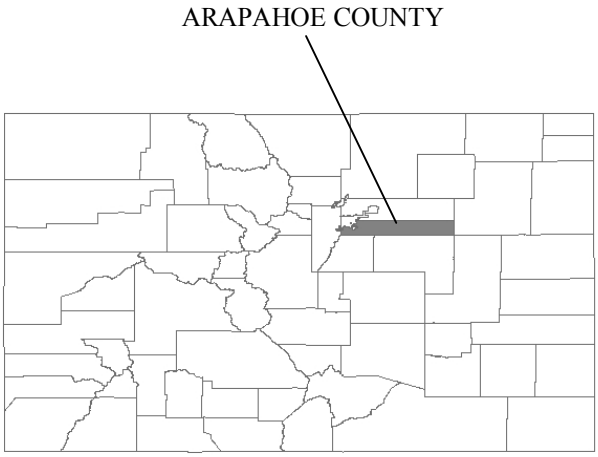
FLOOD INSURANCE STUDY

VOLUME 2 OF 6

ARAPAHOE COUNTY, COLORADO
AND INCORPORATED AREAS

Community Name	Community Number
ARAPAHOE COUNTY UNINCORPORATED AREAS	080011
AURORA, CITY OF	080002
CENTENNIAL, CITY OF	080315
CHERRY HILLS VILLAGE, CITY OF	080013
COLUMBINE VALLEY, TOWN OF	080014
DEER TRAIL, CITY OF	080015
ENGLEWOOD, CITY OF	085074
*FOXFIELD, TOWN OF	080091
GLENDALE, CITY OF	080247
GREENWOOD VILLAGE, CITY OF	080195
LITTLETON, CITY OF	080017
SHERIDAN, CITY OF	080018



*NO SPECIAL FLOOD HAZARD AREAS IDENTIFIED

REVISED
April 11, 2024

Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER
08005CV002F

NOTICE TO
FLOOD INSURANCE STUDY USERS

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

Part or all of this FIS may be revised and republished at any time. In addition, part of this FIS may be revised by the Letter of Map Revision process, which does not involve republication or redistribution of the FIS report. It is, therefore, the responsibility of the user to consult with community officials and to check the community repository to obtain the most current FIS report components.

This FIS report was revised on April 11, 2024. Users should refer to Section 10.0, Revisions Description, forfurther information. Section 10.0 is intended to present the most up-to-date information for specificportions of this FIS report. Therefore, users of this FIS report should be aware that the informationpresented in Section 10.0 supersedes information in Sections 1.0 through 9.0 of this FIS report.

Initial Countywide FIS Effective Date: April 17, 1989

Revised FIS Report Dates: March 4, 1991
December 3, 1993
August 16, 1995
December 17, 2010
February 17, 2017
April 18, 2018
September 28, 2018
September 4, 2020
April 11, 2024

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EXHIBITS

Exhibit 1 – Flood Profiles (continued)

VOLUME 4 – April 11, 2024

EXHIBITS

Exhibit 1 – Flood Profiles (continued)

VOLUME 5 – April 11, 2024

EXHIBITS

Exhibit 1 – Flood Profiles (continued)

VOLUME 6 – April 11, 2024

EXHIBITS

Exhibit 1 – Flood Profiles (continued)

VOLUME 6 – April 11, 2024 (Continued)

EXHIBITS

Exhibit 1 – Flood Profiles (continued)

Exhibit 2 – Flood Insurance Rate Map
Flood Insurance Rate Map Index

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY (FEET (NAVD))	WITH FLOODWAY	INCREASE
Murphy Creek								
A	3,290	1,000	755	5.6	5,514.8	5,514.8	5,515.0	0.2
B	3,990	770	1,248	3.4	5,517.7	5,517.7	5,517.9	0.2
C	4,440	600	730	5.8	5,519.7	5,519.7	5,519.7	0.0
D	4,940	420	1,101	3.9	5,523.2	5,523.2	5,523.2	0.0
E	7,124	460	1,315	3.1	5,524.5	5,524.5	5,525.0	0.5
F	7,500	535	1,345	3.0	5,524.9	5,524.9	5,525.5	0.6
G	8,116	236	584	7.0	5,527.8	5,527.8	5,527.9	0.1
H	9,032	208	569	7.2	5,533.5	5,533.5	5,534.2	0.7
I	9,545	245	872	4.7	5,536.6	5,536.6	5,537.0	0.4
J	10,211	245	585	7.0	5,539.9	5,539.9	5,540.1	0.2
K	10,586	300	770	5.3	5,542.9	5,542.9	5,543.4	0.5
L	11,008	275	559	7.3	5,545.1	5,545.1	5,545.6	0.5
M	11,300	333	1,571	2.6	5,552.0	5,552.0	5,552.0	0.0
N	11,666	396	1,017	4.0	5,551.9	5,551.9	5,551.9	0.0
O	11,837	137	495	8.3	5,552.9	5,552.9	5,552.9	0.0
P	12,313	255	637	6.4	5,555.9	5,555.9	5,556.1	0.2
Q	13,366	439	895	4.6	5,560.3	5,560.3	5,560.5	0.2
R	13,968	431	685	5.2	5,562.7	5,562.7	5,563.4	0.7
S	14,650	538	837	4.2	5,567.2	5,567.2	5,567.7	0.5
T	15,062	723	499	7.1	5,568.7	5,568.7	5,569.0	0.3
U	15,377	691	625	5.7	5,572.9	5,572.9	5,572.7	-0.2
V	15,755	723	396	9.0	5,573.7	5,573.7	5,573.8	0.1
W	15,808	724	877	4.0	5,576.2	5,576.2	5,576.5	0.3
X	16,080	356	389	9.0	5,577.1	5,577.1	5,577.2	0.1
Y	16,367	120	687	5.4	5,578.8	5,578.8	5,578.8	0.0
Z	16,640	136	949	3.9	5,579.3	5,579.3	5,579.3	0.0

[1] Feet Above Confluence With Coal Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

MURPHY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET (NAVD)		
Murphy Creek (Cont'd)								
AA	16,900	136	1,018	3.6	5,583.4	5,583.4	5,583.4	0.0
AB	17,663	110	594	6.2	5,584.9	5,584.9	5,584.8	-0.1
AC	18,250	57	300	12.3	5,586.7	5,586.7	5,586.7	0.0
AD	18,678	58	401	9.2	5,590.5	5,590.5	5,590.5	0.0
AE	19,022	159	834	4.4	5,592.2	5,592.2	5,592.4	0.2
AF	19,400	172	479	7.7	5,594.9	5,594.9	5,594.9	0.0
AG	20,036	102	539	6.8	5,597.1	5,597.1	5,597.1	0.0
AH	20,480	104	422	8.6	5,598.2	5,598.2	5,598.8	0.6
AI	21,133	252	491	7.4	5,601.0	5,601.0	5,601.0	0.0
AJ	21,402	210	393	9.3	5,603.0	5,603.0	5,603.4	0.4
AK	21,575	140	1,386	2.6	5,614.1	5,614.1	5,614.1	0.0
AL	22,029	351	2,323	1.6	5,614.3	5,614.3	5,614.3	0.0
AM	22,552	157	813	4.5	5,614.2	5,614.2	5,614.2	0.0
AN	22,800	185	809	4.5	5,614.3	5,614.3	5,614.3	0.0
AO	23,026	283	2,136	1.7	5,621.2	5,621.2	5,621.2	0.0
AP	23,879	200	721	4.3	5,621.5	5,621.5	5,621.5	0.0
AQ	24,523	158	430	7.2	5,623.0	5,623.0	5,623.1	0.1
AR	25,048	85	336	9.2	5,625.9	5,625.9	5,626.2	0.3
AS	25,370	98	474	6.5	5,628.5	5,628.5	5,629.1	0.6
AT	25,907	76	317	9.8	5,631.7	5,631.7	5,631.7	0.0
AU	26,775	124	444	7.0	5,636.4	5,636.4	5,636.8	0.4
AV	27,292	191	943	3.3	5,638.3	5,638.3	5,638.6	0.3
AW	27,775	111	361	8.6	5,641.6	5,641.6	5,641.6	0.0
AX	28,210	119	487	6.3	5,644.1	5,644.1	5,644.5	0.4
AY	28,473	145	573	5.4	5,644.9	5,644.9	5,645.6	0.7
AZ	28,690	110	346	8.9	5,646.2	5,646.2	5,646.1	-0.1

[1] Feet Above Confluence With Coal Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

MURPHY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET (NAVD)		
Murphy Creek (Cont'd)								
BA	28,937	147	614	5.0	5,648.3	5,648.3	5,648.4	0.1
BB	29,511	104	342	9.0	5,649.9	5,649.9	5,650.0	0.1
BC	29,856	33	214	13.8	5,654.3	5,654.3	5,654.3	0.0
BD	30,330	71	641	4.6	5,658.3	5,658.3	5,658.6	0.3
BE	30,688	84	525	5.6	5,658.3	5,658.3	5,658.8	0.5
BF	31,620	157	409	7.2	5,661.8	5,661.8	5,661.8	0.0
BG	31,740	346	1,696	1.7	5,670.5	5,670.5	5,670.9	0.4
BH	32,750	128	804	2.9	5,670.8	5,670.8	5,671.0	0.2
BI	33,614	51	207	11.4	5,672.8	5,672.8	5,672.8	0.0
BJ	34,050	63	221	10.7	5,676.8	5,676.8	5,676.9	0.1
BK	34,758	70	413	5.7	5,681.3	5,681.3	5,681.3	0.0
BL	34,857	91	406	5.8	5,681.6	5,681.6	5,681.6	0.0
BM	35,529	63	229	10.3	5,683.4	5,683.4	5,683.3	-0.1
BN	35,646	129	544	4.3	5,685.4	5,685.4	5,685.4	0.0
BO	36,209	315	677	3.5	5,687.0	5,687.0	5,687.0	0.0
BP	36,324	338	605	3.9	5,693.6	5,693.6	5,693.6	0.0
BQ	36,886	135	636	3.7	5,694.1	5,694.1	5,694.1	0.0
BR	37,724	156	569	4.2	5,694.7	5,694.7	5,695.2	0.5
BS	38,400	84	251	9.4	5,697.0	5,697.0	5,697.1	0.1
BT	39,039	115	281	8.4	5,699.4	5,699.4	5,699.4	0.0
BU	39,172	131	501	4.7	5,705.4	5,705.4	5,705.4	0.0
BV	40,079	199	422	5.6	5,709.3	5,709.3	5,709.8	0.5
BW	40,164	186	855	2.8	5,713.9	5,713.9	5,713.9	0.0
BX	40,239	192	997	2.4	5,716.2	5,716.2	5,716.4	0.2
BY	40,828	103	278	7.9	5,716.4	5,716.4	5,716.5	0.1
BZ	41,818	82	261	8.4	5,721.4	5,721.4	5,721.8	0.4

[1] Feet Above Confluence With Coal Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

MURPHY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Murphy Creek (Continued)								
CA	42,910	73	223	9.9	5,728.3	5,728.3	5,728.4	0.1
CB	43,723	246	408	5.4	5,732.5	5,732.5	5,732.9	0.4
CC	44,495	73	284	7.8	5,737.9	5,737.9	5,738.5	0.6
CD	46,117	304	445	5.0	5,748.6	5,748.6	5,748.7	0.1
CE	47,044	74	242	9.1	5,753.2	5,753.2	5,753.6	0.4
CF	48,410	270	617	3.6	5,760.2	5,760.2	5,760.3	0.1
CG	49,284	85	279	7.9	5,766.2	5,766.2	5,766.1	-0.1
CH	50,383	342	184	12.0	5,772.0	5,772.0	5,772.0	0.0
CI	50,452	298	1,847	1.2	5,780.8	5,780.8	5,780.8	0.0
CJ	50,913	156	387	5.5	5,780.9	5,780.9	5,780.9	0.0
CK	51,428	200	445	4.8	5,782.9	5,782.9	5,782.9	0.0
CL	52,239	42	213	8.2	5,791.6	5,791.6	5,791.8	0.2
CM	52,393	44	468	3.7	5,801.8	5,801.8	5,801.8	0.0
CN	53,352	160	388	4.3	5,802.2	5,802.2	5,802.2	0.0
CO	53,700	179	157	10.7	5,804.5	5,804.5	5,804.5	0.0
CP	53,800	266	275	6.1	5,811.0	5,811.0	5,811.0	0.0
CQ	54,485	276	548	4.0	5,811.0	5,811.0	5,811.0	0.0
CR	55,283	69	242	8.4	5,815.6	5,815.6	5,815.6	0.0
CS	55,491	81	220	9.3	5,818.5	5,818.5	5,818.5	0.0
CT	56,694	113	364	5.6	5,830.1	5,830.1	5,830.0	-0.1
CU	57,443	62	201	10.1	5,835.7	5,835.7	5,835.7	0.0
CV	57,880	49	184	11.1	5,840.3	5,840.3	5,840.4	0.1
CW	58,141	245	1,355	1.5	5,850.1	5,850.1	5,850.1	0.0
CX	58,851	110	260	5.5	5,850.4	5,850.4	5,850.4	0.0
CY	60,041	52	147	9.7	5,861.4	5,861.4	5,861.4	0.0
CZ	60,805	116	196	7.3	5,871.9	5,871.9	5,871.9	0.0

[1] Stream distance in feet above confluence with Coal Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

MURPHY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	**DISTANCE[1]**	**WIDTH (FEET)**	**SECTION AREA (SQUARE FEET)**	**MEAN VELOCITY (FEET PER SECOND)**	**REGULATORY**	**WITHOUT FLOODWAY**	**WITH FLOODWAY**	**INCREASE**
					(FEET NAVD)			
Murphy Creek (Cont'd)								
DA	61,931	58	157	9.1	5,882.0	5,882.0	5,882.0	0.0
DB	63,301	46	132	10.8	5,901.1	5,901.1	5,901.1	0.0
DC	64,610	22	76	9.3	5,920.0	5,920.0	5,920.0	0.0
DD	65,485	23	71	9.9	5,941.6	5,941.6	5,941.6	0.0
DE	66,309	30	77	9.2	5,961.0	5,961.0	5,961.0	0.0
DF	67,238	33	108	6.5	5,977.0	5,977.0	5,977.0	0.0
DG	67,774	14	26	7.1	5,988.2	5,988.2	5,988.3	0.1
DH	68,594	18	26	6.8	6,011.4	6,011.4	6,011.4	0.0

[1] Feet Above Confluence With Coal Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO AND INCORPORATED AREAS

FLOODWAY DATA

MURPHY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	**DISTANCE[1]**	**WIDTH (FEET)**	**SECTION AREA (SQUARE FEET)**	**MEAN VELOCITY (FEET PER SECOND)**	**REGULATORY**	**WITHOUT FLOODWAY**	**WITH FLOODWAY**	**INCREASE**
					(FEET NAVD)			
Murphy Creek Tributary								
A	220	30	81	6.4	5,981.4	5,981.4	5,981.4	0.0
B	320	27	61	8.5	5,983.2	5,983.2	5,983.2	0.0
C	520	22	57	9.2	5,992.4	5,992.4	5,992.4	0.0

[1] Feet Above Confluence With Murphy Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO AND INCORPORATED AREAS

FLOODWAY DATA

MURPHY CREEK TRIBUTARY

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD 88)	WITHOUT FLOODWAY (FEET NAVD 88)	WITH FLOODWAY (FEET NAVD 88)	INCREASE (FEET)
Otero Tributary								
A	389	119	403	2.3	5,580.4	5,580.4	5,580.4	0.0
B	1,216	129	791	1.2	5,594.2	5,594.2	5,594.2	0.0
C	2,348	76	181	5.1	5,604.0	5,604.0	5,604.0	0.0
D	3,490	32	75	8.8	5,618.8	5,618.8	5,618.8	0.0
E	4,638	50	66	6.4	5,639.9	5,639.9	5,639.9	0.0
F	6,138	50	63	6.0	5,671.7	5,671.7	5,671.7	0.0
G	6,973	53	62	6.0	5,689.4	5,689.4	5,689.4	0.0

[1] Stream distance in feet above confluence with Big Dry Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

OTERO TRIBUTARY

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Peoria Tributary								
A	562	41	100	8.2	5,627.8	5,627.8	5,627.8	0.0
B	1,414	38	98	8.5	5,636.4	5,636.4	5,636.4	0.0
C	2,004	54	218	3.8	5,646.1	5,646.1	5,646.1	0.0
D	2,707	71	176	4.2	5,660.0	5,660.0	5,660.0	0.0
E	3,120	69	155	4.7	5,663.3	5,663.3	5,663.3	0.0
F	4,436	272	1,369	0.5	5,691.8	5,691.8	5,691.8	0.0
G	5,224	174	270	2.0	5,696.3	5,696.3	5,696.3	0.0
H	5,787	353	813	0.7	5,707.0	5,707.0	5,707.0	0.0
I	6,461	126	251	1.8	5,717.4	5,717.4	5,717.4	0.0

[1] Stream distance in feet above confluence with Cottonwood Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

PEORIA TRIBUTARY

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Piney Creek								
A	1,386	228	1,065	9.7	5,632.2	5,632.2	5,632.2	0.0
B	2,110	378	1,322	7.8	5,638.1	5,638.1	5,638.1	0.0
C	2,535	228	1,250	9.0	5,640.5	5,640.5	5,640.5	0.0
D	2,835	94	807	14.8	5,641.6	5,641.6	5,641.6	0.0
E	3,238	255	1,698	7.5	5,649.1	5,649.1	5,649.1	0.0
F	3,394	273	1,907	6.1	5,649.7	5,649.7	5,649.7	0.0
G	3,671	395	1,850	6.3	5,650.5	5,650.5	5,650.5	0.0
H	4,383	239	1,525	6.7	5,651.6	5,651.6	5,651.6	0.0
I	4,881	279	1,769	5.7	5,653.3	5,653.3	5,653.3	0.0
J	5,408	342	1,345	7.6	5,655.2	5,655.2	5,655.2	0.0
K	6,642	210	948	10.7	5,663.4	5,663.4	5,663.4	0.0
L	7,511	242	1,150	8.8	5,668.1	5,668.1	5,668.1	0.0
M	8,427	281	1,123	9.3	5,675.9	5,675.9	5,675.9	0.0
N	8,887	243	1,127	9.9	5,680.4	5,680.4	5,680.4	0.0
O	9,948	324	1,732	5.7	5,684.8	5,684.8	5,684.8	0.0
P	10,511	186	1,060	9.2	5,690.5	5,690.5	5,690.5	0.0
Q	10,849	166	835	11.7	5,695.5	5,695.5	5,695.5	0.0
R	11,239	418	1,444	7.5	5,700.5	5,700.5	5,700.5	0.0
S	11,634	560	2,341	4.2	5,703.3	5,703.3	5,703.3	0.0
T	12,495	422	1,519	6.4	5,708.2	5,708.2	5,708.2	0.0
U	12,972	661	2,486	3.9	5,710.6	5,710.6	5,710.6	0.0
V	13,378	741	2,603	3.9	5,711.8	5,711.8	5,711.8	0.0
W	13,779	676	2,453	4.0	5,713.0	5,713.0	5,713.0	0.0
X	14,538	314	1,662	5.9	5,718.1	5,718.1	5,718.1	0.0
Y	15,700	456	1,954	4.9	5,723.3	5,723.3	5,723.3	0.0
Z	16,841	632	2,967	3.3	5,733.8	5,733.8	5,733.8	0.0

[1] Stream distance in feet above confluence with Cherry Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

PINEY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Piney Creek								
AA	18,276	294	977	9.6	5,738.7	5,738.7	5,738.8	0.1
AB	19,024	731	1,492	6.3	5,745.6	5,745.6	5,745.6	0.0
AC	19,444	709	2,091	4.5	5,747.9	5,747.9	5,748.1	0.2
AD	20,694	637	1,714	5.4	5,755.0	5,755.0	5,755.2	0.2
AE	21,379	685	1,194	7.7	5,762.4	5,762.4	5,762.4	0.0
AF	22,284	718	1,146	7.9	5,769.6	5,769.6	5,769.6	0.0
AG	22,744	842	2,096	4.3	5,773.3	5,773.3	5,773.3	0.0
AH	23,119	500	1,349	6.7	5,778.3	5,778.3	5,778.3	0.0
AI	23,673	135	848	10.7	5,782.8	5,782.8	5,782.8	0.0
AJ	24,198	314	1,069	6.8	5,786.1	5,786.1	5,786.1	0.0
AK	24,693	149	654	11.2	5,790.9	5,790.9	5,790.9	0.0
AL	25,270	394	1,115	6.3	5,794.9	5,794.9	5,794.9	0.0
AM	25,755	312	1,083	6.4	5,799.2	5,799.2	5,799.2	0.0
AN	26,199	328	815	8.6	5,801.0	5,801.0	5,801.0	0.0
AO	26,991	394	939	7.4	5,810.5	5,810.5	5,810.5	0.0
AP	27,748	180	703	9.9	5,814.8	5,814.8	5,814.8	0.0
AQ	28,424	226	764	9.1	5,820.6	5,820.6	5,820.6	0.0
AR	29,788	163	1,002	6.2	5,832.0	5,832.0	5,832.4	0.4
AS	30,373	253	870	7.2	5,835.9	5,835.9	5,836.1	0.2
AT	30,856	244	917	6.8	5,840.2	5,840.2	5,840.3	0.1
AU	31,222	212	778	8.0	5,844.1	5,844.1	5,844.3	0.2
AV	31,545	163	855	7.2	5,847.6	5,847.6	5,848.0	0.4
AW	32,070	205	1,098	5.6	5,850.5	5,850.5	5,850.9	0.4
AX	32,666	282	936	5.5	5,855.3	5,855.3	5,855.3	0.0
AY	32,917	376	1,165	4.4	5,858.9	5,858.9	5,858.9	0.0
AZ	33,223	267	756	6.8	5,861.0	5,861.0	5,861.0	0.0

