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PLAN DATA

Plan Title: Site6
Plan File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.p06

Geometry Title: Site6
Geometry File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.g04

Flow Title : Site6
Flow File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.f04

Plan Summary Information:
Number of: Cross Sections = 16 Multiple Openings = 0
Culverts = 0 Inline Structures = 0
Bridges = 0 Lateral Structures = 0

Computational Information
Water surface calculation tolerance = 0.003
Critical depth calculation tolerance = 0.003
Maximum number of iterations = 20
Maximum difference tolerance = 0.1
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: Mixed Flow

FLOW DATA

Flow Title: Site6
Flow File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.f04

Flow Data (m3/s)

River	Reach	RS	100yr	2yr
RIVER-1	Reach-1	50.1	17.12	3.46

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
RIVER-1	Reach-1	100yr	Critical	Normal S = 0.028
RIVER-1	Reach-1	2yr	Critical	Normal S = 0.028

GEOMETRY DATA

Geometry Title: Site6
Geometry File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.g04

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 50.1

INPUT
Description:
Station Elevation Data num= 11

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	120	12.6	118	19	116	24	114	28	112
32	110	41	112	48.7	114	56	116	63.7	118
77.4	120								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	28	.04	41	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
28	41	38	59	66	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 50

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	110	6.4	108	12.9	106	20.9	104	27.3	102
33.1	100	39.3	98	50	96	58.2	94	64.7	92
68.4	90	75	92	80.7	94	96.2	96	113.1	98
133.1	100								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	64.7	.04	75	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
64.7	75	46	43	59	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 49

INPUT
Description:
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	88	6.4	86	12.5	84	17.97	82.501	19.8	82
21.9	82.5	28.2	84	36.2	86				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	17.97	.04	21.9	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
17.97	21.9	38	43	36	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 48

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	80	5.2	78	9.9	76	14.42	74.155	14.8	74
20.1	74	21.06	74.155	32.5	76	44.5	78		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	14.42	.04	21.06	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
14.42	21.06	42.5	55.2	69	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 47

INPUT
Description:
Station Elevation Data num= 50

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	82.72	1.16	82.63	6.75	82	8.81	82	9.24	82
13.49	81.59	15.1	81.46	25.89	80	26.78	80	27.35	80
28.49	80	29.43	80	30.13	80	30.28	80	32.08	79.21
34.53	78	36.34	77.1	38.63	76	41.12	74.76	42.69	74
45.56	72.57	46.77	72	50.32	70.25	50.81	70	51.05	69.91
52.72	69.17	55.06	68.14	55.39	68	55.78	68	57.74	68
59.37	68	59.93	68	64.22	68	64.66	68.14	66.76	68.82
70.82	70	72.97	71.03	74.06	71.58	74.94	72	75.52	72.36
78.36	74	80.03	74.83	82.8	76	84.84	76.78	87.88	78
91.07	78.45	102.26	80	105.51	80.38	111.48	81.06	112.3	81.15

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	55.06	.04	64.66	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
55.06	64.66	65	59	53	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 46

INPUT
Description:
Station Elevation Data num= 46

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	78.67	8.2	78	8.34	78	9.76	78	10	78
10.09	78	11.93	77.67	17.08	76.79	19.52	76.39	25.36	76
25.77	75.95	25.87	75.93	26.03	75.9	28.72	75.38	32.52	74.08
32.64	74.04	32.76	74	38.18	72.09	38.43	72	42.77	70.43
43.73	70	46.65	68.64	47.98	68	49.32	67.33	51.54	66.23
52.01	66	53.98	66	56.08	66	59.66	66	60.37	66.23
65.43	68	67.2	68.63	71.04	70	75.04	71.44	76.49	72
77.17	72.28	78.95	72.84	81.48	73.73	82.49	74	83.55	74
83.83	74	87.29	74.36	93.91	74.87	99.69	75.33	102.3	75.52
105.68	75.79								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	51.54	.04	60.37	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
51.54	60.37	49	63	63	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 45

INPUT
Description:
Station Elevation Data num= 40

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	76.14	1.95	76.01	2.15	76	2.17	76	9.45	75.33
12.96	74.95	19.74	74	21.21	74	21.62	74	21.75	74
23.16	73.51	27.21	72	30.57	70.5	31.62	70	32.39	69.73
37.97	68	38.72	67.75	42.09	66.57	43.65	66	48.14	64.36
48.61	64.19	49.13	64	50.78	64	53.17	64	59.34	64
59.62	64.1	59.85	64.19	64.65	66	65.13	66.18	67.34	67.02
69.17	67.7	69.93	68	73.38	69.33	75.03	70	77.76	71.09
80.09	72	83.13	73.08	85.89	74	90.83	74.67	99.11	75.83

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	48.61	.04	59.85	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
48.61	59.85	55	61	55	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 44

INPUT
Description:
Station Elevation Data num= 39

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	72.15	1.18	72	3.29	71.73	22.21	70	26.9	70
26.99	70	27.08	70	27.51	70	32.12	69.04	35.76	68.38
36.59	68.22	37.77	68	40.45	66.95	42.89	66	44.11	65.52
47.57	64	48.43	63.63	51.6	62.22	52.1	62	54.13	62
55.81	62	59.83	62	60.67	62	61.15	62	61.8	62.22
63.71	62.86	67.23	64	68.31	64.42	72.42	66	75.46	67.15
77.59	68	81.22	69.4	82.76	70	85.94	70.71	90.08	71.65
91.92	72	99.47	73.05	106.2	74	106.41	74.03		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	51.6	.04	61.8	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
51.6	61.8	85	56	48	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 43

INPUT
Description:
Station Elevation Data num= 34

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	70.32	5.24	70	5.51	69.93	6.34	69.69	10.56	68.49
12.26	68	17.12	66.57	19.08	66	19.86	65.77	22.56	64.89
24.72	64.19	25.31	64	26.16	63.72	31.52	62	34.34	61.1
37.39	60.14	37.84	60	42.08	60	46.64	60	51.32	60
51.65	60.13	53.34	60.79	54.86	61.37	56.82	62	62.14	63.74
62.94	64	63.36	64.14	68.97	66	74.78	67.93	74.99	68
75.23	68.06	82.92	70	83.95	70.1	85.94	70.28		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	37.39	.04	51.65	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
37.39	51.65	64	64	65	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 42

INPUT
Description:
Station Elevation Data num= 32

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	69.06	2.21	68.88	3.27	68.83	7.83	68.46	12.9	68
13.31	68	14.14	67.78	20.39	66	20.73	65.91	27.38	64
34.32	62.01	34.36	62	34.41	61.99	41.34	60	45.82	58.72
46.25	58.6	48.32	58	51.98	58	53.78	58	55.49	58.62
58.83	59.82	59.38	60	61.98	61.07	64.48	62	67.07	62.91
70.65	64	73.47	64.52	76.2	64.98	78.48	65.37	82.25	66
82.27	66	85.31	66.54						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	46.25	.04	55.49	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
46.25	55.49	49	48	47	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 41

INPUT
Description:
Station Elevation Data num= 31

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	68	1.7	68	1.74	68	1.89	68	6.27	67.66
7.27	67.45	9.16	67.21	13.98	66	17.18	65.15	21.78	64
24.16	63.39	28.35	62.34	29.63	62	30.59	61.76	33.38	61.09
37.83	60	40.78	59.27	43.79	58.52	45.9	58	51.45	58
53.06	58	54.59	58.5	54.72	58.54	59.45	60	63.73	61.17
66.96	62	75.79	63.63	77.02	63.85	77.97	64	82.4	64.71
86.43	65.34								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	43.79	.04	54.59	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
43.79	54.59	50	62	54	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 40

INPUT
Description:
Station Elevation Data num= 26

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	64.7	12.8	64	17.88	64	17.95	64	18.14	64
18.85	63.82	26.13	62	30.44	60.91	34.04	60	37.61	59.09
41.61	58.11	42.08	58	49.26	58	58.38	58	59.8	58
63.39	58	63.63	58.04	63.95	58.1	63.97	58.1	70.18	59.15
71.4	59.35	72.82	59.59	75.35	60	82.34	60.86	84.91	61.18
89.95	61.83								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

0 .05 41.61 .04 63.97 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
41.61 63.97 85 59 53 .1 .3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 39

INPUT
Description:
Station Elevation Data num= 40

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	64.76	2.16	64.72	6.19	64.65	8.83	64.46	13.47	64.08
14.33	64	16.29	63.53	20.03	62.6	23.11	62	27.31	60.79
30.24	60	33.35	59.13	37.1	58.21	37.94	58	43.76	56.28
44.11	56.16	44.35	56.08	44.59	56	46.14	56	46.95	56
47.43	56	49.43	56	51.59	56	61.38	56	62.45	56
64.14	56	66.45	56	67.39	56	69.14	56	71.11	56
72.3	56	72.58	56	73.27	56.08	86.09	57.51	90.33	58
91.52	58.12	94.13	58.38	106.17	59.56	110.8	60	113.1	60.25

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	44.35	.04	73.27	.05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
44.35 73.27 68 58 38 .1 .3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 38

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62	1.61	62	3.09	62	7.65	62	9.09	62
9.36	62	9.87	62	11.78	61.56	14.83	60.93	16.35	60.56
19.23	60	25.69	58.57	27.88	58	33.96	56.6	36.45	56
38.93	55.51	45.67	54.2	46.72	54	53.01	54	56.24	54
56.86	54.21	58.25	54.68	62.16	56	67.78	57.91	68.06	58
78.94	58.92	92	60	94.47	60.28				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	45.67	.04	56.86	.05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
45.67 56.86 45 40 37 .1 .3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 37

INPUT
Description:
Station Elevation Data num= 43

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58.38	.02	58.38	.82	58.42	2.52	58.27	3.55	58.19
3.83	58.2	4.14	58.22	8.82	58.08	8.86	58.08	9.85	58
19.05	57.45	20.61	57.26	26.48	56.9	28.11	56.79	32.22	56
32.62	56	32.7	56	33.6	55.86	34.55	55.71	41.1	54.67
42.4	54.49	43.27	54.38	45.96	54.06	46.06	54.05	46.46	54

46.68 54 47.66 54 49.07 53.79 50.24 53.59 55.24 52.83
55.64 52.75 59.59 52 59.98 52 60.38 52 62.83 52.75
64.86 53.38 67.05 54 70.92 55.13 73.92 56 79.15 57.54
80.74 58 94.94 59.96 94.97 59.97

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	55.64	.04	62.83	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
55.64	62.83	51	48	45	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 36

INPUT
Description:
Station Elevation Data num= 21

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	56	5.48	56	7.67	56	14.8	56	20.97	55.09
28.18	54	34.06	52.81	36.95	52.23	38.1	52	41.88	52
45.63	52	46.38	52.22	49.01	53.01	51.74	53.69	52.94	54
55.35	54.65	57.01	55.03	60.66	56	61.73	56.28	68.11	58
70.08	58.23								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	36.95	.04	46.38	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
36.95	46.38	0	0	0	.1	.3

SUMMARY OF MANNING'S N VALUES

River:RIVER-1

Reach	River Sta.	n1	n2	n3
Reach-1	50.1	.05	.04	.05
Reach-1	50	.05	.04	.05
Reach-1	49	.05	.04	.05
Reach-1	48	.05	.04	.05
Reach-1	47	.05	.04	.05
Reach-1	46	.05	.04	.05
Reach-1	45	.05	.04	.05
Reach-1	44	.05	.04	.05
Reach-1	43	.05	.04	.05
Reach-1	42	.05	.04	.05
Reach-1	41	.05	.04	.05
Reach-1	40	.05	.04	.05
Reach-1	39	.05	.04	.05
Reach-1	38	.05	.04	.05
Reach-1	37	.05	.04	.05
Reach-1	36	.05	.04	.05

SUMMARY OF REACH LENGTHS

River: RIVER-1

Reach	River Sta.	Left	Channel	Right
Reach-1	50.1	38	59	66

Reach-1	50	46	43	59
Reach-1	49	38	43	36
Reach-1	48	42.5	55.2	69
Reach-1	47	65	59	53
Reach-1	46	49	63	63
Reach-1	45	55	61	55
Reach-1	44	85	56	48
Reach-1	43	64	64	65
Reach-1	42	49	48	47
Reach-1	41	50	62	54
Reach-1	40	85	59	53
Reach-1	39	68	58	38
Reach-1	38	45	40	37
Reach-1	37	51	48	45
Reach-1	36	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: RIVER-1

Reach	River Sta.	Contr.	Expan.
Reach-1	50.1	.1	.3
Reach-1	50	.1	.3
Reach-1	49	.1	.3
Reach-1	48	.1	.3
Reach-1	47	.1	.3
Reach-1	46	.1	.3
Reach-1	45	.1	.3
Reach-1	44	.1	.3
Reach-1	43	.1	.3
Reach-1	42	.1	.3
Reach-1	41	.1	.3
Reach-1	40	.1	.3
Reach-1	39	.1	.3
Reach-1	38	.1	.3
Reach-1	37	.1	.3
Reach-1	36	.1	.3

HEC-RAS Version 4.0 Beta
U.S. Army Corp of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

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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 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
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PROJECT DATA
Project Title: Urrutiacon Puentes-May2008
Project File : UrrutiaMay08.prj
Run Date and Time: 8/1/2008 2:15:34 PM

Project in SI units

Project Description:
******* Autodesk, Inc. HEC-2 Input Data file ********
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Minimum Data Input **********

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Inc. HEC-2 Input Data file ********
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Inc. HEC-2 Input Data file ********
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PLAN DATA

Plan Title: Site 8
Plan File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.p01

Geometry Title: Site8
Geometry File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.g01

Flow Title : Site8
Flow File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.f01

Plan Summary Information:
Number of: Cross Sections = 24 Multiple Openings = 0
Culverts = 0 Inline Structures = 0
Bridges = 0 Lateral Structures = 0

Computational Information
Water surface calculation tolerance = 0.003
Critical depth calculation tolerance = 0.003
Maximum number of iterations = 20
Maximum difference tolerance = 0.1
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: Mixed Flow

FLOW DATA

Flow Title: Site8
Flow File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.f01

Flow Data (m3/s)

River	Reach	RS	100yr	2yr
Unn.Creek2	OFF8	35	11.2	2.87
Unn.Creek2	Site8B	35.5	3.2	.85
Unn.Creek2	Site8A	33	27.2	6.62
Unn.Creek2	Site8A	29	37.9	8.78
Unn.Creek2	Site 8C	26.6	6.94	1.29
Unn.Creek2	8A2	26	44.84	10.07

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Unn.Creek2	OFF8	100yr	Critical	
Unn.Creek2	OFF8	2yr	Critical	
Unn.Creek2	Site8B	100yr	Critical	
Unn.Creek2	Site8B	2yr	Critical	
Unn.Creek2	Site 8C	100yr	Critical	
Unn.Creek2	Site 8C	2yr	Critical	
Unn.Creek2	8A2	100yr		Normal S = 0.012
Unn.Creek2	8A2	2yr		Normal S = 0.012

GEOMETRY DATA

Geometry Title: Site8
Geometry File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.g01

Reach Connection Table

River	Reach	Upstream Boundary	Downstream Boundary
Unn.Creek2	OFF8		A
Unn.Creek2	Site8B		A
Unn.Creek2	Site8A	A	B
Unn.Creek2	Site 8C		B
Unn.Creek2	8A2	B	

JUNCTION INFORMATION

Name: A
Description:
Energy computation Method

Length across Junction		Tributary			
River	Reach	River	Reach	Length	Angle
Unn.Creek2	OFF8	to Unn.Creek2	Site8A		127
Unn.Creek2	Site8B	to Unn.Creek2	Site8A		113.5

Name: B
Description:
Energy computation Method

Length across Junction		Tributary				
River	Reach	River	Reach	Length	Angle	
Unn.Creek2	Site8A	to Unn.Creek2	8A2		120	0
Unn.Creek2	Site 8C	to Unn.Creek2	8A2		0	0

CROSS SECTION

RIVER: Unn.Creek2
REACH: OFF8 RS: 35

INPUT
Description:
Station Elevation Data num= 50

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	97.56	.37	97.45	5.55	96	8.27	95.17	11.98	94
15	93.2	19.53	92	20.68	91.6	25.06	90	28.5	88.83
30.9	88	31.71	87.66	36.58	86	39.83	84.75	41.81	84
45.81	82.98	49.92	82	51.39	81.39	54.32	80.28	55.05	80
58.35	80	59.48	80	59.71	80	60.6	80.3	65.17	81.85
65.63	82	67.66	82.77	70.57	83.84	71.01	84	76.02	85.72
76.86	86	84.06	87.73	84.6	87.84	84.83	87.88	85.46	88
86.18	88	86.72	88	88.48	88	94.54	89.41	95.66	89.58
97.31	90	97.42	90	100.49	90.61	105.42	91.48	107.15	92
110.35	92.82	114.82	94	115.46	94	116.39	94	117.53	94

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	54.32	.04	60.6	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
54.32	60.6	83	93	95	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: OFF8 RS: 34

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	89.78	2.12	89.03	5.24	88	8.71	86.36	9.17	86.15
9.5	86	10.47	85.67	15.4	84	20.34	82.74	23.28	82
25.27	81.47	30.46	80	36.64	78.08	36.89	78	42.19	76.24
42.9	76	44.58	75.4	47.71	74.26	48.43	74	48.79	74
49.91	74	51.21	74.26	53.57	74.73	59.24	75.91	59.64	76
60.1	76.09	69.2	78	71.91	78.58	78.58	80	84.59	81.23
88.06	82	91.69	82.85	96.7	84	101.4	85.09	105.5	86
111.22	87.26	113.63	87.78						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	47.71	.04	51.21	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
47.71	51.21	81	127	130	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site8B RS: 35.5

INPUT
Description:
Station Elevation Data num= 30

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	144.52	.39	144.46	2.94	144	4.46	143.73	5.19	143.6
8.47	143.05	11.31	142.56	12.07	142.51	16.15	142.32	16.91	142.28
17.49	142.26	18.13	142.26	21.68	142.23	25.33	142.22	25.88	142.22
27.78	142.23	27.9	142.28	28.9	142.72	31.83	144	32.61	144.34
36.4	146	36.51	146.04	37.2	146.35	40.34	147.72	40.98	148
44.28	149.45	45.54	150	46.74	150.52	50.51	152	51.88	152

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	16.15	.04	27.9	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
16.15	27.9	23	24	29	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site8B RS: 35.4

INPUT
Description:
Station Elevation Data num= 33

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	133.67	2.03	133.35	3.64	133.11	7.47	132.48	8.4	132.35
10.43	132	12.08	131.74	13.36	131.44	15.65	131.01	16.54	130.84
19.04	130	19.32	129.91	19.5	129.85	21.02	129.5	23.19	129.03
26.05	128.42	27.97	128	29.65	127.64	30.14	127.53	30.62	127.64
32.18	127.98	32.24	127.99	32.29	128	37.05	129.06	41.2	130
43.54	130.53	49.72	132	50.22	132.12	50.72	132.24	53.61	132.98
56.12	133.65	56.44	133.75	56.65	133.82				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	29.65	.04	30.62	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
29.65	30.62	32	35	36	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site8B RS: 35.3

INPUT
Description:
Station Elevation Data num= 43

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	117.78	.26	117.69	4.73	116	5.1	115.86	6.14	115.44
9.63	114	10.68	113.53	10.92	113.42	14.25	112	15.26	111.51
15.37	111.45	18.35	110	18.62	109.9	19.42	109.52	21.39	108.63
22.29	108.19	22.68	108	26.52	106.42	26.74	106.33	27.49	106
31.26	104.46	31.95	104.12	31.97	104.11	32.67	104	33.04	103.96
33.23	104	34.13	104	34.45	104.12	35.88	104.68	36.93	104.98
39.97	106	41.07	106.38	45.76	108	47.03	108.43	49.82	109.38
51.16	109.84	51.62	110	54.54	111	57.43	112	57.88	112.16
58.52	112.38	61.04	113.25	63.19	114				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	31.95	.04	34.45	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
31.95	34.45	42	46	47	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site8B RS: 35.2

INPUT
Description:
Station Elevation Data num= 42

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	100.06	.01	100.06	.07	100.04	.26	100	.52	100
1.13	100	3.91	99.35	8.06	98.24	8.51	98.13	8.98	98
9.85	97.74	15.66	96	17.7	95.38	22.34	94	25.58	92.93
28.36	92	31.87	90.95	34.64	90.14	34.71	90.12	35.38	90
35.48	90	36.58	90	36.81	90.14	39.63	91.82	39.93	92
42.59	93.66	44.11	93.99	44.12	94	44.15	94	46.63	94
48.17	94.34	50.34	94.63	53.27	95.32	54.47	95.57	56.06	96
61.54	97.49	63.22	98	68.22	99.62	69.25	100	73.34	101.62
74.27	102	74.31	102.02						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	34.64	.04	36.81	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
34.64	36.81	51	63	55	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site8B RS: 35.1

INPUT
Description:
Station Elevation Data num= 42

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	88.05	.44	88	.56	87.98	.6	87.98	5.13	87.41
6.15	87.27	7.95	87.06	10.26	86.82	11.05	86.72	12.28	86.57
14.08	86.23	15.1	86	17.17	85.3	20.77	84	22.36	83.46
26.43	82	27.55	81.64	32.28	80	35.07	79.09	38.05	78.1
38.34	78	38.98	78	39.85	78	42.16	78	42.49	78.09
42.59	78.12	43.03	78.24	49.07	80	52.5	80.97	56.34	82

59.71 83.02 62.56 84 65.53 85.16 67.69 86 70.76 87.13
73.01 88 74.32 88.31 77.77 88.92 78.91 89.15 80.94 89.48
82.44 89.71 84.25 89.98

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	38.05	.04	42.49	.04

Bank Sta: Left	Right	Coeff Contr.	Expan.
38.05	42.49	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site8A RS: 33

INPUT
Description:
Station Elevation Data num= 63

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	87.9	10.4	86.08	10.77	86	10.94	85.96	11.42	85.85
16.51	84.69	19.93	84	25.45	83.03	27.56	82.66	30.9	82
35.35	81.22	38.74	80.72	42.83	80	43.73	80	43.92	79.97
51.58	78	54.27	78	54.82	78	55.1	78	55.28	78
57.7	77.17	60.98	76	62.07	75.65	62.58	75.55	63.32	75.41
64.5	75.28	66.3	74.76	68.57	74	71.13	73.19	74.66	72
76.23	71.6	78	71.18	79.6	70.84	81.85	70.31	83.18	70
85.37	70	87.58	70	87.68	70	87.83	70	94.15	70
94.86	70.28	98.07	71.53	99.35	72	104.45	73.93	104.65	74
104.69	74.01	104.9	74.07	110.36	75.49	111.17	75.68	112.52	76
115.21	76.52	120.06	77.43	121.61	77.73	123.11	78	128.84	79.32
131.7	80	136.02	81.01	140.11	82	142.12	82.46	144.7	82.84
149.27	84	150.25	84.29	154.84	85.7				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	81.85	.04	94.86	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
81.85	94.86	52	79	112	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site8A RS: 32

INPUT
Description:
Station Elevation Data num= 55

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	90.24	1.16	90.07	1.29	90.04	1.58	90	3.68	89.45
4.64	89.1	5.91	88.66	7.32	88	10.5	86.5	11.52	86
13.11	85.25	15.84	84	17.35	83.24	19.27	82.55	20.83	82
23.73	81.15	26.6	80.24	27.05	80.1	27.31	80	33.32	78.14
33.76	78	38.51	76.58	40.47	76	41.06	75.81	44.93	74.58
46.76	74	49.95	72.96	52.85	72	54.75	71.51	59.96	70
66.92	68.65	70.25	68	78.39	66.39	78.74	66.32	80.42	66
82.4	66	84.27	66	85.78	66	86.46	66.27	88.96	67.24
90.94	68	93.95	69.16	96.1	70	100.54	71.7	101.32	72
102.16	72.24	108.09	74	122.38	75.97	122.57	76	123.5	76.11
136.49	77.65	137.96	77.82	139.32	78	144.25	78.74	151	79.7

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	78.74	.04	86.46	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
78.74	86.46	109	91	62	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site8A RS: 31

INPUT
Description:
Station Elevation Data num= 54

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	85.49	2.32	84.63	3.89	84	6.42	83.06	8.96	82
10.99	81.03	12.94	80	14.37	79.13	16.22	78	18.87	76.39
19.51	76	20.87	75.19	23.04	74	25.95	73.07	29.95	72
32.66	71.4	38.05	70.1	38.39	70.02	38.47	70	43.64	68.45
45.33	68	51.75	66.56	54.34	66	61.02	64.88	61.52	64.79
62.18	64.66	64.51	64.26	65.42	64.11	66	64	66.57	64
66.67	64	67.45	64.27	68.88	64.76	72.51	66	73.18	66.23
75.94	67.17	77.93	67.86	78.34	68	80.5	68.74	84.17	70
84.89	70.25	86.12	70.68	87.99	71.34	89.85	72	90.2	72.09
95.86	74	96.48	74	99.41	74.32	113.79	75.44	117.94	75.84
118.36	75.86	118.69	75.87	119.63	76	121.89	76		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	61.52	.04	68.88	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
61.52	68.88	74	74	92	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site8A RS: 30

INPUT
Description:
Station Elevation Data num= 49

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	80.05	.61	80	1.69	79.92	1.89	79.9	3.22	79.75
3.65	79.72	4.91	79.45	6.11	79.22	9.75	78	15.34	76.12
15.69	76	16.27	75.81	21.23	74	25.15	72.58	26.73	72
30.83	70.53	32.28	70	36.77	68.39	37.85	68	43.4	66.41
44.86	66	44.89	66	54.59	64.61	58.82	64	63.24	63.39
63.47	63.37	66.04	63.01	68.94	62.61	74.09	62.34	74.61	62.4
77.64	63.01	78.62	63.29	81.54	64	86.61	65.7	86.99	65.82
87.59	66	91.59	67.27	94.4	68	97.58	68.98	99.98	69.78
100.68	70	104.48	70.68	112.22	72	119.38	72.73	121.44	72.91
125.09	73.28	127.11	73.43	129.21	73.63	135.31	74		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	66.04	.04	77.64	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
66.04	77.64	39	48	39	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site8A RS: 29

INPUT
Description:
Station Elevation Data num= 88

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	74.02	.26	74	7.49	73.63	8.42	73.57	9.23	73.52
12.94	73.34	15.12	73.3	16.67	73.19	18.82	73.22	21.74	73.05

```
 24.41    73  27.68  72.85   30.2  72.74   35.1  72.51   37.3   72.4
 42.89  72.12  43.44  72.09  45.15    72  48.16  71.83  48.32  71.82
 49.06  71.76  52.94  71.51  55.34  71.34  57.87  71.04  60.46  70.83
 64.61  70.12  64.84  70.09  65.25    70  68.62  69.27   71.2  68.67
 72.17  68.45  74.22     68  76.88  67.39  79.17   66.9  81.38  66.48
 83.96     66  85.29  65.75  85.89  65.61  88.18  65.11  92.65  64.08
 92.82  64.04  92.99     64  97.21  63.02 100.54  62.19  101.3     62
101.32     62 101.33     62 105.11     62 105.67     62 106.23     62
108.24     62 109.25     62 112.29     62 113.02     62 114.02     62
117.26     62 117.44     62 119.17     62 122.68     62 122.78     62
122.96     62 123.51     62  124.5   62.1 124.61  62.12 124.64  62.13
124.81  62.19 125.09   62.3 126.96  62.93 129.78     64 134.72  65.86
135.08     66 138.54  67.32 140.59     68 150.52  69.55 153.08     70
153.55     70 159.57  70.43 160.63  70.49 167.39  70.89 170.52  71.08
183.37  71.84 184.07  71.88 185.89     72 198.18  72.97 204.09  73.41
207.46  73.72 209.03  73.85 210.46  73.99

Manning's n Values      num=     3
   Sta  n Val    Sta  n Val    Sta  n Val
     0    .05 100.54    .04 124.81    .05

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     100.54 124.81           36     75     54          .1      .3

CROSS SECTION


RIVER: Unn.Creek2
REACH: Site8A          RS: 28

INPUT
Description:
Station Elevation Data    num=     62
   Sta   Elev    Sta   Elev    Sta   Elev    Sta   Elev    Sta   Elev
     0  70.06    .51     70   6.49  69.17  11.52  68.47  13.11  68.24
 14.83     68  17.32  67.44   19.5  67.17  21.95  66.78  26.26     66
 29.15  65.13  33.97     64  37.21  63.17  42.64     62  42.68  61.99
 42.69  61.99   46.4  61.41  50.75     61  54.82  60.29  56.52     60
 57.59     60  62.51     60  64.37     60  66.11     60  70.35     60
 70.76  60.11  70.96  60.17  71.39  60.27  74.12   60.9  76.14   61.4
  78.4     62  78.89  62.14  80.09  62.61  82.54  63.57  82.93  63.72
 83.63     64  87.63  65.64  88.05   65.8  88.51     66  89.61  66.11
113.23  67.58 115.67  67.48 115.99  67.47 117.44  67.42  118.1  67.39
119.98  67.35 121.74  67.29 127.13  67.16 128.73  67.11 132.02  67.03
133.89  66.98 136.42  66.92 138.53  66.87 144.98  66.96 146.59  67.08
148.78  67.27 149.83  67.23 152.35  67.49  152.7  67.49 155.68   67.8
155.82  67.81 156.29  67.85

Manning's n Values      num=     3
   Sta  n Val    Sta  n Val    Sta  n Val
     0    .05  54.82    .04  71.39    .05

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
      54.82  71.39          109     90     42          .1      .3

CROSS SECTION


RIVER: Unn.Creek2
REACH: Site8A          RS: 27

INPUT
Description:
Station Elevation Data    num=     85
   Sta   Elev    Sta   Elev    Sta   Elev    Sta   Elev    Sta   Elev
     0  72.02    .13     72   2.22  71.63  11.98     70  14.65  69.67
 17.89  69.36  29.42     68  29.44     68     31  67.58  37.18     66
 39.43  65.52  41.97  65.09  44.75  64.64  46.84  64.25  49.14     64
 50.85  63.79  51.42  63.71  54.11  63.39  54.77  63.28  57.26     63
 58.15  62.81  63.71  62.16  64.11  62.09   64.8     62  65.37     62
```

65.67 61.97 65.72 61.97 69.49 61.76 69.7 61.73 70.38 61.63
71.62 61.43 76.24 60.64 77.23 60.44 79.75 60 80.21 60
80.63 60 80.93 60 82.84 59.78 94.88 58.24 96.74 58
96.78 58 97.04 58 108.99 58 109.51 58 113.4 58
113.64 58.06 113.82 58.11 114.16 58.2 114.3 58.24 115.57 58.58
120.09 59.78 120.86 60 124.72 61.11 125.87 61.38 126.58 61.54
129.28 62 129.73 62 133.98 62 135.14 62 136.7 62
139.07 62 141.68 62 158.03 63.99 158.09 63.99 158.27 64
159.69 64 160.16 64 162.23 64 166.5 64.51 167.88 64.59
169.8 64.72 175.19 65.09 177.71 65.25 179.56 65.38 180.55 65.42
181.8 65.5 182.43 65.51 183.29 65.56 184.1 65.61 185.29 65.64
185.88 65.64 198.78 65.79 199.13 65.78 202.68 66 202.76 66

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	94.88	.04	114.3	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
94.88	114.3	103	120	150	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site 8C RS: 26.6

INPUT
Description:
Station Elevation Data num= 4

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	78	49.15	76.034	50	76	115	76

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	49.15	.04	115	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
49.15	115	59	69	78	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site 8C RS: 26.5

INPUT
Description:
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	72	31	70	52.02	68.172	54	68	56.92	68.172
88	70	114	72						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	52.02	.04	56.92	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
52.02	56.92	38	43	41	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site 8C RS: 26.4

INPUT
Description:
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	68	26	66	36.74	64.348	39	64	41.44	64.349

53 66 77 68

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .04 36.74 .04 41.44 .04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
36.74 41.44 58 58 42 .1 .3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site 8C RS: 26.3

INPUT
Description:
Station Elevation Data num= 9
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 66 20 64 28 62 32.97 60.343 34 60
35.89 60.344 45 62 55 64 81 66

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .04 32.97 .04 35.89 .04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
32.97 35.89 25.9 22.5 24.5 .1 .3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site 8C RS: 26.25

INPUT
Description:
Station Elevation Data num= 7
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 62 9 60 14.57 58.608 17 58 21.56 58.608
32 60 38.4 62

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .04 14.57 .04 21.56 .04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
14.57 21.56 18 18 18 .1 .3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site 8C RS: 26.2

INPUT
Description:
Station Elevation Data num= 7
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 62 9 60 15.39 58.403 17 58 20.01 58.401
32 60 38.4 62

