	1.4	639.5	639.5	640.1	0.6
P	9,226	153		459	1.3	641.8	641.8	642.3	0.5
Q	9,826	280		536	1.1	641.8	641.8	642.5	0.7
R	10,600	408		532	1.1	641.8	641.8	642.8	1.0
S	10,889	167		422	1.4	646.6	646.6	646.6	0.0
T	11,185	113		274	3.3	646.6	646.6	646.7	0.1
U	11,422	85		374	2.5	646.9	646.9	647.6	0.7
V	13,107	24		99	9.2	649.3	649.3	649.8	0.5

<sup>1</sup> FEET ABOVE MOUTH

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>JACKSON DITCH</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
JACKSON DITCH - EAST BRANCH OF EAST FORK									
A	22,618	17		21	6.3	701.3	701.3	701.3	0.0
B	23,617	15		33	4.1	717.5	717.5	717.8	0.3
C	25,007	14		18	6.4	746.6	746.6	746.6	0.0
D	25,189	18		19	5.9	750.6	750.6	750.6	0.0

<sup>1</sup> FEET ABOVE MOUTH OF JACKSON DITCH

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>JACSON DITCH EAST BRANCH OF EAST FORK</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
JACKSON DITCH - EAST FORK									
A	13,340	25		134	3.8	651.7	651.7	651.8	0.1
B	13,953	26		132	3.9	652.7	652.7	653.2	0.5
C	15,113	32		139	3.5	654.9	654.9	655.5	0.6
D	16,058	19		79	6.2	657.8	657.8	658.2	0.4
E	16,340	18		72	6.8	658.7	658.7	659.0	0.3
F	16,980	22		102	2.5	661.3	661.3	661.9	0.7
G	17,663	15		49	5.3	662.5	662.5	663.2	0.7
H	19,315	33		94	2.7	669.1	669.1	669.5	0.4
I	20,816	20		34	7.5	678.0	678.0	678.0	0.0
J	21,914	24		59	3.7	689.5	689.5	689.9	0.4
K	22,516	28		18	4.6	700.3	700.3	700.3	0.0
L	24,055	12		22	3.9	729.2	729.2	729.5	0.3
M	25,322	15		12	5.1	752.9	752.9	752.9	0.0
N	25,499	12		19	3.3	756.7	756.7	756.7	0.0

<sup>1</sup> FEET ABOVE MOUTH AT JACKSON DITCH  
<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>JACKSON DITCH EAST FORK</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
JACKSON DITCH - WEST FORK									
A	13,289	17		97	4.2	651.6	651.6	651.7	0.1
B	14,461	16		77	5.3	654.7	654.7	655.3	0.6
C	15,407	23		122	2.8	657.1	657.1	657.6	0.5
D	16,404	20		89	3.9	658.6	658.6	659.2	0.6
E	16,620	12		44	7.7	658.6	658.6	659.1	0.5
F	18,118	20		77	3.7	668.8	668.8	669.5	0.7
G	19,946	18		19	6.0	679.1	679.1	679.2	0.1
H	21,346	10		32	3.6	695.9	695.9	696.5	0.6
I	23,997	6		6	5.6	747.6	747.6	747.6	0.0
J	25,839	9		9	3.8	800.2	800.2	800.4	0.1
K	26,058	18		9	3.9	807.2	807.2	807.2	0.0

<sup>1</sup> FEET ABOVE MOUTH OF JACKSON DITCH

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>JACKSON DITCH - WEST FORK</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
LITTLE MUDDY CREEK									
A	17,107	91		619	3.3	663.0	663.0	663.4	0.4
B	19,800	123		781	2.2	664.1	664.1	664.6	0.5

<sup>1</sup> FEET ABOVE MOUTH

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>LITTLE MUDDY CREEK</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
MILL CREEK									
A	98,144	467		3,764	1.81	586.9	586.9	587.5	0.6
B	98,743	144		1,424	3.7	587.0	587.0	587.4	0.5
C	99,802	166		1,171	4.5	587.1	587.1	588.0	0.9
D	100,057	263		2,384	2.21	588.3	588.3	589.1	0.8
E	100,728	406		3,880	2.72	588.6	588.6	589.3	0.7
F	101,602	322		2,125	2.48	589.7	589.7	590.2	0.5
G	102,682	993		5,684	0.93	589.9	589.9	590.5	0.6
H	103,660	1,413		8,738	0.63	590.0	590.0	590.6	0.6
I	105,295	366		3,304	2.37	591.6	591.6	592.0	0.5
J	106,158	606		3,448	1.92	591.8	591.8	592.5	0.7
K	106,958	349		2,061	3.79	592.1	592.1	592.8	0.7
L	107,924	869		5,182	1.46	593.3	593.3	593.8	0.6
M	108,981	1,148		7,937	1.34	593.8	593.8	594.2	0.4
N	109,956	618		3,205	3.35	594.1	594.1	594.2	0.1
O	110,540	1,168		7,277	1.33	595.9	595.9	596.0	0.1
P	111,516	1,260		8,112	0.81	595.9	595.9	596.1	0.1
Q	112,585	733		4,120	1.59	596.0	596.0	596.1	0.1
R	113,610	416		1,878	3.49	596.2	596.2	596.2	0.0
S	114,564	650		4,066	1.75	596.7	596.7	597.3	0.5
T	115,862	143		940	7.71	598.5	598.5	598.9	0.4
U	116,512	653		4,589	0.74	601.7	601.7	602.6	0.9
V	117,411	650		4,329	0.7	601.7	601.7	602.6	0.9
W	118,585	650		4,160	1.58	601.7	601.7	602.6	0.9
X	119,209	99		836	3.54	601.9	601.9	602.7	0.9
Y	120,525	1,212		5,327	3.54	602.2	601.9	602.7	0.9

<sup>1</sup> FEET ABOVE BARRIER DAM

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

(AND INCORPORATED AREAS)

**FLOODWAY DATA**

**MILL CREEK**

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
MILL CREEK (CONTINUED)									
Z	121,519	833		4,374	0.7	602.2	602.2	603.1	0.8
AA	122,659	714		2,773	1.1	602.3	602.3	603.2	0.9
AB	124,705	1,456		6,815	0.5	602.5	602.5	603.4	0.3
AC	126,066	1,176		1,815	1.7	602.5	602.5	603.5	0.8
AD	126,448	1,425		5,643	1.7	608.4	608.4	608.4	1.0
AE	127,436	525		1,132	3.0	609.5	609.5	609.5	0.6
AF	127,774	428		1,045	3.2	609.8	609.8	610.1	0.8
AG	129,221	106		503	6.7	612.1	612.1	612.8	0.5
AH	129,735	376		783	4.3	613.4	613.4	614.1	0.1
AI	130,159	149		643	5.3	615.3	615.3	615.3	0.0
AJ	131,025	257		773	4.4	616.9	616.9	617.0	0.0
AK	131,965	242		773	4.4	618.1	618.1	619.1	1.0
AL	133,076	151		630	5.4	621.6	621.6	621.7	0.1
AM	134,415	87		501	6.8	626.7	626.7	626.8	0.1
AN	134,926	72		436	7.8	627.9	627.9	628.3	0.4
AO	136,553	60		389	8.7	633.8	633.8	633.9	0.1
AP	137,597	40		322	10.5	637.0	637.0	637.5	0.5
AQ	137,787	67		355	9.5	638.7	638.7	639.4	0.7
AR	138,084	54		427	7.9	640.2	640.2	641.0	0.8
AS	138,516	73		623	5.4	644.4	644.4	644.4	0.0
AT	138,913	57		413	8.2	644.7	644.7	644.7	0.1
AU	139,952	64		489	6.9	650.9	650.9	651.5	0.6
AV	140,100	77		539	6.3	652.9	652.9	653.0	0.1
AW	140,523	115		457	7.4	653.8	653.8	653.8	0.0

<sup>1</sup> FEET ABOVE BARRIER DAM

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

TABLE  
24

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

(AND INCORPORATED AREAS)

**FLOODWAY DATA**

**MILL CREEK**

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
MILLERS CREEK									
A	528	1,149		4,796	2.2	655.5	655.5	656.4	0.9
B	1,269	1,090		3,497	0.8	655.6	655.6	656.5	0.9
C	1,587	1,031		3,598	0.7	655.7	655.7	656.6	0.9
D	4,116	863		1,895	0.6	656.0	656.0	656.8	0.8
E	5,384	631		922	3.9	657.5	657.5	657.8	0.2
F	5,578	311		344	3.6	657.8	657.8	658.1	0.3
G	6,923	70		268	3.5	659.0	659.0	659.3	0.3
H	7,059	1,160		1,809	3.7	659.1	659.1	659.5	0.4
I	8,251	1,583		2,635	2.3	660.2	660.2	660.6	0.3
J	9,510	2,007		10,218	0.8	664.1	664.1	664.6	0.5
K	10,028	699		897	1.5	664.2	664.2	664.7	0.6
L	12,417	59		303	5.8	667.6	667.6	667.3	-0.3
M	14,904	69		459	4.2	676.3	676.3	676.3	0.1
N	16,727	797 <sup>3</sup>		448	4.8	678.7	678.7	679.3	0.6
O	19,197	600		3,861	1.2	689.0	689.0	689.6	0.6
P	19,909	240		1,263	3.6	689.1	689.1	689.9	0.9

<sup>1</sup> FEET ABOVE CONFLUENCE WITH SHAKER CREEK  
<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS  
<sup>3</sup> STORAGE PONDS INCLUDED IN FLOODWAY WIDTH BASED ON HYDRAULIC MODEL

<b>TABLE 24</b>	<b>FEDERAL EMERGENCY MANAGEMENT AGENCY</b>	<b>FLOODWAY DATA</b>
	<b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>MILLERS CREEK</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
NORTH BRANCH DICKS CREEK									
A	12,038	26		161	8.1	683.7	683.7	684.0	0.3
B	12,144	51		248	5.2	684.6	684.6	684.9	0.3
C	12,250	28		158	8.2	684.7	684.7	685.2	0.5
D	12,302	52		263	4.9	685.9	685.9	686.1	0.2
E	13,517	39		126	10.3	691.1	691.1	691.3	0.2
F	14,520	28		133	9.8	699.6	699.6	699.6	0.0
G	14,573	42		170	7.7	699.8	699.8	700.5	0.7
H	16,421	44		143	9.1	707.6	707.6	708.1	0.5
I	18,110	60 <sup>3</sup>		247	5.3	728.3	728.3	728.9	0.6

<sup>1</sup> FEET ABOVE MOUTH

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<sup>3</sup> FLOODWAY LOCATED OUTSIDE CITY OF MIDDLETOWN

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>NORTH BRANCH DICKS CREEK</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
PLEASANT RUN									
A	9,293	130		574	7.9	582.8	582.8	583.2	0.4
B	9,979	60		833	5.4	584.8	584.8	585.4	0.6
C	14,351	81		783	7.5	597.7	597.7	598.7	1.0
D	14,810	74		642	9.2	599.1	599.1	599.8	0.7
E	15,301	74		701	8.3	601.4	601.4	601.8	0.4
F	15,792	76		672	8.7	602.5	602.5	602.9	0.4
G	16,267	90		752	7.8	604.3	604.3	604.4	0.1
H	16,611	206		1,580	3.7	604.8	604.8	605.4	0.6
I	17,028	97		791	7.4	604.9	604.9	605.4	0.5
J	17,709	364		1,777	3.2	607.7	607.7	608.7	1.0
K	17,920	356		1,570	3.5	608.1	608.1	609.1	1.0
L	18,189	480		2,126	2.3	608.7	608.7	609.7	1.0
M	18,839	155		550	6.6	611.3	611.3	611.6	0.3
N	19,340	237		1,132	3.2	613.9	613.9	614.7	0.8
O	19,948	257		926	3.7	615.6	615.6	616.5	0.9
P	20,449	246		1,039	3.3	617.7	617.7	618.4	0.7
Q	20,903	226		994	3.5	619.0	619.0	619.9	0.9
R	21,505	132		712	4.9	621.1	621.1	621.8	0.7
S	22,012	139		593	4.7	623.6	623.6	624.2	0.6
T	22,207	134		640	4.4	624.5	624.5	625.2	0.7
U	22,662	115		620	4.5	627.6	627.6	628.1	0.5

<sup>1</sup> FEET ABOVE CONFLUENCE WITH GREAT MIAMI RIVER

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>PLEASANT RUN</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
PLEASANT RUN (CONTINUED)									
V	23,058	214		874	3.2	628.5	628.5	629.3	0.8
W	23,512	146		693	4.0	629.4	629.4	630.3	0.9
X	24,050	138		462	6.1	631.6	631.6	632.3	0.7
Y	24,721	91		520	5.4	635.4	635.4	636.4	1.0
Z	25,212	60		378	7.4	638.6	638.6	638.9	0.3
AA	25,734	46		369	7.6	641.9	641.9	642.6	0.7
AB	26,352	70		535	5.2	645.4	645.4	646.0	0.6
AC	27,313	47		314	4.7	652.1	652.1	652.1	0.0
AD	27,862	32		129	11.5	654.6	654.6	654.6	0.0
AE	28,776	60		249	6.0	663.4	663.4	663.6	0.2

<sup>1</sup> FEET ABOVE CONFLUENCE WITH GREAT MIAMI RIVER

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>PLEASANT RUN</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
SEVENMILE CREEK									
A	914	1,094		5,286	8.1	620.6	620.6	621.6	1.0
B	1,830	1,328		5,699	6.9	622.8	622.8	623.8	1.0
C	4,009	212		2,195	11.0	628.4	628.4	629.4	1.0
D	5,239	377		2,276	12.2	633.4	633.4	633.4	0.0
E	7,174	165		2,212	10.3	637.2	637.2	638.1	0.9
F	7,392	299		2,722	8.3	638.6	638.6	639.2	0.6
G	8,277	358		3,112	7.2	642.6	642.6	643.6	1.0
H	9,597	670		4,793	4.7	648.8	648.8	649.4	0.6
I	11,445	435		4,325	5.2	653.2	653.2	653.7	0.5
J	13,029	658		3,380	6.6	657.3	657.3	658.0	0.7
K	16,197	400		3,850	5.8	667.3	667.3	668.3	1.0
L	19,365	1,502		6,551	3.4	674.8	674.8	675.6	0.8
M	21,477	866		6,668	3.4	679.7	679.7	680.7	1.0
N	22,269	633		5,113	4.4	681.4	681.4	682.3	0.9
O	22,797	520		4,356	5.2	682.9	682.9	683.6	0.7
P	23,642	224		2,638	8.5	683.5	683.5	684.1	0.6
Q	25,173	618		4,447	5.1	688.8	688.8	689.4	0.6
R	26,757	665		4,336	5.2	692.8	692.8	693.5	0.7
S	28,077	706		5,410	4.2	696.9	696.9	697.6	0.7
T	29,503	760		6,660	3.4	699.1	699.1	699.9	0.8
U	31,245	215		2,260	9.9	701.2	701.2	702.0	0.8
V	31,509	158		1,715	11.3	702.7	702.7	703.2	0.5
W	32,565	690		5,982	3.2	707.9	707.9	708.8	0.9

<sup>1</sup> FEET ABOVE CONFLUENCE WITH FOUR MILE CREEK

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

TABLE  
24

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

(AND INCORPORATED AREAS)

**FLOODWAY DATA**

**SEVENMILE CREEK**

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
SEVENMILE CREEK (CONTINUED)									
X	34,149	676		4,396	4.40	711.63	711.6	712.5	0.9
Y	35,733	1,044		5,561	3.50	716.53	716.5	717.3	0.8
Z	37,845	1,352		6,583	2.90	720.43	720.4	721.1	0.7
AA	39,429	394		3,076	6.30	723.43	723.4	724.0	0.6
AB	41,013	1,170		6,979	2.80	727.73	727.7	728.5	0.8
AC	43,125	704		3,885	5.00	731.83	731.8	732.5	0.7
AD	44,709	415		3,019	6.40	736.63	736.6	737.3	0.7
AE	46,200	335		2,567	7.60	742.73	742.7	743.1	0.4
AF	46,610	424		3,810	6.2	744.4	744.4	745.2	0.8
AG	46,950	722		5,799	4.6	745.1	745.1	746.1	1.0
AH	47,405	418		5,038	4.5	745.7	745.7	746.6	0.9
AI	49,547	178		2,141	9.1	747.1	747.1	748.0	0.9
AJ	50,833	215		2,517	7.6	751.9	751.9	752.5	0.6
AK	52,694	300		2,753	7.3	757.3	757.3	758.1	0.8
AL	53,166	686		5,276	4.6	759.2	759.2	759.7	0.5
AM	54,076	780		3,625	7.7	759.8	759.8	760.4	0.6

<sup>1</sup> FEET ABOVE MOUTH AT CONFLUENCE WITH FOUR MILE CREEK

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

(AND INCORPORATED AREAS)

**FLOODWAY DATA**

**SEVENMILE CREEK**

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>3</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
SHAKER CREEK									
A	380	350		1,592	1.5	650.0	650.0	650.6	0.6
B	754	580		2,862	1.2	650.1	650.1	650.7	0.6
C	3,296	776		1,139	2.0	651.8	651.8	651.8	0.0
D	4,958	110		250	3.8	653.6	653.6	654.0	0.4
E	5,418	250		593	2.4	655.1	655.1	655.8	0.7
F	6,092	466		1,037	1.4	655.7	655.7	656.2	0.5
G	7,921	711		1,395	0.0	656.4	656.4	656.8	0.4
H	9,478	260		402	2.4	656.4	656.4	657.3	0.9
I	12,090	1838		2,178	3.1	658.5	658.5	658.9	0.4
J	12,454	1651		2,853	1.1	659.2	659.2	659.8	0.6
K	14,106	1,749 / 1,101 <sup>2</sup>		2,099	2.9	660.2	660.2	660.9	0.7
L	15,152	1,336 / 1,298 <sup>2</sup>		3,958	4.7	661.7	661.7	662.5	0.8
M	15,951	1,473 / 1,296 <sup>2</sup>		5,484	2.5	663.4	663.4	664.4	1.0
N	16,745	1,190 / 1,175 <sup>2</sup>		6,265	2.6	664.3	664.3	665.2	0.9
O	18,020	358 / 202 <sup>2</sup>		794	1.2	665.2	665.2	665.8	0.6
P	19,737	229 / 23 <sup>2</sup>		388	3.4	666.2	666.2	666.9	0.7
Q	21,546	373 / 0 <sup>2</sup>		463	3.7	668.4	668.4	669.4	1.0
R	22,778	58 / 0 <sup>2</sup>		193	5.2	672.0	672.0	672.3	0.3
S	23,411	60 / 0 <sup>2</sup>		183	5.5	674.4	674.4	674.5	0.1

<sup>1</sup> FEET ABOVE MOUTH AT CONFLUENCE WITH DICKS CREEK

<sup>2</sup> TOTAL WIDTH/WIDTH WITHIN COUNTY

<sup>3</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

(AND INCORPORATED AREAS)

**FLOODWAY DATA**

**SHAKER CREEK**

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>3</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
TRIBUTARY NO. 1									
A	475	72		267	5.1	755.1	750.7 <sup>2</sup>	751.7	1.0
B	634	82		269	5.1	755.1	752.7 <sup>2</sup>	753.1	0.4
C	845	38		130	10.5	756.4	756.4	756.4	0.0
D	1,267	63		241	5.7	761.4	761.4	762.1	0.7
E	1,690	166		306	4.5	764.9	764.9	765.1	0.2
F	2,112	223		888	1.5	770.0	770.0	771.0	1.0
G	2,534	238		389	3.5	773.0	773.0	773.3	0.3
H	3,274	52		144	9.5	780.2	780.2	780.2	0.0
I	3,960	61		238	5.8	788.8	788.8	789.2	0.4

<sup>1</sup> FEET ABOVE CONFLUENCE WITH SEVENMILE CREEK  
<sup>2</sup> ELEVATIONS COMPUTED WITHOUT CONSIDERING BACKWATER EFFECT FROM SEVENMILE CREEK  
<sup>3</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

<b>TABLE 24</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>BUTLER COUNTY, OH</b> (AND INCORPORATED AREAS)	<b>FLOODWAY DATA</b>
		<b>TRIBUTARY NO. 1</b>