[1] Stream distance in feet above confluence with Cherry Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

PINEY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Piney Creek								
BA	33,520	168	837	6.1	5,865.4	5,865.4	5,865.6	0.2
BB	34,154	315	1,108	4.6	5,869.2	5,869.2	5,869.3	0.1
BC	34,476	277	1,316	3.9	5,873.9	5,873.9	5,873.9	0.0
BD	34,902	308	953	6.6	5,875.2	5,875.2	5,875.2	0.0
BE	35,175	314	862	6.0	5,878.1	5,878.1	5,878.1	0.0
BF	35,825	267	1,146	4.4	5,886.9	5,886.9	5,886.9	0.0
BG	36,346	534	1,467	3.4	5,889.0	5,889.0	5,889.0	0.0
BH	36,736	424	893	5.7	5,891.5	5,891.5	5,891.5	0.0
BI	37,081	178	536	9.4	5,895.8	5,895.8	5,895.8	0.0
BJ	37,664	384	1,676	3.0	5,902.4	5,902.4	5,902.4	0.0
BK	37,868	242	625	8.0	5,903.2	5,903.2	5,903.2	0.0
BL	38,421	225	590	8.4	5,906.2	5,906.2	5,906.4	0.2
BM	38,808	423	1,217	2.8	5,908.6	5,908.6	5,909.0	0.4
BN	39,033	414	932	3.7	5,910.4	5,910.4	5,910.8	0.4
BO	39,426	284	466	7.4	5,913.4	5,913.4	5,913.7	0.3
BP	39,699	181	508	6.8	5,916.5	5,916.5	5,916.8	0.3
BQ	40,361	138	405	8.5	5,921.7	5,921.7	5,921.8	0.1
BR	40,973	173	549	6.3	5,928.2	5,928.2	5,928.3	0.2
BS	41,299	157	480	7.2	5,932.0	5,932.0	5,932.4	0.4
BT	41,800	258	1,176	3.1	5,940.1	5,940.1	5,940.1	0.0
BU	42,291	168	436	7.8	5,943.5	5,943.5	5,943.5	0.0
BV	42,987	159	456	7.5	5,952.0	5,952.0	5,952.0	0.0
BW	43,428	324	755	4.4	5,956.1	5,956.1	5,956.1	0.0
BX	43,825	318	545	6.1	5,960.5	5,960.5	5,960.5	0.0
BY	44,569	150	1,322	6.1	5,970.6	5,970.6	5,970.6	0.0
BZ	45,400	211	558	5.8	5,979.7	5,979.7	5,979.7	0.0

[1] Stream distance in feet above confluence with Cherry Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

PINEY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET (NAVD)		
Prentice Gulch								
A	849[1]	133	220	3.7	5,498.2	5,498.2	5,499.1	0.9
B	1471[1]	112	182	4.5	5,505.1	5,505.1	5,505.7	0.6
C	2524[1]	79	130	6.3	5,522.0	5,522.0	5,522.1	0.1
D	2616[1]	195	456	1.8	5,525.0	5,525.0	5,525.0	0.0
Quincy Gulch								
A	382[2]	90	121	5.3	5,416.1	5,416.1	5,416.1	0.0
B	919[2]	777	11	2.6	5,423.6	5,423.6	5,423.6	0.0
C	2088[2]	50	121	5.3	5,435.6	5,435.6	5,436.1	0.5
D	2358[2]	60	161	4.0	5,440.7	5,440.7	5,441.2	0.5
E	2414[2]	40	1,070	0.6	5,448.7	5,448.7	5,448.7	0.0

[1] Feet Above Confluence With Highline Canal

[2] Feet Above Confluence With Blackmer Gulch

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

PRENTICE & QUINCY GULCHES

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
SABLE DITCH								
A	257	78	209	9.3	5,342.1	5,342.1	5,342.1	0.0
B	801	63	276	4.1	5,346.4	5,346.4	5,346.4	0.0
C	1,426	30	107	10.7	5,348.7	5,348.7	5,348.7	0.0
D	2,051	33	110	10.4	5,356.0	5,356.0	5,356.0	0.0
E	2,576	28	103	10.9	5,364.0	5,364.0	5,364.0	0.0
F	3,101	27	103	10.9	5,373.7	5,373.7	5,373.7	0.0
G	3,476	44	219	5.1	5,377.8	5,377.8	5,377.8	0.0
H	3,826	53	254	4.4	5,379.7	5,379.7	5,379.7	0.0
I	4,301	27	92	10.5	5,381.7	5,381.7	5,381.7	0.0
J	4,626	29	146	6.6	5,385.3	5,385.3	5,385.3	0.0
K	5,126	27	86	10.0	5,388.9	5,388.9	5,388.9	0.0
L	5,526	30	153	5.6	5,392.9	5,392.9	5,392.9	0.0
M	6,076	30	159	5.7	5,396.8	5,396.8	5,396.8	0.0
N	6,801	45	132	5.6	5,409.0	5,409.0	5,409.0	0.0
O	7,201	29	140	6.8	5,410.3	5,410.3	5,410.3	0.0
P	7,776	28	109	5.3	5,414.1	5,414.1	5,414.1	0.0
Q	8,251	27	104	6.2	5,415.7	5,415.7	5,415.7	0.0
R	8,651	39	156	4.5	5,418.5	5,418.5	5,418.5	0.0
S	9,514	30	198	3.2	5,422.3	5,422.3	5,422.3	0.0

[1] Stream Distance in Feet Above Confluence with Toll Gate Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

SABLE DITCH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
SAND CREEK								
A	36,760	764	4,492	6.5	5,299.5	5,299.5	5,299.6	0.1
B	39,512	695	4,581	7.9	5,314.3	5,314.3	5,314.3	0.0
C	41,354	779	5,875	8.7	5,320.7	5,320.7	5,320.7	0.0
D	42,103	859	5,570	5.3	5,324.8	5,324.8	5,324.8	0.0
E	43,134	160	1,562	13.8	5,328.0	5,328.0	5,328.0	0.0
F	46,390	176	1,620	13.3	5,347.6	5,347.6	5,347.6	0.0
G	47,670	206	2,305	9.3	5,353.8	5,353.8	5,353.8	0.0
H	48,970	344	2,184	9.8	5,365.6	5,365.6	5,365.6	0.0
I	50,175	157	1,604	13.4	5,373.6	5,373.6	5,373.6	0.0
J	51,785	312	3,191	6.7	5,383.0	5,383.0	5,383.5	0.5
K	52,890	368	2,161	10.0	5,386.7	5,386.7	5,387.3	0.6
L	56,928	419	4,144	5.2	5,400.4	5,400.4	5,400.4	0.0
M	58,489	223	2,490	8.6	5,412.2	5,412.2	5,412.2	0.0
N	61,243	192	3,338	6.4	5,427.5	5,427.5	5,427.5	0.0
O	63,236	375	3,148	6.8	5,435.0	5,435.0	5,435.0	0.0
P	64,516	373	2,387	9.0	5,439.2	5,439.2	5,439.5	0.3
Q	65,160	550	4,650	3.9	5,442.3	5,442.3	5,442.4	0.1
R	66,140	398	1,848	9.9	5,443.5	5,443.5	5,443.7	0.2
S	68,025	317	1,477	12.4	5,453.3	5,453.3	5,453.3	0.0
T	68,640	326	2,530	7.3	5,458.6	5,458.6	5,458.6	0.0
U	69,350	507	2,840	6.5	5,460.6	5,460.6	5,460.7	0.1
V	70,065	340	2,274	8.1	5,464.8	5,464.8	5,465.0	0.2
W	72,230	810	3,695	5.0	5,475.9	5,475.9	5,476.3	0.4
X	75,010	1,394	4,500	4.1	5,488.9	5,488.9	5,488.9	0.0

[1] Feet Above Mouth

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO AND INCORPORATED AREAS

FLOODWAY DATA

SAND CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
SECOND CREEK								
H	75,772	175	505	4.5	5,344.2	5,344.2	5,344.7	0.5
I	76,672	112	322	7.0	5,350.4	5,350.4	5,350.7	0.3
J	77,497	115	367	6.0	5,355.5	5,355.5	5,355.9	0.4
K	78,071	130	348	6.5	5,359.1	5,359.1	5,359.5	0.4
L	78,499	193	486	4.2	5,363.8	5,363.8	5,364.1	0.3
M	79,188	132	313	6.6	5,367.2	5,367.2	5,367.3	0.1
N	79,969	126	273	6.5	5,371.6	5,371.6	5,371.9	0.3
O	80,870	168	249	7.4	5,379.4	5,379.4	5,379.4	0.0
P	82,171	135	253	6.9	5,392.1	5,392.1	5,392.3	0.2
Q[2]								
S	85,084	168	838	1.7	5,421.4	5,421.4	5,421.8	0.4
T	86,105	125	191	7.4	5,426.4	5,426.4	5,426.5	0.1
U	87,671	127	177	4.5	5,442.5	5,442.5	5,442.9	0.4
V	88,501	116	128	6.6	5,451.8	5,451.8	5,452.0	0.2
W	89,025	69	106	7.5	5,457.6	5,457.6	5,457.6	0.0
X	89,667	106	131	4.5	5,467.9	5,467.9	5,468.2	0.3
Y	90,646	73	92	6.8	5,479.8	5,479.8	5,479.9	0.1
Z	91,446	71	103	4.5	5,487.4	5,487.4	5,487.8	0.4
AA	91,950	51	83	5.3	5,492.2	5,492.2	5,492.4	0.2

[1] Stream distance in feet above confluence with South Platte River

[2] Cross Sections outside Arapahoe County Corporate Limits

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

SECOND CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NAVD88)			
Senac Creek								
A	820	148	559	8.6	5,642.5	5,642.5	5,642.9	0.4
B	1,331	183	725	6.5	5,646.9	5,646.9	5,647.4	0.5
C	2,181	159	747	6.3	5,651.1	5,651.1	5,651.1	0.0
D	2,830	109	595	7.9	5,654.7	5,654.7	5,655.0	0.3
E	3,794	183	876	5.4	5,663.6	5,663.6	5,664.0	0.4
F	4,714	260	1,046	4.5	5,667.6	5,667.6	5,668.1	0.5
G	5,461	306	674	6.6	5,670.9	5,670.9	5,671.3	0.4
H	6,192	255	725	6.1	5,674.8	5,674.8	5,675.3	0.5
I	6,908	364	1,115	8.6	5,680.9	5,680.9	5,681.0	0.1
J	7,354	564	946	4.7	5,685.2	5,685.2	5,685.5	0.3
K	8,030	408	867	5.1	5,693.5	5,693.5	5,693.9	0.4
L	8,656	333	624	7.1	5,701.4	5,701.4	5,701.7	0.3
M	9,511	347	866	5.1	5,706.8	5,706.8	5,707.2	0.4
N	10,163	753	1,089	4.1	5,711.2	5,711.2	5,711.3	0.1
O	11,039	360	862	3.4	5,717.3	5,717.3	5,717.8	0.5
P	11,593	458	602	4.8	5,721.1	5,721.1	5,721.3	0.2
Q	11,646	455	1,497	1.9	5,724.0	5,724.0	5,724.3	0.3
R	12,354	462	938	3.1	5,724.7	5,724.7	5,725.1	0.4
S	13,118	380	903	3.2	5,730.0	5,730.0	5,730.2	0.2
T	13,709	344	485	6.0	5,733.2	5,733.2	5,733.4	0.2
U	14,363	251	629	4.6	5,737.6	5,737.6	5,737.9	0.3
V	15,413	330	691	4.2	5,743.3	5,743.3	5,743.7	0.4
W	16,413	365	385	7.5	5,747.7	5,747.7	5,747.9	0.2
X	16,913	218	661	4.4	5,752.1	5,752.1	5,752.5	0.4
Y	17,615	138	712	4.1	5,757.0	5,757.0	5,757.2	0.2
Z	17,937	159	1,177	2.5	5,764.1	5,764.1	5,764.1	0.0

[1] Stream distance in feet above confluence with Coal Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO AND INCORPORATED AREAS

FLOODWAY DATA

SENAC CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY (FEET NAVD88)	WITH FLOODWAY (FEET NAVD88)	INCREASE
Senac Creek								
AA	18,658	95	418	3.7	5,764.5	5,764.5	5,764.5	0.0
AB	19,413	63	277	4.3	5,768.0	5,768.0	5,768.5	0.5
AC	20,413	46	233	5.1	5,775.1	5,775.1	5,775.5	0.4
AD	20,942	71	274	4.3	5,777.7	5,777.7	5,778.2	0.5
AE	21,495	63	273	4.3	5,781.6	5,781.6	5,781.8	0.2
AF	22,413	102	312	3.8	5,787.2	5,787.2	5,787.7	0.5
AG	23,413	46	169	7.0	5,792.6	5,792.6	5,792.7	0.1
AH	24,036	39	118	4.7	5,795.9	5,795.9	5,796.1	0.2
AI	25,408	25	88	6.3	5,804.4	5,804.4	5,804.8	0.4

[1] Stream distance in feet above confluence with Coal Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO AND INCORPORATED AREAS

FLOODWAY DATA

SENAC CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD 88)	WITHOUT FLOODWAY (FEET NAVD 88)	WITH FLOODWAY (FEET NAVD 88)	INCREASE (FEET)
Slaughterhouse Gulch								
A	620[1]	21	241	5.8	5,328.0	5,328.0	5,328.0	0.0
B	1,160[1]	260	337	4.5	5,332.7	5,332.7	5,332.7	0.0
C	1,655[1]	70	171	8.9	5,343.1	5,343.1	5,343.1	0.0
D	2,480[1]	89	188	8.1	5,355.7	5,355.7	5,355.7	0.0
E	3,010[1]	86	189	8.1	5,361.6	5,361.6	5,361.6	0.0
F	3,785[1]	131	202	6.4	5,381.9	5,381.9	5,381.9	0.0
G	4,135[1]	139	411	3.1	5,386.1	5,386.1	5,386.1	0.0
H	4,495[1]	134	348	3.7	5,391.3	5,391.3	5,391.3	0.0
I	5,660[1]	85	173	7.4	5,401.9	5,401.9	5,401.9	0.0
J	5,840[1]	123	450	2.9	5,403.2	5,403.2	5,403.2	0.0
K	6,540[1]	108	190	6.8	5,415.0	5,415.0	5,415.0	0.0
South Tributary Slaughterhouse Gulch								
A	555[2]	100	74	6.4	5,384.3	5,384.3	5,384.3	0.0
B	1,010[2]	68	122	3.7	5,394.5	5,394.5	5,394.7	0.2
C	1,310[2]	69	75	6.0	5,401.0	5,401.0	5,401.1	0.1
D	1,705[2]	90	82	5.5	5,407.0	5,407.0	5,407.2	0.2
E	1,795[2]	75	68	5.5	5,408.7	5,408.7	5,409.0	0.3

[1] Feet above confluence with South Platte River

[2] Feet above confluence with Slaughterhouse Gulch

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

SLAUGHTERHOUSE GULCH AND SOUTH TRIBUTARY SLAUGHTERHOUSE GULCH

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
THREE LAKES TRIBUTARY								
A	131	41	104	8.5	5,371.7	5,371.7	5,371.8	0.1
B	300	39	114	7.8	5,374.4	5,374.4	5,374.4	0.0

[1]Feet above confluence with Dutch Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

THREE LAKES TRIBUTARY

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	482	201	1,885	12.4	5,326.5 [2]	5,323.0	5,323.0	0.0
B	739	199	1,958	11.9	5,329.2	5,329.2	5,329.2	0.0
C	1,408	219	1,773	13.2	5,331.5	5,331.5	5,331.5	0.0
D	1,925	208	2,387	9.8	5,334.4	5,334.4	5,334.4	0.0
E	2,589	191	2,087	11.2	5,335.6	5,335.6	5,335.6	0.0
F	3,162	231	2,632	8.6	5,337.6	5,337.6	5,337.6	0.0
G	4,059	136	1,283	17.7	5,340.1	5,340.1	5,340.1	0.0
H	4,677	145	1,504	15.1	5,344.9	5,344.9	5,344.9	0.0
I	5,094	139	1,304	17.4	5,346.8	5,346.8	5,346.8	0.0
J	5,885	144	1,553	14.6	5,352.1	5,352.1	5,352.1	0.0
K	6,362	178	1,818	12.5	5,357.6	5,357.6	5,357.6	0.0
L	7,156	169	1,995	11.9	5,361.8	5,361.8	5,361.8	0.0
M	7,887	152	1,506	15.9	5,366.8	5,366.8	5,366.8	0.0
N	8,365	137	1,652	13.6	5,371.1	5,371.1	5,371.1	0.0
O	9,005	157	2,007	11.2	5,375.5	5,375.5	5,375.5	0.0
P	9,543	194	2,247	9.8	5,379.5	5,379.5	5,379.5	0.0
Q	10,239	198	1,822	11.8	5,380.4	5,380.4	5,380.5	0.1
R	10,820	166	2,096	10.3	5,384.1	5,384.1	5,384.1	0.0
S	11,431	192	2,411	8.9	5,385.7	5,385.7	5,385.7	0.0
T	11,890	244	2,974	7.2	5,386.7	5,386.7	5,386.7	0.0
U	12,451	179	2,099	10.2	5,387.3	5,387.3	5,387.3	0.0

[1] FEET ABOVE CONFLUENCE WITH SAND CREEK

[2] FLOODING CONTROLLED BY SAND CREEK

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

TOLL GATE CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
V	13,246	171	2,196	9.8	5,390.2	5,390.2	5,390.2	0.0
W	13,891	169	2,203	9.8	5,391.4	5,391.4	5,391.4	0.0
X	14,487	146	1,731	10.4	5,392.1	5,392.1	5,392.1	0.0
Y	14,949	158	1,790	12.3	5,398.3	5,398.3	5,398.3	0.0
Z	16,703	230	1,657	12.8	5,404.7	5,404.7	5,404.7	0.0
AA	17,775	773	3,188	6.7	5,410.1	5,410.1	5,410.1	0.0

[1] FEET ABOVE CONFLUENCE WITH SAND CREEK

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

TOLL GATE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
UNNAMED CREEK								
A	1,798	140	580	4.6	5,575.0	5,575.0	5,575.0	0.0
B	2,775	269	661	4.0	5,576.7	5,576.7	5,576.7	0.0
C	3,566	56	232	11.5	5,589.0	5,589.0	5,589.1	0.1
D	4,385	177	756	3.5	5,593.4	5,593.4	5,593.4	0.0
E	5,376	245	488	5.5	5,605.9	5,605.9	5,605.9	0.0
F	6,917	363	524	3.9	5,615.3	5,615.3	5,615.3	0.0
G	8,310	174	320	6.5	5,625.4	5,625.4	5,625.4	0.0
H	8,934	282	416	5.0	5,630.2	5,630.2	5,630.2	0.0
I	10,964	208	282	5.7	5,645.1	5,645.1	5,645.1	0.0
J	11,935	348	1,960	0.6	5,657.3	5,657.3	5,657.3	0.0
K	14,538	360	311	3.6	5,680.5	5,680.5	5,680.5	0.0
L	15,346	70	148	7.5	5,685.2	5,685.2	5,685.2	0.0
M	16,629	179	281	4.0	5,700.4	5,700.4	5,700.4	0.0
N	17,909	584	3,971	0.3	5,720.5	5,720.5	5,720.5	0.0
O	19,406	152	176	6.1	5,722.5	5,722.5	5,722.5	0.0
P	22,299	191	1,192	0.4	5,757.1	5,757.1	5,757.1	0.0
Q	24,184	116	99	5.3	5,783.0	5,783.0	5,783.0	0.0
R	25,578	131	774	1.9	5,805.9	5,805.9	5,805.9	0.0
S	26,442	78	178	8.2	5,823.4	5,823.4	5,823.5	0.1
T	27,862	65	170	8.5	5,858.2	5,858.2	5,858.3	0.1
U	28,579	56	161	9.1	5,878.2	5,878.2	5,878.3	0.1

[1] Feet above confluence with West Toll Gate Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

UNNAMED CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET (NAVD88)		
West Bijou Creek								
A	72,000	2,200	5,412	6.4	5,167.6	5,167.6	5,168.6	1.0
B	74,320	1,100	3,458	10.4	5,179.1	5,179.1	5,179.1	0.0
C	75,120	650	5,721	6.1	5,182.8	5,182.8	5,183.1	0.3
D	75,520	350	3,389	10.3	5,182.8	5,182.8	5,183.1	0.3
E	75,620	350	3,227	10.8	5,183.2	5,183.2	5,183.4	0.2
F	76,320	510	4,290	8.1	5,187.4	5,187.4	5,187.6	0.2
G	77,120	450	3,266	9.7	5,189.6	5,189.6	5,190.0	0.4
H	78,020	300	2,070	15.3	5,189.8	5,189.8	5,190.1	0.3
I	78,270	450	2,087	15.2	5,190.0	5,190.0	5,190.3	0.3
J	78,870	450	4,815	6.6	5,196.3	5,196.3	5,196.5	0.2
K	80,270	600	5,111	6.2	5,198.9	5,198.9	5,199.4	0.5
L	81,170	450	2,960	10.7	5,201.5	5,201.5	5,201.6	0.1
M	82,370	200	3,567	8.9	5,207.8	5,207.8	5,207.8	0.0
N	83,270	320	3,390	9.4	5,210.4	5,210.4	5,210.4	0.0
O	85,120	550	4,337	7.3	5,215.2	5,215.2	5,216.2	1.0
P	86,820	300	2,938	10.8	5,221.1	5,221.1	5,221.1	0.0