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .04 15.39 .04 20.01 .04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
15.39 20.01 53 63 61 .1 .3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site 8C RS: 26.1

INPUT
Description:
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	60	10	58	27.46	56.337	31	56	32.52	56.338
40	58	49	60						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	27.46	.04	32.52	.04

Bank Sta: Left	Right	Coeff Contr.	Expan.
27.46	32.52	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: 8A2 RS: 26

INPUT
Description:
Station Elevation Data num= 69

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	65.94	6.74	65.28	10.92	64.83	18.11	64.06	18.63	64
22.58	63.71	27.63	63.28	33.48	62.82	36.39	62.6	42.26	62
54.93	60.89	64.63	60	71.33	59.4	89.18	58	89.64	58
89.76	58	94.63	57.08	101.1	56	102.48	55.8	103.83	55.61
106.93	55.16	108.7	54.92	109.21	54.84	111.49	54.5	112.68	54.34
115.46	54	116.05	54	116.12	54	116.44	54	116.61	54
116.67	54	118.33	54.33	120.03	54.52	120.38	54.54	122.1	54.81
124.85	54.98	129.38	55.33	136.29	56	136.89	56	138.2	56
138.21	56	138.23	56	139.4	56.3	140.23	56.41	141.48	56.74
142.78	56.93	148.85	58	148.91	58	148.95	58.01	159.92	58.95
162.62	59.14	165.3	59.54	166.48	59.65	167.18	59.72	169.26	59.98
169.29	59.99	169.47	60	171	60	171.58	60	173.97	60
174.78	60	177.18	60	178.1	60	179.77	60	180.36	60
182.91	60	185.31	60	186.73	60	215.28	61.85		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	109.21	.04	122.1	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
109.21	122.1	105	111	82	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: 8A2 RS: 25

INPUT
Description:
Station Elevation Data num= 62

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	61.93	5.41	61.45	21.35	60	21.52	60	21.73	60
47.97	58.42	54.9	58	56.36	58	57.44	58	75.01	57.09
75.87	57.04	77.94	57.02	79.24	56.96	81.45	56.91	84.78	56.76
89.44	56.48	90.83	56.42	95.06	56	95.75	55.91	96.26	55.84
101.89	55.11	106.47	54.43	107.92	54.25	109.71	54	109.99	54
111.42	53.8	113.85	53.62	115.23	53.51	118.52	53.28	121.76	53.26
123.17	53.29	124.82	53.27	127.23	53.32	130.8	53.62	135.42	54
136.1	54	137.34	54	138.18	54	139.11	54	139.89	54
141.05	54	143.8	54	144.97	54	151.26	54	152.53	54.11

152.75 54.12 153.23 54.16 158.45 54.61 161.19 54.85 169.57 55.62
170.75 55.73 173.8 56 180.75 56.38 183.98 56.57 192 57
195.69 57.19 206.5 57.84 207.04 57.87 207.54 57.9 209.15 58
224.9 58.57 264.45 59.92

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	113.85	.04	130.8	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
113.85	130.8	106	88	96	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: 8A2 RS: 24

INPUT
Description:
Station Elevation Data num= 64

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62.02	.47	62	.71	62	5.78	61.28	14.95	60
18.6	59.21	20.58	58.81	25.38	58	27.61	57.66	28.19	57.56
31.8	56.97	37.3	56	37.75	56	37.94	56	38.13	56
46.15	54.76	47.59	54.7	48.25	54.63	49.46	54.55	50.66	54.49
53.85	54.32	54.17	54.3	58.4	54.12	58.51	54.11	58.58	54.1
61.17	54	62.39	53.94	65.86	53.83	66.4	53.74	68.96	53.52
71.22	53.13	73.69	52.76	77.13	52.17	78.09	52	78.53	51.95
81.6	51.65	87.17	52	88.21	52	91.78	52	94.9	52
115.32	52	116.82	52	117.83	52	119.44	52	120.45	52
121.88	52	123.83	52	124.72	52	126.3	52	127.08	52
128.25	52	129.13	52.12	131.25	52.42	133.26	52.67	135.44	52.97
140.82	53.65	141.02	53.68	143.46	54	159.74	55.36	166.47	56
166.82	56	166.91	56	171.51	56	171.65	56		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	77.13	.04	129.13	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
77.13	129.13	0	0	0	.1	.3

SUMMARY OF MANNING'S N VALUES

River:Unn.Creek2

Reach	River Sta.	n1	n2	n3
OFF8	35	.05	.04	.05
OFF8	34	.05	.04	.05
Site8B	35.5	.04	.04	.04
Site8B	35.4	.04	.04	.04
Site8B	35.3	.04	.04	.04
Site8B	35.2	.04	.04	.04
Site8B	35.1	.04	.04	.04
Site8A	33	.05	.04	.05
Site8A	32	.05	.04	.05
Site8A	31	.05	.04	.05
Site8A	30	.05	.04	.05
Site8A	29	.05	.04	.05
Site8A	28	.05	.04	.05
Site8A	27	.05	.04	.05
Site 8C	26.6	.04	.04	.04
Site 8C	26.5	.04	.04	.04
Site 8C	26.4	.04	.04	.04
Site 8C	26.3	.04	.04	.04
Site 8C	26.25	.04	.04	.04

Site 8C	26.2	.04	.04	.04
Site 8C	26.1	.04	.04	.04
8A2	26	.05	.04	.05
8A2	25	.05	.04	.05
8A2	24	.05	.04	.05

SUMMARY OF REACH LENGTHS

River: Unn.Creek2

Reach	River Sta.	Left	Channel	Right
OFF8	35	83	93	95
OFF8	34	81	127	130
Site8B	35.5	23	24	29
Site8B	35.4	32	35	36
Site8B	35.3	42	46	47
Site8B	35.2	51	63	55
Site8B	35.1			
Site8A	33	52	79	112
Site8A	32	109	91	62
Site8A	31	74	74	92
Site8A	30	39	48	39
Site8A	29	36	75	54
Site8A	28	109	90	42
Site8A	27	103	120	150
Site 8C	26.6	59	69	78
Site 8C	26.5	38	43	41
Site 8C	26.4	58	58	42
Site 8C	26.3	25.9	22.5	24.5
Site 8C	26.25	18	18	18
Site 8C	26.2	53	63	61
Site 8C	26.1			
8A2	26	105	111	82
8A2	25	106	88	96
8A2	24	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Unn.Creek2

Reach	River Sta.	Contr.	Expan.
OFF8	35	.1	.3
OFF8	34	.1	.3
Site8B	35.5	.1	.3
Site8B	35.4	.1	.3
Site8B	35.3	.1	.3
Site8B	35.2	.1	.3
Site8B	35.1	.1	.3
Site8A	33	.1	.3
Site8A	32	.1	.3
Site8A	31	.1	.3
Site8A	30	.1	.3
Site8A	29	.1	.3
Site8A	28	.1	.3
Site8A	27	.1	.3
Site 8C	26.6	.1	.3
Site 8C	26.5	.1	.3
Site 8C	26.4	.1	.3
Site 8C	26.3	.1	.3
Site 8C	26.25	.1	.3
Site 8C	26.2	.1	.3
Site 8C	26.1	.1	.3

8A2	26	.1	.3
8A2	25	.1	.3
8A2	24	.1	.3

HEC-RAS Version 4.0 Beta
U.S. Army Corp of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

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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 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
X   X XXXXXX  XXXX    X  X  X  X  X XXXXX
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PROJECT DATA
Project Title: Urrutiacon Puentes-May2008
Project File : UrrutiaMay08.prj
Run Date and Time: 8/1/2008 2:16:34 PM

Project in SI units

Project Description:
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Minimum Data Input **********

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PLAN DATA

Plan Title: Site10
Plan File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.p03

Geometry Title: Site10
Geometry File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.g03

Flow Title : Site10
Flow File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.f03

Plan Summary Information:
Number of: Cross Sections = 89 Multiple Openings = 0
Culverts = 0 Inline Structures = 0
Bridges = 0 Lateral Structures = 0

Computational Information
Water surface calculation tolerance = 0.003
Critical depth calculation tolerance = 0.003
Maximum number of iterations = 20
Maximum difference tolerance = 0.1
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: Mixed Flow

FLOW DATA

Flow Title: Site10
Flow File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.f03

Flow Data (m3/s)

River	Reach	RS	100yr	2yr
Offsite10	1	0.97	8.29	2.18
Offsite10	1	0.92	11.57	3.05
Offsite2	1	0.2	7.4	1.95
Offsite2	1	0.08	25.4	6.68
Offsite3	1	0.5	5.3	1.39
Offsite3	1	0.25	9.1	2.41
Offsite4	1	0.58	4.9	1.3
Offsite4	1	0.55	7.72	2.05
Offsite6	1	23.07	7.27	1.93
Offsite6	1	23.05	10.77	2.85
Offsite6.5	1	23.4	1.07	.29
Offsite6.5	1	23.2	2.43	.65
Offsite7	1	23.9	34.3	9
Site11	1	0.89	3.33	.88
Site11	2	0.845	14.9	3.93
Unnamed Creek	1	23	7.5	1.98
Unnamed Creek	1	20.5	10.5	2.79
Unnamed Creek	2	18.5	18.22	4.84
Unnamed Creek	3	17.5	31.82	8.45
Unnamed Creek	4	16	43.62	11.57
Unnamed Creek	5	15	51.45	13.62
Unnamed Creek	6	11	80.85	21.37
Unnamed Creek	7	9	128	33.48

Unnamed Creek	8	1.5	143	37.41

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Offsite10	1	100yr	Critical	
Offsite10	1	2yr	Critical	
Offsite2	1	100yr	Critical	
Offsite2	1	2yr	Critical	
Offsite3	1	100yr	Critical	
Offsite3	1	2yr	Critical	
Offsite4	1	100yr	Critical	
Offsite4	1	2yr	Critical	
Offsite6	1	100yr	Critical	
Offsite6	1	2yr	Critical	
Offsite6.5	1	100yr	Critical	
Offsite6.5	1	2yr	Critical	
Offsite7	1	100yr	Critical	
Offsite7	1	2yr	Critical	
Site11	1	100yr	Critical	
Site11	1	2yr	Critical	
Unnamed Creek	1	100yr	Critical	
Unnamed Creek	1	2yr	Critical	
Unnamed Creek	8	100yr		Normal S = 0.013
Unnamed Creek	8	2yr		Normal S = 0.013

GEOMETRY DATA

Geometry Title: Site10
Geometry File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.g03

Reach Connection Table

River	Reach	Upstream Boundary	Downstream Boundary
Offsite10	1		P
Offsite2	1		H
Offsite3	1		E
Offsite4	1		D
Offsite6	1		F
Offsite6.5	1		G
Offsite7	1		I
Site11	1		P
Site11	2	P	J
Unnamed Creek	1		D
Unnamed Creek	2	D	E
Unnamed Creek	3	E	F
Unnamed Creek	4	F	G
Unnamed Creek	5	G	H
Unnamed Creek	6	H	I
Unnamed Creek	7	I	J
Unnamed Creek	8	J	

JUNCTION INFORMATION

Name: H
Description:
Energy computation Method

Length across Junction		Tributary			
River	Reach	River	Reach	Length	Angle
Unnamed Creek	5	to Unnamed Creek	6	79	0
Offsite2	1	to Unnamed Creek	6	0	0

Name: I
Description:
Energy computation Method

Length across Junction		Tributary			
River	Reach	River	Reach	Length	Angle
Unnamed Creek	6	to Unnamed Creek	7		88
Offsite7	1	to Unnamed Creek	7	103	

Name: D
Description:
Energy computation Method

Length across Junction		Tributary			
River	Reach	River	Reach	Length	Angle
Unnamed Creek	1	to Unnamed Creek	2		90
Offsite4	1	to Unnamed Creek	2	35.5	

Name: E
Description:
Energy computation Method

Length across Junction		Tributary			
River	Reach	River	Reach	Length	Angle
Unnamed Creek	2	to Unnamed Creek	3		70
Offsite3	1	to Unnamed Creek	3	52	

Name: G
Description:
Energy computation Method

Length across Junction		Tributary			
River	Reach	River	Reach	Length	Angle
Unnamed Creek	4	to Unnamed Creek	5		69
Offsite6.5	1	to Unnamed Creek	5	96	

Name: J
Description:
Energy computation Method

Length across Junction		Tributary			
River	Reach	River	Reach	Length	Angle
Unnamed Creek	7	to Unnamed Creek	8		41
Site11	2	to Unnamed Creek	8	67	

Name: F
Description:
Energy computation Method

Length across Junction		Tributary			
River	Reach	River	Reach	Length	Angle
Unnamed Creek	3	to Unnamed Creek	4		69
Offsite6	1	to Unnamed Creek	4	42	

Name: P
Description:
Energy computation Method

Length across Junction		Tributary			
River	Reach	River	Reach	Length	Angle
Site11	1	to Site11	2	77	0
Offsite10	1	to Site11	2	0	0

CROSS SECTION

RIVER: Offsite10
REACH: 1 RS: 0.97

INPUT

Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	174.95	.42	174.94	1.5	175.11	2.25	175.1	3.22	175.04
5.21	174.95	6.56	174.68	7.69	174.57	9.95	174	11.16	173.61
12.45	173.16	13.32	172.82	15.61	172	16.04	171.84	16.6	171.65
20.28	170.21	20.82	170	21.18	169.87	21.42	169.77	21.68	169.8
23.8	170	25.38	170.15	25.7	170.18	28.46	170.42	29.37	170.54
31.56	170.82	32.81	171.01	35.87	171.68	36.46	171.8	37.85	172
39.29	172.2	42.04	172.41	42.9	172.47	45.58	172.68	47.64	173.01
50.07	173.44	50.68	173.57						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	20.28	.04	25.7	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
20.28	25.7	57	59	56	.1	.3

CROSS SECTION

RIVER: Offsite10
REACH: 1 RS: 0.96

INPUT
Description:
Station Elevation Data num= 42

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	154.07	.15	154	1.66	153.26	4.28	152	4.62	151.83
5.8	151.26	7.61	150.39	8.42	150	10.12	149.18	12.61	148
13.14	147.75	15.47	146.52	16.45	146	18.63	144.9	20.34	144
23.18	142.53	24.16	142	25.38	141.35	27.04	140.468	27.94	139.99
28.29	139.8	28.91	139.98	29.48	140.15	30.03	140.31	30.58	140.471
32.69	141.09	35.83	142	37.01	142.34	39.51	143.07	41.46	143.63
42.75	144	45.39	144.76	48.41	145.62	48.93	145.76	49.78	146
52.33	146.68	53.17	146.86	54.08	147.08	54.62	147.2	57.32	147.66
57.97	147.84	58.22	147.92						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	27.04	.04	30.58	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
27.04	30.58	62	61	71	.1	.3

CROSS SECTION

RIVER: Offsite10
REACH: 1 RS: 0.95

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	121.75	1.8	121.15	5.04	120	6.69	119.52	8.63	118.91
9.89	118.53	11.53	118	18.3	116.04	18.36	116.02	18.42	116
24.43	114.32	25.54	114	28.72	113.05	30.27	112.597	31.01	112.38
31.99	112.1	32.15	112.06	32.18	112.05	32.22	112.06	32.79	112.12
33.39	112.27	33.75	112.38	34.46	112.599	36.35	113.18	40.19	114
40.93	114.19	41.6	114.35	43.51	114.91	48.03	116	48.53	116.13
51.09	116.9	55.85	118	55.87	118.01	56.1	118.06	62.97	119.79
63.85	120	64.35	120.12						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	30.27	.04	34.46	.04

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

30.27 34.46 44 48 58 .1 .3

CROSS SECTION

RIVER: Offsite10
REACH: 1 RS: 0.94

INPUT
Description:
Station Elevation Data num= 38

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	110.14	.63	110	.97	109.92	1.48	109.81	6.72	108.6
9.51	108	11.07	107.66	14.69	106.85	17.08	106.3	18.45	106
21.85	105.25	23.82	104.84	27.13	104	28.05	103.75	30.31	103.16
33.57	102.32	33.98	102.21	34.4	102.096	34.75	102	35.81	102
36.56	102	36.81	102.097	37.13	102.22	39.83	103.24	41.87	104
44.93	105.15	47.28	106	51.23	107.41	52.82	108	55.93	109.13
58.28	110	59.88	110.59	62.21	111.42	63.75	112	66.11	112.8
69.57	114	70.71	114.4	71	114.51				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	34.4	.04	36.81	.04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
34.4 36.81 54 59 48 .1 .3

CROSS SECTION

RIVER: Offsite10
REACH: 1 RS: 0.93

INPUT
Description:
Station Elevation Data num= 35

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	100.36	1.14	100	4.64	98.9	7.49	98	9.78	97.28
13.83	96	16.6	95.38	22.63	94	26.54	93.34	27.64	93.15
30.64	92.65	33.47	92.195	33.81	92.14	34.72	92	34.79	92
37.27	92	37.92	92	38.87	92	39.26	92	39.7	92.14
39.87	92.195	43.18	93.27	44.6	93.76	45.35	94	48.01	94.86
50.95	96	54.48	97.45	55.85	98	56.66	98.25	61.95	100
63.72	100.69	66.81	102	67.78	102.44	71.37	104	71.53	104.08

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	33.47	.04	39.87	.04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
33.47 39.87 60 59 51 .1 .3

CROSS SECTION

RIVER: Offsite10
REACH: 1 RS: 0.92

INPUT
Description:
Station Elevation Data num= 33

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	94.19	.09	94.15	.52	94	6	92.02	6.07	92
6.77	91.75	11.63	90	15.42	88.64	17.21	88	20.35	87.09
23.72	86.13	24.18	86	26.22	85.51	31.14	84.35	32.64	84
32.68	84	33.19	84	34.29	84.36	34.48	84.42	39.38	86
41.33	86.64	45.59	88	47.48	88.51	51.03	89.43	51.93	89.65
53.09	90	59.54	91.97	59.63	92	60.29	92.26	64.66	94
69.2	95.75	69.95	96	70.65	96.24				

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .04 31.14 .04 34.29 .04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
31.14 34.29 69 78 64 .1 .3

CROSS SECTION

RIVER: Offsite10
REACH: 1 RS: 0.91

INPUT
Description:
Station Elevation Data num= 35
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 87.84 2.5 86.49 3.42 86 5.49 84.94 7.38 84
11.96 82.64 14.37 82 19.81 80.63 22.29 80 24.96 79.3
30.03 78 33.48 77.06 36.32 76.376 36.72 76.28 37.27 76.15
38.28 76 38.9 76 39.31 76 41.04 76.28 41.78 76.4
50.64 78 58.45 79.58 59.94 79.87 60.5 80 65.97 81.78
66.7 82 67.7 82.34 72.65 84 77.48 85.67 78.48 86
79.69 86.4 84.51 88 88.4 89.29 90.51 90 90.62 90.03

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .04 36.32 .04 41.78 .04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
36.32 41.78 63 65 68 .1 .3

CROSS SECTION

RIVER: Offsite10
REACH: 1 RS: 0.90

INPUT
Description:
Station Elevation Data num= 31
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 79.07 2.65 78 3.58 77.73 6.58 77.04 11.53 76
13.17 75.69 14.99 75.31 18.55 74.58 21.37 74 25.86 73.59
28.93 73.28 34.57 72.75 38.74 72.337 39.21 72.29 40.77 72.13
41.28 72.08 42.33 72.01 43.31 72.04 43.41 72.04 44.37 72.1
46.72 72.29 47.33 72.336 48.43 72.42 57.07 73.16 66.25 74
73.95 75.63 75.61 76 76.79 76.24 85.71 78 87.99 78
88.03 78

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .04 38.74 .04 47.33 .04

Bank Sta: Left Right Coeff Contr. Expan.
38.74 47.33 .1 .3

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0.2

INPUT
Description:
Station Elevation Data num= 33
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 237.98 1.21 237.68 2.58 237.34 5.4 236.63 7.94 236
9.32 235.65 10.65 235.31 13.03 234.71 15.86 234 16.76 233.76

```
 17.16 233.65  18.86 233.19  21.31 232.52  22.24 232.28  23.34   232
 24.27 231.74  25.21   232   26.2 232.25  27.01 232.45  29.68 233.09
 32.88 233.95  32.97 233.97  33.07   234  38.41 235.23  39.24 235.41
 41.83   236  43.54 236.38  44.21 236.52  46.37 236.98  49.51 237.68
 50.09 237.8  50.97   238  51.05 238.02

Manning's n Values      num=     3
   Sta  n Val   Sta  n Val   Sta  n Val
    0   .04  22.24   .04   26.2   .04

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     22.24  26.2          36    35    34        .1       .3

CROSS SECTION


RIVER: Offsite2
REACH: 1              RS: 0.1

INPUT
Description:
Station Elevation Data   num=     29
   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
    0 221.79    .3 221.71  4.61 220.57  7.13   220  8.03 219.79
  8.99 219.56  12.27 218.78  15.88 218.07  16.04 218.04  16.32   218
  19.67  217.9  22.53 217.83  25.39 217.84  25.69 217.81  28.15  217.8
  29.35 217.84  32.37 217.93  32.47 217.94  32.64 217.96  32.96   218
  37.29 219.11  41.05   220  44.18 220.98  47.48   222  48.38  222.3
  50.75 223.03   52.8 223.67  53.86   224  54.24 224.12

Manning's n Values      num=     3
   Sta  n Val   Sta  n Val   Sta  n Val
    0   .04  25.39   .04  29.35   .04

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     25.39  29.35          29    33    35        .1       .3

CROSS SECTION


RIVER: Offsite2
REACH: 1              RS: 0.09

INPUT
Description:
Station Elevation Data   num=     34
   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
    0 214.32   .02 214.31    .7  214.1  1.03   214   6.3 212.47
  7.27 212.24    8.2   212  12.85 210.82  16.08   210  16.27 209.95
  16.42 209.91  19.82 209.11  22.03 208.56  23.01 208.36  24.06 208.15
  24.85   208  25.92 207.78  26.15 207.84  26.35  207.9  26.66   208
  27.18 208.16   30.7 209.21  33.17   210  35.06 210.56  36.31 210.95
  37.98 211.51  39.35   212  40.95  212.6  43.88   214  44.91 214.38
   49.9   216  49.99 216.03  56.37   218  56.49 218.04

Manning's n Values      num=     3
   Sta  n Val   Sta  n Val   Sta  n Val
    0   .04  24.06   .04  27.18   .04

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     24.06  27.18          70    67    68        .1       .3

CROSS SECTION


RIVER: Offsite2
REACH: 1              RS: 0.08

INPUT
Description:
```

Station Elevation Data num= 27

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	198.01	.05	198	4.46	197.19	9.42	196.15	9.85	196.06
10.16	196	14.65	194.65	16.55	194	17.44	193.65	19.89	192.74
20.75	192.4	20.87	192.35	22.23	192	22.61	192	23.12	192
23.39	192	23.55	192	24.94	192.41	26.19	192.77	29.04	193.75
29.39	193.88	29.74	194	33	195.08	35.31	195.82	35.83	196
40.45	197.48	41.59	197.93						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	20.75	.04	24.94	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
20.75	24.94	72	66	65	.1	.3

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0.07

INPUT
Description:
Station Elevation Data num= 20

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	179.82	4.91	178.34	6.04	178	9.95	177.02	12.87	176.13
13.32	176	18.79	174.77	20.33	174.33	21.51	174	23.1	174
23.29	174	23.82	174	24.63	174.32	26.13	174.91	29.97	176
31.11	176.45	35.09	178	35.88	178.31	40.17	180	40.51	180.14

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	20.33	.04	24.63	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
20.33	24.63	65	69	76	.1	.3

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0.06

INPUT
Description:
Station Elevation Data num= 32

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	180.01	.06	180	1.95	179.56	8.31	178	10.14	176.86
11.44	176	13.57	174.62	14.52	174	16.49	172.75	17.62	172
18.02	171.73	20.63	170	22.12	169	22.4	168.81	23.63	168
23.92	168	23.93	168	24.84	168	25.98	168.76	27.74	169.93
27.84	170	27.93	170.06	30.83	172	31.18	172.24	33.81	174
34.5	174.47	36.88	176	38.45	177.08	39.84	178	41.25	179.01
42.66	180	43.32	180.46						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	22.4	.04	25.98	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
22.4	25.98	65	69	66	.1	.3

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0.05

INPUT

Description:
Station Elevation Data num= 31

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	166	2.43	165.07	5.24	164	6.22	163.48	8.97	162
10.21	161.34	12.67	160	14.49	159.04	16.4	158	19.18	156.52
20.16	156	22.6	154.71	22.78	154.63	23.94	154.12	24.17	154.23
24.23	154.25	24.92	154.62	27.49	156	29.68	157.43	30.61	158
33.11	159.69	33.59	160	36.32	161.52	37.12	162	37.76	162.35
38.44	162.67	40.22	163.49	41.24	164	43.02	164.84	43.85	165.36
44.33	165.77								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	22.78	.04	24.92	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
22.78	24.92	67	71	80	.1	.3

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0.04

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	149.87	.98	149.36	3.43	148	3.55	147.94	3.73	147.84
6.93	146	10.05	144.72	11.93	144	14.83	143.22	16.82	142.72
17.79	142.48	19.73	142.01	19.77	142	19.81	142	19.91	142.07
21.05	142.72	23.27	144	26.44	145.92	26.58	146	26.6	146.02
29.89	148	32.26	149.43	34.44	150.47	35.86	151.02	38.38	152
42.72	153.53	44.1	154	44.42	154.11				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	16.82	.04	21.05	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
16.82	21.05	71	80	77	.1	.3

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0.03

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	140.28	.58	140	1.68	139.47	4.61	138.06	4.7	138.02
4.74	138	10.26	136.15	10.69	136	14.6	134.74	16.88	134
22.48	132.16	22.79	132.06	22.97	132	27.43	130.53	28.77	130.09
29.03	130.07	29.45	130.01	30.24	130.26	30.89	130.55	34.09	132
36.61	132.89	39.32	134	44.55	135.69	45.53	136	46.17	136.2
51.89	138	53.12	138.68	56.09	140.36				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	27.43	.04	30.89	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
27.43	30.89	57	54	47	.1	.3

CROSS SECTION

RIVER: Offsite2

REACH: 1 RS: .025

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	126.06	.17	126	2.36	125.32	6.62	124	10.01	122.95
12.19	122.29	13.11	122	14.69	121.51	19.6	120	22.73	119.03
24.11	118.64	25.17	118.34	26.87	118	26.89	118	26.94	118
28.94	118.58	28.97	118.59	32.41	120	34.63	120.97	37.15	122
42.08	123.75	42.8	124	44.77	124.85	47.49	126	48.15	126.32
51.53	128	54.93	129.62	55.64	130				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	24.11	.04	28.97	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
24.11	28.97	30	30	30	.1	.3

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0.02

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	126.06	.17	126	2.36	125.32	6.62	124	10.01	122.95
12.19	122.29	13.11	122	14.69	121.51	19.6	120	22.73	119.03
24.11	118.64	25.17	118.34	26.87	118	26.89	118	26.94	118
28.94	118.58	28.97	118.59	32.41	120	34.63	120.97	37.15	122
42.08	123.75	42.8	124	44.77	124.85	47.49	126	48.15	126.32
51.53	128	54.93	129.62	55.64	130				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	24.11	.04	28.97	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
24.11	28.97	62	76	82	.1	.3

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0.01

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	111.91	.87	111.66	3.53	110.74	4.83	110.31	5.69	110
8.78	109.01	11.78	108	14.06	106.86	15.74	106	18.47	104.64
19.47	104.14	19.96	104.02	20	104.01	20.01	104.02	21.12	104.62
22.14	105.18	23.51	106	23.91	106.24	24.55	106.57	25.95	107.35
27.05	108	29.91	109.63	30.58	110	31.42	110.46	34.17	112
35.81	112.91	37.79	114	38.95	114.64	41.02	115.77		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	18.47	.04	21.12	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18.47	21.12	48	54	48	.1	.3

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	106	4	104	5.08	103.43	7.77	102	10.48	100.6
11.61	100	13.11	99.22	15.5	98	18.16	96.63	18.42	96.5
19.56	96.04	19.62	96.01	19.64	96.01	20.35	96.03	20.59	96.09
20.82	96.14	20.98	96.2	22.16	96.63	25.93	98	31.03	99.96
31.11	100	31.24	100.06	35.4	102	37.64	103.1	39.48	104
41	104.76	43.53	106	46.62	107.56				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	18.16	.04	22.16	.04

Bank Sta: Left	Right	Coeff Contr.	Expan.
18.16	22.16	.1	.3

CROSS SECTION

RIVER: Offsite3
REACH: 1 RS: 0.5

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	236	9	234	19.06	232.28	20.7	232	23	232
24.11	232.281	30.9	234	35	236	41.3	238		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	19.06	.04	24.11	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19.06	24.11	48	54	50	.1	.3

CROSS SECTION

RIVER: Offsite3
REACH: 1 RS: 0.4

INPUT
Description:
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	222	14.9	220	23.74	218.25	25	218	26.74	218.249
39	220	45.2	222	51	224				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	23.74	.04	26.74	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
23.74	26.74	44	50	51	.1	.3

CROSS SECTION

RIVER: Offsite3
REACH: 1 RS: 0.3

INPUT
Description:

Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	210	9	208	20.55	206.407	23.5	206	25.33	206.407
32.5	208	51	210						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	20.55	.04	25.33	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
20.55	25.33	28	41	51	.1	.3

CROSS SECTION

RIVER: Offsite3
REACH: 1 RS: 0.25

INPUT
Description:
Station Elevation Data num= 10

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	196	8.4	194	13.11	192	17.63	190.258	18.3	190
19.05	190.259	24.1	192	29.5	194	34.7	196	39.6	198

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	17.63	.04	19.05	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
17.63	19.05	38	38	37	.1	.3

CROSS SECTION

RIVER: Offsite3
REACH: 1 RS: 0.24

INPUT
Description:
Station Elevation Data num= 10

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	188	4.6	186	9	184	15.9	182	21.56	180.428
23.1	180	25	180.427	32	182	37.8	184	43.4	186

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	21.56	.04	25	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
21.56	25	55	43	36	.1	.3

CROSS SECTION

RIVER: Offsite3
REACH: 1 RS: 0.23

INPUT
Description:
Station Elevation Data num= 25

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	172.02	.06	172	2.88	171.33	6.43	170.57	7.99	170.22
9.12	170	14.39	168.94	17.73	168.3	18.57	168.14	18.94	168.07
19.27	168.03	19.86	168	20.17	168	20.99	168.3	21.2	168.38
23.63	170	26.54	171.75	26.96	172	27.25	172.17	30.29	174
31.54	174.76	33.56	176	36.88	177.98	36.92	178	36.96	178.03

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

0 .04 17.73 .04 20.99 .04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
17.73 20.99 28 41 36 .1 .3

CROSS SECTION

RIVER: Offsite3
REACH: 1 RS: 0.22

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	170.02	.03	170	.1	169.96	3.51	168	5.77	166.7
7	166	8.94	164.88	10.47	164	12.17	163.03	13.96	162
16.33	160.67	16.6	160.56	17.25	160.29	17.39	160.23	17.58	160.18
18.05	160.34	18.5	160.3	19.32	160.56	23.84	162	25.78	162
32.74	163.8	33.51	164	34.56	164.34	37.42	165.16	39.83	166
43.1	167.34	44.6	168	45.09	168.25				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	16.6	.04	19.32	.04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
16.6 19.32 41 38 34 .1 .3

CROSS SECTION

RIVER: Offsite3
REACH: 1 RS: 0.21

INPUT
Description:
Station Elevation Data num= 22

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	159.99	1.35	159.45	4.91	158	5.53	157.74	6.52	157.34
9.81	156	13.22	154.59	14.67	154	17.18	152.97	18.65	152.35
19.47	152	19.96	152	20.04	152	20.56	152.21	20.87	152.34
24.84	154	28.16	155.5	29.35	156	32.1	157.33	33.53	158
36.22	159.27	37.02	159.67						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	18.65	.04	20.87	.04

Bank Sta: Left Right Coeff Contr. Expan.
18.65 20.87 .1 .3

CROSS SECTION

RIVER: Offsite4
REACH: 1 RS: 0.58

INPUT
Description:
Station Elevation Data num= 33

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	320.13	.62	320	4.2	319.27	6.52	318.79	10.4	318
11.98	317.68	14.5	317.01	16.85	316.42	18.16	316	21.37	314.79
23.4	314	24.43	313.62	28.75	312	31.44	311.04	33.48	310.26
34.17	310	34.31	309.96	35.43	310	35.74	310.01	35.78	310.02
38.38	310.26	40.75	310.48	41.88	310.6	43.5	310.89	44.82	311.08
45.84	311.32	46.76	311.65	47.18	311.77	47.76	312	49.47	312.65
53.96	314	55.29	314.41	60.05	315.84				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	33.48	.04	38.38	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
33.48	38.38	45	52	47	.1	.3

