HEC-RAS Reports

Existing HEC-RAS Report

Proposed HEC-RAS Report

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                    HEC-RAS HEC-RAS 6.3.1 September 2022
                      U.S. Army Corps of Engineers
                     Hydrologic Engineering Center
                           609 Second Street
                           Davis, California


           X     X  XXXXXX    XXXX        XXXX       XX      XXXX
           X     X  X        X    X       X   X     X  X    X
           X     X  X        X            X   X    X    X   X
           XXXXXXX  XXXX     X       XXX  XXXX     XXXXXX    XXXX
           X     X  X        X            X  X     X    X        X
           X     X  X        X    X       X   X    X    X        X
           X     X  XXXXXX    XXXX        X    X   X    X   XXXXX



PROJECT DATA
Project Title: KCC-Lompa Ranch East_EOC
Project File : KCC-LompaEast.prj
Run Date and Time: 3/1/2023 8:40:15 PM

Project in English units



PLAN DATA

Plan Title: KCC-Existing
Plan File : e:\Carson City EOC\HEC-RAS\Existing\King's Canyon\KCC-LompaEast.p01

          Geometry Title: Existing Conditions Geometry
          Geometry File : e:\Carson City EOC\HEC-RAS\Existing\King's Canyon\KCC-LompaEast.g05

          Flow Title    : FEMA Effective Flows
          Flow File     : e:\Carson City EOC\HEC-RAS\Existing\King's Canyon\KCC-LompaEast.f01

Plan Summary Information:
Number of:  Cross Sections =   19    Multiple Openings  =    0
            Culverts       =    2    Inline Structures  =    0
            Bridges        =    1    Lateral Structures =    0

Computational Information
    Water surface calculation tolerance  =  0.01
    Critical depth calculation tolerance =  0.01
    Maximum number of iterations         =  20
    Maximum difference tolerance         =  0.3
    Flow tolerance factor                =  0.001

Computation Options
    Critical depth computed only where necessary
    Conveyance Calculation Method: At breaks in n values only
    Friction Slope Method:         Average Conveyance
    Computational Flow Regime:     Subcritical Flow

Encroachment Data
   Equal Conveyance = True
   Left Offset      =        0
   Right Offset     =        0

River = KingsCynCreek    Reach = Reach1
RS      Profile           Method  Value1  Value2
5704.987100-yr FW              1 3214.76 3712.03
5489.854100-yr FW              1 3359.823787.015
5179.23 100-yr FW              1 3516.75 3897.04
4715.834100-yr FW              1 2354.48 2741.45
4309.763100-yr FW              1    2048 2438.27
3923.687100-yr FW              1 1871.69 2245.35
3591.992100-yr FW              1 1424.73 1962.26
3490.956100-yr FW              1 1154.23    1740
2929.759100-yr FW              1 1277.34 1587.96
2307.066100-yr FW              1 1344.75 1562.99
1552    100-yr FW              1     578     994
1447.365100-yr FW              1     460  933.25
1223    100-yr FW              1     723    1159
1137.728100-yr FW              1  973.17    1403
1026.7  100-yr FW              1     970    1400
156.6568100-yr FW              1  222.61     560



FLOW DATA
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Flow Title: FEMA Effective Flows
Flow File : e:\Carson City EOC\HEC-RAS\Existing\King's Canyon\KCC-LompaEast.f01

Flow Data (cfs)

River	Reach	RS	100-yr FP	100-yr FW	500-yr	50-yr	10-yr
KingsCynCreek	Reach1	5704.987	5744	5744	10624	4298	1903
KingsCynCreek	Reach1	5179.23	6313	6313	11660	4675	2076
KingsCynCreek	Reach1	4715.834	7372	7372	13546	5471	2452
KingsCynCreek	Reach1	4309.763	8529	8529	15608	6341	2863
KingsCynCreek	Reach1	3923.687	8625	8625	15790	6435	2924
KingsCynCreek	Reach1	4309.763	8529	8529	15608	6341	2863
KingsCynCreek	Reach1	3923.687	8625	8625	15790	6435	2924
KingsCynCreek	Reach1	1447.365	8759	8759	16028	6528	2967

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
KingsCynCreek	Reach1	100-yr FP		Known WS = 4618.85
KingsCynCreek	Reach1	100-yr FW		Known WS = 4618.85
KingsCynCreek	Reach1	500-yr		Known WS = 4622.7
KingsCynCreek	Reach1	50-yr		Known WS = 4617.5
KingsCynCreek	Reach1	10-yr		Known WS = 4614.7

GEOMETRY DATA

Geometry Title: Existing Conditions Geometry
Geometry File : e:\Carson City EOC\HEC-RAS\Existing\King's Canyon\KCC-LompaEast.g05

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 5704.987

INPUT
Description:
Station Elevation Data num= 500

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
04636.161	3.5944635.937	6.6044635.819	9.1074636.126	10.7194636.201					
13.0034638.977	19.5164636.569	21.6874636.055	23.8594635.972	28.6414636.061					
30.3724635.967	32.543 4635.56	36.8864635.419	47.7424635.362	54.5784635.378					
60.4734635.563	67.2824635.915	70.7374635.994	75.9674636.162	80.314636.239					
82.4814636.215	86.8234636.011	88.9944635.858	91.1664635.559	96.3964634.088					
99.854633.483	102.0224632.935	104.1934632.282	106.4524630.175	108.5354627.463					
110.7064626.681	112.8784626.444	120.1834625.758	123.734 4625.52	128.0764625.417					
142.5834625.406	245.3514625.406	250.1554625.375	259.5554625.377	263.8574625.406					
274.1764625.406	277.0524625.375	285.8494625.375	288.5894625.344	296.8444625.366					
299.0434625.349	307.8064625.406	327.0234625.406	331.8274625.375	365.4574625.375					
369.4164625.349	389.4794625.344	403.8914625.438	413.54625.469	424.3944625.469					
426.5934625.438	435.394625.438	437.5684625.407	452.9834625.406	457.1794625.314					
463.9784625.125	475.9554625.094	480.764625.063	596.0624625.063	600.8664625.031					
611.324625.031	620.1174625.063	624.8874625.031	647.714625.031	658.894	4625				
714.283	4625	718.3864625.031	728.6434625.031	730.667	4625	739.505	4625		
751.2084625.031	753.259	4625	757.362 4624.75	763.5164624.438	873.8464624.438				
882.8024624.406	918.6264624.406	927.4014624.437	1006.39	4624.51045.4894624.563					
1077.7884624.5881083.7954624.5311091.8034624.5251094.422	4624.51111.8264624.494								
1113.8294624.4691121.8384624.4861142.6584624.4691181.9454624.4681189.9164624.462									
1191.9184624.4381237.9714624.4381239.9734624.4061258.2854624.4061296.8274624.438									
1308.0514624.4381310.0544624.4061322.0684624.4061326.0724624.4381436.1984624.438									
1438.8334624.3871448.2124624.0631458.2244624.0631460.226 4624.111478.247 4624.09									
1482.2514624.2621488.3214624.5961502.2744624.5731508.2814624.4191513.532 4624.18									
1516.294624.1511524.2994624.3411530.3064624.2521532.3094624.2531538.3164624.165									
1548.3274624.1731552.3324624.2381582.3664624.2751588.3734624.236 1594.384624.241									
1602.3894624.2161604.391 4624.251624.4144624.2661626.4174624.2361646.4394624.252									
1672.469 4624.251674.4724624.2191686.4854624.2191688.4884624.2451706.5084624.219									
1708.5114624.1971718.5224624.189 1720.514624.1571738.5454624.1271740.547 4624.14									
1752.561 4624.131754.5634624.1021772.5844624.0721780.5934624.0281798.5784623.999									
1800.7664623.9641826.6464623.9221834.6554623.9391840.6624623.9971844.6674623.993									
1848.6724623.9281858.6834624.1381868.6944624.0311876.7044624.0311878.706	4624								
1946.7844624.0041948.8214624.0311955.816	4624	1959.34624.0141975.1824623.938							
1982.4334623.8671990.8454623.688 2007.674623.594 2020.374623.5942026.8254623.563									
2033.2814623.5632039.7364623.5942046.1914623.5942059.1024623.6562064.4524623.656									
2071.0684623.5692079.173 4623.52085.4824623.4692091.3794623.4692102.3064623.438									
2104.4094623.4062112.8224623.3962119.1314623.4282123.6564623.3752136.5664623.313									
2146.474623.3112148.5734623.3532155.9324623.2812162.388 4623.252171.7074623.264									
2178.0164623.3312182.1074623.4022184.3254623.363 2193.214623.3192203.2524623.313									
2205.3554623.2922209.5614623.3562213.8324623.3772220.4864623.3132230.5924623.264									
2232.6954623.226 2243.214623.2952247.4164623.2712251.9024623.2922255.0754623.265									

2262.1374623.1392266.6674623.1662272.652 4623.312274.7554623.3942277.2824623.391
2291.559 4623.252295.786 4623.252299.9924623.3032306.301 4623.452309.008 4623.46
2317.3164623.3512327.3314623.4972331.2154623.4572346.2594623.2362350.4654623.242
2358.877 4623.412364.5274623.4352370.8724623.3122375.7014623.2762379.9074623.194
2384.113 4623.262388.3174623.3752396.7314623.2932400.9384623.315 2409.354623.195
2414.1464623.2052421.9684623.3932427.9774623.4222436.689 4623.362442.9984623.269
2445.4264623.2712449.3074623.3472459.8234623.3082466.1324623.3092472.4414623.248
2476.6474623.2492480.8534623.3232489.2654623.3672497.6774623.3162508.1924623.339
2510.2954623.3952513.6354623.6072516.605 4623.7 2519.984623.7082522.914 4623.65
2526.3254623.6592530.3434623.5812533.4294623.6162535.5324623.5422539.016 4623.59
2541.841 4623.522545.3614623.555 2548.154623.5042552.3564623.5212562.6194623.485
2575.54623.5342581.7994623.5432583.4314623.5722588.1084623.5522594.8964623.466
2597.707 4623.492601.3524623.4122605.6394623.4332607.8074623.3552611.9844623.377
2617.5514623.3432624.6744623.3432630.1694623.2692635.7784623.2242642.7874623.268
2653.3024623.2172657.5084623.0722669.0894623.1022676.4364622.9772684.848 4623.05
2688.1244623.0312691.2974623.0852697.466 4623.092705.8784622.938 2714.294623.047
2724.003 46232730.458 46232738.8854622.9642751.575 4623.052758.4544623.021
2761.0924623.0432768.9694622.9712775.6464622.9382781.587 4622.94 27904623.024
2800.5154622.9732802.6184622.938 2811.034622.9382815.2364622.8752823.6484622.861
2832.064622.9152840.1994622.8752842.5754622.906 2846.754622.8752853.0954622.875
2857.2974622.8022863.6064622.8522867.8124622.8532872.1314622.8122876.2244622.831
2886.7394622.7882899.3574622.8492916.5464622.8352926.6974622.8562937.212 4623
2949.8574622.9372956.1394622.8742958.2424622.8842964.1344622.8282979.2734622.801
2981.3764622.8322989.7884622.6463000.3034622.5443008.7154622.5763017.1274622.726
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3051.3784622.8313062.4824622.739 3067.64622.6323082.3224622.578 3084.694622.588
3094.2074622.4853098.9664622.5353107.5584622.7013109.6614622.6883113.8674622.563
3116.4154622.5633124.3464622.4063129.1054622.3713139.1044622.4063145.4134622.536
3153.8254622.6023159.2444622.6233179.0624622.6253190.9694622.5993193.7834622.563
3202.1954622.5343206.4014622.5453211.5914622.682 3214.76 4622.723221.1084622.688
3223.2254622.6043227.4314622.345 3235.844622.3973241.7294621.9353244.2564621.844
3260.7654621.887 3267.114622.0313275.8014622.1253281.386 4622.133296.832 4622.25
3301.0384622.3133309.9394622.2153324.3514622.2813338.8924622.2813340.9954622.268
3347.3044622.3613357.5274622.3463364.1294622.286 3368.634622.3423376.5624622.533
3383.056 4622.853387.2624622.984 3399.884622.9593404.0864623.0513408.2924622.875
3410.3964622.5633412.4994621.6913414.6024621.7483416.7054622.1233418.8084622.395
3427.3224622.6883431.4264622.6513435.6324622.4613441.9414622.3443450.3534622.438
3458.7654622.5833465.074 4622.653471.3844622.8373481.8994623.0753490.3114622.438
3492.4144622.471 3496.624622.6883505.0494622.7183511.5564622.622 3517.654622.592
3537.3774622.6883550.2884622.6883558.9824622.7243566.9134622.8063570.2264622.815
3572.3294622.7163574.4324622.3643578.6384621.5793580.7414621.2993582.8444621.341
3584.9484621.5333587.0514621.8553591.2574622.6513595.4634623.5633597.5664623.792
3603.8754624.1373616.0874624.5473629.1114625.0563631.2144625.1083640.6634625.484
3654.348 4626.093660.0294626.378 3662.764626.4123669.0694626.3373677.4814626.534
3685.854626.9023689.0554627.3373692.3064627.6673696.4094628.2753702.718 4629.16
3706.924629.465 3711.134629.7213715.3364629.7673719.1944629.8883721.645 4629.9
3727.1264629.999 3732.164630.0013742.6764629.9263757.3974629.9243760.4374629.965
3763.3144629.9183766.782 4629.99 3769.774629.9413771.5414629.9993776.225 4629.97
3777.886 4630.023782.681 46303784.2314630.0463789.1364630.0343790.5764630.073
3795.2514630.0363796.9214630.0943802.047 4630.073803.2664630.0973808.5024630.072
3811.1984630.1053814.9574630.0743817.5424630.1193820.4884630.0763824.6944630.125
3827.8684630.0793830.2334630.1313834.3234630.0943836.5784630.1423840.7794630.125
3842.9234630.1723847.2344630.156 3849.934630.2013858.7854630.1533860.4464630.097
3865.134630.1083866.7174630.0633871.4754630.0823873.0554630.0313877.8214630.052
3879.511 46303882.5794630.0333885.9664629.969 3890.514630.0593892.4224630.038
3896.8564630.1283898.8774630.1033903.2014630.1923905.3324630.167 3907.454630.221
3912.8924630.5943915.0854630.7113923.7534630.9153939.7764631.2173950.0194631.319
3956.1554631.3433962.3954631.4293964.4574632.1543965.7964631.463 3969.184631.531
3970.8724631.4983974.2574631.6453977.6414631.9933979.3334632.3113982.7174632.484
3986.1014632.8583991.1784633.035 3992.874633.1373999.6384633.3094002.4914633.332

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .055 3214.76 .03 3711.13 .055

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
3214.76 3711.13 216.48 215.13 289.94 .3 .5
Ineffective Flow num= 1
Sta L Sta R Elev Permanent
0 3136 4635.6 F

CROSS SECTION OUTPUT Profile #100-yr FP

E.G. Elev (ft)	4628.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.055	0.030	
W.S. Elev (ft)	4628.72	Reach Len. (ft)	48.00	48.00	48.00
Crit W.S. (ft)	4624.24	Flow Area (sq ft)	483.46	2697.45	
E.G. Slope (ft/ft)	0.000154	Area (sq ft)	14539.99	2697.45	
Q Total (cfs)	5744.00	Flow (cfs)	543.48	5200.52	
Top Width (ft)	3592.02	Top Width (ft)	3107.19	484.83	
Vel Total (ft/s)	1.81	Avg. Vel. (ft/s)	1.12	1.93	
Max Chl Dpth (ft)	7.42	Hydr. Depth (ft)	6.14	5.56	
Conv. Total (cfs)	462787.1	Conv. (cfs)	43787.4	418999.7	
Length Wtd. (ft)	48.00	Wetted Per. (ft)	78.76	485.71	
Min Ch El (ft)	4621.30	Shear (lb/sq ft)	0.06	0.05	

Alpha	1.07	Stream Power (lb/ft s)	0.07	0.10	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	359.56	219.25	147.73
C & E Loss (ft)	0.02	Cum SA (acres)	92.32	25.89	55.51

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4629.81	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.030	0.055
W.S. Elev (ft)	4629.76	Reach Len. (ft)	48.00	48.00	48.00
Crit W.S. (ft)	4624.40	Flow Area (sq ft)		3205.65	0.03
E.G. Slope (ft/ft)	0.000111	Area (sq ft)		3205.65	0.03
Q Total (cfs)	5744.00	Flow (cfs)		5744.00	0.00
Top Width (ft)	497.27	Top Width (ft)		496.37	0.90
Vel Total (ft/s)	1.79	Avg. Vel. (ft/s)		1.79	0.03
Max Chl Dpth (ft)	8.46	Hydr. Depth (ft)		6.46	0.03
Conv. Total (cfs)	544819.6	Conv. (cfs)		544819.5	0.1
Length Wtd. (ft)	48.00	Wetted Per. (ft)		504.34	0.93
Min Ch El (ft)	4621.30	Shear (lb/sq ft)		0.04	0.00
Alpha	1.00	Stream Power (lb/ft s)		0.08	0.00
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	90.56	235.07	37.52
C & E Loss (ft)	0.01	Cum SA (acres)	24.58	25.89	11.28

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4630.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.	0.055	0.030	0.055
W.S. Elev (ft)	4630.33	Reach Len. (ft)	48.00	48.00	48.00
Crit W.S. (ft)	4625.12	Flow Area (sq ft)	609.79	3486.79	56.53
E.G. Slope (ft/ft)	0.000232	Area (sq ft)	19524.92	3486.79	56.53
Q Total (cfs)	10624.00	Flow (cfs)	981.61	9632.30	10.09
Top Width (ft)	3802.68	Top Width (ft)	3108.47	496.37	197.84
Vel Total (ft/s)	2.56	Avg. Vel. (ft/s)	1.61	2.76	0.18
Max Chl Dpth (ft)	9.03	Hydr. Depth (ft)	7.74	7.02	0.29
Conv. Total (cfs)	697799.9	Conv. (cfs)	64473.8	632663.6	662.4
Length Wtd. (ft)	48.00	Wetted Per. (ft)	78.76	497.30	197.86
Min Ch El (ft)	4621.30	Shear (lb/sq ft)	0.11	0.10	0.00
Alpha	1.09	Stream Power (lb/ft s)	0.18	0.28	0.00
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	515.97	272.07	259.12
C & E Loss (ft)	0.05	Cum SA (acres)	107.12	25.92	75.42

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4627.79	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.055	0.030	
W.S. Elev (ft)	4627.75	Reach Len. (ft)	48.00	48.00	48.00
Crit W.S. (ft)	4623.93	Flow Area (sq ft)	407.01	2230.13	
E.G. Slope (ft/ft)	0.000159	Area (sq ft)	11524.19	2230.13	
Q Total (cfs)	4298.00	Flow (cfs)	414.38	3883.62	
Top Width (ft)	3584.56	Top Width (ft)	3106.45	478.11	
Vel Total (ft/s)	1.63	Avg. Vel. (ft/s)	1.02	1.74	
Max Chl Dpth (ft)	6.45	Hydr. Depth (ft)	5.17	4.66	
Conv. Total (cfs)	340890.5	Conv. (cfs)	32866.4	308024.1	
Length Wtd. (ft)	48.00	Wetted Per. (ft)	78.76	478.92	
Min Ch El (ft)	4621.30	Shear (lb/sq ft)	0.05	0.05	
Alpha	1.07	Stream Power (lb/ft s)	0.05	0.08	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	274.53	187.96	94.82
C & E Loss (ft)	0.02	Cum SA (acres)	80.76	25.83	43.64

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4626.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.055	0.030	
W.S. Elev (ft)	4626.37	Reach Len. (ft)	48.00	48.00	48.00
Crit W.S. (ft)	4623.31	Flow Area (sq ft)	298.06	1579.31	
E.G. Slope (ft/ft)	0.000090	Area (sq ft)	7229.30	1579.31	

Q Total (cfs)	1903.00	Flow (cfs)	185.78	1717.22	
Top Width (ft)	3549.95	Top Width (ft)	3101.07	448.89	
Vel Total (ft/s)	1.01	Avg. Vel. (ft/s)	0.62	1.09	
Max Chl Dpth (ft)	5.07	Hydr. Depth (ft)	3.78	3.52	
Conv. Total (cfs)	200306.1	Conv. (cfs)	19554.7	180751.4	
Length Wtd. (ft)	48.00	Wetted Per. (ft)	78.76	449.63	
Min Ch El (ft)	4621.30	Shear (lb/sq ft)	0.02	0.02	
Alpha	1.08	Stream Power (lb/ft s)	0.01	0.02	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	174.89	145.35	25.02
C & E Loss (ft)	0.01	Cum SA (acres)	60.63	25.44	28.48

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

BRIDGE

RIVER: KingsCynCreek
REACH: Reach1 RS: 5597

INPUT
Description:
Distance from Upstream XS = 48
Deck/Roadway Width = 125
Weir Coefficient = 2.6
Upstream Deck/Roadway Coordinates
num= 6

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
0	4655.18		2024	4635.7		2754	4638.1	
3297	4638.1	4635.6	3701	4635.7	4633.1	4139.78	4634.1	

Upstream Bridge Cross Section Data
Station Elevation Data num= 500

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
04636.161		3.5944635.937		6.6044635.819		9.1074636.126		10.7194636.201	
13.0034638.977		19.5164636.569		21.6874636.055		23.8594635.972		28.6414636.061	
30.3724635.967		32.543 4635.56		36.8864635.419		47.7424635.362		54.5784635.378	
60.4734635.563		67.2824635.915		70.7374635.994		75.9674636.162		80.314636.239	
82.4814636.215		86.8234636.011		88.9944635.858		91.1664635.559		96.3964634.088	
99.854633.483	102.0224632.935	104.1934632.282	106.4524630.175	108.5354627.463					
110.7064626.681	112.8784626.444	120.1834625.758	123.734 4625.52	128.0764625.417					
142.5834625.406	245.3514625.406	250.1554625.375	259.5554625.377	263.8574625.406					
274.1764625.406	277.0524625.375	285.8494625.375	288.5894625.344	296.8444625.366					
299.0434625.349	307.8064625.406	327.0234625.406	331.8274625.375	365.4574625.375					
369.4164625.349	389.4794625.344	403.8914625.438	413.54625.469	424.3944625.469					
426.5934625.438	435.394625.438	437.5684625.407	452.9834625.406	457.1794625.314					
463.9784625.125	475.9554625.094	480.764625.063	596.0624625.063	600.8664625.031					
611.324625.031	620.1174625.063	624.8874625.031	647.714625.031	658.894	4625				
714.283	4625	718.3864625.031	728.6434625.031	730.667	4625	739.505	4625		
751.2084625.031	753.259	4625	757.362 4624.75	763.5164624.438	873.8464624.438				
882.8024624.406	918.6264624.406	927.4014624.437	1006.39	4624.51045.4894624.563					
1077.7884624.5881083.7954624.5311091.8034624.5251094.422		4624.51111.8264624.494							
1113.8294624.4691121.8384624.4861142.6584624.4691181.9454624.4681189.9164624.462									
1191.9184624.4381237.9714624.4381239.9734624.4061258.2854624.4061296.8274624.438									
1308.0514624.4381310.0544624.4061322.0684624.4061326.0724624.4381436.1984624.438									
1438.8334624.3871448.2124624.0631458.2244624.0631460.226 4624.111478.247 4624.09									
1482.2514624.2621488.3214624.5961502.2744624.5731508.2814624.4191513.532 4624.18									
1516.294624.1511524.2994624.3411530.3064624.2521532.3094624.2531538.3164624.165									
1548.3274624.1731552.3324624.2381582.3664624.2751588.3734624.236 1594.384624.241									
1602.3894624.2161604.391 4624.251624.4144624.2661626.4174624.2361646.4394624.252									
1672.469 4624.251674.4724624.2191686.4854624.2191688.4884624.2451706.5084624.219									
1708.5114624.1971718.5224624.189 1720.514624.1571738.5454624.1271740.547 4624.14									
1752.561 4624.131754.5634624.1021772.5844624.0721780.5934624.0281798.5784623.999									
1800.7664623.9641826.6464623.9221834.6554623.9391840.6624623.9971844.6674623.993									
1848.6724623.9281858.6834624.1381868.6944624.0311876.7044624.0311878.706 4624									
1946.7844624.0041948.8214624.0311955.816 4624 1959.34624.0141975.1824623.938									
1982.4334623.8671990.8454623.688 2007.674623.594 2020.374623.5942026.8254623.563									
2033.2814623.5632039.7364623.5942046.1914623.5942059.1024623.6562064.4524623.656									
2071.0684623.5692079.173 4623.52085.4824623.4692091.3794623.4692102.3064623.438									
2104.4094623.4062112.8224623.3962119.1314623.4282123.6564623.3752136.5664623.313									
2146.474623.3112148.5734623.3532155.9324623.2812162.388 4623.252171.7074623.264									
2178.0164623.3312182.1074623.4022184.3254623.363 2193.214623.3192203.2524623.313									
2205.3554623.2922209.5614623.3562213.8324623.3772220.4864623.3132230.5924623.264									
2232.6954623.226 2243.214623.2952247.4164623.2712251.9024623.2922255.0754623.265									
2262.1374623.1392266.6674623.1662272.652 4623.312274.7554623.3942277.2824623.391									
2291.559 4623.252295.786 4623.252299.9924623.3032306.301 4623.452309.008 4623.46									
2317.3164623.3512327.3314623.4972331.2154623.4572346.2594623.2362350.4654623.242									
2358.877 4623.412364.5274623.4352370.8724623.3122375.7014623.2762379.9074623.194									
2384.113 4623.262388.3174623.3752396.7314623.2932400.9384623.315 2409.354623.195									
2414.1464623.2052421.9684623.3932427.9774623.4222436.689 4623.362442.9984623.269									
2445.4264623.2712449.3074623.3472459.8234623.3082466.1324623.3092472.4414623.248									
2476.6474623.2492480.8534623.3232489.2654623.3672497.6774623.3162508.1924623.339									

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2510.2954623.3952513.6354623.6072516.605  4623.7 2519.984623.7082522.914 4623.65
2526.3254623.6592530.3434623.5812533.4294623.6162535.5324623.5422539.016 4623.59
2541.841 4623.522545.3614623.555 2548.154623.5042552.3564623.5212562.6194623.485
  2575.54623.5342581.7994623.5432583.4314623.5722588.1084623.5522594.8964623.466
2597.707 4623.492601.3524623.4122605.6394623.4332607.8074623.3552611.9844623.377
2617.5514623.3432624.6744623.3432630.1694623.2692635.7784623.2242642.7874623.268
2653.3024623.2172657.5084623.0722669.0894623.1022676.4364622.9772684.848 4623.05
2688.1244623.0312691.2974623.0852697.466 4623.092705.8784622.938 2714.294623.047
2724.003    46232730.458    46232738.8854622.9642751.575 4623.052758.4544623.021
2761.0924623.0432768.9694622.9712775.6464622.9382781.587 4622.94    27904623.024
2800.5154622.9732802.6184622.938 2811.034622.9382815.2364622.8752823.6484622.861
 2832.064622.9152840.1994622.8752842.5754622.906 2846.754622.8752853.0954622.875
2857.2974622.8022863.6064622.8522867.8124622.8532872.1314622.8122876.2244622.831
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2949.8574622.9372956.1394622.8742958.2424622.8842964.1344622.8282979.2734622.801
2981.3764622.8322989.7884622.6463000.3034622.5443008.7154622.5763017.1274622.726
3023.4374622.786 3029.174622.7893033.9294622.8443038.1584622.8233044.4674622.864
3051.3784622.8313062.4824622.739  3067.64622.6323082.3224622.578 3084.694622.588
3094.2074622.4853098.9664622.5353107.5584622.7013109.6614622.6883113.8674622.563
3116.4154622.5633124.3464622.4063129.1054622.3713139.1044622.4063145.4134622.536
3153.8254622.6023159.2444622.6233179.0624622.6253190.9694622.5993193.7834622.563
3202.1954622.5343206.4014622.5453211.5914622.682 3214.76 4622.723221.1084622.688
3223.2254622.6043227.4314622.345 3235.844622.3973241.7294621.9353244.2564621.844
3260.7654621.887 3267.114622.0313275.8014622.1253281.386 4622.133296.832 4622.25
3301.0384622.3133309.9394622.2153324.3514622.2813338.8924622.2813340.9954622.268
3347.3044622.3613357.5274622.3463364.1294622.286 3368.634622.3423376.5624622.533
3383.056 4622.853387.2624622.984 3399.884622.9593404.0864623.0513408.2924622.875
3410.3964622.5633412.4994621.6913414.6024621.7483416.7054622.1233418.8084622.395
3427.3224622.6883431.4264622.6513435.6324622.4613441.9414622.3443450.3534622.438
3458.7654622.5833465.074 4622.653471.3844622.8373481.8994623.0753490.3114622.438
3492.4144622.471 3496.624622.6883505.0494622.7183511.5564622.622 3517.654622.592
3537.3774622.6883550.2884622.6883558.9824622.7243566.9134622.8063570.2264622.815
3572.3294622.7163574.4324622.3643578.6384621.5793580.7414621.2993582.8444621.341
3584.9484621.5333587.0514621.8553591.2574622.6513595.4634623.5633597.5664623.792
3603.8754624.1373616.0874624.5473629.1114625.0563631.2144625.1083640.6634625.484
3654.348 4626.093660.0294626.378 3662.764626.4123669.0694626.3373677.4814626.534
 3685.854626.9023689.0554627.3373692.3064627.6673696.4094628.2753702.718 4629.16
 3706.924629.465 3711.134629.7213715.3364629.7673719.1944629.8883721.645  4629.9
3727.1264629.999 3732.164630.0013742.6764629.9263757.3974629.9243760.4374629.965
3763.3144629.9183766.782 4629.99 3769.774629.9413771.5414629.9993776.225 4629.97
3777.886 4630.023782.681    46303784.2314630.0463789.1364630.0343790.5764630.073
3795.2514630.0363796.9214630.0943802.047 4630.073803.2664630.0973808.5024630.072
3811.1984630.1053814.9574630.0743817.5424630.1193820.4884630.0763824.6944630.125
3827.8684630.0793830.2334630.1313834.3234630.0943836.5784630.1423840.7794630.125
3842.9234630.1723847.2344630.156 3849.934630.2013858.7854630.1533860.4464630.097
 3865.134630.1083866.7174630.0633871.4754630.0823873.0554630.0313877.8214630.052
3879.511    46303882.5794630.0333885.9664629.969 3890.514630.0593892.4224630.038
3896.8564630.1283898.8774630.1033903.2014630.1923905.3324630.167 3907.454630.221
3912.8924630.5943915.0854630.7113923.7534630.9153939.7764631.2173950.0194631.319
3956.1554631.3433962.3954631.4293964.4574632.1543965.7964631.463 3969.184631.531
3970.8724631.4983974.2574631.6453977.6414631.9933979.3334632.3113982.7174632.484
3986.1014632.8583991.1784633.035 3992.874633.1373999.6384633.3094002.4914633.332

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .055 3214.76     .03 3711.13    .055

Bank Sta: Left   Right    Coeff Contr.   Expan.
       3214.76 3711.13            .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0    3136  4635.6       F

Downstream  Deck/Roadway Coordinates
    num=       6
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
       0 4655.18           2106  4635.7           2836  4638.1
    3374  4638.1  4635.6    3778  4635.7  4633.1 4221.78  4634.1

Downstream Bridge Cross Section Data
Station Elevation Data    num=     471
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       04632.416     1.94632.383   3.1854632.317   4.5524632.481   4.892 4632.54
   5.8784632.551  11.719 4632.35  12.5074632.341  13.8334632.376  15.1324632.344
  16.8394632.415  25.3734632.469   27.084632.406  28.4174632.514  28.7874632.558
  35.0464632.703  35.6144632.683  39.0284632.438  40.7344632.362  47.5624632.309
  56.0964632.523  57.802  4632.5  58.9114632.548  59.5094632.602  68.0434632.427
  73.1644632.516  76.1464632.392  76.5774632.404  78.2844632.545  80.1244632.549
   81.454632.482  81.6984632.457  82.7754632.443  85.1114632.485  86.8184632.594
  88.5254632.625  91.9394632.591  93.3824632.692  93.6454632.694  94.1214632.662
  94.7084632.596  97.0594632.541 102.1794632.685 103.8864632.495  112.424632.605
 114.1274632.449 117.5414632.351 126.0754632.572 137.1344632.342 138.0224632.354
  138.464632.383 142.4374632.734 143.1434632.761 143.7634632.699 148.2634632.512
  149.974632.511 153.0444632.647 153.3834632.681  154.374632.655 157.0214632.457
 160.2114632.337 167.0384632.514 168.7454632.447 198.1564632.637 200.7584632.705
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223.6444632.754 224.0144632.777 225.7244632.772 227.2464632.841 227.8054632.851
228.8624632.953 229.8854632.999 234.0464633.358 240.2884633.425 259.0124632.932
267.6494632.945 300.6234632.523 303.2044632.555 326.6664632.048 329.0624632.053
333.9064631.906 337.142 4631.93 340.3744631.834 341.1464631.781 342.6714631.771
343.6074631.805 346.8394631.771 348.4754631.686 402.5684630.847 413.614630.831
494.3924631.961 510.189 4632.47 539.6834632.956 541.2014633.021 551.664633.156
553.4124633.233 560.2154633.324 563.8954633.492 575.7994633.755 584.169 4633.85
585.3784633.901 592.7244633.895 596.1194633.999 599.5684633.927 606.86 4634.04
608.1224634.009 617.6014634.017 620.099 4633.94 625.2324633.957 626.6784634.015
628.3434634.025 635.4984633.906 639.0844633.978 681.6284633.366 758.9654631.066
767.1054630.553 769.1414630.474 778.7194629.791 795.5984629.415 798.0424629.425
800.2024629.344 840.817 4629.09 858.6734628.869 870.8254629.216 872.854629.138
885.0024629.142 887.0284629.085 893.1044629.166 894.614629.271 895.1294629.292
897.1544629.749 899.184630.116 901.2054630.249 905.2564629.008 905.503 4628.98
906.8224628.722 907.2814628.686 911.3324628.739 912.0554628.816 912.7454628.821
913.3574628.869 915.3824629.796 917.4084629.886 919.0334629.432 919.433 4629.34
919.9874629.281 920.7774629.146 921.459 4629.09 939.6874628.994 949.8134629.209
959.1564629.647 959.944629.666 961.9664629.635 962.6454629.714 963.444629.714
963.9914629.761 966.0164630.203 968.2684629.991 969.6234629.764 970.0674629.733
974.1184629.673 974.8564629.719 975.514629.713 976.601 4629.77 977.924 4629.75
978.168 4629.76 979.4424629.727 990.3214629.856 992.3464630.274 994.3714630.229
995.794630.128 996.3974630.102 998.4224629.9521006.5234629.9261008.5494629.828
1038.9294629.3551057.1574629.5751083.4874629.159 1099.694629.1421101.7154629.039
1103.744629.0681128.0454628.8731134.1214628.9661142.2224628.6011208.4564628.976
1252.464629.9361272.4624630.5821308.4654631.1061337.933 4631.911352.4694632.147
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1582.494621.1361616.3294621.0591618.493 4620.991622.1894620.7021622.4934620.688
1624.4934620.9381636.494 4621.011638.4954620.6882000.9214620.6882003.5164620.834
2006.862 4620.912010.0324620.8262012.2984620.9592013.555 4621.082016.9024621.285
2028.2554621.6832030.2874621.6572035.3074621.7572037.367 4621.862053.7124622.081
2071.7364622.0982072.1174622.108 2078.814621.9642079.9344621.9082080.4834621.918
2081.714621.8372082.9264621.844 2083.834621.9042084.3544621.8972085.5034621.941
2086.0834621.9192088.1324621.9022092.1964622.0662102.4794622.0142110.6014621.701
2139.6764621.8682145.4644621.7922147.5884621.8862149.1714621.8882150.3984621.847
2151.8264621.8542153.9184622.0342157.0834622.1112158.189 4622.12163.4134622.369
2173.5674622.6232186.2054622.7512207.2694623.3482209.3754623.3362230.4384623.676
2253.6124624.5622266.2464624.7432289.4164625.3672327.329 4624.792335.8994624.818
2352.6054624.3762353.3064624.3812355.4244624.3432379.9884624.4352390.5194624.289
2399.1974624.1112413.6894624.3032441.0714623.7952460.0284623.6932485.3044623.931
2495.8364623.7532506.3674624.1442546.2964624.4432548.4944624.5272563.7724624.646
2565.3834624.6232566.9374624.668 2573.774624.6692584.3444624.4252617.5754624.168
2639.0664623.7022661.884 4623.692664.3424623.6352665.0484623.5982674.8744623.292
2714.8944622.9062746.4894623.4852786.5094623.3072790.7224623.3782802.7214623.201
2851.6924623.542 2853.364623.6032858.1244623.6012875.5144623.7342877.0814623.684
2894.5034623.6622896.0384623.6132931.8464623.1492965.5474622.9852984.5044623.066
2995.784623.2993028.737 4623.2 3072.974622.7263075.076 4622.753089.144 4622.24
3091.9274622.0213117.2034622.4193134.0534622.8743144.363 4623.63146.6914623.588
3165.648 4623.753174.0744623.5423195.137 4623.813205.6694624.4233222.5194627.424
3224.6254627.5633228.8384627.6563247.7954627.6023273.0714628.1013296.2414627.973
3329.6764627.5023340.4744627.5633351.0054626.876 3359.82 4626.54 3365.754626.313
3366.0734626.2723367.8564626.141 3382.64623.1323384.7074622.8473388.9194622.469
3401.5574622.4693402.4694622.2663402.8924622.2053404.0514621.979 3405.774621.472
3462.7194621.8753481.5984621.8753502.6614621.5633530.0434621.8443578.4894621.961
3579.7034621.9223580.5954621.863 3583.374621.246 3584.45 4621.033584.8084620.997
3586.9144621.3653587.6154621.4693589.0214621.6283614.2964621.9333633.2534621.656
3656.4234621.5943673.2744621.7853696.8044621.7523710.6184622.1483725.932 4622.3
3738.57 4622.05 3739.534622.0673740.6764622.1223744.8894623.1863746.9954623.514
3749.1024623.6563759.633 4623.753763.8464623.6333764.8494623.7133774.3774624.656
3787.0154626.1873803.8664627.9593833.3554630.7053835.4614630.8213836.0594630.874
3837.5674630.9523840.8074631.218 3841.78 4631.253850.2054631.9353852.3124632.515
3853.4664632.9253856.9544634.253 3875.62 4641.893886.0134645.7033886.6984645.937
3888.284646.4253894.4384647.918 3894.614647.9423896.5454648.0423902.8644648.037
3907.8534648.2633909.1834648.2783909.8414648.3493910.4344648.4623911.2894648.483
3912.0174648.797 3912.994648.5453913.5994648.5983914.2154648.2283917.6084648.231
3918.3464648.5723919.2874648.4483919.9294648.5653920.5784648.2533923.9274648.256
3924.6764648.5073925.5844648.4083926.0334648.4593926.2594648.528 3926.944648.246
3930.2464648.2313931.0064648.3623931.8824648.2963932.3524648.3193932.5894648.427
3933.3024648.2043938.6714648.1883938.9184648.3373939.6654648.179 3944.994648.153
3945.2484648.2683946.0274648.1543951.3094648.1283951.5784648.202 3952.394648.129
3957.6284648.1033957.908 4648.123958.7524648.0873967.4854648.0443970.3094647.962
3972.0554647.7343972.448 4647.73974.5874647.3293978.8654646.3883979.8064646.102
3980.2174646.0153981.0034645.8163982.9074645.0283983.1424644.9463993.8364640.722
3993.9094640.6793994.6344640.007 3995.414639.6713995.7374639.4863996.3894639.156
3996.6824639.0813997.4554638.7593998.5654638.4163999.2264638.2783999.8984637.964
4001.6534636.8444003.0414636.0944003.4074635.9234005.162 4635.274005.5854635.025
4006.8574634.3554007.0514634.3224008.1294634.3044008.6724634.175 4009.44633.775
4009.8794633.5654010.4264633.2974011.3214632.7734012.1814632.3554013.216 4632.14
4013.9364631.943 4015.694632.1614019.1994632.0284019.5754631.9934020.9544631.961
4022.1194631.8244022.7094631.7934024.4634631.7884025.1864631.8134027.9734631.756
4029.6924631.569

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val

```
       0    .055 3359.82     .033787.015    .055

Bank Sta: Left   Right    Coeff Contr.   Expan.
       3359.823787.015            .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0  3342.1  4635.6       F

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
    3297  4635.6    3323  4622.6
Downstream     num=       2
     Sta    Elev     Sta    Elev
    3374  4635.6    3400  4622.6

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
    3680  4622.6    3701  4633.1
Downstream     num=       2
     Sta    Elev     Sta    Elev
    3757  4622.6    3778  4633.1

Number of Piers =  6

Pier Data
Pier Station     Upstream=    3349    Downstream=    3426
Upstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6
Downstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6

Pier Data
Pier Station     Upstream=    3409    Downstream=    3486
Upstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6
Downstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6

Pier Data
Pier Station     Upstream=    3469    Downstream=    3546
Upstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6
Downstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6

Pier Data
Pier Station     Upstream=    3529    Downstream=    3606
Upstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6
Downstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6

Pier Data
Pier Station     Upstream=    3589    Downstream=    3666
Upstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6
Downstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6

Pier Data
Pier Station     Upstream=    3649    Downstream=    3726
Upstream     num=       2
    Width   Elev    Width   Elev
```

```
     1.5  4568.6     1.5  4635.6
Downstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION


RIVER: KingsCynCreek
REACH: Reach1             RS: 5489.854

INPUT
Description:
Station Elevation Data    num=     471
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       04632.416     1.94632.383   3.1854632.317   4.5524632.481   4.892 4632.54
   5.8784632.551  11.719 4632.35  12.5074632.341  13.8334632.376  15.1324632.344
  16.8394632.415  25.3734632.469   27.084632.406  28.4174632.514  28.7874632.558
  35.0464632.703  35.6144632.683  39.0284632.438  40.7344632.362  47.5624632.309
  56.0964632.523  57.802  4632.5  58.9114632.548  59.5094632.602  68.0434632.427
  73.1644632.516  76.1464632.392  76.5774632.404  78.2844632.545  80.1244632.549
   81.454632.482  81.6984632.457  82.7754632.443  85.1114632.485  86.8184632.594
  88.5254632.625  91.9394632.591  93.3824632.692  93.6454632.694  94.1214632.662
  94.7084632.596  97.0594632.541 102.1794632.685 103.8864632.495  112.424632.605
 114.1274632.449 117.5414632.351 126.0754632.572 137.1344632.342 138.0224632.354
  138.464632.383 142.4374632.734 143.1434632.761 143.7634632.699 148.2634632.512
  149.974632.511 153.0444632.647 153.3834632.681  154.374632.655 157.0214632.457
 160.2114632.337 167.0384632.514 168.7454632.447 198.1564632.637 200.7584632.705
 223.6444632.754 224.0144632.777 225.7244632.772 227.2464632.841 227.8054632.851
 228.8624632.953 229.8854632.999 234.0464633.358 240.2884633.425 259.0124632.932
 267.6494632.945 300.6234632.523 303.2044632.555 326.6664632.048 329.0624632.053
 333.9064631.906 337.142 4631.93 340.3744631.834 341.1464631.781 342.6714631.771
 343.6074631.805 346.8394631.771 348.4754631.686 402.5684630.847  413.614630.831
 494.3924631.961 510.189 4632.47 539.6834632.956 541.2014633.021  551.664633.156
 553.4124633.233 560.2154633.324 563.8954633.492 575.7994633.755 584.169 4633.85
 585.3784633.901 592.7244633.895 596.1194633.999 599.5684633.927  606.86 4634.04
 608.1224634.009 617.6014634.017 620.099 4633.94 625.2324633.957 626.6784634.015
 628.3434634.025 635.4984633.906 639.0844633.978 681.6284633.366 758.9654631.066
 767.1054630.553 769.1414630.474 778.7194629.791 795.5984629.415 798.0424629.425
 800.2024629.344 840.817 4629.09 858.6734628.869 870.8254629.216  872.854629.138
 885.0024629.142 887.0284629.085 893.1044629.166  894.614629.271 895.1294629.292
 897.1544629.749  899.184630.116 901.2054630.249 905.2564629.008 905.503 4628.98
 906.8224628.722 907.2814628.686 911.3324628.739 912.0554628.816 912.7454628.821
 913.3574628.869 915.3824629.796 917.4084629.886 919.0334629.432 919.433 4629.34
 919.9874629.281 920.7774629.146 921.459 4629.09 939.6874628.994 949.8134629.209
 959.1564629.647  959.944629.666 961.9664629.635 962.6454629.714  963.444629.714
 963.9914629.761 966.0164630.203 968.2684629.991 969.6234629.764 970.0674629.733
 974.1184629.673 974.8564629.719  975.514629.713 976.601 4629.77 977.924 4629.75
 978.168 4629.76 979.4424629.727 990.3214629.856 992.3464630.274 994.3714630.229
  995.794630.128 996.3974630.102 998.4224629.9521006.5234629.9261008.5494629.828
1038.9294629.3551057.1574629.5751083.4874629.159 1099.694629.1421101.7154629.039
 1103.744629.0681128.0454628.8731134.1214628.9661142.2224628.6011208.4564628.976
 1252.464629.9361272.4624630.5821308.4654631.1061337.933 4631.911352.4694632.147
1388.4724633.1151404.4744633.2191436.4774632.9641468.4794632.4281506.4834631.547
1508.4834631.4551532.4854631.0911536.4854630.9411544.4864630.8751546.486 4621.25
1572.489    46211577.2654621.1581577.7244621.2071578.4894621.2421580.4894621.228
 1582.494621.1361616.3294621.0591618.493 4620.991622.1894620.7021622.4934620.688
1624.4934620.9381636.494 4621.011638.4954620.6882000.9214620.6882003.5164620.834
2006.862 4620.912010.0324620.8262012.2984620.9592013.555 4621.082016.9024621.285
2028.2554621.6832030.2874621.6572035.3074621.7572037.367 4621.862053.7124622.081
2071.7364622.0982072.1174622.108 2078.814621.9642079.9344621.9082080.4834621.918
 2081.714621.8372082.9264621.844 2083.834621.9042084.3544621.8972085.5034621.941
2086.0834621.9192088.1324621.9022092.1964622.0662102.4794622.0142110.6014621.701
2139.6764621.8682145.4644621.7922147.5884621.8862149.1714621.8882150.3984621.847
2151.8264621.8542153.9184622.0342157.0834622.1112158.189  4622.12163.4134622.369
2173.5674622.6232186.2054622.7512207.2694623.3482209.3754623.3362230.4384623.676
2253.6124624.5622266.2464624.7432289.4164625.3672327.329 4624.792335.8994624.818
2352.6054624.3762353.3064624.3812355.4244624.3432379.9884624.4352390.5194624.289
2399.1974624.1112413.6894624.3032441.0714623.7952460.0284623.6932485.3044623.931
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2495.8364623.7532506.3674624.1442546.2964624.4432548.4944624.5272563.7724624.646
2565.3834624.6232566.9374624.668 2573.774624.6692584.3444624.4252617.5754624.168
2639.0664623.7022661.884 4623.692664.3424623.6352665.0484623.5982674.8744623.292
2714.8944622.9062746.4894623.4852786.5094623.3072790.7224623.3782802.7214623.201
2851.6924623.542 2853.364623.6032858.1244623.6012875.5144623.7342877.0814623.684
2894.5034623.6622896.0384623.6132931.8464623.1492965.5474622.9852984.5044623.066
 2995.784623.2993028.737 4623.2 3072.974622.7263075.076 4622.753089.144 4622.24
3091.9274622.0213117.2034622.4193134.0534622.8743144.363 4623.63146.6914623.588
3165.648 4623.753174.0744623.5423195.137 4623.813205.6694624.4233222.5194627.424
3224.6254627.5633228.8384627.6563247.7954627.6023273.0714628.1013296.2414627.973
3329.6764627.5023340.4744627.5633351.0054626.876 3359.82 4626.54 3365.754626.313
3366.0734626.2723367.8564626.141 3382.64623.1323384.7074622.8473388.9194622.469
3401.5574622.4693402.4694622.2663402.8924622.2053404.0514621.979 3405.774621.472
3462.7194621.8753481.5984621.8753502.6614621.5633530.0434621.8443578.4894621.961
3579.7034621.9223580.5954621.863 3583.374621.246 3584.45 4621.033584.8084620.997
3586.9144621.3653587.6154621.4693589.0214621.6283614.2964621.9333633.2534621.656
3656.4234621.5943673.2744621.7853696.8044621.7523710.6184622.1483725.932 4622.3
 3738.57 4622.05 3739.534622.0673740.6764622.1223744.8894623.1863746.9954623.514
3749.1024623.6563759.633 4623.753763.8464623.6333764.8494623.7133774.3774624.656
3787.0154626.1873803.8664627.9593833.3554630.7053835.4614630.8213836.0594630.874
3837.5674630.9523840.8074631.218 3841.78 4631.253850.2054631.9353852.3124632.515
3853.4664632.9253856.9544634.253 3875.62 4641.893886.0134645.7033886.6984645.937
 3888.284646.4253894.4384647.918 3894.614647.9423896.5454648.0423902.8644648.037
3907.8534648.2633909.1834648.2783909.8414648.3493910.4344648.4623911.2894648.483
3912.0174648.797 3912.994648.5453913.5994648.5983914.2154648.2283917.6084648.231
3918.3464648.5723919.2874648.4483919.9294648.5653920.5784648.2533923.9274648.256
3924.6764648.5073925.5844648.4083926.0334648.4593926.2594648.528 3926.944648.246
3930.2464648.2313931.0064648.3623931.8824648.2963932.3524648.3193932.5894648.427
3933.3024648.2043938.6714648.1883938.9184648.3373939.6654648.179 3944.994648.153
3945.2484648.2683946.0274648.1543951.3094648.1283951.5784648.202 3952.394648.129
3957.6284648.1033957.908 4648.123958.7524648.0873967.4854648.0443970.3094647.962
3972.0554647.7343972.448 4647.73974.5874647.3293978.8654646.3883979.8064646.102
3980.2174646.0153981.0034645.8163982.9074645.0283983.1424644.9463993.8364640.722
3993.9094640.6793994.6344640.007 3995.414639.6713995.7374639.4863996.3894639.156
3996.6824639.0813997.4554638.7593998.5654638.4163999.2264638.2783999.8984637.964
4001.6534636.8444003.0414636.0944003.4074635.9234005.162 4635.274005.5854635.025
4006.8574634.3554007.0514634.3224008.1294634.3044008.6724634.175 4009.44633.775
4009.8794633.5654010.4264633.2974011.3214632.7734012.1814632.3554013.216 4632.14
4013.9364631.943 4015.694632.1614019.1994632.0284019.5754631.9934020.9544631.961
4022.1194631.8244022.7094631.7934024.4634631.7884025.1864631.8134027.9734631.756
4029.6924631.569

Manning's n Values num= 3
Sta	n Val	Sta	n Val	Sta	n Val
0	.055	3359.82	.033	787.015	.055

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
3359.82	3787.015	221.64	310.62	443.05	.3	.5

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
0	3342.1	4635.6	F

CROSS SECTION OUTPUT Profile #100-yr FP

E.G. Elev (ft)	4628.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.055	0.030	0.055
W.S. Elev (ft)	4628.58	Reach Len. (ft)	221.64	310.62	443.05
Crit W.S. (ft)	4623.88	Flow Area (sq ft)	29.12	2695.87	27.50
E.G. Slope (ft/ft)	0.000158	Area (sq ft)	9953.29	2695.87	27.50
Q Total (cfs)	5744.00	Flow (cfs)	13.75	5719.93	10.32
Top Width (ft)	2265.59	Top Width (ft)	1814.86	427.19	23.54
Vel Total (ft/s)	2.09	Avg. Vel. (ft/s)	0.47	2.12	0.38
Max Chl Dpth (ft)	7.89	Hydr. Depth (ft)	1.64	6.31	1.17
Conv. Total (cfs)	457234.4	Conv. (cfs)	1094.3	455318.7	821.4
Length Wtd. (ft)	305.43	Wetted Per. (ft)	17.75	428.14	23.66
Min Ch El (ft)	4621.00	Shear (lb/sq ft)	0.02	0.06	0.01
Alpha	1.03	Stream Power (lb/ft s)	0.01	0.13	0.00
Frctn Loss (ft)	0.04	Cum Volume (acre-ft)	346.73	208.00	147.72
C & E Loss (ft)	0.01	Cum SA (acres)	89.73	23.96	55.50

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4629.73	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.030	
W.S. Elev (ft)	4629.68	Reach Len. (ft)	221.64	310.62	443.05
Crit W.S. (ft)	4623.88	Flow Area (sq ft)		3166.45	
E.G. Slope (ft/ft)	0.000095	Area (sq ft)		3166.45	
Q Total (cfs)	5744.00	Flow (cfs)		5744.00	
Top Width (ft)	427.19	Top Width (ft)		427.19	
Vel Total (ft/s)	1.81	Avg. Vel. (ft/s)		1.81	
Max Chl Dpth (ft)	8.69	Hydr. Depth (ft)		7.41	

Conv. Total (cfs)	589273.6	Conv. (cfs)	589273.6		
Length Wtd. (ft)	310.60	Wetted Per. (ft)	434.78		
Min Ch El (ft)	4621.00	Shear (lb/sq ft)	0.04		
Alpha	1.00	Stream Power (lb/ft s)	0.08		
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	90.56	221.70	37.52
C & E Loss (ft)	0.00	Cum SA (acres)	24.58	23.94	11.28

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION OUTPUT Profile #500-yr

			Left OB	Channel	Right OB
E.G. Elev (ft)	4630.21	Element			
Vel Head (ft)	0.15	Wt. n-Val.	0.055	0.030	0.055
W.S. Elev (ft)	4630.05	Reach Len. (ft)	221.64	310.62	443.05
Crit W.S. (ft)	4624.86	Flow Area (sq ft)	55.20	3324.77	73.79
E.G. Slope (ft/ft)	0.000266	Area (sq ft)	13000.99	3324.77	73.79
Q Total (cfs)	10624.00	Flow (cfs)	51.79	10522.97	49.24
Top Width (ft)	2751.72	Top Width (ft)	2285.18	427.19	39.35
Vel Total (ft/s)	3.08	Avg. Vel. (ft/s)	0.94	3.17	0.67
Max Chl Dpth (ft)	9.37	Hydr. Depth (ft)	3.12	7.78	1.88
Conv. Total (cfs)	651984.3	Conv. (cfs)	3178.2	645784.1	3021.9
Length Wtd. (ft)	305.63	Wetted Per. (ft)	17.75	428.14	39.54
Min Ch El (ft)	4621.00	Shear (lb/sq ft)	0.05	0.13	0.03
Alpha	1.05	Stream Power (lb/ft s)	0.05	0.41	0.02
Frctn Loss (ft)	0.07	Cum Volume (acre-ft)	498.92	257.92	259.06
C & E Loss (ft)	0.02	Cum SA (acres)	104.30	23.96	75.30

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION OUTPUT Profile #50-yr

			Left OB	Channel	Right OB
E.G. Elev (ft)	4627.68	Element			
Vel Head (ft)	0.05	Wt. n-Val.	0.055	0.030	0.055
W.S. Elev (ft)	4627.63	Reach Len. (ft)	221.64	310.62	443.05
Crit W.S. (ft)	4623.50	Flow Area (sq ft)	12.16	2287.03	9.83
E.G. Slope (ft/ft)	0.000154	Area (sq ft)	8236.33	2287.03	9.83
Q Total (cfs)	4298.00	Flow (cfs)	3.17	4292.20	2.63
Top Width (ft)	2171.03	Top Width (ft)	1730.16	427.19	13.67
Vel Total (ft/s)	1.86	Avg. Vel. (ft/s)	0.26	1.88	0.27
Max Chl Dpth (ft)	6.94	Hydr. Depth (ft)	0.69	5.35	0.72
Conv. Total (cfs)	346622.4	Conv. (cfs)	255.3	346154.9	212.2
Length Wtd. (ft)	306.03	Wetted Per. (ft)	17.75	428.14	13.75
Min Ch El (ft)	4621.00	Shear (lb/sq ft)	0.01	0.05	0.01
Alpha	1.02	Stream Power (lb/ft s)	0.00	0.10	0.00
Frctn Loss (ft)	0.04	Cum Volume (acre-ft)	264.20	178.55	94.82
C & E Loss (ft)	0.00	Cum SA (acres)	78.21	23.92	43.64

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION OUTPUT Profile #10-yr

			Left OB	Channel	Right OB
E.G. Elev (ft)	4626.33	Element			
Vel Head (ft)	0.02	Wt. n-Val.		0.030	0.055
W.S. Elev (ft)	4626.31	Reach Len. (ft)	221.64	310.62	443.05
Crit W.S. (ft)	4622.80	Flow Area (sq ft)		1726.60	0.07
E.G. Slope (ft/ft)	0.000076	Area (sq ft)	6022.48	1726.60	0.07
Q Total (cfs)	1903.00	Flow (cfs)		1903.00	0.00
Top Width (ft)	2093.27	Top Width (ft)	1670.84	421.25	1.18
Vel Total (ft/s)	1.10	Avg. Vel. (ft/s)		1.10	0.04
Max Chl Dpth (ft)	5.62	Hydr. Depth (ft)		4.10	0.06
Conv. Total (cfs)	218704.3	Conv. (cfs)		218704.0	0.3
Length Wtd. (ft)	307.58	Wetted Per. (ft)		422.19	1.19
Min Ch El (ft)	4621.00	Shear (lb/sq ft)		0.02	0.00
Alpha	1.00	Stream Power (lb/ft s)		0.02	0.00
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	167.99	138.44	25.02
C & E Loss (ft)	0.00	Cum SA (acres)	58.11	23.63	28.48

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 5179.23

```
INPUT
Description:
Station Elevation Data    num=     498
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  15.2654637.333  36.8384637.406   49.144637.281  50.899 4637.16  52.0324637.014
  52.6594636.968  53.2994636.977   54.084636.921  59.6964636.874  60.9064636.589
  63.215 4636.12  87.531 4635.33  87.8474635.281  88.7984635.245  91.3664635.341
  92.6024635.264 107.8164635.042 109.0834634.943  110.724634.897 117.9584634.309
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 143.1014633.617 147.333 4633.26  149.454633.322 157.915 4632.75 174.8464632.345
 175.4434632.294 177.7754632.192 183.6044632.229 198.1264631.935 199.5414631.864
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Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .055 3518.36 .03 3897.04 .055

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
3518.36 3897.04 466.41 463.4 468.06 .1 .3
Ineffective Flow num= 2
Sta L Sta R Elev Permanent
7 3270 4630 T
3270 3508 4624.48 T

CROSS SECTION OUTPUT Profile #100-yr FP

E.G. Elev (ft)	4628.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.055	0.030	0.055
W.S. Elev (ft)	4628.55	Reach Len. (ft)	466.41	463.40	468.06
Crit W.S. (ft)		Flow Area (sq ft)	1009.90	2676.66	153.51
E.G. Slope (ft/ft)	0.000126	Area (sq ft)	12496.62	2676.66	153.51
Q Total (cfs)	6313.00	Flow (cfs)	780.98	5480.57	51.45
Top Width (ft)	3115.37	Top Width (ft)	2577.84	378.68	158.85
Vel Total (ft/s)	1.64	Avg. Vel. (ft/s)	0.77	2.05	0.34
Max Chl Dpth (ft)	7.89	Hydr. Depth (ft)	4.07	7.07	0.97
Conv. Total (cfs)	561424.8	Conv. (cfs)	69454.0	487395.1	4575.7
Length Wtd. (ft)	464.03	Wetted Per. (ft)	248.66	379.73	159.47
Min Ch El (ft)	4620.65	Shear (lb/sq ft)	0.03	0.06	0.01
Alpha	1.37	Stream Power (lb/ft s)	0.02	0.11	0.00
Frctn Loss (ft)	0.04	Cum Volume (acre-ft)	289.62	188.85	146.80
C & E Loss (ft)	0.01	Cum SA (acres)	78.55	21.09	54.57

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4629.70	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.055	0.030	
W.S. Elev (ft)	4629.63	Reach Len. (ft)	466.41	463.40	468.06
Crit W.S. (ft)		Flow Area (sq ft)	8.39	3089.18	
E.G. Slope (ft/ft)	0.000106	Area (sq ft)	8.39	3089.18	
Q Total (cfs)	6313.00	Flow (cfs)	2.68	6310.33	
Top Width (ft)	380.29	Top Width (ft)	1.61	378.68	
Vel Total (ft/s)	2.04	Avg. Vel. (ft/s)	0.32	2.04	
Max Chl Dpth (ft)	8.98	Hydr. Depth (ft)	5.21	8.16	
Conv. Total (cfs)	614264.8	Conv. (cfs)	260.3	614004.4	
Length Wtd. (ft)	463.40	Wetted Per. (ft)	6.81	384.29	
Min Ch El (ft)	4620.65	Shear (lb/sq ft)	0.01	0.05	
Alpha	1.00	Stream Power (lb/ft s)	0.00	0.11	
Frctn Loss (ft)	0.05	Cum Volume (acre-ft)	90.53	199.40	37.52
C & E Loss (ft)	0.00	Cum SA (acres)	24.57	21.07	11.28

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4630.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.	0.055	0.030	0.055
W.S. Elev (ft)	4630.00	Reach Len. (ft)	466.41	463.40	468.06
Crit W.S. (ft)		Flow Area (sq ft)	1371.04	3227.30	489.61
E.G. Slope (ft/ft)	0.000212	Area (sq ft)	16356.18	3227.30	489.61
Q Total (cfs)	11660.00	Flow (cfs)	1684.20	9698.43	277.37
Top Width (ft)	3426.51	Top Width (ft)	2723.30	378.68	324.53
Vel Total (ft/s)	2.29	Avg. Vel. (ft/s)	1.23	3.01	0.57
Max Chl Dpth (ft)	9.35	Hydr. Depth (ft)	5.52	8.52	1.51

Conv. Total (cfs)	800365.3	Conv. (cfs)	115606.8	665719.1	19039.2
Length Wtd. (ft)	464.18	Wetted Per. (ft)	248.66	379.73	326.29
Min Ch El (ft)	4620.65	Shear (lb/sq ft)	0.07	0.11	0.02
Alpha	1.47	Stream Power (lb/ft s)	0.09	0.34	0.01
Frctn Loss (ft)	0.07	Cum Volume (acre-ft)	424.24	234.56	256.19
C & E Loss (ft)	0.01	Cum SA (acres)	91.56	21.09	73.44

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4627.63	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.055	0.030	0.055
W.S. Elev (ft)	4627.59	Reach Len. (ft)	466.41	463.40	468.06
Crit W.S. (ft)		Flow Area (sq ft)	772.21	2314.25	48.73
E.G. Slope (ft/ft)	0.000119	Area (sq ft)	10079.47	2314.25	48.73
Q Total (cfs)	4675.00	Flow (cfs)	484.88	4175.92	14.20
Top Width (ft)	2908.95	Top Width (ft)	2467.26	378.68	63.01
Vel Total (ft/s)	1.49	Avg. Vel. (ft/s)	0.63	1.80	0.29
Max Chl Dpth (ft)	6.94	Hydr. Depth (ft)	3.11	6.11	0.77
Conv. Total (cfs)	428160.6	Conv. (cfs)	44408.0	382451.8	1300.8
Length Wtd. (ft)	463.92	Wetted Per. (ft)	248.66	379.73	63.39
Min Ch El (ft)	4620.65	Shear (lb/sq ft)	0.02	0.05	0.01
Alpha	1.33	Stream Power (lb/ft s)	0.01	0.08	0.00
Frctn Loss (ft)	0.04	Cum Volume (acre-ft)	217.60	162.14	94.52
C & E Loss (ft)	0.00	Cum SA (acres)	67.54	21.05	43.25

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4626.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.055	0.030	0.055
W.S. Elev (ft)	4626.29	Reach Len. (ft)	466.41	463.40	468.06
Crit W.S. (ft)		Flow Area (sq ft)	450.49	1823.71	4.87
E.G. Slope (ft/ft)	0.000057	Area (sq ft)	7397.87	1823.71	4.87
Q Total (cfs)	2076.00	Flow (cfs)	136.41	1939.16	0.43
Top Width (ft)	1894.39	Top Width (ft)	1498.99	378.68	16.71
Vel Total (ft/s)	0.91	Avg. Vel. (ft/s)	0.30	1.06	0.09
Max Chl Dpth (ft)	5.64	Hydr. Depth (ft)	1.81	4.82	0.29
Conv. Total (cfs)	275273.4	Conv. (cfs)	18087.0	257128.7	57.6
Length Wtd. (ft)	463.72	Wetted Per. (ft)	248.66	379.73	16.83
Min Ch El (ft)	4620.65	Shear (lb/sq ft)	0.01	0.02	0.00
Alpha	1.28	Stream Power (lb/ft s)	0.00	0.02	0.00
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	133.85	125.78	24.99
C & E Loss (ft)	0.00	Cum SA (acres)	50.05	20.77	28.39

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 4715.834

INPUT
Description:
Station Elevation Data num= 500

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
04632.461	7.9574632.339	11.9274632.063	19.9294632.657	21.8524632.875					
22.294632.889	23.8374633.104	24.6514633.144	25.8234633.341	27.0124633.113					
27.8084633.085	28.7584633.156	29.7934633.167	30.5544633.158	31.7784633.058					
37.638 4632.87	39.7184632.662	41.7034632.667	42.364632.625	43.3244632.613					
43.6884632.652	44.7214632.611	47.6584632.374	58.8884632.182	59.569 4632.08					
60.0694632.043	60.8024632.058	61.2494632.113	69.5134632.249	84.861 4632.24					
85.3754632.201	109.1964632.219	109.6534632.205	111.1814632.084	112.0144632.063					
113.1954632.092	114.3764632.025	120.2784631.895	134.4454631.021	135.0024631.028					
135.6264630.981	136.8074630.777	136.987 4630.76	140.9574630.579	141.529 4630.58					
149.7934629.992	150.9744629.842	152.8684629.725	154.02 4629.76	154.5154629.794					
158.8234629.948	160.8084629.927	161.5994629.987	168.5864630.216	169.8634630.159					
179.3084630.104	180.4884630.151	181.6694630.029	184.6294629.938	185.2114629.959					
188.9774629.957	191.894629.803	192.5694629.789	195.8364629.873	198.1974630.063					
199.3784630.105	206.4614630.718	207.6424630.762	208.454630.876	209.3684630.935					
210.0034630.935	215.1954631.256	216.394631.261	218.3754631.397	222.9894631.525					
226.3164631.756	232.2714631.804	233.6154631.892	234.2564631.903	236.2414631.861					

238.3374631.702 239.5174631.842 240.2114632.003 240.6984632.021 241.8794631.946
242.196 4631.94 244.1824631.805 245.424631.789 246.1674631.738 247.7824631.787
248.1524631.771 262.0474631.846 270.5434632.165 273.4564632.008 300.9084631.953
303.7344631.806 313.659 4631.95 313.8944631.938 323.3394631.904 324.5194631.917
325.74631.853 326.8814631.906 327.5554631.884 333.514632.036 341.0484631.991
342.228 4631.93 346.9514631.872 347.4064631.839 356.3954631.807 357.331 4631.77
359.3164631.799 360.8484631.726 361.3014631.729 363.2864631.672 364.659 4631.74
367.257 4632 369.2424631.938 375.4134632.031 379.1674631.888 385.914631.769
401.0034631.083 402.988 4631.05 403.9174630.905 418.0594630.313 421.614630.281
425.161 4629.75 454.264629.966 489.0774629.025 492.6284629.427 510.3844627.125
517.485 4625.75 528.1374624.386 535.2394622.688 552.9944622.531 553.5574622.566
560.0964622.531 560.7524622.609 561.1994622.687 562.1914622.935 563.6464623.378
565.0694623.969 566.5084624.948 567.1974625.318 567.947 4625.52 568.4584625.607
574.2994626.013 636.2114625.656 643.474625.781 666.6234625.639 680.1964625.747
708.8034625.594 716.0624625.688 718.482 4625.6 719.0514625.541 720.494625.477
720.9024625.478 725.7414625.719 895.1224625.406 896.058 4625.34 898.9364624.992
899.9624624.973 903.2544625.275 904.8014625.349 916.94625.515 974.9734625.406
984.6524625.479 985.2814625.441 986.724625.284 988.164625.271 989.7554625.375
1018.5294625.3441020.9484625.2011021.2584625.1951024.137 4625.371066.9234625.281
1076.6024625.5141078.8224625.4411081.4424625.193 1097.534625.3131108.0594625.156
1110.4864625.2191133.5074625.0631135.3424624.9521136.3854624.9431139.5154625.084
1140.7024625.0571141.9354624.951 1143.584624.5711144.3554624.5241146.4594625.024
1146.7744625.076 1187.914625.2811189.6314625.2141190.3294625.143 1191.074624.972
1195.1694623.9491195.7084624.1221197.5894625.0071198.2664625.1211200.008 4625.25
1233.8854625.1251263.0244625.3111289.3114625.0341310.3694625.1251316.628 4625.5
1320.8014626.0891327.0594626.5551329.1454626.6251350.0084626.3441352.094 4625.48
1354.184624.3441356.2664623.6561366.6974621.3131418.8534620.6931435.5424620.938
1439.7154620.7871448.0574620.9381466.8364620.8651469.1044620.9381564.8884620.781
1577.4054620.9381592.009 4620.751596.1814620.9341597.5934620.8841613.6724620.756
1632.9664620.895 1646.254620.9381656.6814620.7811658.7684620.8751679.4734620.688
1694.0654620.7561702.1044620.985 1705.324620.8011788.1134621.1091792.2864621.466
1794.3724621.5311815.234 4621.521827.7514621.1252123.9944621.113 2126.084621.041
2132.3394621.2062324.271 4621.222332.6164622.4562340.9614624.0832343.0474624.304
2345.1334624.4982355.4834624.3582357.5254624.2342359.5684623.9422361.3334623.486
2365.6974622.029 2367.744621.4142371.8254620.374 2373.164620.2312373.8684620.174
2382.0394619.7342384.0824619.7042422.8964620.0632459.6674619.9692490.3094620.406
2520.9524620.4062543.4234620.0242559.7654620.0632578.1514620.3752588.3654620.301
2590.408 4620.162592.4514619.1762592.8094619.2332594.4934619.5632596.5364620.281
2612.8794620.4382708.8924620.0312723.1924620.1252724.5984620.2352725.2344620.309
2739.534 4624.722741.5774625.192 2743.624625.5082758.3914625.7962759.9634625.871
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2927.1254625.1842932.5114625.101 2934.264625.2062939.5084625.147 2941.17 4625.27
2942.446 4625.232944.7554625.3262946.2774625.2562958.7474625.2652960.3214625.197
2967.4934625.3322974.4894625.2532975.6424625.3782976.238 4625.412983.2344625.408
2988.4824625.6562990.9634625.674 2992.244625.7432997.3464625.9142998.6234625.891
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3027.9884626.212 3028.71 4626.133030.7654626.1363033.9584626.3233034.3724626.311
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3043.3094625.771 3044.164625.8413049.6994626.094 3050.974626.0573051.4484626.066
3053.1974625.9213056.077 4626.113060.1934626.1183061.9434626.293 3062.464626.302
3063.6924626.2223065.0144626.2663072.6754626.2293075.2284626.3123075.9354626.292
3079.0584626.3633079.4334626.3243082.9314626.4713084.1654626.425 3084.684626.381
3090.549 4626.413091.6774626.3273093.4264626.5473100.4224626.6483100.7634626.638
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3110.9174626.5613114.8074626.5313116.0844626.5893116.3374626.5783117.3614626.475
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3128.4074626.6063128.8514626.5793130.1564626.5613131.405 4626.463133.6544626.399
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3156.944627.2693158.2174627.4823159.4934627.432 3159.894627.4333161.6394627.511
3163.3884627.8173168.4314628.0313187.875 4628.433189.6254628.5383192.6894628.523
3194.8724628.6073201.868 4628.653209.2864628.4813210.614 4628.533213.1174628.288
3214.1124628.2643216.9474627.883 3217.614627.8333219.3594627.597 3219.54627.592
3221.1084627.4073228.4384627.0063229.8534626.8823233.3514626.839 3235.1 4626.75
3236.8494626.7873238.6524626.9383239.9284626.9443240.3484626.9883241.2054627.218
3243.5234627.6553243.8464627.6893245.0354627.7143245.5954627.6813246.312 4627.71
3246.8114627.7913247.3444627.8473247.5894627.8253257.8384627.8753259.5874627.975
3263.085 46283269.2944628.4433270.0824628.4663275.6774628.9443276.9544628.966
3291.0714629.4673294.5694629.3943298.0674629.1753299.8164629.1473306.8124629.255
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3347.1754628.8963348.4524629.2333371.528 4632.5 3372.714632.4383373.2774632.358
3373.9874632.4093374.5094632.5363375.0264632.6223375.2644632.605 3376.544632.323
3376.7754632.3043377.8174632.4063386.7544632.552 3387.274632.5433389.019 4632.68
3389.3084632.6853396.9684632.5533397.764 4632.593398.2454632.6383404.629 4633.05
3405.9064633.0623415.2554633.4493417.0044633.4043418.7534633.4963420.4634633.456

```
Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .042355.483     .03 2743.62     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      2355.483 2743.62           503.66  406.07  304.21             .1       .3
Ineffective Flow     num=       3
   Sta L   Sta R    Elev  Permanent
   68.23    1750    4630       T
    1750 2345.13  4624.5       T
 2795.333420.463 4631.64       T
```

CROSS SECTION OUTPUT Profile #100-yr FP

E.G. Elev (ft)	4628.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.040	0.030	0.040
W.S. Elev (ft)	4628.52	Reach Len. (ft)	503.66	406.07	304.21
Crit W.S. (ft)		Flow Area (sq ft)	2433.32	3150.98	59.67
E.G. Slope (ft/ft)	0.000073	Area (sq ft)	10062.61	3150.98	848.97
Q Total (cfs)	7372.00	Flow (cfs)	1956.23	5383.25	32.52
Top Width (ft)	2651.21	Top Width (ft)	1855.84	388.14	407.23
Vel Total (ft/s)	1.31	Avg. Vel. (ft/s)	0.80	1.71	0.55
Max Chl Dpth (ft)	9.34	Hydr. Depth (ft)	4.02	8.12	2.27
Conv. Total (cfs)	860777.2	Conv. (cfs)	228415.1	628564.6	3797.4
Length Wtd. (ft)	420.38	Wetted Per. (ft)	605.78	389.85	26.61
Min Ch El (ft)	4619.18	Shear (lb/sq ft)	0.02	0.04	0.01
Alpha	1.35	Stream Power (lb/ft s)	0.01	0.06	0.01
Frctn Loss (ft)	0.04	Cum Volume (acre-ft)	168.85	157.85	141.42
C & E Loss (ft)	0.00	Cum SA (acres)	54.82	17.01	51.53

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4629.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.040	0.030	
W.S. Elev (ft)	4629.59	Reach Len. (ft)	503.66	406.07	304.21
Crit W.S. (ft)		Flow Area (sq ft)	5.24	3556.62	
E.G. Slope (ft/ft)	0.000093	Area (sq ft)	5.24	3556.62	
Q Total (cfs)	7372.00	Flow (cfs)	1.67	7370.33	
Top Width (ft)	386.97	Top Width (ft)	1.00	385.97	
Vel Total (ft/s)	2.07	Avg. Vel. (ft/s)	0.32	2.07	
Max Chl Dpth (ft)	10.41	Hydr. Depth (ft)	5.22	9.21	
Conv. Total (cfs)	766396.6	Conv. (cfs)	173.5	766223.1	
Length Wtd. (ft)	406.08	Wetted Per. (ft)	6.22	392.08	
Min Ch El (ft)	4619.18	Shear (lb/sq ft)	0.00	0.05	
Alpha	1.00	Stream Power (lb/ft s)	0.00	0.11	
Frctn Loss (ft)	0.04	Cum Volume (acre-ft)	90.46	164.05	37.52
C & E Loss (ft)	0.00	Cum SA (acres)	24.56	17.00	11.28

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4630.04	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.040	0.030	0.040
W.S. Elev (ft)	4629.97	Reach Len. (ft)	503.66	406.07	304.21
Crit W.S. (ft)		Flow Area (sq ft)	3312.28	3714.42	101.92
E.G. Slope (ft/ft)	0.000124	Area (sq ft)	12788.42	3714.42	1563.37
Q Total (cfs)	13546.00	Flow (cfs)	4251.30	9204.72	89.98
Top Width (ft)	2902.86	Top Width (ft)	1956.60	388.14	558.12
Vel Total (ft/s)	1.90	Avg. Vel. (ft/s)	1.28	2.48	0.88
Max Chl Dpth (ft)	10.79	Hydr. Depth (ft)	5.47	9.57	3.17
Conv. Total (cfs)	1216821.0	Conv. (cfs)	381888.8	826849.0	8082.8
Length Wtd. (ft)	422.98	Wetted Per. (ft)	605.78	389.85	32.68
Min Ch El (ft)	4619.18	Shear (lb/sq ft)	0.04	0.07	0.02
Alpha	1.30	Stream Power (lb/ft s)	0.05	0.18	0.02
Frctn Loss (ft)	0.08	Cum Volume (acre-ft)	268.21	197.64	245.16
C & E Loss (ft)	0.01	Cum SA (acres)	66.50	17.01	68.70

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4627.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.	0.040	0.030	0.040
W.S. Elev (ft)	4627.56	Reach Len. (ft)	503.66	406.07	304.21
Crit W.S. (ft)		Flow Area (sq ft)	1852.67	2778.76	36.21
E.G. Slope (ft/ft)	0.000069	Area (sq ft)	8286.43	2778.76	497.53
Q Total (cfs)	5471.00	Flow (cfs)	1208.27	4247.51	15.22
Top Width (ft)	2567.84	Top Width (ft)	1848.44	388.14	331.26
Vel Total (ft/s)	1.17	Avg. Vel. (ft/s)	0.65	1.53	0.42
Max Chl Dpth (ft)	8.38	Hydr. Depth (ft)	3.06	7.16	1.60
Conv. Total (cfs)	656586.2	Conv. (cfs)	145007.4	509752.6	1826.2

Length Wtd. (ft)	418.04	Wetted Per. (ft)	605.78	389.85	22.89
Min Ch El (ft)	4619.18	Shear (lb/sq ft)	0.01	0.03	0.01
Alpha	1.39	Stream Power (lb/ft s)	0.01	0.05	0.00
Frctn Loss (ft)	0.04	Cum Volume (acre-ft)	119.28	135.05	91.58
C & E Loss (ft)	0.00	Cum SA (acres)	44.43	16.97	41.13

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4626.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.040	0.030	0.040
W.S. Elev (ft)	4626.28	Reach Len. (ft)	503.66	406.07	304.21
Crit W.S. (ft)		Flow Area (sq ft)	1076.31	2281.08	10.23
E.G. Slope (ft/ft)	0.000033	Area (sq ft)	5927.26	2281.08	132.88
Q Total (cfs)	2452.00	Flow (cfs)	337.77	2112.73	1.51
Top Width (ft)	2398.61	Top Width (ft)	1813.86	388.14	196.61
Vel Total (ft/s)	0.73	Avg. Vel. (ft/s)	0.31	0.93	0.15
Max Chl Dpth (ft)	7.10	Hydr. Depth (ft)	1.78	5.88	0.57
Conv. Total (cfs)	425780.8	Conv. (cfs)	58652.3	366867.0	261.5
Length Wtd. (ft)	413.63	Wetted Per. (ft)	605.78	389.85	17.92
Min Ch El (ft)	4619.18	Shear (lb/sq ft)	0.00	0.01	0.00
Alpha	1.42	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	62.51	103.95	24.25
C & E Loss (ft)	0.00	Cum SA (acres)	32.31	16.70	27.25

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 4309.763

INPUT
Description:
Station Elevation Data num= 500

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4634.54	4.1	4634.58	51.53	4634	92.7	4634	93.2	4633.99
96.01	4633.93	195.27	4632	312.78	4632	325.19	4632.47	369.45	4633.11
390.51	4633.5	425.27	4634	426.77	4634.68	428.52	4634.68	429.21	4634.69
429.55	4634.56	431.04	4634.15	434.99	4633.01	440.29	4631.79	446.3	4630.38
448.94	4630.3	452.1	4630.18	458.16	4629.9	465.93	4629.5	466.39	4629.43
474.2	4628.32	474.9	4628.29	486.1	4627.61	487.81	4627.56	489.64	4627.61
495.13	4627.75	497.98	4627.88	501.94	4627.87	505.15	4627.89	507.46	4627.85
512.31	4627.78	519.04	4627.72	519.78	4627.71	521.71	4627.72	532.11	4627.73
532.67	4627.74	536.35	4627.77	539.65	4627.8	542.48	4627.83	545.13	4628.02
553.34	4628.66	556.79	4628.71	565.1	4628.92	572.82	4628.42	581.96	4628.37
584.47	4628.33	589.96	4628.27	594.93	4628.21	597.97	4628.19	605.38	4628.24
607.23	4628.23	610.66	4628.22	613.29	4628.25	616.54	4628.3	621.28	4628.36
622.53	4628.38	626.12	4628.4	630.84	4628.45	636.75	4628.59	638	4628.6
642.07	4628.7	646	4628.79	647.2	4628.83	654.01	4628.99	657.66	4629.04
662.01	4629.09	670.79	4629.18	673.56	4629.09	678	4628.73	683.93	4627.97
687.12	4627.76	689.4	4627.98	691.38	4628.31	692.91	4628.36	701.34	4628.37
703.31	4628.4	706.74	4628.46	707.09	4628.47	707.33	4627.97	708.79	4627.98
723.7	4628.55	727.66	4628.71	728.87	4628.77	731.09	4628.84	755.44	4629.56
757.48	4629.61	757.7	4630.11	760.97	4630.14	761.38	4630.15	764.93	4630.1
767.88	4630.04	770.18	4630.31	771.55	4630.41	772.99	4630.66	777.79	4631.78
781.59	4632.63	783.31	4632.9	785.22	4633.18	792.8	4634.86	795.24	4634.72
801.28	4634.24	803.49	4634.05	806.14	4633.84	807.81	4633.94	810.77	4634.28
815.76	4634.93	816.96	4635.02	818.35	4635.07	824.95	4635.34	830.12	4635.57
835.4	4635.8	838.13	4635.87	845.86	4636.01	847.04	4636.03	854.14	4636.17
856.31	4636.18	862.15	4636.16	866.77	4636.14	870.15	4636.16	877.23	4636.29
878.16	4636.31	886.16	4636.39	887.68	4636.41	894.17	4636.43	902.17	4636.51
908.59	4636.57	910.18	4636.58	918.18	4636.61	919.05	4636.61	926.19	4636.64
929.5	4636.63	935.74	4636.48	941.17	4636.33	942.12	4636.31	944.45	4636.24
948.52	4636.11	949.77	4636.06	952.1	4635.83	959.91	4635.18	962.06	4635.21
962.77	4635.25	965.31	4635.23	966.4	4635.21	967.75	4635.27	977.64	4635.54
981.78	4635.65	983.68	4635.72	990.23	4635.94	993.41	4636.08	996.35	4636.26
997.46	4636.29	1002.69	4636.07	1006.24	4635.99	1014.25	4635.85	1017.84	4635.72
1022.25	4635.58	1023.6	4635.54	1030.26	4635.41	1034.06	4635.31	1041.21	4635.21
1044.52	4635.18	1046.27	4635.15	1052	4634.96	1054.97	4634.87	1062.28	4634.63
1065.43	4634.52	1076.63	4634.14	1080.63	4633.91	1082.37	4633.99	1089.62	4634.11
1090.86	4634.15	1092.9	4633.98	1097.9	4633.62	1100.67	4633.51	1101.53	4633.39
1103.16	4633.63	1104.75	4633.79	1106.66	4633.97	1115.07	4634.56	1117.7	4634.77
1118.32	4634.79	1120.33	4634.88	1126.32	4635.14	1128.16	4635.21	1134.33	4635.45
1138.62	4635.58	1142.34	4635.67	1149.07	4635.94	1150.34	4635.97	1154.49	4636.05
1158.35	4636.11	1159.53	4636.15	1166.35	4636.26	1169.98	4636.31	1174.36	4636.4
1180.44	4636.5	1182.36	4636.52	1190.89	4636.52	1203.01	4636.37	1205.84	4636.26
1207.3	4636.12	1210.27	4635.73	1213.35	4635.87	1215.33	4635.99	1222	4635.96
1222.81	4635.96	1230.39	4636.04	1232.72	4636.1	1237.09	4636.27	1243.88	4636.64
1245.04	4636.71	1248.28	4636.89	1251.22	4637	1254.92	4637.17	1257.61	4637.17
1262.21	4637.21	1263.42	4637.2	1263.95	4637.22	1267.22	4637.24	1274.54	4637.36

