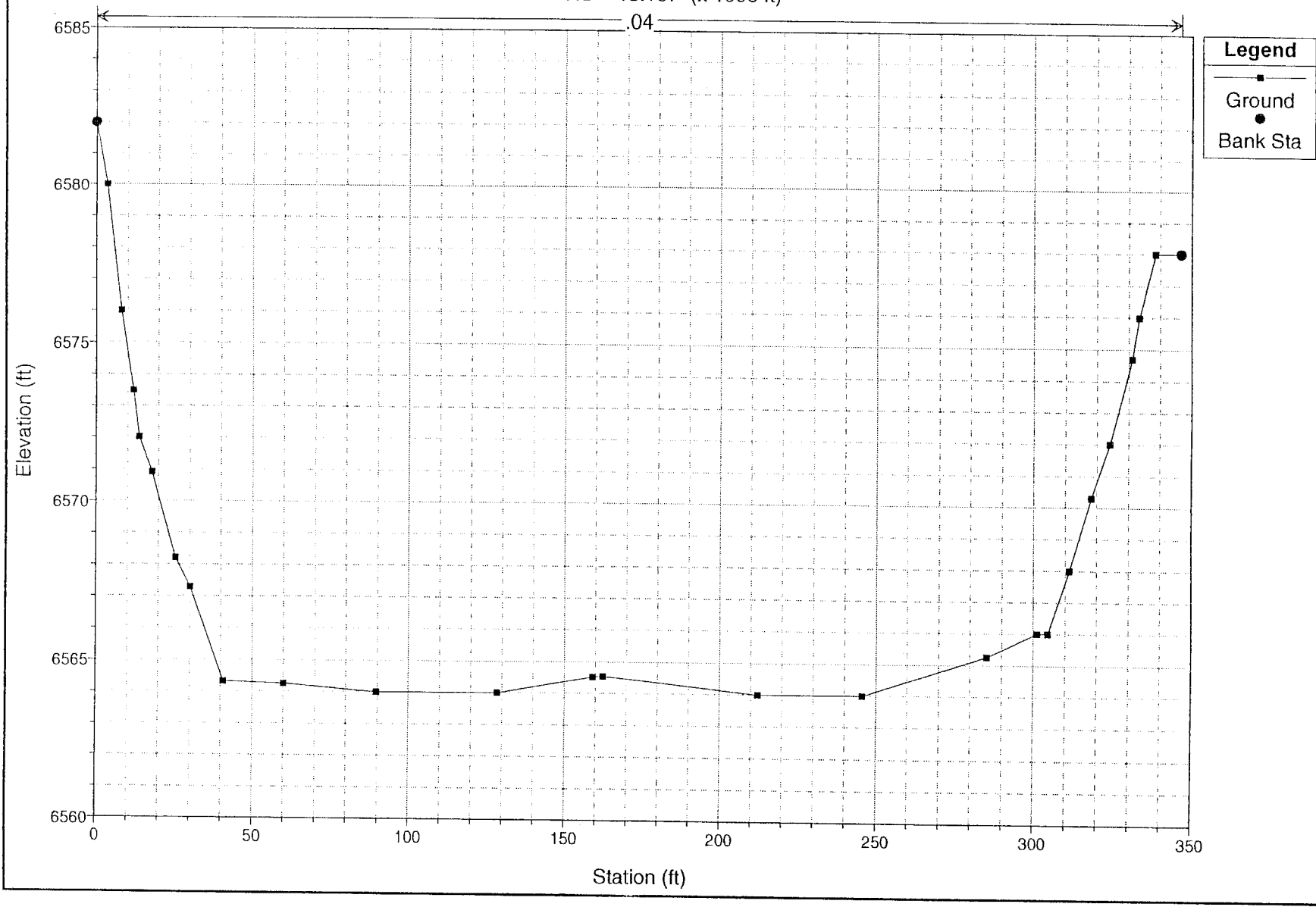
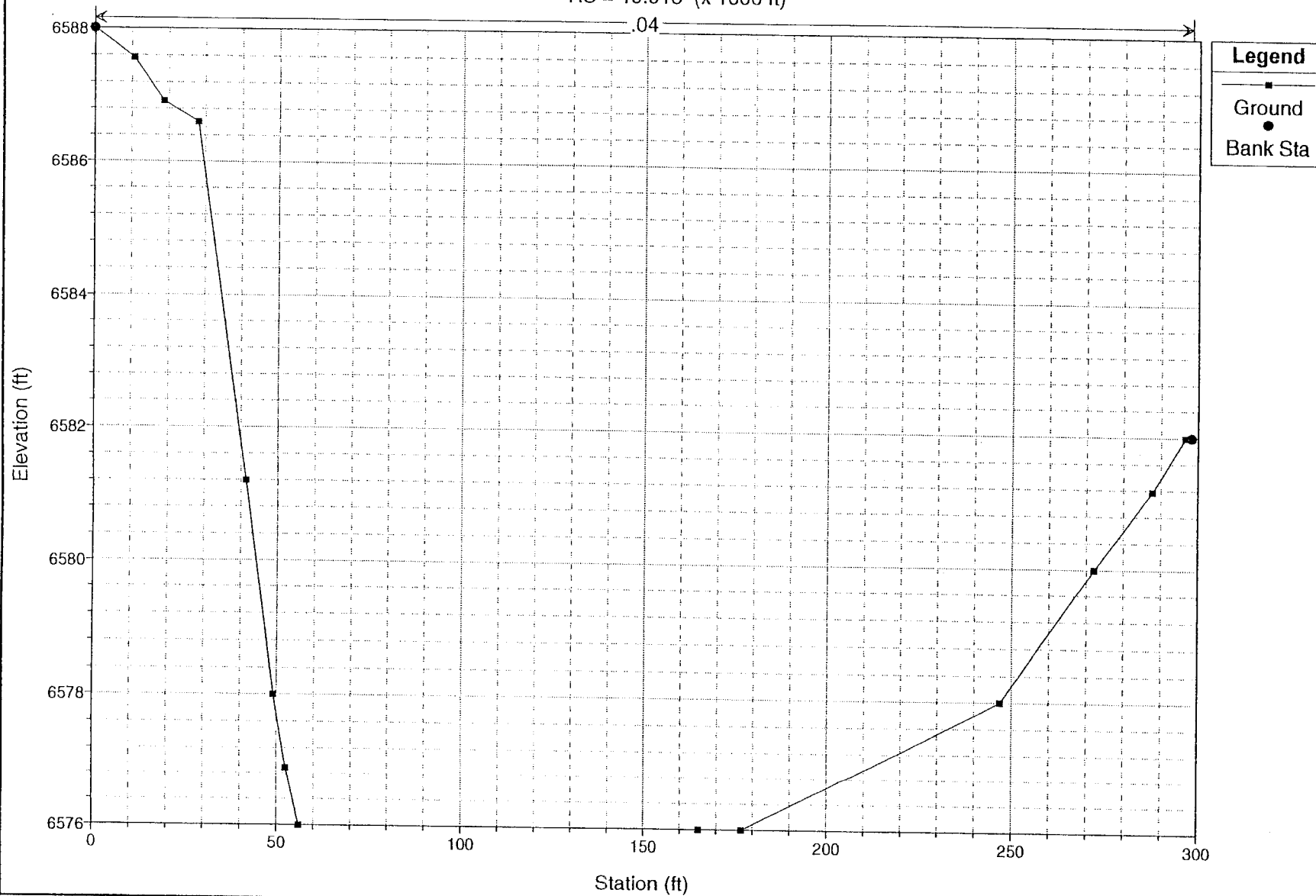
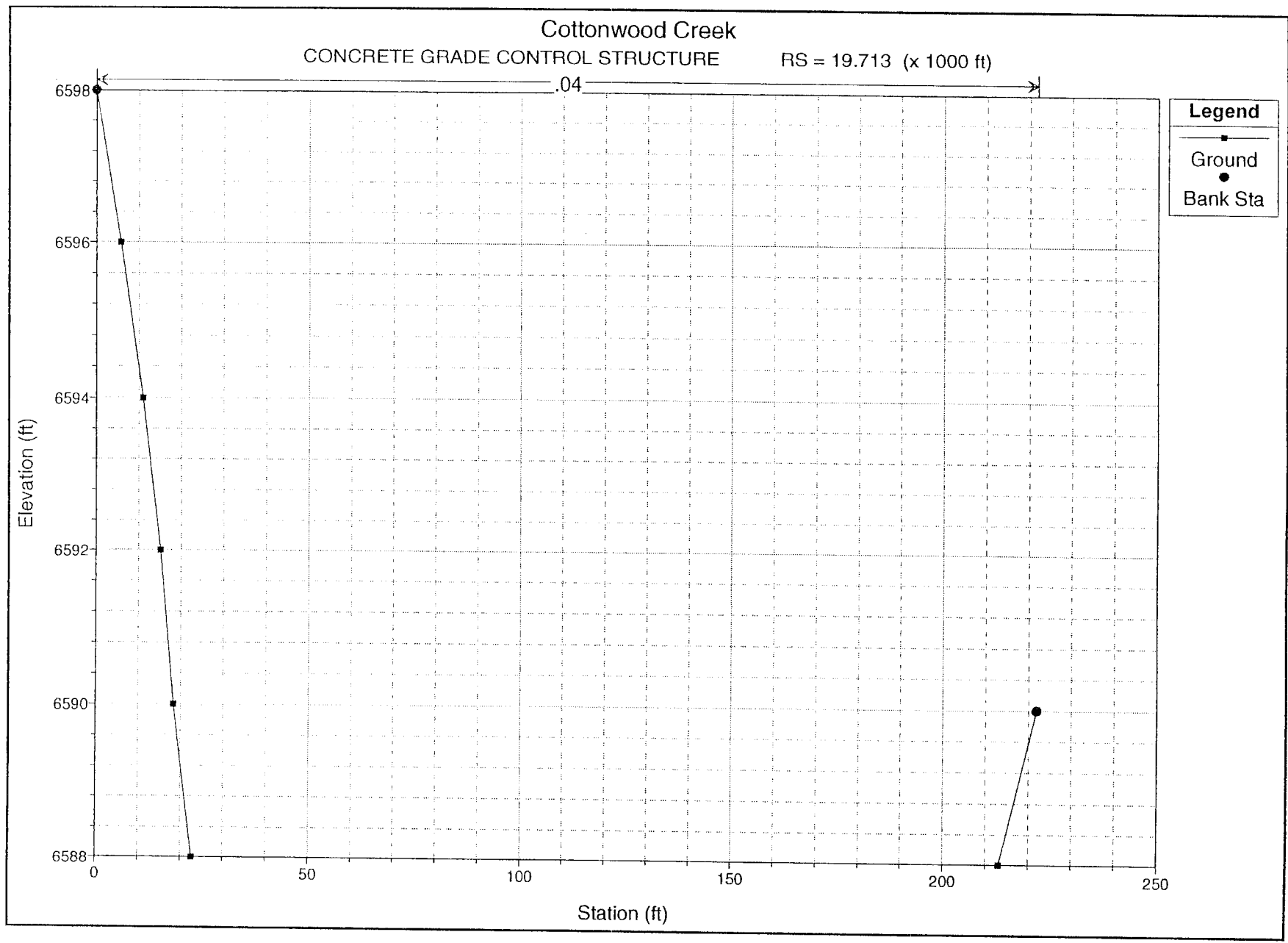


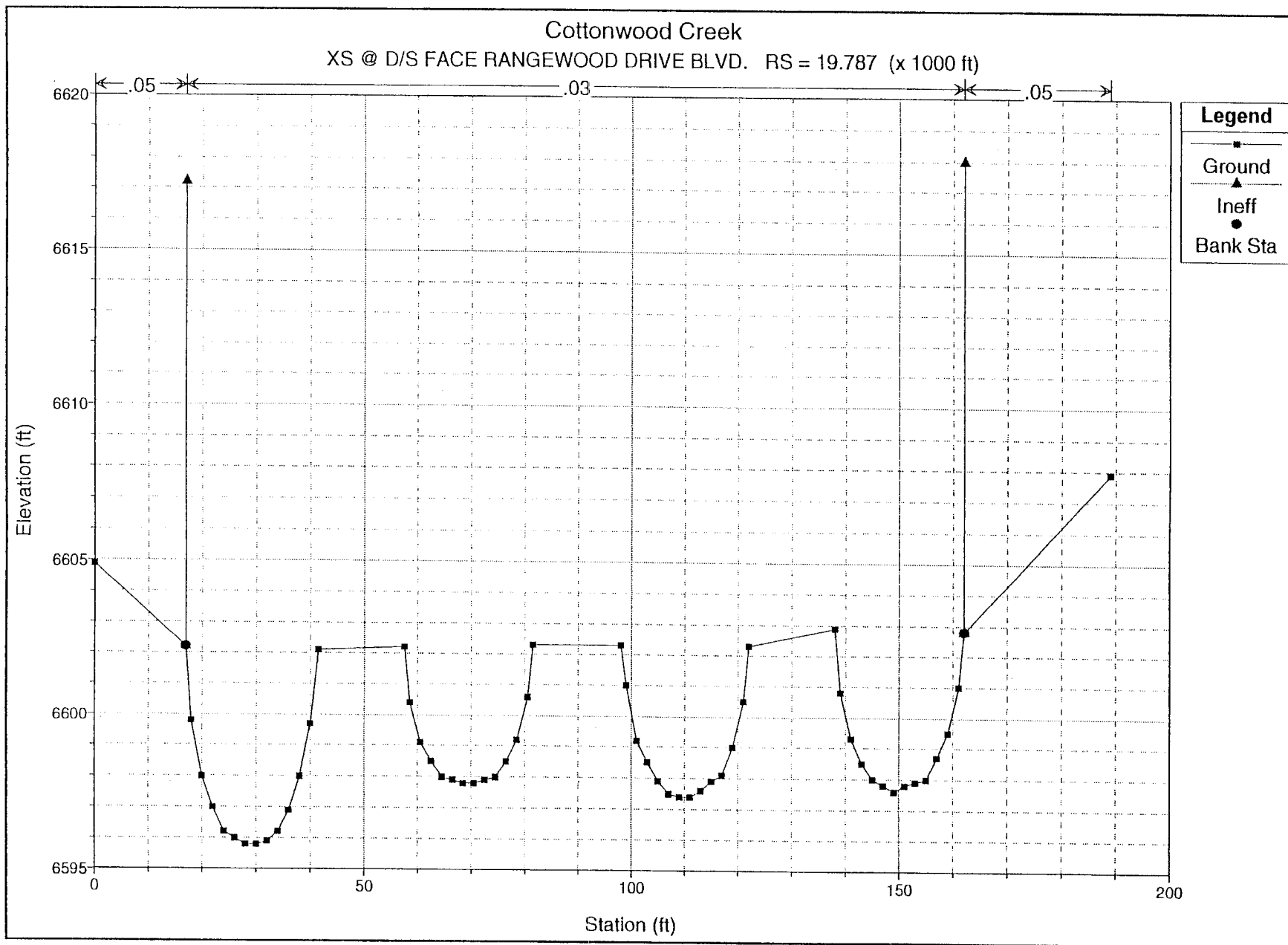
Cottonwood Creek
RS = 18.167 (x 1000 ft)



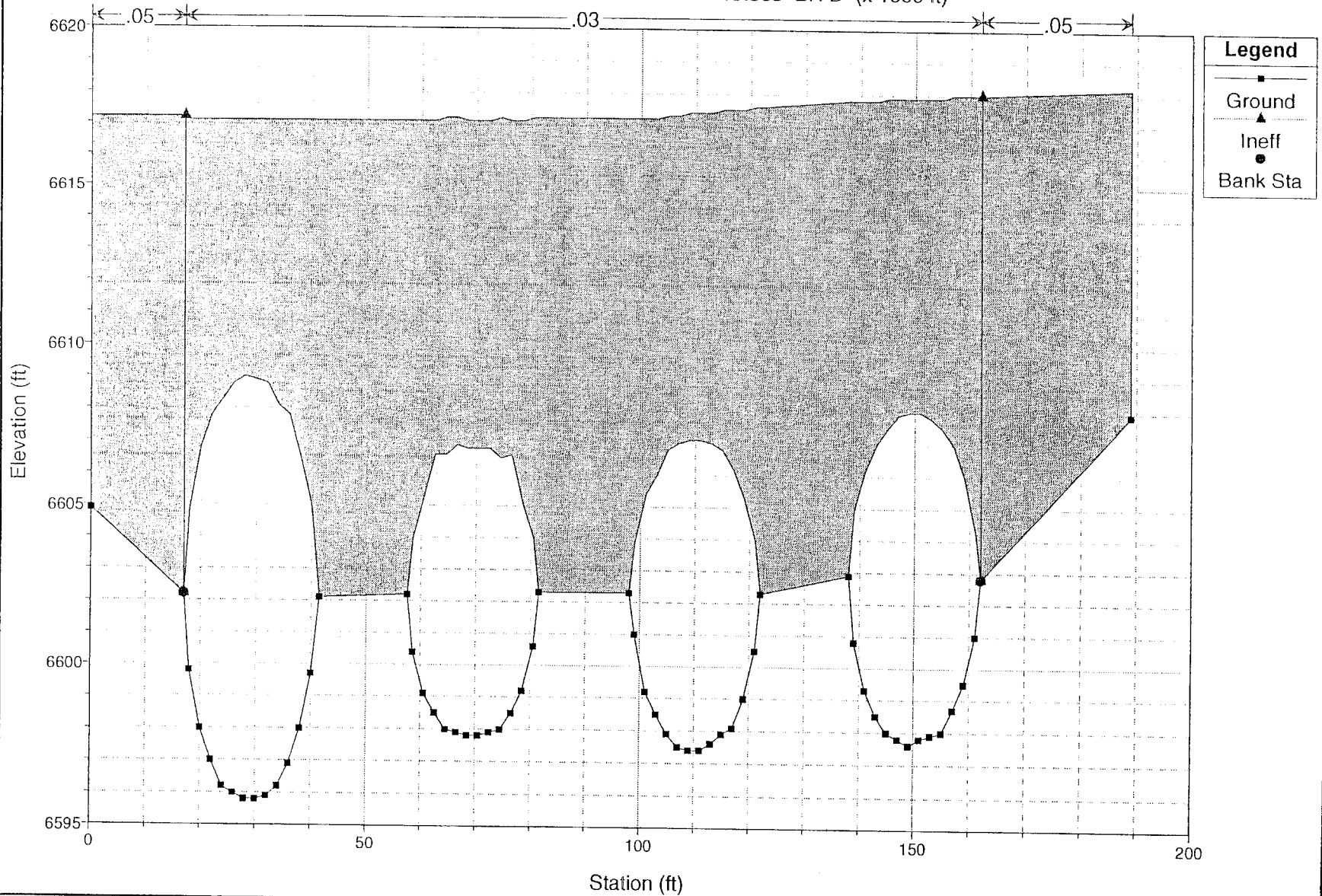
Cottonwood Creek
RS = 19.013 (x 1000 ft)



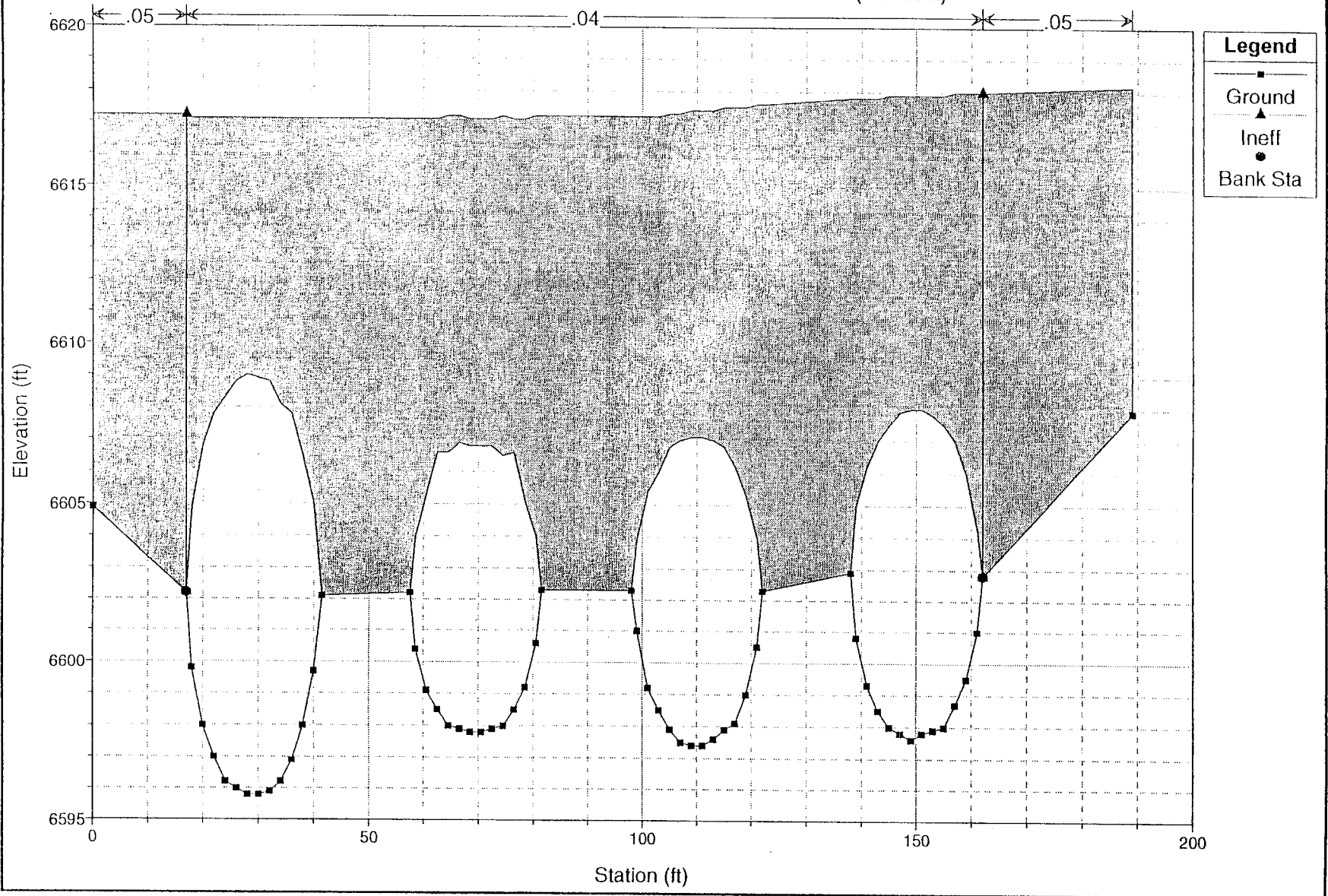




Cottonwood Creek
RANGEWOOD DRIVE BLVD. RS = 19.863 BR D (x 1000 ft)

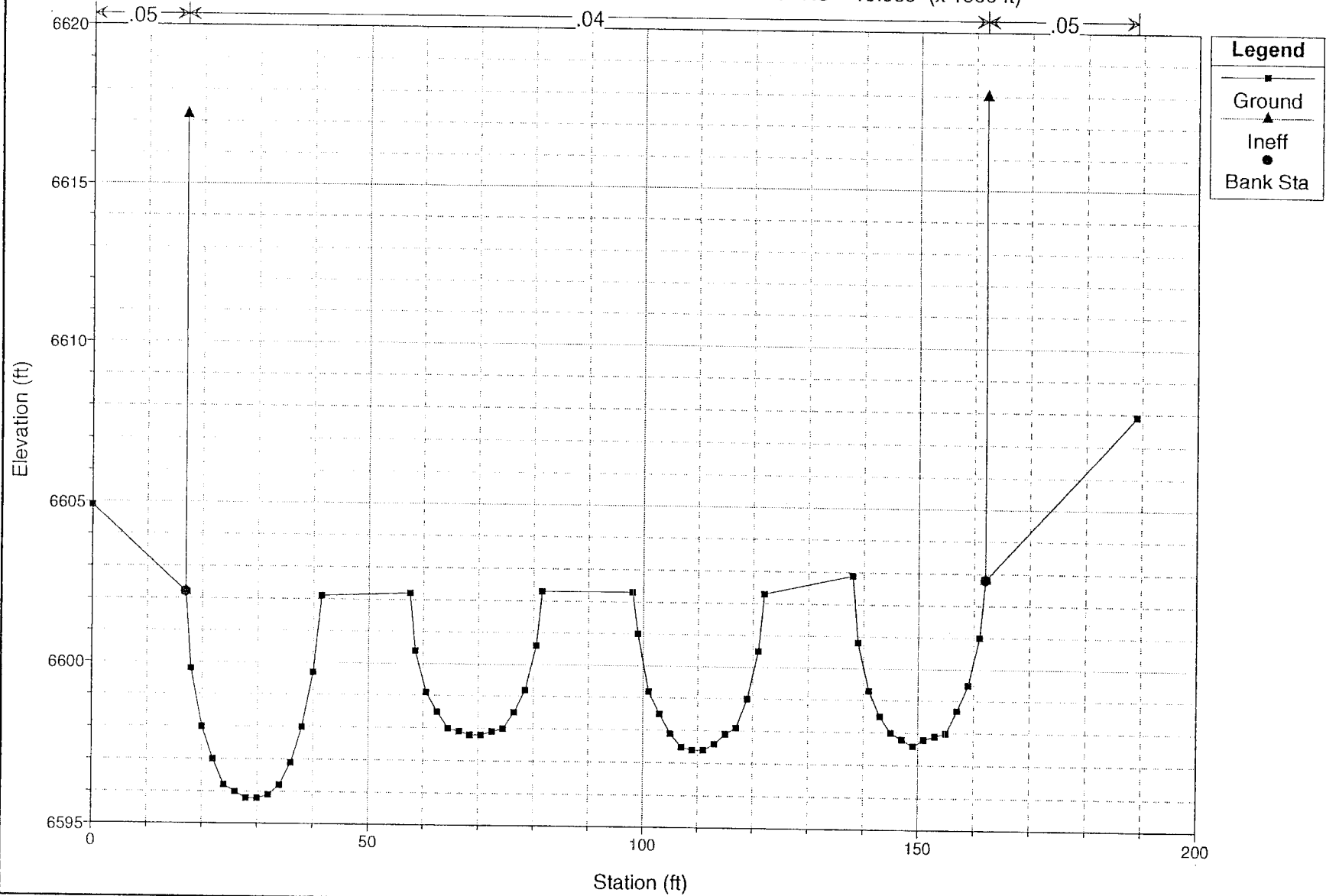


Cottonwood Creek
RANGEWOOD DRIVE BLVD. RS = 19.863 BR U (x 1000 ft)

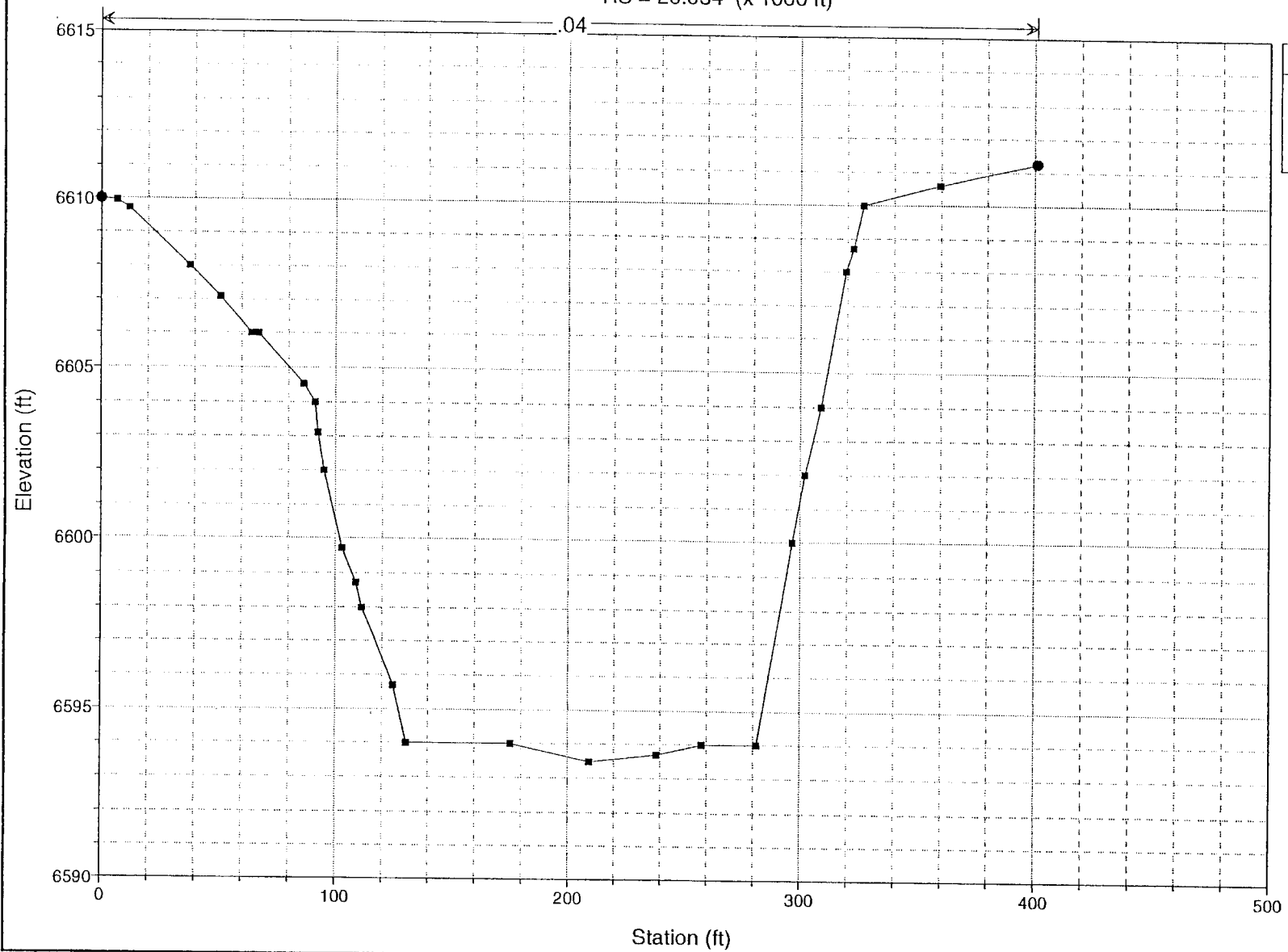


Cottonwood Creek

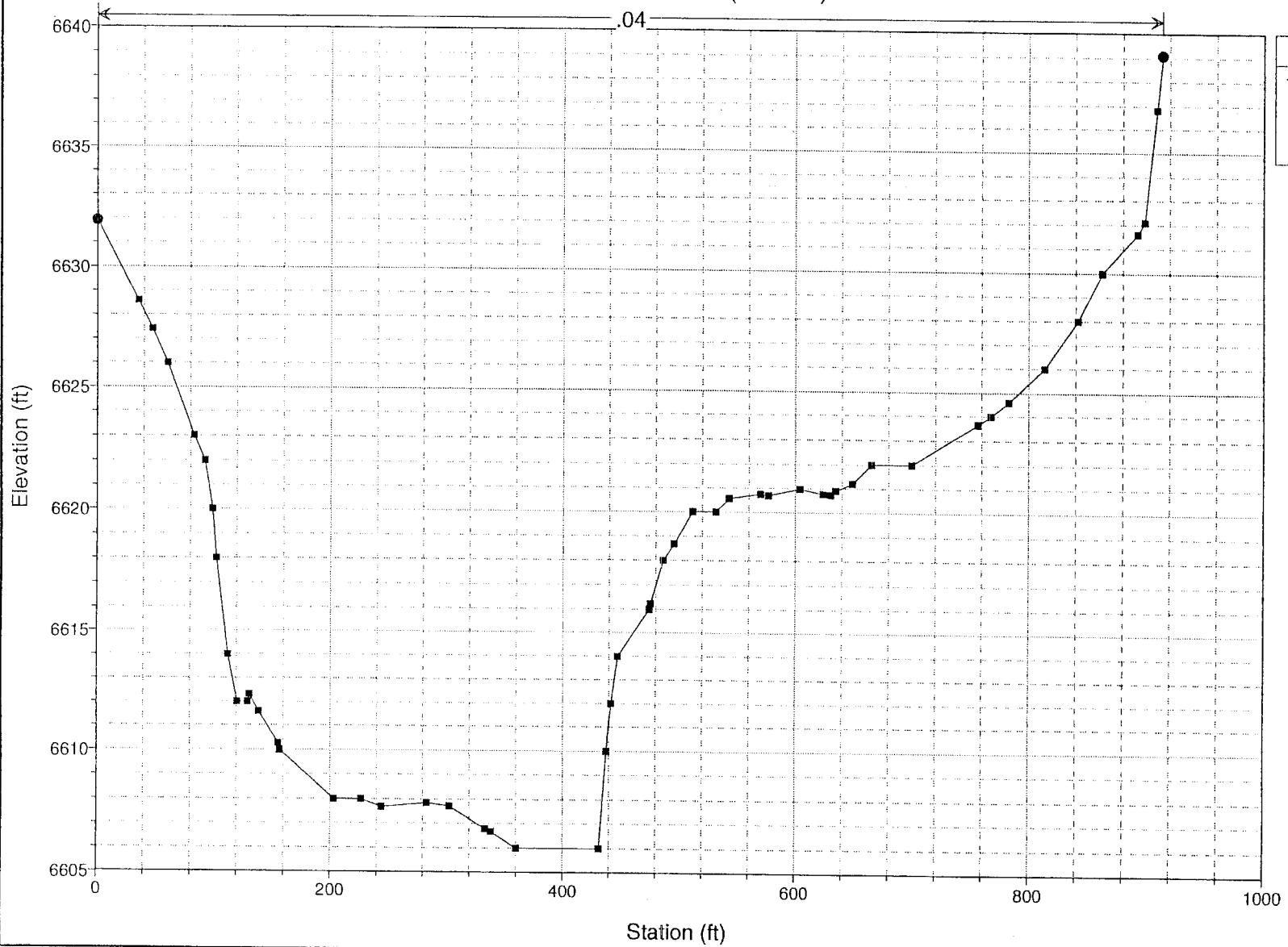
XS @ U/S FACE OF RANGEWOOD DRIVE BLVD. RS = 19.939 (x 1000 ft)



Cottonwood Creek
RS = 20.054 (x 1000 ft)

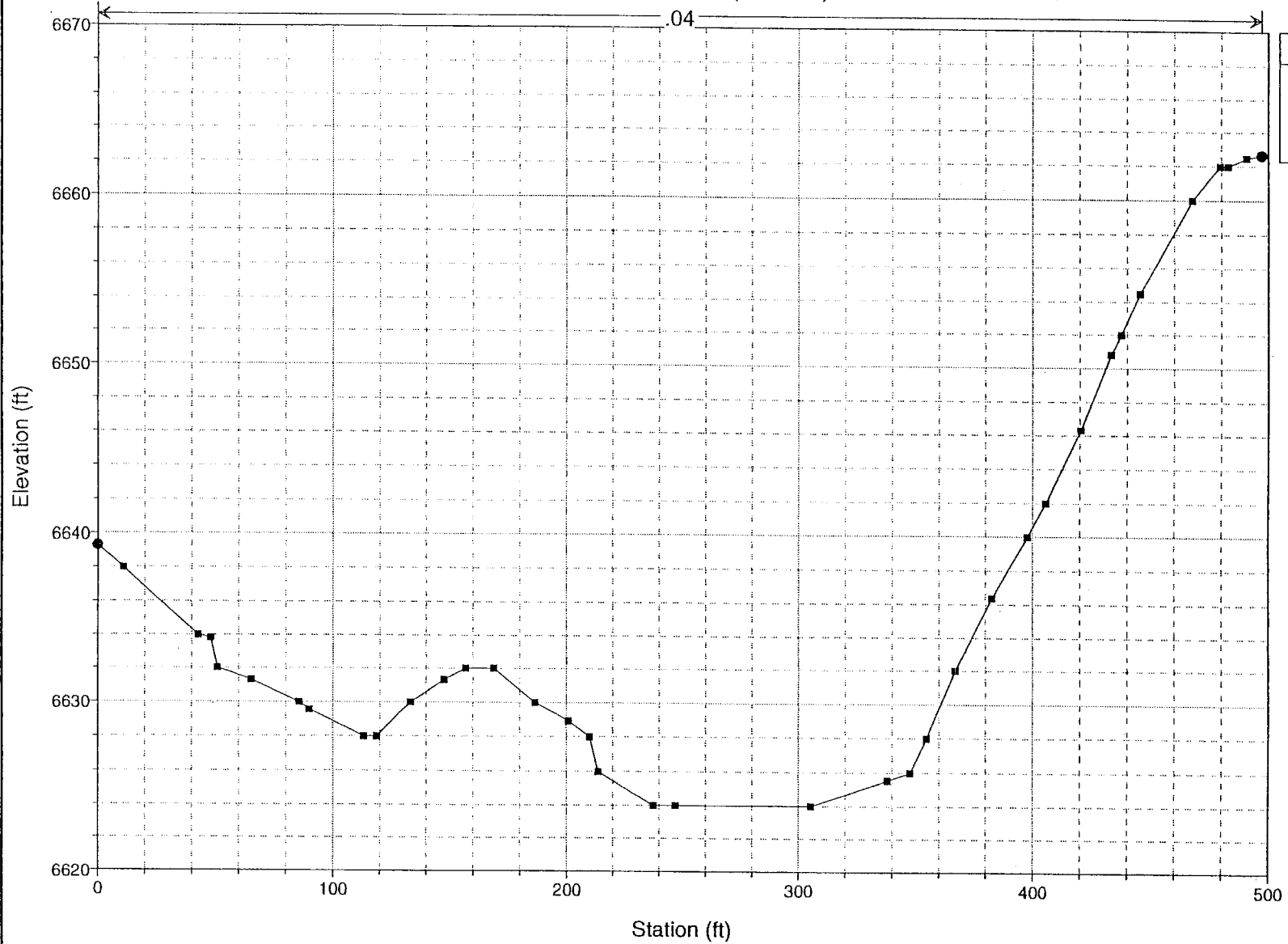


Cottonwood Creek
RS = 20.894 (x 1000 ft)