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
TRIBUTARY TO EAST FORK MILL CREEK									
A	398	46		319	8.1	603.2	603.2	604.2	1.0
B	1,166	195		597	4.3	607.1	607.1	607.8	0.7
C	2,039	52		279	9.2	612.7	612.7	613.3	0.6
D	2,530	57		251	10.3	617.1	617.1	617.2	0.1
E	3,331	67		214	10.5	623.8	623.8	623.8	0.0
F	3,751	74		236	10.0	629.5	629.5	629.5	0.0
G	3,970	62		288	7.8	633.3	633.3	633.7	0.4
H	4,331	35		190	11.8	636.2	636.2	636.4	0.2
I	4,987	52		226	9.9	645.0	645.0	645.2	0.2
J	5,914	133		350	6.4	655.7	655.7	655.7	0.0
K	6,416	49		207	10.8	660.8	660.8	661.0	0.2
L	7,229	45		230	9.7	669.7	669.7	669.9	0.2
M	8,489	27		162	13.9	687.3	687.3	687.6	0.3
N	9,075	86		364	6.2	694.2	694.2	695.2	1.0
O	9,551	69		472	3.5	703.6	703.6	703.6	0.0
P	10,462	32		135	12.2	710.3	710.3	710.4	0.1
Q	10,989	141		632	2.6	720.4	720.4	720.4	0.0
R	12,487	34		103	8.7	735.2	735.2	735.4	0.2
S	13,491	53		109	8.2	750.4	750.4	750.4	0.0
T	13,757	28		59	5.6	753.5	753.5	753.5	0.0
U	15,153	42		49	6.8	779.4	779.4	779.4	0.0
V	16,643	24		41	8.0	816.1	816.1	816.1	0.0
W	17,920	67		38	8.7	862.2	862.2	862.2	0.0

<sup>1</sup> FEET ABOVE CONFLUENCE WITH EAST FORK MILL CREEK

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

(AND INCORPORATED AREAS)

**FLOODWAY DATA**

**TRIBUTARY TO EAST FORK MILL CREEK**

Table 24: Floodway Data

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	WIDTH REDUCED FROM PRIOR STUDY <sup>2</sup> (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
TWO MILE CREEK									
A	490	*		*	*	582.7	*	*	*
B	749	*		*	*	582.7	*	*	*
C	1,819	*		*	*	584.3	*	*	*
D	3,103	*		*	*	589.8	*	*	*
E	3,449	*		*	*	594.0	*	*	*
F	3,937	*		*	*	599.1	*	*	*
G	4,246	*		*	*	609.5	*	*	*
H	4,866	*		*	*	610.2	*	*	*
I	5,211	*		*	*	611.6	*	*	*
J	5,513	*		*	*	611.9	*	*	*
K	7,276	*		*	*	620.5	*	*	*
L	7,735	*		*	*	624.0	*	*	*
M	8,009	*		*	*	624.7	*	*	*
N	8,408	*		*	*	628.1	*	*	*
O	9,124	*		*	*	628.7	*	*	*
P	10,149	*		*	*	633.4	*	*	*
Q	10,518	*		*	*	634.6	*	*	*
R	11,678	*		*	*	639.6	*	*	*
S	12,059	*		*	*	643.3	*	*	*
T	12,668	*		*	*	644.4	*	*	*
U	12,977	*		*	*	646.9	*	*	*
V	14,789	*		*	*	657.8	*	*	*
W	14,998	*		*	*	661.4	*	*	*
X	16,501	*		*	*	679.3	*	*	*
Y	16,725	*		*	*	683.4	*	*	*
Z	17,170	*		*	*	688.1	*	*	*

<sup>1</sup> FEET ABOVE CONFLUENCE WITH GREAT MIAMI RIVER

<sup>2</sup> SEE EXPLANATION IN SECTION 2.2 FLOODWAYS

\* DATA NOT AVAILABLE - NO FLOODWAY ANALYSIS

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

(AND INCORPORATED AREAS)

**FLOODWAY DATA**

**TWO MILE CREEK**

Non-encroachment areas may be delineated where it is not possible to delineate floodways because specific channel profiles with bridge and culvert geometry were not developed. Any non-encroachment determinations for this FIS project have been tabulated for selected cross sections and are shown in Table 25. The non-encroachment width indicates the measured distance left and right (looking downstream) from the mapped center of the stream to the non-encroachment boundary based on a surcharge of 1.0 foot or less.

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

[Not Applicable to this FIS Project]

#### **6.4 Coastal Flood Hazard Mapping**

This section is not applicable to this FIS project.

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

[Not Applicable to this FIS Project]

#### **6.5 FIRM Revisions**

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

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

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

To obtain an application for a LOMA, visit <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](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](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 Butler County FIRM are listed in Table 27.

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

Case Number	Effective Date	Flooding Source	FIRM Panel(s)
05-05-0957P	8/26/2005	Pleasant Run Branch No. 1 – Pleasant Run Watershed – Criminal Justice Center	39017C0308F
07-05-2018P	5/31/2007	Pleasant Run LOMR	39017C0302F 39017C0304F 39017C0306F 39017C0308F
08-05-0820P	4/28/2008	Eberharts Run Floodplain Revisions	39017C0227F

Case Number	Effective Date	Flooding Source	FIRM Panel(s)
09-05-1088P	7/9/2010	Corridor 75 Industrial Park – Phase 1	39017C0229F, 39017C0240F, 39017C0245F
10-05-4421P	1/24/2011	Millers Creek LOMR	39017C0229F
11-05-2538P	3/1/2011	MILLERS OVERFLOW LOMR	39017C0229F, 39017C0240F, 39017C0245F
11-05-5365P	10/17/2011	Pleasant Run Branch No. 1 LOMR	39017C0304F
10-05-5479P	9/28/2011	East Fork Mill Creek LOMR	39017C0333F

#### 6.5.4 Physical Map Revisions

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

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

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

#### 6.5.5 Contracted Restudies

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

#### 6.5.6 Community Map History

The current FIRM presents flooding information for the entire geographic area of Butler 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 Butler County FIRMs in countywide format was 12/17/2010.

**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)
Butler County (Unincorporated Areas)	December 23, 1977	December 23, 1977	N/A	November 4, 1981	<b>TBD,</b> 12/17/2010, 1/21/1998, 11/16/1983
Fairfield, City of	March 1, 1974	March 1, 1974	December 27, 1974	March 15, 1979	<b>TBD,</b> 12/17/2010
Hamilton, City of	February 15, 1974	February 15, 1974	N/A	July 15, 1977	<b>TBD,</b> 12/17/2010, 2/15/1985, 11/6/1981
Jacksonburg, Village of	N/A	N/A	N/A	N/A	None

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)
Middletown, City of	June 21, 1974	June 21, 1974	May 2, 1975	March 2, 1979	<b>TBD</b> , 12/17/ 2010
Millville, Village of	June 7, 1974	June 7, 1974	May 7, 1976	February 4, 1981	<b>TBD</b> , 12/17/ 2010
Monroe, City of	May 17, 1974	May 17, 1974	July 16, 1976	August 5, 1991	<b>TBD</b> , 12/17/ 2010
New Miami, Village of	February 8, 1974	February 8, 1974	May 21, 1976	February 18, 1981	<b>TBD</b> , 12/17/ 2010
Oxford, City of	May 10, 1974	May 10, 1974	N/A	February 16, 1979	<b>TBD</b> , 12/17/2010, 1/3/1997, 8/4/1988
Seven Mile, Village of	N/A	N/A	N/A	<b>TBD</b>	None
Somerville, Village of	July 25, 1975	July 25, 1975	N/A	February 18, 1981	<b>TBD</b> , 12/17/ 2010
Trenton, City of	December 25, 1981	N/A	N/A	December 25, 1981	<b>TBD</b> , 12/17/ 2010

## 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
All Significant flooding sources within Affected Communities.	May 1981	Woolpert Consultants	H-4757	September 1979	Butler County (Unincorporated Areas); Hamilton, City of;
All Significant flooding sources within Affected Communities.	January 1998	Water Resources and Coastal Engineering, Inc.	EMW-93-C-4106	January 1995	Butler County (Unincorporated Areas)
All Significant flooding sources within Affected Communities.	September 1978	Vogt, Ivers and Associates, Inc.	H-3979	August 1977	Fairfield, City of

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
All Significant flooding sources within Affected Communities.	April 1981	Vogt, Ivers and Associates, Inc.	H-3979	October 1977	Middletown, City of
All Significant flooding sources within Affected Communities.	August 1980	Woolpert Consultants	H-4757	September 1979	Millville, Village of
All Significant flooding sources within Affected Communities.	August 1991	U.S. Army Corps of Engineers (USACE), Louisville District	EMW-86-E-2226, Project Order No. 15	October 1987	Monroe, City of
All Significant flooding sources within Affected Communities.	August 1980	Woolpert Consultants	H-4757	September 1979	New Miami, Village of
All Significant flooding sources within Affected Communities.	January 1997	Woolpert Consultants	H-4757	May 1981	Oxford, City of
All Significant flooding sources within Affected Communities.	August 1980	Woolpert Consultants	H-4757	August 1979	Somerville, Village of

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Acton Lake, Beals Run, Beals Run Tributary, Browns Run, Bull Run, Coldwater Creek, Dicks Creek, Dry Fork Whitewater River, East Fork Mill Creek, Eberharts Run, Elk Creek, Four Mile Creek, Great Miami River, Gregory Creek, GM Ditch, Indian Creek, Jackson Ditch, Jackson Ditch – East Fork, Jackson Ditch – East Branch of East Fork, Jackson Ditch – West Fork, Little Muddy Creek, Mill Creek, Millers Creek, Millers Creek Overflow, North Branch Dicks Creek, Paddys Run, Pleasant Run, Pleasant Run Branch No. 1, Pleasant Run Branch No. 4, Pleasant Run Branch No. 6, Sevemile Creek, Shaker Creek, Tributary No. 1, Tributary to Bull Run, Tributary to Great Miami River, Tributary to East Fork Mill Creek, Tributary to Mill Creek, Tributary to Pleasant Run, Two Mile Creek	December 17, 2010	Stantec Consulting Services Inc. (Stantec)	06-05-B046S HSFE05 -05-D-0026 Task Order No. TO-003	September 2009	BUTLER COUNTY (UNINCORPORATED AREAS); FAIRFIELD, CITY OF; HAMILTON, CITY OF; MIDDLETOWN, CITY OF; MILLVILLE, VILLAGE OF; MONROE, CITY OF; NEW MIAMI, VILLAGE OF; OXFORD, CITY OF; SEVEN MILE, VILLAGE OF; SOMERVILLE, VILLAGE OF; TRENTON, CITY OF

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Browns Run, East Fork Mill Creek, Elk Creek, Four Mile Creek, Great Miami River, Gregory Creek, Indian Creek, Mill Creek, Millers Creek, Sevenmile Creek, Shaker Creek, and Tributary to East Fork Mill Creek; limited detailed studies: Bull Run/Collins Creek, East Branch Pleasant Run, High School Tributary, and Two Mile Creek; and approximate studies: Acton Lake, Crawford Run, Denny Creek, Dicks Creek, Dry Fork Whitewater River, Eberharts Run, Elk Creek, Four Mile Creek, Hendricksons Run, Indian Creek, Millers Creek, Paddys Run, Tributary to Bull Run/Collins Creek, Tributary to Mill Creek 1, Tributary to Mill Creek 2, Tributary to Pleasant Run, and Tributary to Pleasant Run Branch No. 4	TBD	Strategic Alliance for Risk Reduction (STARR)	10-05-2377S HSFEH Q-09-D-0370, Task Order No.HSF E05-J-0001	February 2012	BUTLER COUNTY (UNINCORPORATED AREAS); FAIRFIELD, CITY OF; HAMILTON, CITY OF; MIDDLETOWN, CITY OF; MILLVILLE, VILLAGE OF; MONROE, CITY OF; NEW MIAMI, VILLAGE OF; OXFORD, CITY OF; SEVEN MILE, VILLAGE OF; SOMERVILLE, VILLAGE OF; TRENTON, CITY OF

## 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
Butler County (Unincorporated Areas)	5/4/1981	April 1978	Initial CCO	Woolpert Consultants, ODNR, Butler County, FIA
Butler County (Unincorporated Areas)	5/4/1981	11/17/1980	Final CCO	Woolpert Consultants, ODNR, Butler County, FIA
Butler County (Unincorporated Areas)	1/21/1998	7/22/1992	Initial CCO	Water Resources and Coastal Engineering, Inc., USACE (Louisville District), ODNR, FEMA, Butler County
Butler County (Unincorporated Areas)	1/21/1998	10/29/1996	Final CCO	Water Resources and Coastal Engineering, Inc., ODNR, FEMA, Butler County
Fairfield, City of	3/15/1979	3/1/1976	Initial CCO	ODNR; FIA; Vogt, Ivers and Associates, Inc.; City of Fairfield
Fairfield, City of	3/15/1979	4/19/1978	Final CCO	ODNR; FIA; Vogt, Ivers and Associates, Inc.; City of Fairfield
Hamilton, City of	8/15/1984	4/1/1978	Initial CCO	Study Contractor, FIA, ODNR, City of Hamilton
Hamilton, City of	8/15/1984	11/17/1980	Final CCO	Study Contractor, FIA, ODNR, City of Hamilton
Millville, Village of	8/4/1980	4/1/1978	Initial CCO	Study Contractor, FIA, ODNR, Village of Millville
Millville, Village of	8/4/1980	2/6/1980	Final CCO	Study Contractor, FIA, ODNR, Village of Millville
Monroe, Village of	8/5/1991	12/1/1985	Initial CCO	Study Contractor, FEMA, Butler & Warren County
Monroe, Village of	8/5/1991	9/28/1989	Final CCO	Study Contractor, FEMA, Village of Monroe
New Miami, Village of	8/18/1981	April 1978	Initial CCO	Study Contractor, FIA, ODNR, Village of New Miami
New Miami, Village of	8/18/1981	2/6/1980	Final CCO	Study Contractor, FIA, ODNR, Village of New Miami
Oxford, City of	1/3/1997	7/26/1995	Initial CCO	Letter sent to City of Oxford
Oxford, City of	1/3/1997	2/7/1996	Final CCO	City of Oxford, ODNR, FEMA

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Somerville, Village of	8/18/1980	April 1978	Initial CCO	Study Contractor, FIA, ODNR, Village of Somerville
Somerville, Village of	8/18/1980	2/6/1980	Final CCO	Study Contractor, FIA, ODNR, Village of Somerville
Butler County (Unincorporated Areas)	12/17/2010	8/18/2005	Initial CCO	FEMA Region V, the Ohio Department of Natural Resources (ODNR), Division of Water, Stantec (Study Contractor) and Butler County
Butler County (Unincorporated Areas)	12/17/2010	7/9/2009	Final CCO	Butler County, the Cities of Fairfield, Hamilton, Middletown and Oxford, FEMA Region V, ODNR, Miami Conservancy District (MCD) and Stantec
Butler County (Unincorporated Areas)	TBD	12/21/2009	Initial CCO	For this revision, an initial CCO meeting was held December 21, 2009 and was attended by representatives of FEMA Region V, ODNR, STARR (Study Contractor), MCD, Butler County Engineers Office, City of Fairfield, Reily Twp., City of Hamilton, City of Middletown, St. Clair Twp., City of Oxford, Butler County, and Liberty Twp.
Butler County (Unincorporated Areas)	TBD	12/20/2011	Flood Risk Review	Butler County, ODNR, Morgan Twp., St. Clair Twp., Miami Conservancy District, Ross Township, City of Trenton, Butler SWCD, City of Middletown, Mill Creek Watershed, City of Oxford, & STARR (Study Contractor)
Butler County (Unincorporated Areas)	TBD		Final CCO	FEMA, Ohio Department of Natural Resources (ODNR), the communities and the Study Contractor. West Chester Twp., City of Hamilton, City of Fairfield, FEMA RV,

## SECTION 8.0 – ADDITIONAL INFORMATION

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

Table 31 is a list of the locations where FIRMs for Butler 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
BUTLER COUNTY (UNINCORPORATED AREAS):	Butler County Administrative Center Building and Zoning Department 130 High Street, 1st Floor	Hamilton	OH	45011
FAIRFIELD, CITY OF	City Hall 5350 Pleasant Avenue	Fairfield	OH	45014
HAMILTON, CITY OF	Planning Department 345 High Street, Suite 370	Hamilton	OH	45011
JACKSONBURG, VILLAGE OF	Village Hall 5967 Jacksonburg Road	Jacksonburg	OH	45067
MIDDLETOWN, CITY OF	City Hall One Donham Plaza	Middletown	OH	45042
MILLVILLE, VILLAGE OF	Village Hall 2860 Ross Hanover Road	Millville	OH	45013
MONROE, CITY OF	City Hall 233 South Main Street	Monroe	OH	45050
NEW MIAMI, VILLAGE OF	Village Hall 268 Whitaker Avenue	New Miami	OH	45011
OXFORD, CITY OF	City Hall Building Department 101 East High Street	Oxford	OH	45056
SEVEN MILE, VILLAGE OF	Village Hall 201 High Street	Seven Mile	OH	45062
SOMERVILLE, VILLAGE OF	Village Hall 146 Main Street	Somerville	OH	45064
TRENTON, CITY OF	City Hall 11 East State Street	Trenton	OH	45067

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

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

**Table 32: Additional Information**

FEMA and the NFIP	
FEMA and FEMA Engineering Library website	<a href="http://www.fema.gov">http://www.fema.gov</a>
NFIP website	<a href="http://www.fema.gov/business/nfip">http://www.fema.gov/business/nfip</a>
NFHL Dataset	<a href="http://msc.fema.gov">http://msc.fema.gov</a>
FEMA Region V	FEMA Region V 536 South Clark Street, 6 <sup>th</sup> Floor Chicago, IL 60605 (312) 408-4469
Other Federal Agencies	
USGS website	<a href="http://www.usgs.gov">http://www.usgs.gov</a>
Hydraulic Engineering Center website	<a href="http://www.hec.usace.army.mil">http://www.hec.usace.army.mil</a>
State Agencies and Organizations	
State NFIP Coordinator	Christopher M. Thoms, CFM, Program Manager Ohio Department of Natural Resources Division of Soil & Water Resources Floodplain Management Program 2045 Morse Road Building B-2 Columbus, OH 43229-6693 (614) 265-6752
State GIS Coordinator	Jeff Smith, Spatial Data Infrastructure Manager Ohio Geographically Referenced Information Program Office of Information Technology 77 S. High St. - 19th Floor Columbus, OH 43215 614.466.8862
Statewide Regulatory Coordinator	Katherine M. Skalak, EIT, Environmental Specialist Ohio Department of Natural Resources Division of Soil & Water Resources Floodplain Management Program 2045 Morse Road Building B-2 Columbus, OH 43229-6693 (614) 265-6709

**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
1	Federal Emergency Management Agency (FEMA), Federal Insurance Administration (FIA)	<i>Flood Insurance Study, Butler County, Ohio (Unincorporated Areas)</i>	Federal Emergency Management Agency (FEMA), Federal Insurance Administration (FIA)	Washington, D.C.	May 14, 1981	
2	FEMA, FIA	<i>Flood Insurance Study, Butler County, Ohio (Unincorporated Areas)</i>	FEMA, FIA	Washington, D.C.	January 21, 1998	
3	FEMA, FIA	<i>Flood Insurance Study, City of Fairfield, Butler County, Ohio</i>	FEMA, FIA	Washington, D.C.	September 1978 / March 15, 1979	
4	FEMA, FIA	<i>Flood Insurance Study, Warren County (Unincorporated Areas), Ohio</i>	FEMA, FIA	Washington, D.C.	September 21, 2000 (FIS); August 4, 1987 (FIRM); January 6, 1978 (FHBM)	
5	FEMA, FIA	<i>Flood Insurance Study, Village of Millville, Butler County, Ohio</i>	FEMA, FIA	Washington, D.C.	August 4 1980 (FIS); February 4, 1981 (FIRM)	
6	FEMA, FIA	<i>Flood Insurance Study, Village of Monroe, Butler County, Ohio</i>	FEMA, FIA	Washington, D.C.	August 5, 1991	