[1] Feet Above Mouth

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

WEST BIJOU CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
West Toll Gate Creek Lower Reach								
A	18,527	1,158	4,579	4.6	5,411.5	5,411.5	5,411.5	0.0
B	19,062	465	2,056	8.9	5,414.7	5,414.7	5,414.7	0.0
C	20,093	659	4,121	4.3	5,418.7	5,418.7	5,418.7	0.0
D	21,570	406	2,798	5.3	5,422.5	5,422.5	5,422.5	0.0
E	22,015	172	1,427	10.4	5,424.4	5,424.4	5,424.4	0.0
F	23,213	470	2,997	5.0	5,434.5	5,434.5	5,434.5	0.0
G	24,918	147	1,106	13.5	5,439.3	5,439.3	5,439.3	0.0
J	26,358	213	2,091	7.0	5,448.7	5,448.7	5,448.9	0.2
I	27,993	271	2,247	6.5	5,459.6	5,459.6	5,459.6	0.0
J	29,477	280	2,068	7.1	5,469.1	5,469.1	5,469.1	0.0
K	30,251	269	1,871	7.8	5,471.1	5,471.1	5,471.1	0.0
L	30,856	201	1,936	8.2	5,480.6	5,480.6	5,480.6	0.0
M	31,252	225	2,136	7.5	5,481.6	5,481.6	5,481.6	0.0
N	32,630	227	2,236	7.1	5,483.5	5,483.5	5,483.5	0.0
O	34,118	246	2,703	5.9	5,485.7	5,485.7	5,485.7	0.0
P	34,336	151	1,940	8.2	5,485.9	5,485.9	5,485.9	0.0
Q	34,393	202	1,655	9.6	5,489.4	5,489.4	5,489.4	0.0
R	34,779	517	2,973	5.4	5,491.9	5,491.9	5,491.9	0.0
S	35,218	802	2,405	6.3	5,503.6	5,503.6	5,503.7	0.1
T	35,514	709	2,382	6.4	5,503.6	5,503.6	5,503.7	0.1
U	36,210	670	2,440	6.2	5,509.6	5,509.6	5,509.6	0.0
V	37,219	543	2,354	5.4	5,516.3	5,516.3	5,516.4	0.2

[1] Feet above confluence with Toll Gate Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

WEST TOLL GATE CREEK, LOWER REACH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
West Toll Gate Creek Lower Reach								
W	37,708	450	1,992	6.4	5,517.5	5,517.5	5,517.7	0.2
X	38,499	297	1,580	8.1	5,519.8	5,519.8	5,519.8	0.0
Y	39,140	266	1,697	7.5	5,522.0	5,522.0	5,522.0	0.0
Z	39,584	185	669	10.8	5,525.3	5,525.3	5,525.3	0.0
AA	40,010	134	742	9.7	5,530.5	5,530.5	5,530.5	0.0
AB	40,447	137	676	10.7	5,534.2	5,534.2	5,534.2	0.0
AC	41,637	303	954	7.6	5,539.0	5,539.0	5,539.1	0.1
AD	42,287	216	748	9.6	5,543.2	5,543.2	5,543.2	0.0
AE	43,131	301	1,087	6.6	5,549.2	5,549.2	5,549.4	0.2
AF	44,433	266	859	8.4	5,554.8	5,554.8	5,554.9	0.1
AG	45,780	217	644	7.1	5,571.0	5,571.0	5,571.1	0.1
AH	47,508	231	527	7.5	5,584.4	5,584.4	5,584.4	0.0
AI	48,943	79	280	11.0	5,594.4	5,594.4	5,594.5	0.1
AJ	50,594	48	242	12.7	5,607.2	5,607.2	5,607.3	0.1
AK	51,597	167	215	6.6	5,615.9	5,615.9	5,615.9	0.0
AL	52,993	219	345	4.1	5,625.9	5,625.9	5,625.9	0.0
AM	54,783	148	313	4.5	5,640.5	5,640.5	5,640.5	0.0
AN	55,237	247	1,119	1.3	5,646.5	5,646.5	5,646.5	0.0
AO	56,235	150	209	6.7	5,650.4	5,650.4	5,650.4	0.0
AP	57,169	50	172	8.2	5,657.2	5,657.2	5,657.2	0.0
AQ	57,686	200	1,099	1.3	5,662.0	5,662.0	5,662.0	0.0
AR	58,654	171	219	6.4	5,699.3	5,699.3	5,699.3	0.0

[1] Feet above confluence with Toll Gate Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

WEST TOLL GATE CREEK, LOWER REACH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
West Toll Gate Creek Upper Reach								
AS	65,232	189	633	3.0	5,727.2	5,727.2	5,727.2	0.0
AT	67,579	117	197	4.1	5,735.9	5,735.9	5,735.9	0.0
AU	69,254	75	155	5.3	5,756.3	5,756.3	5,756.3	0.0
AV	70,199	205	204	4.0	5,767.1	5,767.1	5,767.1	0.0
AW	71,650	82	200	4.1	5,781.3	5,781.3	5,781.3	0.0
AX	73,538	150	210	3.2	5,802.6	5,802.6	5,802.6	0.0
AY	74,642	332	3,043	0.2	5,822.5	5,822.5	5,822.5	0.0
AZ	76,538	118	147	4.6	5,839.6	5,839.6	5,839.6	0.0
BA	77,592	45	63	5.7	5,852.0	5,852.0	5,852.0	0.0
BB	78,856	42	55	6.4	5,865.9	5,865.9	5,866.0	0.1
BC	80,989	108	82	4.3	5,898.5	5,898.5	5,898.5	0.0
BD	82,486	117	108	5.1	5,926.8	5,926.8	5,926.8	0.0
BE	83,347	59	86	6.4	5,949.3	5,949.3	5,949.3	0.0

[1] Feet above confluence with Toll Gate Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

WEST TOLL GATE CREEK, UPPER REACH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET (NAVD)		
West Toll Gate Creek Tributary								
A	776	126	334	9.3	5,526.2	5,526.2	5,526.2	0.0
B	3,750	169	1,069	2.3	5,573.8	5,573.8	5,573.8	0.0
C	4,040	224	1,195	2.0	5,573.9	5,573.9	5,573.9	0.0

[1] Feet Above Confluence With West Toll Gate Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

WEST TOLL GATE CREEK TRIBUTARY

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						FEET (NAVD)		
West Tributary To Goldsmith Gulch								
A	430	136	381	2.7	5,641.4	5,641.4	5,642.4	1.0
B	821	45	123	8.3	5,646.5	5,646.5	5,646.7	0.2
C	1,247	39	113	9.1	5,651.4	5,651.4	5,651.7	0.3
D	1,815	286	1,172	0.7	5,662.6	5,662.6	5,662.7	0.1
E	2,065	90	251	3.2	5,662.5	5,662.5	5,662.4	-0.1
F	2,089	115	374	2.1	5,662.3	5,662.3	5,663.5	1.2
G	2,309	50	219	3.6	5,663.0	5,663.0	5,663.5	0.5
H	2,719	30	86	9.3	5,668.4	5,668.4	5,667.0	-1.4
I	2,758	73	175	4.6	5,669.7	5,669.7	5,669.9	0.2
J	3,111	28	77	9.4	5,672.5	5,672.5	5,672.7	0.2
K	3,469	85	271	2.7	5,676.9	5,676.9	5,677.4	0.5
L	3,540	72	189	3.8	5,679.5	5,679.5	5,679.6	0.1
M	4,000	65	96	6.7	5,682.6	5,682.6	5,683.4	0.8
N	4,270	60	116	7.6	5,688.3	5,688.3	5,688.7	0.4
O	4,404	30	134	6.6	5,693.4	5,693.4	5,693.4	0.0
P	4,542	61	87	6.8	5,697.6	5,697.6	5,697.6	0.0
Q	5,007	89	75	5.1	5,702.6	5,702.6	5,702.6	0.0
R	5,204	62	114	3.3	5,704.0	5,704.0	5,704.0	0.0
S	5,256	10	31	12.3	5,707.7	5,707.7	5,707.7	0.0
T	5,319	36	46	8.3	5,712.0	5,712.0	5,712.0	0.0
U	5,440	45	61	6.2	5,716.5	5,716.5	5,716.5	0.0
V	5,660	111	339	1.1	5,717.4	5,717.4	5,717.4	0.0
W	5,794	108	26	2.9	5,727.3	5,727.3	5,727.3	0.0
X	6,091	30	18	4.2	5,734.9	5,734.9	5,734.9	0.0
Y	6,227	48	21	3.6	5,738.7	5,738.7	5,738.7	0.0

[1] Feet Above Confluence With Goldsmith Gulch

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

WEST TRIBUTARY TO GOLDSMITH GULCH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
WESTERLY CREEK								
A	6,292	270	899	7.4	5,300.2	5,300.2	5,300.3	0.1
B	6,710	402	1,790	4.0	5,301.0	5,301.0	5,301.1	0.1
C	10,000	363	1,993	1.2	5,316.7	5,316.7	5,317.6	0.9
D	11,500	165	254	3.8	5,322.2	5,322.2	5,322.7	0.5
E	13,774	85	50	0.3	5,333.5	5,333.5	5,333.5	0.0
F	29,400	347	738	2.8	5,434.6	5,434.6	5,435.4	0.8
G	30,411	182	247	6.7	5,445.4	5,445.4	5,445.4	0.0
H	30,751	166	202	6.4	5,448.3	5,448.3	5,448.6	0.3
I	31,410	294	245	4.9	5,462.6	5,462.6	5,462.6	0.0
J	31,650	150	300	5.5	5,471.9	5,471.9	5,471.9	0.0
K	34,645	32	152	2.9	5,471.9	5,471.9	5,471.9	0.0

[1] Feet Above Mouth

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO AND INCORPORATED AREAS

FLOODWAY DATA

WESTERLY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	**DISTANCE[1]**	**WIDTH (FEET)**	**SECTION AREA (SQUARE FEET)**	**MEAN VELOCITY (FEET PER SECOND)**	**REGULATORY**	**WITHOUT FLOODWAY**	**WITH FLOODWAY**	**INCREASE**
WILLOW CREEK								
A	751	97	350	1.6	5,541.8	5,541.8	5,541.8	0.0
B	1,303	99	933	0.6	5,548.2	5,548.2	5,548.2	0.0
C	1,502	190	560	1.0	5,548.2	5,548.2	5,548.2	0.0
D	1,729	47	368	1.5	5,548.3	5,548.3	5,548.3	0.0
E	1,928	75	415	1.4	5,550.1	5,550.1	5,550.1	0.0
F	2,250	58	238	2.4	5,550.2	5,550.2	5,550.2	0.0
G	2,582	42	164	3.4	5,550.6	5,550.6	5,550.6	0.0
H	3,010	42	120	4.7	5,552.7	5,552.7	5,552.7	0.0
I	3,507	50	145	3.9	5,555.1	5,555.1	5,555.1	0.0
J	4,084	26	65	8.7	5,559.0	5,559.0	5,559.0	0.0
K	8,638	365	2,184	4.1	5,610.3	5,610.3	5,610.6	0.5
L	9,149	315	1,962	3.5	5,617.0	5,617.0	5,617.3	0.3
M	9,615	237	1,366	5.0	5,618.2	5,618.2	5,618.6	0.4
N	10,291	306	1,811	3.8	5,622.3	5,622.3	5,622.4	0.1
O	10,595	265	1,336	5.1	5,624.0	5,624.0	5,624.1	0.1
P	11,023	320	1,372	5.3	5,626.8	5,626.8	5,626.8	0.0
Q	11,488	70	528	12.9	5,630.2	5,630.2	5,630.4	0.2
R	11,965	378	1,537	4.4	5,636.4	5,636.4	5,636.4	0.0
S	12,489	88	738	11.4	5,638.6	5,638.6	5,638.6	0.0
T	13,119	129	873	7.8	5,649.8	5,649.8	5,649.8	0.0
U	13,901	356	1,535	4.5	5,658.1	5,658.1	5,658.1	0.0
V	14,407	239	1,161	5.9	5,660.6	5,660.6	5,660.6	0.0
W	15,017	290	2,620	3.4	5,672.5	5,672.5	5,672.8	0.3
X	16,051	281	1,466	4.7	5,675.3	5,675.3	5,675.4	0.1
Y	16,425	140	618	11.0	5,681.9	5,681.9	5,681.9	0.0
Z	17,088	140	607	11.2	5,691.2	5,691.2	5,691.2	0.0
AA	18,266	135	1,038	5.0	5,704.1	5,704.1	5,704.2	0.1

[1] Stream distance in feet above confluence with Little Dry Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

WILLOW CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	**DISTANCE[1]**	**WIDTH (FEET)**	**SECTION AREA (SQUARE FEET)**	**MEAN VELOCITY (FEET PER SECOND)**	**REGULATORY**	**WITHOUT FLOODWAY**	**WITH FLOODWAY**	**INCREASE**
WILLOW CREEK (Continued)								
AB	19,067	132	817	5.4	5,712.7	5,712.7	5,712.7	0.0
AC	19,647	69	563	9.7	5,718.3	5,718.3	5,718.3	0.0

[1] Stream distance in feet above confluence with Little Dry Creek

5.0 INSURANCE APPLICATIONS

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

Zone A

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

Zone AE

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

Zone AH

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

Zone AO

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

Zone X

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

Zone X (Future Base Flood)

Zone X (Future Base Flood) is the flood insurance risk zone that corresponds to the 1-percent-annual-chance floodplains that are determined based on future-conditions hydrology. No BFEs or base flood depths are shown within this zone.

6.0 FLOOD INSURANCE RATE MAP

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

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

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

The current FIRM presents flooding information for the geographic area of Arapahoe County, including those communities which fall within more than one county as described in Section 1.1. Previously, separate FIRMs were prepared for the cities of Aurora and Littleton, and for Arapahoe County and Incorporated Areas. Historical data relating to the maps prepared for each community are presented in Community Map History (Table 6).

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATE	FIRM EFFECTIVE DATE	FIRM REVISIONS DATE
Arapahoe County, (Unincorporated Areas)	December 20, 1974	---	August 15, 1977	---
Aurora, City of	July 26, 1974	---	June 1, 1978	August 31, 1982 September 15, 1989 September 30, 1992 August 16, 1995
Centennial, City of [1]	December 20, 1974	---	August 15, 1977	---
Cherry Hills Village, City of	May 10, 1974	January 31, 1975	August 1, 1978	---
Columbine Valley, Town of	January 25, 1974	April 23, 1976	June 15, 1978	December 2, 1980
Deer Trail, City of [2,3]	November 29, 1974	---	---	---
Englewood, City of	February 26, 1971	---	February 9, 1972	July 1, 1974 April 11, 1975 June 24, 1977 July 28, 1978 December 5, 1979
Foxfield, Town of [2,3]	---	---	---	---

[1]Dates from Arapahoe County (Unincorporated Areas)

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATE	FIRM EFFECTIVE DATE	FIRM REVISIONS DATE
Glendale, City of [2]	---	---	---	---
Greenwood Village, City of	December 27, 1974	---	January 5, 1978	December 16, 1980
Littleton, City of	February 1, 1974	April 23, 1976	December 1, 1978	February 3, 1981
Sheridan, City of	May 3, 1974	January 23, 1976	July 13, 1976	December 4, 1985

[1]Dates from Arapahoe County (Unincorporated Areas)

[2]This community had no FIRM history prior to first time countywide

[3]No Special Flood Hazard Areas Identified

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

7.0 OTHER STUDIES

This Flood Insurance Study supersedes all previous FIS reports and FIRMs covering the unincorporated areas of Arapahoe County and the incorporated areas of the Cities of Aurora, Centennial, Cherry Hills Village, Englewood, Glendale, Greenwood Village, Littleton, and Sheridan; and the Town of Columbine Valley (References 2, 5, 7, 8, 9, 10, 88 and 89).

The reaches of East Toll Gate Creek from Chambers Road to 1,300 feet upstream and from South Buckley Road to 0.8 mile upstream were analyzed by Merrick and Company and Greiner Engineering Sciences, Inc., respectively (References 18 and 19, respectively). The revised hydraulic analyses for West Toll Gate Creek from Mississippi Avenue to approximately 800 feet upstream of Mexico Avenue, and the portion of West Toll Gate Creek from South Buckley Road upstream to East Hampden Avenue were performed by the City of Aurora Engineering Division (References 21 and 22). The analyses for the portion of West Toll Gate Creek between East Hampden and East Quincy Avenues was performed by Merrick and Company (Reference 19). The hydrologic analyses for all the revisions were originally performed by the COE and Gingery and Associates for the effective FIS for Aurora (Reference 2).

Revised hydrologic and hydraulic analyses for the portion of Cherry Creek from Cherry Creek State Recreation Area to upstream of the Arapahoe/Douglas County line were performed by Greiner Engineering Sciences, Inc. as a part of the River Run Development Report (Reference 17).

The revised hydraulic analyses for portions of Prentice Gulch, Willow Creek, Greenwood Gulch, Spring Creek, Goldsmith Gulch, SJCD 6100, SJCD 6200, Dutch Creek, Coon Creek, and Lee Gulch were taken from published UDFCD reports (References 44, 60, 61, 62, 63, and 64).

Flood Insurance Studies have been prepared for the City and County of Denver and Adams, Douglas, and Jefferson Counties (References 65, 66, 67, and 68, respectively). Those studies are in general agreement with this study.

Historical data relating to the maps prepared for each community are presented in the Community Map History data (Table 6).

8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this study can be obtained by contacting:

FEMA Mitigation Division
Denver Federal Center, Building 710
Box 25267
Denver, Colorado 80225-0267

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94. Urban Drainage and Flood Control District, Flood Hazard Area Delineation, First Creek (Upstream of Buckley Road), prepared by Moser & Associates Engineering, October 2011.

95. Urban Drainage and Flood Control District, Flood Hazard Area Delineation, Piney Creek and Antelope Creek, prepared by WRC Engineering, Inc., December 2011.

96. Urban Drainage and Flood Control District, Flood Hazard Area Delineation, Second Creek (Upstream of Denver International Airport), Existing Conditions Flood Hazard Information developed with this study, prepared by Olsson Associates and Matrix Design Group, Inc., May 2011.

97. Urban Drainage and Flood Control District, Flood Hazard Area Delineation, Willow Creek, prepared by CH2M Hill, December 2010.

98. Urban Drainage and Flood Control District, Flood Hazard Area Delineation, Dutch Creek, Coon Creek, Lilley Gulch and Three Lakes Tributary, prepared by PBS&J, March 2008.

99. Urban Drainage and Flood Control District, Flood Hazard Area Delineation, Coal Creek, prepared by Matrix Design Group, Inc., August 2014.

100. Urban Drainage and Flood Control District, Flood Hazard Area Delineation, Box Elder Creek (Downstream of Jewell Avenue) and Coyote Run, prepared by Olsson Associates, December 2014.

101. Urban Drainage and Flood Control District, Flood Hazard Area Delineation, Cherry Creek (Cherry Creek Dam to South Platte River), prepared by Matrix Design Group, Inc., November 2013.

102. Urban Drainage and Flood Control District, Flood Hazard Area Delineation, Toll Gate Creek and East Toll Gate Creek (Downstream of Hampden), prepared by J3 Engineering Consultants, Inc., November 2013.

103. Urban Drainage and Flood Control District, Flood Hazard Area Delineation, Happy Canyon Creek, prepared by Muller Engineering Company, Inc., July 2014.

104. Urban Drainage and Flood Control District, Flood Hazard Area Delineation, Senac Creek (Aurora Reservoir Dam to Coal Creek), prepared by Matrix Design Group, Inc., November 2013.

105. Urban Drainage and Flood Control District, Flood Hazard Area Delineation, West Toll Gate Creek, prepared by Michael Baker Jr., Inc. and Enginuity Engineering Solutions, November 2013.

106. Urban Drainage and Flood Control District, Flood Hazard Area Delineation, Littles Creek, prepared by AMEC Earth & Environmental, Inc., July 2012.

107. Urban Drainage and Flood Control District, Flood Hazard Area Delineation, Big Dry Creek, Downstream of County Line Road, prepared by RESPEC Consulting & Services, February 2018.

10.0 REVISION DESCRIPTIONS

This section has been added to provide information regarding significant revisions made since the original FIS report and FIRM were printed. Future revisions may be made that do not result in the republishing of the FIS report. All users are advised to contact the community repositories of flood hazard data to obtain the most up-to-date flood hazard information.

10.1 First Revision (March 4, 1991)

This study was revised on March 4, 1991, to show modifications to the flooding and base flood elevations along Little Dry Creek as the result of revised hydrology for the entire basin and culvert and channel improvements from the South Platte River upstream to Clarkson Street, as approved in the Conditional Letters of Map Revision issued on February 19, 1987, and August 21, 1987.