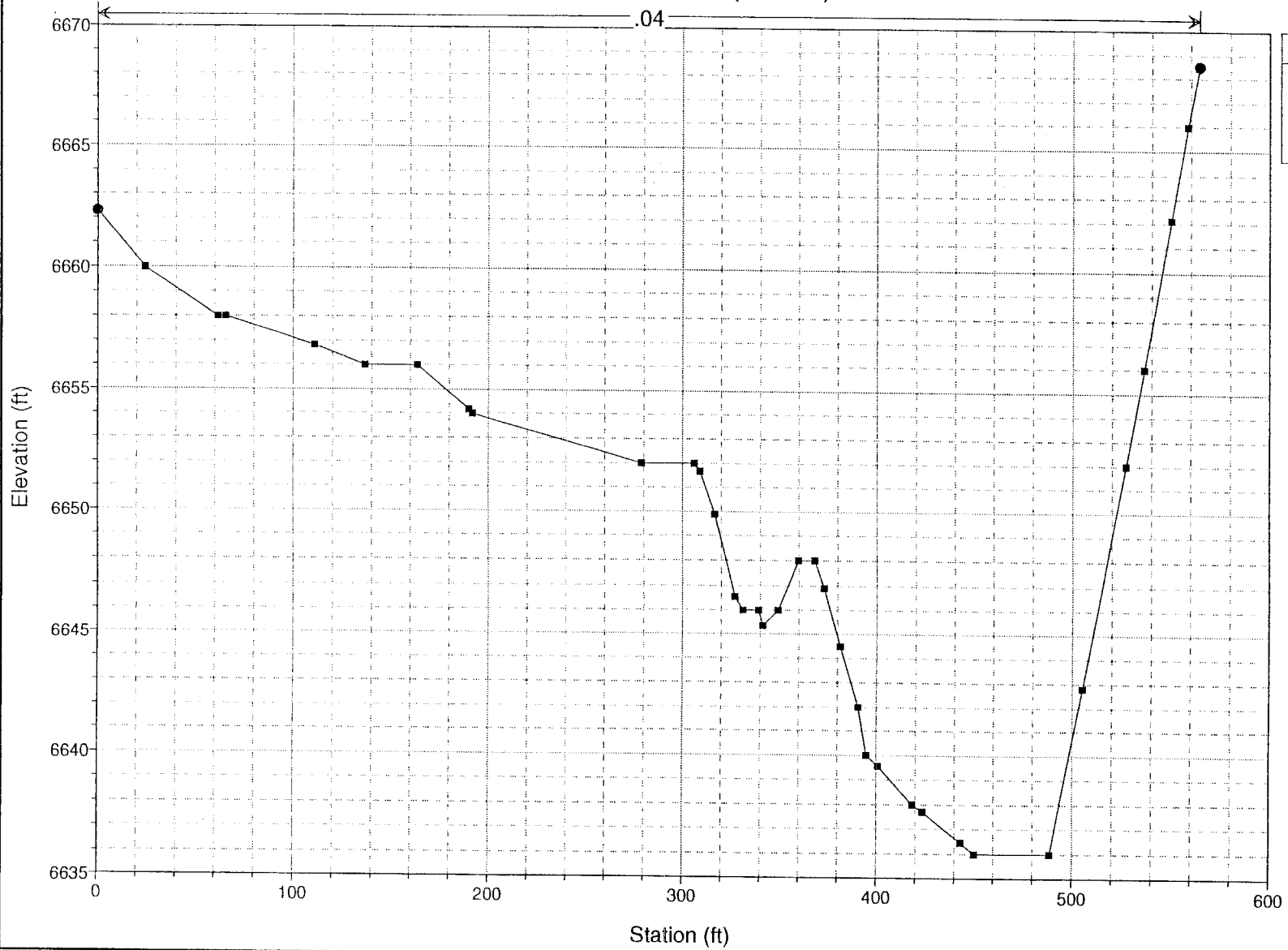


Cottonwood Creek

RS = 21.959 (x 1000 ft)

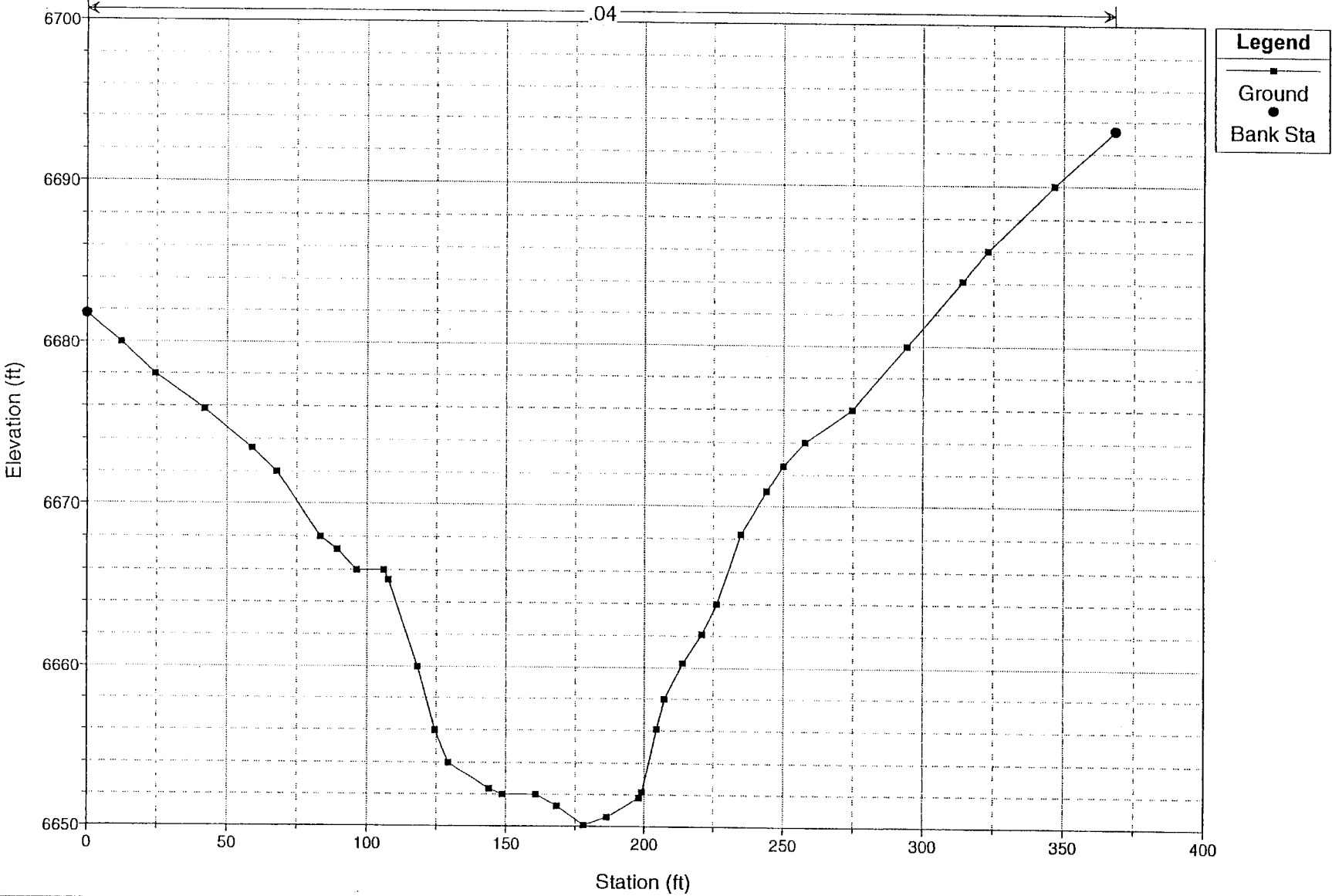


Cottonwood Creek
RS = 22.809 (x 1000 ft)

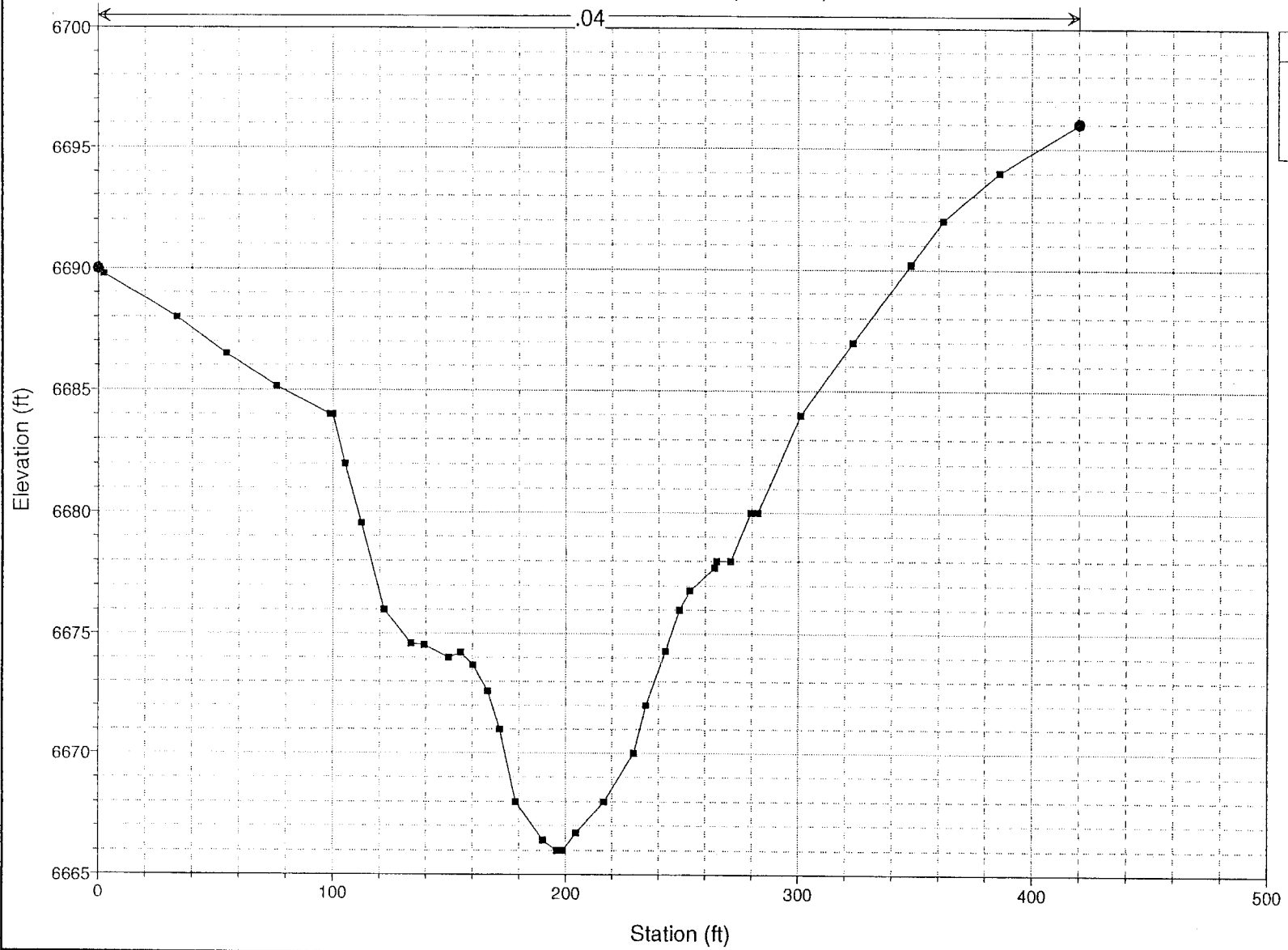


Cottonwood Creek

RS = 23.811 (x 1000 ft)



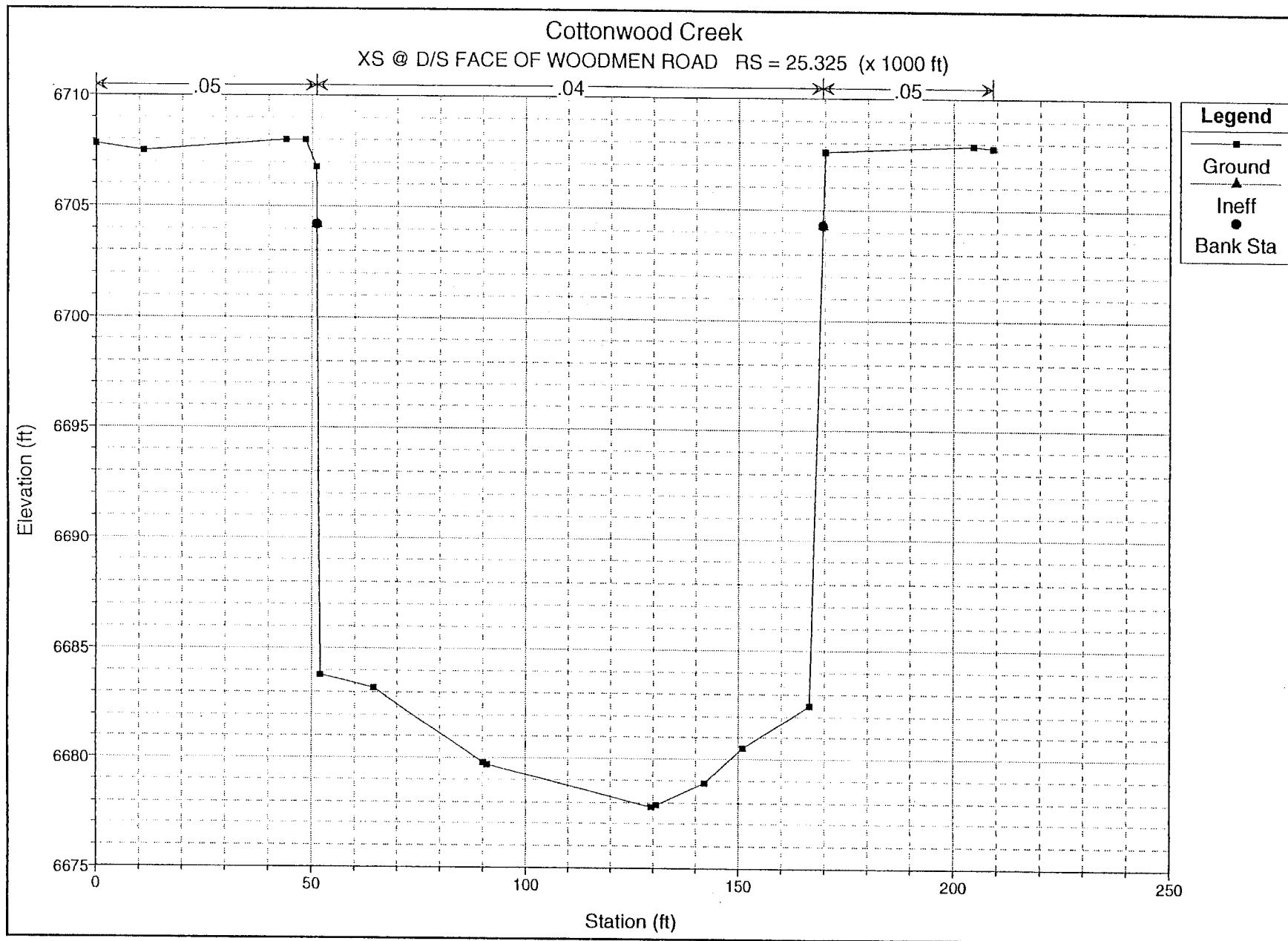
Cottonwood Creek
RS = 24.745 (x 1000 ft)

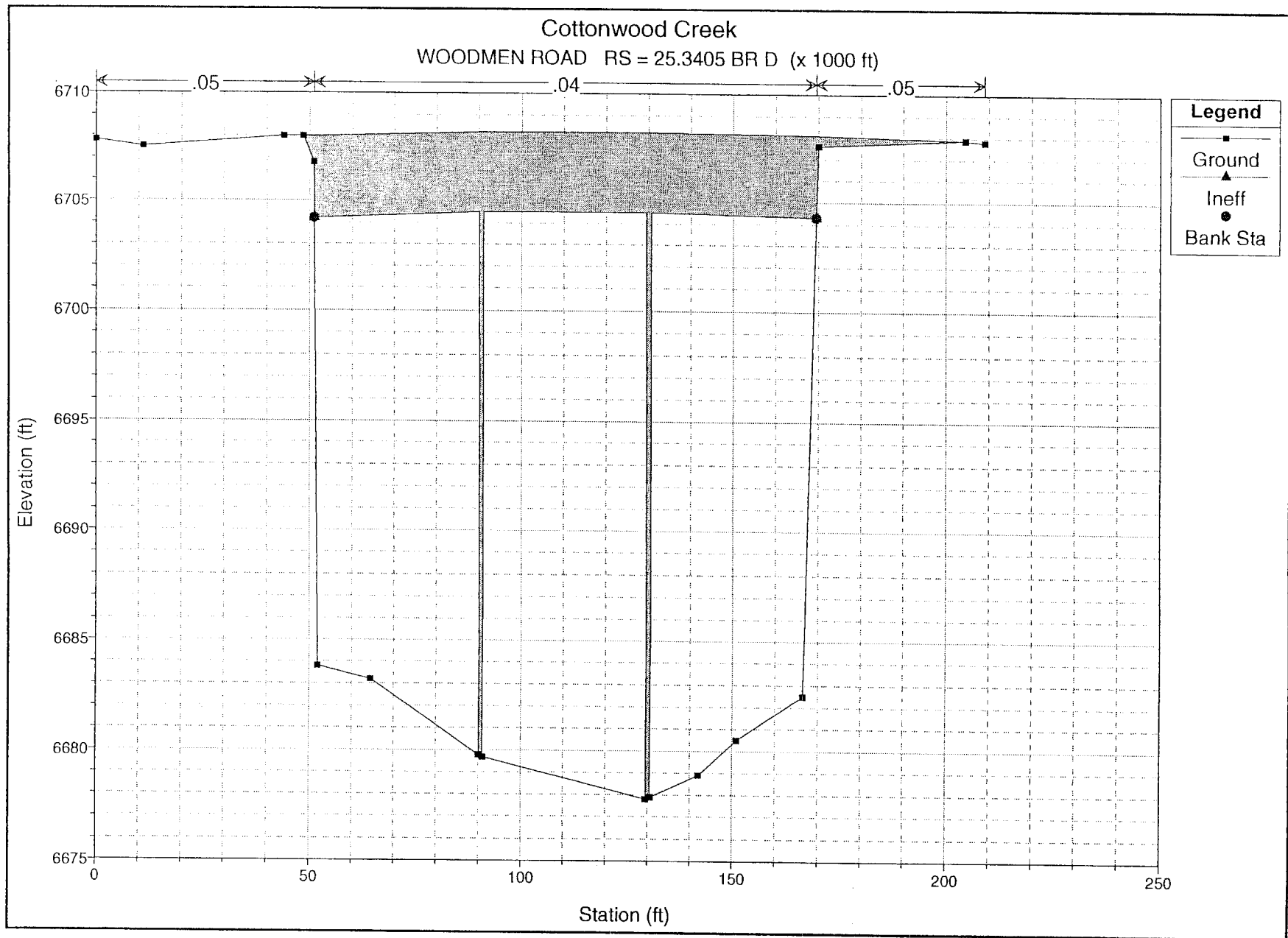


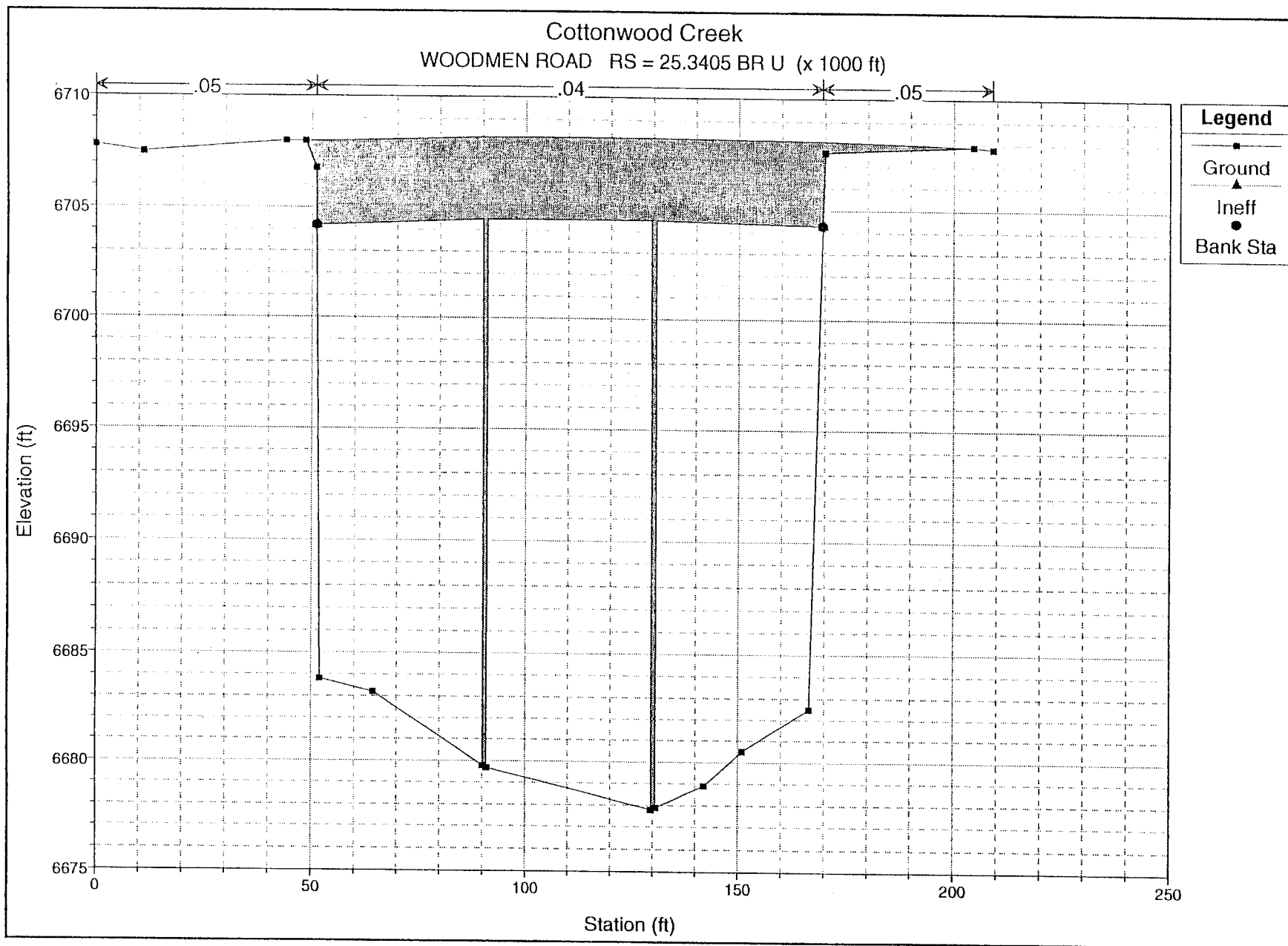
Legend

Ground

Bank Sta

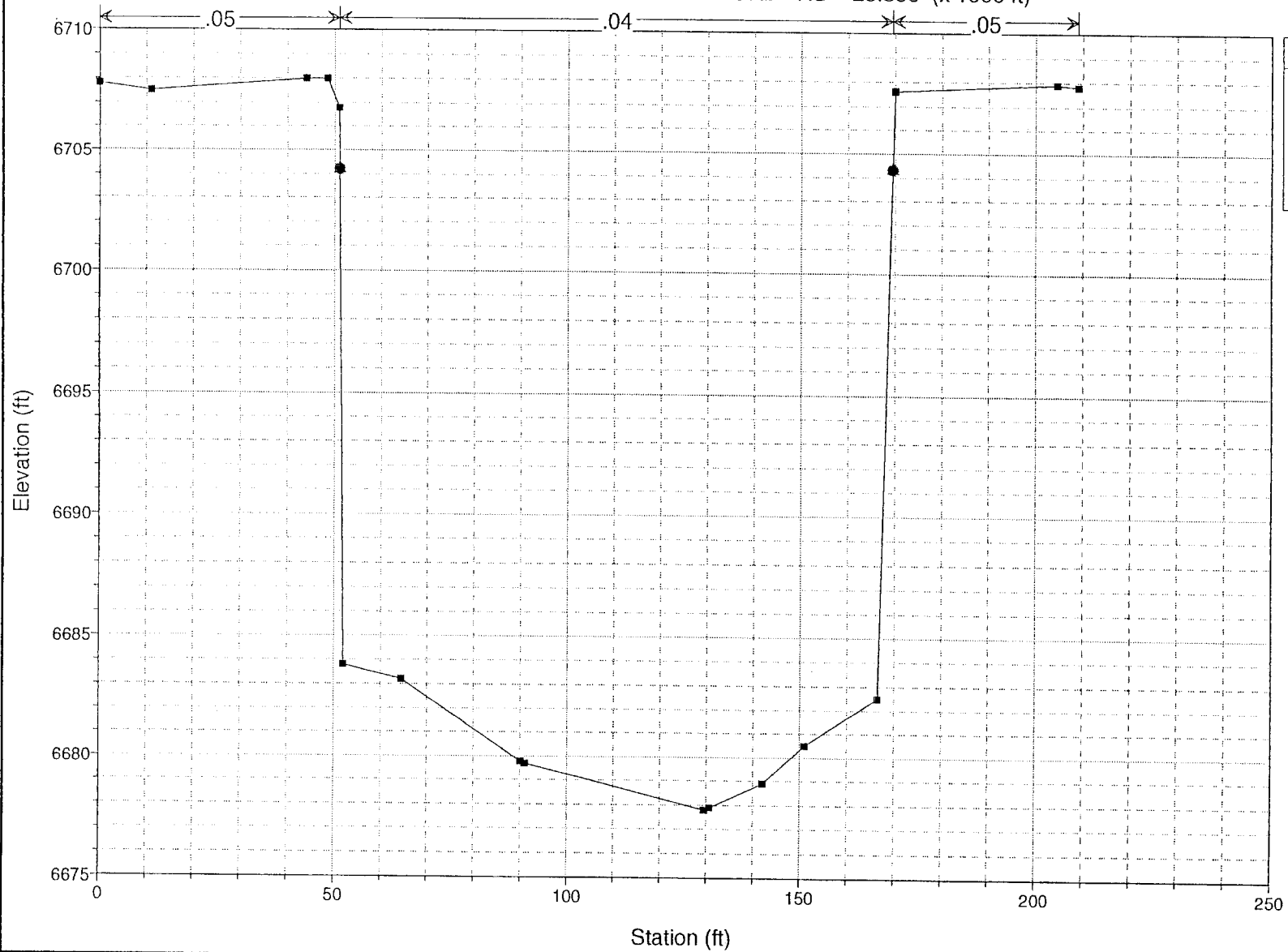




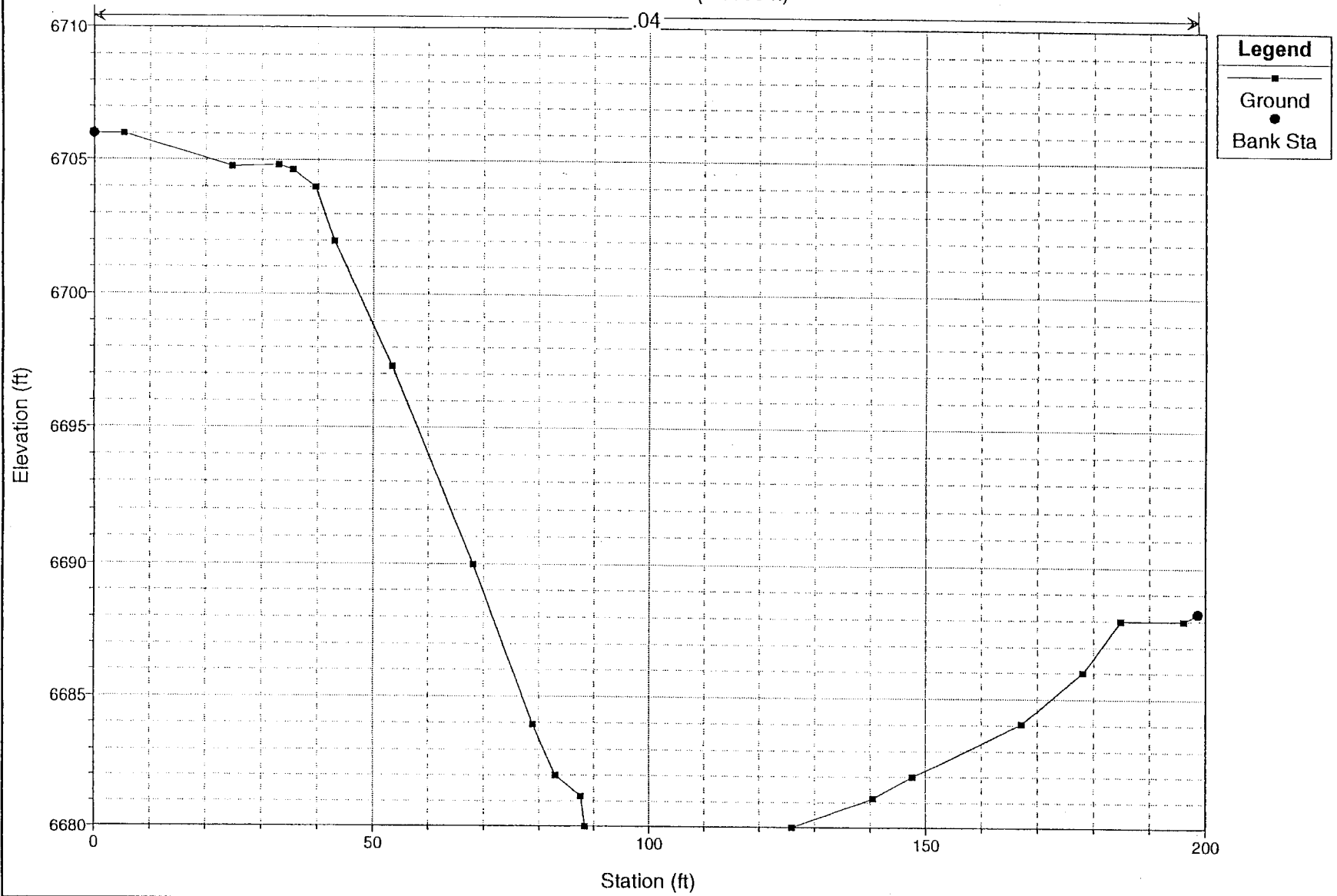


Cottonwood Creek

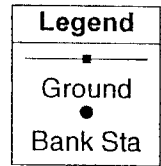
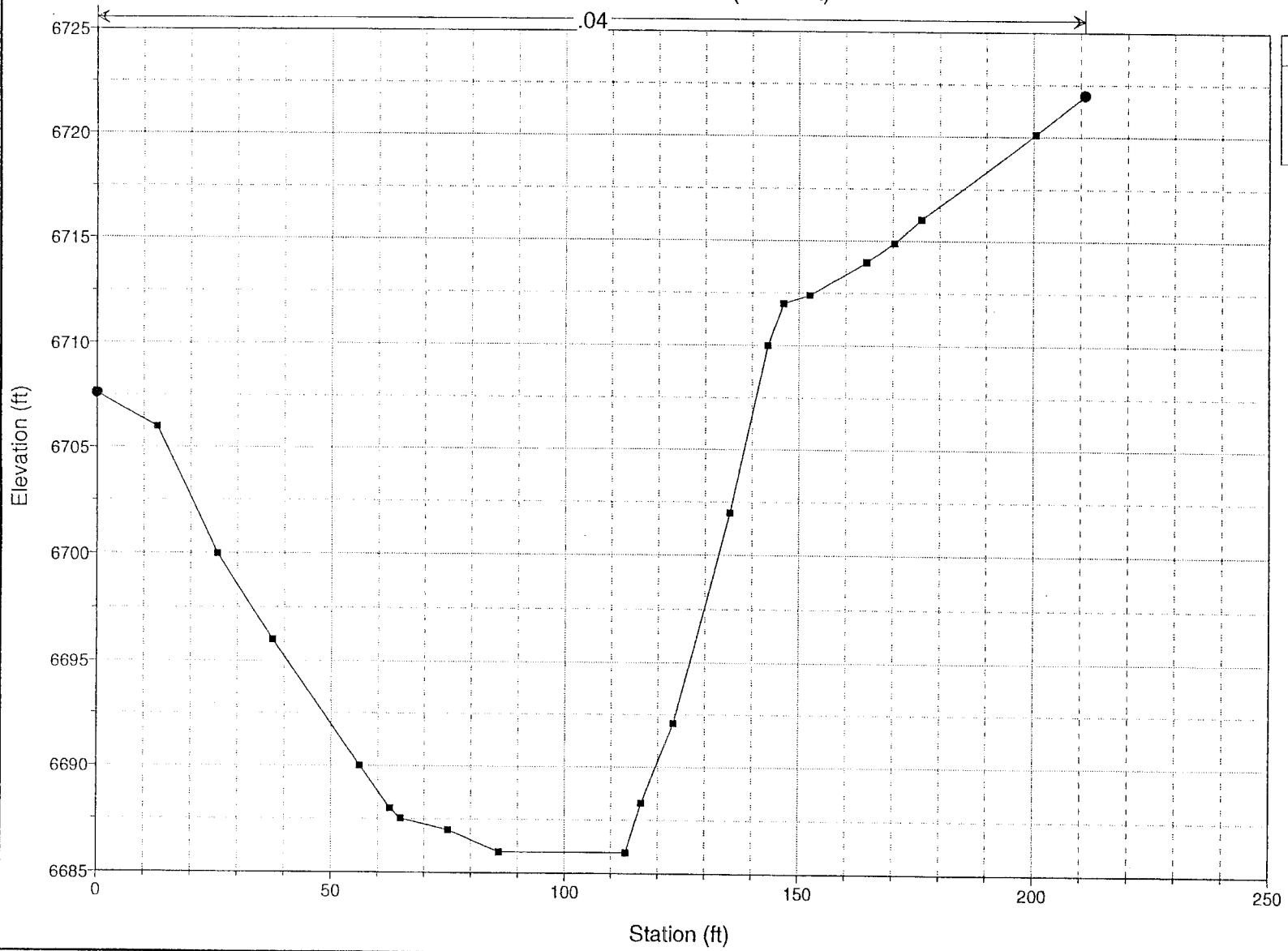
XS @ U/S FACE OF WOODMEN ROAD RS = 25.356 (x 1000 ft)



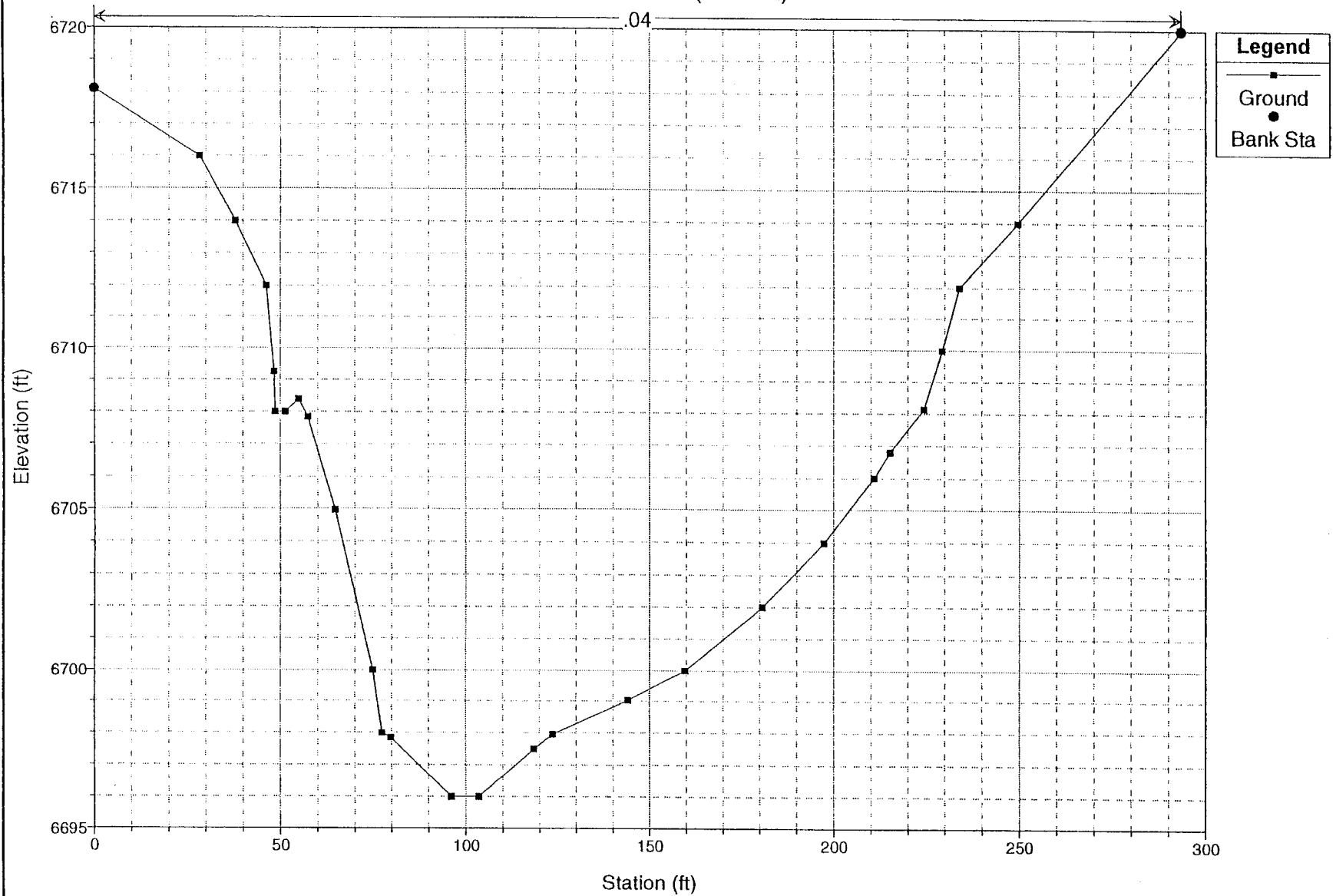
Cottonwood Creek
RS = 25.456 (x 1000 ft)