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
7	FEMA, FIA	<i>Flood Insurance Study, Village of New Miami, Butler County, Ohio</i>	FEMA, FIA	Washington, D.C.	August 18, 1980 (FIS); February 18, 1981 (FIRM)	
8	FEMA, FIA	<i>Flood Insurance Study, Village of Somerville, Butler County, Ohio</i>	FEMA, FIA	Washington, D.C.	August 18, 1980 (FIS); February 18, 1981 (FIRM).	
9	FEMA, FIA	<i>Flood Insurance Study, City of Hamilton, Butler County, Ohio</i>	FEMA, FIA	Washington, D.C.	August 15, 1984 (FIS); February 15, 1985 (FIRM)	
10	FEMA, FIA	<i>Flood Insurance Study, City of Oxford, Butler County, Ohio</i>	FEMA, FIA	Washington, D.C.	January 3, 1997 (FIS / FIRM)	
11	U.S. Army Corps of Engineers (USACE), Louisville District	<i>Planning Assistance to States-Final Report 2004, Dick's Creek Analysis, City of Middletown, Butler County, Ohio</i>	U.S. Army Corps of Engineers, Louisville District	Louisville, Kentucky	September 2004	
12	U.S. Department of Commerce, Bureau of the Census, Census 2000	using American Fact Finder	U.S. Department of Commerce, Bureau of the Census, Census 2000	Website	retrieved August 14, 2006	<a href="http://factfinder.census.gov">http://factfinder.census.gov</a>

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
13	State of Ohio, Department of Natural Resources, Division of Lands and Soil, Progress Report No. 53	<i>An Inventory of Ohio Soils – Butler County</i>	State of Ohio, Department of Natural Resources, Division of Lands and Soil, Progress Report No. 53	Columbus, Ohio	1978	
14	U.S Department of Commerce, Bureau of the Census	<i>1970 Census of Population of Inhabitants of Ohio</i>	U.S Department of Commerce, Bureau of the Census	U.S. Government Printing Office, Washington, D.C.	1970	
15	U.S. Geological Survey	<i>.5-Minute Series Topographic Maps and 1:9,600 Scale Topographic Maps</i>	U.S. Geological Survey	Washington, D.C.		
16	Ohio Department of Natural Resources (ODNR), Division of Water	<i>Drainage Areas of Streams, Supplement to Gazetteer of Ohio Streams, Ohio Water Plan Report No. 12a</i>	ODNR, Division of Water	Columbus, Ohio	1967	
17	U.S. Department of Commerce, Bureau of the Census	<i>1980 Census of Population, Number of Inhabitants, Ohio</i>	U.S. Department of Commerce, Bureau of the Census	Washington, D.C.	February 1982	
18	Butler County Planning Department	<i>Butler County Census Information 1976 Estimated Population</i>	Butler County Planning Department	Butler County, OH	1976	

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
19	ODNR, Division of Water	<i>Bulletin No. 45, Floods in Ohio, Magnitude and Frequency</i>	ODNR, Division of Water	Columbus, Ohio	1977	
20	ODNR, Division of Water	<i>Bulletin No. 32, Floods in Ohio, Magnitude and Frequency</i>	ODNR, Division of Water	Columbus, Ohio	1977	
21	U.S. Geological Survey (USGS)	<i>7.5 Minute Series Map of Flood Prone Areas Scale 1:24000, Contour Interval 10 feet: Somerville, Ohio, 1970</i>	USGS	Washington, D.C.	1970	
22	U.S. Department of Commerce, National Weather Service	<i>Technical Paper No. 40, Rainfall Frequency Atlas of the United States</i>	U.S. Department of Commerce, National Weather Service	Washington, D.C.	January 1963	
23	ODNR, Division of Water	<i>Gazetteer of Ohio Streams, Report No. 12, Ohio Water Plan Inventory</i>	ODNR, Division of Water	Columbus, Ohio	1960	
24	ODNR, Division of Water	<i>Bulletin 43, Floods in Ohio, A supplement to Bulletin 32</i>	by W.P. Cross and R.I. Mayo	Columbus, Ohio	1969	
25	Miami Conservancy District (MCD)	<i>Preliminary Report, Below Hamilton Study</i>	MCD	Dayton, Ohio	1967	
26	ODNR, Division of Water	<i>Preliminary Report of Floods in Ohio – January 1959, February 1959</i>	ODNR, Division of Water	Columbus, Ohio	March 1, 1959	

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
27	U.S. Department of Agriculture (USDA), Soil Conservation Service (SCS)	<i>Work Plan for Watershed Protection and Flood Prevention, upper Mill Creek Watershed, Butler and Hamilton Counties, Ohio</i>	USDA, SCS	Columbus, Ohio	1969	
28	U.S. Department of the Interior, Geological Survey	<i>Water Investigations Report 89-4126, Techniques for Estimating Flood Peak Discharges of Rural, Unregulated Streams in Ohio</i>	G.F. Koltun and John W. Roberts	Washington, D.C.	1990	
29	MCD	<i>Four Mile Creek Flood History Report, retitled Report on Study of the Four Mile Creek Flood Hazard Area</i>	MCD	Dayton, Ohio	April 1962, (revised) July 1964	
30	USGS	<i>Water Resources Data for Ohio, part 1: Surface Water Records</i>	USGS	USGS	1968	
31	MCD	<i>The Miami Conservancy District – A Study in Self Help</i>	L. Bennett Coy	Reprint of paper presented at the September 1976 American Society of Civil Engineers Convention	September 1976	

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
32	USACE, Hydrologic Engineering Center	<i>HEC-HMS Hydrology Modeling System</i>	Version 2.2.2 Davis	California	May 2003	
33	unpublished data	<i>Basic Hydrologic and Cross Section Data on Great Miami River</i>	MCD, Department of Natural Resources, Division of Water	unpublished data	unpublished data	
34	Water Resources Council	<i>Guidelines for Determining Flood Flow Frequency, Bulletin 17</i>	Water Resources Council	Washington, D.C.	March 1976	
35	USACE, Hydrologic Engineering Center	<i>HEC-1 Flood Hydrograph Package</i>	Davis	California	January 1984	
36	FEMA	<i>Flood Insurance Study, Upper Mill Creek, Butler County and City of Sharonville, and Upper Gregory Creek, Butler County – Hydrologic Analysis</i>	Water Resources & Coastal Engineering, Inc.	Washington, D.C.	December 15, 1994	
37	USACE, Hydrologic Engineering Center	<i>HEC-RAS River Analysis System</i>	Versions 3.1.3 and 2.1, Davis	California	April 1997	
38	FLO-2D Software, Inc.	<i>FLO-2D, Version 2007.06</i>	FLO-2D Software, Inc.	Arizona	2007	

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
39	MCD	<i>1913, 1937, 1959 Flood Profile of the Great Miami River and Fourmile Creek</i>	MCD	Dayton, Ohio	1962	
40	USACE, Hydrologic Engineering Center	<i>HEC-2 Water Surface Profiles, Generalized Computer Program</i>	Davis	California	May 1991	
41	MCD	<i>Flood Hazard Atlas, Sheet No. 7</i>	MCD	Dayton, Ohio	1962	
42	City of Fairfield	<i>Ohio Plan and Property map Sheets 1:2,400 Scale</i>	City of Fairfield	City of Fairfield	1974	
43	Woolpert Consultants	<i>Aerial Photographs Scale 1:9,600</i>	Woolpert Consultants	Dayton, Ohio	April 1978	
44	USDA, SCS	<i>Cross Sections on Clear Creek, Dicks Creek, Near Franklin</i>	USDA, SCS	Washington, D.C.	(revised) September 1968	
45	Ryan Aerial Surveys	<i>Topographic maps, Union Township, Butler County, Ohio, Scale 1"=100', Contour Interval 2 Feet</i>	Ryan Aerial Surveys	Hamilton, Ohio	April 1980	
46	Ryan Aerial Surveys	<i>Topographic maps, section 27, Union Township, Butler County, Ohio, Scale 1"=100', Contour Interval 2 Feet</i>	Ryan Aerial Surveys	Hamilton, Ohio	February 26, 1988 (photo date April 11, 1984)	

Table 33: Bibliography and References (*continued*)

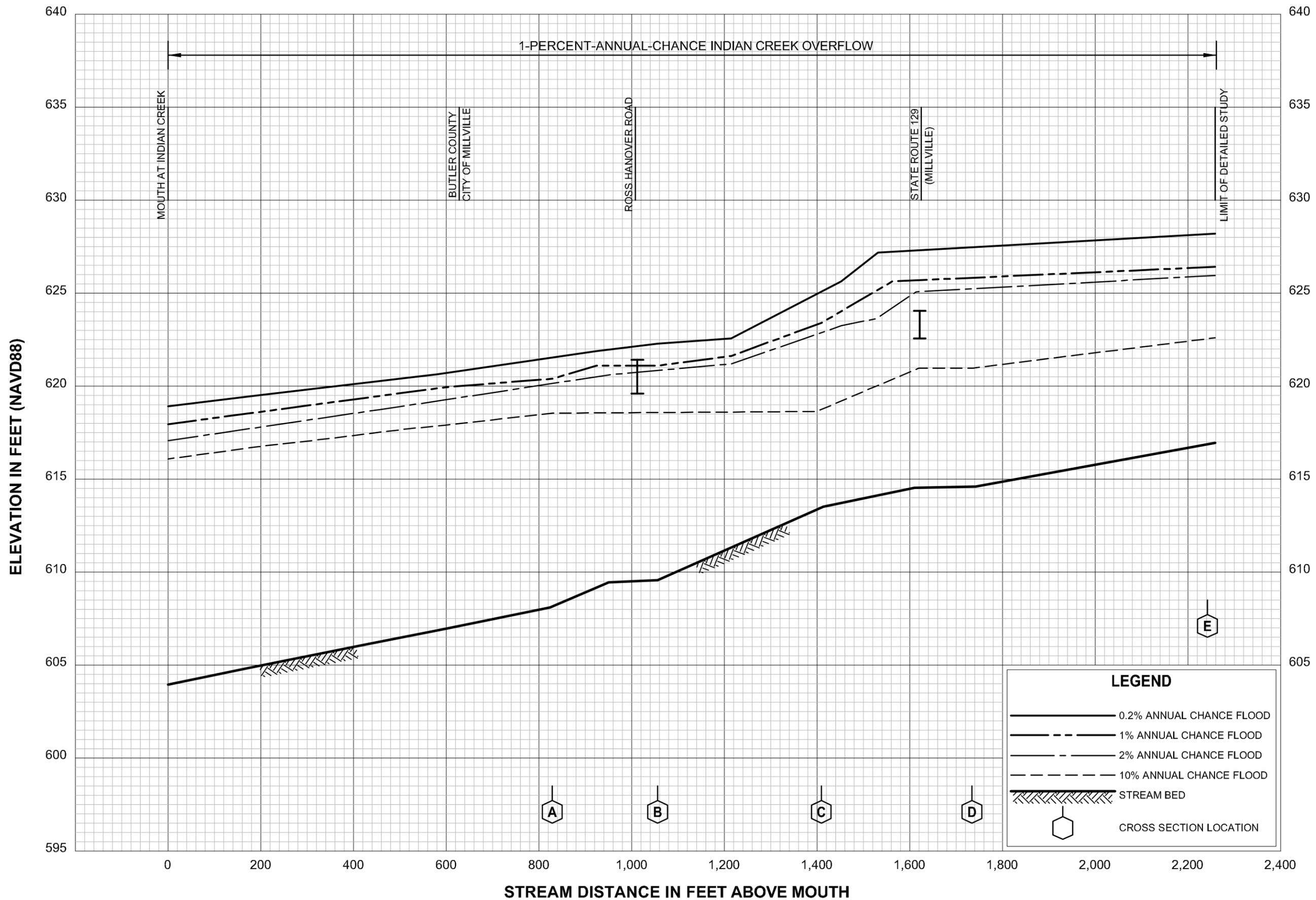
Citation in this FIS	Publisher/ Issuer	Publication Title, "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
47	Butler County	<i>Butler County Interactive Graphics Study Scale 1"=400', Contour Interval 2 Feet</i>	Butler County	Hamilton, Ohio	September 16, 1985	
48	MCD	<i>Topographic Maps, Great Miami River: Scale 1 : 1,200, Contour Interval: 1 foot</i>	MCD	Dayton, Ohio	1920	
49	USACE, Hydrologic Engineering Center	<i>Computer Program, 723-X6, L202SA, HEC-2 Water-Surface Profiles</i>	Davis	California	December 1968 (with updates)	
50	Water Resources & Coastal Engineering, Inc.	<i>Addendum to Flood Insurance Study, City of Sharonville, Hamilton County, Ohio</i>	Water Resources & Coastal Engineering, Inc.	prepared for the Federal Emergency Management Agency, draft report	January 31, 1995	
51	U.S. Department of Commerce, Bureau of the Census, Census 2010	<i>American Fact Finder</i>	U.S. Department of Commerce, Bureau of the Census, Census 2010	Washington, D.C.	retrieved September 2, 2011	<a href="http://factfinder2.census.gov">http://factfinder2.census.gov</a>
52	USACE, Hydrologic Engineering Center	<i>HEC-HMS Hydrologic Modeling System</i>	Versions 3.4 Davis	California	August 19, 2009	

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
53	U.S. Geological Survey (USGS) Scientific Investigations Report (SIR) 2009-5117	<i>Annual Peak-Flow Frequency Characteristics and (or) Peak Dam-Pool-Elevation Frequency Characteristics of Dry Dams and Selected Streamflow-Gaging Stations in the Great Miami River Basin, Ohio</i>	Koltun, G.F., Kula	Washington, D.C.	2009	
54	U.S. Geological Survey (USGS) Scientific Investigations Report (SIR) 2006-5312	<i>A Streamflow Statistics (StreamStats) Web Application for Ohio</i>	Koltun, G.F., Kula, S.P., and Puskas, B.M.	Washington, D.C.	2006	
55	U.S. Geological Survey (USGS) Water Resources Investigations Report (WRIR) 03-4164	<i>Techniques for Estimating Flood Peak Discharges of Rural, Unregulated Streams in Ohio</i>	Koltun, G.F.	Washington, D.C.	2003	
56	U.S. Geological Survey (USGS) Report 93-135	<i>Estimation of Peak-Frequency Relations, Flood Hydrographs, and Volume-Duration-Frequency Relations of Ungaged Small Urban Streams in Ohio</i>	Sherwood, James M.	Washington, D.C.	2003	

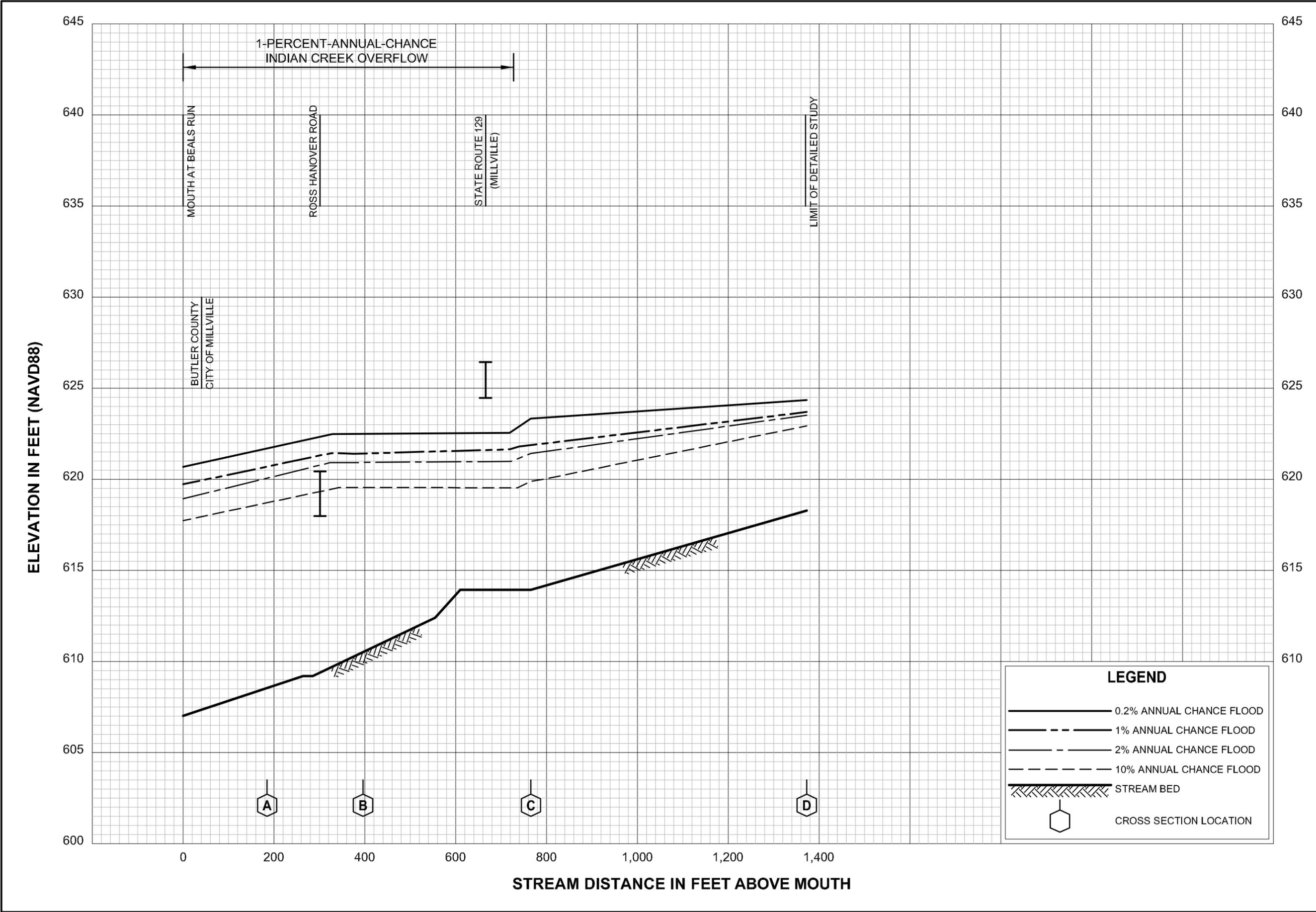
Table 33: Bibliography and References (*continued*)

Citation in this FIS	Publisher/ Issuer	Publication Title, "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
57	USACE, Hydrologic Engineering Center	<i>HEC-HMS River Analysis System</i>	Versions 4.1.0 and 3.1.1 Davis	California	January 2010 and May 2003	
58	STARR	<i>Field Survey Submittal, Contract No. HSFEHQ-09-D-0370, Task Order No. HSFE05-09-J-0001</i>	STARR	Washington, D.C.	December, 2010	
59	USGS	<i>Flood Profiles for Great Miami River in Butler and Warren Counties, Ohio Technical Support Data Notebook</i>	USGS	Washington, D.C.	May 13, 2010	
60	Ohio Geographically Referenced Information Program (OGRIP)	<i>2.5-foot DEM's (4-foot contour data)</i>	Ohio Statewide Imagery Program (OSIP)	Columbus, Ohio	2008	<a href="http://ogrip.oit.ohio.gov/Project/Initiatives/OSIPDataDownloads.aspx">http://ogrip.oit.ohio.gov/Project/Initiatives/OSIPDataDownloads.aspx</a>



**FLOOD PROFILES**  
**BEALS RUN**

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**BUTLER COUNTY, OH**  
AND INCORPORATED AREAS