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 1278.43 4637.44 1284.99 4637.55 1291.13 4637.46 1294.44  4637.4 1295.45 4637.37
 1297.25  4637.2 1301.16 4637.16 1303.84 4637.08 1307.94 4636.95  1309.7 4636.88
 1314.14 4637.33 1315.02  4637.4 1320.52  4637.5 1323.86 4637.55 1326.82 4637.61
 1334.46 4637.75 1337.27 4637.75 1342.47 4637.69 1347.73 4637.68 1350.48 4637.61
 1358.18  4637.5 1359.45 4637.49 1366.49 4637.45 1368.64 4637.41 1374.49 4637.41
 1379.09 4637.43  1382.5 4637.47 1389.55 4637.51  1390.5 4637.51 1393.61  4637.6
 1398.51 4637.73 1406.51 4637.84 1410.46 4637.95 1414.52 4637.95 1420.92 4638.03
 1422.52 4638.02 1427.78 4638.08 1430.53  4638.1 1431.37 4638.12 1438.53 4638.18
 1441.83 4638.19 1446.54 4638.18 1452.28 4638.16 1454.55 4638.13 1461.94 4638.11
 1470.56 4638.01 1473.19 4637.97 1478.56 4637.86 1483.65 4637.73 1486.57 4637.66
 1494.11 4637.47 1502.58 4637.17 1504.56 4637.12 1510.58 4636.92 1515.02 4636.79
 1518.59 4636.66 1525.47 4636.52 1530.26 4636.31  1534.6 4636.08 1538.43 4635.85
 1546.38 4635.29  1553.5 4634.79 1556.59 4634.56 1560.15 4634.42 1563.93 4634.21
 1571.05 4634.04 1577.75 4633.93 1585.69 4633.85 1585.94 4633.85 1586.67  4633.8
 1589.86 4633.62 1590.95 4633.54 1595.73 4633.28 1602.47 4633.89 1605.77 4634.22
 1606.16 4634.23 1607.76 4634.12 1614.65 4634.06 1619.57 4634.08 1622.66 4634.03
 1630.03 4634.22 1632.74 4634.25 1638.67 4634.34 1640.48 4634.38 1646.67 4634.47
 1650.94 4634.49 1654.68 4634.54  1661.4  4634.6 1670.69  4634.6 1671.85 4634.61
  1678.7 4634.71 1682.31 4634.74  1689.1 4634.74 1692.76 4634.75 1694.71 4634.76
 1701.06 4634.74 1703.22 4634.74 1710.72 4634.72 1713.67 4634.74 1718.72 4634.69
 1724.13 4634.65 1726.73 4634.64 1735.22 4634.65 1742.74  4634.6 1745.04 4634.58
 1750.74  4634.6  1755.5 4634.59 1758.75 4634.62 1765.95 4634.66 1766.76 4634.65
 1769.38 4634.65 1774.76 4634.63 1776.41 4634.65 1782.77 4634.67 1786.86 4634.65
 1790.77 4634.64 1797.32 4634.67 1803.55 4634.76 1806.78 4634.81 1814.79 4634.88
 1818.23 4634.86 1820.74 4634.79 1822.79 4634.74 1828.68 4634.59 1830.06 4634.59
 1838.06 4634.68 1845.06 4634.41  1849.6 4634.19 1854.81 4633.88 1860.05 4633.54
 1862.82 4633.29 1870.51 4632.74 1870.83 4632.72 1878.83 4631.95 1880.96 4631.74
 1886.84 4631.17 1891.42 4630.76 1894.84 4630.48 1901.87 4629.87 1902.85 4629.79
 1906.03 4629.49 1910.85 4629.06 1912.33 4628.94 1918.86 4628.48 1922.78 4628.22
 1927.63 4627.78 1930.26 4627.59 1934.73  4626.8 1938.66 4626.26 1939.81 4626.18
 1949.94 4625.43 1954.35  4624.8 1954.68  4624.8 1964.61 4624.76 1969.64  4624.8
 1975.35 4624.91 1979.44 4624.73 1983.07 4624.53 1988.32 4624.39 1991.16 4624.35
 1993.89  4624.1 1995.45 4623.98 2001.93 4623.37 2002.18 4623.36 2003.35 4623.37
 2005.21 4623.36 2007.78 4623.02 2008.62 4622.92 2010.08 4622.95 2011.72 4622.96
 2015.52    4623 2017.53 4623.04 2018.17 4623.08  2018.5 4623.15 2022.05 4623.64
 2023.77 4624.01 2024.78 4624.14 2033.56 4624.35  2039.8 4624.14 2042.88 4624.05
 2043.95 4624.04 2045.19 4624.04    2048 4624.05 2048.34 4624.05 2053.43 4622.11
 2055.83 4621.18 2059.31  4620.3 2064.56 4619.01 2067.16    4619 2080.96 4618.91
 2097.55 4618.92 2104.95 4619.03 2106.81 4619.06 2123.79 4619.17 2130.53 4619.27
  2135.6 4619.31 2154.32 4619.49 2164.75 4619.55 2174.59 4619.68 2190.51 4619.77
 2196.06 4619.82 2201.21 4619.76 2205.07 4619.72  2215.1 4619.58 2226.74  4619.4
 2228.82 4619.09 2232.45 4618.66 2235.03  4619.2 2237.45 4619.66 2248.35 4619.85
 2249.76 4619.91 2257.69 4619.89 2258.53 4619.86 2268.52 4619.55 2269.14 4619.39
 2271.48 4618.74 2273.61 4619.37 2274.63 4619.61 2285.66 4619.57 2291.46 4619.66
 2302.84 4619.48 2309.18 4619.44 2327.04 4619.63  2330.3 4619.65 2333.12 4619.63
 2351.17 4619.61 2363.73 4619.55 2379.89 4619.42  2391.4 4619.26 2400.87 4619.27
 2415.65 4619.53  2421.2 4619.62 2423.53 4620.18 2428.57  4621.3 2433.69 4623.84
 2435.59 4624.89 2438.14 4625.13 2438.27 4625.14 2440.87 4625.28 2449.94  4625.3
  2451.5 4625.15  2455.4 4625.14 2457.47 4625.74 2460.78 4626.69 2470.34 4629.56
 2471.64 4629.98 2472.17 4630.07 2479.28 4631.36 2483.71 4632.12 2483.96 4632.16
 2486.56 4631.95 2507.06 4630.26 2522.13 4629.77  2528.5 4629.54 2529.81 4629.53
 2530.01 4630.03 2530.31 4630.03 2534.92 4629.86 2535.73 4629.84 2536.49 4629.79
 2541.97 4629.29 2546.19 4628.83 2547.55    4626 2874.93    4626 2915.16 4627.61
    2925    4628 3005.02    4628    3022 4628.73 3045.65 4629.74 3050.54    4630
  3051.5 4630.15 3061.81    4632 3062.67    4632  3078.6 4632.48 3090.86 4632.95

Manning's n Values         num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04 2190.51     .03 3090.86     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          2048 2438.27           278.33  386.08  476.37             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0 1438.53               F
 2483.96 3090.86               F

CROSS SECTION OUTPUT  Profile #100-yr FP

  E.G. Elev (ft)           4628.51    Element                  Left OB    Channel   Right OB
  Vel Head (ft)               0.08    Wt. n-Val.                0.040      0.033     0.030
  W.S. Elev (ft)           4628.43    Reach Len. (ft)         278.33     386.08     476.37
  Crit W.S. (ft)                      Flow Area (sq ft)       464.23    3427.04      73.12
  E.G. Slope (ft/ft)      0.000149    Area (sq ft)            525.10    3427.04     976.41
  Q Total (cfs)            8529.00    Flow (cfs)              494.43    7952.34      82.22
  Top Width (ft)           1186.01    Top Width (ft)          298.89     390.27     496.84
  Vel Total (ft/s)            2.15    Avg. Vel. (ft/s)          1.07       2.32       1.12
  Max Chl Dpth (ft)           9.77    Hydr. Depth (ft)          3.62       8.78       2.58
  Conv. Total (cfs)       699568.4    Conv. (cfs)             40554.7   652269.8     6744.0
  Length Wtd. (ft)          381.11    Wetted Per. (ft)        128.73     392.53      28.78
  Min Ch El (ft)           4618.66    Shear (lb/sq ft)          0.03       0.08       0.02
  Alpha                       1.10    Stream Power (lb/ft s)    0.04       0.19       0.03
  Frctn Loss (ft)             0.04    Cum Volume (acre-ft)    107.64     127.19     135.04
  C & E Loss (ft)             0.01    Cum SA (acres)           42.36      13.38      48.38
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Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4629.61	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.033	
W.S. Elev (ft)	4629.53	Reach Len. (ft)	278.33	386.08	476.37
Crit W.S. (ft)		Flow Area (sq ft)		3859.42	
E.G. Slope (ft/ft)	0.000119	Area (sq ft)		3859.42	
Q Total (cfs)	8529.00	Flow (cfs)		8529.00	
Top Width (ft)	390.27	Top Width (ft)		390.27	
Vel Total (ft/s)	2.21	Avg. Vel. (ft/s)		2.21	
Max Chl Dpth (ft)	10.87	Hydr. Depth (ft)		9.89	
Conv. Total (cfs)	782902.4	Conv. (cfs)		782902.4	
Length Wtd. (ft)	386.08	Wetted Per. (ft)		402.41	
Min Ch El (ft)	4618.66	Shear (lb/sq ft)		0.07	
Alpha	1.00	Stream Power (lb/ft s)		0.16	
Frctn Loss (ft)	0.04	Cum Volume (acre-ft)	90.43	129.48	37.52
C & E Loss (ft)	0.00	Cum SA (acres)	24.55	13.38	11.28

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4629.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.	0.040	0.033	0.030
W.S. Elev (ft)	4629.76	Reach Len. (ft)	278.33	386.08	476.37
Crit W.S. (ft)		Flow Area (sq ft)	647.33	3948.03	113.86
E.G. Slope (ft/ft)	0.000298	Area (sq ft)	1041.89	3948.03	1668.83
Q Total (cfs)	15608.00	Flow (cfs)	1124.19	14263.15	220.66
Top Width (ft)	1381.27	Top Width (ft)	441.54	390.27	549.46
Vel Total (ft/s)	3.31	Avg. Vel. (ft/s)	1.74	3.61	1.94
Max Chl Dpth (ft)	11.10	Hydr. Depth (ft)	4.47	10.12	3.48
Conv. Total (cfs)	903947.6	Conv. (cfs)	65108.4	826059.7	12779.6
Length Wtd. (ft)	379.59	Wetted Per. (ft)	145.30	392.53	33.38
Min Ch El (ft)	4618.66	Shear (lb/sq ft)	0.08	0.19	0.06
Alpha	1.11	Stream Power (lb/ft s)	0.14	0.68	0.12
Frctn Loss (ft)	0.08	Cum Volume (acre-ft)	188.25	161.92	233.88
C & E Loss (ft)	0.02	Cum SA (acres)	52.64	13.38	64.83

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4627.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.040	0.033	0.030
W.S. Elev (ft)	4627.49	Reach Len. (ft)	278.33	386.08	476.37
Crit W.S. (ft)		Flow Area (sq ft)	349.66	3061.54	48.09
E.G. Slope (ft/ft)	0.000123	Area (sq ft)	349.66	3061.54	564.06
Q Total (cfs)	6341.00	Flow (cfs)	298.46	6002.19	40.36
Top Width (ft)	897.94	Top Width (ft)	117.17	390.27	390.50
Vel Total (ft/s)	1.83	Avg. Vel. (ft/s)	0.85	1.96	0.84
Max Chl Dpth (ft)	8.83	Hydr. Depth (ft)	2.98	7.84	1.91
Conv. Total (cfs)	570836.3	Conv. (cfs)	26867.9	540335.1	3633.3
Length Wtd. (ft)	382.29	Wetted Per. (ft)	117.53	392.53	25.52
Min Ch El (ft)	4618.66	Shear (lb/sq ft)	0.02	0.06	0.01
Alpha	1.09	Stream Power (lb/ft s)	0.02	0.12	0.01
Frctn Loss (ft)	0.04	Cum Volume (acre-ft)	69.35	107.83	87.88
C & E Loss (ft)	0.00	Cum SA (acres)	33.07	13.34	38.61

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4626.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.040	0.033	0.030
W.S. Elev (ft)	4626.25	Reach Len. (ft)	278.33	386.08	476.37
Crit W.S. (ft)		Flow Area (sq ft)	209.36	2579.04	19.52
E.G. Slope (ft/ft)	0.000047	Area (sq ft)	209.36	2579.04	103.30
Q Total (cfs)	2863.00	Flow (cfs)	81.92	2774.81	6.27
Top Width (ft)	854.34	Top Width (ft)	109.25	390.27	354.82
Vel Total (ft/s)	1.02	Avg. Vel. (ft/s)	0.39	1.08	0.32
Max Chl Dpth (ft)	7.59	Hydr. Depth (ft)	1.92	6.61	0.93
Conv. Total (cfs)	418681.0	Conv. (cfs)	11979.8	405784.8	916.5
Length Wtd. (ft)	384.16	Wetted Per. (ft)	109.51	392.53	21.16
Min Ch El (ft)	4618.66	Shear (lb/sq ft)	0.01	0.02	0.00
Alpha	1.08	Stream Power (lb/ft s)	0.00	0.02	0.00
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	27.03	81.30	23.43
C & E Loss (ft)	0.00	Cum SA (acres)	21.19	13.07	25.32

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 3923.687

INPUT
Description:
Station Elevation Data num= 499

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4632	132	4632	231.8	4634.32	232.53	4634.33	235.84	4633.29
237.19	4632.85	241.5	4631.22	245.79	4630.07	250.97	4628.72	252.76	4628.24
253.47	4628.26	256.77	4628.24	264.93	4628.22	266.96	4628.21	270.51	4628.12
276.99	4627.95	286.39	4627.89	289.07	4627.86	291.99	4627.76	299.02	4627.47
303.22	4627.63	310.56	4627.89	315.19	4627.58	319.28	4627.31	322.27	4627.37
330.68	4627.64	336.43	4627.75	339.15	4627.84	341.91	4627.97	349.12	4628.33
351.33	4627.85	352.45	4627.69	354.66	4627.75	361.01	4628.08	368.3	4628.29
372.67	4628.36	375.59	4628.38	380.45	4628.43	382.88	4628.46	384.33	4628.46
390.17	4628.42	395.99	4628.43	399.89	4628.49	404.74	4628.56	407.65	4628.58
412.03	4628.58	419.31	4628.75	426.6	4628.64	430.97	4628.65	433.89	4628.63
438.75	4628.65	442.63	4628.68	448.46	4628.64	454.29	4628.62	458.18	4628.64
465.95	4628.6	477.6	4628.71	484.9	4628.72	489.27	4628.77	492.18	4628.79
499.47	4628.88	500.93	4628.89	512.48	4628.62	516.1	4628.56	516.62	4628.65
517.68	4628.78	523.49	4629.52	524.86	4629.59	526.74	4629.49	529.06	4629.2
530.17	4628.97	533.18	4628.74	535.46	4629.16	542.34	4629.25	543.3	4629.26
547.06	4629.09	550.32	4629	555.55	4629.12	560.64	4629.23	562.62	4629.69
568.92	4631.35	570.49	4631.9	579.21	4634.54	583.04	4635.77	586.84	4635.96
590.17	4636.11	592.03	4636.18	596.57	4636.34	600.41	4636.4	604.78	4636.33
612.35	4636.48	614.56	4636.51	619.92	4636.57	626.83	4636.6	632.07	4636.62
635.09	4636.54	639.25	4636.33	642.95	4636.35	643.87	4636.35	644.67	4636.37
644.88	4635.87	647.45	4635.87	667.84	4636.12	678.09	4636.19	690.47	4636.2
690.67	4636.7	690.97	4636.7	691.69	4636.5	692.92	4636.25	695.14	4637.02
697.37	4637.68	699.54	4637.75	708.6	4637.86	709.92	4637.9	710.74	4637.9
718.31	4638.02	720.87	4638.04	725.88	4638.07	731.82	4638.16	733.45	4638.18
737.1	4638.2	741.02	4638.29	742.77	4638.28	748.59	4638.27	753.72	4638.16
756.16	4638.14	761.61	4638.07	763.72	4638.06	764.67	4638.04	771.29	4638.06
778.86	4638.08	786.43	4638	795.02	4637.87	796.67	4637.86	803.4	4637.84
806.92	4637.82	811.77	4637.84	817.16	4637.79	820.15	4637.8	827.4	4637.76
828.52	4637.75	833.52	4637.79	837.65	4637.81	845.27	4637.76	847.89	4637.75
853.65	4637.85	858.14	4637.96	865.21	4637.99	868.38	4637.99	878.62	4638.19
879.42	4638.19	887.14	4638.12	888.87	4638.13	895.52	4638.04	899.11	4638.02
903.89	4637.98	909.35	4637.89	912.27	4637.92	919.6	4637.95	920.64	4637.96
929.84	4637.98	937.39	4638	940.09	4638.03	945.77	4638.07	950.33	4638.16
954.14	4638.19	962.52	4638.24	970.82	4638.18	971.22	4638.17	979.26	4638.15
981.06	4638.14	987.64	4638.13	996.01	4638.2	1001.55	4638.19	1004.39	4638.22
1017.12	4638.48	1021.14	4638.56	1029.51	4638.74	1032.28	4638.85	1037.89	4638.83
1042.52	4638.88	1046.26	4638.98	1052.77	4638.92	1054.64	4638.92	1071.39	4639
1073.25	4639.02	1079.76	4639.01	1083.5	4639.06	1088.14	4639.09	1093.74	4639.2
1096.51	4639.26	1103.99	4639.37	1104.88	4639.38	1108.91	4639.37	1113.26	4639.35
1121.63	4639.35	1124.47	4639.34	1130.01	4639.25	1134.72	4639.22	1138.38	4639.18
1144.96	4639.07	1146.76	4639.05	1154.81	4638.97	1155.2	4638.97	1163.51	4638.79
1165.45	4638.77	1171.88	4638.66	1175.69	4638.58	1180.26	4638.51	1185.94	4638.51
1188.63	4638.54	1196.18	4638.65	1197.01	4638.65	1200.71	4638.63	1205.38	4638.6
1206.42	4638.59	1213.76	4638.56	1216.67	4638.52	1222.13	4638.43	1226.91	4638.44
1230.5	4638.41	1237.15	4638.3	1238.88	4638.29	1246.61	4638.26	1247.4	4638.26
1255.63	4638.19	1257.64	4638.2	1264	4638.32	1272.38	4638.36	1278.13	4638.31
1280.75	4638.27	1288.37	4638.17	1289.13	4638.17	1292.51	4638.13	1298.62	4638.08
1308.86	4637.94	1314.25	4637.8	1319.1	4637.78	1322.63	4637.77	1329.35	4637.67
1331	4637.66	1338.41	4637.54	1339.59	4637.51	1347.75	4637.27	1349.84	4637.22
1353.12	4637.11	1360.08	4636.9	1364.5	4636.75	1370.32	4636.56	1372.87	4636.44
1381.25	4636.08	1389.62	4635.67	1391.74	4635.65	1397.35	4635.58	1400.24	4635.47
1403.57	4635.16	1406.36	4634.93	1413.76	4635.03	1414.26	4635.04	1414.77	4635.01
1417.12	4634.93	1421.89	4634.78	1423.12	4634.72	1430.2	4634.7	1431.79	4634.69
1439.87	4634.78	1442.03	4634.81	1448.25	4634.75	1452.27	4634.68	1456.62	4634.58
1462.52	4634.58	1465	4634.57	1472.76	4634.56	1476.1	4634.47	1481.75	4634.3
1483	4634.24	1490.12	4633.8	1493.25	4633.61	1498.17	4633.25	1503.49	4632.83
1506.87	4632.57	1513.74	4632.1	1522	4631.44	1523.98	4631.27	1531.99	4630.49
1534.22	4630.26	1540.37	4629.57	1548.74	4628.73	1554.71	4628.23	1557.12	4628.05
1564.95	4627.56	1565.49	4627.51	1567.9	4627.33	1575.2	4626.73	1582.24	4626.14
1585.44	4625.93	1590.62	4625.64	1595.69	4625.31	1598.87	4625.21	1602	4625.08
1607.67	4624.93	1611.51	4624.8	1617.3	4624.65	1627.56	4624.34	1632.97	4624.13
1634.85	4624.07	1635.57	4624.01	1638.39	4623.7	1647.6	4623.73	1649.06	4623.73
1650.35	4623.82	1657.47	4624.47	1663.35	4624.98	1665.59	4625.17	1666.33	4625.2
1677.64	4625.25	1682.74	4625.28	1687.88	4625.3	1691.11	4625.29	1698.12	4625.33
1707.86	4625.33	1708.37	4625.34	1716.24	4625.35	1718.61	4625.35	1724.61	4625.29
1728.85	4625.27	1735.54	4625.26	1739.46	4625.23	1743.33	4625.16	1745.63	4625.16
1755.91	4625.04	1767.92	4624.73	1769.83	4624.61	1774.86	4624.61	1781.28	4624.56
1794.4	4624.55	1796	4624.47	1806.43	4624.01	1810.97	4624.23	1813.89	4624.4
1816.99	4624.52	1821.08	4624.71	1824.3	4624.68	1827.33	4624.67	1828.9	4624.65
1844.58	4624.68	1845.75	4624.7	1848.73	4624.42	1859.15	4624.3	1865.25	4624.19
1868.05	4624.13	1870.98	4624.06	1871.69	4623.96	1874.98	4623.56	1876.07	4623.2
1878.46	4622.33	1881.8	4621.11	1888.76	4618.62	1895	4618.55	1909.81	4618.46
1916.19	4618.46	1932.98	4618.53	1945.95	4618.59	1960.09	4618.66	1967.99	4618.69
1972.7	4618.7	1980.81	4618.73	1984.2	4618.78	1992.55	4618.86	1999.41	4618.93
1999.89	4618.93	2016.04	4619.11	2019.26	4619.2	2025.2	4619.16	2057.62	4619.14

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 2067.34 4618.99 2085.27 4618.69 2095.24 4618.69 2114.82  4618.8 2130.91 4618.84
 2138.55 4618.85 2146.18 4618.85 2158.28 4618.84 2181.44 4618.88  2187.5 4618.88
 2211.77 4618.91  2220.4 4618.97 2231.67 4619.01 2235.78 4620.14 2237.04 4620.51
 2239.87 4621.65 2241.52 4622.41 2241.89 4622.54 2244.69 4623.53 2245.35 4623.77
 2248.74 4624.13 2259.93 4624.56 2266.93 4623.93 2268.25 4623.92 2270.36 4623.93
 2277.53 4623.93  2282.5 4623.97  2285.1 4623.97 2291.99 4623.99  2293.9    4624
 2303.86 4624.03 2308.38 4624.05 2314.55 4624.07 2316.14 4624.07 2320.35 4624.09
 2325.23  4624.1 2331.66 4624.12 2335.92 4624.12 2339.42 4624.13  2346.6 4624.14
  2348.7 4624.15 2357.28 4624.21  2362.7 4624.27 2367.97 4624.32 2370.46 4624.33
 2378.65 4624.34 2385.97 4624.36 2389.34 4624.42 2393.73 4624.47 2400.02 4624.58
 2403.64 4624.59 2407.71 4624.59  2413.3 4625.02 2419.65  4625.5 2420.37 4625.57
 2422.61 4625.67 2423.51  4625.7 2423.88  4625.6 2428.03  4626.1 2432.75 4626.14
 2439.72 4626.19 2448.11 4625.98 2452.23 4625.95 2455.35 4625.95 2456.34 4625.96
 2456.59 4625.92  2457.9    4626 2458.95  4626.1 2464.33 4626.56 2467.51 4627.14
 2470.64 4627.69 2472.13 4627.98 2473.25 4628.09 2481.36 4629.14 2489.68 4630.14
 2491.34 4630.33  2495.5 4630.55 2495.69 4630.57 2514.72 4629.77 2521.21  4629.6
 2542.43 4628.48  2542.7 4628.47 2543.95 4628.59 2544.17 4629.09 2544.49 4629.09
 2550.43 4628.82 2555.12 4627.91 2556.01 4627.73 2561.27    4626 2702.28    4626
 2722.93 4626.61 2766.33    4628 2767.41    4628 2774.66 4628.26 2776.91 4628.33
 2826.51    4630 2832.49    4630 2837.46 4630.85 2843.89    4632 2846.81 4633.13
 2849.29    4634 2851.98 4635.21 2854.01    4636 2857.27    4636 2866.65 4634.96
 2875.78    4634 2915.87    4634 2927.11  4634.5 2930.28 4634.67 2943.94 4635.19
 2951.43 4635.54 2966.15 4635.87 2967.88 4635.96 2977.28 4635.95 2980.73    4636
 2998.52    4636 3001.14 4637.18 3002.87    4638 3005.76  4639.5 3006.77    4640
  3008.9 4641.18  3010.5    4642  3012.9 4643.04  3019.2 4643.88

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04 1871.69     .03 2245.35    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1871.69 2245.35           436.97  331.69  363.89             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0 1103.99               F
 2416.14  3019.2 4630.55       T
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CROSS SECTION OUTPUT Profile #100-yr FP

E.G. Elev (ft)	4628.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.040	0.030	0.045
W.S. Elev (ft)	4628.40	Reach Len. (ft)	436.97	331.69	363.89
Crit W.S. (ft)		Flow Area (sq ft)	1077.93	3496.97	713.27
E.G. Slope (ft/ft)	0.000088	Area (sq ft)	1139.35	3496.97	1279.97
Q Total (cfs)	8625.00	Flow (cfs)	846.66	7204.67	573.67
Top Width (ft)	1274.56	Top Width (ft)	444.26	373.66	456.64
Vel Total (ft/s)	1.63	Avg. Vel. (ft/s)	0.79	2.06	0.80
Max Chl Dpth (ft)	9.94	Hydr. Depth (ft)	3.38	9.36	4.18
Conv. Total (cfs)	918033.0	Conv. (cfs)	90117.7	766855.0	61060.3
Length Wtd. (ft)	343.00	Wetted Per. (ft)	319.28	375.38	170.87
Min Ch El (ft)	4618.46	Shear (lb/sq ft)	0.02	0.05	0.02
Alpha	1.37	Stream Power (lb/ft s)	0.01	0.11	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	102.32	96.51	122.70
C & E Loss (ft)	0.01	Cum SA (acres)	39.98	9.99	43.16

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4629.57	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.030	
W.S. Elev (ft)	4629.49	Reach Len. (ft)	436.97	331.69	363.89
Crit W.S. (ft)		Flow Area (sq ft)		3906.21	
E.G. Slope (ft/ft)	0.000091	Area (sq ft)		3906.21	
Q Total (cfs)	8625.00	Flow (cfs)		8625.00	
Top Width (ft)	373.66	Top Width (ft)		373.66	
Vel Total (ft/s)	2.21	Avg. Vel. (ft/s)		2.21	
Max Chl Dpth (ft)	11.03	Hydr. Depth (ft)		10.45	
Conv. Total (cfs)	904197.3	Conv. (cfs)		904197.3	
Length Wtd. (ft)	331.69	Wetted Per. (ft)		386.64	
Min Ch El (ft)	4618.46	Shear (lb/sq ft)		0.06	
Alpha	1.00	Stream Power (lb/ft s)		0.13	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	90.43	95.07	37.52
C & E Loss (ft)	0.01	Cum SA (acres)	24.55	9.99	11.28

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4629.85	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.	0.040	0.030	0.045
W.S. Elev (ft)	4629.72	Reach Len. (ft)	436.97	331.69	363.89
Crit W.S. (ft)		Flow Area (sq ft)	1509.03	3990.87	939.02
E.G. Slope (ft/ft)	0.000171	Area (sq ft)	1916.13	3990.87	1940.24
Q Total (cfs)	15790.00	Flow (cfs)	2010.17	12515.40	1264.43

Top Width (ft)	1564.38	Top Width (ft)	648.27	373.66	542.45
Vel Total (ft/s)	2.45	Avg. Vel. (ft/s)	1.33	3.14	1.35
Max Chl Dpth (ft)	11.26	Hydr. Depth (ft)	4.54	10.68	5.50
Conv. Total (cfs)	1205802.0	Conv. (cfs)	153506.3	955737.2	96558.4
Length Wtd. (ft)	345.98	Wetted Per. (ft)	333.01	375.38	170.87
Min Ch El (ft)	4618.46	Shear (lb/sq ft)	0.05	0.11	0.06
Alpha	1.36	Stream Power (lb/ft s)	0.06	0.36	0.08
Frctn Loss (ft)	0.05	Cum Volume (acre-ft)	178.80	126.74	214.14
C & E Loss (ft)	0.01	Cum SA (acres)	49.16	9.99	58.86

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4627.51	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.040	0.030	0.045
W.S. Elev (ft)	4627.46	Reach Len. (ft)	436.97	331.69	363.89
Crit W.S. (ft)		Flow Area (sq ft)	785.27	3147.03	553.32
E.G. Slope (ft/ft)	0.000076	Area (sq ft)	785.95	3147.03	871.35
Q Total (cfs)	6435.00	Flow (cfs)	476.99	5609.29	348.72
Top Width (ft)	1104.11	Top Width (ft)	313.74	373.66	416.72
Vel Total (ft/s)	1.43	Avg. Vel. (ft/s)	0.61	1.78	0.63
Max Chl Dpth (ft)	9.00	Hydr. Depth (ft)	2.57	8.42	3.24
Conv. Total (cfs)	737964.7	Conv. (cfs)	54701.6	643271.8	39991.3
Length Wtd. (ft)	340.54	Wetted Per. (ft)	305.81	375.38	170.87
Min Ch El (ft)	4618.46	Shear (lb/sq ft)	0.01	0.04	0.02
Alpha	1.37	Stream Power (lb/ft s)	0.01	0.07	0.01
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	65.72	80.31	80.03
C & E Loss (ft)	0.01	Cum SA (acres)	31.69	9.96	34.19

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4626.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.040	0.030	0.045
W.S. Elev (ft)	4626.24	Reach Len. (ft)	436.97	331.69	363.89
Crit W.S. (ft)		Flow Area (sq ft)	421.35	2690.72	344.76
E.G. Slope (ft/ft)	0.000030	Area (sq ft)	421.35	2690.72	392.66
Q Total (cfs)	2924.00	Flow (cfs)	109.80	2714.61	99.59
Top Width (ft)	1029.48	Top Width (ft)	290.66	373.66	365.16
Vel Total (ft/s)	0.85	Avg. Vel. (ft/s)	0.26	1.01	0.29
Max Chl Dpth (ft)	7.78	Hydr. Depth (ft)	1.45	7.20	2.02
Conv. Total (cfs)	533675.3	Conv. (cfs)	20040.0	495458.4	18176.9
Length Wtd. (ft)	336.94	Wetted Per. (ft)	290.85	375.38	170.87
Min Ch El (ft)	4618.46	Shear (lb/sq ft)	0.00	0.01	0.00
Alpha	1.33	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	25.02	57.94	20.72
C & E Loss (ft)	0.00	Cum SA (acres)	19.92	9.68	21.38

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 3591.992

INPUT
Description:
Station Elevation Data num= 499

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
2.95	4631.62	3.54	4631.32	5.23	4630.53	6.27	4630	7.95	4629.81
14.39	4629.02	19.62	4628.75	24.09	4628.56	27.08	4628.54	32.02	4628.6
33.61	4628.58	37.76	4628.43	44.05	4628.3	51.73	4627.93	56.54	4627.68
65.44	4627.38	66.17	4627.33	77.91	4626.6	84.56	4626.46	90.32	4626.36
103.75	4626.06	108.47	4625.89	112.44	4625.86	116.02	4625.89	121.21	4625.91
124.84	4625.73	128.79	4625.6	134.77	4625.61	136.88	4625.72	140.51	4625.69
145.23	4625.71	154.35	4625.83	158.6	4625.73	160.86	4626.03	169.18	4626.44
171.95	4626.56	177.27	4626.68	181.03	4626.83	188.02	4627.12	190.75	4627.24
194.9	4627.32	204.42	4627.93	205.34	4628	212.28	4628.33	213.05	4628.35
214.78	4628.47	223.82	4629.06	225.57	4629.07	230.94	4629.16	234.68	4629.13
235.36	4629.15	240.45	4629.47	244.61	4629.54	252.22	4629.34	255.7	4629.39
257.59	4629.43	267.8	4629.62	268.11	4629.61	274.51	4630.12	278.98	4630.45
281.64	4630.68	286.29	4630.8	287.4	4630.89	290.41	4631.06	293.98	4631.37
299.42	4631.77	303	4632.09	307.24	4632.35	309.47	4632.45	312.63	4632.63
314.59	4632.77	320.51	4633.05	329.2	4633.29	338.47	4633.76	346.93	4634.01
359.02	4634.25	384.02	4634.97	395.04	4635.05	407.66	4635.08	426.21	4635.38
432.9	4635.49	434.36	4635.48	436.01	4635.5	436.59	4636.02	443.59	4636.13
447.72	4636.17	454.09	4636.37	463.59	4636.48	473.27	4636.24	477.49	4636.3
486.33	4636.63	494.2	4636.55	497.13	4636.61	497.95	4636.61	501.18	4636.49
509.27	4636.58	512.32	4636.67	514.64	4636.72	526.22	4637.06	530.09	4637.2

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  535.03 4637.33  541.37 4637.44  542.23 4637.49   549.1 4637.78  553.33    4638
   553.7    4638  553.95  4637.5   558.2  4637.5  569.01 4637.53  575.19 4637.56
  581.02 4637.57   595.7 4637.35  598.81 4637.29  605.86 4637.21  607.66  4637.2
  607.93  4637.7  609.58 4637.66  615.65 4637.55  617.98 4637.54   618.5 4637.58
  627.78 4637.17   629.9 4637.14  639.11 4637.11  647.72  4637.1  649.11 4637.09
  659.11 4637.07  667.08 4636.99  668.64    4637  676.58 4636.88  685.31 4636.95
  690.18 4636.93  698.22 4637.06  703.69  4637.1  713.99 4637.13   721.8 4636.81
   723.1 4636.81  724.54 4636.77  742.85 4636.77  748.72 4636.76  754.21 4636.87
  759.15 4636.96   763.9 4637.06  769.15 4637.15  774.77 4637.26  778.67 4637.35
   781.7 4637.36  788.93 4637.46  796.49 4637.58  801.42 4637.65  809.05 4637.75
  817.03 4637.81  819.71 4637.84  820.82 4637.83  828.83 4637.97  837.23  4638.2
  839.51 4638.25  848.07  4638.5  850.67 4638.54  859.32 4638.58  868.39 4638.75
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   929.2 4638.78  938.16 4638.66  939.21 4638.64  947.84 4638.39  949.21 4638.37
  957.52 4638.07  959.21 4638.03  967.21 4638.07  976.89 4638.16  979.22 4638.17
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 1007.98 4636.95 1020.06 4635.95  1024.7 4635.76 1026.79 4635.74 1027.89 4635.71
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 1055.41 4634.77 1064.49 4634.24 1069.25 4634.04  1073.7 4633.79 1079.25 4633.52
 1089.26 4632.99 1093.06 4632.75 1099.26 4632.29 1102.75 4632.07 1109.26  4631.6
 1112.43 4631.41 1121.21 4630.87 1129.56 4630.39    1131 4630.28 1132.97 4630.16
 1134.77 4630.07 1138.95  4629.8 1140.46 4629.73 1143.42 4629.53 1151.77 4629.24
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 1218.44 4626.36 1220.04 4626.28 1223.17 4626.22 1224.57 4626.15 1226.46 4626.01
 1229.89 4625.97 1231.73 4625.86 1239.31 4625.32 1247.97 4624.87 1250.74 4624.74
 1259.31  4624.4 1267.33  4624.1 1269.32 4623.99 1277.01 4623.68 1279.32  4623.6
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 1315.81 4623.07 1320.87 4623.03 1324.34 4623.07 1327.32 4622.99 1332.33 4622.98
 1337.81 4623.02 1340.02 4623.02 1344.23  4622.5 1346.85 4622.47  1349.4  4622.1
 1352.53 4621.53  1355.8 4621.82 1357.14 4622.03    1360 4622.41 1360.87 4622.43
  1362.6 4622.64 1364.08 4622.76 1365.28 4622.78 1367.73 4622.94 1369.34 4623.01
  1374.4 4623.12 1375.62 4623.16    1381 4623.29 1383.01 4623.12 1385.17    4623
 1385.87 4623.03 1386.61 4623.15  1391.5 4623.87 1393.79 4624.23 1394.67  4624.3
 1408.78 4624.51 1417.83 4624.62 1418.29 4624.57 1423.33  4624.1 1424.73 4623.98
 1426.42 4623.31 1430.86 4621.56 1431.22 4621.45 1433.79 4620.99 1435.89 4620.69
 1441.13 4620.34  1443.6 4620.22 1445.61 4620.08 1460.32 4619.53 1461.25 4619.52
 1469.76 4619.58 1473.53 4619.55 1478.34 4619.67 1479.88 4619.64 1487.69 4619.52
  1490.8 4619.48 1507.48  4619.3 1512.57 4619.24 1538.67 4619.08 1544.94 4619.05
 1549.32 4619.06 1560.04 4619.18  1563.7 4619.21 1568.14 4619.29 1579.65 4619.47
  1587.6 4619.67  1602.4 4620.21 1603.84 4620.27 1617.51 4620.72 1622.07 4620.88
 1624.95 4620.97 1633.81 4620.57 1637.47 4620.41 1641.95 4620.28 1645.61 4620.23
 1650.14 4619.83 1654.15 4619.57 1656.04 4619.41 1660.13 4618.94 1662.24 4618.72
 1665.99 4618.46 1670.48 4618.28 1674.02 4618.19 1680.38 4618.11 1692.85 4617.99
 1699.16 4618.02 1701.02 4618.01 1705.93 4617.95 1714.33 4617.89 1715.44 4617.89
 1718.32 4617.59 1768.28 4617.59  1770.3 4617.82 1775.92 4618.21 1777.16 4618.25
 1780.31 4618.25 1782.46 4618.14 1784.67 4617.97 1786.05  4617.9 1786.98 4617.94
 1788.32 4617.95 1789.81 4618.02 1793.45 4618.28 1795.16 4618.34 1798.95 4618.53
 1805.86  4618.7 1807.01 4618.72 1813.18 4618.87 1814.55 4618.91 1840.08 4618.77
 1840.86 4618.79 1858.31 4619.14 1888.62 4619.15 1890.91 4619.17 1916.86 4619.32
 1923.66 4619.98 1925.01 4619.95  1927.2 4620.08 1930.74 4620.23 1934.01  4620.6
 1936.15 4620.76 1937.48  4620.9 1939.47 4621.03 1940.07 4621.15  1945.9 4621.93
 1946.22 4621.95 1950.72 4622.67 1954.02 4622.99 1955.38 4623.17 1957.37 4623.38
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  1971.9 4624.74 1977.04  4624.8 1982.73 4624.88 1989.07 4623.97 1989.67 4623.94
  1991.8 4623.99 1995.29 4624.03 1996.43 4624.02 2000.44 4624.08 2003.58 4624.09
 2006.57 4624.06 2007.69  4624.1 2011.74 4624.57 2014.71 4624.58 2019.62 4624.62
 2021.72 4623.99 2023.34 4623.67 2024.51 4623.65 2026.01 4623.66 2026.26 4623.69
 2027.01 4623.93 2028.65 4623.99 2030.51 4624.13 2032.58 4624.52 2036.46 4624.45
 2039.63 4624.44 2041.74 4624.34 2046.07 4624.24 2051.18 4624.25 2055.88 4624.23
 2062.92 4624.14  2069.3 4624.12 2071.08  4624.1 2072.25 4624.12 2078.28 4624.18
 2081.41  4624.2 2085.67 4624.27 2089.72  4624.3 2090.44 4624.36 2093.22 4624.46
 2094.77  4624.5 2099.85 4624.53 2102.17 4624.53 2104.08  4624.5 2119.37 4624.61
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 2175.56 4624.95 2180.92 4624.94 2184.09 4624.99 2188.25 4625.02 2190.62 4625.06
 2200.17 4625.18 2202.46 4625.14 2209.46 4625.21 2214.37 4625.28  2222.8 4625.24
 2228.84 4625.33 2230.88 4625.32 2239.55 4625.41 2249.64 4625.61 2253.32 4625.67
 2259.29  4625.6  2261.5 4625.62  2274.2 4625.94 2275.94 4625.97  2287.1 4626.39
 2303.87 4626.55 2311.78 4626.77 2321.93    4627 2328.12 4627.11 2332.79 4627.23
 2341.51  4627.6 2351.74 4627.78 2354.94 4627.89 2361.54 4628.26 2365.01 4628.37
 2377.04    4629  2380.8 4629.14  2398.9 4629.35  2402.3  4629.4 2404.78 4629.41
    2408 4629.45 2417.68 4629.45 2430.72 4629.43 2435.01 4629.16 2439.07 4628.98
 2447.19  4628.6 2451.19 4628.32 2452.23 4628.21 2453.02    4626 2550.18    4626
 2556.11 4626.42 2575.53 4627.95 2576.06    4628 2576.21 4628.01 2576.35 4628.02
 2602.67    4630 2618.11 4630.94 2629.86    4632 2635.35    4632 2650.21 4632.92
 2673.38    4634 2676.37 4634.92  2679.7    4636 2754.61    4636 2763.13 4636.14
 2764.06 4636.25 2770.63    4637  2777.3 4637.72 2778.34 4637.76  2779.4    4638
 2783.36 4639.47 2785.37    4640  2786.4 4640.25    2789 4640.88 2799.65    4642
 2805.79    4642 2807.63 4642.17 2814.22  4642.3 2834.24 4643.31

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
    2.95     .04 1424.73     .03 1962.26    .055
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Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      1424.73 1962.26           183.96  101.04  102.13            .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
    2040 2834.24 4629.45       T
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CROSS SECTION OUTPUT Profile #100-yr FP

E.G. Elev (ft)	4628.43	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.	0.040	0.030	0.055
W.S. Elev (ft)	4628.39	Reach Len. (ft)	183.96	101.04	102.13
Crit W.S. (ft)	4621.17	Flow Area (sq ft)	1287.03	4895.28	314.24
E.G. Slope (ft/ft)	0.000053	Area (sq ft)	1287.03	4895.28	1535.00
Q Total (cfs)	8625.00	Flow (cfs)	782.89	7685.76	156.35
Top Width (ft)	1495.99	Top Width (ft)	424.19	537.53	534.26
Vel Total (ft/s)	1.33	Avg. Vel. (ft/s)	0.61	1.57	0.50
Max Chl Dpth (ft)	10.80	Hydr. Depth (ft)	3.03	9.11	4.04
Conv. Total (cfs)	1185018.0	Conv. (cfs)	107564.5	1055972.0	21481.3
Length Wtd. (ft)	101.04	Wetted Per. (ft)	424.80	538.61	78.07
Min Ch El (ft)	4617.59	Shear (lb/sq ft)	0.01	0.03	0.01
Alpha	1.27	Stream Power (lb/ft s)	0.01	0.05	0.01
Frctn Loss (ft)		Cum Volume (acre-ft)	90.15	64.55	110.95
C & E Loss (ft)		Cum SA (acres)	35.63	6.52	39.02

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4629.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.030	
W.S. Elev (ft)	4629.50	Reach Len. (ft)	183.96	101.04	102.13
Crit W.S. (ft)	4621.17	Flow Area (sq ft)		5490.82	
E.G. Slope (ft/ft)	0.000047	Area (sq ft)		5490.82	
Q Total (cfs)	8625.00	Flow (cfs)		8625.00	
Top Width (ft)	537.53	Top Width (ft)		537.53	
Vel Total (ft/s)	1.57	Avg. Vel. (ft/s)		1.57	
Max Chl Dpth (ft)	11.91	Hydr. Depth (ft)		10.21	
Conv. Total (cfs)	1261733.0	Conv. (cfs)		1261733.0	
Length Wtd. (ft)	101.04	Wetted Per. (ft)		549.48	
Min Ch El (ft)	4617.59	Shear (lb/sq ft)		0.03	
Alpha	1.00	Stream Power (lb/ft s)		0.05	
Frctn Loss (ft)		Cum Volume (acre-ft)	90.43	59.29	37.52
C & E Loss (ft)		Cum SA (acres)	24.55	6.53	11.28

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4629.79	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.	0.040	0.030	0.055
W.S. Elev (ft)	4629.70	Reach Len. (ft)	183.96	101.04	102.13
Crit W.S. (ft)	4622.21	Flow Area (sq ft)	1920.26	5601.05	557.75
E.G. Slope (ft/ft)	0.000109	Area (sq ft)	1920.26	5601.05	2294.35
Q Total (cfs)	15790.00	Flow (cfs)	1844.19	13802.05	143.77
Top Width (ft)	1718.37	Top Width (ft)	544.37	537.53	636.48
Vel Total (ft/s)	1.95	Avg. Vel. (ft/s)	0.96	2.46	0.26
Max Chl Dpth (ft)	12.11	Hydr. Depth (ft)	3.53	10.42	0.88
Conv. Total (cfs)	1512091.0	Conv. (cfs)	176603.9	1321720.0	13767.8
Length Wtd. (ft)	101.04	Wetted Per. (ft)	545.10	538.61	638.63
Min Ch El (ft)	4617.59	Shear (lb/sq ft)	0.02	0.07	0.01
Alpha	1.42	Stream Power (lb/ft s)	0.02	0.17	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)	159.56	90.22	196.45
C & E Loss (ft)		Cum SA (acres)	43.18	6.53	53.94

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4627.48	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.	0.040	0.030	0.055
W.S. Elev (ft)	4627.46	Reach Len. (ft)	183.96	101.04	102.13
Crit W.S. (ft)	4620.76	Flow Area (sq ft)	922.65	4392.40	241.51
E.G. Slope (ft/ft)	0.000044	Area (sq ft)	922.65	4392.40	1054.02
Q Total (cfs)	6435.00	Flow (cfs)	470.47	5872.24	92.28
Top Width (ft)	1390.30	Top Width (ft)	360.17	537.53	492.60
Vel Total (ft/s)	1.16	Avg. Vel. (ft/s)	0.51	1.34	0.38
Max Chl Dpth (ft)	9.87	Hydr. Depth (ft)	2.56	8.17	3.11
Conv. Total (cfs)	965910.9	Conv. (cfs)	70619.4	881439.4	13852.2
Length Wtd. (ft)	101.04	Wetted Per. (ft)	360.70	538.61	78.07
Min Ch El (ft)	4617.59	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.23	Stream Power (lb/ft s)	0.00	0.03	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)	57.15	51.61	71.99
C & E Loss (ft)		Cum SA (acres)	28.31	6.49	30.40

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4626.25	Element	Left OB	Channel	Right OB

Vel Head (ft)	0.01	Wt. n-Val.	0.040	0.030	0.055
W.S. Elev (ft)	4626.24	Reach Len. (ft)	183.96	101.04	102.13
Crit W.S. (ft)	4619.94	Flow Area (sq ft)	533.40	3738.33	146.92
E.G. Slope (ft/ft)	0.000017	Area (sq ft)	533.40	3738.33	493.65
Q Total (cfs)	2924.00	Flow (cfs)	143.67	2755.59	24.74
Top Width (ft)	1230.85	Top Width (ft)	271.89	537.53	421.43
Vel Total (ft/s)	0.66	Avg. Vel. (ft/s)	0.27	0.74	0.17
Max Chl Dpth (ft)	8.65	Hydr. Depth (ft)	1.96	6.95	1.89
Conv. Total (cfs)	714906.3	Conv. (cfs)	35125.8	673730.8	6049.8
Length Wtd. (ft)	101.04	Wetted Per. (ft)	272.33	538.61	78.07
Min Ch El (ft)	4617.59	Shear (lb/sq ft)	0.00	0.01	0.00
Alpha	1.18	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)	20.23	33.46	17.02
C & E Loss (ft)		Cum SA (acres)	17.09	6.21	18.10

CULVERT

RIVER: KingsCynCreek
REACH: Reach1 RS: 3591.5

INPUT
Description:
Distance from Upstream XS = 18
Deck/Roadway Width = 48
Weir Coefficient = 2.6
Upstream Deck/Roadway Coordinates
num= 4

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
0	4626		1655	4625.5		1765	4625.5	
2834.24	4626							

Upstream Bridge Cross Section Data
Station Elevation Data num= 499

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
2.95	4631.62	3.54	4631.32	5.23	4630.53	6.27	4630	7.95	4629.81
14.39	4629.02	19.62	4628.75	24.09	4628.56	27.08	4628.54	32.02	4628.6
33.61	4628.58	37.76	4628.43	44.05	4628.3	51.73	4627.93	56.54	4627.68
65.44	4627.38	66.17	4627.33	77.91	4626.6	84.56	4626.46	90.32	4626.36
103.75	4626.06	108.47	4625.89	112.44	4625.86	116.02	4625.89	121.21	4625.91
124.84	4625.73	128.79	4625.6	134.77	4625.61	136.88	4625.72	140.51	4625.69
145.23	4625.71	154.35	4625.83	158.6	4625.73	160.86	4626.03	169.18	4626.44
171.95	4626.56	177.27	4626.68	181.03	4626.83	188.02	4627.12	190.75	4627.24
194.9	4627.32	204.42	4627.93	205.34	4628	212.28	4628.33	213.05	4628.35
214.78	4628.47	223.82	4629.06	225.57	4629.07	230.94	4629.16	234.68	4629.13
235.36	4629.15	240.45	4629.47	244.61	4629.54	252.22	4629.34	255.7	4629.39
257.59	4629.43	267.8	4629.62	268.11	4629.61	274.51	4630.12	278.98	4630.45
281.64	4630.68	286.29	4630.8	287.4	4630.89	290.41	4631.06	293.98	4631.37
299.42	4631.77	303	4632.09	307.24	4632.35	309.47	4632.45	312.63	4632.63
314.59	4632.77	320.51	4633.05	329.2	4633.29	338.47	4633.76	346.93	4634.01
359.02	4634.25	384.02	4634.97	395.04	4635.05	407.66	4635.08	426.21	4635.38
432.9	4635.49	434.36	4635.48	436.01	4635.5	436.59	4636.02	443.59	4636.13
447.72	4636.17	454.09	4636.37	463.59	4636.48	473.27	4636.24	477.49	4636.3
486.33	4636.63	494.2	4636.55	497.13	4636.61	497.95	4636.61	501.18	4636.49
509.27	4636.58	512.32	4636.67	514.64	4636.72	526.22	4637.06	530.09	4637.2
535.03	4637.33	541.37	4637.44	542.23	4637.49	549.1	4637.78	553.33	4638
553.7	4638	553.95	4637.5	558.2	4637.5	569.01	4637.53	575.19	4637.56
581.02	4637.57	595.7	4637.35	598.81	4637.29	605.86	4637.21	607.66	4637.2
607.93	4637.7	609.58	4637.66	615.65	4637.55	617.98	4637.54	618.5	4637.58
627.78	4637.17	629.9	4637.14	639.11	4637.11	647.72	4637.1	649.11	4637.09
659.11	4637.07	667.08	4636.99	668.64	4637	676.58	4636.88	685.31	4636.95
690.18	4636.93	698.22	4637.06	703.69	4637.1	713.99	4637.13	721.8	4636.81
723.1	4636.81	724.54	4636.77	742.85	4636.77	748.72	4636.76	754.21	4636.87
759.15	4636.96	763.9	4637.06	769.15	4637.15	774.77	4637.26	778.67	4637.35
781.7	4637.36	788.93	4637.46	796.49	4637.58	801.42	4637.65	809.05	4637.75
817.03	4637.81	819.71	4637.84	820.82	4637.83	828.83	4637.97	837.23	4638.2
839.51	4638.25	848.07	4638.5	850.67	4638.54	859.32	4638.58	868.39	4638.75
869.1	4638.75	878.45	4638.89	879.59	4638.89	889.03	4639.04	889.52	4639.04
899.16	4638.9	909.2	4638.83	918.8	4638.91	919.2	4638.9	928.48	4638.78
929.2	4638.78	938.16	4638.66	939.21	4638.64	947.84	4638.39	949.21	4638.37
957.52	4638.07	959.21	4638.03	967.21	4638.07	976.89	4638.16	979.22	4638.17
981.71	4638.12	989.05	4637.76	991.38	4637.69	996.22	4637.42	1004.79	4637.07
1007.98	4636.95	1020.06	4635.95	1024.7	4635.76	1026.79	4635.74	1027.89	4635.71
1031.46	4635.52	1032.7	4635.44	1034.24	4635.39	1048.83	4635.04	1050.82	4634.9
1055.41	4634.77	1064.49	4634.24	1069.25	4634.04	1073.7	4633.79	1079.25	4633.52
1089.26	4632.99	1093.06	4632.75	1099.26	4632.29	1102.75	4632.07	1109.26	4631.6
1112.43	4631.41	1121.21	4630.87	1129.56	4630.39	1131	4630.28	1132.97	4630.16
1134.77	4630.07	1138.95	4629.8	1140.46	4629.73	1143.42	4629.53	1151.77	4629.24
1155.46	4629.14	1159.9	4629.08	1169.88	4628.56	1178.97	4628.23	1180.2	4628.18
1181.82	4628.16	1190.12	4627.96	1195.05	4627.59	1199.01	4627.43	1213.39	4626.69
1218.44	4626.36	1220.04	4626.28	1223.17	4626.22	1224.57	4626.15	1226.46	4626.01
1229.89	4625.97	1231.73	4625.86	1239.31	4625.32	1247.97	4624.87	1250.74	4624.74
1259.31	4624.4	1267.33	4624.1	1269.32	4623.99	1277.01	4623.68	1279.32	4623.6
1286.69	4623.51	1296.37	4623.3	1299.33	4623.23	1306.06	4623.13	1309.33	4623.13

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 1315.81 4623.07 1320.87 4623.03 1324.34 4623.07 1327.32 4622.99 1332.33 4622.98
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 1352.53 4621.53  1355.8 4621.82 1357.14 4622.03    1360 4622.41 1360.87 4622.43
  1362.6 4622.64 1364.08 4622.76 1365.28 4622.78 1367.73 4622.94 1369.34 4623.01
  1374.4 4623.12 1375.62 4623.16    1381 4623.29 1383.01 4623.12 1385.17    4623
 1385.87 4623.03 1386.61 4623.15  1391.5 4623.87 1393.79 4624.23 1394.67  4624.3
 1408.78 4624.51 1417.83 4624.62 1418.29 4624.57 1423.33  4624.1 1424.73 4623.98
 1426.42 4623.31 1430.86 4621.56 1431.22 4621.45 1433.79 4620.99 1435.89 4620.69
 1441.13 4620.34  1443.6 4620.22 1445.61 4620.08 1460.32 4619.53 1461.25 4619.52
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 1665.99 4618.46 1670.48 4618.28 1674.02 4618.19 1680.38 4618.11 1692.85 4617.99
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 1805.86  4618.7 1807.01 4618.72 1813.18 4618.87 1814.55 4618.91 1840.08 4618.77
 1840.86 4618.79 1858.31 4619.14 1888.62 4619.15 1890.91 4619.17 1916.86 4619.32
 1923.66 4619.98 1925.01 4619.95  1927.2 4620.08 1930.74 4620.23 1934.01  4620.6
 1936.15 4620.76 1937.48  4620.9 1939.47 4621.03 1940.07 4621.15  1945.9 4621.93
 1946.22 4621.95 1950.72 4622.67 1954.02 4622.99 1955.38 4623.17 1957.37 4623.38
 1958.72 4623.61 1962.26 4624.15 1964.26 4624.46 1966.08 4624.61 1970.09 4624.71
  1971.9 4624.74 1977.04  4624.8 1982.73 4624.88 1989.07 4623.97 1989.67 4623.94
  1991.8 4623.99 1995.29 4624.03 1996.43 4624.02 2000.44 4624.08 2003.58 4624.09
 2006.57 4624.06 2007.69  4624.1 2011.74 4624.57 2014.71 4624.58 2019.62 4624.62
 2021.72 4623.99 2023.34 4623.67 2024.51 4623.65 2026.01 4623.66 2026.26 4623.69
 2027.01 4623.93 2028.65 4623.99 2030.51 4624.13 2032.58 4624.52 2036.46 4624.45
 2039.63 4624.44 2041.74 4624.34 2046.07 4624.24 2051.18 4624.25 2055.88 4624.23
 2062.92 4624.14  2069.3 4624.12 2071.08  4624.1 2072.25 4624.12 2078.28 4624.18
 2081.41  4624.2 2085.67 4624.27 2089.72  4624.3 2090.44 4624.36 2093.22 4624.46
 2094.77  4624.5 2099.85 4624.53 2102.17 4624.53 2104.08  4624.5 2119.37 4624.61
 2121.72 4624.67 2140.38 4624.75 2160.44 4624.84 2163.07 4624.88 2167.81 4624.88
 2175.56 4624.95 2180.92 4624.94 2184.09 4624.99 2188.25 4625.02 2190.62 4625.06
 2200.17 4625.18 2202.46 4625.14 2209.46 4625.21 2214.37 4625.28  2222.8 4625.24
 2228.84 4625.33 2230.88 4625.32 2239.55 4625.41 2249.64 4625.61 2253.32 4625.67
 2259.29  4625.6  2261.5 4625.62  2274.2 4625.94 2275.94 4625.97  2287.1 4626.39
 2303.87 4626.55 2311.78 4626.77 2321.93    4627 2328.12 4627.11 2332.79 4627.23
 2341.51  4627.6 2351.74 4627.78 2354.94 4627.89 2361.54 4628.26 2365.01 4628.37
 2377.04    4629  2380.8 4629.14  2398.9 4629.35  2402.3  4629.4 2404.78 4629.41
    2408 4629.45 2417.68 4629.45 2430.72 4629.43 2435.01 4629.16 2439.07 4628.98
 2447.19  4628.6 2451.19 4628.32 2452.23 4628.21 2453.02    4626 2550.18    4626
 2556.11 4626.42 2575.53 4627.95 2576.06    4628 2576.21 4628.01 2576.35 4628.02
 2602.67    4630 2618.11 4630.94 2629.86    4632 2635.35    4632 2650.21 4632.92
 2673.38    4634 2676.37 4634.92  2679.7    4636 2754.61    4636 2763.13 4636.14
 2764.06 4636.25 2770.63    4637  2777.3 4637.72 2778.34 4637.76  2779.4    4638
 2783.36 4639.47 2785.37    4640  2786.4 4640.25    2789 4640.88 2799.65    4642
 2805.79    4642 2807.63 4642.17 2814.22  4642.3 2834.24 4643.31

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
    2.95     .04 1424.73     .03 1962.26    .055

Bank Sta: Left   Right    Coeff Contr.   Expan.
       1424.73 1962.26            .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
    2040 2834.24 4629.45       T

Downstream  Deck/Roadway Coordinates
    num=       4
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
       0    4626            1620  4625.5            1760  4625.5
 2705.41    4626

Downstream Bridge Cross Section Data
Station Elevation Data    num=     251
     Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev      Sta     Elev
       0 4628.48     8.39     4628    31.63 4626.65    45.35     4626    65.93     4626
   83.65     4626   113.84     4626   124.77     4626   143.14     4626   156.01 4626.89
  173.75     4628   180.91 4629.13   198.67     4630    219.9     4630   233.85 4631.05
  235.26 4631.07   254.48     4632   266.19     4632   273.74     4632   279.59     4632
  287.87     4632   295.83 4632.25   307.18 4633.12   318.85 4633.75   321.32     4634
  325.28     4634   330.99     4634   343.18     4634   418.37 4634.91   423.48 4635.03
  449.06 4635.16   455.25 4635.32   460.67 4635.37   463.55 4635.37   472.93  4635.6
  478.38 4635.61   489.96 4635.96    492.3     4636   493.62     4636   494.73     4636
  506.62     4636    513.9     4636   515.31     4636   516.76     4636    521.9     4636
  533.93     4636   582.71     4636   585.75     4636   592.46     4636   595.71     4636
  620.84     4636   664.43 4635.23      698 4635.24   722.06 4635.05   730.99 4635.02
  743.01 4634.98   749.78 4634.93   791.49     4634   804.72     4634   813.45     4634
  821.84     4634   826.33     4634   837.41     4634   854.55   4633.7   907.39 4633.06
  928.01     4632   933.16     4632   940.94     4632   941.69     4632    998.8 4630.14
```

```
  1002.9    4630 1003.98 4629.96 1063.57 4628.03 1064.49    4628 1064.51    4628
 1119.01 4626.91 1127.89 4626.75 1130.15  4626.7 1139.37 4626.61 1154.23    4626
  1174.2    4626 1194.03    4626 1198.11    4626 1199.46    4626 1201.98    4626
 1225.29 4625.62 1298.81    4624 1378.32 4625.61 1383.53 4625.59 1386.63 4625.61
 1391.49 4625.68 1396.05 4625.72 1399.15 4625.71 1429.58 4625.83 1432.64 4625.83
 1448.49    4626  1459.5    4626 1462.35    4626 1473.25    4626 1486.51 4625.88
 1487.79 4625.88 1505.97 4625.79  1509.2  4625.8 1511.82 4625.76 1520.59 4625.64
 1525.99 4625.65 1529.37 4625.64  1594.7 4625.18 1618.98 4624.61 1640.38    4624
 1652.82    4624 1655.29    4624 1657.79 4622.84  1659.2    4622 1660.97 4621.05
 1662.32    4620 1664.62 4618.96 1666.37    4618 1668.58 4616.73 1669.89    4616
 1674.94    4616 1691.95    4616 1705.59    4616 1706.27    4616 1706.94    4616
 1708.83    4616 1712.11 4617.28 1713.63    4618 1715.08 4618.68 1717.76    4620
  1720.6 4621.47 1721.67    4622 1722.34 4622.32 1725.55    4624 1726.52  4624.6
 1728.75    4626 1731.08 4626.89    1734    4628 1737.83    4628 1743.59    4628
 1745.78    4628 1746.81    4628 1749.27    4628  1753.7    4628 1764.98    4628
 1769.98    4628 1772.74    4628 1780.28    4628 1782.47    4628 1786.04    4628
 1787.96    4628 1796.33    4628 1799.98    4628 1810.05    4628    1821 4629.23
 1826.56    4630 1828.47    4630 1842.94    4630 1864.98    4630 1880.71    4630
 1884.68    4630 1895.97    4630 1900.73    4630 1904.82    4630 1918.59 4628.36
 1920.81    4628 1928.94 4626.44 1931.04    4626 1931.47  4625.9 1934.99  4625.2
 1940.55 4624.12 1941.67    4624  1942.7    4624 1952.51    4624 1961.94    4624
 1969.78    4624 1980.05    4624  2004.8    4624 2015.35    4624 2016.65    4624
  2056.4    4624  2059.5    4624  2062.3    4624 2080.89    4624 2082.97    4624
 2100.54    4624  2103.1    4624 2112.75    4624 2115.03    4624 2118.28    4624
 2123.21 4625.61 2124.61    4626 2124.94 4626.33 2126.61    4628 2127.54    4628
 2127.85    4628 2148.35    4628 2160.55 4627.87 2184.86    4628 2193.39    4628
 2194.75    4628  2196.6    4628 2219.63    4628  2223.9    4628 2230.01    4628
  2255.5    4628 2261.76    4628 2266.28 4627.87 2267.14 4627.86 2267.61 4627.85
 2272.38  4627.5 2291.52 4626.56 2301.52    4626 2308.58    4626  2323.9    4626
 2331.27    4626 2350.94    4626 2353.81    4626 2366.47    4626    2368    4626
 2392.51 4627.41 2399.33    4628 2399.92    4628 2402.83    4628 2420.49    4628
 2434.59    4628 2456.71 4628.66 2458.81 4628.71 2468.52    4628 2471.61 4627.29
 2529.58 4627.75 2531.98 4627.82 2537.15    4628 2538.27    4628 2540.03    4628
 2540.87    4628 2544.63 4628.16 2547.96 4628.31 2583.68    4630 2592.49 4631.24
  2597.4    4632  2614.5 4632.86  2636.8    4634 2645.57 4635.31 2648.21    4636
 2658.37 4636.57 2676.21    4638 2693.45 4639.33 2697.13    4640 2702.13 4640.19
 2705.41 4640.38

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045  1594.7    .035    1734    .055

Bank Sta: Left   Right    Coeff Contr.   Expan.
        1594.7    1734             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0  620.84               F
    1734 2705.41               F

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Culverts =  1

Culvert Name     Shape      Rise    Span
Culvert #1           Box       6      10
FHWA Chart # 8 - flared wingwalls
FHWA Scale # 3 - Wingwall flared 0 deg. (sides extended straight)
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef   Exit Loss Coef
                 20      48     .013     .013        0                  .7               1
Number of Barrels =  4
Upstream   Elevation =  4617.2
Centerline Stations
    Sta.    Sta.    Sta.    Sta.
  1708.5  1719.5  1730.5  1741.5
Downstream Elevation =  4617.2
Centerline Stations
    Sta.    Sta.    Sta.    Sta.
  1673.5  1684.5  1695.5  1706.5

CULVERT OUTPUT  Profile #100-yr FP  Culv Group:  Culvert #1

  Q Culv Group (cfs)        589.35    Culv Full Len (ft)         48.00
  # Barrels                      4    Culv Vel US (ft/s)          2.46
  Q Barrel (cfs)            147.34    Culv Vel DS (ft/s)          2.46
  E.G. US. (ft)            4628.43    Culv Inv El Up (ft)      4617.20
  W.S. US. (ft)            4628.39    Culv Inv El Dn (ft)      4617.20
  E.G. DS (ft)             4628.35    Culv Frctn Ls (ft)          0.01
  W.S. DS (ft)             4627.91    Culv Exit Loss (ft)         0.00
```

Delta EG (ft)	0.08	Culv Entr Loss (ft)	0.07
Delta WS (ft)	0.48	Q Weir (cfs)	8035.65
E.G. IC (ft)	4628.37	Weir Sta Lft (ft)	39.62
E.G. OC (ft)	4628.43	Weir Sta Rgt (ft)	2040.00
Culvert Control	Outlet	Weir Submerg	0.95
Culv WS Inlet (ft)	4623.20	Weir Max Depth (ft)	2.89
Culv WS Outlet (ft)	4623.20	Weir Avg Depth (ft)	2.55
Culv Nml Depth (ft)		Weir Flow Area (sq ft)	2649.12
Culv Crt Depth (ft)	1.89	Min El Weir Flow (ft)	4625.51

CULVERT OUTPUT Profile #100-yr FW Culv Group: Culvert #1

Q Culv Group (cfs)	656.64	Culv Full Len (ft)	48.00
# Barrels	4	Culv Vel US (ft/s)	2.74
Q Barrel (cfs)	164.16	Culv Vel DS (ft/s)	2.74
E.G. US. (ft)	4629.54	Culv Inv El Up (ft)	4617.20
W.S. US. (ft)	4629.50	Culv Inv El Dn (ft)	4617.20
E.G. DS (ft)	4629.44	Culv Frctn Ls (ft)	0.01
W.S. DS (ft)	4629.23	Culv Exit Loss (ft)	0.00
Delta EG (ft)	0.09	Culv Entr Loss (ft)	0.08
Delta WS (ft)	0.27	Q Weir (cfs)	7968.36
E.G. IC (ft)	4629.48	Weir Sta Lft (ft)	1424.73
E.G. OC (ft)	4629.54	Weir Sta Rgt (ft)	1962.26
Culvert Control	Outlet	Weir Submerg	0.96
Culv WS Inlet (ft)	4623.20	Weir Max Depth (ft)	4.03
Culv WS Outlet (ft)	4623.20	Weir Avg Depth (ft)	4.00
Culv Nml Depth (ft)		Weir Flow Area (sq ft)	2150.29
Culv Crt Depth (ft)	2.03	Min El Weir Flow (ft)	4625.51

Warning: During the culvert inlet control computations, the program could not balance the culvert/weir flow. The reported inlet energy grade answer may not be valid.

CULVERT OUTPUT Profile #500-yr Culv Group: Culvert #1

Q Culv Group (cfs)	600.47	Culv Full Len (ft)	48.00
# Barrels	4	Culv Vel US (ft/s)	2.50
Q Barrel (cfs)	150.12	Culv Vel DS (ft/s)	2.50
E.G. US. (ft)	4629.79	Culv Inv El Up (ft)	4617.20
W.S. US. (ft)	4629.70	Culv Inv El Dn (ft)	4617.20
E.G. DS (ft)	4629.71	Culv Frctn Ls (ft)	0.01
W.S. DS (ft)	4628.93	Culv Exit Loss (ft)	0.00
Delta EG (ft)	0.08	Culv Entr Loss (ft)	0.07
Delta WS (ft)	0.78	Q Weir (cfs)	15189.53
E.G. IC (ft)	4629.76	Weir Sta Lft (ft)	8.32
E.G. OC (ft)	4629.79	Weir Sta Rgt (ft)	2599.54
Culvert Control	Outlet	Weir Submerg	0.93
Culv WS Inlet (ft)	4623.20	Weir Max Depth (ft)	4.26
Culv WS Outlet (ft)	4623.20	Weir Avg Depth (ft)	2.52
Culv Nml Depth (ft)		Weir Flow Area (sq ft)	4335.24
Culv Crt Depth (ft)	1.91	Min El Weir Flow (ft)	4625.51

Warning: During the culvert inlet control computations, the program could not balance the culvert/weir flow. The reported inlet energy grade answer may not be valid.

CULVERT OUTPUT Profile #50-yr Culv Group: Culvert #1

Q Culv Group (cfs)	443.59	Culv Full Len (ft)	48.00
# Barrels	4	Culv Vel US (ft/s)	1.85
Q Barrel (cfs)	110.90	Culv Vel DS (ft/s)	1.85
E.G. US. (ft)	4627.48	Culv Inv El Up (ft)	4617.20
W.S. US. (ft)	4627.46	Culv Inv El Dn (ft)	4617.20
E.G. DS (ft)	4627.44	Culv Frctn Ls (ft)	0.01
W.S. DS (ft)	4626.92	Culv Exit Loss (ft)	0.00
Delta EG (ft)	0.04	Culv Entr Loss (ft)	0.04
Delta WS (ft)	0.53	Q Weir (cfs)	5991.41
E.G. IC (ft)	4627.45	Weir Sta Lft (ft)	62.26
E.G. OC (ft)	4627.48	Weir Sta Rgt (ft)	2040.00
Culvert Control	Outlet	Weir Submerg	0.84
Culv WS Inlet (ft)	4623.20	Weir Max Depth (ft)	1.99
Culv WS Outlet (ft)	4623.20	Weir Avg Depth (ft)	1.78
Culv Nml Depth (ft)		Weir Flow Area (sq ft)	1739.61
Culv Crt Depth (ft)	1.56	Min El Weir Flow (ft)	4625.51

Warning: During the culvert inlet control computations, the program could not balance the culvert/weir flow. The reported inlet energy grade answer may not be valid.

CULVERT OUTPUT Profile #10-yr Culv Group: Culvert #1

Q Culv Group (cfs)	1673.55	Culv Full Len (ft)	48.00
# Barrels	4	Culv Vel US (ft/s)	6.97
Q Barrel (cfs)	418.39	Culv Vel DS (ft/s)	6.97

E.G. US. (ft)	4626.25	Culv Inv El Up (ft)	4617.20
W.S. US. (ft)	4626.24	Culv Inv El Dn (ft)	4617.20
E.G. DS (ft)	4625.34	Culv Frctn Ls (ft)	0.08
W.S. DS (ft)	4624.89	Culv Exit Loss (ft)	0.30
Delta EG (ft)	0.90	Culv Entr Loss (ft)	0.53
Delta WS (ft)	1.35	Q Weir (cfs)	1250.45
E.G. IC (ft)	4625.98	Weir Sta Lft (ft)	95.11
E.G. OC (ft)	4626.25	Weir Sta Rgt (ft)	2040.00
Culvert Control	Outlet	Weir Submerg	0.00
Culv WS Inlet (ft)	4623.20	Weir Max Depth (ft)	0.75
Culv WS Outlet (ft)	4623.20	Weir Avg Depth (ft)	0.66
Culv Nml Depth (ft)		Weir Flow Area (sq ft)	583.28
Culv Crt Depth (ft)	3.79	Min El Weir Flow (ft)	4625.51

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 3490.956

INPUT
Description:
Station Elevation Data num= 251

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4628.48	8.39	4628	31.63	4626.65	45.35	4626	65.93	4626
83.65	4626	113.84	4626	124.77	4626	143.14	4626	156.01	4626.89
173.75	4628	180.91	4629.13	198.67	4630	219.9	4630	233.85	4631.05
235.26	4631.07	254.48	4632	266.19	4632	273.74	4632	279.59	4632
287.87	4632	295.83	4632.25	307.18	4633.12	318.85	4633.75	321.32	4634
325.28	4634	330.99	4634	343.18	4634	418.37	4634.91	423.48	4635.03
449.06	4635.16	455.25	4635.32	460.67	4635.37	463.55	4635.37	472.93	4635.6
478.38	4635.61	489.96	4635.96	492.3	4636	493.62	4636	494.73	4636
506.62	4636	513.9	4636	515.31	4636	516.76	4636	521.9	4636
533.93	4636	582.71	4636	585.75	4636	592.46	4636	595.71	4636
620.84	4636	664.43	4635.23	698	4635.24	722.06	4635.05	730.99	4635.02
743.01	4634.98	749.78	4634.93	791.49	4634	804.72	4634	813.45	4634
821.84	4634	826.33	4634	837.41	4634	854.55	4633.7	907.39	4633.06
928.01	4632	933.16	4632	940.94	4632	941.69	4632	998.8	4630.14
1002.9	4630	1003.98	4629.96	1063.57	4628.03	1064.49	4628	1064.51	4628
1119.01	4626.91	1127.89	4626.75	1130.15	4626.7	1139.37	4626.61	1154.23	4626
1174.2	4626	1194.03	4626	1198.11	4626	1199.46	4626	1201.98	4626
1225.29	4625.62	1298.81	4624	1378.32	4625.61	1383.53	4625.59	1386.63	4625.61
1391.49	4625.68	1396.05	4625.72	1399.15	4625.71	1429.58	4625.83	1432.64	4625.83
1448.49	4626	1459.5	4626	1462.35	4626	1473.25	4626	1486.51	4625.88
1487.79	4625.88	1505.97	4625.79	1509.2	4625.8	1511.82	4625.76	1520.59	4625.64
1525.99	4625.65	1529.37	4625.64	1594.7	4625.18	1618.98	4624.61	1640.38	4624
1652.82	4624	1655.29	4624	1657.79	4622.84	1659.2	4622	1660.97	4621.05
1662.32	4620	1664.62	4618.96	1666.37	4618	1668.58	4616.73	1669.89	4616
1674.94	4616	1691.95	4616	1705.59	4616	1706.27	4616	1706.94	4616
1708.83	4616	1712.11	4617.28	1713.63	4618	1715.08	4618.68	1717.76	4620
1720.6	4621.47	1721.67	4622	1722.34	4622.32	1725.55	4624	1726.52	4624.6
1728.75	4626	1731.08	4626.89	1734	4628	1737.83	4628	1743.59	4628
1745.78	4628	1746.81	4628	1749.27	4628	1753.7	4628	1764.98	4628
1769.98	4628	1772.74	4628	1780.28	4628	1782.47	4628	1786.04	4628
1787.96	4628	1796.33	4628	1799.98	4628	1810.05	4628	1821	4629.23
1826.56	4630	1828.47	4630	1842.94	4630	1864.98	4630	1880.71	4630
1884.68	4630	1895.97	4630	1900.73	4630	1904.82	4630	1918.59	4628.36
1920.81	4628	1928.94	4626.44	1931.04	4626	1931.47	4625.9	1934.99	4625.2
1940.55	4624.12	1941.67	4624	1942.7	4624	1952.51	4624	1961.94	4624
1969.78	4624	1980.05	4624	2004.8	4624	2015.35	4624	2016.65	4624
2056.4	4624	2059.5	4624	2062.3	4624	2080.89	4624	2082.97	4624
2100.54	4624	2103.1	4624	2112.75	4624	2115.03	4624	2118.28	4624
2123.21	4625.61	2124.61	4626	2124.94	4626.33	2126.61	4628	2127.54	4628
2127.85	4628	2148.35	4628	2160.55	4627.87	2184.86	4628	2193.39	4628
2194.75	4628	2196.6	4628	2219.63	4628	2223.9	4628	2230.01	4628
2255.5	4628	2261.76	4628	2266.28	4627.87	2267.14	4627.86	2267.61	4627.85
2272.38	4627.5	2291.52	4626.56	2301.52	4626	2308.58	4626	2323.9	4626
2331.27	4626	2350.94	4626	2353.81	4626	2366.47	4626	2368	4626
2392.51	4627.41	2399.33	4628	2399.92	4628	2402.83	4628	2420.49	4628
2434.59	4628	2456.71	4628.66	2458.81	4628.71	2468.52	4628	2471.61	4627.29
2529.58	4627.75	2531.98	4627.82	2537.15	4628	2538.27	4628	2540.03	4628
2540.87	4628	2544.63	4628.16	2547.96	4628.31	2583.68	4630	2592.49	4631.24
2597.4	4632	2614.5	4632.86	2636.8	4634	2645.57	4635.31	2648.21	4636
2658.37	4636.57	2676.21	4638	2693.45	4639.33	2697.13	4640	2702.13	4640.19
2705.41	4640.38								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.045	1594.7	.035	1734	.055

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
1594.7	1734	591.29	561.2	578.66	.3	.5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent

```
       0  620.84              F
    1734 2705.41              F
```

CROSS SECTION OUTPUT Profile #100-yr FP

E.G. Elev (ft)	4628.35	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.44	Wt. n-Val.	0.045	0.035	
W.S. Elev (ft)	4627.91	Reach Len. (ft)	591.29	561.20	578.66
Crit W.S. (ft)		Flow Area (sq ft)	1166.64	936.61	
E.G. Slope (ft/ft)	0.001785	Area (sq ft)	1416.02	936.61	967.79
Q Total (cfs)	8625.00	Flow (cfs)	2768.89	5856.11	
Top Width (ft)	1242.70	Top Width (ft)	688.07	139.06	415.56
Vel Total (ft/s)	4.10	Avg. Vel. (ft/s)	2.37	6.25	
Max Chl Dpth (ft)	11.91	Hydr. Depth (ft)	2.22	6.74	
Conv. Total (cfs)	204142.4	Conv. (cfs)	65536.1	138606.3	
Length Wtd. (ft)	572.59	Wetted Per. (ft)	525.76	143.92	
Min Ch El (ft)	4616.00	Shear (lb/sq ft)	0.25	0.73	
Alpha	1.69	Stream Power (lb/ft s)	0.59	4.53	
Frctn Loss (ft)	0.63	Cum Volume (acre-ft)	90.15	56.78	110.95
C & E Loss (ft)	0.12	Cum SA (acres)	33.28	5.74	37.91

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4629.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.	0.045	0.035	
W.S. Elev (ft)	4629.23	Reach Len. (ft)	591.29	561.20	578.66
Crit W.S. (ft)		Flow Area (sq ft)	1676.57	1120.86	
E.G. Slope (ft/ft)	0.000722	Area (sq ft)	1676.57	1120.86	7.40
Q Total (cfs)	8625.00	Flow (cfs)	3607.90	5017.10	
Top Width (ft)	585.77	Top Width (ft)	440.47	139.30	6.00
Vel Total (ft/s)	3.08	Avg. Vel. (ft/s)	2.15	4.48	
Max Chl Dpth (ft)	13.23	Hydr. Depth (ft)	3.81	8.05	
Conv. Total (cfs)	321046.4	Conv. (cfs)	134296.0	186750.4	
Length Wtd. (ft)	572.78	Wetted Per. (ft)	443.75	144.17	
Min Ch El (ft)	4616.00	Shear (lb/sq ft)	0.17	0.35	
Alpha	1.43	Stream Power (lb/ft s)	0.37	1.57	
Frctn Loss (ft)	0.63	Cum Volume (acre-ft)	90.43	53.32	37.52
C & E Loss (ft)	0.18	Cum SA (acres)	23.62	5.74	11.28

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4629.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.78	Wt. n-Val.	0.045	0.035	
W.S. Elev (ft)	4628.93	Reach Len. (ft)	591.29	561.20	578.66
Crit W.S. (ft)		Flow Area (sq ft)	1718.16	1078.08	
E.G. Slope (ft/ft)	0.002865	Area (sq ft)	2143.82	1078.08	1655.17
Q Total (cfs)	15790.00	Flow (cfs)	6421.08	9368.92	
Top Width (ft)	1609.14	Top Width (ft)	738.41	139.30	731.43
Vel Total (ft/s)	5.65	Avg. Vel. (ft/s)	3.74	8.69	
Max Chl Dpth (ft)	12.93	Hydr. Depth (ft)	3.07	7.74	
Conv. Total (cfs)	294974.8	Conv. (cfs)	119953.0	175021.8	
Length Wtd. (ft)	573.50	Wetted Per. (ft)	558.88	144.17	
Min Ch El (ft)	4616.00	Shear (lb/sq ft)	0.55	1.34	
Alpha	1.58	Stream Power (lb/ft s)	2.06	11.63	
Frctn Loss (ft)	1.89	Cum Volume (acre-ft)	159.56	78.85	196.45
C & E Loss (ft)	0.08	Cum SA (acres)	40.47	5.74	52.34

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4627.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.52	Wt. n-Val.	0.045	0.035	
W.S. Elev (ft)	4626.92	Reach Len. (ft)	591.29	561.20	578.66
Crit W.S. (ft)		Flow Area (sq ft)	671.75	800.53	
E.G. Slope (ft/ft)	0.002239	Area (sq ft)	776.94	800.53	628.13
Q Total (cfs)	6435.00	Flow (cfs)	1319.97	5115.03	
Top Width (ft)	1041.35	Top Width (ft)	605.89	136.46	299.00
Vel Total (ft/s)	4.37	Avg. Vel. (ft/s)	1.96	6.39	
Max Chl Dpth (ft)	10.92	Hydr. Depth (ft)	1.41	5.87	

Conv. Total (cfs)	135986.0	Conv. (cfs)	27893.9	108092.1	
Length Wtd. (ft)	570.20	Wetted Per. (ft)	476.36	141.14	
Min Ch El (ft)	4616.00	Shear (lb/sq ft)	0.20	0.79	
Alpha	1.74	Stream Power (lb/ft s)	0.39	5.07	
Frctn Loss (ft)	0.72	Cum Volume (acre-ft)	57.15	45.88	71.99
C & E Loss (ft)	0.15	Cum SA (acres)	26.27	5.71	29.47

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4625.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.46	Wt. n-Val.	0.045	0.035	
W.S. Elev (ft)	4624.89	Reach Len. (ft)	591.29	561.20	578.66
Crit W.S. (ft)		Flow Area (sq ft)	37.09	529.13	
E.G. Slope (ft/ft)	0.002387	Area (sq ft)	37.09	529.13	159.89
Q Total (cfs)	2924.00	Flow (cfs)	34.74	2889.26	
Top Width (ft)	387.92	Top Width (ft)	83.85	119.70	184.38
Vel Total (ft/s)	5.16	Avg. Vel. (ft/s)	0.94	5.46	
Max Chl Dpth (ft)	8.88	Hydr. Depth (ft)	0.44	4.42	
Conv. Total (cfs)	59849.1	Conv. (cfs)	711.0	59138.1	
Length Wtd. (ft)	564.56	Wetted Per. (ft)	83.87	123.88	
Min Ch El (ft)	4616.00	Shear (lb/sq ft)	0.07	0.64	
Alpha	1.11	Stream Power (lb/ft s)	0.06	3.48	
Frctn Loss (ft)	0.99	Cum Volume (acre-ft)	20.23	30.27	17.02
C & E Loss (ft)	0.03	Cum SA (acres)	16.34	5.45	17.39

Warning: Divided flow computed for this cross-section.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 2929.759

INPUT
Description:
Station Elevation Data num= 329

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4629.81	3.36	4629.72	11.56	4629.19	16.48	4629.1	23.15	4628.75
36.3	4627.93	41.31	4627.91	47.34	4627.48	52.18	4627.34	55.86	4627.36
59.14	4627.22	65.7	4627.24	70.63	4627.06	72.27	4627.18	78.83	4626.98
82.11	4626.75	87.03	4626.81	90.31	4627.04	96.88	4627.25	100.16	4627.09
105.08	4626.43	111.64	4627.06	119.85	4627.06	128.05	4627.41	136.25	4627.47
147.34	4627.42	149.38	4627.3	159.22	4627.04	165.78	4627.28	175.63	4627.55
183.83	4627.59	187.11	4627.74	196.96	4627.91	213.48	4628	218.28	4628.19
221.57	4628.1	233.05	4628.34	252.74	4628.6	259.3	4628.62	262.58	4628.8
269.14	4628.83	274.07	4628.99	290.47	4629.12	293.75	4629.27	297.04	4629.24
303.39	4629.43	308.52	4629.38	310.16	4629.56	318.36	4629.59	324.93	4629.79
329.85	4629.74	333.13	4629.86	336.41	4629.81	359.38	4630.26	367.58	4630.31
372.51	4630.44	382.35	4630.54	388.91	4630.82	395.48	4630.9	398.76	4630.82
403.68	4630.94	410.24	4630.84	413.52	4631	420.09	4630.97	425.01	4631.07
433.21	4631.04	454.54	4631.3	456.18	4631.19	461.1	4631.24	472.59	4631.23
477.51	4631.07	482.43	4631.11	488.99	4630.91	503.76	4630.84	510.32	4630.69
515.24	4630.72	528.37	4630.62	536.57	4630.42	539.85	4630.43	548.06	4630.21
551.34	4630.25	554.62	4630.11	557.9	4630.16	562.82	4629.91	572.67	4629.82
584.15	4629.53	587.43	4629.56	597.36	4629.37	612.04	4629.25	634.46	4628.88
639.93	4628.9	657.98	4628.76	666.18	4629.04	671.11	4628.98	684	4629.25
685.87	4629.21	700.69	4629.53	708.84	4629.81	710.48	4629.75	720.72	4630.05
725.25	4630.01	735.09	4630.24	748.22	4630.31	761.34	4630.49	774.47	4630.44
776.11	4630.51	781.03	4630.38	785.95	4630.47	795.8	4630.44	804	4630.58
810.56	4630.38	817.12	4630.45	828.61	4630.46	843.38	4630.39	863.06	4630.52
869.63	4630.39	876.19	4630.7	882.75	4630.34	890.95	4630.28	902.44	4630.56
905.72	4630.47	912.28	4630.46	918.85	4630.36	938.53	4630.55	950.02	4630.57
952.21	4630.49	961.89	4630.46	968.07	4630.29	971.35	4630.37	981.19	4630.22
989.31	4630.31	992.82	4630.22	1002.21	4630.22	1008.66	4630.11	1017.29	4630.06
1018.93	4629.96	1027.88	4629.85	1046.82	4629.81	1056.66	4629.99	1060.28	4629.9
1069.79	4629.85	1081.27	4629.91	1082.91	4629.84	1087.98	4630	1104.24	4630.18
1110.28	4630.21	1117.37	4630.53	1127.21	4630.66	1133.77	4630.56	1148.54	4629.91
1153.83	4629.84	1166.59	4629.43	1168.23	4629.49	1171.51	4629.25	1178.07	4629
1184.63	4628.91	1189.55	4629	1197.76	4628.93	1207.6	4628.96	1212.52	4628.59
1217.45	4628.81	1227.29	4628.65	1230.57	4628.95	1233.85	4629.08	1242.06	4628.4
1243.7	4628.52	1255.18	4628.21	1258.46	4627.96	1260.28	4627.99	1273.23	4627.44
1274.87	4627.56	1279.79	4627.35	1281.43	4627.47	1287.99	4627.46	1291.28	4627.32
1304.4	4627.14	1307.68	4627.23	1310.96	4626.83	1315.89	4626.86	1322.45	4626.78
1327.37	4626.41	1338.85	4626.07	1348.39	4625.92	1353.62	4625.75	1360.18	4625.91
1371.67	4625.75	1374.95	4625.47	1378.23	4625.47	1379.87	4625.24	1386.43	4625.14
1389.71	4624.85	1396.28	4624.69	1397.92	4624.75	1406.12	4624.7	1412.68	4624.56
1417.61	4624.34	1419.25	4624.13	1430.73	4619.6	1432.37	4619.11	1437.29	4618.12

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 1440.58 4617.76 1446.88 4618.92 1450.42 4620.29  1453.7 4620.95 1466.83 4620.78
 1468.47 4620.88 1475.03 4623.02 1484.87 4623.92 1488.15 4623.82 1491.624622.744
 1494.72  4621.7 1499.64 4620.77  1506.2 4620.84 1507.84 4620.98 1512.76 4620.77
  1514.4 4620.15 1516.05 4618.92 1517.69 4618.49 1519.33 4617.26 1520.97  4615.5
 1522.61 4614.18 1540.66 4614.83 1543.94 4614.75 1552.23 4616.54 1557.06 4617.69
 1563.62  4620.8 1573.47 4622.26 1578.39 4623.69 1581.67 4625.12 1584.95 4626.18
 1587.94 4625.99 1615.95    4626 1618.74    4626 1618.93    4626 1619.87    4626
 1620.04 4625.97 1629.09 4624.74 1634.14 4624.05 1634.32 4624.04 1634.45 4624.04
 1635.04    4624 1635.29    4624 1657.81    4624 1658.92    4624 1684.32    4624
 1689.67    4624 1711.02 4623.68 1738.88 4623.68 1767.05    4624 1776.31    4624
 1787.91    4624  1790.1    4624 1802.12    4624 1806.26    4624 1821.88 4622.39
 1824.88 4622.41 1833.38    4622 1835.16    4622 1836.36    4622 1838.21    4622
 1839.64    4622 1840.79 4622.12 1855.48    4624 1863.79    4624 1880.27  4622.6
 1885.64 4622.58 1893.38    4622 1897.21    4622 1901.13    4622 1911.72    4622
 1915.85    4622 1923.83    4622 1930.97    4622 1940.28    4622 1956.72 4621.22
 1967.36 4621.11 1977.13 4620.53  1979.7 4620.51  1984.1    4620    1987    4620
 1993.06    4620 2007.25    4620 2019.41 4621.62 2021.18    4622 2021.87 4622.25
 2026.48    4624 2030.45 4625.78 2030.96    4626 2031.53 4626.23  2035.5    4628
 2039.09 4628.92 2041.41 4628.87 2056.74 4629.12 2062.68    4629 2068.21 4628.79
  2082.6    4628 2085.79    4628 2093.21    4628 2111.64    4628 2115.74    4628
 2119.47    4628 2125.82    4628 2150.46    4628  2153.6    4628  2171.1    4628
 2225.14    4628 2248.79    4628 2255.06    4628 2350.59    4628 2371.59    4628
 2372.33    4628 2377.26    4628 2404.97 4628.53 2485.65    4630 2495.81    4630
 2513.14    4630 2522.95    4630 2525.66    4630 2543.85 4631.74 2546.97    4632
 2560.68    4632 2581.16    4632 2620.42    4632 2641.93    4632    2647    4632
 2692.44 4633.47 2713.21    4634  2720.6 4634.27 2729.57 4634.65

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045 1507.84    .035 1563.62    .055

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1507.84 1563.62           625.43  622.69  622.78              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0  454.44 4631.33       F
 1584.96 2729.57 4626.18       F

CROSS SECTION OUTPUT  Profile #100-yr FP

  E.G. Elev (ft)           4627.61    Element                 Left OB    Channel   Right OB
  Vel Head (ft)              0.21     Wt. n-Val.               0.045      0.035     0.055
  W.S. Elev (ft)           4627.40    Reach Len. (ft)          625.43     622.69    622.78
  Crit W.S. (ft)           4624.56    Flow Area (sq ft)        751.64     599.50    1993.37
  E.G. Slope (ft/ft)      0.000745    Area (sq ft)             781.27     599.50    1993.37
  Q Total (cfs)            8625.00    Flow (cfs)              1533.00    3257.32   3834.68
  Top Width (ft)            846.02    Top Width (ft)           319.72      55.78    470.52
  Vel Total (ft/s)            2.58    Avg. Vel. (ft/s)           2.04       5.43      1.92
  Max Chl Dpth (ft)          13.22    Hydr. Depth (ft)           3.42      10.75      4.24
  Conv. Total (cfs)       316015.1    Conv. (cfs)             56168.4   119346.2  140500.5
  Length Wtd. (ft)           623.33    Wetted Per. (ft)         222.44      59.04    473.04
  Min Ch El (ft)           4614.18    Shear (lb/sq ft)           0.16       0.47      0.20
  Alpha                       2.04    Stream Power (lb/ft s)     0.32       2.57      0.38
  Frctn Loss (ft)             0.96    Cum Volume (acre-ft)      75.23      46.89     91.28
  C & E Loss (ft)             0.16    Cum SA (acres)            26.44       4.48     32.02


Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross
         sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
         the need for additional cross sections.
Note:    Multiple critical depths were found at this location.  The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT  Profile #100-yr FW

  E.G. Elev (ft)           4628.64    Element                 Left OB    Channel   Right OB
  Vel Head (ft)              0.82     Wt. n-Val.               0.045      0.035     0.055
  W.S. Elev (ft)           4627.82    Reach Len. (ft)          625.43     622.69    622.78
  Crit W.S. (ft)           4624.56    Flow Area (sq ft)        848.97     623.20    109.35
  E.G. Slope (ft/ft)      0.001839    Area (sq ft)             848.97     623.20    109.35
  Q Total (cfs)            8625.00    Flow (cfs)              2843.89    5458.90   322.21
  Top Width (ft)            310.62    Top Width (ft)           230.50      55.78    24.34
  Vel Total (ft/s)            5.45    Avg. Vel. (ft/s)           3.35       8.76      2.95
  Max Chl Dpth (ft)          13.64    Hydr. Depth (ft)           3.68      11.17      4.49
  Conv. Total (cfs)       201150.8    Conv. (cfs)             66324.8   127311.4   7514.6
  Length Wtd. (ft)           623.47    Wetted Per. (ft)         233.29      59.04    26.95
  Min Ch El (ft)           4614.18    Shear (lb/sq ft)           0.42       1.21      0.47
  Alpha                       1.77    Stream Power (lb/ft s)     1.40      10.61      1.37
  Frctn Loss (ft)             1.93    Cum Volume (acre-ft)      73.29      42.08     36.74
  C & E Loss (ft)             0.15    Cum SA (acres)            19.07       4.48     11.07
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Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4627.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.05	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4626.69	Reach Len. (ft)	625.43	622.69	622.78
Crit W.S. (ft)	4626.23	Flow Area (sq ft)	610.86	560.33	1663.54
E.G. Slope (ft/ft)	0.003826	Area (sq ft)	611.48	560.33	1663.54
Q Total (cfs)	15790.00	Flow (cfs)	2750.36	6595.57	6444.06
Top Width (ft)	713.67	Top Width (ft)	188.94	55.78	468.95
Vel Total (ft/s)	5.57	Avg. Vel. (ft/s)	4.50	11.77	3.87
Max Chl Dpth (ft)	12.51	Hydr. Depth (ft)	3.32	10.05	3.55
Conv. Total (cfs)	255290.6	Conv. (cfs)	44467.5	106636.3	104186.8
Length Wtd. (ft)	623.16	Wetted Per. (ft)	186.62	59.04	471.32
Min Ch El (ft)	4614.18	Shear (lb/sq ft)	0.78	2.27	0.84
Alpha	2.18	Stream Power (lb/ft s)	3.52	26.68	3.27
Frctn Loss (ft)	0.96	Cum Volume (acre-ft)	140.86	68.30	174.41
C & E Loss (ft)	0.27	Cum SA (acres)	34.17	4.48	44.36

Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4626.57	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.22	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4626.35	Reach Len. (ft)	625.43	622.69	622.78
Crit W.S. (ft)	4623.51	Flow Area (sq ft)	549.13	541.40	1504.53
E.G. Slope (ft/ft)	0.000804	Area (sq ft)	549.13	541.40	1504.53
Q Total (cfs)	6435.00	Flow (cfs)	1077.77	2855.46	2501.78
Top Width (ft)	702.54	Top Width (ft)	178.58	55.78	468.19
Vel Total (ft/s)	2.48	Avg. Vel. (ft/s)	1.96	5.27	1.66
Max Chl Dpth (ft)	12.17	Hydr. Depth (ft)	3.08	9.71	3.21
Conv. Total (cfs)	226936.2	Conv. (cfs)	38008.5	100700.2	88227.5
Length Wtd. (ft)	623.20	Wetted Per. (ft)	180.94	59.04	470.49
Min Ch El (ft)	4614.18	Shear (lb/sq ft)	0.15	0.46	0.16
Alpha	2.29	Stream Power (lb/ft s)	0.30	2.43	0.27
Frctn Loss (ft)	1.06	Cum Volume (acre-ft)	48.15	37.23	57.82
C & E Loss (ft)	0.17	Cum SA (acres)	20.95	4.47	24.37

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4624.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4623.92	Reach Len. (ft)	625.43	622.69	622.78
Crit W.S. (ft)	4620.70	Flow Area (sq ft)	246.57	405.41	28.19
E.G. Slope (ft/ft)	0.001354	Area (sq ft)	246.57	405.41	475.26
Q Total (cfs)	2924.00	Flow (cfs)	594.72	2287.78	41.50
Top Width (ft)	432.55	Top Width (ft)	87.88	55.78	288.89
Vel Total (ft/s)	4.30	Avg. Vel. (ft/s)	2.41	5.64	1.47
Max Chl Dpth (ft)	9.74	Hydr. Depth (ft)	2.81	7.27	1.84
Conv. Total (cfs)	79473.2	Conv. (cfs)	16164.3	62181.0	1127.9
Length Wtd. (ft)	623.01	Wetted Per. (ft)	90.13	59.04	15.65
Min Ch El (ft)	4614.18	Shear (lb/sq ft)	0.23	0.58	0.15
Alpha	1.41	Stream Power (lb/ft s)	0.56	3.27	0.22
Frctn Loss (ft)	1.78	Cum Volume (acre-ft)	18.30	24.25	12.80
C & E Loss (ft)	0.16	Cum SA (acres)	15.18	4.32	14.25

Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
         the need for additional cross sections.
Note:    Multiple critical depths were found at this location.  The critical depth with the lowest, valid, energy was used.

CROSS SECTION


RIVER: KingsCynCreek
REACH: Reach1             RS: 2307.066

INPUT
Description:
Station Elevation Data    num=     278
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 4638.22    4.53 4637.38    9.45 4637.09   12.73 4637.19   16.01 4636.74
    19.3 4636.52   25.86 4636.41   32.42 4636.03    45.1 4635.65   50.46 4635.13
    61.6 4634.72   65.55 4634.47    73.7 4634.19   78.35 4634.15   83.27 4633.68
   86.55 4633.71  101.21 4632.81   112.8  4632.6  116.08 4632.18  122.64 4630.53
  124.28 4630.53  127.57 4629.56  129.26 4628.86  132.49 4628.07  134.13  4628.5
  139.05 4629.12  149.06 4629.35  152.17  4629.5  158.73 4629.53  170.22 4629.45
  178.42 4629.24  191.54 4630.42  194.39 4630.43  203.03 4630.12  216.71 4629.92
  222.71 4629.68  229.27 4629.59  235.83  4629.3  240.76 4629.17   258.8 4628.42
  268.64  4628.2  278.49 4627.81  286.69 4627.65  289.97  4627.5  309.65 4627.14
  314.58 4627.12  326.06  4626.9  340.82 4626.73  344.43 4626.64  353.95 4626.64
  365.43 4626.52  368.71 4626.35  371.82 4626.41   385.2 4626.25  386.76 4626.31
  394.96    4626   404.8 4625.91   411.3 4625.69  419.56 4625.59  431.05 4625.53
  435.97 4625.41  450.73 4625.28   465.5 4624.95  467.14 4625.03  476.98 4625.01
  488.46 4625.09  491.74 4625.03  503.23 4625.09  511.43 4625.23  524.55 4625.31
  539.32 4625.28  547.52 4625.36  552.44 4625.34  565.56 4625.46  577.05 4625.38
  589.64  4625.4  593.45 4625.31  598.85 4625.34  608.22 4625.12  613.14 4625.17
  621.34 4625.04  632.82 4625.15  637.74 4625.09  655.79 4625.25  675.44 4625.31
  683.68 4625.44  700.08 4625.56  703.36 4625.78  708.45  4625.9   713.2 4625.72
  714.84 4625.87  719.54 4625.84  724.69 4625.94  734.53 4625.94     744 4626.06
  752.16 4626.06  762.42 4626.22  770.62 4626.23  783.74 4626.44  805.07 4626.61
  814.91 4626.81  831.32 4626.83  841.16 4626.99  847.72 4626.97  855.92 4627.14
  860.84 4627.06  862.48 4627.16  874.47 4627.32  882.17 4627.33  900.21 4627.47
  914.98 4627.51  926.46 4627.75  933.02 4627.78   944.6 4627.97  957.65 4628.06
  962.54 4628.16  974.03 4628.19  978.96 4628.31  985.52 4628.25  993.72 4628.38
 1011.76 4628.44 1019.97 4628.36 1023.25  4628.5 1039.65  4628.5 1041.77 4628.64
 1056.06 4628.94 1060.98 4628.93 1064.26 4629.06 1075.74  4629.1 1083.94 4629.44
 1090.51 4629.41 1095.43 4629.19 1106.91 4629.19 1113.47 4629.33 1121.67 4629.26
 1129.88 4629.48 1133.16 4629.41    1143  4627.6 1144.64 4627.46 1149.56 4625.74
  1151.2 4625.42 1156.12 4624.92 1162.69 4624.59 1164.33 4624.61 1167.61  4624.2
 1179.09 4623.68 1190.57 4623.72 1194.13 4623.83 1202.06 4623.88 1205.34 4624.03
  1211.9 4624.09 1213.54 4624.01 1218.33 4624.27 1226.66 4624.28 1229.94 4624.15
 1234.87 4624.15 1243.07 4624.28 1249.68 4624.18 1256.19  4623.9 1261.11 4624.06
 1267.67 4623.82 1275.88 4623.67 1277.52 4623.82 1282.44 4623.75 1285.72 4623.88
 1287.36 4623.77    1289 4624.21 1293.92 4624.51 1299.18 4624.35 1303.76 4624.58
 1308.69 4624.67 1311.97 4624.54 1315.25 4624.81 1323.45  4624.5 1330.01 4624.84
 1333.29  4625.1 1341.49 4625.03 1346.42 4624.64  1349.7 4624.63 1354.62 4624.79
 1361.18 4625.17  1366.1 4625.02 1371.02 4625.05 1375.94 4624.21 1382.51 4622.31
 1385.79 4621.81 1390.71 4621.58 1397.27 4620.99 1407.11 4620.75 1413.67 4620.93
 1420.24 4620.42 1423.52 4620.39 1425.16 4620.11 1436.64  4620.3 1438.28 4620.55
 1441.56 4621.42 1444.84  4621.3 1448.12 4621.49 1449.76  4622.1 1453.04 4622.51
 1456.33  4622.4 1462.89 4621.94 1465.03 4621.45 1471.09 4619.42 1474.37 4618.77
 1480.93 4618.72 1484.21 4618.85 1489.13 4617.18  1495.7 4615.55 1500.62 4613.94
 1505.54 4613.07  1512.1 4612.54 1518.68 4614.35 1521.94 4615.12 1526.86 4616.03
 1530.15 4619.49 1533.43 4620.29  1543.4 4620.45 1548.19 4620.43 1554.75 4621.11
 1558.25 4621.96 1561.31 4623.43 1562.51 4623.62 1566.24  4625.4 1568.15 4625.72
 1569.52 4626.35 1571.42    4626 1591.29    4626 1591.81 4625.78  1594.4 4624.72
 1596.15    4624 1597.63  4623.3 1600.45    4622 1601.81 4621.82 1616.23    4620
 1874.12    4620 1882.83 4620.69 1891.56    4622 1892.44 4622.37  1895.9 4623.27
  1898.7    4624 1900.86 4625.16 1902.44    4626 1930.87    4626 1932.21 4625.31
 1935.41    4624 1938.08  4623.2  1943.4 4622.69 1948.13    4622 1956.15 4620.96
 1966.26    4620 2290.48    4620 2302.48 4621.29 2309.28    4622 2311.72 4623.06
 2313.86    4624 2314.58  4624.4 2317.79    4626 2338.24    4626  2339.8 4625.42
 2343.58    4624 2494.57    4624 2519.35 4625.35 2528.95    4626 2530.56 4626.34
 2538.25    4628 2568.85 4629.74  2573.6    4630 2574.55 4630.12 2590.34    4632
  2605.2 4633.66 2609.92    4634 2642.62    4634 2643.65  4633.9 2643.86 4633.89
 2656.27 4632.83  2658.2 4632.89 2668.67 4632.83

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045 1484.21    .035 1533.43    .055

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1484.21 1533.43            300.3   308.6     311             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0 1129.88 4629.48        F
 1569.52 2668.67 4626.35        F

CROSS SECTION OUTPUT  Profile #100-yr FP
```