Cottonwood Creek
RS = 25.795 (x 1000 ft)

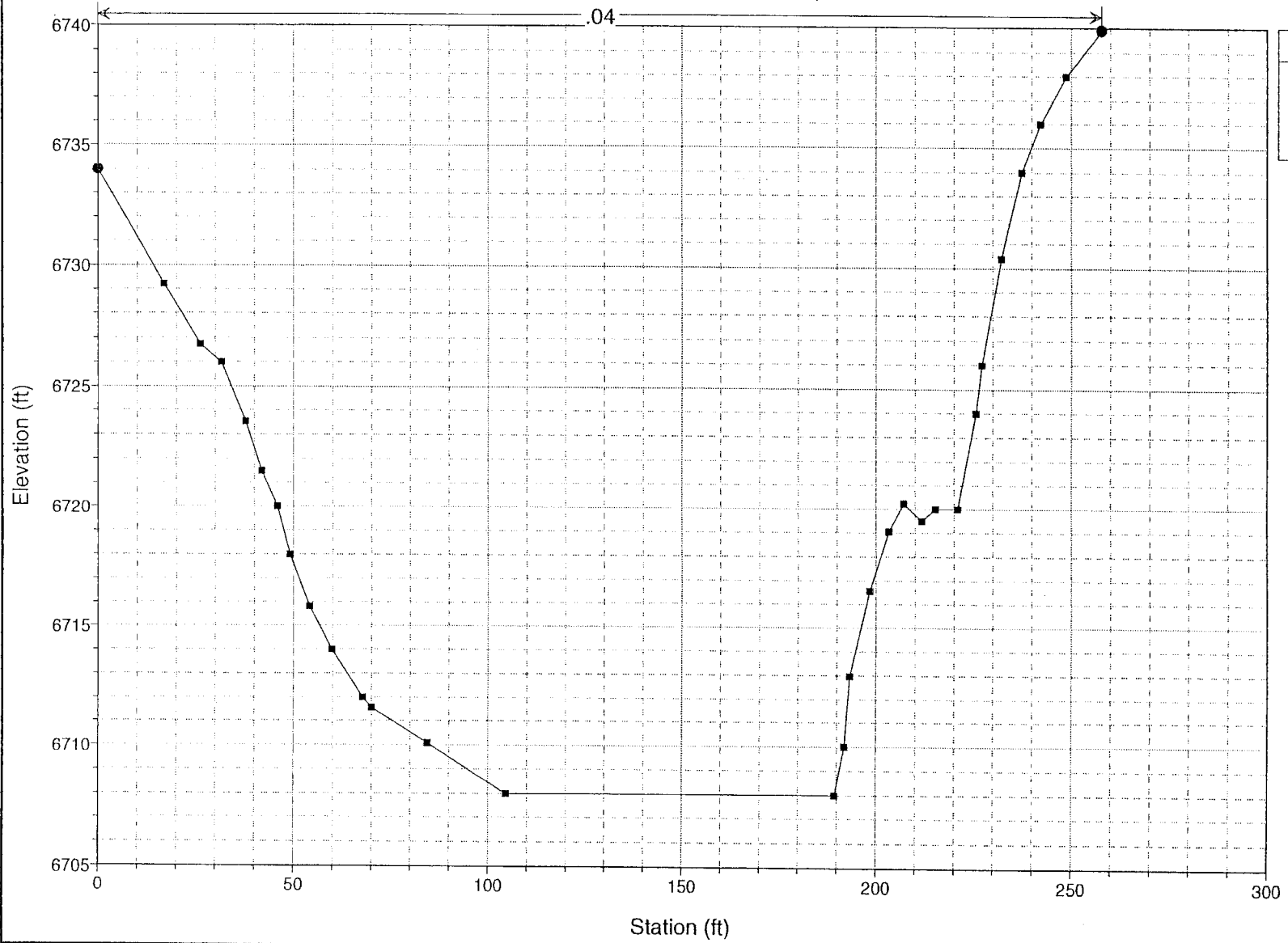


Cottonwood Creek
RS = 26.498 (x 1000 ft)

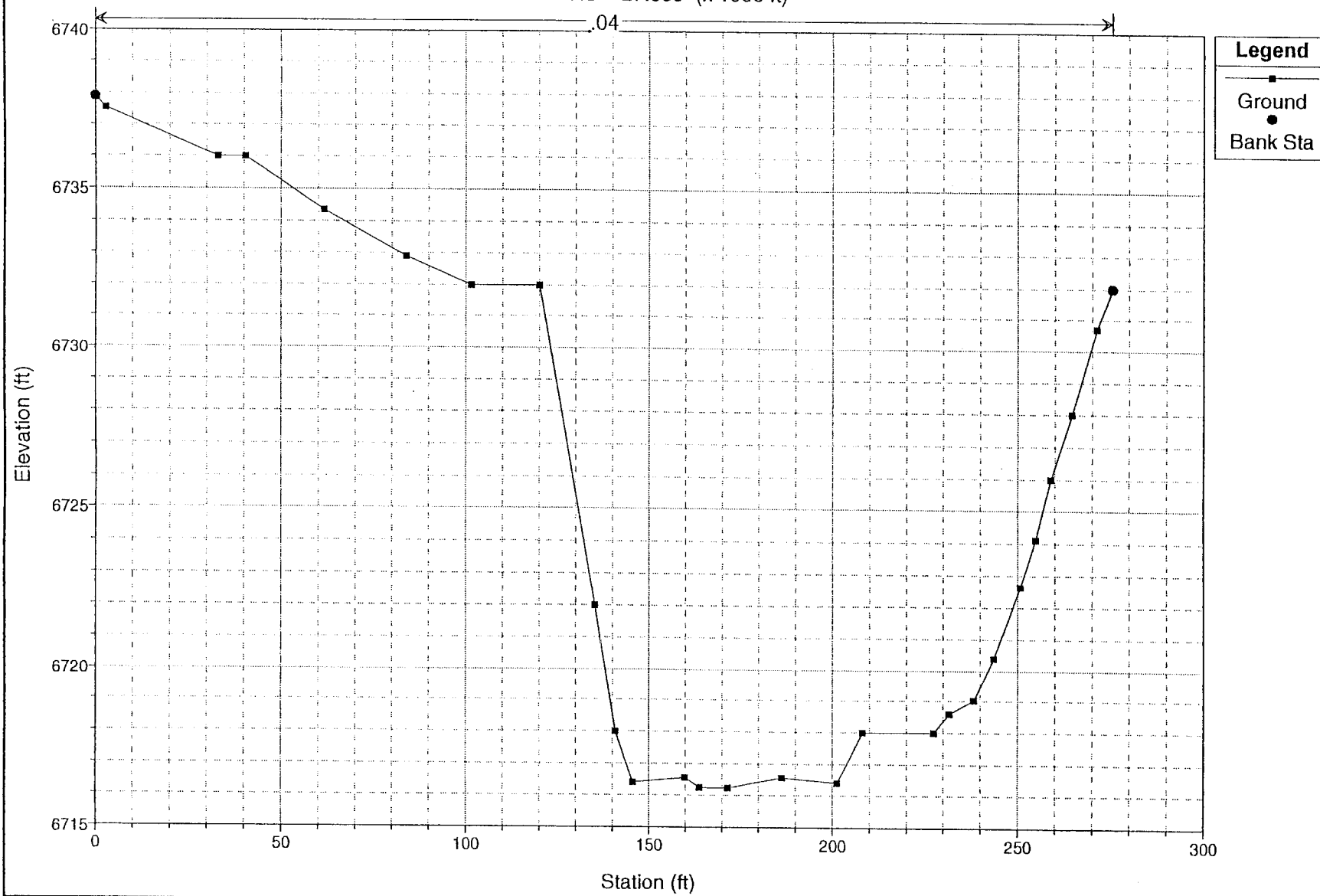


Cottonwood Creek

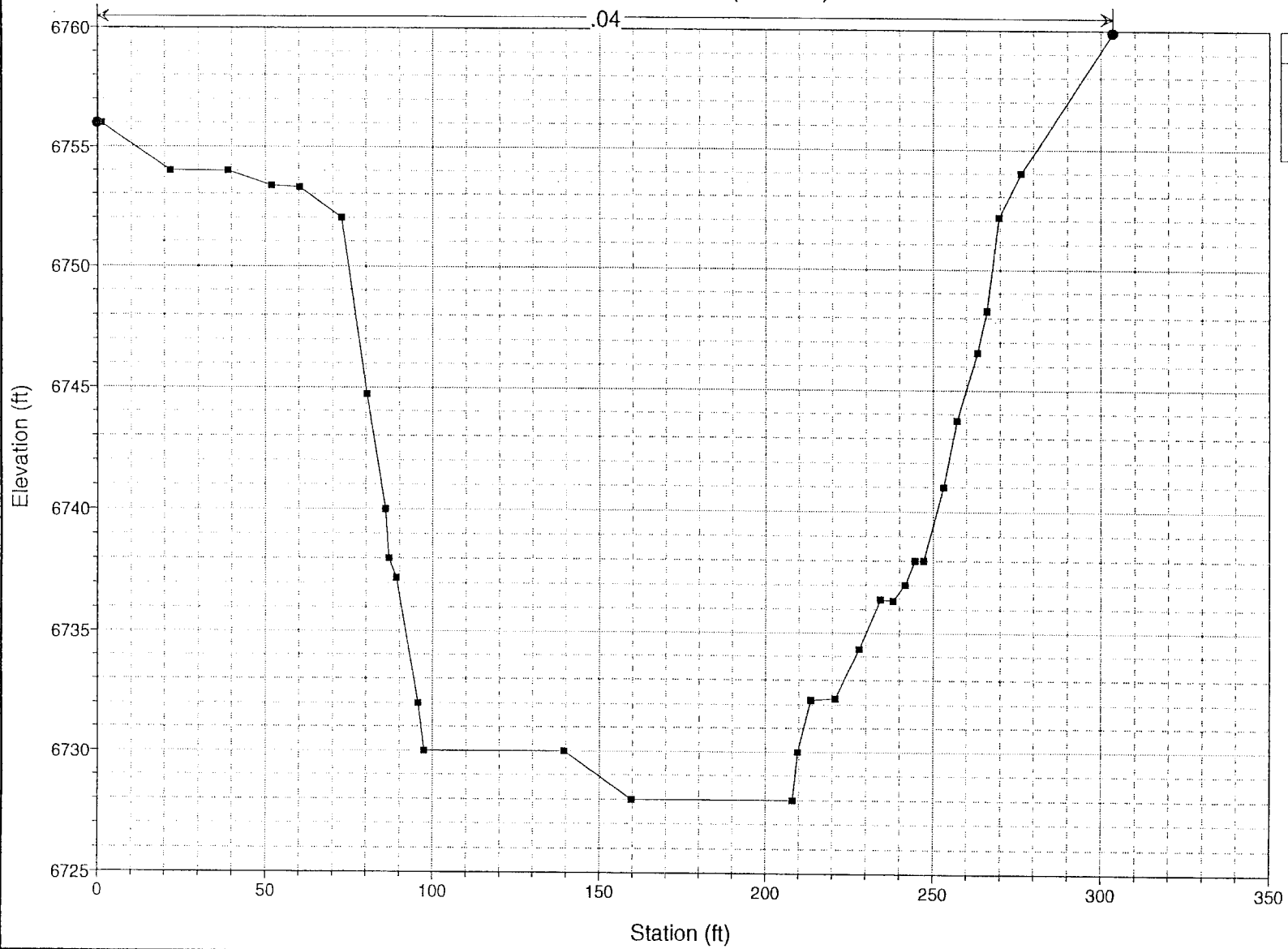
RS = 27.25 (x 1000 ft)



Cottonwood Creek
RS = 27.699 (x 1000 ft)



Cottonwood Creek
RS = 28.449 (x 1000 ft)

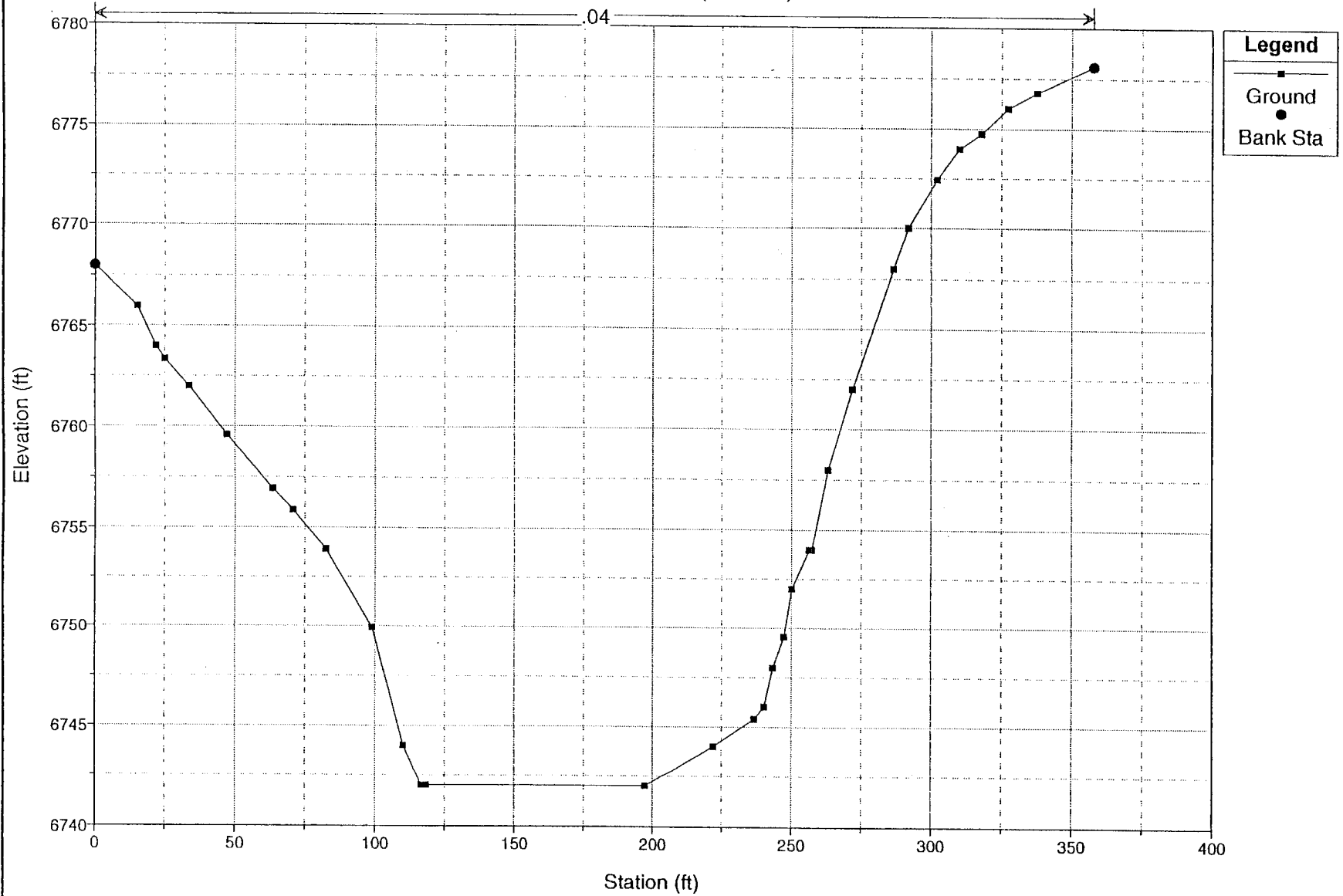


Legend

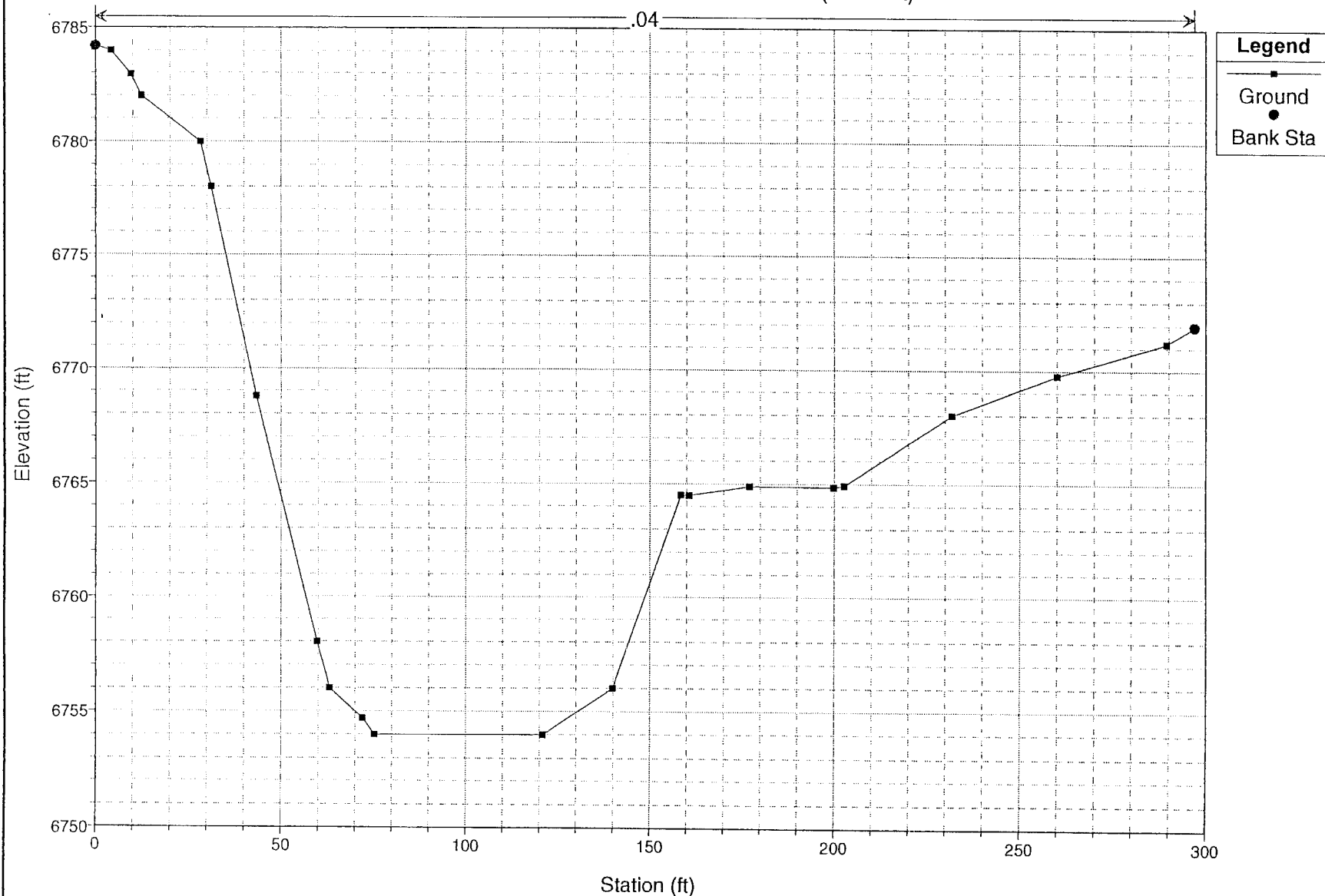
Ground

Bank Sta

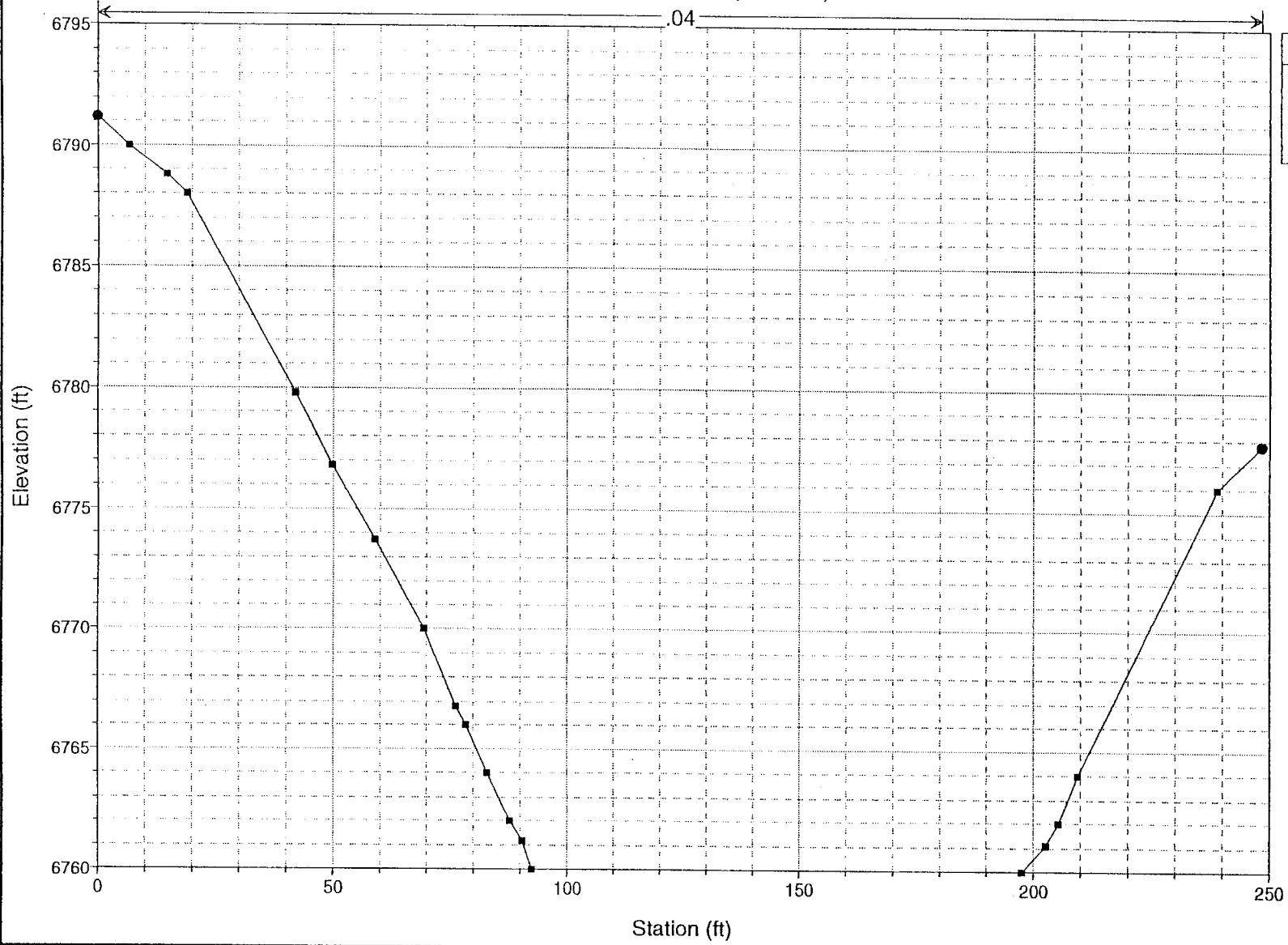
Cottonwood Creek
RS = 29.325 (x 1000 ft)



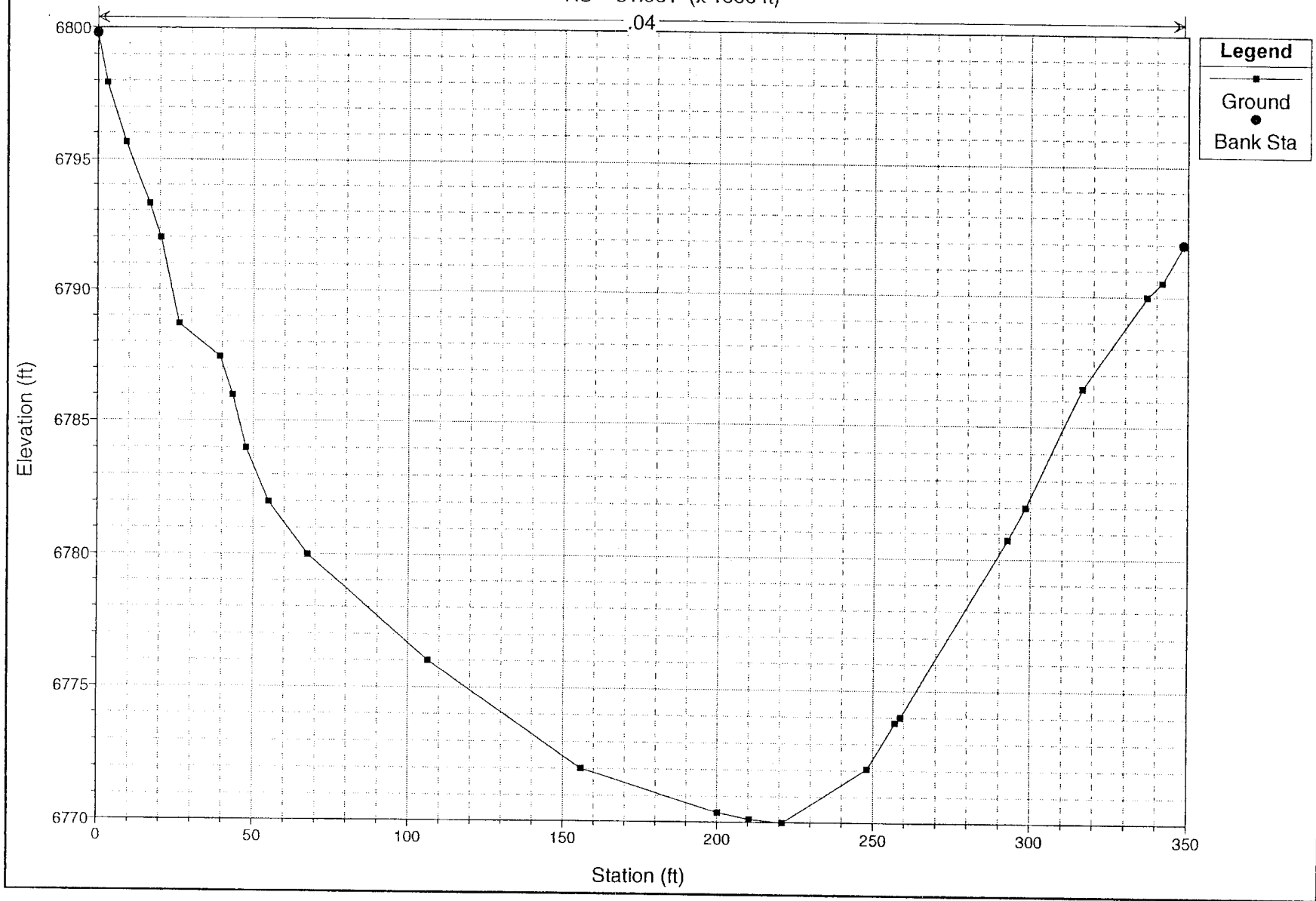
Cottonwood Creek
XS @ TEMP. HAUL ROAD RS = 29.885 (x 1000 ft)



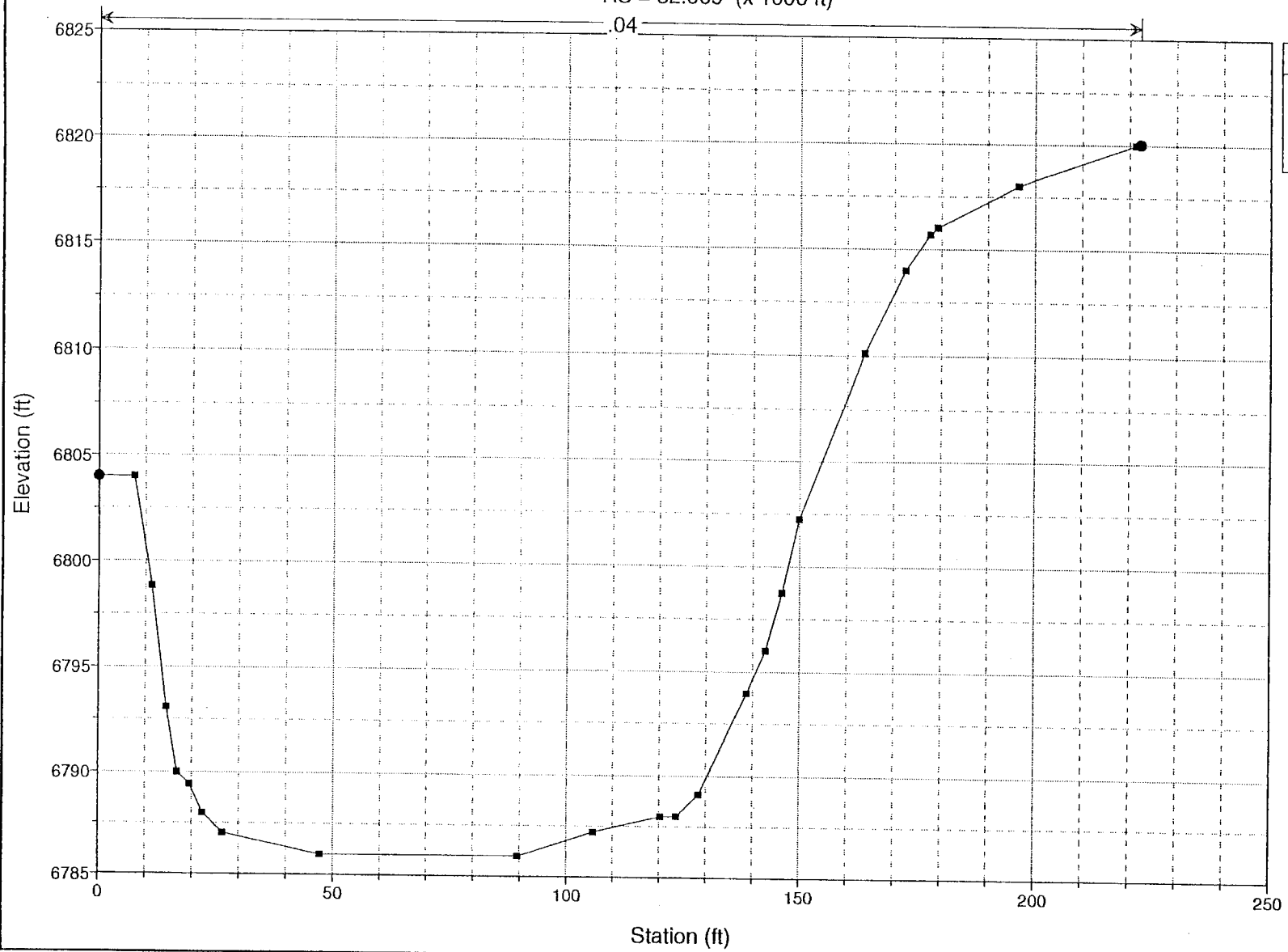
Cottonwood Creek
RS = 30.333 (x 1000 ft)



Cottonwood Creek
RS = 31.061 (x 1000 ft)



Cottonwood Creek
RS = 32.009 (x 1000 ft)



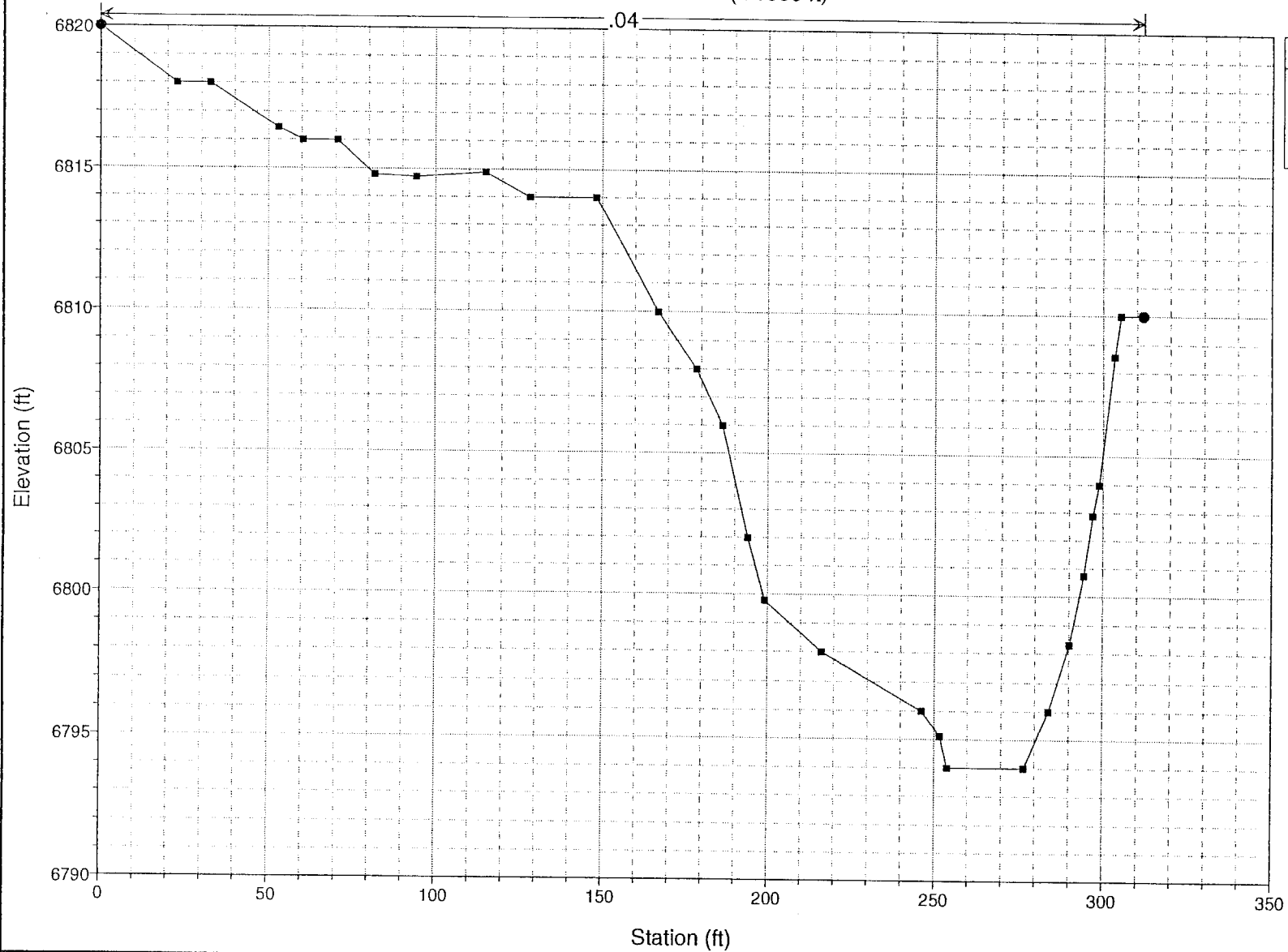
Cottonwood Creek

RS = 32.57 (x 1000 ft)