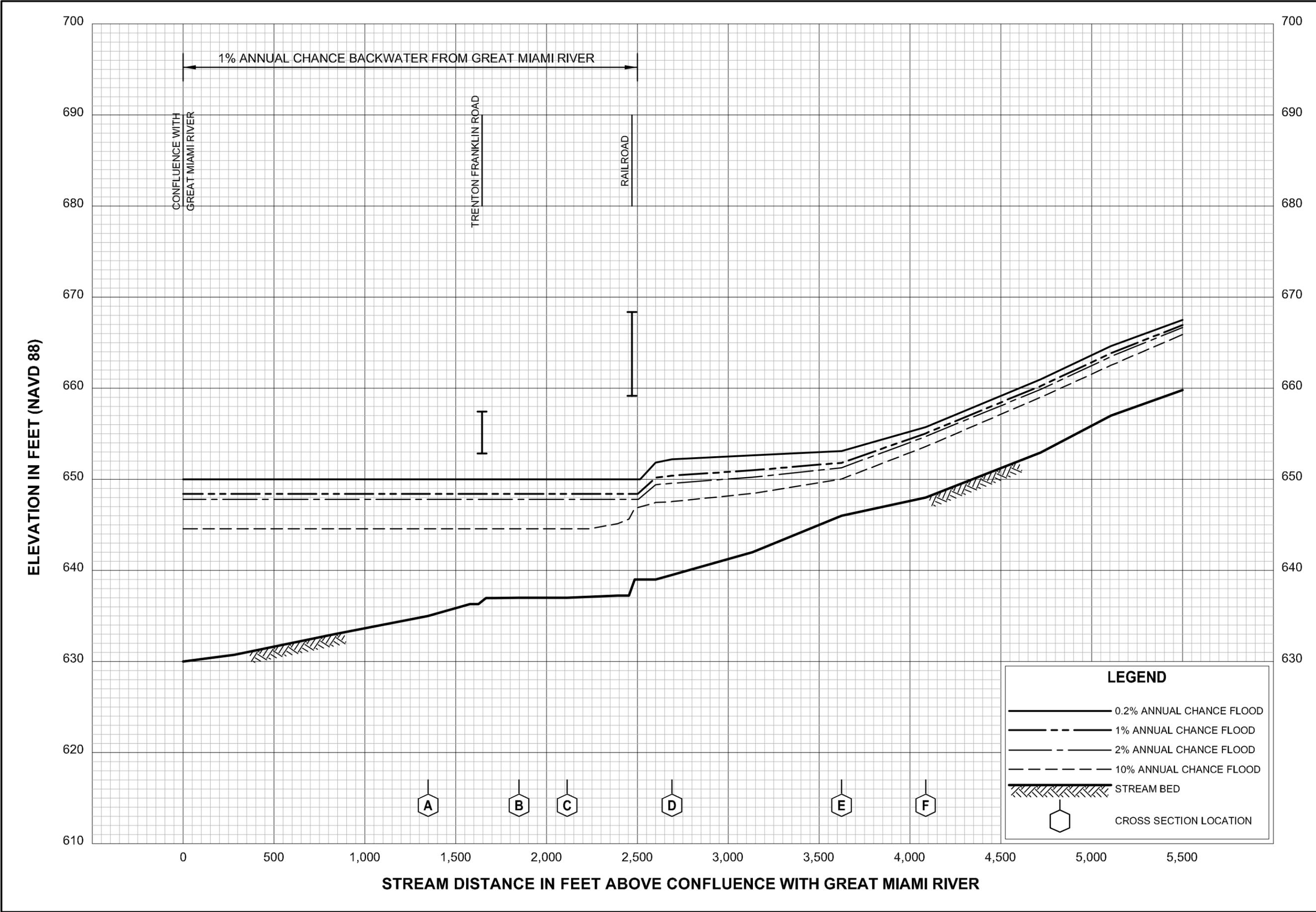
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**BUTLER COUNTY, OH**

AND INCORPORATED AREAS



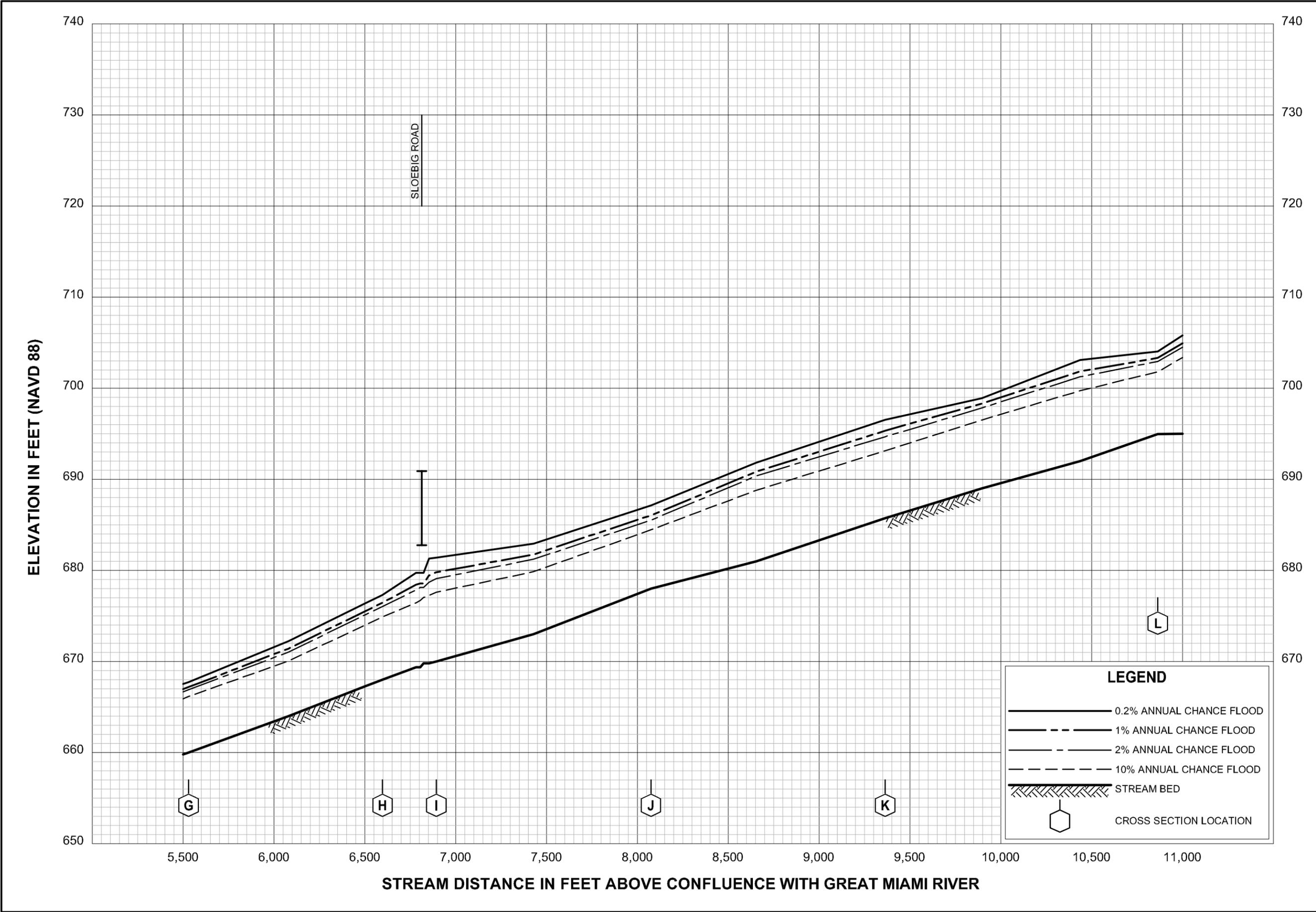
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AND INCORPORATED AREAS



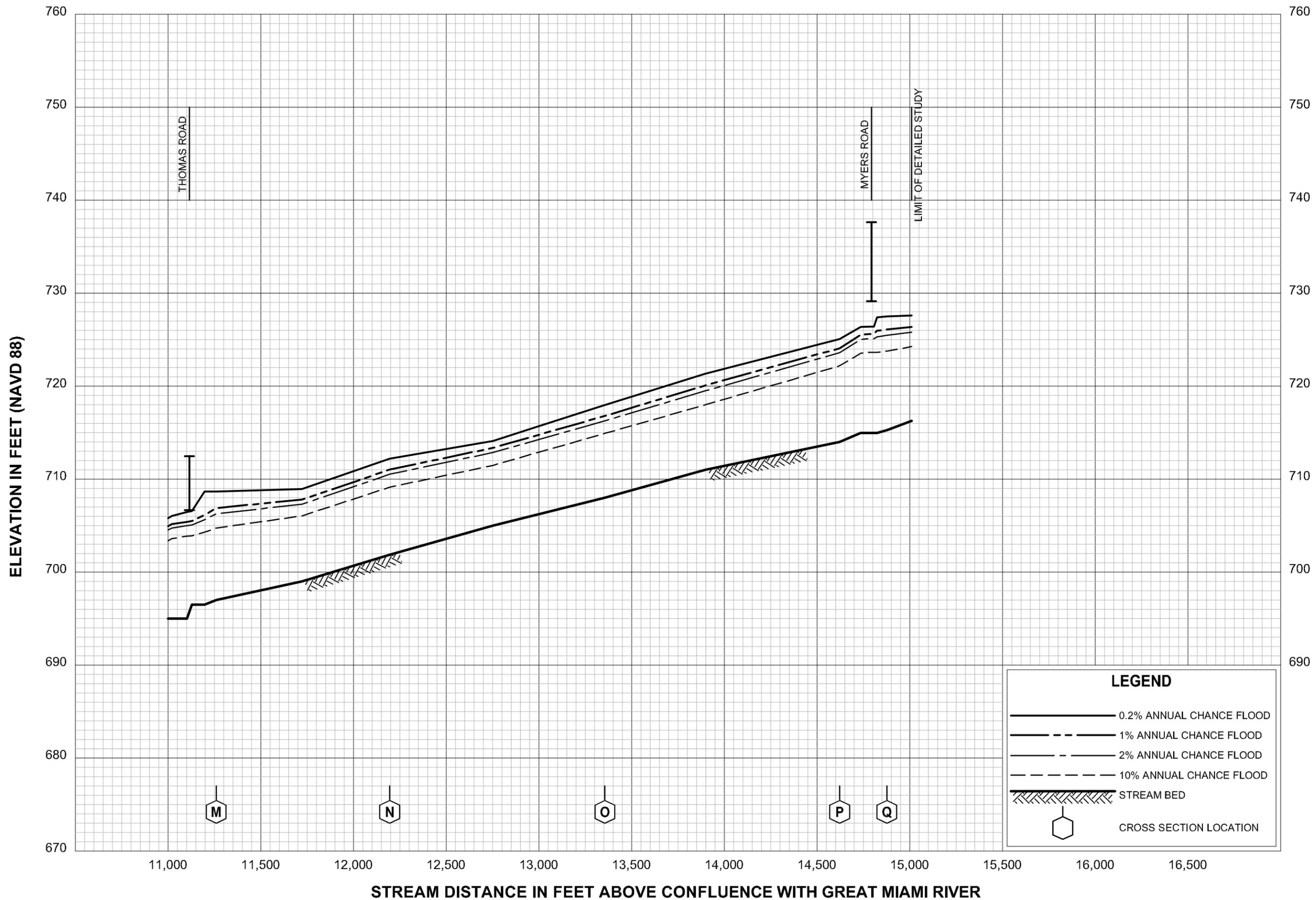
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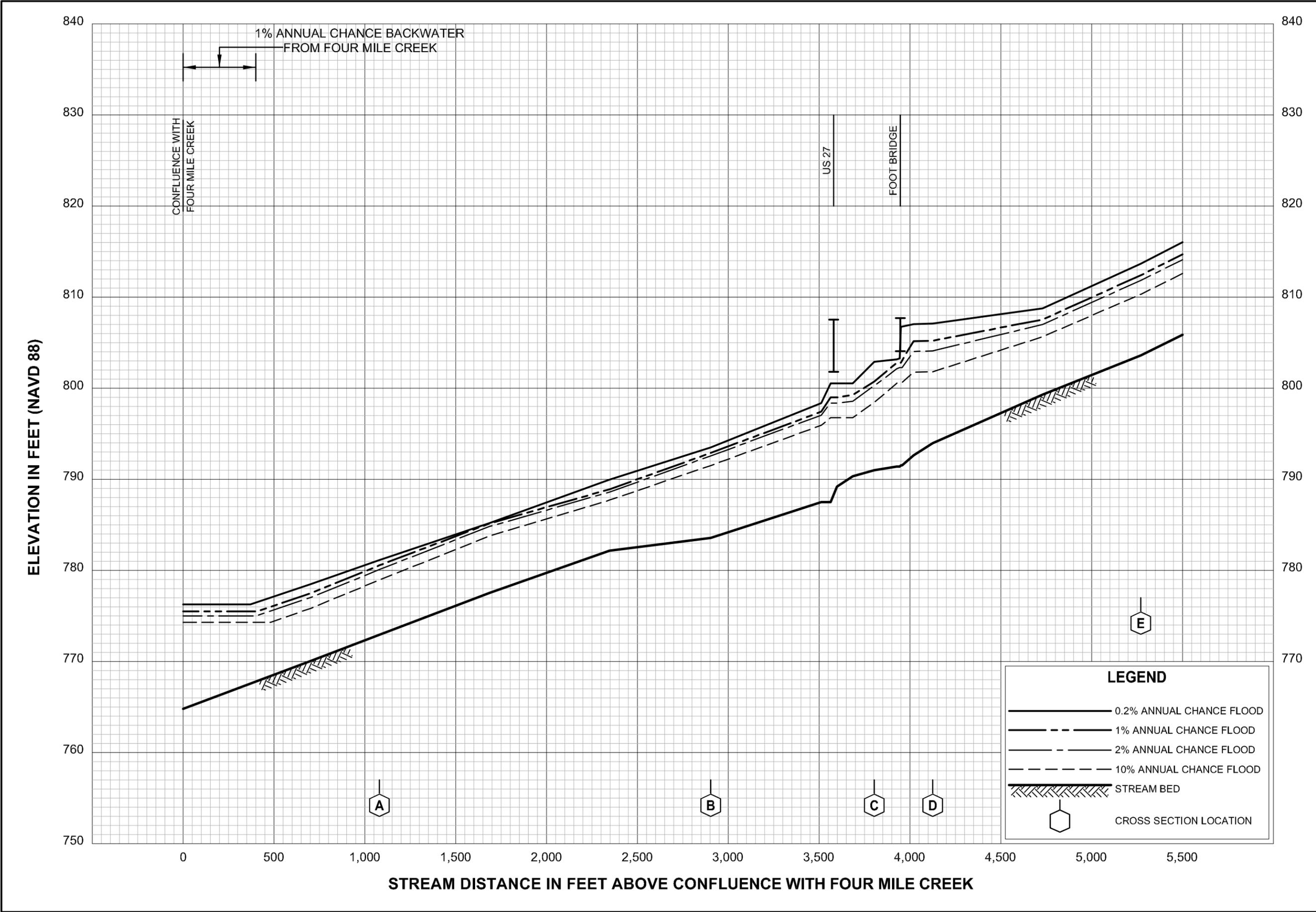
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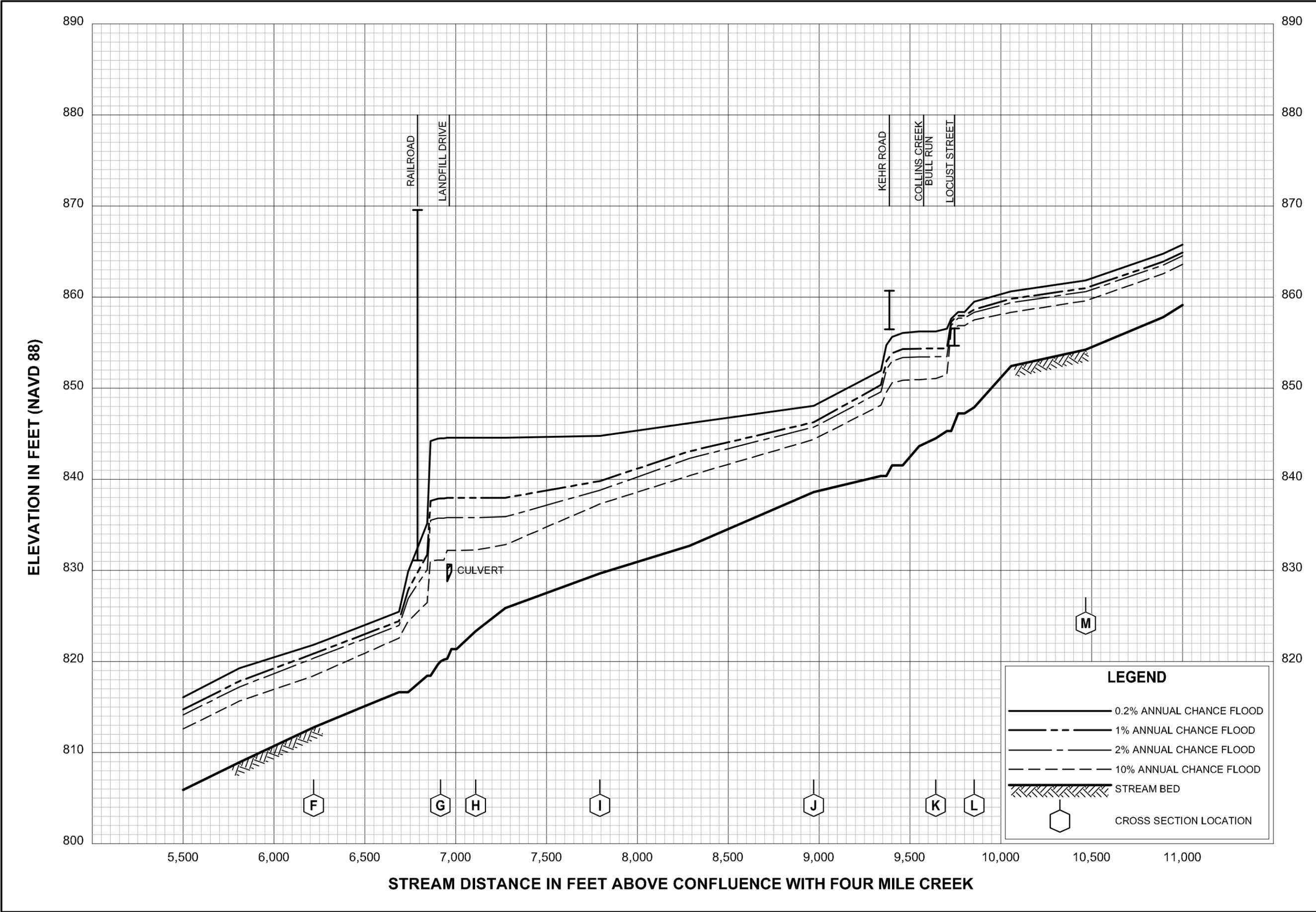
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AND INCORPORATED AREAS



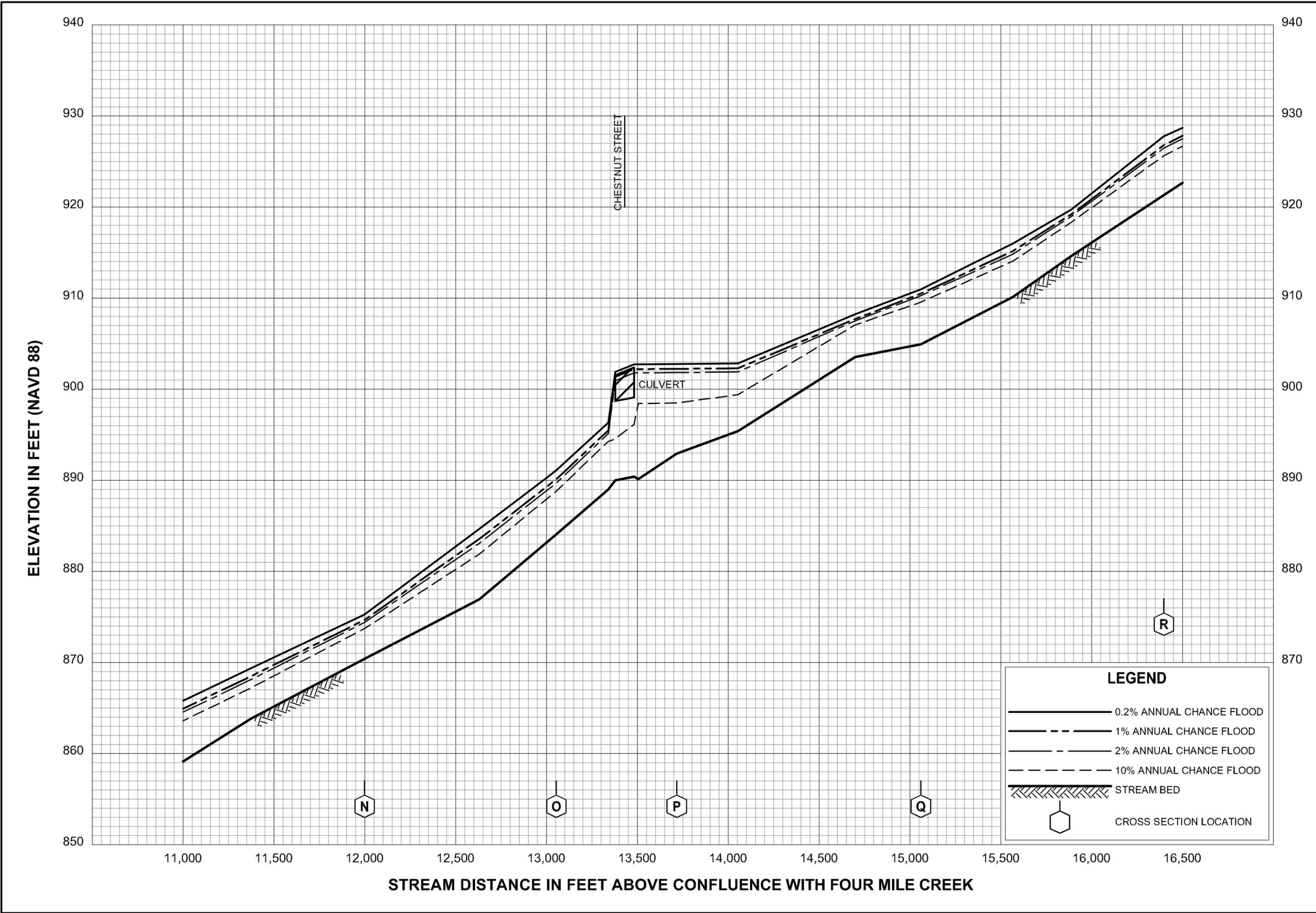
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 AND INCORPORATED AREAS