E.G. Elev (ft)	4626.48	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.82	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4624.66	Reach Len. (ft)	300.30	308.60	311.00
Crit W.S. (ft)	4624.66	Flow Area (sq ft)	489.90	457.92	108.01
E.G. Slope (ft/ft)	0.004961	Area (sq ft)	489.90	457.92	3238.42
Q Total (cfs)	8625.00	Flow (cfs)	2326.66	5835.73	462.61
Top Width (ft)	1206.55	Top Width (ft)	274.46	49.22	882.87
Vel Total (ft/s)	8.17	Avg. Vel. (ft/s)	4.75	12.74	4.28
Max Chl Dpth (ft)	12.12	Hydr. Depth (ft)	1.78	9.30	3.45
Conv. Total (cfs)	122455.6	Conv. (cfs)	33033.4	82854.3	6568.0
Length Wtd. (ft)	304.43	Wetted Per. (ft)	275.81	52.05	31.99
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	0.55	2.72	1.05
Alpha	1.75	Stream Power (lb/ft s)	2.61	34.73	4.48
Frctn Loss (ft)	0.69	Cum Volume (acre-ft)	66.11	39.33	53.88
C & E Loss (ft)	0.48	Cum SA (acres)	22.17	3.73	22.35

Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4626.56	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.29	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4624.27	Reach Len. (ft)	300.30	308.60	311.00
Crit W.S. (ft)	4624.27	Flow Area (sq ft)	358.30	438.79	95.83
E.G. Slope (ft/ft)	0.006290	Area (sq ft)	358.30	438.79	95.83
Q Total (cfs)	8625.00	Flow (cfs)	2064.58	6120.15	440.27
Top Width (ft)	187.42	Top Width (ft)	108.64	49.22	29.56
Vel Total (ft/s)	9.66	Avg. Vel. (ft/s)	5.76	13.95	4.59
Max Chl Dpth (ft)	11.73	Hydr. Depth (ft)	3.30	8.91	3.24
Conv. Total (cfs)	108748.5	Conv. (cfs)	26031.3	77166.0	5551.1
Length Wtd. (ft)	304.46	Wetted Per. (ft)	109.78	52.05	30.52
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	1.28	3.31	1.23
Alpha	1.58	Stream Power (lb/ft s)	7.39	46.18	5.66
Frctn Loss (ft)	0.53	Cum Volume (acre-ft)	64.62	34.49	35.28
C & E Loss (ft)	0.64	Cum SA (acres)	16.64	3.73	10.69

Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4626.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.16	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4626.36	Reach Len. (ft)	300.30	308.60	311.00
Crit W.S. (ft)	4626.36	Flow Area (sq ft)	1040.48	541.37	4803.47
E.G. Slope (ft/ft)	0.000821	Area (sq ft)	1389.88	541.37	4803.47
Q Total (cfs)	15790.00	Flow (cfs)	2083.06	3137.91	10569.03
Top Width (ft)	1785.73	Top Width (ft)	739.29	49.22	997.21
Vel Total (ft/s)	2.47	Avg. Vel. (ft/s)	2.00	5.80	2.20
Max Chl Dpth (ft)	13.82	Hydr. Depth (ft)	3.09	11.00	4.82
Conv. Total (cfs)	551087.4	Conv. (cfs)	72700.8	109516.4	368870.2
Length Wtd. (ft)	305.48	Wetted Per. (ft)	338.02	52.05	1002.36
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	0.16	0.53	0.25
Alpha	1.71	Stream Power (lb/ft s)	0.32	3.09	0.54
Frctn Loss (ft)	0.26	Cum Volume (acre-ft)	126.49	60.42	128.18
C & E Loss (ft)	0.00	Cum SA (acres)	27.51	3.73	33.88

Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

Warning: Divided flow computed for this cross-section.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4625.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.93	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4623.41	Reach Len. (ft)	300.30	308.60	311.00
Crit W.S. (ft)	4623.41	Flow Area (sq ft)	265.51	396.11	70.50
E.G. Slope (ft/ft)	0.005774	Area (sq ft)	265.51	396.11	2241.25
Q Total (cfs)	6435.00	Flow (cfs)	1224.80	4944.23	265.97
Top Width (ft)	856.67	Top Width (ft)	105.49	49.22	701.96
Vel Total (ft/s)	8.79	Avg. Vel. (ft/s)	4.61	12.48	3.77
Max Chl Dpth (ft)	10.87	Hydr. Depth (ft)	2.52	8.05	2.53
Conv. Total (cfs)	84684.3	Conv. (cfs)	16118.3	65065.9	3500.2
Length Wtd. (ft)	304.96	Wetted Per. (ft)	106.51	52.05	28.30
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	0.90	2.74	0.90
Alpha	1.61	Stream Power (lb/ft s)	4.15	34.24	3.39
Frctn Loss (ft)	0.87	Cum Volume (acre-ft)	42.30	30.53	31.04
C & E Loss (ft)	0.51	Cum SA (acres)	18.91	3.72	16.01

Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4622.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.05	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4620.33	Reach Len. (ft)	300.30	308.60	311.00
Crit W.S. (ft)	4620.33	Flow Area (sq ft)	22.29	244.63	0.05
E.G. Slope (ft/ft)	0.009522	Area (sq ft)	22.29	244.63	193.52
Q Total (cfs)	2924.00	Flow (cfs)	80.45	2843.54	0.01
Top Width (ft)	675.78	Top Width (ft)	28.78	49.22	597.78
Vel Total (ft/s)	10.95	Avg. Vel. (ft/s)	3.61	11.62	0.19
Max Chl Dpth (ft)	7.79	Hydr. Depth (ft)	0.77	4.97	0.02
Conv. Total (cfs)	29965.6	Conv. (cfs)	824.5	29141.1	0.1
Length Wtd. (ft)	306.13	Wetted Per. (ft)	29.02	52.05	2.40
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	0.46	2.79	0.01
Alpha	1.10	Stream Power (lb/ft s)	1.65	32.48	0.00
Frctn Loss (ft)	0.98	Cum Volume (acre-ft)	16.37	19.61	8.02
C & E Loss (ft)	0.56	Cum SA (acres)	14.34	3.57	7.91

Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 1999

INPUT
Description:
Station Elevation Data num= 400

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4631.07	7.12	4631.27	17.27	4631.19	28.54	4630.89	35.13	4631

41.72	4630.94	49.96	4630.76	53.45	4630.88	54.9	4630.78	58.2	4630.92
66.43	4630.72	68.08	4630.5	76.32	4630.32	84.56	4629.83	91.15	4629.59
102.68	4629.35	110.92	4629	124.1	4628.68	135.63	4628.09	143.87	4627.87
148.81	4627.63	155.4	4627.52	160.34	4627.28	171.87	4626.88	186.7	4626.54
189.99	4626.61	196.58	4626.5	201.53	4626.3	207.22	4626.31	216.26	4626.19
224.59	4626.22	232.83	4626.12	236.12	4626.16	252.6	4626.1	265.78	4626.15
270.72	4626.07	302.02	4626.03	306.97	4625.97	318.77	4626.05	323.44	4625.94
333.32	4626.04	348.15	4625.98	351.45	4625.93	362.98	4625.92	366.27	4625.98
384.4	4625.86	392.63	4625.72	395.93	4625.79	407.46	4625.57	410.76	4625.69
413.74	4625.51	418.99	4625.39	423.94	4625.66	428.88	4625.69	431.83	4625.83
437.12	4625.81	438.76	4626.28	448.41	4626.31	479.8	4626.34	483.24	4626.22
486.54	4626.29	498.07	4626.13	501.37	4625.94	509.6	4625.74	512.9	4625.75
521.14	4625.61	532.67	4625.62	535.96	4625.56	542.55	4625.63	544.2	4625.56
560.68	4625.25	564.49	4624.93	570.56	4624.69	577.15	4624.68	583.74	4624.79
585.39	4624.05	590.33	4621.25	591.98	4620.51	593.13	4620.45	600.22	4620.87
603.69	4620.72	605.16	4620.96	606.7	4620.32	610.1	4619.53	611.75	4618.82
616.69	4617.79	619.99	4617.51	624.93	4617.38	641.4	4617.41	646.32	4617.32
652.89	4617.54	659.46	4617.31	662.74	4617.39	669.31	4617.26	670.95	4617.32
672.59	4617.88	673.87	4617.65	675.87	4618.18	679.3	4617.69	682.44	4617.66
684.08	4617.41	685.73	4617.61	689.01	4617.65	695.58	4617.4	703.78	4617.31
710.35	4617.41	721.84	4617.19	723.49	4617.34	731.69	4617.41	741.55	4617.33
749.75	4617.41	754.68	4617.32	761.25	4617.38	779.31	4617.14	789.16	4617.39
800.65	4617.34	803.95	4617.41	808.86	4617.34	815.42	4617.61	817.07	4618.05
820.35	4618.59	821.99	4618.49	823.63	4619.1	830.2	4619.77	835.13	4619.42
836.77	4619.41	843.33	4619.69	851.54	4619.68	856.47	4619.52	866.32	4619.47
869.6	4619.51	876.53	4619.28	884.38	4619.19	886.02	4618.97	899.15	4618.81
900.8	4618.87	913.93	4618.34	922.14	4618.35	930.54	4618.45	941.84	4618.22
950.05	4618.16	958.26	4618.17	959.9	4618.28	968.11	4617.97	974.68	4617.91
976.32	4617.63	982.88	4617.06	984.53	4617.82	987.81	4618.95	994.38	4620.82
1007.51	4619.06	1010.79	4619.09	1014.08	4619.44	1020.65	4619.87	1025.57	4619.83
1030.5	4619.92	1038.7	4619.7	1043.47	4619.15	1050.2	4618.61	1053.48	4618.46
1058.41	4618.64	1063.33	4618.39	1066.61	4618.11	1081.39	4617.95	1097.81	4617.99
1107.66	4618.22	1113.63	4618.17	1124.08	4618.35	1132.13	4618.07	1140.49	4618.04
1147.06	4616.79	1148.7	4616.3	1153.63	4614.49	1158.55	4616.89	1165.12	4618.23
1166.76	4618.35	1175.23	4618.38	1178.25	4618.21	1188.11	4618.33	1196.31	4618.66
1199.98	4618.61	1202.88	4618.73	1209.45	4618.22	1214.37	4618.53	1220.94	4619.2
1225.87	4620.5	1229.15	4620.76	1230.79	4620.7	1234.07	4620.09	1235.72	4619.99
1237.36	4620.25	1241	4619.09	1245.57	4618.06	1248.85	4617.54	1259.93	4617.81
1265.27	4618.42	1268.55	4618.38	1279.61	4618	1283.6	4616.98	1286.45	4615.91
1288.25	4615.02	1291.59	4613.97	1293.07	4613.68	1294.82	4612.96	1299.74	4612.95
1303.03	4612.75	1316.16	4612.77	1317.8	4613.17	1327.66	4617.98	1329.3	4618.68
1332.66	4619.26	1340.79	4619.44	1342.43	4620.14	1345.71	4620.99	1347.36	4621.17
1349	4622.02	1352.28	4623.1	1353.92	4624.08	1357.21	4625.46	1360.49	4626.31
1362.13	4627.09	1365.65	4628.07	1367.06	4628.3	1370.38	4628.13	1375.11	4628.24
1378.55	4628.45	1384.68	4628.33	1391.75	4628.08	1396.6	4627.61	1400	4627.57
1404.95	4629.26	1406.6	4630.24	1410.01	4631.67	1411.5	4631.97	1413.2	4633.8
1416.5	4633.22	1418.15	4631.98	1423.1	4629.37	1426.41	4629	1431.35	4628.98
1434.65	4629.12	1439.6	4629.11	1446.2	4629.21	1457.68	4628.94	1461.05	4628.98
1466	4629.47	1474.25	4630.74	1475.9	4630.84	1479.19	4630.08	1480.84	4630.12
1484.14	4629.74	1487.47	4629.81	1492.39	4629.72	1498.99	4629.72	1503.94	4629.63
1508.89	4629.67	1515.49	4629.56	1522.09	4629.34	1527.04	4629.36	1535.29	4629.13
1548.49	4629.18	1551.79	4629.05	1568.29	4628.94	1574.89	4629.02	1581.49	4628.88
1593.25	4628.49	1604.58	4628.43	1609.41	4628.56	1612.83	4628.42	1616.13	4628.53
1624.38	4628.42	1632.63	4628.48	1635.93	4628.58	1640.88	4628.56	1650.78	4628.73
1662.33	4628.18	1665.63	4627.76	1669.23	4627.5	1675.53	4627.34	1683.78	4627.33
1688.89	4627.41	1696.98	4627.04	1700.51	4626.97	1706.88	4627.01	1711.83	4626.95
1718.47	4625.84	1721.72	4625.66	1725.02	4624.06	1728.82	4622.79	1731.8	4622.28
1734.92	4621.05	1738.22	4620.46	1743.71	4620.15	1751.42	4619.9	1762.97	4619.72
1771.22	4619.47	1787.72	4619.42	1800.92	4619.73	1807.51	4619.81	1810.81	4619.75
1822.35	4619.84	1825.65	4619.93	1837.79	4619.75	1848.73	4619.65	1863.57	4619.83
1866.86	4619.69	1870.16	4619.76	1878.41	4619.69	1881.7	4619.76	1893.29	4619.62
1899.84	4619.63	1909.73	4619.41	1929.52	4619.48	1934.46	4619.72	1937.76	4619.66
1950.95	4619.61	1954.25	4619.66	1962.1	4619.51	1965.79	4619.57	1978.98	4619.47
1990.52	4619.53	1997.11	4619.49	2002.06	4619.58	2013.6	4619.5	2021.84	4619.62
2025.14	4619.6	2028.44	4619.75	2043.28	4619.85	2044.93	4619.94	2059.77	4620.07
2063.06	4620.18	2071.44	4620.07	2084.5	4620.12	2096.04	4620.25	2114.17	4620.19
2119.12	4620.09	2120.65	4620.39	2130.66	4621.74	2133.96	4622.77	2135.61	4623.01
2137.26	4623.72	2138.99	4624.07	2140.34	4624.81	2143.85	4626.04	2145.5	4626.9
2147.15	4626.97	2152.09	4628.11	2153.74	4628.22	2161.99	4628.37	2166.93	4628.23
2173.53	4628.16	2178.47	4627.47	2183.42	4625.93	2185.27	4625.19	2186.72	4624.29
2190.02	4623.18	2193.31	4622.77	2199.91	4622.88	2204.85	4622.79	2214.75	4622.93
2222.99	4623.12	2229.58	4623.61	2234.53	4623.84	2237.83	4623.75	2241.13	4624.12
2249.37	4624.34	2255.66	4624.68	2259.26	4624.68	2262.56	4624.44	2269.15	4623.63
2274.1	4623.38	2279.05	4623.81	2282.62	4623.83	2287.29	4624.05	2293.89	4625.39
2298.83	4625.6	2302.13	4627.03	2304	4627.61	2305.09	4627.65	2310.37	4630.05
2313.67	4631.26	2316.97	4632.03	2318.67	4632.2	2323.56	4633.2	2335.1	4633.84
2345	4633.85	2358.19	4634.21	2362.01	4634.41	2371.38	4634.64	2384.56	4634.75
2389.51	4634.68	2392.81	4634.8	2396.11	4634.74	2409.3	4635.1	2422.49	4635.16
2434.03	4635.81	2436.89	4635.81	2448.87	4636.06	2453.81	4635.76	2463.28	4636.02

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.045	1279.61	.035	1329.3	.055

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

```
      1279.61  1329.3              363     419     416             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  1413.2 2463.28  4633.8       F
```

CROSS SECTION OUTPUT Profile #100-yr FP

E.G. Elev (ft)	4621.98	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4621.78	Reach Len. (ft)	363.00	419.00	416.00
Crit W.S. (ft)	4620.17	Flow Area (sq ft)	2387.68	366.96	37.90
E.G. Slope (ft/ft)	0.001307	Area (sq ft)	2387.68	366.96	823.83
Q Total (cfs)	8625.00	Flow (cfs)	6492.11	2075.62	57.27
Top Width (ft)	1156.83	Top Width (ft)	690.21	49.69	416.93
Vel Total (ft/s)	3.09	Avg. Vel. (ft/s)	2.72	5.66	1.51
Max Chl Dpth (ft)	9.03	Hydr. Depth (ft)	3.46	7.38	1.97
Conv. Total (cfs)	238606.3	Conv. (cfs)	179601.0	57420.9	1584.3
Length Wtd. (ft)	384.19	Wetted Per. (ft)	694.46	51.86	19.69
Min Ch El (ft)	4612.75	Shear (lb/sq ft)	0.28	0.58	0.16
Alpha	1.39	Stream Power (lb/ft s)	0.76	3.26	0.24
Frctn Loss (ft)	0.48	Cum Volume (acre-ft)	56.19	36.41	39.38
C & E Loss (ft)	0.00	Cum SA (acres)	18.85	3.38	17.71

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4622.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4622.40	Reach Len. (ft)	363.00	419.00	416.00
Crit W.S. (ft)	4620.17	Flow Area (sq ft)	2818.39	397.94	50.35
E.G. Slope (ft/ft)	0.000802	Area (sq ft)	2818.39	397.94	1085.40
Q Total (cfs)	8625.00	Flow (cfs)	6696.01	1860.94	68.05
Top Width (ft)	1163.54	Top Width (ft)	691.31	49.69	422.53
Vel Total (ft/s)	2.64	Avg. Vel. (ft/s)	2.38	4.68	1.35
Max Chl Dpth (ft)	9.65	Hydr. Depth (ft)	4.08	8.01	2.41
Conv. Total (cfs)	304626.3	Conv. (cfs)	236496.4	65726.6	2403.3
Length Wtd. (ft)	382.50	Wetted Per. (ft)	695.73	51.86	21.44
Min Ch El (ft)	4612.75	Shear (lb/sq ft)	0.20	0.38	0.12
Alpha	1.31	Stream Power (lb/ft s)	0.48	1.80	0.16
Frctn Loss (ft)	0.28	Cum Volume (acre-ft)	53.67	31.53	31.06
C & E Loss (ft)	0.00	Cum SA (acres)	13.88	3.38	9.08

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4624.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4624.23	Reach Len. (ft)	363.00	419.00	416.00
Crit W.S. (ft)	4621.08	Flow Area (sq ft)	4085.15	488.78	92.69
E.G. Slope (ft/ft)	0.000868	Area (sq ft)	4085.15	488.78	1942.27
Q Total (cfs)	15790.00	Flow (cfs)	12889.52	2728.16	172.32
Top Width (ft)	1266.07	Top Width (ft)	694.62	49.69	521.76
Vel Total (ft/s)	3.38	Avg. Vel. (ft/s)	3.16	5.58	1.86
Max Chl Dpth (ft)	11.48	Hydr. Depth (ft)	5.88	9.84	3.71
Conv. Total (cfs)	535893.3	Conv. (cfs)	437454.5	92590.3	5848.4
Length Wtd. (ft)	380.85	Wetted Per. (ft)	699.51	51.86	25.97
Min Ch El (ft)	4612.75	Shear (lb/sq ft)	0.32	0.51	0.19
Alpha	1.18	Stream Power (lb/ft s)	1.00	2.85	0.36
Frctn Loss (ft)	0.34	Cum Volume (acre-ft)	107.62	56.77	104.10
C & E Loss (ft)	0.00	Cum SA (acres)	22.57	3.38	28.46

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4621.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.23	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4620.87	Reach Len. (ft)	363.00	419.00	416.00
Crit W.S. (ft)	4619.68	Flow Area (sq ft)	1760.28	321.74	21.49
E.G. Slope (ft/ft)	0.001693	Area (sq ft)	1760.28	321.74	449.48
Q Total (cfs)	6435.00	Flow (cfs)	4508.51	1897.68	28.82
Top Width (ft)	1141.36	Top Width (ft)	687.49	49.69	404.17
Vel Total (ft/s)	3.06	Avg. Vel. (ft/s)	2.56	5.90	1.34
Max Chl Dpth (ft)	8.12	Hydr. Depth (ft)	2.56	6.47	1.35
Conv. Total (cfs)	156384.7	Conv. (cfs)	109566.7	46117.7	700.3
Length Wtd. (ft)	388.20	Wetted Per. (ft)	691.50	51.86	16.22
Min Ch El (ft)	4612.75	Shear (lb/sq ft)	0.27	0.66	0.14

Alpha	1.59	Stream Power (lb/ft s)	0.69	3.87	0.19
Frctn Loss (ft)	0.72	Cum Volume (acre-ft)	35.32	27.99	21.44
C & E Loss (ft)	0.01	Cum SA (acres)	16.17	3.37	12.06

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #10-yr

			Left OB	Channel	Right OB
E.G. Elev (ft)	4619.75	Element			
Vel Head (ft)	0.19	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4619.56	Reach Len. (ft)	363.00	419.00	416.00
Crit W.S. (ft)	4618.83	Flow Area (sq ft)	905.76	256.59	3.66
E.G. Slope (ft/ft)	0.001590	Area (sq ft)	905.76	256.59	10.71
Q Total (cfs)	2924.00	Flow (cfs)	1660.87	1261.33	1.80
Top Width (ft)	758.63	Top Width (ft)	594.08	49.69	114.86
Vel Total (ft/s)	2.51	Avg. Vel. (ft/s)	1.83	4.92	0.49
Max Chl Dpth (ft)	6.81	Hydr. Depth (ft)	1.52	5.16	0.31
Conv. Total (cfs)	73325.1	Conv. (cfs)	41649.7	31630.2	45.2
Length Wtd. (ft)	397.09	Wetted Per. (ft)	597.16	51.86	11.84
Min Ch El (ft)	4612.75	Shear (lb/sq ft)	0.15	0.49	0.03
Alpha	1.96	Stream Power (lb/ft s)	0.28	2.41	0.02
Frctn Loss (ft)	0.71	Cum Volume (acre-ft)	13.18	17.83	7.29
C & E Loss (ft)	0.01	Cum SA (acres)	12.19	3.22	5.36

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 1580

INPUT
Description:
Station Elevation Data num= 451

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4628.86	32.7	4628.77	41	4628.21	57.6	4627.66	79	4626.26
156.1	4624.25	276	4622.91	298.8	4622.92	307	4623.31	346.4	4622.66
348	4622.51	349.7	4622.41	353	4620.93	357.4	4619.68	361.2	4620.18
362.4	4619.72	364.5	4619.3	372.7	4618.53	384.1	4618.62	385.9	4618.42
392.3	4618.69	402.1	4618.19	483.2	4618.31	508.8	4618.98	523.5	4618.69
540	4618.75	544.9	4618.45	566.2	4618.61	592.5	4617.92	600.7	4617.92
622	4618.56	637.2	4618.24	674.5	4618.41	685.8	4618.2	691.2	4617.74
699.1	4617.46	722.1	4617.58	733.6	4617.14	740.9	4617.76	746.7	4617.81
747.4	4617.71	748.3	4617.56	750	4617.41	768	4617.45	773.3	4617.2
799.1	4617.49	804.1	4617.75	807.4	4616.87	809.1	4616.71	814.1	4616.44
877.9	4616.3	884.5	4616.42	891.6	4617.28	906.3	4618.29	908.3	4618.63
909.8	4618.93	910	4618.98	910.1	4619	910.4	4619.03	911.9	4619.15
912.5	4619.19	913.7	4619.31	914.9	4619.39	915.5	4619.41	916.2	4619.43
917	4619.46	917.3	4619.47	917.4	4619.48	917.7	4619.48	918.7	4619.5
919.9	4619.5	922.7	4619.5	923.7	4619.47	924.5	4619.45	924.9	4619.37
933.5	4617.6	933.6	4617.59	934.8	4617.46	935.3	4617.39	936	4617.34
936.9	4617.24	949.8	4617.17	950.2	4617.12	950.9	4617.04	951.6	4616.9
952.1	4616.76	953.3	4616.46	953.3	4616.45	953.4	4616.44	953.5	4616.41
954.14	4616.274	954.6	4616.16	955.2	4616	955.8	4615.8	960.1	4614.45
961.2	4613.99	962	4613.63	962.4	4613.46	963.2	4613.24	963.4	4613.2
964.2	4613.01	993	4612.56	999.2	4613.05	1011.24	4614.618	1016.5	4615.31
1018.3	4615.16	1019	4615.14	1020.1	4615.2	1020.2	4615.21	1021.9	4615.34
1027.3	4616.76	1027.6	4616.85	1028.4	4616.95	1028.9	4616.97	1029.7	4617.13
1030.1	4617.2	1030.9	4617.42	1031.3	4617.61	1032.6	4618.12	1033	4618.19
1033.8	4618.34	1034.5	4618.43	1035.1	4618.47	1038.1	4618.47	1038.8	4618.28
1039.6	4617.95	1039.9	4617.84	1040	4617.81	1040.3	4617.78	1041.3	4617.6
1042.5	4617.22	1042.9	4617.1	1043.5	4616.92	1043.7	4616.9	1044.2	4616.89
1045	4616.89	1045.3	4616.87	1046.2	4616.82	1047.4	4616.74	1062.9	4617.22
1076.7	4617.18	1080.4	4616.82	1080.9	4616.82	1082.1	4616.81	1086.9	4616.93
1087.3	4616.96	1087.4	4616.96	1088.6	4616.77	1089.2	4616.69	1099.6	4616.56
1141	4617.08	1201	4620.91	1223.7	4622.83	1253.4	4626.34	1253.5	4626.34
1253.9	4626.34	1254.8	4626.34	1255.1	4626.39	1255.8	4626.44	1256.1	4626.47
1256.9	4626.51	1257.4	4626.55	1258.5	4626.65	1258.6	4626.65	1258.6	4626.66
1258.7	4626.67	1261.2	4626.83	1261.3	4626.82	1262.1	4626.81	1262.5	4626.82
1263.5	4626.86	1264	4626.92	1269.1	4627.58	1295.7	4627.98	1296.9	4627.92
1297.1	4627.9	1299.9	4627.84	1300.5	4627.82	1300.8	4627.82	1302.1	4627.85
1302.3	4627.85	1302.6	4627.86	1304	4627.89	1304.7	4627.91	1305.4	4627.92
1305.8	4627.93	1305.9	4627.93	1307.5	4627.91	1308.1	4627.91	1310.9	4627.94
1328.5	4628.48	1417.6	4627.99	1429.4	4628.38	1442.8	4628.17	1451.7	4628.44
1467.1	4627.92	1468.2	4627.91	1468.3	4627.91	1468.7	4627.92	1470.7	4628.04
1470.9	4628.05	1474.7	4628.22	1475.2	4628.22	1476	4628.17	1479.9	4627.96
1480.5	4627.92	1481.1	4627.91	1481.7	4627.91	1483	4627.92	1484.5	4627.94
1492.8	4628.19	1493.9	4628.22	1495.2	4628.08	1495.5	4628.03	1496.2	4627.92
1496.5	4627.9	1520.6	4628.11	1520.8	4628.11	1521.2	4628.09	1522.1	4628.01
1522.4	4628	1524.1	4627.96	1525.9	4628	1525.9	4628.01	1527.2	4628.06

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  1536.4 4627.73  1550.3 4627.91  1550.6 4627.89  1551.5 4627.83  1552.1 4627.79
  1553.8 4627.65  1554.6  4627.6  1555.6 4627.56  1578.2  4627.9  1578.4  4627.9
  1579.6 4627.89    1580 4627.89  1580.9 4627.88  1580.9 4627.87  1581.8 4627.85
  1582.2 4627.84  1583.2 4627.77  1583.4 4627.75  1583.5 4627.74  1583.7 4627.69
  1584.7 4627.42  1585.3 4627.27  1586.5  4627.2  1590.5 4627.16    1592 4627.08
  1594.9 4626.96  1597.5 4626.94    1615 4627.54  1635.7 4627.41  1635.9  4627.4
  1635.9 4627.39  1636.1 4627.36  1637.1 4627.03  1641.2 4626.56  1642.3 4626.16
  1642.9 4625.87  1643.5 4625.54  1644.3 4625.27  1647.4 4624.43  1648.7 4623.71
  1649.8 4623.17  1649.9 4623.13  1655.3 4622.24  1656.3 4622.14  1656.9 4622.08
  1657.6 4622.04  1658.6 4622.06  1658.9 4622.02  1659.6 4621.79  1660.4 4621.48
  1663.9 4620.58    1664 4620.55  1664.3 4620.51  1665.3 4620.42  1665.6 4620.39
  1667.4 4620.17  1667.8 4620.14  1669.1 4620.12  1670.4 4620.05  1670.9    4620
  1676.8 4619.07  1677.4 4619.04  1677.8 4619.01  1678.1    4619  1679.3 4618.85
  1679.6 4618.83  1751.2 4619.51  1782.7 4619.36  1814.9 4620.23  1825.1 4620.11
  1853.3 4619.16  1885.7 4618.76  1886.8 4618.79  1900.6 4619.09  1901.4  4619.1
  1903.1 4619.12  1903.2 4619.12  1903.3 4619.13  1904.4 4619.16  1904.9 4619.17
  1906.1 4619.19  1906.7 4619.19  1907.7 4619.19  1908.2 4619.18  1910.2 4619.14
  1910.8 4619.13  1911.6 4619.13  1911.9 4619.12  1912.1 4619.13  1912.5 4619.12
  1913.4 4619.11  1914.4  4619.1  1914.6  4619.1  1915.4 4619.11  1917.2 4619.06
  1917.3 4619.06  1918.5 4619.06  1918.9 4619.06  1919.8  4619.1  1919.9 4619.11
  1920.7 4619.14    1921 4619.15    1922 4619.18  1922.4 4619.19  1922.6  4619.2
  1924.2 4619.25  1925.4 4619.25  1925.9 4619.26  1927.4 4619.22  1927.7 4619.21
  1928.1 4619.21  1928.7  4619.2    1930 4619.19  1930.9 4619.17  1931.1 4619.16
  1931.6 4619.16  1932.5 4619.15  1933.8 4619.13  1935.1 4619.12  1936.3 4619.12
  1936.4 4619.12  1938.1 4619.11  1938.9  4619.1  1939.9 4619.09  1940.2  4619.1
  1962.6 4619.73  1963.2 4619.73    1964 4619.72  1964.5 4619.71    1965  4619.7
  1965.8 4619.66  1966.1 4619.66  1966.7 4619.64  1967.8 4619.61  1968.3  4619.6
  1969.5 4619.56  1969.6 4619.56  1972.2 4619.58  1973.1 4619.55  1973.5 4619.53
  1974.5 4619.43  1974.7 4619.42  1974.8 4619.41  2007.9 4619.81  2067.4 4619.62
  2087.3  4620.1  2088.5 4620.13    2089 4620.11  2089.8  4620.1  2090.1 4620.11
  2090.7 4620.13  2092.4 4620.16  2093.5 4620.18  2093.6 4620.19  2093.7 4620.19
  2093.8 4620.19  2096.2 4620.19  2096.2  4620.2  2097.1 4620.22  2097.5 4620.23
  2098.6 4620.27  2098.8 4620.28    2099 4620.28  2100.1 4620.29  2101.8  4620.3
  2102.3 4620.31  2102.6 4620.32  2103.9 4620.36  2104.1 4620.37  2104.5 4620.36
  2105.2 4620.35  2105.8 4620.34  2106.4 4620.33  2107.6 4620.29  2108.1  4620.3
  2109.3 4620.32  2110.3  4620.4  2111.1 4620.48  2116.7 4621.15  2117.7 4621.35
    2118 4621.42  2118.1 4621.44  2118.3 4621.48  2119.2  4621.6  2119.8 4621.71
  2120.5 4621.89    2121 4621.97  2121.8 4622.11  2123.1 4622.32  2123.3 4622.35
    2125 4622.52  2125.6 4622.56  2126.6 4622.51  2126.8 4622.52  2126.9 4622.54
  2127.2 4622.67  2128.2  4623.1  2129.3  4623.4  2129.5 4623.43  2130.7 4623.97
    2132 4624.49  2132.1  4624.5  2133.3 4624.82  2133.8  4624.9  2134.8 4625.14
  2135.5 4625.29  2136.8 4626.34  2137.1 4626.76  2137.3 4626.87  2137.6 4627.05
  2138.4 4627.59    2139 4627.94  2140.3 4628.09  2140.8 4628.13    2141 4628.11
  2141.5 4628.15  2142.3 4628.25  2142.5 4628.29  2144.3 4628.42  2144.8 4628.42
  2145.8 4628.38    2146 4628.38  2146.1 4628.37  2147.4 4628.34  2147.8 4628.33
  2153.8 4628.34

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .055   949.8    .035  1027.6    .055

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         949.8  1027.6             28.2    28.2    28.2             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
 1328.48  2153.8 4628.48       F

CROSS SECTION OUTPUT  Profile #100-yr FP

  E.G. Elev (ft)           4621.50    Element                 Left OB    Channel   Right OB
  Vel Head (ft)               0.21    Wt. n-Val.                0.055      0.035      0.055
  W.S. Elev (ft)           4621.29    Reach Len. (ft)           28.20      28.20      28.20
  Crit W.S. (ft)           4619.65    Flow Area (sq ft)       1991.29     568.89     622.20
  E.G. Slope (ft/ft)      0.001203    Area (sq ft)            1991.29     568.89    1425.62
  Q Total (cfs)            8625.00    Flow (cfs)              4156.84    3128.04    1340.12
  Top Width (ft)           1309.48    Top Width (ft)           597.59      77.80     634.08
  Vel Total (ft/s)            2.71    Avg. Vel. (ft/s)           2.09       5.50       2.15
  Max Chl Dpth (ft)           8.73    Hydr. Depth (ft)           3.33       7.31       3.50
  Conv. Total (cfs)       248713.0    Conv. (cfs)             119867.9    90201.0    38644.1
  Length Wtd. (ft)           28.20    Wetted Per. (ft)         598.73      78.82     178.51
  Min Ch El (ft)           4612.56    Shear (lb/sq ft)           0.25       0.54       0.26
  Alpha                       1.88    Stream Power (lb/ft s)     0.52       2.98       0.56
  Frctn Loss (ft)             0.03    Cum Volume (acre-ft)      37.94      31.91      28.63
  C & E Loss (ft)             0.02    Cum SA (acres)            13.48       2.77      12.69


Warning: Divided flow computed for this cross-section.
Note:    Multiple critical depths were found at this location.  The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT  Profile #100-yr FW

  E.G. Elev (ft)           4622.26    Element                 Left OB    Channel   Right OB
  Vel Head (ft)               0.13    Wt. n-Val.                0.055      0.035      0.055
  W.S. Elev (ft)           4622.13    Reach Len. (ft)           28.20      28.20      28.20
  Crit W.S. (ft)           4619.65    Flow Area (sq ft)       2497.77     634.72     776.93
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E.G. Slope (ft/ft)	0.000656	Area (sq ft)	2497.77	634.72	1969.62
Q Total (cfs)	8625.00	Flow (cfs)	4469.59	2773.36	1382.05
Top Width (ft)	1330.71	Top Width (ft)	599.48	77.80	653.42
Vel Total (ft/s)	2.21	Avg. Vel. (ft/s)	1.79	4.37	1.78
Max Chl Dpth (ft)	9.57	Hydr. Depth (ft)	4.17	8.16	4.14
Conv. Total (cfs)	336686.3	Conv. (cfs)	174475.3	108261.0	53949.9
Length Wtd. (ft)	28.20	Wetted Per. (ft)	600.80	78.82	188.55
Min Ch El (ft)	4612.56	Shear (lb/sq ft)	0.17	0.33	0.17
Alpha	1.71	Stream Power (lb/ft s)	0.30	1.44	0.30
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	31.52	26.56	16.47
C & E Loss (ft)	0.04	Cum SA (acres)	8.50	2.77	3.94

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4624.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4623.89	Reach Len. (ft)	28.20	28.20	28.20
Crit W.S. (ft)	4620.59	Flow Area (sq ft)	3662.87	771.33	1123.12
E.G. Slope (ft/ft)	0.000903	Area (sq ft)	3662.87	771.33	3151.91
Q Total (cfs)	15790.00	Flow (cfs)	8463.00	4501.42	2825.58
Top Width (ft)	1526.37	Top Width (ft)	761.37	77.80	687.20
Vel Total (ft/s)	2.84	Avg. Vel. (ft/s)	2.31	5.84	2.52
Max Chl Dpth (ft)	11.33	Hydr. Depth (ft)	4.81	9.91	5.48
Conv. Total (cfs)	525530.0	Conv. (cfs)	281669.5	149818.1	94042.4
Length Wtd. (ft)	28.20	Wetted Per. (ft)	762.77	78.82	205.84
Min Ch El (ft)	4612.56	Shear (lb/sq ft)	0.27	0.55	0.31
Alpha	1.70	Stream Power (lb/ft s)	0.63	3.22	0.77
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	75.34	50.71	79.78
C & E Loss (ft)	0.03	Cum SA (acres)	16.50	2.77	22.69

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4620.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4620.05	Reach Len. (ft)	28.20	28.20	28.20
Crit W.S. (ft)	4619.25	Flow Area (sq ft)	1254.75	472.70	412.78
E.G. Slope (ft/ft)	0.002018	Area (sq ft)	1254.75	472.70	667.67
Q Total (cfs)	6435.00	Flow (cfs)	2518.83	2975.93	940.25
Top Width (ft)	1226.33	Top Width (ft)	592.38	77.80	556.16
Vel Total (ft/s)	3.01	Avg. Vel. (ft/s)	2.01	6.30	2.28
Max Chl Dpth (ft)	7.49	Hydr. Depth (ft)	2.12	6.08	2.58
Conv. Total (cfs)	143242.6	Conv. (cfs)	56068.9	66243.9	20929.8
Length Wtd. (ft)	28.20	Wetted Per. (ft)	593.28	78.82	160.54
Min Ch El (ft)	4612.56	Shear (lb/sq ft)	0.27	0.76	0.32
Alpha	2.29	Stream Power (lb/ft s)	0.53	4.76	0.74
Frctn Loss (ft)	0.05	Cum Volume (acre-ft)	22.76	24.17	16.10
C & E Loss (ft)	0.02	Cum SA (acres)	10.84	2.75	7.47

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4619.02	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.31	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4618.71	Reach Len. (ft)	28.20	28.20	28.20
Crit W.S. (ft)	4617.75	Flow Area (sq ft)	486.58	368.69	212.96
E.G. Slope (ft/ft)	0.002028	Area (sq ft)	486.58	368.69	212.96
Q Total (cfs)	2924.00	Flow (cfs)	608.83	1971.70	343.46
Top Width (ft)	742.11	Top Width (ft)	525.32	77.80	138.99
Vel Total (ft/s)	2.74	Avg. Vel. (ft/s)	1.25	5.35	1.61
Max Chl Dpth (ft)	6.15	Hydr. Depth (ft)	0.93	4.74	1.53
Conv. Total (cfs)	64924.1	Conv. (cfs)	13518.5	43779.4	7626.2
Length Wtd. (ft)	28.20	Wetted Per. (ft)	525.89	78.82	139.56
Min Ch El (ft)	4612.56	Shear (lb/sq ft)	0.12	0.59	0.19
Alpha	2.66	Stream Power (lb/ft s)	0.15	3.17	0.31
Frctn Loss (ft)	0.05	Cum Volume (acre-ft)	7.37	14.82	6.22
C & E Loss (ft)	0.02	Cum SA (acres)	7.53	2.61	4.15

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 1552

INPUT
Description:
Station Elevation Data num= 332

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4628.26	15.4	4627.89	18.7	4628.19	31.8	4628.28	38.4	4627.94
41.6	4627.63	44.9	4626.03	51.5	4624.07	64.6	4623	67.9	4623.32
89.2	4622.74	95.8	4622.8	120.7	4621.65	150.6	4621.55	209.7	4620.16
246.7	4619.81	253.3	4620	258.2	4619.67	266.1	4619.74	274.6	4619.45
289.4	4619.52	310.7	4618.84	312.4	4619.17	322.2	4618.91	325.5	4619.19
330.3	4618.73	337	4618.51	341.9	4618.64	345.2	4618.38	363.2	4618.24
370.4	4618.53	379.7	4618.19	391.1	4618.42	402.6	4618.05	433.8	4618.53
450.2	4618.28	461.9	4618.74	468.2	4618.56	476.3	4618.77	484.3	4618.3
511.9	4618.67	530.4	4618.34	540.5	4618.65	551.7	4618.18	567.8	4618.63
586.4	4618.8	602.6	4618.55	623.9	4617.83	630.7	4618	654.4	4617.65
668.4	4617.78	729.2	4617.21	750.3	4617.28	758.7	4617.66	761.9	4617.51
763.5	4617.23	763.6	4617.2	771.5	4617.26	784.9	4616.71	794.8	4617.14
812.4	4616.34	860.4	4616.26	862.1	4616.34	866.9	4616.79	874.3	4616.89
877.4	4617.29	877.9	4617.42	879.8	4618	881.1	4618.23	881.6	4618.44
883.4	4619.21	883.5	4619.25	885.2	4619.41	886	4619.51	887.1	4619.65
887.2	4619.66	892.5	4619.85	895.8	4619.62	903.5	4617.58	904.4	4617.5
906.8	4617.13	907.2	4617.12	908.1	4617.1	909	4617.11	909.3	4617.1
909.9	4617.08	910.5	4617.03	910.8	4617.01	920.3	4617.33	921.2	4617.32
921.6	4617.32	921.8	4617.34	923.6	4617.16	928.9	4615.32	929.5	4614.96
930.1	4614.44	932.6	4613.08	934.5	4612.74	935.1	4612.71	936.1	4612.62
936.3	4612.6	936.4	4612.59	936.6	4612.59	938.2	4612.55	938.7	4612.54
967.4	4612.78	968.2	4613.01	968.7	4613.17	969.2	4613.31	969.4	4613.36
969.8	4613.47	970.6	4613.92	971.1	4614.19	971.9	4614.58	972.3	4614.77
973.1	4615.1	978	4615.49	987.8	4615.47	989	4615.48	990.2	4615.63
995.9	4616.41	997.6	4617.29	998.8	4617.77	1003.9	4618.38	1004.4	4618.36
1007.6	4618.35	1013	4616.75	1022.1	4617.5	1034.5	4616.91	1034.9	4616.93
1036.5	4617.1	1037.4	4617.19	1038	4617.26	1038.7	4617.31	1039.2	4617.32
1039.7	4617.34	1060.7	4616.09	1061.5	4616.18	1061.7	4616.19	1064.2	4616.53
1070.6	4616.15	1080	4616.34	1092.2	4615.91	1092.3	4615.91	1092.4	4615.92
1093.6	4616.03	1094	4616.05	1094.8	4616.11	1094.9	4616.12	1095.7	4616.15
1096.1	4616.13	1097.1	4616.12	1099.2	4616.15	1099.9	4616.24	1101.8	4616.41
1102.5	4616.44	1102.7	4616.46	1106.1	4616.81	1124.2	4616.77	1125.4	4616.72
1125.5	4616.72	1126.7	4616.67	1127.2	4616.64	1128	4616.54	1128.3	4616.48
1129.3	4616.28	1134.4	4615.36	1134.8	4615.39	1136	4615.43	1137	4615.49
1137.7	4615.46	1138.2	4615.58	1139.5	4616.06	1139.5	4616.07	1139.5	4616.08
1140.8	4616.41	1141.2	4616.64	1142.1	4616.98	1143	4617.37	1143.3	4617.43
1144.3	4617.64	1144.7	4617.73	1156.1	4617.71	1176.2	4616.86	1190.5	4617.28
1191.4	4617.28	1191.8	4617.28	1192	4617.28	1192.4	4617.28	1193.1	4617.29
1193.7	4617.3	1194.4	4617.29	1195.5	4617.28	1195.6	4617.28	1196.9	4617.29
1197.2	4617.3	1197.9	4617.26	1199	4617.18	1199.5	4617.23	1200.7	4617.43
1200.8	4617.43	1202.5	4617.45	1205.5	4618.32	1209.7	4618.98	1210.2	4619.28
1211.2	4619.87	1211.8	4620.08	1212.2	4620.22	1214.8	4620.68	1214.9	4620.73
1216.1	4621.17	1216.5	4621.3	1217.3	4621.5	1217.4	4621.51	1218.2	4621.62
1218.6	4621.73	1219.6	4622.14	1220.2	4622.33	1221.7	4622.51	1222.4	4622.73
1223	4622.98	1224.3	4623.6	1225	4623.89	1225.2	4623.99	1225.8	4624.17
1228.5	4625.18	1228.7	4625.25	1228.8	4625.28	1232.6	4626.09	1250.17	4626
1252.25	4626	1256.75	4626	1258.13	4625.31	1260.44	4624	1264.26	4622.33
1265.06	4622	1274.74	4620.82	1280.06	4620	1304.91	4620	1316.28	4620
1340.09	4620	1348.93	4620	1366.38	4620	1382.04	4620	1387.91	4620
1412.95	4620	1452.21	4620	1476.1	4620	1479.41	4620	1485.21	4620
1497.97	4620.93	1505.95	4621.03	1517.23	4621.34	1540.64	4621.82	1545.05	4621.56
1546.9	4622	1551.39	4622.66	1556.52	4623.64	1557.94	4623.77	1560.07	4624
1571.57	4625.72	1573.62	4626	1574.03	4626	1606.93	4626	1606.95	4626
1615.07	4624	1616.01	4623.77	1622.37	4622	1646.97	4620.21	1649.34	4620
1650.13	4620	1650.67	4620	1660.14	4620	1679.45	4620	1698.03	4620
1699.75	4620	1704.82	4620	1709.68	4620	1710.93	4620	1741.56	4620
1759.75	4620	1788.12	4620	1791.83	4620	1796.78	4620	1826.84	4620
1828.77	4620	1830.77	4620	1862.21	4620	1863.92	4620	1898.44	4620
1955.58	4620	1963.02	4620	1963.77	4620	1965.68	4620	1965.73	4620
1972.1	4620	1981.48	4620	2002.44	4620	2057.27	4620	2066.93	4620
2083.53	4621.56	2086.24	4622	2087.28	4622.26	2097.8	4622.71	2098.4	4622.88
2099.9	4623.27	2100.2	4623.34	2100.3	4623.36	2101.6	4623.42	2101.9	4623.45
2102.9	4624.03	2105.4	4625.26	2105.4	4625.29	2105.5	4625.32	2107.2	4626.11
2109.2	4626.2	2110.1	4626.35	2110.5	4626.39	2110.7	4626.44	2111.1	4626.57
2111.8	4626.77	2112.4	4627.06	2114.2	4627.46	2114.4	4627.47	2114.8	4627.55
2115.6	4627.8	2116.6	4627.98	2116.9	4628.03	2117.7	4628.09	2126.4	4628.45
2127.1	4628.462127.182		4628.46						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.055	921.2	.035	978	.055

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
921.2	978	105.1	105.1	70	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent

1232.62127.182 4626.09 F

CROSS SECTION OUTPUT Profile #100-yr FP

E.G. Elev (ft)	4621.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.15	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4621.30	Reach Len. (ft)	105.10	105.10	70.00
Crit W.S. (ft)	4619.47	Flow Area (sq ft)	2262.50	435.36	1040.40
E.G. Slope (ft/ft)	0.001008	Area (sq ft)	2262.50	435.36	1889.69
Q Total (cfs)	8625.00	Flow (cfs)	4013.20	2242.38	2369.43
Top Width (ft)	1748.95	Top Width (ft)	759.95	56.80	932.20
Vel Total (ft/s)	2.31	Avg. Vel. (ft/s)	1.77	5.15	2.28
Max Chl Dpth (ft)	8.76	Hydr. Depth (ft)	2.98	7.66	4.36
Conv. Total (cfs)	271623.3	Conv. (cfs)	126385.8	70618.2	74619.3
Length Wtd. (ft)	94.88	Wetted Per. (ft)	760.98	58.30	240.53
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	0.19	0.47	0.27
Alpha	1.84	Stream Power (lb/ft s)	0.33	2.42	0.62
Frctn Loss (ft)	0.09	Cum Volume (acre-ft)	36.57	31.58	27.56
C & E Loss (ft)	0.00	Cum SA (acres)	13.04	2.73	12.18

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4622.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.48	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4621.72	Reach Len. (ft)	105.10	105.10	70.00
Crit W.S. (ft)	4620.08	Flow Area (sq ft)	1459.24	458.96	98.11
E.G. Slope (ft/ft)	0.002125	Area (sq ft)	1459.24	458.96	98.11
Q Total (cfs)	8625.00	Flow (cfs)	4734.96	3554.98	335.06
Top Width (ft)	416.00	Top Width (ft)	343.20	56.80	16.00
Vel Total (ft/s)	4.28	Avg. Vel. (ft/s)	3.24	7.75	3.42
Max Chl Dpth (ft)	9.17	Hydr. Depth (ft)	4.25	8.08	6.13
Conv. Total (cfs)	187090.9	Conv. (cfs)	102709.4	77113.5	7268.0
Length Wtd. (ft)	103.65	Wetted Per. (ft)	347.02	58.30	21.61
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	0.56	1.04	0.60
Alpha	1.69	Stream Power (lb/ft s)	1.81	8.09	2.06
Frctn Loss (ft)	0.20	Cum Volume (acre-ft)	30.24	26.21	15.80
C & E Loss (ft)	0.03	Cum SA (acres)	8.20	2.73	3.72

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4624.06	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4623.93	Reach Len. (ft)	105.10	105.10	70.00
Crit W.S. (ft)	4620.39	Flow Area (sq ft)	4433.20	584.65	1680.12
E.G. Slope (ft/ft)	0.000624	Area (sq ft)	4433.20	584.65	4516.09
Q Total (cfs)	15790.00	Flow (cfs)	8864.62	2883.21	4042.17
Top Width (ft)	1957.99	Top Width (ft)	867.96	56.80	1033.23
Vel Total (ft/s)	2.36	Avg. Vel. (ft/s)	2.00	4.93	2.41
Max Chl Dpth (ft)	11.39	Hydr. Depth (ft)	5.11	10.29	6.80
Conv. Total (cfs)	632180.8	Conv. (cfs)	354911.0	115434.3	161835.5
Length Wtd. (ft)	95.54	Wetted Per. (ft)	869.09	58.30	249.57
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	0.20	0.39	0.26
Alpha	1.47	Stream Power (lb/ft s)	0.40	1.93	0.63
Frctn Loss (ft)	0.06	Cum Volume (acre-ft)	72.71	50.28	77.29
C & E Loss (ft)	0.00	Cum SA (acres)	15.97	2.73	22.13

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4620.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.24	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4620.05	Reach Len. (ft)	105.10	105.10	70.00
Crit W.S. (ft)	4618.68	Flow Area (sq ft)	1347.55	364.47	745.44
E.G. Slope (ft/ft)	0.001787	Area (sq ft)	1347.55	364.47	777.42
Q Total (cfs)	6435.00	Flow (cfs)	2379.61	2220.19	1835.20
Top Width (ft)	1615.41	Top Width (ft)	699.99	56.80	858.62
Vel Total (ft/s)	2.62	Avg. Vel. (ft/s)	1.77	6.09	2.46
Max Chl Dpth (ft)	7.51	Hydr. Depth (ft)	1.93	6.42	3.19
Conv. Total (cfs)	152206.3	Conv. (cfs)	56284.7	52513.9	43407.8
Length Wtd. (ft)	94.69	Wetted Per. (ft)	701.01	58.30	235.57
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	0.21	0.70	0.35
Alpha	2.29	Stream Power (lb/ft s)	0.38	4.25	0.87
Frctn Loss (ft)	0.16	Cum Volume (acre-ft)	21.92	23.90	15.64
C & E Loss (ft)	0.01	Cum SA (acres)	10.42	2.71	7.01

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4618.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.23	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4618.71	Reach Len. (ft)	105.10	105.10	70.00
Crit W.S. (ft)	4617.99	Flow Area (sq ft)	511.81	288.42	434.47
E.G. Slope (ft/ft)	0.001778	Area (sq ft)	511.81	288.42	434.47
Q Total (cfs)	2924.00	Flow (cfs)	671.97	1499.13	752.91
Top Width (ft)	840.06	Top Width (ft)	553.26	56.80	230.00
Vel Total (ft/s)	2.37	Avg. Vel. (ft/s)	1.31	5.20	1.73
Max Chl Dpth (ft)	6.17	Hydr. Depth (ft)	0.93	5.08	1.89
Conv. Total (cfs)	69346.5	Conv. (cfs)	15936.6	35553.8	17856.1
Length Wtd. (ft)	95.70	Wetted Per. (ft)	553.92	58.30	231.56
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	0.10	0.55	0.21
Alpha	2.68	Stream Power (lb/ft s)	0.13	2.85	0.36
Frctn Loss (ft)	0.15	Cum Volume (acre-ft)	7.05	14.61	6.01
C & E Loss (ft)	0.01	Cum SA (acres)	7.18	2.56	4.03

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 1447.365

INPUT
Description:
Station Elevation Data num= 275

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4626.5	18.2	4626.12	31.3	4626.74	37.8	4625.6	41.1	4624.03
47.7	4622.71	54.3	4622.59	70.7	4621.24	74	4621.5	85.4	4621.2
103.5	4621.36	115	4620.78	141.2	4620.75	155.6	4620.38	159.6	4620.65
166	4620.43	175.7	4620.59	188.8	4619.86	206.9	4619.78	226.6	4619.06
238.4	4619.42	257.8	4618.93	275.8	4619.42	328.3	4618.61	362.8	4618.8
400.6	4617.81	443.5	4618.28	461.1	4617.97	470.6	4618.24	476	4617.95
520.3	4617.47	528.5	4617.83	550.4	4617.15	566.4	4617.58	587.6	4617.11
620.3	4617.17	632.1	4617.49	653.3	4617.01	662.5	4617.21	677.7	4617.06
691	4616.64	720	4616.85	727.1	4616.37	736.9	4616.25	745.2	4616.52
750.1	4616.94	758.3	4616.55	763.2	4616.99	774	4616.78	786.2	4617.28
787.6	4617.08	789.5	4616.95	792.9	4617.27	794.4	4617.98	797.2	4618.53
804.2	4619.06	805.6	4618.88	806.72	4618.74	807.2	4618.68	807.5	4618.64
807.8	4618.61	808.8	4618.63	809.2	4618.61	809.5	4618.48	810.4	4618.05
810.8	4617.93	811.2	4617.85	812	4617.75	812.4	4617.67	815.2	4617.46
815.7	4617.41	817.4	4617.15	818	4617.11	821.1	4616.92	835.9	4617.19
837.3	4616.73	838.2	4616.36	838.9	4616.02	839.4	4615.8	842.8	4614.98
846.8	4613.36	857.1	4612.6	859.5	4612.31	860.6	4612.08	870.1	4612.22
873.7	4612.02	878.4	4612.28	881.4	4612.15	882	4612.12	882.3	4612.11
886.3	4613.02	894.2	4615.3	899.1	4616.3	911.9	4616.55	919.7	4617.49
921	4617.73	922.2	4618.1	922.7	4618.3	923.3	4618.57	923.8	4618.69
924.5	4618.82	924.64	618.824	925.6	4618.87	925.8	4618.88	926.1	4618.91
927.7	4619.03	928.6	4618.97	929.3	4618.94	929.5	4618.9	929.7	4618.88
930.1	4618.87	931.8	4618.91	932.6	4618.7	934.7	4618.42	935	4618.38
935.4	4618.31	936.4	4618.16	936.8	4618.11	938.5	4617.83	938.9	4617.78
939.9	4617.62	940.3	4617.56	940.6	4617.52	943.8	4616.73	986.2	4616.23
986.9	4616.27	987.5	4616.34	988	4616.38	988.2	4616.4	989.4	4616.49
989.7	4616.49	990.4	4616.46	991.5	4616.43	992	4616.41	993.1	4616.41
1000.8	4615.5	1008	4615.54	1010.8	4615.98	1010.9	4616	1011	4616
1012.2	4616.03	1012.7	4616.01	1018	4615.69	1025	4615.67	1035.6	4616.43
1037.4	4616.38	1037.5	4616.38	1038.7	4616.39	1039.2	4616.39	1039.9	4616.4
1040.9	4616.44	1041.2	4616.44	1041.9	4616.49	1042.5	4616.5	1042.7	4616.5
1049.8	4616.15	1055.2	4616.5	1072.9	4616.25	1092.1	4616.74	1093	4616.73
1093.1	4616.72	1096	4616.61	1096.8	4616.6	1098	4616.48	1099	4616.4
1099.2	4616.38	1099.3	4616.38	1099.6	4616.36	1100.6	4616.32	1122.2	4616.44
1136.3	4617.36	1139.5	4617.41	1152.8	4616.85	1163.7	4617.36	1170.5	4617.89
1171.3	4617.99	1172.3	4618.29	1172.6	4618.39	1176.3	4618.99	1176.9	4619.12
1177.6	4619.41	1178.1	4619.54	1178.6	4619.7	1178.9	4619.76	1179.4	4619.87
1180.1	4620	1180.4	4620.03	1181.1	4620.2	1181.4	4620.27	1182.2	4620.54
1182.7	4620.72	1183.8	4621.15	1183.9	4621.18	1187.5	4621.65	1187.7	4621.75
1188.3	4622.1	1189	4622.53	1189.2	4622.61	1189.9	4622.68	1192.8	4623.5
1200.47	4626	1219.17	4626	1221.25	4626	1225.75	4626	1227.13	4625.31
1229.44	4624	1233.26	4622.33	1234.06	4622	1243.74	4620.82	1249.06	4620
1273.91	4620	1285.28	4620	1309.09	4620	1317.93	4620	1335.38	4620
1351.04	4620	1356.91	4620	1381.95	4620	1421.21	4620	1445.1	4620
1448.41	4620	1454.21	4620	1466.97	4620.93	1474.95	4621.03	1486.23	4621.34
1509.64	4621.82	1514.05	4621.56	1515.9	4622	1520.39	4622.66	1525.52	4623.64
1526.94	4623.77	1529.07	4624	1540.57	4625.72	1542.62	4626	1543.03	4626
1575.93	4626	1575.95	4626	1584.07	4624	1585.01	4623.77	1591.37	4622
1615.97	4620.21	1618.34	4620	1619.13	4620	1619.67	4620	1629.14	4620

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 1648.45    4620 1667.03    4620 1668.75    4620 1673.82    4620 1678.68    4620
 1679.93    4620 1710.56    4620 1728.75    4620 1757.12    4620 1760.83    4620
 1765.78    4620 1795.84    4620 1797.77    4620 1799.77    4620 1831.21    4620
 1832.92    4620 1867.44    4620 1924.58    4620 1932.02    4620 1932.77    4620
 1934.68    4620 1934.73    4620  1941.1    4620 1950.48    4620 1971.44    4620
 2026.27    4620 2035.93    4620 2052.53 4621.56 2055.24    4622 2056.28 4622.26

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .055   835.9    .035   899.1    .055

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         835.9   899.1              105     105     100             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
  953.19 1089.01    4616       T
 1200.47 2056.28    4626       T

CROSS SECTION OUTPUT  Profile #100-yr FP

  E.G. Elev (ft)           4621.36    Element                 Left OB    Channel   Right OB
  Vel Head (ft)               0.14    Wt. n-Val.               0.055      0.035     0.055
  W.S. Elev (ft)           4621.22    Reach Len. (ft)         105.00     105.00    100.00
  Crit W.S. (ft)                      Flow Area (sq ft)      2196.99     493.77   1256.73
  E.G. Slope (ft/ft)      0.000875    Area (sq ft)           2196.99     493.77   2058.69
  Q Total (cfs)            8759.00    Flow (cfs)             3658.30    2408.42   2692.28
  Top Width (ft)           1768.61    Top Width (ft)          732.24      63.20    973.17
  Vel Total (ft/s)            2.22    Avg. Vel. (ft/s)          1.67       4.88      2.14
  Max Chl Dpth (ft)           9.20    Hydr. Depth (ft)          3.00       7.81      4.41
  Conv. Total (cfs)       296141.3    Conv. (cfs)           123686.9    81428.5   91025.9
  Length Wtd. (ft)          103.33    Wetted Per. (ft)        733.00      64.50    286.29
  Min Ch El (ft)           4612.02    Shear (lb/sq ft)          0.16       0.42      0.24
  Alpha                       1.85    Stream Power (lb/ft s)    0.27       2.04      0.51
  Frctn Loss (ft)             0.09    Cum Volume (acre-ft)     31.19      30.46     24.39
  C & E Loss (ft)             0.00    Cum SA (acres)           11.24       2.58     10.65


Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #100-yr FW

  E.G. Elev (ft)           4621.97    Element                 Left OB    Channel   Right OB
  Vel Head (ft)               0.39    Wt. n-Val.               0.055      0.035     0.055
  W.S. Elev (ft)           4621.58    Reach Len. (ft)         105.00     105.00    100.00
  Crit W.S. (ft)                      Flow Area (sq ft)      1623.07     516.67    141.68
  E.G. Slope (ft/ft)      0.001699    Area (sq ft)           1623.07     516.67    141.68
  Q Total (cfs)            8759.00    Flow (cfs)             4756.43    3619.36    383.20
  Top Width (ft)            473.25    Top Width (ft)          375.90      63.20     34.15
  Vel Total (ft/s)            3.84    Avg. Vel. (ft/s)          2.93       7.01      2.70
  Max Chl Dpth (ft)           9.56    Hydr. Depth (ft)          4.32       8.18      4.15
  Conv. Total (cfs)       212524.8    Conv. (cfs)           115408.2    87818.8    9297.9
  Length Wtd. (ft)          104.62    Wetted Per. (ft)        380.13      64.50     37.42
  Min Ch El (ft)           4612.02    Shear (lb/sq ft)          0.45       0.85      0.40
  Alpha                       1.71    Stream Power (lb/ft s)    1.33       5.95      1.09
  Frctn Loss (ft)             0.17    Cum Volume (acre-ft)     26.52      25.03     15.61
  C & E Loss (ft)             0.02    Cum SA (acres)            7.33       2.58      3.68


CROSS SECTION OUTPUT  Profile #500-yr

  E.G. Elev (ft)           4624.00    Element                 Left OB    Channel   Right OB
  Vel Head (ft)               0.12    Wt. n-Val.               0.055      0.035     0.055
  W.S. Elev (ft)           4623.88    Reach Len. (ft)         105.00     105.00    100.00
  Crit W.S. (ft)                      Flow Area (sq ft)      4271.72     661.80   2029.10
  E.G. Slope (ft/ft)      0.000549    Area (sq ft)           4271.72     661.80   4816.16
  Q Total (cfs)           16028.00    Flow (cfs)             8292.58    3107.42   4628.00
  Top Width (ft)           1922.00    Top Width (ft)          794.03      63.20   1064.76
  Vel Total (ft/s)            2.30    Avg. Vel. (ft/s)          1.94       4.70      2.28
  Max Chl Dpth (ft)          11.86    Hydr. Depth (ft)          5.38      10.47      6.88
  Conv. Total (cfs)       684319.0    Conv. (cfs)           354053.6   132671.9   197593.4
  Length Wtd. (ft)          103.35    Wetted Per. (ft)        794.97      64.50    296.52
  Min Ch El (ft)           4612.02    Shear (lb/sq ft)          0.18       0.35      0.23
  Alpha                       1.46    Stream Power (lb/ft s)    0.36       1.65      0.53
  Frctn Loss (ft)             0.06    Cum Volume (acre-ft)     62.21      48.77     69.79
  C & E Loss (ft)             0.00    Cum SA (acres)           13.97       2.58     20.44


Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT  Profile #50-yr

  E.G. Elev (ft)           4620.13    Element                 Left OB    Channel   Right OB
  Vel Head (ft)               0.22    Wt. n-Val.               0.055      0.035     0.055
  W.S. Elev (ft)           4619.91    Reach Len. (ft)         105.00     105.00    100.00
```

Crit W.S. (ft)		Flow Area (sq ft)	1302.54	411.31	887.44
E.G. Slope (ft/ft)	0.001517	Area (sq ft)	1302.54	411.31	896.45
Q Total (cfs)	6528.00	Flow (cfs)	2181.39	2338.99	2007.63
Top Width (ft)	991.79	Top Width (ft)	648.06	63.20	280.53
Vel Total (ft/s)	2.51	Avg. Vel. (ft/s)	1.67	5.69	2.26
Max Chl Dpth (ft)	7.89	Hydr. Depth (ft)	2.01	6.51	3.16
Conv. Total (cfs)	167600.7	Conv. (cfs)	56005.2	60051.5	51544.1
Length Wtd. (ft)	103.45	Wetted Per. (ft)	648.76	64.50	281.53
Min Ch El (ft)	4612.02	Shear (lb/sq ft)	0.19	0.60	0.30
Alpha	2.24	Stream Power (lb/ft s)	0.32	3.43	0.68
Frctn Loss (ft)	0.15	Cum Volume (acre-ft)	18.72	22.96	14.29
C & E Loss (ft)	0.01	Cum SA (acres)	8.80	2.56	6.10

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4618.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4618.60	Reach Len. (ft)	105.00	105.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	547.01	328.12	524.26
E.G. Slope (ft/ft)	0.001367	Area (sq ft)	547.01	328.12	533.27
Q Total (cfs)	2967.00	Flow (cfs)	618.36	1523.70	824.94
Top Width (ft)	782.20	Top Width (ft)	454.19	63.20	264.81
Vel Total (ft/s)	2.12	Avg. Vel. (ft/s)	1.13	4.64	1.57
Max Chl Dpth (ft)	6.58	Hydr. Depth (ft)	1.20	5.19	1.98
Conv. Total (cfs)	80235.6	Conv. (cfs)	16722.0	41204.9	22308.7
Length Wtd. (ft)	103.75	Wetted Per. (ft)	454.81	64.50	265.57
Min Ch El (ft)	4612.02	Shear (lb/sq ft)	0.10	0.43	0.17
Alpha	2.68	Stream Power (lb/ft s)	0.12	2.02	0.27
Frctn Loss (ft)	0.13	Cum Volume (acre-ft)	5.77	13.87	5.23
C & E Loss (ft)	0.01	Cum SA (acres)	5.96	2.42	3.63

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 1223

INPUT
Description:
Station Elevation Data num= 401

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4628.84	6.2	4629.14	19.23	4628.71	23.63	4628.39	27.08	4628.5
28.8	4628.19	33.56	4628.14	41.38	4627.78	44.32	4627.38	49.19	4627.14
62.22	4626.79	66.13	4626.61	83.97	4626.28	87.42	4626.14	109.84	4625.78
115.01	4625.85	126.05	4625.64	135.7	4625.37	142.59	4625.37	146.04	4625.52
149.49	4625.28	168.46	4624.99	171.9	4624.44	175.35	4624.26	183.97	4624.53
194.32	4624.56	201.21	4623.83	204.66	4623.73	208.11	4623.25	211.56	4623.23
217.25	4624.23	220.18	4624.18	223.63	4624.52	235.48	4624.27	240.87	4624.95
246.04	4626	247.76	4626.18	252.94	4626.28	255.02	4625.85	260.24	4625.42
263.28	4624.68	266.73	4624.16	271.9	4623.78	280.52	4623.67	286.29	4623.05
290.2	4623.06	296.04	4624.3	303.23	4624.66	315	4624.78	321.9	4624.72
328.8	4624.47	337.42	4624.97	340.73	4625.05	344.01	4624.75	347.3	4624
350.58	4622.86	352.22	4622.53	371.92	4621.47	376.84	4621.49	383.4	4621.69
386.69	4621.51	398.18	4621.33	408.02	4621.49	416.23	4621.25	417.9	4621.37
422.8	4621.14	424.44	4621.25	429.36	4621	434.29	4620.98	437.57	4621.18
444.13	4620.91	451.8	4620.88	458.91	4620.53	475.32	4620.49	481.88	4620.62
486.81	4620.37	495.01	4620.43	501.58	4620.34	506.5	4620.41	509.79	4620.21
513.07	4620.25	519.63	4619.78	524.56	4619.95	536.05	4619.54	540.97	4619.47
544.25	4619.85	550.82	4620.22	552.46	4620.01	559.03	4619.91	560.67	4620.02
565.59	4619.62	570.52	4619.56	575.16	4619.23	577.08	4619.3	582	4619.1
593.49	4619.09	598.42	4618.78	606.62	4618.6	614.83	4618.63	618.11	4618.47
623.04	4618.51	626.67	4618.38	632.89	4618.38	634.53	4618.51	637.81	4618.3
647.69	4618.27	652.31	4618.05	662.42	4618.06	670.81	4618.2	674.11	4617.91
680.72	4617.66	687.77	4617.71	702.19	4617.7	720.28	4617.38	726.97	4617.37
730.27	4617.24	740.18	4617.33	745.41	4617.48	750.09	4617.26	760.01	4617.28
768.26	4617.16	776.63	4617.27	777.92	4617.16	800.08	4617.13	811.21	4616.87
819.47	4617.2	824.42	4616.78	830.93	4616.84	835.99	4617.02	845.91	4617.03
850.85	4616.9	864.07	4617.22	867.37	4617.19	875.63	4616.75	884.31	4616.83
890.49	4616.7	893.8	4616.8	905.36	4616.72	913.62	4616.77	918.57	4616.48
926.83	4616.67	928.48	4616.44	933.44	4616.24	941.7	4616.17	946.65	4616.31
949.96	4616.69	954.91	4616.45	959.87	4616.44	964.82	4616.89	974.73	4616.84
976.39	4617	982.99	4616.8	986.27	4617.62	991.67	4618.47	996.46	4618.29
998.96	4617.65	1000.79	4617.53	1003.82	4616.93	1009.9	4616.46	1019.02	4616.45
1020.85	4616.25	1023.46	4615.17	1028.37	4612.32	1029.96	4612.22	1035.43	4611.34
1040.65	4611.42	1044.33	4611.13	1048.02	4611.2	1053.67	4611.09	1055.49	4611.33
1062.75	4611.31	1068.26	4611.48	1070.08	4611.84	1081.16	4615.43	1086.49	4615.58
1093.79	4615.62	1095.61	4615.48	1098.34	4615.8	1104.73	4617.86	1110.62	4618.62
1114.3	4618.88	1116.76	4618.68	1125.74	4617.28	1132.32	4617.18	1140.55	4616.73
1143.85	4616.37	1147.14	4616.38	1155.37	4616.87	1163.6	4616.88	1166.9	4617.27
1173.48	4616.82	1178.42	4616.81	1185.01	4617.29	1188.3	4616.95	1193.24	4617.18
1194.89	4617.04	1199.83	4617.13	1204.61	4618.1	1208.06	4618.54	1221.23	4618.35

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 1222.88 4618.49 1232.75  4618.3 1243.31 4618.34 1253.26 4618.05  1257.7 4616.88
 1265.26 4616.28 1266.69 4616.36 1272.09 4615.83 1277.26 4616.02 1288.58 4616.03
 1293.54  4616.1 1298.51 4615.98 1304.47    4616 1310.91 4616.31 1315.88 4616.31
 1324.56 4616.52 1333.25 4616.47 1340.44 4615.94 1346.89 4616.26 1349.38 4616.63
 1351.23 4616.59 1358.43 4617.18 1369.22 4617.41 1374.19  4617.9 1378.21  4618.6
 1382.87 4618.32 1387.84 4617.05  1394.4 4616.15    1398 4616.22 1406.99 4616.11
 1411.41  4616.2 1417.78 4617.07 1421.34 4617.34 1423.18  4617.2 1428.58  4617.4
 1432.17  4617.2 1438.71 4617.18 1446.15 4617.35 1456.08 4617.44 1457.36 4617.34
 1463.52  4617.5 1471.75 4617.84 1475.93  4617.8 1482.54  4618.1 1489.73 4618.73
  1493.3 4619.35 1494.54 4619.28 1498.73 4620.25 1500.74 4620.24 1505.92  4621.5
 1513.22 4622.62 1516.87  4622.7 1520.31 4623.24 1524.31 4623.47 1528.04 4624.13
 1530.52 4624.12 1535.48 4624.76  1540.1 4624.77  1545.4 4625.39 1547.29 4625.07
 1552.69 4624.74 1554.48 4625.03 1561.68 4624.92 1563.48 4625.51 1565.28 4625.54
 1577.21 4626.93 1583.26 4626.92 1592.26 4626.36 1595.85 4626.24 1597.65  4626.4
 1599.45 4625.99 1606.65 4626.05 1608.45 4626.57 1616.12 4626.41 1619.24 4626.22
 1624.63 4626.12 1630.03 4626.75 1635.43  4626.2 1637.22 4626.66 1644.42 4626.19
 1646.22 4626.44 1649.82 4626.41 1655.21 4626.66 1658.31 4626.37 1660.61 4626.46
  1664.2 4626.27    1666 4626.57 1669.47 4626.74 1671.96 4626.32 1676.92 4626.14
 1678.16 4626.48 1685.79 4627.03 1687.59 4626.61 1691.19 4626.78 1699.25 4626.68
 1702.97 4626.82 1707.37 4626.48 1710.97 4627.34 1714.57 4627.07 1719.96 4626.27
 1722.82 4626.51 1725.36 4626.34 1730.76 4626.39 1733.99 4626.59 1735.23  4626.4
 1745.16 4626.18 1748.74 4626.51 1750.54 4626.25 1757.18 4626.51 1766.73 4626.18
 1768.53 4627.17 1773.17 4627.38 1775.72 4627.05 1781.12  4627.3 1791.91 4627.32
 1793.71 4627.61 1795.51 4627.27 1797.31 4627.95 1805.17 4627.86  1809.9 4627.69
 1817.12 4627.84 1822.49 4627.67 1824.56 4627.76 1827.04 4627.52 1835.08 4628.45
 1844.07 4628.42 1849.47 4628.07 1853.07 4627.55 1856.66 4627.33 1863.86 4627.56
 1865.66 4627.85 1869.26 4627.82 1872.85 4628.16 1876.45 4627.74 1878.25 4628.17
 1880.05 4627.77 1883.64 4627.79 1885.44 4628.12 1889.15 4628.27  1892.8 4628.08
 1897.76 4628.04  1905.2 4628.34 1910.63 4628.18 1916.02 4628.35 1920.09 4628.22
 1923.22 4628.44 1925.06  4628.3 1928.61 4628.43  1932.5 4628.36 1935.81 4628.64
    1943 4628.26 1947.39 4628.31  1950.2 4628.53 1951.99 4628.29 1955.59 4628.43
 1958.55 4628.34 1968.48 4628.43 1982.57 4628.27 2000.56 4628.34 2007.75 4628.25
 2013.16 4628.41 2026.79 4628.34    2033 4628.25 2040.44 4628.38 2045.53 4628.16
 2049.13  4628.5 2053.13 4628.28 2058.12 4628.21  2072.7 4628.29 2088.83 4628.14
 2095.89 4628.21 2099.49 4628.13 2124.81 4628.25 2135.97  4628.1 2148.38 4628.08
 2150.86 4627.99 2158.84 4628.11 2164.51 4628.04 2169.47 4628.18 2171.43 4628.04
  2181.1 4628.06 2187.62 4628.16 2196.77  4628.1 2202.01 4628.24 2203.81 4628.12
 2230.27 4628.16 2236.19 4628.28 2246.98 4628.36 2256.32 4628.34 2261.09 4628.47
 2265.01 4628.37 2272.16 4628.41 2277.41 4628.55 2288.35 4628.43 2306.34 4628.52
 2309.93 4628.41 2322.52 4628.53 2327.04 4628.63    2332 4628.55 2339.44 4628.54
2578.063 4628.54

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .055 1019.02    .035 1081.16    .055

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1019.02 1081.16              25      25      25             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0  544.25 4619.85       F

CROSS SECTION OUTPUT  Profile #100-yr FP

  E.G. Elev (ft)           4621.27    Element                  Left OB    Channel   Right OB
  Vel Head (ft)               0.16    Wt. n-Val.                0.055      0.035      0.055
  W.S. Elev (ft)           4621.11    Reach Len. (ft)           25.00      25.00      25.00
  Crit W.S. (ft)           4619.08    Flow Area (sq ft)        1777.01     546.80    1663.71
  E.G. Slope (ft/ft)      0.000799    Area (sq ft)             1777.01     546.80    1663.71
  Q Total (cfs)            8759.00    Flow (cfs)               2858.02    2746.08    3154.90
  Top Width (ft)           1074.38    Top Width (ft)            589.08      62.14     423.16
  Vel Total (ft/s)            2.20    Avg. Vel. (ft/s)            1.61       5.02       1.90
  Max Chl Dpth (ft)          10.02    Hydr. Depth (ft)            3.02       8.80       3.93
  Conv. Total (cfs)       309967.4    Conv. (cfs)             101140.9    97179.3   111647.1
  Length Wtd. (ft)           25.00    Wetted Per. (ft)          589.78      63.84     424.98
  Min Ch El (ft)           4611.09    Shear (lb/sq ft)            0.15       0.43       0.20
  Alpha                       2.08    Stream Power (lb/ft s)      0.24       2.14       0.37
  Frctn Loss (ft)             0.02    Cum Volume (acre-ft)       26.40      29.21      20.12
  C & E Loss (ft)             0.01    Cum SA (acres)              9.65       2.43       9.05


Warning: Divided flow computed for this cross-section.
Note:    Multiple critical depths were found at this location.  The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT  Profile #100-yr FW

  E.G. Elev (ft)           4621.78    Element                  Left OB    Channel   Right OB
  Vel Head (ft)               0.45    Wt. n-Val.                0.055      0.035      0.055
  W.S. Elev (ft)           4621.33    Reach Len. (ft)           25.00      25.00      25.00
  Crit W.S. (ft)           4619.51    Flow Area (sq ft)        1291.01     560.24     341.55
  E.G. Slope (ft/ft)      0.001628    Area (sq ft)             1291.01     560.24     341.55
  Q Total (cfs)            8759.00    Flow (cfs)               3719.21    4082.72     957.07
  Top Width (ft)            436.00    Top Width (ft)            296.02      62.14      77.84
  Vel Total (ft/s)            3.99    Avg. Vel. (ft/s)            2.88       7.29       2.80
  Max Chl Dpth (ft)          10.24    Hydr. Depth (ft)            4.36       9.02       4.39
```