CROSS SECTION

RIVER: Offsite4
REACH: 1 RS: 0.57

INPUT
Description:
Station Elevation Data num= 33

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	300.23	.74	300	1.41	299.79	1.78	299.67	6.18	298.31
7.01	298.05	7.17	298	10.87	296.75	13.38	296	14.67	295.6
19.52	294	21.78	293.26	25.61	292	27.12	291.5	30.41	290.43
30.69	290.34	31.05	290.22	31.86	290.34	31.93	290.35	36.57	291.02
43.56	292	43.75	292.03	43.83	292.04	43.99	292.06	49.71	292.82
52.51	293.13	54.14	293.33	54.61	293.39	55.35	293.5	60.35	293.88
60.73	293.9	62.05	294	64	294.13				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	30.69	.04	31.86	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
30.69	31.86	63	54	40	.1	.3

CROSS SECTION

RIVER: Offsite4
REACH: 1 RS: 0.56

INPUT
Description:
Station Elevation Data num= 51

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	277.95	.33	277.96	.37	277.97	4.34	277.81	6.63	277.95
6.81	277.96	7.55	278	9.78	278	10.84	277.95	12.99	278
14.3	278	15.53	278	19.02	277.62	19.75	277.6	19.86	277.59
20.79	277.55	21.81	277.51	32.15	276.89	33.99	276.79	36.08	276.61
40.25	276.28	41.4	276.14	42.48	276	42.55	276	42.98	276
46.4	276.07	46.53	276.07	52.64	276.12	52.78	276.12	52.85	276.12
52.98	276.13	53.1	276.13	53.76	276.14	57.05	276.18	57.34	276.18
60.54	276.22	61.33	276.26	61.8	276.32	64.19	276.36	65.06	276.35
66.87	276.33	68.29	276.54	71.56	276.81	73.78	277.21	75	277.39
78.07	278	78.31	278.09	78.73	278.28	80.62	279.09	82.08	280
82.25	280.12								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	41.4	.04	53.76	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
41.4	53.76	47	49	43	.1	.3

CROSS SECTION

RIVER: Offsite4
REACH: 1 RS: 0.55

INPUT
Description:
Station Elevation Data num= 49

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	260.17	.6	260	2.45	259.36	3.84	259.03	4.91	258.69
5.6	258.57	6.92	258.26	7.3	258.21	8.48	258	8.62	257.98
8.67	257.97	12.63	257.48	13.45	257.38	15.64	257.17	17.4	257.04
19.29	256.89	20.8	256.73	23.7	256	24.04	255.91	24.17	255.88
26.39	255.44	27.98	255.16	30.46	254.72	33.26	254	35.46	253.41
38.51	252.55	39.56	252.25	40.44	252	44.15	250.94	45.58	250.55
46.31	250.35	47.22	250.09	47.81	250.34	49.65	251.14	50.55	251.53
51.62	252	52.97	252.59	55.05	253.52	55.8	253.81	56.26	254
59.47	255.3	61.23	256	62.69	256.58	63.71	257.01	65.82	258
66.97	258.54	69.26	259.83	69.49	259.95	69.53	259.97		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	46.31	.04	47.81	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
46.31	47.81	57	54	43	.1	.3

CROSS SECTION

RIVER: Offsite4
REACH: 1 RS: 0.54

INPUT
Description:
Station Elevation Data num= 43

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	240.12	.32	240	1.27	239.65	1.6	239.55	2.06	239.46
4.46	238.79	7.45	238	8.02	237.84	8.99	237.64	13.32	236.75
17.04	236.02	17.09	236.01	17.16	236	20.5	235.34	22.85	234.9
24.51	234.54	27.21	234.04	27.27	234.03	27.4	234	29.13	233.56
29.95	233.42	30.42	233.34	32.39	232.84	34.97	232.1	35.16	232.05
35.31	232	39.57	230.61	40.35	230.35	40.89	230.19	42.01	230.61
43.89	231.31	45.79	232	48.9	233.12	51.19	234	52.07	234.33
53.04	234.73	54.88	235.53	55.95	236	57.84	236.83	60.38	238
61.52	238.51	64.71	240	64.99	240.13				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	39.57	.04	42.01	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
39.57	42.01	56	66	72	.1	.3

CROSS SECTION

RIVER: Offsite4
REACH: 1 RS: 0.53

INPUT
Description:
Station Elevation Data num= 34

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	210.19	.59	210	2.93	209.12	6.1	208	8.74	207.07
11.35	206	12.12	205.71	15.76	204.36	16.58	204.06	16.73	204
18.58	203.22	21.46	202	21.85	201.79	23.59	200.8	24.67	200.18
24.81	200.1	25.02	200	25.1	199.96	25.37	200	26.58	200.18
27.33	200.29	27.61	200.42	28.15	200.64	30.11	202	32.3	203.34
33.1	203.79	33.49	204	36.91	205.91	37.08	206	39.57	207.33
40.85	208	42.51	208.88	44.65	210	45.67	210.3		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	24.67	.04	26.58	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
24.67	26.58	53	49	53	.1	.3

CROSS SECTION

RIVER: Offsite4
REACH: 1 RS: 0.52

INPUT
Description:
Station Elevation Data num= 27

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	190.08	.19	190	1.19	189.57	5.19	188	6.31	187.56
8.55	186.68	10.3	186	11.89	185.38	15.46	184	15.69	183.91
17.04	183.43	19.88	182.41	20.6	182.15	20.75	182.11	23.3	182.33
23.87	182.34	24.31	182.4	25.65	182.59	26.7	182.75	27.77	183.01
29.73	184	31.7	185.09	33.32	186	35.54	187.23	36.91	188
39.4	189.39	39.81	189.61						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	19.88	.04	24.31	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19.88	24.31	30	37	36	.1	.3

CROSS SECTION

RIVER: Offsite4
REACH: 1 RS: 0.51

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	175.95	3.59	174.46	4.63	174	6.66	173.11	9.18	172
10.21	171.55	11.33	171.08	13.77	170	14.52	169.67	16.95	168.6
17.81	168.2	18.26	168	22.25	166.35	22.6	166.19	22.77	166.15
23.36	166	24.41	166	24.48	166	24.89	166.15	25.49	166.36
29.54	168	30.56	168.44	34.07	170	35.31	170.57	38.48	172
41.27	173.37	42.62	174	45.63	175.41				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	22.77	.04	24.89	.04

Bank Sta: Left	Right	Coeff Contr.	Expan.
22.77	24.89	.1	.3

CROSS SECTION

RIVER: Offsite6
REACH: 1 RS: 23.07

INPUT
Description:
Station Elevation Data num= 38

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	230.49	.53	230	1.47	229.11	2.55	228	4.26	227.66
4.94	227.64	15.53	226	16.58	226	18.32	226	20.03	225.28
21.59	224.7	22.64	224.33	24.34	224	24.72	223.91	24.79	223.88
26.56	223.25	27.89	223.11	28.99	222.84	29.23	222.8	30.24	222.67
31.59	222.48	33.38	222.53	34.51	222.66	35.35	222.824	35.38	222.83
37.36	223.05	38.18	223.28	39.09	223.41	41.06	223.93	41.14	223.95
41.3	224	45.97	225.36	47.95	226	55.13	227.11	59.87	227.71
60.84	227.85	62.1	228	62.69	228.27				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

0 .04 28.99 .04 35.35 .04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
28.99 35.35 24 31 32 .1 .3

CROSS SECTION

RIVER: Offsite6
REACH: 1 RS: 23.06

INPUT
Description:
Station Elevation Data num= 40

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	222.2	.39	222	3.32	220.46	4.19	220	6.51	218.73
7.82	218	8.17	217.78	11.06	216	12.14	215.36	14.51	214
17.48	212.26	17.95	212	18.56	211.67	20.76	210.58	21.63	210.145
21.76	210.08	21.83	210.06	22.13	210	22.48	210	22.64	210
23	210.148	24.3	210.68	27.11	212	27.77	212.3	29.74	213.36
30.7	213.88	30.9	214	31.11	214.13	34.3	216	36.75	217.44
37.68	218	39.34	219	41.02	220	41.88	220.52	44.35	222
46.06	223	47.72	224	50.67	225.72	51.17	226	51.6	226.05

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	21.63	.04	23	.04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
21.63 23 40 47 50 .1 .3

CROSS SECTION

RIVER: Offsite6
REACH: 1 RS: 23.05

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	210.52	.66	210	2.83	208.25	3.14	208	3.52	207.7
5.67	206	6.59	205.27	8.19	204	9.52	202.93	10.71	202
12.04	200.93	13.21	200	14.28	199.14	15.74	198	18.01	196.536
18.5	196.22	19.06	196.19	19.78	196.2	20.64	196.44	20.87	196.536
20.88	196.54	23.75	198	27.76	200	27.77	200	31.72	202
32.33	202.31	33.63	202.69	37.28	204	40.58	205.36		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	18.01	.04	20.87	.04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
18.01 20.87 43 54 54 .1 .3

CROSS SECTION

RIVER: Offsite6
REACH: 1 RS: 23.04

INPUT
Description:
Station Elevation Data num= 42

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	200.68	.1	200.58	.66	200	2.11	198.5	2.61	198
2.72	197.9	4.67	196	6.07	194.55	6.63	194	6.85	193.76
8.74	192	9.14	191.58	11.02	190	11.83	189.28	13.37	188
15.78	186.03	15.82	186	15.98	185.87	18.03	184.24	18.33	184
18.72	183.69	20.87	182	22.87	181.01	24.37	180.49	25.06	180.25

```
 25.91  180.16  26.86  180.46  26.92 180.491  29.35  181.76  29.68  181.93
 29.81    182  29.95  182.08  33.34    184  35.48  185.21  36.87    186
 39.22  187.34  40.43    188  41.83  188.58  44.6    190  47.8  191.26
 49.64    192  50.42  192.3

Manning's n Values      num=     3
   Sta  n Val    Sta  n Val    Sta  n Val
    0    .04  24.37    .04  26.92    .04

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     24.37  26.92           51     59     60          .1      .3

CROSS SECTION


RIVER: Offsite6
REACH: 1              RS: 23.03

INPUT
Description:
Station Elevation Data    num=     40
   Sta   Elev    Sta   Elev    Sta   Elev    Sta   Elev    Sta   Elev
    0  180.27    .16  180.16    .4    180    .66  179.82   3.45    178
  5.29  176.68    6.4    176   9.29  174.08   9.42    174   9.49  173.95
 12.61    172  13.26  171.59   15.8    170  18.89  168.08  19.02    168
 21.67  166.35  22.22    166  24.53  164.56  25.43    164  27.45  162.74
 28.63    162  31.12  160.54  33.16    160   33.4    160  33.55  160.02
 34.68  160.61  37.52    162  38.42   162.5  41.34    164  41.45  164.07
 44.83    166  46.68  167.1  48.19    168  49.18  168.57  51.53    170
 54.16  171.58  54.86    172  55.29  172.27  58.15    174  60.65  175.04

Manning's n Values      num=     3
   Sta  n Val    Sta  n Val    Sta  n Val
    0    .04  31.12    .04  34.68    .04

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     31.12  34.68           51     60     56          .1      .3

CROSS SECTION


RIVER: Offsite6
REACH: 1              RS: 23.02

INPUT
Description:
Station Elevation Data    num=     50
   Sta   Elev    Sta   Elev    Sta   Elev    Sta   Elev    Sta   Elev
    0  159.66    .66  159.1   1.93    158   2.61  157.43    4.7    156
  7.65    154   8.17  153.64  10.58    152  11.12  151.61  12.99  150.41
 13.36  150.18  13.69    150  15.25  149.12  17.24    148  17.35  147.94
 17.53  147.83  19.94  146.62  21.17    146  22.81  145.17  25.13    144
 25.87  143.62  28.93  142.08  29.05  142.02   29.1    142  31.24  140.87
 32.54  140.188  32.88  140.01  32.89    140  34.41    140  34.74    140
 35.77    140  36.06  140.189  36.46  140.45  38.77    142   40.8  143.41
 41.68    144  44.42  145.9  44.57    146  44.86  146.19  47.31    148
 49.34  149.65   49.8    150  50.41  150.53  52.47    152  54.81  153.58
 55.39  153.91  55.55    154   56.9  154.77  59.14    156  59.33  156.13

Manning's n Values      num=     3
   Sta  n Val    Sta  n Val    Sta  n Val
    0    .04  32.54    .04  36.06    .04

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     32.54  36.06           54     54     45          .1      .3

CROSS SECTION


RIVER: Offsite6
```

REACH: 1 RS: 23.01

INPUT
Description:
Station Elevation Data num= 38

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	139.97	1.31	139.39	3.01	138.674	4.61	138	7.14	136.96
9.65	136	10.9	135.52	15.03	134	18.12	132.83	20.37	132
23.01	131.004	25.09	130.22	25.66	130	28.87	128.68	30.54	128
30.66	128	34.65	126.47	35.51	126.14	35.71	126.15	36.07	126.2
38	126.29	38.3	126.433	41.09	127.76	41.64	128	42.92	128.63
45.78	130	47.48	131.05	48.91	132	49.43	132.39	50.99	133.38
51.73	133.86	53.8	133.94	53.86	133.96	54.2	134	57.26	134.29
58.4	134.5	62.18	135.03	66.27	135.76				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	34.65	.04	38.3	.04

Bank Sta: Left	Right	Coeff Contr.	Expan.
34.65	38.3	.1	.3

CROSS SECTION

RIVER: Offsite6.5
REACH: 1 RS: 23.4

INPUT
Description:
Station Elevation Data num= 44

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	231.99	.15	231.94	.29	231.89	2.94	230.82	4.91	230
6.18	229.48	9.44	228	11.07	227.28	13.82	226	15.24	225.33
18.12	224	19.1	223.47	20.78	222.59	22	222	25.08	220.55
26.11	220.14	26.46	220	26.9	219.84	27.33	220	27.66	220.136
28.83	220.62	30.63	221.22	32.71	222	34.74	222.79	37.1	223.62
37.65	223.82	38.12	224	40.54	224.89	43.34	226	45.03	226.68
47.02	227.45	48.35	228	50.88	229.01	51.79	229.37	53.38	230
54.66	230.5	55.08	230.64	55.76	230.8	56.97	231.06	59.46	231.35
62.19	231.79	62.52	231.83	64.06	232	64.96	232.03		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	26.11	.04	27.66	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
26.11	27.66	42	34	27	.1	.3

CROSS SECTION

RIVER: Offsite6.5
REACH: 1 RS: 23.3

INPUT
Description:
Station Elevation Data num= 30

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	205.98	1.71	205.7	2.66	205.56	5.61	205.1	9.85	204.24
10.37	204.13	10.56	204.08	10.87	204	13.83	203.2	17.04	202.33
17.61	202.16	18.13	202	21.26	201.04	24.66	200	24.72	199.982
24.96	199.91	25.13	199.983	25.17	200	26	200.38	29.73	202
31.56	202.79	34.34	204	35.87	204.66	38.93	206	40.21	206.56
43.51	208	44.88	208.6	48.13	210	49.14	210.43	51.4	211.35

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	24.72	.04	25.13	.04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
24.72 25.13 43 40 35 .1 .3

CROSS SECTION

RIVER: Offsite6.5
REACH: 1 RS: 23.25

INPUT
Description:
Station Elevation Data num= 31
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 183.58 1.98 183.44 3.12 183.29 4.85 183.04 10.69 182.02
10.77 182.01 10.82 182 14.67 181.33 16.55 181 18.72 180.62
22.17 180.012 22.24 180 22.31 179.99 22.33 179.98 22.38 179.98
23.15 179.84 23.62 180 23.66 180.014 26.32 180.93 29.45 182
30.46 182.35 32.37 183.01 34.29 183.66 35.26 184 38.31 185.05
41.04 186 42.03 186.34 43.4 186.82 46.71 188 49.83 189.11
51.71 189.86

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .04 22.17 .04 23.66 .04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
22.17 23.66 39 41 43 .1 .3

CROSS SECTION

RIVER: Offsite6.5
REACH: 1 RS: 23.2

INPUT
Description:
Station Elevation Data num= 41
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 172 1.01 172 5.93 171.02 10.57 170 13.9 169.26
19.45 168 23.19 166.82 26.44 166 28.68 165.04 31.32 164
33.13 163.22 35.99 162 38.37 161.07 39.53 160.65 40.94 160.37
41.24 160.31 41.79 160.25 42.07 160.21 42.9 160.37 43.89 160.56
48.37 161.65 49.34 161.9 49.77 162 54.62 163.5 55.37 163.74
56.43 164 60.04 165.13 63.37 166 63.81 166.09 64.12 166.13
66.97 166.59 69.59 166.95 71.98 167.36 73.17 167.54 75.4 168
78.59 168.72 80.45 169.16 84.17 170 84.52 170.08 85.09 170.19
85.76 170.33

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .04 40.94 .04 42.9 .04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
40.94 42.9 48 56 58 .1 .3

CROSS SECTION

RIVER: Offsite6.5
REACH: 1 RS: 23.1

INPUT
Description:
Station Elevation Data num= 44
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 156.38 1.12 156 6.46 154.01 6.48 154 6.5 153.99
10.59 152 11.86 151.37 14.69 150 15.88 149.42 18.82 148
22.63 146.13 22.89 146 23.01 145.94 27 144 27.27 143.87
31.1 142 31.56 141.78 33.16 141.11 35.38 140.15 35.44 140.136
36.01 140 36.23 139.94 36.76 140 37.32 140.05 37.42 140.06

37.57 140.1 37.71 140.135 40.11 140.73 43.29 141.79 43.64 141.9
43.93 142 44.87 142.35 49.33 144 50.36 144.37 51.64 144.83
55.14 146 56.67 146.32 59.62 146.78 60.11 146.76 66.95 146.45
67.4 146.41 68.26 146.33 71 146 71.63 145.91

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	35.44	.04	37.71	.04

Bank Sta: Left	Right	Coeff Contr.	Expan.
35.44	37.71	.1	.3

CROSS SECTION

RIVER: Offsite7
REACH: 1 RS: 23.9

INPUT
Description:
Station Elevation Data num= 31

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	122.05	.13	122	2.05	121.16	4.28	120	7.05	118.49
7.94	118	8.68	117.64	12.4	116	14.54	115.14	17.47	114
21.11	112.6	22.65	112	25.33	111.05	25.88	110.88	28.72	110
29.4	110	29.49	110	29.76	110	32.97	110.86	34.97	111.39
37.07	112	38.16	112.3	44.71	114	47.03	114.88	49.17	115.52
50.55	116	52.79	116.8	56.2	118	61.55	119.91	61.81	120
61.99	120.06								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	25.88	.04	32.97	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
25.88	32.97	52	67	79	.1	.3

CROSS SECTION

RIVER: Offsite7
REACH: 1 RS: 23.8

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	110.03	.12	110	.36	109.94	.59	109.87	4.16	108.85
6.95	108.05	7.15	108	7.24	108	13.23	107.5	17.2	106.55
18.11	106.38	19.45	106	21.23	105.16	23.49	104	25.71	103.48
27.97	102.91	30.66	102.28	31.85	102	33.14	102	33.43	102
33.79	102	34.93	102.28	37.56	102.92	39.69	103.39	40.68	103.61
42.46	104	49.25	105.17	51.21	105.5	53.49	106	55.64	107.17
57.15	108	59.65	109.37	60.77	110	63.28	111.34	64.53	112
64.58	112.03	65.11	112.31						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	30.66	.04	34.93	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
30.66	34.93	51	48	44	.1	.3

CROSS SECTION

RIVER: Offsite7
REACH: 1 RS: 23.7

INPUT

Description:
Station Elevation Data num= 25

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	104.04	.11	104	.37	103.91	5.89	102	5.98	101.97
11.65	100	16.59	98.29	17.42	98	18.66	97.57	20.94	96.78
20.95	96.78	23.2	96	23.74	96	23.97	96	24.07	96
25.8	96.73	26.62	97.08	28.58	98	31.02	99.23	32.65	100
35.76	101.57	36.65	102	39.1	103.3	40.45	104	40.65	104

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	20.95	.04	25.8	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
20.95	25.8	65	50	38	.1	.3

CROSS SECTION

RIVER: Offsite7
REACH: 1 RS: 23.6

INPUT
Description:
Station Elevation Data num= 30

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	95.92	.8	95.68	6.57	94	7.28	93.79	10.71	92.8
13.02	92.12	13.44	92	18.42	90.55	20.43	90	25.03	88.69
25.68	88.55	26.62	88.35	27.61	88.13	27.73	88.11	28.42	88
28.76	88	29.23	88	29.89	88	30.21	88	31.52	88.35
34.28	89.08	37.08	90	38.7	90.43	44.56	92	45.64	92.35
48.55	93.39	49.74	93.81	50.24	94	52.46	94.89	55.1	95.96

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	26.62	.04	31.52	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
26.62	31.52	44	42	32	.1	.3

CROSS SECTION

RIVER: Offsite7
REACH: 1 RS: 23.5

INPUT
Description:
Station Elevation Data num= 33

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	90.25	.2	90.18	.72	90	1.24	89.82	6.49	88
9.67	86.91	12.28	86	15.92	84.77	18.18	84	19.26	83.64
24.12	82	24.25	81.96	24.73	81.82	28.95	80.55	29.73	80.32
31.4	80	31.73	80	32.43	80	33.26	80.19	34.14	80.53
37.47	81.81	37.83	81.94	37.9	81.97	37.98	82	42.85	83.98
42.88	84	46.59	85.54	47.7	86	52.75	87.47	54.71	88
60.95	89.76	61.8	90	61.98	90.06				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	28.95	.04	34.14	.04

Bank Sta: Left	Right	Coeff Contr.	Expan.
28.95	34.14	.1	.3

CROSS SECTION

RIVER: Site11
REACH: 1 RS: 0.89

INPUT
Description:
Station Elevation Data num= 10

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	126	9.5	124	19	122	24.54	120.439	26.1	120
27.22	120.439	31.2	122	37.3	124	44.3	126	49.5	126

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	24.54	.04	27.22	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
24.54	27.22	41	41	45	.1	.3

CROSS SECTION

RIVER: Site11
REACH: 1 RS: 0.88

INPUT
Description:
Station Elevation Data num= 11

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	108	8.4	106	16.3	104	21.7	102	29.63	100.382
31.5	100	32.97	100.382	39.2	102	43.8	104	47.7	106
52.96	108								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	29.63	.04	32.97	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
29.63	32.97	51	53	48	.1	.3

CROSS SECTION

RIVER: Site11
REACH: 1 RS: 0.87

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	92	7.9	90	15.4	88	22.63	86.237	23.6	86
24.74	86.236	33.26	88	40.96	90	48.7	92		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	22.63	.04	24.74	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
22.63	24.74	40	43	37	.1	.3

CROSS SECTION

RIVER: Site11
REACH: 1 RS: 0.86

INPUT
Description:
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	82	13.7	80	32.94	78.104	34	78	34.95	78.104
52.3	80	62.75	82						

Manning's n Values num= 3

```
  Sta  n Val   Sta  n Val   Sta  n Val
   0   .04  32.94   .04  34.95   .04

Bank Sta: Left  Right   Lengths: Left Channel  Right   Coeff Contr.  Expan.
     32.94  34.95          91     68     50        .1     .3

CROSS SECTION


RIVER: Site11
REACH: 1              RS: 0.85

INPUT
Description:
Station Elevation Data   num=    11
   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
    0    74   10.5    74   16.8    72   23.3    70  29.49  68.371
  30.9    68  32.09  68.372  37.3    70   43.1    72   55.7    74
 65.98    76

Manning's n Values      num=    3
   Sta  n Val   Sta  n Val   Sta  n Val
    0   .04  29.49   .04  32.09   .04

Bank Sta: Left  Right   Lengths: Left Channel  Right   Coeff Contr.  Expan.
     29.49  32.09          19     34     46        .1     .3

CROSS SECTION


RIVER: Site11
REACH: 2              RS: 0.845

INPUT
Description:
Station Elevation Data   num=    9
   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
    0    72    7.3    70     16    68   24.56 66.271  25.9    66
 27.31 66.271  36.3    68   46.4    70   58.7    72

Manning's n Values      num=    3
   Sta  n Val   Sta  n Val   Sta  n Val
    0   .04  24.56   .04  27.31   .04

Bank Sta: Left  Right   Lengths: Left Channel  Right   Coeff Contr.  Expan.
     24.56  27.31          43     43     42        .1     .3

CROSS SECTION


RIVER: Site11
REACH: 2              RS: 0.84

INPUT
Description:
Station Elevation Data   num=    9
   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
    0    68    7.3    66     16    64   23.15 62.556  25.9    62
  36.3    64   46.4    66   58.7    68   62.55    68

Manning's n Values      num=    3
   Sta  n Val   Sta  n Val   Sta  n Val
    0   .04  23.15   .04  62.55   .04

Bank Sta: Left  Right   Lengths: Left Channel  Right   Coeff Contr.  Expan.
     23.15  62.55           0      0      0        .1     .3

CROSS SECTION
```

RIVER: Unnamed Creek
REACH: 1 RS: 23

INPUT
Description:
Station Elevation Data num= 49

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	286.14	1.07	286	3.78	284.97	7.13	284	7.78	283.86
8.15	283.79	10.63	283.3	12.41	282.98	13.31	282.75	15.3	282.41
16.65	282	17.34	282	17.66	281.85	21.12	280	22.98	279.55
27.28	278	32.29	276.05	32.44	276	36.31	274.79	39.18	274
39.55	274	40.84	273.5	43.34	272	44.29	270.75	44.75	270.15
44.82	270.08	44.93	270.07	46.82	270.76	50.24	272	50.61	272.16
51.22	272.39	53.74	273.33	54.28	273.49	56.71	274	58.42	274.51
61.09	276	63.65	277.35	65.43	278	66.71	278.55	68.15	279.01
69.7	279.51	71.49	280	76.05	281.1	79.49	282	81.27	282.45
86.82	283.88	87.2	283.97	87.31	284	88.45	284.32		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	44.29	.04	46.82	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
44.29	46.82	60	54	49	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 1 RS: 22

INPUT
Description:
Station Elevation Data num= 54

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	270.4	.13	270.35	1.04	270	3.05	269.22	6.19	268
7.8	267.41	11.47	266	12.3	265.72	17.13	264	18.41	263.58
23.11	262	25.89	260.75	27.52	260	30.76	258.45	31.7	258
35.59	256.13	35.86	256	36.96	255.46	39.95	254	40.84	253.52
41.64	253.19	44.07	252.49	44.08	252.49	44.77	252.34	45.12	252.37
45.41	252.49	45.49	252.52	47.79	254	48.93	254.66	51.05	256
54.02	257.78	54.37	258	54.75	258	55.24	258	58.57	258
59.77	258.21	60.89	258.36	62.1	258.34	62.85	258.72	63.58	258.83
65.55	259.84	65.74	259.93	65.9	260	70.79	261.33	73.5	262
75.04	262.32	75.79	262.48	77.32	262.8	79.85	263.34	80.23	263.38
82.61	263.93	82.82	264	84.54	264.67	87.76	265.94		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	44.08	.04	45.41	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
44.08	45.41	41	41	28	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 1 RS: 21

INPUT
Description:
Station Elevation Data num= 50

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	260.07	.14	260	2.16	258.72	3.28	258	5.98	256.29
6.44	256	8.23	254.87	9.65	254	10.83	253.29	12.96	252
15.22	250.67	16.48	250	19.84	248.24	20.19	248.06	20.32	248
23.25	246.53	24.3	246	27.9	244.23	28.36	244	31.79	242.33
32.47	242	35.1	241.33	35.42	241.25	37.67	241.28	40.58	241.13
43.41	241.33	49.05	241.96	49.15	241.97	49.3	242	49.32	242

49.36	242	51.44	243.67	51.98	244	54.96	245.81	55.33	246
57.72	247.23	59.29	248	61.87	249.28	63.3	250	65.07	250.87
65.62	251.12	66.6	251.63	68.29	251.53	71.13	251.3	73.03	251.44
73.84	251.37	75.6	251.3	79.23	251.67	79.7	251.62	80.16	251.8

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	35.1	.04	43.41	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
35.1	43.41	54	47	38	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 1 RS: 20.5

INPUT
Description:
Station Elevation Data num= 44

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	245.71	3.47	244	3.6	243.93	7.52	242	7.6	241.96
7.76	241.88	10.15	240.75	11.61	240	13.97	238.84	15.6	238
21.06	237.42	33.88	236	34.27	235.84	38.83	234	40.93	233.26
44.21	232	49.46	230.22	50.09	230	50.35	229.88	52.82	229.56
54.24	229.83	54.36	229.83	54.53	229.87	54.9	230	57.77	230.89
60.59	231.81	61.11	232	63.49	232.82	65.01	233.29	66.76	234
69.19	234.81	72.35	236	73.68	236.46	74.73	236.83	76.03	237.24
78.19	238	79.7	238	81.84	238.6	84.22	240	87.17	241.95
87.24	242	87.33	242.02	97.78	244	98.18	244.05		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	50.35	.04	54.53	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
50.35	54.53	59	78	89	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 1 RS: 20

INPUT
Description:
Station Elevation Data num= 59

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	230.86	2.05	230	3	229.6	4.6	228.93	5.45	228.53
6.44	228	7.59	227.39	9.95	226	10.99	224.84	11.73	224
12.06	223.63	13.48	222	14.59	220.85	15.49	220	17.12	218.91
18.45	218	20.8	216.4	21.38	216	21.95	215.61	23.55	214.52
24.32	214	24.73	213.77	27.98	212	30.08	210.69	31.22	210
32.54	209.23	34.76	208	35.83	207.39	36.34	207.13	38.72	206
39.87	205.45	41.37	204.67	42.77	204	46.92	202.02	46.95	202
50.41	200.45	50.67	200.33	51.2	200.2	52.24	200.27	53.1	200.29
53.48	200.44	57.39	202	57.42	202.01	59.64	203.04	61.74	204
61.78	204.02	66.04	206	67.97	207.05	70.04	208	72.27	209.26
73.63	210	76.11	211.4	77.16	212	79.64	213.29	80.62	213.57
80.99	213.71	81.22	213.76	82.8	214	82.94	214.02		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	50.41	.04	53.48	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
50.41	53.48	97	77	59	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 1 RS: 19

INPUT
Description:
Station Elevation Data num= 55

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	185.82	.8	185.56	4.44	184.46	5.8	184	8.03	183.28
11.26	182	12.04	181.75	17.46	180	17.77	180	18.74	179.57
23.44	178	25.79	177.1	28.83	176	30.31	175.54	34.63	174
37.54	172.84	39.66	172	43.94	170.26	44.52	170.02	44.58	170
44.6	170	45.86	170	45.89	170	46.23	170.24	47.29	170.99
48.83	172	50.36	173.02	51.75	174	53.89	175.44	54.69	176
56.83	177.38	57.78	178	58.45	178.41	60.9	180	62.24	180.64
63.31	181.17	63.83	181.36	65.83	182	66.58	182.34	67.96	182.89
69.44	183.47	70.74	184	72.7	184.76	76.46	186	78.39	186.64
82.23	188	82.49	188.09	84.98	188.98	87.54	189.89	87.87	190
92.57	191.64	93.8	192	95.56	192.54	96.74	192.84	96.8	192.85

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	43.94	.04	46.23	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
43.94	46.23	45	61	57	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 2 RS: 18.5

INPUT
Description:
Station Elevation Data num= 53

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	173.88	2.08	173.34	4.25	172.71	6.58	172	10.52	170.13
10.81	170	10.88	169.97	15.27	168	17.69	166.92	19.78	166
23.54	164.35	24.33	164	25.89	163.32	28.92	162	31.15	161.05
33.58	160	37.52	158.42	38.54	158	43.46	156.56	44.22	156.34
45.33	156.23	45.94	156.09	46.08	156.15	46.32	156.22	46.36	156.23
46.43	156.27	46.95	156.57	49.42	158	50.37	158.52	51.45	158.93
53.65	159.53	54.54	159.78	55.43	160	58.45	160.75	60.14	161.23
61.26	161.54	62.65	162	64.44	162.63	67.93	163.92	68.06	163.97
68.15	164	71.42	165.15	73.8	165.89	73.94	165.93	74.19	166
78.46	167.05	82.91	168	84.6	168.35	85.21	168.48	85.97	168.64
88.84	169.22	91.28	169.72	92.21	169.92				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	43.46	.04	46.95	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
43.46	46.95	28	30	29	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 2 RS: 18

INPUT
Description:
Station Elevation Data num= 53

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	167.88	2.08	167.34	4.25	166.71	6.58	166	10.52	164.13
10.81	164	10.88	163.97	15.27	162	17.69	160.92	19.78	160
23.54	158.35	24.33	158	25.89	157.32	28.92	156	31.15	155.05