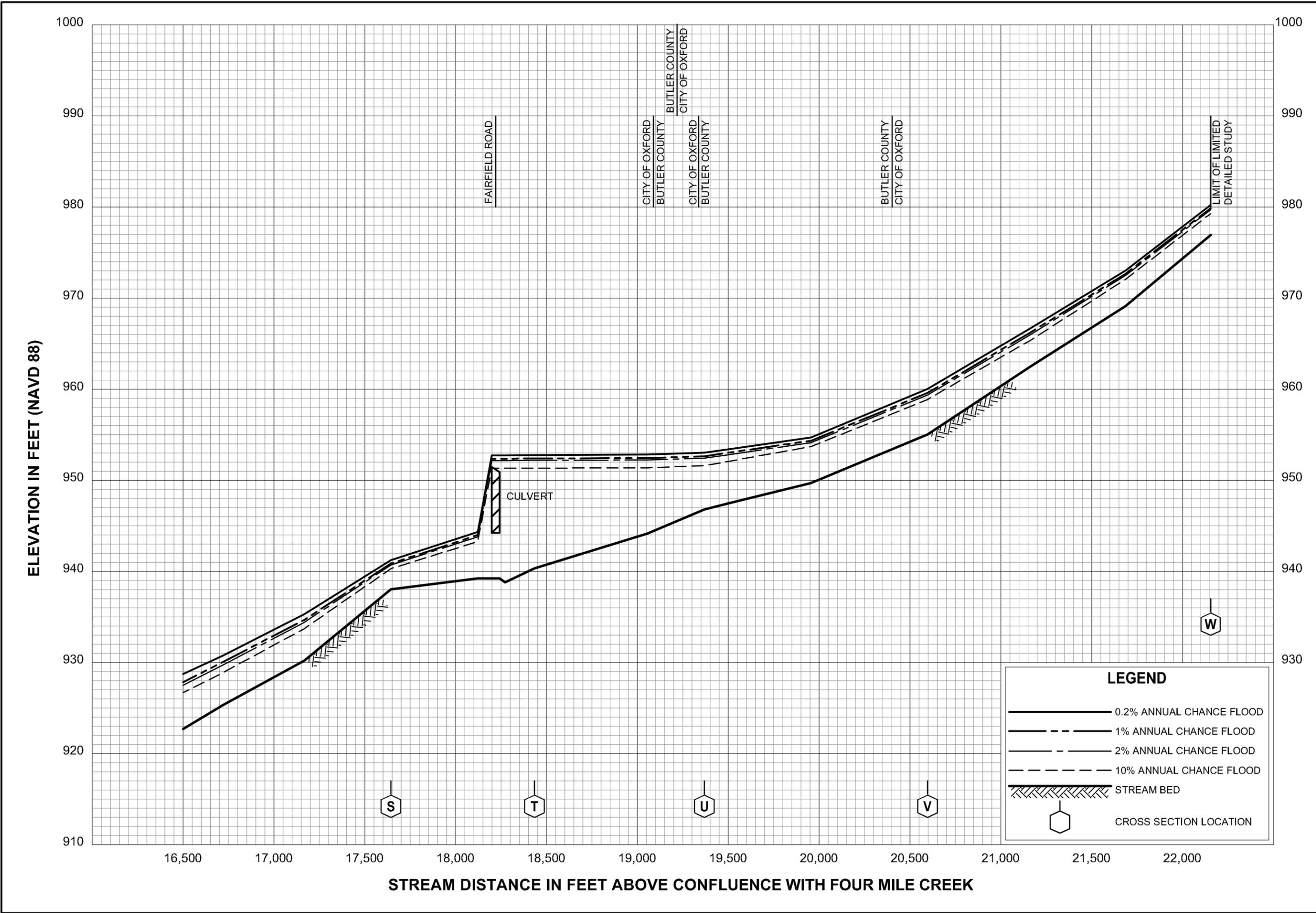
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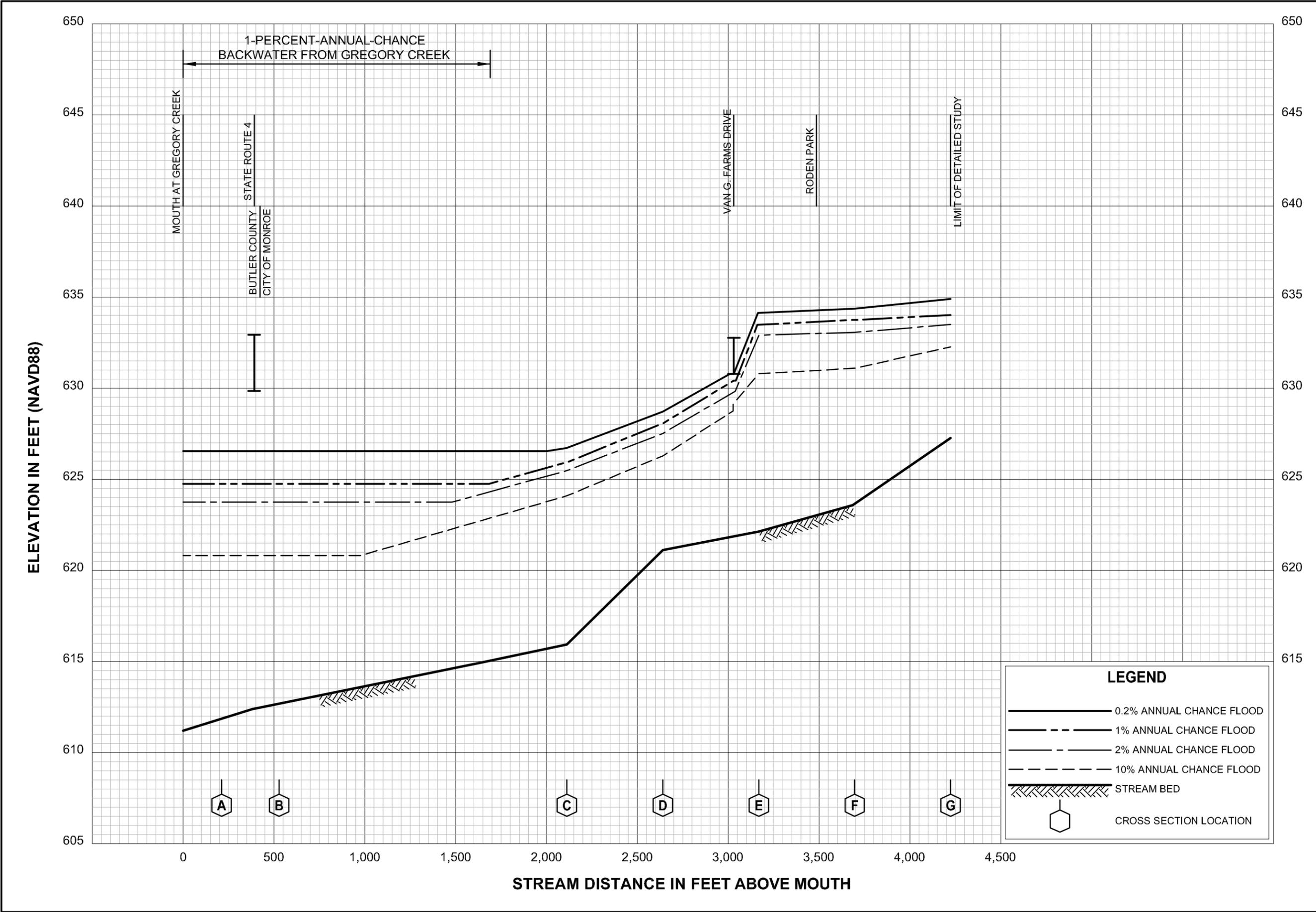
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AND INCORPORATED AREAS



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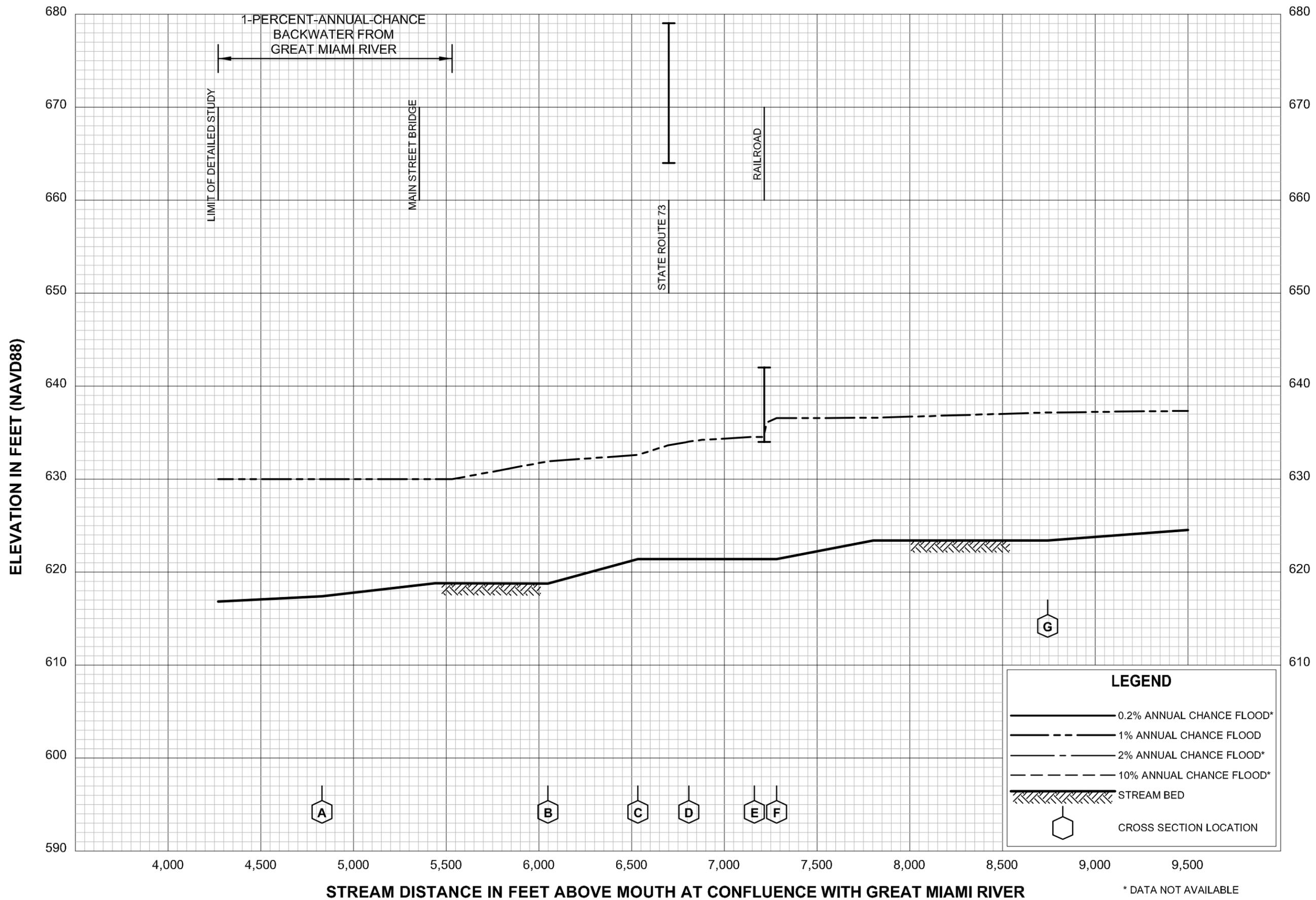
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 AND INCORPORATED AREAS





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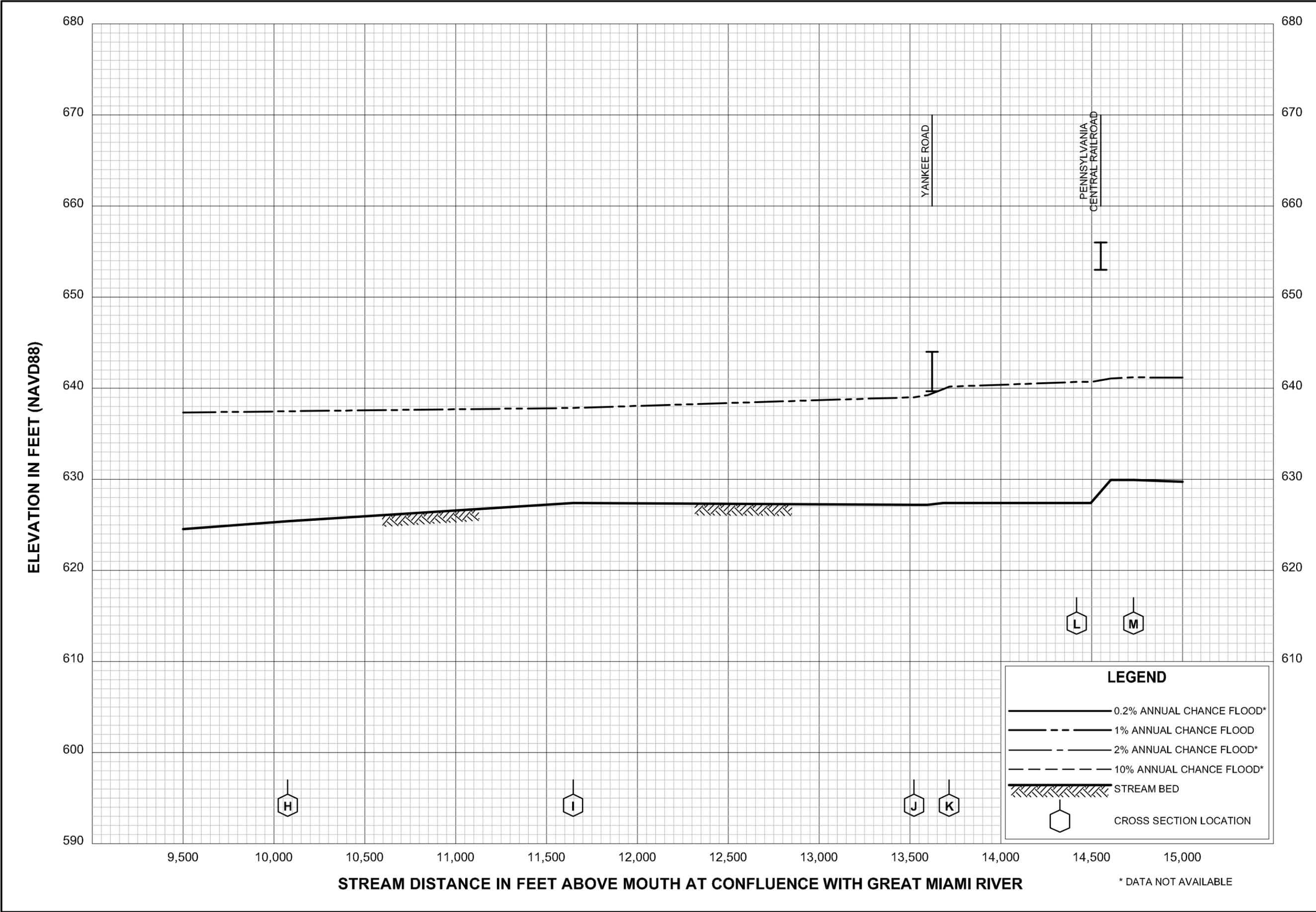
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AND INCORPORATED AREAS



**LEGEND**

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

\* DATA NOT AVAILABLE



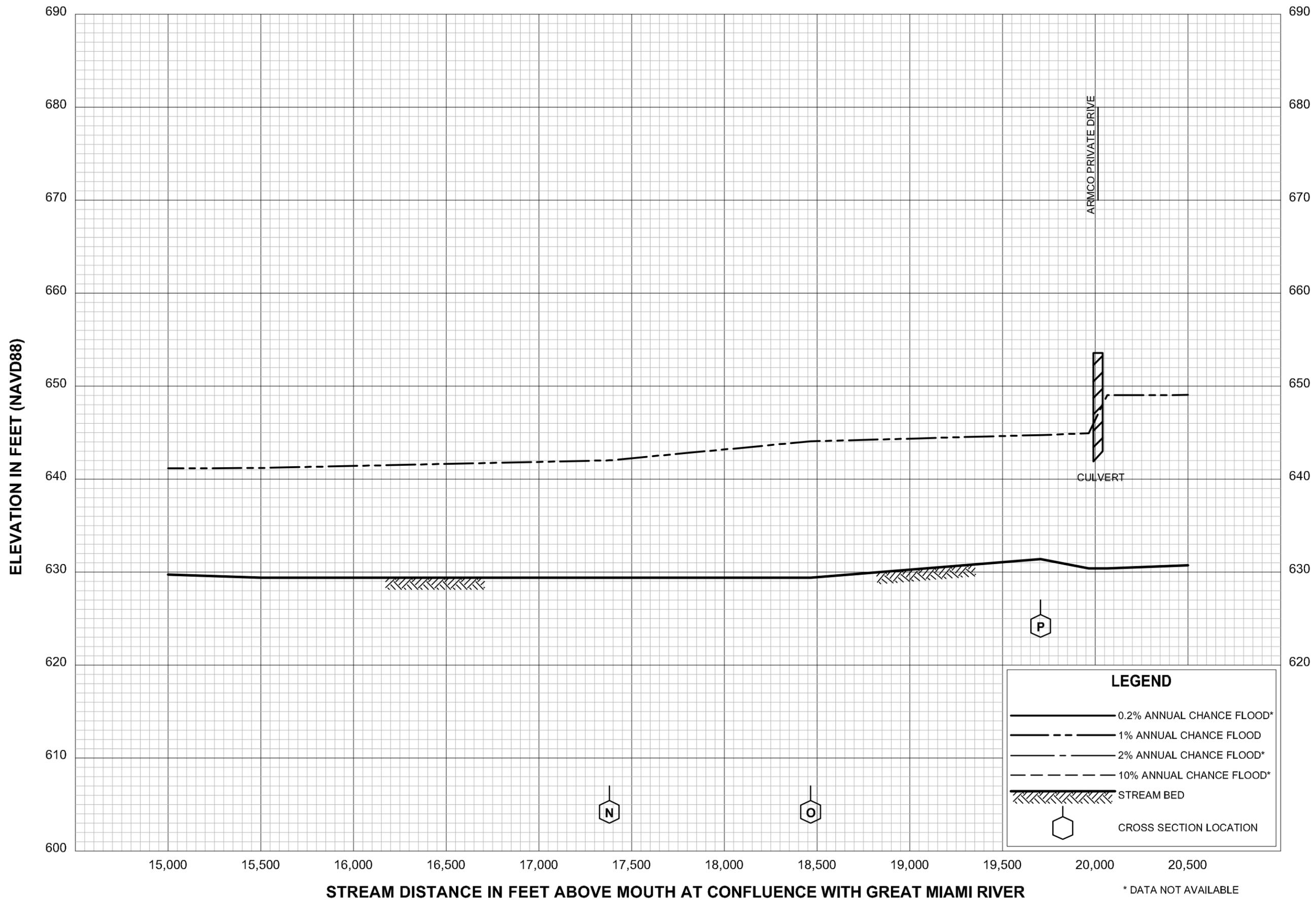
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**DICKS CREEK**