Conv. Total (cfs)	217098.4	Conv. (cfs)	92183.4	101193.3	23721.6
Length Wtd. (ft)	25.00	Wetted Per. (ft)	300.46	63.84	82.87
Min Ch El (ft)	4611.09	Shear (lb/sq ft)	0.44	0.89	0.42
Alpha	1.83	Stream Power (lb/ft s)	1.26	6.50	1.17
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	23.01	23.73	15.06
C & E Loss (ft)	0.18	Cum SA (acres)	6.52	2.43	3.55

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The cross section had to be extended vertically during the critical depth calculations.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4623.94	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4623.81	Reach Len. (ft)	25.00	25.00	25.00
Crit W.S. (ft)	4620.02	Flow Area (sq ft)	3559.74	714.71	2833.25
E.G. Slope (ft/ft)	0.000517	Area (sq ft)	3559.74	714.71	2833.25
Q Total (cfs)	16028.00	Flow (cfs)	6612.65	3453.72	5961.63
Top Width (ft)	1213.85	Top Width (ft)	706.62	62.14	445.09
Vel Total (ft/s)	2.26	Avg. Vel. (ft/s)	1.86	4.83	2.10
Max Chl Dpth (ft)	12.72	Hydr. Depth (ft)	5.04	11.50	6.37
Conv. Total (cfs)	704698.8	Conv. (cfs)	290736.7	151848.8	262113.2
Length Wtd. (ft)	25.00	Wetted Per. (ft)	707.77	63.84	447.12
Min Ch El (ft)	4611.09	Shear (lb/sq ft)	0.16	0.36	0.20
Alpha	1.59	Stream Power (lb/ft s)	0.30	1.75	0.43
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	52.77	47.11	61.01
C & E Loss (ft)	0.02	Cum SA (acres)	12.16	2.43	18.71

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4619.97	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.25	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4619.73	Reach Len. (ft)	25.00	25.00	25.00
Crit W.S. (ft)	4618.69	Flow Area (sq ft)	1039.60	460.60	1081.75
E.G. Slope (ft/ft)	0.001362	Area (sq ft)	1041.44	460.60	1081.75
Q Total (cfs)	6528.00	Flow (cfs)	1797.29	2694.39	2036.32
Top Width (ft)	944.44	Top Width (ft)	467.00	62.14	415.30
Vel Total (ft/s)	2.53	Avg. Vel. (ft/s)	1.73	5.85	1.88
Max Chl Dpth (ft)	8.63	Hydr. Depth (ft)	2.29	7.41	2.60
Conv. Total (cfs)	176895.5	Conv. (cfs)	48702.9	73012.6	55180.0
Length Wtd. (ft)	25.00	Wetted Per. (ft)	455.29	63.84	416.95
Min Ch El (ft)	4611.09	Shear (lb/sq ft)	0.19	0.61	0.22
Alpha	2.51	Stream Power (lb/ft s)	0.34	3.59	0.42
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	15.89	21.91	12.02
C & E Loss (ft)	0.02	Cum SA (acres)	7.45	2.41	5.30

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4618.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.22	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4618.43	Reach Len. (ft)	25.00	25.00	25.00
Crit W.S. (ft)	4617.16	Flow Area (sq ft)	482.47	380.10	552.92
E.G. Slope (ft/ft)	0.001140	Area (sq ft)	482.47	380.10	552.92
Q Total (cfs)	2967.00	Flow (cfs)	513.44	1790.15	663.42
Top Width (ft)	831.89	Top Width (ft)	390.10	62.14	379.65
Vel Total (ft/s)	2.10	Avg. Vel. (ft/s)	1.06	4.71	1.20
Max Chl Dpth (ft)	7.34	Hydr. Depth (ft)	1.24	6.12	1.46
Conv. Total (cfs)	87859.5	Conv. (cfs)	15204.0	53010.2	19645.3
Length Wtd. (ft)	25.00	Wetted Per. (ft)	390.62	63.84	381.10
Min Ch El (ft)	4611.09	Shear (lb/sq ft)	0.09	0.42	0.10
Alpha	3.16	Stream Power (lb/ft s)	0.09	2.00	0.12
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	4.53	13.01	3.99
C & E Loss (ft)	0.01	Cum SA (acres)	4.95	2.27	2.89

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 1212

INPUT

Description:
Station Elevation Data num= 451

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4624.57	12.9	4624.21	20	4624.68	27.1	4624.44	33.6	4623.01
53	4621.71	156.8	4620.93	168.2	4620.43	202.7	4620.29	215.8	4619.62
237.7	4619.49	243.7	4619.98	251.9	4619.46	273.3	4619.06	306.1	4619.05
324.2	4618.21	354	4618.32	410	4617.22	443.4	4617.24	448.5	4616.94
461.5	4617.22	486.3	4616.63	489.2	4616.96	577.5	4616.76	589.1	4616.23
607.3	4616.16	619.7	4616.73	638.7	4616.62	646.7	4617.29	652	4618.64
655.4	4618.78	657.3	4618.57	660.3	4617.47	664	4616.89	678.24	4616.297
680.3	4616.21	686.4	4613.38	692	4611.5	706.6	4611.06	728.2	4612.16
730.6	4612.56	739.2	4615.07	740	4615.08	757.6	4615.3	762.5	4615.97
768.7	4617.85	772.3	4618.38	777.8	4618.53	779.2	4618.52	781.2	4618.32
786.2	4616.98	811	4616.34	834.1	4616.81	855.6	4618	938.2	4618.28
944.5	4618.13	950.7	4617.02	956.9	4616.39	968.1	4615.89	987.6	4616
987.9	4616	988.1	4616.01	989.2	4616.11	989.9	4616.16	991.7	4616.41
993.5	4616.24	994.9	4616.15	995.2	4616.12	1004.1	4616.29	1004.6	4616.33
1005.3	4616.42	1006	4616.48	1006.6	4616.54	1007.8	4616.74	1007.8	4616.75
1023.9	4616.84	1033	4617.36	1047.3	4616.82	1052	4616.28	1056.1	4616.01
1070.7	4616.82	1071.1	4616.8	1072.2	4616.61	1072.5	4616.51	1072.8	4616.48
1073.6	4616.39	1074.3	4616.32	1074.9	4616.3	1076	4616.34	1077.9	4616.25
1092.2	4616.09	1092.3	4616.1	1093.5	4616.29	1094	4616.35	1095.5	4616.47
1095.8	4616.51	1096	4616.52	1097.2	4616.63	1106.6	4616.89	1122.8	4616.35
1160.6	4617.09	1160.7	4617.06	1161.8	4616.79	1162.3	4616.71	1163.1	4616.66
1180.4	4616.92	1180.8	4616.89	1181.7	4616.8	1182.1	4616.76	1182.9	4616.74
1183.1	4616.74	1183.9	4616.73	1184.2	4616.73	1185.7	4616.51	1192.8	4617.07
1207.2	4616.99	1217.7	4617.59	1230.6	4617.73	1231.4	4617.86	1232.4	4618.02
1232.6	4618.05	1233.2	4618.09	1233.9	4618.11	1234.2	4618.08	1235	4618.26
1235.1	4618.28	1236	4618.56	1245.2	4618.65	1248.5	4618.88	1249.3	4618.97
1257.5	4619.05	1259.9	4618.89	1261.1	4618.85	1261.4	4618.86	1262.4	4618.98
1262.9	4619.02	1263.7	4619.13	1264.7	4619.31	1265.4	4619.35	1266.5	4619.34
1267.4	4619.23	1268.3	4619.06	1268.6	4619.06	1269.4	4619.13	1269.9	4619.23
1270.1	4619.25	1278.6	4619.06	1282.7	4619.44	1283.5	4619.41	1283.6	4619.41
1284.5	4619.39	1284.8	4619.39	1285.5	4619.28	1286	4619.19	1286.3	4619.17
1287.3	4619.15	1288.1	4619.16	1288.5	4619.17	1289.5	4619.22	1289.7	4619.23
1296	4619.94	1297	4619.87	1298.8	4619.42	1317.7	4619.31	1318.3	4619.4
1318.6	4619.41	1319.3	4619.52	1319.6	4619.57	1320.4	4619.68	1320.8	4619.71
1335.7	4619.61	1336.6	4619.6	1336.9	4619.72	1337.8	4620.02	1338.3	4620.19
1341.9	4620.26	1342	4620.25	1343.2	4620.06	1343.7	4620	1344.4	4620.2
1345.3	4620.33	1345.9	4620.39	1346.9	4620.4	1347.3	4620.38	1349.1	4620.21
1359.9	4620.57	1361.5	4620.22	1370.7	4620.07	1382.9	4620.72	1386.9	4620.7
1387.4	4620.58	1387.9	4620.46	1388.6	4620.37	1390.2	4620.22	1390.4	4620.19
1390.7	4620.18	1391.6	4620.19	1392.2	4620.09	1392.8	4620.04	1395.3	4619.94
1422.4	4619.99	1426.4	4620.34	1428.2	4620.12	1428.9	4619.98	1429.6	4619.91
1430	4619.86	1430.1	4619.85	1432.6	4620.04	1432.8	4620.02	1438.9	4620.15
1444.3	4620.72	1445	4620.73	1446.1	4620.54	1458.7	4621.79	1458.8	4621.79
1459.9	4621.79	1460.5	4621.79	1462.3	4620.41	1462.4	4620.41	1463.6	4620.75
1464.1	4620.72	1464.9	4620.66	1465.3	4620.59	1467.4	4620.4	1467.7	4620.37
1468.6	4620.29	1469.8	4620.21	1470.7	4620.18	1471.1	4620.17	1471.8	4620.23
1472.3	4620.28	1473.1	4620.37	1473.6	4620.44	1474.7	4620.58	1474.8	4620.59
1475	4620.62	1476.7	4620.81	1479.8	4620.84	1480.3	4620.88	1503.6	4621.21
1521.6	4620.36	1522	4620.38	1523	4620.57	1523.3	4620.62	1523.4	4620.59
1523.7	4620.5	1524.5	4620.12	1525.2	4620.08	1538.2	4620.43	1539.1	4620.54
1541.9	4620.91	1543.1	4621.12	1543.1	4621.13	1558	4621.32	1559.2	4621.15
1559.4	4621.13	1562.9	4620.89	1571.3	4621.11	1597	4620.76	1597.8	4620.83
1598.3	4620.81	1598.8	4620.82	1599	4620.85	1599.5	4620.86	1600.3	4620.94
1600.6	4620.96	1601.5	4621	1602.7	4621.09	1620.4	4620.73	1643.7	4621.09
1643.8	4621.1	1645	4621.38	1645.5	4621.58	1646.2	4621.57	1647	4621.55
1647.3	4621.55	1647.5	4621.57	1647.8	4621.62	1649.1	4621.7	1652.4	4621.3
1656.3	4621.49	1656.7	4621.5	1657.4	4621.52	1658.1	4621.55	1658.6	4621.53
1661.1	4621.32	1661.7	4621.3	1662.4	4621.33	1663.2	4621.3	1663.5	4621.3
1663.6	4621.31	1673.5	4621.91	1688	4621.81	1695.9	4622.03	1696.1	4622.09
1697.1	4622.27	1704.1	4622.01	1708.2	4622.1	1708.3	4622.1	1708.4	4622.1
1708.6	4622.09	1713.8	4621.55	1714.5	4621.64	1718.3	4622.09	1726.4	4622.01
1727	4622.04	1731.8	4622.39	1731.9	4622.37	1732.3	4622.29	1733.2	4622.09
1733.5	4622.04	1734.4	4621.92	1734.5	4621.91	1735.3	4621.8	1735.7	4621.76
1736.3	4621.72	1736.9	4621.75	1737.1	4621.75	1737.8	4621.94	1738.1	4622.05
1738.9	4622.28	1740.4	4622.1	1740.7	4622.03	1741	4622.06	1741.9	4622.13
1742.5	4622.25	1743.1	4622.22	1744.3	4621.67	1744.3	4621.66	1744.4	4621.66
1749.7	4623.27	1772.6	4623.37	1785.3	4622.81	1796.4	4623.27	1796.5	4623.31
1796.7	4623.39	1797.8	4623.79	1800	4624.2	1807.7	4623.5	1808.8	4623.61
1808.9	4623.62	1809	4623.62	1809.2	4623.64	1810.2	4623.73	1810.8	4623.82
1812.4	4624.51	1812.6	4624.59	1812.7	4624.58	1812.8	4624.51	1813.9	4623.95
1816.2	4623.63	1816.4	4623.64	1816.8	4623.66	1817.6	4623.7	1818	4623.73
1818.9	4623.94	1820.1	4624.18	1820.9	4624.28	1821.4	4624.34	1823.4	4624.61
1823.8	4624.64	1824.9	4624.63	1825.1	4624.62	1828.6	4623.86	1828.8	4623.84
1828.8	4623.83	1830	4623.65	1830.5	4623.54	1832.3	4623.61	1841.2	4624.71
1841.3	4624.72	1841.6	4624.73	1842.5	4624.78	1843.1	4624.81	1844.9	4624.55
1845	4624.54	1846.2	4624.39	1848.1	4624.14	1848.5	4624.08	1848.7	4624.08
1849	4624	1849.9	4623.86	1850.3	4623.78	1851.3	4623.93	1852.1	4624.05
1852.4	4624.05	1853.1	4624.09	1853.6	4624.19	1853.9	4624.22	1854.9	4624.21
1856.1	4624.18	1857.4	4624.05	1857.5	4624.05	1857.8	4624.05	1858.6	4624.08
1859.9	4624	1861.1	4623.75	1863.6	4624.46	1864.3	4624.61	1864.7	4624.7
1864.8	4624.7	1865.1	4624.75	1866.5	4624.9	1867.3	4624.87	1870.1	4624.71
1874.8	4624.76	1876	4624.73	1877.2	4624.57	1877.3	4624.56	1878.5	4624.43

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  1879.1 4624.32  1879.7  4624.3  1880.5  4624.2  1880.8 4624.17  1881.3 4624.18
  1882.2 4624.27  1882.6 4624.26  1883.5 4624.41  1883.8 4624.52  1884.4 4624.72
  1884.7 4624.75  1885.3 4624.77  1885.9 4624.79  1889.8 4624.39  1890.9 4624.36
  1891.6 4624.29  1900.6  4624.7  1945.5 4625.13  1945.6 4625.13  1945.7 4625.15
  1947.3 4625.41  1948.6  4625.5  1949.1 4625.53  1958.1  4625.2  2004.8 4627.08
  2053.3 4627.95  2053.6 4627.97  2054.3 4628.03  2055.1 4628.09  2055.7 4628.11
  2057.3 4628.18  2058.6 4628.27  2058.7 4628.28  2058.9  4628.3  2060.5 4628.39
  2062.3 4628.22  2062.4 4628.21  2063.6 4628.14  2065.9 4627.98    2066 4627.97
  2095.9 4628.61

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .055   680.3    .035     740    .055

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         680.3     740              240     150      50             .3      .5

CROSS SECTION OUTPUT  Profile #100-yr FP

  E.G. Elev (ft)           4621.23    Element                  Left OB    Channel   Right OB
  Vel Head (ft)               0.13    Wt. n-Val.                0.055      0.035      0.055
  W.S. Elev (ft)           4621.11    Reach Len. (ft)          240.00     150.00      50.00
  Crit W.S. (ft)                      Flow Area (sq ft)       1663.78     524.17    2385.42
  E.G. Slope (ft/ft)       0.000715   Area (sq ft)            1663.78     524.17    2385.42
  Q Total (cfs)            8759.00    Flow (cfs)              2521.88    2495.51    3741.62
  Top Width (ft)           1474.49    Top Width (ft)           547.03      59.70     867.76
  Vel Total (ft/s)            1.92    Avg. Vel. (ft/s)            1.52       4.76       1.57
  Max Chl Dpth (ft)          10.05    Hydr. Depth (ft)            3.04       8.78       2.75
  Conv. Total (cfs)        327478.9   Conv. (cfs)             94287.1    93301.3   139890.5
  Length Wtd. (ft)           135.80   Wetted Per. (ft)         547.66      61.06     870.23
  Min Ch El (ft)           4611.06    Shear (lb/sq ft)            0.14       0.38       0.12
  Alpha                       2.23    Stream Power (lb/ft s)      0.21       1.83       0.19
  Frctn Loss (ft)             0.08    Cum Volume (acre-ft)       25.41      28.90      18.95
  C & E Loss (ft)             0.00    Cum SA (acres)              9.32       2.40       8.68


Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #100-yr FW

  E.G. Elev (ft)           4621.58    Element                  Left OB    Channel   Right OB
  Vel Head (ft)               0.10    Wt. n-Val.                0.055      0.035      0.055
  W.S. Elev (ft)           4621.48    Reach Len. (ft)          240.00     150.00      50.00
  Crit W.S. (ft)                      Flow Area (sq ft)       1879.73     546.71    2722.97
  E.G. Slope (ft/ft)       0.000538   Area (sq ft)            1879.73     546.71    2722.97
  Q Total (cfs)            8759.00    Flow (cfs)              2527.31    2320.81    3910.88
  Top Width (ft)           1569.59    Top Width (ft)           597.27      59.70     912.62
  Vel Total (ft/s)            1.70    Avg. Vel. (ft/s)            1.34       4.25       1.44
  Max Chl Dpth (ft)          10.42    Hydr. Depth (ft)            3.15       9.16       2.98
  Conv. Total (cfs)        377718.6   Conv. (cfs)            108986.5   100081.4   168650.7
  Length Wtd. (ft)           153.58   Wetted Per. (ft)         597.90      61.06     915.35
  Min Ch El (ft)           4611.06    Shear (lb/sq ft)            0.11       0.30       0.10
  Alpha                       2.15    Stream Power (lb/ft s)      0.14       1.28       0.14
  Frctn Loss (ft)             0.12    Cum Volume (acre-ft)       22.10      23.42      14.18
  C & E Loss (ft)             0.10    Cum SA (acres)              6.26       2.40       3.27


Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT  Profile #500-yr

  E.G. Elev (ft)           4623.91    Element                  Left OB    Channel   Right OB
  Vel Head (ft)               0.08    Wt. n-Val.                0.055      0.035      0.055
  W.S. Elev (ft)           4623.83    Reach Len. (ft)          240.00     150.00      50.00
  Crit W.S. (ft)                      Flow Area (sq ft)       3374.68     686.45    5075.08
  E.G. Slope (ft/ft)       0.000393   Area (sq ft)            3374.68     686.45    5075.08
  Q Total (cfs)           16028.00    Flow (cfs)              5415.56    2900.91    7711.52
  Top Width (ft)           1784.76    Top Width (ft)           650.41      59.70    1074.65
  Vel Total (ft/s)            1.75    Avg. Vel. (ft/s)            1.60       4.23       1.52
  Max Chl Dpth (ft)          12.77    Hydr. Depth (ft)            5.19      11.50       4.72
  Conv. Total (cfs)        808090.4   Conv. (cfs)            273038.7   146256.5   388795.1
  Length Wtd. (ft)           132.81   Wetted Per. (ft)         651.17      61.06    1078.45
  Min Ch El (ft)           4611.06    Shear (lb/sq ft)            0.13       0.28       0.12
  Alpha                       1.69    Stream Power (lb/ft s)      0.20       1.17       0.18
  Frctn Loss (ft)             0.05    Cum Volume (acre-ft)       50.78      46.71      58.74
  C & E Loss (ft)             0.00    Cum SA (acres)             11.77       2.40      18.28


Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #50-yr

  E.G. Elev (ft)           4619.92    Element                  Left OB    Channel   Right OB
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Vel Head (ft)	0.22	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4619.71	Reach Len. (ft)	240.00	150.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	967.51	440.69	1402.09
E.G. Slope (ft/ft)	0.001259	Area (sq ft)	967.51	440.69	1402.09
Q Total (cfs)	6528.00	Flow (cfs)	1576.48	2479.60	2471.92
Top Width (ft)	1111.25	Top Width (ft)	458.62	59.70	592.93
Vel Total (ft/s)	2.32	Avg. Vel. (ft/s)	1.63	5.63	1.76
Max Chl Dpth (ft)	8.65	Hydr. Depth (ft)	2.11	7.38	2.36
Conv. Total (cfs)	183954.3	Conv. (cfs)	44424.0	69873.4	69656.9
Length Wtd. (ft)	136.45	Wetted Per. (ft)	459.20	61.06	594.39
Min Ch El (ft)	4611.06	Shear (lb/sq ft)	0.17	0.57	0.19
Alpha	2.57	Stream Power (lb/ft s)	0.27	3.19	0.33
Frctn Loss (ft)	0.14	Cum Volume (acre-ft)	15.32	21.65	11.31
C & E Loss (ft)	0.02	Cum SA (acres)	7.19	2.38	5.01

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4618.61	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4618.41	Reach Len. (ft)	240.00	150.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	453.71	363.38	714.12
E.G. Slope (ft/ft)	0.001079	Area (sq ft)	453.71	363.38	714.12
Q Total (cfs)	2967.00	Flow (cfs)	475.71	1663.95	827.35
Top Width (ft)	902.37	Top Width (ft)	353.87	59.70	488.80
Vel Total (ft/s)	1.94	Avg. Vel. (ft/s)	1.05	4.58	1.16
Max Chl Dpth (ft)	7.35	Hydr. Depth (ft)	1.28	6.09	1.46
Conv. Total (cfs)	90338.8	Conv. (cfs)	14484.2	50663.6	25190.9
Length Wtd. (ft)	138.44	Wetted Per. (ft)	354.35	61.06	489.98
Min Ch El (ft)	4611.06	Shear (lb/sq ft)	0.09	0.40	0.10
Alpha	3.28	Stream Power (lb/ft s)	0.09	1.84	0.11
Frctn Loss (ft)	0.11	Cum Volume (acre-ft)	4.26	12.80	3.62
C & E Loss (ft)	0.03	Cum SA (acres)	4.73	2.23	2.64

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 1137.728

INPUT
Description:
Station Elevation Data num= 230

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4634	28.59	4634	29.99	4634	31.92	4634	32.26	4633.99
32.27	4633.99	72.1	4633.68	85	4633.55	100.86	4633.34	191.37	4632
207.22	4631.04	214.04	4630.71	224.8	4630	254.19	4628.18	257.37	4628
258.56	4628	274.48	4628	280.26	4628	327.04	4627.13	336.61	4626.9
342.64	4626.79	348.41	4626.68	369.62	4626.51	370.47	4626.52	373.21	4626.49
380.74	4626.39	384.03	4626.32	401.86	4626.18	414.21	4626	424.12	4626
448.52	4626	450.66	4626	464.89	4626	469.82	4626	474.78	4626
527.8	4624.81	553.95	4624.22	555.32	4624.19	565.36	4624	566.71	4624
573.53	4624	591.1	4623.63	685.8	4622	693.45	4622	694.49	4622
710.55	4621.57	731.15	4621	773.47	4620	779.86	4620	783.56	4620
787.35	4620	788	4620	793.56	4620	808.81	4620	865.58	4619.37
877.19	4618	882.97	4618	887.59	4618	894.09	4618	895	4618
903.28	4618	912.47	4618	918.45	4618	918.46	4618	925.69	4618
938.9	4618	939.53	4618	939.98	4618	940.88	4618	956.28	4618
960.93	4618	963.19	4618	965.12	4618	972.36	4618	988.01	4618
1005.37	4618	1073.17	4616.8	1100.04	4616.73	1104.39	4616.61	1105.88	4616.63
1113.29	4616	1118	4616	1120.88	4616	1144.02	4616	1157.65	4616
1160.71	4616	1162.18	4616	1164	4616	1164.31	4616	1218.76	4614.36
1227.09	4614.11	1227.52	4614.12	1228.27	4614.15	1229.02	4614.22	1229.88	4614.44
1234.67	4615.04	1238.94	4616	1239.12	4616	1245.35	4616	1272.23	4616
1281.47	4616	1284.12	4616	1284.32	4616	1284.42	4615.89	1284.86	4615.4
1285.94	4614.22	1286.12	4614	1288.5	4612.04	1288.54	4612	1289.22	4610.03
1289.25	4610	1292.44	4610	1296.05	4610	1298.2	4610	1306.57	4610
1329.39	4610	1332.03	4610	1336	4611.52	1337.27	4612	1337.53	4612.09
1342.86	4614	1349.45	4614.84	1362.52	4615.02	1373.38	4615.31	1374.86	4615.31
1377.65	4615.31	1389.6	4615.54	1392.43	4615.54	1399.26	4615.74	1404.35	4616
1433.31	4616	1438.8	4616	1442.8	4616	1445.12	4616	1446.31	4616
1464.29	4616	1470.17	4616	1478.63	4616	1481.48	4616	1507.59	4616
1509.55	4616	1513.24	4616	1531.88	4616	1568.59	4616.42	1583.28	4616.32
1590.92	4616.19	1597.78	4616.25	1609.1	4616.2	1625.06	4616.85	1657.57	4616.89
1673.03	4617.18	1690.64	4617.18	1709.82	4618	1710.13	4618	1729.27	4618
1739.77	4618	1739.9	4618	1754.67	4618	1769.09	4618	1770.24	4618
1785.2	4618	1787.03	4618	1799.24	4618	1805.19	4618	1806.05	4618
1812.13	4618	1825.71	4618	1827.64	4618	1842.23	4618	1852.36	4618
1862.43	4618	1862.93	4618	1863.94	4618	1897.7	4619.15	1912.46	4619.12
1922.32	4619.11	1928.49	4619.24	1937.31	4619.22	1974.29	4619.6	1977.91	4619.6

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 1981.45  4619.6 1984.91 4619.61  2000.3    4620 2021.59 4620.32 2022.78 4620.33
 2025.49 4620.35 2068.26 4620.03 2068.98 4620.04 2069.16 4620.04 2069.35 4620.04
 2100.35 4620.65 2120.07  4620.7 2150.01 4620.97  2163.8 4621.02 2171.39 4620.97
 2175.83 4620.98 2195.49 4620.99 2224.37 4621.44 2228.98 4621.45 2236.26 4621.48
 2261.57 4621.14  2264.6 4621.14 2273.64 4621.14 2310.75    4622 2312.24 4622.04
 2312.97 4622.04 2340.65 4622.27 2364.71 4622.34 2370.97 4622.36 2385.26 4622.51
 2396.34 4622.62 2431.27 4622.71 2444.88 4622.84 2451.89 4622.95 2469.25 4623.12
 2473.24 4623.12 2482.15 4623.19 2492.06 4623.22 2527.41 4623.79 2530.05  4623.8
 2531.62    4624 2534.86    4624  2565.3 4624.93 2574.98 4625.14 2598.82    4626
  2599.9    4626 2600.45    4626 2638.68    4626 2648.44    4626 2659.45    4626

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .055 1284.32    .035 1349.45    .055

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1284.32 1349.45             112  111.03  111.62             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
 1164.31 1238.94    4616       T
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CROSS SECTION OUTPUT Profile #100-yr FP

E.G. Elev (ft)	4621.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4621.03	Reach Len. (ft)	112.00	111.03	111.62
Crit W.S. (ft)	4618.60	Flow Area (sq ft)	1830.28	650.03	2535.97
E.G. Slope (ft/ft)	0.000546	Area (sq ft)	1902.72	650.03	2535.97
Q Total (cfs)	8759.00	Flow (cfs)	2560.73	2877.50	3320.77
Top Width (ft)	1467.61	Top Width (ft)	554.12	65.13	848.36
Vel Total (ft/s)	1.75	Avg. Vel. (ft/s)	1.40	4.43	1.31
Max Chl Dpth (ft)	11.03	Hydr. Depth (ft)	3.30	9.98	2.99
Conv. Total (cfs)	374975.4	Conv. (cfs)	109625.6	123186.8	142163.0
Length Wtd. (ft)	111.03	Wetted Per. (ft)	554.46	68.93	848.45
Min Ch El (ft)	4610.00	Shear (lb/sq ft)	0.11	0.32	0.10
Alpha	2.51	Stream Power (lb/ft s)	0.16	1.42	0.13
Frctn Loss (ft)		Cum Volume (acre-ft)	15.59	26.88	16.13
C & E Loss (ft)		Cum SA (acres)	6.29	2.18	7.70

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4621.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4620.95	Reach Len. (ft)	112.00	111.03	111.62
Crit W.S. (ft)	4618.78	Flow Area (sq ft)	1353.76	644.98	302.25
E.G. Slope (ft/ft)	0.001302	Area (sq ft)	1426.21	644.98	302.25
Q Total (cfs)	8759.00	Flow (cfs)	3492.69	4386.70	879.61
Top Width (ft)	429.83	Top Width (ft)	311.15	65.13	53.55
Vel Total (ft/s)	3.81	Avg. Vel. (ft/s)	2.58	6.80	2.91
Max Chl Dpth (ft)	10.95	Hydr. Depth (ft)	4.35	9.90	5.64
Conv. Total (cfs)	242788.4	Conv. (cfs)	96813.0	121593.8	24381.5
Length Wtd. (ft)	111.03	Wetted Per. (ft)	314.34	68.93	58.58
Min Ch El (ft)	4610.00	Shear (lb/sq ft)	0.35	0.76	0.42
Alpha	1.84	Stream Power (lb/ft s)	0.90	5.17	1.22
Frctn Loss (ft)		Cum Volume (acre-ft)	12.99	21.36	12.44
C & E Loss (ft)		Cum SA (acres)	3.76	2.18	2.71

Warning: The cross section had to be extended vertically during the critical depth calculations.
Warning: The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4623.86	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4623.78	Reach Len. (ft)	112.00	111.03	111.62
Crit W.S. (ft)	4619.47	Flow Area (sq ft)	3541.44	829.11	5360.22
E.G. Slope (ft/ft)	0.000344	Area (sq ft)	3613.89	829.11	5360.22
Q Total (cfs)	16028.00	Flow (cfs)	5225.41	3426.30	7376.29
Top Width (ft)	1942.36	Top Width (ft)	700.15	65.13	1177.08
Vel Total (ft/s)	1.65	Avg. Vel. (ft/s)	1.48	4.13	1.38
Max Chl Dpth (ft)	13.78	Hydr. Depth (ft)	5.06	12.73	4.55
Conv. Total (cfs)	864458.8	Conv. (cfs)	281829.0	184795.1	397834.7
Length Wtd. (ft)	111.03	Wetted Per. (ft)	700.52	68.93	1177.20
Min Ch El (ft)	4610.00	Shear (lb/sq ft)	0.11	0.26	0.10
Alpha	1.93	Stream Power (lb/ft s)	0.16	1.07	0.13
Frctn Loss (ft)		Cum Volume (acre-ft)	31.53	44.10	52.76
C & E Loss (ft)		Cum SA (acres)	8.05	2.18	16.98

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4619.77	Element	Left OB	Channel	Right OB

Vel Head (ft)	0.18	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4619.58	Reach Len. (ft)	112.00	111.03	111.62
Crit W.S. (ft)	4618.17	Flow Area (sq ft)	1093.22	556.03	1506.67
E.G. Slope (ft/ft)	0.000860	Area (sq ft)	1165.67	556.03	1506.67
Q Total (cfs)	6528.00	Flow (cfs)	1593.17	2784.61	2150.23
Top Width (ft)	1126.23	Top Width (ft)	437.93	65.13	623.18
Vel Total (ft/s)	2.07	Avg. Vel. (ft/s)	1.46	5.01	1.43
Max Chl Dpth (ft)	9.58	Hydr. Depth (ft)	2.50	8.54	2.42
Conv. Total (cfs)	222594.6	Conv. (cfs)	54324.5	94950.8	73319.4
Length Wtd. (ft)	111.03	Wetted Per. (ft)	438.25	68.93	623.25
Min Ch El (ft)	4610.00	Shear (lb/sq ft)	0.13	0.43	0.13
Alpha	2.78	Stream Power (lb/ft s)	0.20	2.17	0.19
Frctn Loss (ft)		Cum Volume (acre-ft)	9.44	19.93	9.64
C & E Loss (ft)		Cum SA (acres)	4.72	2.16	4.31

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4618.47	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4618.33	Reach Len. (ft)	112.00	111.03	111.62
Crit W.S. (ft)	4615.06	Flow Area (sq ft)	571.91	474.55	807.38
E.G. Slope (ft/ft)	0.000598	Area (sq ft)	644.36	474.55	807.38
Q Total (cfs)	2967.00	Flow (cfs)	471.72	1783.70	711.57
Top Width (ft)	999.31	Top Width (ft)	409.94	65.13	524.24
Vel Total (ft/s)	1.60	Avg. Vel. (ft/s)	0.82	3.76	0.88
Max Chl Dpth (ft)	8.33	Hydr. Depth (ft)	1.40	7.29	1.54
Conv. Total (cfs)	121284.6	Conv. (cfs)	19283.1	72913.9	29087.6
Length Wtd. (ft)	111.03	Wetted Per. (ft)	410.21	68.93	524.30
Min Ch El (ft)	4610.00	Shear (lb/sq ft)	0.05	0.26	0.06
Alpha	3.43	Stream Power (lb/ft s)	0.04	0.97	0.05
Frctn Loss (ft)		Cum Volume (acre-ft)	1.24	11.36	2.75
C & E Loss (ft)		Cum SA (acres)	2.63	2.02	2.06

CULVERT

RIVER: KingsCynCreek
REACH: Reach1 RS: 1080.5

INPUT
Description:
Distance from Upstream XS = 5
Deck/Roadway Width = 80
Weir Coefficient = 2.6
Upstream Deck/Roadway Coordinates
num= 4

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
0	4618		1290	4617.5		1340	4617.5	
2659.45	4618							

Upstream Bridge Cross Section Data
Station Elevation Data num= 230

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4634	28.59	4634	29.99	4634	31.92	4634	32.26	4633.99
32.27	4633.99	72.1	4633.68	85	4633.55	100.86	4633.34	191.37	4632
207.22	4631.04	214.04	4630.71	224.8	4630	254.19	4628.18	257.37	4628
258.56	4628	274.48	4628	280.26	4628	327.04	4627.13	336.61	4626.9
342.64	4626.79	348.41	4626.68	369.62	4626.51	370.47	4626.52	373.21	4626.49
380.74	4626.39	384.03	4626.32	401.86	4626.18	414.21	4626	424.12	4626
448.52	4626	450.66	4626	464.89	4626	469.82	4626	474.78	4626
527.8	4624.81	553.95	4624.22	555.32	4624.19	565.36	4624	566.71	4624
573.53	4624	591.1	4623.63	685.8	4622	693.45	4622	694.49	4622
710.55	4621.57	731.15	4621	773.47	4620	779.86	4620	783.56	4620
787.35	4620	788	4620	793.56	4620	808.81	4620	865.58	4619.37
877.19	4618	882.97	4618	887.59	4618	894.09	4618	895	4618
903.28	4618	912.47	4618	918.45	4618	918.46	4618	925.69	4618
938.9	4618	939.53	4618	939.98	4618	940.88	4618	956.28	4618
960.93	4618	963.19	4618	965.12	4618	972.36	4618	988.01	4618
1005.37	4618	1073.17	4616.8	1100.04	4616.73	1104.39	4616.61	1105.88	4616.63
1113.29	4616	1118	4616	1120.88	4616	1144.02	4616	1157.65	4616
1160.71	4616	1162.18	4616	1164	4616	1164.31	4616	1218.76	4614.36
1227.09	4614.11	1227.52	4614.12	1228.27	4614.15	1229.02	4614.22	1229.88	4614.44
1234.67	4615.04	1238.94	4616	1239.12	4616	1245.35	4616	1272.23	4616
1281.47	4616	1284.12	4616	1284.32	4616	1284.42	4615.89	1284.86	4615.4
1285.94	4614.22	1286.12	4614	1288.5	4612.04	1288.54	4612	1289.22	4610.03
1289.25	4610	1292.44	4610	1296.05	4610	1298.2	4610	1306.57	4610
1329.39	4610	1332.03	4610	1336	4611.52	1337.27	4612	1337.53	4612.09
1342.86	4614	1349.45	4614.84	1362.52	4615.02	1373.38	4615.31	1374.86	4615.31
1377.65	4615.31	1389.6	4615.54	1392.43	4615.54	1399.26	4615.74	1404.35	4616
1433.31	4616	1438.8	4616	1442.8	4616	1445.12	4616	1446.31	4616
1464.29	4616	1470.17	4616	1478.63	4616	1481.48	4616	1507.59	4616
1509.55	4616	1513.24	4616	1531.88	4616	1568.59	4616.42	1583.28	4616.32
1590.92	4616.19	1597.78	4616.25	1609.1	4616.2	1625.06	4616.85	1657.57	4616.89

1673.03	4617.18	1690.64	4617.18	1709.82	4618	1710.13	4618	1729.27	4618
1739.77	4618	1739.9	4618	1754.67	4618	1769.09	4618	1770.24	4618
1785.2	4618	1787.03	4618	1799.24	4618	1805.19	4618	1806.05	4618
1812.13	4618	1825.71	4618	1827.64	4618	1842.23	4618	1852.36	4618
1862.43	4618	1862.93	4618	1863.94	4618	1897.7	4619.15	1912.46	4619.12
1922.32	4619.11	1928.49	4619.24	1937.31	4619.22	1974.29	4619.6	1977.91	4619.6
1981.45	4619.6	1984.91	4619.61	2000.3	4620	2021.59	4620.32	2022.78	4620.33
2025.49	4620.35	2068.26	4620.03	2068.98	4620.04	2069.16	4620.04	2069.35	4620.04
2100.35	4620.65	2120.07	4620.7	2150.01	4620.97	2163.8	4621.02	2171.39	4620.97
2175.83	4620.98	2195.49	4620.99	2224.37	4621.44	2228.98	4621.45	2236.26	4621.48
2261.57	4621.14	2264.6	4621.14	2273.64	4621.14	2310.75	4622	2312.24	4622.04
2312.97	4622.04	2340.65	4622.27	2364.71	4622.34	2370.97	4622.36	2385.26	4622.51
2396.34	4622.62	2431.27	4622.71	2444.88	4622.84	2451.89	4622.95	2469.25	4623.12
2473.24	4623.12	2482.15	4623.19	2492.06	4623.22	2527.41	4623.79	2530.05	4623.8
2531.62	4624	2534.86	4624	2565.3	4624.93	2574.98	4625.14	2598.82	4626
2599.9	4626	2600.45	4626	2638.68	4626	2648.44	4626	2659.45	4626

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.055	1284.32	.035	1349.45	.055

Bank Sta: Left	Right	Coeff Contr.	Expan.
1284.32	1349.45	.3	.5

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
1164.31	1238.94	4616	T

Downstream Deck/Roadway Coordinates num= 4

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
0	4618		1325	4617.5		1375	4617.5	
2716.15	4618							

Downstream Bridge Cross Section Data

Station Elevation Data num= 326

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4648	37.76	4648	41.24	4647.33	47.74	4646	53.52	4644.47
56.03	4644	56.86	4643.46	71.49	4642	85.43	4641.16	98.15	4640
121.75	4638.97	144.55	4638	178.07	4636.56	196.45	4636	200.79	4636
202.01	4634.76	202.59	4634	231.86	4632.8	257.35	4632	280.75	4631.1
303.77	4630	312.58	4630	342.4	4628.58	365.46	4628	398.52	4628
416.74	4628.16	429.08	4628	467.19	4628	474.98	4627.86	478.73	4627.76
487.39	4627.49	498.27	4627.02	538.06	4626	554.51	4625.63	557.91	4625.61
574.04	4624.94	578.29	4624.76	596.31	4624.14	599.5	4624	605.82	4624
608.46	4623.95	620.48	4623.75	624.08	4623.73	658.74	4623.43	677.9	4622
743.63	4622	805.75	4620.4	807.67	4620.36	816.45	4620	874.55	4620
930.17	4618.28	953.51	4618	971.18	4618	992.02	4616.18	994.27	4616
997.69	4616	1003.85	4616.7	1008.74	4617.14	1012.44	4617.24	1015.14	4617.44
1038.16	4617.27	1045.97	4617.5	1048.72	4617.53	1061.18	4617.54	1065.45	4617.65
1069.1	4617.6	1095.45	4616.84	1109.39	4616	1154.06	4616	1159.36	4615.45
1163.8	4615.21	1180.62	4615.32	1184.17	4615.28	1203.33	4615.43	1205.52	4615.55
1209.04	4615.78	1209.49	4615.79	1210.31	4615.82	1210.74	4615.83	1212.96	4615.77
1237.13	4615.86	1238.67	4616	1284.22	4616	1298.53	4614.22	1304.84	4614
1315.89	4614	1318.88	4613.11	1323.63	4612	1325.61	4611.29	1330.14	4610
1334.84	4610	1346.82	4609.13	1350.9	4609.12	1357.98	4609.16	1362.2	4609.14
1374.89	4610	1375.67	4610	1375.9	4610.2	1376.35	4610.28	1379.67	4612
1380.3	4612.39	1383.65	4614	1385.08	4614.65	1387.87	4616	1391.32	4616.64
1398.08	4618	1426.56	4618	1430.03	4618.79	1435.02	4619.72	1435.91	4619.69
1436.44	4619.67	1437.09	4620	1438.12	4620	1447.76	4621.36	1449.28	4621.25
1451.4	4621.1	1455.65	4620.95	1459.26	4620.65	1461.65	4620.55	1466.7	4621.23
1480.97	4621.91	1481.82	4621.94	1482.25	4622	1486.84	4622.82	1488.72	4623.16
1493.24	4623.97	1493.33	4623.98	1493.42	4624	1496.44	4624.6	1499.3	4625.18
1501.41	4625.6	1503.34	4626	1506.53	4626.6	1507.53	4626.78	1509.39	4627.12
1511.73	4627.55	1514.27	4628	1515.61	4628.34	1515.92	4628.43	1518.47	4629.09
1522.95	4629.88	1523.25	4629.89	1525.45	4630	1527.89	4630.12	1528.11	4630.13
1528.37	4630.14	1533.02	4630.38	1534.56	4630.46	1539.1	4630.69	1542.79	4630.87
1545.85	4631.04	1548.84	4631.19	1552.97	4631.41	1554.77	4631.51	1559.96	4631.8
1563.65	4632	1566.56	4632.14	1567	4632.16	1569.99	4632.31	1570.85	4632.36
1573.64	4632.49	1575	4632.57	1577.51	4632.7	1579.6	4632.81	1581.73	4632.93
1583.51	4633.02	1586.05	4633.18	1587.46	4633.25	1590.73	4633.45	1592.07	4633.37
1595.37	4633.17	1597.35	4633.06	1600.14	4632.91	1602.58	4632.76	1604.57	4632.64
1609.67	4632.37	1613.04	4632.19	1613.55	4632.16	1616.73	4632	1617.13	4631.98
1617.16	4631.98	1620.76	4631.82	1621.08	4631.81	1624.34	4631.67	1627.12	4631.54
1628.52	4631.48	1631.12	4631.37	1632.79	4631.3	1635.69	4631.27	1637.65	4631.18
1640.29	4631.15	1642.67	4631.03	1644.98	4631	1647.95	4630.84	1649.85	4630.81
1651.25	4630.73	1652.4	4630.71	1655.06	4630.78	1656.29	4630.77	1659.33	4630.84
1661.94	4630.8	1664.2	4630.85	1665.53	4630.84	1666.82	4630.82	1669.29	4630.87
1670.64	4630.85	1673.5	4630.91	1674.92	4630.89	1676.17	4630.88	1678.09	4630.91
1679.38	4630.9	1681.26	4630.93	1682.58	4630.91	1684.36	4630.94	1685.7	4630.93
1687	4630.92	1689.92	4630.75	1690.98	4630.73	1692.74	4630.62	1693.62	4630.61
1696.62	4630.41	1697.2	4630.4	1698.29	4630.32	1699.84	4630	1701.23	4629.6
1702.42	4629.43	1704.67	4628.94	1707.34	4628.62	1708.84	4628.34	1714.56	4628.24
1715.27	4628.16	1721.55	4628.08	1721.83	4628.06	1726.14	4628.02	1726.36	4628
1731.81	4627.25	1734.72	4627.17	1738.28	4627.07	1742.73	4626.73	1748.53	4626.61
1751.2	4626.44	1755.36	4626.25	1756.49	4626.25	1760.75	4626	1764.34	4625.55

```
  1765.4 4625.45 1767.07  4625.3 1772.22 4624.73 1779.39 4624.14  1779.9 4624.06
 1791.04  4624.1 1791.59 4624.09 1802.62 4624.12  1803.2 4624.07  1813.7 4624.22
 1815.27 4624.21 1825.29 4624.33 1838.33 4624.22 1839.27 4624.19 1840.62 4624.17
 1854.36 4624.07 1854.96 4624.07 1855.75    4624 1858.99    4624 1864.14 4623.72
 1866.02 4623.69 1872.76 4622.72 1885.06  4622.5 1889.71 4622.28  1891.6 4622.26
 1899.01    4622 1908.14 4621.18 1917.93 4621.17 1925.25 4621.11 1940.18    4620
 1940.52 4619.96 1940.68 4619.96 1941.22    4620 1991.57    4620 2035.54 4620.36
 2061.12    4620 2081.64    4620  2111.6 4620.45 2123.06 4620.77 2141.34 4620.81
 2157.26 4620.85 2181.05    4622 2185.04 4622.07 2185.62 4622.08 2201.04 4622.28
 2209.58 4622.44 2250.52 4622.56  2253.9 4622.64 2276.67 4622.62 2283.46 4622.49
 2308.77 4622.47 2310.78 4622.46 2312.15 4622.45 2317.14 4622.51 2340.64 4622.64
  2352.1 4622.71 2379.87 4622.71    2387 4622.51 2395.05 4622.46 2402.43 4622.34
 2411.98 4622.45 2416.31 4622.55 2441.71 4622.61 2465.52    4624 2498.66    4624
 2511.91 4624.31    2524 4624.56 2543.16 4624.68 2569.39 4625.45 2577.08 4625.53
 2580.66 4625.61 2595.21    4626 2596.55 4626.02 2614.14  4626.1 2614.94 4626.12
 2629.74 4626.51 2661.34 4626.99 2676.03 4627.22 2687.03  4627.3 2694.94 4627.39
 2716.15 4627.67

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .055 1284.22    .035 1398.08    .055

Bank Sta: Left   Right    Coeff Contr.   Expan.
       1284.22 1398.08             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
 1590.73 2716.15               F

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Culverts =  1

Culvert Name     Shape      Rise    Span
Culvert #1           Box       6      12
FHWA Chart # 8 - flared wingwalls
FHWA Scale # 1 - Wingwall flared 30 to 75 deg.
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef   Exit Loss Coef
                 11      80     .013     .013        0                   .5                1
Number of Barrels =  2
Upstream   Elevation =  4608.9
Centerline Stations
    Sta.    Sta.
  1308.5  1321.5
Downstream Elevation =  4608.8
Centerline Stations
    Sta.    Sta.
  1343.5  1356.5

CULVERT OUTPUT  Profile #100-yr FP  Culv Group:  Culvert #1

  Q Culv Group (cfs)        330.05    Culv Full Len (ft)         80.00
  # Barrels                      2    Culv Vel US (ft/s)          2.29
  Q Barrel (cfs)            165.03    Culv Vel DS (ft/s)          2.29
  E.G. US. (ft)            4621.15    Culv Inv El Up (ft)      4608.90
  W.S. US. (ft)            4621.03    Culv Inv El Dn (ft)      4608.80
  E.G. DS (ft)             4621.09    Culv Frctn Ls (ft)          0.01
  W.S. DS (ft)             4620.77    Culv Exit Loss (ft)         0.00
  Delta EG (ft)               0.05    Culv Entr Loss (ft)         0.04
  Delta WS (ft)               0.26    Q Weir (cfs)             8428.95
  E.G. IC (ft)             4621.11    Weir Sta Lft (ft)         726.79
  E.G. OC (ft)             4621.15    Weir Sta Rgt (ft)        2203.86
  Culvert Control           Outlet    Weir Submerg                0.97
  Culv WS Inlet (ft)       4614.90    Weir Max Depth (ft)         3.62
  Culv WS Outlet (ft)      4614.80    Weir Avg Depth (ft)         2.66
  Culv Nml Depth (ft)                 Weir Flow Area (sq ft)   3935.56
  Culv Crt Depth (ft)         1.80    Min El Weir Flow (ft)    4617.51


Warning: During the culvert inlet control computations, the program could not balance the culvert/weir flow.  The reported
         inlet energy grade answer may not be valid.

CULVERT OUTPUT  Profile #100-yr FW  Culv Group:  Culvert #1

  Q Culv Group (cfs)        692.27    Culv Full Len (ft)         80.00
  # Barrels                      2    Culv Vel US (ft/s)          4.81
  Q Barrel (cfs)            346.14    Culv Vel DS (ft/s)          4.81
  E.G. US. (ft)            4621.36    Culv Inv El Up (ft)      4608.90
  W.S. US. (ft)            4620.95    Culv Inv El Dn (ft)      4608.80
```

E.G. DS (ft)	4621.12	Culv Frctn Ls (ft)	0.06
W.S. DS (ft)	4620.77	Culv Exit Loss (ft)	0.01
Delta EG (ft)	0.25	Culv Entr Loss (ft)	0.18
Delta WS (ft)	0.18	Q Weir (cfs)	8066.73
E.G. IC (ft)	4621.21	Weir Sta Lft (ft)	973.17
E.G. OC (ft)	4621.36	Weir Sta Rgt (ft)	1403.00
Culvert Control	Outlet	Weir Submerg	0.84
Culv WS Inlet (ft)	4614.90	Weir Max Depth (ft)	3.86
Culv WS Outlet (ft)	4614.80	Weir Avg Depth (ft)	3.78
Culv Nml Depth (ft)		Weir Flow Area (sq ft)	1623.64
Culv Crt Depth (ft)	2.96	Min El Weir Flow (ft)	4617.51

Warning: During the culvert inlet control computations, the program could not balance the culvert/weir flow. The reported inlet energy grade answer may not be valid.

CULVERT OUTPUT Profile #500-yr Culv Group: Culvert #1

Q Culv Group (cfs)	290.83	Culv Full Len (ft)	80.00
# Barrels	2	Culv Vel US (ft/s)	2.02
Q Barrel (cfs)	145.42	Culv Vel DS (ft/s)	2.02
E.G. US. (ft)	4623.86	Culv Inv El Up (ft)	4608.90
W.S. US. (ft)	4623.78	Culv Inv El Dn (ft)	4608.80
E.G. DS (ft)	4623.82	Culv Frctn Ls (ft)	0.01
W.S. DS (ft)	4623.47	Culv Exit Loss (ft)	0.00
Delta EG (ft)	0.04	Culv Entr Loss (ft)	0.03
Delta WS (ft)	0.30	Q Weir (cfs)	15737.17
E.G. IC (ft)	4623.85	Weir Sta Lft (ft)	581.18
E.G. OC (ft)	4623.86	Weir Sta Rgt (ft)	2530.36
Culvert Control	Outlet	Weir Submerg	0.99
Culv WS Inlet (ft)	4614.90	Weir Max Depth (ft)	6.34
Culv WS Outlet (ft)	4614.80	Weir Avg Depth (ft)	4.43
Culv Nml Depth (ft)		Weir Flow Area (sq ft)	8634.00
Culv Crt Depth (ft)	1.66	Min El Weir Flow (ft)	4617.51

Warning: The weir over culvert is submerged.
Warning: During the culvert inlet control computations, the program could not balance the culvert/weir flow. The reported inlet energy grade answer may not be valid.

CULVERT OUTPUT Profile #50-yr Culv Group: Culvert #1

Q Culv Group (cfs)	318.24	Culv Full Len (ft)	80.00
# Barrels	2	Culv Vel US (ft/s)	2.21
Q Barrel (cfs)	159.12	Culv Vel DS (ft/s)	2.21
E.G. US. (ft)	4619.77	Culv Inv El Up (ft)	4608.90
W.S. US. (ft)	4619.58	Culv Inv El Dn (ft)	4608.80
E.G. DS (ft)	4619.72	Culv Frctn Ls (ft)	0.01
W.S. DS (ft)	4619.35	Culv Exit Loss (ft)	0.00
Delta EG (ft)	0.05	Culv Entr Loss (ft)	0.04
Delta WS (ft)	0.24	Q Weir (cfs)	6209.76
E.G. IC (ft)	4619.74	Weir Sta Lft (ft)	830.95
E.G. OC (ft)	4619.77	Weir Sta Rgt (ft)	1990.61
Culvert Control	Outlet	Weir Submerg	0.93
Culv WS Inlet (ft)	4614.90	Weir Max Depth (ft)	2.25
Culv WS Outlet (ft)	4614.80	Weir Avg Depth (ft)	1.84
Culv Nml Depth (ft)		Weir Flow Area (sq ft)	2133.17
Culv Crt Depth (ft)	1.76	Min El Weir Flow (ft)	4617.51

CULVERT OUTPUT Profile #10-yr Culv Group: Culvert #1

Q Culv Group (cfs)	1261.43	Culv Full Len (ft)	80.00
# Barrels	2	Culv Vel US (ft/s)	8.76
Q Barrel (cfs)	630.71	Culv Vel DS (ft/s)	8.76
E.G. US. (ft)	4618.47	Culv Inv El Up (ft)	4608.90
W.S. US. (ft)	4618.33	Culv Inv El Dn (ft)	4608.80
E.G. DS (ft)	4616.99	Culv Frctn Ls (ft)	0.19
W.S. DS (ft)	4616.49	Culv Exit Loss (ft)	0.69
Delta EG (ft)	1.48	Culv Entr Loss (ft)	0.60
Delta WS (ft)	1.84	Q Weir (cfs)	1705.57
E.G. IC (ft)	4618.32	Weir Sta Lft (ft)	873.48
E.G. OC (ft)	4618.47	Weir Sta Rgt (ft)	1876.79
Culvert Control	Outlet	Weir Submerg	0.00
Culv WS Inlet (ft)	4614.90	Weir Max Depth (ft)	0.94
Culv WS Outlet (ft)	4614.80	Weir Avg Depth (ft)	0.74
Culv Nml Depth (ft)		Weir Flow Area (sq ft)	740.06
Culv Crt Depth (ft)	4.41	Min El Weir Flow (ft)	4617.51

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 1026.7

```
INPUT
Description:
Station Elevation Data    num=     326
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    4648   37.76    4648   41.24 4647.33   47.74    4646   53.52 4644.47
   56.03    4644   56.86 4643.46   71.49    4642   85.43 4641.16   98.15    4640
  121.75 4638.97  144.55    4638  178.07 4636.56  196.45    4636  200.79    4636
  202.01 4634.76  202.59    4634  231.86  4632.8  257.35    4632  280.75  4631.1
  303.77    4630  312.58    4630   342.4 4628.58  365.46    4628  398.52    4628
  416.74 4628.16  429.08    4628  467.19    4628  474.98 4627.86  478.73 4627.76
  487.39 4627.49  498.27 4627.02  538.06    4626  554.51 4625.63  557.91 4625.61
  574.04 4624.94  578.29 4624.76  596.31 4624.14   599.5    4624  605.82    4624
  608.46 4623.95  620.48 4623.75  624.08 4623.73  658.74 4623.43   677.9    4622
  743.63    4622  805.75  4620.4  807.67 4620.36  816.45    4620  874.55    4620
  930.17 4618.28  953.51    4618  971.18    4618  992.02 4616.18  994.27    4616
  997.69    4616 1003.85  4616.7 1008.74 4617.14 1012.44 4617.24 1015.14 4617.44
 1038.16 4617.27 1045.97  4617.5 1048.72 4617.53 1061.18 4617.54 1065.45 4617.65
  1069.1  4617.6 1095.45 4616.84 1109.39    4616 1154.06    4616 1159.36 4615.45
  1163.8 4615.21 1180.62 4615.32 1184.17 4615.28 1203.33 4615.43 1205.52 4615.55
 1209.04 4615.78 1209.49 4615.79 1210.31 4615.82 1210.74 4615.83 1212.96 4615.77
 1237.13 4615.86 1238.67    4616 1284.22    4616 1298.53 4614.22 1304.84    4614
 1315.89    4614 1318.88 4613.11 1323.63    4612 1325.61 4611.29 1330.14    4610
 1334.84    4610 1346.82 4609.13  1350.9 4609.12 1357.98 4609.16  1362.2 4609.14
 1374.89    4610 1375.67    4610  1375.9  4610.2 1376.35 4610.28 1379.67    4612
  1380.3 4612.39 1383.65    4614 1385.08 4614.65 1387.87    4616 1391.32 4616.64
 1398.08    4618 1426.56    4618 1430.03 4618.79 1435.02 4619.72 1435.91 4619.69
 1436.44 4619.67 1437.09    4620 1438.12    4620 1447.76 4621.36 1449.28 4621.25
  1451.4  4621.1 1455.65 4620.95 1459.26 4620.65 1461.65 4620.55  1466.7 4621.23
 1480.97 4621.91 1481.82 4621.94 1482.25    4622 1486.84 4622.82 1488.72 4623.16
 1493.24 4623.97 1493.33 4623.98 1493.42    4624 1496.44  4624.6  1499.3 4625.18
 1501.41  4625.6 1503.34    4626 1506.53  4626.6 1507.53 4626.78 1509.39 4627.12
 1511.73 4627.55 1514.27    4628 1515.61 4628.34 1515.92 4628.43 1518.47 4629.09
 1522.95 4629.88 1523.25 4629.89 1525.45    4630 1527.89 4630.12 1528.11 4630.13
 1528.37 4630.14 1533.02 4630.38 1534.56 4630.46  1539.1 4630.69 1542.79 4630.87
 1545.85 4631.04 1548.84 4631.19 1552.97 4631.41 1554.77 4631.51 1559.96  4631.8
 1563.65    4632 1566.56 4632.14    1567 4632.16 1569.99 4632.31 1570.85 4632.36
 1573.64 4632.49    1575 4632.57 1577.51  4632.7  1579.6 4632.81 1581.73 4632.93
 1583.51 4633.02 1586.05 4633.18 1587.46 4633.25 1590.73 4633.45 1592.07 4633.37
 1595.37 4633.17 1597.35 4633.06 1600.14 4632.91 1602.58 4632.76 1604.57 4632.64
 1609.67 4632.37 1613.04 4632.19 1613.55 4632.16 1616.73    4632 1617.13 4631.98
 1617.16 4631.98 1620.76 4631.82 1621.08 4631.81 1624.34 4631.67 1627.12 4631.54
 1628.52 4631.48 1631.12 4631.37 1632.79  4631.3 1635.69 4631.27 1637.65 4631.18
 1640.29 4631.15 1642.67 4631.03 1644.98    4631 1647.95 4630.84 1649.85 4630.81
 1651.25 4630.73  1652.4 4630.71 1655.06 4630.78 1656.29 4630.77 1659.33 4630.84
 1661.94  4630.8  1664.2 4630.85 1665.53 4630.84 1666.82 4630.82 1669.29 4630.87
 1670.64 4630.85  1673.5 4630.91 1674.92 4630.89 1676.17 4630.88 1678.09 4630.91
 1679.38  4630.9 1681.26 4630.93 1682.58 4630.91 1684.36 4630.94  1685.7 4630.93
    1687 4630.92 1689.92 4630.75 1690.98 4630.73 1692.74 4630.62 1693.62 4630.61
 1696.62 4630.41  1697.2  4630.4 1698.29 4630.32 1699.84    4630 1701.23  4629.6
 1702.42 4629.43 1704.67 4628.94 1707.34 4628.62 1708.84 4628.34 1714.56 4628.24
 1715.27 4628.16 1721.55 4628.08 1721.83 4628.06 1726.14 4628.02 1726.36    4628
 1731.81 4627.25 1734.72 4627.17 1738.28 4627.07 1742.73 4626.73 1748.53 4626.61
  1751.2 4626.44 1755.36 4626.25 1756.49 4626.25 1760.75    4626 1764.34 4625.55
  1765.4 4625.45 1767.07  4625.3 1772.22 4624.73 1779.39 4624.14  1779.9 4624.06
 1791.04  4624.1 1791.59 4624.09 1802.62 4624.12  1803.2 4624.07  1813.7 4624.22
 1815.27 4624.21 1825.29 4624.33 1838.33 4624.22 1839.27 4624.19 1840.62 4624.17
 1854.36 4624.07 1854.96 4624.07 1855.75    4624 1858.99    4624 1864.14 4623.72
 1866.02 4623.69 1872.76 4622.72 1885.06  4622.5 1889.71 4622.28  1891.6 4622.26
 1899.01    4622 1908.14 4621.18 1917.93 4621.17 1925.25 4621.11 1940.18    4620
 1940.52 4619.96 1940.68 4619.96 1941.22    4620 1991.57    4620 2035.54 4620.36
 2061.12    4620 2081.64    4620  2111.6 4620.45 2123.06 4620.77 2141.34 4620.81
 2157.26 4620.85 2181.05    4622 2185.04 4622.07 2185.62 4622.08 2201.04 4622.28
 2209.58 4622.44 2250.52 4622.56  2253.9 4622.64 2276.67 4622.62 2283.46 4622.49
 2308.77 4622.47 2310.78 4622.46 2312.15 4622.45 2317.14 4622.51 2340.64 4622.64
  2352.1 4622.71 2379.87 4622.71    2387 4622.51 2395.05 4622.46 2402.43 4622.34
 2411.98 4622.45 2416.31 4622.55 2441.71 4622.61 2465.52    4624 2498.66    4624
 2511.91 4624.31    2524 4624.56 2543.16 4624.68 2569.39 4625.45 2577.08 4625.53
 2580.66 4625.61 2595.21    4626 2596.55 4626.02 2614.14  4626.1 2614.94 4626.12
 2629.74 4626.51 2661.34 4626.99 2676.03 4627.22 2687.03  4627.3 2694.94 4627.39
 2716.15 4627.67

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .055 1284.22    .035 1398.08    .055

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1284.22 1398.08           819.33  870.04  893.35             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
 1590.73 2716.15               F

CROSS SECTION OUTPUT  Profile #100-yr FP

  E.G. Elev (ft)           4621.09    Element                  Left OB    Channel   Right OB
```

Vel Head (ft)	0.33	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4620.77	Reach Len. (ft)	819.33	870.04	893.35
Crit W.S. (ft)		Flow Area (sq ft)	1631.02	969.15	100.17
E.G. Slope (ft/ft)	0.001040	Area (sq ft)	1631.02	969.15	217.90
Q Total (cfs)	8759.00	Flow (cfs)	3155.88	5457.44	145.68
Top Width (ft)	850.40	Top Width (ft)	492.67	113.86	243.87
Vel Total (ft/s)	3.24	Avg. Vel. (ft/s)	1.93	5.63	1.45
Max Chl Dpth (ft)	11.65	Hydr. Depth (ft)	3.31	8.51	1.97
Conv. Total (cfs)	271555.7	Conv. (cfs)	97841.9	169197.3	4516.4
Length Wtd. (ft)	864.28	Wetted Per. (ft)	492.96	116.22	51.18
Min Ch El (ft)	4609.12	Shear (lb/sq ft)	0.21	0.54	0.13
Alpha	2.01	Stream Power (lb/ft s)	0.42	3.05	0.18
Frctn Loss (ft)	1.23	Cum Volume (acre-ft)	15.59	17.22	16.13
C & E Loss (ft)	0.16	Cum SA (acres)	4.95	1.95	6.30

Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4621.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.35	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4620.77	Reach Len. (ft)	819.33	870.04	893.35
Crit W.S. (ft)		Flow Area (sq ft)	1381.67	969.48	5.32
E.G. Slope (ft/ft)	0.001060	Area (sq ft)	1381.67	969.48	5.32
Q Total (cfs)	8759.00	Flow (cfs)	3241.50	5512.41	5.08
Top Width (ft)	430.00	Top Width (ft)	314.22	113.86	1.92
Vel Total (ft/s)	3.72	Avg. Vel. (ft/s)	2.35	5.69	0.96
Max Chl Dpth (ft)	11.65	Hydr. Depth (ft)	4.40	8.51	2.77
Conv. Total (cfs)	269001.9	Conv. (cfs)	99551.4	169294.4	156.2
Length Wtd. (ft)	863.94	Wetted Per. (ft)	317.24	116.22	4.69
Min Ch El (ft)	4609.12	Shear (lb/sq ft)	0.29	0.55	0.08
Alpha	1.62	Stream Power (lb/ft s)	0.68	3.14	0.07
Frctn Loss (ft)	1.25	Cum Volume (acre-ft)	12.99	17.22	12.44
C & E Loss (ft)	0.15	Cum SA (acres)	2.96	1.95	2.64

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4623.82	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.34	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4623.47	Reach Len. (ft)	819.33	870.04	893.35
Crit W.S. (ft)		Flow Area (sq ft)	3177.18	1277.54	316.18
E.G. Slope (ft/ft)	0.000882	Area (sq ft)	3177.18	1277.54	1450.53
Q Total (cfs)	16028.00	Flow (cfs)	7490.13	7964.08	573.79
Top Width (ft)	1425.81	Top Width (ft)	630.56	113.86	681.38
Vel Total (ft/s)	3.36	Avg. Vel. (ft/s)	2.36	6.23	1.81
Max Chl Dpth (ft)	14.35	Hydr. Depth (ft)	5.04	11.22	3.42
Conv. Total (cfs)	539646.0	Conv. (cfs)	252184.9	268142.4	19318.8
Length Wtd. (ft)	864.22	Wetted Per. (ft)	630.92	116.22	92.97
Min Ch El (ft)	4609.12	Shear (lb/sq ft)	0.28	0.61	0.19
Alpha	1.95	Stream Power (lb/ft s)	0.65	3.77	0.34
Frctn Loss (ft)	0.75	Cum Volume (acre-ft)	31.53	23.44	52.76
C & E Loss (ft)	0.01	Cum SA (acres)	6.34	1.95	14.60

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4619.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.37	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4619.35	Reach Len. (ft)	819.33	870.04	893.35
Crit W.S. (ft)		Flow Area (sq ft)	1003.85	807.65	42.50
E.G. Slope (ft/ft)	0.001357	Area (sq ft)	1003.85	807.65	42.50
Q Total (cfs)	6528.00	Flow (cfs)	1880.18	4599.74	48.08
Top Width (ft)	537.36	Top Width (ft)	388.56	113.86	34.94
Vel Total (ft/s)	3.52	Avg. Vel. (ft/s)	1.87	5.70	1.13
Max Chl Dpth (ft)	10.23	Hydr. Depth (ft)	2.58	7.09	1.22
Conv. Total (cfs)	177210.2	Conv. (cfs)	51039.7	124865.4	1305.1
Length Wtd. (ft)	865.83	Wetted Per. (ft)	388.83	116.22	35.08
Min Ch El (ft)	4609.12	Shear (lb/sq ft)	0.22	0.59	0.10

Alpha	1.93	Stream Power (lb/ft s)	0.41	3.35	0.12
Frctn Loss (ft)	1.41	Cum Volume (acre-ft)	9.44	14.51	9.64
C & E Loss (ft)	0.10	Cum SA (acres)	3.65	1.94	3.47

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #10-yr

			Left OB	Channel	Right OB
E.G. Elev (ft)	4616.99	Element			
Vel Head (ft)	0.50	Wt. n-Val.	0.055	0.035	
W.S. Elev (ft)	4616.49	Reach Len. (ft)	819.33	870.04	893.35
Crit W.S. (ft)		Flow Area (sq ft)	131.76	488.34	
E.G. Slope (ft/ft)	0.002506	Area (sq ft)	131.76	488.34	
Q Total (cfs)	2967.00	Flow (cfs)	138.15	2828.85	
Top Width (ft)	302.92	Top Width (ft)	196.61	106.31	
Vel Total (ft/s)	4.78	Avg. Vel. (ft/s)	1.05	5.79	
Max Chl Dpth (ft)	7.37	Hydr. Depth (ft)	0.67	4.59	
Conv. Total (cfs)	59269.4	Conv. (cfs)	2759.7	56509.7	
Length Wtd. (ft)	870.84	Wetted Per. (ft)	196.73	108.52	
Min Ch El (ft)	4609.12	Shear (lb/sq ft)	0.10	0.70	
Alpha	1.40	Stream Power (lb/ft s)	0.11	4.08	
Frctn Loss (ft)	1.82	Cum Volume (acre-ft)	1.24	9.17	2.75
C & E Loss (ft)	0.03	Cum SA (acres)	1.85	1.80	1.39

Warning: Divided flow computed for this cross-section.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 156.6568

INPUT
Description:
Station Elevation Data num= 136

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4662.18	1.01	4662	5.63	4661.03	9.99	4660	19.07	4658.04
19.29	4658	19.4	4657.98	28.45	4656	33.2	4654.96	37.64	4654
44.82	4652.97	50.96	4652	59.24	4650.77	63.07	4650.24	65.01	4650
70.29	4649.4	82.65	4648	87.64	4647.32	90.31	4647.11	97.8	4646
103.06	4644.64	110.97	4644.35	113.71	4644.18	115.23	4644	121.52	4642.87
123.92	4642.53	126.15	4642	130.63	4640.41	132.47	4640	137.37	4638.36
138.96	4638	141.89	4637.08	145.37	4636	147.62	4635.34	150.91	4634
157.02	4632.24	157.85	4632	158.62	4631.73	163.66	4630	166.29	4628.77
167.98	4628	169.95	4627.05	172.19	4626	173.75	4625.28	176.69	4624
177.41	4623.54	180.26	4622.24	180.79	4622	181.74	4621.58	185.34	4620
185.73	4619.91	187.4	4619.42	191.36	4618.29	193.23	4618	218.23	4618
221.62	4618.22	222.61	4618.26	223.25	4618	224.2	4617.54	227.66	4616
230.48	4614.72	232.02	4614	233.92	4613.01	235.98	4612	240.91	4610.1
241.08	4610.04	241.17	4610	241.39	4609.96	252.61	4608	294.87	4608
303.05	4609.33	304.26	4610	322.75	4611.39	330.57	4612	333.75	4612
333.93	4612.01	345.11	4612.49	352	4612.32	352.73	4612.32	359.63	4612
369.5	4612	378.56	4613.12	394.01	4613.11	404.18	4614	416.18	4614
459.7	4615.28	460.76	4615.3	501.28	4616	554.87	4616	563.05	4616.17
565.13	4616.19	569.97	4616.31	575.06	4616.46	581.2	4616.71	624.58	4618
644.18	4618	690.01	4619.29	716.39	4620	972.71	4620	999.9	4621.4
1014.06	4622	1027.36	4622	1065.85	4623.38	1071.05	4623.54	1083.43	4624
1088.57	4624	1131.99	4625.63	1141.08	4626	1142.89	4626.25	1160.68	4628
1166	4628	1170.62	4628.08	1229.05	4628.82	1232.11	4628.84	1281.26	4630
1288.84	4630	1313.73	4631.06	1320.8	4631.31	1337.96	4632	1373.88	4633.98
1374.2	4634	1407.41	4635.78	1410.84	4636	1415.83	4636.82	1424.88	4638
1431.84	4639.09	1437.8	4640	1440.29	4640.51	1447.04	4642	1455.83	4643.58
1458.78	4644	1465.97	4645.17	1471.29	4646	1472.16	4646.17	1476.34	4646.78
1479.98	4647.27								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.055	222.61	.035	304.26	.055

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
222.61	304.26	0	0	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
383	1479.98	4620	F

CROSS SECTION OUTPUT Profile #100-yr FP

			Left OB	Channel	Right OB
E.G. Elev (ft)	4619.71	Element			
Vel Head (ft)	0.86	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4618.85	Reach Len. (ft)			

Crit W.S. (ft)	4615.73	Flow Area (sq ft)	26.23	755.06	548.93
E.G. Slope (ft/ft)	0.002052	Area (sq ft)	26.23	755.06	1355.12
Q Total (cfs)	8759.00	Flow (cfs)	27.37	6283.60	2448.03
Top Width (ft)	484.98	Top Width (ft)	33.21	81.65	370.12
Vel Total (ft/s)	6.58	Avg. Vel. (ft/s)	1.04	8.32	4.46
Max Chl Dpth (ft)	10.85	Hydr. Depth (ft)	0.79	9.25	6.97
Conv. Total (cfs)	193370.2	Conv. (cfs)	604.3	138721.4	54044.5
Length Wtd. (ft)		Wetted Per. (ft)	33.32	83.87	78.90
Min Ch El (ft)	4608.00	Shear (lb/sq ft)	0.10	1.15	0.89
Alpha	1.27	Stream Power (lb/ft s)	0.11	9.60	3.97
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4619.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.86	Wt. n-Val.		0.035	0.055
W.S. Elev (ft)	4618.85	Reach Len. (ft)			
Crit W.S. (ft)	4615.72	Flow Area (sq ft)		755.06	548.93
E.G. Slope (ft/ft)	0.002079	Area (sq ft)		755.06	1207.90
Q Total (cfs)	8759.00	Flow (cfs)		6295.03	2463.97
Top Width (ft)	337.39	Top Width (ft)		81.65	255.74
Vel Total (ft/s)	6.72	Avg. Vel. (ft/s)		8.34	4.49
Max Chl Dpth (ft)	10.85	Hydr. Depth (ft)		9.25	6.97
Conv. Total (cfs)	192118.8	Conv. (cfs)		138074.3	54044.5
Length Wtd. (ft)		Wetted Per. (ft)		84.46	78.90
Min Ch El (ft)	4608.00	Shear (lb/sq ft)		1.16	0.90
Alpha	1.23	Stream Power (lb/ft s)		9.67	4.05
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4623.06	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.36	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4622.70	Reach Len. (ft)			
Crit W.S. (ft)	4618.26	Flow Area (sq ft)	175.65	1069.42	3694.27
E.G. Slope (ft/ft)	0.000848	Area (sq ft)	175.65	1069.42	3694.27
Q Total (cfs)	16028.00	Flow (cfs)	346.66	7215.18	8466.15
Top Width (ft)	867.64	Top Width (ft)	43.36	81.65	742.63
Vel Total (ft/s)	3.24	Avg. Vel. (ft/s)	1.97	6.75	2.29
Max Chl Dpth (ft)	14.70	Hydr. Depth (ft)	4.05	13.10	4.97
Conv. Total (cfs)	550454.9	Conv. (cfs)	11905.6	247793.3	290755.9
Length Wtd. (ft)		Wetted Per. (ft)	44.20	83.87	742.98
Min Ch El (ft)	4608.00	Shear (lb/sq ft)	0.21	0.67	0.26
Alpha	2.22	Stream Power (lb/ft s)	0.42	4.55	0.60
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4618.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.71	Wt. n-Val.		0.035	0.055
W.S. Elev (ft)	4617.50	Reach Len. (ft)			
Crit W.S. (ft)	4614.75	Flow Area (sq ft)		645.48	442.62
E.G. Slope (ft/ft)	0.001995	Area (sq ft)		645.48	897.36
Q Total (cfs)	6528.00	Flow (cfs)		4841.94	1686.06
Top Width (ft)	383.48	Top Width (ft)		79.97	303.51
Vel Total (ft/s)	6.00	Avg. Vel. (ft/s)		7.50	3.81
Max Chl Dpth (ft)	9.50	Hydr. Depth (ft)		8.07	5.62
Conv. Total (cfs)	146167.8	Conv. (cfs)		108415.3	37752.5
Length Wtd. (ft)		Wetted Per. (ft)		82.03	78.90
Min Ch El (ft)	4608.00	Shear (lb/sq ft)		0.98	0.70
Alpha	1.26	Stream Power (lb/ft s)		7.35	2.66
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4615.14	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.44	Wt. n-Val.		0.035	0.055
W.S. Elev (ft)	4614.70	Reach Len. (ft)			
Crit W.S. (ft)	4612.68	Flow Area (sq ft)		430.35	222.16

E.G. Slope (ft/ft)	0.001775	Area (sq ft)	430.35	268.02
Q Total (cfs)	2967.00	Flow (cfs)	2462.80	504.20
Top Width (ft)	209.47	Top Width (ft)	73.74	135.73
Vel Total (ft/s)	4.55	Avg. Vel. (ft/s)	5.72	2.27
Max Chl Dpth (ft)	6.70	Hydr. Depth (ft)	5.84	2.82
Conv. Total (cfs)	70424.7	Conv. (cfs)	58456.9	11967.7
Length Wtd. (ft)		Wetted Per. (ft)	75.20	78.90
Min Ch El (ft)	4608.00	Shear (lb/sq ft)	0.63	0.31
Alpha	1.36	Stream Power (lb/ft s)	3.63	0.71
Frctn Loss (ft)		Cum Volume (acre-ft)		
C & E Loss (ft)		Cum SA (acres)		

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

SUMMARY OF MANNING'S N VALUES

River:KingsCynCreek

Reach	River Sta.	n1	n2	n3
Reach1	5704.987	.055	.03	.055
Reach1	5597	Bridge		
Reach1	5489.854	.055	.03	.055
Reach1	5179.23	.055	.03	.055
Reach1	4715.834	.04	.03	.04
Reach1	4309.763	.04	.03	.04
Reach1	3923.687	.04	.03	.045
Reach1	3591.992	.04	.03	.055
Reach1	3591.5	Culvert		
Reach1	3490.956	.045	.035	.055
Reach1	2929.759	.045	.035	.055
Reach1	2307.066	.045	.035	.055
Reach1	1999	.045	.035	.055
Reach1	1580	.055	.035	.055
Reach1	1552	.055	.035	.055
Reach1	1447.365	.055	.035	.055
Reach1	1223	.055	.035	.055
Reach1	1212	.055	.035	.055
Reach1	1137.728	.055	.035	.055
Reach1	1080.5	Culvert		
Reach1	1026.7	.055	.035	.055
Reach1	156.6568	.055	.035	.055

SUMMARY OF REACH LENGTHS

River: KingsCynCreek

Reach	River Sta.	Left	Channel	Right
Reach1	5704.987	216.48	215.13	289.94
Reach1	5597	Bridge		
Reach1	5489.854	221.64	310.62	443.05
Reach1	5179.23	466.41	463.4	468.06
Reach1	4715.834	503.66	406.07	304.21
Reach1	4309.763	278.33	386.08	476.37
Reach1	3923.687	436.97	331.69	363.89
Reach1	3591.992	183.96	101.04	102.13
Reach1	3591.5	Culvert		
Reach1	3490.956	591.29	561.2	578.66
Reach1	2929.759	625.43	622.69	622.78
Reach1	2307.066	300.3	308.6	311
Reach1	1999	363	419	416
Reach1	1580	28.2	28.2	28.2
Reach1	1552	105.1	105.1	70
Reach1	1447.365	105	105	100
Reach1	1223	25	25	25
Reach1	1212	240	150	50
Reach1	1137.728	112	111.03	111.62
Reach1	1080.5	Culvert		
Reach1	1026.7	819.33	870.04	893.35
Reach1	156.6568	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: KingsCynCreek

Reach	River Sta.	Contr.	Expan.
Reach1	5704.987	.3	.5
Reach1	5597	Bridge	
Reach1	5489.854	.3	.5
Reach1	5179.23	.1	.3
Reach1	4715.834	.1	.3
Reach1	4309.763	.1	.3
Reach1	3923.687	.1	.3
Reach1	3591.992	.3	.5
Reach1	3591.5	Culvert	
Reach1	3490.956	.3	.5
Reach1	2929.759	.1	.3
Reach1	2307.066	.1	.3
Reach1	1999	.1	.3
Reach1	1580	.1	.3
Reach1	1552	.1	.3
Reach1	1447.365	.3	.5
Reach1	1223	.3	.5
Reach1	1212	.3	.5
Reach1	1137.728	.3	.5
Reach1	1080.5	Culvert	
Reach1	1026.7	.3	.5
Reach1	156.6568	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Reach1	5704.987	100-yr FP	5744.00	4621.30	4628.72	4624.24	4628.78	0.000154	1.93	3180.91	3592.02	0.14
Reach1	5704.987	100-yr FW	5744.00	4621.30	4629.76	4624.40	4629.81	0.000111	1.79	3205.67	497.27	0.12
Reach1	5704.987	500-yr	10624.00	4621.30	4630.33	4625.12	4630.44	0.000232	2.76	4153.11	3802.68	0.18
Reach1	5704.987	50-yr	4298.00	4621.30	4627.75	4623.93	4627.79	0.000159	1.74	2637.14	3584.56	0.14
Reach1	5704.987	10-yr	1903.00	4621.30	4626.37	4623.31	4626.38	0.000090	1.09	1877.37	3549.95	0.10
Reach1	5597		Bridge									
Reach1	5489.854	100-yr FP	5744.00	4621.00	4628.58	4623.88	4628.65	0.000158	2.12	2752.48	2265.59	0.15
Reach1	5489.854	100-yr FW	5744.00	4621.00	4629.68	4623.88	4629.73	0.000095	1.81	3166.45	427.19	0.12
Reach1	5489.854	500-yr	10624.00	4621.00	4630.05	4624.86	4630.21	0.000266	3.17	3453.76	2751.72	0.20
Reach1	5489.854	50-yr	4298.00	4621.00	4627.63	4623.50	4627.68	0.000154	1.88	2309.01	2171.03	0.14
Reach1	5489.854	10-yr	1903.00	4621.00	4626.31	4622.80	4626.33	0.000076	1.10	1726.67	2093.27	0.10
Reach1	5179.23	100-yr FP	6313.00	4620.65	4628.55		4628.60	0.000126	2.05	3840.08	3115.37	0.14
Reach1	5179.23	100-yr FW	6313.00	4620.65	4629.63		4629.70	0.000106	2.04	3097.57	380.29	0.13
Reach1	5179.23	500-yr	11660.00	4620.65	4630.00		4630.12	0.000212	3.01	5087.96	3426.51	0.18
Reach1	5179.23	50-yr	4675.00	4620.65	4627.59		4627.63	0.000119	1.80	3135.19	2908.95	0.13
Reach1	5179.23	10-yr	2076.00	4620.65	4626.29		4626.31	0.000057	1.06	2279.07	1894.39	0.09
Reach1	4715.834	100-yr FP	7372.00	4619.18	4628.52		4628.55	0.000073	1.71	5643.97	2651.21	0.11
Reach1	4715.834	100-yr FW	7372.00	4619.18	4629.59		4629.65	0.000093	2.07	3561.86	386.97	0.12
Reach1	4715.834	500-yr	13546.00	4619.18	4629.97		4630.04	0.000124	2.48	7128.62	2902.86	0.14
Reach1	4715.834	50-yr	5471.00	4619.18	4627.56		4627.59	0.000069	1.53	4667.64	2567.84	0.10
Reach1	4715.834	10-yr	2452.00	4619.18	4626.28		4626.29	0.000033	0.93	3367.62	2398.61	0.07
Reach1	4309.763	100-yr FP	8529.00	4618.66	4628.43		4628.51	0.000149	2.32	3964.39	1186.01	0.14
Reach1	4309.763	100-yr FW	8529.00	4618.66	4629.53		4629.61	0.000119	2.21	3859.42	390.27	0.12
Reach1	4309.763	500-yr	15608.00	4618.66	4629.76		4629.95	0.000298	3.61	4709.22	1381.27	0.20
Reach1	4309.763	50-yr	6341.00	4618.66	4627.49		4627.55	0.000123	1.96	3459.28	897.94	0.12
Reach1	4309.763	10-yr	2863.00	4618.66	4626.25		4626.27	0.000047	1.08	2807.92	854.34	0.07
Reach1	3923.687	100-yr FP	8625.00	4618.46	4628.40		4628.46	0.000088	2.06	5288.18	1274.56	0.12
Reach1	3923.687	100-yr FW	8625.00	4618.46	4629.49		4629.57	0.000091	2.21	3906.21	373.66	0.12
Reach1	3923.687	500-yr	15790.00	4618.46	4629.72		4629.85	0.000171	3.14	6438.91	1564.38	0.17
Reach1	3923.687	50-yr	6435.00	4618.46	4627.46		4627.51	0.000076	1.78	4485.63	1104.11	0.11
Reach1	3923.687	10-yr	2924.00	4618.46	4626.24		4626.26	0.000030	1.01	3456.83	1029.48	0.07
Reach1	3591.992	100-yr FP	8625.00	4617.59	4628.39	4621.17	4628.43	0.000053	1.57	6496.55	1495.99	0.09
Reach1	3591.992	100-yr FW	8625.00	4617.59	4629.50	4621.17	4629.54	0.000047	1.57	5490.82	537.53	0.09
Reach1	3591.992	500-yr	15790.00	4617.59	4629.70	4622.21	4629.79	0.000109	2.46	8079.06	1718.37	0.13
Reach1	3591.992	50-yr	6435.00	4617.59	4627.46	4620.76	4627.48	0.000044	1.34	5556.56	1390.30	0.08
Reach1	3591.992	10-yr	2924.00	4617.59	4626.24	4619.94	4626.25	0.000017	0.74	4418.65	1230.85	0.05
Reach1	3591.5		Culvert									
Reach1	3490.956	100-yr FP	8625.00	4616.00	4627.91		4628.35	0.001785	6.25	2103.25	1242.70	0.42
Reach1	3490.956	100-yr FW	8625.00	4616.00	4629.23		4629.44	0.000722	4.48	2797.43	585.77	0.28
Reach1	3490.956	500-yr	15790.00	4616.00	4628.93		4629.71	0.002865	8.69	2796.24	1609.14	0.55
Reach1	3490.956	50-yr	6435.00	4616.00	4626.92		4627.44	0.002239	6.39	1472.28	1041.35	0.47
Reach1	3490.956	10-yr	2924.00	4616.00	4624.89		4625.34	0.002387	5.46	566.22	387.92	0.46
Reach1	2929.759	100-yr FP	8625.00	4614.18	4627.40	4624.56	4627.61	0.000745	5.43	3344.50	846.02	0.29
Reach1	2929.759	100-yr FW	8625.00	4614.18	4627.82	4624.56	4628.64	0.001839	8.76	1581.51	310.62	0.46
Reach1	2929.759	500-yr	15790.00	4614.18	4626.69	4626.23	4627.74	0.003826	11.77	2834.73	713.67	0.65
Reach1	2929.759	50-yr	6435.00	4614.18	4626.35	4623.51	4626.57	0.000804	5.27	2595.07	702.54	0.30
Reach1	2929.759	10-yr	2924.00	4614.18	4623.92	4620.70	4624.32	0.001354	5.64	680.17	432.55	0.37