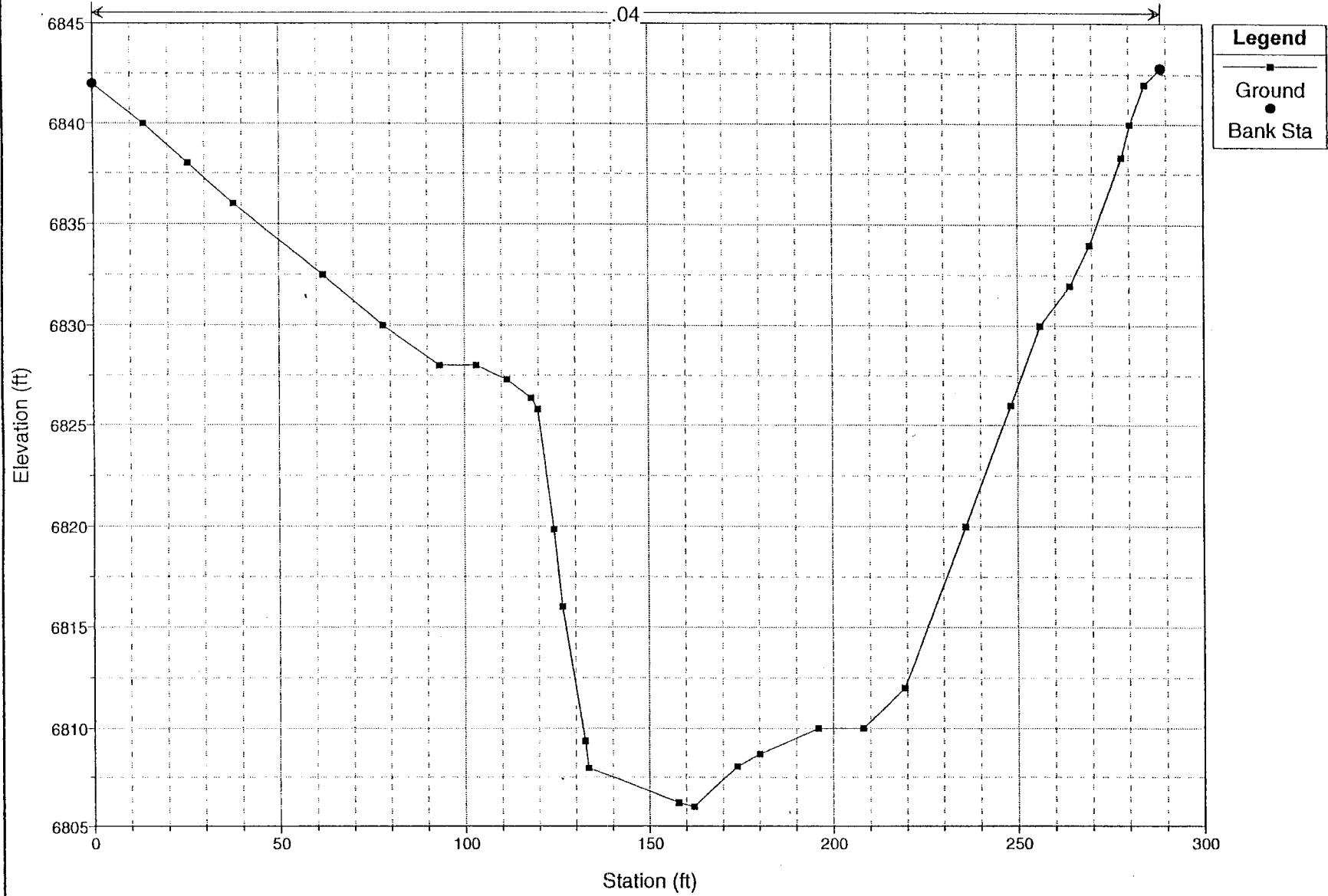
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Legend

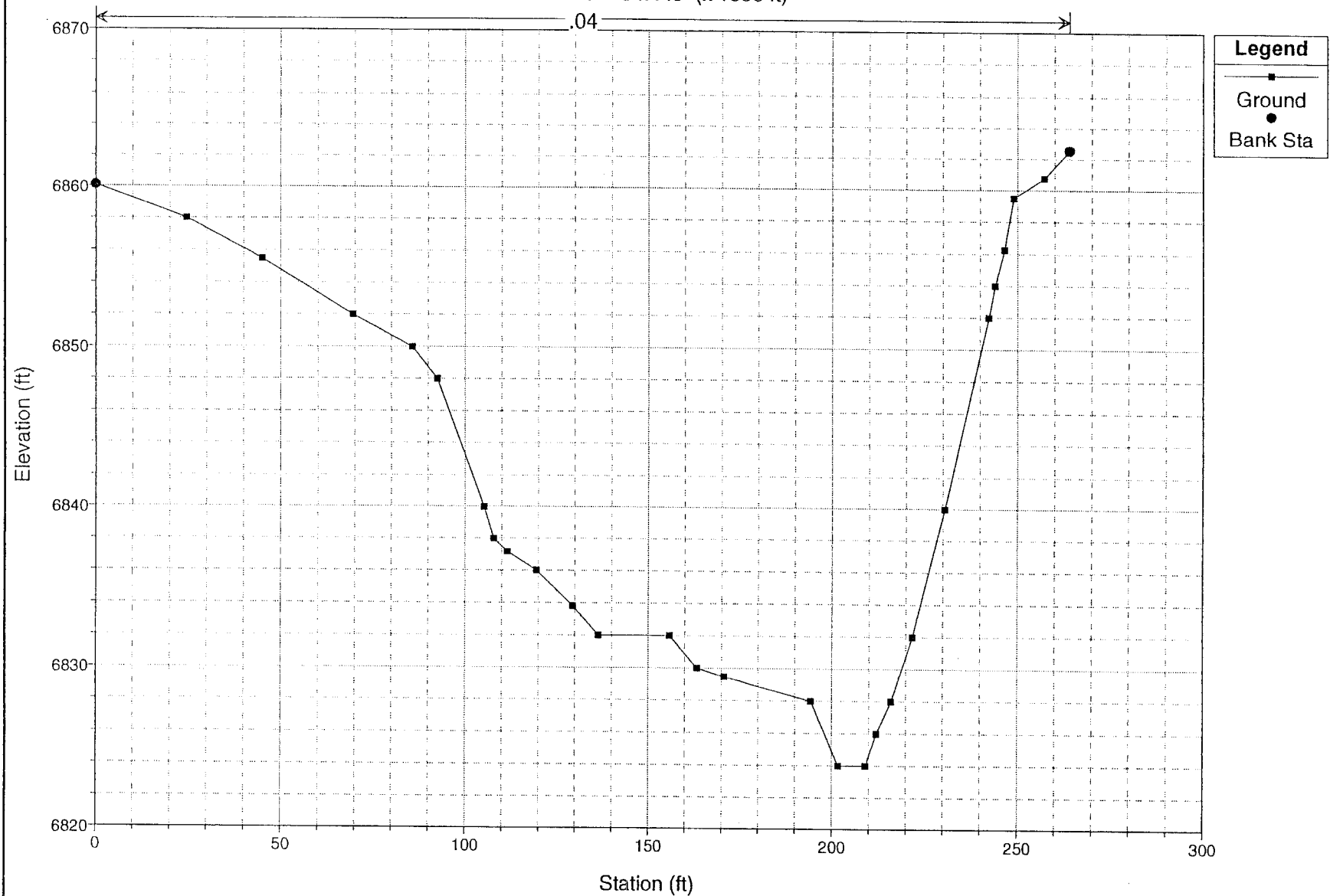
Ground
Bank Sta



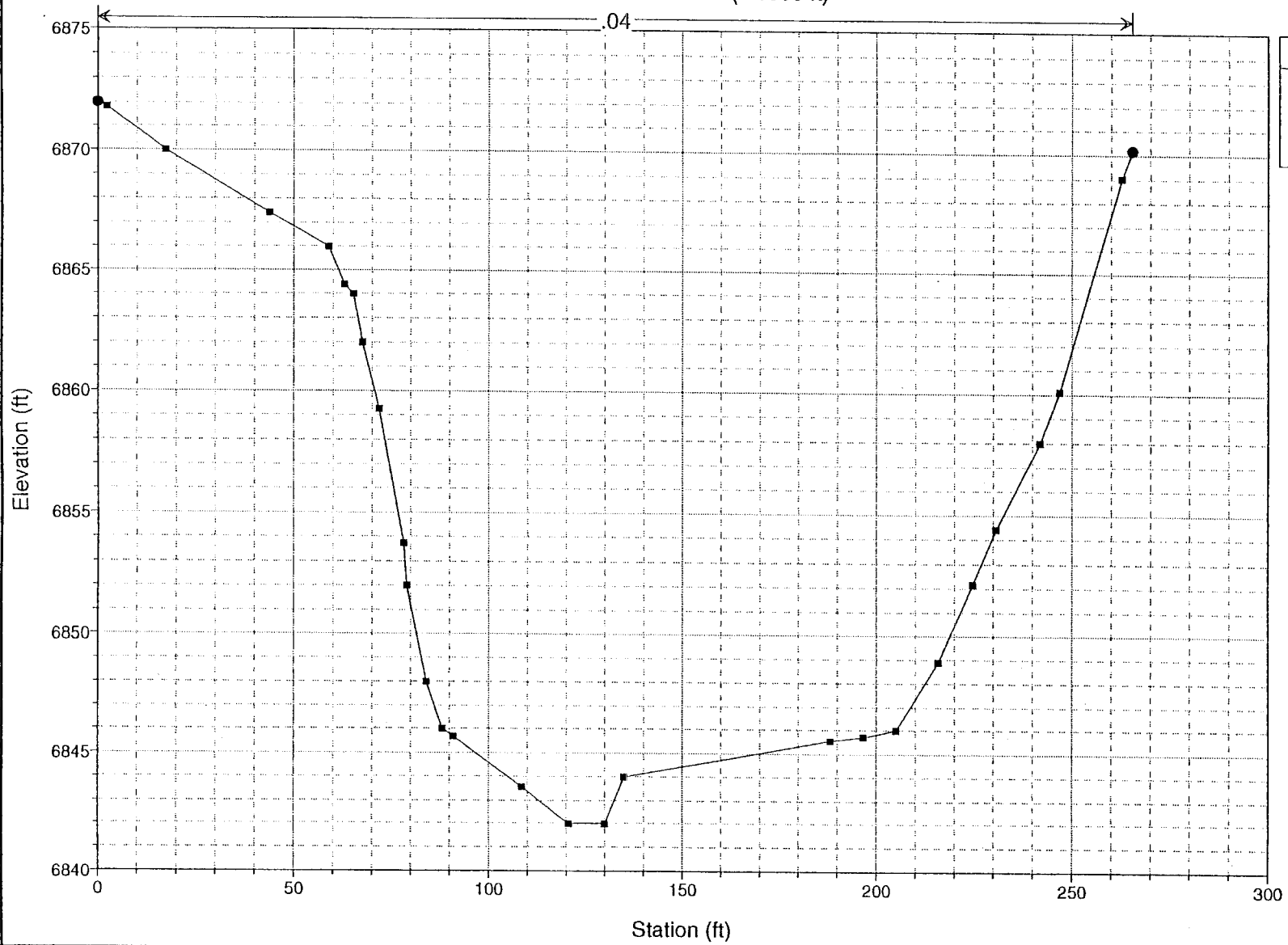
Cottonwood Creek
RS = 33.425 (x 1000 ft)



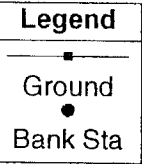
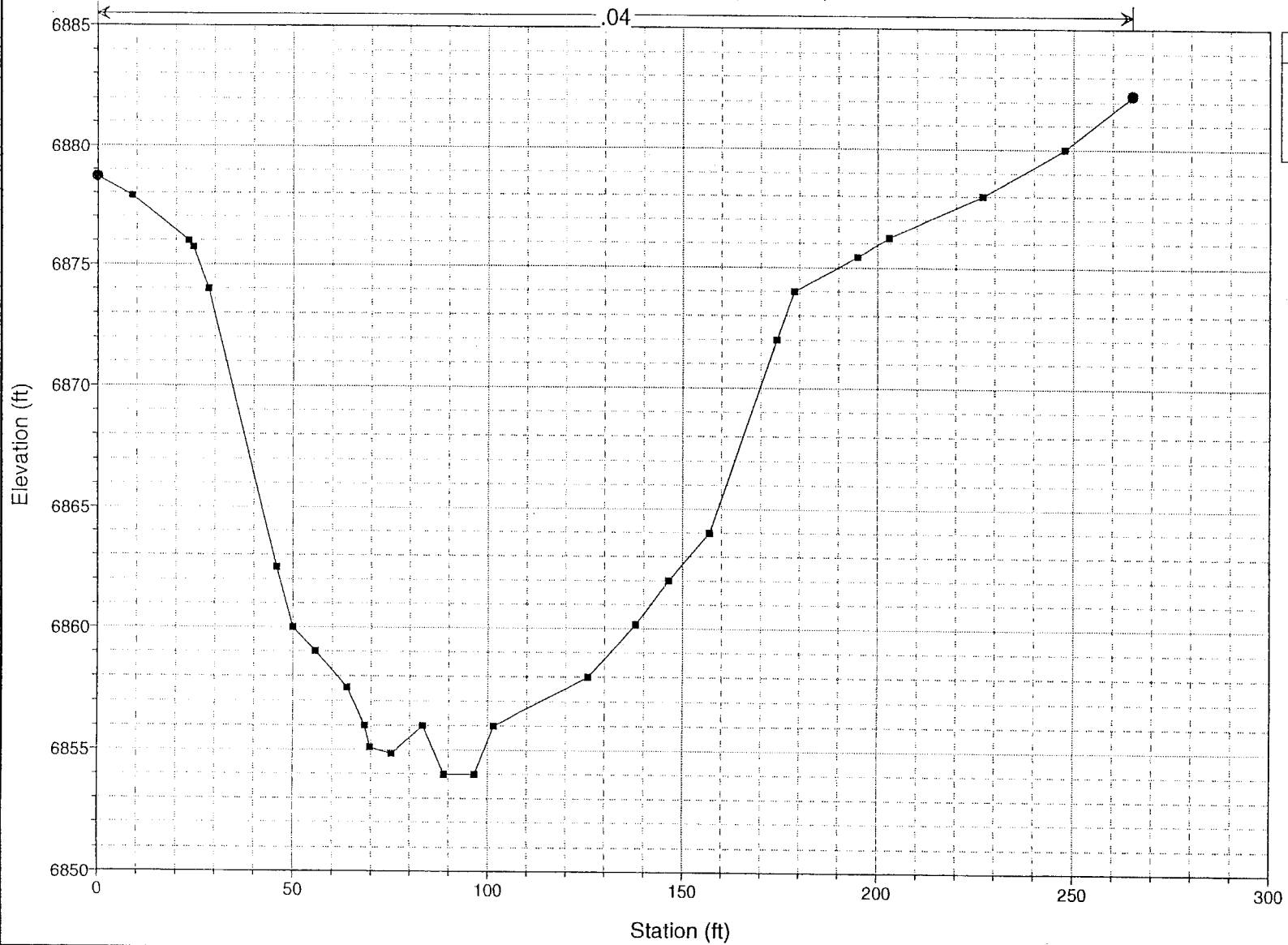
Cottonwood Creek
RS = 34.449 (x 1000 ft)

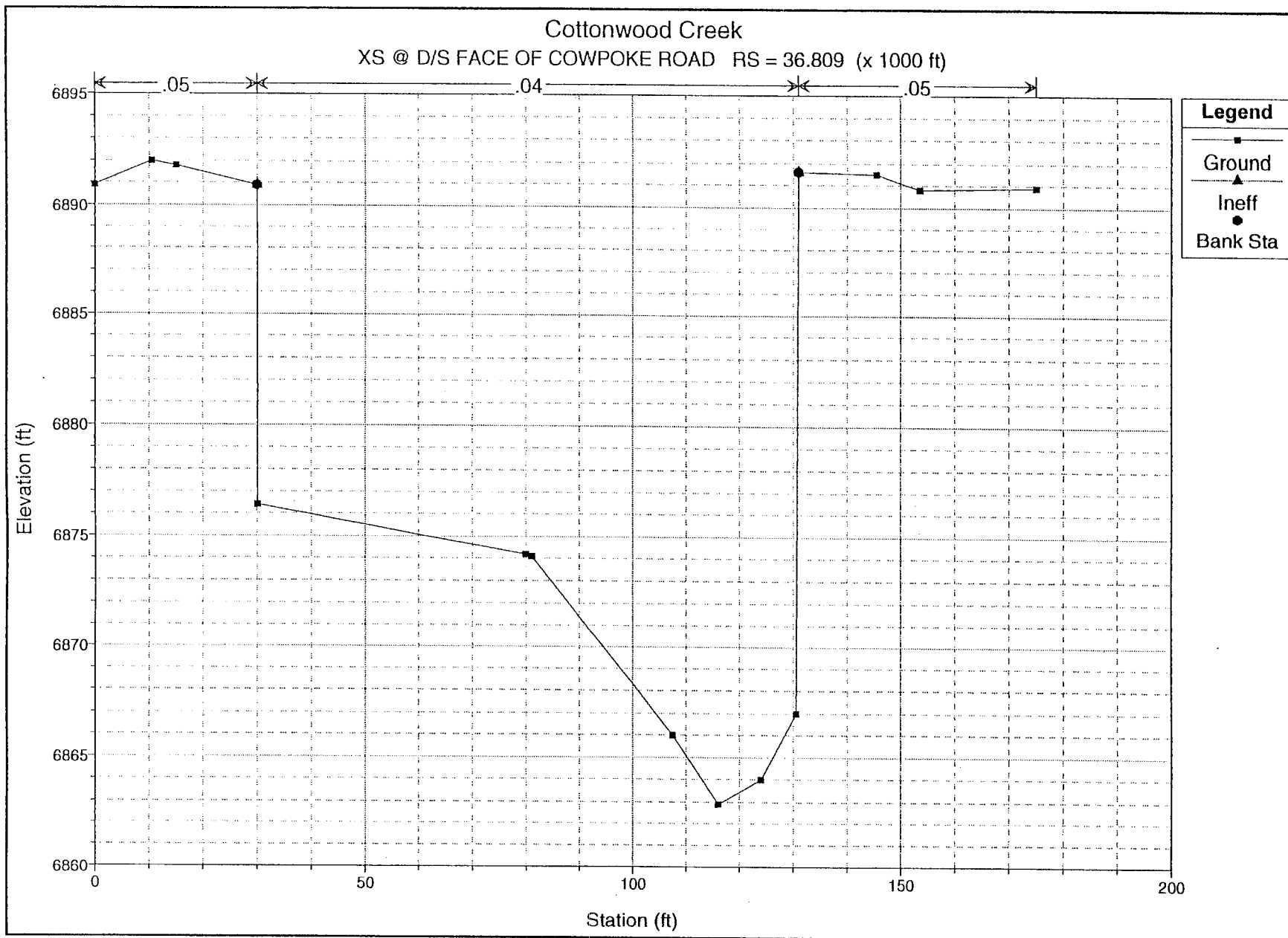


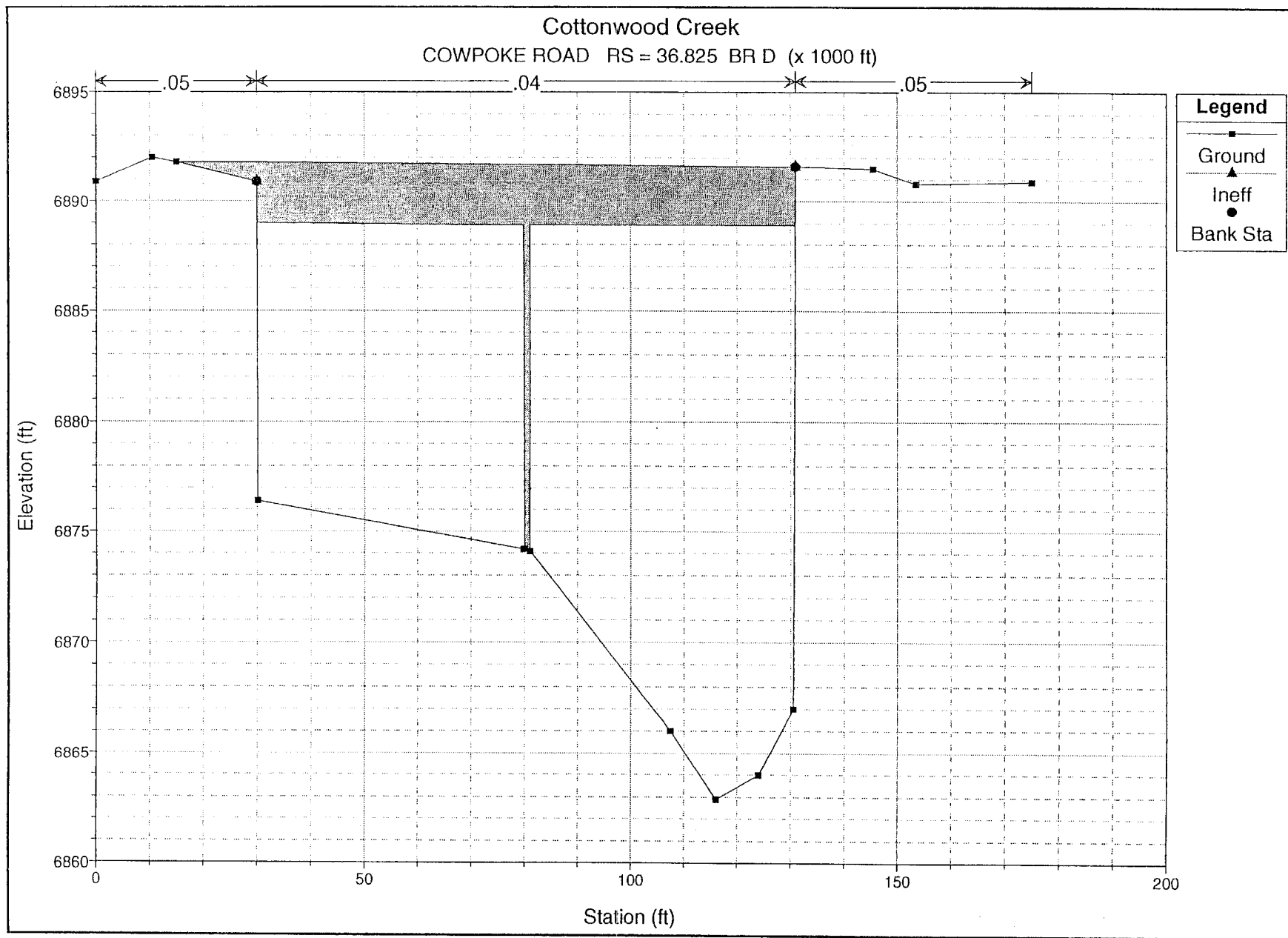
Cottonwood Creek
RS = 35.393 (x 1000 ft)

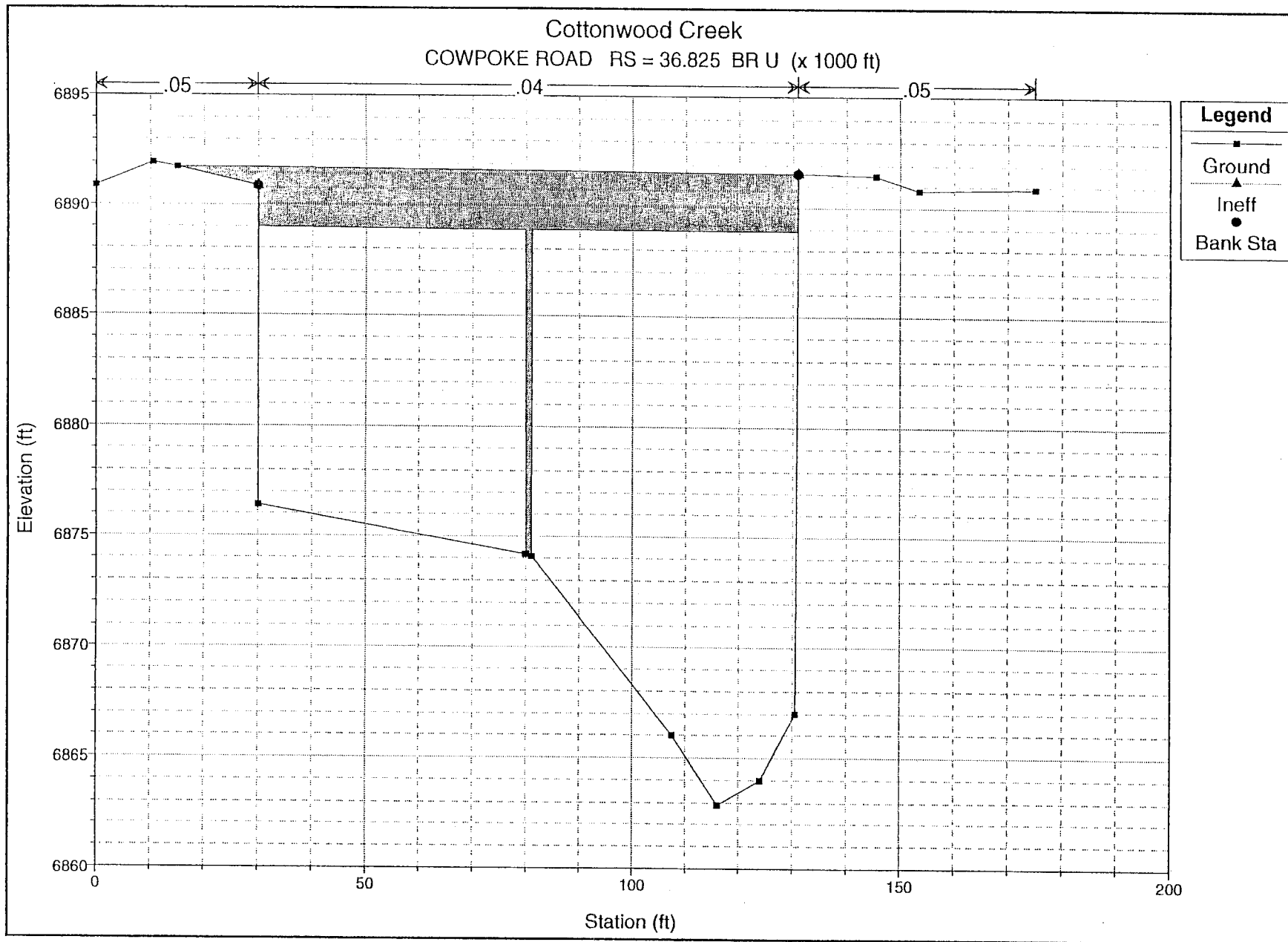


Cottonwood Creek
RS = 36.159 (x 1000 ft)



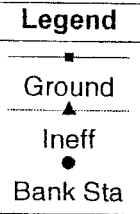
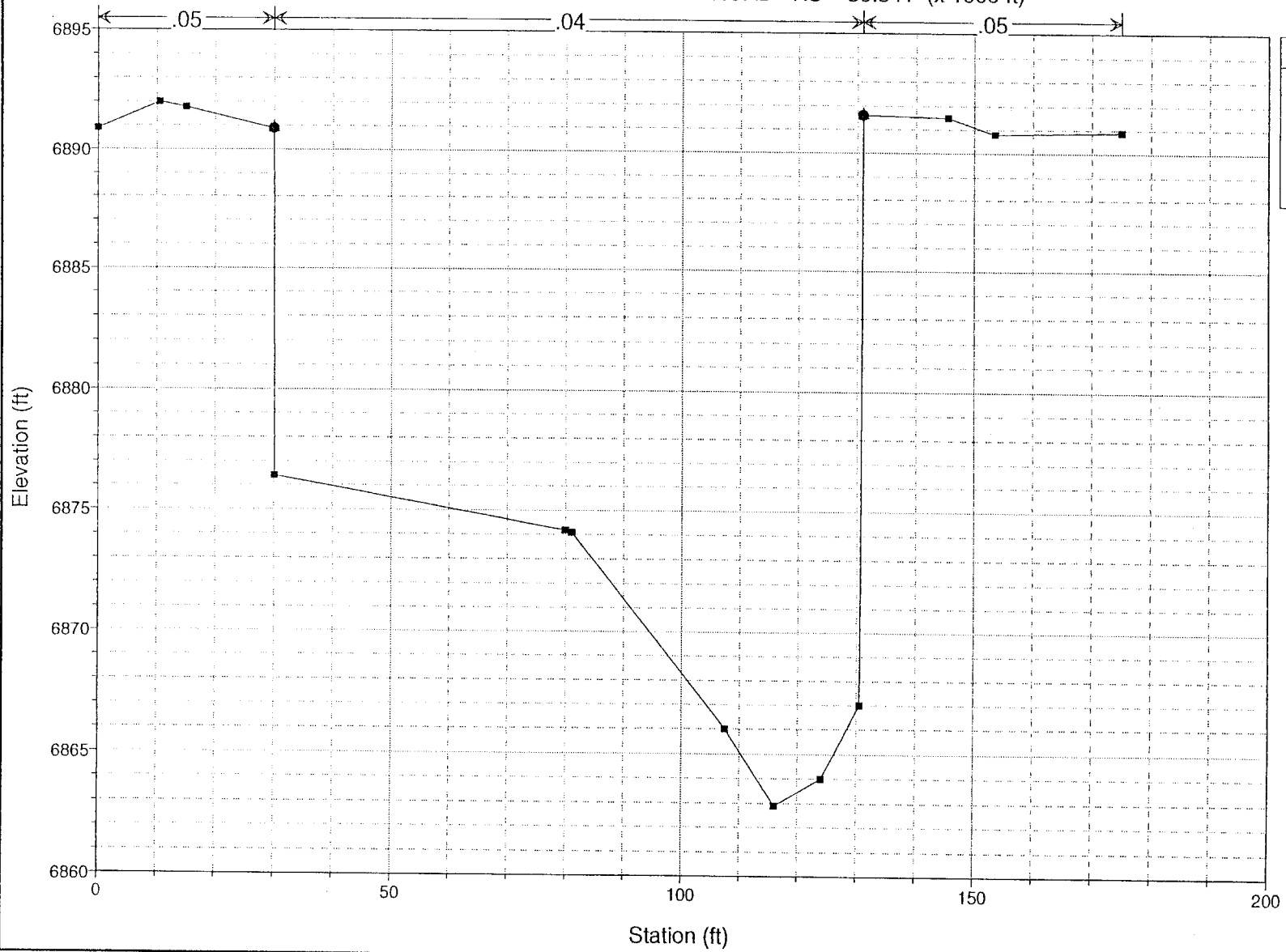




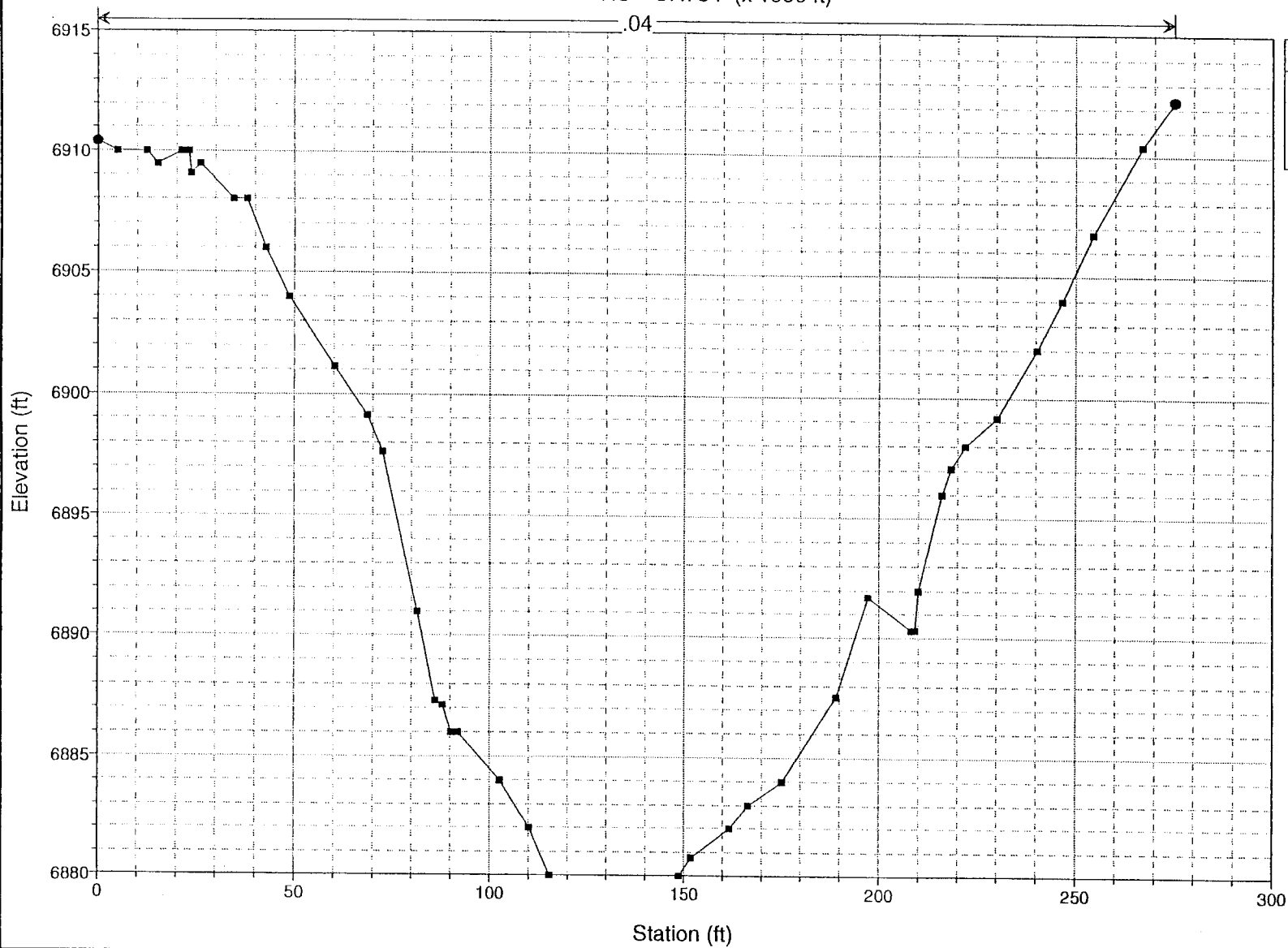


Cottonwood Creek

XS @ U/S FACE OF COWPOKE ROAD RS = 36.841 (x 1000 ft)



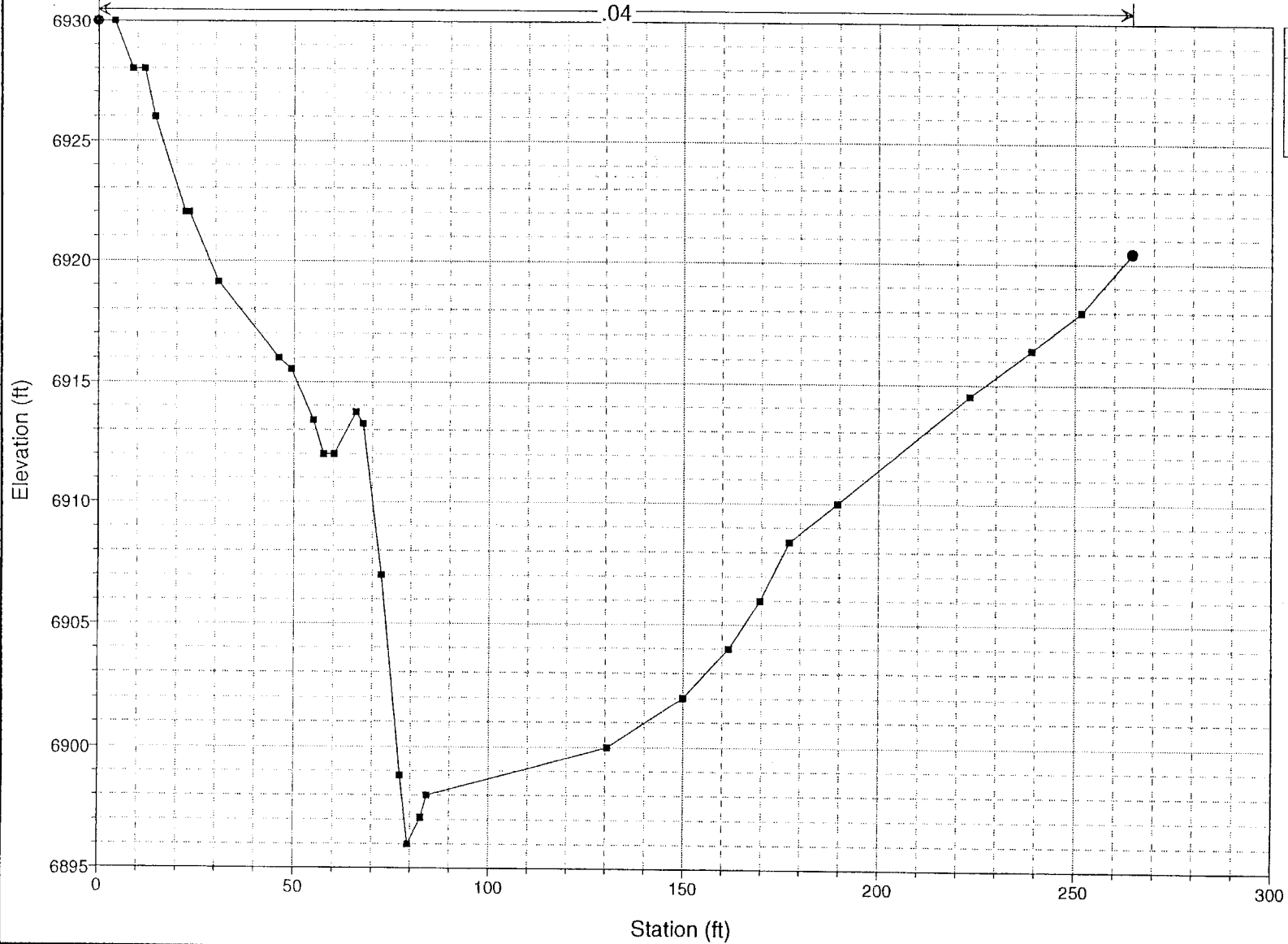
Cottonwood Creek
RS = 37.794 (x 1000 ft)