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

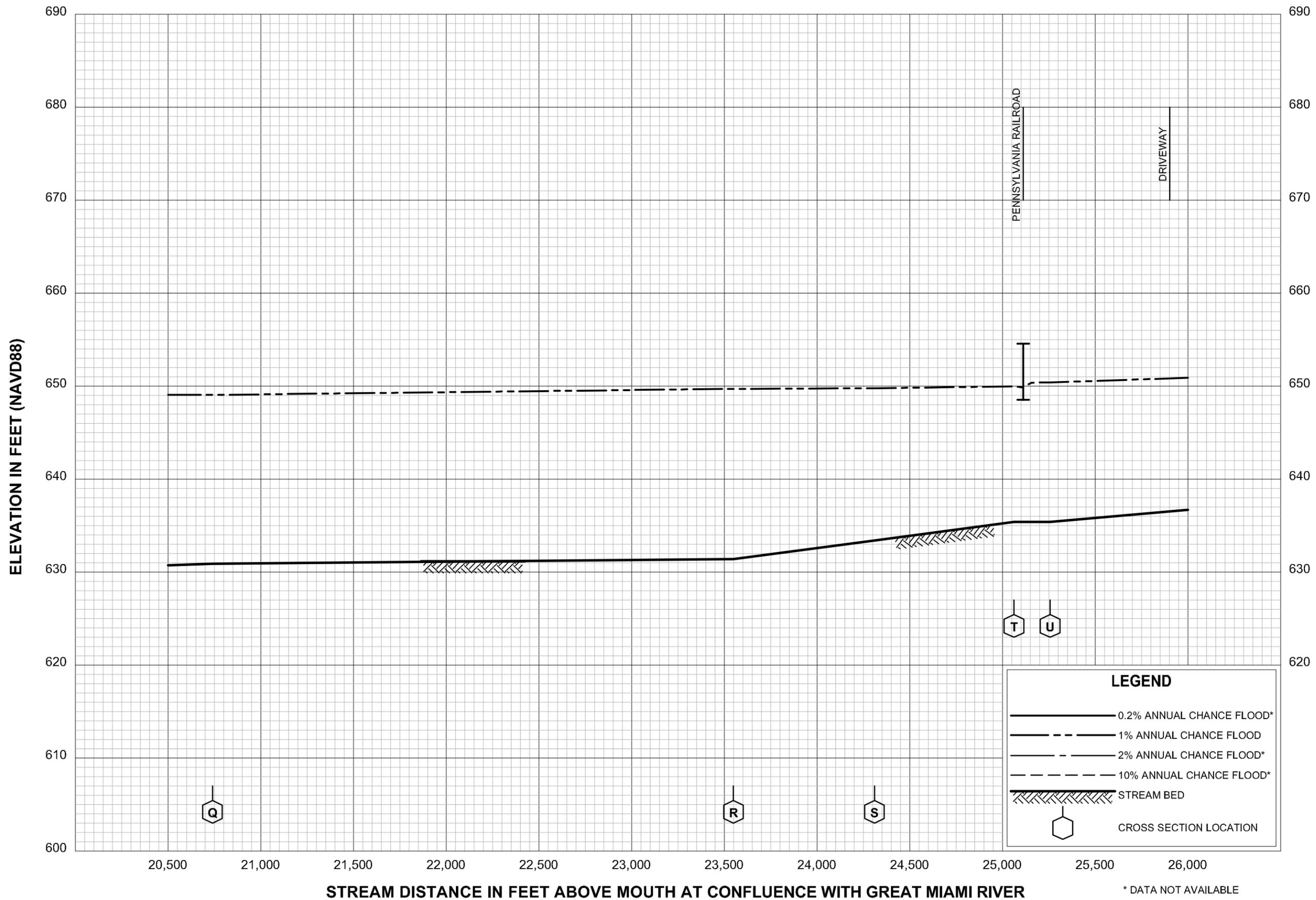
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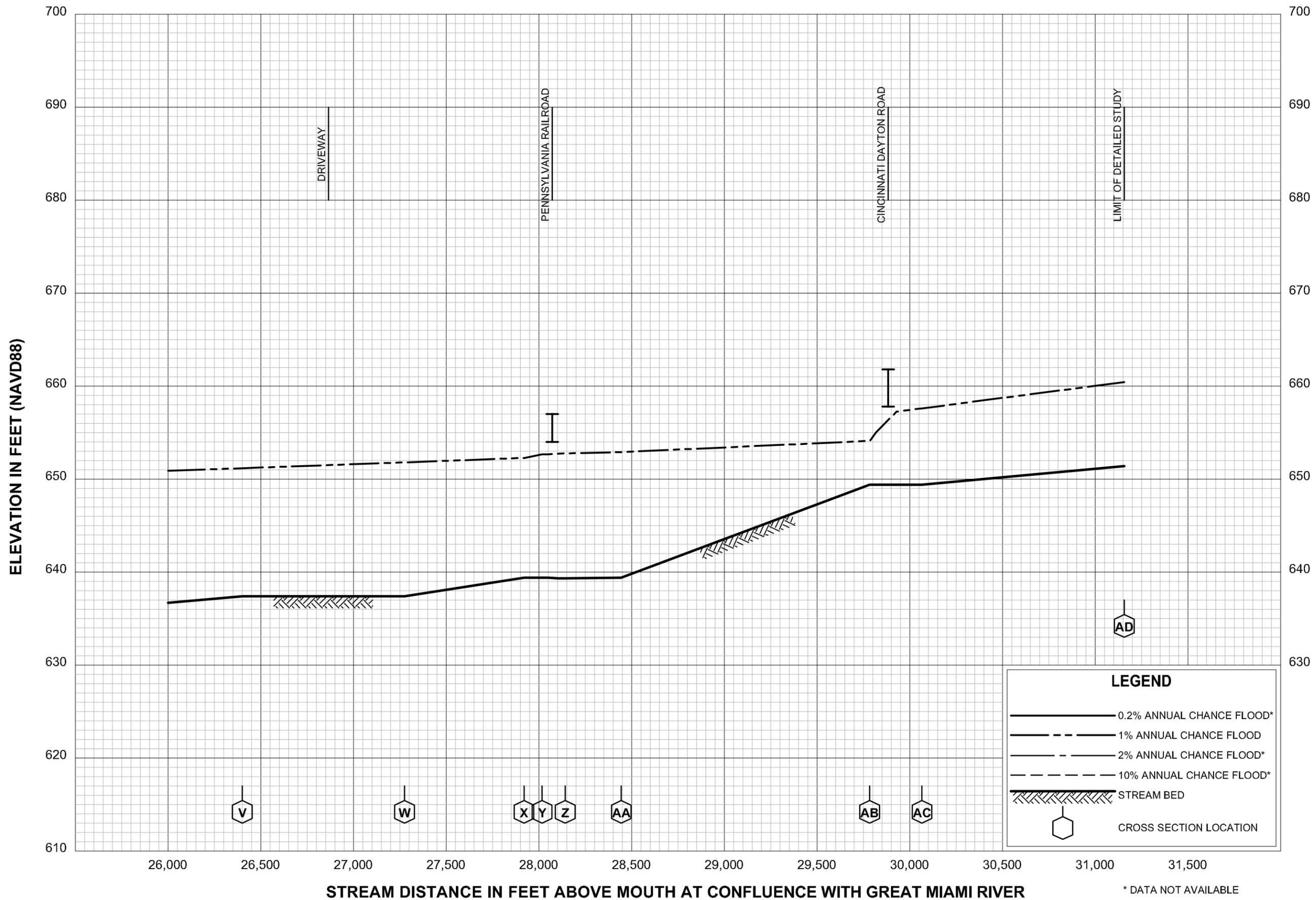
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- - - 1% ANNUAL CHANCE FLOOD
- · - 2% ANNUAL CHANCE FLOOD\*
- - - - 10% ANNUAL CHANCE FLOOD\*
- ▨ STREAM BED
- ⬡ CROSS SECTION LOCATION

\* DATA NOT AVAILABLE



**FLOOD PROFILES**  
**DICKS CREEK**

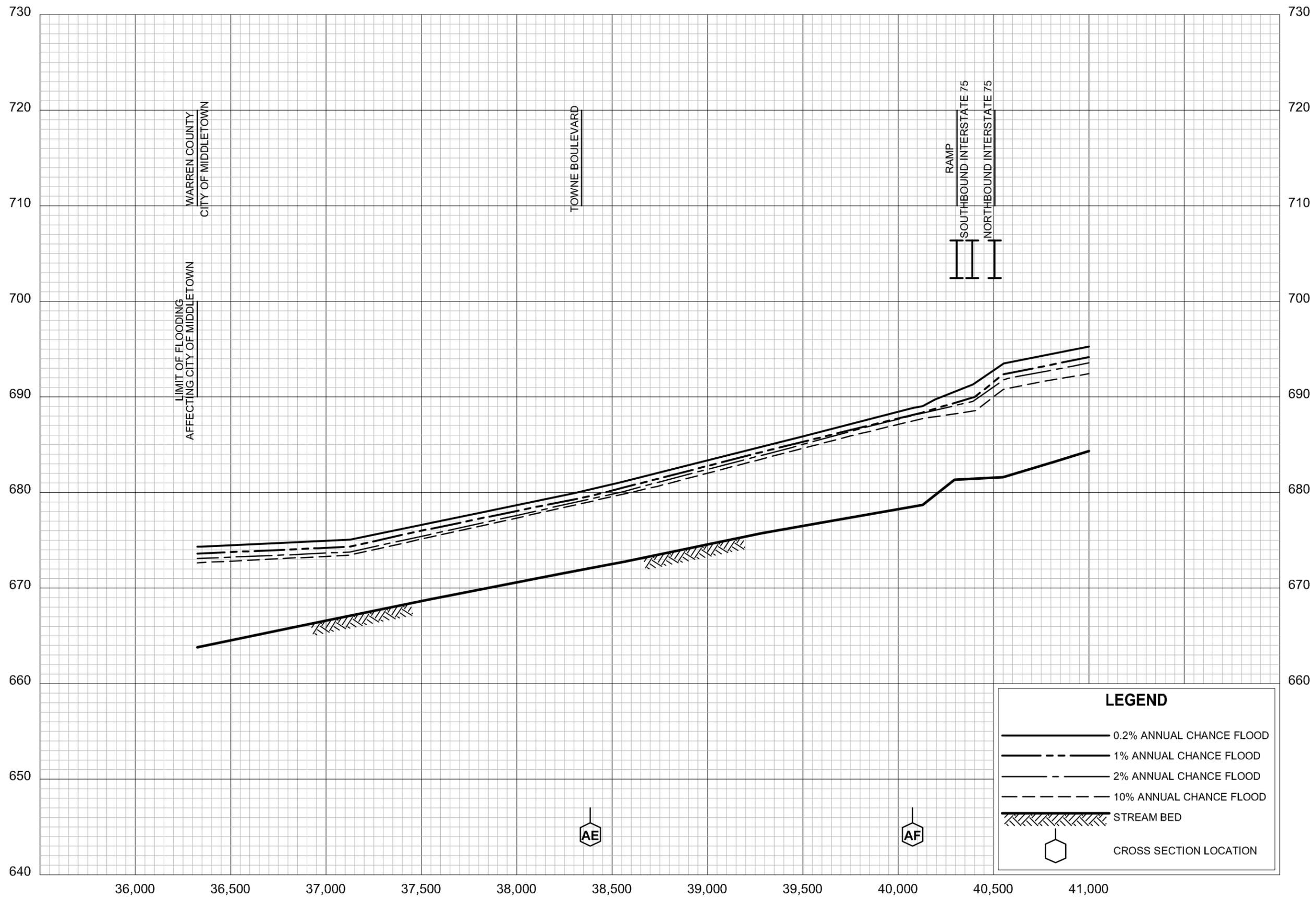
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**BUTLER COUNTY, OH**  
AND INCORPORATED AREAS



**FLOOD PROFILES**  
**DICKS CREEK**

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**BUTLER COUNTY, OH**  
AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD88)



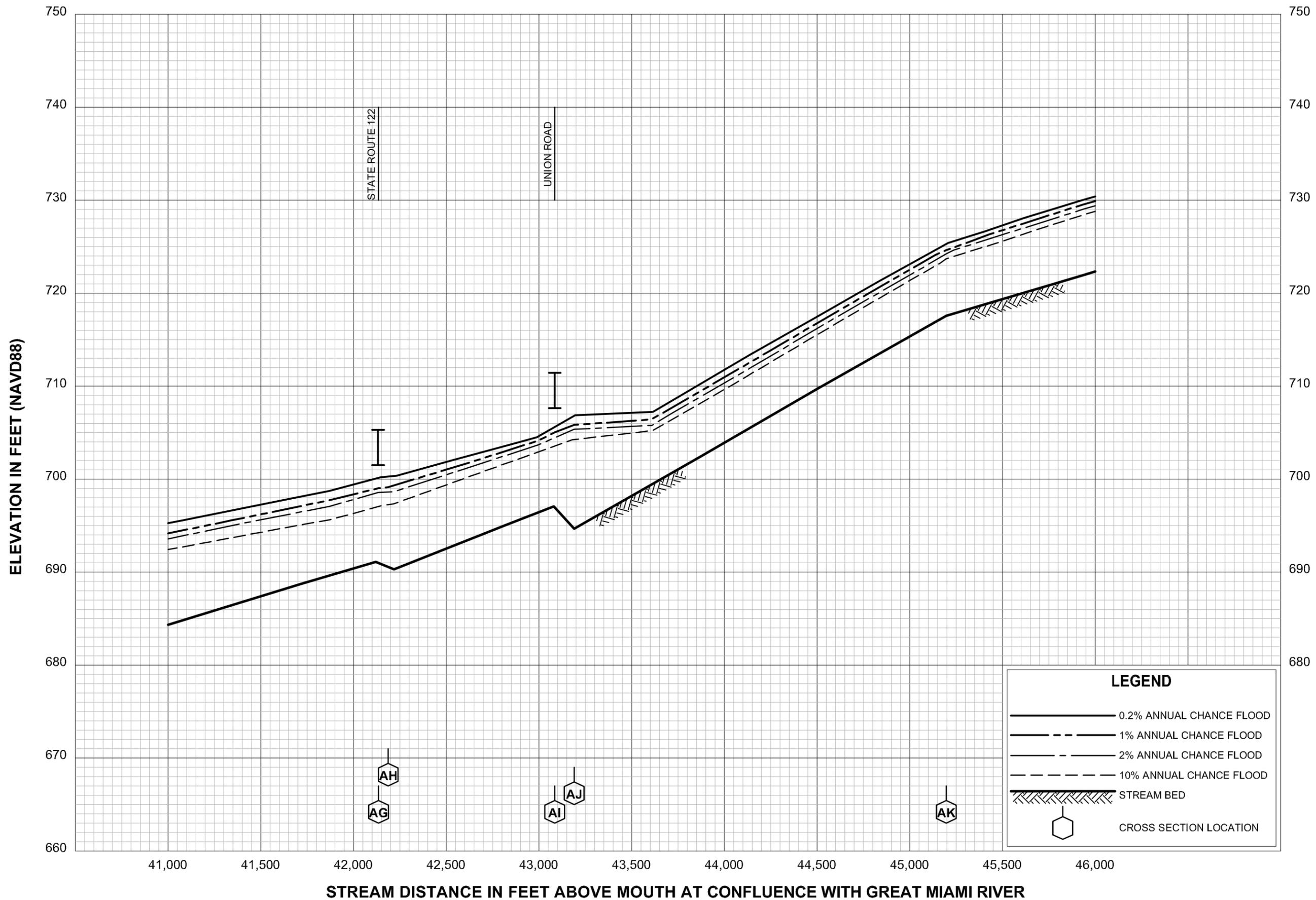
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DICKS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

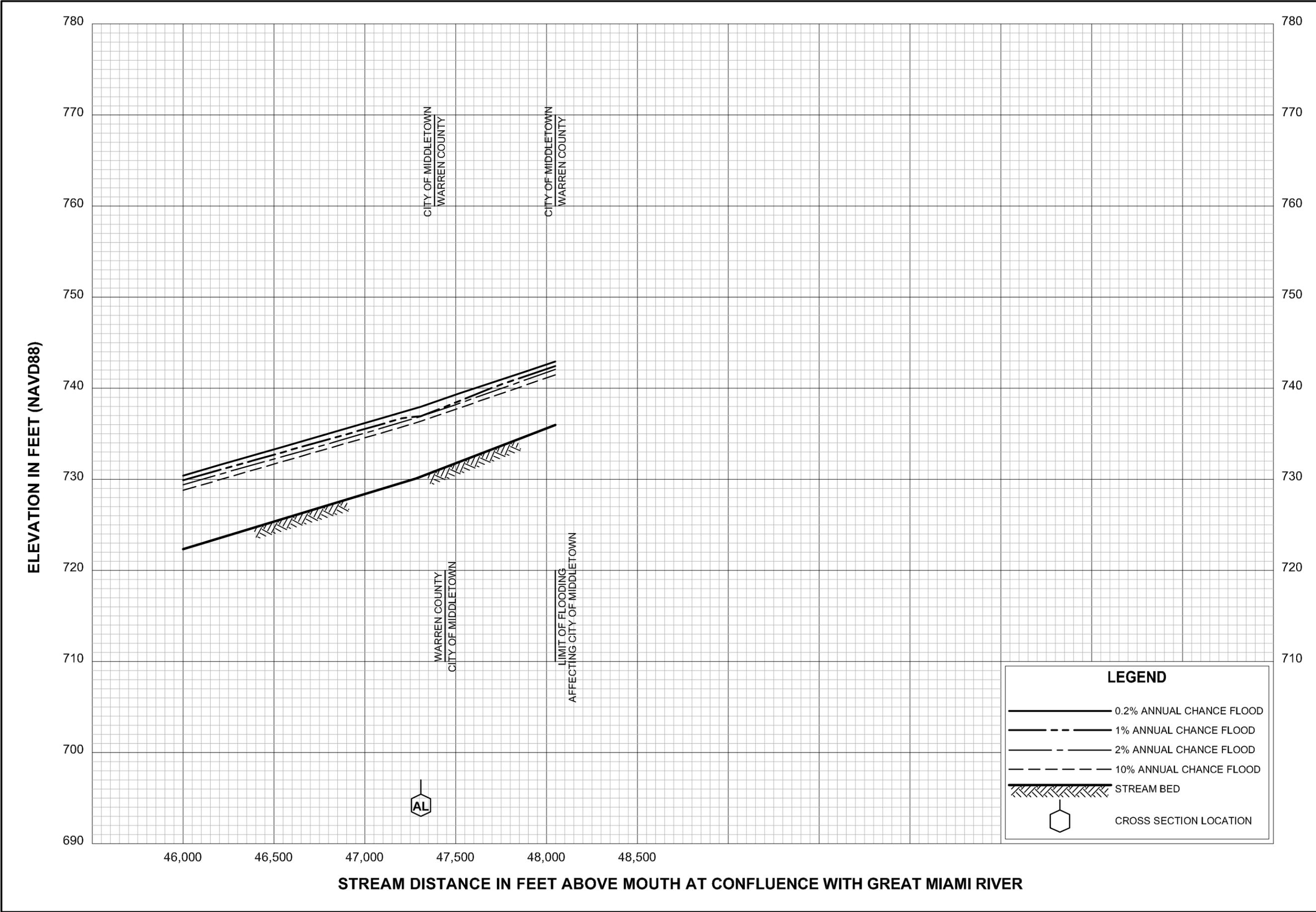
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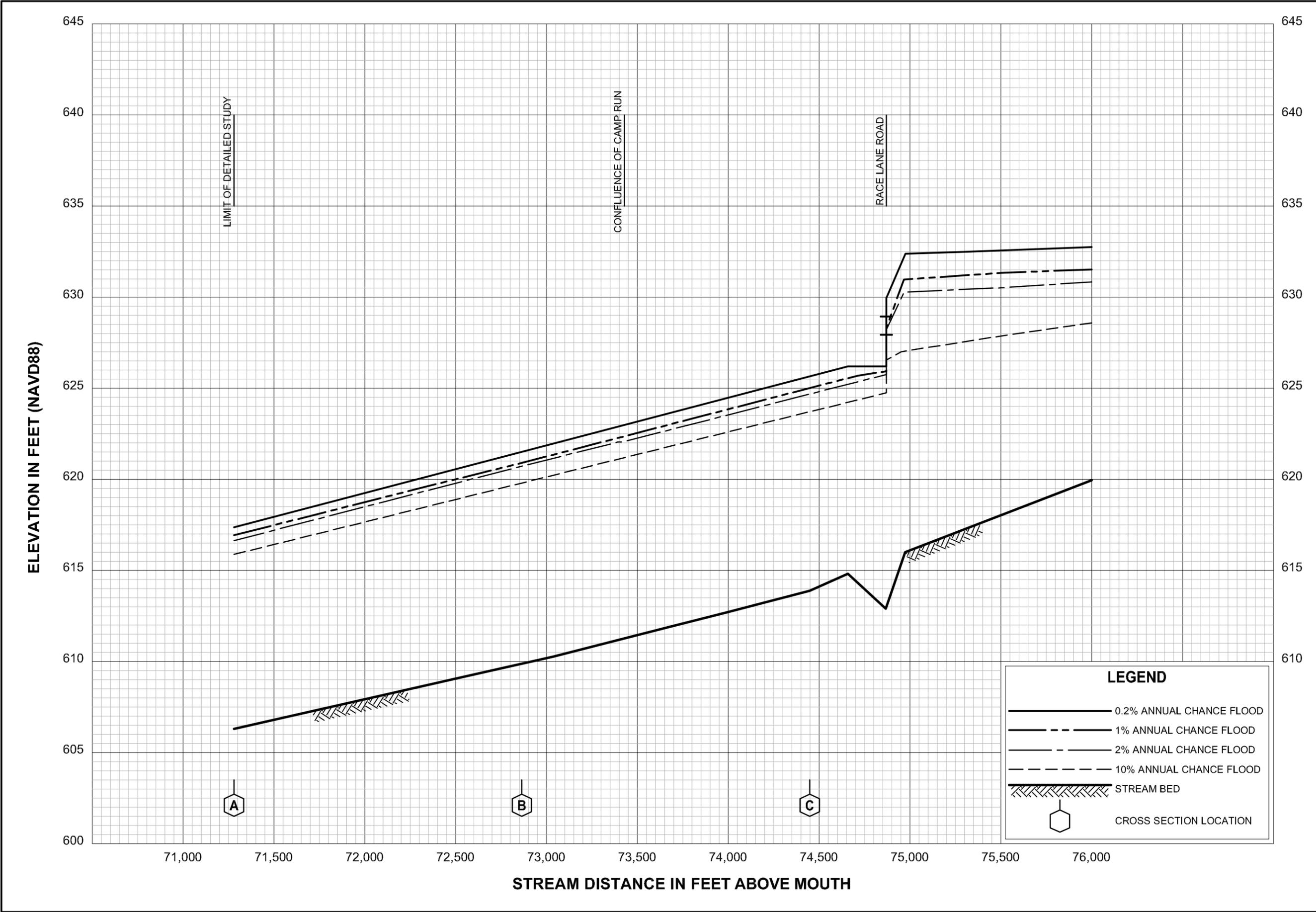
AND INCORPORATED AREAS