33.58 154 37.52 152.42 38.54 152 43.44 150.57 44.22 150.34
45.33 150.23 45.94 150.09 46.08 150.15 46.32 150.22 46.36 150.23
46.43 150.27 46.93 150.56 49.42 152 50.37 152.52 51.45 152.93
53.65 153.53 54.54 153.78 55.43 154 58.45 154.75 60.14 155.23
61.26 155.54 62.65 156 64.44 156.63 67.93 157.92 68.06 157.97
68.15 158 71.42 159.15 73.8 159.89 73.94 159.93 74.19 160
78.46 161.05 82.91 162 84.6 162.35 85.21 162.48 85.97 162.64
88.84 163.22 91.28 163.72 92.21 163.92

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	43.44	.04	46.93	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
43.44	46.93	22	41	69	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 3 RS: 17.5

INPUT
Description:
Station Elevation Data num= 63

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	157.92	3.69	156.46	4.8	156	7.2	155.21	9.79	154.27
10.16	154.14	10.5	154	11.67	153.28	13.86	152	14.55	151.62
17.27	150	17.41	149.95	17.65	149.87	21.22	148.62	22.97	148
24.14	147.56	24.97	147.26	27.21	146.57	28.72	146	31.9	145.01
34.51	144	35.86	143.61	38.75	142.63	39.9	142.27	40.65	142
45.33	140.8	48.23	140	50.37	139.48	52.9	138.9	55.28	138.34
56.54	138.09	57.24	138	57.25	138	57.29	138	57.95	138
58.41	138.09	61.71	138.11	61.78	138.13	62.53	138.15	62.6	138.15
63.87	138.38	68.99	140	70.77	140.62	75.39	142	76.07	142.24
80.96	144	81.32	144.15	85.53	146	86.12	146.28	86.77	146.6
89.65	148	91	148.76	93.36	150	94.35	150.53	97.18	152
97.94	152.41	99.37	153.11	101.07	154	102.63	154.83	104.56	156
106.85	157.36	107.92	158	108.43	158.3				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	55.28	.04	63.87	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
55.28	63.87	29	30	30	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 3 RS: 17

INPUT
Description:
Station Elevation Data num= 65

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	149.92	3.69	148.46	4.8	148	7.2	147.21	9.79	146.27
10.16	146.14	10.5	146	11.67	145.28	13.86	144	14.55	143.62
17.27	142	17.41	141.95	17.65	141.87	21.22	140.62	22.97	140
24.14	139.56	24.97	139.26	27.21	138.57	28.72	138	31.9	137.01
34.51	136	35.86	135.61	38.75	134.63	39.9	134.27	40.65	134
45.33	132.8	48.23	132	50.37	131.48	52.9	130.9	55.28	130.34
55.6	130.28	56.54	130.09	57.24	130	57.25	130	57.29	130
57.95	130	58.41	130.09	61.71	130.11	61.78	130.13	62.53	130.15
62.6	130.15	63.32	130.28	63.87	130.38	68.99	132	70.77	132.62
75.39	134	76.07	134.24	80.96	136	81.32	136.15	85.53	138
86.12	138.28	86.77	138.6	89.65	140	91	140.76	93.36	142
94.35	142.53	97.18	144	97.94	144.41	99.37	145.11	101.07	146
102.63	146.83	104.56	148	106.85	149.36	107.92	150	108.43	150.3

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	55.6	.04	63.32	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
55.6	63.32	68	69	67	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 4 RS: 16

INPUT
Description:
Station Elevation Data num= 64

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	140.08	.22	140	2.3	139.29	6.38	138	7.71	137.57
12.77	136.2	13.48	136	14.34	135.79	21	134	21.97	133.7
22.35	133.62	25.21	133.08	29.02	132	30.83	130.62	31.59	130
33.31	129.08	35.09	128	35.91	127.68	37.64	127.21	39.96	126.46
42.08	126	44.44	125.29	47.71	124	49.01	123.47	52.37	122
52.74	121.86	57.15	120	57.98	119.71	58.49	119.51	59.81	119
61.31	118.42	62.56	118.28	62.89	118.28	62.92	118.29	64.51	118.98
66.87	120	67.36	120.22	71.08	122	75.21	123.85	75.47	123.96
75.55	124	78.99	125.88	79.18	126	83.02	127.77	83.53	128
83.57	128.02	87.21	130	88.09	130.5	90.71	132	91.54	132.48
94.2	134	94.91	134.41	97.73	136	99.11	136.68	99.42	136.8
100.33	137.17	102.7	137.66	103.36	137.81	103.55	138	104.01	138
105.2	138.83	106.13	140	106.33	140.3	107.3	141.68		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	59.81	.04	64.51	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
59.81	64.51	27	37	35	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 4 RS: 15.5

INPUT
Description:
Station Elevation Data num= 64

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	135.79	.22	135.71	2.3	135	6.38	133.71	7.71	133.28
12.77	131.91	13.48	131.71	14.34	131.5	21	129.71	21.97	129.41
22.35	129.33	25.21	128.79	29.02	127.71	30.83	126.33	31.59	125.71
33.31	124.79	35.09	123.71	35.91	123.39	37.64	122.92	39.96	122.17
42.08	121.71	44.44	121	47.71	119.71	49.01	119.18	52.37	117.71
52.74	117.57	57.15	115.71	57.98	115.42	58.49	115.22	59.87	114.69
61.31	114.13	62.56	113.99	62.89	113.99	62.92	114	64.46	114.67
66.87	115.71	67.36	115.93	71.08	117.71	75.21	119.56	75.47	119.67
75.55	119.71	78.99	121.59	79.18	121.71	83.02	123.48	83.53	123.71
83.57	123.73	87.21	125.71	88.09	126.21	90.71	127.71	91.54	128.19
94.2	129.71	94.91	130.12	97.73	131.71	99.11	132.39	99.42	132.51
100.33	132.88	102.7	133.37	103.36	133.52	103.55	133.71	104.01	133.71
105.2	134.54	106.13	135.71	106.33	136.01	107.3	137.39		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	59.87	.04	64.46	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
59.87	64.46	35	33	24	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 5 RS: 15

INPUT
Description:
Station Elevation Data num= 64

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	130.16	.33	130	3.76	128.3	4.27	128.05	4.37	128
9.25	126.15	9.64	126	10.56	125.58	14.13	124	15.69	123.37
19.22	122	22.59	120.72	24.43	120	26.95	119.01	29.5	118
30.65	117.6	32.89	116.86	34.72	116.25	35.5	116	38.39	115.04
41.48	114	46.06	112.4	47.15	112	50.1	111.06	52.7	110.23
53.43	110.03	53.47	110.04	53.49	110.05	53.7	110.03	55.16	110.55
56.39	111.05	58.72	112	59.05	112.13	63.43	114	63.57	114.06
68.29	116	69.44	116.35	70.87	116.84	72.79	117.48	74.03	118
77.34	119.5	78.28	120	82.15	121.76	82.91	122	82.97	122
83.28	122.1	85.7	122.55	86.69	122.87	87.35	124	87.84	125.21
88.19	126	88.87	127.56	89.07	128	89.5	128.62	90.78	130
93.79	131.93	93.89	132	94.07	132.11	97.05	134	98.96	135.16
100.57	136	101.66	136.56	104.44	138	107.18	139.39		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	50.1	.04	56.39	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
50.1	56.39	54	75	66	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 5 RS: 14

INPUT
Description:
Station Elevation Data num= 51

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	126.08	.21	126	.99	125.69	5.29	124	5.77	123.81
10.37	122	10.48	121.96	11.7	121.47	15.14	120.12	15.44	120
19.63	118.35	20.53	118	23.68	116.76	25.63	116	26.39	115.67
28.29	114.82	30.04	114	34.04	112.09	34.21	112	34.73	111.75
38.35	110	38.61	109.88	42.4	108	45.89	106.35	46.62	106
47.16	105.74	50.22	104.27	50.77	104	51.46	104	52.16	104
52.52	104	52.89	104	58.46	104	59.21	104.19	59.52	104.25
68.46	106	70.62	106.76	72.85	108	74.3	108.88	75.97	110
78.58	111.69	79.02	112	79.76	112.5	81.97	114	87.72	115.56
89.35	116	90.13	116.37	93.62	118	96.01	118.95	98.65	120
99.5	120.34								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	50.22	.04	59.52	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
50.22	59.52	100	93	61	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 5 RS: 13

INPUT
Description:
Station Elevation Data num= 56

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

```
  0 110.66  1.11   110  2.87 108.97   4.4   108  7.39 106.13
 7.59   106 10.74 104.3 11.29   104 11.41 103.94 15.42   102
20.56 100.12  20.9   100 24.22 98.83 26.56    98 30.57 96.71
32.68    96 33.38    96 37.63 95.55 40.35 95.28 41.82 95.12
48.85 94.68 50.66 94.57 52.76 94.15 52.99 94.21 53.89    94
55.51    94 56.02    94  56.4    94 56.47 94.06 57.16 94.67
58.65    96 59.05 96.36 60.19 97.43 60.82    98  62.1  98.9
63.61   100 66.04 101.02  68.2   102 72.41 103.69 73.15   104
73.76 104.27 76.58 105.56  78.7   106 79.19   106 81.61 106.47
 83.6 107.13 85.55 107.9 85.72 107.95 85.83   108 86.07 108.08
88.13 108.76 91.16   110 96.35 111.8  96.9   112 97.19 112.09
 97.3 112.13

Manning's n Values      num=    3
   Sta  n Val   Sta  n Val   Sta  n Val
    0   .05  48.85   .04  57.16   .05

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     48.85  57.16          73    74    65        .1      .3

CROSS SECTION


RIVER: Unnamed Creek
REACH: 5            RS: 12

INPUT
Description:
Station Elevation Data   num=    42
   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
    0 111.92  1.61 111.23  4.31   110  5.59 109.45  8.66   108
  11.7 106.37 12.38   106 12.86 105.69 14.97   104 16.32 102.94
 17.51   102 18.42 101.28 20.03   100 20.93 99.27 22.55    98
 24.37 96.52 25.02    96 26.65 94.71 27.57    94  27.8 93.81
 30.12    92 31.19 91.14 32.64    90 33.68 89.18 35.17    88
 36.75 86.78 37.52 86.19 37.76    86 38.13    86 38.22    86
 38.63    86 40.87 86.76 41.13 86.85 44.54    88 46.11 88.55
 50.29    90 52.24 90.64  56.9    92  57.1    92 58.68 92.37
  65.2  93.7 65.89 93.85

Manning's n Values      num=    3
   Sta  n Val   Sta  n Val   Sta  n Val
    0   .05  36.75   .04  40.87   .05

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     36.75  40.87          49    79    89        .1      .3

CROSS SECTION


RIVER: Unnamed Creek
REACH: 6            RS: 11

INPUT
Description:
Station Elevation Data   num=    42
   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
    0  99.9   .36 99.68  3.06    98  4.28 97.23  6.24    96
  7.34 95.31   9.4    94  10.2  93.5 12.56    92 15.37 90.21
 15.64 90.04  15.7    90 15.78 89.95 18.89    88 19.99 87.31
 22.08    86 23.86 84.87 25.37    84 27.92 82.41 28.46    82
 28.91    82 38.35    82 41.24    82 41.41    82 44.09    82
 45.07 82.36 45.55 82.54 49.12    84 53.01 85.69 54.07    86
 54.59    86 55.01    86 56.63 86.43 58.16 86.66 62.37 87.27
 65.87 87.77 66.32 87.84 67.43    88 71.42 88.54 73.67  88.9
 76.69 89.37 79.29 89.79

Manning's n Values      num=    3
   Sta  n Val   Sta  n Val   Sta  n Val
    0   .05  27.92   .04  45.07   .05
```

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
27.92 45.07 54 58 63 .1 .3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 6 RS: 10

INPUT
Description:
Station Elevation Data num= 49

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	89.69	1.21	89.3	4.51	88	6.97	87.14	7.85	86.71
9.75	86	11.53	85.36	12.98	84.94	16.56	84	20.78	82.7
22.73	82	27	80.68	29.04	80	29.4	79.9	31.13	79.33
37.99	78.46	40.75	78	45.6	78	46.09	78	48.12	78
48.59	78.42	49.84	79.53	50.37	80	50.72	80.28	52.72	82
54.27	83.23	55.21	84	55.79	84.48	58.03	86	58.38	86.24
60.91	88	62.35	88.98	63.84	90	64.54	90.48	66.79	92
67	92.14	68.19	92.94	69.25	93.7	69.68	94	71.85	95.47
72.64	96	75.69	97.99	75.71	98	77.02	98.42	78.87	98.9
81.01	99.59	81.79	99.77	82.29	100	82.38	100.04		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	37.99	.04	48.59	.05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
37.99 48.59 80 88 63 .1 .3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 7 RS: 9

INPUT
Description:
Station Elevation Data num= 39

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	84.08	.36	84	2.53	83.42	7.69	82	9.18	81.63
15.39	80	16.03	80	21.36	78.73	23.52	78	26.97	76.71
28.79	76	30.47	75.35	33.94	74	35.37	73.46	38.25	72.38
39.46	72	39.51	72	39.95	72	41.78	72.71	43.35	73.42
44.63	74	45.73	74.53	48.85	76	51.24	77.15	53.03	78
56.74	79.83	57.07	80	57.43	80.19	60.68	82	63.32	83.61
63.93	84	65.08	84.72	67.13	86	69.18	87.31	70.28	88
72.79	89.59	73.47	90	73.92	90	73.97	90.01		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	35.37	.04	43.35	.05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
35.37 43.35 84 80 67 .1 .3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 7 RS: 8

INPUT
Description:
Station Elevation Data num= 34

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	80.48	.79	80	2.84	79.18	5.52	78	7.71	77.03
10.01	76	13.24	74.53	14.31	74	15.91	73.17	18.18	72

```
 20.63  70.74  22.04    70  23.86  69.06  24.86  68.54   25.9    68
 26.49    68  27.69    68   29.4    68  30.01  68.33  31.52  69.02
 33.65    70  33.79  70.06    34  70.16  37.86    72  39.48  72.74
 41.06  73.46  42.32    74  46.61  75.85  46.92    76  48.33  76.58
 51.78    78  53.69  78.61  57.75    80  57.82  80.02

Manning's n Values      num=     3
   Sta  n Val    Sta  n Val    Sta  n Val
    0   .05  23.86   .04  31.52   .05

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     23.86  31.52          70    68    57        .1      .3

CROSS SECTION


RIVER: Unnamed Creek
REACH: 7            RS: 7

INPUT
Description:
Station Elevation Data   num=     34
   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
    0   77.8   4.38  76.54  6.42    76     8  75.59  12.38  74.72
  14.64  74.26  15.17  74.16  16.03    74  23.15  72.02   23.2    72
  27.27  70.09  27.52    70  30.18  68.97   32.9    68  34.24  67.53
  36.31   66.7  38.03    66  41.41  64.66  42.56   64.2  43.13    64
  46.92    64  47.85    64  50.79    64  52.59  64.62  56.39  65.92
  56.62    66  60.34  67.24  62.92    68  65.14  68.68  69.56    70
   72.7  70.97  76.08    72  79.33  72.98  82.11    74

Manning's n Values      num=     3
   Sta  n Val    Sta  n Val    Sta  n Val
    0   .05  41.41   .04  52.59   .05

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     41.41  52.59          62    62    67        .1      .3

CROSS SECTION


RIVER: Unnamed Creek
REACH: 7            RS: 6

INPUT
Description:
Station Elevation Data   num=     33
   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
    0    74    .09    74    .16  73.97   5.41    72  10.62  70.03
   10.7    70  10.73  69.99  11.62  69.65  15.86  68.05  15.99    68
  19.63  66.64  21.37    66   24.3  64.93  26.18  64.24  26.82    64
   27.9    64  30.61    64  32.32    64  34.05    64  36.19    64
  43.98    64   46.2    64  47.57    64  47.66    64  50.56  64.92
  51.49  65.21    54    66  54.07  66.04  54.51  66.27  57.66    68
     59  68.74  61.31    70  61.63  70.18

Manning's n Values      num=     3
   Sta  n Val    Sta  n Val    Sta  n Val
    0   .05   24.3   .04  50.56   .05

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
      24.3  50.56          35    30    31        .1      .3

CROSS SECTION


RIVER: Unnamed Creek
REACH: 7            RS: 5

INPUT
```

Description:
Station Elevation Data num= 36

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	72.02	.26	72	4.35	71.65	5.03	71.63	7.39	71.48
8.15	71.46	11.21	71.05	11.8	70.98	16.59	70	19.3	68.97
21.17	68.28	21.92	68	26.9	66.1	27.14	66	27.93	65.7
31.71	64.47	33.15	64	36.6	64	38.79	63.73	42.89	63.28
46.7	63.92	46.77	63.93	47.22	64	48.81	64.25	49.28	64.34
49.95	64.45	53.81	65.1	55.11	65.28	55.95	65.32	58.37	65.88
58.46	65.88	58.94	66	63.83	67.29	66.23	68	69.78	69.02
72.7	69.97								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	31.71	.04	49.95	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
31.71	49.95	68	50	36	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 7 RS: 4

INPUT
Description:
Station Elevation Data num= 44

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	73.05	14.83	72	16.99	72	17.64	72	19.19	72
20.34	72	24.2	70.21	24.63	70	24.85	69.9	29.51	68
29.69	67.92	30.12	67.75	34.4	66	36.3	65.23	39.3	64
40.71	63.45	44.35	62	48.11	60.84	48.31	60.78	50.44	60
51.61	60	52.09	60	52.91	60	56.12	60.65	57	60.81
57.78	60.96	61.29	61.64	62.16	61.81	62.33	61.84	62.52	61.86
63.6	62	64.21	62	69.42	62.47	73.24	62.72	76.57	63.39
78.09	63.51	78.32	63.53	79.72	64	82.53	65.12	84.96	66
87.71	66.99	90.49	68	92.18	68.61	95	69.65		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	48.11	.04	57	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
48.11	57	59	59	54	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 7 RS: 3

INPUT
Description:
Station Elevation Data num= 39

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	69.95	2.42	68.62	3.54	68	4.41	67.52	7.17	66
10.22	64.51	11.3	64	12.76	63.56	18.47	62	23.24	61.21
30.36	60	33.93	59.42	35.91	59.09	37.22	58.87	41.56	58.52
44.03	58.25	44.67	58.21	47.77	58	48.43	58	48.78	58
49.6	58.27	50.16	58.45	52.04	58.93	52.64	59.08	56.25	60
58.72	60.67	62.45	62	63.61	62.45	67.29	64	69.16	64.79
72.02	66	77.6	67.84	78.03	68	82.9	69.67	83.35	69.81
83.51	69.86	84.02	70	87.9	71.07	89.57	71.57		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	35.91	.04	52.64	.05

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

35.91 52.64 51 50 39 .1 .3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 7 RS: 2

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	67.89	4.85	66.19	5.38	66	8.65	64.81	10.9	64
11.27	63.87	16.4	62	18.2	61.34	21.89	60	26.08	58.46
27.34	58	28.31	57.65	30.44	56.87	32.83	56	33.18	56
33.48	56	34.05	56.21	35.77	56.96	37.49	57.64	38.4	58
42.21	59.42	44.07	60	46.3	60.68	49.5	61.66	50.52	62
55.25	63.7	56.09	64	56.21	64.04	61.18	65.94		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	28.31	.04	37.49	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
28.31	37.49	34	41	62	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 8 RS: 1.5

INPUT
Description:
Station Elevation Data num= 40

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	64.98	.64	64.86	2.86	64.33	3.35	64.22	4.17	64
11.28	62.11	11.46	62.06	11.7	62	17.65	60.44	19.35	60
24.9	59.45	26.42	59.28	29.5	58.97	30.91	58.81	31.7	58.74
37.38	58	37.42	58	37.69	57.95	38.46	57.78	41.4	57.14
44.88	56.39	46.14	56.08	46.47	56	56.87	56	60.02	56
62.28	57.09	62.77	57.33	64.1	58	64.48	58.16	68.73	60
69.75	60.4	71.35	60.88	74.49	61.6	75.22	61.77	76.17	62
79.35	62.79	82.1	63.41	83.16	63.64	84.53	64	85.59	64.3

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	41.4	.04	62.28	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
41.4	62.28	20	20	20	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 8 RS: 1

INPUT
Description:
Station Elevation Data num= 40

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	64.98	.64	64.86	2.86	64.33	3.35	64.22	4.17	64
11.28	62.11	11.46	62.06	11.7	62	17.65	60.44	19.35	60
24.9	59.45	26.42	59.28	29.5	58.97	30.91	58.81	31.7	58.74
37.38	58	37.42	58	37.69	57.95	38.46	57.78	42.66	56.87
44.88	56.39	46.14	56.08	46.47	56	56.87	56	60.02	56
61.74	56.83	62.77	57.33	64.1	58	64.48	58.16	68.73	60
69.75	60.4	71.35	60.88	74.49	61.6	75.22	61.77	76.17	62
79.35	62.79	82.1	63.41	83.16	63.64	84.53	64	85.59	64.3

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	42.66	.04	61.74	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
42.66	61.74	0	0	0	.1	.3

SUMMARY OF MANNING'S N VALUES

River:Offsite10

Reach	River Sta.	n1	n2	n3
1	0.97	.04	.04	.04
1	0.96	.04	.04	.04
1	0.95	.04	.04	.04
1	0.94	.04	.04	.04
1	0.93	.04	.04	.04
1	0.92	.04	.04	.04
1	0.91	.04	.04	.04
1	0.90	.04	.04	.04

River:Offsite2

Reach	River Sta.	n1	n2	n3
1	0.2	.04	.04	.04
1	0.1	.04	.04	.04
1	0.09	.04	.04	.04
1	0.08	.04	.04	.04
1	0.07	.04	.04	.04
1	0.06	.04	.04	.04
1	0.05	.04	.04	.04
1	0.04	.04	.04	.04
1	0.03	.04	.04	.04
1	.025	.04	.04	.04
1	0.02	.04	.04	.04
1	0.01	.04	.04	.04
1	0	.04	.04	.04

River:Offsite3

Reach	River Sta.	n1	n2	n3
1	0.5	.04	.04	.04
1	0.4	.04	.04	.04
1	0.3	.04	.04	.04
1	0.25	.04	.04	.04
1	0.24	.04	.04	.04
1	0.23	.04	.04	.04
1	0.22	.04	.04	.04
1	0.21	.04	.04	.04

River:Offsite4

Reach	River Sta.	n1	n2	n3
1	0.58	.04	.04	.04
1	0.57	.04	.04	.04
1	0.56	.04	.04	.04
1	0.55	.04	.04	.04
1	0.54	.04	.04	.04
1	0.53	.04	.04	.04
1	0.52	.04	.04	.04

1	0.51	.04	.04	.04

River:Offsite6

Reach	River Sta.	n1	n2	n3
1	23.07	.04	.04	.04
1	23.06	.04	.04	.04
1	23.05	.04	.04	.04
1	23.04	.04	.04	.04
1	23.03	.04	.04	.04
1	23.02	.04	.04	.04
1	23.01	.04	.04	.04

River:Offsite6.5

Reach	River Sta.	n1	n2	n3
1	23.4	.04	.04	.04
1	23.3	.04	.04	.04
1	23.25	.04	.04	.04
1	23.2	.04	.04	.04
1	23.1	.04	.04	.04

River:Offsite7

Reach	River Sta.	n1	n2	n3
1	23.9	.04	.04	.04
1	23.8	.04	.04	.04
1	23.7	.04	.04	.04
1	23.6	.04	.04	.04
1	23.5	.04	.04	.04

River:Site11

Reach	River Sta.	n1	n2	n3
1	0.89	.04	.04	.04
1	0.88	.04	.04	.04
1	0.87	.04	.04	.04
1	0.86	.04	.04	.04
1	0.85	.04	.04	.04
2	0.845	.04	.04	.04
2	0.84	.04	.04	.04

River:Unnamed Creek

Reach	River Sta.	n1	n2	n3
1	23	.05	.04	.05
1	22	.05	.04	.05
1	21	.05	.04	.05
1	20.5	.05	.04	.05
1	20	.05	.04	.05
1	19	.05	.04	.05
2	18.5	.05	.04	.05
2	18	.05	.04	.05
3	17.5	.05	.04	.05
3	17	.05	.04	.05
4	16	.05	.04	.05
4	15.5	.05	.04	.05
5	15	.05	.04	.05
5	14	.05	.04	.05
5	13	.05	.04	.05

5	12	.05	.04	.05
6	11	.05	.04	.05
6	10	.05	.04	.05
7	9	.05	.04	.05
7	8	.05	.04	.05
7	7	.05	.04	.05
7	6	.05	.04	.05
7	5	.05	.04	.05
7	4	.05	.04	.05
7	3	.05	.04	.05
7	2	.05	.04	.05
8	1.5	.05	.04	.05
8	1	.05	.04	.05

SUMMARY OF REACH LENGTHS

River: Offsite10

Reach	River Sta.	Left	Channel	Right
1	0.97	57	59	56
1	0.96	62	61	71
1	0.95	44	48	58
1	0.94	54	59	48
1	0.93	60	59	51
1	0.92	69	78	64
1	0.91	63	65	68
1	0.90			

River: Offsite2

Reach	River Sta.	Left	Channel	Right
1	0.2	36	35	34
1	0.1	29	33	35
1	0.09	70	67	68
1	0.08	72	66	65
1	0.07	65	69	76
1	0.06	65	69	66
1	0.05	67	71	80
1	0.04	71	80	77
1	0.03	57	54	47
1	.025	30	30	30
1	0.02	62	76	82
1	0.01	48	54	48
1	0			

River: Offsite3

Reach	River Sta.	Left	Channel	Right
1	0.5	48	54	50
1	0.4	44	50	51
1	0.3	28	41	51
1	0.25	38	38	37
1	0.24	55	43	36
1	0.23	28	41	36
1	0.22	41	38	34
1	0.21			

River: Offsite4

Reach	River Sta.	Left	Channel	Right

1	0.58	45	52	47
1	0.57	63	54	40
1	0.56	47	49	43
1	0.55	57	54	43
1	0.54	56	66	72
1	0.53	53	49	53
1	0.52	30	37	36
1	0.51			

River: Offsite6

Reach	River Sta.	Left	Channel	Right
1	23.07	24	31	32
1	23.06	40	47	50
1	23.05	43	54	54
1	23.04	51	59	60
1	23.03	51	60	56
1	23.02	54	54	45
1	23.01			

River: Offsite6.5

Reach	River Sta.	Left	Channel	Right
1	23.4	42	34	27
1	23.3	43	40	35
1	23.25	39	41	43
1	23.2	48	56	58
1	23.1			

River: Offsite7

Reach	River Sta.	Left	Channel	Right
1	23.9	52	67	79
1	23.8	51	48	44
1	23.7	65	50	38
1	23.6	44	42	32
1	23.5			

River: Site11

Reach	River Sta.	Left	Channel	Right
1	0.89	41	41	45
1	0.88	51	53	48
1	0.87	40	43	37
1	0.86	91	68	50
1	0.85	19	34	46
2	0.845	43	43	42
2	0.84	0	0	0

River: Unnamed Creek

Reach	River Sta.	Left	Channel	Right
1	23	60	54	49
1	22	41	41	28
1	21	54	47	38
1	20.5	59	78	89
1	20	97	77	59
1	19	45	61	57
2	18.5	28	30	29
2	18	22	41	69

3	17.5	29	30	30
3	17	68	69	67
4	16	27	37	35
4	15.5	35	33	24
5	15	54	75	66
5	14	100	93	61
5	13	73	74	65
5	12	49	79	89
6	11	54	58	63
6	10	80	88	63
7	9	84	80	67
7	8	70	68	57
7	7	62	62	67
7	6	35	30	31
7	5	68	50	36
7	4	59	59	54
7	3	51	50	39
7	2	34	41	62
8	1.5	20	20	20
8	1	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Offsite10

Reach	River Sta.	Contr.	Expan.
1	0.97	.1	.3
1	0.96	.1	.3
1	0.95	.1	.3
1	0.94	.1	.3
1	0.93	.1	.3
1	0.92	.1	.3
1	0.91	.1	.3
1	0.90	.1	.3

River: Offsite2

Reach	River Sta.	Contr.	Expan.
1	0.2	.1	.3
1	0.1	.1	.3
1	0.09	.1	.3
1	0.08	.1	.3
1	0.07	.1	.3
1	0.06	.1	.3
1	0.05	.1	.3
1	0.04	.1	.3
1	0.03	.1	.3
1	.025	.1	.3
1	0.02	.1	.3
1	0.01	.1	.3
1	0	.1	.3

River: Offsite3

Reach	River Sta.	Contr.	Expan.
1	0.5	.1	.3
1	0.4	.1	.3
1	0.3	.1	.3
1	0.25	.1	.3
1	0.24	.1	.3
1	0.23	.1	.3
1	0.22	.1	.3

1	0.21	.1	.3

River: Offsite4

Reach	River Sta.	Contr.	Expan.
1	0.58	.1	.3
1	0.57	.1	.3
1	0.56	.1	.3
1	0.55	.1	.3
1	0.54	.1	.3
1	0.53	.1	.3
1	0.52	.1	.3
1	0.51	.1	.3

River: Offsite6

Reach	River Sta.	Contr.	Expan.
1	23.07	.1	.3
1	23.06	.1	.3
1	23.05	.1	.3
1	23.04	.1	.3
1	23.03	.1	.3
1	23.02	.1	.3
1	23.01	.1	.3

River: Offsite6.5

Reach	River Sta.	Contr.	Expan.
1	23.4	.1	.3
1	23.3	.1	.3
1	23.25	.1	.3
1	23.2	.1	.3
1	23.1	.1	.3

River: Offsite7

Reach	River Sta.	Contr.	Expan.
1	23.9	.1	.3
1	23.8	.1	.3
1	23.7	.1	.3
1	23.6	.1	.3
1	23.5	.1	.3

River: Site11

Reach	River Sta.	Contr.	Expan.
1	0.89	.1	.3
1	0.88	.1	.3
1	0.87	.1	.3
1	0.86	.1	.3
1	0.85	.1	.3
2	0.845	.1	.3
2	0.84	.1	.3

River: Unnamed Creek

Reach	River Sta.	Contr.	Expan.
1	23	.1	.3

1	22	.1	.3
1	21	.1	.3
1	20.5	.1	.3
1	20	.1	.3
1	19	.1	.3
2	18.5	.1	.3
2	18	.1	.3
3	17.5	.1	.3
3	17	.1	.3
4	16	.1	.3
4	15.5	.1	.3
5	15	.1	.3
5	14	.1	.3
5	13	.1	.3
5	12	.1	.3
6	11	.1	.3
6	10	.1	.3
7	9	.1	.3
7	8	.1	.3
7	7	.1	.3
7	6	.1	.3
7	5	.1	.3
7	4	.1	.3
7	3	.1	.3
7	2	.1	.3
8	1.5	.1	.3
8	1	.1	.3

Profile Output Table - Standard Table 1

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)		
Unnamed Creek	1	23	100yr	7.50	270.07	271.36	271.36	271.73	0.016365	2.80	3.08	4.66	0.91
Unnamed Creek	1	22	100yr	7.50	252.34	253.44	253.44	253.75	0.014710	3.05	3.66	5.89	0.95
Unnamed Creek	1	21	100yr	7.50	241.13	241.30	241.66	250.66	9.934858	13.55	0.55	7.74	16.18
Unnamed Creek	1	20.5	100yr	10.50	229.56	230.16	230.54	231.62	0.142376	5.44	2.07	5.80	2.61
Unnamed Creek	1	20	100yr	10.50	200.20	200.58	201.26	207.14	1.092128	11.42	0.95	3.70	6.70
Unnamed Creek	1	19	100yr	10.50	170.00	170.61	171.21	173.46	0.222119	7.69	1.52	3.68	3.29
Unnamed Creek	2	18.5	100yr	18.22	156.09	157.01	157.59	159.29	0.129927	6.91	2.96	5.77	2.63
Unnamed Creek	2	18	100yr	18.22	150.09	150.91	151.59	154.20	0.222852	8.20	2.42	5.27	3.36
Unnamed Creek	3	17.5	100yr	31.82	138.00	138.67	139.21	140.92	0.167830	6.73	4.96	10.88	2.93
Unnamed Creek	3	17	100yr	31.82	130.00	130.58	131.22	134.07	0.314875	8.43	4.02	10.22	3.93
Unnamed Creek	4	16	100yr	43.62	118.28	119.61	120.46	122.91	0.110258	8.28	5.88	7.72	2.58
Unnamed Creek	4	15.5	100yr	43.62	113.99	115.30	116.18	118.76	0.116092	8.48	5.77	7.66	2.64
Unnamed Creek	5	15	100yr	51.45	110.03	111.77	112.35	113.58	0.047243	6.12	9.34	10.27	1.74
Unnamed Creek	5	14	100yr	51.45	104.00	104.71	105.41	107.61	0.157070	7.68	7.16	12.58	2.95
Unnamed Creek	5	13	100yr	51.45	94.00	95.16	95.71	97.10	0.081652	6.41	9.30	16.24	2.18
Unnamed Creek	5	12	100yr	51.45	86.00	87.65	88.55	90.87	0.084030	8.32	7.22	7.88	2.29
Unnamed Creek	6	11	100yr	80.85	82.00	82.83	83.32	84.49	0.069897	5.72	14.42	19.02	2.02
Unnamed Creek	6	10	100yr	80.85	78.00	79.22	79.77	81.02	0.051534	6.15	14.79	17.47	