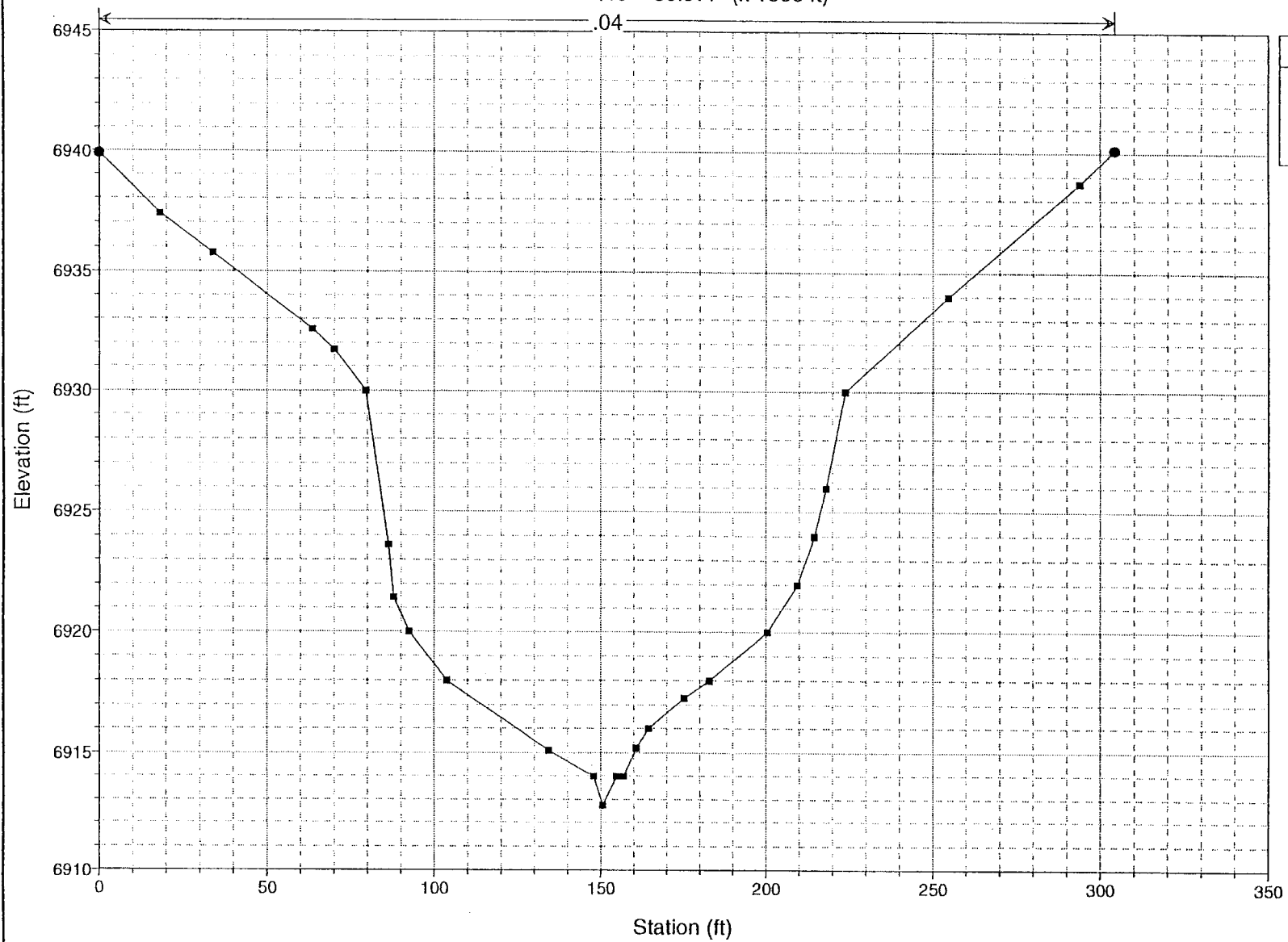
Cottonwood Creek

RS = 38.835 (x 1000 ft)

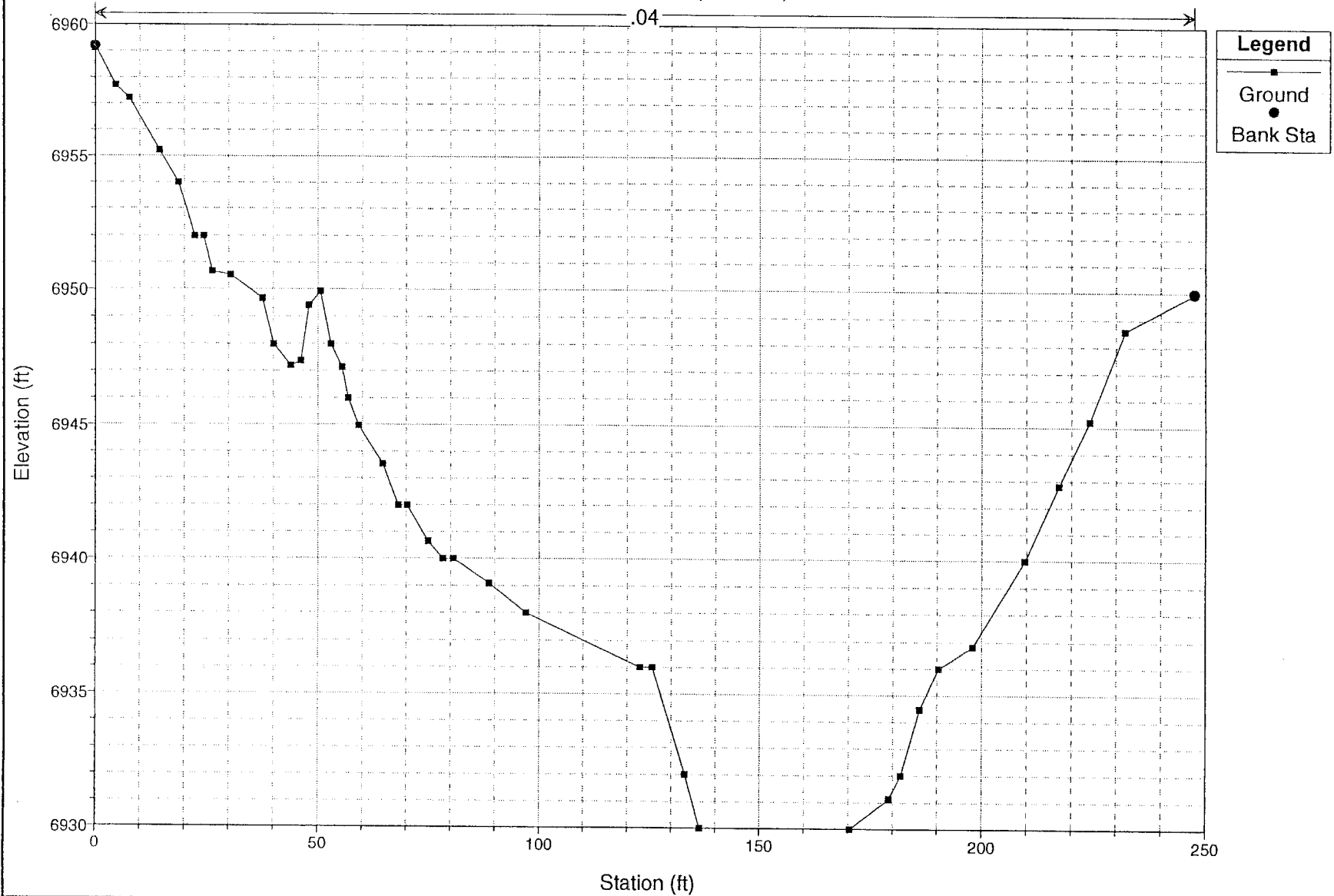
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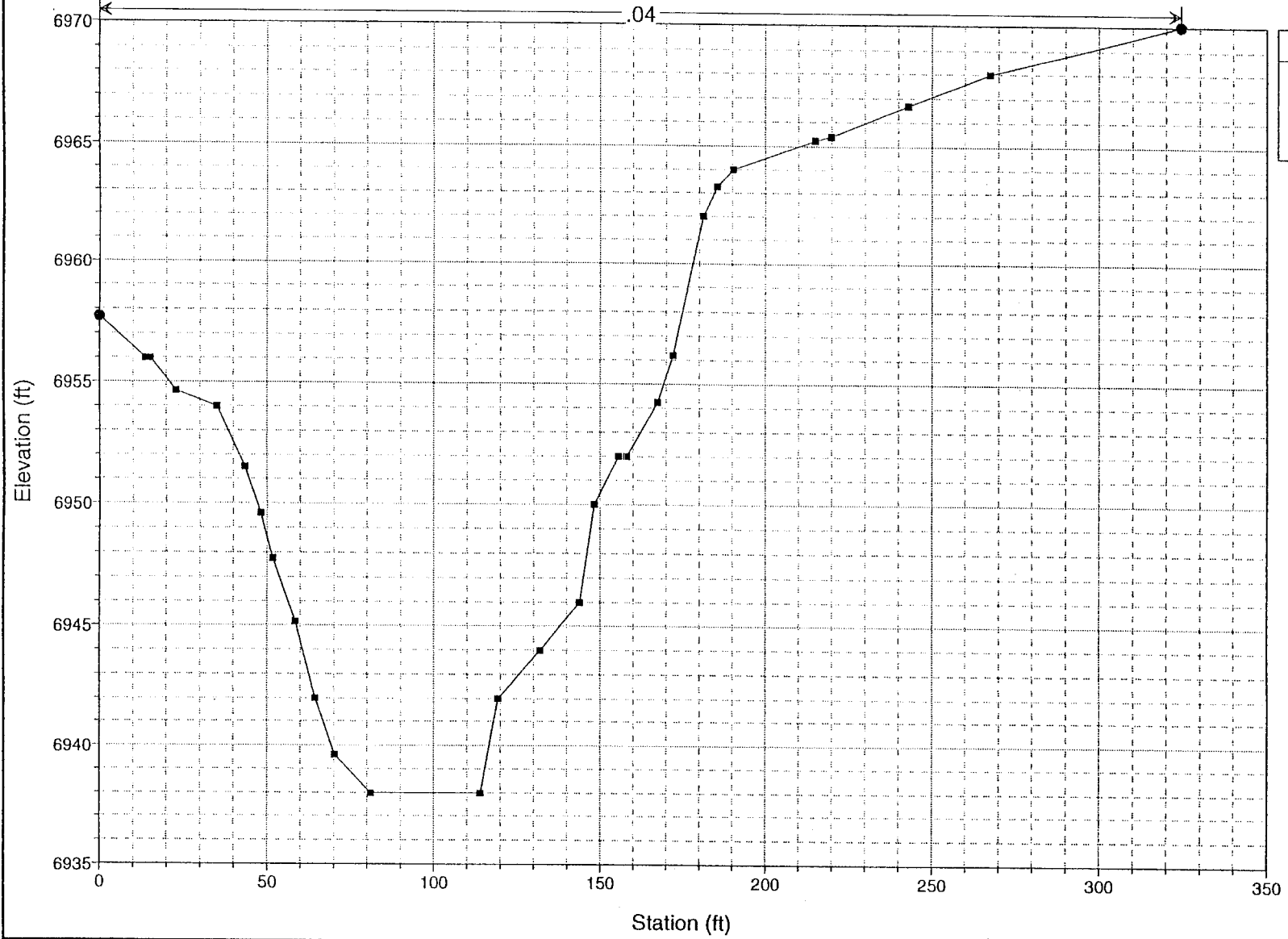
Cottonwood Creek
RS = 39.977 (x 1000 ft)



Cottonwood Creek
RS = 41.219 (x 1000 ft)

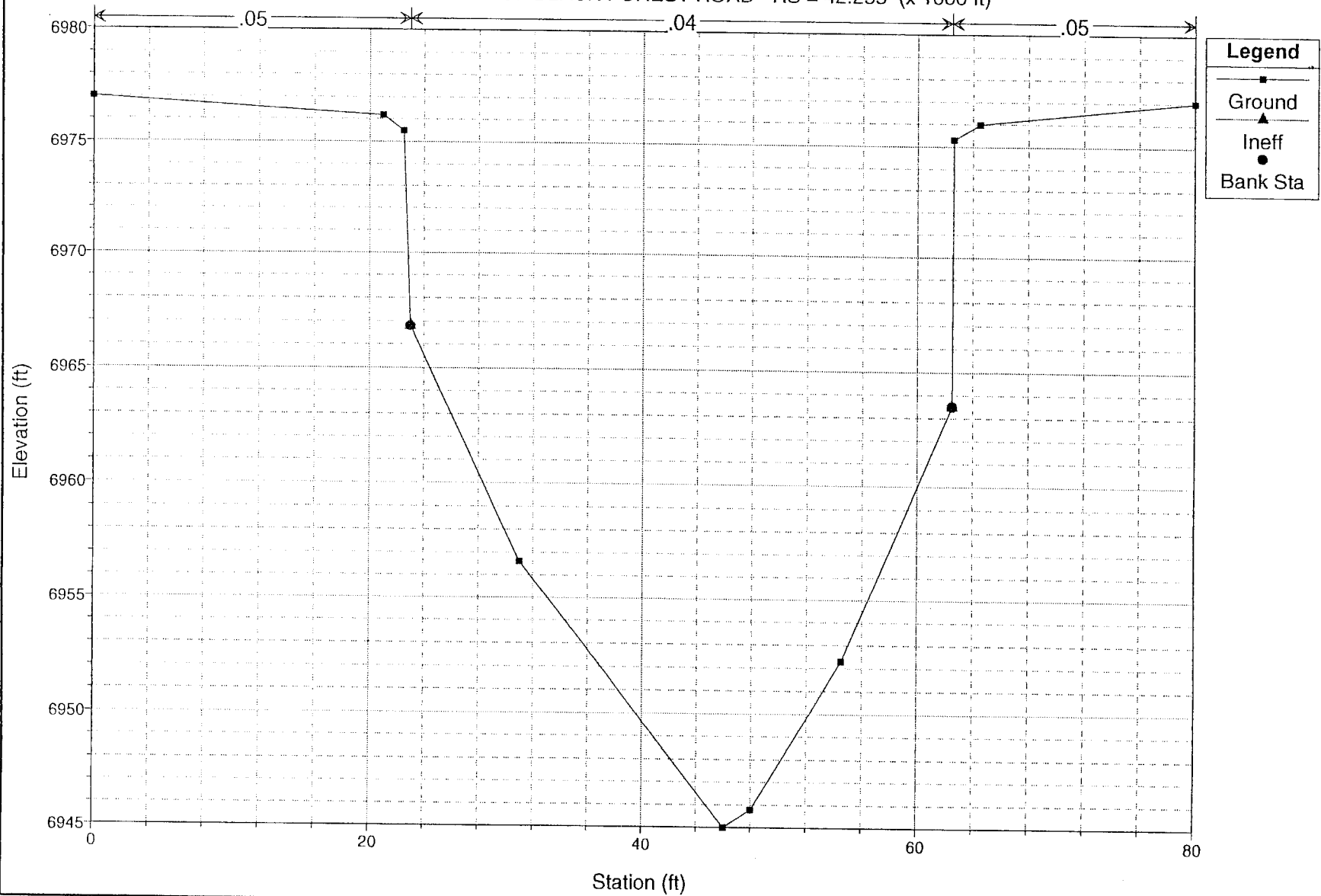


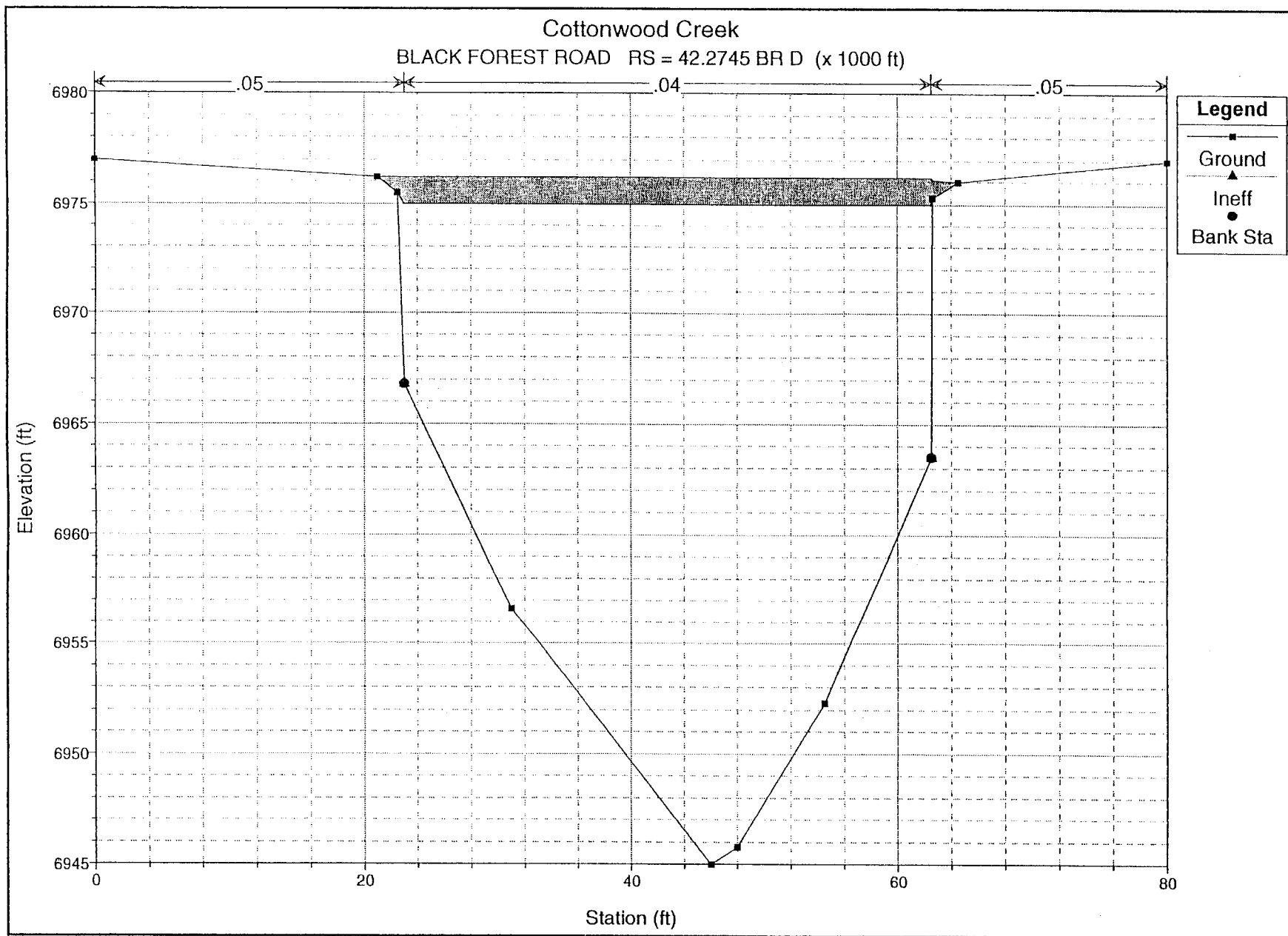
Cottonwood Creek
RS = 41.795 (x 1000 ft)

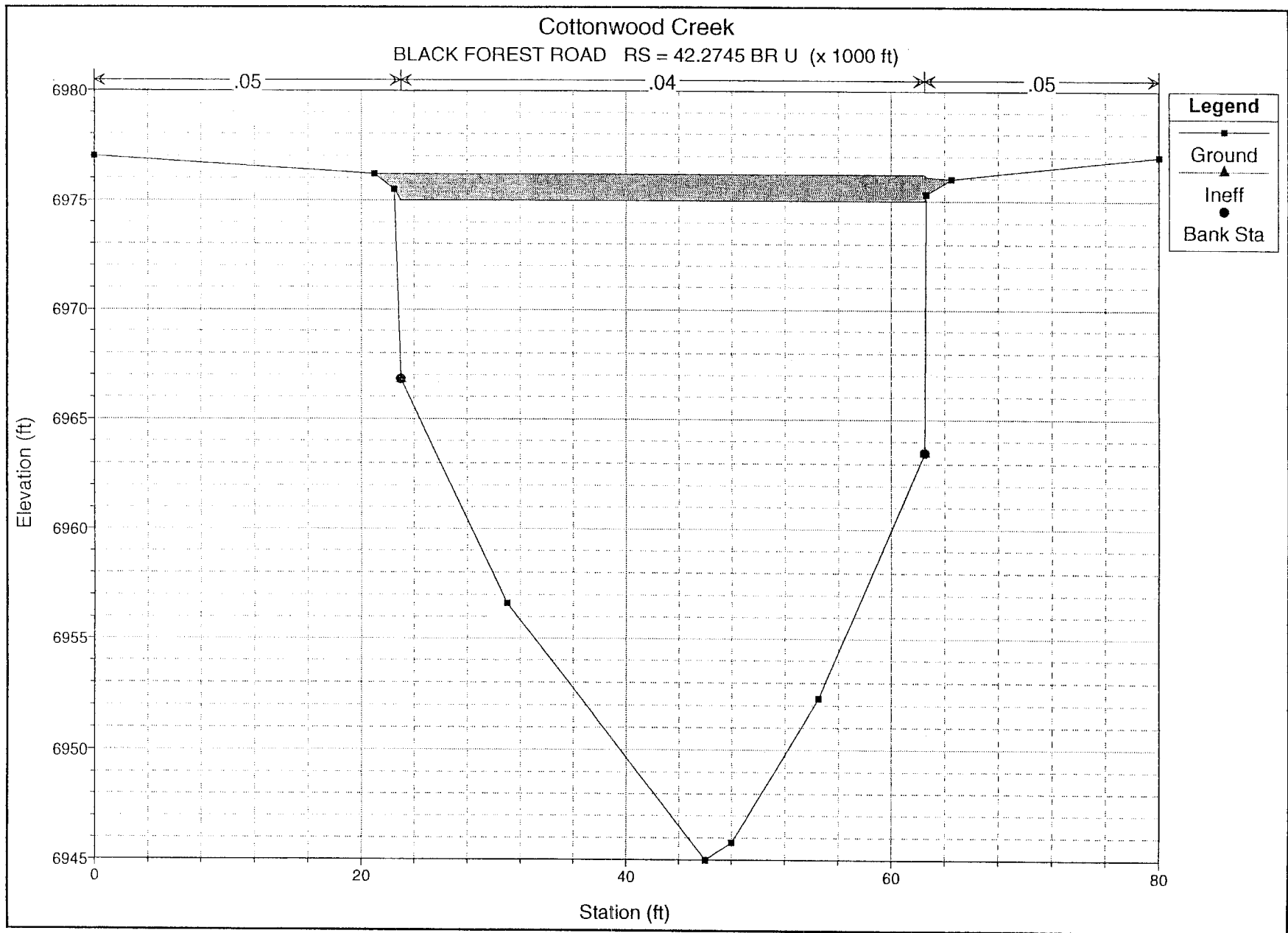


Cottonwood Creek

XS @ D/S FACE OF BLACK FOREST ROAD RS = 42.255 (x 1000 ft)

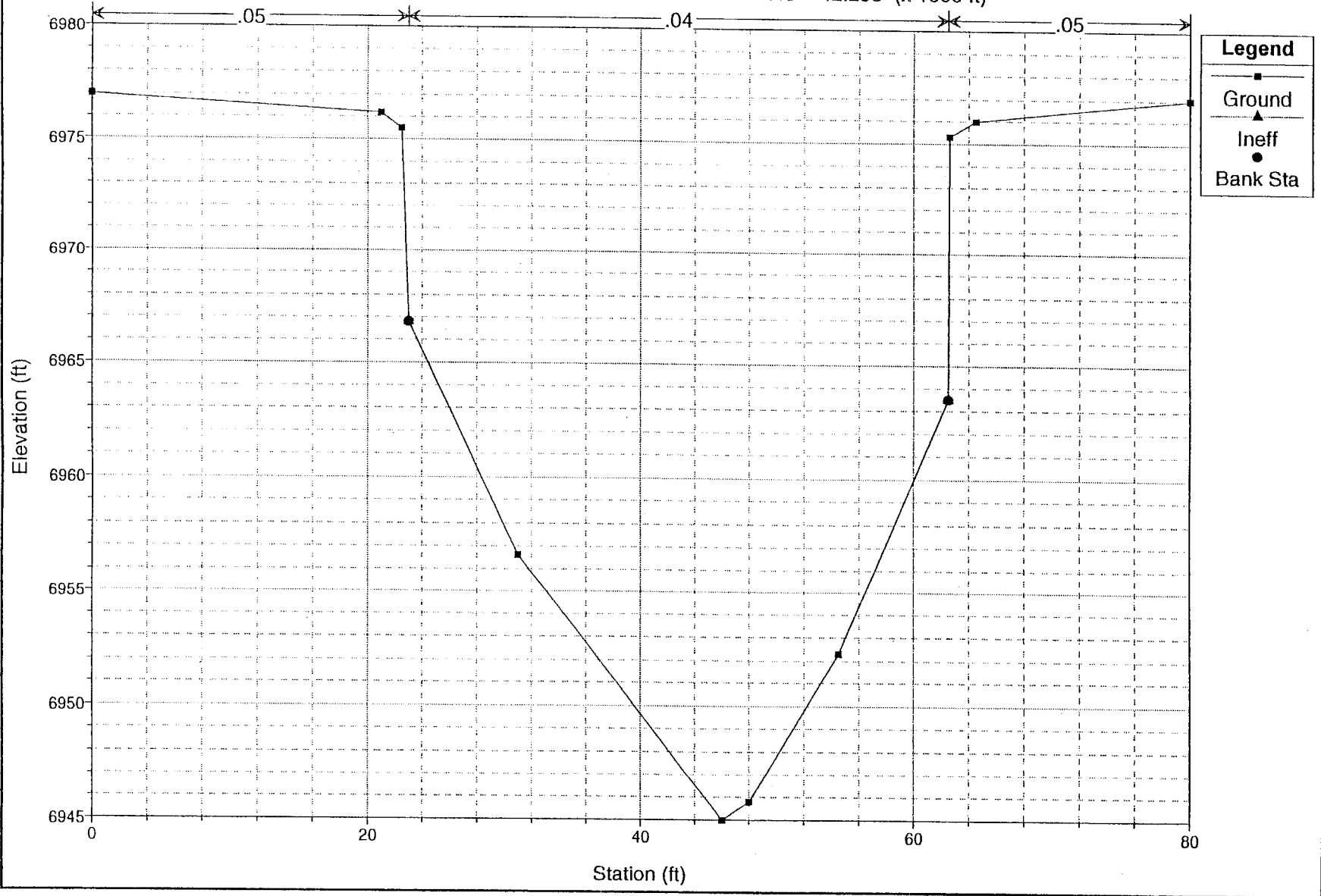




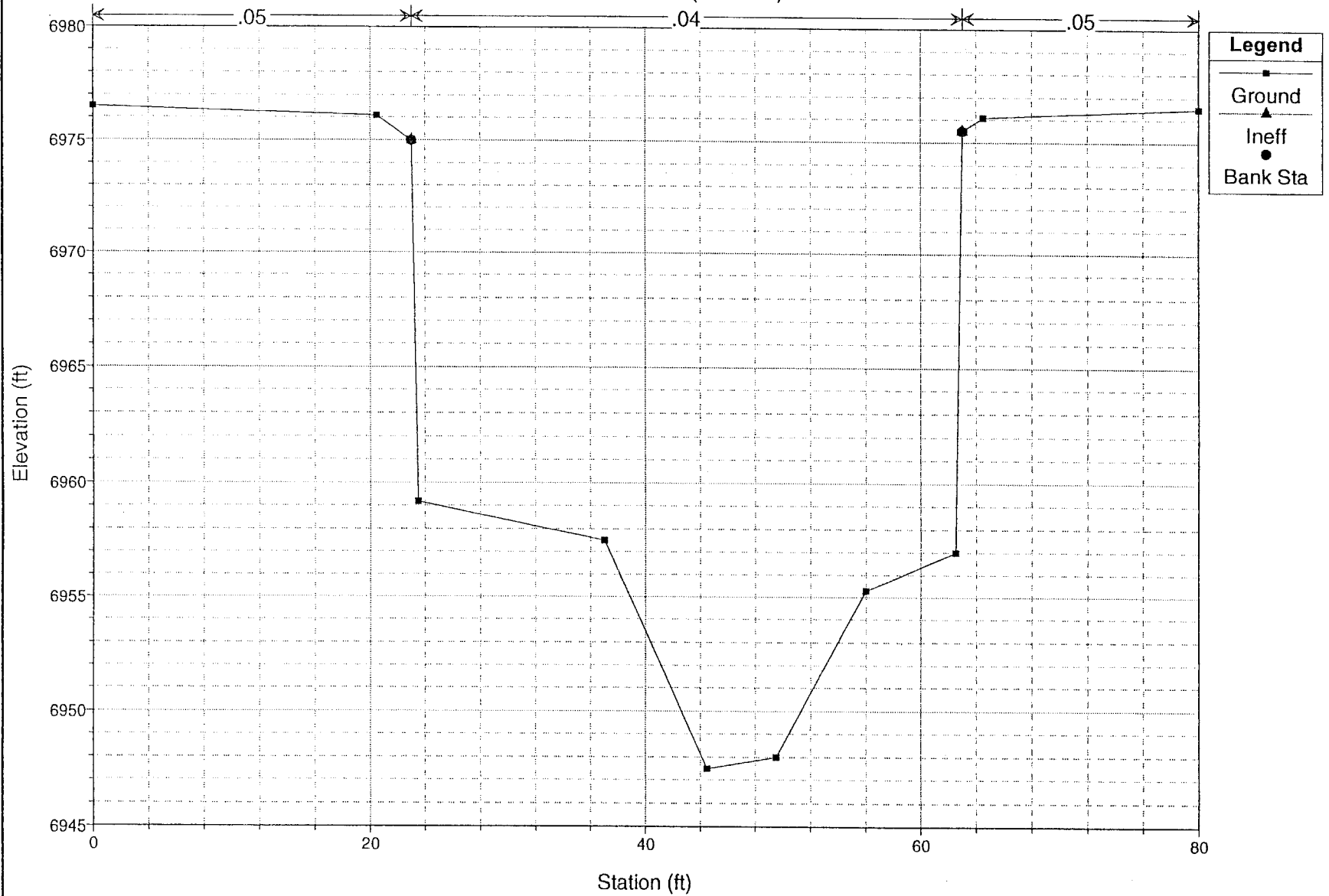


Cottonwood Creek

XS @ U/S FACE OF BLACK FOREST ROAD RS = 42.293 (x 1000 ft)



Cottonwood Creek
RS = 42.294 (x 1000 ft)



HEC-2 Output

Cottonwood Creek DBPS

January, 1999

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1*****
* HEC-2 WATER SURFACE PROFILES *
* Version 4.6.2; May 1991 *
* RUN DATE 06JAN99 TIME 08:39:05 *
*****

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*****
* U.S. ARMY CORPS OF ENGINEERS *
* HYDROLOGIC ENGINEERING CENTER *
* 609 SECOND STREET, SUITE D *
* DAVIS, CALIFORNIA 95616-4687 *
* (916) 756-1104 *
*****

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      X  X  XXXXXX  XXXX      XXXX
      X  X  X      X  X      X  X
      X  X  X      X  X      X  X
      XXXXXX  XXXX  X      XXXX  XXXX
      X  X  X      X  X      X
      X  X  X      X  X      X
      X  X  XXXXXX  XXXX      XXXXXX

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1 06JAN99 08:39:05

PAGE 1

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*****
HEC-2 WATER SURFACE PROFILES
Version 4.6.2; May 1991
*****

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THIS RUN EXECUTED 06JAN99 08:39:05

THIS IS AN ARCHIVAL RUN ALL DATA AND RESULTS ARE SAVED ON UNIT 96

AC

ARCHIVAL RUN FOR TAPE96 FILE

```

T1 COTTONWOOD CREEK CHANNEL STABILITY STUDIES, AYRES 1/99
T2 COTTONWOOD CREEK PROJECT NO: 34-0330.00
T3 REVISED BASED ON MEETING WITH CITY OF COLORADO SPRINGS
T4 FURTHER REVISED BASED ON UPDATED FUTURE LAND USE
T5 5 YR EVENT, FUTURE CONDITIONS (FAIRFAX POND ONLY)

```

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	2	0	0	0.017	0				
J2	NPROF	IPLT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	1	0	-1	0	0	0	-1			

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38	1	3	26	8	4	25	42	43	39
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J5 LPRINT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10
HYDROLOGIC DESIGN POINT 21

QT 2 3844 10738

NC 0.05 0.05 0.04 0.1 0.3

CROSS SECTIONS WERE DEVELOPED FROM 1995 FIMS MAPPING

TOPOGRAPHY OUTSIDE OF CHANNEL CHANGED IN PLACES, BUT CROSS SECTIONS WERE THE SAME AS IN 1989

CROSS SECTION AT MOUTH OF COTTONWOOD CREEK (DOWNSTREAM CONTROL)

X1	0.000	30	0.00	274.12	0.00	0.00			
GR	6262.0	0.00	6260.00	6.16	6258.28	12.43	6258.00	17.89	6258.00 26.93
GR	6252.0	40.60	6250.00	45.32	6248.00	51.23	6246.68	54.44	6244.00 64.52
GR	6240.0	80.56	6238.00	110.18	6237.93	111.88	6236.00	154.35	6238.00 159.05
GR	6238.1	159.88	6238.64	169.50	6240.00	187.01	6242.55	192.38	6246.00 199.31
GR	6246.0	210.37	6247.28	224.15	6247.67	236.47	6250.97	242.61	6252.52 244.84

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PAGE 2

GR	6254.0	248.57	6254.85	255.97	6256.00	267.49	6258.00	272.69	6258.00 274.12
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FUTNDREV.DAT: Future Conditions Hydrology; 5 and 100-year Design Storms; No Proposed Detention (Includes Existing Fairfax Pond) Revisions Based on September 4, 1996 Meeting With City of Colorado Springs Engineering Staff; Further Revised Based on Updated Land Use Near Tributary 1
1/6/99 8:51 AM

CROSS SECTION JUST DOWNSTREAM OF CORPORATE CENTER DRIVE

X1	0.157	17	0.00	182.19	137.50	100.00	156.92			
GR	6262.4	0.00	6260.00	8.33	6257.51	16.29	6256.00	21.55	6254.00	27.39
GR	6244.0	61.97	6240.00	76.00	6238.00	100.69	6238.00	119.69	6240.00	125.85
GR	6242.3	139.40	6246.28	146.39	6250.00	152.66	6252.00	156.27	6254.00	158.65
GR	6256.0	174.67	6258.31	182.19						

CROSS SECTION AT DOWNSTREAM FACE OF CORPORATE CENTER DRIVE BRIDGE

X1	0.253	10	33	154	87.50	100.00	96.00			
X3	10									
GR	6261.5	.0	6261.2	17	6254.8	33	6237.0	78	6237.0	121
GR	6239.0	130	6254.1	154	6257.1	169	6261.0	189	6261.0	208

CORPORATE CENTER DRIVE BRIDGE - CLEAR SPAN (MODIFIED FROM JR SURVEY DATED 1
COMPARES TO URS CROSS SECTION 0.330 IN URS HEC-2 MODEL)

X1	0.254				1	1	1			
X3	10									
BT	-10	.0	6261.5	6261.5	17	6262.1	6261.2	33	6262.0	6254.8
BT		78	6261.9	6254.8	121	6261.8	6254.5	130	6261.8	6254.5
BT		154	6261.6	6254.1	169	6261.4	6257.1	189	6261.3	6261.0
BT		208	6261.0	6261.0						

CORPORATE CENTER DRIVE BRIDGE - CLEAR SPAN (PROPOGATED FROM DOWNSTREAM FACE)

X1	0.298				44	44	44			
X2										
X3	10									

CROSS SECTION AT UPSTREAM FACE OF CORPORATE CENTER DRIVE BRIDGE (PROPOGATED
CROSS SECTION 0.263)

X1	0.299				1	1	1			
X3	10									

CROSS SECTION BETWEEN CORPORATE CENTER DRIVE BRIDGE AND I-25 SOUTHBOUND BRID

X1	0.329	21	0.00	223.54	50.00	25.00	30.02			
GR	6262.7	0.00	6261.53	13.60	6260.00	28.75	6259.42	33.29	6258.00	37.73
GR	6257.6	40.97	6256.00	46.82	6245.37	69.20	6242.99	75.20	6242.00	79.18
GR	6242.0	153.54	6246.49	164.63	6249.62	173.04	6256.00	188.01	6256.81	189.15
GR	6258.0	193.24	6258.89	200.11	6259.02	211.15	6259.32	215.31	6260.00	220.59
GR	6260.0	223.54								

CROSS SECTION AT DOWNSTREAM FACE OF SOUTHBOUND I-25

1 06JAN99 08:39:05 PAGE 3

X1	0.369	26	41.5	225.5	35.00	70.00	40.00			
X3	10									
GR	6266.2	.0	6266.4	29.5	6267.9	41	6264.0	41.1	6264.0	41.5
GR	6261.5	42	6244.5	75.5	6244.0	77.4	6243.9	77.5	6243.9	79.5
GR	6243.8	79.6	6238.5	107	6240.1	125.9	6240.2	126	6240.2	128
GR	6240.1	128.1	6238.2	166.5	6239.0	181.5	6240.0	183.9	6240.1	184
GR	6241.2	186	6241.3	186.1	6262.3	225.5	6262.2	233	6266.1	233.1
GR	6263.0	265.5								

I-25 SOUTHBOUND BRIDGE (OBTAINED FROM JR SURVEY, DATED 11/17/95)
2 END PIERS, 1 MIDDLE PIER BENT
(COMPARES TO URS CROSS SECTION 0.450 IN URS HEC-2 MODEL)