An updated hydrologic evaluation for Little Dry Creek was conducted by McLaughlin Water Engineers, Ltd. (MWE), in July 1986 to determine the 100-year flow by utilizing the 1982 version of Colorado Urban Hydrograph Procedure in conjunction with the UDSWM2-PC model. The 100-year discharge used for this floodplain analysis was taken from the updated 1986 hydrologic analysis for the 100-year event. The hydrologic analyses for the 10-, 50-, and 500-year events are based on an earlier report by Sellards and Grigg, Inc., in 1981. Along Little Dry Creek, the 100-year discharge of 3,770 cfs from the 1986 updated hydrologic study is lower than the 100-year discharge of 6,650 cfs presented in the previous Flood Insurance Study report due to the effects of the Holly and Englewood Dams.

The basis for this revision is the completion of a box culvert and channel improvements along Little Dry Creek from the confluence of the South Platte River to Clarkson Street in Englewood, Colorado. The box culvert, located approximately 800 feet upstream of Santa Fe Drive and approximately 600 feet downstream of South Broadway Street, was designed to convey the 10-, 50-, and 100-year floods. The 100- and 500-year floodplain and 100-year floodway delineations and base flood elevations were modified based on the following information:

- Drawings 1 through 12, XI and X2 of "as-built" plans entitled "Little Dry Creek - South Platte River to Clarkson Street, City of Englewood, Colorado; Floodplain Delineation for Constructed Improvements," prepared by MWE, dated April 1989, for the City of Englewood, Colorado.

- A report entitled "Hydraulic Calculations for Little Dry Creek through the City of Englewood," dated April 1989, also prepared by MWE. This report contains hydraulic calculations and HEC-2 hydraulic computer model runs for the 10-, 50-, 100-, and 500-year recurrence interval floods for a reach of Little Dry Creek from the South Platte River to Clarkson Street.

These calculations and models reflect the effects of the construction of the culvert located from Santa Fe Drive upstream to Broadway Street, and channel improvements from the South Platte River to Santa Fe Drive and from Broadway Street to Clarkson Street. As a result of these improvements, the base flood elevations were decreased, and modifications

to the floodway and the 100- and 500-year floodplain boundaries were made, as shown on Flood Insurance Rate Map Panels 0060 and 0070. Because a revised hydraulic analysis was not developed upstream of South Clarkson Street, there is an approximate Zone A transition from South Clarkson Street to the culvert entrance. Also, because the 500-year recurrence interval flood is not conveyed by the culvert, a separate water-surface profile panel labeled "500-year overflow" is included in the water-surface profile panels for Little Dry Creek.

Distances on the profiles and Floodway Data Tables have been corrected to reflect miles measured from the confluence with the South Platte River. Cross sections previously labeled A through BM along Little Dry Creek as shown on the Flood Insurance Rate Map have been relabeled 0 through CA to account for the addition of the new cross sections labeled A through N along the study reach. The water-surface profile panels for Little Dry Creek have also been renumbered in order to take into account the addition of six profiles for the study area, arid the profiles listed after Little Dry Creek in the Flood Insurance Study report have been renumbered as a result of this addition. The Floodway Data Tables and Summary of Discharges Table have also been revised to reflect the effects of the reanalysis.

The communities affected by this revision along Little Dry Creek are the unincorporated areas of Arapahoe County, the City of Cherry Hills Village, the City of Englewood, and the City of Greenwood Village.

The reach of Big Dry Creek from approximately 1,360 feet downstream of Colorado Boulevard to approximately 2,440 feet upstream of Colorado Boulevard has been revised to reflect the change in base flood elevations and floodway and floodplain delineations due to the newly built Colorado Boulevard Bridge and channel improvements. The COE HEC-2 hydraulic computer program was used by Merrick and Company to perform the new hydraulic analyses. The 100-year floodway and floodplain delineations were also prepared by Merrick and Company on a topographic map at a scale of 1:50, with a contour interval of 2 feet (Reference 69). The Floodway Data Table and Flood Profile Panels for Big Dry Creek have been revised between cross sections BA and BE as a result of this analysis.

This revision also incorporated the Letter of Map Revision (LOMR) issued for Arapahoe County, Colorado on August 13, 1990, for an area along Cottonwood Creek from an existing pedestrian bridge (located approximately 900 feet upstream of Inverness Drive East) to County Line Road. This LOMR was based on better topographic data and a revised hydraulic analysis. The basis for this LOMR was the following submitted data: a report entitled "Request for Letter of Map Revision and Request for Conditional Letter of Map Revision for Cottonwood Creek, Arapahoe County, Colorado," dated March 1990, and prepared by Greenhorne & O'Mara, Inc., and an as-built drawing entitled "Cottonwood Creek Floodplain and Floodway for Letter of Map Revision," dated January 1990, prepared by Greenhorne & O'Mara, Inc. As a result of the above-referenced data, profile panels were also revised.

10.2 Second Revision (December 3, 1993)

This study was revised on December 3, 1993, to show revised floodplain analyses for Big Dry Creek, Goldsmith Gulch, Piney Creek, and Willow Creek.

The hydraulic analysis was performed by Love & Associates, Inc., Boulder, Colorado, for the Federal Emergency Management Agency (FEMA) under their Limited Map Maintenance Program (LMMP), Contract No. EMW-90-C-3132, completed in March 1992.

An initial Consultation and Coordination Officer (CCO) meeting was held in July 1990, and attended by representatives of Arapahoe County, FEMA, and Love & Associates, Inc.

Contacts to acquire information were made with the Arapahoe County Department of Highways /Engineering, the Urban Drainage and Flood Control District, and FEMA. The area of study included portions of the City of Greenwood Village and the unincorporated areas of Arapahoe County.

Principal Flood Problems

Factors that aggravate flood problems: All streams studied in this Flood Insurance Study have had structural improvements, but intense and infrequent thunderstorms can generate floods in excess of existing structural capacities. Urbanization has occurred and development continues along these streams. This will increase debris loading in flood events and cause obstruction of bridges and culverts, thus causing more extensive damage.

Flood Protection Measures

Structures: Drop structures have been constructed on several of the creeks studied, as well as improved culverts and bridges on roads.

Dams: Englewood Dam, located on Willow Creek, provides flood protection for the area around Willow Creek downstream of the dam to its confluence with Little Dry Creek.

Hydrologic Analyses

In general, the only source of hydrologic information for these creeks is the previous Flood Insurance Studies and HEC-2 decks, although some additional information was available for Big Dry Creek and Willow Creek.

Goldsmith Gulch

The only source of information for Goldsmith Gulch in the LMMP study reach is the previous Flood Insurance Study HEC-2 deck in which the discharge varies by reach. At Dayton Street the 100-year discharge is 1,090 cubic feet per second (cfs) and at the outlet of Arapahoe Lake the 100-year discharge is 800 cfs.

Piney Creek

The only source of information for Piney Creek hydrology is the previous Flood Insurance Study HEC-2 deck in which the discharge varies by reach. The discharges at Parker Road are:

Piney Creek 100-Year Discharges

Return Period (year)	Flood Insurance Study (cfs)
10	5,400
50	8,500
100	9,800
500	21,000

Willow Creek

The primary source of information for Willow Creek is the McCall, Ellingson & Morrill (1974) report which was used for the previous Flood Insurance Study. The computer model input was unavailable for this study. Greenhorne & O'Mara (1989) used the McCall, Ellingson & Morrill report as a basis for a study located upstream of Englewood Dam. Downstream of Englewood Dam, the McCall, Ellingson & Morrill report presents a flow rate at the confluence with Little Dry Creek but does not report the outflow rate of the dam. McLaughlin Water Engineers (1986) present flow rates for the outlet of Englewood Dam and at the confluence with Little Dry Creek. The 100-year discharge from each of these sources is presented below (References 70, 71, and 72).

Willow Creek 100-Year Discharges

Downstream of Englewood Dam		Upstream of Englewood Dam			
Confluence with Little Dry Creek (0.37 mi^2)	Englewood Dam outlet outflow	Dry Creek Road (8.1 mi^2)	Upstream of Confluence with Tributary (6.9 mi^2)	Quebec Street (6.55 mi^2)	Mineral Avenue (5.46 mi^2)
660[1]	190[2]	6100[1]	5200[1]	5070[3]	4600[1]
880[2]					

[1] McCall, Ellingson & Morrill (1974)
[2] McLaughlin Water Engineers (1986)
[3] Greenhorne & O'Mara (1989)

Big Dry Creek

Two sources of information exist for Big Dry Creek. The first is a previous Flood Insurance Study HEC-2 deck, and the second is a FEMA accepted Letter of Map Revision (LOMR) for the channel from approximately 2,000 feet upstream of South Colorado Boulevard to approximately 1,000 feet downstream of South Colorado Boulevard

(Reference 73). The table below shows the flow rates for Big Dry Creek at South Colorado Boulevard. The 100-year flow rates for the two FEMA accepted studies differ by over 1,000 cfs at this location. The data from the 1974 Flood Insurance Study were used for this study.

Big Dry Creek at South Colorado Boulevard

Return Period (year)	Flood Insurance Study (1974) (cfs)	LOMR (1988)
10	6,673	
50	8,520	
100	9,757	8,600
500	15,968	

Hydraulic Analysis

Cross section data for streams in the area were digitized from maps and copied from previous HEC-2 decks.

All bridges and culverts were surveyed to obtain elevation data and structural geometry.

Roughness coefficients (Manning's "n") were estimated from field inspection and photographs of the study reaches. Water-surface profiles were developed using the HEC-2 computer backwater model (Reference 74). Profiles were determined for the 100-year floods on Goldsmith Gulch and Willow Creek, and the 10-, 50-, 100-, and 500-year floods for Piney Creek and Big Dry Creek.

The starting water-surface elevations for all streams were obtained from the previous Flood Insurance Study.

All elevations are referenced to National Geodetic Vertical Datum of 1929.

Maps used for floodplain boundaries are as follows:

1) Topographic maps used as work maps: Scale 1:1,200, Contour interval 2 feet, (References 75, 76, 77, and 78)

2) Arapahoe County Base Maps: Scale 1:2,400, no contours (Reference 79)

3) USGS quad map; Highlands Ranch Quadrangle: Scale 1:12,000, Contour interval 10 feet, (Reference 80)

4) Federal Emergency Management Agency, Flood Insurance Rate Map Panel 0800500095F; Arapahoe County: Scale 1:6,000, no contours (Reference 81)

Floodways

Equal conveyance reduction encroachment Method 4 was used for the floodway determination for Big Dry Creek and Piney Creek.

10.3 Third Revision (August 16, 1995)

Digital Update

The mapping for this update dated August 16, 1995 has been prepared using digital data. Previously published Flood Insurance Rate Map data produced manually have been converted to vector digital data by a digitizing process. These vector data were fit to raster digital images of the USGS quadrangle maps of the county area to provide horizontal positioning.

Road, highway names and centerline data have been obtained from the United States Census Bureau's TIGER (Topologically Integrated Geographic Encoding and Referencing) File. The centerlines were modified to the positional accuracy of the USGS quadrangle, and the roads, highways, and street names were modified from the Flood Insurance Rate Map panels. The City of Aurora road and highway names and centerline data have been obtained from the City of Aurora, Department of Public Works, Geographic Information System. The adjusted centerline data were then computer plotted with the digitized floodplain data to produce the countywide Flood Insurance Rate Map panels. Floodplain data for South Platte River were added based on work maps produced by Wright Water Engineers, Inc., for the Urban Drainage and Flood Control District in September 1987. Floodplain representation was matched to that in Denver County for a reach of 1,500 feet downstream (north) of Dartmouth Avenue.

Floodplain data for 3,600 feet of West Harvard Gulch were added to Arapahoe County based on work maps and analyses produced by Gingery Associates, Inc., for the Urban Drainage and Flood Control District, October 1978. Floodplain data were tied into that in Denver County at Colorado Southern Railroad (downstream) and South Zuni Street (upstream).

Floodplain data for Littles Creek were updated based upon hydrologic and hydraulic analyses performed by J. F. Sato and Associates for FEMA under Contract No. EMW-84-C-1631, completed in August 1985.

As a result of the channel improvement project for the reach of Littles Creek downstream from the Atchison, Topeka and Santa Fe and the Denver and Rio Grande Western railroads to its confluence with the South Platte River, the 100-year base flood would be contained within the channel. The hydraulic reanalysis for this reach of Littles Creek was performed by Love and Associates, Inc., in January 1989 (Reference 82).

The LOMR issued on July 15, 1991, for the City of Greenwood Village, to show the effects of more detailed topographic information along Prentice Gulch from the confluence of Greenwood Gulch to Holly Street, was included in this update. As a result of the more detailed topographic information, the 100-year floodplain boundary, base flood elevations, and floodway boundary have been revised along Prentice Gulch. The Floodway Data Table has also been updated.

The LOMR issued on April 20, 1992, for the City of Greenwood Village to show the effects of a revised hydraulic analysis which utilized better topographic data along Greenwood Gulch from the confluence with Prentice Gulch and Highline Canal upstream to South Holly Street was included in this update. As a result of the revised hydraulic

analysis, the 100-year floodplain boundary, base flood elevations, floodway boundary, and Floodway Data Table were revised.

The LOMR issued on April 16, 1993, for the City of Greenwood Village to show the effects of channel improvements, which include realignment of the channel and more detailed topographic information along Goldsmith Gulch between East Belleview Avenue and South Yosemite Street was included in this update. As a result of the improvements and more detailed topographic information, the 100-year floodplain boundary and floodway have been shifted approximately 150 feet to the east. In addition, base flood elevations were increased a maximum of 4 feet, from approximately 450 feet upstream of East Belleview Avenue to approximately 150 feet upstream of Yosemite Street. The Floodway Data Table has also been updated. The LOMR issued on September 26, 1994, for Arapahoe County to show the effects of more detailed topographic information and the existing bridge at East Iliff Avenue along Cherry Creek, from approximately 1,000 feet downstream of East Iliff Avenue to approximately 1,050 feet upstream of East Iliff Avenue, was included in this update. As a result of the more detailed topographic information, the elevations and floodplain boundary delineations along Cherry Creek have been revised.

10.4 Fourth Revision (December 17, 2010)

This study was revised on December 17, 2010 as part of a Digital Flood Insurance Rate Map (DFIRM) conversion for Arapahoe County and incorporated areas. This study incorporated the new countywide DFIRM conversion prepared by the UDFCD. The UDFCD contracted Merrick and Company to digitize the flood data from various sources and to prepare the data in conformance with the FEMA DFIRM specifications.

The cities of Aurora, Littleton, and Centennial were added to the DFIRM as a part of this revision. Previously, Aurora and Littleton had separate FIRMs. Centennial was incorporated after the date of the previous effective FIS and FIRM.

Flood information used for the DFIRM conversion came from three sources: the UDFCD's Flood Hazard Area Delineation studies; the work maps from the original FIS; and the work maps from several Letters of Map Revision (LOMRs).

Flood Hazard Area Delineation Studies

The UDFCD published a Flood Hazard Area Delineation report (Reference 83) for the Lower Box Elder Creek watershed in September 2001. This report identified flood hazard information on Box Elder Creek and Bear Gulch. This report was incorporated into this FIS.

The UDFCD published a Flood Hazard Area Delineation report (Reference 84) for the Upper Box Elder Creek watershed in December 1995. This report identified flood hazard information on Box Elder Creek, Coyote Run and several tributaries. This report was incorporated into this FIS.

The UDFCD published a Flood Hazard Area Delineation report (Reference 85) for the Cherry Creek watershed in May 2003. This report identified flood hazard information on

Cherry Creek from Cherry Creek Reservoir to the Douglas County line. This report was incorporated into this FIS.

The UDFCD published a Flood Hazard Area Delineation report (Reference 86) for the Little Dry Creek watershed in August 2003. This report identified flood hazard information on Little Dry Creek, Willow Creek, Greenwood Gulch, Quincy Gulch, Blackmer Gulch and Prentice Gulch. This report was incorporated into this FIS. An unpublished study revised the flood hazard information from Holly Dam to Quebec Street to correct obvious errors in the previous mapping.

The UDFCD published a Flood Hazard Area Delineation report (Reference 87) for the Upper Goldsmith Gulch watershed in April 2005. This report identified flood hazard information on Goldsmith Gulch and the West Tributary. This report was incorporated into this FIS. An unpublished study revised the flood hazard information immediately above Caley Avenue to reflect a new detention pond.

The UDFCD published a Flood Hazard Area Delineation report (Reference 90) for the Massey Draw and SJCD 6200 watersheds in December 2005. This report identified flood hazard information on SJCD 6200 and the North Tributary. This report was incorporated into this FIS.

The UDFCD published a Flood Hazard Area Delineation report (Reference 91) for the Murphy Creek watershed in September 2006. This report identified flood hazard information on Murphy Creek. This report was incorporated into this FIS.

Letters of Map Revision (LOMRs)

All LOMRs effective after the date of the last revision (August 16, 1995) through March 16, 2010, have been incorporated into this revision.

10.5 Fifth Revision (February 17, 2017)

This study was revised on February 17, 2017, to incorporate six different Flood Hazard Area Delineation Reports from UDFCD and several LOMRs.

The UDFCD published a Flood Hazard Area Delineation report (Reference 92) for Cottonwood Creek and its tributaries in August 2011. The analysis was conducted by Muller Engineering Company, Inc., and identified flood hazard information on Cottonwood Creek, Havana Tributary, Inverness Tributary, and Peoria Tributary. This report was incorporated into this FIS and the DFIRM.

The UDFCD published a Flood Hazard Area Delineation report (Reference 93) for upper East Toll Gate Creek in December 2010. The analysis was conducted by J3 Engineering Consultants and identified flood hazard information on East Toll Gate Creek. This report was incorporated into this FIS and the DFIRM.

The UDFCD published a Flood Hazard Area Delineation report (Reference 94) for First Creek and its tributary in October 2011. The analysis was conducted by Moser and Associates Engineering, and identified flood hazard information on First Creek, First

Creek Tributary T, and First Creek – E470 Split. This report was incorporated into this FIS and the DFIRM.

The UDFCD published a Flood Hazard Area Delineation report (Reference 95) for Piney Creek and Antelope Creek in December 2011. The analysis was conducted by WRC Engineering, Inc., and identified flood hazard information on Piney Creek, Piney Creek Split Flow, Antelope Creek, and Antelope Creek Split Flow. This report was incorporated into this FIS and DFIRM.

The UDFCD published a Flood Hazard Area Delineation report (Reference 96) for Second Creek in May 2011. This analysis was conducted by Olsson Associates and Matrix Design Group, Inc., and identified flood hazard information on Second Creek upstream of Denver International Airport. This report was incorporated into this FIS and DFIRM.

The UDFCD published a Flood Hazard Area Delineation report (Reference 97) for Willow Creek in December 2010. This analysis was conducted by CH2M Hill and identified flood hazard information on Willow Creek. The existing conditions flood hazard area information developed with this report was incorporated into this FIS and DFIRM.

The following Letters of Map Revision (LOMRs) were incorporated into this revision. These cases went effective since the last revision and were incorporated into the respective DFIRM panels, FIS profiles, Summary of Discharges Tables, and Floodway Data Tables for clarity and consistency.

Letter of Map Revisions (LOMRs)

Case Number	Effective Date	Flooding Source	FIRM Panel(s)
10-08-1061P	December 18, 2010	Unnamed Creek and the Tributary to Unnamed Creek	08005C0213K 08005C0501K
11-08-1095P	April 13, 2012	Spring Creek	08005C0458K
12-08-0411P	October 29, 2012	Lone Tree Creek	08005C0477K 08005C0479K
12-08-0590P	March 22, 2013	Murphy Creek and Murphy Creek Tributary	08005C0502K
12-08-0553P	April 12, 2013	Little Dry Creek	08005C0456K 08005C0457K 08005C0458K 08005C0459K
13-08-0357P	November 8, 2013	Lone Tree Creek	08005C0477K 08005C0479K
14-08-0918P	July 10, 2015	Piney Creek	08005C0501K 08005C0503K
15-08-0299P	December 11, 2015	Goldsmith Gulch	08005C0476K
15-08-1087P	May 26, 2016	Unnamed Creek	08005C0213K

10.6 Sixth Revision (April 18, 2018)

This study was revised on April 18, 2018, to incorporate the Flood Hazard Area Delineation Reports from UDFCD as described below.

The UDFCD published a Flood Hazard Area Delineation report (Reference 98) for Dutch Creek, Coon Creek, Lilley Gulch and Three Lakes Tributary in March 2008. The analysis was conducted by PBS&J and identified flood hazard information on the above stream reaches. This report was incorporated into this revision of the FIS and DFIRM for portions of Dutch Creek, Coon Creek and Three Lakes Tributary.

The UDFCD published a Flood Hazard Area Delineation report (Reference 99) for Coal Creek in August 2014. The analysis was conducted by Matrix Design Group and identified flood hazard information on the above stream reaches. This report was incorporated into this revision of the FIS and DFIRM for portions of Coal Creek in Arapahoe County. The respective FIS profiles, Summary of Discharges Tables, Floodway Data Tables and other FIS tables for these streams were updated for clarity and consistency.

a) Acknowledgments

The Dutch Creek, Coon Creek and Three Lakes Tributary study flow path through Arapahoe County, Colorado were performed by PBS&J for Urban Drainage and Flood Control District as part of the "Flood Hazard Area Delineation Dutch Creek, Coon Creek, Lilley Gulch, and Three Lakes Tributary". FEMA reviewed and accepted these data for the purposes of this revision.