Unnamed Creek	7	9	100yr	128.00	72.00	74.67	75.50	77.25	0.037185	7.36	19.69	13.80	1.83
Unnamed Creek	7	8	100yr	128.00	68.00	70.15	71.21	73.61	0.054406	8.46	16.78	12.22	1.66
Unnamed Creek	7	7	100yr	128.00	64.00	65.39	66.39	69.02	0.086097	8.57	15.94	15.26	1.98
Unnamed Creek	7	6	100yr	128.00	64.00	66.22	65.45	66.47	0.002933	2.22	60.79	33.65	2.41
Unnamed Creek	7	5	100yr	128.00	63.28	65.56	65.56	66.26	0.011540	3.83	37.04	28.62	0.49
Unnamed Creek	7	4	100yr	128.00	60.00	61.87	62.85	64.92	0.060020	8.14	18.60	17.84	0.93
Unnamed Creek	7	3	100yr	128.00	58.00	59.71	60.28	61.51	0.044900	6.04	22.51	22.93	2.07
Unnamed Creek	7	2	100yr	128.00	56.00	59.43	59.43	60.40	0.010072	4.62	32.98	18.79	1.74
Unnamed Creek	8	1.5	100yr	143.00	56.00	57.26	57.91	59.40	0.064073	6.48	22.11	21.76	0.90
Unnamed Creek	8	1	100yr	143.00	56.00	57.93	57.93	58.72	0.012013	4.01	38.11	26.15	2.01
Site11	1	0.89	100yr	3.33	120.00	120.76	120.76	120.97	0.017041	2.09	1.77	4.64	0.91
Site11	1	0.88	100yr	3.33	100.00	100.66	100.66	100.84	0.017198	1.94	1.90	5.77	0.91
Site11	1	0.87	100yr	3.33	86.00	86.67	86.67	86.84	0.015589	2.06	2.00	5.98	0.89
Site11	1	0.86	100yr	3.33	78.00	78.19	78.49	84.00	2.906700	11.13	0.33	3.60	9.70
Site11	1	0.85	100yr	3.33	68.00	68.56	68.73	69.07	0.064453	3.23	1.11	3.94	1.68
Site11	2	0.845	100yr	14.90	66.00	66.54	67.16	72.47	0.705435	11.41	1.50	5.52	5.70
Site11	2	0.84	100yr	14.90	62.00	62.86	63.13	63.71	0.073762	4.14	3.72	8.69	1.90
Offsite7	1	23.9	100yr	34.30	110.00	111.71	111.71	112.20	0.012043	3.25	11.81	12.57	0.90
Offsite7	1	23.8	100yr	34.30	102.00	102.68	103.54	109.22	0.448922	11.84	3.25	7.62	4.87
Offsite7	1	23.7	100yr	34.30	96.00	97.26	97.93	99.66	0.091222	7.03	5.27	7.45	2.30
Offsite7	1	23.6	100yr	34.30	88.00	88.79	89.53	92.69	0.223967	9.12	4.20	8.53	3.51
Offsite7	1	23.5	100yr	34.30	80.00	80.94	81.71	84.39	0.172142	8.40	4.37	7.57	3.10
Offsite6.5	1	23.4	100yr	1.07	219.84	220.35	220.35	220.50	0.019732	1.72	0.69	2.61	0.91
Offsite6.5	1	23.3	100yr	1.07	199.91	200.06	200.43	216.39	11.139010	19.05	0.07	0.85	17.86
Offsite6.5	1	23.25	100yr	1.07	179.84	180.10	180.27	180.84	0.255901	3.88	0.30	2.26	2.96
Offsite6.5	1	23.2	100yr	2.43	160.21	160.47	160.74	162.39	0.607282	6.29	0.42	3.01	4.65
Offsite6.5	1	23.1	100yr	2.43	139.94	140.25	140.49	141.29	0.251939	4.59	0.56	3.05	3.09
Offsite6	1	23.07	100yr	7.27	222.48	223.13	223.13	223.33	0.017094	2.08	3.80	9.89	0.93
Offsite6	1	23.06	100yr	7.27	210.00	210.36	211.07	220.60	1.648196	14.76	0.55	2.34	8.28
Offsite6	1	23.05	100yr	10.77	196.19	196.79	197.36	199.40	0.224016	7.25	1.56	3.77	3.26
Offsite6	1	23.04	100yr	10.77	180.16	180.76	181.36	184.38	0.353162	8.64	1.34	3.82	4.06
Offsite6	1	23.03	100yr	10.77	160.00	160.65	161.23	163.61	0.345920	7.62	1.42	3.83	3.87
Offsite6	1	23.02	100yr	10.77	140.00	140.41	140.95	143.28	0.331933	7.59	1.47	4.29	3.86
Offsite6	1	23.01	100yr	10.77	126.14	126.69	127.16	128.82	0.215521	6.55	1.72	4.77	3.17
Offsite4	1	0.58	100yr	4.90	309.96	310.55	310.55	310.73	0.017034	1.94	2.83	8.70	0.91
Offsite4	1	0.57	100yr	4.90	290.22	290.97	290.97	291.16	0.016272	2.46	2.81	7.49	0.94
Offsite4	1	0.56	100yr	4.90	276.00	276.10	276.31	286.89	23.038060	14.56	0.34	7.96	22.59
Offsite4	1	0.55	100yr	7.72	250.09	250.72	251.20	253.42	0.273694	7.96	1.17	3.73	3.58
Offsite4	1	0.54	100yr	7.72	230.19	230.76	231.30	234.33	0.475765	8.47	0.95	3.31	4.48
Offsite4	1	0.53	100yr	7.72	199.96	200.46	200.98	203.85	0.444558	8.67	1.01	3.52	4.44

Offsite4	1	0.52	100yr	7.72	182.11	182.53	182.88	184.40	0.336226	6.11	1.32	5.72	3.70
Offsite4	1	0.51	100yr	7.72	166.00	166.41	166.94	169.93	0.455796	8.66	0.99	3.51	4.51
Offsite3	1	0.5	100yr	5.30	232.00	232.56	232.56	232.76	0.017156	2.01	2.86	7.83	0.92
Offsite3	1	0.4	100yr	5.30	218.00	218.25	218.72	228.46	5.230692	14.15	0.37	3.00	12.78
Offsite3	1	0.3	100yr	5.30	206.00	206.49	206.71	207.22	0.122244	3.79	1.43	5.80	2.25
Offsite3	1	0.25	100yr	9.10	190.00	190.61	191.23	195.62	0.539371	10.75	1.01	3.33	4.97
Offsite3	1	0.24	100yr	9.10	180.00	180.62	181.04	182.52	0.212341	6.22	1.56	5.01	3.10
Offsite3	1	0.23	100yr	9.10	168.00	168.48	168.95	171.10	0.333996	7.30	1.32	4.57	3.84
Offsite3	1	0.22	100yr	9.10	160.18	160.88	161.30	162.52	0.138428	5.85	1.70	4.38	2.58
Offsite3	1	0.21	100yr	9.10	152.00	152.63	153.17	155.44	0.255076	7.64	1.30	3.57	3.45
Offsite2	1	0.2	100yr	7.40	231.74	232.71	232.71	232.97	0.014621	2.34	3.59	7.50	0.89
Offsite2	1	0.1	100yr	7.40	217.80	217.88	218.15	232.57	20.654840	18.85	0.47	10.11	23.14
Offsite2	1	0.09	100yr	7.40	207.78	208.37	208.72	209.86	0.172384	5.54	1.45	4.92	2.79
Offsite2	1	0.08	100yr	25.40	192.00	192.80	193.51	196.29	0.208057	8.52	3.24	6.54	3.34
Offsite2	1	0.07	100yr	25.40	174.00	174.65	175.43	179.24	0.323211	9.70	2.81	6.28	4.07
Offsite2	1	0.06	100yr	25.40	168.00	169.42	169.95	171.04	0.051843	5.78	4.75	5.48	1.71
Offsite2	1	0.05	100yr	25.40	154.12	155.17	156.21	162.70	0.410497	12.86	2.27	4.20	4.60
Offsite2	1	0.04	100yr	25.40	142.00	143.13	143.78	145.76	0.134310	7.37	3.72	6.55	2.68
Offsite2	1	0.03	100yr	25.40	130.01	131.04	131.76	134.24	0.155586	8.24	3.44	6.09	2.94
Offsite2	1	.025	100yr	25.40	118.00	118.86	119.61	122.94	0.291445	9.04	2.92	6.27	3.83
Offsite2	1	0.02	100yr	25.40	118.00	119.39	119.61	120.16	0.024909	4.11	7.07	9.33	1.25
Offsite2	1	0.01	100yr	25.40	104.01	104.97	106.07	114.14	0.588168	13.68	1.99	3.93	5.34
Offsite2	1	0	100yr	25.40	96.01	97.07	97.75	99.72	0.123293	7.38	3.71	6.07	2.61
Offsite10	1	0.97	100yr	8.29	169.77	170.58	170.58	170.80	0.015591	2.19	4.30	10.35	0.90
Offsite10	1	0.96	100yr	8.29	139.80	140.97	140.97	141.28	0.014800	2.56	3.60	6.17	0.90
Offsite10	1	0.95	100yr	8.29	112.05	113.04	113.04	113.32	0.015051	2.45	3.74	7.12	0.91
Offsite10	1	0.94	100yr	8.29	102.00	102.26	102.86	110.14	1.661874	12.76	0.70	3.47	8.11
Offsite10	1	0.93	100yr	8.29	92.00	92.36	92.58	93.07	0.098247	3.77	2.28	7.97	2.08
Offsite10	1	0.92	100yr	11.57	84.00	84.70	85.12	86.33	0.126026	5.89	2.21	5.72	2.52
Offsite10	1	0.91	100yr	11.57	76.00	76.60	76.90	77.63	0.097386	4.55	2.68	7.51	2.16
Offsite10	1	0.90	100yr	11.57	72.01	72.56	72.71	73.02	0.050397	3.08	4.08	13.62	1.54

APPENDIX D:

HEC-RAS Hydraulic Input and Output Files for Proposed Condition

HEC-RAS Version 4.0 Beta
U.S. Army Corp of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

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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
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PROJECT DATA
Project Title: Urrutiacon Puentes-May2008
Project File : UrrutiaMay08.prj
Run Date and Time: 8/1/2008 2:28:37 PM

Project in SI units

Project Description:
******* Autodesk, Inc. HEC-2 Input Data file ********
********** Minimum Data Input **********

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Inc. HEC-2 Input Data file ********
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Minimum Data Input **********

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PLAN DATA

Plan Title: Site1PR
Plan File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.p12

Geometry Title: Site1PR
Geometry File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.g12

Flow Title : Site 1PR
Flow File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.f12

Plan Summary Information:
Number of: Cross Sections = 3 Multiple Openings = 0
Culverts = 0 Inline Structures = 0
Bridges = 0 Lateral Structures = 0

Computational Information
Water surface calculation tolerance = 0.003
Critical depth calculation tolerance = 0.003
Maximum number of iterations = 20
Maximum difference tolerance = 0.1
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: Mixed Flow

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

River = Site 1 Reach = 1

RS	Profile	Method	Value1	Value2
1.2	Encroachment	4	.15	
1.1	Encroachment	4	.15	
1.05	Encroachment	4	.15	

FLOW DATA

Flow Title: Site 1PR
Flow File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.f12

Flow Data (m3/s)

River	Reach	RS	100yr	Encroachment	2yr
Site 1	1	1.2	2.17	2.17	.67
Site 1	1	1.1	3.22	3.22	1

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Site 1	1	100yr	Critical	Known WS = 49.8
Site 1	1	Encroachment	Critical	Known WS = 49.8

GEOMETRY DATA

Geometry Title: Site1PR
Geometry File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.g12

CROSS SECTION

RIVER: Site 1
REACH: 1 RS: 1.2

INPUT
Description:
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62	19	58	53.95	56.253	59	56	61.65	56.252
80	58	109.4	62						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	53.95	.04	61.65	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
53.95	61.65	80	93	101	.1	.3

CROSS SECTION

RIVER: Site 1
REACH: 1 RS: 1.1

INPUT
Description:
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58	9.8	56	20.5	54	39.76	52.288	43	52
45.31	52.289	59	54	77	55				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	39.76	.04	45.31	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
39.76	45.31	52	52	52	.1	.3

CROSS SECTION

RIVER: Site 1
REACH: 1 RS: 1.05

INPUT
Description:
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58	9.8	56	20.5	54	39.76	52.288	43	52
45.31	52.289	59	54	77	55				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	39.76	.04	45.31	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
39.76	45.31	0	0	0	.1	.3

SUMMARY OF MANNING'S N VALUES

River:Site 1

Reach	River Sta.	n1	n2	n3
1	1.2	.05	.04	.05
1	1.1	.05	.04	.05
1	1.05	.05	.04	.05

SUMMARY OF REACH LENGTHS

River: Site 1

Reach	River Sta.	Left	Channel	Right
1	1.2	80	93	101
1	1.1	52	52	52
1	1.05	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Site 1

Reach	River Sta.	Contr.	Expan.
1	1.2	.1	.3
1	1.1	.1	.3
1	1.05	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	1.2	Encroachment	2.17	56.00	56.33	56.33	56.43	0.028542	1.42	1.53	7.70	1.02
1	1.1	Encroachment	3.22	52.00	52.87	52.47	52.90	0.002048	0.80	4.02	5.55	0.30
1	1.05	Encroachment	3.22	52.00	52.47	52.47	52.63	0.025190	1.79	1.80	5.55	1.00

HEC-RAS Version 4.0 Beta
U.S. Army Corp 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: Urrutiacon Puentes-May2008
Project File : UrrutiaMay08.prj
Run Date and Time: 8/1/2008 2:30:15 PM

PLAN DATA

Plan Title: Site3PR
Plan File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.p07

Geometry Title: Site3PR
Geometry File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.g09

Flow Title : Site3PR
Flow File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.f09

Plan Summary Information:
Number of: Cross Sections = 49 Multiple Openings = 0
Culverts = 0 Inline Structures = 0
Bridges = 5 Lateral Structures = 0

Computational Information
Water surface calculation tolerance = 0.003
Critical depth calculation tolerance = 0.003
Maximum number of iterations = 20
Maximum difference tolerance = 0.1
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: Mixed Flow

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

River = Unn.Creek4 Reach = Site3A

RS	Profile	Method	Value1	Value2
64	Encroachment	4	.15	
63.5	Encroachment	4	.15	
63	Encroachment	4	.15	
62	Encroachment	4	.15	
61	Encroachment	4	.15	
60	Encroachment	4	.15	
59.5	Encroachment	4	.15	

59	Encroachment	4	.15	
58	Encroachment	4	.15	
57	Encroachment	4	.15	
56	Encroachment	4	.15	
55.5	Encroachment	4	.15	
55	Encroachment	4	.15	
54	Encroachment	4	.15	
53	Encroachment	4	.15	
52	Encroachment	4	.15	
51	Encroachment	4	.15	

River = Unn.Creek4 Reach = Site3C

RS	Profile	Method	Value1	Value2
76	Encroachment	4	.15	
75	Encroachment	4	.15	
74	Encroachment	4	.15	
73	Encroachment	4	.15	
72	Encroachment	4	.15	
71	Encroachment	4	.15	
70	Encroachment	4	.15	
69	Encroachment	4	.15	
68	Encroachment	4	.15	
67.5	Encroachment	4	.15	
67	Encroachment	4	.15	
66	Encroachment	4	.15	
65	Encroachment	4	.15	

River = Unn.Creek4 Reach = Site3Ca

RS	Profile	Method	Value1	Value2
56	Encroachment	4	.15	
55.5	Encroachment	4	.15	
55	Encroachment	4	.15	
54	Encroachment	4	.15	
53	Encroachment	4	.15	
52	Encroachment	4	.15	
51	Encroachment	4	.15	

River = Tributary1 Reach = Site3B

RS	Profile	Method	Value1	Value2
84	Encroachment	4	.15	
83	Encroachment	4	.15	
82	Encroachment	4	.15	
81	Encroachment	4	.15	
80	Encroachment	4	.15	
79	Encroachment	4	.15	

River = Site3D Reach = 1

RS	Profile	Method	Value1	Value2
719	Encroachment	4	.15	
718	Encroachment	4	.15	
717	Encroachment	4	.15	
716	Encroachment	4	.15	
715	Encroachment	4	.15	
714	Encroachment	4	.15	
713	Encroachment	4	.15	
712	Encroachment	4	.15	
711	Encroachment	4	.15	
710.5	Encroachment	4	.15	
710	Encroachment	4	.15	
709	Encroachment	4	.15	

FLOW DATA

Flow Title: Site3PR
Flow File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.f09

Flow Data (m3/s)

River	Reach	RS	100yr	Encroachment	2yr
Site3D	1	719	6.1	6.1	1.73
Site3D	1	711	13.2	13.2	3.73
Tributary1	Site3B	87	1.6	1.6	.38
Unn.Creek4	Site3C	78	13.09	13.09	3.38
Unn.Creek4	Site3C	71	17.11	17.11	4.34
Unn.Creek4	Site3A	64	27.35	27.35	6.4
Unn.Creek4	Site3A	60	32.08	32.08	7.7
Unn.Creek4	Site3Ca	56	45.28	45.28	11.43
Unn.Creek4	Site3Ca	51	56.23	56.23	13.53

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Site3D	1	100yr	Critical	
Site3D	1	Encroachment	Critical	
Site3D	1	2yr	Critical	
Tributary1	Site3B	100yr	Critical	
Tributary1	Site3B	Encroachment	Critical	
Tributary1	Site3B	2yr	Critical	
Unn.Creek4	Site3C	100yr	Critical	
Unn.Creek4	Site3C	Encroachment	Critical	
Unn.Creek4	Site3C	2yr	Critical	
Unn.Creek4	Site3Ca	100yr		Known WS = 49.8
Unn.Creek4	Site3Ca	Encroachment		Known WS = 49.8
Unn.Creek4	Site3Ca	2yr		Known WS = 49.8

GEOMETRY DATA

Geometry Title: Site3PR
Geometry File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.g09

Reach Connection Table

River	Reach	Upstream Boundary	Downstream Boundary
Site3D	1		p
Tributary1	Site3B		A
Unn.Creek4	Site3C		A
Unn.Creek4	Site3A	A	p
Unn.Creek4	Site3Ca	p	

JUNCTION INFORMATION

Name: A
Description:
Energy computation Method

Length across Junction		Tributary			
River	Reach	River	Reach	Length	Angle
Unn.Creek4	Site3C	to Unn.Creek4	Site3A		26
Tributary1	Site3B	to Unn.Creek4	Site3A		52

Name: p
Description:
Energy computation Method

Length across Junction		Tributary			
River	Reach	River	Reach	Length	Angle
Unn.Creek4	Site3A	to Unn.Creek4	Site3Ca	57	0
Site3D	1	to Unn.Creek4	Site3Ca	0	0

CROSS SECTION

RIVER: Site3D
REACH: 1 RS: 719

INPUT
Description:
Station Elevation Data num= 11

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	90	17.6	88	23.91	86.36	25.05	86.06	25.3	86
29.5	86	31.7	86	32.14	86.06	32.93	86.16	47.2	88
62.4	89.26								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	25.05	.04	32.14	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
25.05	32.14	31	41	41	.1	.3

CROSS SECTION

RIVER: Site3D
REACH: 1 RS: 718

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	86	11.3	84	25.7	82	32	80	39.27	78.44
41.3	78	44.6	78.46	55.7	80	67.7	82		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	39.27	.04	44.6	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
39.27	44.6	53	54	54	.1	.3

CROSS SECTION

RIVER: Site3D
REACH: 1 RS: 717

INPUT
Description:
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	76	9.8	74	15.9	72	22.2	70.36	23.6	70
25.53	70.39	33.6	72	43.4	74				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	22.2	.04	25.53	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
22.2	25.53	66	63	47	.1	.3

CROSS SECTION

RIVER: Site3D
REACH: 1 RS: 716

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

```
   0    72   10.7    70   19.8    68  32.57  66.49   36.7    66
 39.73  66.49   49.1    68   60.6    70    74    72

Manning's n Values      num=     3
   Sta  n Val   Sta  n Val   Sta  n Val
    0   .04  32.57   .04  39.73   .04

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     32.57  39.73          39    46    64        .1      .3

CROSS SECTION


RIVER: Site3D
REACH: 1            RS: 715

INPUT
Description:
Station Elevation Data   num=    11
   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
    0    70   13.9    68   21.6    66   30.3    64  38.73  62.33
  40.4    62  42.72  62.33   54.5    64   65.3    66   75.8    68
   90    70

Manning's n Values      num=     3
   Sta  n Val   Sta  n Val   Sta  n Val
    0   .04  38.73   .04  42.72   .04

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     38.73  42.72          98    91    88        .1      .3

CROSS SECTION


RIVER: Site3D
REACH: 1            RS: 714

INPUT
Description:
Station Elevation Data   num=    12
   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
    0    64   11.7    62   15.7    60   19.6    58  23.24  56.22
  23.7    56  31.94    56  32.57  56.2  38.19    58   44.1    60
  50.5    62   67.3    64

Manning's n Values      num=     3
   Sta  n Val   Sta  n Val   Sta  n Val
    0   .04  23.24   .04  32.57   .04

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     23.24  32.57          53    51    48        .1      .3

CROSS SECTION


RIVER: Site3D
REACH: 1            RS: 713

INPUT
Description:
Station Elevation Data   num=    11
   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
    0    62    6.4    60   12.3    58   16.8    56  18.36   54.8
  19.4    54   20.8    54  22.04  54.79  23.95    56  27.17    58
  30.4    60

Manning's n Values      num=     3
   Sta  n Val   Sta  n Val   Sta  n Val
    0   .04  18.36   .04  22.04   .04
```

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18.36	22.04	49	47	43	.3	.5

CROSS SECTION

RIVER: Site3D
REACH: 1 RS: 712

INPUT
Description:
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	56	10	54.17	10.9	54	27.7	54	27.97	54.11
32.8	56	37.7	58	42.5	60				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	10	.04	27.97	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
10	27.97	62	58	55	.1	.3

CROSS SECTION

RIVER: Site3D
REACH: 1 RS: 711

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	60	3.3	58	6.9	56	10.3	54	16.2	52.338
17.4	52	30.4	52	31.61	52.336	37.6	54		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	16.2	.04	31.61	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
16.2	31.61	42	42	42	.1	.3

CROSS SECTION

RIVER: Site3D
REACH: 1 RS: 710.5

INPUT
Description:
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58	4.15	56	11.9	52	16	50	21.5	50
26.9	52	32.4	54						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	11.9	.04	26.9	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
11.9	26.9	20	20	20	.3	.5

BRIDGE

RIVER: Site3D
REACH: 1 RS: 710.3

INPUT

Description:
Distance from Upstream XS = .1
Deck/Roadway Width = 10
Weir Coefficient = 1.44
Upstream Deck/Roadway Coordinates
num= 9

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
0	54.7		16	54.7	50	16.6475	54.7	51.86
17.295	54.7	52.37	18.59	54.7	52.69	19.885	54.7	52.37
20.5325	54.7	51.86	21.18	54.7	50	100	54.7	

Upstream Bridge Cross Section Data
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58	4.15	56	11.9	52	16	50	21.5	50
26.9	52	32.4	54						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	11.9	.04	26.9	.04

Bank Sta: Left	Right	Coeff Contr.	Expan.
11.9	26.9	.3	.5

Downstream Deck/Roadway Coordinates
num= 9

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
0	54.7		16	54.7	50	16.6475	54.7	51.86
17.295	54.7	52.37	18.59	54.7	52.69	19.885	54.7	52.37
20.5325	54.7	51.86	21.18	54.7	50	100	54.7	

Downstream Bridge Cross Section Data
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58	4.15	56	11.9	52	16	50	21.5	50
26.9	52	32.4	54						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	11.9	.04	26.9	.04

Bank Sta: Left	Right	Coeff Contr.	Expan.
11.9	26.9	.3	.5

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 = .95
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

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: Site3D
REACH: 1 RS: 710

INPUT
Description:
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58	4.15	56	11.9	52	16	50	21.5	50
26.9	52	32.4	54						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	11.9	.04	26.9	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
11.9	26.9	19	19	19	.3	.5

CROSS SECTION

RIVER: Site3D
REACH: 1 RS: 709

INPUT
Description:
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58	3.7	56	7.6	54	11.4	52	15.2	50
21.1	50	25.8	52	30.8	54				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	11.4	.04	25.8	.04

Bank Sta: Left	Right	Coeff Contr.	Expan.
11.4	25.8	.1	.3

CROSS SECTION

RIVER: Tributary1
REACH: Site3B RS: 87

INPUT
Description:
Station Elevation Data num= 39

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	88	1.27	88	4.22	87.65	6.17	87.37	10.83	86.75
15.49	86	17.3	85.55	22.57	84	23.23	83.87	23.94	83.75
33.73	82	33.74	82	43.3	80.39	45.04	80.1	45.07	80.11
45.2	80.13	45.9	80.06	46.85	80.11	47.11	80.13	48.93	80.39
49.23	80.43	50.1	80.53	50.94	80.67	53.24	81.06	56.47	81.57
57.4	81.73	59.2	82	61.44	82.35	62.67	82.52	65.48	83.03
68.7	83.53	70.16	83.76	71.74	84	76.16	84.68	78.51	85.03
82.47	85.61	83.62	85.77	85.18	86	86.21	86		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	43.3	.04	48.93	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
43.3	48.93	35	44	46	.1	.3

CROSS SECTION

RIVER: Tributary1
REACH: Site3B RS: 86

INPUT
Description:
Station Elevation Data num= 39

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	87.21	6.65	86	7.12	86	7.88	86	9.34	86
10.63	85.74	11.44	85.54	12.48	85.25	15.75	84.32	16.04	84.22
16.75	84	18.79	83.24	22.75	82	23.82	81.69	25.6	81.23
27.9	80.6	30.25	80	30.75	79.82	35.23	78	38.63	76.74
40.61	76.06	40.79	76	43.36	76	43.89	76	44.91	76
45.73	76	46.85	76	47.2	76.06	48.52	76.29	59.26	78
62.14	78.7	67.27	79.72	67.77	79.83	68.05	79.88	68.63	80
71.29	80.61	76.12	82	78.13	82.63	81.93	83.75		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	40.61	.04	47.2	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
40.61	47.2	34	34	30	.1	.3

CROSS SECTION

RIVER: Tributary1
REACH: Site3B RS: 85

INPUT
Description:
Station Elevation Data num= 27

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	84.31	1.09	84	5.34	82.88	8.52	82	14.26	80.09
14.53	80	19.27	78.25	19.96	78	22.57	77.09	25.63	76
26.75	75.59	29.66	74.62	31.03	74.15	31.48	74	34.5	74
35.32	74	40.06	74	40.52	74.13	45.97	75.72	46.93	76
52.54	77.63	53.69	77.97	53.8	78	53.93	78.04	60.65	80
62.86	80.65	67.21	81.98						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	31.03	.04	40.52	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
31.03	40.52	35	41	46	.1	.3

CROSS SECTION

RIVER: Tributary1
REACH: Site3B RS: 84

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	77.98	2.3	77.16	5.64	76	9.32	74.96	13.1	74
15.95	73.02	19.27	72	22.2	70.74	24.01	70	28.03	68.25
28.56	68.03	28.62	68	32.87	68	35.57	68	38.12	68
38.35	68	38.79	68	38.9	68.03	40.89	68.6	45.46	70
45.67	70.09	50.26	72	54.89	73.92	55.09	74	61.23	75.94
61.38	75.97	61.5	76	66.7	76.91				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	28.56	.04	38.9	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
28.56	38.9	40	38	40	.1	.3

CROSS SECTION

RIVER: Tributary1
REACH: Site3B RS: 83

INPUT
Description:
Station Elevation Data num= 26

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	73.99	4.43	72.4	5.53	72	7.47	71.46	11.11	70.24
11.84	70	12.68	69.79	17.64	68.6	20.04	68	24.68	66.59
26.1	66.13	26.5	66	27.74	66	29.35	66	30.95	66
35.54	66	36.66	66	37.03	66.14	41.61	67.9	41.88	68
42.78	68.34	47.1	70	52.23	71.97	52.3	72	52.35	72.02
58.46	73.87								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	26.1	.04	37.03	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
26.1	37.03	36	44	48	.1	.3

CROSS SECTION

RIVER: Tributary1
REACH: Site3B RS: 82

INPUT
Description:
Station Elevation Data num= 27

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	72.01	.03	72	1.76	71.43	5.71	70	8.67	68.94
11.25	68	16.69	66.05	16.83	66	17.02	65.94	22.85	64
24.92	63.35	25.11	63.29	27.55	63.15	31.14	63.35	32.71	64
34.97	65.15	36.73	66	39.89	67.62	40.64	68	44.53	69.83
45.27	70	45.76	70	46.11	70	46.38	70	48.68	70
49.32	70	50.67	70.13						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	24.92	.04	31.14	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
24.92	31.14	40	43	40	.1	.3

CROSS SECTION

RIVER: Tributary1
REACH: Site3B RS: 81

INPUT
Description:
Station Elevation Data num= 35

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	72.2	.84	72	1.92	71.77	2.5	71.64	3.76	71.17
5.4	70.65	6.93	70	9.41	69.08	12.37	68	16.56	66.47
17.84	66	21.31	64.73	23.34	64	25.55	63.19	28.86	62
31.57	61.01	32.93	60.56	34.65	60	35.11	60	35.26	60
37.68	60	38.93	60.17	39.22	60.2	40.93	60.56	47.69	62
48.95	62	51.56	62	51.66	62	51.8	62	55.73	62.88
57.15	63.23	59.89	64	60.66	64.22	62.26	64.62	64.93	65.31

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	32.93	.04	40.93	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
32.93	40.93	27	36	42	.1	.3

CROSS SECTION

RIVER: Tributary1
REACH: Site3B RS: 80

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	71.41	3.81	70.32	4.97	70	9.32	68.62	11.21	68
15.02	66.79	17.9	66	19.49	65.53	23.28	64	24.02	63.64
27.32	62	28.36	61.47	30.74	60.3	31.34	60	32.43	60
32.66	60	34.12	60	34.58	60.3	36.27	61.4	37.24	62
38.04	62.48	40.23	64	41.12	64.59	43.17	66	45.52	66.37
47.71	66.49	50.59	66.8	54.82	67.1				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	30.74	.04	34.58	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
30.74	34.58	56	53	43	.1	.3

CROSS SECTION

RIVER: Tributary1
REACH: Site3B RS: 79

INPUT
Description:
Station Elevation Data num= 38

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	66.15	1.36	66	1.94	65.94	2.1	65.93	5.37	65.6
6.73	65.51	11.53	65.05	20.27	64	22.22	64	22.24	64
22.26	64	22.32	64	26.71	62.4	27.2	62.23	27.91	62
30.9	61	33.79	60.05	33.94	60	38.47	58.54	38.9	58.4
40.12	58	40.41	58	40.45	58	40.75	58	42.24	58.39
47.4	59.74	48.34	60	49.28	60.25	55.95	62	56.13	62
57.47	62.33	61.6	63.08	63.96	63.58	65.68	63.89	65.88	63.91
66.02	63.92	66.92	64	67.03	64.01				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	38.9	.04	42.24	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
38.9	42.24	.1	.3

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3C RS: 78

INPUT
Description:
Station Elevation Data num= 27

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	90	.36	90	.37	90	7.67	88.38	9.48	88
14.95	86.53	16.67	86	19	85.33	23.24	84.08	23.52	84
29.4	84	33.29	84	36.43	84	40.72	84	41.24	84
41.99	84	42.27	84	42.6	84.11	44.29	84.66	48.3	86
48.85	86	49.48	86.25	52.73	88	53.25	88.26	57.27	90
57.54	90.08	60.47	90.8						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

0 .05 23.24 .04 42.6 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
23.24 42.6 26 26 25 .1 .3