X1	0.370				1	1	1			
X3	10									
BT	-21	.0	6266.2	6266.2	29.5	6266.4	6266.4	41	6267.9	6267.9
BT		41.1	6267.9	6264.0	41.5	6267.9	6264.0	77.4	6267.6	6263.7
BT		77.5	6267.6	6243.9	79.5	6267.6	6243.9	79.6	6267.9	6263.7
BT		125.9	6267.0	6263.2	126	6267.0	6240.2	128	6267.1	6240.2
BT		128.1	6267.1	6263.2	183.9	6266.7	6262.8	184	6266.7	6240.1
BT		186	6266.6	6241.2	186.1	6266.6	6262.8	225.5	6266.2	6262.3
BT		233	6266.1	6262.2	233.1	6266.1	6266.1	265.5	6263.0	6263.0

I-25 SOUTHBOUND BRIDGE (PROPOGATED FROM DOWNSTREAM FACE)

X1	0.413				43	43	43			
X2										
X3	10									

CROSS SECTION AT UPSTREAM FACE OF I-25 SOUTHBOUND BRIDGE

X1	0.414				1	1	1			
X3	10									

CROSS SECTION BETWEEN I-25 SOUTHBOUND AND NORTHBOUND BRIDGES

X1	0.434	15	0.00	259.46	35.00	25.00	20.00			
GR	6266.8	0.00	6266.55	53.46	6266.30	64.92	6261.16	87.25	6260.70	92.87
GR	6258.0	95.17	6244.00	96.25	6244.00	208.23	6244.54	210.74	6246.00	213.65
GR	6248.3	217.12	6252.00	223.96	6261.44	249.75	6264.00	256.00	6264.00	259.46

CROSS SECTION AT DOWNSTREAM FACE OF I-25 NORTHBOUND BRIDGE

X1	0.464	20	41.5	173	30.00	40.00	30.00			
X3	10									
GR	6264.8	.0	6267.4	37	6262.3	37.1	6262.2	41.5	6239.8	61

GR	6242.0	77.9	6242.0	78	6242.0	81	6241.9	81.1	6238.9	88.5
GR	6239.8	134.5	6239.9	137.4	6240.0	137.5	6240.0	140.5	6240.1	140.6
GR	6241.1	141	6260.0	173	6260.0	181.5	6264.9	181.6	6265.1	218.5

I-25 NORTHBOUND BRIDGE (OBTAINED FROM JR SURVEY, DATED 11/17/95)
2 PIER BENTS

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X1	0.465			1	1	1				
X3	10									
BT	-14	.0	6264.8	6264.8	37	6267.4	6267.4	37.1	6267.4	6262.3
BT		77.9	6266.8	6261.8	78	6266.8	6242.0	81	6266.7	6242.0
BT		81.1	6266.7	6261.6	137.4	6265.7	6260.7	137.5	6265.7	6240.0
BT		140.5	6265.6	6240.0	140.6	6265.6	6260.6	181.5	6265.0	6260.0
BT		181.6	6264.9	6264.9	218.5	6265.1	6265.1			

I-25 NORTHBOUND BRIDGE (PROPOGATED FROM DOWNSTREAM FACE)

X1	0.519			54.5	54.5	54.5
X2						1
X3	10					

CROSS SECTION AT UPSTREAM FACE OF I-25 NORTHBOUND BRIDGE

X1	0.520			1	1	1
X3	10					

CROSS SECTION BETWEEN I-25 NORTHBOUND BRIDGE AND VINCENT DRIVE BRIDGE

X1	0.933	49	0.00	435.46	500.00	360.00	412.72			
GR	6302.3	0.00	6302.00	5.87	6300.85	12.66	6299.75	15.67	6292.00	20.01
GR	6290.0	21.44	6288.00	22.29	6284.00	27.43	6281.56	29.68	6278.58	30.40
GR	6280.0	30.54	6276.87	31.65	6274.00	33.52	6272.00	35.85	6270.00	40.24
GR	6268.0	46.68	6266.00	55.28	6264.00	66.17	6263.25	81.88	6262.00	99.42
GR	6262.0	105.76	6261.40	117.76	6260.00	158.69	6260.00	177.69	6258.00	186.23
GR	6258.0	190.63	6256.00	201.59	6256.00	203.23	6254.65	224.34	6254.00	233.34
GR	6253.7	239.94	6252.78	270.99	6250.00	277.22	6250.00	320.18	6251.57	322.74
GR	6252.0	324.31	6254.54	329.44	6262.00	342.18	6262.66	344.18	6264.00	345.54
GR	6265.5	350.20	6267.22	357.70	6268.00	362.81	6270.00	373.04	6270.06	381.62
GR	6270.9	396.08	6272.00	411.19	6273.06	418.50	6276.34	435.46		

HYDROLOGIC DESIGN POINT 20

QT 2 3875 10731

CROSS SECTION @ DOWNSTREAM FACE OF VINCENT DRIVE BRIDGE

X1	1.400	38	43	258.5	440.00	525.00	466.98			
X3	10									
GR	6298.0	.0	6299.6	43	6272.2	49	6272.6	52	6268.9	75
GR	6265.9	93	6265.6	94.9	6265.5	95	6265.0	97.5	6264.5	99.5
GR	6264.6	99.6	6265.0	101.6	6267.2	129.5	6265.9	137	6258.0	146
GR	6256.3	148	6255.0	148.1	6254.0	151	6253.9	153	6253.9	153.1
GR	6253.8	155	6252.6	189	6254.8	199.5	6254.9	201	6255.0	201.1
GR	6255.5	204	6257.8	206.5	6257.9	206.6	6259.2	208.5	6285.4	237.5
GR	6286.6	242	6289.2	247	6289.1	248	6288.8	249	6292.2	256.5
GR	6299.9	258.5	6299.5	266	6298.0	285.5				

VINCENT DRIVE BRIDGE - 3 PIERS (MODIFIED FROM JR SURVEY DATED 11/9/95)
(COMPARES TO URS CROSS SECTION 1.469 IN URS HEC-2 MODEL)

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X1	1.401			1	1	1				
X3	10									
BT	-38	.0	6298.0	6298.0	43	6299.6	6299.6	49	6299.9	6294.9
BT		52	6299.9	6294.9	75	6299.9	6294.9	93	6299.9	6295.0
BT		94.9	6299.9	6293.0	95	6299.9	6265.5	97.5	6299.9	6265.0
BT		99.5	6299.9	6264.5	99.6	6299.9	6293.0	101.6	6299.9	6294.9
BT		129.5	6299.9	6294.9	137	6299.9	6295.0	146	6299.9	6294.9
BT		148	6299.9	6293.0	148.1	6299.9	6255.0	151	6299.9	6254.0
BT		153	6299.9	6253.9	153.1	6299.9	6293.0	155	6299.9	6295.0
BT		189	6299.9	6295.0	199.5	6299.9	6295.0	201	6299.9	6293.0
BT		201.1	6299.9	6255.0	204	6299.9	6255.5	206.5	6299.9	6257.8
BT		206.6	6299.9	6293.0	208.5	6299.9	6295.0	237.5	6299.9	6295.0
BT		242	6299.9	6295.0	247	6299.9	6295.0	248	6299.9	6295.0
BT		249	6299.9	6295.0	256.5	6299.9	6295.0	258.5	6299.9	6299.9
BT		266	6299.5	6299.5	285.5	6298.0	6298.0			

VINCENT DRIVE BRIDGE (PROPOGATED FROM DOWNSTREAM FACE)

X1	1.421			20	20	20
X2						1
X3	10					

CROSS SECTION AT UPSTREAM FACE OF VINCENT DRIVE BRIDGE

X1	1.422	18	50	264	1	1	1			
X3	10									
GR	6299.2	.0	6299.5	18	6298.5	48	6300.0	50	6299.1	52.5
GR	6281.5	62.5	6268.9	103	6269.5	104	6263.0	152.5	6254.0	156.5
GR	6255.1	157	6253.1	189	6258.0	209.5	6259.1	211	6266.1	223.5
GR	6300.5	264	6299.9	265	6299.9	292				

CROSS SECTION BETWEEN VINCENT DRIVE BRIDGE AND DUBLIN BLVD. BRIDGE

X1	1.522	38	124.42	194.92	100.00	100.00	100.00			
GR	6306.0	0.00	6306.00	2.61	6303.20	7.93	6299.71	13.30	6296.00	20.35
GR	6294.4	26.41	6294.00	32.31	6292.00	41.83	6292.00	43.58	6291.39	45.70
GR	6290.5	52.61	6290.00	56.67	6288.68	62.01	6288.00	67.08	6288.00	72.86
GR	6287.7	77.46	6286.00	91.11	6286.00	97.92	6285.41	107.91	6284.96	115.52
GR	6284.0	124.42	6279.48	130.06	6273.95	136.13	6265.86	144.43	6260.00	151.07
GR	6260.0	177.02	6281.32	184.39	6282.27	185.33	6285.33	194.92	6286.00	199.79
GR	6286.0	233.23	6286.63	235.63	6286.72	246.61	6286.86	253.37	6288.00	279.87
GR	6288.3	283.58	6291.28	299.79	6291.78	303.32				

NC 0.3 0.5

CROSS SECTION @ DOWNSTREAM FACE OF DUBLIN BLVD. BRIDGE

X1	1.592	50	105	157.5	70.00	75.00	70.00			
X3	10			105		157.5				
GR	6305.5	.0	6290.0	104	6266.0	104.9	6265.9	105	6265.5	106.5
GR	6264.8	108.5	6264.0	110.5	6263.2	112.5	6262.5	114.5	6261.9	116.5
GR	6261.2	118.5	6261.0	120.5	6260.9	122.5	6260.6	124.5	6260.5	125.5
GR	6264.8	125.6	6264.8	126.5	6267.2	126.6	6267.2	127.5	6267.8	127.6

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GR	6267.8	128.4	6267.8	128.5	6267.8	133.5	6267.8	133.6	6267.8	134.5
GR	6267.2	134.6	6267.2	135	6267.2	135.5	6264.8	135.6	6264.8	136.5
GR	6261.5	136.6	6261.5	138.5	6261.5	140.5	6261.5	142.5	6261.5	144.5
GR	6261.5	146.5	6261.5	148.5	6261.5	150.5	6261.5	152.5	6261.5	154.5
GR	6261.6	155.5	6268.8	155.6	6268.8	156.5	6269.8	156.6	6269.8	157.5
GR	6269.8	157.6	6290.0	158.5	6305.8	237.5	6305.8	238	6306.0	246

DUBLIN BLVD. BRIDGE - 2 22'X22' BRICKWORK-WITH-PAVED-INVERT ARCH CULVERTS
(MODIFIED FROM JR SURVEY DATED 11/17/95)
(COMPARES TO URS CROSS SECTION 1.720 IN URS HEC-2 DECK)

NC 0.015

X1	1.593			1	1	1				
X3	10		105		157.5					
BT	-37	.0	6306.5	6305.5	104	6306.4	6290.0	104.9	6306.4	6266.0
BT		105	6306.4	6276.0	106.5	6306.5	6279.4	108.5	6306.5	6281.8
BT		110.5	6306.6	6283.2	112.5	6306.6	6284.1	114.5	6306.7	6284.9
BT		116.5	6306.7	6285.0	118.5	6306.7	6284.9	120.5	6306.8	6284.3
BT		122.5	6306.8	6283.3	124.5	6306.8	6282.0	126.5	6306.8	6280.0
BT		128.4	6306.8	6274.0	128.5	6306.8	6267.8	133.5	6306.8	6267.8
BT		133.6	6306.8	6274.0	135	6306.9	6278.4	136.5	6306.9	6281.0
BT		138.5	6306.9	6283.0	140.5	6306.9	6284.0	142.5	6307.0	6284.8
BT		144.5	6307.0	6285.0	146.5	6307.0	6285.0	148.5	6307.0	6284.8
BT		150.5	6307.0	6284.0	152.5	6307.0	6282.8	154.5	6307.1	6281.0
BT		156.5	6307.1	6278.0	157.5	6307.1	6274.5	157.6	6307.1	6270.0
BT		158.5	6307.1	6290.0	237.5	6308.6	6305.8	238	6308.6	6305.8
BT		246	6308.7	6306.0						

DUBLIN BLVD. BRIDGE - PROPOGATED FROM DOWNSTREAM FACE

X1	1.708			115	115	115				
X2						1				
X3			105		157.5					

NC 0.04

CROSS SECTION AT UPSTREAM FACE OF DUBLIN BLVD. BRIDGE

X1	1.709			1	1	1				
X3	10		105		157.5					

CROSS SECTION UPSTREAM OF DUBLIN BLVD. BRIDGE

X1	1.981	37	100.71	190.86	225.00	310.00	272.22			
GR	6314.0	0.00	6312.00	22.93	6310.70	27.26	6308.00	31.25	6303.81	36.50
GR	6299.4	43.77	6296.00	51.02	6294.02	58.07	6295.02	69.34	6295.04	74.07
GR	6290.0	85.95	6284.00	100.71	6277.08	115.16	6275.82	117.94	6268.00	126.38
GR	6268.0	144.40	6269.47	163.47	6269.63	167.80	6271.35	173.29	6280.00	189.39
GR	6282.0	190.86	6284.00	197.05	6286.00	208.98	6288.00	221.25	6288.00	228.82
GR	6287.3	236.74	6287.53	240.85	6291.31	260.37	6294.00	273.76	6294.95	280.53
GR	6298.0	296.80	6298.46	300.53	6300.87	312.89	6303.22	322.39	6310.00	341.15
GR	6312.0	354.37	6312.07	356.09						

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NC 0.1 0.3

X1	2.217	42	0.00	429.05	200.00	250.00	235.21			
GR	6316.1	0.00	6316.00	1.43	6314.00	7.99	6312.78	10.96	6308.96	30.35
GR	6306.0	37.13	6304.00	50.64	6303.53	56.28	6302.00	65.19	6300.89	73.52
GR	6298.0	102.26	6296.00	115.71	6292.00	139.34	6290.00	147.90	6288.94	154.40
GR	6287.6	163.28	6286.00	172.14	6279.86	192.89	6276.00	208.54	6275.32	225.07
GR	6275.1	233.24	6274.40	238.60	6273.60	241.52	6272.00	245.88	6272.00	253.03
GR	6272.3	258.56	6276.00	274.02	6278.00	281.76	6280.00	287.64	6282.13	292.90
GR	6288.0	304.35	6291.01	310.95	6292.00	312.45	6294.00	317.76	6296.00	334.64
GR	6298.0	345.51	6304.00	371.45	6307.52	388.01	6310.00	401.20	6312.00	414.05
GR	6314.0	425.23	6314.37	429.05						

X1	2.521	39	0.00	450.90	150.00	290.00	304.54			
GR	6308.1	0.00	6307.80	1.53	6297.74	20.11	6294.00	27.86	6289.89	37.77
GR	6287.1	46.71	6285.35	50.14	6285.15	53.28	6284.00	64.87	6280.89	72.89
GR	6280.0	74.80	6280.00	90.15	6282.00	94.37	6282.00	95.61	6283.41	118.03
GR	6284.0	123.70	6288.00	135.00	6290.40	141.37	6290.39	142.63	6292.00	158.78
GR	6292.1	160.48	6292.15	167.40	6292.00	184.88	6290.52	189.14	6290.00	193.08
GR	6290.0	200.13	6291.50	215.95	6292.00	219.32	6292.00	228.12	6294.00	259.99
GR	6296.0	283.27	6302.00	305.52	6304.53	335.40	6306.00	344.86	6307.33	356.32
GR	6310.4	387.18	6312.00	400.04	6314.00	413.58	6320.14	450.90		

X1	2.812	39	0.00	553.06	325.00	175.00	291.03			
GR	6328.0	0.00	6328.00	14.31	6324.94	17.81	6322.00	21.88	6319.10	24.57
GR	6317.0	27.14	6309.42	37.30	6303.37	45.05	6295.99	50.22	6293.70	51.69
GR	6290.0	55.48	6289.48	56.57	6286.00	60.22	6286.00	77.39	6285.41	91.80
GR	6286.0	99.06	6286.01	103.31	6288.00	118.66	6289.02	134.10	6289.24	140.46
GR	6292.0	166.91	6294.00	191.31	6296.00	209.00	6296.00	312.39	6296.00	372.12
GR	6296.9	376.20	6299.70	385.65	6302.00	395.40	6302.00	399.51	6303.14	418.88
GR	6304.0	431.04	6304.00	434.73	6306.45	448.28	6308.00	458.86	6310.00	477.06
GR	6312.0	495.68	6314.00	511.92	6316.00	525.95	6320.14	553.06		

X1	3.243	48	0.00	435.22	440.00	200.00	431.19			
GR	6332.5	0.00	6332.00	9.48	6332.00	13.48	6330.00	19.92	6328.63	22.01
GR	6327.7	25.73	6325.50	31.20	6324.00	35.69	6321.92	40.34	6318.00	48.55
GR	6316.0	56.84	6314.00	63.95	6311.72	71.15	6310.00	74.85	6307.47	77.72
GR	6302.7	84.94	6298.00	89.05	6297.03	94.31	6296.00	101.50	6296.00	103.63
GR	6294.6	114.85	6292.00	119.98	6292.00	157.17	6293.34	166.48	6294.70	180.55
GR	6296.0	193.00	6298.00	207.42	6298.75	209.63	6301.42	211.47	6302.00	215.48
GR	6302.0	245.79	6301.68	265.89	6301.68	272.04	6302.00	282.20	6302.00	288.40
GR	6304.0	296.10	6306.34	302.40	6308.73	307.92	6311.47	313.49	6312.00	314.94
GR	6312.6	319.46	6312.64	323.27	6314.00	350.02	6315.30	363.64	6316.36	376.49
GR	6318.1	407.52	6320.00	432.45	6320.14	435.22				

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X1	3.586	31	0.00	338.41	310.00	300.00	342.79			
GR	6335.8	0.00	6333.40	7.83	6330.00	19.82	6328.00	31.69	6326.00	46.42
GR	6324.2	66.20	6322.00	79.33	6314.00	96.67	6311.73	102.01	6310.00	106.58
GR	6308.0	110.61	6306.00	120.41	6305.00	127.30	6304.61	133.90	6302.96	146.87
GR	6302.0	151.99	6301.14	184.66	6300.00	219.07	6298.00	230.68	6298.00	258.54
GR	6300.1	260.50	6304.00	267.75	6305.04	271.22	6308.00	275.51	6315.37	283.53
GR	6316.0	283.90	6321.08	299.23	6324.00	307.87	6328.00	318.57	6334.00	333.31
GR	6336.0	338.41								

X1	3.903	42	0.00	357.14	300.00	310.00	316.79			
GR	6344.0	0.00	6344.00	23.67	6342.00	27.38	6338.00	31.93	6335.97	34.70
GR	6332.0	42.41	6332.00	44.34	6330.00	46.92	6328.00	57.48	6326.00	60.61
GR	6319.9	64.53	6310.00	70.64	6308.00	71.88	6305.37	85.87	6304.00	94.86
GR	6302.0	102.75	6301.22	107.96	6300.00	113.99	6300.00	114.88	6302.09	119.65
GR	6304.0	126.10	6305.55	140.52	6306.34	170.59	6306.54	176.80	6307.22	189.45
GR	6308.0	208.38	6308.78	216.19	6309.19	224.44	6310.00	227.52	6310.35	230.64
GR	6312.0	237.58	6314.00	243.18	6320.00	255.47	6323.18	265.83	6324.06	269.38
GR	6326.3	284.09	6328.00	294.24	6330.87	309.30	6332.00	315.68	6334.00	324.61
GR	6335.9	337.57	6337.80	357.14						

HYDROLOGIC DESIGN POINT 19

QT	2	3911	10752							
X1	4.367	50	0.00	525.25	500.00	475.00	464.46			
GR	6352.6	0.00	6352.00	4.69	6347.13	13.28	6341.01	22.66	6337.48	28.58
GR	6333.6	35.74	6332.00	38.45	6327.88	42.17	6326.00	44.25	6324.00	48.48
GR	6322.0	56.03	6320.00	66.20	6317.82	83.19	6316.00	98.67	6314.72	121.77
GR	6314.0	131.59	6314.00	135.46	6313.20	138.64	6312.00	147.43	6310.76	152.40
GR	6310.0	154.47	6310.00	206.49	6312.83	213.62	6314.00	218.07	6314.00	219.64
GR	6314.9	243.07	6316.00	274.01	6316.00	276.95	6318.14	281.06	6320.00	285.40
GR	6321.0	288.31	6322.74	303.51	6324.00	313.24	6330.00	343.40	6332.00	351.22
GR	6336.0	359.13	6340.00	368.24	6342.54	375.25	6344.00	376.36	6344.00	379.30
GR	6345.2	406.86	6345.52	412.46	6346.00	416.14	6346.79	427.16	6348.00	450.57
GR	6349.0	468.65	6349.38	479.77	6349.70	498.24	6350.00	512.70	6350.07	525.25

X1	5.028	41	0.00	341.71	650.00	625.00	661.10			
GR	6356.0	0.00	6356.00	33.99	6352.00	40.92	6348.00	47.33	6346.85	51.19
GR	6344.0	58.99	6336.00	71.04	6334.00	76.04	6326.00	82.12	6324.95	86.34
GR	6323.8	89.79	6320.69	94.41	6320.00	98.00	6320.00	116.21	6319.67	118.27
GR	6320.0	122.34	6320.00	149.47	6321.12	154.99	6322.00	156.70	6324.00	165.41
GR	6325.3	176.77	6326.00	187.99	6326.00	199.11	6332.66	215.70	6334.00	220.26
GR	6334.6	223.57	6336.00	225.25	6338.00	235.51	6339.05	251.17	6340.00	258.90
GR	6342.4	268.16	6342.64	269.61	6344.98	278.23	6347.17	284.69	6348.00	288.06
GR	6349.0	290.85	6350.00	294.76	6356.00	311.41	6360.00	321.88	6364.00	333.96
GR	6364.4	341.71								

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X1	5.468	43	0.00	380.92	400.00	400.00	439.25		
GR	6374.2	0.00	6373.91	4.80	6371.20	11.05	6366.37	23.61	6365.84
GR	6365.1	33.32	6365.08	36.77	6364.00	42.06	6361.44	52.91	6359.25
GR	6354.0	79.15	6350.00	95.51	6347.73	107.21	6347.54	112.73	6346.00
GR	6344.0	124.92	6337.49	133.40	6336.00	135.90	6334.00	147.91	6334.00
GR	6333.7	166.94	6333.30	202.04	6332.97	208.73	6332.81	219.56	6332.00
GR	6328.0	234.25	6328.00	249.28	6330.00	251.64	6336.37	260.61	6338.00
GR	6342.0	268.47	6346.00	273.51	6348.00	276.73	6350.32	284.21	6354.80
GR	6356.0	304.98	6358.00	319.14	6360.00	330.87	6363.27	342.34	6364.69
GR	6366.9	361.68	6368.00	371.03	6372.00	380.92			348.74

X1	5.801	24	0.00	246.20	290.00	360.00	332.80		
GR	6380.2	0.00	6380.00	10.14	6371.42	12.78	6369.98	13.28	6366.00
GR	6360.7	15.57	6355.17	17.51	6349.63	19.33	6342.00	22.27	6336.00
GR	6336.0	50.79	6338.00	66.15	6338.95	89.04	6339.61	110.50	6340.00
GR	6346.4	136.20	6349.40	144.92	6350.00	147.03	6352.00	183.10	6360.00
GR	6364.0	220.39	6369.65	236.13	6372.46	244.30	6372.56	246.20	

X1	6.235	33	0.00	283.46	400.00	400.00	434.93		
GR	6395.6	0.00	6394.00	7.02	6385.28	19.58	6381.54	27.37	6374.00
GR	6368.0	60.21	6367.10	63.48	6365.72	72.57	6364.86	82.46	6364.65
GR	6364.0	95.83	6361.86	99.90	6348.84	112.20	6346.00	114.16	6345.00
GR	6344.0	122.10	6342.00	131.52	6342.00	161.72	6344.00	170.68	6344.84
GR	6345.2	191.04	6346.78	200.99	6347.83	210.60	6348.63	219.53	6350.00
GR	6354.0	235.03	6355.45	239.39	6356.43	240.54	6360.00	247.58	6364.21
GR	6374.0	267.31	6382.00	279.70	6382.23	283.46			254.00

CONCRETE GRADE CONTROL STRUCTURE - STRUCTURE HAS FAILED AS OF 10/25/95

X1	6.652	37	0.00	416.00	436.00	400.00	416.35		
GR	6414.7	0.00	6414.00	19.90	6412.97	31.74	6412.00	38.37	6408.00
GR	6404.5	54.66	6402.00	63.90	6396.00	80.81	6392.00	86.00	6389.07
GR	6382.0	97.62	6379.38	100.86	6370.00	107.96	6367.88	109.47	6366.00
GR	6362.0	123.14	6358.00	133.54	6356.00	139.15	6352.00	154.44	6351.13
GR	6350.0	187.10	6350.00	193.62	6348.32	199.57	6348.42	203.47	6350.00
GR	6352.0	219.78	6358.00	224.84	6360.00	226.69	6364.00	232.46	6366.97
GR	6368.0	241.95	6370.28	266.92	6372.10	288.77	6373.23	298.59	6376.00
GR	6379.2	395.69	6379.94	416.00					313.92

X1	6.852	51	0.00	453.52	230.00	150.00	200.00		
GR	6416.0	0.00	6416.00	17.47	6412.82	21.59	6412.00	23.45	6410.61
GR	6410.0	28.13	6409.02	30.45	6408.75	32.78	6408.00	35.14	6408.00
GR	6399.1	65.07	6391.98	79.31	6390.00	82.82	6378.84	95.98	6371.04
GR	6370.0	105.89	6370.00	111.02	6376.00	124.86	6376.00	127.56	6376.41
GR	6373.6	135.57	6371.96	138.90	6370.00	141.46	6368.96	148.81	6368.00
GR	6367.1	160.46	6366.00	167.17	6358.67	181.57	6356.60	186.82	6354.85

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GR	6354.2	199.98	6354.00	218.37	6354.00	262.48	6354.37	264.97	6358.00
GR	6358.7	281.15	6361.08	286.26	6364.00	293.39	6368.00	301.04	6369.49
GR	6370.0	312.19	6370.00	327.81	6370.91	342.40	6372.00	359.03	6374.00
GR	6375.4	405.53	6375.68	414.22	6375.65	422.07	6375.36	427.45	6374.70
GR	6374.3	453.52							445.51

CONCRETE GRADE CONTROL STRUCTURE

X1	7.061	38	0.00	350.81	280.00	190.00	208.70		
GR	6400.1	0.00	6397.71	5.23	6393.70	12.42	6392.00	15.11	6390.00
GR	6388.0	35.04	6388.00	64.95	6384.37	71.46	6379.66	83.18	6378.00
GR	6376.1	99.85	6375.33	124.37	6374.78	138.22	6372.76	141.77	6372.00
GR	6369.9	147.71	6364.43	160.14	6362.10	166.75	6362.30	170.98	6362.40
GR	6362.3	200.10	6362.00	224.04	6361.85	225.55	6361.36	242.59	6362.00
GR	6364.5	255.26	6366.00	259.35	6370.00	267.99	6372.00	272.49	6374.00
GR	6376.0	293.05	6376.52	299.13	6376.37	311.93	6376.00	316.28	6376.00
GR	6380.0	330.02	6380.77	340.50	6381.16	350.81			319.72

CONCRETE GRADE CONTROL STRUCTURE

X1	7.287	47	0.00	425.34	250.00	200.00	226.52		
GR	6392.1	0.00	6392.00	10.38	6391.04	18.94	6390.00	29.55	6390.00
GR	6388.4	45.58	6388.00	55.03	6387.82	61.72	6388.00	66.48	6388.00
GR	6386.9	89.99	6386.74	94.66	6386.39	121.41	6386.25	127.15	6386.18
GR	6386.0	174.37	6385.96	195.71	6384.00	199.13	6381.93	200.82	6378.00
GR	6376.0	210.09	6366.00	233.63	6366.00	279.59	6367.30	289.74	6367.32
GR	6368.0	303.95	6368.72	311.77	6368.41	313.65	6369.55	318.49	6372.28
GR	6374.2	330.38	6377.12	336.82	6378.00	338.10	6378.71	341.14	6379.39
GR	6380.0	353.70	6382.00	355.91	6386.00	363.32	6386.44	372.16	6388.00
GR	6390.0	396.78	6392.39	401.12	6396.00	409.37	6400.00	417.07	6400.00
GR	6401.4	421.79	6401.28	425.34					418.15

CONCRETE GRADE CONTROL STRUCTURE

X1	7.584	21	0.00	230.27	275.00	375.00	297.14		
GR	6392.5	0.00	6392.00	38.75	6387.85	47.26	6383.52	54.92	6376.00
GR	6374.0	75.27	6372.77	90.02	6371.23	104.13	6370.00	114.69	6370.00
GR	6372.0	137.03	6372.00	143.11	6378.00	153.31	6380.63	158.04	6382.00
GR	6384.0	177.50	6385.44	180.59	6388.53	183.60	6388.73	192.83	6390.00
GR	6390.0	230.27							203.00

CROSS SECTION @ DOWNSTREAM FACE OF ACADEMY BLVD. BRIDGE

X1	7.779	30	29.00	133.10	190.00	200.00	195.00		
X3	10							6391.5	6391.8
GR	6391.5	0.00	6391.5	17.90	6390.0	18.00	6385.5	29.00	6385.0
GR	6376.9	30.20	6376.9	50.90	6376.9	51.00	6376.9	51.80	6376.9
GR	6378.0	70.90	6378.0	71.00	6378.1	71.80	6378.1	71.90	6378.1
GR	6377.0	92.00	6377.0	92.10	6376.9	92.90	6376.9	93.00	6376.5
GR	6376.5	113.10	6376.6	113.90	6376.6	114.00	6376.9	123.00	6377.0
GR	6382.8	133.10	6386.0	143.00	6388.9	151.00	6391.9	159.00	6391.9

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NC 0.015

NORTH ACADEMY BLVD. - 5 20'x9' CONCRETE BOX CULVERTS
(MODIFIED FROM JR SURVEY AND UPDATED MAPPING, 12-15-95)
(COMPARES TO URS CROSS SECTION 7.747 IN URS HEC-2 MODEL)

X1	7.780				1	1	1		
X3	10							6391.5	6391.8
BT	-23	0.00	6391.5	6391.5	17.90	6391.5	6391.5	29.00	6391.5
BT		50.90	6391.5	6385.6	51.00	6391.5	6376.9	51.80	6391.5
BT		51.90	6391.5	6385.6	70.90	6391.5	6385.7	71.00	6391.5
BT		71.80	6391.5	6378.1	71.90	6391.5	6385.7	92.00	6391.7
BT		92.10	6391.7	6377.0	92.90	6391.7	6376.9	93.00	6391.7
BT		113.00	6391.8	6385.8	113.10	6391.8	6376.5	113.90	6391.8
BT		114.00	6391.8	6385.8	133.00	6391.8	6385.9	133.10	6391.8
BT		159.00	6391.9	6391.9	170.00	6391.9	6391.9		6382.8

NORTH ACADEMY BLVD. (PROPAGATED FROM DOWNSTREAM FACE)

X1	7.872			91.5	91.5	91.5		
X2							1	
X3	10							6391.5
								6391.8

NC 0.04

CROSS SECTION AT UPSTREAM FACE OF NORTH ACADEMY BLVD. BRIDGE

X1	7.873			1	1	1		
X3	10						6391.5	6391.8

HYDROLOGIC DESIGN POINT 18

QT 2 3616 9941

CONCRETE GRADE CONTROL STRUCTURE
CROSS SECTION UPSTREAM OF NORTH ACADEMY BLVD.

X1	7.948	24	0.00	301.57	60.00	110.00	75.00		
GR	6396.0	0.00	6396.00	25.11	6395.01	80.25	6394.96	85.27	6394.00
GR	6389.0	126.61	6384.00	136.11	6382.35	139.38	6381.83	142.30	6380.1
GR	6380.1	233.52	6381.0	237.53	6380.74	239.42	6381.65	241.45	6382.00
GR	6382.0	251.87	6383.0	255.57	6383.26	257.61	6384.00	259.15	6386.00
GR	6388.0	269.85	6394.0	280.30	6396.00	282.90	6396.87	301.57	6394.00

X1	8.253	20	0.00	274.67	300.00	320.00	305.70		
GR	6408.0	0.00	6404.00	13.44	6402.00	31.93	6397.16	40.62	6395.49
GR	6390.0	57.71	6390.00	88.89	6388.94	109.01	6388.86	112.11	6388.00
GR	6388.0	131.48	6389.20	159.03	6389.30	163.31	6390.00	172.87	6392.69
GR	6396.0	183.98	6398.00	197.34	6402.00	199.85	6404.00	214.28	6404.00

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X1	8.609	25	0.00	238.41	340.00	390.00	355.54		
GR	6410.0	0.00	6409.66	15.07	6408.38	53.32	6408.00	60.11	6406.00
GR	6404.0	64.26	6401.12	70.02	6398.00	75.59	6396.33	81.56	6395.88
GR	6395.6	116.55	6398.00	123.34	6398.00	129.60	6394.00	138.18	6394.00
GR	6397.6	155.84	6400.22	163.81	6402.00	166.43	6404.00	184.16	6404.29
GR	6406.0	196.06	6406.00	211.44	6408.00	223.04	6408.79	228.23	6410.00

X1	9.201	27	0.00	221.94	600.00	590.00	591.91		
GR	6422.0	0.00	6422.00	3.32	6420.00	7.11	6416.00	17.07	6416.00
GR	6418.0	36.61	6417.85	39.81	6414.00	43.50	6412.00	47.10	6410.00
GR	6408.0	59.39	6408.00	71.43	6407.41	74.79	6406.27	86.15	6406.27
GR	6406.0	108.15	6406.00	117.01	6407.31	131.58	6406.66	142.95	6405.84
GR	6406.0	185.49	6410.24	194.12	6414.00	200.00	6421.20	208.99	6422.00
GR	6422.0	212.22	6420.06	221.94					210.37

X1	9.714	26	0.00	231.17	530.00	500.00	513.07		
GR	6437.1	0.00	6436.00	8.21	6434.23	13.87	6434.00	16.15	6431.95
GR	6429.8	29.04	6428.00	31.47	6426.83	35.16	6426.00	43.17	6419.90
GR	6418.0	65.23	6417.40	69.29	6417.36	74.19	6416.00	97.41	6414.35
GR	6414.0	103.37	6414.00	153.78	6416.00	161.63	6418.00	162.50	6420.00
GR	6424.0	180.94	6428.00	196.89	6430.00	203.86	6434.00	208.66	6434.00

FUTNDREV.DAT: Future Conditions Hydrology; 5 and 100-year Design Storms; No Proposed Detention (Includes Existing Fairfax Pond) Revisions Based on September 4, 1996 Meeting With City of Colorado Springs Engineering Staff; Further Revised Based on Updated Land Use Near Tributary 1
1/6/99 8:51 AM

pg. 7

GR 6432.0 231.17

X1	10.030	30	0.00	304.63	350.00	275.00	315.69			
GR	6448.4	0.00	6446.00	27.23	6444.00	43.04	6444.00	44.85	6442.00	52.37
GR	6438.0	60.27	6436.00	63.60	6434.07	67.44	6432.63	85.97	6432.00	95.10
GR	6432.0	106.93	6424.00	120.83	6424.00	125.61	6423.58	130.12	6422.00	155.19
GR	6419.5	176.83	6418.00	189.28	6418.00	191.68	6420.00	211.58	6422.07	224.68
GR	6424.0	226.83	6428.00	233.56	6429.09	238.12	6430.04	245.86	6434.96	262.04
GR	6437.6	269.29	6438.00	272.30	6438.00	284.91	6436.00	302.22	6435.64	304.63

X1	10.287	32	0.00	416.48	260.00	260.00	257.29			
GR	6456.0	0.00	6455.53	7.14	6453.91	24.12	6450.61	48.96	6448.00	59.82
GR	6444.0	73.71	6442.00	79.96	6441.12	97.61	6440.00	123.81	6439.17	141.52
GR	6438.6	155.62	6438.00	165.19	6436.00	170.52	6430.00	178.36	6427.33	193.43
GR	6426.0	202.59	6425.58	213.22	6424.29	249.42	6424.34	264.06	6424.50	276.92
GR	6425.6	287.47	6428.00	312.53	6430.00	319.44	6432.60	323.78	6434.00	326.97
GR	6434.0	337.52	6432.00	342.84	6432.00	365.94	6434.00	376.63	6437.49	393.20
GR	6442.0	415.86	6442.00	416.48						

HYDROLOGIC DESIGN POINT 17

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QT 2 3657 9782

X1	10.803	33	0.00	376.42	500.00	575.00	516.08			
GR	6460.0	0.00	6458.68	36.27	6457.77	57.92	6456.00	63.61	6453.08	69.93
GR	6452.0	72.99	6450.00	77.04	6449.36	87.28	6450.00	110.27	6450.00	138.50
GR	6452.3	146.46	6454.00	158.67	6454.00	175.60	6453.36	180.37	6453.01	185.04
GR	6452.0	191.07	6441.59	207.88	6438.85	213.10	6437.30	214.58	6434.70	218.77
GR	6434.0	231.39	6434.00	242.82	6432.00	263.50	6432.00	298.73	6434.11	307.59
GR	6436.4	313.35	6440.00	318.82	6440.00	334.81	6444.00	342.72	6448.05	349.83
GR	6450.5	353.01	6450.00	356.06	6448.61	376.42				

X1	11.357	30	0.00	344.01	600.00	510.00	553.83			
GR	6470.1	0.00	6469.56	30.42	6468.66	59.48	6468.00	78.52	6463.55	104.65
GR	6462.0	112.98	6460.00	126.60	6458.83	139.20	6458.60	144.41	6457.57	148.47
GR	6454.0	157.29	6450.00	166.85	6448.44	171.02	6448.00	212.84	6447.38	217.17
GR	6446.3	229.07	6445.65	239.73	6446.00	247.38	6447.06	262.33	6448.00	278.52
GR	6448.3	284.31	6448.99	287.13	6450.00	288.79	6452.01	293.38	6452.33	296.02
GR	6455.3	301.37	6456.34	305.73	6459.52	312.19	6462.00	326.05	6462.00	344.01

X1	12.030	19	0.00	251.02	675.00	725.00	673.21			
GR	6478.4	0.00	6477.49	7.28	6476.00	21.94	6472.00	30.86	6471.25	35.53
GR	6469.1	50.62	6466.00	60.41	6463.99	68.38	6462.00	78.25	6462.00	100.39
GR	6461.3	130.53	6460.97	157.53	6462.00	180.37	6462.00	202.85	6466.59	216.06
GR	6469.7	223.23	6474.00	234.62	6476.00	240.22	6476.51	251.02		

X1	12.715	29	0.00	314.19	675.00	775.00	684.92			
GR	6486.0	0.00	6486.00	2.78	6484.00	43.05	6482.60	66.43	6482.00	73.91
GR	6478.0	78.39	6476.00	81.99	6474.00	83.69	6473.22	85.25	6472.00	86.16
GR	6470.1	88.48	6470.00	96.45	6470.02	148.53	6470.17	155.55	6472.00	187.31
GR	6478.0	201.37	6482.66	213.55	6484.72	219.21	6486.00	221.97	6486.00	223.77
GR	6486.9	241.06	6488.00	251.84	6490.00	266.17	6492.00	275.21	6496.26	292.67
GR	6498.1	299.12	6500.00	304.16	6502.00	310.41	6502.75	314.19		

X1	13.085	15	0.00	138.21	375.00	390.00	370.37			
GR	6492.0	0.00	6492.00	16.33	6481.99	21.76	6477.92	25.05	6477.42	26.64
GR	6476.0	26.97	6474.00	40.22	6474.00	70.85	6474.77	96.84	6474.89	103.26
GR	6476.0	111.34	6478.00	116.78	6482.15	121.34	6494.00	130.72	6494.00	138.21

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NC 0.3 0.5

CROSS SECTION @ DOWNSTREAM FACE OF UNION BLVD. (LOCATED @ UPPER END OF HEAD-C

X1	13.385	18	40.5	136.5	320.00	270.00	300.00			
X3	10							6501.5	6498.9	
GR	6501.4	0	6501.2	6	6499.2	38.5	6499.7	40	6493.8	40.5
GR	6482.2	44	6480.9	56	6480.9	70	6480.0	82.5	6480.1	95.5
GR	6482.9	109	6485.3	134	6490.8	136.5	6491.0	137	6499.8	139
GR	6498.2	162	6497.9	173.5	6498.0	186				

NC 0.011

CROSS SECTION JUST DOWNSTREAM OF UNION BLVD.