Reach1	2307.066	100-yr FP	8625.00	4612.54	4624.66	4624.66	4626.48	0.004961	12.74	1055.84	1206.55	0.74
Reach1	2307.066	100-yr FW	8625.00	4612.54	4624.27	4624.27	4626.56	0.006290	13.95	892.92	187.42	0.82
Reach1	2307.066	500-yr	15790.00	4612.54	4626.36	4626.36	4626.52	0.000821	5.80	6385.31	1785.73	0.31
Reach1	2307.066	50-yr	6435.00	4612.54	4623.41	4623.41	4625.34	0.005774	12.48	732.12	856.67	0.78
Reach1	2307.066	10-yr	2924.00	4612.54	4620.33	4620.33	4622.38	0.009522	11.62	266.97	675.78	0.92
Reach1	1999	100-yr FP	8625.00	4612.75	4621.78	4620.17	4621.98	0.001307	5.66	2792.54	1156.83	0.37
Reach1	1999	100-yr FW	8625.00	4612.75	4622.40	4620.17	4622.54	0.000802	4.68	3266.68	1163.54	0.29
Reach1	1999	500-yr	15790.00	4612.75	4624.23	4621.08	4624.44	0.000868	5.58	4666.62	1266.07	0.31
Reach1	1999	50-yr	6435.00	4612.75	4620.87	4619.68	4621.10	0.001693	5.90	2103.50	1141.36	0.41
Reach1	1999	10-yr	2924.00	4612.75	4619.56	4618.83	4619.75	0.001590	4.92	1166.01	758.63	0.38
Reach1	1580	100-yr FP	8625.00	4612.56	4621.29	4619.65	4621.50	0.001203	5.50	3182.38	1309.48	0.36
Reach1	1580	100-yr FW	8625.00	4612.56	4622.13	4619.65	4622.26	0.000656	4.37	3909.42	1330.71	0.27
Reach1	1580	500-yr	15790.00	4612.56	4623.89	4620.59	4624.10	0.000903	5.84	5557.32	1526.37	0.33
Reach1	1580	50-yr	6435.00	4612.56	4620.05	4619.25	4620.37	0.002018	6.30	2140.23	1226.33	0.45
Reach1	1580	10-yr	2924.00	4612.56	4618.71	4617.75	4619.02	0.002028	5.35	1068.23	742.11	0.43
Reach1	1552	100-yr FP	8625.00	4612.54	4621.30	4619.47	4621.45	0.001008	5.15	3738.26	1748.95	0.33
Reach1	1552	100-yr FW	8625.00	4612.54	4621.72	4620.08	4622.20	0.002125	7.75	2016.31	416.00	0.48
Reach1	1552	500-yr	15790.00	4612.54	4623.93	4620.39	4624.06	0.000624	4.93	6697.98	1957.99	0.27
Reach1	1552	50-yr	6435.00	4612.54	4620.05	4618.68	4620.30	0.001787	6.09	2457.46	1615.41	0.42
Reach1	1552	10-yr	2924.00	4612.54	4618.71	4617.99	4618.95	0.001778	5.20	1234.70	840.06	0.41
Reach1	1447.365	100-yr FP	8759.00	4612.02	4621.22		4621.36	0.000875	4.88	3947.49	1768.61	0.31
Reach1	1447.365	100-yr FW	8759.00	4612.02	4621.58		4621.97	0.001699	7.01	2281.42	473.25	0.43
Reach1	1447.365	500-yr	16028.00	4612.02	4623.88		4624.00	0.000549	4.70	6962.62	1922.00	0.26
Reach1	1447.365	50-yr	6528.00	4612.02	4619.91		4620.13	0.001517	5.69	2601.29	991.79	0.39
Reach1	1447.365	10-yr	2967.00	4612.02	4618.60		4618.78	0.001367	4.64	1399.39	782.20	0.36
Reach1	1223	100-yr FP	8759.00	4611.09	4621.11	4619.08	4621.27	0.000799	5.02	3987.52	1074.38	0.30
Reach1	1223	100-yr FW	8759.00	4611.09	4621.33	4619.51	4621.78	0.001628	7.29	2192.80	436.00	0.43
Reach1	1223	500-yr	16028.00	4611.09	4623.81	4620.02	4623.94	0.000517	4.83	7107.70	1213.85	0.25
Reach1	1223	50-yr	6528.00	4611.09	4619.73	4618.69	4619.97	0.001362	5.85	2581.95	944.44	0.38
Reach1	1223	10-yr	2967.00	4611.09	4618.43	4617.16	4618.65	0.001140	4.71	1415.49	831.89	0.34
Reach1	1212	100-yr FP	8759.00	4611.06	4621.11		4621.23	0.000715	4.76	4573.37	1474.49	0.28
Reach1	1212	100-yr FW	8759.00	4611.06	4621.48		4621.58	0.000538	4.25	5149.41	1569.59	0.25
Reach1	1212	500-yr	16028.00	4611.06	4623.83		4623.91	0.000393	4.23	9136.22	1784.76	0.22
Reach1	1212	50-yr	6528.00	4611.06	4619.71		4619.92	0.001259	5.63	2810.29	1111.25	0.37
Reach1	1212	10-yr	2967.00	4611.06	4618.41		4618.61	0.001079	4.58	1531.21	902.37	0.33
Reach1	1137.728	100-yr FP	8759.00	4610.00	4621.03	4618.60	4621.15	0.000546	4.43	5016.28	1467.61	0.25
Reach1	1137.728	100-yr FW	8759.00	4610.00	4620.95	4618.78	4621.36	0.001302	6.80	2300.99	429.83	0.38
Reach1	1137.728	500-yr	16028.00	4610.00	4623.78	4619.47	4623.86	0.000344	4.13	9730.76	1942.36	0.20
Reach1	1137.728	50-yr	6528.00	4610.00	4619.58	4618.17	4619.77	0.000860	5.01	3155.92	1126.23	0.30
Reach1	1137.728	10-yr	2967.00	4610.00	4618.33	4615.06	4618.47	0.000598	3.76	1853.84	999.31	0.25
Reach1	1080.5		Culvert									
Reach1	1026.7	100-yr FP	8759.00	4609.12	4620.77		4621.09	0.001040	5.63	2700.34	850.40	0.34
Reach1	1026.7	100-yr FW	8759.00	4609.12	4620.77		4621.12	0.001060	5.69	2356.47	430.00	0.34
Reach1	1026.7	500-yr	16028.00	4609.12	4623.47		4623.82	0.000882	6.23	4770.90	1425.81	0.33
Reach1	1026.7	50-yr	6528.00	4609.12	4619.35		4619.72	0.001357	5.70	1854.00	537.36	0.38
Reach1	1026.7	10-yr	2967.00	4609.12	4616.49		4616.99	0.002506	5.79	620.09	302.92	0.48
Reach1	156.6568	100-yr FP	8759.00	4608.00	4618.85	4615.73	4619.71	0.002052	8.32	1330.21	484.98	0.48
Reach1	156.6568	100-yr FW	8759.00	4608.00	4618.85	4615.72	4619.71	0.002079	8.34	1303.98	337.39	0.48
Reach1	156.6568	500-yr	16028.00	4608.00	4622.70	4618.26	4623.06	0.000848	6.75	4939.33	867.64	0.33
Reach1	156.6568	50-yr	6528.00	4608.00	4617.50	4614.75	4618.21	0.001995	7.50	1088.10	383.48	0.47
Reach1	156.6568	10-yr	2967.00	4608.00	4614.70	4612.68	4615.14	0.001775	5.72	652.51	209.47	0.42

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                    HEC-RAS HEC-RAS 6.3.1 September 2022
                      U.S. Army Corps of Engineers
                     Hydrologic Engineering Center
                           609 Second Street
                           Davis, California


            X     X  XXXXXX    XXXX        XXXX       XX      XXXX
            X     X  X        X    X       X   X     X  X    X
            X     X  X        X            X   X    X    X   X
            XXXXXXX  XXXX     X       XXX  XXXX     XXXXXX    XXXX
            X     X  X        X            X  X     X    X        X
            X     X  X        X    X       X   X    X    X        X
            X     X  XXXXXX    XXXX        X    X   X    X   XXXXX



PROJECT DATA
Project Title: KCC-Lompa Ranch East_EOC
Project File : KCC-LompaEast.prj
Run Date and Time: 3/1/2023 8:39:06 PM

Project in English units



PLAN DATA

Plan Title: KCC-Proposed
Plan File : e:\Carson City EOC\HEC-RAS\Existing\King's Canyon\KCC-LompaEast.p03

           Geometry Title: Proposed Conditions Geometry
           Geometry File : e:\Carson City EOC\HEC-RAS\Existing\King's Canyon\KCC-LompaEast.g07

           Flow Title    : FEMA Effective Flows
           Flow File     : e:\Carson City EOC\HEC-RAS\Existing\King's Canyon\KCC-LompaEast.f01

Plan Summary Information:
Number of:  Cross Sections =   19    Multiple Openings  =    0
            Culverts       =    2    Inline Structures  =    0
            Bridges        =    1    Lateral Structures =    0

Computational Information
    Water surface calculation tolerance  =  0.01
    Critical depth calculation tolerance =  0.01
    Maximum number of iterations         =  20
    Maximum difference tolerance         =  0.3
    Flow tolerance factor                =  0.001

Computation Options
    Critical depth computed only where necessary
    Conveyance Calculation Method: At breaks in n values only
    Friction Slope Method:         Average Conveyance
    Computational Flow Regime:     Subcritical Flow

Encroachment Data
   Equal Conveyance = True
   Left Offset      =        0
   Right Offset     =        0

River = KingsCynCreek    Reach = Reach1
RS      Profile           Method  Value1  Value2
5704.987100-yr FW              1 3214.76 3712.03
5489.854100-yr FW              1 3359.823787.015
5179.23 100-yr FW              1 3516.75 3897.04
4715.834100-yr FW              1 2354.48 2741.45
4309.763100-yr FW              1    2048 2438.27
3923.687100-yr FW              1 1871.69 2245.35
3591.992100-yr FW              1 1424.73 1962.26
3490.956100-yr FW              1 1154.23    1740
2929.759100-yr FW              1 1277.34 1587.96
2307.066100-yr FW              1 1344.75 1562.99
1552    100-yr FW              1     578     994
1447.365100-yr FW              1     460  933.25
1223    100-yr FW              1     723    1159
1137.728100-yr FW              1  973.17    1403
1026.7  100-yr FW              1     970    1400
156.6568100-yr FW              1  222.61     560



FLOW DATA
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Flow Title: FEMA Effective Flows
Flow File : e:\Carson City EOC\HEC-RAS\Existing\King's Canyon\KCC-LompaEast.f01

Flow Data (cfs)

River	Reach	RS	100-yr FP	100-yr FW	500-yr	50-yr	10-yr
KingsCynCreek	Reach1	5704.987	5744	5744	10624	4298	1903
KingsCynCreek	Reach1	5179.23	6313	6313	11660	4675	2076
KingsCynCreek	Reach1	4715.834	7372	7372	13546	5471	2452
KingsCynCreek	Reach1	4309.763	8529	8529	15608	6341	2863
KingsCynCreek	Reach1	3923.687	8625	8625	15790	6435	2924
KingsCynCreek	Reach1	4309.763	8529	8529	15608	6341	2863
KingsCynCreek	Reach1	3923.687	8625	8625	15790	6435	2924
KingsCynCreek	Reach1	1447.365	8759	8759	16028	6528	2967

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
KingsCynCreek	Reach1	100-yr FP		Known WS = 4618.85
KingsCynCreek	Reach1	100-yr FW		Known WS = 4618.85
KingsCynCreek	Reach1	500-yr		Known WS = 4622.7
KingsCynCreek	Reach1	50-yr		Known WS = 4617.5
KingsCynCreek	Reach1	10-yr		Known WS = 4614.7

GEOMETRY DATA

Geometry Title: Proposed Conditions Geometry
Geometry File : e:\Carson City EOC\HEC-RAS\Existing\King's Canyon\KCC-LompaEast.g07

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 5704.987

INPUT
Description:
Station Elevation Data num= 500

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
04636.161		3.5944635.937		6.6044635.819		9.1074636.126		10.7194636.201	
13.0034638.977		19.5164636.569		21.6874636.055		23.8594635.972		28.6414636.061	
30.3724635.967		32.543 4635.56		36.8864635.419		47.7424635.362		54.5784635.378	
60.4734635.563		67.2824635.915		70.7374635.994		75.9674636.162		80.314636.239	
82.4814636.215		86.8234636.011		88.9944635.858		91.1664635.559		96.3964634.088	
99.854633.483		102.0224632.935		104.1934632.282		106.4524630.175		108.5354627.463	
110.7064626.681		112.8784626.444		120.1834625.758		123.734 4625.52		128.0764625.417	
142.5834625.406		245.3514625.406		250.1554625.375		259.5554625.377		263.8574625.406	
274.1764625.406		277.0524625.375		285.8494625.375		288.5894625.344		296.8444625.366	
299.0434625.349		307.8064625.406		327.0234625.406		331.8274625.375		365.4574625.375	
369.4164625.349		389.4794625.344		403.8914625.438		413.54625.469		424.3944625.469	
426.5934625.438		435.394625.438		437.5684625.407		452.9834625.406		457.1794625.314	
463.9784625.125		475.9554625.094		480.764625.063		596.0624625.063		600.8664625.031	
611.324625.031		620.1174625.063		624.8874625.031		647.714625.031		658.894	4625
714.283	4625	718.3864625.031		728.6434625.031		730.667	4625	739.505	4625
751.2084625.031		753.259	4625	757.362 4624.75		763.5164624.438		873.8464624.438	
882.8024624.406		918.6264624.406		927.4014624.437		1006.39	4624.51045.4894624.563		
1077.7884624.5881083.7954624.5311091.8034624.5251094.422							4624.51111.8264624.494		
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1438.8334624.3871448.2124624.0631458.2244624.0631460.226 4624.111478.247 4624.09									
1482.2514624.2621488.3214624.5961502.2744624.5731508.2814624.4191513.532 4624.18									
1516.294624.1511524.2994624.3411530.3064624.2521532.3094624.2531538.3164624.165									
1548.3274624.1731552.3324624.2381582.3664624.2751588.3734624.236 1594.384624.241									
1602.3894624.2161604.391 4624.251624.4144624.2661626.4174624.2361646.4394624.252									
1672.469 4624.251674.4724624.2191686.4854624.2191688.4884624.2451706.5084624.219									
1708.5114624.1971718.5224624.189 1720.514624.1571738.5454624.1271740.547 4624.14									
1752.561 4624.131754.5634624.1021772.5844624.0721780.5934624.0281798.5784623.999									
1800.7664623.9641826.6464623.9221834.6554623.9391840.6624623.9971844.6674623.993									
1848.6724623.9281858.6834624.1381868.6944624.0311876.7044624.0311878.706								4624	
1946.7844624.0041948.8214624.0311955.816			4624	1959.34624.0141975.1824623.938					
1982.4334623.8671990.8454623.688 2007.674623.594 2020.374623.5942026.8254623.563									
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2071.0684623.5692079.173 4623.52085.4824623.4692091.3794623.4692102.3064623.438									
2104.4094623.4062112.8224623.3962119.1314623.4282123.6564623.3752136.5664623.313									
2146.474623.3112148.5734623.3532155.9324623.2812162.388 4623.252171.7074623.264									
2178.0164623.3312182.1074623.4022184.3254623.363 2193.214623.3192203.2524623.313									
2205.3554623.2922209.5614623.3562213.8324623.3772220.4864623.3132230.5924623.264									
2232.6954623.226 2243.214623.2952247.4164623.2712251.9024623.2922255.0754623.265									

2262.1374623.1392266.6674623.1662272.652 4623.312274.7554623.3942277.2824623.391
2291.559 4623.252295.786 4623.252299.9924623.3032306.301 4623.452309.008 4623.46
2317.3164623.3512327.3314623.4972331.2154623.4572346.2594623.2362350.4654623.242
2358.877 4623.412364.5274623.4352370.8724623.3122375.7014623.2762379.9074623.194
2384.113 4623.262388.3174623.3752396.7314623.2932400.9384623.315 2409.354623.195
2414.1464623.2052421.9684623.3932427.9774623.4222436.689 4623.362442.9984623.269
2445.4264623.2712449.3074623.3472459.8234623.3082466.1324623.3092472.4414623.248
2476.6474623.2492480.8534623.3232489.2654623.3672497.6774623.3162508.1924623.339
2510.2954623.3952513.6354623.6072516.605 4623.7 2519.984623.7082522.914 4623.65
2526.3254623.6592530.3434623.5812533.4294623.6162535.5324623.5422539.016 4623.59
2541.841 4623.522545.3614623.555 2548.154623.5042552.3564623.5212562.6194623.485
  2575.54623.5342581.7994623.5432583.4314623.5722588.1084623.5522594.8964623.466
2597.707 4623.492601.3524623.4122605.6394623.4332607.8074623.3552611.9844623.377
2617.5514623.3432624.6744623.3432630.1694623.2692635.7784623.2242642.7874623.268
2653.3024623.2172657.5084623.0722669.0894623.1022676.4364622.9772684.848 4623.05
2688.1244623.0312691.2974623.0852697.466 4623.092705.8784622.938 2714.294623.047
2724.003   46232730.458   46232738.8854622.9642751.575 4623.052758.4544623.021
2761.0924623.0432768.9694622.9712775.6464622.9382781.587 4622.94   27904623.024
2800.5154622.9732802.6184622.938 2811.034622.9382815.2364622.8752823.6484622.861
 2832.064622.9152840.1994622.8752842.5754622.906 2846.754622.8752853.0954622.875
2857.2974622.8022863.6064622.8522867.8124622.8532872.1314622.8122876.2244622.831
2886.7394622.7882899.3574622.8492916.5464622.8352926.6974622.8562937.212   4623
2949.8574622.9372956.1394622.8742958.2424622.8842964.1344622.8282979.2734622.801
2981.3764622.8322989.7884622.6463000.3034622.5443008.7154622.5763017.1274622.726
3023.4374622.786 3029.174622.7893033.9294622.8443038.1584622.8233044.4674622.864
3051.3784622.8313062.4824622.739 3067.64622.6323082.3224622.578 3084.694622.588
3094.2074622.4853098.9664622.5353107.5584622.7013109.6614622.6883113.8674622.563
3116.4154622.5633124.3464622.4063129.1054622.3713139.1044622.4063145.4134622.536
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3202.1954622.5343206.4014622.5453211.5914622.682 3214.76 4622.723221.1084622.688
3223.2254622.6043227.4314622.345 3235.844622.3973241.7294621.9353244.2564621.844
3260.7654621.887 3267.114622.0313275.8014622.1253281.386 4622.133296.832 4622.25
3301.0384622.3133309.9394622.2153324.3514622.2813338.8924622.2813340.9954622.268
3347.3044622.3613357.5274622.3463364.1294622.286 3368.634622.3423376.5624622.533
3383.056 4622.853387.2624622.984 3399.884622.9593404.0864623.0513408.2924622.875
3410.3964622.5633412.4994621.6913414.6024621.7483416.7054622.1233418.8084622.395
3427.3224622.6883431.4264622.6513435.6324622.4613441.9414622.3443450.3534622.438
3458.7654622.5833465.074 4622.653471.3844622.8373481.8994623.0753490.3114622.438
3492.4144622.471 3496.624622.6883505.0494622.7183511.5564622.622 3517.654622.592
3537.3774622.6883550.2884622.6883558.9824622.7243566.9134622.8063570.2264622.815
3572.3294622.7163574.4324622.3643578.6384621.5793580.7414621.2993582.8444621.341
3584.9484621.5333587.0514621.8553591.2574622.6513595.4634623.5633597.5664623.792
3603.8754624.1373616.0874624.5473629.1114625.0563631.2144625.1083640.6634625.484
3654.348 4626.093660.0294626.378 3662.764626.4123669.0694626.3373677.4814626.534
 3685.854626.9023689.0554627.3373692.3064627.6673696.4094628.2753702.718 4629.16
 3706.924629.465 3711.134629.7213715.3364629.7673719.1944629.8883721.645 4629.9
3727.1264629.999 3732.164630.0013742.6764629.9263757.3974629.9243760.4374629.965
3763.3144629.9183766.782 4629.99 3769.774629.9413771.5414629.9993776.225 4629.97
3777.886 4630.023782.681   46303784.2314630.0463789.1364630.0343790.5764630.073
3795.2514630.0363796.9214630.0943802.047 4630.073803.2664630.0973808.5024630.072
3811.1984630.1053814.9574630.0743817.5424630.1193820.4884630.0763824.6944630.125
3827.8684630.0793830.2334630.1313834.3234630.0943836.5784630.1423840.7794630.125
3842.9234630.1723847.2344630.156 3849.934630.2013858.7854630.1533860.4464630.097
 3865.134630.1083866.7174630.0633871.4754630.0823873.0554630.0313877.8214630.052
3879.511   46303882.5794630.0333885.9664629.969 3890.514630.0593892.4224630.038
3896.8564630.1283898.8774630.1033903.2014630.1923905.3324630.167 3907.454630.221
3912.8924630.5943915.0854630.7113923.7534630.9153939.7764631.2173950.0194631.319
3956.1554631.3433962.3954631.4293964.4574632.1543965.7964631.463 3969.184631.531
3970.8724631.4983974.2574631.6453977.6414631.9933979.3334632.3113982.7174632.484
3986.1014632.8583991.1784633.035 3992.874633.1373999.6384633.3094002.4914633.332

Manning's n Values   num=   3
     Sta   n Val   Sta   n Val   Sta   n Val
       0   .055 3214.76   .03 3711.13   .055

Bank Sta: Left   Right   Lengths: Left Channel   Right   Coeff Contr.   Expan.
       3214.76 3711.13   216.48 215.13 289.94   .3   .5
Ineffective Flow   num=   1
   Sta L   Sta R   Elev Permanent
       0   3136 4635.6   F

CROSS SECTION OUTPUT Profile #100-yr FP

E.G. Elev (ft)	4628.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.055	0.030	
W.S. Elev (ft)	4628.72	Reach Len. (ft)	48.00	48.00	48.00
Crit W.S. (ft)	4624.24	Flow Area (sq ft)	483.46	2697.45	
E.G. Slope (ft/ft)	0.000154	Area (sq ft)	14539.99	2697.45	
Q Total (cfs)	5744.00	Flow (cfs)	543.48	5200.52	
Top Width (ft)	3592.02	Top Width (ft)	3107.19	484.83	
Vel Total (ft/s)	1.81	Avg. Vel. (ft/s)	1.12	1.93	
Max Chl Dpth (ft)	7.42	Hydr. Depth (ft)	6.14	5.56	
Conv. Total (cfs)	462787.1	Conv. (cfs)	43787.4	418999.7	
Length Wtd. (ft)	48.00	Wetted Per. (ft)	78.76	485.71	
Min Ch El (ft)	4621.30	Shear (lb/sq ft)	0.06	0.05	

Alpha	1.07	Stream Power (lb/ft s)	0.07	0.10	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	358.26	219.25	147.64
C & E Loss (ft)	0.02	Cum SA (acres)	91.37	25.89	55.52

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4629.81	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.030	0.055
W.S. Elev (ft)	4629.76	Reach Len. (ft)	48.00	48.00	48.00
Crit W.S. (ft)	4624.40	Flow Area (sq ft)		3205.65	0.03
E.G. Slope (ft/ft)	0.000111	Area (sq ft)		3205.65	0.03
Q Total (cfs)	5744.00	Flow (cfs)		5744.00	0.00
Top Width (ft)	497.27	Top Width (ft)		496.37	0.90
Vel Total (ft/s)	1.79	Avg. Vel. (ft/s)		1.79	0.03
Max Chl Dpth (ft)	8.46	Hydr. Depth (ft)		6.46	0.03
Conv. Total (cfs)	544819.6	Conv. (cfs)		544819.5	0.1
Length Wtd. (ft)	48.00	Wetted Per. (ft)		504.34	0.93
Min Ch El (ft)	4621.30	Shear (lb/sq ft)		0.04	0.00
Alpha	1.00	Stream Power (lb/ft s)		0.08	0.00
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	90.56	235.07	37.52
C & E Loss (ft)	0.01	Cum SA (acres)	24.58	25.89	11.28

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4630.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.	0.055	0.030	0.055
W.S. Elev (ft)	4630.33	Reach Len. (ft)	48.00	48.00	48.00
Crit W.S. (ft)	4625.12	Flow Area (sq ft)	609.87	3487.28	56.72
E.G. Slope (ft/ft)	0.000232	Area (sq ft)	19527.96	3487.28	56.72
Q Total (cfs)	10624.00	Flow (cfs)	981.59	9632.27	10.14
Top Width (ft)	3802.69	Top Width (ft)	3108.47	496.37	197.85
Vel Total (ft/s)	2.56	Avg. Vel. (ft/s)	1.61	2.76	0.18
Max Chl Dpth (ft)	9.03	Hydr. Depth (ft)	7.74	7.03	0.29
Conv. Total (cfs)	697963.8	Conv. (cfs)	64487.4	632810.2	666.2
Length Wtd. (ft)	48.00	Wetted Per. (ft)	78.76	497.30	197.88
Min Ch El (ft)	4621.30	Shear (lb/sq ft)	0.11	0.10	0.00
Alpha	1.09	Stream Power (lb/ft s)	0.18	0.28	0.00
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	513.53	272.38	259.78
C & E Loss (ft)	0.05	Cum SA (acres)	106.85	25.92	75.48

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4627.79	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.055	0.030	
W.S. Elev (ft)	4627.75	Reach Len. (ft)	48.00	48.00	48.00
Crit W.S. (ft)	4623.93	Flow Area (sq ft)	407.01	2230.13	
E.G. Slope (ft/ft)	0.000159	Area (sq ft)	11524.19	2230.13	
Q Total (cfs)	4298.00	Flow (cfs)	414.38	3883.62	
Top Width (ft)	3584.56	Top Width (ft)	3106.45	478.11	
Vel Total (ft/s)	1.63	Avg. Vel. (ft/s)	1.02	1.74	
Max Chl Dpth (ft)	6.45	Hydr. Depth (ft)	5.17	4.66	
Conv. Total (cfs)	340890.5	Conv. (cfs)	32866.4	308024.1	
Length Wtd. (ft)	48.00	Wetted Per. (ft)	78.76	478.92	
Min Ch El (ft)	4621.30	Shear (lb/sq ft)	0.05	0.05	
Alpha	1.07	Stream Power (lb/ft s)	0.05	0.08	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	274.23	187.95	94.79
C & E Loss (ft)	0.02	Cum SA (acres)	80.27	25.83	43.64

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4626.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.055	0.030	
W.S. Elev (ft)	4626.37	Reach Len. (ft)	48.00	48.00	48.00
Crit W.S. (ft)	4623.31	Flow Area (sq ft)	298.06	1579.31	
E.G. Slope (ft/ft)	0.000090	Area (sq ft)	7229.30	1579.31	

Q Total (cfs)	1903.00	Flow (cfs)	185.78	1717.22	
Top Width (ft)	3549.95	Top Width (ft)	3101.07	448.89	
Vel Total (ft/s)	1.01	Avg. Vel. (ft/s)	0.62	1.09	
Max Chl Dpth (ft)	5.07	Hydr. Depth (ft)	3.78	3.52	
Conv. Total (cfs)	200306.1	Conv. (cfs)	19554.7	180751.4	
Length Wtd. (ft)	48.00	Wetted Per. (ft)	78.76	449.63	
Min Ch El (ft)	4621.30	Shear (lb/sq ft)	0.02	0.02	
Alpha	1.08	Stream Power (lb/ft s)	0.01	0.02	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	174.89	145.35	25.02
C & E Loss (ft)	0.01	Cum SA (acres)	60.63	25.44	28.48

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

BRIDGE

RIVER: KingsCynCreek
REACH: Reach1 RS: 5597

INPUT
Description:
Distance from Upstream XS = 48
Deck/Roadway Width = 125
Weir Coefficient = 2.6
Upstream Deck/Roadway Coordinates
num= 6

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
0	4655.18		2024	4635.7		2754	4638.1	
3297	4638.1	4635.6	3701	4635.7	4633.1	4139.78	4634.1	

Upstream Bridge Cross Section Data
Station Elevation Data num= 500

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
04636.161		3.5944635.937		6.6044635.819		9.1074636.126		10.7194636.201	
13.0034638.977		19.5164636.569		21.6874636.055		23.8594635.972		28.6414636.061	
30.3724635.967		32.543 4635.56		36.8864635.419		47.7424635.362		54.5784635.378	
60.4734635.563		67.2824635.915		70.7374635.994		75.9674636.162		80.314636.239	
82.4814636.215		86.8234636.011		88.9944635.858		91.1664635.559		96.3964634.088	
99.854633.483	102.0224632.935	104.1934632.282	106.4524630.175	108.5354627.463					
110.7064626.681	112.8784626.444	120.1834625.758	123.734 4625.52	128.0764625.417					
142.5834625.406	245.3514625.406	250.1554625.375	259.5554625.377	263.8574625.406					
274.1764625.406	277.0524625.375	285.8494625.375	288.5894625.344	296.8444625.366					
299.0434625.349	307.8064625.406	327.0234625.406	331.8274625.375	365.4574625.375					
369.4164625.349	389.4794625.344	403.8914625.438	413.54625.469	424.3944625.469					
426.5934625.438	435.394625.438	437.5684625.407	452.9834625.406	457.1794625.314					
463.9784625.125	475.9554625.094	480.764625.063	596.0624625.063	600.8664625.031					
611.324625.031	620.1174625.063	624.8874625.031	647.714625.031	658.894	4625				
714.283	4625	718.3864625.031	728.6434625.031	730.667	4625	739.505	4625		
751.2084625.031	753.259	4625	757.362 4624.75	763.5164624.438	873.8464624.438				
882.8024624.406	918.6264624.406	927.4014624.437	1006.39	4624.51045.4894624.563					
1077.7884624.588	1083.7954624.531	1091.8034624.525	1094.422	4624.51111.8264624.494					
1113.8294624.469	1121.8384624.486	1142.6584624.469	1181.9454624.468	1189.9164624.462					
1191.9184624.438	1237.9714624.438	1239.9734624.406	1258.2854624.406	1296.8274624.438					
1308.0514624.438	1310.0544624.406	1322.0684624.406	1326.0724624.438	1436.1984624.438					
1438.8334624.387	1448.2124624.063	1458.2244624.063	1460.226 4624.111	478.247 4624.09					
1482.2514624.262	1488.3214624.596	1502.2744624.573	1508.2814624.419	1513.532 4624.18					
1516.294624.151	1524.2994624.341	1530.3064624.252	1532.3094624.253	1538.3164624.165					
1548.3274624.173	1552.3324624.238	1582.3664624.275	1588.3734624.236	1594.384624.241					
1602.3894624.216	1604.391 4624.251	624.4144624.266	1626.4174624.236	1646.4394624.252					
1672.469 4624.251	674.4724624.219	1686.4854624.219	1688.4884624.245	1706.5084624.219					
1708.5114624.197	1718.5224624.189	1720.514624.157	1738.5454624.127	1740.547 4624.14					
1752.561 4624.131	754.5634624.102	1772.5844624.072	1780.5934624.028	1798.5784623.999					
1800.7664623.964	1826.6464623.922	1834.6554623.939	1840.6624623.997	1844.6674623.993					
1848.6724623.928	1858.6834624.138	1868.6944624.031	1876.7044624.031	1878.706	4624				
1946.7844624.004	1948.8214624.031	1955.816	4624	1959.34624.014	1975.1824623.938				
1982.4334623.867	1990.8454623.688	2007.674623.594	2020.374623.594	2026.8254623.563					
2033.2814623.563	2039.7364623.594	2046.1914623.594	2059.1024623.656	2064.4524623.656					
2071.0684623.569	2079.173	4623.52085.4824623.469	2091.3794623.469	2102.3064623.438					
2104.4094623.406	2112.8224623.396	2119.1314623.428	2123.6564623.375	2136.5664623.313					
2146.474623.311	2148.5734623.353	2155.9324623.281	2162.388 4623.252	171.7074623.264					
2178.0164623.331	2182.1074623.402	2184.3254623.363	2193.214623.319	2203.2524623.313					
2205.3554623.292	2209.5614623.356	2213.8324623.377	2220.4864623.313	2230.5924623.264					
2232.6954623.226	2243.214623.295	2247.4164623.271	2251.9024623.292	2255.0754623.265					
2262.1374623.139	2266.6674623.166	2272.652 4623.312	274.7554623.394	2277.2824623.391					
2291.559 4623.252	295.786 4623.252	299.9924623.303	2306.301 4623.452	309.008 4623.46					
2317.3164623.351	2327.3314623.497	2331.2154623.457	2346.2594623.236	2350.4654623.242					
2358.877 4623.412	364.5274623.435	2370.8724623.312	2375.7014623.276	2379.9074623.194					
2384.113 4623.262	388.3174623.375	2396.7314623.293	2400.9384623.315	2409.354623.195					
2414.1464623.205	2421.9684623.393	2427.9774623.422	2436.689 4623.362	442.9984623.269					
2445.4264623.271	2449.3074623.347	2459.8234623.308	2466.1324623.309	2472.4414623.248					
2476.6474623.249	2480.8534623.323	2489.2654623.367	2497.6774623.316	2508.1924623.339					

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2510.2954623.3952513.6354623.6072516.605  4623.7 2519.984623.7082522.914 4623.65
2526.3254623.6592530.3434623.5812533.4294623.6162535.5324623.5422539.016 4623.59
2541.841 4623.522545.3614623.555 2548.154623.5042552.3564623.5212562.6194623.485
  2575.54623.5342581.7994623.5432583.4314623.5722588.1084623.5522594.8964623.466
2597.707 4623.492601.3524623.4122605.6394623.4332607.8074623.3552611.9844623.377
2617.5514623.3432624.6744623.3432630.1694623.2692635.7784623.2242642.7874623.268
2653.3024623.2172657.5084623.0722669.0894623.1022676.4364622.9772684.848 4623.05
2688.1244623.0312691.2974623.0852697.466 4623.092705.8784622.938 2714.294623.047
2724.003    46232730.458    46232738.8854622.9642751.575 4623.052758.4544623.021
2761.0924623.0432768.9694622.9712775.6464622.9382781.587 4622.94    27904623.024
2800.5154622.9732802.6184622.938 2811.034622.9382815.2364622.8752823.6484622.861
 2832.064622.9152840.1994622.8752842.5754622.906 2846.754622.8752853.0954622.875
2857.2974622.8022863.6064622.8522867.8124622.8532872.1314622.8122876.2244622.831
2886.7394622.7882899.3574622.8492916.5464622.8352926.6974622.8562937.212    4623
2949.8574622.9372956.1394622.8742958.2424622.8842964.1344622.8282979.2734622.801
2981.3764622.8322989.7884622.6463000.3034622.5443008.7154622.5763017.1274622.726
3023.4374622.786 3029.174622.7893033.9294622.8443038.1584622.8233044.4674622.864
3051.3784622.8313062.4824622.739  3067.64622.6323082.3224622.578 3084.694622.588
3094.2074622.4853098.9664622.5353107.5584622.7013109.6614622.6883113.8674622.563
3116.4154622.5633124.3464622.4063129.1054622.3713139.1044622.4063145.4134622.536
3153.8254622.6023159.2444622.6233179.0624622.6253190.9694622.5993193.7834622.563
3202.1954622.5343206.4014622.5453211.5914622.682 3214.76 4622.723221.1084622.688
3223.2254622.6043227.4314622.345 3235.844622.3973241.7294621.9353244.2564621.844
3260.7654621.887 3267.114622.0313275.8014622.1253281.386 4622.133296.832 4622.25
3301.0384622.3133309.9394622.2153324.3514622.2813338.8924622.2813340.9954622.268
3347.3044622.3613357.5274622.3463364.1294622.286 3368.634622.3423376.5624622.533
3383.056 4622.853387.2624622.984 3399.884622.9593404.0864623.0513408.2924622.875
3410.3964622.5633412.4994621.6913414.6024621.7483416.7054622.1233418.8084622.395
3427.3224622.6883431.4264622.6513435.6324622.4613441.9414622.3443450.3534622.438
3458.7654622.5833465.074 4622.653471.3844622.8373481.8994623.0753490.3114622.438
3492.4144622.471 3496.624622.6883505.0494622.7183511.5564622.622 3517.654622.592
3537.3774622.6883550.2884622.6883558.9824622.7243566.9134622.8063570.2264622.815
3572.3294622.7163574.4324622.3643578.6384621.5793580.7414621.2993582.8444621.341
3584.9484621.5333587.0514621.8553591.2574622.6513595.4634623.5633597.5664623.792
3603.8754624.1373616.0874624.5473629.1114625.0563631.2144625.1083640.6634625.484
3654.348 4626.093660.0294626.378 3662.764626.4123669.0694626.3373677.4814626.534
 3685.854626.9023689.0554627.3373692.3064627.6673696.4094628.2753702.718 4629.16
 3706.924629.465 3711.134629.7213715.3364629.7673719.1944629.8883721.645  4629.9
3727.1264629.999 3732.164630.0013742.6764629.9263757.3974629.9243760.4374629.965
3763.3144629.9183766.782 4629.99 3769.774629.9413771.5414629.9993776.225 4629.97
3777.886 4630.023782.681    46303784.2314630.0463789.1364630.0343790.5764630.073
3795.2514630.0363796.9214630.0943802.047 4630.073803.2664630.0973808.5024630.072
3811.1984630.1053814.9574630.0743817.5424630.1193820.4884630.0763824.6944630.125
3827.8684630.0793830.2334630.1313834.3234630.0943836.5784630.1423840.7794630.125
3842.9234630.1723847.2344630.156 3849.934630.2013858.7854630.1533860.4464630.097
 3865.134630.1083866.7174630.0633871.4754630.0823873.0554630.0313877.8214630.052
3879.511    46303882.5794630.0333885.9664629.969 3890.514630.0593892.4224630.038
3896.8564630.1283898.8774630.1033903.2014630.1923905.3324630.167 3907.454630.221
3912.8924630.5943915.0854630.7113923.7534630.9153939.7764631.2173950.0194631.319
3956.1554631.3433962.3954631.4293964.4574632.1543965.7964631.463 3969.184631.531
3970.8724631.4983974.2574631.6453977.6414631.9933979.3334632.3113982.7174632.484
3986.1014632.8583991.1784633.035 3992.874633.1373999.6384633.3094002.4914633.332

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .055 3214.76     .03 3711.13    .055

Bank Sta: Left   Right    Coeff Contr.   Expan.
       3214.76 3711.13            .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0    3136  4635.6       F

Downstream  Deck/Roadway Coordinates
    num=       6
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
       0 4655.18           2106  4635.7           2836  4638.1
    3374  4638.1  4635.6    3778  4635.7  4633.1 4221.78  4634.1

Downstream Bridge Cross Section Data
Station Elevation Data    num=     471
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       04632.416     1.94632.383   3.1854632.317   4.5524632.481   4.892 4632.54
   5.8784632.551  11.719 4632.35  12.5074632.341  13.8334632.376  15.1324632.344
  16.8394632.415  25.3734632.469   27.084632.406  28.4174632.514  28.7874632.558
  35.0464632.703  35.6144632.683  39.0284632.438  40.7344632.362  47.5624632.309
  56.0964632.523  57.802  4632.5  58.9114632.548  59.5094632.602  68.0434632.427
  73.1644632.516  76.1464632.392  76.5774632.404  78.2844632.545  80.1244632.549
   81.454632.482  81.6984632.457  82.7754632.443  85.1114632.485  86.8184632.594
  88.5254632.625  91.9394632.591  93.3824632.692  93.6454632.694  94.1214632.662
  94.7084632.596  97.0594632.541 102.1794632.685 103.8864632.495  112.424632.605
 114.1274632.449 117.5414632.351 126.0754632.572 137.1344632.342 138.0224632.354
  138.464632.383 142.4374632.734 143.1434632.761 143.7634632.699 148.2634632.512
  149.974632.511 153.0444632.647 153.3834632.681  154.374632.655 157.0214632.457
 160.2114632.337 167.0384632.514 168.7454632.447 198.1564632.637 200.7584632.705
```

223.6444632.754 224.0144632.777 225.7244632.772 227.2464632.841 227.8054632.851
228.8624632.953 229.8854632.999 234.0464633.358 240.2884633.425 259.0124632.932
267.6494632.945 300.6234632.523 303.2044632.555 326.6664632.048 329.0624632.053
333.9064631.906 337.142 4631.93 340.3744631.834 341.1464631.781 342.6714631.771
343.6074631.805 346.8394631.771 348.4754631.686 402.5684630.847 413.614630.831
494.3924631.961 510.189 4632.47 539.6834632.956 541.2014633.021 551.664633.156
553.4124633.233 560.2154633.324 563.8954633.492 575.7994633.755 584.169 4633.85
585.3784633.901 592.7244633.895 596.1194633.999 599.5684633.927 606.86 4634.04
608.1224634.009 617.6014634.017 620.099 4633.94 625.2324633.957 626.6784634.015
628.3434634.025 635.4984633.906 639.0844633.978 681.6284633.366 758.9654631.066
767.1054630.553 769.1414630.474 778.7194629.791 795.5984629.415 798.0424629.425
800.2024629.344 840.817 4629.09 858.6734628.869 870.8254629.216 872.854629.138
885.0024629.142 887.0284629.085 893.1044629.166 894.614629.271 895.1294629.292
897.1544629.749 899.184630.116 901.2054630.249 905.2564629.008 905.503 4628.98
906.8224628.722 907.2814628.686 911.3324628.739 912.0554628.816 912.7454628.821
913.3574628.869 915.3824629.796 917.4084629.886 919.0334629.432 919.433 4629.34
919.9874629.281 920.7774629.146 921.459 4629.09 939.6874628.994 949.8134629.209
959.1564629.647 959.944629.666 961.9664629.635 962.6454629.714 963.444629.714
963.9914629.761 966.0164630.203 968.2684629.991 969.6234629.764 970.0674629.733
974.1184629.673 974.8564629.719 975.514629.713 976.601 4629.77 977.924 4629.75
978.168 4629.76 979.4424629.727 990.3214629.856 992.3464630.274 994.3714630.229
 995.794630.128 996.3974630.102 998.4224629.9521006.5234629.9261008.5494629.828
1038.9294629.3551057.1574629.5751083.4874629.159 1099.694629.1421101.7154629.039
1103.744629.0681128.0454628.8731134.1214628.9661142.2224628.6011208.4564628.976
1252.464629.9361272.4624630.5821308.4654631.1061337.933 4631.911352.4694632.147
1388.4724633.1151404.4744633.2191436.4774632.9641468.4794632.4281506.4834631.547
1508.4834631.4551532.4854631.0911536.4854630.9411544.4864630.8751546.486 4621.25
1572.489   46211577.2654621.1581577.7244621.2071578.4894621.2421580.4894621.228
1582.494621.1361616.3294621.0591618.493 4620.991622.1894620.7021622.4934620.688
1624.4934620.9381636.494 4621.011638.4954620.6882000.9214620.6882003.5164620.834
2006.862 4620.912010.0324620.8262012.2984620.9592013.555 4621.082016.9024621.285
2028.2554621.6832030.2874621.6572035.3074621.7572037.367 4621.862053.7124622.081
2071.7364622.0982072.1174622.108 2078.814621.9642079.9344621.9082080.4834621.918
2081.714621.8372082.9264621.844 2083.834621.9042084.3544621.8972085.5034621.941
2086.0834621.9192088.1324621.9022092.1964622.0662102.4794622.0142110.6014621.701
2139.6764621.8682145.4644621.7922147.5884621.8862149.1714621.8882150.3984621.847
2151.8264621.8542153.9184622.0342157.0834622.1112158.189 4622.12163.4134622.369
2173.5674622.6232186.2054622.7512207.2694623.3482209.3754623.3362230.4384623.676
2253.6124624.5622266.2464624.7432289.4164625.3672327.329 4624.792335.8994624.818
2352.6054624.3762353.3064624.3812355.4244624.3432379.9884624.4352390.5194624.289
2399.1974624.1112413.6894624.3032441.0714623.7952460.0284623.6932485.3044623.931
2495.8364623.7532506.3674624.1442546.2964624.4432548.4944624.5272563.7724624.646
2565.3834624.6232566.9374624.668 2573.774624.6692584.3444624.4252617.5754624.168
2639.0664623.7022661.884 4623.692664.3424623.6352665.0484623.5982674.8744623.292
2714.8944622.9062746.4894623.4852786.5094623.3072790.7224623.3782802.7214623.201
2851.6924623.542 2853.364623.6032858.1244623.6012875.5144623.7342877.0814623.684
2894.5034623.6622896.0384623.6132931.8464623.1492965.5474622.9852984.5044623.066
2995.784623.2993028.737 4623.2 3072.974622.7263075.076 4622.753089.144 4622.24
3091.9274622.0213117.2034622.4193134.0534622.8743144.363 4623.63146.6914623.588
3165.648 4623.753174.0744623.5423195.137 4623.813205.6694624.4233222.5194627.424
3224.6254627.5633228.8384627.6563247.7954627.6023273.0714628.1013296.2414627.973
3329.6764627.5023340.4744627.5633351.0054626.876 3359.82 4626.54 3365.754626.313
3366.0734626.2723367.8564626.141 3382.64623.1323384.7074622.8473388.9194622.469
3401.5574622.4693402.4694622.2663402.8924622.2053404.0514621.979 3405.774621.472
3462.7194621.8753481.5984621.8753502.6614621.5633530.0434621.8443578.4894621.961
3579.7034621.9223580.5954621.863 3583.374621.246 3584.45 4621.033584.8084620.997
3586.9144621.3653587.6154621.4693589.0214621.6283614.2964621.9333633.2534621.656
3656.4234621.5943673.2744621.7853696.8044621.7523710.6184622.1483725.932 4622.3
 3738.57 4622.05 3739.534622.0673740.6764622.1223744.8894623.1863746.9954623.514
3749.1024623.6563759.633 4623.753763.8464623.6333764.8494623.7133774.3774624.656
3787.0154626.1873803.8664627.9593833.3554630.7053835.4614630.8213836.0594630.874
3837.5674630.9523840.8074631.218 3841.78 4631.253850.2054631.9353852.3124632.515
3853.4664632.9253856.9544634.253 3875.62 4641.893886.0134645.7033886.6984645.937
3888.284646.4253894.4384647.918 3894.614647.9423896.5454648.0423902.8644648.037
3907.8534648.2633909.1834648.2783909.8414648.3493910.4344648.4623911.2894648.483
3912.0174648.797 3912.994648.5453913.5994648.5983914.2154648.2283917.6084648.231
3918.3464648.5723919.2874648.4483919.9294648.5653920.5784648.2533923.9274648.256
3924.6764648.5073925.5844648.4083926.0334648.4593926.2594648.528 3926.944648.246
3930.2464648.2313931.0064648.3623931.8824648.2963932.3524648.3193932.5894648.427
3933.3024648.2043938.6714648.1883938.9184648.3373939.6654648.179 3944.994648.153
3945.2484648.2683946.0274648.1543951.3094648.1283951.5784648.202 3952.394648.129
3957.6284648.1033957.908 4648.123958.7524648.0873967.4854648.0443970.3094647.962
3972.0554647.7343972.448 4647.73974.5874647.3293978.8654646.3883979.8064646.102
3980.2174646.0153981.0034645.8163982.9074645.0283983.1424644.9463993.8364640.722
3993.9094640.6793994.6344640.007 3995.414639.6713995.7374639.4863996.3894639.156
3996.6824639.0813997.4554638.7593998.5654638.4163999.2264638.2783999.8984637.964
4001.6534636.8444003.0414636.0944003.4074635.9234005.162 4635.274005.5854635.025
4006.8574634.3554007.0514634.3224008.1294634.3044008.6724634.175 4009.44633.775
4009.8794633.5654010.4264633.2974011.3214632.7734012.1814632.3554013.216 4632.14
4013.9364631.943 4015.694632.1614019.1994632.0284019.5754631.9934020.9544631.961
4022.1194631.8244022.7094631.7934024.4634631.7884025.1864631.8134027.9734631.756
4029.6924631.569

Manning's n Values   num=   3
     Sta   n Val   Sta   n Val   Sta   n Val

```
       0    .055 3359.82     .033787.015    .055

Bank Sta: Left   Right    Coeff Contr.   Expan.
       3359.823787.015            .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0  3342.1  4635.6       F

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
    3297  4635.6    3323  4622.6
Downstream     num=       2
     Sta    Elev     Sta    Elev
    3374  4635.6    3400  4622.6

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
    3680  4622.6    3701  4633.1
Downstream     num=       2
     Sta    Elev     Sta    Elev
    3757  4622.6    3778  4633.1

Number of Piers =  6

Pier Data
Pier Station     Upstream=    3349    Downstream=    3426
Upstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6
Downstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6

Pier Data
Pier Station     Upstream=    3409    Downstream=    3486
Upstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6
Downstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6

Pier Data
Pier Station     Upstream=    3469    Downstream=    3546
Upstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6
Downstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6

Pier Data
Pier Station     Upstream=    3529    Downstream=    3606
Upstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6
Downstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6

Pier Data
Pier Station     Upstream=    3589    Downstream=    3666
Upstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6
Downstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6

Pier Data
Pier Station     Upstream=    3649    Downstream=    3726
Upstream     num=       2
    Width   Elev    Width   Elev
```

```
     1.5  4568.6     1.5  4635.6
Downstream     num=       2
    Width   Elev    Width   Elev
     1.5  4568.6     1.5  4635.6

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION


RIVER: KingsCynCreek
REACH: Reach1             RS: 5489.854

INPUT
Description:
Station Elevation Data    num=     471
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       04632.416     1.94632.383   3.1854632.317   4.5524632.481   4.892 4632.54
   5.8784632.551  11.719 4632.35  12.5074632.341  13.8334632.376  15.1324632.344
  16.8394632.415  25.3734632.469   27.084632.406  28.4174632.514  28.7874632.558
  35.0464632.703  35.6144632.683  39.0284632.438  40.7344632.362  47.5624632.309
  56.0964632.523  57.802  4632.5  58.9114632.548  59.5094632.602  68.0434632.427
  73.1644632.516  76.1464632.392  76.5774632.404  78.2844632.545  80.1244632.549
   81.454632.482  81.6984632.457  82.7754632.443  85.1114632.485  86.8184632.594
  88.5254632.625  91.9394632.591  93.3824632.692  93.6454632.694  94.1214632.662
  94.7084632.596  97.0594632.541 102.1794632.685 103.8864632.495  112.424632.605
 114.1274632.449 117.5414632.351 126.0754632.572 137.1344632.342 138.0224632.354
  138.464632.383 142.4374632.734 143.1434632.761 143.7634632.699 148.2634632.512
  149.974632.511 153.0444632.647 153.3834632.681  154.374632.655 157.0214632.457
 160.2114632.337 167.0384632.514 168.7454632.447 198.1564632.637 200.7584632.705
 223.6444632.754 224.0144632.777 225.7244632.772 227.2464632.841 227.8054632.851
 228.8624632.953 229.8854632.999 234.0464633.358 240.2884633.425 259.0124632.932
 267.6494632.945 300.6234632.523 303.2044632.555 326.6664632.048 329.0624632.053
 333.9064631.906 337.142 4631.93 340.3744631.834 341.1464631.781 342.6714631.771
 343.6074631.805 346.8394631.771 348.4754631.686 402.5684630.847  413.614630.831
 494.3924631.961 510.189 4632.47 539.6834632.956 541.2014633.021  551.664633.156
 553.4124633.233 560.2154633.324 563.8954633.492 575.7994633.755 584.169 4633.85
 585.3784633.901 592.7244633.895 596.1194633.999 599.5684633.927  606.86 4634.04
 608.1224634.009 617.6014634.017 620.099 4633.94 625.2324633.957 626.6784634.015
 628.3434634.025 635.4984633.906 639.0844633.978 681.6284633.366 758.9654631.066
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4013.9364631.943 4015.694632.1614019.1994632.0284019.5754631.9934020.9544631.961
4022.1194631.8244022.7094631.7934024.4634631.7884025.1864631.8134027.9734631.756
4029.6924631.569

Manning's n Values   num=   3
     Sta   n Val   Sta   n Val   Sta   n Val
       0   .055 3359.82   .033787.015   .055

Bank Sta: Left   Right   Lengths: Left Channel   Right   Coeff Contr.   Expan.
       3359.823787.015   221.64 310.62 443.05   .3   .5
Ineffective Flow   num=   1
   Sta L   Sta R   Elev Permanent
       0 3342.1 4635.6   F

CROSS SECTION OUTPUT Profile #100-yr FP

E.G. Elev (ft)	4628.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.055	0.030	0.055
W.S. Elev (ft)	4628.58	Reach Len. (ft)	221.64	310.62	443.05
Crit W.S. (ft)	4623.88	Flow Area (sq ft)	29.12	2695.87	27.50
E.G. Slope (ft/ft)	0.000158	Area (sq ft)	9953.29	2695.87	27.50
Q Total (cfs)	5744.00	Flow (cfs)	13.75	5719.93	10.32
Top Width (ft)	2265.59	Top Width (ft)	1814.86	427.19	23.54
Vel Total (ft/s)	2.09	Avg. Vel. (ft/s)	0.47	2.12	0.38
Max Chl Dpth (ft)	7.89	Hydr. Depth (ft)	1.64	6.31	1.17
Conv. Total (cfs)	457234.4	Conv. (cfs)	1094.3	455318.7	821.4
Length Wtd. (ft)	305.43	Wetted Per. (ft)	17.75	428.14	23.66
Min Ch El (ft)	4621.00	Shear (lb/sq ft)	0.02	0.06	0.01
Alpha	1.03	Stream Power (lb/ft s)	0.01	0.13	0.00
Frctn Loss (ft)	0.04	Cum Volume (acre-ft)	345.43	207.99	147.63
C & E Loss (ft)	0.01	Cum SA (acres)	88.78	23.96	55.50

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4629.73	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.030	
W.S. Elev (ft)	4629.68	Reach Len. (ft)	221.64	310.62	443.05
Crit W.S. (ft)	4623.88	Flow Area (sq ft)		3166.45	
E.G. Slope (ft/ft)	0.000095	Area (sq ft)		3166.45	
Q Total (cfs)	5744.00	Flow (cfs)		5744.00	
Top Width (ft)	427.19	Top Width (ft)		427.19	
Vel Total (ft/s)	1.81	Avg. Vel. (ft/s)		1.81	
Max Chl Dpth (ft)	8.69	Hydr. Depth (ft)		7.41	

Conv. Total (cfs)	589273.6	Conv. (cfs)	589273.6		
Length Wtd. (ft)	310.60	Wetted Per. (ft)	434.78		
Min Ch El (ft)	4621.00	Shear (lb/sq ft)	0.04		
Alpha	1.00	Stream Power (lb/ft s)	0.08		
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	90.56	221.70	37.52
C & E Loss (ft)	0.00	Cum SA (acres)	24.58	23.94	11.28

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION OUTPUT Profile #500-yr

			Left OB	Channel	Right OB
E.G. Elev (ft)	4630.21	Element			
Vel Head (ft)	0.15	Wt. n-Val.	0.055	0.030	0.055
W.S. Elev (ft)	4630.06	Reach Len. (ft)	221.64	310.62	443.05
Crit W.S. (ft)	4624.86	Flow Area (sq ft)	55.23	3325.39	73.85
E.G. Slope (ft/ft)	0.000265	Area (sq ft)	13004.34	3325.39	73.85
Q Total (cfs)	10624.00	Flow (cfs)	51.81	10522.91	49.28
Top Width (ft)	2751.87	Top Width (ft)	2285.31	427.19	39.36
Vel Total (ft/s)	3.08	Avg. Vel. (ft/s)	0.94	3.16	0.67
Max Chl Dpth (ft)	9.37	Hydr. Depth (ft)	3.12	7.78	1.88
Conv. Total (cfs)	652192.5	Conv. (cfs)	3180.7	645986.8	3025.0
Length Wtd. (ft)	305.63	Wetted Per. (ft)	17.75	428.14	39.55
Min Ch El (ft)	4621.00	Shear (lb/sq ft)	0.05	0.13	0.03
Alpha	1.05	Stream Power (lb/ft s)	0.05	0.41	0.02
Frctn Loss (ft)	0.07	Cum Volume (acre-ft)	496.48	258.22	259.72
C & E Loss (ft)	0.02	Cum SA (acres)	104.03	23.96	75.35

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION OUTPUT Profile #50-yr

			Left OB	Channel	Right OB
E.G. Elev (ft)	4627.68	Element			
Vel Head (ft)	0.05	Wt. n-Val.	0.055	0.030	0.055
W.S. Elev (ft)	4627.63	Reach Len. (ft)	221.64	310.62	443.05
Crit W.S. (ft)	4623.50	Flow Area (sq ft)	12.16	2287.03	9.83
E.G. Slope (ft/ft)	0.000154	Area (sq ft)	8236.33	2287.03	9.83
Q Total (cfs)	4298.00	Flow (cfs)	3.17	4292.20	2.63
Top Width (ft)	2171.03	Top Width (ft)	1730.16	427.19	13.67
Vel Total (ft/s)	1.86	Avg. Vel. (ft/s)	0.26	1.88	0.27
Max Chl Dpth (ft)	6.94	Hydr. Depth (ft)	0.69	5.35	0.72
Conv. Total (cfs)	346622.4	Conv. (cfs)	255.3	346154.9	212.2
Length Wtd. (ft)	306.03	Wetted Per. (ft)	17.75	428.14	13.75
Min Ch El (ft)	4621.00	Shear (lb/sq ft)	0.01	0.05	0.01
Alpha	1.02	Stream Power (lb/ft s)	0.00	0.10	0.00
Frctn Loss (ft)	0.04	Cum Volume (acre-ft)	263.89	178.54	94.79
C & E Loss (ft)	0.00	Cum SA (acres)	77.72	23.92	43.63

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION OUTPUT Profile #10-yr

			Left OB	Channel	Right OB
E.G. Elev (ft)	4626.33	Element			
Vel Head (ft)	0.02	Wt. n-Val.		0.030	0.055
W.S. Elev (ft)	4626.31	Reach Len. (ft)	221.64	310.62	443.05
Crit W.S. (ft)	4622.80	Flow Area (sq ft)		1726.60	0.07
E.G. Slope (ft/ft)	0.000076	Area (sq ft)	6022.48	1726.60	0.07
Q Total (cfs)	1903.00	Flow (cfs)		1903.00	0.00
Top Width (ft)	2093.27	Top Width (ft)	1670.84	421.25	1.18
Vel Total (ft/s)	1.10	Avg. Vel. (ft/s)		1.10	0.04
Max Chl Dpth (ft)	5.62	Hydr. Depth (ft)		4.10	0.06
Conv. Total (cfs)	218704.3	Conv. (cfs)		218704.0	0.3
Length Wtd. (ft)	307.58	Wetted Per. (ft)		422.19	1.19
Min Ch El (ft)	4621.00	Shear (lb/sq ft)		0.02	0.00
Alpha	1.00	Stream Power (lb/ft s)		0.02	0.00
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	167.99	138.44	25.02
C & E Loss (ft)	0.00	Cum SA (acres)	58.11	23.63	28.48

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 5179.23

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INPUT
Description:
Station Elevation Data    num=     498
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  15.2654637.333  36.8384637.406   49.144637.281  50.899 4637.16  52.0324637.014
  52.6594636.968  53.2994636.977   54.084636.921  59.6964636.874  60.9064636.589
  63.215 4636.12  87.531 4635.33  87.8474635.281  88.7984635.245  91.3664635.341
  92.6024635.264 107.8164635.042 109.0834634.943  110.724634.897 117.9584634.309
 125.5654634.015 126.5554634.039 127.5514634.094 138.8684634.051 140.9844633.892
 143.1014633.617 147.333 4633.26  149.454633.322 157.915 4632.75 174.8464632.345
 175.4434632.294 177.7754632.192 183.6044632.229 198.1264631.935 199.5414631.864
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1348.1174627.6591358.8744627.0941366.5934627.0631375.1214626.7531380.8064626.297
1382.092 4626.251387.2514626.6581387.9124626.6881424.864  4626.91444.7624626.732
1500.761 4626.95  1508.54626.8131542.828 4626.87 1557.044627.2221581.7754627.112
1585.4654626.9511598.7924626.8521611.6914626.989    16484626.7161652.967  4626.5
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1795.8094626.712 1796.984626.8051797.4344626.8661798.6514626.9481812.864 4626.72
1828.6284626.8131838.711  4626.5 1863.444626.6251864.0294626.5841864.5084626.478
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2417.7824620.7812433.5214621.375 2472.334621.5632488.6064621.469  2510.14620.794
2530.2194620.7812532.2864620.8752534.3544621.1562577.2294620.9162579.838 4620.98
2590.175 4620.812648.0644620.8062656.3334621.135 2683.214621.1172685.2914621.281
 2705.44 4621.43 2705.97 4621.26 2708.44 4621.02 2710.92 4620.92 2764.33  4620.9
  2766.9 4620.79  3444.1 4620.79 3446.92 4621.073470.9124621.1883485.384 4620.99
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4287.7064630.0764324.2794630.5994325.9424630.6774360.8534631.3134362.5164631.283
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4422.364 4630.684425.689 4630.54434.0014629.3174437.3264629.3044440.6514629.021
4453.9434629.2814493.8494629.6534494.8054629.622

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .055 3518.36 .03 3897.04 .055

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
3518.36 3897.04 466.41 463.4 468.06 .1 .3
Ineffective Flow num= 2
Sta L Sta R Elev Permanent
7 3270 4630 T
3270 3508 4624.48 T

CROSS SECTION OUTPUT Profile #100-yr FP

E.G. Elev (ft)	4628.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.055	0.030	0.055
W.S. Elev (ft)	4628.55	Reach Len. (ft)	466.41	463.40	468.06
Crit W.S. (ft)		Flow Area (sq ft)	1009.90	2676.66	153.51
E.G. Slope (ft/ft)	0.000126	Area (sq ft)	12496.62	2676.66	153.51
Q Total (cfs)	6313.00	Flow (cfs)	780.98	5480.57	51.45
Top Width (ft)	3115.37	Top Width (ft)	2577.84	378.68	158.85
Vel Total (ft/s)	1.64	Avg. Vel. (ft/s)	0.77	2.05	0.34
Max Chl Dpth (ft)	7.89	Hydr. Depth (ft)	4.07	7.07	0.97
Conv. Total (cfs)	561424.8	Conv. (cfs)	69454.0	487395.1	4575.7
Length Wtd. (ft)	464.03	Wetted Per. (ft)	248.66	379.73	159.47
Min Ch El (ft)	4620.65	Shear (lb/sq ft)	0.03	0.06	0.01
Alpha	1.37	Stream Power (lb/ft s)	0.02	0.11	0.00
Frctn Loss (ft)	0.04	Cum Volume (acre-ft)	288.32	188.84	146.71
C & E Loss (ft)	0.01	Cum SA (acres)	77.61	21.09	54.58

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4629.70	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.055	0.030	
W.S. Elev (ft)	4629.63	Reach Len. (ft)	466.41	463.40	468.06
Crit W.S. (ft)		Flow Area (sq ft)	8.39	3089.18	
E.G. Slope (ft/ft)	0.000106	Area (sq ft)	8.39	3089.18	
Q Total (cfs)	6313.00	Flow (cfs)	2.68	6310.33	
Top Width (ft)	380.29	Top Width (ft)	1.61	378.68	
Vel Total (ft/s)	2.04	Avg. Vel. (ft/s)	0.32	2.04	
Max Chl Dpth (ft)	8.98	Hydr. Depth (ft)	5.21	8.16	
Conv. Total (cfs)	614264.8	Conv. (cfs)	260.3	614004.4	
Length Wtd. (ft)	463.40	Wetted Per. (ft)	6.81	384.29	
Min Ch El (ft)	4620.65	Shear (lb/sq ft)	0.01	0.05	
Alpha	1.00	Stream Power (lb/ft s)	0.00	0.11	
Frctn Loss (ft)	0.05	Cum Volume (acre-ft)	90.53	199.40	37.52
C & E Loss (ft)	0.00	Cum SA (acres)	24.57	21.07	11.28

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4630.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.	0.055	0.030	0.055
W.S. Elev (ft)	4630.00	Reach Len. (ft)	466.41	463.40	468.06
Crit W.S. (ft)		Flow Area (sq ft)	1371.29	3227.67	489.93
E.G. Slope (ft/ft)	0.000212	Area (sq ft)	16358.84	3227.67	489.93
Q Total (cfs)	11660.00	Flow (cfs)	1684.32	9698.12	277.56
Top Width (ft)	3426.68	Top Width (ft)	2723.44	378.68	324.56
Vel Total (ft/s)	2.29	Avg. Vel. (ft/s)	1.23	3.00	0.57
Max Chl Dpth (ft)	9.35	Hydr. Depth (ft)	5.52	8.52	1.51

Conv. Total (cfs)	800543.6	Conv. (cfs)	115640.9	665846.1	19056.6
Length Wtd. (ft)	464.18	Wetted Per. (ft)	248.66	379.73	326.32
Min Ch El (ft)	4620.65	Shear (lb/sq ft)	0.07	0.11	0.02
Alpha	1.47	Stream Power (lb/ft s)	0.09	0.34	0.01
Frctn Loss (ft)	0.07	Cum Volume (acre-ft)	421.78	234.86	256.85
C & E Loss (ft)	0.01	Cum SA (acres)	91.29	21.09	73.50

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4627.63	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.055	0.030	0.055
W.S. Elev (ft)	4627.59	Reach Len. (ft)	466.41	463.40	468.06
Crit W.S. (ft)		Flow Area (sq ft)	772.21	2314.25	48.73
E.G. Slope (ft/ft)	0.000119	Area (sq ft)	10079.47	2314.25	48.73
Q Total (cfs)	4675.00	Flow (cfs)	484.88	4175.92	14.20
Top Width (ft)	2908.95	Top Width (ft)	2467.26	378.68	63.01
Vel Total (ft/s)	1.49	Avg. Vel. (ft/s)	0.63	1.80	0.29
Max Chl Dpth (ft)	6.94	Hydr. Depth (ft)	3.11	6.11	0.77
Conv. Total (cfs)	428160.6	Conv. (cfs)	44408.0	382451.8	1300.8
Length Wtd. (ft)	463.92	Wetted Per. (ft)	248.66	379.73	63.39
Min Ch El (ft)	4620.65	Shear (lb/sq ft)	0.02	0.05	0.01
Alpha	1.33	Stream Power (lb/ft s)	0.01	0.08	0.00
Frctn Loss (ft)	0.04	Cum Volume (acre-ft)	217.30	162.14	94.49
C & E Loss (ft)	0.00	Cum SA (acres)	67.04	21.05	43.24

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4626.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.055	0.030	0.055
W.S. Elev (ft)	4626.29	Reach Len. (ft)	466.41	463.40	468.06
Crit W.S. (ft)		Flow Area (sq ft)	450.49	1823.71	4.87
E.G. Slope (ft/ft)	0.000057	Area (sq ft)	7397.87	1823.71	4.87
Q Total (cfs)	2076.00	Flow (cfs)	136.41	1939.16	0.43
Top Width (ft)	1894.39	Top Width (ft)	1498.99	378.68	16.71
Vel Total (ft/s)	0.91	Avg. Vel. (ft/s)	0.30	1.06	0.09
Max Chl Dpth (ft)	5.64	Hydr. Depth (ft)	1.81	4.82	0.29
Conv. Total (cfs)	275273.4	Conv. (cfs)	18087.0	257128.7	57.6
Length Wtd. (ft)	463.72	Wetted Per. (ft)	248.66	379.73	16.83
Min Ch El (ft)	4620.65	Shear (lb/sq ft)	0.01	0.02	0.00
Alpha	1.28	Stream Power (lb/ft s)	0.00	0.02	0.00
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	133.85	125.78	24.99
C & E Loss (ft)	0.00	Cum SA (acres)	50.05	20.77	28.39

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 4715.834

INPUT
Description:
Station Elevation Data num= 500

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
04632.461	7.9574632.339	11.9274632.063	19.9294632.657	21.8524632.875					
22.294632.889	23.8374633.104	24.6514633.144	25.8234633.341	27.0124633.113					
27.8084633.085	28.7584633.156	29.7934633.167	30.5544633.158	31.7784633.058					
37.638 4632.87	39.7184632.662	41.7034632.667	42.364632.625	43.3244632.613					
43.6884632.652	44.7214632.611	47.6584632.374	58.8884632.182	59.569 4632.08					
60.0694632.043	60.8024632.058	61.2494632.113	69.5134632.249	84.861 4632.24					
85.3754632.201	109.1964632.219	109.6534632.205	111.1814632.084	112.0144632.063					
113.1954632.092	114.3764632.025	120.2784631.895	134.4454631.021	135.0024631.028					
135.6264630.981	136.8074630.777	136.987 4630.76	140.9574630.579	141.529 4630.58					
149.7934629.992	150.9744629.842	152.8684629.725	154.02 4629.76	154.5154629.794					
158.8234629.948	160.8084629.927	161.5994629.987	168.5864630.216	169.8634630.159					
179.3084630.104	180.4884630.151	181.6694630.029	184.6294629.938	185.2114629.959					
188.9774629.957	191.894629.803	192.5694629.789	195.8364629.873	198.1974630.063					
199.3784630.105	206.4614630.718	207.6424630.762	208.454630.876	209.3684630.935					
210.0034630.935	215.1954631.256	216.394631.261	218.3754631.397	222.9894631.525					
226.3164631.756	232.2714631.804	233.6154631.892	234.2564631.903	236.2414631.861					

238.3374631.702 239.5174631.842 240.2114632.003 240.6984632.021 241.8794631.946
242.196 4631.94 244.1824631.805 245.424631.789 246.1674631.738 247.7824631.787
248.1524631.771 262.0474631.846 270.5434632.165 273.4564632.008 300.9084631.953
303.7344631.806 313.659 4631.95 313.8944631.938 323.3394631.904 324.5194631.917
325.74631.853 326.8814631.906 327.5554631.884 333.514632.036 341.0484631.991
342.228 4631.93 346.9514631.872 347.4064631.839 356.3954631.807 357.331 4631.77
359.3164631.799 360.8484631.726 361.3014631.729 363.2864631.672 364.659 4631.74
367.257 4632 369.2424631.938 375.4134632.031 379.1674631.888 385.914631.769
401.0034631.083 402.988 4631.05 403.9174630.905 418.0594630.313 421.614630.281
425.161 4629.75 454.264629.966 489.0774629.025 492.6284629.427 510.3844627.125
517.485 4625.75 528.1374624.386 535.2394622.688 552.9944622.531 553.5574622.566
560.0964622.531 560.7524622.609 561.1994622.687 562.1914622.935 563.6464623.378
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3090.549 4626.413091.6774626.3273093.4264626.5473100.4224626.6483100.7634626.638
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3110.9174626.5613114.8074626.5313116.0844626.5893116.3374626.5783117.3614626.475
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3152.8944626.807 3153.114626.8183154.3864626.9733154.6434626.9883156.3924627.219
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3163.3884627.8173168.4314628.0313187.875 4628.433189.6254628.5383192.6894628.523
3194.8724628.6073201.868 4628.653209.2864628.4813210.614 4628.533213.1174628.288
3214.1124628.2643216.9474627.883 3217.614627.8333219.3594627.597 3219.54627.592
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3236.8494626.7873238.6524626.9383239.9284626.9443240.3484626.9883241.2054627.218
3243.5234627.6553243.8464627.6893245.0354627.7143245.5954627.6813246.312 4627.71
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3347.1754628.8963348.4524629.2333371.528 4632.5 3372.714632.4383373.2774632.358
3373.9874632.4093374.5094632.5363375.0264632.6223375.2644632.605 3376.544632.323
3376.7754632.3043377.8174632.4063386.7544632.552 3387.274632.5433389.019 4632.68
3389.3084632.6853396.9684632.5533397.764 4632.593398.2454632.6383404.629 4633.05
3405.9064633.0623415.2554633.4493417.0044633.4043418.7534633.4963420.4634633.456

```
Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .042355.483     .03 2743.62     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      2355.483 2743.62           503.66  406.07  304.21             .1       .3
Ineffective Flow     num=       3
   Sta L   Sta R    Elev  Permanent
   68.23    1750    4630       T
    1750 2345.13  4624.5       T
 2795.333420.463 4631.64       T

CROSS SECTION OUTPUT  Profile #100-yr FP

  E.G. Elev (ft)           4628.55    Element                  Left OB    Channel   Right OB
  Vel Head (ft)               0.04    Wt. n-Val.                0.040      0.030      0.040
  W.S. Elev (ft)           4628.52    Reach Len. (ft)          503.66     406.07     304.21
  Crit W.S. (ft)                      Flow Area (sq ft)       2433.32    3150.98      59.67
  E.G. Slope (ft/ft)      0.000073    Area (sq ft)           10062.61    3150.98     848.97
  Q Total (cfs)            7372.00    Flow (cfs)              1956.23    5383.25      32.52
  Top Width (ft)           2651.21    Top Width (ft)          1855.84     388.14     407.23
  Vel Total (ft/s)            1.31    Avg. Vel. (ft/s)           0.80       1.71       0.55
  Max Chl Dpth (ft)           9.34    Hydr. Depth (ft)           4.02       8.12       2.27
  Conv. Total (cfs)       860777.2    Conv. (cfs)            228415.1   628564.6     3797.4
  Length Wtd. (ft)          420.38    Wetted Per. (ft)         605.78     389.85      26.61
  Min Ch El (ft)           4619.18    Shear (lb/sq ft)           0.02       0.04       0.01
  Alpha                       1.35    Stream Power (lb/ft s)     0.01       0.06       0.01
  Frctn Loss (ft)             0.04    Cum Volume (acre-ft)     167.54     157.84     141.32
  C & E Loss (ft)             0.00    Cum SA (acres)            53.87      17.01      51.54


Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #100-yr FW

  E.G. Elev (ft)           4629.65    Element                  Left OB    Channel   Right OB
  Vel Head (ft)               0.07    Wt. n-Val.                0.040      0.030
  W.S. Elev (ft)           4629.59    Reach Len. (ft)          503.66     406.07     304.21
  Crit W.S. (ft)                      Flow Area (sq ft)          5.24    3556.62
  E.G. Slope (ft/ft)      0.000093    Area (sq ft)               5.24    3556.62
  Q Total (cfs)            7372.00    Flow (cfs)                 1.67    7370.33
  Top Width (ft)            386.97    Top Width (ft)             1.00     385.97
  Vel Total (ft/s)            2.07    Avg. Vel. (ft/s)           0.32       2.07
  Max Chl Dpth (ft)          10.41    Hydr. Depth (ft)           5.22       9.21
  Conv. Total (cfs)       766396.6    Conv. (cfs)              173.5   766223.1
  Length Wtd. (ft)          406.08    Wetted Per. (ft)           6.22     392.08
  Min Ch El (ft)           4619.18    Shear (lb/sq ft)           0.00       0.05
  Alpha                       1.00    Stream Power (lb/ft s)     0.00       0.11
  Frctn Loss (ft)             0.04    Cum Volume (acre-ft)      90.46     164.05      37.52
  C & E Loss (ft)             0.00    Cum SA (acres)            24.56      17.00      11.28


CROSS SECTION OUTPUT  Profile #500-yr

  E.G. Elev (ft)           4630.06    Element                  Left OB    Channel   Right OB
  Vel Head (ft)               0.07    Wt. n-Val.                0.040      0.030      0.040
  W.S. Elev (ft)           4629.99    Reach Len. (ft)          503.66     406.07     304.21
  Crit W.S. (ft)                      Flow Area (sq ft)       3323.51    3721.62     102.52
  E.G. Slope (ft/ft)      0.000123    Area (sq ft)           12824.74    3721.62    1573.73
  Q Total (cfs)           13546.00    Flow (cfs)              4258.21    9197.45      90.35
  Top Width (ft)           2904.92    Top Width (ft)          1957.97     388.14     558.81
  Vel Total (ft/s)            1.90    Avg. Vel. (ft/s)           1.28       2.47       0.88
  Max Chl Dpth (ft)          10.81    Hydr. Depth (ft)           5.49       9.59       3.18
  Conv. Total (cfs)      1221721.0     Conv. (cfs)            384050.0   829522.6     8148.3
  Length Wtd. (ft)          423.01    Wetted Per. (ft)         605.78     389.85      32.76
  Min Ch El (ft)           4619.18    Shear (lb/sq ft)           0.04       0.07       0.02
  Alpha                       1.30    Stream Power (lb/ft s)     0.05       0.18       0.02
  Frctn Loss (ft)             0.08    Cum Volume (acre-ft)     265.54     197.90     245.76
  C & E Loss (ft)             0.01    Cum SA (acres)            66.23      17.01      68.75


Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #50-yr

  E.G. Elev (ft)           4627.59    Element                  Left OB    Channel   Right OB
  Vel Head (ft)               0.03    Wt. n-Val.                0.040      0.030      0.040
  W.S. Elev (ft)           4627.56    Reach Len. (ft)          503.66     406.07     304.21
  Crit W.S. (ft)                      Flow Area (sq ft)       1852.67    2778.76      36.21
  E.G. Slope (ft/ft)      0.000069    Area (sq ft)            8286.43    2778.76     497.53
  Q Total (cfs)            5471.00    Flow (cfs)              1208.27    4247.51      15.22
  Top Width (ft)           2567.84    Top Width (ft)          1848.44     388.14     331.26
  Vel Total (ft/s)            1.17    Avg. Vel. (ft/s)           0.65       1.53       0.42
  Max Chl Dpth (ft)           8.38    Hydr. Depth (ft)           3.06       7.16       1.60
  Conv. Total (cfs)       656586.2    Conv. (cfs)            145007.4   509752.6     1826.2
```

Length Wtd. (ft)	418.04	Wetted Per. (ft)	605.78	389.85	22.89
Min Ch El (ft)	4619.18	Shear (lb/sq ft)	0.01	0.03	0.01
Alpha	1.39	Stream Power (lb/ft s)	0.01	0.05	0.00
Frctn Loss (ft)	0.04	Cum Volume (acre-ft)	118.97	135.05	91.56
C & E Loss (ft)	0.00	Cum SA (acres)	43.94	16.97	41.12

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4626.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.040	0.030	0.040
W.S. Elev (ft)	4626.28	Reach Len. (ft)	503.66	406.07	304.21
Crit W.S. (ft)		Flow Area (sq ft)	1076.31	2281.08	10.23
E.G. Slope (ft/ft)	0.000033	Area (sq ft)	5927.26	2281.08	132.88
Q Total (cfs)	2452.00	Flow (cfs)	337.77	2112.73	1.51
Top Width (ft)	2398.61	Top Width (ft)	1813.86	388.14	196.61
Vel Total (ft/s)	0.73	Avg. Vel. (ft/s)	0.31	0.93	0.15
Max Chl Dpth (ft)	7.10	Hydr. Depth (ft)	1.78	5.88	0.57
Conv. Total (cfs)	425780.8	Conv. (cfs)	58652.3	366867.0	261.5
Length Wtd. (ft)	413.63	Wetted Per. (ft)	605.78	389.85	17.92
Min Ch El (ft)	4619.18	Shear (lb/sq ft)	0.00	0.01	0.00
Alpha	1.42	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	62.51	103.95	24.25
C & E Loss (ft)	0.00	Cum SA (acres)	32.31	16.70	27.25

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 4309.763

INPUT
Description:
Station Elevation Data num= 500

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4634.54	4.1	4634.58	51.53	4634	92.7	4634	93.2	4633.99
96.01	4633.93	195.27	4632	312.78	4632	325.19	4632.47	369.45	4633.11
390.51	4633.5	425.27	4634	426.77	4634.68	428.52	4634.68	429.21	4634.69
429.55	4634.56	431.04	4634.15	434.99	4633.01	440.29	4631.79	446.3	4630.38
448.94	4630.3	452.1	4630.18	458.16	4629.9	465.93	4629.5	466.39	4629.43
474.2	4628.32	474.9	4628.29	486.1	4627.61	487.81	4627.56	489.64	4627.61
495.13	4627.75	497.98	4627.88	501.94	4627.87	505.15	4627.89	507.46	4627.85
512.31	4627.78	519.04	4627.72	519.78	4627.71	521.71	4627.72	532.11	4627.73
532.67	4627.74	536.35	4627.77	539.65	4627.8	542.48	4627.83	545.13	4628.02
553.34	4628.66	556.79	4628.71	565.1	4628.92	572.82	4628.42	581.96	4628.37
584.47	4628.33	589.96	4628.27	594.93	4628.21	597.97	4628.19	605.38	4628.24
607.23	4628.23	610.66	4628.22	613.29	4628.25	616.54	4628.3	621.28	4628.36
622.53	4628.38	626.12	4628.4	630.84	4628.45	636.75	4628.59	638	4628.6
642.07	4628.7	646	4628.79	647.2	4628.83	654.01	4628.99	657.66	4629.04
662.01	4629.09	670.79	4629.18	673.56	4629.09	678	4628.73	683.93	4627.97
687.12	4627.76	689.4	4627.98	691.38	4628.31	692.91	4628.36	701.34	4628.37
703.31	4628.4	706.74	4628.46	707.09	4628.47	707.33	4627.97	708.79	4627.98
723.7	4628.55	727.66	4628.71	728.87	4628.77	731.09	4628.84	755.44	4629.56
757.48	4629.61	757.7	4630.11	760.97	4630.14	761.38	4630.15	764.93	4630.1
767.88	4630.04	770.18	4630.31	771.55	4630.41	772.99	4630.66	777.79	4631.78
781.59	4632.63	783.31	4632.9	785.22	4633.18	792.8	4634.86	795.24	4634.72
801.28	4634.24	803.49	4634.05	806.14	4633.84	807.81	4633.94	810.77	4634.28
815.76	4634.93	816.96	4635.02	818.35	4635.07	824.95	4635.34	830.12	4635.57
835.4	4635.8	838.13	4635.87	845.86	4636.01	847.04	4636.03	854.14	4636.17
856.31	4636.18	862.15	4636.16	866.77	4636.14	870.15	4636.16	877.23	4636.29
878.16	4636.31	886.16	4636.39	887.68	4636.41	894.17	4636.43	902.17	4636.51
908.59	4636.57	910.18	4636.58	918.18	4636.61	919.05	4636.61	926.19	4636.64
929.5	4636.63	935.74	4636.48	941.17	4636.33	942.12	4636.31	944.45	4636.24
948.52	4636.11	949.77	4636.06	952.1	4635.83	959.91	4635.18	962.06	4635.21
962.77	4635.25	965.31	4635.23	966.4	4635.21	967.75	4635.27	977.64	4635.54
981.78	4635.65	983.68	4635.72	990.23	4635.94	993.41	4636.08	996.35	4636.26
997.46	4636.29	1002.69	4636.07	1006.24	4635.99	1014.25	4635.85	1017.84	4635.72
1022.25	4635.58	1023.6	4635.54	1030.26	4635.41	1034.06	4635.31	1041.21	4635.21
1044.52	4635.18	1046.27	4635.15	1052	4634.96	1054.97	4634.87	1062.28	4634.63
1065.43	4634.52	1076.63	4634.14	1080.63	4633.91	1082.37	4633.99	1089.62	4634.11
1090.86	4634.15	1092.9	4633.98	1097.9	4633.62	1100.67	4633.51	1101.53	4633.39
1103.16	4633.63	1104.75	4633.79	1106.66	4633.97	1115.07	4634.56	1117.7	4634.77
1118.32	4634.79	1120.33	4634.88	1126.32	4635.14	1128.16	4635.21	1134.33	4635.45
1138.62	4635.58	1142.34	4635.67	1149.07	4635.94	1150.34	4635.97	1154.49	4636.05
1158.35	4636.11	1159.53	4636.15	1166.35	4636.26	1169.98	4636.31	1174.36	4636.4
1180.44	4636.5	1182.36	4636.52	1190.89	4636.52	1203.01	4636.37	1205.84	4636.26
1207.3	4636.12	1210.27	4635.73	1213.35	4635.87	1215.33	4635.99	1222	4635.96
1222.81	4635.96	1230.39	4636.04	1232.72	4636.1	1237.09	4636.27	1243.88	4636.64
1245.04	4636.71	1248.28	4636.89	1251.22	4637	1254.92	4637.17	1257.61	4637.17
1262.21	4637.21	1263.42	4637.2	1263.95	4637.22	1267.22	4637.24	1274.54	4637.36

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 1278.43 4637.44 1284.99 4637.55 1291.13 4637.46 1294.44  4637.4 1295.45 4637.37
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 1314.14 4637.33 1315.02  4637.4 1320.52  4637.5 1323.86 4637.55 1326.82 4637.61
 1334.46 4637.75 1337.27 4637.75 1342.47 4637.69 1347.73 4637.68 1350.48 4637.61
 1358.18  4637.5 1359.45 4637.49 1366.49 4637.45 1368.64 4637.41 1374.49 4637.41
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 1441.83 4638.19 1446.54 4638.18 1452.28 4638.16 1454.55 4638.13 1461.94 4638.11
 1470.56 4638.01 1473.19 4637.97 1478.56 4637.86 1483.65 4637.73 1486.57 4637.66
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 1589.86 4633.62 1590.95 4633.54 1595.73 4633.28 1602.47 4633.89 1605.77 4634.22
 1606.16 4634.23 1607.76 4634.12 1614.65 4634.06 1619.57 4634.08 1622.66 4634.03
 1630.03 4634.22 1632.74 4634.25 1638.67 4634.34 1640.48 4634.38 1646.67 4634.47
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 1724.13 4634.65 1726.73 4634.64 1735.22 4634.65 1742.74  4634.6 1745.04 4634.58
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 1769.38 4634.65 1774.76 4634.63 1776.41 4634.65 1782.77 4634.67 1786.86 4634.65
 1790.77 4634.64 1797.32 4634.67 1803.55 4634.76 1806.78 4634.81 1814.79 4634.88
 1818.23 4634.86 1820.74 4634.79 1822.79 4634.74 1828.68 4634.59 1830.06 4634.59
 1838.06 4634.68 1845.06 4634.41  1849.6 4634.19 1854.81 4633.88 1860.05 4633.54
 1862.82 4633.29 1870.51 4632.74 1870.83 4632.72 1878.83 4631.95 1880.96 4631.74
 1886.84 4631.17 1891.42 4630.76 1894.84 4630.48 1901.87 4629.87 1902.85 4629.79
 1906.03 4629.49 1910.85 4629.06 1912.33 4628.94 1918.86 4628.48 1922.78 4628.22
 1927.63 4627.78 1930.26 4627.59 1934.73  4626.8 1938.66 4626.26 1939.81 4626.18
 1949.94 4625.43 1954.35  4624.8 1954.68  4624.8 1964.61 4624.76 1969.64  4624.8
 1975.35 4624.91 1979.44 4624.73 1983.07 4624.53 1988.32 4624.39 1991.16 4624.35
 1993.89  4624.1 1995.45 4623.98 2001.93 4623.37 2002.18 4623.36 2003.35 4623.37
 2005.21 4623.36 2007.78 4623.02 2008.62 4622.92 2010.08 4622.95 2011.72 4622.96
 2015.52    4623 2017.53 4623.04 2018.17 4623.08  2018.5 4623.15 2022.05 4623.64
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 2228.82 4619.09 2232.45 4618.66 2235.03  4619.2 2237.45 4619.66 2248.35 4619.85
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  2451.5 4625.15  2455.4 4625.14 2457.47 4625.74 2460.78 4626.69 2470.34 4629.56
 2471.64 4629.98 2472.17 4630.07 2479.28 4631.36 2483.71 4632.12 2483.96 4632.16
 2486.56 4631.95 2507.06 4630.26 2522.13 4629.77  2528.5 4629.54 2529.81 4629.53
 2530.01 4630.03 2530.31 4630.03 2534.92 4629.86 2535.73 4629.84 2536.49 4629.79
 2541.97 4629.29 2546.19 4628.83 2547.55    4626 2874.93    4626 2915.16 4627.61
    2925    4628 3005.02    4628    3022 4628.73 3045.65 4629.74 3050.54    4630
  3051.5 4630.15 3061.81    4632 3062.67    4632  3078.6 4632.48 3090.86 4632.95