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3C RS: 77

INPUT
Description:
Station Elevation Data num= 38

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	88.73	.24	88.67	1.61	88.37	3.05	88	4.52	87.64
5.43	87.39	8.15	86.59	9.52	86.2	10.12	86	13.72	84.87
16.13	84	16.63	84	17.91	84	19.18	84	28.99	82.29
30.18	82.14	31.22	82	33.16	82	34.11	82	37.61	82
37.63	82	37.65	82	37.76	82.05	37.95	82.13	42.41	84
42.93	84.21	43.92	84.55	46.6	85.49	48.08	86	50.02	86.66
53.92	88	54	88.03	54.07	88.05	57.07	88.96	60.3	90
62.72	90.77	66.21	92	67.2	92.25				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	30.18	.04	37.95	.05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
30.18 37.95 40 33 32 .1 .3

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3C RS: 76

INPUT
Description:
Station Elevation Data num= 36

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	94.35	.86	94	2.72	93.24	5.76	92	9.16	90.61
10.65	90	15.49	88.02	15.53	88	15.66	87.94	20.39	86
21.48	85.55	25.24	84	27.2	83.19	30.1	82	33.14	80.77
34.04	80.42	34.38	80.29	35.16	80	36.82	80	37.63	80
37.84	80	38.57	80.29	38.83	80.42	42.04	82	42.44	82.18
43.82	82.69	45.37	83.3	46.79	84	47.36	84	49.32	84.81
51.96	86	53.18	86.43	54.83	87.02	57.43	88	62.15	89.52
63.26	89.87								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	34.04	.04	38.83	.05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
34.04 38.83 45 49 46 .1 .3

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3C RS: 75

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	90.17	.42	90	2.09	89.31	5.26	88	8.75	86.56
10.08	86	10.88	85.67	14.89	84	17.28	83.02	19.79	82
22.16	81.12	24.97	80	27.94	78.98	28.37	78.83	29.89	78.33

30.46 78.36 31.92 78.57 33.07 78.99 35.87 80 37.02 80.51
40.57 82 44.13 83.54 45.19 84 46.93 84.78 49.74 86
53.08 87.43 54.39 88 55.85 88.63 58.65 89.86

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .05 27.94 .04 33.07 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
27.94 33.07 49 49 50 .1 .3

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3C RS: 74

INPUT
Description:
Station Elevation Data num= 36
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 87.49 2.99 86.82 6.26 86 6.92 85.87 12.65 84.75
15.64 84 20.57 82.82 24.1 82 26.76 81.2 30.93 80
36.93 78.52 39.07 78 39.78 77.82 42.19 77.67 47.28 77.36
49.57 77.29 52.14 77.67 52.29 77.69 54.35 78 55.64 78.33
58.74 78.97 60.82 79.47 63.78 80 66.8 80.77 68.27 81.31
70.51 82 70.56 82.01 72.55 82.64 74.5 83.29 75.2 83.56
76.31 84 80.3 85.53 81.49 86 85.01 87.35 86.65 88
87.11 88.17

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .05 42.19 .04 52.14 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
42.19 52.14 56 61 58 .1 .3

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3C RS: 73

INPUT
Description:
Station Elevation Data num= 20
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 81.91 4.21 80.78 7.13 80 12.7 78.51 14.6 78
17.05 77.34 22.04 76 25.86 74.97 29.47 74 31.61 73.39
34.74 73.61 36.84 74 42 74 45.98 74.89 51.07 76
54.79 76.9 58.8 78 64.19 79.57 65.68 80 66.7 80.44

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .05 29.47 .04 36.84 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
29.47 36.84 93 66 47 .1 .3

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3C RS: 72

INPUT
Description:
Station Elevation Data num= 28
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 77.37 .89 77.03 3.56 76 5.93 75.08 8.82 74

10.32	73.44	14.07	72	17.97	70.51	19.31	70	20.17	69.66
23.46	68.42	24.57	68	24.59	68	26.35	68	26.41	68
26.93	68.14	27.91	68.4	31.01	69.24	33.7	70	37.53	71.26
39.61	72	44.19	73.41	45.95	74	47.92	74.57	52.87	76
53.46	76	63.17	77.19	69.61	77.91				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	23.46	.04	27.91	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
23.46	27.91	55	66	65	.1	.3

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3C RS: 71

INPUT
Description:
Station Elevation Data num= 32

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	75.55	5.2	74.06	5.42	74	6.02	73.81	11.9	72
16.21	70.72	18.57	70	20.87	69.33	25.58	68	33.33	67.11
37.37	66.62	42.42	66	43.12	66	45.82	66	46.18	66
47.62	66.39	48.41	66.61	53.47	68	55.23	68.48	57.67	69.15
59.43	69.63	60.85	70	63.13	70.57	69.72	72	70.29	72.14
71.11	72.33	74.14	73.04	78.34	74	79.24	74.2	79.88	74.34
82.72	74.97	82.82	74.99						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	37.37	.04	48.41	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
37.37	48.41	39	53	59	.1	.3

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3C RS: 70

INPUT
Description:
Station Elevation Data num= 34

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	76.19	.92	76	2.78	75.36	7.08	74	8.14	72.84
9.49	72	11.87	70.7	13.13	70	14.7	69.34	16.95	68.1
17.12	68.02	17.16	68	17.56	67.83	20.99	66.44	21.71	66.17
22.17	66	22.38	66	22.57	66	27.35	66	29.6	66
36.5	66	37.8	66	38.08	66	38.86	66.18	46.15	67.82
46.95	68	49.26	68.52	55.83	70	59.78	70.89	64.74	72
64.91	72	72.86	73.01	76.41	73.4	76.63	73.42		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	21.71	.04	38.86	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
21.71	38.86	49	51	48	.1	.3

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3C RS: 69

INPUT

Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	70	.29	70	1.55	70	1.63	70	1.68	70
5.97	68.82	8.93	68	9.18	67.93	11.45	67.28	15.42	66.13
15.83	66	16.44	65.78	20.69	64.23	21.32	64	23.61	64
25.5	64	28.88	64	29.73	64.24	31.29	64.67	35.96	66
42.14	67.72	43.13	68	43.41	68.08	49.29	69.73		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	20.69	.04	29.73	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
20.69	29.73	33	37	48	.1	.3

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3C RS: 68

INPUT
Description:
Station Elevation Data num= 26

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	69.28	6.61	68.58	11.19	68	11.38	68	15.99	66.96
19.55	66	19.8	66	20.1	65.91	22.32	65.35	25.07	64.61
27.48	64	30.63	63.25	33.81	62.52	35.98	62.02	36.02	62.01
36.07	62	39.08	62	40	62	41.82	62.54	46.14	63.61
48.17	64	52.77	65.22	55.71	66	59.23	66.85	65.03	68
65.89	68.12								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	33.81	.04	41.82	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
33.81	41.82	22	25	22	.3	.5

BRIDGE

RIVER: Unn.Creek4
REACH: Site3C RS: 67.5

INPUT
Description:
Distance from Upstream XS = .1
Deck/Roadway Width = 14
Weir Coefficient = 1.44
Upstream Deck/Roadway Coordinates
num= 9

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
0	65.6		36	65.6	62	36.495	65.6	63.39
36.99	65.6	63.8	37.98	65.6	64.06	38.97	65.6	63.8
39.465	65.6	63.39	39.96	65.6	62	100	65.6	

Upstream Bridge Cross Section Data
Station Elevation Data num= 26

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	69.28	6.61	68.58	11.19	68	11.38	68	15.99	66.96
19.55	66	19.8	66	20.1	65.91	22.32	65.35	25.07	64.61
27.48	64	30.63	63.25	33.81	62.52	35.98	62.02	36.02	62.01
36.07	62	39.08	62	40	62	41.82	62.54	46.14	63.61
48.17	64	52.77	65.22	55.71	66	59.23	66.85	65.03	68
65.89	68.12								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

0 .05 33.81 .04 41.82 .05

Bank Sta: Left Right Coeff Contr. Expan.
33.81 41.82 .3 .5

Downstream Deck/Roadway Coordinates
num= 9
Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord
0 65.6 36 65.6 62 36.495 65.6 63.39
36.99 65.6 63.8 37.98 65.6 64.06 38.97 65.6 63.8
39.465 65.6 63.39 39.96 65.6 62 100 65.6

Downstream Bridge Cross Section Data
Station Elevation Data num= 26
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 69.28 6.61 68.58 11.19 68 11.38 68 15.99 66.96
19.55 66 19.8 66 20.1 65.91 22.32 65.35 25.07 64.61
27.48 64 30.63 63.25 33.81 62.52 35.98 62.02 36.02 62.01
36.07 62 39.08 62 40 62 41.82 62.54 46.14 63.61
48.17 64 52.77 65.22 55.71 66 59.23 66.85 65.03 68
65.89 68.12

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .05 33.81 .04 41.82 .05

Bank Sta: Left Right Coeff Contr. Expan.
33.81 41.82 .3 .5

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 = .95
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

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: Unn.Creek4
REACH: Site3C RS: 67

INPUT
Description:
Station Elevation Data num= 26
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 69.28 6.61 68.58 11.19 68 11.38 68 15.99 66.96
19.55 66 19.8 66 20.1 65.91 22.32 65.35 25.07 64.61
27.48 64 30.63 63.25 33.81 62.52 35.98 62.02 36.02 62.01
36.07 62 39.08 62 40 62 41.82 62.54 46.14 63.61
48.17 64 52.77 65.22 55.71 66 59.23 66.85 65.03 68
65.89 68.12

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .05 33.81 .04 41.82 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
33.81 41.82 56 60 52 .3 .5

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3C RS: 66

INPUT
Description:
Station Elevation Data num= 27
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 65.99 6.43 64.69 9.14 64 12.73 62.46 13.84 62
14.77 61.62 18.67 60 19.91 59.69 21.26 59.47 24.51 58.81
26.9 58.45 29.9 58 30.27 58 30.65 58 31.79 58.42
32.01 58.5 34.78 59.39 36.44 60 40.19 61.36 41.97 62
43.63 62.63 46.94 64 47.71 64.33 51.7 66 53.33 66.2
58.1 66.8 65.86 67.79

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .05 26.9 .04 31.79 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
26.9 31.79 42 53 53 .1 .3

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3C RS: 65

INPUT
Description:
Station Elevation Data num= 29
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 62.23 1.29 62 5.64 60.96 9.95 60 18.03 58.62
21.75 58 24.81 57.45 30.08 56.7 33.32 56.24 33.47 56.23
33.81 56.19 36.33 56 37.07 56 38.27 56 39.02 56.23
40.46 56.68 42.19 57.21 44.11 57.79 44.79 58 48.49 59.13
51.21 60 51.79 60.12 52.06 60.14 53.01 60.29 56.87 60.86
62.4 62 62.45 62.02 66.52 64 73.77 65.16

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .05 30.08 .04 40.46 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
30.08 40.46 42 26 16 .1 .3

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3A RS: 64

INPUT
Description:
Station Elevation Data num= 36
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 61.98 3.2 61.93 4.66 61.85 4.97 61.85 5.2 61.85
7.98 61.67 8.66 61.66 11.62 61.5 12.8 61.43 14.44 61.3
18.73 60.77 23.69 60 27.77 58.76 30.32 58 35.98 56.33
36.28 56.24 37.08 56 37.63 56 39.78 56 42.12 56
42.92 56 48.52 56 49.42 56.25 51.32 56.77 54.02 57.48

```
 55.96    58  62.57  59.78    63  59.88  63.48    60  67.68  61.02
 69.14  61.35   71.9    62   73.9    62  76.01  62.21  76.36   62.3
 76.72   62.3

Manning's n Values      num=     3
   Sta  n Val    Sta  n Val    Sta  n Val
    0   .05  35.98   .04  49.42   .05

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     35.98  49.42          22    19    22          .3     .5

BRIDGE


RIVER: Unn.Creek4
REACH: Site3A          RS: 63.5

INPUT
Description:
Distance from Upstream XS =     .1
Deck/Roadway Width      =  13.4
Weir Coefficient        =  1.44
Upstream  Deck/Roadway Coordinates
  num=    16
   Sta Hi Cord Lo Cord    Sta Hi Cord Lo Cord    Sta Hi Cord Lo Cord
    0    60          37    60    56  37.69    60  57.79
  38.37    60  58.35  39.74    60  58.72  41.11    60  58.35
   41.8    60  57.79  42.48    60    56  43.49    60    56
  44.18    60  57.79  44.86    60  58.35  46.24    60  58.72
  47.61    60  58.35  48.29    60  57.79  48.98    60    56
   100    60

Upstream Bridge Cross Section Data
Station Elevation Data   num=    36
   Sta   Elev    Sta   Elev    Sta   Elev    Sta   Elev    Sta   Elev
    0  61.98    3.2  61.93   4.66  61.85   4.97  61.85    5.2  61.85
  7.98  61.67   8.66  61.66  11.62   61.5   12.8  61.43  14.44   61.3
 18.73  60.77  23.69    60  27.77  58.76  30.32    58  35.98  56.33
 36.28  56.24  37.08    56  37.63    56  39.78    56  42.12    56
 42.92    56  48.52    56  49.42  56.25  51.32  56.77  54.02  57.48
 55.96    58  62.57  59.78    63  59.88  63.48    60  67.68  61.02
 69.14  61.35   71.9    62   73.9    62  76.01  62.21  76.36   62.3
 76.72   62.3

Manning's n Values      num=     3
   Sta  n Val    Sta  n Val    Sta  n Val
    0   .05  35.98   .04  49.42   .05

Bank Sta: Left  Right   Coeff Contr.  Expan.
     35.98  49.42          .3     .5

Downstream  Deck/Roadway Coordinates
  num=    16
   Sta Hi Cord Lo Cord    Sta Hi Cord Lo Cord    Sta Hi Cord Lo Cord
    0    60          37    60    56  37.69    60  57.79
  38.37    60  58.35  39.74    60  58.72  41.11    60  58.35
   41.8    60  57.79  42.48    60    56  43.49    60    56
  44.18    60  57.79  44.86    60  58.35  46.24    60  58.72
  47.61    60  58.35  48.29    60  57.79  48.98    60    56
   100    60

Downstream Bridge Cross Section Data
Station Elevation Data   num=    36
   Sta   Elev    Sta   Elev    Sta   Elev    Sta   Elev    Sta   Elev
    0  61.98    3.2  61.93   4.66  61.85   4.97  61.85    5.2  61.85
  7.98  61.67   8.66  61.66  11.62   61.5   12.8  61.43  14.44   61.3
 18.73  60.77  23.69    60  27.77  58.76  30.32    58  35.98  56.33
 36.28  56.24  37.08    56  37.63    56  39.78    56  42.12    56
 42.92    56  48.52    56  49.42  56.25  51.32  56.77  54.02  57.48
 55.96    58  62.57  59.78    63  59.88  63.48    60  67.68  61.02
```

69.14 61.35 71.9 62 73.9 62 76.01 62.21 76.36 62.3
76.72 62.3

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .05 35.98 .04 49.42 .05

Bank Sta: Left Right Coeff Contr. Expan.
35.98 49.42 .3 .5

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 = .95
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

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: Unn.Creek4
REACH: Site3A RS: 63

INPUT
Description:
Station Elevation Data num= 36
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 61.98 3.2 61.93 4.66 61.85 4.97 61.85 5.2 61.85
7.98 61.67 8.66 61.66 11.62 61.5 12.8 61.43 14.44 61.3
18.73 60.77 23.69 60 27.77 58.76 30.32 58 35.98 56.33
36.28 56.24 37.08 56 37.63 56 39.78 56 42.12 56
42.92 56 48.52 56 49.42 56.25 51.32 56.77 54.02 57.48
55.96 58 62.57 59.78 63 59.88 63.48 60 67.68 61.02
69.14 61.35 71.9 62 73.9 62 76.01 62.21 76.36 62.3
76.72 62.3

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .05 35.98 .04 49.42 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
35.98 49.42 56 79 58 .3 .5

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3A RS: 62

INPUT
Description:
Station Elevation Data num= 33
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev

```
   0  61.73    .05  61.72    6.5    60   9.85  59.11  13.94    58
 18.85  56.54  20.58    56     22  55.69  29.21    54   35.2  52.71
  35.7   52.6  36.53  52.42  38.48    52  39.75    52  39.93    52
 42.69  52.61  42.96  52.67  45.86  53.28  49.35    54  51.26  54.41
 52.05  54.56  59.26    56  65.57  57.38  68.15  57.94  68.35    58
 68.75    58  69.38    58  72.58  58.64  73.37  58.74  77.76  59.26
  79.1  59.39  80.18  59.5   82.7  59.63

Manning's n Values      num=     3
   Sta  n Val    Sta  n Val    Sta  n Val
    0   .05   35.2   .04  42.96   .05

Bank Sta: Left  Right   Lengths: Left Channel  Right   Coeff Contr.  Expan.
      35.2  42.96          51     59     55        .1     .3

CROSS SECTION


RIVER: Unn.Creek4
REACH: Site3A          RS: 61

INPUT
Description:
Station Elevation Data   num=    27
   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
    0     56   4.94  54.34  5.87    54   8.81   53.5  15.14  52.45
  16.3  52.24  17.62    52  29.48  50.58   34.4    50     35    50
 35.08    50  35.81    50  37.11  50.24  40.76  51.01  43.84  51.65
 45.31    52  46.02  52.24  51.19    54  51.92  54.26  55.14  55.42
 56.93    56  65.62  57.87  66.09  57.97  66.28    58  67.16    58
 67.77    58  68.39    58

Manning's n Values      num=     3
   Sta  n Val    Sta  n Val    Sta  n Val
    0   .05   16.3   .04  46.02   .05

Bank Sta: Left  Right   Lengths: Left Channel  Right   Coeff Contr.  Expan.
      16.3  46.02          69     63     44        .1     .3

CROSS SECTION


RIVER: Unn.Creek4
REACH: Site3A          RS: 60

INPUT
Description:
Station Elevation Data   num=    47
   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
    0  58.19    .4    58   2.12  57.25   2.49  57.03   4.24   56.2
  4.67    56   5.8    56    8.2    56  10.16  55.44  11.81  55.16
 12.72  55.04  14.11  54.71  16.46    54  18.71  53.11  20.94   52.2
 21.49    52  24.74  51.02  27.71  50.15  28.28    50  32.06    50
 33.76    50   37.7  50.08  40.09  50.52  41.09  50.68  43.27  50.97
 45.39  51.31  46.54  51.45  47.97  51.55  48.57  51.61   51.9  51.81
 51.97  51.81  52.94    52  53.59  52.06  53.63  52.06  55.26  52.23
 57.69  52.49  60.73  52.69  64.96  53.07  66.25  53.29  67.03  53.37
 70.59    54  70.78  54.05  70.98   54.1  78.19    56  78.82  56.17
 85.66    58  86.12  58.04

Manning's n Values      num=     3
   Sta  n Val    Sta  n Val    Sta  n Val
    0   .05   20.94   .04  55.26   .05

Bank Sta: Left  Right   Lengths: Left Channel  Right   Coeff Contr.  Expan.
      20.94  55.26          33     26     25        .3     .5

BRIDGE
```

RIVER: Unn.Creek4
REACH: Site3A RS: 59.5

INPUT
Description:
Distance from Upstream XS = .1
Deck/Roadway Width = 13
Weir Coefficient = 1.44
Upstream Deck/Roadway Coordinates
num= 16

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
0	54	28.2	54	50 28.77	54 51.59
29.34	54 52.05	30.483	54 52.36	31.626	54 52.05
32.196	54 51.59	32.766	54 50	33.77	54 50
34.34	54 51.59	34.91	54 52.05	36.05	54 52.36
37.196	54 52.05	37.77	54 51.59	38.34	54 50
100	54				

Upstream Bridge Cross Section Data
Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58.19	.4	58	2.12	57.25	2.49	57.03	4.24	56.2
4.67	56	5.8	56	8.2	56	10.16	55.44	11.81	55.16
12.72	55.04	14.11	54.71	16.46	54	18.71	53.11	20.94	52.2
21.49	52	24.74	51.02	27.71	50.15	28.28	50	32.06	50
33.76	50	37.7	50.08	40.09	50.52	41.09	50.68	43.27	50.97
45.39	51.31	46.54	51.45	47.97	51.55	48.57	51.61	51.9	51.81
51.97	51.81	52.94	52	53.59	52.06	53.63	52.06	55.26	52.23
57.69	52.49	60.73	52.69	64.96	53.07	66.25	53.29	67.03	53.37
70.59	54	70.78	54.05	70.98	54.1	78.19	56	78.82	56.17
85.66	58	86.12	58.04						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	20.94	.04	55.26	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
20.94	55.26	.3	.5

Downstream Deck/Roadway Coordinates
num= 16

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
0	54	28.2	54	50 28.77	54 51.59
29.34	54 52.05	30.483	54 52.36	31.626	54 52.05
32.196	54 51.59	32.766	54 50	33.77	54 50
34.34	54 51.59	34.91	54 52.05	36.05	54 52.36
37.196	54 52.05	37.77	54 51.59	38.34	54 50
100	54				

Downstream Bridge Cross Section Data
Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58.19	.4	58	2.12	57.25	2.49	57.03	4.24	56.2
4.67	56	5.8	56	8.2	56	10.16	55.44	11.81	55.16
12.72	55.04	14.11	54.71	16.46	54	18.71	53.11	20.94	52.2
21.49	52	24.74	51.02	27.71	50.15	28.28	50	32.06	50
33.76	50	37.7	50.1	40.09	50.52	41.09	50.68	43.27	50.97
45.39	51.31	46.54	51.45	47.97	51.55	48.57	51.61	51.9	51.81
51.97	51.81	52.94	52	53.59	52.06	53.63	52.06	55.26	52.23
57.69	52.49	60.73	52.69	64.96	53.07	66.25	53.29	67.03	53.37
70.59	54	70.78	54.05	70.98	54.1	78.19	56	78.82	56.17
85.66	58	86.12	58.04						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	20.94	.04	55.26	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
20.94	55.26	.3	.5

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 = .95
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

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: Unn.Creek4
REACH: Site3A RS: 59

INPUT
Description:
Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58.19	.4	58	2.12	57.25	2.49	57.03	4.24	56.2
4.67	56	5.8	56	8.2	56	10.16	55.44	11.81	55.16
12.72	55.04	14.11	54.71	16.46	54	18.71	53.11	20.94	52.2
21.49	52	24.74	51.02	27.71	50.15	28.28	50	32.06	50
33.76	50	37.7	50.1	40.09	50.52	41.09	50.68	43.27	50.97
45.39	51.31	46.54	51.45	47.97	51.55	48.57	51.61	51.9	51.81
51.97	51.81	52.94	52	53.59	52.06	53.63	52.06	55.26	52.23
57.69	52.49	60.73	52.69	64.96	53.07	66.25	53.29	67.03	53.37
70.59	54	70.78	54.05	70.98	54.1	78.19	56	78.82	56.17
85.66	58	86.12	58.04						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	20.94	.04	55.26	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
20.94	55.26	22	27	34	.3	.5

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3A RS: 58

INPUT
Description:
Station Elevation Data num= 26

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58.3	1.59	58.17	3.54	58	3.68	58	8.8	56.17
9.28	56	9.47	55.93	10.36	55.62	14.82	54	16.74	53.3
19.63	52.25	20.31	52	21.66	51.51	25.84	50	27.2	50
33.92	50	35.82	50.58	40.29	52	41	52.22	42.87	52.8
46.63	54	50.34	55.18	52.94	56	54.75	56.55	60.27	58
68.15	58.71								

Manning's n Values num= 3

```
  Sta   n Val    Sta   n Val    Sta   n Val
   0    .05   19.63    .04     41    .05

Bank Sta: Left   Right   Lengths: Left Channel   Right    Coeff Contr.   Expan.
     19.63     41            43     48     40          .1      .3

CROSS SECTION


RIVER: Unn.Creek4
REACH: Site3A          RS: 57

INPUT
Description:
Station Elevation Data    num=     23
   Sta    Elev    Sta    Elev    Sta    Elev    Sta    Elev    Sta    Elev
    0   57.82    3.06   56.87    5.64     56    9.72   54.64   11.61     54
  14.77   52.97   17.36   52.21   18.06     52   20.37   51.38   25.16     50
  31.59     50    32.2     50    37.6     50   40.48   50.75   45.23     52
  46.08   52.22   51.81   53.73   52.84     54   54.37    54.4   60.46     56
  63.96   56.78   69.52     58   86.25   58.87

Manning's n Values       num=     3
   Sta   n Val    Sta   n Val    Sta   n Val
    0    .05   17.36    .04   46.08    .05

Bank Sta: Left   Right   Lengths: Left Channel   Right    Coeff Contr.   Expan.
     17.36   46.08           63     57     55          .1      .3

CROSS SECTION


RIVER: Unn.Creek4
REACH: Site3Ca          RS: 56

INPUT
Description:
Station Elevation Data    num=     16
   Sta    Elev    Sta    Elev    Sta    Elev    Sta    Elev    Sta    Elev
  29.58     56   38.25     52   42.87   50.45   44.32     50     47     50
   50.6     50   53.34     50    55.7     50   58.14    50.8   62.41     52
  62.91   52.14   64.93   52.69   68.89   53.76   69.82     54   73.45   54.96
  77.21   55.93

Manning's n Values       num=     3
   Sta   n Val    Sta   n Val    Sta   n Val
  29.58    .05   38.25    .04   62.91    .05

Bank Sta: Left   Right   Lengths: Left Channel   Right    Coeff Contr.   Expan.
     38.25   62.91           43     46     44          .3      .5

BRIDGE


RIVER: Unn.Creek4
REACH: Site3Ca          RS: 55.5

INPUT
Description:
Distance from Upstream XS =      .1
Deck/Roadway Width       =    26.4
Weir Coefficient         =    1.44
Upstream  Deck/Roadway Coordinates
  num=     16
   Sta Hi Cord Lo Cord    Sta Hi Cord Lo Cord    Sta Hi Cord Lo Cord
    0    54.2          44.3    54.2     50  44.948    54.2   51.81
  45.6    54.2   52.34  46.891    54.2   52.69  48.186    54.2   52.34
  48.83   54.2   51.81   49.48    54.2     50   50.48    54.2     50
  51.13   54.2   51.81   51.78    54.2   52.34   53.07    54.2   52.69
 54.366   54.2   52.34  55.014    54.2   51.81   55.66    54.2     50
```

100 54.2

Upstream Bridge Cross Section Data
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
29.58	56	38.25	52	42.87	50.45	44.32	50	47	50
50.6	50	53.34	50	55.7	50	58.14	50.8	62.41	52
62.91	52.14	64.93	52.69	68.89	53.76	69.82	54	73.45	54.96
77.21	55.93								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
29.58	.05	38.25	.04	62.91	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
38.25	62.91	.3	.5

Downstream Deck/Roadway Coordinates
num= 16

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
0	54.2		44.3	54.2	50	44.948	54.2	51.81
45.6	54.2	52.34	46.891	54.2	52.69	48.186	54.2	52.34
48.83	54.2	51.81	49.48	54.2	50	50.48	54.2	50
51.13	54.2	51.81	51.78	54.2	52.34	53.07	54.2	52.69
54.366	54.2	52.34	55.014	54.2	51.81	55.66	54.2	50
100	54.2							

Downstream Bridge Cross Section Data
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
29.58	56	38.25	52	42.87	50.45	44.32	50	47	50
50.6	50	53.34	50	55.7	50	58.14	50.8	62.41	52
62.91	52.14	64.93	52.69	68.89	53.76	69.82	54	73.45	54.96
77.21	55.93								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
29.58	.05	38.25	.04	62.91	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
38.25	62.91	.3	.5

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 = .95
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

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: Unn.Creek4

REACH: Site3Ca RS: 55

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
29.58	56	38.25	52	42.87	50.45	44.32	50	47	50
50.6	50	53.34	50	55.7	50	58.14	50.8	62.41	52
62.91	52.14	64.93	52.69	68.89	53.76	69.82	54	73.45	54.96
77.21	55.93								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
29.58	.05	38.25	.04	62.91	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
38.25	62.91	42	40	38	.3	.5

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3Ca RS: 54

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	59.58	3.23	58.68	6.59	58	9.31	57.24	15.3	56
17.37	55.57	22.17	54.62	24.14	54	28.81	52.57	29.95	52.16
30.41	52	65.26	52	71.96	52	72.71	52.1	85.93	53.85
86.14	53.87	86.84	54	98.33	55.55	99.41	55.66	100.66	55.77
101.56	55.8	102.48	55.79	102.59	55.79	103.47	55.87		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	29.95	.04	72.71	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
29.95	72.71	41	40	36	.1	.3

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3Ca RS: 53

INPUT
Description:
Station Elevation Data num= 22

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58.37	1.64	58	5.51	56.97	8.47	56	14.03	54.22
14.78	54	15.48	53.73	20.23	52	39.54	52	41.57	50.09
47	50	62.04	50	72.62	50	74.08	50	81.16	50.5
88.91	52	94.94	52	95.74	52	103.41	52	103.9	52
108.72	52	117.94	52						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	41.57	.04	81.16	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
41.57	81.16	49	59	74	.1	.3

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3Ca RS: 52

INPUT
Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	59.73	9.46	58	16.69	56	22.99	54.5	25.04	54
25.99	53.8	31.63	51.9	51.14	50.45	57.21	50	81.86	49.75
82.51	50.41	84.09	52	91.73	53.39	94.6	54	101.28	55.66
103.38	56	110.77	56.98	118.75	58	119.31	58.12		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	51.14	.04	82.51	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
51.14	82.51	47	62	62	.1	.3

CROSS SECTION

RIVER: Unn.Creek4
REACH: Site3Ca RS: 51

INPUT
Description:
Station Elevation Data num= 20

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	59.67	3.47	59.47	15.08	58.52	20.03	58	27.48	56.5
28.82	56	37.55	54.5	39.81	54	43.34	53.2	47.07	52
62.07	50.19	63.68	50	87.98	50	89	50.19	98.9	52
109.42	53.48	113.19	54	122.47	55.7	123.6	56	124.36	56.16

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	62.07	.04	89	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
62.07	89	0	0	0	.1	.3

SUMMARY OF MANNING'S N VALUES

River:Site3D

Reach	River Sta.	n1	n2	n3
1	719	.04	.04	.04
1	718	.04	.04	.04
1	717	.04	.04	.04
1	716	.04	.04	.04
1	715	.04	.04	.04
1	714	.04	.04	.04
1	713	.04	.04	.04
1	712	.04	.04	.04
1	711	.04	.04	.04
1	710.5	.04	.04	.04
1	710.3	Bridge		
1	710	.04	.04	.04
1	709	.04	.04	.04

River:Tributary1

Reach	River Sta.	n1	n2	n3
Site3B	87	.05	.04	.05
Site3B	86	.05	.04	.05
Site3B	85	.05	.04	.05
Site3B	84	.05	.04	.05
Site3B	83	.05	.04	.05

Site3B	82	.05	.04	.05
Site3B	81	.05	.04	.05
Site3B	80	.05	.04	.05
Site3B	79	.05	.04	.05

River:Unn.Creek4

Reach	River Sta.	n1	n2	n3
Site3C	78	.05	.04	.05
Site3C	77	.05	.04	.05
Site3C	76	.05	.04	.05
Site3C	75	.05	.04	.05
Site3C	74	.05	.04	.05
Site3C	73	.05	.04	.05
Site3C	72	.05	.04	.05
Site3C	71	.05	.04	.05
Site3C	70	.05	.04	.05
Site3C	69	.05	.04	.05
Site3C	68	.05	.04	.05
Site3C	67.5	Bridge		
Site3C	67	.05	.04	.05
Site3C	66	.05	.04	.05
Site3C	65	.05	.04	.05
Site3A	64	.05	.04	.05
Site3A	63.5	Bridge		
Site3A	63	.05	.04	.05
Site3A	62	.05	.04	.05
Site3A	61	.05	.04	.05
Site3A	60	.05	.04	.05
Site3A	59.5	Bridge		
Site3A	59	.05	.04	.05
Site3A	58	.05	.04	.05
Site3A	57	.05	.04	.05
Site3Ca	56	.05	.04	.05
Site3Ca	55.5	Bridge		
Site3Ca	55	.05	.04	.05
Site3Ca	54	.05	.04	.05
Site3Ca	53	.05	.04	.05
Site3Ca	52	.05	.04	.05
Site3Ca	51	.05	.04	.05

SUMMARY OF REACH LENGTHS

River: Site3D

Reach	River Sta.	Left	Channel	Right
1	719	31	41	41
1	718	53	54	54
1	717	66	63	47
1	716	39	46	64
1	715	98	91	88
1	714	53	51	48
1	713	49	47	43
1	712	62	58	55
1	711	42	42	42
1	710.5	20	20	20
1	710.3	Bridge		
1	710	19	19	19
1	709			

River: Tributary1

Reach	River Sta.	Left	Channel	Right

Site3B	87	35	44	46
Site3B	86	34	34	30
Site3B	85	35	41	46
Site3B	84	40	38	40
Site3B	83	36	44	48
Site3B	82	40	43	40
Site3B	81	27	36	42
Site3B	80	56	53	43
Site3B	79			