The Coal Creek study flow path through Arapahoe County, Colorado were performed by Matrix Design Group, Inc. for Urban Drainage and Flood Control District as part of the "Flood Hazard Area Delineation Sand Creek Colfax to Yale Study". FEMA reviewed and accepted these data for the purposes of this revision.

b) Scope

Detailed hydrologic and hydraulic analyses were conducted for these portions of Dutch Creek, Coon Creek and Three Lakes Tributary. This portion of Coon Creek is approximately 1,460 feet long, Dutch Creek is approximately 9840 feet long. Three Lakes Tributary is approximately 510 feet long.

Detailed hydrologic and hydraulic analyses were conducted for this portion of Coal Creek. Topography within the study area generally slopes to the northwest with slopes ranging from 0 to 4 percent. The lowest and highest elevations within the study area are 5,640 feet and 5,960 feet NAVD, respectively. This portion of Coal Creek is approximately 52,440 feet long, measured along the low flow channel inside the study area, starting at the approximately 690 feet upstream of the Corporate Limits of the City of Aurora and ending at the Arapahoe County corporate limits. Coal Creek is a broad, natural drainageway with mild to steep sloping banks.

c) Hydrology

For Dutch Creek, Coon Creek, Three Lakes Tributary and Coal Creek study, Peak discharges for the 0.2-, 1-, 2, and 10-percent-annual-chance of occurrence events were analyzed using the Colorado Urban Hydrograph Procedure (CUHP 2005), version 1.3.3, to generate hydrographs for each subwatershed. Hydrographs for the subwatersheds were routed using the Environmental Protection Agency Stormwater Management Model (EPA SWMM), version 5.0, to determine peak discharge rates at selected design points. The EPA SWMM results were then compared to watersheds of similar size and imperviousness.

d) Hydraulic

For Dutch Creek, Coon Creek and Three Lakes Tributary study, the U.S. Army Corps of Engineer's step backwater program HEC-RAS, Version 3.1.3, was used for the floodplain analysis of the drainage ways. Cross sections used by the HEC-RAS model were developed from the digital elevation model (DEM) developed from the breakline survey file provided by Urban Drainage under separate survey contract. Bridges and culverts were individually surveyed or measured in the field.

For Coal Creek Study, the U.S. Army Corps of Engineer's step backwater program HEC-RAS, Version 4.1.0, was used for the floodplain analysis of the drainage ways. Cross sections used by the HEC-RAS model were developed electronically by cutting the triangulated irregular network (TIN) developed from the USGS topographic 2-foot contour mapping provided by UDFCD. Bridges and culverts were individually surveyed or measured in the field. The average spacing of cross sections is 372 feet, with the maximum spacing at 702 feet.

A steady flow analysis was utilized to determine the flood profiles for the 0.2-, 1-, 2, and 10-percent-annual-chance storm events. Flow change locations were established at critical design points where there are significant changes in hydrology as determined by the EPA SWMM model. Between flow change locations, steady flow is maintained for defined channel segments along the reach.

e) Manning

For Dutch Creek, Coon Creek and Three Lakes Tributary study, estimates of channel and overbank roughness were made from aerial photographs and field observations. Manning's 'n' values ranged from 0.03 to 0.045 in the channel and from 0.03 to 0.08 in the overbank areas. Blocked obstructions and ineffective flow were utilized to account for large structures and flow conveyance paths.

For Coal Creek Study, estimates of channel and overbank roughness for existing conditions were made from aerial photographs and field observation, and through experience for future fully developed conditions. Manning's n values in the hydraulic model ranged from 0.035 to 0.075 in the channel section, and from 0.02 to 0.08 in the overbank areas.

10.7 Seventh Revision (September 28, 2018)

This study was revised on September 28, 2018, to incorporate the Flood Hazard Area Delineation Reports from UDFCD as described below. The final CCO meeting was held on October 5, 2016 and attended by FEMA, Urban Drainage Flood Control District, BakerAECOM, the City of Aurora and Arapahoe County.

The UDFCD published a Flood Hazard Area Delineation report (Reference 100) for Box Elder Creek (Downstream of Jewell Avenue) and Coyote Run in December 2014. The analysis was conducted by Olsson Associates, and identified flood hazard information on the above stream reaches. This report was incorporated into this revision of the FIS and FIRM for portions of Box Elder Creek and Coyote Run. The respective FIS profiles, Summary of Discharges Tables, Floodway Data Tables and other FIS tables for these streams were updated for clarity and consistency.

a. Acknowledgments

The Box Elder Creek, Box Elder Spill 3, Box Elder Spill 4, Box Elder Spill 5, Box Elder Split 2, Box Elder Split 2A, Box Elder Split 2B and Coyote Run study flow path through the Arapahoe County, Colorado were performed by Olsson Associates for the Urban Drainage and Flood Control District as part of the "Box Elder Creek (Downstream of Jewell Avenue) and Coyote Run Flood Hazard Area Delineation". FEMA reviewed and accepted these data for the purposes of this revision.

b. Scope

Detailed hydrologic and hydraulic analyses were conducted for this portion of Box Elder Creek, Box Elder Spill 3, Box Elder Spill 4, Box Elder Spill 5, Box Elder Split 2, Box Elder Split 2A, Box Elder Split 2B and Coyote Run. This portion of Box Elder Creek is approximately 30.9 miles long and generally slopes to the north at a slope between 0.3% and 0.5%. Coyote Run is approximately 15.9 miles long and generally slopes to the north at a slope between 0.2% and 1.2%.

c. Hydrology

For Box Elder Creek, Box Elder Spill 3, Box Elder Spill 4, Box Elder Spill 5, Box Elder Split 2, Box Elder Split 2A, Box Elder Split 2B and Coyote Run, peak discharges for the 1% future, 1%, 2%, and 10% annual chance of occurrence events were analyzed. Hydrology for the Box Elder Creek watershed was completed to update the older CUHP and UDSWM models from previous studies (1995 and 2001 Outfall System Plans) to CUHP 2005 version 1.3.3, and EPA SWMM version 5.0.022.

d. Hydraulic

For Box Elder Creek, Box Elder Spill 3, Box Elder Spill 4, Box Elder Spill 5, Box Elder Split 2, Box Elder Split 2A, Box Elder Split 2B and Coyote Run, the U.S. Army Corps of Engineer's step backwater program HEC-RAS, Version 4.1.0, was used for the floodplain analysis. Cross sections for HEC-RAS were developed

electronically using the 2-foot interval LiDAR data. The survey data collected for all of the major bridges and culverts was used in the model.

e. Manning

For Box Elder Creek, Box Elder Spill 3, Box Elder Spill 4, Box Elder Spill 5, Box Elder Split 2, Box Elder Split 2A, Box Elder Split 2B and Coyote Run, estimates of channel and overbank roughness were determined using aerial photography and field observation, primarily at road crossings. The channel and bank roughness values ranged from 0.03 to 0.06. Sandy portions of the channel were set at 0.03. Areas that appeared to have short grasses were set at 0.035. Areas with longer grass and scattered trees were set at 0.04 to 0.045. Areas with thick trees and brush were set at 0.06.

10.8 Eighth Revision (September 4, 2020)

This study was revised on September 4, 2020 to incorporate six Flood Hazard Area Delineation (FHAD) studies from the Urban Drainage and Flood Control District (UDFCD). The final community coordination meeting for this study was held on July 28, 2016, and was attended by FEMA, CWCB, UDFCD, the communities, and the study contractor. All issues from the meeting were resolved.

The UDFCD published a FHAD for the Cherry Creek watershed in November 2013 (Reference 101). The study used updated hydrology and hydraulic analyses to modify flood hazard information from Cherry Creek Dam to the South Platte River. This report was incorporated into this FIS.

The UDFCD published a FHAD for the Toll Gate Creek and East Toll Gate Creek watersheds in November 2013 (Reference 102). The study revised flood hazard information along Toll Gate Creek from the confluence with Sand Creek to the confluence with East and West Toll Gate Creeks, and along East Toll Gate Creek from the confluence with Toll Gate Creek to approximately 700 feet downstream of East Hampden Avenue. This report was incorporated into this FIS.

The UDFCD published a FHAD for the Happy Canyon Creek watershed in July 2014 (Reference 103). The study revised flood hazard information along Happy Canyon Creek from the confluence with Cherry Creek to the Arapahoe - Douglas County boundary; and along Green Acres Tributary from the confluence with Happy Canyon Creek to the Arapahoe - Douglas County boundary. This report was incorporated into this FIS.

The UDFCD published a FHAD for the Senac Creek watershed in November 2013 (Reference 104). The study revised flood hazard information along Senac Creek from the confluence with Coal Creek to the Aurora Reservoir Dam. This report was incorporated into this FIS.

The UDFCD published a FHAD for the West Toll Gate Creek watershed in November 2013 (Reference 105). The study revised flood hazard information along West Toll Gate Creek from the confluence with Toll Gate Creek to upstream of Quincy Reservoir, and established flood hazard information from upstream of Quincy Reservoir to approximately 2,000 feet upstream of South Riviera Way; and revised flood hazard information along

Unnamed Creek (Tributary to West Tollgate Creek) from the confluence with West Toll Gate to approximately 4,100 feet upstream of Copperleaf Boulevard. This report was incorporated into this FIS.

The UDFCD published a FHAD for the Little's Creek watershed in July 2012 (Reference 106). The study revised flood hazard information from the confluence with the South Platte River to South Broadway; and established flood hazard information from South Broadway to East Dry Creek Road. This report was incorporated into this FIS.

The FHADs mentioned above were incorporated into the respective FIRM panels, FIS profiles, Summary of Discharges Tables, Floodway Data Tables and other FIS tables for clarity and consistency.

The following Letters of Map Revision (LOMRs) were incorporated into this revision. These cases went effective since the last revision and were incorporated into the respective FIRM panels, FIS profiles, Summary of Discharges Tables, Floodway Data Tables and other FIS tables for clarity and consistency.

Letter of Map Revisions (LOMRs)

Case Number	Effective Date	Flooding Source	FIRM Panel(s)
10-08-0937P*	March 10, 2011	Sand Creek	08005C0039L
11-08-0669P	February 10, 2012	Sable Ditch	08005C0039L, 08005C0177L, 08005C0181L
13-08-1142P	September 5, 2014	Cherry Creek	08005C0483L
14-08-1180P*	May 22, 2015	Cherry Creek	08005C0483L
16-08-0957P	August 11, 2017	Cherry Creek Spillway Drain	08005C0191L
17-08-0697P*	February 2, 2018	Baranmor Ditch	08005C0039L
18-08-0814P*	April 19, 2018	Sand Creek	08005C0039L
18-08-0169P*	September 17, 2018	Antelope Creek, Antelope Creek Split Flow, Piney Creek, Piney Creek Split Flow	08005C0482M, 08005C0501M
18-08-0713P	April 12, 2019	Toll Gate Creek	08005C0177L

* These LOMRs were fully incorporated into the FIS and into the FIRM panels indicated. They overlap onto FIRM panels that are not being updated at this time. The portion of the LOMR located on unrevised panels will be reissued at a later time.

10.9 Ninth Revision (April 11, 2024)

This study was revised on April 11, 2024, to incorporate the Flood Hazard Area Delineation (FHAD) reports from Mile High Flood District (MHFD, previously Urban Drainage Flood Control District) as described below. The final CCO meeting was held on April 8, 2020 and attended by FEMA, Communities, MHFD, and Contractors.

The MHFD published a Flood Hazard Area Delineation report (Reference 107) for Big Dry Creek (Downstream of County Line Road), Fillmore Tributary, Nobles Road

Tributary and Otero Tributary in February 2018. The analysis was conducted by RESPEC Consulting & Services and identified flood hazard information on the above stream reaches. This report was incorporated into this revision of the FIS and FIRM for portions of Big Dry Creek (Downstream of County Line Road), Fillmore Tributary, Nobles Road Tributary and Otero Tributary.

a. Acknowledgments

The Big Dry Creek (Downstream of County Line Road), Fillmore Tributary, Nobles Road Tributary and Otero Tributary study flow paths through Arapahoe County, Colorado were performed by RESPEC Consulting & Services for the Mile High Flood District as part of the "Big Dry Creek (Downstream of County Line Road) Flood Hazard Area Delineation". FEMA reviewed and accepted these data for the purposes of this revision.

b. Scope

Detailed hydrologic and hydraulic analyses were conducted for this portion of Big Dry Creek (Downstream of County Line Road), Fillmore Tributary, Nobles Road Tributary and Otero Tributary. This portion of Big Dry Creek is approximately 9.1 miles long and generally slopes to the northwest. Fillmore Tributary is approximately 1.5 miles long and generally slopes to the north. Nobles Road Tributary is approximately 1.8 miles long and slopes to the northwest. Otero Tributary is approximately 1.3 miles long and slopes to the north. The Big Dry Creek watershed has an average slope of 2.0% across the entire watershed.

c. Hydrology

For Big Dry Creek (Downstream of County Line Road), Fillmore Tributary, Nobles Road Tributary and Otero Tributary, the 2-, 5-, 10-, 25-, 50-, and 100-year return period storms were analyzed using UDFCD's Colorado Urban Hydrograph Procedure (CUHP) 2005, version 1.4.3 to generate hydrographs for each sub-basin. Hydrographs for each sub-basin were then routed using Environmental Protection Agency's (EPA) Storm Water Management Model (SWMM), version 5.0, build 5.0.022 to determine peak discharge rates at select design points.

d. Hydraulic

For Big Dry Creek (Downstream of County Line Road), Fillmore Tributary, Nobles Road Tributary and Otero Tributary, the U.S. Army Corps of Engineer's step backwater program HEC-RAS, Version 4.1.0, was used for the floodplain analysis. The survey data collected for all of the major bridges and culverts was used in the model. Because Big Dry Creek basin is fully built-out, the study used future conditions discharges for the analysis. Modified versions of MDP models were used as the basis for this study to improve accuracy and to contain the future conditions 500-year event, which was not included in the original models.

e. Manning

For Big Dry Creek (Downstream of County Line Road), Fillmore Tributary, Nobles Road Tributary and Otero Tributary, estimates of channel and overbank roughness were determined using aerial photography and field observations. The channel and bank roughness values ranged from 0.016 to 0.1. Pavement was set at 0.016. Regularly maintained grass was set at 0.03. Sandy portions of the channel and grasslands were set at 0.035. Brush and weeds were set at 0.05. Dense Trees were set at 0.07. Buildings and Development were set at 0.1.

The following Letters of Map Revision (LOMRs) were incorporated into this revision. Please note that this table only includes LOMRs that have been issued on the FIRM panels updated by this map revision. For all other areas within this county, users should be aware that revisions to the FIS Report made by prior LOMRs may not be reflected herein and users will need to continue to use the previously issued LOMRs to obtain the most current data.

Letter of Map Revisions (LOMRs)

Case Number	Effective Date	Flooding Source	FIRM Panel(s)
12-08-0132P	August 10, 2012	Little Dry Creek	08005C0452L
14-08-0302P	July 18, 2014	Little Dry Creek	08005C0452L 08005C0456K[1]
17-08-0306P	October 6, 2017	Willow Creek	08005C0456K[1] 08005C0458M
19-08-0093P	August 16, 2019	Little Dry Creek	08005C0163L 08005C0164K[2]
20-08-0155P	November 6, 2020	Drainageway D	08005C0431L[3] 08005C0432N
20-08-0871P	October 8, 2021	Willow Creek	08005C0458M 08005C0459L[4]
21-08-0174P	May 7, 2021	Lee Gulch	08005C0432N
21-08-1000P	September, 9, 2022	Big Dry Creek	08005C0454L
22-08-0055P	September 2, 2022	Big Dry Creek	08005C0454L

[1] Although a portion of LOMR 14-08-0302P and LOMR 17-08-0306P fall within the scope of this map revision, panel 08005C0456K was not revised. Therefore, users must continue to refer to the annotated FIRM attachment for these two LOMRs for FIRM panel 08005C0456K.

[2] Although a portion of LOMR 19-08-0093P falls within the scope of this map revision, panel 08005C0164K was not revised. Therefore, users must continue to refer to the annotated FIRM attachment for this LOMR for FIRM panel 08005C0164K.

[3] Although a portion of LOMR 20-08-0155P falls within the scope of this map revision, panel 08005C0431L was not revised. Therefore, users must continue to refer to the annotated FIRM attachment for this LOMR for FIRM panel 08005C0431L.

[4] Although a portion of LOMR 20-08-0871P falls within the scope of this map revision, panel 08005C0459L was not revised. Therefore, users must continue to refer to the annotated FIRM attachment for this LOMR for FIRM panel 08005C0459L.

APPENDIX A

Table 7: Map Repositories

Community	Address	City	State	Zip Code
Arapahoe County, Unincorporated Areas	Public Works and Development Department 6924 South Lima Street	Centennial	CO	80112
Aurora, City of	Engineering Department 15151 East Alameda Parkway, Suite 3200	Aurora	CO	80012
Centennial, City of	Southeast Metro Stormwater Authority 7437 South Fairplay Street	Centennial	CO	80112
Cherry Hills Village, City of	Village Center 2450 East Quincy Avenue	Cherry Hills Village	CO	80113
Columbine Valley, Town of	Town Hall 2 Middlefield Road	Columbine Valley	CO	80123
Deer Trail, City of	Planning Department 555 Second Avenue	Deer Trail	CO	80105
Englewood, City of	Civic Center 1000 Englewood Parkway	Englewood	CO	80110
Foxfield, Town of	Planning Department 18896 East Powers Drive	Aurora	CO	80015
Glendale, City of	City Hall 950 South Birch Street	Glendale	CO	80222
Greenwood Village, City of	City Hall 6060 South Quebec Street	Greenwood Village	CO	80111
Littleton, City of	Public Works Department 2255 West Berry Avenue	Littleton	CO	80120
Sheridan, City of	Sheridan Municipal Center 4101 South Federal Boulevard	Sheridan	CO	80110

Table 8: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Arapahoe County, Unincorporated Areas	080011	10190002 10190003 10190010 10190011 10190012 10190013	08005C0141K[2] 08005C0142K 08005C0143K 08005C0144L 08005C0158L 08005C0159K[2] 08005C0162K[2] 08005C0163L 08005C0164K 08005C0166K[2] 08005C0167L 08005C0168K 08005C0169K[2] 08005C0186K[2] 08005C0187K[2] 08005C0188L 08005C0189K[2] 08005C0192L 08005C0193L 08005C0194L 08005C0201L 08005C0202L 08005C0203L 08005C0204K 08005C0206L 08005C0207K 08005C0208L 08005C0209L 08005C0211L 08005C0212K 08005C0213M 08005C0214L	

Table 8: Listing of NFIP Jurisdictions (continued)

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Arapahoe County, Unincorporated Areas (continued)	080011	10190002 10190003 10190010 10190011 10190012 10190013	08005C0216M 08005C0217L 08005C0218M 08005C0219L 08005C0226L 08005C0227L 08005C0228L 08005C0229L 08005C0231L 08005C0233L 08005C0235L[2] 08005C0236M 08005C0237M 08005C0240M 08005C0241L 08005C0245L 08005C0255K[2] 08005C0260K 08005C0265K 08005C0270K 08005C0300K 08005C0325K 08005C0350K 08005C0375K 08005C0400K[2] 08005C0425K[2] 08005C0431L 08005C0432N 08005C0433K 08005C0451M 08005C0457K 08005C0459L 08005C0476L 08005C0477L 08005C0478L 08005C0479K 08005C0481L 08005C0482M 08005C0483L 08005C0501M 08005C0502L 08005C0503L 08005C0504L 08005C0506L 08005C0507L 08005C0508K	

Table 8: Listing of NFIP Jurisdictions (continued)

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Arapahoe County, Unincorporated Areas (continued)	080011	10190002 10190003 10190010 10190011 10190012 10190013	08005C0509K[2] 08005C0530L 08005C0550L 08005C0575K 08005C0600K 08005C0625K 08005C0650K 08005C0675K 08005C0700K[2] 08005C0725K[2]	
Aurora, City of	080002	10190003	08005C0019K 08005C0038K 08005C0039L 08005C0043K 08005C0044K[2] 08005C0050K[2] 08005C0054L 08005C0055K[2] 08005C0059L 08005C0060K[2] 08005C0061L 08005C0062L 08005C0063L 08005C0064L 08005C0066L 08005C0067L 08005C0068L 08005C0069L 08005C0078L 08005C0086L 08005C0087K 08005C0088L 08005C0089L 08005C0095K[2] 08005C0125K[2] 08005C0157K 08005C0159K[2] 08005C0167L 08005C0169K[2] 08005C0176K[2] 08005C0177L 08005C0178K 08005C0179L 08005C0181L 08005C0182K 08005C0183L 08005C0184L 08005C0186K[2]	

Table 8: Listing of NFIP Jurisdictions (continued)

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Aurora, City of (continued)	080002	10190003	08005C0187K[2] 08005C0189K[2] 08005C0191L 08005C0192L 08005C0193L 08005C0194L 08005C0201L 08005C0202L 08005C0203L 08005C0204K 08005C0206L 08005C0207K 08005C0208L 08005C0209L 08005C0211L 08005C0212K 08005C0213M 08005C0214L 08005C0216M 08005C0217L 08005C0218M 08005C0226L 08005C0227L 08005C0231L 08005C0235L[2] 08005C0477L 08005C0479K 08005C0481L 08005C0482M 08005C0483L 08005C0484L 08005C0500K[2] 08005C0501M 08005C0502L 08005C0503L 08005C0504L 08005C0506L 08005C0507L 08005C0508K 08005C0509K[2] 08005C0515L	
Bennett, Town of	080003	10190003 10190010	N/A	Adams County FIS Report, 2018
Bow Mar, Town of	080232	10190002	N/A	Jefferson County, FIS Report, 2018