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04 2190.51     .03 3090.86     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          2048 2438.27           278.33  386.08  476.37             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0 1438.53               F
 2483.96 3090.86               F

CROSS SECTION OUTPUT  Profile #100-yr FP

  E.G. Elev (ft)           4628.51    Element                  Left OB    Channel   Right OB
  Vel Head (ft)               0.08    Wt. n-Val.                0.040      0.033     0.030
  W.S. Elev (ft)           4628.43    Reach Len. (ft)         278.33     386.08     476.37
  Crit W.S. (ft)                      Flow Area (sq ft)       464.23    3427.04      73.12
  E.G. Slope (ft/ft)      0.000149    Area (sq ft)            525.10    3427.04     976.41
  Q Total (cfs)            8529.00    Flow (cfs)              494.43    7952.34      82.22
  Top Width (ft)           1186.01    Top Width (ft)          298.89     390.27     496.84
  Vel Total (ft/s)            2.15    Avg. Vel. (ft/s)          1.07       2.32       1.12
  Max Chl Dpth (ft)           9.77    Hydr. Depth (ft)          3.62       8.78       2.58
  Conv. Total (cfs)       699568.4    Conv. (cfs)             40554.7   652269.8     6744.0
  Length Wtd. (ft)          381.11    Wetted Per. (ft)        128.73     392.53      28.78
  Min Ch El (ft)           4618.66    Shear (lb/sq ft)          0.03       0.08       0.02
  Alpha                       1.10    Stream Power (lb/ft s)    0.04       0.19       0.03
  Frctn Loss (ft)             0.04    Cum Volume (acre-ft)    106.33     127.18     134.95
  C & E Loss (ft)             0.01    Cum SA (acres)           41.41      13.38      48.38
```

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4629.61	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.033	
W.S. Elev (ft)	4629.53	Reach Len. (ft)	278.33	386.08	476.37
Crit W.S. (ft)		Flow Area (sq ft)		3859.42	
E.G. Slope (ft/ft)	0.000119	Area (sq ft)		3859.42	
Q Total (cfs)	8529.00	Flow (cfs)		8529.00	
Top Width (ft)	390.27	Top Width (ft)		390.27	
Vel Total (ft/s)	2.21	Avg. Vel. (ft/s)		2.21	
Max Chl Dpth (ft)	10.87	Hydr. Depth (ft)		9.89	
Conv. Total (cfs)	782902.4	Conv. (cfs)		782902.4	
Length Wtd. (ft)	386.08	Wetted Per. (ft)		402.41	
Min Ch El (ft)	4618.66	Shear (lb/sq ft)		0.07	
Alpha	1.00	Stream Power (lb/ft s)		0.16	
Frctn Loss (ft)	0.04	Cum Volume (acre-ft)	90.43	129.48	37.52
C & E Loss (ft)	0.00	Cum SA (acres)	24.55	13.38	11.28

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4629.97	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.	0.040	0.033	0.030
W.S. Elev (ft)	4629.78	Reach Len. (ft)	278.33	386.08	476.37
Crit W.S. (ft)		Flow Area (sq ft)	650.23	3955.85	114.51
E.G. Slope (ft/ft)	0.000296	Area (sq ft)	1050.74	3955.85	1679.84
Q Total (cfs)	15608.00	Flow (cfs)	1127.43	14258.88	221.69
Top Width (ft)	1383.13	Top Width (ft)	442.15	390.27	550.72
Vel Total (ft/s)	3.31	Avg. Vel. (ft/s)	1.73	3.60	1.94
Max Chl Dpth (ft)	11.12	Hydr. Depth (ft)	4.48	10.14	3.50
Conv. Total (cfs)	907206.9	Conv. (cfs)	65531.5	828789.9	12885.7
Length Wtd. (ft)	379.57	Wetted Per. (ft)	145.51	392.53	33.44
Min Ch El (ft)	4618.66	Shear (lb/sq ft)	0.08	0.19	0.06
Alpha	1.11	Stream Power (lb/ft s)	0.14	0.67	0.12
Frctn Loss (ft)	0.08	Cum Volume (acre-ft)	185.32	162.11	234.40
C & E Loss (ft)	0.02	Cum SA (acres)	52.35	13.38	64.88

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4627.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.040	0.033	0.030
W.S. Elev (ft)	4627.49	Reach Len. (ft)	278.33	386.08	476.37
Crit W.S. (ft)		Flow Area (sq ft)	349.66	3061.54	48.09
E.G. Slope (ft/ft)	0.000123	Area (sq ft)	349.66	3061.54	564.06
Q Total (cfs)	6341.00	Flow (cfs)	298.46	6002.19	40.36
Top Width (ft)	897.94	Top Width (ft)	117.17	390.27	390.50
Vel Total (ft/s)	1.83	Avg. Vel. (ft/s)	0.85	1.96	0.84
Max Chl Dpth (ft)	8.83	Hydr. Depth (ft)	2.98	7.84	1.91
Conv. Total (cfs)	570836.3	Conv. (cfs)	26867.9	540335.1	3633.3
Length Wtd. (ft)	382.29	Wetted Per. (ft)	117.53	392.53	25.52
Min Ch El (ft)	4618.66	Shear (lb/sq ft)	0.02	0.06	0.01
Alpha	1.09	Stream Power (lb/ft s)	0.02	0.12	0.01
Frctn Loss (ft)	0.04	Cum Volume (acre-ft)	69.05	107.82	87.85
C & E Loss (ft)	0.00	Cum SA (acres)	32.57	13.34	38.60

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4626.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.040	0.033	0.030
W.S. Elev (ft)	4626.25	Reach Len. (ft)	278.33	386.08	476.37
Crit W.S. (ft)		Flow Area (sq ft)	209.36	2579.04	19.52
E.G. Slope (ft/ft)	0.000047	Area (sq ft)	209.36	2579.04	103.30
Q Total (cfs)	2863.00	Flow (cfs)	81.92	2774.81	6.27
Top Width (ft)	854.34	Top Width (ft)	109.25	390.27	354.82
Vel Total (ft/s)	1.02	Avg. Vel. (ft/s)	0.39	1.08	0.32
Max Chl Dpth (ft)	7.59	Hydr. Depth (ft)	1.92	6.61	0.93
Conv. Total (cfs)	418681.0	Conv. (cfs)	11979.8	405784.8	916.5
Length Wtd. (ft)	384.16	Wetted Per. (ft)	109.51	392.53	21.16
Min Ch El (ft)	4618.66	Shear (lb/sq ft)	0.01	0.02	0.00
Alpha	1.08	Stream Power (lb/ft s)	0.00	0.02	0.00
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	27.03	81.30	23.43
C & E Loss (ft)	0.00	Cum SA (acres)	21.19	13.07	25.32

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 3923.687

INPUT
Description:
Station Elevation Data num= 499

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4632	132	4632	231.8	4634.32	232.53	4634.33	235.84	4633.29
237.19	4632.85	241.5	4631.22	245.79	4630.07	250.97	4628.72	252.76	4628.24
253.47	4628.26	256.77	4628.24	264.93	4628.22	266.96	4628.21	270.51	4628.12
276.99	4627.95	286.39	4627.89	289.07	4627.86	291.99	4627.76	299.02	4627.47
303.22	4627.63	310.56	4627.89	315.19	4627.58	319.28	4627.31	322.27	4627.37
330.68	4627.64	336.43	4627.75	339.15	4627.84	341.91	4627.97	349.12	4628.33
351.33	4627.85	352.45	4627.69	354.66	4627.75	361.01	4628.08	368.3	4628.29
372.67	4628.36	375.59	4628.38	380.45	4628.43	382.88	4628.46	384.33	4628.46
390.17	4628.42	395.99	4628.43	399.89	4628.49	404.74	4628.56	407.65	4628.58
412.03	4628.58	419.31	4628.75	426.6	4628.64	430.97	4628.65	433.89	4628.63
438.75	4628.65	442.63	4628.68	448.46	4628.64	454.29	4628.62	458.18	4628.64
465.95	4628.6	477.6	4628.71	484.9	4628.72	489.27	4628.77	492.18	4628.79
499.47	4628.88	500.93	4628.89	512.48	4628.62	516.1	4628.56	516.62	4628.65
517.68	4628.78	523.49	4629.52	524.86	4629.59	526.74	4629.49	529.06	4629.2
530.17	4628.97	533.18	4628.74	535.46	4629.16	542.34	4629.25	543.3	4629.26
547.06	4629.09	550.32	4629	555.55	4629.12	560.64	4629.23	562.62	4629.69
568.92	4631.35	570.49	4631.9	579.21	4634.54	583.04	4635.77	586.84	4635.96
590.17	4636.11	592.03	4636.18	596.57	4636.34	600.41	4636.4	604.78	4636.33
612.35	4636.48	614.56	4636.51	619.92	4636.57	626.83	4636.6	632.07	4636.62
635.09	4636.54	639.25	4636.33	642.95	4636.35	643.87	4636.35	644.67	4636.37
644.88	4635.87	647.45	4635.87	667.84	4636.12	678.09	4636.19	690.47	4636.2
690.67	4636.7	690.97	4636.7	691.69	4636.5	692.92	4636.25	695.14	4637.02
697.37	4637.68	699.54	4637.75	708.6	4637.86	709.92	4637.9	710.74	4637.9
718.31	4638.02	720.87	4638.04	725.88	4638.07	731.82	4638.16	733.45	4638.18
737.1	4638.2	741.02	4638.29	742.77	4638.28	748.59	4638.27	753.72	4638.16
756.16	4638.14	761.61	4638.07	763.72	4638.06	764.67	4638.04	771.29	4638.06
778.86	4638.08	786.43	4638	795.02	4637.87	796.67	4637.86	803.4	4637.84
806.92	4637.82	811.77	4637.84	817.16	4637.79	820.15	4637.8	827.4	4637.76
828.52	4637.75	833.52	4637.79	837.65	4637.81	845.27	4637.76	847.89	4637.75
853.65	4637.85	858.14	4637.96	865.21	4637.99	868.38	4637.99	878.62	4638.19
879.42	4638.19	887.14	4638.12	888.87	4638.13	895.52	4638.04	899.11	4638.02
903.89	4637.98	909.35	4637.89	912.27	4637.92	919.6	4637.95	920.64	4637.96
929.84	4637.98	937.39	4638	940.09	4638.03	945.77	4638.07	950.33	4638.16
954.14	4638.19	962.52	4638.24	970.82	4638.18	971.22	4638.17	979.26	4638.15
981.06	4638.14	987.64	4638.13	996.01	4638.2	1001.55	4638.19	1004.39	4638.22
1017.12	4638.48	1021.14	4638.56	1029.51	4638.74	1032.28	4638.85	1037.89	4638.83
1042.52	4638.88	1046.26	4638.98	1052.77	4638.92	1054.64	4638.92	1071.39	4639
1073.25	4639.02	1079.76	4639.01	1083.5	4639.06	1088.14	4639.09	1093.74	4639.2
1096.51	4639.26	1103.99	4639.37	1104.88	4639.38	1108.91	4639.37	1113.26	4639.35
1121.63	4639.35	1124.47	4639.34	1130.01	4639.25	1134.72	4639.22	1138.38	4639.18
1144.96	4639.07	1146.76	4639.05	1154.81	4638.97	1155.2	4638.97	1163.51	4638.79
1165.45	4638.77	1171.88	4638.66	1175.69	4638.58	1180.26	4638.51	1185.94	4638.51
1188.63	4638.54	1196.18	4638.65	1197.01	4638.65	1200.71	4638.63	1205.38	4638.6
1206.42	4638.59	1213.76	4638.56	1216.67	4638.52	1222.13	4638.43	1226.91	4638.44
1230.5	4638.41	1237.15	4638.3	1238.88	4638.29	1246.61	4638.26	1247.4	4638.26
1255.63	4638.19	1257.64	4638.2	1264	4638.32	1272.38	4638.36	1278.13	4638.31
1280.75	4638.27	1288.37	4638.17	1289.13	4638.17	1292.51	4638.13	1298.62	4638.08
1308.86	4637.94	1314.25	4637.8	1319.1	4637.78	1322.63	4637.77	1329.35	4637.67
1331	4637.66	1338.41	4637.54	1339.59	4637.51	1347.75	4637.27	1349.84	4637.22
1353.12	4637.11	1360.08	4636.9	1364.5	4636.75	1370.32	4636.56	1372.87	4636.44
1381.25	4636.08	1389.62	4635.67	1391.74	4635.65	1397.35	4635.58	1400.24	4635.47
1403.57	4635.16	1406.36	4634.93	1413.76	4635.03	1414.26	4635.04	1414.77	4635.01
1417.12	4634.93	1421.89	4634.78	1423.12	4634.72	1430.2	4634.7	1431.79	4634.69
1439.87	4634.78	1442.03	4634.81	1448.25	4634.75	1452.27	4634.68	1456.62	4634.58
1462.52	4634.58	1465	4634.57	1472.76	4634.56	1476.1	4634.47	1481.75	4634.3
1483	4634.24	1490.12	4633.8	1493.25	4633.61	1498.17	4633.25	1503.49	4632.83
1506.87	4632.57	1513.74	4632.1	1522	4631.44	1523.98	4631.27	1531.99	4630.49
1534.22	4630.26	1540.37	4629.57	1548.74	4628.73	1554.71	4628.23	1557.12	4628.05
1564.95	4627.56	1565.49	4627.51	1567.9	4627.33	1575.2	4626.73	1582.24	4626.14
1585.44	4625.93	1590.62	4625.64	1595.69	4625.31	1598.87	4625.21	1602	4625.08
1607.67	4624.93	1611.51	4624.8	1617.3	4624.65	1627.56	4624.34	1632.97	4624.13
1634.85	4624.07	1635.57	4624.01	1638.39	4623.7	1647.6	4623.73	1649.06	4623.73
1650.35	4623.82	1657.47	4624.47	1663.35	4624.98	1665.59	4625.17	1666.33	4625.2
1677.64	4625.25	1682.74	4625.28	1687.88	4625.3	1691.11	4625.29	1698.12	4625.33
1707.86	4625.33	1708.37	4625.34	1716.24	4625.35	1718.61	4625.35	1724.61	4625.29
1728.85	4625.27	1735.54	4625.26	1739.46	4625.23	1743.33	4625.16	1745.63	4625.16
1755.91	4625.04	1767.92	4624.73	1769.83	4624.61	1774.86	4624.61	1781.28	4624.56
1794.4	4624.55	1796	4624.47	1806.43	4624.01	1810.97	4624.23	1813.89	4624.4
1816.99	4624.52	1821.08	4624.71	1824.3	4624.68	1827.33	4624.67	1828.9	4624.65
1844.58	4624.68	1845.75	4624.7	1848.73	4624.42	1859.15	4624.3	1865.25	4624.19
1868.05	4624.13	1870.98	4624.06	1871.69	4623.96	1874.98	4623.56	1876.07	4623.2
1878.46	4622.33	1881.8	4621.11	1888.76	4618.62	1895	4618.55	1909.81	4618.46
1916.19	4618.46	1932.98	4618.53	1945.95	4618.59	1960.09	4618.66	1967.99	4618.69
1972.7	4618.7	1980.81	4618.73	1984.2	4618.78	1992.55	4618.86	1999.41	4618.93
1999.89	4618.93	2016.04	4619.11	2019.26	4619.2	2025.2	4619.16	2057.62	4619.14

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 2067.34 4618.99 2085.27 4618.69 2095.24 4618.69 2114.82  4618.8 2130.91 4618.84
 2138.55 4618.85 2146.18 4618.85 2158.28 4618.84 2181.44 4618.88  2187.5 4618.88
 2211.77 4618.91  2220.4 4618.97 2231.67 4619.01 2235.78 4620.14 2237.04 4620.51
 2239.87 4621.65 2241.52 4622.41 2241.89 4622.54 2244.69 4623.53 2245.35 4623.77
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 2277.53 4623.93  2282.5 4623.97  2285.1 4623.97 2291.99 4623.99  2293.9    4624
 2303.86 4624.03 2308.38 4624.05 2314.55 4624.07 2316.14 4624.07 2320.35 4624.09
 2325.23  4624.1 2331.66 4624.12 2335.92 4624.12 2339.42 4624.13  2346.6 4624.14
  2348.7 4624.15 2357.28 4624.21  2362.7 4624.27 2367.97 4624.32 2370.46 4624.33
 2378.65 4624.34 2385.97 4624.36 2389.34 4624.42 2393.73 4624.47 2400.02 4624.58
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 2422.61 4625.67 2423.51  4625.7 2423.88  4625.6 2428.03  4626.1 2432.75 4626.14
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 2456.59 4625.92  2457.9    4626 2458.95  4626.1 2464.33 4626.56 2467.51 4627.14
 2470.64 4627.69 2472.13 4627.98 2473.25 4628.09 2481.36 4629.14 2489.68 4630.14
 2491.34 4630.33  2495.5 4630.55 2495.69 4630.57 2514.72 4629.77 2521.21  4629.6
 2542.43 4628.48  2542.7 4628.47 2543.95 4628.59 2544.17 4629.09 2544.49 4629.09
 2550.43 4628.82 2555.12 4627.91 2556.01 4627.73 2561.27    4626 2702.28    4626
 2722.93 4626.61 2766.33    4628 2767.41    4628 2774.66 4628.26 2776.91 4628.33
 2826.51    4630 2832.49    4630 2837.46 4630.85 2843.89    4632 2846.81 4633.13
 2849.29    4634 2851.98 4635.21 2854.01    4636 2857.27    4636 2866.65 4634.96
 2875.78    4634 2915.87    4634 2927.11  4634.5 2930.28 4634.67 2943.94 4635.19
 2951.43 4635.54 2966.15 4635.87 2967.88 4635.96 2977.28 4635.95 2980.73    4636
 2998.52    4636 3001.14 4637.18 3002.87    4638 3005.76  4639.5 3006.77    4640
  3008.9 4641.18  3010.5    4642  3012.9 4643.04  3019.2 4643.88

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04 1871.69     .03 2245.35    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1871.69 2245.35           436.97  331.69  363.89             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0 1103.99               F
 2416.14  3019.2 4630.55       T
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CROSS SECTION OUTPUT Profile #100-yr FP

E.G. Elev (ft)	4628.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.040	0.030	0.045
W.S. Elev (ft)	4628.40	Reach Len. (ft)	436.97	331.69	363.89
Crit W.S. (ft)		Flow Area (sq ft)	1077.93	3496.97	713.27
E.G. Slope (ft/ft)	0.000088	Area (sq ft)	1139.35	3496.97	1279.97
Q Total (cfs)	8625.00	Flow (cfs)	846.66	7204.67	573.67
Top Width (ft)	1274.56	Top Width (ft)	444.26	373.66	456.64
Vel Total (ft/s)	1.63	Avg. Vel. (ft/s)	0.79	2.06	0.80
Max Chl Dpth (ft)	9.94	Hydr. Depth (ft)	3.38	9.36	4.18
Conv. Total (cfs)	918033.0	Conv. (cfs)	90117.7	766855.0	61060.3
Length Wtd. (ft)	343.00	Wetted Per. (ft)	319.28	375.38	170.87
Min Ch El (ft)	4618.46	Shear (lb/sq ft)	0.02	0.05	0.02
Alpha	1.37	Stream Power (lb/ft s)	0.01	0.11	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	101.02	96.50	122.61
C & E Loss (ft)	0.01	Cum SA (acres)	39.04	9.99	43.16

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4629.57	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.030	
W.S. Elev (ft)	4629.49	Reach Len. (ft)	436.97	331.69	363.89
Crit W.S. (ft)		Flow Area (sq ft)		3906.21	
E.G. Slope (ft/ft)	0.000091	Area (sq ft)		3906.21	
Q Total (cfs)	8625.00	Flow (cfs)		8625.00	
Top Width (ft)	373.66	Top Width (ft)		373.66	
Vel Total (ft/s)	2.21	Avg. Vel. (ft/s)		2.21	
Max Chl Dpth (ft)	11.03	Hydr. Depth (ft)		10.45	
Conv. Total (cfs)	904197.3	Conv. (cfs)		904197.3	
Length Wtd. (ft)	331.69	Wetted Per. (ft)		386.64	
Min Ch El (ft)	4618.46	Shear (lb/sq ft)		0.06	
Alpha	1.00	Stream Power (lb/ft s)		0.13	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	90.43	95.07	37.52
C & E Loss (ft)	0.01	Cum SA (acres)	24.55	9.99	11.28

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4629.87	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.	0.040	0.030	0.045
W.S. Elev (ft)	4629.74	Reach Len. (ft)	436.97	331.69	363.89
Crit W.S. (ft)		Flow Area (sq ft)	1516.01	3998.71	942.60
E.G. Slope (ft/ft)	0.000170	Area (sq ft)	1929.74	3998.71	1951.65
Q Total (cfs)	15790.00	Flow (cfs)	2016.78	12505.85	1267.37

Top Width (ft)	1566.33	Top Width (ft)	648.62	373.66	544.05
Vel Total (ft/s)	2.45	Avg. Vel. (ft/s)	1.33	3.13	1.34
Max Chl Dpth (ft)	11.28	Hydr. Depth (ft)	4.55	10.70	5.52
Conv. Total (cfs)	1210679.0	Conv. (cfs)	154634.3	958870.5	97173.8
Length Wtd. (ft)	346.03	Wetted Per. (ft)	333.20	375.38	170.87
Min Ch El (ft)	4618.46	Shear (lb/sq ft)	0.05	0.11	0.06
Alpha	1.36	Stream Power (lb/ft s)	0.06	0.35	0.08
Frctn Loss (ft)	0.05	Cum Volume (acre-ft)	175.80	126.86	214.54
C & E Loss (ft)	0.01	Cum SA (acres)	48.87	9.99	58.89

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4627.51	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.040	0.030	0.045
W.S. Elev (ft)	4627.46	Reach Len. (ft)	436.97	331.69	363.89
Crit W.S. (ft)		Flow Area (sq ft)	785.27	3147.03	553.32
E.G. Slope (ft/ft)	0.000076	Area (sq ft)	785.95	3147.03	871.35
Q Total (cfs)	6435.00	Flow (cfs)	476.99	5609.29	348.72
Top Width (ft)	1104.11	Top Width (ft)	313.74	373.66	416.72
Vel Total (ft/s)	1.43	Avg. Vel. (ft/s)	0.61	1.78	0.63
Max Chl Dpth (ft)	9.00	Hydr. Depth (ft)	2.57	8.42	3.24
Conv. Total (cfs)	737964.7	Conv. (cfs)	54701.6	643271.8	39991.3
Length Wtd. (ft)	340.54	Wetted Per. (ft)	305.81	375.38	170.87
Min Ch El (ft)	4618.46	Shear (lb/sq ft)	0.01	0.04	0.02
Alpha	1.37	Stream Power (lb/ft s)	0.01	0.07	0.01
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	65.42	80.31	80.00
C & E Loss (ft)	0.01	Cum SA (acres)	31.20	9.96	34.19

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4626.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.040	0.030	0.045
W.S. Elev (ft)	4626.24	Reach Len. (ft)	436.97	331.69	363.89
Crit W.S. (ft)		Flow Area (sq ft)	421.35	2690.72	344.76
E.G. Slope (ft/ft)	0.000030	Area (sq ft)	421.35	2690.72	392.66
Q Total (cfs)	2924.00	Flow (cfs)	109.80	2714.61	99.59
Top Width (ft)	1029.48	Top Width (ft)	290.66	373.66	365.16
Vel Total (ft/s)	0.85	Avg. Vel. (ft/s)	0.26	1.01	0.29
Max Chl Dpth (ft)	7.78	Hydr. Depth (ft)	1.45	7.20	2.02
Conv. Total (cfs)	533675.3	Conv. (cfs)	20040.0	495458.4	18176.9
Length Wtd. (ft)	336.94	Wetted Per. (ft)	290.85	375.38	170.87
Min Ch El (ft)	4618.46	Shear (lb/sq ft)	0.00	0.01	0.00
Alpha	1.33	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	25.02	57.94	20.72
C & E Loss (ft)	0.00	Cum SA (acres)	19.92	9.68	21.38

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 3591.992

INPUT
Description:
Station Elevation Data num= 499

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
2.95	4631.62	3.54	4631.32	5.23	4630.53	6.27	4630	7.95	4629.81
14.39	4629.02	19.62	4628.75	24.09	4628.56	27.08	4628.54	32.02	4628.6
33.61	4628.58	37.76	4628.43	44.05	4628.3	51.73	4627.93	56.54	4627.68
65.44	4627.38	66.17	4627.33	77.91	4626.6	84.56	4626.46	90.32	4626.36
103.75	4626.06	108.47	4625.89	112.44	4625.86	116.02	4625.89	121.21	4625.91
124.84	4625.73	128.79	4625.6	134.77	4625.61	136.88	4625.72	140.51	4625.69
145.23	4625.71	154.35	4625.83	158.6	4625.73	160.86	4626.03	169.18	4626.44
171.95	4626.56	177.27	4626.68	181.03	4626.83	188.02	4627.12	190.75	4627.24
194.9	4627.32	204.42	4627.93	205.34	4628	212.28	4628.33	213.05	4628.35
214.78	4628.47	223.82	4629.06	225.57	4629.07	230.94	4629.16	234.68	4629.13
235.36	4629.15	240.45	4629.47	244.61	4629.54	252.22	4629.34	255.7	4629.39
257.59	4629.43	267.8	4629.62	268.11	4629.61	274.51	4630.12	278.98	4630.45
281.64	4630.68	286.29	4630.8	287.4	4630.89	290.41	4631.06	293.98	4631.37
299.42	4631.77	303	4632.09	307.24	4632.35	309.47	4632.45	312.63	4632.63
314.59	4632.77	320.51	4633.05	329.2	4633.29	338.47	4633.76	346.93	4634.01
359.02	4634.25	384.02	4634.97	395.04	4635.05	407.66	4635.08	426.21	4635.38
432.9	4635.49	434.36	4635.48	436.01	4635.5	436.59	4636.02	443.59	4636.13
447.72	4636.17	454.09	4636.37	463.59	4636.48	473.27	4636.24	477.49	4636.3
486.33	4636.63	494.2	4636.55	497.13	4636.61	497.95	4636.61	501.18	4636.49
509.27	4636.58	512.32	4636.67	514.64	4636.72	526.22	4637.06	530.09	4637.2

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  535.03 4637.33  541.37 4637.44  542.23 4637.49   549.1 4637.78  553.33    4638
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  581.02 4637.57   595.7 4637.35  598.81 4637.29  605.86 4637.21  607.66  4637.2
  607.93  4637.7  609.58 4637.66  615.65 4637.55  617.98 4637.54   618.5 4637.58
  627.78 4637.17   629.9 4637.14  639.11 4637.11  647.72  4637.1  649.11 4637.09
  659.11 4637.07  667.08 4636.99  668.64    4637  676.58 4636.88  685.31 4636.95
  690.18 4636.93  698.22 4637.06  703.69  4637.1  713.99 4637.13   721.8 4636.81
   723.1 4636.81  724.54 4636.77  742.85 4636.77  748.72 4636.76  754.21 4636.87
  759.15 4636.96   763.9 4637.06  769.15 4637.15  774.77 4637.26  778.67 4637.35
   781.7 4637.36  788.93 4637.46  796.49 4637.58  801.42 4637.65  809.05 4637.75
  817.03 4637.81  819.71 4637.84  820.82 4637.83  828.83 4637.97  837.23  4638.2
  839.51 4638.25  848.07  4638.5  850.67 4638.54  859.32 4638.58  868.39 4638.75
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  957.52 4638.07  959.21 4638.03  967.21 4638.07  976.89 4638.16  979.22 4638.17
  981.71 4638.12  989.05 4637.76  991.38 4637.69  996.22 4637.42 1004.79 4637.07
 1007.98 4636.95 1020.06 4635.95  1024.7 4635.76 1026.79 4635.74 1027.89 4635.71
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 1055.41 4634.77 1064.49 4634.24 1069.25 4634.04  1073.7 4633.79 1079.25 4633.52
 1089.26 4632.99 1093.06 4632.75 1099.26 4632.29 1102.75 4632.07 1109.26  4631.6
 1112.43 4631.41 1121.21 4630.87 1129.56 4630.39    1131 4630.28 1132.97 4630.16
 1134.77 4630.07 1138.95  4629.8 1140.46 4629.73 1143.42 4629.53 1151.77 4629.24
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 1181.82 4628.16 1190.12 4627.96 1195.05 4627.59 1199.01 4627.43 1213.39 4626.69
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 1229.89 4625.97 1231.73 4625.86 1239.31 4625.32 1247.97 4624.87 1250.74 4624.74
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 1315.81 4623.07 1320.87 4623.03 1324.34 4623.07 1327.32 4622.99 1332.33 4622.98
 1337.81 4623.02 1340.02 4623.02 1344.23  4622.5 1346.85 4622.47  1349.4  4622.1
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 1699.16 4618.02 1701.02 4618.01 1705.93 4617.95 1714.33 4617.89 1715.44 4617.89
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  1991.8 4623.99 1995.29 4624.03 1996.43 4624.02 2000.44 4624.08 2003.58 4624.09
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 2021.72 4623.99 2023.34 4623.67 2024.51 4623.65 2026.01 4623.66 2026.26 4623.69
 2027.01 4623.93 2028.65 4623.99 2030.51 4624.13 2032.58 4624.52 2036.46 4624.45
 2039.63 4624.44 2041.74 4624.34 2046.07 4624.24 2051.18 4624.25 2055.88 4624.23
 2062.92 4624.14  2069.3 4624.12 2071.08  4624.1 2072.25 4624.12 2078.28 4624.18
 2081.41  4624.2 2085.67 4624.27 2089.72  4624.3 2090.44 4624.36 2093.22 4624.46
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 2377.04    4629  2380.8 4629.14  2398.9 4629.35  2402.3  4629.4 2404.78 4629.41
    2408 4629.45 2417.68 4629.45 2430.72 4629.43 2435.01 4629.16 2439.07 4628.98
 2447.19  4628.6 2451.19 4628.32 2452.23 4628.21 2453.02    4626 2550.18    4626
 2556.11 4626.42 2575.53 4627.95 2576.06    4628 2576.21 4628.01 2576.35 4628.02
 2602.67    4630 2618.11 4630.94 2629.86    4632 2635.35    4632 2650.21 4632.92
 2673.38    4634 2676.37 4634.92  2679.7    4636 2754.61    4636 2763.13 4636.14
 2764.06 4636.25 2770.63    4637  2777.3 4637.72 2778.34 4637.76  2779.4    4638
 2783.36 4639.47 2785.37    4640  2786.4 4640.25    2789 4640.88 2799.65    4642
 2805.79    4642 2807.63 4642.17 2814.22  4642.3 2834.24 4643.31

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
    2.95     .04 1424.73     .03 1962.26    .055
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Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
      1424.73 1962.26           183.96  101.04  102.13             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
    2040 2834.24 4629.45       T
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CROSS SECTION OUTPUT Profile #100-yr FP

E.G. Elev (ft)	4628.43	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.	0.040	0.030	0.055
W.S. Elev (ft)	4628.39	Reach Len. (ft)	183.96	101.04	102.13
Crit W.S. (ft)	4621.17	Flow Area (sq ft)	1287.03	4895.28	314.24
E.G. Slope (ft/ft)	0.000053	Area (sq ft)	1287.03	4895.28	1535.00
Q Total (cfs)	8625.00	Flow (cfs)	782.89	7685.76	156.35
Top Width (ft)	1495.99	Top Width (ft)	424.19	537.53	534.26
Vel Total (ft/s)	1.33	Avg. Vel. (ft/s)	0.61	1.57	0.50
Max Chl Dpth (ft)	10.80	Hydr. Depth (ft)	3.03	9.11	4.04
Conv. Total (cfs)	1185018.0	Conv. (cfs)	107564.5	1055972.0	21481.3
Length Wtd. (ft)	101.04	Wetted Per. (ft)	424.80	538.61	78.07
Min Ch El (ft)	4617.59	Shear (lb/sq ft)	0.01	0.03	0.01
Alpha	1.27	Stream Power (lb/ft s)	0.01	0.05	0.01
Frctn Loss (ft)		Cum Volume (acre-ft)	88.85	64.54	110.85
C & E Loss (ft)		Cum SA (acres)	34.68	6.52	39.03

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4629.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.030	
W.S. Elev (ft)	4629.50	Reach Len. (ft)	183.96	101.04	102.13
Crit W.S. (ft)	4621.17	Flow Area (sq ft)		5490.82	
E.G. Slope (ft/ft)	0.000047	Area (sq ft)		5490.82	
Q Total (cfs)	8625.00	Flow (cfs)		8625.00	
Top Width (ft)	537.53	Top Width (ft)		537.53	
Vel Total (ft/s)	1.57	Avg. Vel. (ft/s)		1.57	
Max Chl Dpth (ft)	11.91	Hydr. Depth (ft)		10.21	
Conv. Total (cfs)	1261733.0	Conv. (cfs)		1261733.0	
Length Wtd. (ft)	101.04	Wetted Per. (ft)		549.48	
Min Ch El (ft)	4617.59	Shear (lb/sq ft)		0.03	
Alpha	1.00	Stream Power (lb/ft s)		0.05	
Frctn Loss (ft)		Cum Volume (acre-ft)	90.43	59.29	37.52
C & E Loss (ft)		Cum SA (acres)	24.55	6.53	11.28

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4629.81	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.	0.040	0.030	0.055
W.S. Elev (ft)	4629.73	Reach Len. (ft)	183.96	101.04	102.13
Crit W.S. (ft)	4622.21	Flow Area (sq ft)	1931.69	5612.34	571.12
E.G. Slope (ft/ft)	0.000108	Area (sq ft)	1931.69	5612.34	2307.72
Q Total (cfs)	15790.00	Flow (cfs)	1851.67	13789.46	148.88
Top Width (ft)	1719.40	Top Width (ft)	545.11	537.53	636.76
Vel Total (ft/s)	1.95	Avg. Vel. (ft/s)	0.96	2.46	0.26
Max Chl Dpth (ft)	12.14	Hydr. Depth (ft)	3.54	10.44	0.90
Conv. Total (cfs)	1518558.0	Conv. (cfs)	178078.5	1326161.0	14317.9
Length Wtd. (ft)	101.04	Wetted Per. (ft)	545.85	538.61	638.91
Min Ch El (ft)	4617.59	Shear (lb/sq ft)	0.02	0.07	0.01
Alpha	1.42	Stream Power (lb/ft s)	0.02	0.17	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)	156.43	90.27	196.75
C & E Loss (ft)		Cum SA (acres)	42.88	6.53	53.96

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4627.48	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.	0.040	0.030	0.055
W.S. Elev (ft)	4627.46	Reach Len. (ft)	183.96	101.04	102.13
Crit W.S. (ft)	4620.76	Flow Area (sq ft)	922.65	4392.40	241.51
E.G. Slope (ft/ft)	0.000044	Area (sq ft)	922.65	4392.40	1054.02
Q Total (cfs)	6435.00	Flow (cfs)	470.47	5872.24	92.28
Top Width (ft)	1390.30	Top Width (ft)	360.17	537.53	492.60
Vel Total (ft/s)	1.16	Avg. Vel. (ft/s)	0.51	1.34	0.38
Max Chl Dpth (ft)	9.87	Hydr. Depth (ft)	2.56	8.17	3.11
Conv. Total (cfs)	965910.9	Conv. (cfs)	70619.4	881439.4	13852.2
Length Wtd. (ft)	101.04	Wetted Per. (ft)	360.70	538.61	78.07
Min Ch El (ft)	4617.59	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.23	Stream Power (lb/ft s)	0.00	0.03	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)	56.85	51.61	71.96
C & E Loss (ft)		Cum SA (acres)	27.82	6.49	30.39

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4626.25	Element	Left OB	Channel	Right OB

Vel Head (ft)	0.01	Wt. n-Val.	0.040	0.030	0.055
W.S. Elev (ft)	4626.24	Reach Len. (ft)	183.96	101.04	102.13
Crit W.S. (ft)	4619.94	Flow Area (sq ft)	533.40	3738.33	146.92
E.G. Slope (ft/ft)	0.000017	Area (sq ft)	533.40	3738.33	493.65
Q Total (cfs)	2924.00	Flow (cfs)	143.67	2755.59	24.74
Top Width (ft)	1230.85	Top Width (ft)	271.89	537.53	421.43
Vel Total (ft/s)	0.66	Avg. Vel. (ft/s)	0.27	0.74	0.17
Max Chl Dpth (ft)	8.65	Hydr. Depth (ft)	1.96	6.95	1.89
Conv. Total (cfs)	714906.3	Conv. (cfs)	35125.8	673730.8	6049.8
Length Wtd. (ft)	101.04	Wetted Per. (ft)	272.33	538.61	78.07
Min Ch El (ft)	4617.59	Shear (lb/sq ft)	0.00	0.01	0.00
Alpha	1.18	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)	20.23	33.46	17.02
C & E Loss (ft)		Cum SA (acres)	17.09	6.21	18.10

CULVERT

RIVER: KingsCynCreek
REACH: Reach1 RS: 3591.5

INPUT
Description:
Distance from Upstream XS = 18
Deck/Roadway Width = 48
Weir Coefficient = 2.6
Upstream Deck/Roadway Coordinates
num= 4

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
0	4626		1655	4625.5		1765	4625.5	
2834.24	4626							

Upstream Bridge Cross Section Data
Station Elevation Data num= 499

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
2.95	4631.62	3.54	4631.32	5.23	4630.53	6.27	4630	7.95	4629.81
14.39	4629.02	19.62	4628.75	24.09	4628.56	27.08	4628.54	32.02	4628.6
33.61	4628.58	37.76	4628.43	44.05	4628.3	51.73	4627.93	56.54	4627.68
65.44	4627.38	66.17	4627.33	77.91	4626.6	84.56	4626.46	90.32	4626.36
103.75	4626.06	108.47	4625.89	112.44	4625.86	116.02	4625.89	121.21	4625.91
124.84	4625.73	128.79	4625.6	134.77	4625.61	136.88	4625.72	140.51	4625.69
145.23	4625.71	154.35	4625.83	158.6	4625.73	160.86	4626.03	169.18	4626.44
171.95	4626.56	177.27	4626.68	181.03	4626.83	188.02	4627.12	190.75	4627.24
194.9	4627.32	204.42	4627.93	205.34	4628	212.28	4628.33	213.05	4628.35
214.78	4628.47	223.82	4629.06	225.57	4629.07	230.94	4629.16	234.68	4629.13
235.36	4629.15	240.45	4629.47	244.61	4629.54	252.22	4629.34	255.7	4629.39
257.59	4629.43	267.8	4629.62	268.11	4629.61	274.51	4630.12	278.98	4630.45
281.64	4630.68	286.29	4630.8	287.4	4630.89	290.41	4631.06	293.98	4631.37
299.42	4631.77	303	4632.09	307.24	4632.35	309.47	4632.45	312.63	4632.63
314.59	4632.77	320.51	4633.05	329.2	4633.29	338.47	4633.76	346.93	4634.01
359.02	4634.25	384.02	4634.97	395.04	4635.05	407.66	4635.08	426.21	4635.38
432.9	4635.49	434.36	4635.48	436.01	4635.5	436.59	4636.02	443.59	4636.13
447.72	4636.17	454.09	4636.37	463.59	4636.48	473.27	4636.24	477.49	4636.3
486.33	4636.63	494.2	4636.55	497.13	4636.61	497.95	4636.61	501.18	4636.49
509.27	4636.58	512.32	4636.67	514.64	4636.72	526.22	4637.06	530.09	4637.2
535.03	4637.33	541.37	4637.44	542.23	4637.49	549.1	4637.78	553.33	4638
553.7	4638	553.95	4637.5	558.2	4637.5	569.01	4637.53	575.19	4637.56
581.02	4637.57	595.7	4637.35	598.81	4637.29	605.86	4637.21	607.66	4637.2
607.93	4637.7	609.58	4637.66	615.65	4637.55	617.98	4637.54	618.5	4637.58
627.78	4637.17	629.9	4637.14	639.11	4637.11	647.72	4637.1	649.11	4637.09
659.11	4637.07	667.08	4636.99	668.64	4637	676.58	4636.88	685.31	4636.95
690.18	4636.93	698.22	4637.06	703.69	4637.1	713.99	4637.13	721.8	4636.81
723.1	4636.81	724.54	4636.77	742.85	4636.77	748.72	4636.76	754.21	4636.87
759.15	4636.96	763.9	4637.06	769.15	4637.15	774.77	4637.26	778.67	4637.35
781.7	4637.36	788.93	4637.46	796.49	4637.58	801.42	4637.65	809.05	4637.75
817.03	4637.81	819.71	4637.84	820.82	4637.83	828.83	4637.97	837.23	4638.2
839.51	4638.25	848.07	4638.5	850.67	4638.54	859.32	4638.58	868.39	4638.75
869.1	4638.75	878.45	4638.89	879.59	4638.89	889.03	4639.04	889.52	4639.04
899.16	4638.9	909.2	4638.83	918.8	4638.91	919.2	4638.9	928.48	4638.78
929.2	4638.78	938.16	4638.66	939.21	4638.64	947.84	4638.39	949.21	4638.37
957.52	4638.07	959.21	4638.03	967.21	4638.07	976.89	4638.16	979.22	4638.17
981.71	4638.12	989.05	4637.76	991.38	4637.69	996.22	4637.42	1004.79	4637.07
1007.98	4636.95	1020.06	4635.95	1024.7	4635.76	1026.79	4635.74	1027.89	4635.71
1031.46	4635.52	1032.7	4635.44	1034.24	4635.39	1048.83	4635.04	1050.82	4634.9
1055.41	4634.77	1064.49	4634.24	1069.25	4634.04	1073.7	4633.79	1079.25	4633.52
1089.26	4632.99	1093.06	4632.75	1099.26	4632.29	1102.75	4632.07	1109.26	4631.6
1112.43	4631.41	1121.21	4630.87	1129.56	4630.39	1131	4630.28	1132.97	4630.16
1134.77	4630.07	1138.95	4629.8	1140.46	4629.73	1143.42	4629.53	1151.77	4629.24
1155.46	4629.14	1159.9	4629.08	1169.88	4628.56	1178.97	4628.23	1180.2	4628.18
1181.82	4628.16	1190.12	4627.96	1195.05	4627.59	1199.01	4627.43	1213.39	4626.69
1218.44	4626.36	1220.04	4626.28	1223.17	4626.22	1224.57	4626.15	1226.46	4626.01
1229.89	4625.97	1231.73	4625.86	1239.31	4625.32	1247.97	4624.87	1250.74	4624.74
1259.31	4624.4	1267.33	4624.1	1269.32	4623.99	1277.01	4623.68	1279.32	4623.6
1286.69	4623.51	1296.37	4623.3	1299.33	4623.23	1306.06	4623.13	1309.33	4623.13

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 1315.81 4623.07 1320.87 4623.03 1324.34 4623.07 1327.32 4622.99 1332.33 4622.98
 1337.81 4623.02 1340.02 4623.02 1344.23  4622.5 1346.85 4622.47  1349.4  4622.1
 1352.53 4621.53  1355.8 4621.82 1357.14 4622.03    1360 4622.41 1360.87 4622.43
  1362.6 4622.64 1364.08 4622.76 1365.28 4622.78 1367.73 4622.94 1369.34 4623.01
  1374.4 4623.12 1375.62 4623.16    1381 4623.29 1383.01 4623.12 1385.17    4623
 1385.87 4623.03 1386.61 4623.15  1391.5 4623.87 1393.79 4624.23 1394.67  4624.3
 1408.78 4624.51 1417.83 4624.62 1418.29 4624.57 1423.33  4624.1 1424.73 4623.98
 1426.42 4623.31 1430.86 4621.56 1431.22 4621.45 1433.79 4620.99 1435.89 4620.69
 1441.13 4620.34  1443.6 4620.22 1445.61 4620.08 1460.32 4619.53 1461.25 4619.52
 1469.76 4619.58 1473.53 4619.55 1478.34 4619.67 1479.88 4619.64 1487.69 4619.52
  1490.8 4619.48 1507.48  4619.3 1512.57 4619.24 1538.67 4619.08 1544.94 4619.05
 1549.32 4619.06 1560.04 4619.18  1563.7 4619.21 1568.14 4619.29 1579.65 4619.47
  1587.6 4619.67  1602.4 4620.21 1603.84 4620.27 1617.51 4620.72 1622.07 4620.88
 1624.95 4620.97 1633.81 4620.57 1637.47 4620.41 1641.95 4620.28 1645.61 4620.23
 1650.14 4619.83 1654.15 4619.57 1656.04 4619.41 1660.13 4618.94 1662.24 4618.72
 1665.99 4618.46 1670.48 4618.28 1674.02 4618.19 1680.38 4618.11 1692.85 4617.99
 1699.16 4618.02 1701.02 4618.01 1705.93 4617.95 1714.33 4617.89 1715.44 4617.89
 1718.32 4617.59 1768.28 4617.59  1770.3 4617.82 1775.92 4618.21 1777.16 4618.25
 1780.31 4618.25 1782.46 4618.14 1784.67 4617.97 1786.05  4617.9 1786.98 4617.94
 1788.32 4617.95 1789.81 4618.02 1793.45 4618.28 1795.16 4618.34 1798.95 4618.53
 1805.86  4618.7 1807.01 4618.72 1813.18 4618.87 1814.55 4618.91 1840.08 4618.77
 1840.86 4618.79 1858.31 4619.14 1888.62 4619.15 1890.91 4619.17 1916.86 4619.32
 1923.66 4619.98 1925.01 4619.95  1927.2 4620.08 1930.74 4620.23 1934.01  4620.6
 1936.15 4620.76 1937.48  4620.9 1939.47 4621.03 1940.07 4621.15  1945.9 4621.93
 1946.22 4621.95 1950.72 4622.67 1954.02 4622.99 1955.38 4623.17 1957.37 4623.38
 1958.72 4623.61 1962.26 4624.15 1964.26 4624.46 1966.08 4624.61 1970.09 4624.71
  1971.9 4624.74 1977.04  4624.8 1982.73 4624.88 1989.07 4623.97 1989.67 4623.94
  1991.8 4623.99 1995.29 4624.03 1996.43 4624.02 2000.44 4624.08 2003.58 4624.09
 2006.57 4624.06 2007.69  4624.1 2011.74 4624.57 2014.71 4624.58 2019.62 4624.62
 2021.72 4623.99 2023.34 4623.67 2024.51 4623.65 2026.01 4623.66 2026.26 4623.69
 2027.01 4623.93 2028.65 4623.99 2030.51 4624.13 2032.58 4624.52 2036.46 4624.45
 2039.63 4624.44 2041.74 4624.34 2046.07 4624.24 2051.18 4624.25 2055.88 4624.23
 2062.92 4624.14  2069.3 4624.12 2071.08  4624.1 2072.25 4624.12 2078.28 4624.18
 2081.41  4624.2 2085.67 4624.27 2089.72  4624.3 2090.44 4624.36 2093.22 4624.46
 2094.77  4624.5 2099.85 4624.53 2102.17 4624.53 2104.08  4624.5 2119.37 4624.61
 2121.72 4624.67 2140.38 4624.75 2160.44 4624.84 2163.07 4624.88 2167.81 4624.88
 2175.56 4624.95 2180.92 4624.94 2184.09 4624.99 2188.25 4625.02 2190.62 4625.06
 2200.17 4625.18 2202.46 4625.14 2209.46 4625.21 2214.37 4625.28  2222.8 4625.24
 2228.84 4625.33 2230.88 4625.32 2239.55 4625.41 2249.64 4625.61 2253.32 4625.67
 2259.29  4625.6  2261.5 4625.62  2274.2 4625.94 2275.94 4625.97  2287.1 4626.39
 2303.87 4626.55 2311.78 4626.77 2321.93    4627 2328.12 4627.11 2332.79 4627.23
 2341.51  4627.6 2351.74 4627.78 2354.94 4627.89 2361.54 4628.26 2365.01 4628.37
 2377.04    4629  2380.8 4629.14  2398.9 4629.35  2402.3  4629.4 2404.78 4629.41
    2408 4629.45 2417.68 4629.45 2430.72 4629.43 2435.01 4629.16 2439.07 4628.98
 2447.19  4628.6 2451.19 4628.32 2452.23 4628.21 2453.02    4626 2550.18    4626
 2556.11 4626.42 2575.53 4627.95 2576.06    4628 2576.21 4628.01 2576.35 4628.02
 2602.67    4630 2618.11 4630.94 2629.86    4632 2635.35    4632 2650.21 4632.92
 2673.38    4634 2676.37 4634.92  2679.7    4636 2754.61    4636 2763.13 4636.14
 2764.06 4636.25 2770.63    4637  2777.3 4637.72 2778.34 4637.76  2779.4    4638
 2783.36 4639.47 2785.37    4640  2786.4 4640.25    2789 4640.88 2799.65    4642
 2805.79    4642 2807.63 4642.17 2814.22  4642.3 2834.24 4643.31

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
    2.95     .04 1424.73     .03 1962.26    .055

Bank Sta: Left   Right    Coeff Contr.   Expan.
       1424.73 1962.26            .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
    2040 2834.24 4629.45       T

Downstream  Deck/Roadway Coordinates
    num=       4
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
       0    4626            1620  4625.5            1760  4625.5
 2705.41    4626

Downstream Bridge Cross Section Data
Station Elevation Data    num=     251
     Sta     Elev     Sta     Elev     Sta     Elev     Sta     Elev     Sta     Elev
       0 4628.48    8.39    4628   31.63 4626.65   45.35    4626   65.93    4626
   83.65    4626  113.84    4626  124.77    4626  143.14    4626  156.01 4626.89
  173.75    4628  180.91 4629.13  198.67    4630   219.9    4630  233.85 4631.05
  235.26 4631.07  254.48    4632  266.19    4632  273.74    4632  279.59    4632
  287.87    4632  295.83 4632.25  307.18 4633.12  318.85 4633.75  321.32    4634
  325.28    4634  330.99    4634  343.18    4634  418.37 4634.91  423.48 4635.03
  449.06 4635.16  455.25 4635.32  460.67 4635.37  463.55 4635.37  472.93  4635.6
  478.38 4635.61  489.96 4635.96   492.3    4636  493.62    4636  494.73    4636
  506.62    4636   513.9    4636  515.31    4636  516.76    4636   521.9    4636
  533.93    4636  582.71    4636  585.75    4636  592.46    4636  595.71    4636
  620.84    4636  664.43 4635.23     698 4635.24  722.06 4635.05  730.99 4635.02
  743.01 4634.98  749.78 4634.93  791.49    4634  804.72    4634  813.45    4634
  821.84    4634  826.33    4634  837.41    4634  854.55  4633.7  907.39 4633.06
  928.01    4632  933.16    4632  940.94    4632  941.69    4632   998.8 4630.14
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  1002.9    4630 1003.98 4629.96 1063.57 4628.03 1064.49    4628 1064.51    4628
 1119.01 4626.91 1127.89 4626.75 1130.15  4626.7 1139.37 4626.61 1154.23    4626
  1174.2    4626 1194.03    4626 1198.11    4626 1199.46    4626 1201.98    4626
 1225.29 4625.62 1298.81    4624 1378.32 4625.61 1383.53 4625.59 1386.63 4625.61
 1391.49 4625.68 1396.05 4625.72 1399.15 4625.71 1429.58 4625.83 1432.64 4625.83
 1448.49    4626  1459.5    4626 1462.35    4626 1473.25    4626 1486.51 4625.88
 1487.79 4625.88 1505.97 4625.79  1509.2  4625.8 1511.82 4625.76 1520.59 4625.64
 1525.99 4625.65 1529.37 4625.64  1594.7 4625.18 1618.98 4624.61 1640.38    4624
 1652.82    4624 1655.29    4624 1657.79 4622.84  1659.2    4622 1660.97 4621.05
 1662.32    4620 1664.62 4618.96 1666.37    4618 1668.58 4616.73 1669.89    4616
 1674.94    4616 1691.95    4616 1705.59    4616 1706.27    4616 1706.94    4616
 1708.83    4616 1712.11 4617.28 1713.63    4618 1715.08 4618.68 1717.76    4620
  1720.6 4621.47 1721.67    4622 1722.34 4622.32 1725.55    4624 1726.52  4624.6
 1728.75    4626 1731.08 4626.89    1734    4628 1737.83    4628 1743.59    4628
 1745.78    4628 1746.81    4628 1749.27    4628  1753.7    4628 1764.98    4628
 1769.98    4628 1772.74    4628 1780.28    4628 1782.47    4628 1786.04    4628
 1787.96    4628 1796.33    4628 1799.98    4628 1810.05    4628    1821 4629.23
 1826.56    4630 1828.47    4630 1842.94    4630 1864.98    4630 1880.71    4630
 1884.68    4630 1895.97    4630 1900.73    4630 1904.82    4630 1918.59 4628.36
 1920.81    4628 1928.94 4626.44 1931.04    4626 1931.47  4625.9 1934.99  4625.2
 1940.55 4624.12 1941.67    4624  1942.7    4624 1952.51    4624 1961.94    4624
 1969.78    4624 1980.05    4624  2004.8    4624 2015.35    4624 2016.65    4624
  2056.4    4624  2059.5    4624  2062.3    4624 2080.89    4624 2082.97    4624
 2100.54    4624  2103.1    4624 2112.75    4624 2115.03    4624 2118.28    4624
 2123.21 4625.61 2124.61    4626 2124.94 4626.33 2126.61    4628 2127.54    4628
 2127.85    4628 2148.35    4628 2160.55 4627.87 2184.86    4628 2193.39    4628
 2194.75    4628  2196.6    4628 2219.63    4628  2223.9    4628 2230.01    4628
  2255.5    4628 2261.76    4628 2266.28 4627.87 2267.14 4627.86 2267.61 4627.85
 2272.38  4627.5 2291.52 4626.56 2301.52    4626 2308.58    4626  2323.9    4626
 2331.27    4626 2350.94    4626 2353.81    4626 2366.47    4626    2368    4626
 2392.51 4627.41 2399.33    4628 2399.92    4628 2402.83    4628 2420.49    4628
 2434.59    4628 2456.71 4628.66 2458.81 4628.71 2468.52    4628 2471.61 4627.29
 2529.58 4627.75 2531.98 4627.82 2537.15    4628 2538.27    4628 2540.03    4628
 2540.87    4628 2544.63 4628.16 2547.96 4628.31 2583.68    4630 2592.49 4631.24
  2597.4    4632  2614.5 4632.86  2636.8    4634 2645.57 4635.31 2648.21    4636
 2658.37 4636.57 2676.21    4638 2693.45 4639.33 2697.13    4640 2702.13 4640.19
 2705.41 4640.38

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045  1594.7    .035    1734    .055

Bank Sta: Left   Right    Coeff Contr.   Expan.
        1594.7    1734             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0  620.84               F
    1734 2705.41               F

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Culverts =  1

Culvert Name     Shape      Rise    Span
Culvert #1           Box       6      10
FHWA Chart # 8 - flared wingwalls
FHWA Scale # 3 - Wingwall flared 0 deg. (sides extended straight)
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef   Exit Loss Coef
                 20      48     .013     .013        0                  .7               1
Number of Barrels =  4
Upstream   Elevation =  4617.2
Centerline Stations
    Sta.    Sta.    Sta.    Sta.
  1708.5  1719.5  1730.5  1741.5
Downstream Elevation =  4617.2
Centerline Stations
    Sta.    Sta.    Sta.    Sta.
  1673.5  1684.5  1695.5  1706.5

CULVERT OUTPUT  Profile #100-yr FP  Culv Group:  Culvert #1

  Q Culv Group (cfs)        589.35    Culv Full Len (ft)         48.00
  # Barrels                      4    Culv Vel US (ft/s)          2.46
  Q Barrel (cfs)            147.34    Culv Vel DS (ft/s)          2.46
  E.G. US. (ft)            4628.43    Culv Inv El Up (ft)      4617.20
  W.S. US. (ft)            4628.39    Culv Inv El Dn (ft)      4617.20
  E.G. DS (ft)             4628.35    Culv Frctn Ls (ft)          0.01
  W.S. DS (ft)             4627.91    Culv Exit Loss (ft)         0.00
```

Delta EG (ft)	0.08	Culv Entr Loss (ft)	0.07
Delta WS (ft)	0.48	Q Weir (cfs)	8035.65
E.G. IC (ft)	4628.37	Weir Sta Lft (ft)	39.62
E.G. OC (ft)	4628.43	Weir Sta Rgt (ft)	2040.00
Culvert Control	Outlet	Weir Submerg	0.95
Culv WS Inlet (ft)	4623.20	Weir Max Depth (ft)	2.89
Culv WS Outlet (ft)	4623.20	Weir Avg Depth (ft)	2.55
Culv Nml Depth (ft)		Weir Flow Area (sq ft)	2649.12
Culv Crt Depth (ft)	1.89	Min El Weir Flow (ft)	4625.51

CULVERT OUTPUT Profile #100-yr FW Culv Group: Culvert #1

Q Culv Group (cfs)	656.64	Culv Full Len (ft)	48.00
# Barrels	4	Culv Vel US (ft/s)	2.74
Q Barrel (cfs)	164.16	Culv Vel DS (ft/s)	2.74
E.G. US. (ft)	4629.54	Culv Inv El Up (ft)	4617.20
W.S. US. (ft)	4629.50	Culv Inv El Dn (ft)	4617.20
E.G. DS (ft)	4629.44	Culv Frctn Ls (ft)	0.01
W.S. DS (ft)	4629.23	Culv Exit Loss (ft)	0.00
Delta EG (ft)	0.09	Culv Entr Loss (ft)	0.08
Delta WS (ft)	0.27	Q Weir (cfs)	7968.36
E.G. IC (ft)	4629.48	Weir Sta Lft (ft)	1424.73
E.G. OC (ft)	4629.54	Weir Sta Rgt (ft)	1962.26
Culvert Control	Outlet	Weir Submerg	0.96
Culv WS Inlet (ft)	4623.20	Weir Max Depth (ft)	4.03
Culv WS Outlet (ft)	4623.20	Weir Avg Depth (ft)	4.00
Culv Nml Depth (ft)		Weir Flow Area (sq ft)	2150.29
Culv Crt Depth (ft)	2.03	Min El Weir Flow (ft)	4625.51

Warning: During the culvert inlet control computations, the program could not balance the culvert/weir flow. The reported inlet energy grade answer may not be valid.

CULVERT OUTPUT Profile #500-yr Culv Group: Culvert #1

Q Culv Group (cfs)	673.40	Culv Full Len (ft)	48.00
# Barrels	4	Culv Vel US (ft/s)	2.81
Q Barrel (cfs)	168.35	Culv Vel DS (ft/s)	2.81
E.G. US. (ft)	4629.81	Culv Inv El Up (ft)	4617.20
W.S. US. (ft)	4629.73	Culv Inv El Dn (ft)	4617.20
E.G. DS (ft)	4629.71	Culv Frctn Ls (ft)	0.01
W.S. DS (ft)	4628.93	Culv Exit Loss (ft)	0.00
Delta EG (ft)	0.10	Culv Entr Loss (ft)	0.09
Delta WS (ft)	0.80	Q Weir (cfs)	15116.60
E.G. IC (ft)	4629.76	Weir Sta Lft (ft)	8.32
E.G. OC (ft)	4629.81	Weir Sta Rgt (ft)	2599.54
Culvert Control	Outlet	Weir Submerg	0.93
Culv WS Inlet (ft)	4623.20	Weir Max Depth (ft)	4.26
Culv WS Outlet (ft)	4623.20	Weir Avg Depth (ft)	2.52
Culv Nml Depth (ft)		Weir Flow Area (sq ft)	4335.24
Culv Crt Depth (ft)	2.07	Min El Weir Flow (ft)	4625.51

Warning: During the culvert inlet control computations, the program could not balance the culvert/weir flow. The reported inlet energy grade answer may not be valid.

CULVERT OUTPUT Profile #50-yr Culv Group: Culvert #1

Q Culv Group (cfs)	443.59	Culv Full Len (ft)	48.00
# Barrels	4	Culv Vel US (ft/s)	1.85
Q Barrel (cfs)	110.90	Culv Vel DS (ft/s)	1.85
E.G. US. (ft)	4627.48	Culv Inv El Up (ft)	4617.20
W.S. US. (ft)	4627.46	Culv Inv El Dn (ft)	4617.20
E.G. DS (ft)	4627.44	Culv Frctn Ls (ft)	0.01
W.S. DS (ft)	4626.92	Culv Exit Loss (ft)	0.00
Delta EG (ft)	0.04	Culv Entr Loss (ft)	0.04
Delta WS (ft)	0.53	Q Weir (cfs)	5991.41
E.G. IC (ft)	4627.45	Weir Sta Lft (ft)	62.26
E.G. OC (ft)	4627.48	Weir Sta Rgt (ft)	2040.00
Culvert Control	Outlet	Weir Submerg	0.84
Culv WS Inlet (ft)	4623.20	Weir Max Depth (ft)	1.99
Culv WS Outlet (ft)	4623.20	Weir Avg Depth (ft)	1.78
Culv Nml Depth (ft)		Weir Flow Area (sq ft)	1739.61
Culv Crt Depth (ft)	1.56	Min El Weir Flow (ft)	4625.51

Warning: During the culvert inlet control computations, the program could not balance the culvert/weir flow. The reported inlet energy grade answer may not be valid.

CULVERT OUTPUT Profile #10-yr Culv Group: Culvert #1

Q Culv Group (cfs)	1673.55	Culv Full Len (ft)	48.00
# Barrels	4	Culv Vel US (ft/s)	6.97
Q Barrel (cfs)	418.39	Culv Vel DS (ft/s)	6.97

E.G. US. (ft)	4626.25	Culv Inv El Up (ft)	4617.20
W.S. US. (ft)	4626.24	Culv Inv El Dn (ft)	4617.20
E.G. DS (ft)	4625.34	Culv Frctn Ls (ft)	0.08
W.S. DS (ft)	4624.89	Culv Exit Loss (ft)	0.30
Delta EG (ft)	0.90	Culv Entr Loss (ft)	0.53
Delta WS (ft)	1.35	Q Weir (cfs)	1250.45
E.G. IC (ft)	4625.98	Weir Sta Lft (ft)	95.11
E.G. OC (ft)	4626.25	Weir Sta Rgt (ft)	2040.00
Culvert Control	Outlet	Weir Submerg	0.00
Culv WS Inlet (ft)	4623.20	Weir Max Depth (ft)	0.75
Culv WS Outlet (ft)	4623.20	Weir Avg Depth (ft)	0.66
Culv Nml Depth (ft)		Weir Flow Area (sq ft)	583.28
Culv Crt Depth (ft)	3.79	Min El Weir Flow (ft)	4625.51

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 3490.956

INPUT
Description:
Station Elevation Data num= 251

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4628.48	8.39	4628	31.63	4626.65	45.35	4626	65.93	4626
83.65	4626	113.84	4626	124.77	4626	143.14	4626	156.01	4626.89
173.75	4628	180.91	4629.13	198.67	4630	219.9	4630	233.85	4631.05
235.26	4631.07	254.48	4632	266.19	4632	273.74	4632	279.59	4632
287.87	4632	295.83	4632.25	307.18	4633.12	318.85	4633.75	321.32	4634
325.28	4634	330.99	4634	343.18	4634	418.37	4634.91	423.48	4635.03
449.06	4635.16	455.25	4635.32	460.67	4635.37	463.55	4635.37	472.93	4635.6
478.38	4635.61	489.96	4635.96	492.3	4636	493.62	4636	494.73	4636
506.62	4636	513.9	4636	515.31	4636	516.76	4636	521.9	4636
533.93	4636	582.71	4636	585.75	4636	592.46	4636	595.71	4636
620.84	4636	664.43	4635.23	698	4635.24	722.06	4635.05	730.99	4635.02
743.01	4634.98	749.78	4634.93	791.49	4634	804.72	4634	813.45	4634
821.84	4634	826.33	4634	837.41	4634	854.55	4633.7	907.39	4633.06
928.01	4632	933.16	4632	940.94	4632	941.69	4632	998.8	4630.14
1002.9	4630	1003.98	4629.96	1063.57	4628.03	1064.49	4628	1064.51	4628
1119.01	4626.91	1127.89	4626.75	1130.15	4626.7	1139.37	4626.61	1154.23	4626
1174.2	4626	1194.03	4626	1198.11	4626	1199.46	4626	1201.98	4626
1225.29	4625.62	1298.81	4624	1378.32	4625.61	1383.53	4625.59	1386.63	4625.61
1391.49	4625.68	1396.05	4625.72	1399.15	4625.71	1429.58	4625.83	1432.64	4625.83
1448.49	4626	1459.5	4626	1462.35	4626	1473.25	4626	1486.51	4625.88
1487.79	4625.88	1505.97	4625.79	1509.2	4625.8	1511.82	4625.76	1520.59	4625.64
1525.99	4625.65	1529.37	4625.64	1594.7	4625.18	1618.98	4624.61	1640.38	4624
1652.82	4624	1655.29	4624	1657.79	4622.84	1659.2	4622	1660.97	4621.05
1662.32	4620	1664.62	4618.96	1666.37	4618	1668.58	4616.73	1669.89	4616
1674.94	4616	1691.95	4616	1705.59	4616	1706.27	4616	1706.94	4616
1708.83	4616	1712.11	4617.28	1713.63	4618	1715.08	4618.68	1717.76	4620
1720.6	4621.47	1721.67	4622	1722.34	4622.32	1725.55	4624	1726.52	4624.6
1728.75	4626	1731.08	4626.89	1734	4628	1737.83	4628	1743.59	4628
1745.78	4628	1746.81	4628	1749.27	4628	1753.7	4628	1764.98	4628
1769.98	4628	1772.74	4628	1780.28	4628	1782.47	4628	1786.04	4628
1787.96	4628	1796.33	4628	1799.98	4628	1810.05	4628	1821	4629.23
1826.56	4630	1828.47	4630	1842.94	4630	1864.98	4630	1880.71	4630
1884.68	4630	1895.97	4630	1900.73	4630	1904.82	4630	1918.59	4628.36
1920.81	4628	1928.94	4626.44	1931.04	4626	1931.47	4625.9	1934.99	4625.2
1940.55	4624.12	1941.67	4624	1942.7	4624	1952.51	4624	1961.94	4624
1969.78	4624	1980.05	4624	2004.8	4624	2015.35	4624	2016.65	4624
2056.4	4624	2059.5	4624	2062.3	4624	2080.89	4624	2082.97	4624
2100.54	4624	2103.1	4624	2112.75	4624	2115.03	4624	2118.28	4624
2123.21	4625.61	2124.61	4626	2124.94	4626.33	2126.61	4628	2127.54	4628
2127.85	4628	2148.35	4628	2160.55	4627.87	2184.86	4628	2193.39	4628
2194.75	4628	2196.6	4628	2219.63	4628	2223.9	4628	2230.01	4628
2255.5	4628	2261.76	4628	2266.28	4627.87	2267.14	4627.86	2267.61	4627.85
2272.38	4627.5	2291.52	4626.56	2301.52	4626	2308.58	4626	2323.9	4626
2331.27	4626	2350.94	4626	2353.81	4626	2366.47	4626	2368	4626
2392.51	4627.41	2399.33	4628	2399.92	4628	2402.83	4628	2420.49	4628
2434.59	4628	2456.71	4628.66	2458.81	4628.71	2468.52	4628	2471.61	4627.29
2529.58	4627.75	2531.98	4627.82	2537.15	4628	2538.27	4628	2540.03	4628
2540.87	4628	2544.63	4628.16	2547.96	4628.31	2583.68	4630	2592.49	4631.24
2597.4	4632	2614.5	4632.86	2636.8	4634	2645.57	4635.31	2648.21	4636
2658.37	4636.57	2676.21	4638	2693.45	4639.33	2697.13	4640	2702.13	4640.19
2705.41	4640.38								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.045	1594.7	.035	1734	.055

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
1594.7	1734	591.29	561.2	578.66	.3	.5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent

```
       0  620.84              F
    1734 2705.41              F

CROSS SECTION OUTPUT  Profile #100-yr FP

  E.G. Elev (ft)           4628.35    Element                  Left OB    Channel   Right OB
  Vel Head (ft)               0.44    Wt. n-Val.                0.045      0.035
  W.S. Elev (ft)           4627.91    Reach Len. (ft)          591.29     561.20     578.66
  Crit W.S. (ft)                      Flow Area (sq ft)       1166.64     936.61
  E.G. Slope (ft/ft)      0.001785    Area (sq ft)            1416.02     936.61     967.79
  Q Total (cfs)            8625.00    Flow (cfs)              2768.89    5856.11
  Top Width (ft)           1242.70    Top Width (ft)           688.07     139.06     415.56
  Vel Total (ft/s)            4.10    Avg. Vel. (ft/s)            2.37       6.25
  Max Chl Dpth (ft)          11.91    Hydr. Depth (ft)            2.22       6.74
  Conv. Total (cfs)       204142.4    Conv. (cfs)             65536.1   138606.3
  Length Wtd. (ft)            572.59  Wetted Per. (ft)         525.76     143.92
  Min Ch El (ft)           4616.00    Shear (lb/sq ft)            0.25       0.73
  Alpha                       1.69    Stream Power (lb/ft s)      0.59       4.53
  Frctn Loss (ft)             0.63    Cum Volume (acre-ft)       88.85      56.77     110.85
  C & E Loss (ft)             0.12    Cum SA (acres)             32.33       5.74      37.91


Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT  Profile #100-yr FW

  E.G. Elev (ft)           4629.44    Element                  Left OB    Channel   Right OB
  Vel Head (ft)               0.21    Wt. n-Val.                0.045      0.035
  W.S. Elev (ft)           4629.23    Reach Len. (ft)          591.29     561.20     578.66
  Crit W.S. (ft)                      Flow Area (sq ft)       1676.57    1120.86
  E.G. Slope (ft/ft)      0.000722    Area (sq ft)            1676.57    1120.86       7.40
  Q Total (cfs)            8625.00    Flow (cfs)              3607.90    5017.10
  Top Width (ft)            585.77    Top Width (ft)           440.47     139.30       6.00
  Vel Total (ft/s)            3.08    Avg. Vel. (ft/s)            2.15       4.48
  Max Chl Dpth (ft)          13.23    Hydr. Depth (ft)            3.81       8.05
  Conv. Total (cfs)       321046.4    Conv. (cfs)            134296.0   186750.4
  Length Wtd. (ft)            572.78  Wetted Per. (ft)         443.75     144.17
  Min Ch El (ft)           4616.00    Shear (lb/sq ft)            0.17       0.35
  Alpha                       1.43    Stream Power (lb/ft s)      0.37       1.57
  Frctn Loss (ft)             0.63    Cum Volume (acre-ft)       90.43      53.32      37.52
  C & E Loss (ft)             0.18    Cum SA (acres)             23.62       5.74      11.28


Warning: The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross
         sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT  Profile #500-yr

  E.G. Elev (ft)           4629.71    Element                  Left OB    Channel   Right OB
  Vel Head (ft)               0.78    Wt. n-Val.                0.045      0.035
  W.S. Elev (ft)           4628.93    Reach Len. (ft)          591.29     561.20     578.66
  Crit W.S. (ft)                      Flow Area (sq ft)       1718.43    1078.15
  E.G. Slope (ft/ft)      0.002865    Area (sq ft)            2144.18    1078.15    1655.53
  Q Total (cfs)           15790.00    Flow (cfs)              6421.62    9368.38
  Top Width (ft)           1609.17    Top Width (ft)           738.43     139.30     731.45
  Vel Total (ft/s)            5.65    Avg. Vel. (ft/s)            3.74       8.69
  Max Chl Dpth (ft)          12.93    Hydr. Depth (ft)            3.08       7.74
  Conv. Total (cfs)       295022.8    Conv. (cfs)            119982.5   175040.3
  Length Wtd. (ft)            573.50  Wetted Per. (ft)         558.89     144.17
  Min Ch El (ft)           4616.00    Shear (lb/sq ft)            0.55       1.34
  Alpha                       1.58    Stream Power (lb/ft s)      2.05      11.62
  Frctn Loss (ft)             1.89    Cum Volume (acre-ft)      156.43      78.88     196.75
  C & E Loss (ft)             0.08    Cum SA (acres)             40.17       5.74      52.36


Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
         the need for additional cross sections.

CROSS SECTION OUTPUT  Profile #50-yr

  E.G. Elev (ft)           4627.44    Element                  Left OB    Channel   Right OB
  Vel Head (ft)               0.52    Wt. n-Val.                0.045      0.035
  W.S. Elev (ft)           4626.92    Reach Len. (ft)          591.29     561.20     578.66
  Crit W.S. (ft)                      Flow Area (sq ft)        671.75     800.53
  E.G. Slope (ft/ft)      0.002239    Area (sq ft)             776.94     800.53     628.13
  Q Total (cfs)            6435.00    Flow (cfs)              1319.97    5115.03
  Top Width (ft)           1041.35    Top Width (ft)           605.89     136.46     299.00
  Vel Total (ft/s)            4.37    Avg. Vel. (ft/s)            1.96       6.39
  Max Chl Dpth (ft)          10.92    Hydr. Depth (ft)            1.41       5.87
```

Conv. Total (cfs)	135986.0	Conv. (cfs)	27893.9	108092.1	
Length Wtd. (ft)	570.20	Wetted Per. (ft)	476.36	141.14	
Min Ch El (ft)	4616.00	Shear (lb/sq ft)	0.20	0.79	
Alpha	1.74	Stream Power (lb/ft s)	0.39	5.07	
Frctn Loss (ft)	0.72	Cum Volume (acre-ft)	56.85	45.87	71.96
C & E Loss (ft)	0.15	Cum SA (acres)	25.78	5.71	29.46

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4625.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.46	Wt. n-Val.	0.045	0.035	
W.S. Elev (ft)	4624.89	Reach Len. (ft)	591.29	561.20	578.66
Crit W.S. (ft)		Flow Area (sq ft)	37.09	529.13	
E.G. Slope (ft/ft)	0.002387	Area (sq ft)	37.09	529.13	159.89
Q Total (cfs)	2924.00	Flow (cfs)	34.74	2889.26	
Top Width (ft)	387.92	Top Width (ft)	83.85	119.70	184.38
Vel Total (ft/s)	5.16	Avg. Vel. (ft/s)	0.94	5.46	
Max Chl Dpth (ft)	8.88	Hydr. Depth (ft)	0.44	4.42	
Conv. Total (cfs)	59849.1	Conv. (cfs)	711.0	59138.1	
Length Wtd. (ft)	564.56	Wetted Per. (ft)	83.87	123.88	
Min Ch El (ft)	4616.00	Shear (lb/sq ft)	0.07	0.64	
Alpha	1.11	Stream Power (lb/ft s)	0.06	3.48	
Frctn Loss (ft)	0.99	Cum Volume (acre-ft)	20.23	30.27	17.02
C & E Loss (ft)	0.03	Cum SA (acres)	16.34	5.45	17.39

Warning: Divided flow computed for this cross-section.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 2929.759

INPUT
Description:
Station Elevation Data num= 329

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4629.81	3.36	4629.72	11.56	4629.19	16.48	4629.1	23.15	4628.75
36.3	4627.93	41.31	4627.91	47.34	4627.48	52.18	4627.34	55.86	4627.36
59.14	4627.22	65.7	4627.24	70.63	4627.06	72.27	4627.18	78.83	4626.98
82.11	4626.75	87.03	4626.81	90.31	4627.04	96.88	4627.25	100.16	4627.09
105.08	4626.43	111.64	4627.06	119.85	4627.06	128.05	4627.41	136.25	4627.47
147.34	4627.42	149.38	4627.3	159.22	4627.04	165.78	4627.28	175.63	4627.55
183.83	4627.59	187.11	4627.74	196.96	4627.91	213.48	4628	218.28	4628.19
221.57	4628.1	233.05	4628.34	252.74	4628.6	259.3	4628.62	262.58	4628.8
269.14	4628.83	274.07	4628.99	290.47	4629.12	293.75	4629.27	297.04	4629.24
303.39	4629.43	308.52	4629.38	310.16	4629.56	318.36	4629.59	324.93	4629.79
329.85	4629.74	333.13	4629.86	336.41	4629.81	359.38	4630.26	367.58	4630.31
372.51	4630.44	382.35	4630.54	388.91	4630.82	395.48	4630.9	398.76	4630.82
403.68	4630.94	410.24	4630.84	413.52	4631	420.09	4630.97	425.01	4631.07
433.21	4631.04	454.54	4631.3	456.18	4631.19	461.1	4631.24	472.59	4631.23
477.51	4631.07	482.43	4631.11	488.99	4630.91	503.76	4630.84	510.32	4630.69
515.24	4630.72	528.37	4630.62	536.57	4630.42	539.85	4630.43	548.06	4630.21
551.34	4630.25	554.62	4630.11	557.9	4630.16	562.82	4629.91	572.67	4629.82
584.15	4629.53	587.43	4629.56	597.36	4629.37	612.04	4629.25	634.46	4628.88
639.93	4628.9	657.98	4628.76	666.18	4629.04	671.11	4628.98	684	4629.25
685.87	4629.21	700.69	4629.53	708.84	4629.81	710.48	4629.75	720.72	4630.05
725.25	4630.01	735.09	4630.24	748.22	4630.31	761.34	4630.49	774.47	4630.44
776.11	4630.51	781.03	4630.38	785.95	4630.47	795.8	4630.44	804	4630.58
810.56	4630.38	817.12	4630.45	828.61	4630.46	843.38	4630.39	863.06	4630.52
869.63	4630.39	876.19	4630.7	882.75	4630.34	890.95	4630.28	902.44	4630.56
905.72	4630.47	912.28	4630.46	918.85	4630.36	938.53	4630.55	950.02	4630.57
952.21	4630.49	961.89	4630.46	968.07	4630.29	971.35	4630.37	981.19	4630.22
989.31	4630.31	992.82	4630.22	1002.21	4630.22	1008.66	4630.11	1017.29	4630.06
1018.93	4629.96	1027.88	4629.85	1046.82	4629.81	1056.66	4629.99	1060.28	4629.9
1069.79	4629.85	1081.27	4629.91	1082.91	4629.84	1087.98	4630	1104.24	4630.18
1110.28	4630.21	1117.37	4630.53	1127.21	4630.66	1133.77	4630.56	1148.54	4629.91
1153.83	4629.84	1166.59	4629.43	1168.23	4629.49	1171.51	4629.25	1178.07	4629
1184.63	4628.91	1189.55	4629	1197.76	4628.93	1207.6	4628.96	1212.52	4628.59
1217.45	4628.81	1227.29	4628.65	1230.57	4628.95	1233.85	4629.08	1242.06	4628.4
1243.7	4628.52	1255.18	4628.21	1258.46	4627.96	1260.28	4627.99	1273.23	4627.44
1274.87	4627.56	1279.79	4627.35	1281.43	4627.47	1287.99	4627.46	1291.28	4627.32
1304.4	4627.14	1307.68	4627.23	1310.96	4626.83	1315.89	4626.86	1322.45	4626.78
1327.37	4626.41	1338.85	4626.07	1348.39	4625.92	1353.62	4625.75	1360.18	4625.91
1371.67	4625.75	1374.95	4625.47	1378.23	4625.47	1379.87	4625.24	1386.43	4625.14
1389.71	4624.85	1396.28	4624.69	1397.92	4624.75	1406.12	4624.7	1412.68	4624.56
1417.61	4624.34	1419.25	4624.13	1430.73	4619.6	1432.37	4619.11	1437.29	4618.12

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 1440.58 4617.76 1446.88 4618.92 1450.42 4620.29  1453.7 4620.95 1466.83 4620.78
 1468.47 4620.88 1475.03 4623.02 1484.87 4623.92 1488.15 4623.82 1491.624622.744
 1494.72  4621.7 1499.64 4620.77  1506.2 4620.84 1507.84 4620.98 1512.76 4620.77
  1514.4 4620.15 1516.05 4618.92 1517.69 4618.49 1519.33 4617.26 1520.97  4615.5
 1522.61 4614.18 1540.66 4614.83 1543.94 4614.75 1552.23 4616.54 1557.06 4617.69
 1563.62  4620.8 1573.47 4622.26 1578.39 4623.69 1581.67 4625.12 1584.95 4626.18
 1587.96    4626 1615.95    4626 1618.74    4626 1618.93    4626 1619.87    4626
 1620.04 4625.97 1629.09 4624.74 1634.14 4624.05 1634.32 4624.04 1634.45 4624.04
 1635.04    4624 1635.29    4624 1657.81    4624 1658.92    4624 1684.32    4624
 1689.67    4624 1711.02 4623.68 1738.88 4623.68 1767.05    4624 1776.31    4624
 1787.91    4624  1790.1    4624 1802.12    4624 1806.26    4624 1821.88 4622.39
 1824.88 4622.41 1833.38    4622 1835.16    4622 1836.36    4622 1838.21    4622
 1839.64    4622 1840.79 4622.12 1855.48    4624 1863.79    4624 1880.27  4622.6
 1885.64 4622.58 1893.38    4622 1897.21    4622 1901.13    4622 1911.72    4622
 1915.85    4622 1923.83    4622 1930.97    4622 1940.28    4622 1956.72 4621.22
 1967.36 4621.11 1977.13 4620.53  1979.7 4620.51  1984.1    4620    1987    4620
 1993.06    4620 2007.25    4620 2019.41 4621.62 2021.18    4622 2021.87 4622.25
 2026.48    4624 2030.45 4625.78 2030.96    4626 2031.53 4626.23  2035.5    4628
 2039.09 4628.92 2041.41 4628.87 2056.74 4629.12 2062.68    4629 2068.21 4628.79
  2082.6    4628 2085.79    4628 2093.21    4628 2111.64    4628 2115.74    4628
 2119.47    4628 2125.82    4628 2150.46    4628  2153.6    4628  2171.1    4628
 2225.14    4628 2248.79    4628 2255.06    4628 2350.59    4628 2371.59    4628
 2372.33    4628 2377.26    4628 2404.97 4628.53 2485.65    4630 2495.81    4630
 2513.14    4630 2522.95    4630 2525.66    4630 2543.85 4631.74 2546.97    4632
 2560.68    4632 2581.16    4632 2620.42    4632 2641.93    4632    2647    4632
 2692.44 4633.47 2713.21    4634  2720.6 4634.27 2729.57 4634.65

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045 1507.84    .035 1563.62    .055

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1507.84 1563.62           625.43  622.69  622.78              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0  454.54  4631.3       F
 1584.95 2729.57 4626.18       F

CROSS SECTION OUTPUT  Profile #100-yr FP

  E.G. Elev (ft)           4627.61    Element                 Left OB    Channel   Right OB
  Vel Head (ft)              0.21     Wt. n-Val.               0.045      0.035     0.055
  W.S. Elev (ft)           4627.40    Reach Len. (ft)          625.43     622.69    622.78
  Crit W.S. (ft)           4624.56    Flow Area (sq ft)        751.64     599.50    1993.21
  E.G. Slope (ft/ft)      0.000745    Area (sq ft)             781.27     599.50    1993.21
  Q Total (cfs)            8625.00    Flow (cfs)              1533.09    3257.50    3834.41
  Top Width (ft)            846.02    Top Width (ft)           319.72      55.78     470.52
  Vel Total (ft/s)            2.58    Avg. Vel. (ft/s)           2.04       5.43       1.92
  Max Chl Dpth (ft)          13.22    Hydr. Depth (ft)           3.42      10.75       4.24
  Conv. Total (cfs)       315997.3    Conv. (cfs)             56168.4   119346.2   140482.6
  Length Wtd. (ft)           623.33   Wetted Per. (ft)         222.44      59.04     473.04
  Min Ch El (ft)           4614.18    Shear (lb/sq ft)           0.16       0.47       0.20
  Alpha                       2.04    Stream Power (lb/ft s)     0.32       2.57       0.38
  Frctn Loss (ft)             0.96    Cum Volume (acre-ft)      73.93      46.88      91.18
  C & E Loss (ft)             0.16    Cum SA (acres)            25.49       4.48      32.03


Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross
         sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
         the need for additional cross sections.
Note:    Multiple critical depths were found at this location.  The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT  Profile #100-yr FW

  E.G. Elev (ft)           4628.64    Element                 Left OB    Channel   Right OB
  Vel Head (ft)              0.82     Wt. n-Val.               0.045      0.035     0.055
  W.S. Elev (ft)           4627.82    Reach Len. (ft)          625.43     622.69    622.78
  Crit W.S. (ft)           4624.56    Flow Area (sq ft)        848.97     623.20    109.33
  E.G. Slope (ft/ft)      0.001839    Area (sq ft)             848.97     623.20    109.33
  Q Total (cfs)            8625.00    Flow (cfs)              2843.89    5458.90    322.21
  Top Width (ft)            310.62    Top Width (ft)           230.50      55.78     24.34
  Vel Total (ft/s)            5.45    Avg. Vel. (ft/s)           3.35       8.76       2.95
  Max Chl Dpth (ft)          13.64    Hydr. Depth (ft)           3.68      11.17       4.49
  Conv. Total (cfs)       201150.8    Conv. (cfs)             66324.8   127311.4    7514.6
  Length Wtd. (ft)           623.47   Wetted Per. (ft)         233.29      59.04     26.94
  Min Ch El (ft)           4614.18    Shear (lb/sq ft)           0.42       1.21       0.47
  Alpha                       1.77    Stream Power (lb/ft s)     1.40      10.61       1.37
  Frctn Loss (ft)             1.93    Cum Volume (acre-ft)      73.29      42.08      36.74
  C & E Loss (ft)             0.15    Cum SA (acres)            19.07       4.48      11.07
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Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4627.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.05	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4626.69	Reach Len. (ft)	625.43	622.69	622.78
Crit W.S. (ft)	4626.24	Flow Area (sq ft)	610.86	560.33	1663.39
E.G. Slope (ft/ft)	0.003826	Area (sq ft)	611.48	560.33	1663.39
Q Total (cfs)	15790.00	Flow (cfs)	2750.54	6595.98	6443.48
Top Width (ft)	713.67	Top Width (ft)	188.94	55.78	468.95
Vel Total (ft/s)	5.57	Avg. Vel. (ft/s)	4.50	11.77	3.87
Max Chl Dpth (ft)	12.51	Hydr. Depth (ft)	3.32	10.05	3.55
Conv. Total (cfs)	255274.7	Conv. (cfs)	44467.5	106636.3	104170.9
Length Wtd. (ft)	623.16	Wetted Per. (ft)	186.62	59.04	471.32
Min Ch El (ft)	4614.18	Shear (lb/sq ft)	0.78	2.27	0.84
Alpha	2.18	Stream Power (lb/ft s)	3.52	26.69	3.27
Frctn Loss (ft)	0.96	Cum Volume (acre-ft)	137.73	68.33	174.71
C & E Loss (ft)	0.27	Cum SA (acres)	33.87	4.48	44.38

Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4626.57	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.22	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4626.35	Reach Len. (ft)	625.43	622.69	622.78
Crit W.S. (ft)	4623.51	Flow Area (sq ft)	549.13	541.40	1504.38
E.G. Slope (ft/ft)	0.000804	Area (sq ft)	549.13	541.40	1504.38
Q Total (cfs)	6435.00	Flow (cfs)	1077.84	2855.64	2501.52
Top Width (ft)	702.54	Top Width (ft)	178.58	55.78	468.19
Vel Total (ft/s)	2.48	Avg. Vel. (ft/s)	1.96	5.27	1.66
Max Chl Dpth (ft)	12.17	Hydr. Depth (ft)	3.08	9.71	3.21
Conv. Total (cfs)	226921.3	Conv. (cfs)	38008.5	100700.2	88212.6
Length Wtd. (ft)	623.20	Wetted Per. (ft)	180.94	59.04	470.48
Min Ch El (ft)	4614.18	Shear (lb/sq ft)	0.15	0.46	0.16
Alpha	2.29	Stream Power (lb/ft s)	0.30	2.43	0.27
Frctn Loss (ft)	1.06	Cum Volume (acre-ft)	47.85	37.23	57.80
C & E Loss (ft)	0.17	Cum SA (acres)	20.45	4.47	24.37

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4624.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4623.92	Reach Len. (ft)	625.43	622.69	622.78
Crit W.S. (ft)	4620.70	Flow Area (sq ft)	246.57	405.41	28.19
E.G. Slope (ft/ft)	0.001354	Area (sq ft)	246.57	405.41	475.26
Q Total (cfs)	2924.00	Flow (cfs)	594.72	2287.78	41.50
Top Width (ft)	432.55	Top Width (ft)	87.88	55.78	288.89
Vel Total (ft/s)	4.30	Avg. Vel. (ft/s)	2.41	5.64	1.47
Max Chl Dpth (ft)	9.74	Hydr. Depth (ft)	2.81	7.27	1.84
Conv. Total (cfs)	79473.2	Conv. (cfs)	16164.3	62181.0	1127.9
Length Wtd. (ft)	623.01	Wetted Per. (ft)	90.13	59.04	15.65
Min Ch El (ft)	4614.18	Shear (lb/sq ft)	0.23	0.58	0.15
Alpha	1.41	Stream Power (lb/ft s)	0.56	3.27	0.22
Frctn Loss (ft)	1.78	Cum Volume (acre-ft)	18.30	24.25	12.80
C & E Loss (ft)	0.16	Cum SA (acres)	15.18	4.32	14.25

Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
         the need for additional cross sections.
Note:    Multiple critical depths were found at this location.  The critical depth with the lowest, valid, energy was used.