River: Unn.Creek4

Reach	River Sta.	Left	Channel	Right
Site3C	78	26	26	25
Site3C	77	40	33	32
Site3C	76	45	49	46
Site3C	75	49	49	50
Site3C	74	56	61	58
Site3C	73	93	66	47
Site3C	72	55	66	65
Site3C	71	39	53	59
Site3C	70	49	51	48
Site3C	69	33	37	48
Site3C	68	22	25	22
Site3C	67.5	Bridge		
Site3C	67	56	60	52
Site3C	66	42	53	53
Site3C	65	42	26	16
Site3A	64	22	19	22
Site3A	63.5	Bridge		
Site3A	63	56	79	58
Site3A	62	51	59	55
Site3A	61	69	63	44
Site3A	60	33	26	25
Site3A	59.5	Bridge		
Site3A	59	22	27	34
Site3A	58	43	48	40
Site3A	57	63	57	55
Site3Ca	56	43	46	44
Site3Ca	55.5	Bridge		
Site3Ca	55	42	40	38
Site3Ca	54	41	40	36
Site3Ca	53	49	59	74
Site3Ca	52	47	62	62
Site3Ca	51	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Site3D

Reach	River Sta.	Contr.	Expan.
1	719	.1	.3
1	718	.1	.3
1	717	.1	.3
1	716	.1	.3
1	715	.1	.3
1	714	.1	.3
1	713	.3	.5
1	712	.1	.3
1	711	.1	.3
1	710.5	.3	.5
1	710.3	Bridge	
1	710	.3	.5

1	709	.1	.3

River: Tributary1

Reach	River Sta.	Contr.	Expan.
Site3B	87	.1	.3
Site3B	86	.1	.3
Site3B	85	.1	.3
Site3B	84	.1	.3
Site3B	83	.1	.3
Site3B	82	.1	.3
Site3B	81	.1	.3
Site3B	80	.1	.3
Site3B	79	.1	.3

River: Unn.Creek4

Reach	River Sta.	Contr.	Expan.
Site3C	78	.1	.3
Site3C	77	.1	.3
Site3C	76	.1	.3
Site3C	75	.1	.3
Site3C	74	.1	.3
Site3C	73	.1	.3
Site3C	72	.1	.3
Site3C	71	.1	.3
Site3C	70	.1	.3
Site3C	69	.1	.3
Site3C	68	.3	.5
Site3C	67.5	Bridge	
Site3C	67	.3	.5
Site3C	66	.1	.3
Site3C	65	.1	.3
Site3A	64	.3	.5
Site3A	63.5	Bridge	
Site3A	63	.3	.5
Site3A	62	.1	.3
Site3A	61	.1	.3
Site3A	60	.3	.5
Site3A	59.5	Bridge	
Site3A	59	.3	.5
Site3A	58	.1	.3
Site3A	57	.1	.3
Site3Ca	56	.3	.5
Site3Ca	55.5	Bridge	
Site3Ca	55	.3	.5
Site3Ca	54	.1	.3
Site3Ca	53	.1	.3
Site3Ca	52	.1	.3
Site3Ca	51	.1	.3

Profile Output Table - Standard Table 1

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Unn.Creek4	Site3C	78	Encroachment	13.09	84.00	84.36	84.36	84.53	0.021811	1.86	7.17	21.08	0.99
Unn.Creek4	Site3C	77	Encroachment	13.09	82.00	82.38	82.65	83.34	0.119885	4.42	3.14	10.06	2.33
Unn.Creek4	Site3C	76	Encroachment	13.09	80.00	80.92	81.00	81.47	0.029521	3.29	3.98	4.79	1.15
Unn.Creek4	Site3C	75	Encroachment	13.09	78.33	79.35	79.47	79.93	0.033396	3.39	3.86	5.13	1.25

Unn.Creek4	Site3C	74	Encroachment	13.09	77.29	77.96	78.02	78.31	0.029943	2.62	4.99	9.95	1.18
Unn.Creek4	Site3C	73	Encroachment	13.09	73.39	74.04	74.32	75.06	0.113619	4.47	2.93	7.37	2.26
Unn.Creek4	Site3C	72	Encroachment	13.09	68.00	68.82	69.08	69.73	0.059764	4.22	3.10	4.45	1.62
Unn.Creek4	Site3C	71	Encroachment	17.11	66.00	67.11	66.82	67.26	0.006043	1.71	10.01	11.04	0.57
Unn.Creek4	Site3C	70	Encroachment	17.11	66.00	66.47	66.47	66.71	0.021364	2.14	7.99	17.15	1.00
Unn.Creek4	Site3C	69	Encroachment	17.11	64.00	64.57	64.73	65.18	0.047326	3.46	4.95	9.04	1.49
Unn.Creek4	Site3C	68	Encroachment	17.11	62.00	64.17	62.92	64.23	0.001097	1.05	16.30	8.01	0.23
Unn.Creek4	Site3C	67.5	Bridge										
Unn.Creek4	Site3C	67	Encroachment	17.11	62.00	62.67	62.91	63.47	0.061584	3.97	4.31	8.01	1.73
Unn.Creek4	Site3C	66	Encroachment	17.11	58.00	58.98	59.26	59.97	0.056338	4.40	3.89	4.89	1.57
Unn.Creek4	Site3C	65	Encroachment	17.11	56.00	57.44	56.90	57.54	0.002974	1.39	12.34	10.38	0.41
Unn.Creek4	Site3A	64	Encroachment	27.35	56.00	57.33	56.77	57.45	0.003306	1.56	17.57	13.44	0.43
Unn.Creek4	Site3A	63.5	Bridge										
Unn.Creek4	Site3A	63	Encroachment	27.35	56.00	56.67	56.77	57.17	0.030764	3.15	8.69	13.44	1.25
Unn.Creek4	Site3A	62	Encroachment	27.35	52.00	53.07	53.36	54.09	0.051435	4.49	6.10	7.76	1.62
Unn.Creek4	Site3A	61	Encroachment	27.35	50.00	53.65	51.17	53.66	0.000062	0.35	78.23	29.72	0.07
Unn.Creek4	Site3A	60	Encroachment	32.08	50.00	53.65	50.94	53.65	0.000054	0.34	94.37	34.32	0.07
Unn.Creek4	Site3A	59.5	Bridge										
Unn.Creek4	Site3A	59	Encroachment	32.08	50.00	53.33		53.34	0.000080	0.38	83.58	34.32	0.08
Unn.Creek4	Site3A	58	Encroachment	32.08	50.00	53.32		53.34	0.000171	0.57	56.14	21.37	0.11
Unn.Creek4	Site3A	57	Encroachment	32.08	50.00	53.32		53.33	0.000084	0.42	77.24	28.72	0.08
Unn.Creek4	Site3Ca	56	Encroachment	45.28	50.00	53.30	51.06	53.32	0.000222	0.67	67.29	24.66	0.13
Unn.Creek4	Site3Ca	55.5	Bridge										
Unn.Creek4	Site3Ca	55	Encroachment	45.28	50.00	52.81		52.84	0.000408	0.82	55.29	24.66	0.17
Unn.Creek4	Site3Ca	54	Encroachment	45.28	52.00	52.49	52.49	52.73	0.020701	2.19	20.67	42.76	1.01
Unn.Creek4	Site3Ca	53	Encroachment	45.28	50.00	51.42	50.56	51.46	0.000784	0.83	54.36	39.59	0.23
Unn.Creek4	Site3Ca	52	Encroachment	45.28	49.75	51.35		51.40	0.001186	1.03	43.91	31.37	0.28
Unn.Creek4	Site3Ca	51	Encroachment	56.23	50.00	50.77	50.77	51.15	0.018367	2.74	20.49	26.93	1.00
Tributary1	Site3B	87	Encroachment	1.60	80.06	80.40	80.40	80.50	0.027700	1.42	1.13	5.70	1.01
Tributary1	Site3B	86	Encroachment	1.60	76.00	76.06	76.18	76.85	1.002594	3.92	0.41	6.63	5.02
Tributary1	Site3B	85	Encroachment	1.60	74.00	74.15	74.15	74.22	0.030560	1.19	1.35	9.55	1.00
Tributary1	Site3B	84	Encroachment	1.60	68.00	68.03	68.13	69.68	6.348524	5.70	0.28	10.32	11.02
Tributary1	Site3B	83	Encroachment	1.60	66.00	66.13	66.13	66.20	0.031552	1.13	1.41	10.91	1.01
Tributary1	Site3B	82	Encroachment	1.60	63.15	63.36	63.43	63.61	0.142970	2.23	0.72	6.22	2.10
Tributary1	Site3B	81	Encroachment	1.60	60.00	60.56	60.26	60.58	0.001377	0.50	3.21	8.00	0.25
Tributary1	Site3B	80	Encroachment	1.60	60.00	60.30	60.30	60.43	0.026393	1.61	1.00	3.84	1.01
Tributary1	Site3B	79	Encroachment	1.60	58.00	58.40	58.44	58.61	0.046476	2.02	0.79	3.33	1.32

Site3D	1	719	Encroachment	6.10	86.00	86.42	86.42	86.64	0.024185	2.04	2.98	7.09	1.01
Site3D	1	718	Encroachment	6.10	78.00	78.33	78.73	83.03	1.675407	9.60	0.64	3.87	7.57
Site3D	1	717	Encroachment	6.10	70.00	70.69	70.88	71.37	0.070219	3.67	1.66	3.33	1.66
Site3D	1	716	Encroachment	6.10	66.00	66.54	66.66	66.96	0.067380	2.85	2.14	7.16	1.67
Site3D	1	715	Encroachment	6.10	62.00	62.57	62.78	63.31	0.093038	3.82	1.60	3.99	1.92
Site3D	1	714	Encroachment	6.10	56.00	56.28	56.36	56.59	0.057972	2.45	2.49	9.33	1.52
Site3D	1	713	Encroachment	6.10	54.00	55.03	54.90	55.26	0.013352	2.10	2.90	3.68	0.76
Site3D	1	712	Encroachment	6.10	54.00	54.23	54.23	54.35	0.026366	1.50	4.07	17.97	1.00
Site3D	1	711	Encroachment	13.20	52.00	53.41	52.45	53.43	0.000478	0.62	21.30	15.41	0.17
Site3D	1	710.5	Encroachment	13.20	50.00	53.41	50.75	53.42	0.000055	0.32	41.70	15.00	0.06
Site3D	1	710.3	Bridge										
Site3D	1	710	Encroachment	13.20	50.00	53.32		53.32	0.000061	0.33	40.24	15.00	0.06
Site3D	1	709	Encroachment	13.20	50.00	53.31		53.32	0.000064	0.34	39.23	14.40	0.07

HEC-RAS Version 4.0 Beta
U.S. Army Corp of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

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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
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PROJECT DATA
Project Title: Urrutiacon Puentes-May2008
Project File : UrrutiaMay08.prj
Run Date and Time: 8/1/2008 2:31:43 PM

Project in SI units

PLAN DATA

Plan Title: Site6PR
Plan File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.p08

Geometry Title: Site6PR
Geometry File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.g10

Flow Title : Site6PR
Flow File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.f10

Plan Summary Information:
Number of: Cross Sections = 16 Multiple Openings = 0
Culverts = 0 Inline Structures = 0
Bridges = 1 Lateral Structures = 0

Computational Information
Water surface calculation tolerance = 0.003
Critical depth calculation tolerance = 0.003
Maximum number of iterations = 20
Maximum difference tolerance = 0.1
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: Mixed Flow

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

River = RIVER-1 Reach = Reach-1

RS	Profile	Method	Value1	Value2
50.1	Encroachment	4	.15	
50	Encroachment	4	.15	
49	Encroachment	4	.15	
48	Encroachment	4	.15	
47	Encroachment	4	.15	
46	Encroachment	4	.15	

45	Encroachment	4	.15
44	Encroachment	4	.15
43	Encroachment	4	.15
42	Encroachment	4	.15
41	Encroachment	4	.15
40	Encroachment	4	.15
39	Encroachment	4	.15
38	Encroachment	4	.15

FLOW DATA

Flow Title: Site6PR
Flow File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.f10

Flow Data (m3/s)

River	Reach	RS	100yr	Encroachment	2yr
RIVER-1	Reach-1	50.1	7.95	7.95	2.3
RIVER-1	Reach-1	44	10.7	10.7	2.72
RIVER-1	Reach-1	38	15.77	15.77	3.4

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
RIVER-1	Reach-1	100yr	Critical	Normal S = 0.028
RIVER-1	Reach-1	Encroachment	Critical	Normal S = 0.028

GEOMETRY DATA

Geometry Title: Site6PR
Geometry File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.g10

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 50.1

INPUT
Description:
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	120	12.6	118	19	116	24	116	28	112
30.74	110.63	32	110	34.84	110.631	41	112	48.7	114
56	116	63.7	118	77.4	120				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	30.74	.04	34.84	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
30.74	34.84	38	59	66	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 50

INPUT
Description:
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	110	6.4	108	12.9	106	20.9	104	27.3	102
33.1	100	39.3	98	50	96	58.2	94	64.7	92
67.62	90.422	68.4	90	69.8	90.424	75	92	80.7	94
96.2	96	113.1	98	133.1	100				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	67.62	.04	69.8	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
67.62	69.8	46	43	59	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 49

INPUT
Description:
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	88	6.4	86	12.5	84	17.97	82	19.8	82
21.9	82	28.2	84	36.2	86				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	17.97	.04	21.9	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
17.97	21.9	38	43	36	.1	.3

BRIDGE

RIVER: RIVER-1
REACH: Reach-1 RS: 48.8

INPUT
Description:
Distance from Upstream XS = .1
Deck/Roadway Width = 14.5
Weir Coefficient = 1.44
Upstream Deck/Roadway Coordinates
num= 9

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
0	85	18	85	82	18.5	85	83.4
19	85	83.8	20	85	84	21	85	83.8
21.5	85	83.4	22	85	82	100	85	

Upstream Bridge Cross Section Data
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	88	6.4	86	12.5	84	17.97	82	19.8	82
21.9	82	28.2	84	36.2	86				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	17.97	.04	21.9	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
17.97	21.9	.1	.3

Downstream Deck/Roadway Coordinates
num= 9

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
0	85	15	85	74	15.5	85	75.4
16	85	75.8	17	85	76	18	85	75.8
18.5	85	75.4	19	85	74	100	85	

Downstream Bridge Cross Section Data
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	80	5.2	78	9.9	76	14.42	74.155	14.8	74
20.1	74	21.06	74.155	32.5	76	44.5	78		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	14.42	.04	21.06	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
14.42	21.06	.1	.3

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 = .95
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

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: RIVER-1
REACH: Reach-1 RS: 48

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	80	5.2	78	9.9	76	14.42	74.155	14.8	74
20.1	74	21.06	74.155	32.5	76	44.5	78		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	14.42	.04	21.06	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
14.42	21.06	42.5	53	69	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 47

INPUT
Description:
Station Elevation Data num= 50

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	82.72	1.16	82.63	6.75	82	8.81	82	9.24	82
13.49	81.59	15.1	81.46	25.89	80	26.78	80	27.35	80

28.49	80	29.43	80	30.13	80	30.28	80	32.08	79.21
34.53	78	36.34	77.1	38.63	76	41.12	74.76	42.69	74
45.56	72.57	46.77	72	50.32	70.25	50.81	70	51.05	69.91
52.72	69.17	55.06	68.14	55.39	68	55.78	68	57.74	68
59.37	68	59.93	68	64.22	68	64.66	68.14	66.76	68.82
70.82	70	72.97	71.03	74.06	71.58	74.94	72	75.52	72.36
78.36	74	80.03	74.83	82.8	76	84.84	76.78	87.88	78
91.07	78.45	102.26	80	105.51	80.38	111.48	81.06	112.3	81.15

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	55.06	.04	64.66	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
55.06	64.66	65	59	53	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 46

INPUT
Description:
Station Elevation Data num= 46

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	78.67	8.2	78	8.34	78	9.76	78	10	78
10.09	78	11.93	77.67	17.08	76.79	19.52	76.39	25.36	76
25.77	75.95	25.87	75.93	26.03	75.9	28.72	75.38	32.52	74.08
32.64	74.04	32.76	74	38.18	72.09	38.43	72	42.77	70.43
43.73	70	46.65	68.64	47.98	68	49.32	67.33	51.54	66.23
52.01	66	53.98	66	56.08	66	59.66	66	60.37	66.23
65.43	68	67.2	68.63	71.04	70	75.04	71.44	76.49	72
77.17	72.28	78.95	72.84	81.48	73.73	82.49	74	83.55	74
83.83	74	87.29	74.36	93.91	74.87	99.69	75.33	102.3	75.52
105.68	75.79								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	51.54	.04	60.37	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
51.54	60.37	49	63	63	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 45

INPUT
Description:
Station Elevation Data num= 40

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	76.14	1.95	76.01	2.15	76	2.17	76	9.45	75.33
12.96	74.95	19.74	74	21.21	74	21.62	74	21.75	74
23.16	73.51	27.21	72	30.57	70.5	31.62	70	32.39	69.73
37.97	68	38.72	67.75	42.09	66.57	43.65	66	48.14	64.36
48.61	64.19	49.13	64	50.78	64	53.17	64	59.34	64
59.62	64.1	59.85	64.19	64.65	66	65.13	66.18	67.34	67.02
69.17	67.7	69.93	68	73.38	69.33	75.03	70	77.76	71.09
80.09	72	83.13	73.08	85.89	74	90.83	74.67	99.11	75.83

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	48.61	.04	59.85	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
48.61	59.85	55	61	55	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 44

INPUT
Description:
Station Elevation Data num= 39

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	72.15	1.18	72	3.29	71.73	22.21	70	26.9	70
26.99	70	27.08	70	27.51	70	32.12	69.04	35.76	68.38
36.59	68.22	37.77	68	40.45	66.95	42.89	66	44.11	65.52
47.57	64	48.43	63.63	51.6	62.22	52.1	62	54.13	62
55.81	62	59.83	62	60.67	62	61.15	62	61.8	62.22
63.71	62.86	67.23	64	68.31	64.42	72.42	66	75.46	67.15
77.59	68	81.22	69.4	82.76	70	85.94	70.71	90.08	71.65
91.92	72	99.47	73.05	106.2	74	106.41	74.03		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	51.6	.04	61.8	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
51.6	61.8	85	56	48	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 43

INPUT
Description:
Station Elevation Data num= 34

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	70.32	5.24	70	5.51	69.93	6.34	69.69	10.56	68.49
12.26	68	17.12	66.57	19.08	66	19.86	65.77	22.56	64.89
24.72	64.19	25.31	64	26.16	63.72	31.52	62	34.34	61.1
37.39	60.14	37.84	60	42.08	60	46.64	60	51.32	60
51.65	60.13	53.34	60.79	54.86	61.37	56.82	62	62.14	63.74
62.94	64	63.36	64.14	68.97	66	74.78	67.93	74.99	68
75.23	68.06	82.92	70	83.95	70.1	85.94	70.28		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	37.39	.04	51.65	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
37.39	51.65	64	64	65	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 42

INPUT
Description:
Station Elevation Data num= 32

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	69.06	2.21	68.88	3.27	68.83	7.83	68.46	12.9	68
13.31	68	14.14	67.78	20.39	66	20.73	65.91	27.38	64
34.32	62.01	34.36	62	34.41	61.99	41.34	60	45.82	58.72
46.25	58.6	48.32	58	51.98	58	53.78	58	55.49	58.62
58.83	59.82	59.38	60	61.98	61.07	64.48	62	67.07	62.91
70.65	64	73.47	64.52	76.2	64.98	78.48	65.37	82.25	66
82.27	66	85.31	66.54						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	46.25	.04	55.49	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
46.25	55.49	49	48	47	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 41

INPUT
Description:
Station Elevation Data num= 31

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	68	1.7	68	1.74	68	1.89	68	6.27	67.66
7.27	67.45	9.16	67.21	13.98	66	17.18	65.15	21.78	64
24.16	63.39	28.35	62.34	29.63	62	30.59	61.76	33.38	61.09
37.83	60	40.78	59.27	43.79	58.52	45.9	58	51.45	58
53.06	58	54.59	58.5	54.72	58.54	59.45	60	63.73	61.17
66.96	62	75.79	63.63	77.02	63.85	77.97	64	82.4	64.71
86.43	65.34								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	43.79	.04	54.59	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
43.79	54.59	50	62	54	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 40

INPUT
Description:
Station Elevation Data num= 26

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	64.7	12.8	64	17.88	64	17.95	64	18.14	64
18.85	63.82	26.13	62	30.44	60.91	34.04	60	37.61	59.09
41.61	58.11	42.08	58	49.26	58	58.38	58	59.8	58
63.39	58	63.63	58.04	63.95	58.1	63.97	58.1	70.18	59.15
71.4	59.35	72.82	59.59	75.35	60	82.34	60.86	84.91	61.18
89.95	61.83								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	41.61	.04	63.97	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
41.61	63.97	85	59	53	.1	.3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 39

INPUT
Description:
Station Elevation Data num= 40

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	64.76	2.16	64.72	6.19	64.65	8.83	64.46	13.47	64.08
14.33	64	16.29	63.53	20.03	62.6	23.11	62	27.31	60.79
30.24	60	33.35	59.13	37.1	58.21	37.94	58	43.76	56.28
44.11	56.16	44.35	56.08	44.59	56	46.14	56	46.95	56
47.43	56	49.43	56	51.59	56	61.38	56	62.45	56

64.14 56 66.45 56 67.39 56 69.14 56 71.11 56
72.3 56 72.58 56 73.27 56.08 86.09 57.51 90.33 58
91.52 58.12 94.13 58.38 106.17 59.56 110.8 60 113.1 60.25

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .05 44.35 .04 73.27 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
44.35 73.27 68 58 38 .1 .3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 38

INPUT
Description:
Station Elevation Data num= 28
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 62 1.61 62 3.09 62 7.65 62 9.09 62
9.36 62 9.87 62 11.78 61.56 14.83 60.93 16.35 60.56
19.23 60 25.69 58.57 27.88 58 33.96 56.6 36.45 56
38.93 55.51 45.67 54.2 46.72 54 53.01 54 56.24 54
56.86 54.21 58.25 54.68 62.16 56 67.78 57.91 68.06 58
78.94 58.92 92 60 94.47 60.28

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .05 45.67 .04 56.86 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
45.67 56.86 45 40 37 .1 .3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 37

INPUT
Description:
Station Elevation Data num= 43
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 58.38 .02 58.38 .82 58.42 2.52 58.27 3.55 58.19
3.83 58.2 4.14 58.22 8.82 58.08 8.86 58.08 9.85 58
19.05 57.45 20.61 57.26 26.48 56.9 28.11 56.79 32.22 56
32.62 56 32.7 56 33.6 55.86 34.55 55.71 41.1 54.67
42.4 54.49 43.27 54.38 45.96 54.06 46.06 54.05 46.46 54
46.68 54 47.66 54 49.07 53.79 50.24 53.59 55.24 52.83
55.64 52.75 59.59 52 59.98 52 60.38 52 62.83 52.75
64.86 53.38 67.05 54 70.92 55.13 73.92 56 79.15 57.54
80.74 58 94.94 59.96 94.97 59.97

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .05 55.64 .04 62.83 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
55.64 62.83 51 48 45 .1 .3

CROSS SECTION

RIVER: RIVER-1
REACH: Reach-1 RS: 36

INPUT
Description:

Station Elevation Data num= 21

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	56	5.48	56	7.67	56	14.8	56	20.97	55.09
28.18	54	34.06	52.81	36.95	52.23	38.1	52	41.88	52
45.63	52	46.38	52.22	49.01	53.01	51.74	53.69	52.94	54
55.35	54.65	57.01	55.03	60.66	56	61.73	56.28	68.11	58
70.08	58.23								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	36.95	.04	46.38	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
36.95	46.38	0	0	0	.1	.3

SUMMARY OF MANNING'S N VALUES

River:RIVER-1

Reach	River Sta.	n1	n2	n3
Reach-1	50.1	.05	.04	.05
Reach-1	50	.05	.04	.05
Reach-1	49	.05	.04	.05
Reach-1	48.8	Bridge		
Reach-1	48	.05	.04	.05
Reach-1	47	.05	.04	.05
Reach-1	46	.05	.04	.05
Reach-1	45	.05	.04	.05
Reach-1	44	.05	.04	.05
Reach-1	43	.05	.04	.05
Reach-1	42	.05	.04	.05
Reach-1	41	.05	.04	.05
Reach-1	40	.05	.04	.05
Reach-1	39	.05	.04	.05
Reach-1	38	.05	.04	.05
Reach-1	37	.05	.04	.05
Reach-1	36	.05	.04	.05

SUMMARY OF REACH LENGTHS

River: RIVER-1

Reach	River Sta.	Left	Channel	Right
Reach-1	50.1	38	59	66
Reach-1	50	46	43	59
Reach-1	49	38	43	36
Reach-1	48.8	Bridge		
Reach-1	48	42.5	53	69
Reach-1	47	65	59	53
Reach-1	46	49	63	63
Reach-1	45	55	61	55
Reach-1	44	85	56	48
Reach-1	43	64	64	65
Reach-1	42	49	48	47
Reach-1	41	50	62	54
Reach-1	40	85	59	53
Reach-1	39	68	58	38
Reach-1	38	45	40	37
Reach-1	37	51	48	45
Reach-1	36	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: RIVER-1

Reach	River Sta.	Contr.	Expan.
Reach-1	50.1	.1	.3
Reach-1	50	.1	.3
Reach-1	49	.1	.3
Reach-1	48.8	Bridge	
Reach-1	48	.1	.3
Reach-1	47	.1	.3
Reach-1	46	.1	.3
Reach-1	45	.1	.3
Reach-1	44	.1	.3
Reach-1	43	.1	.3
Reach-1	42	.1	.3
Reach-1	41	.1	.3
Reach-1	40	.1	.3
Reach-1	39	.1	.3
Reach-1	38	.1	.3
Reach-1	37	.1	.3
Reach-1	36	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach-1	50.1	Encroachment	7.95	110.00	111.04	111.04	111.40	0.023636	2.67	2.98	4.10	1.00
Reach-1	50	Encroachment	7.95	90.00	91.32	91.32	91.87	0.035780	3.30	2.41	2.18	1.00
Reach-1	49	Encroachment	7.95	82.00	82.19	82.65	86.86	1.386669	9.82	0.87	5.06	7.14
Reach-1	48.8	Bridge										
Reach-1	48	Encroachment	7.95	74.00	74.43	74.54	74.81	0.040510	2.78	3.06	9.00	1.38
Reach-1	47	Encroachment	7.95	68.00	68.17	68.42	69.51	0.489501	5.14	1.55	9.60	4.09
Reach-1	46	Encroachment	7.95	66.00	66.45	66.45	66.67	0.022657	2.07	3.83	8.83	1.01
Reach-1	45	Encroachment	7.95	64.00	64.30	64.38	64.60	0.051141	2.44	3.26	11.24	1.44
Reach-1	44	Encroachment	10.70	62.00	62.49	62.49	62.74	0.022118	2.19	4.89	10.20	1.01
Reach-1	43	Encroachment	10.70	60.00	60.27	60.39	60.67	0.072349	2.77	3.86	14.26	1.70
Reach-1	42	Encroachment	10.70	58.00	59.04	58.64	59.12	0.003331	1.27	8.46	9.24	0.42
Reach-1	41	Encroachment	10.70	58.00	58.86		58.95	0.004049	1.28	8.38	10.80	0.46
Reach-1	40	Encroachment	10.70	58.00	58.29	58.29	58.43	0.024613	1.68	6.37	22.36	1.00
Reach-1	39	Encroachment	10.70	56.00	56.19	56.24	56.38	0.055364	1.94	5.52	28.92	1.42
Reach-1	38	Encroachment	15.77	54.00	54.60	54.60	54.90	0.020919	2.41	6.55	11.19	1.01
Reach-1	37	Encroachment	15.77	52.00	52.91	53.14	53.63	0.048754	3.77	4.27	8.66	1.58
Reach-1	36	Encroachment	15.77	52.00	52.68	52.68	52.96	0.016686	2.43	7.02	13.18	0.96

HEC-RAS Version 4.0 Beta
U.S. Army Corp of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

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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: Urrutiacon Puentes-May2008
Project File : UrrutiaMay08.prj
Run Date and Time: 8/1/2008 2:32:58 PM

Project in SI units

PLAN DATA

Plan Title: Site8PR
Plan File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.p05

Geometry Title: Site8PR
Geometry File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.g08

Flow Title : Site8PR
Flow File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.f08

Plan Summary Information:
Number of: Cross Sections = 24 Multiple Openings = 0
Culverts = 0 Inline Structures = 0
Bridges = 2 Lateral Structures = 0

Computational Information
Water surface calculation tolerance = 0.003
Critical depth calculation tolerance = 0.003
Maximum number of iterations = 20
Maximum difference tolerance = 0.1
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: Mixed Flow

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

River = Unn.Creek2 Reach = Site8A

RS	Profile	Method	Value1	Value2
33	Encroachment	4	.15	
32	Encroachment	4	.15	
31	Encroachment	4	.15	
30	Encroachment	4	.15	
29	Encroachment	4	.15	
28	Encroachment	4	.15	

27	Encroachment	4	.15	

River = Unn.Creek2 Reach = Site8B

RS	Profile	Method	Value1	Value2
35.3	Encroachment	4	.15	
35.2	Encroachment	4	.15	
35.1	Encroachment	4	.15	

River = Unn.Creek2 Reach = 8C

RS	Profile	Method	Value1	Value2
26.5	Encroachment	4	.15	
26.4	Encroachment	4	.15	
26.3	Encroachment	4	.15	
26.25	Encroachment	4	.15	
26.2	Encroachment	4	.15	
26.1	Encroachment	4	.15	

River = Unn.Creek2 Reach = 8D

RS	Profile	Method	Value1	Value2
26	Encroachment	4	.15	
25	Encroachment	4	.15	

FLOW DATA

Flow Title: Site8PR
Flow File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.f08

Flow Data (m3/s)

River	Reach	RS	100yr	Encroachment	2yr
Unn.Creek2	OFF8	35	9.4	9.4	2.43
Unn.Creek2	Site8B	35.5	2.08	2.08	.55
Unn.Creek2	Site8A	33	11.48	11.48	2.98
Unn.Creek2	Site8A	32	17.88	17.88	4.82
Unn.Creek2	Site8A	31	27.11	27.11	6.41
Unn.Creek2	Site8A	27	30.72	30.72	7.39
Unn.Creek2	8C	26.6	4.1	4.1	1.11
Unn.Creek2	8D	26	34.82	34.82	8.5
Unn.Creek2	8D	25	40.93	40.93	9.69

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Unn.Creek2	OFF8	100yr	Critical	
Unn.Creek2	OFF8	Encroachment	Critical	
Unn.Creek2	OFF8	2yr	Critical	
Unn.Creek2	Site8B	100yr	Critical	
Unn.Creek2	Site8B	Encroachment	Critical	
Unn.Creek2	Site8B	2yr	Critical	
Unn.Creek2	8C	100yr	Critical	
Unn.Creek2	8C	Encroachment	Critical	
Unn.Creek2	8C	2yr	Critical	
Unn.Creek2	8D	100yr		Normal S = 0.012
Unn.Creek2	8D	Encroachment		Normal S = 0.012
Unn.Creek2	8D	2yr		Normal S = 0.012

GEOMETRY DATA

Geometry Title: Site8PR
Geometry File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.g08

Reach Connection Table

River	Reach	Upstream Boundary	Downstream Boundary
Unn.Creek2	OFF8		A
Unn.Creek2	Site8B		A
Unn.Creek2	Site8A	A	C
Unn.Creek2	8C		C
Unn.Creek2	8D	C	

JUNCTION INFORMATION

Name: A
Description:
Energy computation Method

Length across Junction		Tributary			
River	Reach	River	Reach	Length	Angle
Unn.Creek2	OFF8	to Unn.Creek2	Site8A		127
Unn.Creek2	Site8B	to Unn.Creek2	Site8A		113.5

Name: C
Description:
Energy computation Method

Length across Junction		Tributary			
River	Reach	River	Reach	Length	Angle
Unn.Creek2	Site8A	to Unn.Creek2	8D	120	0
Unn.Creek2	8C	to Unn.Creek2	8D	0	0

CROSS SECTION

RIVER: Unn.Creek2
REACH: OFF8 RS: 35

INPUT
Description:
Station Elevation Data num= 50

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	97.56	.37	97.45	5.55	96	8.27	95.17	11.98	94
15	93.2	19.53	92	20.68	91.6	25.06	90	28.5	88.83
30.9	88	31.71	87.66	36.58	86	39.83	84.75	41.81	84
45.81	82.98	49.92	82	51.39	81.39	54.32	80.28	55.05	80
58.35	80	59.48	80	59.71	80	60.6	80.3	65.17	81.85
65.63	82	67.66	82.77	70.57	83.84	71.01	84	76.02	85.72
76.86	86	84.06	87.73	84.6	87.84	84.83	87.88	85.46	88
86.18	88	86.72	88	88.48	88	94.54	89.41	95.66	89.58
97.31	90	97.42	90	100.49	90.61	105.42	91.48	107.15	92
110.35	92.82	114.82	94	115.46	94	116.39	94	117.53	94