X1	13.431	30	44.5	134.6	60	20	45.71			
X3	10							6501.5	6498.9	
GR	6502.2	0	6501.5	44.5	6490.7	44.6	6490.7	56.39	6490.7	56.4
GR	6490.7	57.4	6490.7	57.41	6490.7	69.39	6490.7	69.4	6490.7	70.4

GR	6490.7	70.41	6490.7	82.39	6490.7	82.4	6490.7	83.4	6490.7	83.41
GR	6490.7	95.39	6490.7	95.4	6490.7	96.4	6490.7	96.41	6490.7	108.39
GR	6490.7	108.4	6490.7	109.4	6490.7	109.41	6490.7	121.39	6490.7	121.4
GR	6490.7	122.4	6490.7	122.41	6490.7	134.5	6499.8	134.6	6498.9	186

NORTH UNION BLVD. - 7 12'X6' CONCRETE BOX CULVERTS
(MODIFIED FROM JR SURVEY DATED 11/17/95)
(COMPARES TO URS CROSS SECTION 13.330 IN URS HEC-2 DECK)

X1	13.432				1	1	1			
X3	10							6501.5	6498.9	
BT	-30	0	6502.2	6502.2	44.5	6501.5	6496.9	44.6	6501.5	6496.9
BT		56.39	6501.2	6496.9	56.4	6501.2	6490.7	57.4	6501.2	6490.7
BT		57.41	6501.2	6496.9	69.39	6501.0	6496.9	69.4	6501.0	6490.7
BT		70.4	6501.0	6490.7	70.41	6501.0	6496.9	82.39	6500.8	6496.9
BT		82.4	6500.8	6490.7	83.4	6500.8	6490.7	83.41	6500.8	6496.9
BT		95.39	6500.6	6496.9	95.4	6500.6	6490.7	96.4	6500.5	6490.7
BT		96.41	6500.5	6496.9	108.39	6500.2	6496.9	108.4	6500.2	6490.7
BT		109.4	6500.2	6490.7	109.41	6500.2	6496.9	121.39	6500.0	6496.9
BT		121.4	6500.0	6490.7	122.4	6500.0	6490.7	122.41	6500.0	6496.9
BT		134.5	6499.8	6496.8	134.6	6499.8	6496.8	186	6498.9	6498.9

NORTH UNION BLVD. (PROPOGATED FROM DOWNSTREAM FACE)

X1	13.522			90	90	90				
X2										
X3	10							6501.5	6498.9	

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NC 0.04

CROSS SECTION @ UPSTREAM FACE OF NORTH UNION BLVD.

X1	13.523	17	44.00	134.00	1	1	1			
X3	10							6501.5	6498.9	
GR	6501.4	0	6501.2	6	6499.2	38.5	6499.7	40	6497.3	40.2
GR	6493.8	40.5	6491.1	41.5	6491.1	44	6491.1	82.5	6491.1	134
GR	6491.1	136.5	6491.1	137	6496.8	138.3	6499.8	139	6498.2	162
GR	6497.9	173.5	6498.0	186						

HYDROLOGIC DESIGN POINT 16

QT	2	3549	9551							
X1	13.633	13	0.00	155.52	100.00	120.00	110.00			
GR	6508.6	0.00	6508.54	4.40	6508.00	9.11	6506.00	17.32	6500.44	29.69
GR	6500.0	30.33	6499.32	38.96	6498.70	49.26	6498.00	68.16	6498.00	136.97
GR	6504.0	151.89	6505.37	154.66	6505.40	155.52				

NC 0.1 0.3

X1	14.469	20	0.00	302.46	875.00	850.00	835.63			
GR	6535.6	0.00	6534.00	14.61	6532.00	24.40	6529.90	32.80	6527.49	44.21
GR	6526.9	49.58	6526.00	51.44	6524.00	60.71	6523.54	63.35	6522.00	75.30
GR	6520.6	91.22	6518.36	117.63	6515.84	123.05	6514.00	127.57	6510.00	135.81
GR	6510.0	283.78	6512.54	289.94	6514.00	292.91	6516.00	298.12	6515.77	302.46

X1	15.479	18	0.00	270.51	1050.00	1025.00	1010.57			
GR	6535.5	0.00	6534.00	11.12	6532.80	29.67	6532.21	41.31	6531.59	56.47
GR	6531.0	65.04	6528.00	70.91	6526.00	75.25	6526.00	94.90	6525.29	148.22
GR	6525.1	186.93	6526.00	205.70	6526.00	234.70	6528.00	241.32	6530.00	246.91
GR	6530.0	261.89	6529.12	264.53	6529.17	270.51				

X1	16.134	24	0.00	350.01	660.00	660.00	654.99			
GR	6569.7	0.00	6566.92	13.63	6565.42	20.58	6564.00	26.53	6560.00	46.47
GR	6554.0	74.14	6551.77	84.91	6550.00	95.81	6550.00	101.75	6548.04	121.14
GR	6546.0	127.21	6543.97	132.62	6541.46	138.41	6534.79	151.97	6534.87	167.14
GR	6534.8	200.28	6535.04	214.25	6535.06	252.44	6534.61	277.06	6534.32	315.14
GR	6534.9	333.31	6536.14	336.53	6538.03	342.63	6539.84	350.01		

HYDROLOGIC DESIGN POINT 15

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QT	2	3416	9121							
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X1	17.087	14	0.00	197.10	975.00	975.00	952.61			
GR	6559.4	0.00	6557.50	4.74	6554.93	10.01	6552.00	16.22	6549.76	20.28
GR	6549.7	26.38	6549.36	56.00	6549.27	84.89	6550.00	146.45	6550.00	170.84
GR	6550.9	174.04	6553.26	180.34	6556.00	188.87	6558.00	197.10		

HYDROLOGIC DESIGN POINT 14

QT	2	3429	9049							
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X1	18.167	26	0.00	346.56	1075.00	1225.00	1080.21			
GR	6582.0	0.00	6580.00	3.48	6576.00	8.01	6573.50	11.90	6572.00	13.76
GR	6570.9	17.89	6568.21	25.50	6567.29	30.11	6564.33	40.75	6564.26	60.02
GR	6564.0	89.64	6564.00	128.47	6564.52	159.09	6564.54	162.37	6564.00	212.12
GR	6564.0	245.55	6565.26	285.24	6566.00	301.13	6566.00	304.50	6568.00	311.35
GR	6570.3	318.19	6572.00	324.07	6574.71	331.02	6576.00	333.25	6578.00	338.37
GR	6578.0	346.56								

X1	19.013	15	0.00	298.17	860.00	875.00	846.10			
GR	6588.0	0.00	6587.57	10.66	6586.92	18.77	6586.60	28.05	6581.20	41.43
GR	6578.0	49.13	6576.89	52.40	6576.00	56.03	6576.00	165.11	6576.00	176.82
GR	6578.0	246.94	6580.00	272.01	6581.18	287.66	6582.00	296.52	6582.00	298.17

CONCRETE GRADE CONTROL STRUCTURE

X1	19.713	8	.0	221.9	725.00	600.00	700.00			
GR	6598.0	.0	6596.0	5.8	6594.0	11.0	6592.0	15.2	6590.0	18.4
GR	6588.0	22.7	6588.0	213.1	6590.0	221.9				

NC		0.03	0.3	0.5						
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HYDROLOGIC DESIGN POINT 13

QT	2	3319	8763							
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CROSS SECTION JUST DOWNSTREAM OF RANGEWOOD DRIVE BLVD.

X1	19.787	58	17.00	162.00	70.00	80.00	74.08			
X3	10							6617.2	6618.0	
GR	6604.9	0.00	6602.2	17.00	6599.8	18.00	6598.0	20.00	6597.0	22.00
GR	6596.2	24.00	6596.0	26.00	6595.8	28.00	6595.8	30.00	6595.9	32.00
GR	6596.2	34.00	6596.9	36.00	6598.0	38.00	6599.7	40.00	6602.1	41.50
GR	6602.2	57.50	6600.4	58.50	6599.1	60.50	6598.5	62.50	6598.0	64.50
GR	6597.9	66.50	6597.8	68.50	6597.8	70.50	6597.9	72.50	6598.0	74.50
GR	6598.5	76.50	6599.2	78.50	6600.6	80.50	6602.3	81.50	6602.3	98.00
GR	6601.0	99.00	6599.2	101.00	6598.5	103.00	6597.9	105.00	6597.5	107.00
GR	6597.4	109.00	6597.4	111.00	6597.6	113.00	6597.9	115.00	6598.1	117.00
GR	6599.0	119.00	6600.5	121.00	6602.3	122.00	6602.9	138.00	6600.8	139.00
GR	6599.3	141.00	6598.5	143.00	6598.0	145.00	6597.8	147.00	6597.6	149.00

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GR	6597.8	151.00	6597.9	153.00	6598.0	155.00	6598.7	157.00	6599.5	159.00
GR	6601.0	161.00	6602.8	162.00	6607.9	189.00				

RANGEWOOD BLVD. - 4 13.2'x25.2' CMP ARCHES
(MODIFIED FROM JR SURVEY, DATED 12/15/95)
(COMPARES TO URS CROSS SECTION 19.780 IN URS HEC-2 MODEL)

X1	19.788				1	1	1			
X3	10							6617.2	6618.0	
BT	-58	0.00	6617.2	6604.9	17.00	6617.2	6602.2	18.00	6617.1	6604.9
BT		20.00	6617.1	6606.8	22.00	6617.1	6607.8	24.00	6617.1	6608.3
BT		26.00	6617.1	6608.8	28.00	6617.1	6609.0	30.00	6617.1	6608.9
BT		32.00	6617.1	6608.8	34.00	6617.1	6608.1	36.00	6617.1	6607.8
BT		38.00	6617.1	6606.5	40.00	6617.1	6605.0	41.50	6617.1	6602.1
BT		57.50	6617.1	6602.2	58.50	6617.1	6604.0	60.50	6617.1	6605.3
BT		62.50	6617.1	6606.6	64.50	6617.2	6606.6	66.50	6617.2	6606.9
BT		68.50	6617.1	6606.8	70.50	6617.1	6606.8	72.50	6617.1	6606.8
BT		74.50	6617.2	6606.5	76.50	6617.1	6606.6	78.50	6617.1	6605.1
BT		80.50	6617.2	6604.0	81.50	6617.2	6602.3	98.00	6617.2	6602.3
BT		99.00	6617.2	6603.9	101.00	6617.2	6605.4	103.00	6617.2	6606.0
BT		105.00	6617.3	6606.8	107.00	6617.3	6607.0	109.00	6617.4	6607.1
BT		111.00	6617.4	6607.1	113.00	6617.4	6607.0	115.00	6617.5	6606.8
BT		117.00	6617.5	6606.2	119.00	6617.5	6605.3	121.00	6617.6	6604.0
BT		122.00	6617.6	6602.3	138.00	6617.8	6602.9	139.00	6617.8	6605.0
BT		141.00	6617.8	6606.2	143.00	6617.8	6607.0	145.00	6617.9	6607.5
BT		147.00	6617.9	6607.9	149.00	6617.9	6608.0	151.00	6617.9	6608.0
BT		153.00	6617.9	6607.8	155.00	6617.9	6607.5	157.00	6618.0	6607.0
BT		159.00	6618.0	6606.0	161.00	6618.0	6604.3	162.00	6618.0	6602.8
BT		189.00	6618.2	6607.9						

RANGEWOOD BLVD. (PROPOGATED FROM DOWNSTREAM FACE)

X1	19.938			150	150	150				
X2							1			
X3	10							6617.2	6618.0	

NC		0.04								
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CROSS SECTION AT UPSTREAM FACE OF RANGEWOOD BLVD.

X1	19.939			1	1	1				
X3	10						6617.2	6618.0		

CROSS SECTION UPSTREAM OF RANGEWOOD BLVD.

X1	20.054	29	0.00	401.04	150.00	50.00	115.00			
GR	6610.0	0.00	6609.96	6.72	6609.73	11.98	6608.00	37.90	6607.09	50.98
GR	6606.0	64.09	6606.00	67.17	6604.54	85.44	6604.00	91.36	6603.11	92.55
GR	6602.0	95.22	6599.73	102.85	6598.73	108.89	6598.00	111.33	6595.69	124.85
GR	6594.0	130.61	6594.00	175.41	6593.48	209.23	6593.70	238.28	6594.00	257.77
GR	6594.0	281.38	6600.00	296.54	6602.00	301.99	6604.00	308.83	6608.00	319.26
GR	6608.7	322.52	6610.00	326.77	6610.59	359.52	6611.27	401.04		

NC			0.1	0.3					
X1	20.894	53	0.00	913.55	875.00	840.00	839.94		
GR	6631.9	0.00	6628.60	35.57	6627.42	47.33	6626.00	60.47	6623.02
GR	6622.0	92.63	6620.00	99.31	6618.00	102.38	6614.00	112.46	6612.00
GR	6612.0	129.56	6612.32	131.03	6611.59	139.11	6610.27	155.69	6610.00
GR	6608.0	203.39	6608.00	226.66	6607.68	243.99	6607.85	283.19	6607.72
GR	6606.8	333.47	6606.69	338.36	6606.00	359.98	6606.00	431.35	6610.00
GR	6612.0	441.65	6614.00	447.26	6616.00	474.12	6616.22	475.28	6618.00
GR	6618.7	495.79	6620.00	511.75	6620.00	531.82	6620.57	542.96	6620.75
GR	6620.7	576.93	6620.97	604.01	6620.76	623.86	6620.74	630.33	6620.91
GR	6621.2	649.10	6622.00	665.48	6622.00	699.69	6623.67	756.50	6624.00
GR	6624.6	782.79	6626.00	813.24	6628.00	841.83	6630.00	862.47	6631.61
GR	6632.1	898.60	6636.82	908.84	6639.07	913.55			892.43
X1	21.959	37	0.00	497.16	1040.00	1050.00	1064.60		
GR	6639.3	0.00	6638.00	10.88	6634.00	42.79	6633.84	48.16	6632.00
GR	6631.3	65.32	6630.00	85.67	6629.53	90.08	6628.00	113.21	6628.00
GR	6630.0	133.21	6631.33	147.61	6632.00	156.79	6632.00	168.78	6630.00
GR	6628.9	200.98	6628.00	209.88	6626.00	213.60	6624.00	237.54	6624.00
GR	6624.0	305.25	6625.54	337.95	6626.00	347.74	6628.00	354.67	6632.00
GR	6636.4	382.53	6640.00	397.62	6642.00	405.51	6646.32	420.39	6650.83
GR	6652.0	437.45	6654.49	445.42	6660.00	467.67	6662.00	479.47	6662.00
GR	6662.5	490.60	6662.66	497.16					482.77
X1	22.809	36	0.00	564.42	900.00	850.00	849.89		
GR	6662.3	0.00	6660.00	24.21	6658.00	61.43	6658.00	65.49	6656.83
GR	6656.0	136.58	6656.00	163.59	6654.18	189.91	6654.00	191.73	6652.00
GR	6652.0	305.94	6651.67	309.06	6649.89	316.58	6646.55	327.12	6646.00
GR	6646.0	339.36	6645.35	341.58	6646.00	349.37	6648.00	359.75	6648.00
GR	6646.9	373.01	6644.48	381.32	6642.00	390.51	6640.00	394.87	6639.56
GR	6638.0	418.35	6637.70	423.70	6636.48	443.18	6636.00	450.05	6636.00
GR	6642.8	505.12	6652.00	527.13	6656.02	536.26	6662.14	549.86	6666.00
GR	6668.5	564.42							558.33
X1	23.811	37	0.00	368.24	1000.00	1075.00	1002.26		
GR	6681.8	0.00	6680.00	12.28	6678.00	24.44	6675.84	42.10	6673.46
GR	6672.0	67.71	6668.00	83.36	6667.22	89.32	6666.00	96.29	6666.00
GR	6665.4	107.74	6660.00	118.27	6656.00	124.45	6654.00	129.26	6652.34
GR	6652.0	148.75	6652.00	160.71	6651.30	168.38	6650.09	178.01	6650.61
GR	6651.8	197.95	6652.16	199.08	6656.11	204.37	6658.00	207.22	6660.30
GR	6662.1	220.68	6664.00	226.00	6668.30	234.78	6670.93	243.95	6672.53
GR	6674.0	257.66	6676.00	274.53	6680.00	294.00	6684.11	314.13	6686.00
GR	6690.0	346.70	6693.43	368.24					323.05

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X1	24.745	39	0.00	420.14	910.00	890.00	933.77		
GR	6690.0	0.00	6689.79	2.42	6688.00	33.52	6686.49	54.55	6685.15
GR	6684.0	98.84	6684.00	99.96	6682.00	105.13	6679.55	112.15	6676.00
GR	6674.6	133.41	6674.54	139.14	6674.02	149.58	6674.23	154.88	6673.69
GR	6672.6	166.55	6671.00	171.61	6668.00	178.45	6666.42	190.15	6666.00
GR	6666.0	198.71	6666.71	204.48	6668.00	216.49	6670.00	229.22	6672.00
GR	6674.3	242.82	6676.00	248.89	6676.79	253.35	6677.74	264.05	6678.00
GR	6678.0	270.85	6680.00	279.52	6680.00	282.52	6684.00	300.99	6686.98
GR	6690.2	348.21	6692.00	362.14	6694.00	386.04	6696.02	420.14	323.24

HYDROLOGIC DESIGN POINT 12

QT	2	1693	5007						
CROSS SECTION JUST DOWNSTREAM OF WOODMEN ROAD BRIDGE									
X1	25.325	23	51.10	169.50	640.00	500.00	580.00		
X3	10		51.10			169.50			
GR	6707.8	0.00	6707.5	11.00	6708.0	44.00	6708.0	48.50	6706.8
GR	6704.2	51.10	6683.8	52.00	6683.2	64.50	6679.8	90.00	6679.8
GR	6679.7	90.90	6679.7	91.00	6677.8	129.50	6677.8	129.60	6677.9
GR	6677.9	130.70	6678.9	142.00	6680.5	151.00	6682.5	166.50	6704.3
GR	6707.6	170.00	6707.9	204.50	6707.8	209.00			169.50

WOODMEN ROAD BRIDGE - 2 1' WIDE PIER BENTS
(MODIFIED FROM JR SURVEY, DATED 12/15/95)
(COMPARES TO URS CROSS SECTION 25.230 IN URS HEC-2 DECK)

X1	25.326			1	1	1			
X3	10		51.10		169.50				
BT	-18	0.00	6707.8	6707.8	11.00	6707.5	6707.5	44.00	6708.0
BT		48.50	6708.0	6708.0	51.00	6708.0	6706.8	51.10	6708.0
BT		52.00	6708.0	6704.2	90.00	6708.2	6704.5	90.10	6708.2
BT		90.90	6708.2	6679.7	91.00	6708.2	6704.5	129.50	6708.2
BT		129.60	6708.2	6677.8	130.60	6708.2	6677.9	130.70	6708.2
BT		169.50	6708.1	6704.3	204.50	6707.9	6707.9	209.00	6707.8

WOODMEN ROAD (PROPGATED FROM DOWNSTREAM FACE)

X1	25.355			29	29	29
X2						1
X3	10	51.10		169.50		

CROSS SECTION AT UPSTREAM FACE OF WOODMEN ROAD

X1	25.356			1	1	1
X3	10	51.10		169.50		

CROSS SECTION UPSTREAM OF WOODMEN ROAD

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X1	25.456	21	0.00	198.60	90.00	110.00	100.00			
GR	6706.0	0.00	6706.00	5.37	6704.77	24.62	6704.83	32.98	6704.64	35.51
GR	6704.0	39.58	6702.00	43.04	6697.30	53.47	6690.00	68.07	6683.93	78.91
GR	6682.0	82.94	6681.18	87.58	6680.00	88.29	6680.00	125.88	6681.15	140.47
GR	6682.0	147.59	6684.04	167.14	6686.00	178.04	6688.00	184.86	6688.00	196.03
GR	6688.3	198.60								

X1	25.795	21	0.00	210.94	325.00	410.00	339.04			
GR	6707.6	0.00	6706.00	12.83	6700.00	25.70	6696.00	37.49	6690.00	56.15
GR	6688.0	62.66	6687.52	64.90	6686.99	75.07	6686.00	85.89	6686.00	113.03
GR	6688.3	116.39	6692.08	123.24	6702.00	135.24	6710.00	143.35	6712.00	146.69
GR	6712.4	152.34	6714.00	164.42	6714.90	170.32	6716.00	176.08	6720.12	200.41
GR	6722.0	210.94								

X1	26.498	28	0.00	293.37	690.00	700.00	703.06			
GR	6718.1	0.00	6716.00	28.21	6714.00	37.89	6712.00	46.20	6709.26	48.32
GR	6708.0	48.62	6708.00	51.30	6708.39	54.89	6707.83	57.39	6704.97	64.69
GR	6700.0	74.89	6698.00	77.40	6697.85	79.76	6696.00	96.12	6696.00	103.48
GR	6697.5	118.45	6697.96	123.59	6699.04	144.13	6700.00	159.60	6702.00	180.70
GR	6704.0	197.29	6706.00	210.90	6706.79	215.27	6708.14	224.32	6710.00	229.30
GR	6712.0	233.88	6714.00	249.64	6719.99	293.37				

X1	27.250	30	0.00	257.84	740.00	775.00	752.45			
GR	6734.0	0.00	6729.24	16.80	6726.74	26.14	6726.00	31.60	6723.55	37.76
GR	6721.5	41.90	6720.00	45.88	6718.00	49.10	6715.82	54.15	6714.00	59.80
GR	6712.0	67.70	6711.56	70.09	6710.09	84.39	6708.00	104.56	6708.00	189.40
GR	6710.0	191.92	6712.96	193.26	6716.56	198.38	6719.06	203.28	6720.24	207.10
GR	6719.5	211.75	6720.00	215.25	6720.00	220.95	6724.00	225.69	6726.00	227.14
GR	6730.4	232.20	6734.00	237.37	6736.00	242.14	6738.00	248.68	6739.90	257.84

X1	27.699	27	0.00	275.46	410.00	400.00	449.17			
GR	6737.9	0.00	6737.54	2.85	6736.00	33.05	6736.00	40.36	6734.36	61.59
GR	6732.9	83.89	6732.00	101.55	6732.00	119.99	6721.99	135.13	6718.00	140.77
GR	6716.4	145.60	6716.55	159.85	6716.24	163.86	6716.23	171.59	6716.56	186.30
GR	6716.4	201.25	6718.00	208.09	6718.00	227.38	6718.60	231.57	6719.04	238.19
GR	6720.4	243.61	6722.63	250.72	6724.11	254.84	6726.00	258.93	6728.00	264.54
GR	6730.7	271.25	6732.00	275.46						

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X1	28.449	32	0.00	303.46	740.00	625.00	749.95			
GR	6756.0	0.00	6756.00	1.19	6754.00	21.69	6754.00	38.93	6753.36	51.91
GR	6753.3	60.16	6752.00	72.70	6744.72	80.27	6740.00	85.86	6738.00	86.86
GR	6737.2	89.06	6732.00	95.57	6730.00	97.39	6730.00	139.35	6728.00	159.67
GR	6728.0	208.04	6730.00	209.58	6732.18	213.63	6732.25	220.88	6734.32	227.96
GR	6736.4	234.26	6736.35	237.97	6737.01	241.68	6738.00	244.51	6738.00	247.15
GR	6741.0	253.14	6743.75	257.23	6746.56	263.30	6748.30	266.05	6752.13	269.70
GR	6754.0	276.29	6759.88	303.46						

X1	29.325	32	0.00	357.75	700.00	1025.00	876.10			
GR	6768.0	0.00	6766.00	15.12	6764.00	21.77	6763.35	24.99	6762.00	33.73
GR	6759.6	47.20	6756.95	63.49	6755.90	70.70	6753.93	82.45	6749.92	99.01
GR	6744.0	110.21	6742.00	116.58	6742.00	118.37	6742.00	197.26	6744.00	221.96
GR	6745.4	236.63	6746.00	240.17	6748.00	243.31	6749.53	247.23	6752.00	250.06
GR	6754.0	256.19	6754.00	257.18	6758.01	263.09	6762.00	271.79	6768.00	286.42
GR	6770.0	291.80	6772.46	302.06	6774.00	310.14	6774.76	317.80	6776.00	327.37
GR	6776.8	337.61	6778.11	357.75						

TEMPORARY HAUL RD. BETWEEN THESE TWO CROSS SECTIONS
MODEL DOES NOT INCLUDE THE ROAD (MODELED AS IF IT DOES NOT EXIST)

X1	29.885	22	0.00	297.04	600.00	400.00	560.00			
GR	6784.2	0.00	6784.00	4.24	6782.93	9.53	6782.00	12.35	6780.00	28.21
GR	6778.0	31.21	6768.78	43.25	6758.00	59.75	6756.00	63.17	6754.69	72.04
GR	6754.0	75.25	6754.00	120.81	6756.00	139.89	6764.50	158.42	6764.49	160.60
GR	6764.9	177.05	6764.86	199.80	6764.92	202.63	6768.00	231.81	6769.77	259.98
GR	6771.2	289.34	6771.94	297.04						

X1	30.333	20	0.00	248.30	475.00	425.00	447.70			
GR	6791.2	0.00	6790.00	6.69	6788.79	14.73	6788.00	18.93	6779.80	41.97
GR	6776.8	49.82	6773.74	58.95	6770.00	69.35	6766.80	76.20	6766.00	78.37
GR	6764.0	82.88	6762.00	87.75	6761.18	90.42	6760.00	92.42	6760.00	197.45
GR	6761.1	202.56	6762.00	205.27	6764.00	209.30	6776.00	238.93	6777.79	248.30

HYDROLOGIC DESIGN POINT 11
NEW CONTOURS DO NOT REFLECT DRAINAGE INTO COTTONWOOD CREEK

QT 2 1357 4120

X1	31.061	25	0.00	348.58	650.00	800.00	728.14			
GR	6799.8	0.00	6797.93	3.09	6795.65	9.06	6793.29	16.69	6792.00	20.33
GR	6788.7	26.14	6787.44	39.32	6786.00	43.35	6784.00	47.69	6782.00	54.96
GR	6780.0	67.42	6776.00	106.34	6772.00	155.77	6770.38	200.03	6770.13	210.26
GR	6770.0	220.91	6772.05	248.12	6773.79	257.09	6774.00	258.82	6780.76	292.69
GR	6782.0	298.29	6786.47	316.35	6790.00	336.85	6790.53	341.68	6791.98	348.58

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X1	32.009	25	0.00	222.33	875.00	925.00	947.72			
GR	6804.0	0.00	6804.00	7.60	6798.85	11.36	6793.09	14.54	6790.00	16.85
GR	6789.4	19.50	6788.00	22.26	6787.01	26.59	6786.00	47.30	6786.00	89.53
GR	6787.2	105.75	6788.00	120.27	6788.01	123.65	6789.10	128.46	6794.00	138.70
GR	6796.0	142.71	6798.79	146.24	6802.27	149.89	6810.13	163.69	6814.00	172.33
GR	6815.7	177.63	6816.00	179.20	6818.00	196.48	6820.00	221.30	6820.04	222.33

HYDROLOGIC DESIGN POINT 10

QT 2 1069 3616

X1	32.570	29	0.00	311.92	635.00	415.00	560.80			
GR	6820.0	0.00	6818.00	22.77	6818.00	32.71	6816.45		6816.00	60.36
GR	6816.0	70.59	6814.79	81.77	6814.72	94.24	6814.90	115.05	6814.00	128.41
GR	6814.0	148.21	6810.00	166.95	6808.00	178.47	6806.00	186.34	6802.00	193.97
GR	6799.8	199.12	6798.00	216.28	6796.00	246.14	6795.11	251.71	6794.00	253.96
GR	6794.0	276.68	6796.00	283.91	6798.31	290.10	6800.75	294.32	6802.89	296.91
GR	6804.0	298.82	6808.57	303.33	6810.00	305.21	6810.00	311.92		

HYDROLOGIC DESIGN POINT 9

QT 2 1032 3477

X1	33.425	31	0.00	288.54	775.00	875.00	855.60			
GR	6842.0	0.00	6840.00	13.67	6838.00	25.51	6836.00		6832.50	61.84
GR	6830.0	77.96	6828.00	93.33	6828.00	103.24	6827.30	111.49	6826.37	118.08
GR	6825.8	119.85	6819.85	124.10	6816.00	126.37	6809.36	132.50	6808.00	133.36
GR	6806.2	157.93	6806.00	162.13	6808.08	173.98	6808.72	180.02	6810.00	195.88
GR	6810.0	208.13	6812.00	219.37	6820.00	235.95	6826.00	248.08	6830.00	256.01
GR	6832.0	264.03	6834.00	269.35	6838.33	277.95	6840.00	280.22	6842.00	284.20
GR	6842.8	288.54								

X1	34.449	28	0.00	264.04	1050.00	990.00	1023.40			
GR	6860.1	0.00	6858.00	24.56	6855.50	44.99	6852.00		6850.00	85.68
GR	6848.0	92.50	6840.00	105.24	6838.00	107.81	6837.19	111.54	6836.00	119.48
GR	6833.8	129.33	6832.00	136.40	6832.00	155.78	6830.00	163.33	6829.47	170.73
GR	6828.0	194.29	6824.00	201.71	6824.00	209.16	6826.00	212.07	6828.00	216.08
GR	6832.0	221.76	6840.00	230.49	6852.00	242.28	6854.00	244.02	6856.27	246.54
GR	6859.5	249.01	6860.78	257.25	6862.56	264.04				

X1	35.393	28	0.00	265.45	790.00	850.00	944.70			
GR	6872.0	0.00	6871.82	2.30	6870.00	17.34	6867.42	43.79	6866.00	58.90
GR	6864.4	62.91	6864.00	65.26	6862.00	67.58	6859.26	71.87	6853.74	78.14
GR	6852.0	78.95	6848.00	83.96	6846.00	88.06	6845.68	90.85	6843.57	108.49
GR	6842.0	120.51	6842.00	129.84	6844.00	134.89	6845.55	188.14	6845.72	196.58
GR	6846.0	204.98	6848.91	215.80	6852.16	224.68	6854.42	230.65	6858.00	241.91

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GR 6860.1 246.91 6869.03 262.69 6870.17 265.45

X1	36.159	27	0.00	265.08	675.00	725.00	765.10			
GR	6878.7	0.00	6877.89	8.85	6876.00	23.21	6875.72		6874.00	28.35
GR	6862.5	45.79	6860.00	49.86	6859.03	55.67	6857.55	63.87	6856.00	68.38
GR	6855.1	69.76	6854.84	75.22	6856.00	83.30	6854.00	88.80	6854.00	96.57
GR	6856.0	101.53	6858.00	125.68	6860.16	137.87	6862.00	146.37	6864.00	156.93
GR	6872.0	174.17	6874.00	178.69	6875.44	194.84	6876.25	202.90	6878.00	226.85
GR	6880.0	247.75	6882.24	265.08						

CROSS SECTION @ DOWNSTREAM FACE OF COWPOKE ROAD BRIDGE

X1 36.809 19 30 131 600.00 425.00 650.00

X3	10			30		131				
GR	6890.9	0	6892.0	10.5	6891.8	15	6890.9	29.9	6890.9	30
GR	6876.4	30.1	6874.2	79.9	6874.2	80	6874.1	81	6874.1	81.1
GR	6866.0	107.5	6862.9	116	6864.0	124	6867.0	130.5	6891.6	131
GR	6891.6	131.1	6891.5	145.5	6890.8	153.5	6890.9	175		

COWPOKE ROAD - 1 PIER BENT
(MODIFIED FROM JR SURVEY, DATED 11/17/95)

X1	36.810				1	1	1			
X3	10			30		131				
BT	-13	15	6891.8	6891.8	29.9	6891.8	6890.9	30	6891.8	6889.0
BT		79.9	6891.7	6888.9	80	6891.7	6874.2	81	6891.7	6874.1
BT		81.1	6891.7	6888.9	130.5	6891.6	6888.9	131	6891.6	6888.9
BT		131.1	6891.6	6891.6	145.5	6891.5	6891.5	153.5	6890.8	6890.8
BT		175	6890.9	6890.9						

COWPOKE ROAD BRIDGE (PROPOGATED FROM DOWNSTREAM FACE)

X1	36.840			30	30	30
X2						1
X3			30		131	

CROSS SECTION @ UPSTREAM FACE OF COWPOKE ROAD BRIDGE

X1	36.841			1	1	1
X3			30		131	

X1	37.794	42	0.00	275.18	950.00	1000.00	953.50			
GR	6910.4	0.00	6910.00	5.05	6910.00	12.56	6909.45	15.25	6910.00	21.31
GR	6910.0	23.21	6909.06	23.70	6909.46	26.19	6908.00	34.59	6908.00	37.95
GR	6906.0	42.70	6904.00	48.69	6901.12	60.23	6899.14	68.64	6897.63	72.52
GR	6891.0	81.37	6887.30	86.12	6887.13	87.95	6886.00	90.20	6886.00	91.84
GR	6884.0	102.63	6882.00	110.15	6880.00	115.29	6880.00	148.66	6880.78	151.81
GR	6882.0	161.76	6883.00	166.49	6884.00	175.21	6887.54	189.12	6891.72	197.22
GR	6890.3	208.26	6890.32	209.16	6892.00	210.00	6896.00	215.99	6897.06	218.31
GR	6898.0	221.96	6899.17	230.09	6902.00	240.18	6904.00	246.59	6906.72	254.44

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GR	6910.4	266.97	6912.33	275.18
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HYDROLOGIC DESIGN POINT 8

QT	2	816	2733
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X1	38.835	30	0.00	264.52	800.00	925.00	1040.52			
GR	6930.0	0.00	6930.00	4.21	6928.00	8.77	6928.00	11.80	6926.00	14.54
GR	6922.0	22.23	6922.00	23.24	6919.13	30.70	6916.00	46.14	6915.53	49.31
GR	6913.4	54.91	6912.00	57.56	6912.00	60.27	6913.75	65.79	6913.26	67.67
GR	6907.0	72.31	6898.82	77.27	6896.00	79.22	6897.10	82.54	6898.00	84.21
GR	6900.0	130.34	6902.00	149.92	6904.00	161.64	6906.00	169.67	6908.42	177.17
GR	6910.0	189.45	6914.53	223.22	6916.41	238.99	6918.00	251.60	6920.44	264.52