**FLOOD PROFILES**  
**DICKS CREEK**

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**BUTLER COUNTY, OH**  
AND INCORPORATED AREAS





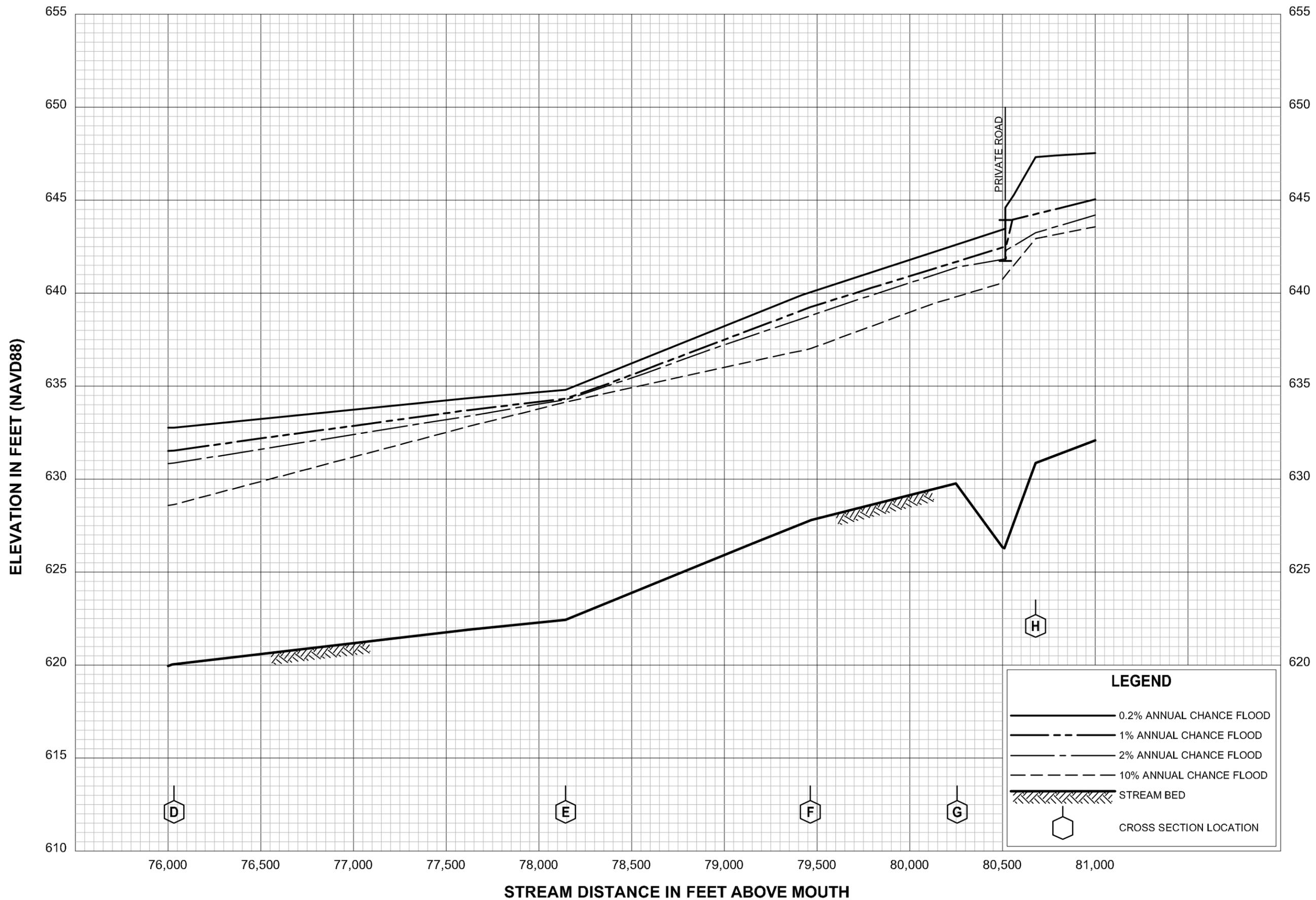
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**DRY FORK WHITEWATER RIVER**

FEDERAL EMERGENCY MANAGEMENT AGENCY

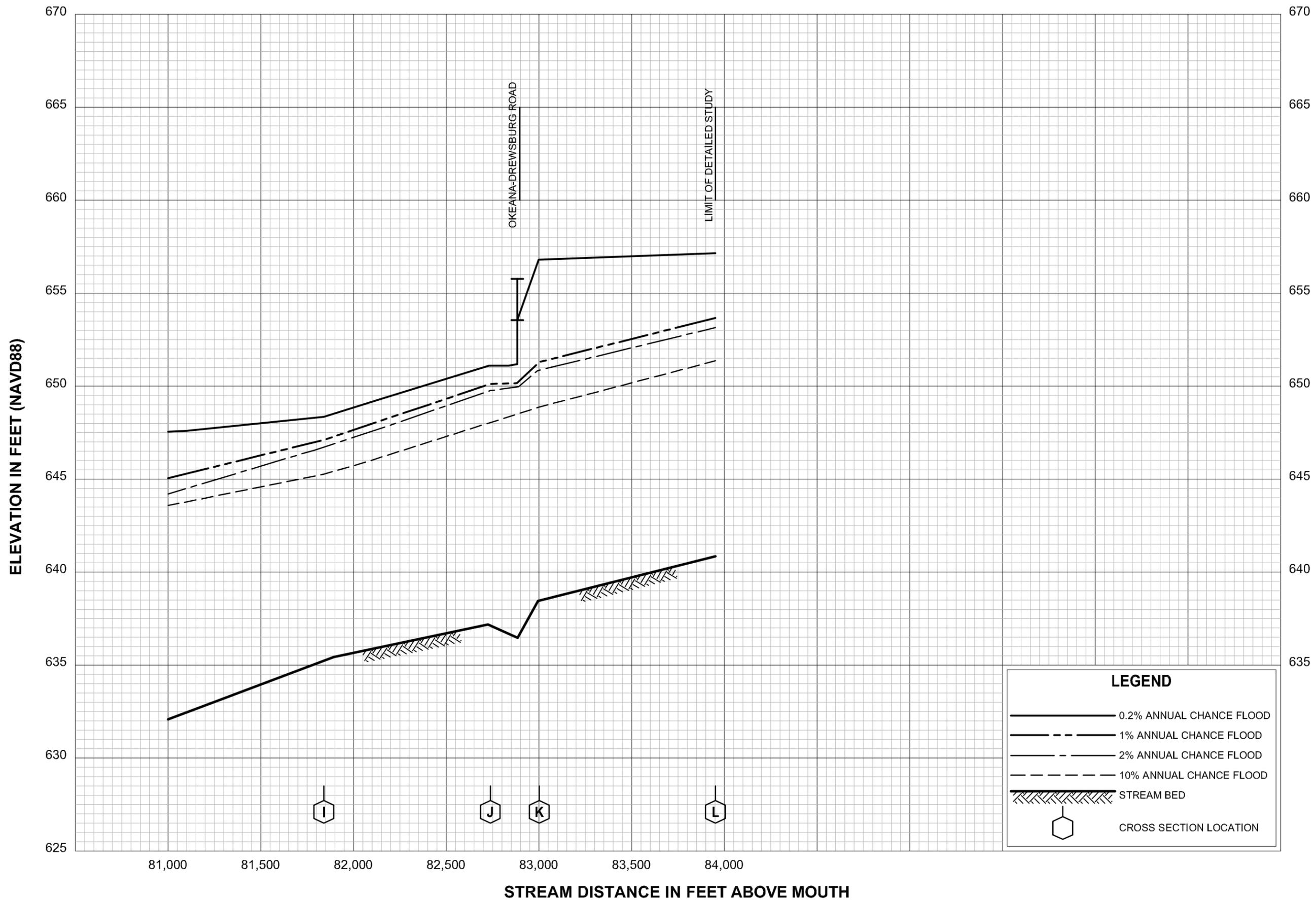
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AND INCORPORATED AREAS



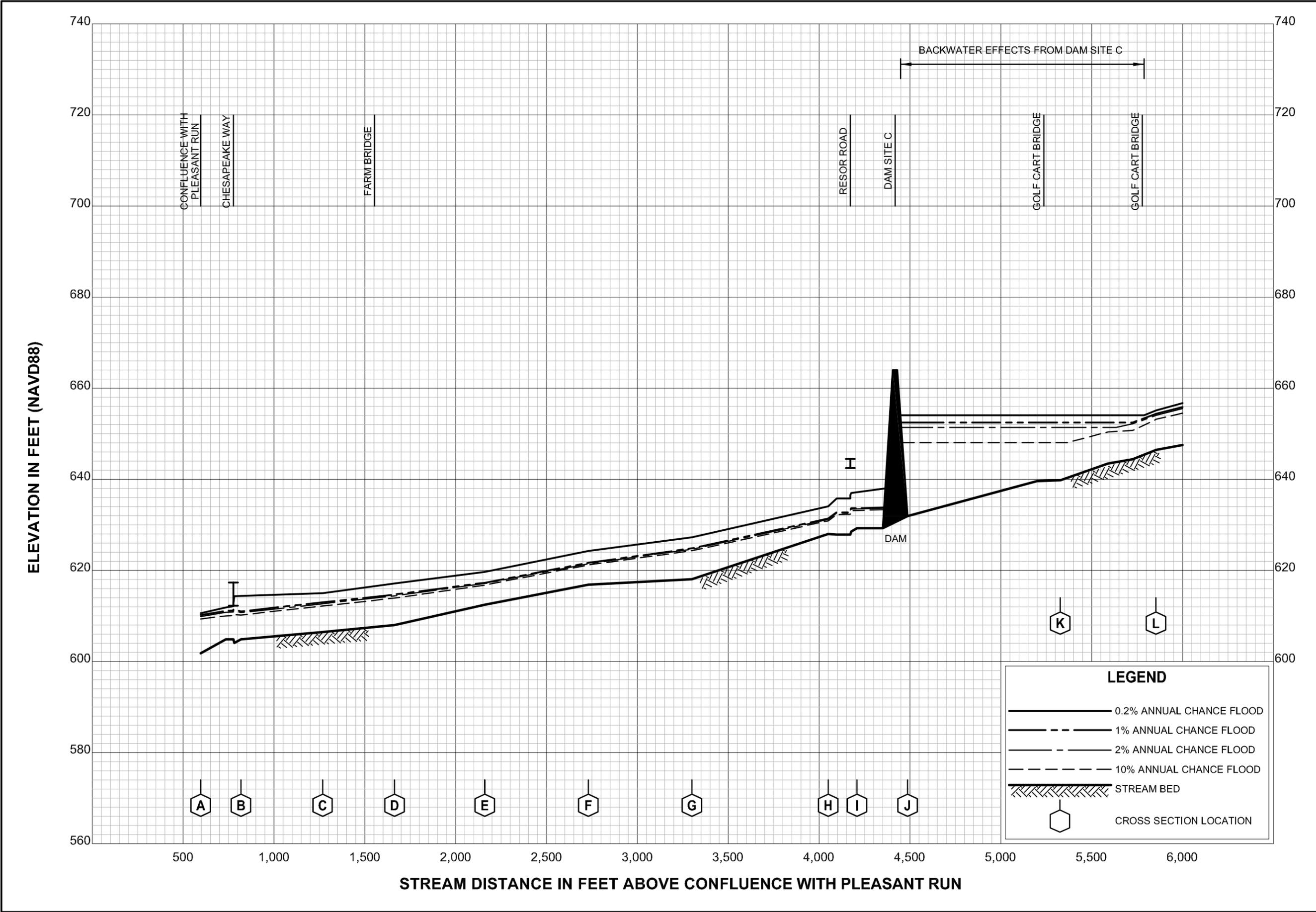
**FLOOD PROFILES**  
**DRY FORK WHITEWATER RIVER**

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**BUTLER COUNTY, OH**  
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



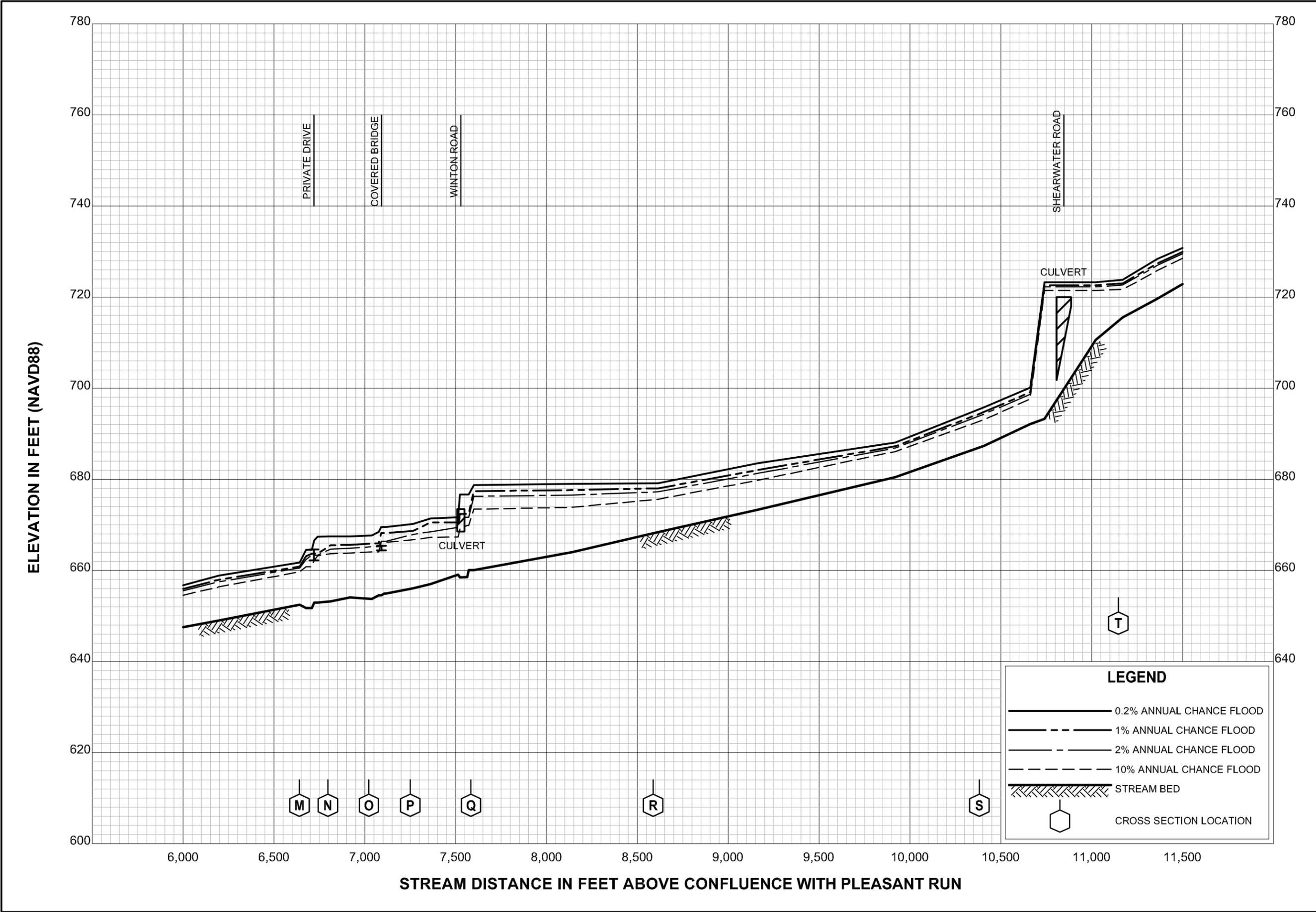
**FLOOD PROFILES**

**EAST BRACH PLEASANT RUN**

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

AND INCORPORATED AREAS



**FLOOD PROFILES**

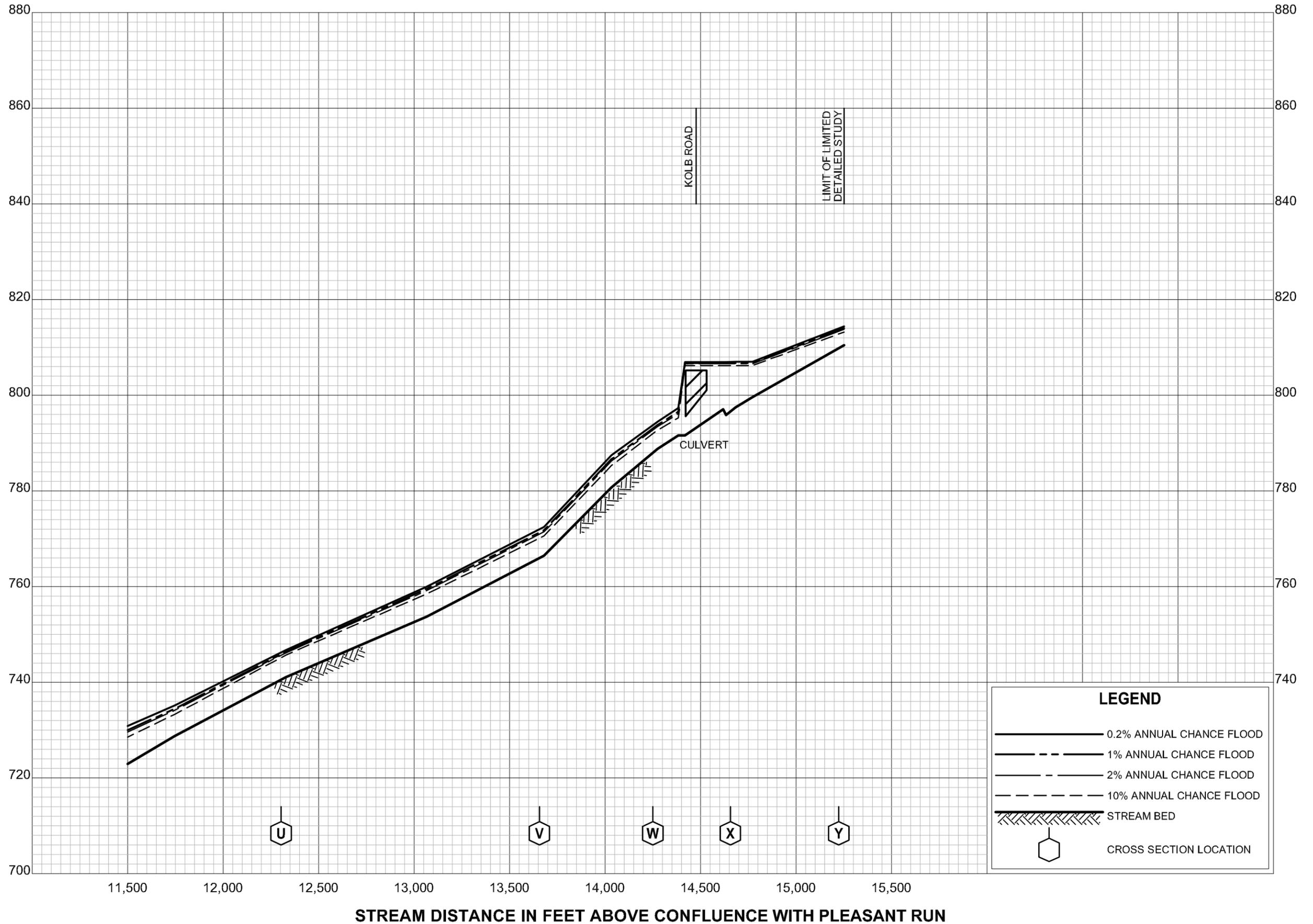
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FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD88)