Table 8: Listing of NFIP Jurisdictions (continued)

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Centennial, City of	080315	10190002 10190003	08005C0193L 08005C0194L 08005C0451M 08005C0452L 08005C0453L 08005C0454L 08005C0456K 08005C0457K 08005C0458M 08005C0459L 08005C0476L 08005C0477L 08005C0478L 08005C0479K 08005C0481L 08005C0482M 08005C0483L 08005C0484L 08005C0501M 08005C0503L	
Cherry Hills Village, City of	080013	10190002 10190003	08005C0163L 08005C0164K 08005C0168K 08005C0451M 08005C0452L 08005C0456K	
Columbine Valley, Town of	080014	10190002	08005C0431L 08005C0432N 08005C0433K 08005C0434K	
Deer Trail, City of	080015	10190011	08005C0350K 08005C0650K	
Englewood, City of	085074	10190002	08005C0142K 08005C0143K 08005C0144L 08005C0161K 08005C0162K[2] 08005C0163L 08005C0164K 08005C0431L 08005C0432N 08005C0451M	

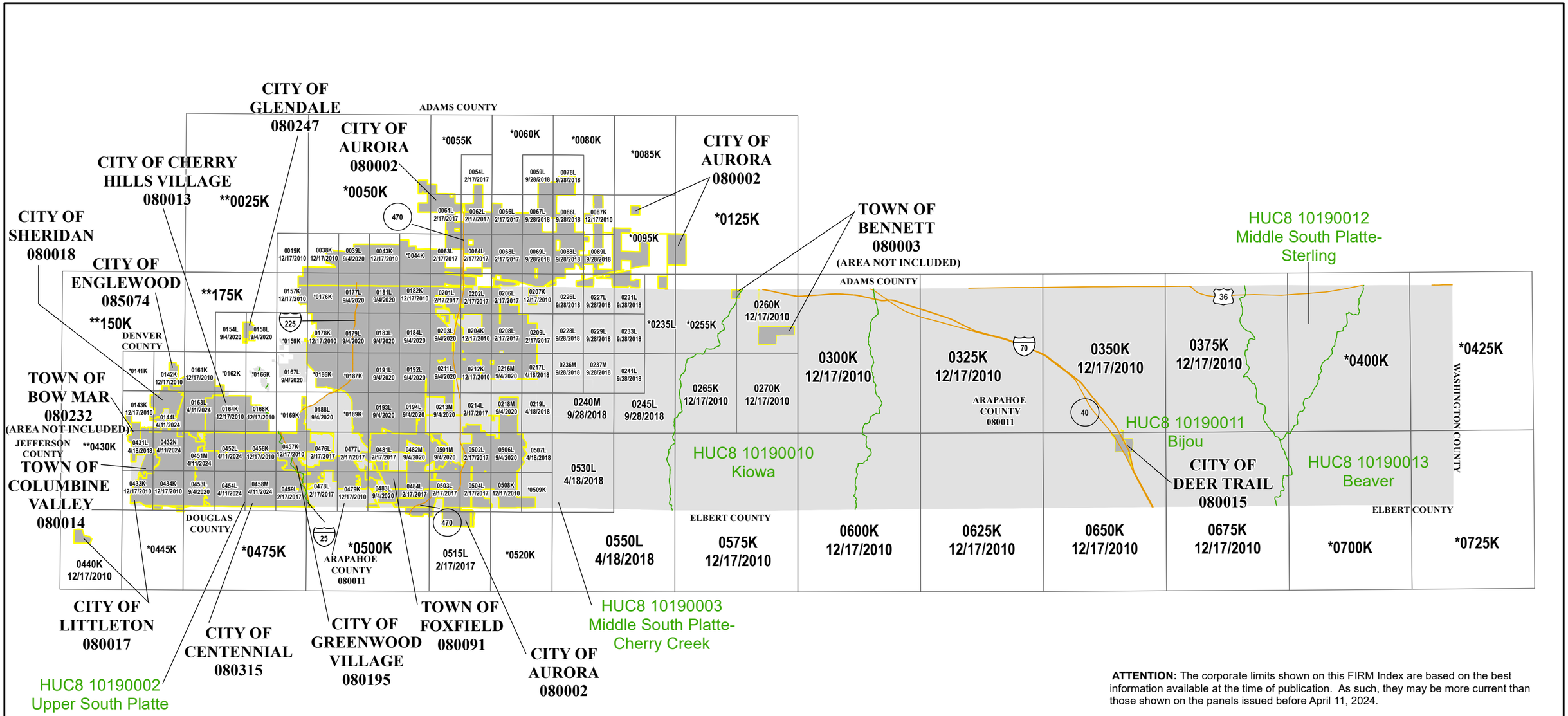
Table 8: Listing of NFIP Jurisdictions (continued)

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Foxfield, Town of[1]	080091	10190003	08005C0481L 08005C0482M 08005C0483L 08005C0484L	
Glendale, City of	080247	10190003	08005C0154L 08005C0158L	
Greenwood Village, City of	080195	10190002 10190003	08005C0169K[2] 08005C0188L 08005C0451M 08005C0452L 08005C0456K 08005C0457K 08005C0459L 08005C0476L 08005C0478L	
Littleton, City of	080017	10190002	08005C0143K 08005C0144L 08005C0431L 08005C0432N 08005C0433K 08005C0434K 08005C0440K 08005C0445K[2] 08005C0451M 08005C0453L 08005C0475K[2]	
Sheridan, City of	080018	10190002	08005C0142K 08005C0143K 08005C0144L	

[1] No Special Flood Hazard Areas Identified

[2] Panel Not Printed

Figure 6: FIRM Panel Index



ATTENTION: The corporate limits shown on this FIRM Index are based on the best information available at the time of publication. As such, they may be more current than those shown on the panels issued before April 11, 2024.

N

1 inch = 28,290 feet 1:339,480

0 15,000 30,000 60,000 feet

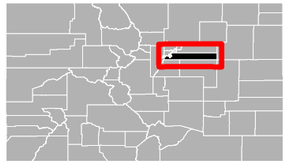
Map Projection:
Universal Transverse Mercator Zone 13 North, Meters;
North American Datum 1983

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT
HTTPS://MSC.FEMA.GOV

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION

*PANEL NOT PRINTED - NO SPECIAL FLOOD HAZARD AREAS
**PANEL NOT PRINTED - AREA NOT INCLUDED

COUNTY LOCATOR



NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP INDEX

ARAPAHOE COUNTY, COLORADO AND INCORPORATED AREAS

PANELS PRINTED:
0019, 0038, 0039, 0043, 0054, 0059, 0061, 0062, 0063, 0064, 0066, 0067, 0068, 0069, 0078, 0086, 0087, 0088, 0089, 0142, 0143, 0144, 0154, 0157, 0158, 0161, 0163, 0164, 0167, 0168, 0177, 0178, 0179, 0181, 0182, 0183, 0184, 0188, 0191, 0192, 0193, 0194, 0201, 0202, 0203, 0204, 0206, 0207, 0208, 0209, 0211, 0212, 0213, 0214, 0216, 0217, 0218, 0219, 0226, 0227, 0228, 0229, 0231, 0233, 0236, 0237, 0240, 0241, 0245, 0260, 0265, 0270, 0300, 0325, 0350, 0375, 0431, 0432, 0433, 0434, 0440, 0451, 0452, 0453, 0454, 0456, 0457, 0458, 0459, 0476, 0477, 0478, 0479, 0481, 0482, 0483, 0484, 0501, 0502, 0503, 0504, 0506, 0507, 0508, 0515, 0530, 0550, 0575, 0600, 0625, 0650, 0675

FEMA

MAP NUMBER
08005CIND0F

MAP REVISED
APRIL 11, 2024

Figure 7: FIRM Notes to Users

NOTES TO USERS

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

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

For community and countywide map dates, refer to Table 6 in this FIS Report.

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

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

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

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

FLOOD CONTROL STRUCTURE INFORMATION: Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of this FIS Report for information on flood control structures for this jurisdiction.

PROJECTION INFORMATION: The projection used in the preparation of the map was Universal Transverse Mercator (UTM) Zone 13N. The horizontal datum was the North American Datum of 1983 NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

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

Local vertical monuments may have been used to create the map. To obtain current monument information, please contact the appropriate local community listed in Table 7 of this FIS Report.

BASE MAP INFORMATION: Base map information shown on the FIRM was derived from digital data obtained from Arapahoe County, Colorado dated 2019, the U.S. Geological Survey, dated 2014, and the U.S. Bureau of Land Management, dated 2004.

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

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

NOTES FOR FIRM INDEX

REVISIONS TO INDEX: As new studies are performed and FIRM panels are updated within Arapahoe County, Colorado, corresponding revisions to the FIRM Index will be incorporated within the FIS Report to reflect the effective dates of those panels. Please refer to Table 6 of this FIS Report to determine the most recent FIRM revision date for each community. The most recent FIRM panel effective date will correspond to the most recent index date.

ATTENTION: The corporate limits shown on this FIRM Index are based on the best information available at the time of publication. As such, they may be more current than those shown on FIRM panels issued before April 11, 2024.

SPECIAL NOTES FOR SPECIFIC FIRM PANELS

This Notes to Users section was created specifically for Arapahoe County, Colorado, effective April 11, 2024.

NON-ACCREDITED LEVEE SYSTEM: This panel contains a levee system that has not been accredited and is therefore not recognized as reducing the 1-percent-annual-chance flood hazard.

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

Figure 8: Map Legend for FIRM

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

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

Zone A — The flood insurance rate zone that corresponds to the 1% annual chance floodplains. No base (1% annual chance) flood elevations (BFEs) or depths are shown within this zone.

Zone AE — The flood insurance rate zone that corresponds to the 1% annual chance floodplains. Base flood elevations derived from the hydraulic analyses are shown within this zone.

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

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

Zone AR — The flood insurance rate zone that corresponds to areas that were formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

Zone A99 — The flood insurance rate zone that corresponds to areas of the 1% annual chance floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No base flood elevations or flood depths are shown within this zone.

Zone V — The flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations are not shown within this zone.

Zone VE — Zone VE is the flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations derived from the coastal analyses are shown within this zone as static whole-foot elevations that apply throughout the zone.

Regulatory Floodway determined in Zone AE.

OTHER AREAS OF FLOOD HAZARD

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

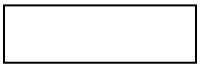
Future Conditions 1% Annual Chance Flood Hazard – Zone X: The flood insurance rate zone that corresponds to the 1% annual chance floodplains that are determined based on future-conditions hydrology. No base flood elevations or flood depths are shown within this zone.

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

Area with Flood Risk due to Levee: Areas where a non-accredited levee, dike, or other flood control structure is shown as providing protection to less than the 1% annual chance flood.

OTHER AREAS

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



Unshaded Zone X: Areas of minimal flood hazard.

FLOOD HAZARD AND OTHER BOUNDARY LINES

(ortho) (vector)

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

Limit of Study

Jurisdiction Boundary

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

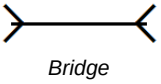
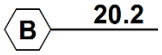
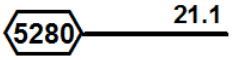
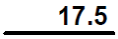
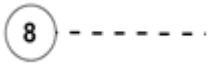
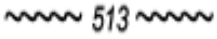
GENERAL STRUCTURES

Aqueduct
Channel
Culvert
Storm Sewer

Channel, Culvert, Aqueduct, or Storm Sewer

Dam
Jetty
Weir

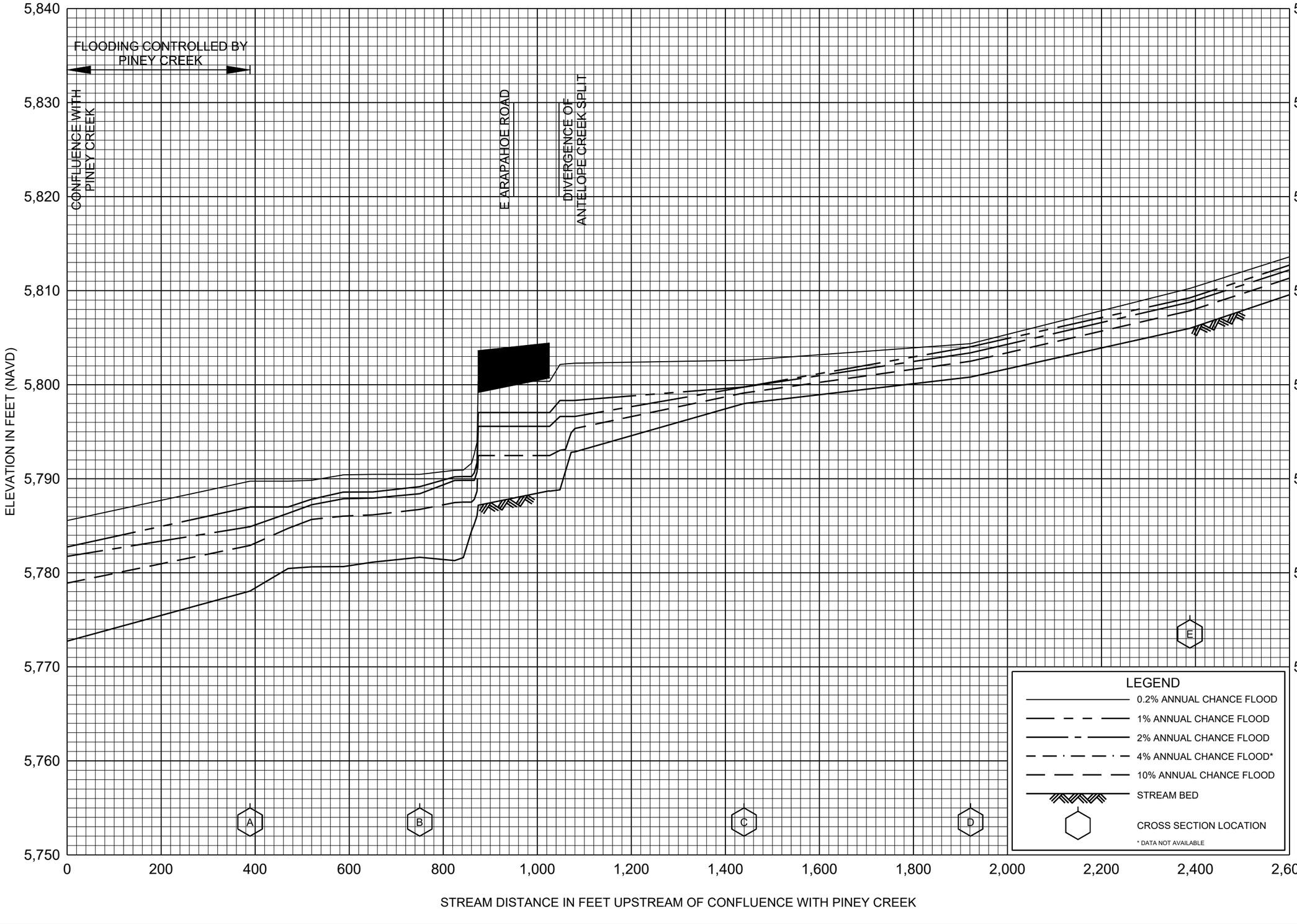
Dam, Jetty, Weir

	Levee, Dike, or Floodwall
	Bridge
REFERENCE MARKERS	
	River mile Markers
CROSS SECTION & TRANSECT INFORMATION	
	Lettered Cross Section with Regulatory Water Surface Elevation (BFE)
	Numbered Cross Section with Regulatory Water Surface Elevation (BFE)
	Unlettered Cross Section with Regulatory Water Surface Elevation (BFE)
	Coastal Transect
	Profile Baseline: Indicates the modeled flow path of a stream and is shown on FIRM panels for all valid studies with profiles or otherwise established base flood elevation.
	Coastal Transect Baseline: Used in the coastal flood hazard model to represent the 0.0-foot elevation contour and the starting point for the transect and the measuring point for the coastal mapping.
	Base Flood Elevation Line
ZONE AE (EL 16)	Static Base Flood Elevation value (shown under zone label)
ZONE AO (DEPTH 2)	Zone designation with Depth
ZONE AO (DEPTH 2) (VEL 15 FPS)	Zone designation with Depth and Velocity
BASE MAP FEATURES	
	River, Stream or Other Hydrographic Feature
	Interstate Highway
	U.S. Highway
	State Highway
	County Highway

MAPLE LANE	Street, Road, Avenue Name, or Private Drive if shown on Flood Profile
RAILROAD	Railroad
_____	Horizontal Reference Grid Line
___	Horizontal Reference Grid Ticks
+	Secondary Grid Crosshairs
Land Grant	Name of Land Grant
7	Section Number
R. 43 W. T. 22 N.	Range, Township Number
$^{42}76^{000m}E$	Horizontal Reference Grid Coordinates (UTM)
365000 FT	Horizontal Reference Grid Coordinates (State Plane)
80° 16’ 52.5”	Corner Coordinates (Latitude, Longitude)

Table 9: Community Meetings

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Arapahoe County Unincorporated Areas	4/11/2024	4/8/2020	CCO Meeting	FEMA, Mile High Flood Control District, the community, and the study contractor
Centenial, City of	4/11/2024	4/8/2020	CCO Meeting	FEMA, Mile High Flood Control District, the community, and the study contractor
Englewood, City of	4/11/2024	4/8/2020	CCO Meeting	FEMA, Mile High Flood Control District, the community, and the study contractor
Greenwood Village, City of	4/11/2024	4/8/2020	CCO Meeting	FEMA, Mile High Flood Control District, the community, and the study contractor
Littleton, City of	4/11/2024	4/8/2020	CCO Meeting	FEMA, Mile High Flood Control District, the community, and the study contractor



FLOOD PROFILES

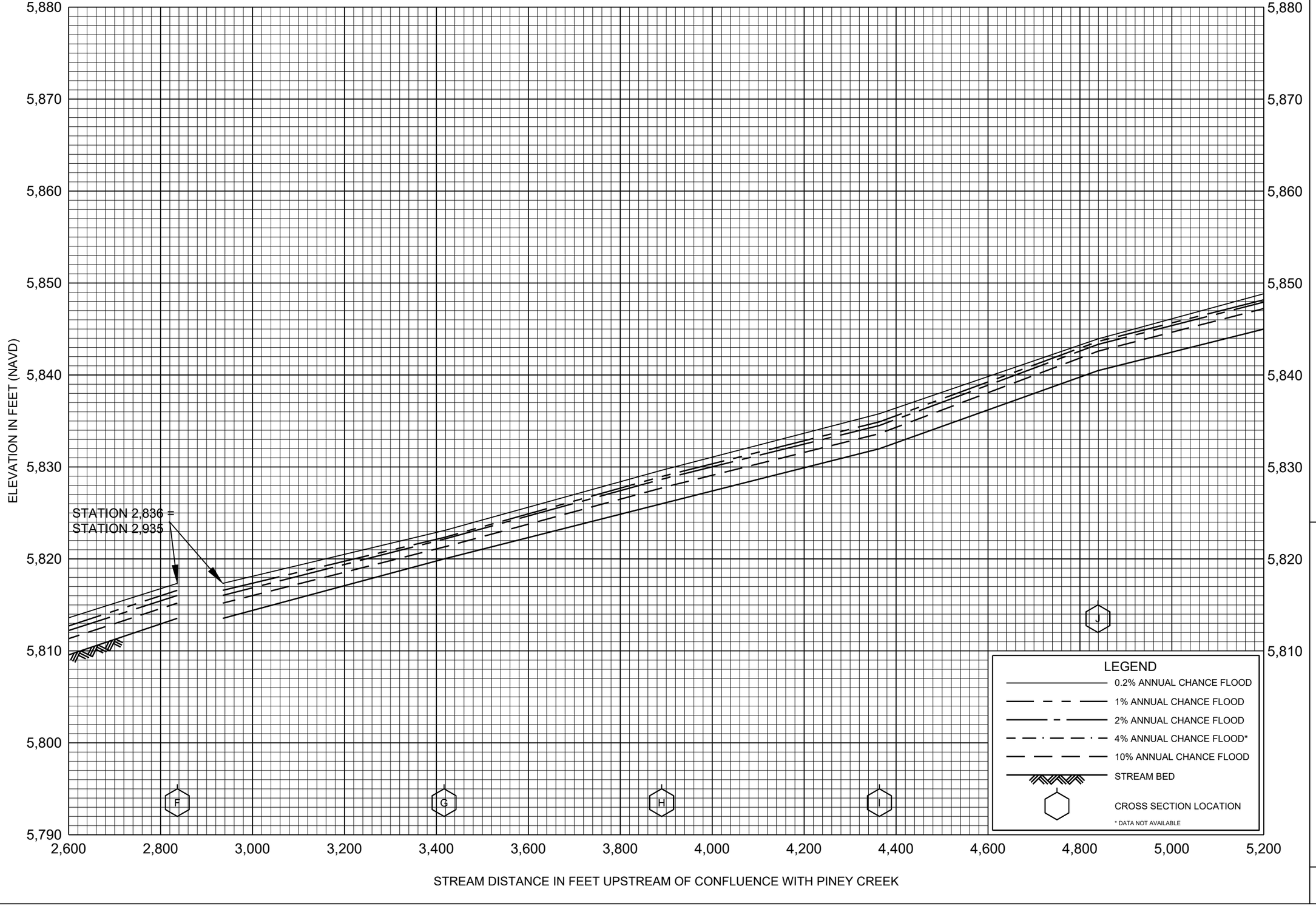
ANTELOPE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