X1	39.977	27	0.00	304.24	1000.00	1025.00	1141.93			
GR	6939.9	0.00	6937.38	18.08	6935.78	33.89	6932.59	63.51	6931.72	70.05
GR	6930.0	79.50	6923.65	86.26	6921.44	87.83	6920.00	92.52	6918.00	103.76
GR	6915.1	134.27	6914.00	147.85	6912.75	150.56	6914.00	154.76	6914.00	156.84
GR	6915.2	160.72	6916.00	164.45	6917.29	175.24	6918.00	182.79	6920.00	200.31
GR	6922.0	209.33	6924.00	214.51	6926.00	218.03	6930.00	223.71	6934.00	254.66
GR	6938.7	293.88	6940.13	304.24						

X1	41.219	42	0.00	247.48	1150.00	925.00	1242.49			
GR	6959.2	0.00	6957.71	4.61	6957.22	7.69	6955.22	14.46	6954.00	18.74
GR	6952.0	22.37	6952.00	24.41	6950.68	26.28	6950.54	30.41	6949.68	37.59
GR	6948.0	40.05	6947.20	43.90	6947.39	46.18	6949.43	48.02	6949.92	50.59
GR	6948.0	52.92	6947.15	55.44	6946.00	56.87	6944.97	59.16	6943.54	64.64
GR	6942.0	68.10	6942.00	70.14	6940.65	74.93	6940.00	78.26	6940.00	80.55
GR	6939.1	88.66	6938.00	97.01	6936.00	122.90	6936.00	125.69	6932.00	133.11
GR	6930.0	136.47	6930.00	170.31	6931.12	179.09	6932.00	181.82	6934.47	186.03
GR	6936.0	190.32	6936.82	197.86	6940.00	209.55	6942.82	217.15	6945.23	224.02
GR	6948.6	231.94	6949.97	247.48						

X1	41.795	29	0.00	324.44	675.00	625.00	575.73			
GR	6957.7	0.00	6956.00	13.85	6956.00	15.24	6954.65	22.88	6954.00	35.20
GR	6951.5	43.46	6949.60	48.17	6947.75	51.83	6945.17	58.46	6942.00	64.39
GR	6939.6	70.20	6938.00	80.99	6938.00	113.93	6942.00	119.19	6944.00	131.85
GR	6946.0	143.74	6950.00	148.26	6952.00	155.58	6952.00	158.10	6954.25	167.38
GR	6956.2	172.04	6962.00	181.17	6963.26	185.41	6964.00	190.28	6965.24	214.99
GR	6965.4	219.73	6966.69	242.89	6968.00	267.47	6970.00	324.44		

CROSS SECTION JUST DOWNSTREAM OF BLACK FOREST ROAD BRIDGE

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X1	42.255	12	23.00	62.50	460.00	500.00	460.00
X3	10			23.00		62.50	

GR	6977.0	0.00	6976.2	21.00	6975.5	22.50	6966.8	23.00	6956.6	31.00
GR	6945.0	46.00	6945.8	48.00	6952.3	54.50	6963.5	62.50	6975.3	62.60
GR	6976.0	64.50	6977.0	80.00						

BLACK FOREST ROAD BRIDGE
CLEAR SPAN WITH CONCRETE ABUTMENTS
(DATA OBTAINED FROM JR SURVEY, DATED 11/17/95)

X1	42.256				1		1		1	
X3	10			23.00			62.50			
BT	-8	0.00	6977.0	6977.0	21.00	6976.2	6976.2	22.50	6976.2	6975.5
BT		23.00	6976.2	6975.0	62.50	6976.2	6975.0	62.60	6976.1	6975.3
BT		64.50	6976.0	6976.0	80.00	6977.0	6977.0			

BLACK FOREST ROAD BRIDGE (PROPOGATED FROM DOWNSTREAM FACE)

X1	42.293			37.50	37.50	37.50
X2						1
X3	10					

CROSS SECTION JUST UPSTREAM OF BLACK FOREST ROAD BRIDGE
END OF DECK

X1	42.294	12	23.00	63.00	1	1	1			
X3	10									
GR	6976.5	0.00	6976.1	20.50	6975.0	23.00	6959.2	23.50	6957.5	37.00
GR	6947.5	44.50	6948.0	49.50	6955.3	56.00	6957.0	62.50	6975.5	63.00
GR	6976.1	64.50	6976.5	80.00						

T1 COTTONWOOD CREEK CHANNEL STABILITY STUDIES, AYRES 12/98
T2 COTTONWOOD CREEK PROJECT NO: 34-0330.00
T3 REVISED BASED ON MEETING WITH CITY OF COLORADO SPRINGS
T4 FURTHER REVISED BASED ON UPDATED FUTURE LAND USE
T5 100 YR EVENT, FUTURE CONDITIONS (FAIRFAX POND ONLY)

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	3	0	0	0.017	0				
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	2	0	-1	0	0	0	-1			

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THIS RUN EXECUTED 06JAN99 08:39:10

HEC-2 WATER SURFACE PROFILES
Version 4.6.2; May 1991

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

REVISED BASED ON MEETI

SUMMARY PRINTOUT

	SECNO	CWSEL	EG	VCH	DEPTH	TOPWID	AREA	ELMIN	Q	XLCH
*	.000	6241.52	6243.16	10.28	5.52	115.74	374.09	6236.00	3844.00	.00
*	.000	6244.73	6247.70	13.83	8.73	134.96	776.37	6236.00	10738.00	.00
*	.157	6243.92	6246.01	11.63	5.92	79.97	330.65	6238.00	3844.00	156.92
*	.157	6248.13	6251.64	15.04	10.13	101.83	714.17	6238.00	10738.00	156.92
*	.253	6245.99	6246.63	6.41	8.99	85.85	599.70	6237.00	3844.00	96.00
*	.253	6250.85	6252.43	10.08	13.85	105.85	1065.18	6237.00	10738.00	96.00
	.254	6245.99	6246.63	6.41	8.99	85.87	600.08	6237.00	3844.00	1.00
	.254	6250.86	6252.44	10.07	13.86	105.90	1066.47	6237.00	10738.00	1.00
	.298	6246.11	6246.73	6.31	9.11	86.31	609.33	6237.00	3844.00	44.00
	.298	6251.09	6252.60	9.84	14.09	106.86	1091.45	6237.00	10738.00	44.00
	.299	6246.12	6246.73	6.30	9.12	86.36	610.38	6237.00	3844.00	1.00
	.299	6251.10	6252.60	9.84	14.10	106.87	1091.66	6237.00	10738.00	1.00
*	.329	6246.09	6247.95	10.94	4.09	95.98	351.51	6242.00	3844.00	30.02
*	.329	6250.40	6253.13	13.27	8.40	116.27	809.00	6242.00	10738.00	30.02
*	.369	6247.95	6248.20	4.04	9.75	129.90	951.25	6238.20	3844.00	40.00
*	.369	6252.78	6253.46	6.62	14.58	148.44	1622.01	6238.20	10738.00	40.00
	.370	6247.93	6248.21	4.23	9.73	129.81	909.59	6238.20	3844.00	1.00
	.370	6252.73	6253.48	6.94	14.53	148.27	1546.80	6238.20	10738.00	1.00
	.413	6247.99	6248.27	4.19	9.79	130.02	916.36	6238.20	3844.00	43.00
	.413	6252.86	6253.59	6.86	14.66	148.75	1564.71	6238.20	10738.00	43.00

FUTNDREV.DAT: Future Conditions Hydrology; 5 and 100-year Design Storms; No Proposed Detention (Includes Existing Fairfax Pond) Revisions Based on September 4, 1996 Meeting With City of Colorado Springs Engineering Staff; Further Revised Based on Updated Land Use Near Tributary 1

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.414	6248.02	6248.27	4.00	9.82	130.15	959.88	6238.20	3844.00	1.00
.414	6252.94	6253.60	6.52	14.74	149.06	1645.98	6238.20	10738.00	1.00

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	SECNO	CWSEL	EG	VCH	DEPTH	TOPWID	AREA	ELMIN	Q	XLCH
*	.434	6247.25	6248.85	10.16	3.25	119.53	378.24	6244.00	3844.00	20.00
*	.434	6252.16	6254.00	10.87	8.16	128.79	988.00	6244.00	10738.00	20.00
*	.464	6248.69	6249.06	4.90	9.79	100.61	784.88	6238.90	3844.00	30.00
*	.464	6253.02	6254.18	8.63	14.12	111.72	1244.81	6238.90	10738.00	30.00
	.465	6248.66	6249.08	5.24	9.76	100.50	733.90	6238.90	3844.00	1.00
	.465	6252.90	6254.23	9.28	14.00	111.38	1157.09	6238.90	10738.00	1.00
	.519	6248.78	6249.19	5.16	9.88	100.82	745.66	6238.90	3844.00	54.50
	.519	6253.22	6254.48	9.01	14.32	112.21	1191.21	6238.90	10738.00	54.50
	.520	6248.84	6249.20	4.81	9.94	100.97	798.91	6238.90	3844.00	1.00
	.520	6253.43	6254.50	8.33	14.53	112.74	1289.30	6238.90	10738.00	1.00
*	.933	6255.39	6257.01	10.20	5.39	118.20	376.74	6250.00	3844.00	412.72
*	.933	6258.56	6261.28	13.24	8.56	152.46	810.85	6250.00	10738.00	412.72
*	1.400	6260.29	6261.75	9.71	7.69	66.33	399.25	6252.60	3875.00	466.98
	1.400	6263.73	6268.09	16.75	11.13	74.05	640.73	6252.60	10731.00	466.98
*	1.401	6259.60	6262.06	12.60	7.00	64.77	307.58	6252.60	3875.00	1.00
*	1.401	6264.79	6269.44	17.30	12.19	78.65	620.32	6252.60	10731.00	1.00
	1.421	6260.68	6262.41	10.55	8.08	67.18	367.36	6252.60	3875.00	20.00
	1.421	6267.86	6270.01	11.76	15.26	136.86	912.42	6252.60	10731.00	20.00
*	1.422	6260.11	6262.70	12.91	7.01	59.02	300.20	6253.10	3875.00	1.00
	1.422	6267.84	6270.03	11.86	14.74	109.20	904.70	6253.10	10731.00	1.00
*	1.522	6268.14	6271.59	14.91	8.14	37.74	259.95	6260.00	3875.00	100.00
*	1.522	6275.03	6280.89	19.41	15.03	47.28	552.75	6260.00	10731.00	100.00
*	1.592	6271.68	6272.92	8.94	11.18	52.50	433.36	6260.50	3875.00	70.00
*	1.592	6280.30	6282.58	12.12	19.80	52.50	885.63	6260.50	10731.00	70.00
*	1.593	6271.61	6273.00	9.43	11.11	52.50	411.02	6260.50	3875.00	1.00
*	1.593	6280.00	6282.88	13.63	19.50	52.50	787.15	6260.50	10731.00	1.00
	1.708	6271.82	6273.14	9.21	11.32	52.50	420.81	6260.50	3875.00	115.00
	1.708	6280.27	6283.08	13.45	19.77	52.50	797.57	6260.50	10731.00	115.00
*	1.709	6272.06	6273.19	8.54	11.56	52.50	453.94	6260.50	3875.00	1.00
*	1.709	6281.28	6283.32	11.44	20.78	52.50	937.82	6260.50	10731.00	1.00
*	1.981	6274.50	6277.05	12.82	6.50	59.78	302.32	6268.00	3875.00	272.22
	1.981	6282.56	6284.77	11.92	14.56	88.89	900.68	6268.00	10731.00	272.22
*	2.217	6278.92	6280.92	11.35	6.92	87.75	341.52	6272.00	3875.00	235.21
	2.217	6283.92	6286.35	12.51	11.92	117.23	858.12	6272.00	10731.00	235.21

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	SECNO	CWSEL	EG	VCH	DEPTH	TOPWID	AREA	ELMIN	Q	XLCH
*	2.521	6286.81	6288.88	11.54	6.81	84.36	335.78	6280.00	3875.00	304.54
*	2.521	6291.34	6294.10	13.32	11.34	145.40	805.38	6280.00	10731.00	304.54
	2.812	6291.43	6292.83	9.52	6.02	107.40	407.03	6285.41	3875.00	291.03
	2.812	6295.30	6297.44	11.74	9.89	152.20	914.38	6285.41	10731.00	291.03
*	3.243	6297.31	6299.02	10.50	5.31	109.61	369.03	6292.00	3875.00	431.19
*	3.243	6300.54	6303.66	14.18	8.54	124.03	756.96	6292.00	10731.00	431.19
*	3.586	6303.43	6304.99	10.03	5.43	123.51	386.47	6298.00	3875.00	342.79
*	3.586	6306.48	6309.17	13.16	8.48	155.25	815.73	6298.00	10731.00	342.79
	3.903	6308.40	6309.65	8.94	8.40	140.81	433.42	6300.00	3875.00	316.79
	3.903	6311.05	6313.57	12.74	11.05	163.59	842.53	6300.00	10731.00	316.79
*	4.367	6315.24	6316.70	9.70	5.24	140.17	403.36	6310.00	3911.00	464.46
*	4.367	6317.91	6320.21	12.18	7.91	198.13	882.99	6310.00	10752.00	464.46
	5.028	6325.17	6327.03	10.94	5.50	90.20	357.41	6319.67	3911.00	661.10
*	5.028	6328.70	6331.76	14.03	9.03	125.78	766.56	6319.67	10752.00	661.10
*	5.468	6335.60	6337.25	10.30	7.60	121.21	379.75	6328.00	3911.00	439.25
*	5.468	6338.66	6341.70	13.98	10.66	131.09	768.99	6328.00	10752.00	439.25
*	5.801	6341.55	6343.39	10.88	5.55	100.43	359.49	6336.00	3911.00	332.80
*	5.801	6345.07	6348.42	14.68	9.07	111.46	732.42	6336.00	10752.00	332.80
	6.235	6347.97	6349.53	10.01	5.97	99.40	390.52	6342.00	3911.00	434.93
*	6.235	6351.21	6354.37	14.28	9.21	119.37	753.20	6342.00	10752.00	434.93
*	6.652	6355.02	6357.14	11.69	6.70	79.42	334.44	6348.32	3911.00	416.35
*	6.652	6359.12	6362.84	15.47	10.80	95.26	694.91	6348.32	10752.00	416.35

FUTNDREV.DAT: Future Conditions Hydrology; 5 and 100-year Design Storms; No Proposed Detention (Includes Existing Fairfax Pond) Revisions Based on September 4, 1996 Meeting With City of Colorado Springs Engineering Staff; Further Revised Based on Updated Land Use Near Tributary 1

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*	6.852	6358.40	6360.26	10.93	4.40	97.38	357.67	6354.00	3911.00	200.00
	6.852	6362.39	6365.32	13.73	8.39	115.20	783.06	6354.00	10752.00	200.00
*	7.061	6365.98	6367.78	10.75	4.62	102.69	363.76	6361.36	3911.00	208.70
*	7.061	6369.49	6372.67	14.31	8.13	118.25	751.17	6361.36	10752.00	208.70
*	7.287	6370.70	6372.53	10.86	4.70	98.64	360.04	6366.00	3911.00	226.52
*	7.287	6374.31	6377.52	14.38	8.31	116.54	747.96	6366.00	10752.00	226.52
*	7.584	6376.30	6378.42	11.68	6.30	79.96	334.92	6370.00	3911.00	297.14
*	7.584	6380.43	6384.12	15.41	10.43	96.09	697.66	6370.00	10752.00	297.14
*	7.779	6380.68	6382.46	10.73	4.18	102.96	364.63	6376.50	3911.00	195.00
*	7.779	6384.09	6387.59	15.01	7.59	103.08	716.51	6376.50	10752.00	195.00
*	7.780	6380.76	6382.58	10.84	4.26	102.96	360.83	6376.50	3911.00	1.00
*	7.780	6384.27	6387.84	15.17	7.77	103.08	708.98	6376.50	10752.00	1.00

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	SECNO	CWSEL	EG	VCH	DEPTH	TOPWID	AREA	ELMIN	Q	XLCH
*	7.872	6381.71	6382.86	8.59	5.21	103.00	455.33	6376.50	3911.00	91.50
	7.872	6385.77	6388.25	12.63	9.27	104.10	851.29	6376.50	10752.00	91.50
*	7.873	6381.88	6382.88	7.99	5.38	103.01	489.33	6376.50	3911.00	1.00
	7.873	6386.27	6388.30	11.41	9.77	104.10	942.09	6376.50	10752.00	1.00
*	7.948	6383.98	6385.49	9.88	3.88	122.95	366.12	6380.10	3616.00	75.00
*	7.948	6386.89	6389.66	13.34	6.79	136.69	745.01	6380.10	9941.00	75.00
*	8.253	6392.30	6393.80	9.82	4.30	124.79	368.35	6388.00	3616.00	305.70
*	8.253	6395.19	6397.94	13.31	7.19	137.68	746.85	6388.00	9941.00	305.70
*	8.609	6399.97	6401.80	10.86	5.97	90.98	333.07	6394.00	3616.00	355.54
*	8.609	6403.71	6406.76	14.02	9.71	116.78	709.18	6394.00	9941.00	355.54
	9.201	6409.55	6410.81	9.01	3.71	138.86	401.29	6405.84	3616.00	591.91
	9.201	6412.21	6414.69	12.64	6.37	150.48	786.42	6405.84	9941.00	591.91
*	9.714	6418.64	6420.38	10.57	4.64	100.06	341.96	6414.00	3616.00	513.07
*	9.714	6422.04	6425.07	13.98	8.04	119.30	711.22	6414.00	9941.00	513.07
*	10.030	6424.25	6425.92	10.38	6.25	106.85	348.40	6418.00	3616.00	315.69
*	10.030	6427.43	6430.51	14.09	9.43	117.73	705.51	6418.00	9941.00	315.69
	10.287	6428.60	6429.96	9.38	4.31	128.40	385.38	6424.29	3616.00	257.29
	10.287	6431.44	6433.97	12.75	7.15	145.37	779.53	6424.29	9941.00	257.29
*	10.803	6436.66	6438.43	10.69	4.66	98.12	342.23	6432.00	3657.00	516.08
*	10.803	6440.23	6443.14	13.68	8.23	124.80	714.90	6432.00	9782.00	516.08
*	11.357	6450.50	6452.03	9.92	4.85	124.27	368.76	6445.65	3657.00	553.83
*	11.357	6453.32	6456.03	13.23	7.67	138.87	739.38	6445.65	9782.00	553.83
*	12.030	6464.55	6465.92	9.42	3.58	144.01	388.34	6460.97	3657.00	673.21
*	12.030	6467.10	6469.56	12.59	6.13	160.28	776.99	6460.97	9782.00	673.21
	12.715	6474.19	6475.53	9.31	4.19	108.90	392.83	6470.00	3657.00	684.92
*	12.715	6476.94	6479.93	13.88	6.94	118.57	704.85	6470.00	9782.00	684.92
*	13.085	6478.57	6480.21	10.28	4.57	92.87	355.91	6474.00	3657.00	370.37
*	13.085	6481.77	6485.15	14.74	7.77	98.99	663.52	6474.00	9782.00	370.37
*	13.385	6485.46	6487.33	10.98	5.46	91.06	333.05	6480.00	3657.00	300.00
*	13.385	6488.92	6492.41	14.99	8.92	93.67	652.59	6480.00	9782.00	300.00
*	13.431	6494.41	6496.28	10.97	3.71	89.98	333.23	6490.70	3657.00	45.71
*	13.431	6497.83	6501.44	15.24	7.13	90.04	641.75	6490.70	9782.00	45.71
*	13.432	6494.58	6496.54	11.24	3.88	89.98	325.43	6490.70	3657.00	1.00
*	13.432	6496.90	6502.40	18.81	6.20	90.03	519.93	6490.70	9782.00	1.00

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	SECNO	CWSEL	EG	VCH	DEPTH	TOPWID	AREA	ELMIN	Q	XLCH
*	13.522	6495.62	6496.84	8.86	4.92	90.00	412.70	6490.70	3657.00	90.00
	13.522	6497.33	6502.82	18.81	6.63	90.03	519.98	6490.70	9782.00	90.00
*	13.523	6495.59	6496.86	9.04	4.49	90.00	404.43	6491.10	3657.00	1.00
*	13.523	6503.48	6504.24	7.46	12.38	186.00	1572.93	6491.10	9782.00	1.00
*	13.633	6501.49	6503.02	9.93	3.49	118.27	357.46	6498.00	3549.00	110.00
*	13.633	6504.36	6507.12	13.32	6.36	131.65	717.07	6498.00	9551.00	110.00
	14.469	6513.01	6513.91	7.64	3.01	161.26	464.45	6510.00	3549.00	835.63
	14.469	6515.37	6517.29	11.12	5.37	172.29	859.05	6510.00	9551.00	835.63
*	15.479	6528.09	6529.29	8.80	2.99	170.83	403.47	6525.10	3549.00	1010.57
*	15.479	6530.40	6532.47	11.55	5.30	204.30	826.93	6525.10	9551.00	1010.57
	16.134	6537.44	6538.23	7.14	3.12	194.13	496.72	6534.32	3549.00	654.99
	16.134	6539.44	6541.20	10.64	5.12	205.90	898.05	6534.32	9551.00	654.99

*	17.087	6552.10	6553.31	8.85	2.83	161.23	385.95	6549.27	3416.00	952.61
*	17.087	6554.33	6556.58	12.02	5.06	172.41	758.66	6549.27	9121.00	952.61
	18.167	6566.50	6567.05	5.94	2.50	273.25	577.56	6564.00	3429.00	1080.21
	18.167	6568.19	6569.34	8.61	4.19	286.33	1050.91	6564.00	9049.00	1080.21
*	19.013	6578.50	6579.54	8.18	2.50	205.22	419.13	6576.00	3429.00	846.10
*	19.013	6580.40	6582.21	10.82	4.40	233.90	836.17	6576.00	9049.00	846.10
	19.713	6590.27	6591.18	7.63	2.27	203.94	449.41	6588.00	3429.00	700.00
*	19.713	6592.00	6593.97	11.26	4.00	206.69	803.29	6588.00	9049.00	700.00
*	19.787	6601.55	6603.31	10.66	5.75	92.74	311.23	6595.80	3319.00	74.08
*	19.787	6604.46	6606.94	12.65	8.66	145.00	692.92	6595.80	8763.00	74.08
	19.788	6602.40	6603.52	8.47	6.60	131.20	391.70	6595.80	3319.00	1.00
*	19.788	6604.49	6608.00	15.02	8.69	145.00	583.49	6595.80	8763.00	1.00
*	19.938	6603.53	6604.22	6.67	7.73	145.00	497.43	6595.80	3319.00	150.00
	19.938	6608.12	6610.07	11.20	12.32	145.00	782.59	6595.80	8763.00	150.00
	19.939	6603.81	6604.29	5.54	8.01	145.00	599.53	6595.80	3319.00	1.00
*	19.939	6609.95	6610.49	5.88	14.15	145.00	1489.29	6595.80	8763.00	1.00
*	20.054	6604.41	6604.45	1.68	10.93	222.25	1970.72	6593.48	3319.00	115.00
*	20.054	6610.58	6610.67	2.38	17.10	359.22	3675.56	6593.48	8763.00	115.00
*	20.894	6608.87	6609.76	7.57	2.87	252.75	438.34	6606.00	3319.00	839.94
*	20.894	6610.48	6612.04	10.02	4.48	285.62	874.69	6606.00	8763.00	839.94
	21.959	6627.26	6628.47	8.84	3.26	140.87	375.59	6624.00	3319.00	1064.60
*	21.959	6629.72	6631.62	11.04	5.72	212.81	793.50	6624.00	8763.00	1064.60

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	SECNO	CWSEL	EG	VCH	DEPTH	TOPWID	AREA	ELMIN	Q	XLCH
*	22.809	6640.39	6641.95	10.04	4.39	105.21	330.61	6636.00	3319.00	849.89
	22.809	6643.29	6646.06	13.36	7.29	120.53	656.03	6636.00	8763.00	849.89
*	23.811	6655.84	6657.72	11.00	5.75	79.18	301.73	6650.09	3319.00	1002.26
	23.811	6659.34	6662.66	14.62	9.25	91.75	599.20	6650.09	8763.00	1002.26
*	24.745	6672.43	6674.53	11.61	6.43	68.99	285.89	6666.00	3319.00	933.77
*	24.745	6676.33	6678.97	13.04	10.33	129.77	672.11	6666.00	8763.00	933.77
*	25.325	6682.01	6682.92	7.65	4.21	89.23	221.22	6677.80	1693.00	580.00
*	25.325	6684.74	6686.24	9.82	6.94	114.85	509.83	6677.80	5007.00	580.00
	25.326	6681.96	6682.96	8.02	4.16	88.52	211.13	6677.80	1693.00	1.00
	25.326	6684.67	6686.29	10.20	6.87	114.84	490.67	6677.80	5007.00	1.00
*	25.355	6682.77	6683.32	5.92	4.97	98.82	286.11	6677.80	1693.00	29.00
	25.355	6685.50	6686.64	8.57	7.70	114.99	584.26	6677.80	5007.00	29.00
	25.356	6682.83	6683.33	5.65	5.03	99.29	299.67	6677.80	1693.00	1.00
	25.356	6685.61	6686.66	8.21	7.81	115.01	610.00	6677.80	5007.00	1.00
*	25.456	6683.24	6684.46	8.87	3.24	79.10	190.90	6680.00	1693.00	100.00
*	25.456	6685.83	6687.95	11.69	5.83	101.59	428.28	6680.00	5007.00	100.00
*	25.795	6689.65	6691.08	9.62	3.65	61.53	176.02	6686.00	1693.00	339.04
*	25.795	6692.74	6695.30	12.83	6.74	76.42	390.17	6686.00	5007.00	339.04
	26.498	6700.44	6701.33	7.55	4.44	90.24	224.11	6696.00	1693.00	703.06
	26.498	6702.93	6704.57	10.29	6.93	119.51	486.76	6696.00	5007.00	703.06
	27.250	6710.41	6711.21	7.18	2.41	110.81	235.89	6708.00	1693.00	752.45
	27.250	6712.47	6714.13	10.35	4.47	127.18	483.71	6708.00	5007.00	752.45
*	27.699	6719.17	6720.22	8.25	2.94	99.57	205.33	6716.23	1693.00	449.17
*	27.699	6721.41	6723.40	11.34	5.18	110.86	441.59	6716.23	5007.00	449.17
	28.449	6731.12	6731.86	6.90	3.12	115.28	245.44	6728.00	1693.00	749.95
	28.449	6732.97	6734.73	10.64	4.97	129.01	470.61	6728.00	5007.00	749.95
	29.325	6744.24	6745.16	7.68	2.24	114.79	220.31	6742.00	1693.00	876.10
	29.325	6746.26	6747.99	10.55	4.26	134.64	474.58	6742.00	5007.00	876.10
*	29.885	6756.90	6758.11	8.83	2.90	80.21	191.78	6754.00	1693.00	560.00
*	29.885	6759.46	6761.78	12.21	5.46	89.93	410.17	6754.00	5007.00	560.00
*	30.333	6762.59	6763.11	5.78	2.59	120.15	292.75	6760.00	1693.00	447.70
*	30.333	6765.08	6766.14	8.27	5.08	131.51	605.46	6760.00	5007.00	447.70
*	31.061	6772.81	6773.68	7.48	2.81	106.31	181.41	6770.00	1357.00	728.14
*	31.061	6774.72	6776.24	9.88	4.72	140.31	416.93	6770.00	4120.00	728.14

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	SECNO	CWSEL	EG	VCH	DEPTH	TOPWID	AREA	ELMIN	Q	XLCH
*	32.009	6788.54	6789.24	6.72	2.54	104.80	201.88	6786.00	1357.00	947.72
	32.009	6790.25	6791.99	10.57	4.25	114.21	389.93	6786.00	4120.00	947.72

*	32.570	6797.43	6798.47	8.22	3.43	62.87	130.12	6794.00	1069.00	560.80
*	32.570	6799.98	6801.78	10.75	5.98	94.30	336.50	6794.00	3616.00	560.80
	33.425	6810.24	6810.87	6.36	4.24	77.78	162.19	6806.00	1032.00	855.60
	33.425	6812.39	6813.97	10.09	6.39	90.48	344.57	6806.00	3477.00	855.60
*	34.449	6829.66	6830.86	8.78	5.66	50.35	117.51	6824.00	1032.00	1023.40
*	34.449	6832.86	6834.56	10.46	8.86	89.68	332.43	6824.00	3477.00	1023.40
	35.393	6845.91	6846.45	5.88	3.91	113.63	175.51	6842.00	1032.00	944.70
	35.393	6847.50	6848.89	9.45	5.50	125.61	368.10	6842.00	3477.00	944.70
	36.159	6857.93	6858.93	8.03	3.93	62.95	128.59	6854.00	1032.00	765.10
*	36.159	6860.44	6862.23	10.74	6.44	90.02	323.68	6854.00	3477.00	765.10
	36.809	6868.55	6870.02	9.73	5.65	31.34	106.04	6862.90	1032.00	650.00
*	36.809	6872.45	6875.38	13.74	9.55	44.12	253.11	6862.90	3477.00	650.00
	36.810	6868.68	6870.05	9.38	5.78	31.75	110.00	6862.90	1032.00	1.00
	36.810	6873.05	6875.44	12.41	10.15	46.09	280.18	6862.90	3477.00	1.00
	36.840	6869.53	6870.39	7.46	6.63	34.54	138.26	6862.90	1032.00	30.00
	36.840	6874.08	6875.81	10.56	11.18	49.45	329.16	6862.90	3477.00	30.00
	36.841	6869.54	6870.40	7.44	6.64	34.58	138.68	6862.90	1032.00	1.00
	36.841	6874.10	6875.82	10.54	11.20	49.51	329.98	6862.90	3477.00	1.00
*	37.794	6882.74	6883.82	8.34	2.74	57.93	123.81	6880.00	1032.00	953.50
*	37.794	6885.43	6887.28	10.93	5.43	85.87	318.18	6880.00	3477.00	953.50
	38.835	6900.89	6901.62	6.83	4.89	63.10	119.48	6896.00	816.00	1040.52
*	38.835	6902.86	6904.55	10.44	6.86	80.13	261.87	6896.00	2733.00	1040.52
	39.977	6917.36	6918.03	6.55	4.61	65.50	124.59	6912.75	816.00	1141.93
	39.977	6919.65	6920.78	8.52	6.90	102.76	320.77	6912.75	2733.00	1141.93
	41.219	6932.68	6933.41	6.87	2.68	51.13	118.86	6930.00	816.00	1242.49
	41.219	6935.01	6936.90	11.04	5.01	60.00	247.60	6930.00	2733.00	1242.49
	41.795	6940.46	6941.42	7.86	2.46	49.04	103.79	6938.00	816.00	575.73
	41.795	6943.19	6944.97	10.72	5.19	64.57	254.92	6938.00	2733.00	575.73
*	42.255	6952.42	6954.44	11.41	7.42	18.18	71.54	6945.00	816.00	460.00
*	42.255	6957.29	6960.72	14.86	12.29	27.61	183.91	6945.00	2733.00	460.00
	42.256	6952.91	6954.50	10.11	7.91	19.17	80.71	6945.00	816.00	1.00
	42.256	6958.05	6960.81	13.32	13.05	28.75	205.22	6945.00	2733.00	1.00

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	SECNO	CWSEL	EG	VCH	DEPTH	TOPWID	AREA	ELMIN	Q	XLCH
	42.293	6953.99	6954.97	7.96	8.99	21.33	102.57	6945.00	816.00	37.50
	42.293	6959.35	6961.30	11.22	14.35	30.69	243.67	6945.00	2733.00	37.50
*	42.294	6954.37	6956.55	11.84	6.87	15.83	68.94	6947.50	816.00	1.00
*	42.294	6959.83	6962.40	12.86	12.33	39.10	212.49	6947.50	2733.00	1.00

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SUMMARY OF ERRORS AND SPECIAL NOTES

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CAUTION SECNO=	.157	PROFILE=	2	MINIMUM SPECIFIC ENERGY
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WARNING SECNO=	.253	PROFILE=	2	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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CAUTION SECNO=	.329	PROFILE=	1	MINIMUM SPECIFIC ENERGY
WARNING SECNO=	.329	PROFILE=	2	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=	.369	PROFILE=	1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=	.369	PROFILE=	2	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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CAUTION SECNO=	.434	PROFILE=	1	MINIMUM SPECIFIC ENERGY
WARNING SECNO=	.434	PROFILE=	2	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=	.464	PROFILE=	1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=	.464	PROFILE=	2	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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WARNING SECNO=	1.709	PROFILE=	1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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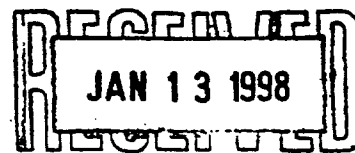
APPENDIX D

Miscellaneous



DEPARTMENT OF THE ARMY
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS
SOUTHERN COLORADO PROJECT OFFICE
720 NORTH MAIN STREET, SUITE 205
PUEBLO, COLORADO 81003-3046

REPLY TO
ATTENTION OF:



January 9, 1998

Operations Division
Regulatory Branch

Mr. David M. Frick
Ayres Associates
3665 JFK Parkway, Building 2, Suite 300
P.O. Box 270460
Fort Collins, Colorado 80527

Dear Mr. Frick:

This is in reference to your transmittal dated October 29, 1997 regarding your proposed modification to the City of Colorado Springs Cottonwood Creek Drainage Basin Planning Study (DBPS) in Colorado Springs, El Paso County, Colorado (Action No. 1997 30316).

We participated in the formulation of the original DBPS with the goal of reducing conflicts between federal and local governments. It remains our primary goal to encourage DBPSs which constitute the least environmentally damaging alternative overall and for which we could grant Section 404 permits for implementation of projects outlined in the DBPS.

We have briefly reviewed your proposal against the test of whether or not other less environmentally damaging alternatives to the prudent line concept are likely to exist. A full alternatives analysis was not done. The prudent line concept has the potential of allowing the stream to seek its own stable configuration. During the period when the watershed moves from rural to fully developed, the stream system will be unstable. In the Colorado Springs area this typically involves bed and bank erosion with loss of adjacent riparian vegetation from erosion or from a drop in the local water table. Once the basin is fully built out, the stream can be expected to reach a stable configuration. Locally this typically involves a stable perennial low-flow channel with an adjacent willow shrub riparian community (if the overbanks have not been lost by filling or other encroachments). This may not occur on Cottonwood Creek because the stream is naturally constrained by sandstone "bedrock" which has not allowed development of an overbank



riparian fringe and may disallow its future development. Thus Cottonwood Creek is probably unique in the Colorado Springs area by having little riparian amenities to be lost or gained.

The prudent line concept is close to the no-action alternative which for Cottonwood Creek (and only Cottonwood Creek) may be the least environmentally damaging alternative. Situations where it would not be the least environmentally damaging are as follows:

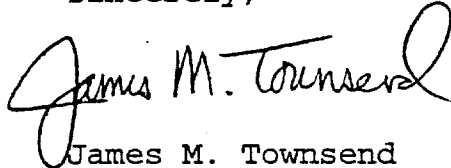
a. The fully developed flows were not calculated with the assumption of a shrub-vegetated floodway channel bottom, thus the calculated flood elevations may be too low. This could be remedied by recalculating the 100-year elevation or selecting the prudent line at the elevation which is 2 feet above the 100-year elevation rather than 1 foot. Two feet is also recommended since it allows a margin for the error which is always present in calculating the flood elevation in an ungaged stream.

b. The existing and future sections of steep unvegetated floodway banks may not be acceptable to the City of Colorado Springs for safety, aesthetic, water quality, or other reasons. If such banks are not acceptable to the City, the Corps position remains the same as it has been for other DBPSs: if the City will need to modify the stream channel in the future (such as reshaping the floodway banks to a more gentle slope), the DBPS should recognize this situation up front and plan for it. In this way environmental concerns such as allowing vegetation in floodway channels for aesthetics, water quality, and wildlife habitat can be addressed in early planning stages and more effectively implemented.

c. Maintenance or recreation trails should be placed outside the prudent line right of way. If they are placed within the right of way, they will defeat the prudent line purpose of no action. Although trails in theory are flexible structures which can be easily moved, in practice they are inflexible structures. The typical response to a trail eroded by normal or flood flows has been to harden the streambank to prevent future erosion and trail loss. If trails are proposed within the prudent line right of way, the Corps position remains the same: the potential for erosion or flooding of trails should be recognized and realistic methods to address the erosion should be included in the DBPS so that environmental concerns can also be addressed in early planning stages and more effectively implemented.

Should you have any questions please feel free to write or call Ms. Anita Culp at (719) 543-6914.

Sincerely,

A handwritten signature in dark ink, reading "James M. Townsend". The signature is fluid and cursive, with the first name "James" and last name "Townsend" clearly legible.

James M. Townsend
Chief, Southern Colorado
Project Office

Copy furnished:

Ms. Sarah Fowler (ATTN: 8EPR-EP)
Environmental Protection Agency
999 - 18th Street, Suite 500
Denver, Colorado 80202-2466

Mr. Kenneth Sampley
City Engineering Division
City of Colorado Springs
P.O. Box 1575 (m.c. 435)
Colorado Springs, CO 80901-1575