**LEGEND**

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

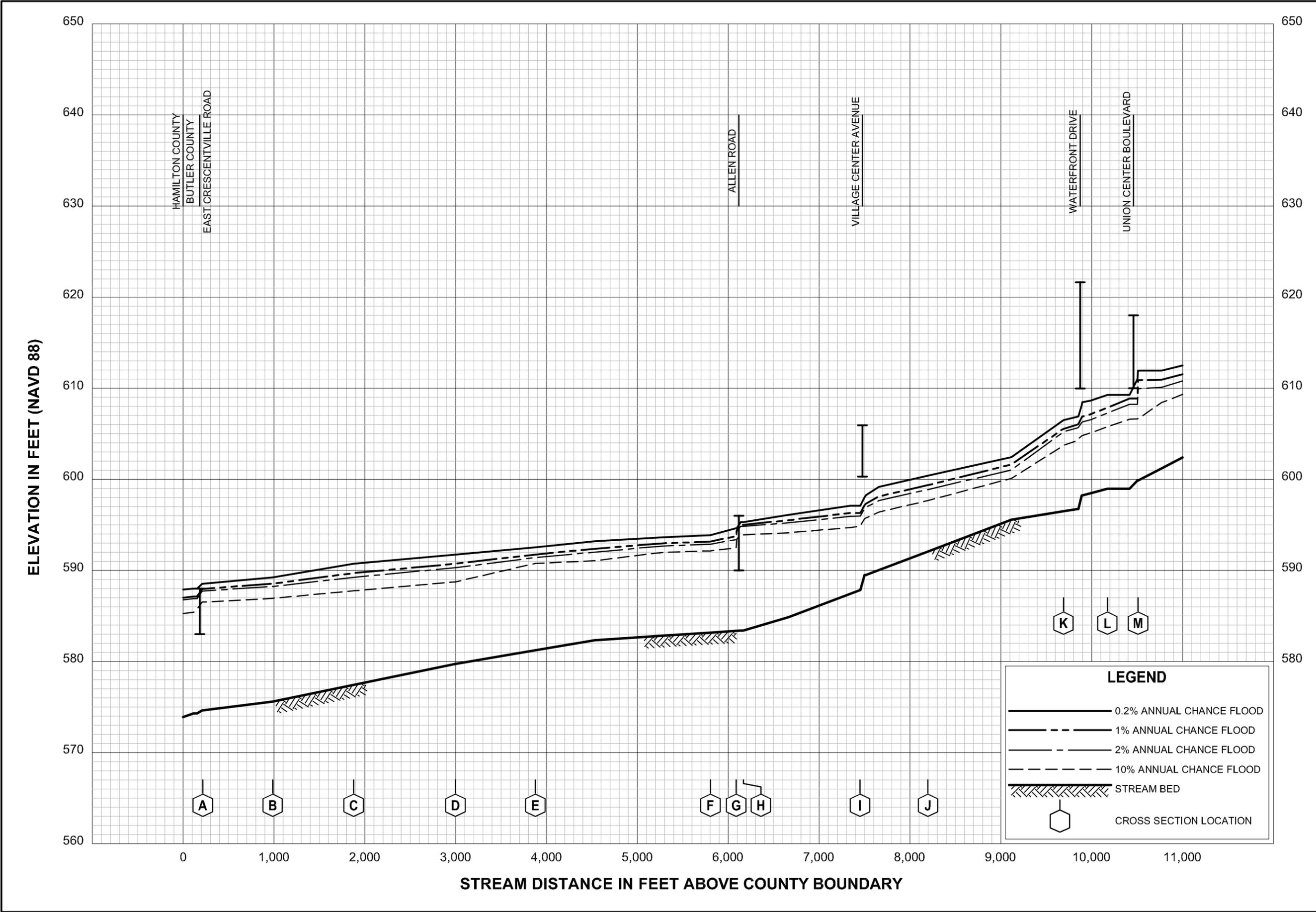
**FLOOD PROFILES**

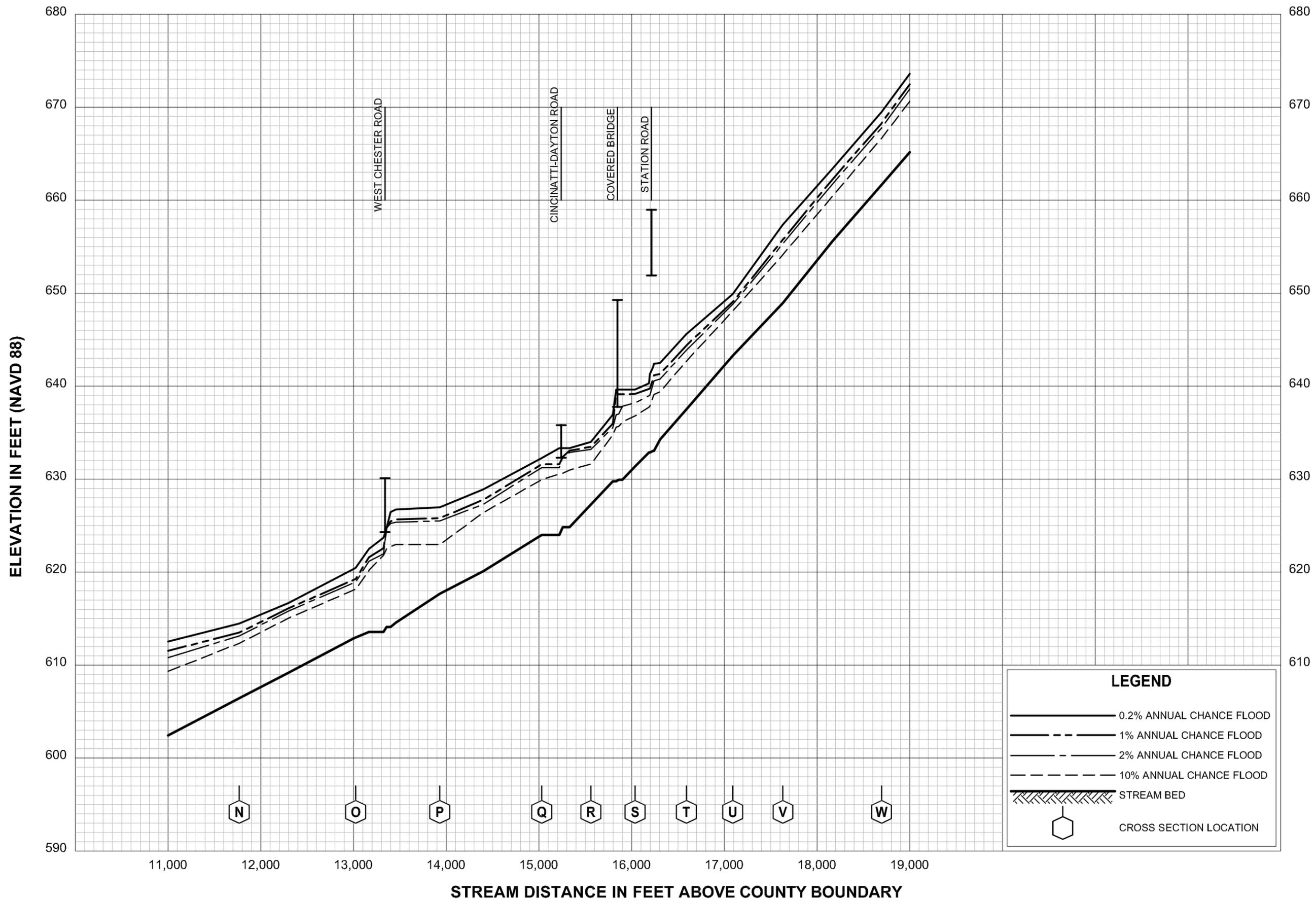
**EAST BRACH PLEASANT RUN**

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

AND INCORPORATED AREAS





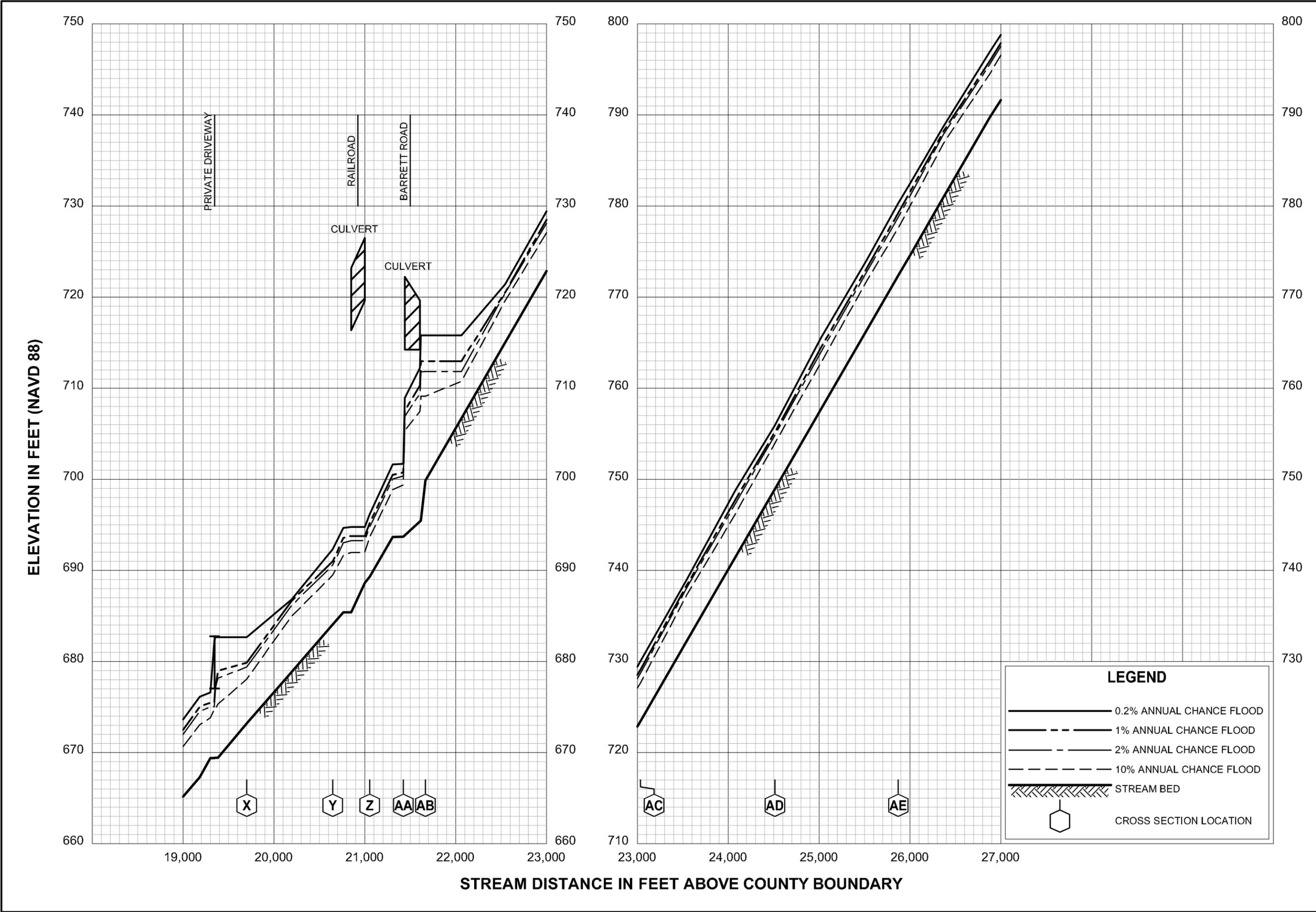
**FLOOD PROFILES**

**EAST FORK MILL CREEK**

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

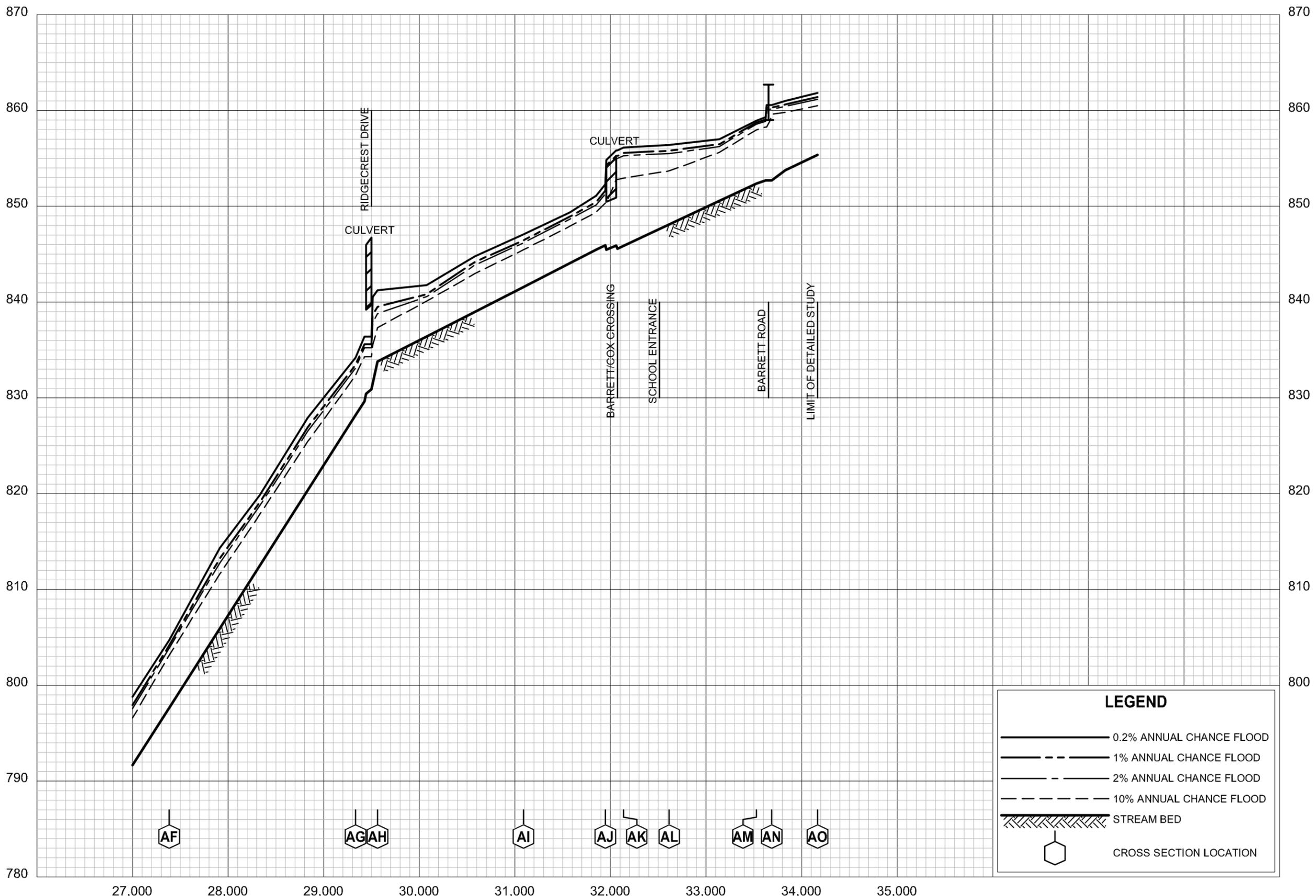
AND INCORPORATED AREAS



**FLOOD PROFILES**  
**EAST FORK MILL CREEK**

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**BUTLER COUNTY, OH**  
 AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD 88)



**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**

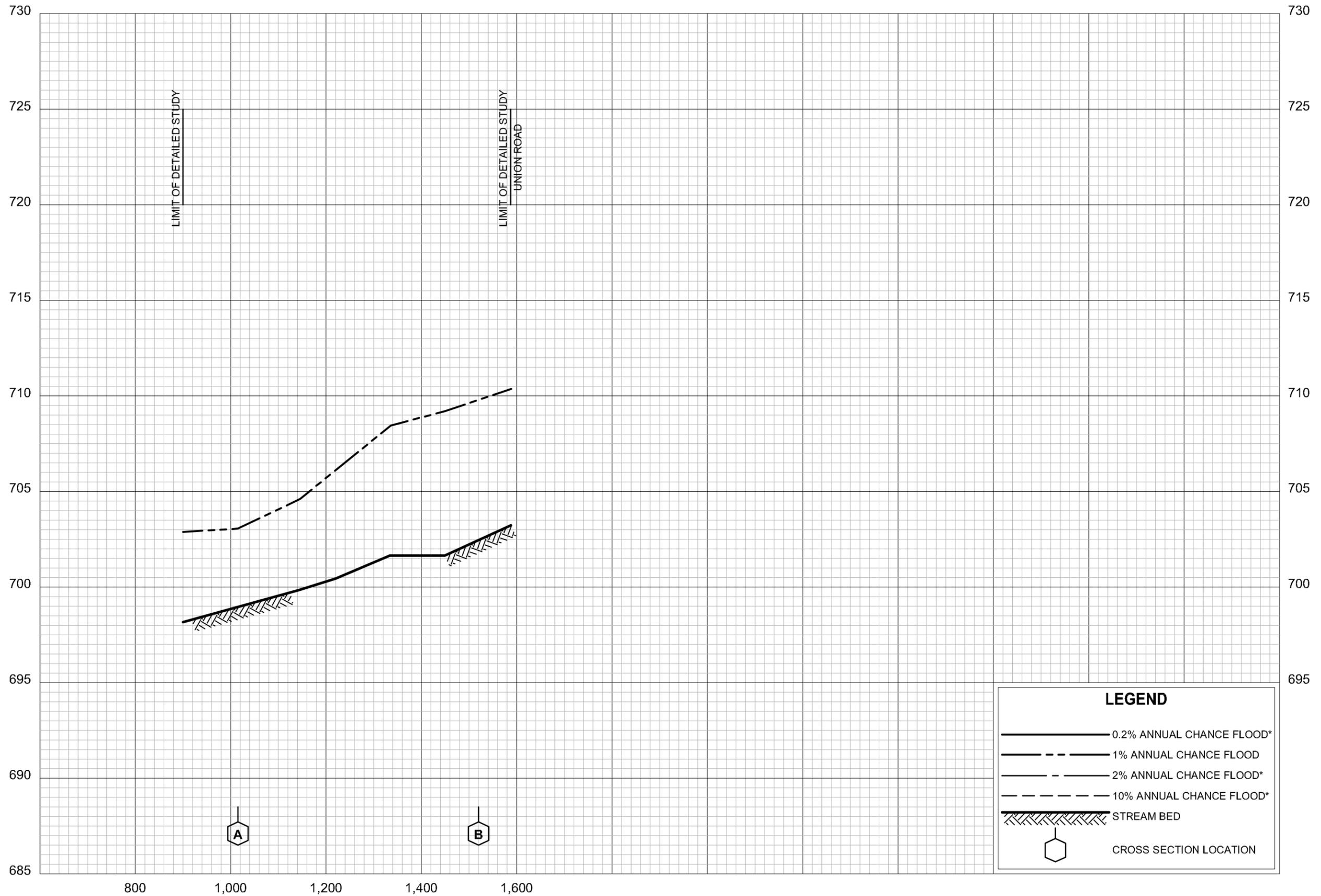
**EAST FORK MILL CREEK**

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD88)



**LEGEND**

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

\* DATA NOT AVAILABLE

**FLOOD PROFILES**

**EBERHARTS RUN**

FEDERAL EMERGENCY MANAGEMENT AGENCY

**BUTLER COUNTY, OH**

AND INCORPORATED AREAS