001P



FLOOD PROFILES

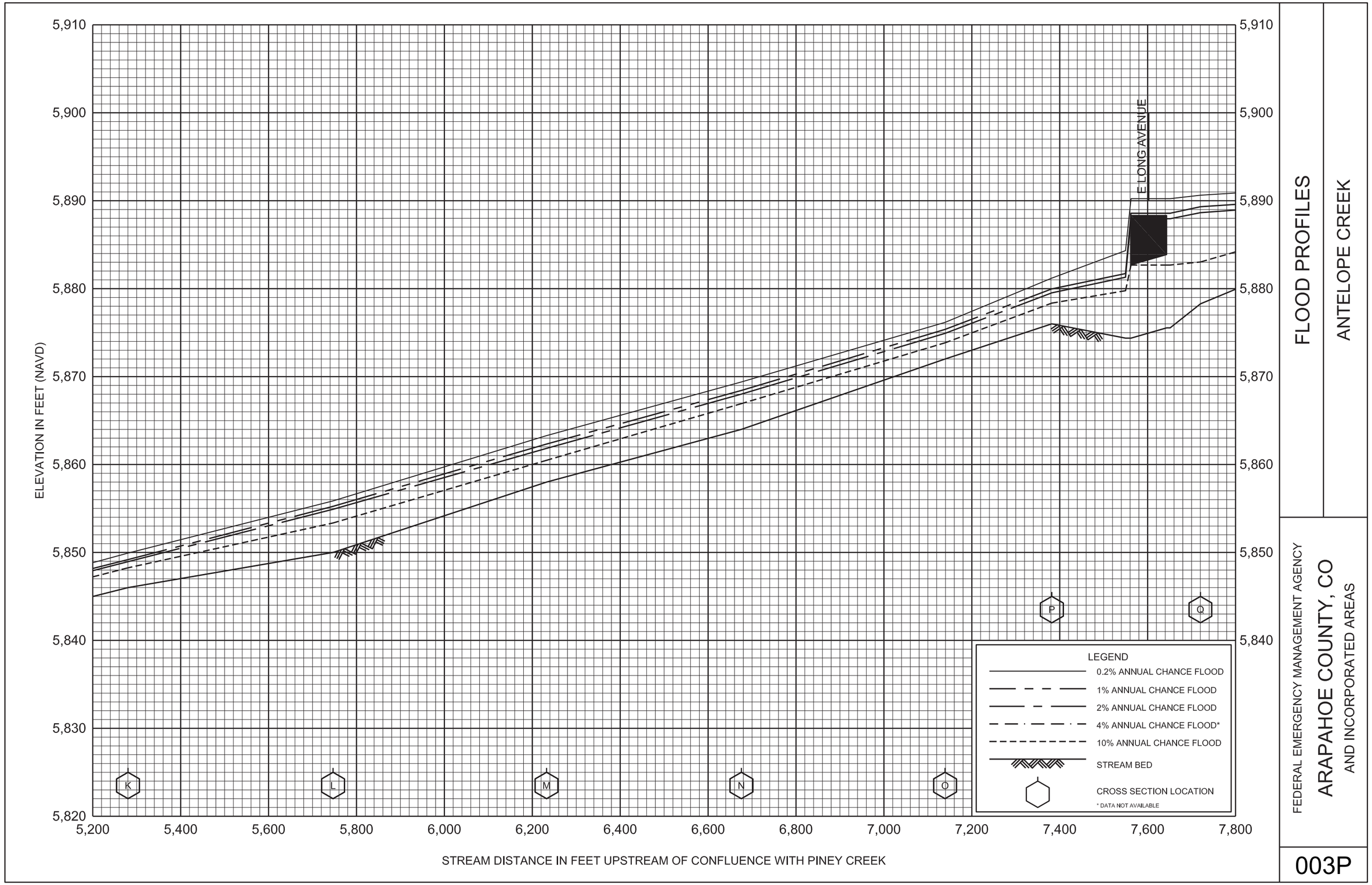
ANTELOPE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

002P



FLOOD PROFILES

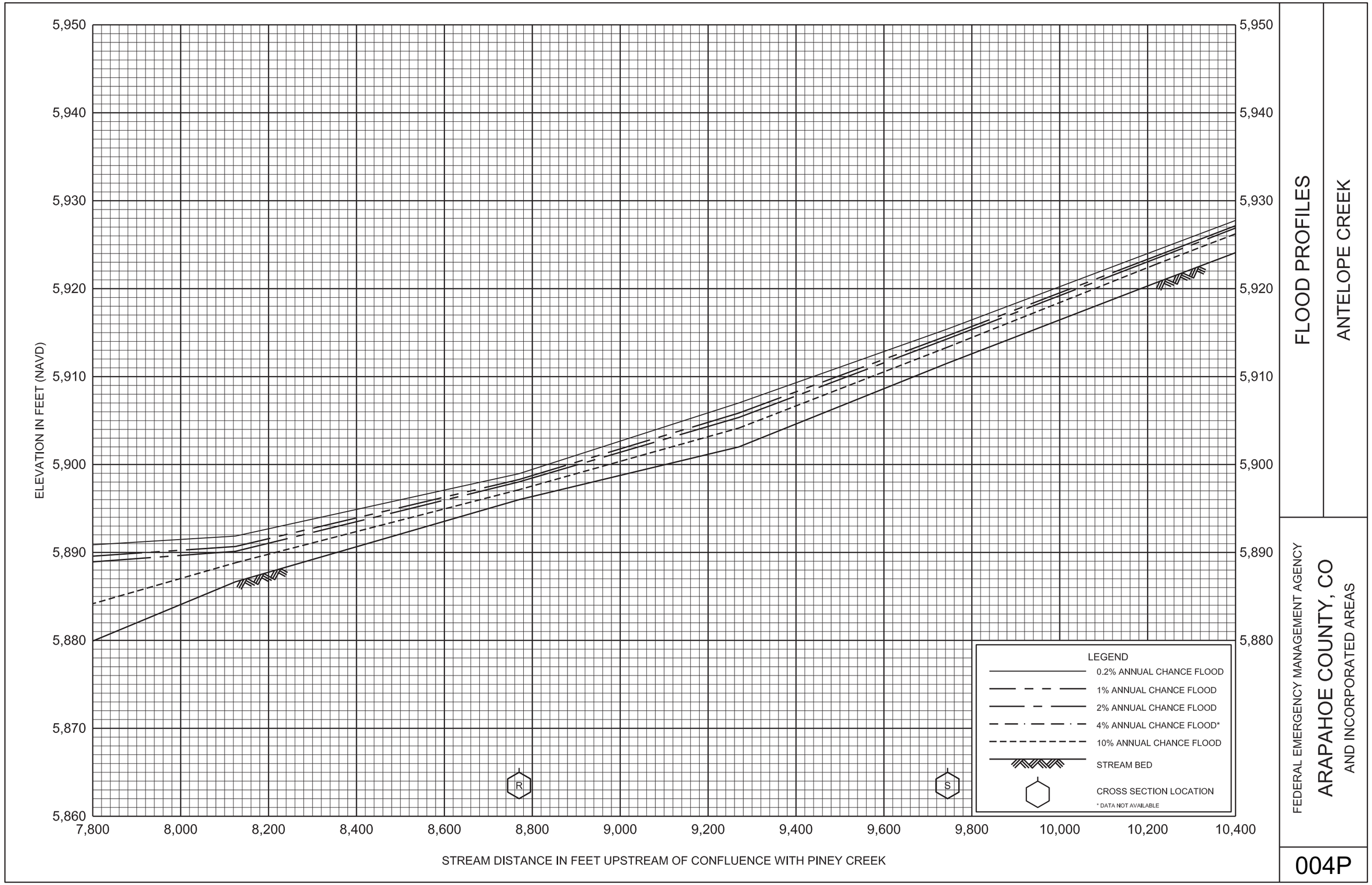
ANTELOPE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

003P



FLOOD PROFILES

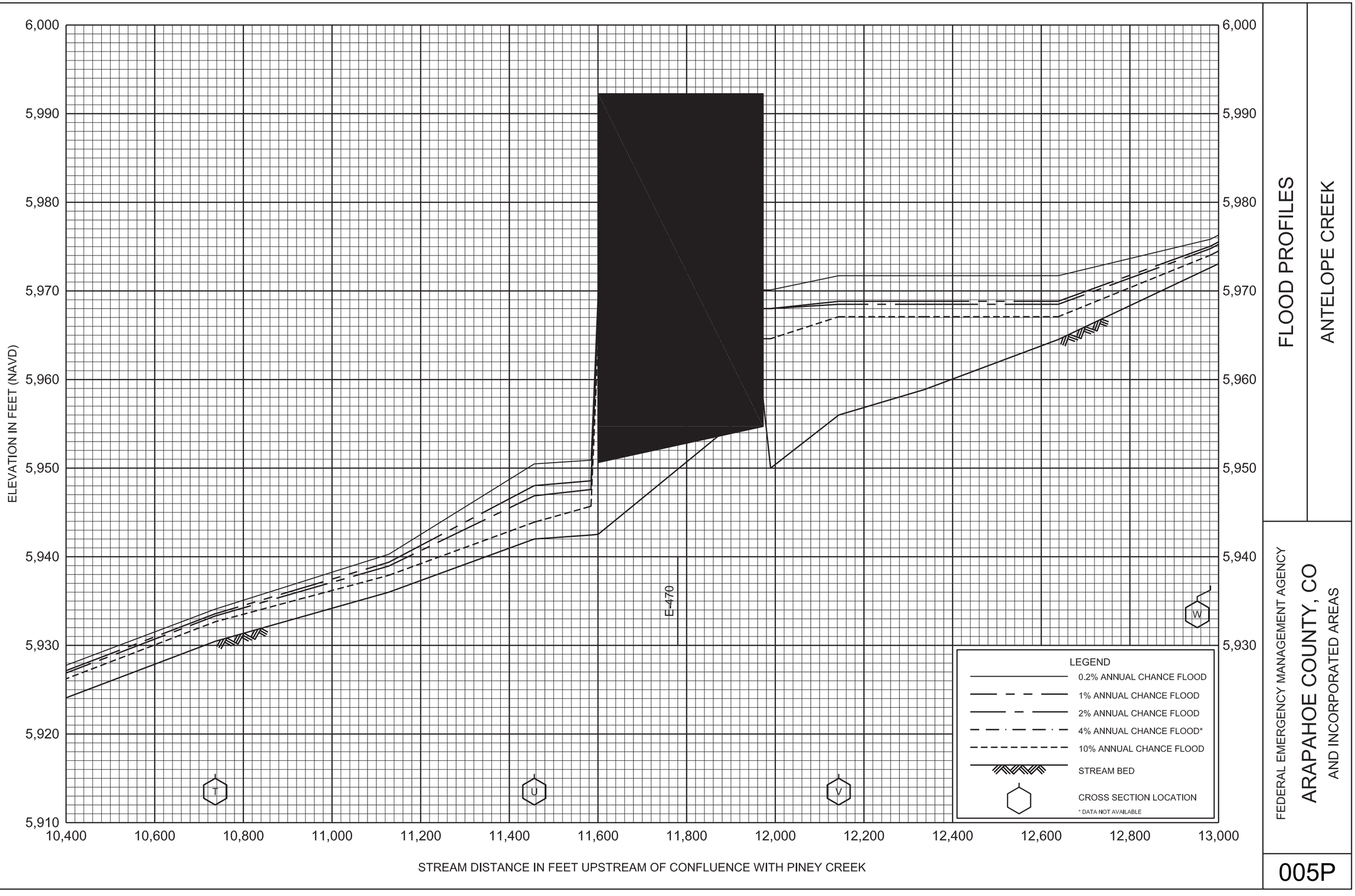
ANTELOPE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

004P



FLOOD PROFILES

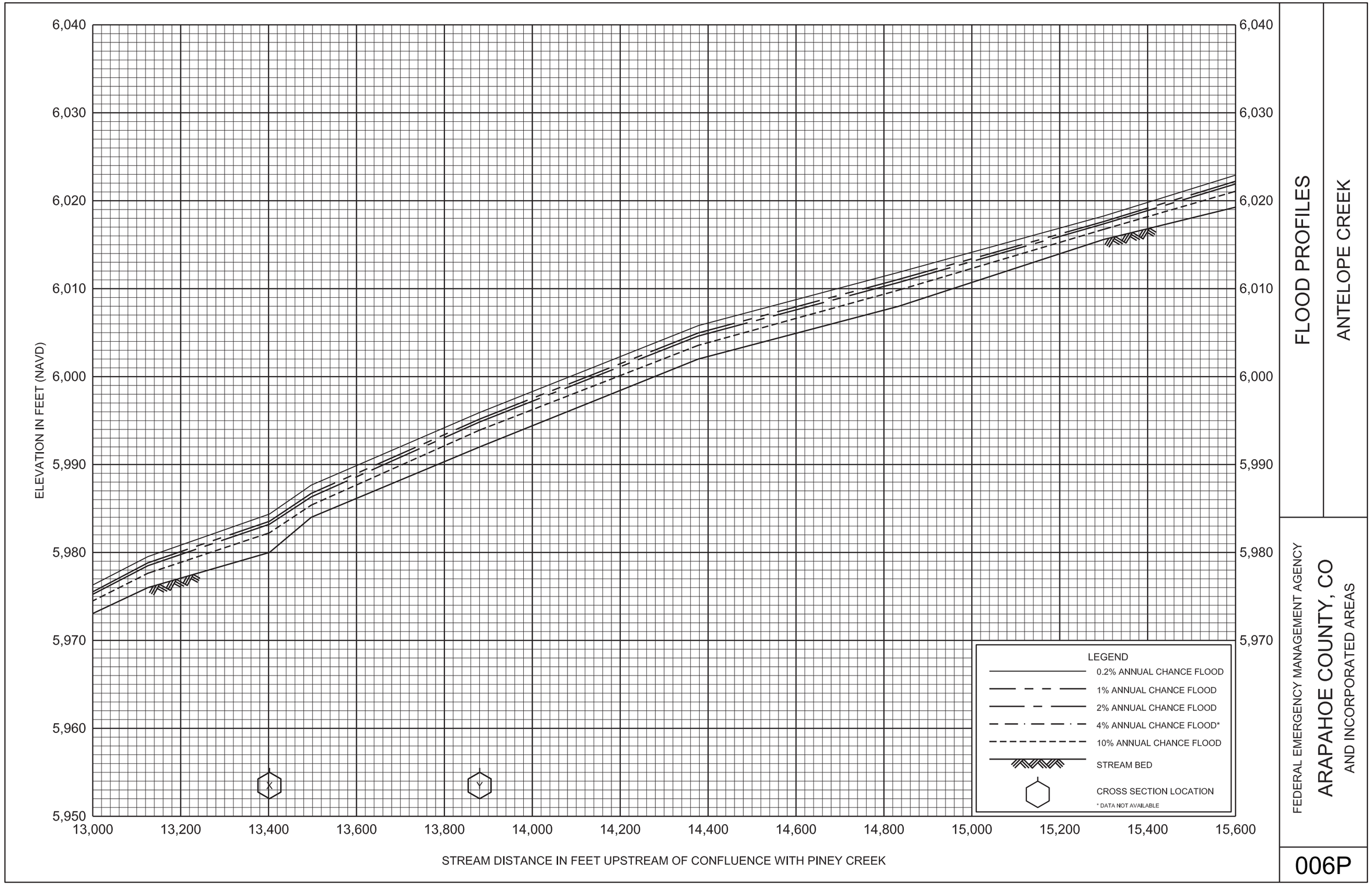
ANTELOPE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

005P



FLOOD PROFILES

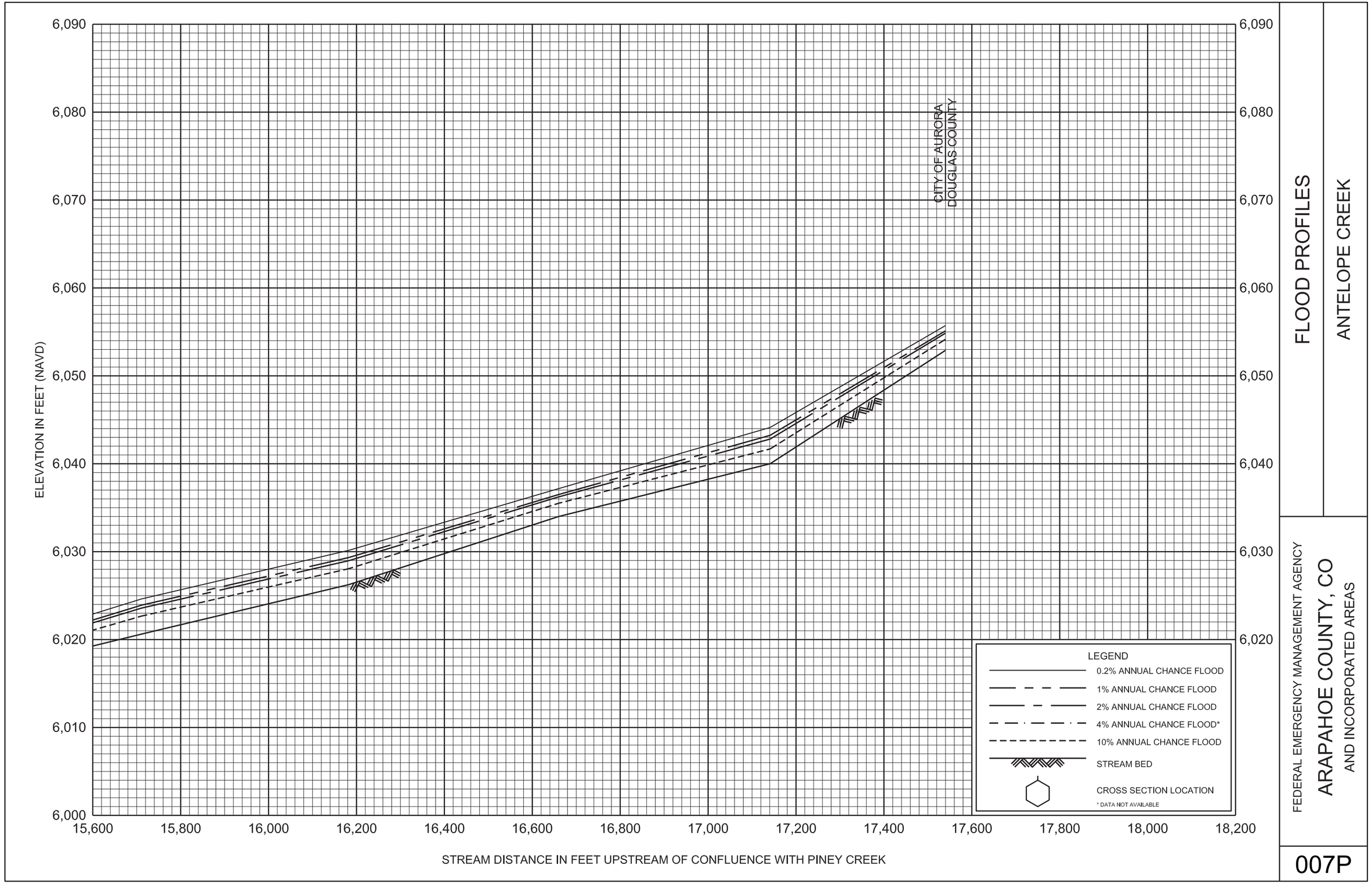
ANTELOPE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