CROSS SECTION


RIVER: KingsCynCreek
REACH: Reach1             RS: 2307.066

INPUT
Description:
Station Elevation Data    num=     278
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 4638.22    4.53 4637.38    9.45 4637.09   12.73 4637.19   16.01 4636.74
    19.3 4636.52   25.86 4636.41   32.42 4636.03    45.1 4635.65   50.46 4635.13
    61.6 4634.72   65.55 4634.47    73.7 4634.19   78.35 4634.15   83.27 4633.68
   86.55 4633.71  101.21 4632.81   112.8  4632.6  116.08 4632.18  122.64 4630.53
  124.28 4630.53  127.57 4629.56  129.26 4628.86  132.49 4628.07  134.13  4628.5
  139.05 4629.12  149.06 4629.35  152.17  4629.5  158.73 4629.53  170.22 4629.45
  178.42 4629.24  191.54 4630.42  194.39 4630.43  203.03 4630.12  216.71 4629.92
  222.71 4629.68  229.27 4629.59  235.83  4629.3  240.76 4629.17   258.8 4628.42
  268.64  4628.2  278.49 4627.81  286.69 4627.65  289.97  4627.5  309.65 4627.14
  314.58 4627.12  326.06  4626.9  340.82 4626.73  344.43 4626.64  353.95 4626.64
  365.43 4626.52  368.71 4626.35  371.82 4626.41   385.2 4626.25  386.76 4626.31
  394.96    4626   404.8 4625.91   411.3 4625.69  419.56 4625.59  431.05 4625.53
  435.97 4625.41  450.73 4625.28   465.5 4624.95  467.14 4625.03  476.98 4625.01
  488.46 4625.09  491.74 4625.03  503.23 4625.09  511.43 4625.23  524.55 4625.31
  539.32 4625.28  547.52 4625.36  552.44 4625.34  565.56 4625.46  577.05 4625.38
  589.64  4625.4  593.45 4625.31  598.85 4625.34  608.22 4625.12  613.14 4625.17
  621.34 4625.04  632.82 4625.15  637.74 4625.09  655.79 4625.25  675.44 4625.31
  683.68 4625.44  700.08 4625.56  703.36 4625.78  708.45  4625.9   713.2 4625.72
  714.84 4625.87  719.54 4625.84  724.69 4625.94  734.53 4625.94     744 4626.06
  752.16 4626.06  762.42 4626.22  770.62 4626.23  783.74 4626.44  805.07 4626.61
  814.91 4626.81  831.32 4626.83  841.16 4626.99  847.72 4626.97  855.92 4627.14
  860.84 4627.06  862.48 4627.16  874.47 4627.32  882.17 4627.33  900.21 4627.47
  914.98 4627.51  926.46 4627.75  933.02 4627.78   944.6 4627.97  957.65 4628.06
  962.54 4628.16  974.03 4628.19  978.96 4628.31  985.52 4628.25  993.72 4628.38
 1011.76 4628.44 1019.97 4628.36 1023.25  4628.5 1039.65  4628.5 1041.77 4628.64
 1056.06 4628.94 1060.98 4628.93 1064.26 4629.06 1075.74  4629.1 1083.94 4629.44
 1090.51 4629.41 1095.43 4629.19 1106.91 4629.19 1113.47 4629.33 1121.67 4629.26
 1129.88 4629.48 1133.16 4629.41    1143  4627.6 1144.64 4627.46 1149.56 4625.74
  1151.2 4625.42 1156.12 4624.92 1162.69 4624.59 1164.33 4624.61 1167.61  4624.2
 1179.09 4623.68 1190.57 4623.72 1194.13 4623.83 1202.06 4623.88 1205.34 4624.03
  1211.9 4624.09 1213.54 4624.01 1218.33 4624.27 1226.66 4624.28 1229.94 4624.15
 1234.87 4624.15 1243.07 4624.28 1249.68 4624.18 1256.19  4623.9 1261.11 4624.06
 1267.67 4623.82 1275.88 4623.67 1277.52 4623.82 1282.44 4623.75 1285.72 4623.88
 1287.36 4623.77    1289 4624.21 1293.92 4624.51 1299.18 4624.35 1303.76 4624.58
 1308.69 4624.67 1311.97 4624.54 1315.25 4624.81 1323.45  4624.5 1330.01 4624.84
 1333.29  4625.1 1341.49 4625.03 1346.42 4624.64  1349.7 4624.63 1354.62 4624.79
 1361.18 4625.17  1366.1 4625.02 1371.02 4625.05 1375.94 4624.21 1382.51 4622.31
 1385.79 4621.81 1390.71 4621.58 1397.27 4620.99 1407.11 4620.75 1413.67 4620.93
 1420.24 4620.42 1423.52 4620.39 1425.16 4620.11 1436.64  4620.3 1438.28 4620.55
 1441.56 4621.42 1444.84  4621.3 1448.12 4621.49 1449.76  4622.1 1453.04 4622.51
 1456.33  4622.4 1462.89 4621.94 1465.03 4621.45 1471.09 4619.42 1474.37 4618.77
 1480.93 4618.72 1484.21 4618.85 1489.13 4617.18  1495.7 4615.55 1500.62 4613.94
 1505.54 4613.07  1512.1 4612.54 1518.68 4614.35 1521.94 4615.12 1526.86 4616.03
 1530.15 4619.49 1533.43 4620.29  1543.4 4620.45 1548.19 4620.43 1554.75 4621.11
 1558.25 4621.96 1561.31 4623.43 1562.51 4623.62 1566.24  4625.4 1568.15 4625.72
 1569.52 4626.35 1571.42    4626 1591.29    4626 1591.81 4625.78  1594.4 4624.72
 1596.15    4624 1597.63  4623.3 1600.45    4622 1601.81 4621.82 1616.23    4620
 1874.12    4620 1882.83 4620.69 1891.56    4622 1892.44 4622.37  1895.9 4623.27
  1898.7    4624 1900.86 4625.16 1902.44    4626 1930.87    4626 1932.21 4625.31
 1935.41    4624 1938.08  4623.2  1943.4 4622.69 1948.13    4622 1956.15 4620.96
 1966.26    4620 2290.48    4620 2302.48 4621.29 2309.28    4622 2311.72 4623.06
 2313.86    4624 2314.58  4624.4 2317.79    4626 2338.24    4626  2339.8 4625.42
 2343.58    4624 2494.57    4624 2519.35 4625.35 2528.95    4626 2530.56 4626.34
 2538.25    4628 2568.85 4629.74  2573.6    4630 2574.55 4630.12 2590.34    4632
  2605.2 4633.66 2609.92    4634 2642.62    4634 2643.65  4633.9 2643.86 4633.89
 2656.27 4632.83  2658.2 4632.89 2668.67 4632.83

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045 1484.21    .035 1533.43    .055

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1484.21 1533.43           300.3   308.6     311             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0 1129.88 4629.48        F
 1569.52 2668.67 4626.35        F

CROSS SECTION OUTPUT  Profile #100-yr FP
```

E.G. Elev (ft)	4626.48	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.82	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4624.66	Reach Len. (ft)	300.30	308.60	311.00
Crit W.S. (ft)	4624.66	Flow Area (sq ft)	489.90	457.92	108.01
E.G. Slope (ft/ft)	0.004961	Area (sq ft)	489.90	457.92	3238.42
Q Total (cfs)	8625.00	Flow (cfs)	2326.66	5835.73	462.61
Top Width (ft)	1206.55	Top Width (ft)	274.46	49.22	882.87
Vel Total (ft/s)	8.17	Avg. Vel. (ft/s)	4.75	12.74	4.28
Max Chl Dpth (ft)	12.12	Hydr. Depth (ft)	1.78	9.30	3.45
Conv. Total (cfs)	122455.6	Conv. (cfs)	33033.4	82854.3	6568.0
Length Wtd. (ft)	304.43	Wetted Per. (ft)	275.81	52.05	31.99
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	0.55	2.72	1.05
Alpha	1.75	Stream Power (lb/ft s)	2.61	34.73	4.48
Frctn Loss (ft)	0.70	Cum Volume (acre-ft)	64.81	39.32	53.79
C & E Loss (ft)	0.48	Cum SA (acres)	21.23	3.73	22.35

Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4626.56	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.29	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4624.27	Reach Len. (ft)	300.30	308.60	311.00
Crit W.S. (ft)	4624.27	Flow Area (sq ft)	358.30	438.79	95.83
E.G. Slope (ft/ft)	0.006290	Area (sq ft)	358.30	438.79	95.83
Q Total (cfs)	8625.00	Flow (cfs)	2064.58	6120.15	440.27
Top Width (ft)	187.42	Top Width (ft)	108.64	49.22	29.56
Vel Total (ft/s)	9.66	Avg. Vel. (ft/s)	5.76	13.95	4.59
Max Chl Dpth (ft)	11.73	Hydr. Depth (ft)	3.30	8.91	3.24
Conv. Total (cfs)	108748.5	Conv. (cfs)	26031.3	77166.0	5551.1
Length Wtd. (ft)	304.46	Wetted Per. (ft)	109.78	52.05	30.52
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	1.28	3.31	1.23
Alpha	1.58	Stream Power (lb/ft s)	7.39	46.18	5.66
Frctn Loss (ft)	0.53	Cum Volume (acre-ft)	64.62	34.49	35.28
C & E Loss (ft)	0.64	Cum SA (acres)	16.64	3.73	10.69

Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4626.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.16	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4626.36	Reach Len. (ft)	300.30	308.60	311.00
Crit W.S. (ft)	4626.36	Flow Area (sq ft)	1040.48	541.37	4803.47
E.G. Slope (ft/ft)	0.000821	Area (sq ft)	1389.88	541.37	4803.47
Q Total (cfs)	15790.00	Flow (cfs)	2083.06	3137.91	10569.03
Top Width (ft)	1785.73	Top Width (ft)	739.29	49.22	997.21
Vel Total (ft/s)	2.47	Avg. Vel. (ft/s)	2.00	5.80	2.20
Max Chl Dpth (ft)	13.82	Hydr. Depth (ft)	3.09	11.00	4.82
Conv. Total (cfs)	551087.4	Conv. (cfs)	72700.8	109516.4	368870.2
Length Wtd. (ft)	305.48	Wetted Per. (ft)	338.02	52.05	1002.36
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	0.16	0.53	0.25
Alpha	1.71	Stream Power (lb/ft s)	0.32	3.09	0.54
Frctn Loss (ft)	0.26	Cum Volume (acre-ft)	123.36	60.45	128.48
C & E Loss (ft)	0.00	Cum SA (acres)	27.21	3.73	33.90

Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

Warning: Divided flow computed for this cross-section.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #50-yr

			Left OB	Channel	Right OB
E.G. Elev (ft)	4625.34	Element			
Vel Head (ft)	1.93	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4623.41	Reach Len. (ft)	300.30	308.60	311.00
Crit W.S. (ft)	4623.41	Flow Area (sq ft)	265.51	396.11	70.50
E.G. Slope (ft/ft)	0.005774	Area (sq ft)	265.51	396.11	2241.25
Q Total (cfs)	6435.00	Flow (cfs)	1224.80	4944.23	265.97
Top Width (ft)	856.67	Top Width (ft)	105.49	49.22	701.96
Vel Total (ft/s)	8.79	Avg. Vel. (ft/s)	4.61	12.48	3.77
Max Chl Dpth (ft)	10.87	Hydr. Depth (ft)	2.52	8.05	2.53
Conv. Total (cfs)	84684.3	Conv. (cfs)	16118.3	65065.9	3500.2
Length Wtd. (ft)	304.96	Wetted Per. (ft)	106.51	52.05	28.30
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	0.90	2.74	0.90
Alpha	1.61	Stream Power (lb/ft s)	4.15	34.24	3.39
Frctn Loss (ft)	0.87	Cum Volume (acre-ft)	42.00	30.53	31.02
C & E Loss (ft)	0.51	Cum SA (acres)	18.41	3.72	16.00

Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #10-yr

			Left OB	Channel	Right OB
E.G. Elev (ft)	4622.38	Element			
Vel Head (ft)	2.05	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4620.33	Reach Len. (ft)	300.30	308.60	311.00
Crit W.S. (ft)	4620.33	Flow Area (sq ft)	22.29	244.63	0.05
E.G. Slope (ft/ft)	0.009522	Area (sq ft)	22.29	244.63	193.52
Q Total (cfs)	2924.00	Flow (cfs)	80.45	2843.54	0.01
Top Width (ft)	675.78	Top Width (ft)	28.78	49.22	597.78
Vel Total (ft/s)	10.95	Avg. Vel. (ft/s)	3.61	11.62	0.19
Max Chl Dpth (ft)	7.79	Hydr. Depth (ft)	0.77	4.97	0.02
Conv. Total (cfs)	29965.6	Conv. (cfs)	824.5	29141.1	0.1
Length Wtd. (ft)	306.13	Wetted Per. (ft)	29.02	52.05	2.40
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	0.46	2.79	0.01
Alpha	1.10	Stream Power (lb/ft s)	1.65	32.48	0.00
Frctn Loss (ft)	0.98	Cum Volume (acre-ft)	16.37	19.61	8.02
C & E Loss (ft)	0.56	Cum SA (acres)	14.34	3.57	7.91

Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 1999

INPUT
Description:
Station Elevation Data num= 400

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4631.07	7.12	4631.27	17.27	4631.19	28.54	4630.89	35.13	4631

41.72	4630.94	49.96	4630.76	53.45	4630.88	54.9	4630.78	58.2	4630.92
66.43	4630.72	68.08	4630.5	76.32	4630.32	84.56	4629.83	91.15	4629.59
102.68	4629.35	110.92	4629	124.1	4628.68	135.63	4628.09	143.87	4627.87
148.81	4627.63	155.4	4627.52	160.34	4627.28	171.87	4626.88	186.7	4626.54
189.99	4626.61	196.58	4626.5	201.53	4626.3	207.22	4626.31	216.26	4626.19
224.59	4626.22	232.83	4626.12	236.12	4626.16	252.6	4626.1	265.78	4626.15
270.72	4626.07	302.02	4626.03	306.97	4625.97	318.77	4626.05	323.44	4625.94
333.32	4626.04	348.15	4625.98	351.45	4625.93	362.98	4625.92	366.27	4625.98
384.4	4625.86	392.63	4625.72	395.93	4625.79	407.46	4625.57	410.76	4625.69
413.74	4625.51	418.99	4625.39	423.94	4625.66	428.88	4625.69	431.83	4625.83
437.12	4625.81	438.76	4626.28	448.41	4626.31	479.8	4626.34	483.24	4626.22
486.54	4626.29	498.07	4626.13	501.37	4625.94	509.6	4625.74	512.9	4625.75
521.14	4625.61	532.67	4625.62	535.96	4625.56	542.55	4625.63	544.2	4625.56
560.68	4625.25	564.49	4624.93	570.56	4624.69	577.15	4624.68	583.74	4624.79
585.39	4624.05	590.33	4621.25	591.98	4620.51	593.13	4620.45	600.22	4620.87
603.69	4620.72	605.16	4620.96	606.7	4620.32	610.1	4619.53	611.75	4618.82
616.69	4617.79	619.99	4617.51	624.93	4617.38	641.4	4617.41	646.32	4617.32
652.89	4617.54	659.46	4617.31	662.74	4617.39	669.31	4617.26	670.95	4617.32
672.59	4617.88	673.87	4617.65	675.87	4618.18	679.3	4617.69	682.44	4617.66
684.08	4617.41	685.73	4617.61	689.01	4617.65	695.58	4617.4	703.78	4617.31
710.35	4617.41	721.84	4617.19	723.49	4617.34	731.69	4617.41	741.55	4617.33
749.75	4617.41	754.68	4617.32	761.25	4617.38	779.31	4617.14	789.16	4617.39
800.65	4617.34	803.95	4617.41	808.86	4617.34	815.42	4617.61	817.07	4618.05
820.35	4618.59	821.99	4618.49	823.63	4619.1	830.2	4619.77	835.13	4619.42
836.77	4619.41	843.33	4619.69	851.54	4619.68	856.47	4619.52	866.32	4619.47
869.6	4619.51	876.53	4619.28	884.38	4619.19	886.02	4618.97	899.15	4618.81
900.8	4618.87	913.93	4618.34	922.14	4618.35	930.54	4618.45	941.84	4618.22
950.05	4618.16	958.26	4618.17	959.9	4618.28	968.11	4617.97	974.68	4617.91
976.32	4617.63	982.88	4617.06	984.53	4617.82	987.81	4618.95	994.38	4620.82
1007.51	4619.06	1010.79	4619.09	1014.08	4619.44	1020.65	4619.87	1025.57	4619.83
1030.5	4619.92	1038.7	4619.7	1043.47	4619.15	1050.2	4618.61	1053.48	4618.46
1058.41	4618.64	1063.33	4618.39	1066.61	4618.11	1081.39	4617.95	1097.81	4617.99
1107.66	4618.22	1113.63	4618.17	1124.08	4618.35	1132.13	4618.07	1140.49	4618.04
1147.06	4616.79	1148.7	4616.3	1153.63	4614.49	1158.55	4616.89	1165.12	4618.23
1166.76	4618.35	1175.23	4618.38	1178.25	4618.21	1188.11	4618.33	1196.31	4618.66
1199.98	4618.61	1202.88	4618.73	1209.45	4618.22	1214.37	4618.53	1220.94	4619.2
1225.87	4620.5	1229.15	4620.76	1230.79	4620.7	1234.07	4620.09	1235.72	4619.99
1237.36	4620.25	1241	4619.09	1245.57	4618.06	1248.85	4617.54	1259.93	4617.81
1265.27	4618.42	1268.55	4618.38	1279.61	4618	1283.6	4616.98	1286.45	4615.91
1288.25	4615.02	1291.59	4613.97	1293.07	4613.68	1294.82	4612.96	1299.74	4612.95
1303.03	4612.75	1316.16	4612.77	1317.8	4613.17	1327.66	4617.98	1329.3	4618.68
1332.66	4619.26	1340.79	4619.44	1342.43	4620.14	1345.71	4620.99	1347.36	4621.17
1349	4622.02	1352.28	4623.1	1353.92	4624.08	1357.21	4625.46	1360.49	4626.31
1362.13	4627.09	1365.65	4628.07	1367.06	4628.3	1370.38	4628.13	1375.11	4628.24
1378.55	4628.45	1384.68	4628.33	1391.75	4628.08	1396.6	4627.61	1400	4627.57
1404.95	4629.26	1406.6	4630.24	1410.01	4631.67	1411.5	4631.97	1413.2	4633.8
1416.5	4633.22	1418.15	4631.98	1423.1	4629.37	1426.41	4629	1431.35	4628.98
1434.65	4629.12	1439.6	4629.11	1446.2	4629.21	1457.68	4628.94	1461.05	4628.98
1466	4629.47	1474.25	4630.74	1475.9	4630.84	1479.19	4630.08	1480.84	4630.12
1484.14	4629.74	1487.47	4629.81	1492.39	4629.72	1498.99	4629.72	1503.94	4629.63
1508.89	4629.67	1515.49	4629.56	1522.09	4629.34	1527.04	4629.36	1535.29	4629.13
1548.49	4629.18	1551.79	4629.05	1568.29	4628.94	1574.89	4629.02	1581.49	4628.88
1593.25	4628.49	1604.58	4628.43	1609.41	4628.56	1612.83	4628.42	1616.13	4628.53
1624.38	4628.42	1632.63	4628.48	1635.93	4628.58	1640.88	4628.56	1650.78	4628.73
1662.33	4628.18	1665.63	4627.76	1669.23	4627.5	1675.53	4627.34	1683.78	4627.33
1688.89	4627.41	1696.98	4627.04	1700.51	4626.97	1706.88	4627.01	1711.83	4626.95
1718.47	4625.84	1721.72	4625.66	1725.02	4624.06	1728.82	4622.79	1731.8	4622.28
1734.92	4621.05	1738.22	4620.46	1743.71	4620.15	1751.42	4619.9	1762.97	4619.72
1771.22	4619.47	1787.72	4619.42	1800.92	4619.73	1807.51	4619.81	1810.81	4619.75
1822.35	4619.84	1825.65	4619.93	1837.79	4619.75	1848.73	4619.65	1863.57	4619.83
1866.86	4619.69	1870.16	4619.76	1878.41	4619.69	1881.7	4619.76	1893.29	4619.62
1899.84	4619.63	1909.73	4619.41	1929.52	4619.48	1934.46	4619.72	1937.76	4619.66
1950.95	4619.61	1954.25	4619.66	1962.1	4619.51	1965.79	4619.57	1978.98	4619.47
1990.52	4619.53	1997.11	4619.49	2002.06	4619.58	2013.6	4619.5	2021.84	4619.62
2025.14	4619.6	2028.44	4619.75	2043.28	4619.85	2044.93	4619.94	2059.77	4620.07
2063.06	4620.18	2071.44	4620.07	2084.5	4620.12	2096.04	4620.25	2114.17	4620.19
2119.12	4620.09	2120.65	4620.39	2130.66	4621.74	2133.96	4622.77	2135.61	4623.01
2137.26	4623.72	2138.99	4624.07	2140.34	4624.81	2143.85	4626.04	2145.5	4626.9
2147.15	4626.97	2152.09	4628.11	2153.74	4628.22	2161.99	4628.37	2166.93	4628.23
2173.53	4628.16	2178.47	4627.47	2183.42	4625.93	2185.27	4625.19	2186.72	4624.29
2190.02	4623.18	2193.31	4622.77	2199.91	4622.88	2204.85	4622.79	2214.75	4622.93
2222.99	4623.12	2229.58	4623.61	2234.53	4623.84	2237.83	4623.75	2241.13	4624.12
2249.37	4624.34	2255.66	4624.68	2259.26	4624.68	2262.56	4624.44	2269.15	4623.63
2274.1	4623.38	2279.05	4623.81	2282.62	4623.83	2287.29	4624.05	2293.89	4625.39
2298.83	4625.6	2302.13	4627.03	2304	4627.61	2305.09	4627.65	2310.37	4630.05
2313.67	4631.26	2316.97	4632.03	2318.67	4632.2	2323.56	4633.2	2335.1	4633.84
2345	4633.85	2358.19	4634.21	2362.01	4634.41	2371.38	4634.64	2384.56	4634.75
2389.51	4634.68	2392.81	4634.8	2396.11	4634.74	2409.3	4635.1	2422.49	4635.16
2434.03	4635.81	2436.89	4635.81	2448.87	4636.06	2453.81	4635.76	2463.28	4636.02

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.045	1279.61	.035	1329.3	.055

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

```
      1279.61  1329.3              363     419     416             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  1413.2 2463.28  4633.8       F
```

CROSS SECTION OUTPUT Profile #100-yr FP

E.G. Elev (ft)	4621.98	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4621.77	Reach Len. (ft)	363.00	419.00	416.00
Crit W.S. (ft)	4620.17	Flow Area (sq ft)	2383.97	366.69	37.80
E.G. Slope (ft/ft)	0.001313	Area (sq ft)	2383.97	366.69	821.59
Q Total (cfs)	8625.00	Flow (cfs)	6490.04	2077.80	57.16
Top Width (ft)	1156.78	Top Width (ft)	690.20	49.69	416.89
Vel Total (ft/s)	3.09	Avg. Vel. (ft/s)	2.72	5.67	1.51
Max Chl Dpth (ft)	9.02	Hydr. Depth (ft)	3.45	7.38	1.97
Conv. Total (cfs)	238067.4	Conv. (cfs)	179138.3	57351.3	1577.8
Length Wtd. (ft)	384.21	Wetted Per. (ft)	694.45	51.86	19.68
Min Ch El (ft)	4612.75	Shear (lb/sq ft)	0.28	0.58	0.16
Alpha	1.39	Stream Power (lb/ft s)	0.77	3.28	0.24
Frctn Loss (ft)	0.48	Cum Volume (acre-ft)	54.90	36.40	39.29
C & E Loss (ft)	0.00	Cum SA (acres)	17.90	3.38	17.71

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4622.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4622.40	Reach Len. (ft)	363.00	419.00	416.00
Crit W.S. (ft)	4620.17	Flow Area (sq ft)	2818.39	397.94	50.35
E.G. Slope (ft/ft)	0.000802	Area (sq ft)	2818.39	397.94	1085.40
Q Total (cfs)	8625.00	Flow (cfs)	6696.01	1860.94	68.05
Top Width (ft)	1163.54	Top Width (ft)	691.31	49.69	422.53
Vel Total (ft/s)	2.64	Avg. Vel. (ft/s)	2.38	4.68	1.35
Max Chl Dpth (ft)	9.65	Hydr. Depth (ft)	4.08	8.01	2.41
Conv. Total (cfs)	304626.3	Conv. (cfs)	236496.4	65726.6	2403.3
Length Wtd. (ft)	382.50	Wetted Per. (ft)	695.73	51.86	21.44
Min Ch El (ft)	4612.75	Shear (lb/sq ft)	0.20	0.38	0.12
Alpha	1.31	Stream Power (lb/ft s)	0.48	1.80	0.16
Frctn Loss (ft)	0.28	Cum Volume (acre-ft)	53.67	31.53	31.06
C & E Loss (ft)	0.00	Cum SA (acres)	13.88	3.38	9.08

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4624.47	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4624.26	Reach Len. (ft)	363.00	419.00	416.00
Crit W.S. (ft)	4621.08	Flow Area (sq ft)	4109.57	490.53	93.57
E.G. Slope (ft/ft)	0.000852	Area (sq ft)	4109.57	490.53	1960.65
Q Total (cfs)	15790.00	Flow (cfs)	12897.71	2719.25	173.05
Top Width (ft)	1268.25	Top Width (ft)	694.70	49.69	523.87
Vel Total (ft/s)	3.36	Avg. Vel. (ft/s)	3.14	5.54	1.85
Max Chl Dpth (ft)	11.51	Hydr. Depth (ft)	5.92	9.87	3.73
Conv. Total (cfs)	540855.4	Conv. (cfs)	441785.5	93142.5	5927.4
Length Wtd. (ft)	380.82	Wetted Per. (ft)	699.60	51.86	26.06
Min Ch El (ft)	4612.75	Shear (lb/sq ft)	0.31	0.50	0.19
Alpha	1.18	Stream Power (lb/ft s)	0.98	2.79	0.35
Frctn Loss (ft)	0.33	Cum Volume (acre-ft)	104.41	56.80	104.33
C & E Loss (ft)	0.00	Cum SA (acres)	22.27	3.38	28.47

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4621.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.23	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4620.87	Reach Len. (ft)	363.00	419.00	416.00
Crit W.S. (ft)	4619.68	Flow Area (sq ft)	1759.27	321.66	21.47
E.G. Slope (ft/ft)	0.001696	Area (sq ft)	1759.27	321.66	448.89
Q Total (cfs)	6435.00	Flow (cfs)	4507.78	1898.43	28.79
Top Width (ft)	1141.26	Top Width (ft)	687.42	49.69	404.15
Vel Total (ft/s)	3.06	Avg. Vel. (ft/s)	2.56	5.90	1.34
Max Chl Dpth (ft)	8.12	Hydr. Depth (ft)	2.56	6.47	1.35
Conv. Total (cfs)	156263.8	Conv. (cfs)	109464.3	46100.3	699.2
Length Wtd. (ft)	388.22	Wetted Per. (ft)	691.42	51.86	16.21
Min Ch El (ft)	4612.75	Shear (lb/sq ft)	0.27	0.66	0.14

Alpha	1.59	Stream Power (lb/ft s)	0.69	3.88	0.19
Frctn Loss (ft)	0.72	Cum Volume (acre-ft)	35.02	27.98	21.42
C & E Loss (ft)	0.01	Cum SA (acres)	15.68	3.37	12.05

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #10-yr

			Left OB	Channel	Right OB
E.G. Elev (ft)	4619.75	Element			
Vel Head (ft)	0.19	Wt. n-Val.	0.045	0.035	0.055
W.S. Elev (ft)	4619.56	Reach Len. (ft)	363.00	419.00	416.00
Crit W.S. (ft)	4618.83	Flow Area (sq ft)	905.76	256.59	3.66
E.G. Slope (ft/ft)	0.001590	Area (sq ft)	905.76	256.59	10.71
Q Total (cfs)	2924.00	Flow (cfs)	1660.87	1261.33	1.80
Top Width (ft)	758.63	Top Width (ft)	594.08	49.69	114.86
Vel Total (ft/s)	2.51	Avg. Vel. (ft/s)	1.83	4.92	0.49
Max Chl Dpth (ft)	6.81	Hydr. Depth (ft)	1.52	5.16	0.31
Conv. Total (cfs)	73325.1	Conv. (cfs)	41649.7	31630.2	45.2
Length Wtd. (ft)	397.09	Wetted Per. (ft)	597.16	51.86	11.84
Min Ch El (ft)	4612.75	Shear (lb/sq ft)	0.15	0.49	0.03
Alpha	1.96	Stream Power (lb/ft s)	0.28	2.41	0.02
Frctn Loss (ft)	0.71	Cum Volume (acre-ft)	13.18	17.83	7.29
C & E Loss (ft)	0.01	Cum SA (acres)	12.19	3.22	5.36

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 1580

INPUT
Description:
Station Elevation Data num= 435

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4628.86	32.7	4628.77	41	4628.21	57.6	4627.66	79	4626.26
156.1	4624.25	276	4622.91	298.8	4622.92	307	4623.31	346.4	4622.66
348	4622.51	349.7	4622.41	353	4620.93	357.4	4619.68	361.2	4620.18
362.4	4619.72	364.5	4619.3	372.7	4618.53	384.1	4618.62	385.9	4618.42
392.3	4618.69	402.1	4618.19	483.2	4618.31	508.8	4618.98	523.5	4618.69
540	4618.75	544.9	4618.45	566.2	4618.61	592.5	4617.92	600.7	4617.92
622	4618.56	637.2	4618.24	674.5	4618.41	685.8	4618.2	691.2	4617.74
699.1	4617.46	722.1	4617.58	733.6	4617.14	740.9	4617.76	746.7	4617.81
747.4	4617.71	748.3	4617.56	750	4617.41	768	4617.45	773.3	4617.2
799.1	4617.49	804.1	4617.75	807.4	4616.87	809.1	4616.71	814.1	4616.44
877.9	4616.3	884.5	4616.42	891.6	4617.28	906.3	4618.29	908.3	4618.63
909.8	4618.93	910	4618.98	910.1	4619	910.4	4619.03	911.9	4619.15
912.5	4619.19	913.7	4619.31	914.9	4619.39	915.5	4619.41	916.2	4619.43
917	4619.46	917.3	4619.47	917.4	4619.48	917.7	4619.48	918.7	4619.5
922.7	4619.5	923.7	4619.47	924.5	4619.45	924.9	4619.37	933.5	4617.6
933.6	4617.59	934.8	4617.46	935.3	4617.39	936	4617.34	936.9	4617.24
949.8	4617.17	950.2	4617.12	950.9	4617.04	951.6	4616.9	952.1	4616.76
953.3	4616.45	953.4	4616.44	953.5	4616.41	954.1	4616.27	954.6	4616.16
955.2	4616	955.8	4615.8	960.1	4614.45	961.2	4613.99	962	4613.63
962.4	4613.46	963.2	4613.24	963.4	4613.2	964.2	4613.01	993	4612.56
999.2	4613.05	1011.2	4614.62	1016.5	4615.31	1018.3	4615.16	1019	4615.14
1020.1	4615.2	1020.2	4615.21	1021.9	4615.34	1027.3	4616.76	1027.6	4616.85
1028.4	4616.95	1028.9	4616.97	1029.7	4617.13	1030.1	4617.2	1030.9	4617.42
1031.3	4617.61	1032.6	4618.12	1033	4618.19	1033.8	4618.34	1034.5	4618.43
1035.1	4618.47	1038.1	4618.47	1038.8	4618.28	1039.6	4617.95	1039.9	4617.84
1040	4617.81	1040.3	4617.78	1041.3	4617.6	1042.5	4617.22	1042.9	4617.1
1043.5	4616.92	1043.7	4616.9	1044.2	4616.89	1045	4616.89	1045.3	4616.87
1046.2	4616.82	1047.4	4616.74	1062.9	4617.22	1076.7	4617.18	1080.4	4616.82
1080.9	4616.82	1082.1	4616.81	1086.9	4616.93	1087.3	4616.96	1087.4	4616.96
1088.6	4616.77	1089.2	4616.69	1099.6	4616.56	1141	4617.08	1201	4620.91
1223.7	4622.83	1253.4	4626.34	1254.8	4626.34	1255.1	4626.39	1255.8	4626.44
1256.1	4626.47	1256.9	4626.51	1257.4	4626.55	1258.5	4626.65	1258.6	4626.65
1258.7	4626.67	1261.2	4626.83	1261.3	4626.82	1262.1	4626.81	1262.5	4626.82
1263.5	4626.86	1264	4626.92	1269.1	4627.58	1295.7	4627.98	1296.9	4627.92
1297.1	4627.9	1299.9	4627.84	1300.5	4627.82	1300.8	4627.82	1302.1	4627.85
1302.3	4627.85	1302.6	4627.86	1304	4627.89	1304.7	4627.91	1305.4	4627.92
1305.8	4627.93	1305.9	4627.93	1307.5	4627.91	1308.1	4627.91	1310.9	4627.94
1328.5	4628.48	1417.6	4627.99	1429.4	4628.38	1442.8	4628.17	1451.7	4628.44
1467.1	4627.92	1468.2	4627.91	1468.3	4627.91	1468.7	4627.92	1470.7	4628.04
1470.9	4628.05	1474.7	4628.22	1475.2	4628.22	1476	4628.17	1479.9	4627.96
1480.5	4627.92	1481.1	4627.91	1481.7	4627.91	1483	4627.92	1484.5	4627.94
1492.8	4628.19	1493.9	4628.22	1495.2	4628.08	1495.5	4628.03	1496.2	4627.92
1496.5	4627.9	1520.6	4628.11	1520.8	4628.11	1521.2	4628.09	1522.1	4628.01
1522.4	4628	1524.1	4627.96	1525.9	4628.01	1527.2	4628.06	1536.4	4627.73
1550.3	4627.91	1550.6	4627.89	1551.5	4627.83	1552.1	4627.79	1553.8	4627.65

1554.6	4627.6	1555.6	4627.56	1578.2	4627.9	1578.4	4627.9	1579.6	4627.89
1580	4627.89	1581.8	4627.85	1582.2	4627.84	1583.2	4627.77	1583.4	4627.75
1583.5	4627.74	1583.7	4627.69	1584.7	4627.42	1585.3	4627.27	1586.5	4627.2
1590.5	4627.16	1592	4627.08	1594.9	4626.96	1597.5	4626.94	1615	4627.54
1635.7	4627.41	1635.9	4627.39	1636.1	4627.36	1637.1	4627.03	1641.2	4626.56
1642.3	4626.16	1642.9	4625.87	1643.5	4625.54	1644.3	4625.27	1647.4	4624.43
1648.7	4623.71	1649.8	4623.17	1649.9	4623.13	1655.3	4622.24	1656.3	4622.14
1656.9	4622.08	1657.6	4622.04	1658.6	4622.06	1658.9	4622.02	1659.6	4621.79
1660.4	4621.48	1663.9	4620.58	1664	4620.55	1664.3	4620.51	1665.3	4620.42
1665.6	4620.39	1667.4	4620.17	1667.8	4620.14	1669.1	4620.12	1670.4	4620.05
1670.9	4620	1676.8	4619.07	1677.4	4619.04	1677.8	4619.01	1678.1	4619
1679.3	4618.85	1679.6	4618.83	1751.2	4619.51	1782.7	4619.36	1814.9	4620.23
1825.1	4620.11	1853.3	4619.16	1885.7	4618.76	1886.8	4618.79	1900.6	4619.09
1901.4	4619.1	1903.1	4619.12	1903.2	4619.12	1903.3	4619.13	1904.4	4619.16
1904.9	4619.17	1906.1	4619.19	1907.7	4619.19	1908.2	4619.18	1910.2	4619.14
1910.8	4619.13	1911.6	4619.13	1911.9	4619.12	1912.1	4619.13	1912.5	4619.12
1913.4	4619.11	1914.4	4619.1	1914.6	4619.1	1915.4	4619.11	1917.2	4619.06
1918.9	4619.06	1919.8	4619.1	1919.9	4619.11	1920.7	4619.14	1921	4619.15
1922	4619.18	1922.4	4619.19	1922.6	4619.2	1924.2	4619.25	1925.4	4619.25
1925.9	4619.26	1927.4	4619.22	1927.7	4619.21	1928.1	4619.21	1928.7	4619.2
1930	4619.19	1930.9	4619.17	1931.1	4619.16	1931.6	4619.16	1932.5	4619.15
1933.8	4619.13	1935.1	4619.12	1936.4	4619.12	1938.1	4619.11	1938.9	4619.1
1939.9	4619.09	1940.2	4619.1	1962.6	4619.73	1963.2	4619.73	1964	4619.72
1964.5	4619.71	1965	4619.7	1965.8	4619.66	1966.1	4619.66	1966.7	4619.64
1967.8	4619.61	1968.3	4619.6	1969.5	4619.56	1969.6	4619.56	1972.2	4619.58
1973.1	4619.55	1973.5	4619.53	1974.5	4619.43	1974.7	4619.42	1974.8	4619.41
2007.9	4619.81	2067.4	4619.62	2087.3	4620.1	2088.5	4620.13	2089	4620.11
2089.8	4620.1	2090.1	4620.11	2090.7	4620.13	2092.4	4620.16	2093.5	4620.18
2093.6	4620.19	2096.2	4620.19	2097.1	4620.22	2097.5	4620.23	2098.6	4620.27
2098.8	4620.28	2099	4620.28	2100.1	4620.29	2101.8	4620.3	2102.3	4620.31
2102.6	4620.32	2103.9	4620.36	2104.1	4620.37	2104.5	4620.36	2105.2	4620.35
2105.8	4620.34	2106.4	4620.33	2107.6	4620.29	2108.1	4620.3	2109.3	4620.32
2110.3	4620.4	2111.1	4620.48	2116.7	4621.15	2117.7	4621.35	2118	4621.42
2118.1	4621.44	2118.3	4621.48	2119.2	4621.6	2119.8	4621.71	2120.5	4621.89
2121	4621.97	2121.8	4622.11	2123.1	4622.32	2123.3	4622.35	2125	4622.52
2125.6	4622.56	2126.6	4622.51	2126.8	4622.52	2126.9	4622.54	2127.2	4622.67
2128.2	4623.1	2129.3	4623.4	2129.5	4623.43	2130.7	4623.97	2132	4624.49
2132.1	4624.5	2133.3	4624.82	2133.8	4624.9	2134.8	4625.14	2135.5	4625.29
2136.8	4626.34	2137.1	4626.76	2137.3	4626.87	2137.6	4627.05	2138.4	4627.59
2139	4627.94	2140.3	4628.09	2140.8	4628.13	2141	4628.11	2141.5	4628.15
2142.3	4628.25	2142.5	4628.29	2144.3	4628.42	2144.8	4628.42	2145.8	4628.38
2146	4628.38	2146.1	4628.37	2147.4	4628.34	2147.8	4628.33	2153.8	4628.34

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.055	949.8	.035	1027.6	.055

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
949.8	1027.6	28.2	28.2	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
1328.48	2153.8	4628.48	F

CROSS SECTION OUTPUT Profile #100-yr FP

			Left OB	Channel	Right OB
E.G. Elev (ft)	4621.49	Element			
Vel Head (ft)	0.22	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4621.28	Reach Len. (ft)	28.20	28.20	28.20
Crit W.S. (ft)	4619.65	Flow Area (sq ft)	1986.04	568.20	620.64
E.G. Slope (ft/ft)	0.001211	Area (sq ft)	1986.04	568.20	1420.05
Q Total (cfs)	8625.00	Flow (cfs)	4152.84	3132.56	1339.60
Top Width (ft)	1309.28	Top Width (ft)	597.58	77.80	633.90
Vel Total (ft/s)	2.72	Avg. Vel. (ft/s)	2.09	5.51	2.16
Max Chl Dpth (ft)	8.72	Hydr. Depth (ft)	3.32	7.30	3.49
Conv. Total (cfs)	247865.3	Conv. (cfs)	119344.3	90023.6	38497.4
Length Wtd. (ft)	28.20	Wetted Per. (ft)	598.71	78.81	178.40
Min Ch El (ft)	4612.56	Shear (lb/sq ft)	0.25	0.54	0.26
Alpha	1.88	Stream Power (lb/ft s)	0.52	3.00	0.57
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	36.69	31.90	28.59
C & E Loss (ft)	0.02	Cum SA (acres)	12.54	2.77	12.69

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #100-yr FW

			Left OB	Channel	Right OB
E.G. Elev (ft)	4622.26	Element			
Vel Head (ft)	0.13	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4622.13	Reach Len. (ft)	28.20	28.20	28.20
Crit W.S. (ft)	4619.65	Flow Area (sq ft)	2497.77	634.71	776.93
E.G. Slope (ft/ft)	0.000656	Area (sq ft)	2497.77	634.71	1969.62
Q Total (cfs)	8625.00	Flow (cfs)	4469.53	2773.43	1382.04
Top Width (ft)	1330.71	Top Width (ft)	599.48	77.80	653.42
Vel Total (ft/s)	2.21	Avg. Vel. (ft/s)	1.79	4.37	1.78

Max Chl Dpth (ft)	9.57	Hydr. Depth (ft)	4.17	8.16	4.14
Conv. Total (cfs)	336690.5	Conv. (cfs)	174475.3	108265.3	53949.9
Length Wtd. (ft)	28.20	Wetted Per. (ft)	600.80	78.81	188.55
Min Ch El (ft)	4612.56	Shear (lb/sq ft)	0.17	0.33	0.17
Alpha	1.71	Stream Power (lb/ft s)	0.30	1.44	0.30
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	31.52	26.56	16.47
C & E Loss (ft)	0.04	Cum SA (acres)	8.50	2.77	3.94

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4624.14	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4623.93	Reach Len. (ft)	28.20	28.20	28.20
Crit W.S. (ft)	4620.59	Flow Area (sq ft)	3695.67	774.66	1131.94
E.G. Slope (ft/ft)	0.000884	Area (sq ft)	3695.67	774.66	3181.45
Q Total (cfs)	15790.00	Flow (cfs)	8472.73	4487.46	2829.81
Top Width (ft)	1530.75	Top Width (ft)	765.21	77.80	687.74
Vel Total (ft/s)	2.82	Avg. Vel. (ft/s)	2.29	5.79	2.50
Max Chl Dpth (ft)	11.37	Hydr. Depth (ft)	4.83	9.96	5.51
Conv. Total (cfs)	531000.6	Conv. (cfs)	284928.7	150908.4	95163.5
Length Wtd. (ft)	28.20	Wetted Per. (ft)	766.62	78.81	206.21
Min Ch El (ft)	4612.56	Shear (lb/sq ft)	0.27	0.54	0.30
Alpha	1.70	Stream Power (lb/ft s)	0.61	3.14	0.76
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	71.89	50.71	79.78
C & E Loss (ft)	0.02	Cum SA (acres)	16.18	2.77	22.69

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4620.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4620.04	Reach Len. (ft)	28.20	28.20	28.20
Crit W.S. (ft)	4619.25	Flow Area (sq ft)	1250.71	472.16	411.68
E.G. Slope (ft/ft)	0.002032	Area (sq ft)	1250.71	472.16	663.87
Q Total (cfs)	6435.00	Flow (cfs)	2514.26	2980.92	939.82
Top Width (ft)	1225.32	Top Width (ft)	592.28	77.80	555.24
Vel Total (ft/s)	3.01	Avg. Vel. (ft/s)	2.01	6.31	2.28
Max Chl Dpth (ft)	7.48	Hydr. Depth (ft)	2.11	6.07	2.58
Conv. Total (cfs)	142739.0	Conv. (cfs)	55770.5	66121.7	20846.8
Length Wtd. (ft)	28.20	Wetted Per. (ft)	593.18	78.81	160.43
Min Ch El (ft)	4612.56	Shear (lb/sq ft)	0.27	0.76	0.33
Alpha	2.29	Stream Power (lb/ft s)	0.54	4.80	0.74
Frctn Loss (ft)	0.05	Cum Volume (acre-ft)	22.48	24.17	16.10
C & E Loss (ft)	0.03	Cum SA (acres)	10.35	2.75	7.47

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4619.02	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.31	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4618.71	Reach Len. (ft)	28.20	28.20	28.20
Crit W.S. (ft)	4617.75	Flow Area (sq ft)	486.58	368.68	212.96
E.G. Slope (ft/ft)	0.002028	Area (sq ft)	486.58	368.68	212.96
Q Total (cfs)	2924.00	Flow (cfs)	608.83	1971.72	343.46
Top Width (ft)	742.11	Top Width (ft)	525.32	77.80	138.99
Vel Total (ft/s)	2.74	Avg. Vel. (ft/s)	1.25	5.35	1.61
Max Chl Dpth (ft)	6.15	Hydr. Depth (ft)	0.93	4.74	1.53
Conv. Total (cfs)	64925.1	Conv. (cfs)	13518.5	43780.3	7626.2
Length Wtd. (ft)	28.20	Wetted Per. (ft)	525.89	78.81	139.56
Min Ch El (ft)	4612.56	Shear (lb/sq ft)	0.12	0.59	0.19
Alpha	2.66	Stream Power (lb/ft s)	0.15	3.17	0.31
Frctn Loss (ft)	0.05	Cum Volume (acre-ft)	7.37	14.82	6.22
C & E Loss (ft)	0.02	Cum SA (acres)	7.53	2.61	4.15

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 1552

```
INPUT
Description:
Station Elevation Data    num=     290
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 4628.26    15.4 4627.89    18.7 4628.19    31.8 4628.28    38.4 4627.94
    41.6 4627.63    44.9 4626.03    51.5 4624.07    64.6    4623    67.9 4623.32
    89.2 4622.74    95.8  4622.8   103.2  4622.5     305  4622.5     317    4619
   322.2 4618.91   325.5 4619.19   330.3 4618.73     337 4618.51   341.9 4618.64
   345.2 4618.38   363.2 4618.24   370.4 4618.53   379.7 4618.19   391.1 4618.42
   402.6 4618.05   433.8 4618.53   450.2 4618.28   461.9 4618.74   468.2 4618.56
   476.3 4618.77   484.3  4618.3   511.9 4618.67   530.4 4618.34   540.5 4618.65
   551.7 4618.18   567.8 4618.63   586.4  4618.8   602.6 4618.55   623.9 4617.83
   630.7    4618   654.4 4617.65   668.4 4617.78   729.2 4617.21   750.3 4617.28
   758.7 4617.66   761.9 4617.51   763.5 4617.23   763.6  4617.2   771.5 4617.26
   784.9 4616.71   794.8 4617.14   812.4 4616.34   860.4 4616.26   862.1 4616.34
   866.9 4616.79   874.3 4616.89   877.4 4617.29   877.9 4617.42   879.8    4618
   881.1 4618.23   881.6 4618.44   883.4 4619.21   883.5 4619.25   885.2 4619.41
     886 4619.51   887.1 4619.65   887.2 4619.66   892.5 4619.85   895.8 4619.62
   903.5 4617.58   904.4  4617.5   906.8 4617.13   907.2 4617.12   908.1  4617.1
     909 4617.11   909.3  4617.1   909.9 4617.08   910.5 4617.03   910.8 4617.01
   920.3 4617.33   921.2 4617.32   921.6 4617.32   921.8 4617.34   923.6 4617.16
   928.9 4615.32   929.5 4614.96   930.1 4614.44   932.6 4613.08   934.5 4612.74
   935.1 4612.71   936.1 4612.62   936.3  4612.6   936.4 4612.59   936.6 4612.59
   938.2 4612.55   938.7 4612.54   967.4 4612.78   968.2 4613.01   968.7 4613.17
   969.2 4613.31   969.4 4613.36   969.8 4613.47   970.6 4613.92   971.1 4614.19
   971.9 4614.58   972.3 4614.77   973.1  4615.1     978 4615.49   987.8 4615.47
     989 4615.48   990.2 4615.63   995.9 4616.41   997.6 4617.29   998.8 4617.77
  1003.9 4618.38  1004.4 4618.36  1007.6 4618.35    1013 4616.75  1022.1  4617.5
  1034.5 4616.91  1034.9 4616.93  1036.5  4617.1  1037.4 4617.19    1038 4617.26
  1038.7 4617.31  1039.2 4617.32  1039.7 4617.34  1060.7 4616.09  1061.5 4616.18
  1061.7 4616.19  1064.2 4616.53  1070.6 4616.15    1080 4616.34  1092.2 4615.91
  1092.3 4615.91  1092.4 4615.92  1093.6 4616.03    1094 4616.05  1094.8 4616.11
  1094.9 4616.12  1095.7 4616.15  1096.1 4616.13  1097.1 4616.12  1099.2 4616.15
  1099.9 4616.24  1101.8 4616.41  1102.5 4616.44  1102.7 4616.46  1106.1 4616.81
  1124.2 4616.77  1125.4 4616.72  1125.5 4616.72  1126.7 4616.67  1127.2 4616.64
    1128 4616.54  1128.3 4616.48  1129.3 4616.28  1134.4 4615.36  1134.8 4615.39
    1136 4615.43    1137 4615.49  1137.7 4615.46  1138.2 4615.58  1139.5 4616.08
  1140.8 4616.41  1141.2 4616.64  1142.1 4616.98    1143 4617.37  1143.3 4617.43
  1144.3 4617.64  1144.7 4617.73  1156.1 4617.71  1176.2 4616.86  1190.5 4617.28
  1192.4 4617.28  1193.1 4617.29  1193.7  4617.3  1194.4 4617.29  1195.5 4617.28
  1195.6 4617.28  1196.9 4617.29  1197.2  4617.3  1197.9 4617.26    1199 4617.18
  1199.5 4617.23  1200.7 4617.43  1200.8 4617.43  1202.5 4617.45  1205.5 4618.32
  1209.7 4618.98  1210.2 4619.28  1211.2 4619.87  1211.8 4620.08  1212.2 4620.22
  1214.8 4620.68  1214.9 4620.73  1216.1 4621.17  1216.5  4621.3  1217.3  4621.5
  1217.4 4621.51  1218.2 4621.62  1218.6 4621.73  1219.6 4622.14  1220.2 4622.33
  1221.7 4622.51  1222.4 4622.73    1223 4622.98  1224.3  4623.6    1225 4623.89
  1225.2 4623.99  1225.8 4624.17  1228.5 4625.18  1228.7 4625.25  1228.8 4625.28
  1232.6 4626.09 1250.17    4626 1256.75    4626 1258.13 4625.31 1260.44    4624
 1264.26 4622.33 1265.06    4622 1274.74 4620.82 1280.06    4620 1485.21    4620
 1497.97 4620.93 1505.95 4621.03 1517.23 4621.34 1540.64 4621.82 1545.05 4621.56
  1546.9    4622 1551.39 4622.66 1556.52 4623.64 1557.94 4623.77 1560.07    4624
 1571.57 4625.72 1573.62    4626 1606.95    4626 1615.07    4624 1616.01 4623.77
 1622.37    4622 1646.97 4620.21 1649.34    4620 2066.93    4620 2083.53 4621.56
  2086.2 4620.59  2086.3  4620.6  2086.5 4620.64  2087.6 4620.79  2087.9 4620.84
  2088.8 4620.96  2089.7 4621.09  2090.1 4621.22  2091.2 4621.51  2091.4 4621.55
  2091.6 4621.58  2092.7 4621.78  2093.2 4621.89  2094.9 4621.85  2095.2 4621.92
  2095.9 4622.17  2097.1 4622.54  2097.8 4622.71  2098.4 4622.88  2099.9 4623.27
  2100.2 4623.34  2100.3 4623.36  2101.6 4623.42  2101.9 4623.45  2102.9 4624.03
  2105.4 4625.29  2105.5 4625.32  2107.2 4626.11  2109.2  4626.2  2110.1 4626.35
  2110.5 4626.39  2110.7 4626.44  2111.1 4626.57  2111.8 4626.77  2112.4 4627.06
  2114.2 4627.46  2114.4 4627.47  2114.8 4627.55  2115.6  4627.8  2116.6 4627.98
  2116.9 4628.03  2117.7 4628.09  2126.4 4628.45  2127.1 4628.46 2127.18 4628.46

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .055   921.2    .035     978    .055

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         921.2     978            105.1   105.1      70             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  1232.6 2127.18 4626.09       F

CROSS SECTION OUTPUT  Profile #100-yr FP

  E.G. Elev (ft)           4621.45    Element                 Left OB    Channel   Right OB
  Vel Head (ft)               0.16    Wt. n-Val.                0.055      0.035     0.055
  W.S. Elev (ft)           4621.29    Reach Len. (ft)         105.10     105.10     70.00
  Crit W.S. (ft)           4619.46    Flow Area (sq ft)      2057.98     434.61   1037.25
  E.G. Slope (ft/ft)      0.001026    Area (sq ft)           2057.98     434.61   1879.68
  Q Total (cfs)            8625.00    Flow (cfs)             3991.35    2255.36   2378.28
  Top Width (ft)           1606.16    Top Width (ft)          612.04      56.80    937.32
  Vel Total (ft/s)            2.44    Avg. Vel. (ft/s)          1.94       5.19      2.29
  Max Chl Dpth (ft)           8.75    Hydr. Depth (ft)          3.36       7.65      4.35
```

Conv. Total (cfs)	269286.0	Conv. (cfs)	124616.3	70415.9	74253.7
Length Wtd. (ft)	94.81	Wetted Per. (ft)	613.32	58.30	240.48
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	0.21	0.48	0.28
Alpha	1.71	Stream Power (lb/ft s)	0.42	2.48	0.63
Frctn Loss (ft)	0.09	Cum Volume (acre-ft)	35.38	31.58	27.52
C & E Loss (ft)	0.00	Cum SA (acres)	12.15	2.73	12.19

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4622.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.48	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4621.72	Reach Len. (ft)	105.10	105.10	70.00
Crit W.S. (ft)	4620.08	Flow Area (sq ft)	1459.24	458.96	98.11
E.G. Slope (ft/ft)	0.002125	Area (sq ft)	1459.24	458.96	98.11
Q Total (cfs)	8625.00	Flow (cfs)	4734.96	3554.98	335.06
Top Width (ft)	416.00	Top Width (ft)	343.20	56.80	16.00
Vel Total (ft/s)	4.28	Avg. Vel. (ft/s)	3.24	7.75	3.42
Max Chl Dpth (ft)	9.17	Hydr. Depth (ft)	4.25	8.08	6.13
Conv. Total (cfs)	187090.9	Conv. (cfs)	102709.4	77113.5	7268.0
Length Wtd. (ft)	103.65	Wetted Per. (ft)	347.02	58.30	21.61
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	0.56	1.04	0.60
Alpha	1.69	Stream Power (lb/ft s)	1.81	8.09	2.06
Frctn Loss (ft)	0.20	Cum Volume (acre-ft)	30.24	26.21	15.80
C & E Loss (ft)	0.03	Cum SA (acres)	8.20	2.73	3.72

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4624.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.15	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4623.95	Reach Len. (ft)	105.10	105.10	70.00
Crit W.S. (ft)	4620.32	Flow Area (sq ft)	4033.57	585.85	1685.30
E.G. Slope (ft/ft)	0.000737	Area (sq ft)	4033.57	585.85	4549.95
Q Total (cfs)	15790.00	Flow (cfs)	8228.65	3144.97	4416.39
Top Width (ft)	1958.65	Top Width (ft)	868.22	56.80	1033.64
Vel Total (ft/s)	2.50	Avg. Vel. (ft/s)	2.04	5.37	2.62
Max Chl Dpth (ft)	11.41	Hydr. Depth (ft)	4.65	10.31	6.82
Conv. Total (cfs)	581534.7	Conv. (cfs)	303055.4	115826.9	162652.4
Length Wtd. (ft)	94.26	Wetted Per. (ft)	869.74	58.30	249.60
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	0.21	0.46	0.31
Alpha	1.57	Stream Power (lb/ft s)	0.44	2.48	0.81
Frctn Loss (ft)	0.07	Cum Volume (acre-ft)	69.38	50.27	77.28
C & E Loss (ft)	0.00	Cum SA (acres)	15.66	2.73	22.13

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4620.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.24	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4620.05	Reach Len. (ft)	105.10	105.10	70.00
Crit W.S. (ft)	4618.68	Flow Area (sq ft)	1304.51	364.44	745.31
E.G. Slope (ft/ft)	0.001735	Area (sq ft)	1304.51	364.44	776.99
Q Total (cfs)	6435.00	Flow (cfs)	2439.88	2187.31	1807.81
Top Width (ft)	1523.20	Top Width (ft)	607.80	56.80	858.60
Vel Total (ft/s)	2.67	Avg. Vel. (ft/s)	1.87	6.00	2.43
Max Chl Dpth (ft)	7.51	Hydr. Depth (ft)	2.15	6.42	3.19
Conv. Total (cfs)	154474.7	Conv. (cfs)	58570.2	52507.2	43397.3
Length Wtd. (ft)	94.84	Wetted Per. (ft)	608.91	58.30	235.56
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	0.23	0.68	0.34
Alpha	2.14	Stream Power (lb/ft s)	0.43	4.06	0.83
Frctn Loss (ft)	0.15	Cum Volume (acre-ft)	21.65	23.90	15.64
C & E Loss (ft)	0.01	Cum SA (acres)	9.96	2.71	7.01

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4618.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.23	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4618.71	Reach Len. (ft)	105.10	105.10	70.00
Crit W.S. (ft)	4617.99	Flow Area (sq ft)	511.81	288.42	434.45
E.G. Slope (ft/ft)	0.001778	Area (sq ft)	511.81	288.42	434.45
Q Total (cfs)	2924.00	Flow (cfs)	671.97	1499.13	752.90
Top Width (ft)	840.06	Top Width (ft)	553.26	56.80	230.00

Vel Total (ft/s)	2.37	Avg. Vel. (ft/s)	1.31	5.20	1.73
Max Chl Dpth (ft)	6.17	Hydr. Depth (ft)	0.93	5.08	1.89
Conv. Total (cfs)	69346.3	Conv. (cfs)	15936.6	35553.8	17855.9
Length Wtd. (ft)	95.70	Wetted Per. (ft)	553.92	58.30	231.54
Min Ch El (ft)	4612.54	Shear (lb/sq ft)	0.10	0.55	0.21
Alpha	2.68	Stream Power (lb/ft s)	0.13	2.85	0.36
Frctn Loss (ft)	0.15	Cum Volume (acre-ft)	7.05	14.61	6.01
C & E Loss (ft)	0.01	Cum SA (acres)	7.18	2.56	4.03

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 1447.365

INPUT
Description:
Station Elevation Data num= 216

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4626.5	18.2	4626.12	31.3	4626.74	37.8	4625.6	41.1	4624.03
48.19	4623	310	4623	325	4618.6	328.3	4618.61	362.8	4618.8
400.6	4617.81	443.5	4618.28	461.1	4617.97	470.6	4618.24	476	4617.95
520.3	4617.47	528.5	4617.83	550.4	4617.15	566.4	4617.58	587.6	4617.11
620.3	4617.17	632.1	4617.49	653.3	4617.01	662.5	4617.21	677.7	4617.06
691	4616.64	720	4616.85	727.1	4616.37	736.9	4616.25	745.2	4616.52
750.1	4616.94	758.3	4616.55	763.2	4616.99	774	4616.78	786.2	4617.28
787.6	4617.08	789.5	4616.95	792.9	4617.27	794.4	4617.98	797.2	4618.53
804.2	4619.06	805.6	4618.88	806.72	4618.74	807.2	4618.68	807.5	4618.64
807.8	4618.61	808.8	4618.63	809.2	4618.61	809.5	4618.48	810.4	4618.05
810.8	4617.93	811.2	4617.85	812	4617.75	812.4	4617.67	815.2	4617.46
815.7	4617.41	817.4	4617.15	818	4617.11	821.1	4616.92	835.9	4617.19
837.3	4616.73	838.2	4616.36	838.9	4616.02	839.4	4615.8	842.8	4614.98
846.8	4613.36	857.1	4612.6	859.5	4612.31	860.6	4612.08	870.1	4612.22
873.7	4612.02	878.4	4612.28	881.4	4612.15	882	4612.12	882.3	4612.11
886.3	4613.02	894.2	4615.3	899.1	4616.3	911.9	4616.55	919.7	4617.49
921	4617.73	922.2	4618.1	922.7	4618.3	923.3	4618.57	923.8	4618.69
924.5	4618.82	924.6	4618.82	925.6	4618.87	925.8	4618.88	926.1	4618.91
927.7	4619.03	928.6	4618.97	929.3	4618.94	929.5	4618.9	929.7	4618.88
930.1	4618.87	931.8	4618.91	932.6	4618.7	934.7	4618.42	935	4618.38
935.4	4618.31	936.4	4618.16	936.8	4618.11	938.5	4617.83	938.9	4617.78
939.9	4617.62	940.3	4617.56	940.6	4617.52	943.8	4616.73	986.2	4616.23
986.9	4616.27	987.5	4616.34	988	4616.38	988.2	4616.4	989.4	4616.49
989.7	4616.49	990.4	4616.46	991.5	4616.43	992	4616.41	993.1	4616.41
1000.8	4615.5	1008	4615.54	1010.8	4615.98	1010.9	4616	1011	4616
1012.2	4616.03	1012.7	4616.01	1018	4615.69	1025	4615.67	1035.6	4616.43
1037.4	4616.38	1037.5	4616.38	1038.7	4616.39	1039.2	4616.39	1039.9	4616.4
1040.9	4616.44	1041.2	4616.44	1041.9	4616.49	1042.5	4616.5	1042.7	4616.5
1049.8	4616.15	1055.2	4616.5	1072.9	4616.25	1092.1	4616.74	1093	4616.73
1093.1	4616.72	1096	4616.61	1096.8	4616.6	1098	4616.48	1099	4616.4
1099.2	4616.38	1099.3	4616.38	1099.6	4616.36	1100.6	4616.32	1122.2	4616.44
1136.3	4617.36	1139.5	4617.41	1152.8	4616.85	1163.7	4617.36	1170.5	4617.89
1171.3	4617.99	1172.3	4618.29	1172.6	4618.39	1176.3	4618.99	1176.9	4619.12
1177.6	4619.41	1178.1	4619.54	1178.6	4619.7	1178.9	4619.76	1179.4	4619.87
1180.1	4620	1180.4	4620.03	1181.1	4620.2	1181.4	4620.27	1182.2	4620.54
1182.7	4620.72	1183.8	4621.15	1183.9	4621.18	1187.5	4621.65	1187.7	4621.75
1188.3	4622.1	1189	4622.53	1189.2	4622.61	1189.9	4622.68	1192.8	4623.5
1200.46	4626	1225.75	4626	1227.13	4625.31	1229.44	4624	1233.26	4622.33
1234.06	4622	1243.74	4620.82	1249.06	4620	1454.21	4620	1466.97	4620.93
1474.95	4621.03	1486.23	4621.34	1509.64	4621.82	1514.05	4621.56	1515.9	4622
1520.39	4622.66	1525.52	4623.64	1526.94	4623.77	1529.07	4624	1540.57	4625.72
1542.62	4626	1575.95	4626	1584.07	4624	1585.01	4623.77	1591.37	4622
1615.97	4620.21	1618.34	4620	2035.93	4620	2052.53	4621.56	2055.24	4622
2056.28	4622.26								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.055	835.9	.035	899.1	.055

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
835.9	899.1	105	105	100 .3	.5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
953.19	1089.01	4616	T
1200.47	2056.28	4626	T

CROSS SECTION OUTPUT Profile #100-yr FP

E.G. Elev (ft)	4621.35	Element	Left OB	Channel	Right OB	
Vel Head (ft)	0.15	Wt. n-Val.	0.055	0.035	0.055	
W.S. Elev (ft)	4621.20	Reach Len. (ft)	105.00	105.00	100.00	
Crit W.S. (ft)		Flow Area (sq ft)	1881.58	492.63	1251.58	

E.G. Slope (ft/ft)	0.000904	Area (sq ft)	1881.58	492.63	2041.12
Q Total (cfs)	8759.00	Flow (cfs)	3599.66	2439.52	2719.82
Top Width (ft)	1554.75	Top Width (ft)	519.76	63.20	971.78
Vel Total (ft/s)	2.42	Avg. Vel. (ft/s)	1.91	4.95	2.17
Max Chl Dpth (ft)	9.18	Hydr. Depth (ft)	3.62	7.79	4.39
Conv. Total (cfs)	291239.5	Conv. (cfs)	119689.8	81114.9	90434.8
Length Wtd. (ft)	103.34	Wetted Per. (ft)	520.80	64.50	286.15
Min Ch El (ft)	4612.02	Shear (lb/sq ft)	0.20	0.43	0.25
Alpha	1.68	Stream Power (lb/ft s)	0.39	2.14	0.54
Frctn Loss (ft)	0.09	Cum Volume (acre-ft)	30.63	30.46	24.37
C & E Loss (ft)	0.00	Cum SA (acres)	10.78	2.58	10.65

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #100-yr FW

			Left OB	Channel	Right OB
E.G. Elev (ft)	4621.97	Element			
Vel Head (ft)	0.39	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4621.58	Reach Len. (ft)	105.00	105.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	1623.07	516.67	141.68
E.G. Slope (ft/ft)	0.001699	Area (sq ft)	1623.07	516.67	141.68
Q Total (cfs)	8759.00	Flow (cfs)	4756.43	3619.36	383.21
Top Width (ft)	473.25	Top Width (ft)	375.90	63.20	34.15
Vel Total (ft/s)	3.84	Avg. Vel. (ft/s)	2.93	7.01	2.70
Max Chl Dpth (ft)	9.56	Hydr. Depth (ft)	4.32	8.18	4.15
Conv. Total (cfs)	212525.0	Conv. (cfs)	115408.2	87818.8	9298.1
Length Wtd. (ft)	104.62	Wetted Per. (ft)	380.13	64.50	37.42
Min Ch El (ft)	4612.02	Shear (lb/sq ft)	0.45	0.85	0.40
Alpha	1.71	Stream Power (lb/ft s)	1.33	5.95	1.09
Frctn Loss (ft)	0.17	Cum Volume (acre-ft)	26.52	25.03	15.61
C & E Loss (ft)	0.02	Cum SA (acres)	7.33	2.58	3.68

CROSS SECTION OUTPUT Profile #500-yr

			Left OB	Channel	Right OB
E.G. Elev (ft)	4624.03	Element			
Vel Head (ft)	0.17	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4623.86	Reach Len. (ft)	105.00	105.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	3501.53	660.66	2023.78
E.G. Slope (ft/ft)	0.000755	Area (sq ft)	3501.53	660.66	4796.93
Q Total (cfs)	16028.00	Flow (cfs)	6985.44	3635.49	5407.08
Top Width (ft)	1921.24	Top Width (ft)	793.62	63.20	1064.42
Vel Total (ft/s)	2.59	Avg. Vel. (ft/s)	1.99	5.50	2.67
Max Chl Dpth (ft)	11.84	Hydr. Depth (ft)	4.41	10.45	6.86
Conv. Total (cfs)	583238.3	Conv. (cfs)	254191.1	132290.7	196756.5
Length Wtd. (ft)	103.19	Wetted Per. (ft)	794.98	64.50	296.46
Min Ch El (ft)	4612.02	Shear (lb/sq ft)	0.21	0.48	0.32
Alpha	1.64	Stream Power (lb/ft s)	0.41	2.66	0.86
Frctn Loss (ft)	0.07	Cum Volume (acre-ft)	60.29	48.77	69.77
C & E Loss (ft)	0.01	Cum SA (acres)	13.65	2.58	20.44

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #50-yr

			Left OB	Channel	Right OB
E.G. Elev (ft)	4620.13	Element			
Vel Head (ft)	0.21	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4619.92	Reach Len. (ft)	105.00	105.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	1216.42	411.41	887.85
E.G. Slope (ft/ft)	0.001477	Area (sq ft)	1216.42	411.41	896.86
Q Total (cfs)	6528.00	Flow (cfs)	2236.60	2308.87	1982.53
Top Width (ft)	859.12	Top Width (ft)	515.38	63.20	280.54
Vel Total (ft/s)	2.59	Avg. Vel. (ft/s)	1.84	5.61	2.23
Max Chl Dpth (ft)	7.89	Hydr. Depth (ft)	2.36	6.51	3.16
Conv. Total (cfs)	169850.6	Conv. (cfs)	58193.5	60074.0	51583.1
Length Wtd. (ft)	103.46	Wetted Per. (ft)	516.23	64.50	281.54
Min Ch El (ft)	4612.02	Shear (lb/sq ft)	0.22	0.59	0.29
Alpha	2.05	Stream Power (lb/ft s)	0.40	3.30	0.65
Frctn Loss (ft)	0.15	Cum Volume (acre-ft)	18.61	22.96	14.29
C & E Loss (ft)	0.01	Cum SA (acres)	8.60	2.56	6.10

CROSS SECTION OUTPUT Profile #10-yr

			Left OB	Channel	Right OB
E.G. Elev (ft)	4618.78	Element			
Vel Head (ft)	0.19	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4618.60	Reach Len. (ft)	105.00	105.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	547.01	328.12	524.26
E.G. Slope (ft/ft)	0.001367	Area (sq ft)	547.01	328.12	533.27
Q Total (cfs)	2967.00	Flow (cfs)	618.36	1523.70	824.94
Top Width (ft)	782.20	Top Width (ft)	454.19	63.20	264.81
Vel Total (ft/s)	2.12	Avg. Vel. (ft/s)	1.13	4.64	1.57

Max Chl Dpth (ft)	6.58	Hydr. Depth (ft)	1.20	5.19	1.98
Conv. Total (cfs)	80235.6	Conv. (cfs)	16722.0	41204.9	22308.7
Length Wtd. (ft)	103.75	Wetted Per. (ft)	454.81	64.50	265.57
Min Ch El (ft)	4612.02	Shear (lb/sq ft)	0.10	0.43	0.17
Alpha	2.68	Stream Power (lb/ft s)	0.12	2.02	0.27
Frctn Loss (ft)	0.13	Cum Volume (acre-ft)	5.77	13.87	5.23
C & E Loss (ft)	0.01	Cum SA (acres)	5.96	2.42	3.63

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 1223

INPUT
Description:
Station Elevation Data num= 365

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4628.84	6.2	4629.14	19.23	4628.71	23.63	4628.39	27.08	4628.5
28.8	4628.19	33.56	4628.14	41.38	4627.78	44.32	4627.38	49.19	4627.14
62.22	4626.79	66.13	4626.61	83.97	4626.28	87.42	4626.14	109.84	4625.78
115.01	4625.85	126.05	4625.64	135.7	4625.37	142.59	4625.37	146.04	4625.52
149.49	4625.28	168.46	4624.99	171.9	4624.44	175.35	4624.26	183.97	4624.53
194.32	4624.56	201.21	4623.83	204.66	4623.73	208.11	4623.25	211.56	4623.23
217.25	4624.23	220.18	4624.18	223.63	4624.52	235.48	4624.27	240.87	4624.95
246.04	4626	247.76	4626.18	252.94	4626.28	255.02	4625.85	260.24	4625.42
263.28	4624.68	266.73	4624.16	271.9	4623.78	280.52	4623.67	286.29	4623.05
290.2	4623.06	296.04	4624.3	303.23	4624.66	315	4624.78	321.9	4624.72
328.8	4624.47	337.42	4624.97	340.73	4625.05	344.01	4624.75	347.3	4624
558	4624	576	4619.25	577.08	4619.3	582	4619.1	593.49	4619.09
598.42	4618.78	606.62	4618.6	614.83	4618.63	618.11	4618.47	623.04	4618.51
626.67	4618.38	632.89	4618.38	634.53	4618.51	637.81	4618.3	647.69	4618.27
652.31	4618.05	662.42	4618.06	670.81	4618.2	674.11	4617.91	680.72	4617.66
687.77	4617.71	702.19	4617.7	720.28	4617.38	726.97	4617.37	730.27	4617.24
740.18	4617.33	745.41	4617.48	750.09	4617.26	760.01	4617.28	768.26	4617.16
776.63	4617.27	777.92	4617.16	800.08	4617.13	811.21	4616.87	819.47	4617.2
824.42	4616.78	830.93	4616.84	835.99	4617.02	845.91	4617.03	850.85	4616.9
864.07	4617.22	867.37	4617.19	875.63	4616.75	884.31	4616.83	890.49	4616.7
893.8	4616.8	905.36	4616.72	913.62	4616.77	918.57	4616.48	926.83	4616.67
928.48	4616.44	933.44	4616.24	941.7	4616.17	946.65	4616.31	949.96	4616.69
954.91	4616.45	959.87	4616.44	964.82	4616.89	974.73	4616.84	976.39	4617
982.99	4616.8	986.27	4617.62	991.67	4618.47	996.46	4618.29	998.96	4617.65
1000.79	4617.53	1003.82	4616.93	1009.9	4616.46	1019.02	4616.45	1020.85	4616.25
1023.46	4615.17	1028.37	4612.32	1029.96	4612.22	1035.43	4611.34	1040.65	4611.42
1044.33	4611.13	1048.02	4611.2	1053.67	4611.09	1055.49	4611.33	1062.75	4611.31
1068.26	4611.48	1070.08	4611.84	1081.16	4615.43	1086.49	4615.58	1093.79	4615.62
1095.61	4615.48	1098.34	4615.8	1104.73	4617.86	1110.62	4618.62	1114.3	4618.88
1116.76	4618.68	1125.74	4617.28	1132.32	4617.18	1140.55	4616.73	1143.85	4616.37
1147.14	4616.38	1155.37	4616.87	1163.6	4616.88	1166.9	4617.27	1173.48	4616.82
1178.42	4616.81	1185.01	4617.29	1188.3	4616.95	1193.24	4617.18	1194.89	4617.04
1199.83	4617.13	1204.61	4618.1	1208.06	4618.54	1221.23	4618.35	1222.88	4618.49
1232.75	4618.3	1243.31	4618.34	1253.26	4618.05	1257.7	4616.88	1265.26	4616.28
1266.69	4616.36	1272.09	4615.83	1277.26	4616.02	1288.58	4616.03	1293.54	4616.1
1298.51	4615.98	1304.47	4616	1310.91	4616.31	1315.88	4616.31	1324.56	4616.52
1333.25	4616.47	1340.44	4615.94	1346.89	4616.26	1349.38	4616.63	1351.23	4616.59
1358.43	4617.18	1369.22	4617.41	1374.19	4617.9	1378.21	4618.6	1382.87	4618.32
1387.84	4617.05	1394.4	4616.15	1398	4616.22	1406.99	4616.11	1411.41	4616.2
1417.78	4617.07	1421.34	4617.34	1423.18	4617.2	1428.58	4617.4	1432.17	4617.2
1438.71	4617.18	1446.15	4617.35	1456.08	4617.44	1457.36	4617.34	1463.52	4617.5
1471.75	4617.84	1475.93	4617.8	1482.54	4618.1	1489.73	4618.73	1493.3	4619.35
1494.54	4619.28	1498.73	4620.25	1500.74	4620.24	1505.92	4621.5	1513.22	4622.62
1516.87	4622.7	1520.31	4623.24	1524.31	4623.47	1528.04	4624.13	1530.52	4624.12
1535.48	4624.76	1540.1	4624.77	1545.4	4625.39	1547.29	4625.07	1552.69	4624.74
1554.48	4625.03	1561.68	4624.92	1563.48	4625.51	1565.28	4625.54	1577.21	4626.93
1583.26	4626.92	1592.26	4626.36	1595.85	4626.24	1597.65	4626.4	1599.45	4625.99
1606.65	4626.05	1608.45	4626.57	1616.12	4626.41	1619.24	4626.22	1624.63	4626.12
1630.03	4626.75	1635.43	4626.2	1637.22	4626.66	1644.42	4626.19	1646.22	4626.44
1649.82	4626.41	1655.21	4626.66	1658.31	4626.37	1660.61	4626.46	1664.2	4626.27
1666	4626.57	1669.47	4626.74	1671.96	4626.32	1676.92	4626.14	1678.16	4626.48
1685.79	4627.03	1687.59	4626.61	1691.19	4626.78	1699.25	4626.68	1702.97	4626.82
1707.37	4626.48	1710.97	4627.34	1714.57	4627.07	1719.96	4626.27	1722.82	4626.51
1725.36	4626.34	1730.76	4626.39	1733.99	4626.59	1735.23	4626.4	1745.16	4626.18
1748.74	4626.51	1750.54	4626.25	1757.18	4626.51	1766.73	4626.18	1768.53	4627.17
1773.17	4627.38	1775.72	4627.05	1781.12	4627.3	1791.91	4627.32	1793.71	4627.61
1795.51	4627.27	1797.31	4627.95	1805.17	4627.86	1809.9	4627.69	1817.12	4627.84
1822.49	4627.67	1824.56	4627.76	1827.04	4627.52	1835.08	4628.45	1844.07	4628.42
1849.47	4628.07	1853.07	4627.55	1856.66	4627.33	1863.86	4627.56	1865.66	4627.85
1869.26	4627.82	1872.85	4628.16	1876.45	4627.74	1878.25	4628.17	1880.05	4627.77
1883.64	4627.79	1885.44	4628.12	1889.15	4628.27	1892.8	4628.08	1897.76	4628.04
1905.2	4628.34	1910.63	4628.18	1916.02	4628.35	1920.09	4628.22	1923.22	4628.44
1925.06	4628.3	1928.61	4628.43	1932.5	4628.36	1935.81	4628.64	1943	4628.26
1947.39	4628.31	1950.2	4628.53	1951.99	4628.29	1955.59	4628.43	1958.55	4628.34

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 1968.48 4628.43 1982.57 4628.27 2000.56 4628.34 2007.75 4628.25 2013.16 4628.41
 2026.79 4628.34    2033 4628.25 2040.44 4628.38 2045.53 4628.16 2049.13  4628.5
 2053.13 4628.28 2058.12 4628.21  2072.7 4628.29 2088.83 4628.14 2095.89 4628.21
 2099.49 4628.13 2124.81 4628.25 2135.97  4628.1 2148.38 4628.08 2150.86 4627.99
 2158.84 4628.11 2164.51 4628.04 2169.47 4628.18 2171.43 4628.04  2181.1 4628.06
 2187.62 4628.16 2196.77  4628.1 2202.01 4628.24 2203.81 4628.12 2230.27 4628.16
 2236.19 4628.28 2246.98 4628.36 2256.32 4628.34 2261.09 4628.47 2265.01 4628.37
 2272.16 4628.41 2277.41 4628.55 2288.35 4628.43 2306.34 4628.52 2309.93 4628.41
 2322.52 4628.53 2327.04 4628.63    2332 4628.55 2339.44 4628.54 2578.06 4628.54

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .055 1019.02    .035 1081.16    .055

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1019.02 1081.16              25      25      25             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0  560.67 4620.02       F
```

CROSS SECTION OUTPUT Profile #100-yr FP

E.G. Elev (ft)	4621.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.15	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4621.11	Reach Len. (ft)	25.00	25.00	25.00
Crit W.S. (ft)	4619.09	Flow Area (sq ft)	1658.73	546.89	1664.33
E.G. Slope (ft/ft)	0.000770	Area (sq ft)	1658.73	546.89	1664.33
Q Total (cfs)	8759.00	Flow (cfs)	2962.86	2696.81	3099.34
Top Width (ft)	935.39	Top Width (ft)	450.08	62.14	423.17
Vel Total (ft/s)	2.26	Avg. Vel. (ft/s)	1.79	4.93	1.86
Max Chl Dpth (ft)	10.02	Hydr. Depth (ft)	3.69	8.80	3.93
Conv. Total (cfs)	315717.6	Conv. (cfs)	106796.0	97206.3	111715.4
Length Wtd. (ft)	25.00	Wetted Per. (ft)	450.88	63.84	424.99
Min Ch El (ft)	4611.09	Shear (lb/sq ft)	0.18	0.41	0.19
Alpha	1.91	Stream Power (lb/ft s)	0.32	2.03	0.35
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	26.36	29.21	20.12
C & E Loss (ft)	0.01	Cum SA (acres)	9.61	2.43	9.05

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4621.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.45	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4621.33	Reach Len. (ft)	25.00	25.00	25.00
Crit W.S. (ft)	4619.51	Flow Area (sq ft)	1291.01	560.24	341.55
E.G. Slope (ft/ft)	0.001628	Area (sq ft)	1291.01	560.24	341.55
Q Total (cfs)	8759.00	Flow (cfs)	3719.21	4082.72	957.07
Top Width (ft)	436.00	Top Width (ft)	296.02	62.14	77.84
Vel Total (ft/s)	3.99	Avg. Vel. (ft/s)	2.88	7.29	2.80
Max Chl Dpth (ft)	10.24	Hydr. Depth (ft)	4.36	9.02	4.39
Conv. Total (cfs)	217098.4	Conv. (cfs)	92183.4	101193.3	23721.6
Length Wtd. (ft)	25.00	Wetted Per. (ft)	300.46	63.84	82.87
Min Ch El (ft)	4611.09	Shear (lb/sq ft)	0.44	0.89	0.42
Alpha	1.83	Stream Power (lb/ft s)	1.26	6.50	1.17
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	23.01	23.73	15.06
C & E Loss (ft)	0.18	Cum SA (acres)	6.52	2.43	3.55

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The cross section had to be extended vertically during the critical depth calculations.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4623.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4623.81	Reach Len. (ft)	25.00	25.00	25.00
Crit W.S. (ft)	4620.00	Flow Area (sq ft)	2895.62	714.16	2829.34
E.G. Slope (ft/ft)	0.000559	Area (sq ft)	2895.62	714.16	2829.34
Q Total (cfs)	16028.00	Flow (cfs)	6256.16	3586.65	6185.19
Top Width (ft)	1002.39	Top Width (ft)	495.20	62.14	445.04
Vel Total (ft/s)	2.49	Avg. Vel. (ft/s)	2.16	5.02	2.19
Max Chl Dpth (ft)	12.72	Hydr. Depth (ft)	5.85	11.49	6.36
Conv. Total (cfs)	677716.5	Conv. (cfs)	264531.0	151655.4	261530.1
Length Wtd. (ft)	25.00	Wetted Per. (ft)	496.54	63.84	447.07
Min Ch El (ft)	4611.09	Shear (lb/sq ft)	0.20	0.39	0.22
Alpha	1.50	Stream Power (lb/ft s)	0.44	1.96	0.48
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	52.58	47.11	61.01
C & E Loss (ft)	0.03	Cum SA (acres)	12.10	2.43	18.71

Warning: Divided flow computed for this cross-section.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4619.97	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.25	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4619.73	Reach Len. (ft)	25.00	25.00	25.00
Crit W.S. (ft)	4618.62	Flow Area (sq ft)	1037.81	460.66	1082.15
E.G. Slope (ft/ft)	0.001352	Area (sq ft)	1037.81	460.66	1082.15
Q Total (cfs)	6528.00	Flow (cfs)	1812.06	2685.53	2030.42
Top Width (ft)	922.27	Top Width (ft)	444.82	62.14	415.31
Vel Total (ft/s)	2.53	Avg. Vel. (ft/s)	1.75	5.83	1.88
Max Chl Dpth (ft)	8.64	Hydr. Depth (ft)	2.33	7.41	2.61
Conv. Total (cfs)	177518.7	Conv. (cfs)	49276.0	73028.6	55214.1
Length Wtd. (ft)	25.00	Wetted Per. (ft)	445.44	63.84	416.96
Min Ch El (ft)	4611.09	Shear (lb/sq ft)	0.20	0.61	0.22
Alpha	2.49	Stream Power (lb/ft s)	0.34	3.55	0.41
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	15.89	21.91	12.02
C & E Loss (ft)	0.02	Cum SA (acres)	7.45	2.41	5.30

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4618.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.22	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4618.43	Reach Len. (ft)	25.00	25.00	25.00
Crit W.S. (ft)	4617.20	Flow Area (sq ft)	482.47	380.10	552.92
E.G. Slope (ft/ft)	0.001140	Area (sq ft)	482.47	380.10	552.92
Q Total (cfs)	2967.00	Flow (cfs)	513.44	1790.15	663.42
Top Width (ft)	831.89	Top Width (ft)	390.10	62.14	379.65
Vel Total (ft/s)	2.10	Avg. Vel. (ft/s)	1.06	4.71	1.20
Max Chl Dpth (ft)	7.34	Hydr. Depth (ft)	1.24	6.12	1.46
Conv. Total (cfs)	87859.5	Conv. (cfs)	15204.0	53010.2	19645.3
Length Wtd. (ft)	25.00	Wetted Per. (ft)	390.62	63.84	381.10
Min Ch El (ft)	4611.09	Shear (lb/sq ft)	0.09	0.42	0.10
Alpha	3.16	Stream Power (lb/ft s)	0.09	2.00	0.12
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	4.53	13.01	3.99
C & E Loss (ft)	0.01	Cum SA (acres)	4.95	2.27	2.89

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 1212

INPUT
Description:
Station Elevation Data num= 441

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4624.57	12.9	4624.21	20	4624.68	27.1	4624.44	33.6	4623.01
53	4621.71	156.8	4620.93	168.2	4620.43	202.7	4620.29	215.8	4619.62
237.7	4619.49	243.7	4619.98	251.9	4619.46	273.3	4619.06	306.1	4619.05
324.2	4618.21	354	4618.32	410	4617.22	443.4	4617.24	448.5	4616.94
461.5	4617.22	486.3	4616.63	489.2	4616.96	577.5	4616.76	589.1	4616.23
607.3	4616.16	619.7	4616.73	638.7	4616.62	646.7	4617.29	652	4618.64
655.4	4618.78	657.3	4618.57	660.3	4617.47	664	4616.89	678.2	4616.3
680.3	4616.21	686.4	4613.38	692	4611.5	706.6	4611.06	728.2	4612.16
730.6	4612.56	739.2	4615.07	740	4615.08	757.6	4615.3	762.5	4615.97
768.7	4617.85	772.3	4618.38	777.8	4618.53	779.2	4618.52	781.2	4618.32
786.2	4616.98	811	4616.34	834.1	4616.81	855.6	4618	938.2	4618.28
944.5	4618.13	950.7	4617.02	956.9	4616.39	968.1	4615.89	987.6	4616
987.9	4616	988.1	4616.01	989.2	4616.11	989.9	4616.16	991.7	4616.41
993.5	4616.24	994.9	4616.15	995.2	4616.12	1004.1	4616.29	1004.6	4616.33
1005.3	4616.42	1006	4616.48	1006.6	4616.54	1007.8	4616.75	1023.9	4616.84
1033	4617.36	1047.3	4616.82	1052	4616.28	1056.1	4616.01	1070.7	4616.82
1071.1	4616.8	1072.2	4616.61	1072.5	4616.51	1072.8	4616.48	1073.6	4616.39
1074.3	4616.32	1074.9	4616.3	1076	4616.34	1077.9	4616.25	1092.2	4616.09
1092.3	4616.1	1093.5	4616.29	1094	4616.35	1095.5	4616.47	1095.8	4616.51
1096	4616.52	1097.2	4616.63	1106.6	4616.89	1122.8	4616.35	1160.6	4617.09
1160.7	4617.06	1161.8	4616.79	1162.3	4616.71	1163.1	4616.66	1180.4	4616.92
1180.8	4616.89	1181.7	4616.8	1182.1	4616.76	1182.9	4616.74	1183.1	4616.74
1183.9	4616.73	1184.2	4616.73	1185.7	4616.51	1192.8	4617.07	1207.2	4616.99
1217.7	4617.59	1230.6	4617.73	1231.4	4617.86	1232.4	4618.02	1232.6	4618.05
1233.2	4618.09	1233.9	4618.11	1234.2	4618.08	1235	4618.26	1235.1	4618.28
1236	4618.56	1245.2	4618.65	1248.5	4618.88	1249.3	4618.97	1257.5	4619.05
1259.9	4618.89	1261.1	4618.85	1261.4	4618.86	1262.4	4618.98	1262.9	4619.02
1263.7	4619.13	1264.7	4619.31	1265.4	4619.35	1266.5	4619.34	1267.4	4619.23
1268.3	4619.06	1268.6	4619.06	1269.4	4619.13	1269.9	4619.23	1270.1	4619.25
1278.6	4619.06	1282.7	4619.44	1283.5	4619.41	1283.6	4619.41	1284.5	4619.39

1284.8	4619.39	1285.5	4619.28	1286	4619.19	1286.3	4619.17	1287.3	4619.15
1288.1	4619.16	1288.5	4619.17	1289.5	4619.22	1289.7	4619.23	1296	4619.94
1297	4619.87	1298.8	4619.42	1317.7	4619.31	1318.3	4619.4	1318.6	4619.41
1319.3	4619.52	1319.6	4619.57	1320.4	4619.68	1320.8	4619.71	1335.7	4619.61
1336.6	4619.6	1336.9	4619.72	1337.8	4620.02	1338.3	4620.19	1341.9	4620.26
1342	4620.25	1343.2	4620.06	1343.7	4620	1344.4	4620.2	1345.3	4620.33
1345.9	4620.39	1346.9	4620.4	1347.3	4620.38	1349.1	4620.21	1359.9	4620.57
1361.5	4620.22	1370.7	4620.07	1382.9	4620.72	1386.9	4620.7	1387.9	4620.46
1388.6	4620.37	1390.2	4620.22	1390.4	4620.19	1390.7	4620.18	1391.6	4620.19
1392.2	4620.09	1392.8	4620.04	1395.3	4619.94	1422.4	4619.99	1426.4	4620.34
1428.2	4620.12	1428.9	4619.98	1429.6	4619.91	1430	4619.86	1430.1	4619.85
1432.6	4620.04	1432.8	4620.02	1438.9	4620.15	1444.3	4620.72	1445	4620.73
1446.1	4620.54	1458.7	4621.79	1460.5	4621.79	1462.3	4620.41	1462.4	4620.41
1463.6	4620.75	1464.1	4620.72	1464.9	4620.66	1465.3	4620.59	1467.4	4620.4
1467.7	4620.37	1468.6	4620.29	1469.8	4620.21	1470.7	4620.18	1471.1	4620.17
1471.8	4620.23	1472.3	4620.28	1473.1	4620.37	1473.6	4620.44	1474.7	4620.58
1474.8	4620.59	1475	4620.62	1476.7	4620.81	1479.8	4620.84	1480.3	4620.88
1503.6	4621.21	1521.6	4620.36	1522	4620.38	1523	4620.57	1523.3	4620.62
1523.4	4620.59	1523.7	4620.5	1524.5	4620.12	1525.2	4620.08	1538.2	4620.43
1539.1	4620.54	1541.9	4620.91	1543.1	4621.13	1558	4621.32	1559.2	4621.15
1559.4	4621.13	1562.9	4620.89	1571.3	4621.11	1597	4620.76	1597.8	4620.83
1598.3	4620.81	1598.8	4620.82	1599	4620.85	1599.5	4620.86	1600.3	4620.94
1600.6	4620.96	1601.5	4621	1602.7	4621.09	1620.4	4620.73	1643.7	4621.09
1643.8	4621.1	1645	4621.38	1645.5	4621.58	1646.2	4621.57	1647	4621.55
1647.3	4621.55	1647.5	4621.57	1647.8	4621.62	1649.1	4621.7	1652.4	4621.3
1656.3	4621.49	1656.7	4621.5	1657.4	4621.52	1658.1	4621.55	1658.6	4621.53
1661.1	4621.32	1661.7	4621.3	1662.4	4621.33	1663.2	4621.3	1663.5	4621.3
1663.6	4621.31	1673.5	4621.91	1688	4621.81	1695.9	4622.03	1696.1	4622.09
1697.1	4622.27	1704.1	4622.01	1708.2	4622.1	1708.4	4622.1	1708.6	4622.09
1713.8	4621.55	1714.5	4621.64	1718.3	4622.09	1726.4	4622.01	1727	4622.04
1731.8	4622.39	1731.9	4622.37	1732.3	4622.29	1733.2	4622.09	1733.5	4622.04
1734.4	4621.92	1734.5	4621.91	1735.3	4621.8	1735.7	4621.76	1736.3	4621.72
1736.9	4621.75	1737.1	4621.75	1737.8	4621.94	1738.1	4622.05	1738.9	4622.28
1740.4	4622.1	1740.7	4622.03	1741	4622.06	1741.9	4622.13	1742.5	4622.25
1743.1	4622.22	1744.3	4621.66	1744.4	4621.66	1749.7	4623.27	1772.6	4623.37
1785.3	4622.81	1796.4	4623.27	1796.7	4623.39	1797.8	4623.79	1800	4624.2
1807.7	4623.5	1808.8	4623.61	1808.9	4623.62	1809	4623.62	1809.2	4623.64
1810.2	4623.73	1810.8	4623.82	1812.4	4624.51	1812.6	4624.59	1812.7	4624.58
1812.8	4624.51	1813.9	4623.95	1816.2	4623.63	1816.4	4623.64	1816.8	4623.66
1817.6	4623.7	1818	4623.73	1818.9	4623.94	1820.1	4624.18	1820.9	4624.28
1821.4	4624.34	1823.4	4624.61	1823.8	4624.64	1824.9	4624.63	1825.1	4624.62
1828.6	4623.86	1828.8	4623.83	1830	4623.65	1830.5	4623.54	1832.3	4623.61
1841.2	4624.71	1841.3	4624.72	1841.6	4624.73	1842.5	4624.78	1843.1	4624.81
1844.9	4624.55	1845	4624.54	1846.2	4624.39	1848.1	4624.14	1848.5	4624.08
1848.7	4624.08	1849	4624	1849.9	4623.86	1850.3	4623.78	1851.3	4623.93
1852.1	4624.05	1852.4	4624.05	1853.1	4624.09	1853.6	4624.19	1853.9	4624.22
1854.9	4624.21	1856.1	4624.18	1857.4	4624.05	1857.8	4624.05	1858.6	4624.08
1859.9	4624	1861.1	4623.75	1863.6	4624.46	1864.3	4624.61	1864.7	4624.7
1864.8	4624.7	1865.1	4624.75	1866.5	4624.9	1867.3	4624.87	1870.1	4624.71
1874.8	4624.76	1876	4624.73	1877.2	4624.57	1877.3	4624.56	1878.5	4624.43
1879.1	4624.32	1879.7	4624.3	1880.5	4624.2	1880.8	4624.17	1881.3	4624.18
1882.2	4624.27	1882.6	4624.26	1883.5	4624.41	1883.8	4624.52	1884.4	4624.72
1884.7	4624.75	1885.3	4624.77	1885.9	4624.79	1889.8	4624.39	1890.9	4624.36
1891.6	4624.29	1900.6	4624.7	1945.5	4625.13	1945.6	4625.13	1945.7	4625.15
1947.3	4625.41	1948.6	4625.5	1949.1	4625.53	1958.1	4625.2	2004.8	4627.08
2053.3	4627.95	2053.6	4627.97	2054.3	4628.03	2055.1	4628.09	2055.7	4628.11
2057.3	4628.18	2058.6	4628.27	2058.7	4628.28	2058.9	4628.3	2060.5	4628.39
2062.3	4628.22	2062.4	4628.21	2063.6	4628.14	2065.9	4627.98	2066	4627.97
2095.9	4628.61								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.055	680.3	.035	740	.055

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
680.3	740	240	150	50	.3	.5

CROSS SECTION OUTPUT Profile #100-yr FP

			Left OB	Channel	Right OB
E.G. Elev (ft)	4621.23	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4621.11	Reach Len. (ft)	240.00	150.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	1663.76	524.17	2385.40
E.G. Slope (ft/ft)	0.000715	Area (sq ft)	1663.76	524.17	2385.40
Q Total (cfs)	8759.00	Flow (cfs)	2521.83	2495.52	3741.65
Top Width (ft)	1474.44	Top Width (ft)	547.03	59.70	867.71
Vel Total (ft/s)	1.92	Avg. Vel. (ft/s)	1.52	4.76	1.57
Max Chl Dpth (ft)	10.05	Hydr. Depth (ft)	3.04	8.78	2.75
Conv. Total (cfs)	327477.3	Conv. (cfs)	94284.9	93301.3	139891.1
Length Wtd. (ft)	135.80	Wetted Per. (ft)	547.66	61.06	870.17
Min Ch El (ft)	4611.06	Shear (lb/sq ft)	0.14	0.38	0.12
Alpha	2.23	Stream Power (lb/ft s)	0.21	1.83	0.19
Frctn Loss (ft)	0.08	Cum Volume (acre-ft)	25.41	28.90	18.95
C & E Loss (ft)	0.00	Cum SA (acres)	9.32	2.40	8.68

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #100-yr FW

			Left OB	Channel	Right OB
E.G. Elev (ft)	4621.58	Element			
Vel Head (ft)	0.10	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4621.48	Reach Len. (ft)	240.00	150.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	1879.71	546.71	2722.96
E.G. Slope (ft/ft)	0.000538	Area (sq ft)	1879.71	546.71	2722.96
Q Total (cfs)	8759.00	Flow (cfs)	2527.27	2320.82	3910.91
Top Width (ft)	1569.59	Top Width (ft)	597.27	59.70	912.62
Vel Total (ft/s)	1.70	Avg. Vel. (ft/s)	1.34	4.25	1.44
Max Chl Dpth (ft)	10.42	Hydr. Depth (ft)	3.15	9.16	2.98
Conv. Total (cfs)	377716.8	Conv. (cfs)	108984.2	100081.4	168651.2
Length Wtd. (ft)	153.58	Wetted Per. (ft)	597.90	61.06	915.33
Min Ch El (ft)	4611.06	Shear (lb/sq ft)	0.11	0.30	0.10
Alpha	2.15	Stream Power (lb/ft s)	0.14	1.28	0.14
Frctn Loss (ft)	0.12	Cum Volume (acre-ft)	22.10	23.42	14.18
C & E Loss (ft)	0.10	Cum SA (acres)	6.26	2.40	3.27

Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #500-yr

			Left OB	Channel	Right OB
E.G. Elev (ft)	4623.91	Element			
Vel Head (ft)	0.08	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4623.83	Reach Len. (ft)	240.00	150.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	3374.66	686.45	5075.08
E.G. Slope (ft/ft)	0.000393	Area (sq ft)	3374.66	686.45	5075.08
Q Total (cfs)	16028.00	Flow (cfs)	5415.49	2900.91	7711.60
Top Width (ft)	1784.76	Top Width (ft)	650.41	59.70	1074.65
Vel Total (ft/s)	1.75	Avg. Vel. (ft/s)	1.60	4.23	1.52
Max Chl Dpth (ft)	12.77	Hydr. Depth (ft)	5.19	11.50	4.72
Conv. Total (cfs)	808091.6	Conv. (cfs)	273035.5	146256.5	388799.6
Length Wtd. (ft)	132.81	Wetted Per. (ft)	651.17	61.06	1078.43
Min Ch El (ft)	4611.06	Shear (lb/sq ft)	0.13	0.28	0.12
Alpha	1.69	Stream Power (lb/ft s)	0.20	1.17	0.18
Frctn Loss (ft)	0.05	Cum Volume (acre-ft)	50.78	46.71	58.74
C & E Loss (ft)	0.00	Cum SA (acres)	11.77	2.40	18.28

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #50-yr

			Left OB	Channel	Right OB
E.G. Elev (ft)	4619.92	Element			
Vel Head (ft)	0.22	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4619.71	Reach Len. (ft)	240.00	150.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	967.49	440.69	1402.08
E.G. Slope (ft/ft)	0.001259	Area (sq ft)	967.49	440.69	1402.08
Q Total (cfs)	6528.00	Flow (cfs)	1576.43	2479.63	2471.95
Top Width (ft)	1111.25	Top Width (ft)	458.62	59.70	592.93
Vel Total (ft/s)	2.32	Avg. Vel. (ft/s)	1.63	5.63	1.76
Max Chl Dpth (ft)	8.65	Hydr. Depth (ft)	2.11	7.38	2.36
Conv. Total (cfs)	183952.7	Conv. (cfs)	44422.2	69873.4	69657.1
Length Wtd. (ft)	136.45	Wetted Per. (ft)	459.20	61.06	594.38
Min Ch El (ft)	4611.06	Shear (lb/sq ft)	0.17	0.57	0.19
Alpha	2.57	Stream Power (lb/ft s)	0.27	3.19	0.33
Frctn Loss (ft)	0.14	Cum Volume (acre-ft)	15.32	21.65	11.31
C & E Loss (ft)	0.02	Cum SA (acres)	7.19	2.38	5.01

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #10-yr

			Left OB	Channel	Right OB
E.G. Elev (ft)	4618.61	Element			
Vel Head (ft)	0.19	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4618.41	Reach Len. (ft)	240.00	150.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	453.68	363.38	714.12
E.G. Slope (ft/ft)	0.001079	Area (sq ft)	453.68	363.38	714.12
Q Total (cfs)	2967.00	Flow (cfs)	475.67	1663.98	827.36
Top Width (ft)	902.37	Top Width (ft)	353.87	59.70	488.80
Vel Total (ft/s)	1.94	Avg. Vel. (ft/s)	1.05	4.58	1.16
Max Chl Dpth (ft)	7.35	Hydr. Depth (ft)	1.28	6.09	1.46
Conv. Total (cfs)	90337.3	Conv. (cfs)	14482.8	50663.6	25190.9
Length Wtd. (ft)	138.43	Wetted Per. (ft)	354.35	61.06	489.98
Min Ch El (ft)	4611.06	Shear (lb/sq ft)	0.09	0.40	0.10
Alpha	3.28	Stream Power (lb/ft s)	0.09	1.84	0.11
Frctn Loss (ft)	0.11	Cum Volume (acre-ft)	4.26	12.80	3.62
C & E Loss (ft)	0.03	Cum SA (acres)	4.73	2.23	2.64

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: KingsCynCreek
REACH: Reach1 RS: 1137.728

INPUT
Description:
Station Elevation Data num= 230

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4634	28.59	4634	29.99	4634	31.92	4634	32.26	4633.99
32.27	4633.99	72.1	4633.68	85	4633.55	100.86	4633.34	191.37	4632
207.22	4631.04	214.04	4630.71	224.8	4630	254.19	4628.18	257.37	4628
258.56	4628	274.48	4628	280.26	4628	327.04	4627.13	336.61	4626.9
342.64	4626.79	348.41	4626.68	369.62	4626.51	370.47	4626.52	373.21	4626.49
380.74	4626.39	384.03	4626.32	401.86	4626.18	414.21	4626	424.12	4626
448.52	4626	450.66	4626	464.89	4626	469.82	4626	474.78	4626
527.8	4624.81	553.95	4624.22	555.32	4624.19	565.36	4624	566.71	4624
573.53	4624	591.1	4623.63	685.8	4622	693.45	4622	694.49	4622
710.55	4621.57	731.15	4621	773.47	4620	779.86	4620	783.56	4620
787.35	4620	788	4620	793.56	4620	808.81	4620	865.58	4619.37
877.19	4618	882.97	4618	887.59	4618	894.09	4618	895	4618
903.28	4618	912.47	4618	918.45	4618	918.46	4618	925.69	4618
938.9	4618	939.53	4618	939.98	4618	940.88	4618	956.28	4618
960.93	4618	963.19	4618	965.12	4618	972.36	4618	988.01	4618
1005.37	4618	1073.17	4616.8	1100.04	4616.73	1104.39	4616.61	1105.88	4616.63
1113.29	4616	1118	4616	1120.88	4616	1144.02	4616	1157.65	4616
1160.71	4616	1162.18	4616	1164	4616	1164.31	4616	1218.76	4614.36
1227.09	4614.11	1227.52	4614.12	1228.27	4614.15	1229.02	4614.22	1229.88	4614.44
1234.67	4615.04	1238.94	4616	1239.12	4616	1245.35	4616	1272.23	4616
1281.47	4616	1284.12	4616	1284.32	4616	1284.42	4615.89	1284.86	4615.4
1285.94	4614.22	1286.12	4614	1288.5	4612.04	1288.54	4612	1289.22	4610.03
1289.25	4610	1292.44	4610	1296.05	4610	1298.2	4610	1306.57	4610
1329.39	4610	1332.03	4610	1336	4611.52	1337.27	4612	1337.53	4612.09
1342.86	4614	1349.45	4614.84	1362.52	4615.02	1373.38	4615.31	1374.86	4615.31
1377.65	4615.31	1389.6	4615.54	1392.43	4615.54	1399.26	4615.74	1404.35	4616
1433.31	4616	1438.8	4616	1442.8	4616	1445.12	4616	1446.31	4616
1464.29	4616	1470.17	4616	1478.63	4616	1481.48	4616	1507.59	4616
1509.55	4616	1513.24	4616	1531.88	4616	1568.59	4616.42	1583.28	4616.32
1590.92	4616.19	1597.78	4616.25	1609.1	4616.2	1625.06	4616.85	1657.57	4616.89
1673.03	4617.18	1690.64	4617.18	1709.82	4618	1710.13	4618	1729.27	4618
1739.77	4618	1739.9	4618	1754.67	4618	1769.09	4618	1770.24	4618
1785.2	4618	1787.03	4618	1799.24	4618	1805.19	4618	1806.05	4618
1812.13	4618	1825.71	4618	1827.64	4618	1842.23	4618	1852.36	4618
1862.43	4618	1862.93	4618	1863.94	4618	1897.7	4619.15	1912.46	4619.12
1922.32	4619.11	1928.49	4619.24	1937.31	4619.22	1974.29	4619.6	1977.91	4619.6
1981.45	4619.6	1984.91	4619.61	2000.3	4620	2021.59	4620.32	2022.78	4620.33
2025.49	4620.35	2068.26	4620.03	2068.98	4620.04	2069.16	4620.04	2069.35	4620.04
2100.35	4620.65	2120.07	4620.7	2150.01	4620.97	2163.8	4621.02	2171.39	4620.97
2175.83	4620.98	2195.49	4620.99	2224.37	4621.44	2228.98	4621.45	2236.26	4621.48
2261.57	4621.14	2264.6	4621.14	2273.64	4621.14	2310.75	4622	2312.24	4622.04
2312.97	4622.04	2340.65	4622.27	2364.71	4622.34	2370.97	4622.36	2385.26	4622.51
2396.34	4622.62	2431.27	4622.71	2444.88	4622.84	2451.89	4622.95	2469.25	4623.12
2473.24	4623.12	2482.15	4623.19	2492.06	4623.22	2527.41	4623.79	2530.05	4623.8
2531.62	4624	2534.86	4624	2565.3	4624.93	2574.98	4625.14	2598.82	4626
2599.9	4626	2600.45	4626	2638.68	4626	2648.44	4626	2659.45	4626

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.055	1284.32	.035	1349.45	.055

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
1284.32 1349.45 112 111.03 111.62 .3 .5
Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
1164.31	1238.94	4616	T

CROSS SECTION OUTPUT Profile #100-yr FP

E.G. Elev (ft)	4621.15	Element	Left OB	Channel	Right OB	
Vel Head (ft)	0.12	Wt. n-Val.	0.055	0.035	0.055	
W.S. Elev (ft)	4621.03	Reach Len. (ft)	112.00	111.03	111.62	
Crit W.S. (ft)	4618.60	Flow Area (sq ft)	1830.28	650.03	2535.97	
E.G. Slope (ft/ft)	0.000546	Area (sq ft)	1902.72	650.03	2535.97	
Q Total (cfs)	8759.00	Flow (cfs)	2560.73	2877.50	3320.77	
Top Width (ft)	1467.61	Top Width (ft)	554.12	65.13	848.36	
Vel Total (ft/s)	1.75	Avg. Vel. (ft/s)	1.40	4.43	1.31	
Max Chl Dpth (ft)	11.03	Hydr. Depth (ft)	3.30	9.98	2.99	
Conv. Total (cfs)	374975.4	Conv. (cfs)	109625.6	123186.8	142163.0	
Length Wtd. (ft)	111.03	Wetted Per. (ft)	554.46	68.93	848.45	
Min Ch El (ft)	4610.00	Shear (lb/sq ft)	0.11	0.32	0.10	

Alpha	2.51	Stream Power (lb/ft s)	0.16	1.42	0.13
Frctn Loss (ft)		Cum Volume (acre-ft)	15.59	26.88	16.13
C & E Loss (ft)		Cum SA (acres)	6.29	2.18	7.70

CROSS SECTION OUTPUT Profile #100-yr FW

E.G. Elev (ft)	4621.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4620.95	Reach Len. (ft)	112.00	111.03	111.62
Crit W.S. (ft)	4618.78	Flow Area (sq ft)	1353.76	644.98	302.25
E.G. Slope (ft/ft)	0.001302	Area (sq ft)	1426.21	644.98	302.25
Q Total (cfs)	8759.00	Flow (cfs)	3492.69	4386.70	879.61
Top Width (ft)	429.83	Top Width (ft)	311.15	65.13	53.55
Vel Total (ft/s)	3.81	Avg. Vel. (ft/s)	2.58	6.80	2.91
Max Chl Dpth (ft)	10.95	Hydr. Depth (ft)	4.35	9.90	5.64
Conv. Total (cfs)	242788.4	Conv. (cfs)	96813.0	121593.8	24381.5
Length Wtd. (ft)	111.03	Wetted Per. (ft)	314.34	68.93	58.58
Min Ch El (ft)	4610.00	Shear (lb/sq ft)	0.35	0.76	0.42
Alpha	1.84	Stream Power (lb/ft s)	0.90	5.17	1.22
Frctn Loss (ft)		Cum Volume (acre-ft)	12.99	21.36	12.44
C & E Loss (ft)		Cum SA (acres)	3.76	2.18	2.71

Warning: The cross section had to be extended vertically during the critical depth calculations.
Warning: The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4623.86	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4623.78	Reach Len. (ft)	112.00	111.03	111.62
Crit W.S. (ft)	4619.47	Flow Area (sq ft)	3541.44	829.11	5360.22
E.G. Slope (ft/ft)	0.000344	Area (sq ft)	3613.89	829.11	5360.22
Q Total (cfs)	16028.00	Flow (cfs)	5225.41	3426.30	7376.29
Top Width (ft)	1942.36	Top Width (ft)	700.15	65.13	1177.08
Vel Total (ft/s)	1.65	Avg. Vel. (ft/s)	1.48	4.13	1.38
Max Chl Dpth (ft)	13.78	Hydr. Depth (ft)	5.06	12.73	4.55
Conv. Total (cfs)	864458.8	Conv. (cfs)	281829.0	184795.1	397834.7
Length Wtd. (ft)	111.03	Wetted Per. (ft)	700.52	68.93	1177.20
Min Ch El (ft)	4610.00	Shear (lb/sq ft)	0.11	0.26	0.10
Alpha	1.93	Stream Power (lb/ft s)	0.16	1.07	0.13
Frctn Loss (ft)		Cum Volume (acre-ft)	31.53	44.10	52.76
C & E Loss (ft)		Cum SA (acres)	8.05	2.18	16.98

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4619.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4619.58	Reach Len. (ft)	112.00	111.03	111.62
Crit W.S. (ft)	4618.17	Flow Area (sq ft)	1093.22	556.03	1506.67
E.G. Slope (ft/ft)	0.000860	Area (sq ft)	1165.67	556.03	1506.67
Q Total (cfs)	6528.00	Flow (cfs)	1593.17	2784.61	2150.23
Top Width (ft)	1126.23	Top Width (ft)	437.93	65.13	623.18
Vel Total (ft/s)	2.07	Avg. Vel. (ft/s)	1.46	5.01	1.43
Max Chl Dpth (ft)	9.58	Hydr. Depth (ft)	2.50	8.54	2.42
Conv. Total (cfs)	222594.6	Conv. (cfs)	54324.5	94950.8	73319.4
Length Wtd. (ft)	111.03	Wetted Per. (ft)	438.25	68.93	623.25
Min Ch El (ft)	4610.00	Shear (lb/sq ft)	0.13	0.43	0.13
Alpha	2.78	Stream Power (lb/ft s)	0.20	2.17	0.19
Frctn Loss (ft)		Cum Volume (acre-ft)	9.44	19.93	9.64
C & E Loss (ft)		Cum SA (acres)	4.72	2.16	4.31

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4618.47	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4618.33	Reach Len. (ft)	112.00	111.03	111.62
Crit W.S. (ft)	4615.06	Flow Area (sq ft)	571.91	474.55	807.38
E.G. Slope (ft/ft)	0.000598	Area (sq ft)	644.36	474.55	807.38
Q Total (cfs)	2967.00	Flow (cfs)	471.72	1783.70	711.57
Top Width (ft)	999.31	Top Width (ft)	409.94	65.13	524.24
Vel Total (ft/s)	1.60	Avg. Vel. (ft/s)	0.82	3.76	0.88
Max Chl Dpth (ft)	8.33	Hydr. Depth (ft)	1.40	7.29	1.54
Conv. Total (cfs)	121284.6	Conv. (cfs)	19283.1	72913.9	29087.6
Length Wtd. (ft)	111.03	Wetted Per. (ft)	410.21	68.93	524.30
Min Ch El (ft)	4610.00	Shear (lb/sq ft)	0.05	0.26	0.06
Alpha	3.43	Stream Power (lb/ft s)	0.04	0.97	0.05
Frctn Loss (ft)		Cum Volume (acre-ft)	1.24	11.36	2.75
C & E Loss (ft)		Cum SA (acres)	2.63	2.02	2.06

CULVERT

RIVER: KingsCynCreek
REACH: Reach1 RS: 1080.5

INPUT
Description:
Distance from Upstream XS =10.66774
Deck/Roadway Width = 80
Weir Coefficient = 2.6
Upstream Deck/Roadway Coordinates
num= 4

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
0	4618		1290	4617.5		1340	4617.5	
2659.45	4618							

Upstream Bridge Cross Section Data
Station Elevation Data num= 230

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4634	28.59	4634	29.99	4634	31.92	4634	32.26	4633.99
32.27	4633.99	72.1	4633.68	85	4633.55	100.86	4633.34	191.37	4632
207.22	4631.04	214.04	4630.71	224.8	4630	254.19	4628.18	257.37	4628
258.56	4628	274.48	4628	280.26	4628	327.04	4627.13	336.61	4626.9
342.64	4626.79	348.41	4626.68	369.62	4626.51	370.47	4626.52	373.21	4626.49
380.74	4626.39	384.03	4626.32	401.86	4626.18	414.21	4626	424.12	4626
448.52	4626	450.66	4626	464.89	4626	469.82	4626	474.78	4626
527.8	4624.81	553.95	4624.22	555.32	4624.19	565.36	4624	566.71	4624
573.53	4624	591.1	4623.63	685.8	4622	693.45	4622	694.49	4622
710.55	4621.57	731.15	4621	773.47	4620	779.86	4620	783.56	4620
787.35	4620	788	4620	793.56	4620	808.81	4620	865.58	4619.37
877.19	4618	882.97	4618	887.59	4618	894.09	4618	895	4618
903.28	4618	912.47	4618	918.45	4618	918.46	4618	925.69	4618
938.9	4618	939.53	4618	939.98	4618	940.88	4618	956.28	4618
960.93	4618	963.19	4618	965.12	4618	972.36	4618	988.01	4618
1005.37	4618	1073.17	4616.8	1100.04	4616.73	1104.39	4616.61	1105.88	4616.63
1113.29	4616	1118	4616	1120.88	4616	1144.02	4616	1157.65	4616
1160.71	4616	1162.18	4616	1164	4616	1164.31	4616	1218.76	4614.36
1227.09	4614.11	1227.52	4614.12	1228.27	4614.15	1229.02	4614.22	1229.88	4614.44
1234.67	4615.04	1238.94	4616	1239.12	4616	1245.35	4616	1272.23	4616
1281.47	4616	1284.12	4616	1284.32	4616	1284.42	4615.89	1284.86	4615.4
1285.94	4614.22	1286.12	4614	1288.5	4612.04	1288.54	4612	1289.22	4610.03
1289.25	4610	1292.44	4610	1296.05	4610	1298.2	4610	1306.57	4610
1329.39	4610	1332.03	4610	1336	4611.52	1337.27	4612	1337.53	4612.09
1342.86	4614	1349.45	4614.84	1362.52	4615.02	1373.38	4615.31	1374.86	4615.31
1377.65	4615.31	1389.6	4615.54	1392.43	4615.54	1399.26	4615.74	1404.35	4616
1433.31	4616	1438.8	4616	1442.8	4616	1445.12	4616	1446.31	4616
1464.29	4616	1470.17	4616	1478.63	4616	1481.48	4616	1507.59	4616
1509.55	4616	1513.24	4616	1531.88	4616	1568.59	4616.42	1583.28	4616.32
1590.92	4616.19	1597.78	4616.25	1609.1	4616.2	1625.06	4616.85	1657.57	4616.89
1673.03	4617.18	1690.64	4617.18	1709.82	4618	1710.13	4618	1729.27	4618
1739.77	4618	1739.9	4618	1754.67	4618	1769.09	4618	1770.24	4618
1785.2	4618	1787.03	4618	1799.24	4618	1805.19	4618	1806.05	4618
1812.13	4618	1825.71	4618	1827.64	4618	1842.23	4618	1852.36	4618
1862.43	4618	1862.93	4618	1863.94	4618	1897.7	4619.15	1912.46	4619.12
1922.32	4619.11	1928.49	4619.24	1937.31	4619.22	1974.29	4619.6	1977.91	4619.6
1981.45	4619.6	1984.91	4619.61	2000.3	4620	2021.59	4620.32	2022.78	4620.33
2025.49	4620.35	2068.26	4620.03	2068.98	4620.04	2069.16	4620.04	2069.35	4620.04
2100.35	4620.65	2120.07	4620.7	2150.01	4620.97	2163.8	4621.02	2171.39	4620.97
2175.83	4620.98	2195.49	4620.99	2224.37	4621.44	2228.98	4621.45	2236.26	4621.48
2261.57	4621.14	2264.6	4621.14	2273.64	4621.14	2310.75	4622	2312.24	4622.04
2312.97	4622.04	2340.65	4622.27	2364.71	4622.34	2370.97	4622.36	2385.26	4622.51
2396.34	4622.62	2431.27	4622.71	2444.88	4622.84	2451.89	4622.95	2469.25	4623.12
2473.24	4623.12	2482.15	4623.19	2492.06	4623.22	2527.41	4623.79	2530.05	4623.8
2531.62	4624	2534.86	4624	2565.3	4624.93	2574.98	4625.14	2598.82	4626
2599.9	4626	2600.45	4626	2638.68	4626	2648.44	4626	2659.45	4626

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.055	1284.32	.035	1349.45	.055

Bank Sta: Left Right Coeff Contr. Expan.
1284.32 1349.45 .3 .5
Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
1164.31	1238.94	4616	T

Downstream Deck/Roadway Coordinates
num= 4

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
0	4618		1325	4617.5		1375	4617.5	
2716.15	4618							

Downstream Bridge Cross Section Data
Station Elevation Data num= 326

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4648	37.76	4648	41.24	4647.33	47.74	4646	53.52	4644.47
56.03	4644	56.86	4643.46	71.49	4642	85.43	4641.16	98.15	4640
121.75	4638.97	144.55	4638	178.07	4636.56	196.45	4636	200.79	4636
202.01	4634.76	202.59	4634	231.86	4632.8	257.35	4632	280.75	4631.1
303.77	4630	312.58	4630	342.4	4628.58	365.46	4628	398.52	4628
416.74	4628.16	429.08	4628	467.19	4628	474.98	4627.86	478.73	4627.76
487.39	4627.49	498.27	4627.02	538.06	4626	554.51	4625.63	557.91	4625.61
574.04	4624.94	578.29	4624.76	596.31	4624.14	599.5	4624	605.82	4624
608.46	4623.95	620.48	4623.75	624.08	4623.73	658.74	4623.43	677.9	4622
743.63	4622	805.75	4620.4	807.67	4620.36	816.45	4620	874.55	4620
930.17	4618.28	953.51	4618	971.18	4618	992.02	4616.18	994.27	4616
997.69	4616	1003.85	4616.7	1008.74	4617.14	1012.44	4617.24	1015.14	4617.44
1038.16	4617.27	1045.97	4617.5	1048.72	4617.53	1061.18	4617.54	1065.45	4617.65
1069.1	4617.6	1095.45	4616.84	1109.39	4616	1154.06	4616	1159.36	4615.45
1163.8	4615.21	1180.62	4615.32	1184.17	4615.28	1203.33	4615.43	1205.52	4615.55
1209.04	4615.78	1209.49	4615.79	1210.31	4615.82	1210.74	4615.83	1212.96	4615.77
1237.13	4615.86	1238.67	4616	1284.22	4616	1298.53	4614.22	1304.84	4614
1315.89	4614	1318.88	4613.11	1323.63	4612	1325.61	4611.29	1330.14	4610
1334.84	4610	1346.82	4609.13	1350.9	4609.12	1357.98	4609.16	1362.2	4609.14
1374.89	4610	1375.67	4610	1375.9	4610.2	1376.35	4610.28	1379.67	4612
1380.3	4612.39	1383.65	4614	1385.08	4614.65	1387.87	4616	1391.32	4616.64
1398.08	4618	1426.56	4618	1430.03	4618.79	1435.02	4619.72	1435.91	4619.69
1436.44	4619.67	1437.09	4620	1438.12	4620	1447.76	4621.36	1449.28	4621.25
1451.4	4621.1	1455.65	4620.95	1459.26	4620.65	1461.65	4620.55	1466.7	4621.23
1480.97	4621.91	1481.82	4621.94	1482.25	4622	1486.84	4622.82	1488.72	4623.16
1493.24	4623.97	1493.33	4623.98	1493.42	4624	1496.44	4624.6	1499.3	4625.18
1501.41	4625.6	1503.34	4626	1506.53	4626.6	1507.53	4626.78	1509.39	4627.12
1511.73	4627.55	1514.27	4628	1515.61	4628.34	1515.92	4628.43	1518.47	4629.09
1522.95	4629.88	1523.25	4629.89	1525.45	4630	1527.89	4630.12	1528.11	4630.13
1528.37	4630.14	1533.02	4630.38	1534.56	4630.46	1539.1	4630.69	1542.79	4630.87
1545.85	4631.04	1548.84	4631.19	1552.97	4631.41	1554.77	4631.51	1559.96	4631.8
1563.65	4632	1566.56	4632.14	1567	4632.16	1569.99	4632.31	1570.85	4632.36
1573.64	4632.49	1575	4632.57	1577.51	4632.7	1579.6	4632.81	1581.73	4632.93
1583.51	4633.02	1586.05	4633.18	1587.46	4633.25	1590.73	4633.45	1592.07	4633.37
1595.37	4633.17	1597.35	4633.06	1600.14	4632.91	1602.58	4632.76	1604.57	4632.64
1609.67	4632.37	1613.04	4632.19	1613.55	4632.16	1616.73	4632	1617.13	4631.98
1617.16	4631.98	1620.76	4631.82	1621.08	4631.81	1624.34	4631.67	1627.12	4631.54
1628.52	4631.48	1631.12	4631.37	1632.79	4631.3	1635.69	4631.27	1637.65	4631.18
1640.29	4631.15	1642.67	4631.03	1644.98	4631	1647.95	4630.84	1649.85	4630.81
1651.25	4630.73	1652.4	4630.71	1655.06	4630.78	1656.29	4630.77	1659.33	4630.84
1661.94	4630.8	1664.2	4630.85	1665.53	4630.84	1666.82	4630.82	1669.29	4630.87
1670.64	4630.85	1673.5	4630.91	1674.92	4630.89	1676.17	4630.88	1678.09	4630.91
1679.38	4630.9	1681.26	4630.93	1682.58	4630.91	1684.36	4630.94	1685.7	4630.93
1687	4630.92	1689.92	4630.75	1690.98	4630.73	1692.74	4630.62	1693.62	4630.61
1696.62	4630.41	1697.2	4630.4	1698.29	4630.32	1699.84	4630	1701.23	4629.6
1702.42	4629.43	1704.67	4628.94	1707.34	4628.62	1708.84	4628.34	1714.56	4628.24
1715.27	4628.16	1721.55	4628.08	1721.83	4628.06	1726.14	4628.02	1726.36	4628
1731.81	4627.25	1734.72	4627.17	1738.28	4627.07	1742.73	4626.73	1748.53	4626.61
1751.2	4626.44	1755.36	4626.25	1756.49	4626.25	1760.75	4626	1764.34	4625.55
1765.4	4625.45	1767.07	4625.3	1772.22	4624.73	1779.39	4624.14	1779.9	4624.06
1791.04	4624.1	1791.59	4624.09	1802.62	4624.12	1803.2	4624.07	1813.7	4624.22
1815.27	4624.21	1825.29	4624.33	1838.33	4624.22	1839.27	4624.19	1840.62	4624.17
1854.36	4624.07	1854.96	4624.07	1855.75	4624	1858.99	4624	1864.14	4623.72
1866.02	4623.69	1872.76	4622.72	1885.06	4622.5	1889.71	4622.28	1891.6	4622.26
1899.01	4622	1908.14	4621.18	1917.93	4621.17	1925.25	4621.11	1940.18	4620
1940.52	4619.96	1940.68	4619.96	1941.22	4620	1991.57	4620	2035.54	4620.36
2061.12	4620	2081.64	4620	2111.6	4620.45	2123.06	4620.77	2141.34	4620.81
2157.26	4620.85	2181.05	4622	2185.04	4622.07	2185.62	4622.08	2201.04	4622.28
2209.58	4622.44	2250.52	4622.56	2253.9	4622.64	2276.67	4622.62	2283.46	4622.49
2308.77	4622.47	2310.78	4622.46	2312.15	4622.45	2317.14	4622.51	2340.64	4622.64
2352.1	4622.71	2379.87	4622.71	2387	4622.51	2395.05	4622.46	2402.43	4622.34
2411.98	4622.45	2416.31	4622.55	2441.71	4622.61	2465.52	4624	2498.66	4624
2511.91	4624.31	2524	4624.56	2543.16	4624.68	2569.39	4625.45	2577.08	4625.53
2580.66	4625.61	2595.21	4626	2596.55	4626.02	2614.14	4626.1	2614.94	4626.12
2629.74	4626.51	2661.34	4626.99	2676.03	4627.22	2687.03	4627.3	2694.94	4627.39
2716.15	4627.67								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.055	1284.22	.035	1398.08	.055

Bank Sta: Left Right Coeff Contr. Expan.
1284.22 1398.08 .3 .5

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
1590.73	2716.15		F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
Downstream Embankment side slope = 0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .98
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name	Shape	Rise	Span
Culvert #1	Box	6	12

FHWA Chart # 8 - flared wingwalls
FHWA Scale # 1 - Wingwall flared 30 to 75 deg.
Solution Criteria = Highest U.S. EG

Culvert	Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef
	11	80	.013	.013	0	.5	1

Number of Barrels = 2
Upstream Elevation = 4608.9
Centerline Stations

Sta.	Sta.
1308.5	1321.5

Downstream Elevation = 4608.8
Centerline Stations

Sta.	Sta.
1343.5	1356.5

CULVERT OUTPUT Profile #100-yr FP Culv Group: Culvert #1

Q Culv Group (cfs)	330.05	Culv Full Len (ft)	80.00
# Barrels	2	Culv Vel US (ft/s)	2.29
Q Barrel (cfs)	165.03	Culv Vel DS (ft/s)	2.29
E.G. US. (ft)	4621.15	Culv Inv El Up (ft)	4608.90
W.S. US. (ft)	4621.03	Culv Inv El Dn (ft)	4608.80
E.G. DS (ft)	4621.09	Culv Frctn Ls (ft)	0.01
W.S. DS (ft)	4620.77	Culv Exit Loss (ft)	0.00
Delta EG (ft)	0.05	Culv Entr Loss (ft)	0.04
Delta WS (ft)	0.26	Q Weir (cfs)	8428.95
E.G. IC (ft)	4621.11	Weir Sta Lft (ft)	726.79
E.G. OC (ft)	4621.15	Weir Sta Rgt (ft)	2203.86
Culvert Control	Outlet	Weir Submerg	0.97
Culv WS Inlet (ft)	4614.90	Weir Max Depth (ft)	3.62
Culv WS Outlet (ft)	4614.80	Weir Avg Depth (ft)	2.66
Culv Nml Depth (ft)		Weir Flow Area (sq ft)	3935.56
Culv Crt Depth (ft)	1.80	Min El Weir Flow (ft)	4617.51

Warning: During the culvert inlet control computations, the program could not balance the culvert/weir flow. The reported inlet energy grade answer may not be valid.

CULVERT OUTPUT Profile #100-yr FW Culv Group: Culvert #1

Q Culv Group (cfs)	692.27	Culv Full Len (ft)	80.00
# Barrels	2	Culv Vel US (ft/s)	4.81
Q Barrel (cfs)	346.14	Culv Vel DS (ft/s)	4.81
E.G. US. (ft)	4621.36	Culv Inv El Up (ft)	4608.90
W.S. US. (ft)	4620.95	Culv Inv El Dn (ft)	4608.80
E.G. DS (ft)	4621.12	Culv Frctn Ls (ft)	0.06
W.S. DS (ft)	4620.77	Culv Exit Loss (ft)	0.01
Delta EG (ft)	0.25	Culv Entr Loss (ft)	0.18
Delta WS (ft)	0.18	Q Weir (cfs)	8066.73
E.G. IC (ft)	4621.21	Weir Sta Lft (ft)	973.17
E.G. OC (ft)	4621.36	Weir Sta Rgt (ft)	1403.00
Culvert Control	Outlet	Weir Submerg	0.84
Culv WS Inlet (ft)	4614.90	Weir Max Depth (ft)	3.86
Culv WS Outlet (ft)	4614.80	Weir Avg Depth (ft)	3.78
Culv Nml Depth (ft)		Weir Flow Area (sq ft)	1623.64
Culv Crt Depth (ft)	2.96	Min El Weir Flow (ft)	4617.51

Warning: During the culvert inlet control computations, the program could not balance the culvert/weir flow. The reported inlet energy grade answer may not be valid.

CULVERT OUTPUT Profile #500-yr Culv Group: Culvert #1

Q Culv Group (cfs)	290.83	Culv Full Len (ft)	80.00
# Barrels	2	Culv Vel US (ft/s)	2.02
Q Barrel (cfs)	145.42	Culv Vel DS (ft/s)	2.02
E.G. US. (ft)	4623.86	Culv Inv El Up (ft)	4608.90
W.S. US. (ft)	4623.78	Culv Inv El Dn (ft)	4608.80
E.G. DS (ft)	4623.82	Culv Frctn Ls (ft)	0.01
W.S. DS (ft)	4623.47	Culv Exit Loss (ft)	0.00
Delta EG (ft)	0.04	Culv Entr Loss (ft)	0.03
Delta WS (ft)	0.30	Q Weir (cfs)	15737.17
E.G. IC (ft)	4623.85	Weir Sta Lft (ft)	581.18
E.G. OC (ft)	4623.86	Weir Sta Rgt (ft)	2530.36
Culvert Control	Outlet	Weir Submerg	0.99
Culv WS Inlet (ft)	4614.90	Weir Max Depth (ft)	6.34
Culv WS Outlet (ft)	4614.80	Weir Avg Depth (ft)	4.43
Culv Nml Depth (ft)		Weir Flow Area (sq ft)	8634.00
Culv Crt Depth (ft)	1.66	Min El Weir Flow (ft)	4617.51

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Warning: The weir over culvert is submerged.
Warning: During the culvert inlet control computations, the program could not balance the culvert/weir flow.  The reported
         inlet energy grade answer may not be valid.

CULVERT OUTPUT  Profile #50-yr  Culv Group:  Culvert #1

  Q Culv Group (cfs)         318.24    Culv Full Len (ft)          80.00
  # Barrels                       2    Culv Vel US (ft/s)           2.21
  Q Barrel (cfs)             159.12    Culv Vel DS (ft/s)           2.21
  E.G. US. (ft)             4619.77    Culv Inv El Up (ft)       4608.90
  W.S. US. (ft)             4619.58    Culv Inv El Dn (ft)       4608.80
  E.G. DS (ft)              4619.72    Culv Frctn Ls (ft)           0.01
  W.S. DS (ft)              4619.35    Culv Exit Loss (ft)          0.00
  Delta EG (ft)                0.05    Culv Entr Loss (ft)          0.04
  Delta WS (ft)                0.24    Q Weir (cfs)              6209.76
  E.G. IC (ft)              4619.74    Weir Sta Lft (ft)          830.95
  E.G. OC (ft)              4619.77    Weir Sta Rgt (ft)         1990.61
  Culvert Control            Outlet    Weir Submerg                 0.93
  Culv WS Inlet (ft)        4614.90    Weir Max Depth (ft)          2.25
  Culv WS Outlet (ft)       4614.80    Weir Avg Depth (ft)          1.84
  Culv Nml Depth (ft)                  Weir Flow Area (sq ft)    2133.17
  Culv Crt Depth (ft)          1.76    Min El Weir Flow (ft)     4617.51


CULVERT OUTPUT  Profile #10-yr  Culv Group:  Culvert #1

  Q Culv Group (cfs)        1261.43    Culv Full Len (ft)          80.00
  # Barrels                       2    Culv Vel US (ft/s)           8.76
  Q Barrel (cfs)             630.71    Culv Vel DS (ft/s)           8.76
  E.G. US. (ft)             4618.47    Culv Inv El Up (ft)       4608.90
  W.S. US. (ft)             4618.33    Culv Inv El Dn (ft)       4608.80
  E.G. DS (ft)              4616.99    Culv Frctn Ls (ft)           0.19
  W.S. DS (ft)              4616.49    Culv Exit Loss (ft)          0.69
  Delta EG (ft)                1.48    Culv Entr Loss (ft)          0.60
  Delta WS (ft)                1.84    Q Weir (cfs)              1705.57
  E.G. IC (ft)              4618.32    Weir Sta Lft (ft)          873.48
  E.G. OC (ft)              4618.47    Weir Sta Rgt (ft)         1876.79
  Culvert Control            Outlet    Weir Submerg                 0.00
  Culv WS Inlet (ft)        4614.90    Weir Max Depth (ft)          0.94
  Culv WS Outlet (ft)       4614.80    Weir Avg Depth (ft)          0.74
  Culv Nml Depth (ft)                  Weir Flow Area (sq ft)     740.06
  Culv Crt Depth (ft)          4.41    Min El Weir Flow (ft)     4617.51


CROSS SECTION


RIVER: KingsCynCreek
REACH: Reach1             RS: 1026.7

INPUT
Description:
Station Elevation Data    num=     326
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    4648   37.76    4648   41.24 4647.33   47.74    4646   53.52 4644.47
   56.03    4644   56.86 4643.46   71.49    4642   85.43 4641.16   98.15    4640
  121.75 4638.97  144.55    4638  178.07 4636.56  196.45    4636  200.79    4636
  202.01 4634.76  202.59    4634  231.86  4632.8  257.35    4632  280.75  4631.1
  303.77    4630  312.58    4630   342.4 4628.58  365.46    4628  398.52    4628
  416.74 4628.16  429.08    4628  467.19    4628  474.98 4627.86  478.73 4627.76
  487.39 4627.49  498.27 4627.02  538.06    4626  554.51 4625.63  557.91 4625.61
  574.04 4624.94  578.29 4624.76  596.31 4624.14   599.5    4624  605.82    4624
  608.46 4623.95  620.48 4623.75  624.08 4623.73  658.74 4623.43   677.9    4622
  743.63    4622  805.75  4620.4  807.67 4620.36  816.45    4620  874.55    4620
  930.17 4618.28  953.51    4618  971.18    4618  992.02 4616.18  994.27    4616
  997.69    4616 1003.85  4616.7 1008.74 4617.14 1012.44 4617.24 1015.14 4617.44
 1038.16 4617.27 1045.97  4617.5 1048.72 4617.53 1061.18 4617.54 1065.45 4617.65
  1069.1  4617.6 1095.45 4616.84 1109.39    4616 1154.06    4616 1159.36 4615.45
  1163.8 4615.21 1180.62 4615.32 1184.17 4615.28 1203.33 4615.43 1205.52 4615.55
 1209.04 4615.78 1209.49 4615.79 1210.31 4615.82 1210.74 4615.83 1212.96 4615.77
 1237.13 4615.86 1238.67    4616 1284.22    4616 1298.53 4614.22 1304.84    4614
 1315.89    4614 1318.88 4613.11 1323.63    4612 1325.61 4611.29 1330.14    4610
 1334.84    4610 1346.82 4609.13  1350.9 4609.12 1357.98 4609.16  1362.2 4609.14
 1374.89    4610 1375.67    4610  1375.9  4610.2 1376.35 4610.28 1379.67    4612
  1380.3 4612.39 1383.65    4614 1385.08 4614.65 1387.87    4616 1391.32 4616.64
 1398.08    4618 1426.56    4618 1430.03 4618.79 1435.02 4619.72 1435.91 4619.69
 1436.44 4619.67 1437.09    4620 1438.12    4620 1447.76 4621.36 1449.28 4621.25
  1451.4  4621.1 1455.65 4620.95 1459.26 4620.65 1461.65 4620.55  1466.7 4621.23
 1480.97 4621.91 1481.82 4621.94 1482.25    4622 1486.84 4622.82 1488.72 4623.16
 1493.24 4623.97 1493.33 4623.98 1493.42    4624 1496.44  4624.6  1499.3 4625.18
 1501.41  4625.6 1503.34    4626 1506.53  4626.6 1507.53 4626.78 1509.39 4627.12
 1511.73 4627.55 1514.27    4628 1515.61 4628.34 1515.92 4628.43 1518.47 4629.09
 1522.95 4629.88 1523.25 4629.89 1525.45    4630 1527.89 4630.12 1528.11 4630.13
 1528.37 4630.14 1533.02 4630.38 1534.56 4630.46  1539.1 4630.69 1542.79 4630.87
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 1545.85 4631.04 1548.84 4631.19 1552.97 4631.41 1554.77 4631.51 1559.96  4631.8
 1563.65    4632 1566.56 4632.14    1567 4632.16 1569.99 4632.31 1570.85 4632.36
 1573.64 4632.49    1575 4632.57 1577.51  4632.7  1579.6 4632.81 1581.73 4632.93
 1583.51 4633.02 1586.05 4633.18 1587.46 4633.25 1590.73 4633.45 1592.07 4633.37
 1595.37 4633.17 1597.35 4633.06 1600.14 4632.91 1602.58 4632.76 1604.57 4632.64
 1609.67 4632.37 1613.04 4632.19 1613.55 4632.16 1616.73    4632 1617.13 4631.98
 1617.16 4631.98 1620.76 4631.82 1621.08 4631.81 1624.34 4631.67 1627.12 4631.54
 1628.52 4631.48 1631.12 4631.37 1632.79  4631.3 1635.69 4631.27 1637.65 4631.18
 1640.29 4631.15 1642.67 4631.03 1644.98    4631 1647.95 4630.84 1649.85 4630.81
 1651.25 4630.73  1652.4 4630.71 1655.06 4630.78 1656.29 4630.77 1659.33 4630.84
 1661.94  4630.8  1664.2 4630.85 1665.53 4630.84 1666.82 4630.82 1669.29 4630.87
 1670.64 4630.85  1673.5 4630.91 1674.92 4630.89 1676.17 4630.88 1678.09 4630.91
 1679.38  4630.9 1681.26 4630.93 1682.58 4630.91 1684.36 4630.94  1685.7 4630.93
    1687 4630.92 1689.92 4630.75 1690.98 4630.73 1692.74 4630.62 1693.62 4630.61
 1696.62 4630.41  1697.2  4630.4 1698.29 4630.32 1699.84    4630 1701.23  4629.6
 1702.42 4629.43 1704.67 4628.94 1707.34 4628.62 1708.84 4628.34 1714.56 4628.24
 1715.27 4628.16 1721.55 4628.08 1721.83 4628.06 1726.14 4628.02 1726.36    4628
 1731.81 4627.25 1734.72 4627.17 1738.28 4627.07 1742.73 4626.73 1748.53 4626.61
  1751.2 4626.44 1755.36 4626.25 1756.49 4626.25 1760.75    4626 1764.34 4625.55
  1765.4 4625.45 1767.07  4625.3 1772.22 4624.73 1779.39 4624.14  1779.9 4624.06
 1791.04  4624.1 1791.59 4624.09 1802.62 4624.12  1803.2 4624.07  1813.7 4624.22
 1815.27 4624.21 1825.29 4624.33 1838.33 4624.22 1839.27 4624.19 1840.62 4624.17
 1854.36 4624.07 1854.96 4624.07 1855.75    4624 1858.99    4624 1864.14 4623.72
 1866.02 4623.69 1872.76 4622.72 1885.06  4622.5 1889.71 4622.28  1891.6 4622.26
 1899.01    4622 1908.14 4621.18 1917.93 4621.17 1925.25 4621.11 1940.18    4620
 1940.52 4619.96 1940.68 4619.96 1941.22    4620 1991.57    4620 2035.54 4620.36
 2061.12    4620 2081.64    4620  2111.6 4620.45 2123.06 4620.77 2141.34 4620.81
 2157.26 4620.85 2181.05    4622 2185.04 4622.07 2185.62 4622.08 2201.04 4622.28
 2209.58 4622.44 2250.52 4622.56  2253.9 4622.64 2276.67 4622.62 2283.46 4622.49
 2308.77 4622.47 2310.78 4622.46 2312.15 4622.45 2317.14 4622.51 2340.64 4622.64
  2352.1 4622.71 2379.87 4622.71    2387 4622.51 2395.05 4622.46 2402.43 4622.34
 2411.98 4622.45 2416.31 4622.55 2441.71 4622.61 2465.52    4624 2498.66    4624
 2511.91 4624.31    2524 4624.56 2543.16 4624.68 2569.39 4625.45 2577.08 4625.53
 2580.66 4625.61 2595.21    4626 2596.55 4626.02 2614.14  4626.1 2614.94 4626.12
 2629.74 4626.51 2661.34 4626.99 2676.03 4627.22 2687.03  4627.3 2694.94 4627.39
 2716.15 4627.67

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .055 1284.22    .035 1398.08    .055

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1284.22 1398.08           819.33  870.04  893.35             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
 1590.73 2716.15               F

CROSS SECTION OUTPUT  Profile #100-yr FP

  E.G. Elev (ft)           4621.09    Element                 Left OB    Channel   Right OB
  Vel Head (ft)               0.33    Wt. n-Val.               0.055      0.035      0.055
  W.S. Elev (ft)           4620.77    Reach Len. (ft)         819.33     870.04     893.35
  Crit W.S. (ft)                      Flow Area (sq ft)      1631.02     969.15     100.17
  E.G. Slope (ft/ft)      0.001040    Area (sq ft)           1631.02     969.15     217.90
  Q Total (cfs)            8759.00    Flow (cfs)             3155.88    5457.44     145.68
  Top Width (ft)            850.40    Top Width (ft)          492.67     113.86     243.87
  Vel Total (ft/s)            3.24    Avg. Vel. (ft/s)          1.93       5.63       1.45
  Max Chl Dpth (ft)          11.65    Hydr. Depth (ft)          3.31       8.51       1.97
  Conv. Total (cfs)       271555.7    Conv. (cfs)            97841.9   169197.3     4516.4
  Length Wtd. (ft)          864.28    Wetted Per. (ft)        492.96     116.22      51.18
  Min Ch El (ft)           4609.12    Shear (lb/sq ft)          0.21       0.54       0.13
  Alpha                       2.01    Stream Power (lb/ft s)    0.42       3.05       0.18
  Frctn Loss (ft)             1.23    Cum Volume (acre-ft)     15.59      17.22      16.13
  C & E Loss (ft)             0.16    Cum SA (acres)            4.95       1.95       6.30


Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross
         sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
         the need for additional cross sections.

CROSS SECTION OUTPUT  Profile #100-yr FW

  E.G. Elev (ft)           4621.12    Element                 Left OB    Channel   Right OB
  Vel Head (ft)               0.35    Wt. n-Val.               0.055      0.035      0.055
  W.S. Elev (ft)           4620.77    Reach Len. (ft)         819.33     870.04     893.35
  Crit W.S. (ft)                      Flow Area (sq ft)      1381.67     969.48       5.32
  E.G. Slope (ft/ft)      0.001060    Area (sq ft)           1381.67     969.48       5.32
  Q Total (cfs)            8759.00    Flow (cfs)             3241.50    5512.41       5.08
  Top Width (ft)            430.00    Top Width (ft)          314.22     113.86       1.92
  Vel Total (ft/s)            3.72    Avg. Vel. (ft/s)          2.35       5.69       0.96
  Max Chl Dpth (ft)          11.65    Hydr. Depth (ft)          4.40       8.51       2.77
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Conv. Total (cfs)	269001.9	Conv. (cfs)	99551.4	169294.4	156.2
Length Wtd. (ft)	863.94	Wetted Per. (ft)	317.24	116.22	4.69
Min Ch El (ft)	4609.12	Shear (lb/sq ft)	0.29	0.55	0.08
Alpha	1.62	Stream Power (lb/ft s)	0.68	3.14	0.07
Frctn Loss (ft)	1.25	Cum Volume (acre-ft)	12.99	17.22	12.44
C & E Loss (ft)	0.15	Cum SA (acres)	2.96	1.95	2.64

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4623.82	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.34	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4623.47	Reach Len. (ft)	819.33	870.04	893.35
Crit W.S. (ft)		Flow Area (sq ft)	3177.18	1277.54	316.18
E.G. Slope (ft/ft)	0.000882	Area (sq ft)	3177.18	1277.54	1450.53
Q Total (cfs)	16028.00	Flow (cfs)	7490.13	7964.08	573.79
Top Width (ft)	1425.81	Top Width (ft)	630.56	113.86	681.38
Vel Total (ft/s)	3.36	Avg. Vel. (ft/s)	2.36	6.23	1.81
Max Chl Dpth (ft)	14.35	Hydr. Depth (ft)	5.04	11.22	3.42
Conv. Total (cfs)	539646.0	Conv. (cfs)	252184.9	268142.4	19318.8
Length Wtd. (ft)	864.22	Wetted Per. (ft)	630.92	116.22	92.97
Min Ch El (ft)	4609.12	Shear (lb/sq ft)	0.28	0.61	0.19
Alpha	1.95	Stream Power (lb/ft s)	0.65	3.77	0.34
Frctn Loss (ft)	0.75	Cum Volume (acre-ft)	31.53	23.44	52.76
C & E Loss (ft)	0.01	Cum SA (acres)	6.34	1.95	14.60

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4619.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.37	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4619.35	Reach Len. (ft)	819.33	870.04	893.35
Crit W.S. (ft)		Flow Area (sq ft)	1003.85	807.65	42.50
E.G. Slope (ft/ft)	0.001357	Area (sq ft)	1003.85	807.65	42.50
Q Total (cfs)	6528.00	Flow (cfs)	1880.18	4599.74	48.08
Top Width (ft)	537.36	Top Width (ft)	388.56	113.86	34.94
Vel Total (ft/s)	3.52	Avg. Vel. (ft/s)	1.87	5.70	1.13
Max Chl Dpth (ft)	10.23	Hydr. Depth (ft)	2.58	7.09	1.22
Conv. Total (cfs)	177210.2	Conv. (cfs)	51039.7	124865.4	1305.1
Length Wtd. (ft)	865.83	Wetted Per. (ft)	388.83	116.22	35.08
Min Ch El (ft)	4609.12	Shear (lb/sq ft)	0.22	0.59	0.10
Alpha	1.93	Stream Power (lb/ft s)	0.41	3.35	0.12
Frctn Loss (ft)	1.41	Cum Volume (acre-ft)	9.44	14.51	9.64
C & E Loss (ft)	0.10	Cum SA (acres)	3.65	1.94	3.47

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4616.99	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.	0.055	0.035	
W.S. Elev (ft)	4616.49	Reach Len. (ft)	819.33	870.04	893.35
Crit W.S. (ft)		Flow Area (sq ft)	131.76	488.34	
E.G. Slope (ft/ft)	0.002506	Area (sq ft)	131.76	488.34	
Q Total (cfs)	2967.00	Flow (cfs)	138.15	2828.85	
Top Width (ft)	302.92	Top Width (ft)	196.61	106.31	
Vel Total (ft/s)	4.78	Avg. Vel. (ft/s)	1.05	5.79	
Max Chl Dpth (ft)	7.37	Hydr. Depth (ft)	0.67	4.59	
Conv. Total (cfs)	59269.4	Conv. (cfs)	2759.7	56509.7	
Length Wtd. (ft)	870.84	Wetted Per. (ft)	196.73	108.52	
Min Ch El (ft)	4609.12	Shear (lb/sq ft)	0.10	0.70	
Alpha	1.40	Stream Power (lb/ft s)	0.11	4.08	
Frctn Loss (ft)	1.82	Cum Volume (acre-ft)	1.24	9.17	2.75
C & E Loss (ft)	0.03	Cum SA (acres)	1.85	1.80	1.39

Warning: Divided flow computed for this cross-section.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: KingsCynCreek

REACH: Reach1 RS: 156.6568

INPUT
Description:
Station Elevation Data num= 136

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4662.18	1.01	4662	5.63	4661.03	9.99	4660	19.07	4658.04
19.29	4658	19.4	4657.98	28.45	4656	33.2	4654.96	37.64	4654
44.82	4652.97	50.96	4652	59.24	4650.77	63.07	4650.24	65.01	4650
70.29	4649.4	82.65	4648	87.64	4647.32	90.31	4647.11	97.8	4646
103.06	4644.64	110.97	4644.35	113.71	4644.18	115.23	4644	121.52	4642.87
123.92	4642.53	126.15	4642	130.63	4640.41	132.47	4640	137.37	4638.36
138.96	4638	141.89	4637.08	145.37	4636	147.62	4635.34	150.91	4634
157.02	4632.24	157.85	4632	158.62	4631.73	163.66	4630	166.29	4628.77
167.98	4628	169.95	4627.05	172.19	4626	173.75	4625.28	176.69	4624
177.41	4623.54	180.26	4622.24	180.79	4622	181.74	4621.58	185.34	4620
185.73	4619.91	187.4	4619.42	191.36	4618.29	193.23	4618	218.23	4618
221.62	4618.22	222.61	4618.26	223.25	4618	224.2	4617.54	227.66	4616
230.48	4614.72	232.02	4614	233.92	4613.01	235.98	4612	240.91	4610.1
241.08	4610.04	241.17	4610	241.39	4609.96	252.61	4608	294.87	4608
303.05	4609.33	304.26	4610	322.75	4611.39	330.57	4612	333.75	4612
333.93	4612.01	345.11	4612.49	352	4612.32	352.73	4612.32	359.63	4612
369.5	4612	378.56	4613.12	394.01	4613.11	404.18	4614	416.18	4614
459.7	4615.28	460.76	4615.3	501.28	4616	554.87	4616	563.05	4616.17
565.13	4616.19	569.97	4616.31	575.06	4616.46	581.2	4616.71	624.58	4618
644.18	4618	690.01	4619.29	716.39	4620	972.71	4620	999.9	4621.4
1014.06	4622	1027.36	4622	1065.85	4623.38	1071.05	4623.54	1083.43	4624
1088.57	4624	1131.99	4625.63	1141.08	4626	1142.89	4626.25	1160.68	4628
1166	4628	1170.62	4628.08	1229.05	4628.82	1232.11	4628.84	1281.26	4630
1288.84	4630	1313.73	4631.06	1320.8	4631.31	1337.96	4632	1373.88	4633.98
1374.2	4634	1407.41	4635.78	1410.84	4636	1415.83	4636.82	1424.88	4638
1431.84	4639.09	1437.8	4640	1440.29	4640.51	1447.04	4642	1455.83	4643.58
1458.78	4644	1465.97	4645.17	1471.29	4646	1472.16	4646.17	1476.34	4646.78
1479.98	4647.27								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.055	222.61	.035	304.26	.055

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
222.61	304.26	0	0	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
383	1479.98	4620	F

CROSS SECTION OUTPUT Profile #100-yr FP

			Left OB	Channel	Right OB
E.G. Elev (ft)	4619.71	Element			
Vel Head (ft)	0.86	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4618.85	Reach Len. (ft)			
Crit W.S. (ft)	4615.73	Flow Area (sq ft)	26.23	755.06	548.93
E.G. Slope (ft/ft)	0.002052	Area (sq ft)	26.23	755.06	1355.12
Q Total (cfs)	8759.00	Flow (cfs)	27.37	6283.60	2448.03
Top Width (ft)	484.98	Top Width (ft)	33.21	81.65	370.12
Vel Total (ft/s)	6.58	Avg. Vel. (ft/s)	1.04	8.32	4.46
Max Chl Dpth (ft)	10.85	Hydr. Depth (ft)	0.79	9.25	6.97
Conv. Total (cfs)	193370.2	Conv. (cfs)	604.3	138721.4	54044.5
Length Wtd. (ft)		Wetted Per. (ft)	33.32	83.87	78.90
Min Ch El (ft)	4608.00	Shear (lb/sq ft)	0.10	1.15	0.89
Alpha	1.27	Stream Power (lb/ft s)	0.11	9.60	3.97
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #100-yr FW

			Left OB	Channel	Right OB
E.G. Elev (ft)	4619.71	Element			
Vel Head (ft)	0.86	Wt. n-Val.		0.035	0.055
W.S. Elev (ft)	4618.85	Reach Len. (ft)			
Crit W.S. (ft)	4615.72	Flow Area (sq ft)		755.06	548.93
E.G. Slope (ft/ft)	0.002079	Area (sq ft)		755.06	1207.90
Q Total (cfs)	8759.00	Flow (cfs)		6295.03	2463.97
Top Width (ft)	337.39	Top Width (ft)		81.65	255.74
Vel Total (ft/s)	6.72	Avg. Vel. (ft/s)		8.34	4.49
Max Chl Dpth (ft)	10.85	Hydr. Depth (ft)		9.25	6.97
Conv. Total (cfs)	192118.8	Conv. (cfs)		138074.3	54044.5
Length Wtd. (ft)		Wetted Per. (ft)		84.46	78.90
Min Ch El (ft)	4608.00	Shear (lb/sq ft)		1.16	0.90
Alpha	1.23	Stream Power (lb/ft s)		9.67	4.05
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #500-yr

E.G. Elev (ft)	4623.06	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.36	Wt. n-Val.	0.055	0.035	0.055
W.S. Elev (ft)	4622.70	Reach Len. (ft)			
Crit W.S. (ft)	4618.26	Flow Area (sq ft)	175.65	1069.42	3694.27
E.G. Slope (ft/ft)	0.000848	Area (sq ft)	175.65	1069.42	3694.27
Q Total (cfs)	16028.00	Flow (cfs)	346.66	7215.18	8466.15
Top Width (ft)	867.64	Top Width (ft)	43.36	81.65	742.63
Vel Total (ft/s)	3.24	Avg. Vel. (ft/s)	1.97	6.75	2.29
Max Chl Dpth (ft)	14.70	Hydr. Depth (ft)	4.05	13.10	4.97
Conv. Total (cfs)	550454.9	Conv. (cfs)	11905.6	247793.3	290755.9
Length Wtd. (ft)		Wetted Per. (ft)	44.20	83.87	742.98
Min Ch El (ft)	4608.00	Shear (lb/sq ft)	0.21	0.67	0.26
Alpha	2.22	Stream Power (lb/ft s)	0.42	4.55	0.60
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #50-yr

E.G. Elev (ft)	4618.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.71	Wt. n-Val.		0.035	0.055
W.S. Elev (ft)	4617.50	Reach Len. (ft)			
Crit W.S. (ft)	4614.75	Flow Area (sq ft)		645.48	442.62
E.G. Slope (ft/ft)	0.001995	Area (sq ft)		645.48	897.36
Q Total (cfs)	6528.00	Flow (cfs)		4841.94	1686.06
Top Width (ft)	383.48	Top Width (ft)		79.97	303.51
Vel Total (ft/s)	6.00	Avg. Vel. (ft/s)		7.50	3.81
Max Chl Dpth (ft)	9.50	Hydr. Depth (ft)		8.07	5.62
Conv. Total (cfs)	146167.8	Conv. (cfs)		108415.3	37752.5
Length Wtd. (ft)		Wetted Per. (ft)		82.03	78.90
Min Ch El (ft)	4608.00	Shear (lb/sq ft)		0.98	0.70
Alpha	1.26	Stream Power (lb/ft s)		7.35	2.66
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION OUTPUT Profile #10-yr

E.G. Elev (ft)	4615.14	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.44	Wt. n-Val.		0.035	0.055
W.S. Elev (ft)	4614.70	Reach Len. (ft)			
Crit W.S. (ft)	4612.68	Flow Area (sq ft)		430.35	222.16
E.G. Slope (ft/ft)	0.001775	Area (sq ft)		430.35	268.02
Q Total (cfs)	2967.00	Flow (cfs)		2462.80	504.20
Top Width (ft)	209.47	Top Width (ft)		73.74	135.73
Vel Total (ft/s)	4.55	Avg. Vel. (ft/s)		5.72	2.27
Max Chl Dpth (ft)	6.70	Hydr. Depth (ft)		5.84	2.82
Conv. Total (cfs)	70424.7	Conv. (cfs)		58456.9	11967.7
Length Wtd. (ft)		Wetted Per. (ft)		75.20	78.90
Min Ch El (ft)	4608.00	Shear (lb/sq ft)		0.63	0.31
Alpha	1.36	Stream Power (lb/ft s)		3.63	0.71
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

SUMMARY OF MANNING'S N VALUES

River:KingsCynCreek

Reach	River Sta.	n1	n2	n3
Reach1	5704.987	.055	.03	.055
Reach1	5597	Bridge		
Reach1	5489.854	.055	.03	.055
Reach1	5179.23	.055	.03	.055
Reach1	4715.834	.04	.03	.04
Reach1	4309.763	.04	.03	.04
Reach1	3923.687	.04	.03	.045
Reach1	3591.992	.04	.03	.055
Reach1	3591.5	Culvert		
Reach1	3490.956	.045	.035	.055
Reach1	2929.759	.045	.035	.055
Reach1	2307.066	.045	.035	.055

Reach1	1999	.045	.035	.055
Reach1	1580	.055	.035	.055
Reach1	1552	.055	.035	.055
Reach1	1447.365	.055	.035	.055
Reach1	1223	.055	.035	.055
Reach1	1212	.055	.035	.055
Reach1	1137.728	.055	.035	.055
Reach1	1080.5	Culvert		
Reach1	1026.7	.055	.035	.055
Reach1	156.6568	.055	.035	.055

SUMMARY OF REACH LENGTHS

River: KingsCynCreek

Reach	River Sta.	Left	Channel	Right
Reach1	5704.987	216.48	215.13	289.94
Reach1	5597	Bridge		
Reach1	5489.854	221.64	310.62	443.05
Reach1	5179.23	466.41	463.4	468.06
Reach1	4715.834	503.66	406.07	304.21
Reach1	4309.763	278.33	386.08	476.37
Reach1	3923.687	436.97	331.69	363.89
Reach1	3591.992	183.96	101.04	102.13
Reach1	3591.5	Culvert		
Reach1	3490.956	591.29	561.2	578.66
Reach1	2929.759	625.43	622.69	622.78
Reach1	2307.066	300.3	308.6	311
Reach1	1999	363	419	416
Reach1	1580	28.2	28.2	28.2
Reach1	1552	105.1	105.1	70
Reach1	1447.365	105	105	100
Reach1	1223	25	25	25
Reach1	1212	240	150	50
Reach1	1137.728	112	111.03	111.62
Reach1	1080.5	Culvert		
Reach1	1026.7	819.33	870.04	893.35
Reach1	156.6568	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: KingsCynCreek

Reach	River Sta.	Contr.	Expan.
Reach1	5704.987	.3	.5
Reach1	5597	Bridge	
Reach1	5489.854	.3	.5
Reach1	5179.23	.1	.3
Reach1	4715.834	.1	.3
Reach1	4309.763	.1	.3
Reach1	3923.687	.1	.3
Reach1	3591.992	.3	.5
Reach1	3591.5	Culvert	
Reach1	3490.956	.3	.5
Reach1	2929.759	.1	.3
Reach1	2307.066	.1	.3
Reach1	1999	.1	.3
Reach1	1580	.1	.3
Reach1	1552	.1	.3
Reach1	1447.365	.3	.5
Reach1	1223	.3	.5
Reach1	1212	.3	.5
Reach1	1137.728	.3	.5
Reach1	1080.5	Culvert	
Reach1	1026.7	.3	.5
Reach1	156.6568	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Reach1	5704.987	100-yr FP	5744.00	4621.30	4628.72	4624.24	4628.78	0.000154	1.93	3180.91	3592.02	0.14
Reach1	5704.987	100-yr FW	5744.00	4621.30	4629.76	4624.40	4629.81	0.000111	1.79	3205.67	497.27	0.12
Reach1	5704.987	500-yr	10624.00	4621.30	4630.33	4625.12	4630.44	0.000232	2.76	4153.87	3802.69	0.18
Reach1	5704.987	50-yr	4298.00	4621.30	4627.75	4623.93	4627.79	0.000159	1.74	2637.14	3584.56	0.14
Reach1	5704.987	10-yr	1903.00	4621.30	4626.37	4623.31	4626.38	0.000090	1.09	1877.37	3549.95	0.10
Reach1	5597		Bridge									
Reach1	5489.854	100-yr FP	5744.00	4621.00	4628.58	4623.88	4628.65	0.000158	2.12	2752.48	2265.59	0.15
Reach1	5489.854	100-yr FW	5744.00	4621.00	4629.68	4623.88	4629.73	0.000095	1.81	3166.45	427.19	0.12
Reach1	5489.854	500-yr	10624.00	4621.00	4630.06	4624.86	4630.21	0.000265	3.16	3454.47	2751.87	0.20
Reach1	5489.854	50-yr	4298.00	4621.00	4627.63	4623.50	4627.68	0.000154	1.88	2309.01	2171.03	0.14
Reach1	5489.854	10-yr	1903.00	4621.00	4626.31	4622.80	4626.33	0.000076	1.10	1726.67	2093.27	0.10
Reach1	5179.23	100-yr FP	6313.00	4620.65	4628.55		4628.60	0.000126	2.05	3840.08	3115.37	0.14
Reach1	5179.23	100-yr FW	6313.00	4620.65	4629.63		4629.70	0.000106	2.04	3097.57	380.29	0.13
Reach1	5179.23	500-yr	11660.00	4620.65	4630.00		4630.12	0.000212	3.00	5088.89	3426.68	0.18
Reach1	5179.23	50-yr	4675.00	4620.65	4627.59		4627.63	0.000119	1.80	3135.19	2908.95	0.13
Reach1	5179.23	10-yr	2076.00	4620.65	4626.29		4626.31	0.000057	1.06	2279.07	1894.39	0.09
Reach1	4715.834	100-yr FP	7372.00	4619.18	4628.52		4628.55	0.000073	1.71	5643.97	2651.21	0.11
Reach1	4715.834	100-yr FW	7372.00	4619.18	4629.59		4629.65	0.000093	2.07	3561.86	386.97	0.12
Reach1	4715.834	500-yr	13546.00	4619.18	4629.99		4630.06	0.000123	2.47	7147.66	2904.92	0.14
Reach1	4715.834	50-yr	5471.00	4619.18	4627.56		4627.59	0.000069	1.53	4667.64	2567.84	0.10
Reach1	4715.834	10-yr	2452.00	4619.18	4626.28		4626.29	0.000033	0.93	3367.62	2398.61	0.07
Reach1	4309.763	100-yr FP	8529.00	4618.66	4628.43		4628.51	0.000149	2.32	3964.39	1186.01	0.14
Reach1	4309.763	100-yr FW	8529.00	4618.66	4629.53		4629.61	0.000119	2.21	3859.42	390.27	0.12
Reach1	4309.763	500-yr	15608.00	4618.66	4629.78		4629.97	0.000296	3.60	4720.59	1383.13	0.20
Reach1	4309.763	50-yr	6341.00	4618.66	4627.49		4627.55	0.000123	1.96	3459.28	897.94	0.12
Reach1	4309.763	10-yr	2863.00	4618.66	4626.25		4626.27	0.000047	1.08	2807.92	854.34	0.07
Reach1	3923.687	100-yr FP	8625.00	4618.46	4628.40		4628.46	0.000088	2.06	5288.18	1274.56	0.12
Reach1	3923.687	100-yr FW	8625.00	4618.46	4629.49		4629.57	0.000091	2.21	3906.21	373.66	0.12
Reach1	3923.687	500-yr	15790.00	4618.46	4629.74		4629.87	0.000170	3.13	6457.33	1566.33	0.17
Reach1	3923.687	50-yr	6435.00	4618.46	4627.46		4627.51	0.000076	1.78	4485.63	1104.11	0.11
Reach1	3923.687	10-yr	2924.00	4618.46	4626.24		4626.26	0.000030	1.01	3456.83	1029.48	0.07
Reach1	3591.992	100-yr FP	8625.00	4617.59	4628.39	4621.17	4628.43	0.000053	1.57	6496.55	1495.99	0.09
Reach1	3591.992	100-yr FW	8625.00	4617.59	4629.50	4621.17	4629.54	0.000047	1.57	5490.82	537.53	0.09
Reach1	3591.992	500-yr	15790.00	4617.59	4629.73	4622.21	4629.81	0.000108	2.46	8115.15	1719.40	0.13
Reach1	3591.992	50-yr	6435.00	4617.59	4627.46	4620.76	4627.48	0.000044	1.34	5556.56	1390.30	0.08
Reach1	3591.992	10-yr	2924.00	4617.59	4626.24	4619.94	4626.25	0.000017	0.74	4418.65	1230.85	0.05
Reach1	3591.5		Culvert									
Reach1	3490.956	100-yr FP	8625.00	4616.00	4627.91		4628.35	0.001785	6.25	2103.25	1242.70	0.42
Reach1	3490.956	100-yr FW	8625.00	4616.00	4629.23		4629.44	0.000722	4.48	2797.43	585.77	0.28
Reach1	3490.956	500-yr	15790.00	4616.00	4628.93		4629.71	0.002865	8.69	2796.58	1609.17	0.55
Reach1	3490.956	50-yr	6435.00	4616.00	4626.92		4627.44	0.002239	6.39	1472.28	1041.35	0.47
Reach1	3490.956	10-yr	2924.00	4616.00	4624.89		4625.34	0.002387	5.46	566.22	387.92	0.46
Reach1	2929.759	100-yr FP	8625.00	4614.18	4627.40	4624.56	4627.61	0.000745	5.43	3344.35	846.02	0.29
Reach1	2929.759	100-yr FW	8625.00	4614.18	4627.82	4624.56	4628.64	0.001839	8.76	1581.49	310.62	0.46
Reach1	2929.759	500-yr	15790.00	4614.18	4626.69	4626.24	4627.74	0.003826	11.77	2834.58	713.67	0.65
Reach1	2929.759	50-yr	6435.00	4614.18	4626.35	4623.51	4626.57	0.000804	5.27	2594.91	702.54	0.30
Reach1	2929.759	10-yr	2924.00	4614.18	4623.92	4620.70	4624.32	0.001354	5.64	680.17	432.55	0.37

Reach1	2307.066	100-yr FP	8625.00	4612.54	4624.66	4624.66	4626.48	0.004961	12.74	1055.84	1206.55	0.74
Reach1	2307.066	100-yr FW	8625.00	4612.54	4624.27	4624.27	4626.56	0.006290	13.95	892.92	187.42	0.82
Reach1	2307.066	500-yr	15790.00	4612.54	4626.36	4626.36	4626.52	0.000821	5.80	6385.31	1785.73	0.31
Reach1	2307.066	50-yr	6435.00	4612.54	4623.41	4623.41	4625.34	0.005774	12.48	732.12	856.67	0.78
Reach1	2307.066	10-yr	2924.00	4612.54	4620.33	4620.33	4622.38	0.009522	11.62	266.97	675.78	0.92
Reach1	1999	100-yr FP	8625.00	4612.75	4621.77	4620.17	4621.98	0.001313	5.67	2788.46	1156.78	0.37
Reach1	1999	100-yr FW	8625.00	4612.75	4622.40	4620.17	4622.54	0.000802	4.68	3266.68	1163.54	0.29
Reach1	1999	500-yr	15790.00	4612.75	4624.26	4621.08	4624.47	0.000852	5.54	4693.66	1268.25	0.31
Reach1	1999	50-yr	6435.00	4612.75	4620.87	4619.68	4621.10	0.001696	5.90	2102.40	1141.26	0.41
Reach1	1999	10-yr	2924.00	4612.75	4619.56	4618.83	4619.75	0.001590	4.92	1166.01	758.63	0.38
Reach1	1580	100-yr FP	8625.00	4612.56	4621.28	4619.65	4621.49	0.001211	5.51	3174.87	1309.28	0.36
Reach1	1580	100-yr FW	8625.00	4612.56	4622.13	4619.65	4622.26	0.000656	4.37	3909.41	1330.71	0.27
Reach1	1580	500-yr	15790.00	4612.56	4623.93	4620.59	4624.14	0.000884	5.79	5602.27	1530.75	0.32
Reach1	1580	50-yr	6435.00	4612.56	4620.04	4619.25	4620.37	0.002032	6.31	2134.55	1225.32	0.45
Reach1	1580	10-yr	2924.00	4612.56	4618.71	4617.75	4619.02	0.002028	5.35	1068.22	742.11	0.43
Reach1	1552	100-yr FP	8625.00	4612.54	4621.29	4619.46	4621.45	0.001026	5.19	3529.83	1606.16	0.33
Reach1	1552	100-yr FW	8625.00	4612.54	4621.72	4620.08	4622.20	0.002125	7.75	2016.31	416.00	0.48
Reach1	1552	500-yr	15790.00	4612.54	4623.95	4620.32	4624.10	0.000737	5.37	6304.71	1958.65	0.29
Reach1	1552	50-yr	6435.00	4612.54	4620.05	4618.68	4620.29	0.001735	6.00	2414.26	1523.20	0.42
Reach1	1552	10-yr	2924.00	4612.54	4618.71	4617.99	4618.95	0.001778	5.20	1234.69	840.06	0.41
Reach1	1447.365	100-yr FP	8759.00	4612.02	4621.20		4621.35	0.000904	4.95	3625.79	1554.75	0.31
Reach1	1447.365	100-yr FW	8759.00	4612.02	4621.58		4621.97	0.001699	7.01	2281.42	473.25	0.43
Reach1	1447.365	500-yr	16028.00	4612.02	4623.86		4624.03	0.000755	5.50	6185.97	1921.24	0.30
Reach1	1447.365	50-yr	6528.00	4612.02	4619.92		4620.13	0.001477	5.61	2515.68	859.12	0.39
Reach1	1447.365	10-yr	2967.00	4612.02	4618.60		4618.78	0.001367	4.64	1399.39	782.20	0.36
Reach1	1223	100-yr FP	8759.00	4611.09	4621.11	4619.09	4621.27	0.000770	4.93	3869.95	935.39	0.29
Reach1	1223	100-yr FW	8759.00	4611.09	4621.33	4619.51	4621.78	0.001628	7.29	2192.80	436.00	0.43
Reach1	1223	500-yr	16028.00	4611.09	4623.81	4620.00	4623.95	0.000559	5.02	6439.12	1002.39	0.26
Reach1	1223	50-yr	6528.00	4611.09	4619.73	4618.62	4619.97	0.001352	5.83	2580.62	922.27	0.38
Reach1	1223	10-yr	2967.00	4611.09	4618.43	4617.20	4618.65	0.001140	4.71	1415.49	831.89	0.34
Reach1	1212	100-yr FP	8759.00	4611.06	4621.11		4621.23	0.000715	4.76	4573.33	1474.44	0.28
Reach1	1212	100-yr FW	8759.00	4611.06	4621.48		4621.58	0.000538	4.25	5149.37	1569.59	0.25
Reach1	1212	500-yr	16028.00	4611.06	4623.83		4623.91	0.000393	4.23	9136.18	1784.76	0.22
Reach1	1212	50-yr	6528.00	4611.06	4619.71		4619.92	0.001259	5.63	2810.26	1111.25	0.37
Reach1	1212	10-yr	2967.00	4611.06	4618.41		4618.61	0.001079	4.58	1531.18	902.37	0.33
Reach1	1137.728	100-yr FP	8759.00	4610.00	4621.03	4618.60	4621.15	0.000546	4.43	5016.28	1467.61	0.25
Reach1	1137.728	100-yr FW	8759.00	4610.00	4620.95	4618.78	4621.36	0.001302	6.80	2300.99	429.83	0.38
Reach1	1137.728	500-yr	16028.00	4610.00	4623.78	4619.47	4623.86	0.000344	4.13	9730.76	1942.36	0.20
Reach1	1137.728	50-yr	6528.00	4610.00	4619.58	4618.17	4619.77	0.000860	5.01	3155.92	1126.23	0.30
Reach1	1137.728	10-yr	2967.00	4610.00	4618.33	4615.06	4618.47	0.000598	3.76	1853.84	999.31	0.25
Reach1	1080.5		Culvert									
Reach1	1026.7	100-yr FP	8759.00	4609.12	4620.77		4621.09	0.001040	5.63	2700.34	850.40	0.34
Reach1	1026.7	100-yr FW	8759.00	4609.12	4620.77		4621.12	0.001060	5.69	2356.47	430.00	0.34
Reach1	1026.7	500-yr	16028.00	4609.12	4623.47		4623.82	0.000882	6.23	4770.90	1425.81	0.33
Reach1	1026.7	50-yr	6528.00	4609.12	4619.35		4619.72	0.001357	5.70	1854.00	537.36	0.38
Reach1	1026.7	10-yr	2967.00	4609.12	4616.49		4616.99	0.002506	5.79	620.09	302.92	0.48
Reach1	156.6568	100-yr FP	8759.00	4608.00	4618.85	4615.73	4619.71	0.002052	8.32	1330.21	484.98	0.48
Reach1	156.6568	100-yr FW	8759.00	4608.00	4618.85	4615.72	4619.71	0.002079	8.34	1303.98	337.39	0.48
Reach1	156.6568	500-yr	16028.00	4608.00	4622.70	4618.26	4623.06	0.000848	6.75	4939.33	867.64	0.33
Reach1	156.6568	50-yr	6528.00	4608.00	4617.50	4614.75	4618.21	0.001995	7.50	1088.10	383.48	0.47
Reach1	156.6568	10-yr	2967.00	4608.00	4614.70	4612.68	4615.14	0.001775	5.72	652.51	209.47	0.42