006P



FLOOD PROFILES

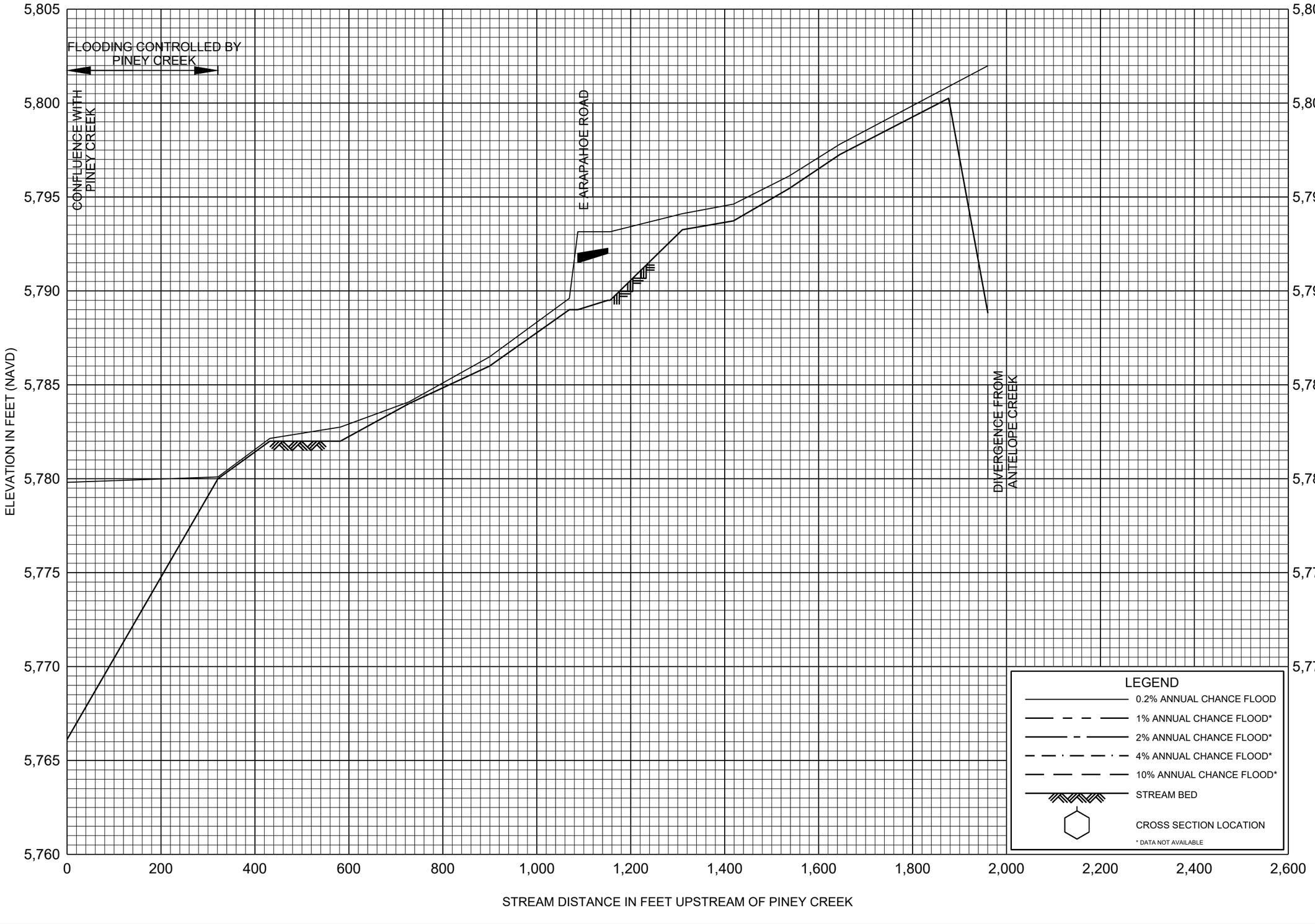
ANTELOPE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

007P



FLOOD PROFILES

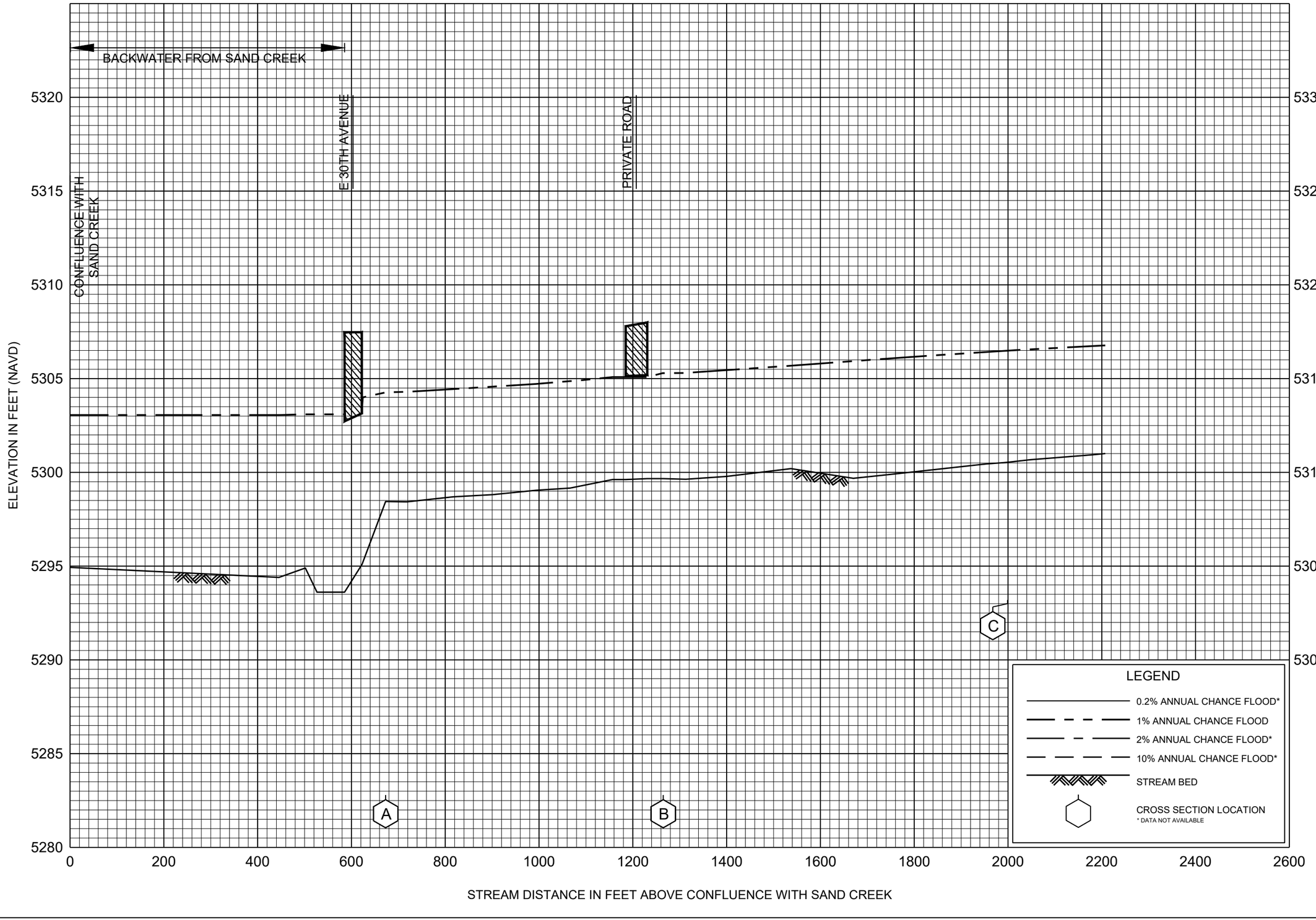
ANTELOPE CREEK SPLIT FLOW

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

008P



FLOOD PROFILES

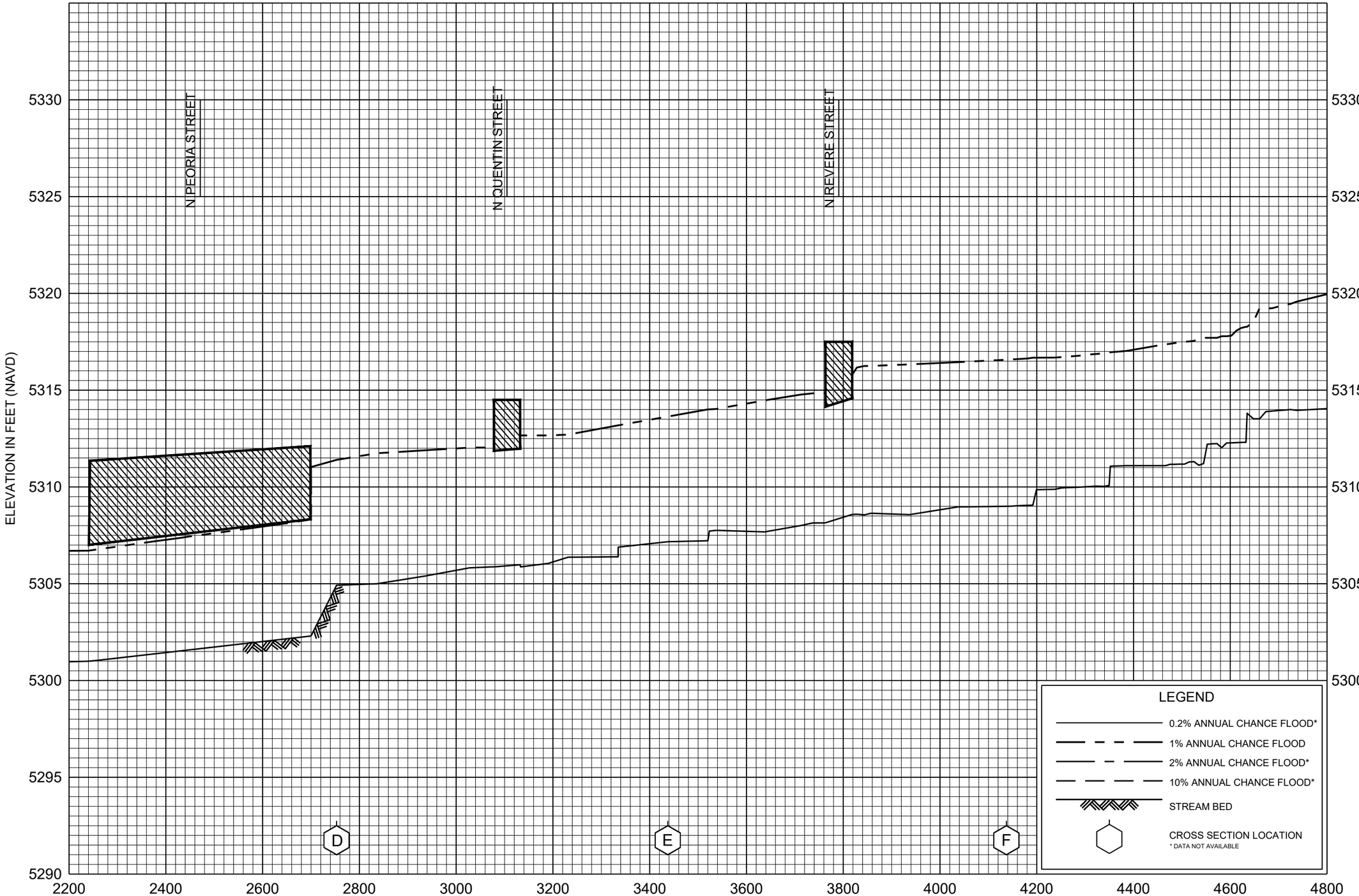
BARANMOR DITCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

009P



FLOOD PROFILES

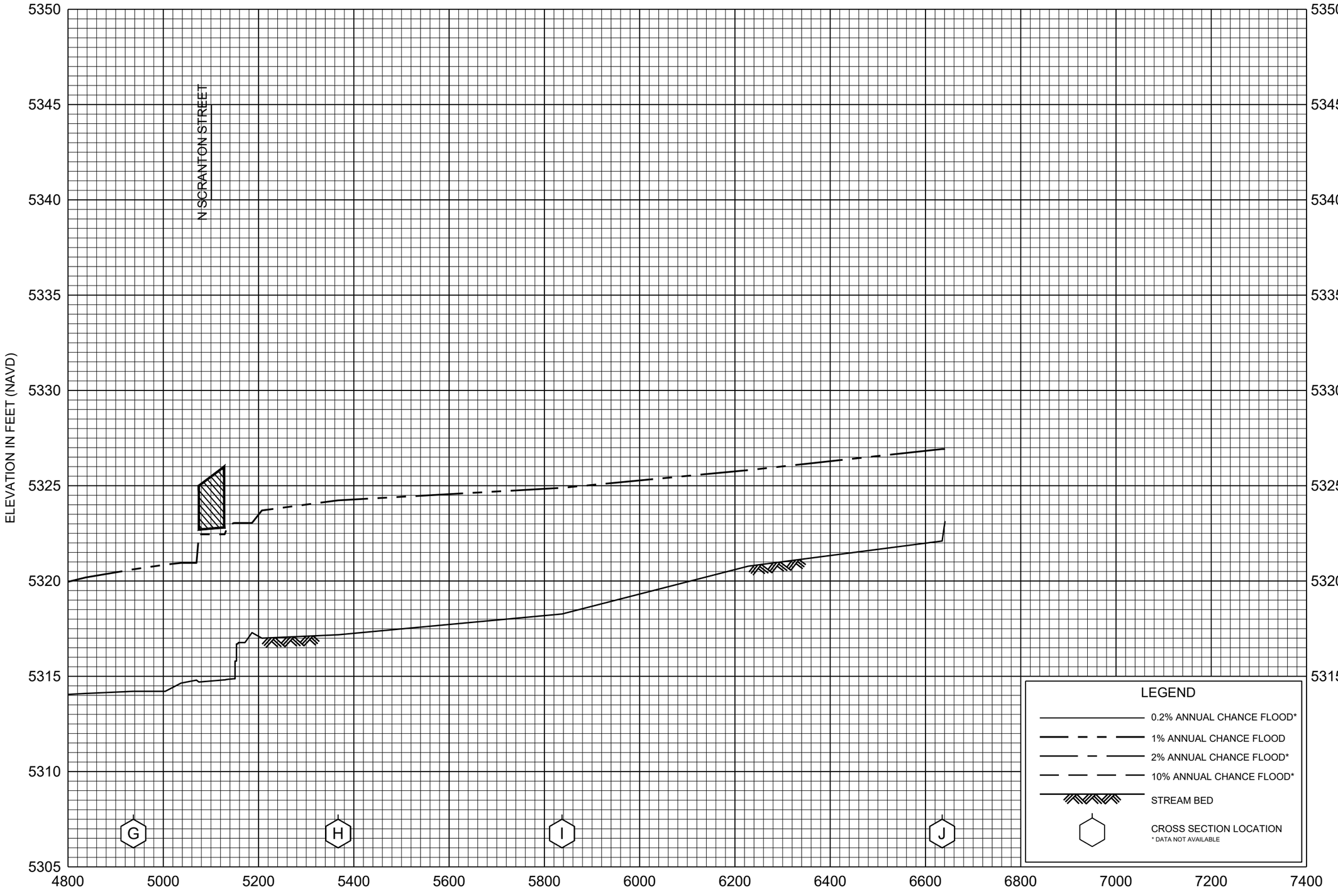
BARANMOR DITCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

010P



FLOOD PROFILES

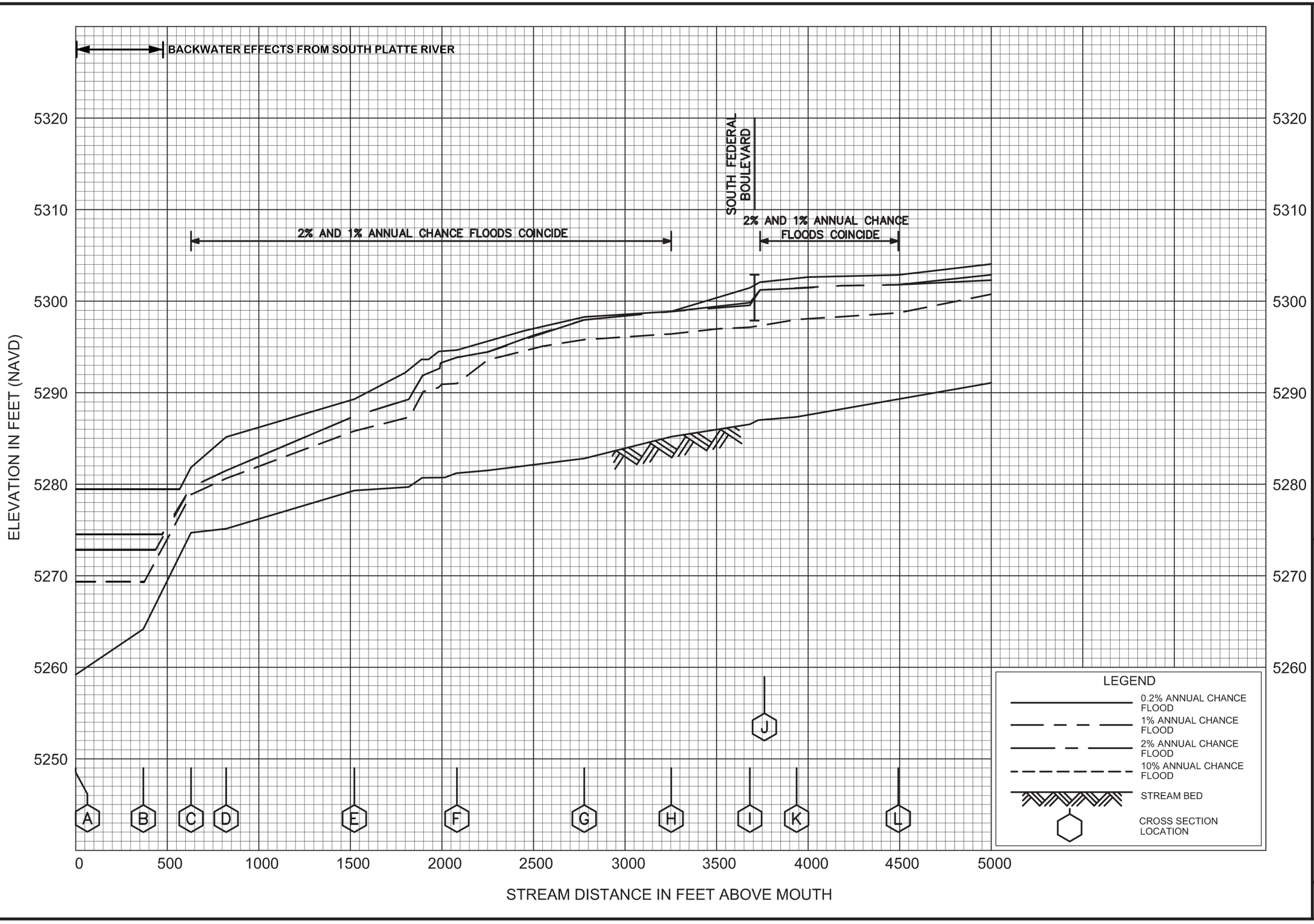
BARANMOR DITCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO

AND INCORPORATED AREAS

011P



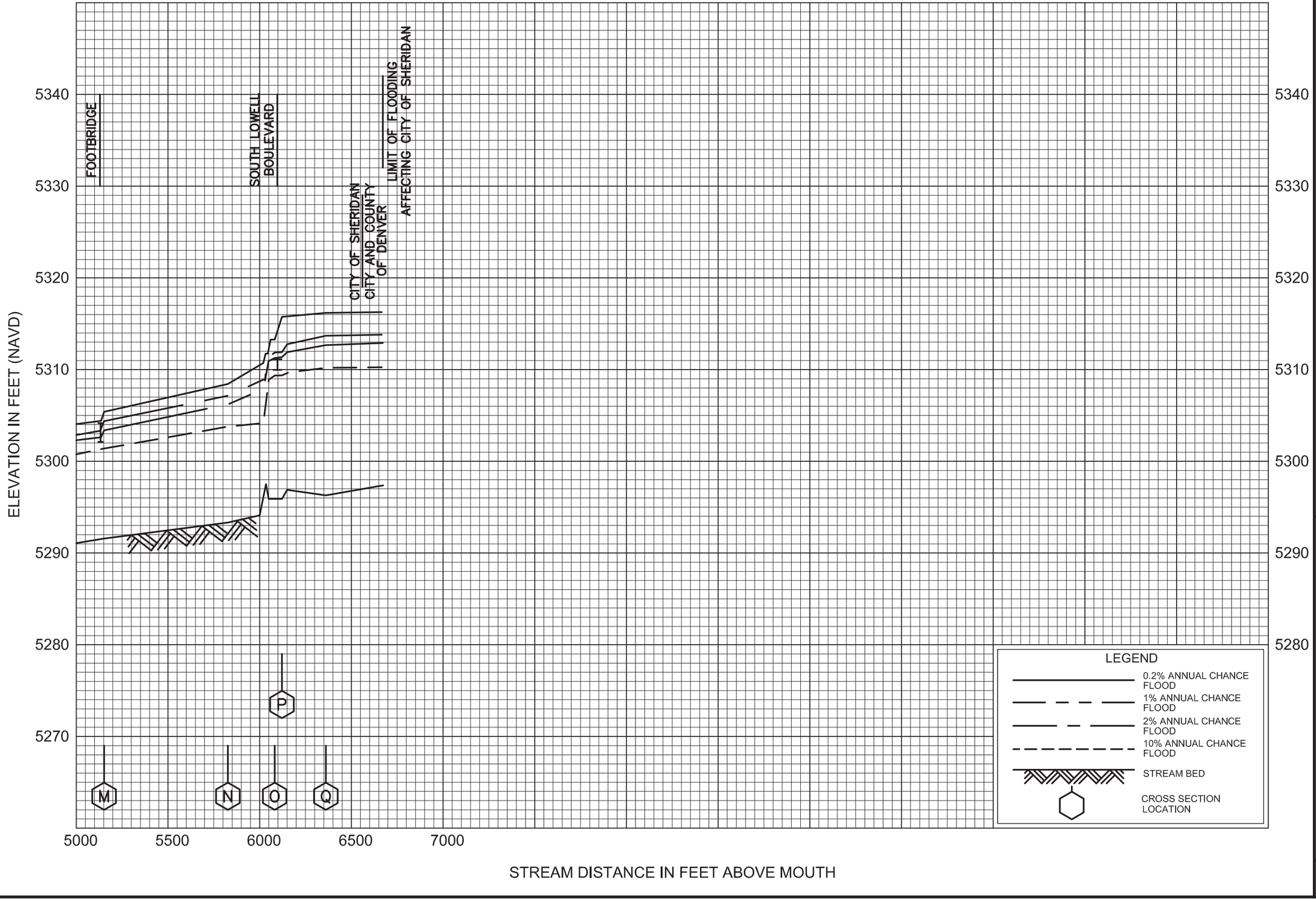
FLOOD PROFILES

BEAR CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

012P



FLOOD PROFILES

BEAR CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ARAPAHOE COUNTY, CO
AND INCORPORATED AREAS

013P