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	54.32	.04	60.6	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
54.32	60.6	83	93	95	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: OFF8 RS: 34

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	89.78	2.12	89.03	5.24	88	8.71	86.36	9.17	86.15
9.5	86	10.47	85.67	15.4	84	20.34	82.74	23.28	82

```
 25.27  81.47  30.46    80  36.64  78.08  36.89    78  42.19  76.24
  42.9    76  44.58  75.4  47.71  74.26  48.43    74  48.79    74
 49.91    74  51.21  74.26  53.57  74.73  59.24  75.91  59.64    76
  60.1  76.09   69.2    78  71.91  78.58  78.58    80  84.59  81.23
 88.06    82  91.69  82.85   96.7    84  101.4  85.09  105.5    86
111.22  87.26 113.63  87.78

Manning's n Values      num=     3
   Sta  n Val    Sta  n Val    Sta  n Val
     0   .05  47.71   .04  51.21   .05

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     47.71  51.21          81    127    130        .1      .3

CROSS SECTION


RIVER: Unn.Creek2
REACH: Site8B          RS: 35.5

INPUT
Description:
Station Elevation Data    num=     30
   Sta   Elev    Sta   Elev    Sta   Elev    Sta   Elev    Sta   Elev
     0  144.52    .39  144.46   2.94    144   4.46  143.73   5.19  143.6
  8.47  143.05  11.31  142.56  12.07  142.51  16.15  142.32  16.91  142.28
 17.49  142.26  18.13  142.26  21.68  142.23  25.33  142.22  25.88  142.22
 27.78  142.23   27.9  142.28   28.9  142.72  31.83    144  32.61  144.34
  36.4    146  36.51  146.04   37.2  146.35  40.34  147.72  40.98    148
 44.28  149.45  45.54    150  46.74  150.52  50.51    152  51.88    152

Manning's n Values      num=     3
   Sta  n Val    Sta  n Val    Sta  n Val
     0   .04  16.15   .04   27.9   .04

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     16.15   27.9          23     24     29        .1      .3

CROSS SECTION


RIVER: Unn.Creek2
REACH: Site8B          RS: 35.4

INPUT
Description:
Station Elevation Data    num=     33
   Sta   Elev    Sta   Elev    Sta   Elev    Sta   Elev    Sta   Elev
     0  133.67   2.03  133.35   3.64  133.11   7.47  132.48   8.4  132.35
 10.43    132  12.08  131.74  13.36  131.44  15.65  131.01  16.54  130.84
 19.04    130  19.32  129.91   19.5  129.85  21.02   129.5  23.19  129.03
 26.05  128.42  27.97    128  29.65  127.64  30.14  127.53  30.62  127.64
 32.18  127.98  32.24  127.99  32.29    128  37.05  129.06   41.2    130
 43.54  130.53  49.72    132  50.22  132.12  50.72  132.24  53.61  132.98
 56.12  133.65  56.44  133.75  56.65  133.82

Manning's n Values      num=     3
   Sta  n Val    Sta  n Val    Sta  n Val
     0   .04  29.65   .04  30.62   .04

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     29.65  30.62          32     35     36        .1      .3

CROSS SECTION


RIVER: Unn.Creek2
REACH: Site8B          RS: 35.3

INPUT
```

Description:
Station Elevation Data num= 43

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	117.78	.26	117.69	4.73	116	5.1	115.86	6.14	115.44
9.63	114	10.68	113.53	10.92	113.42	14.25	112	15.26	111.51
15.37	111.45	18.35	110	18.62	109.9	19.42	109.52	21.39	108.63
22.29	108.19	22.68	108	26.52	106.42	26.74	106.33	27.49	106
31.26	104.46	31.95	104.12	31.97	104.11	32.67	104	33.04	103.96
33.23	104	34.13	104	34.45	104.12	35.88	104.68	36.93	104.98
39.97	106	41.07	106.38	45.76	108	47.03	108.43	49.82	109.38
51.16	109.84	51.62	110	54.54	111	57.43	112	57.88	112.16
58.52	112.38	61.04	113.25	63.19	114				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	31.95	.04	34.45	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
31.95	34.45	42	46	47	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site8B RS: 35.2

INPUT
Description:
Station Elevation Data num= 42

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	100.06	.01	100.06	.07	100.04	.26	100	.52	100
1.13	100	3.91	99.35	8.06	98.24	8.51	98.13	8.98	98
9.85	97.74	15.66	96	17.7	95.38	22.34	94	25.58	92.93
28.36	92	31.87	90.95	34.64	90.14	34.71	90.12	35.38	90
35.48	90	36.58	90	36.81	90.14	39.63	91.82	39.93	92
42.59	93.66	44.11	93.99	44.12	94	44.15	94	46.63	94
48.17	94.34	50.34	94.63	53.27	95.32	54.47	95.57	56.06	96
61.54	97.49	63.22	98	68.22	99.62	69.25	100	73.34	101.62
74.27	102	74.31	102.02						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	34.64	.04	36.81	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
34.64	36.81	51	63	55	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site8B RS: 35.1

INPUT
Description:
Station Elevation Data num= 42

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	88.05	.44	88	.56	87.98	.6	87.98	5.13	87.41
6.15	87.27	7.95	87.06	10.26	86.82	11.05	86.72	12.28	86.57
14.08	86.23	15.1	86	17.17	85.3	20.77	84	22.36	83.46
26.43	82	27.55	81.64	32.28	80	35.07	79.09	38.05	78.1
38.34	78	38.98	78	39.85	78	42.16	78	42.49	78.09
42.59	78.12	43.03	78.24	49.07	80	52.5	80.97	56.34	82
59.71	83.02	62.56	84	65.53	85.16	67.69	86	70.76	87.13
73.01	88	74.32	88.31	77.77	88.92	78.91	89.15	80.94	89.48
82.44	89.71	84.25	89.98						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	38.05	.04	42.49	.04

Bank Sta: Left Right Coeff Contr. Expan.
38.05 42.49 .1 .3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site8A RS: 33

INPUT
Description:
Station Elevation Data num= 63

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	87.9	10.4	86.08	10.77	86	10.94	85.96	11.42	85.85
16.51	84.69	19.93	84	25.45	83.03	27.56	82.66	30.9	82
35.35	81.22	38.74	80.72	42.83	80	43.73	80	43.92	79.97
51.58	78	54.27	78	54.82	78	55.1	78	55.28	78
57.7	77.17	60.98	76	62.07	75.65	62.58	75.55	63.32	75.41
64.5	75.28	66.3	74.76	68.57	74	71.13	73.19	74.66	72
76.23	71.6	78	71.18	79.6	70.84	81.85	70.31	83.18	70
85.37	70	87.58	70	87.68	70	87.83	70	94.15	70
94.86	70.28	98.07	71.53	99.35	72	104.45	73.93	104.65	74
104.69	74.01	104.9	74.07	110.36	75.49	111.17	75.68	112.52	76
115.21	76.52	120.06	77.43	121.61	77.73	123.11	78	128.84	79.32
131.7	80	136.02	81.01	140.11	82	142.12	82.46	144.7	82.84
149.27	84	150.25	84.29	154.84	85.7				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	81.85	.04	94.86	.05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
81.85 94.86 52 79 112 .1 .3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site8A RS: 32

INPUT
Description:
Station Elevation Data num= 55

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	90.24	1.16	90.07	1.29	90.04	1.58	90	3.68	89.45
4.64	89.1	5.91	88.66	7.32	88	10.5	86.5	11.52	86
13.11	85.25	15.84	84	17.35	83.24	19.27	82.55	20.83	82
23.73	81.15	26.6	80.24	27.05	80.1	27.31	80	33.32	78.14
33.76	78	38.51	76.58	40.47	76	41.06	75.81	44.93	74.58
46.76	74	49.95	72.96	52.85	72	54.75	71.51	59.96	70
66.92	68.65	70.25	68	78.39	66.39	78.74	66.32	80.42	66
82.4	66	84.27	66	85.78	66	86.46	66.27	88.96	67.24
90.94	68	93.95	69.16	96.1	70	100.54	71.7	101.32	72
102.16	72.24	108.09	74	122.38	75.97	122.57	76	123.5	76.11
136.49	77.65	137.96	77.82	139.32	78	144.25	78.74	151	79.7

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	78.74	.04	86.46	.05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
78.74 86.46 109 91 62 .1 .3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site8A RS: 31

INPUT
Description:
Station Elevation Data num= 54

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	85.49	2.32	84.63	3.89	84	6.42	83.06	8.96	82
10.99	81.03	12.94	80	14.37	79.13	16.22	78	18.87	76.39
19.51	76	20.87	75.19	23.04	74	25.95	73.07	29.95	72
32.66	71.4	38.05	70.1	38.39	70.02	38.47	70	43.64	68.45
45.33	68	51.75	66.56	54.34	66	61.02	64.88	61.52	64.79
62.18	64.66	64.51	64.26	65.42	64.11	66	64	66.57	64
66.67	64	67.45	64.27	68.88	64.76	72.51	66	73.18	66.23
75.94	67.17	77.93	67.86	78.34	68	80.5	68.74	84.17	70
84.89	70.25	86.12	70.68	87.99	71.34	89.85	72	90.2	72.09
95.86	74	96.48	74	99.41	74.32	113.79	75.44	117.94	75.84
118.36	75.86	118.69	75.87	119.63	76	121.89	76		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	61.52	.04	68.88	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
61.52	68.88	74	74	92	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site8A RS: 30

INPUT
Description:
Station Elevation Data num= 49

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	80.05	.61	80	1.69	79.92	1.89	79.9	3.22	79.75
3.65	79.72	4.91	79.45	6.11	79.22	9.75	78	15.34	76.12
15.69	76	16.27	75.81	21.23	74	25.15	72.58	26.73	72
30.83	70.53	32.28	70	36.77	68.39	37.85	68	43.4	66.41
44.86	66	44.89	66	54.59	64.61	58.82	64	63.24	63.39
63.47	63.37	66.04	62.34	68.94	62.34	74.09	62.34	74.61	62.34
77.64	62.34	78.62	63.29	81.54	64	86.61	65.7	86.99	65.82
87.59	66	91.59	67.27	94.4	68	97.58	68.98	99.98	69.78
100.68	70	104.48	70.68	112.22	72	119.38	72.73	121.44	72.91
125.09	73.28	127.11	73.43	129.21	73.63	135.31	74		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	63.47	.04	78.62	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
63.47	78.62	39	48	39	.3	.5

BRIDGE

RIVER: Unn.Creek2
REACH: Site8A RS: 29.5

INPUT
Description:
Distance from Upstream XS = .1
Deck/Roadway Width = 21
Weir Coefficient = 1.44
Upstream Deck/Roadway Coordinates
num= 16

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
0	65.8	66.04	65.8	62.34	66.76	65.8	63.4	
67.48	65.8	63.92	68.93	65.8	64.27	70.38	65.8	63.92
71.1	65.8	63.4	71.8	65.8	62.34	72.8	65.8	62.34
73.52	65.8	63.4	74.24	65.8	63.92	75.69	65.8	64.27
77.14	65.8	63.92	77.86	65.8	63.4	78.58	65.8	62.34

100 65.8

Upstream Bridge Cross Section Data
Station Elevation Data num= 49

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	80.05	.61	80	1.69	79.92	1.89	79.9	3.22	79.75
3.65	79.72	4.91	79.45	6.11	79.22	9.75	78	15.34	76.12
15.69	76	16.27	75.81	21.23	74	25.15	72.58	26.73	72
30.83	70.53	32.28	70	36.77	68.39	37.85	68	43.4	66.41
44.86	66	44.89	66	54.59	64.61	58.82	64	63.24	63.39
63.47	63.37	66.04	62.34	68.94	62.34	74.09	62.34	74.61	62.34
77.64	62.34	78.62	63.29	81.54	64	86.61	65.7	86.99	65.82
87.59	66	91.59	67.27	94.4	68	97.58	68.98	99.98	69.78
100.68	70	104.48	70.68	112.22	72	119.38	72.73	121.44	72.91
125.09	73.28	127.11	73.43	129.21	73.63	135.31	74		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	63.47	.04	78.62	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
63.47	78.62	.3	.5

Downstream Deck/Roadway Coordinates
num= 16

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
0	65.8		66.04	65.8	62.34	66.76	65.8	63.4
67.48	65.8	63.92	68.93	65.8	64.27	70.38	65.8	63.92
71.1	65.8	63.4	71.8	65.8	62.34	72.8	65.8	62.34
73.52	65.8	63.4	74.24	65.8	63.92	75.69	65.8	64.27
77.14	65.8	63.92	77.86	65.8	63.4	78.58	65.8	62.34
100	65.8							

Downstream Bridge Cross Section Data
Station Elevation Data num= 49

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	80.05	.61	80	1.69	79.92	1.89	79.9	3.22	79.75
3.65	79.72	4.91	79.45	6.11	79.22	9.75	78	15.34	76.12
15.69	76	16.27	75.81	21.23	74	25.15	72.58	26.73	72
30.83	70.53	32.28	70	36.77	68.39	37.85	68	43.4	66.41
44.86	66	44.89	66	54.59	64.61	58.82	64	63.24	63.39
63.47	63.37	66.04	62.34	68.94	62.34	74.09	62.34	74.61	62.34
77.64	62.34	78.62	63.29	81.54	64	86.61	65.7	86.99	65.82
87.59	66	91.59	67.27	94.4	68	97.58	68.98	99.98	69.78
100.68	70	104.48	70.68	112.22	72	119.38	72.73	121.44	72.91
125.09	73.28	127.11	73.43	129.21	73.63	135.31	74		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	63.47	.04	78.62	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
63.47	78.62	.3	.5

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 = .95
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

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: Unn.Creek2
REACH: Site8A RS: 29

INPUT
Description:
Station Elevation Data num= 49

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	80.05	.61	80	1.69	79.92	1.89	79.9	3.22	79.75
3.65	79.72	4.91	79.45	6.11	79.22	9.75	78	15.34	76.12
15.69	76	16.27	75.81	21.23	74	25.15	72.58	26.73	72
30.83	70.53	32.28	70	36.77	68.39	37.85	68	43.4	66.41
44.86	66	44.89	66	54.59	64.61	58.82	64	63.24	63.39
63.47	63.37	66.04	62.34	68.94	62.34	74.09	62.34	74.61	62.34
77.64	62.34	78.62	63.29	81.54	64	86.61	65.7	86.99	65.82
87.59	66	91.59	67.27	94.4	68	97.58	68.98	99.98	69.78
100.68	70	104.48	70.68	112.22	72	119.38	72.73	121.44	72.91
125.09	73.28	127.11	73.43	129.21	73.63	135.31	74		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	63.47	.04	78.62	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
63.47	78.62	36	75	54	.3	.5

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site8A RS: 28

INPUT
Description:
Station Elevation Data num= 62

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	70.06	.51	70	6.49	69.17	11.52	68.47	13.11	68.24
14.83	68	17.32	67.44	19.5	67.17	21.95	66.78	26.26	66
29.15	65.13	33.97	64	37.21	63.17	42.64	62	42.68	61.99
42.69	61.99	46.4	61.41	50.75	61	54.82	60.29	56.52	60
57.59	60	62.51	60	64.37	60	66.11	60	70.35	60
70.76	60.11	70.96	60.17	71.39	60.27	74.12	60.9	76.14	61.4
78.4	62	78.89	62.14	80.09	62.61	82.54	63.57	82.93	63.72
83.63	64	87.63	65.64	88.05	65.8	88.51	66	89.61	66.11
113.23	67.58	115.67	67.48	115.99	67.47	117.44	67.42	118.1	67.39
119.98	67.35	121.74	67.29	127.13	67.16	128.73	67.11	132.02	67.03
133.89	66.98	136.42	66.92	138.53	66.87	144.98	66.96	146.59	67.08
148.78	67.27	149.83	67.23	152.35	67.49	152.7	67.49	155.68	67.8
155.82	67.81	156.29	67.85						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	54.82	.04	71.39	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
54.82	71.39	109	90	42	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: Site8A RS: 27

INPUT
Description:
Station Elevation Data num= 85

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	72.02	.13	72	2.22	71.63	11.98	70	14.65	69.67
17.89	69.36	29.42	68	29.44	68	31	67.58	37.18	66
39.43	65.52	41.97	65.09	44.75	64.64	46.84	64.25	49.14	64
50.85	63.79	51.42	63.71	54.11	63.39	54.77	63.28	57.26	63
58.15	62.81	63.71	62.16	64.11	62.09	64.8	62	65.37	62
65.67	61.97	65.72	61.97	69.49	61.76	69.7	61.73	70.38	61.63
71.62	61.43	76.24	60.64	77.23	60.44	79.75	60	80.21	60
80.63	60	80.93	60	82.84	59.78	94.88	58.24	96.74	58
96.78	58	97.04	58	108.99	58	109.51	58	113.4	58
113.64	58.06	113.82	58.11	114.16	58.2	114.3	58.24	115.57	58.58
120.09	59.78	120.86	60	124.72	61.11	125.87	61.38	126.58	61.54
129.28	62	129.73	62	133.98	62	135.14	62	136.7	62
139.07	62	141.68	62	158.03	63.99	158.09	63.99	158.27	64
159.69	64	160.16	64	162.23	64	166.5	64.51	167.88	64.59
169.8	64.72	175.19	65.09	177.71	65.25	179.56	65.38	180.55	65.42
181.8	65.5	182.43	65.51	183.29	65.56	184.1	65.61	185.29	65.64
185.88	65.64	198.78	65.79	199.13	65.78	202.68	66	202.76	66

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	94.88	.04	114.3	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
94.88	114.3	103	120	150	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: 8C RS: 26.6

INPUT
Description:
Station Elevation Data num= 4

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	78	49.15	76.034	50	76	115	76

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	49.15	.04	115	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
49.15	115	59	69	78	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: 8C RS: 26.5

INPUT
Description:
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	72	31	70	52.02	68.172	54	68	56.92	68.172
88	70	114	72						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	52.02	.04	56.92	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
52.02	56.92	38	43	41	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: 8C RS: 26.4

INPUT
Description:
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	68	26	66	36.74	64.348	39	64	41.44	64.349
53	66	77	68						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	36.74	.04	41.44	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
36.74	41.44	58	58	42	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: 8C RS: 26.3

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	66	20	64	28	62	32.97	60.343	34	60
35.89	60.344	45	62	55	64	81	66		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	32.97	.04	35.89	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
32.97	35.89	25.9	22.5	24.5	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: 8C RS: 26.25

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62	9	60	14.57	58.608	15.39	58.403	17	58
20.013	58.402	21.56	58.608	32	60	38.4	62		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	14.57	.04	21.56	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
14.57	21.56	18	18	18	.3	.5

BRIDGE

RIVER: Unn.Creek2
REACH: 8C RS: 26.22

INPUT
Description:
Distance from Upstream XS = .1

Deck/Roadway Width = 13
Weir Coefficient = 1.44
Upstream Deck/Roadway Coordinates
num= 9

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
0	61.6	15	61.6	58	15.48
61.6	59.4	15.98	61.6	59.8	16.98
61.6	60	17.98	61.6	59.8	18.48
61.6	59.4	19	61.6	58	100
61.6					

Upstream Bridge Cross Section Data
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62	9	60	14.57	58.608	15.39	58.403	17	58
20.013	58.402	21.56	58.608	32	60	38.4	62		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	14.57	.04	21.56	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
14.57	21.56	.3	.5

Downstream Deck/Roadway Coordinates
num= 9

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
0	61.6	15	61.6	58	15.48
61.6	59.4	15.98	61.6	59.8	16.98
61.6	60	17.98	61.6	59.8	18.48
61.6	59.4	19	61.6	58	100
61.6					

Downstream Bridge Cross Section Data
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62	9	60	15.39	58.403	17	58	20.013	58.402
32	60	38.4	62						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	15.39	.04	20.013	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
15.39	20.013	.3	.5

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 = .95
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

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: Unn.Creek2

REACH: 8C RS: 26.2

INPUT
Description:
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62	9	60	15.39	58.403	17	58	20.013	58.402
32	60	38.4	62						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	15.39	.04	20.013	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
15.39	20.013	53	63	61	.3	.5

CROSS SECTION

RIVER: Unn.Creek2
REACH: 8C RS: 26.1

INPUT
Description:
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	60	10	58	27.46	56.337	31	56	32.52	56.338
40	58	49	60						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	27.46	.04	32.52	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
27.46	32.52	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: 8D RS: 26

INPUT
Description:
Station Elevation Data num= 69

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	65.94	6.74	65.28	10.92	64.83	18.11	64.06	18.63	64
22.58	63.71	27.63	63.28	33.48	62.82	36.39	62.6	42.26	62
54.93	60.89	64.63	60	71.33	59.4	89.18	58	89.64	58
89.76	58	94.63	57.08	101.1	56	102.48	55.8	103.83	55.61
106.93	55.16	108.7	54.92	109.21	54.84	111.49	54.5	112.68	54.34
115.46	54	116.05	54	116.12	54	116.44	54	116.61	54
116.67	54	118.33	54.33	120.03	54.52	120.38	54.54	122.1	54.81
124.85	54.98	129.38	55.33	136.29	56	136.89	56	138.2	56
138.21	56	138.23	56	139.4	56.3	140.23	56.41	141.48	56.74
142.78	56.93	148.85	58	148.91	58	148.95	58.01	159.92	58.95
162.62	59.14	165.3	59.54	166.48	59.65	167.18	59.72	169.26	59.98
169.29	59.99	169.47	60	171	60	171.58	60	173.97	60
174.78	60	177.18	60	178.1	60	179.77	60	180.36	60
182.91	60	185.31	60	186.73	60	215.28	61.85		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	109.21	.04	122.1	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
109.21	122.1	105	111	82	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: 8D RS: 25

INPUT
Description:
Station Elevation Data num= 62

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	61.93	5.41	61.45	21.35	60	21.52	60	21.73	60
47.97	58.42	54.9	58	56.36	58	57.44	58	75.01	57.09
75.87	57.04	77.94	57.02	79.24	56.96	81.45	56.91	84.78	56.76
89.44	56.48	90.83	56.42	95.06	56	95.75	55.91	96.26	55.84
101.89	55.11	106.47	54.43	107.92	54.25	109.71	54	109.99	54
111.42	53.8	113.85	53.62	115.23	53.51	118.52	53.28	121.76	53.26
123.17	53.29	124.82	53.27	127.23	53.32	130.8	53.62	135.42	54
136.1	54	137.34	54	138.18	54	139.11	54	139.89	54
141.05	54	143.8	54	144.97	54	151.26	54	152.53	54.11
152.75	54.12	153.23	54.16	158.45	54.61	161.19	54.85	169.57	55.62
170.75	55.73	173.8	56	180.75	56.38	183.98	56.57	192	57
195.69	57.19	206.5	57.84	207.04	57.87	207.54	57.9	209.15	58
224.9	58.57	264.45	59.92						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	113.85	.04	130.8	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
113.85	130.8	106	88	96	.1	.3

CROSS SECTION

RIVER: Unn.Creek2
REACH: 8D RS: 24

INPUT
Description:
Station Elevation Data num= 64

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62.02	.47	62	.71	62	5.78	61.28	14.95	60
18.6	59.21	20.58	58.81	25.38	58	27.61	57.66	28.19	57.56
31.8	56.97	37.3	56	37.75	56	37.94	56	38.13	56
46.15	54.76	47.59	54.7	48.25	54.63	49.46	54.55	50.66	54.49
53.85	54.32	54.17	54.3	58.4	54.12	58.51	54.11	58.58	54.1
61.17	54	62.39	53.94	65.86	53.83	66.4	53.74	68.96	53.52
71.22	53.13	73.69	52.76	77.13	52.17	78.09	52	78.53	51.95
81.6	51.65	87.17	52	88.21	52	91.78	52	94.9	52
115.32	52	116.82	52	117.83	52	119.44	52	120.45	52
121.88	52	123.83	52	124.72	52	126.3	52	127.08	52
128.25	52	129.13	52.12	131.25	52.42	133.26	52.67	135.44	52.97
140.82	53.65	141.02	53.68	143.46	54	159.74	55.36	166.47	56
166.82	56	166.91	56	171.51	56	171.65	56		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	77.13	.04	129.13	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
77.13	129.13	0	0	0	.1	.3

SUMMARY OF MANNING'S N VALUES

River:Unn.Creek2

Reach	River Sta.	n1	n2	n3
OFF8	35	.05	.04	.05
OFF8	34	.05	.04	.05

Site8B	35.5	.04	.04	.04
Site8B	35.4	.04	.04	.04
Site8B	35.3	.04	.04	.04
Site8B	35.2	.04	.04	.04
Site8B	35.1	.04	.04	.04
Site8A	33	.05	.04	.05
Site8A	32	.05	.04	.05
Site8A	31	.05	.04	.05
Site8A	30	.05	.04	.05
Site8A	29.5	Bridge		
Site8A	29	.05	.04	.05
Site8A	28	.05	.04	.05
Site8A	27	.05	.04	.05
8C	26.6	.05	.04	.05
8C	26.5	.05	.04	.05
8C	26.4	.05	.04	.05
8C	26.3	.05	.04	.05
8C	26.25	.05	.04	.05
8C	26.22	Bridge		
8C	26.2	.05	.04	.05
8C	26.1	.05	.04	.05
8D	26	.05	.04	.05
8D	25	.05	.04	.05
8D	24	.05	.04	.05

SUMMARY OF REACH LENGTHS

River: Unn.Creek2

Reach	River Sta.	Left	Channel	Right
OFF8	35	83	93	95
OFF8	34	81	127	130
Site8B	35.5	23	24	29
Site8B	35.4	32	35	36
Site8B	35.3	42	46	47
Site8B	35.2	51	63	55
Site8B	35.1			
Site8A	33	52	79	112
Site8A	32	109	91	62
Site8A	31	74	74	92
Site8A	30	39	48	39
Site8A	29.5	Bridge		
Site8A	29	36	75	54
Site8A	28	109	90	42
Site8A	27	103	120	150
8C	26.6	59	69	78
8C	26.5	38	43	41
8C	26.4	58	58	42
8C	26.3	25.9	22.5	24.5
8C	26.25	18	18	18
8C	26.22	Bridge		
8C	26.2	53	63	61
8C	26.1			
8D	26	105	111	82
8D	25	106	88	96
8D	24	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Unn.Creek2

Reach	River Sta.	Contr.	Expan.

OFF8	35	.1	.3
OFF8	34	.1	.3
Site8B	35.5	.1	.3
Site8B	35.4	.1	.3
Site8B	35.3	.1	.3
Site8B	35.2	.1	.3
Site8B	35.1	.1	.3
Site8A	33	.1	.3
Site8A	32	.1	.3
Site8A	31	.1	.3
Site8A	30	.3	.5
Site8A	29.5	Bridge	
Site8A	29	.3	.5
Site8A	28	.1	.3
Site8A	27	.1	.3
8C	26.6	.1	.3
8C	26.5	.1	.3
8C	26.4	.1	.3
8C	26.3	.1	.3
8C	26.25	.3	.5
8C	26.22	Bridge	
8C	26.2	.3	.5
8C	26.1	.1	.3
8D	26	.1	.3
8D	25	.1	.3
8D	24	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
OFF8	35	Encroachment	9.40	80.00	80.65	80.65	80.93	0.017414	2.36	4.22	8.30	0.96
OFF8	34	Encroachment	9.40	74.00	74.46	74.91	76.66	0.258886	6.67	1.52	5.07	3.42
Site8B	35.5	Encroachment	2.08	142.22	142.39	142.39	142.46	0.028357	1.18	1.80	13.46	0.98
Site8B	35.4	Encroachment	2.08	127.53	128.08	128.08	128.22	0.017462	2.04	1.40	5.08	0.92
Site8B	35.3	Encroachment	2.08	103.96	104.43	104.43	104.64	0.029210	2.02	1.03	2.50	1.01
Site8B	35.2	Encroachment	2.08	90.00	90.48	90.48	90.71	0.030591	2.12	0.98	2.17	1.01
Site8B	35.1	Encroachment	2.08	78.00	78.29	78.29	78.43	0.027299	1.67	1.25	4.44	1.01
Site8A	33	Encroachment	11.48	70.00	70.45	70.45	70.67	0.021971	2.06	5.57	13.01	1.01
Site8A	32	Encroachment	17.88	66.00	66.61	66.86	67.47	0.065297	4.11	4.35	7.72	1.75
Site8A	31	Encroachment	27.11	64.00	65.46	65.46	66.02	0.019934	3.32	8.16	7.36	1.01
Site8A	30	Encroachment	27.11	62.34	64.11	63.13	64.17	0.001138	1.08	25.09	15.15	0.27
Site8A	29.5	Bridge										
Site8A	29	Encroachment	27.11	62.34	63.13	63.13	63.49	0.018568	2.65	10.21	14.37	1.01
Site8A	28	Encroachment	27.11	60.00	60.49	60.67	61.12	0.058265	3.54	7.66	16.57	1.66
Site8A	27	Encroachment	30.72	58.00	58.65	58.65	58.97	0.019587	2.50	12.27	19.42	1.00
8C	26.6	Encroachment	4.10	76.00	76.07	76.07	76.11	0.037645	0.85	4.84	66.84	1.00
8C	26.5	Encroachment	4.10	68.00	68.25	68.50	69.59	0.496176	5.14	0.80	4.90	4.06
8C	26.4	Encroachment	4.10	64.00	64.53	64.60	64.84	0.043370	2.46	1.66	4.70	1.32
8C	26.3	Encroachment	4.10	60.00	60.56	60.75	61.23	0.093963	3.64	1.13	2.92	1.87
8C	26.25	Encroachment	4.10	58.00	59.12	58.63	59.14	0.001350	0.72	5.67	6.99	0.26
8C	26.22	Bridge										
8C	26.2	Encroachment	4.10	58.00	58.63	58.63	58.85	0.024626	2.07	1.98	4.62	1.01
8C	26.1	Encroachment	4.10	56.00	56.47	56.57	56.84	0.061066	2.67	1.53	5.06	1.55
8D	26	Encroachment	34.82	54.00	55.61	55.28	55.86	0.006778	2.18	15.94	12.89	0.63
8D	25	Encroachment	40.93	53.26	54.20	54.20	54.63	0.018384	2.88	14.21	16.95	1.00
8D	24	Encroachment	40.93	51.65	52.28	52.37	52.61	0.051030	2.56	16.05	53.75	1.48

HEC-RAS Version 4.0 Beta
U.S. Army Corp 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: Urrutiacon Puentes-May2008
Project File : UrrutiaMay08.prj
Run Date and Time: 8/1/2008 2:38:10 PM

Project in SI units

PLAN DATA

Plan Title: Site10PR
Plan File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.p04

Geometry Title: Site10PR
Geometry File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.g07

Flow Title : Site10PR
Flow File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.f07

Plan Summary Information:
Number of: Cross Sections = 83 Multiple Openings = 0
Culverts = 0 Inline Structures = 0
Bridges = 2 Lateral Structures = 0

Computational Information
Water surface calculation tolerance = 0.003
Critical depth calculation tolerance = 0.003
Maximum number of iterations = 20
Maximum difference tolerance = 0.1
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: Mixed Flow

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

River = Unnamed Creek Reach = 2

RS	Profile	Method	Value1	Value2
15	Encroachment	4	.15	
14	Encroachment	4	.15	
13	Encroachment	4	.15	
12	Encroachment	4	.15	
11	Encroachment	4	.15	
10	Encroachment	4	.15	

River = Unnamed Creek Reach = 3

RS	Profile	Method	Value1	Value2
16	Encroachment	4	.15	
15.5	Encroachment	4	.15	

River = Unnamed Creek Reach = 3

RS	Profile	Method	Value1	Value2
16	Encroachment	4	.15	
15.5	Encroachment	4	.15	

River = Unnamed Creek Reach = 2

RS	Profile	Method	Value1	Value2
15	Encroachment	4	.15	
14	Encroachment	4	.15	
13	Encroachment	4	.15	
12	Encroachment	4	.15	

River = Unnamed Creek Reach = 1

RS	Profile	Method	Value1	Value2
9	Encroachment	4	.15	
8	Encroachment	4	.15	
7	Encroachment	4	.15	
6	Encroachment	4	.15	
5.5	Encroachment	4	.15	
5	Encroachment	4	.15	
4	Encroachment	4	.15	
3	Encroachment	4	.15	
2	Encroachment	4	.15	

River = Unnamed Creek Reach = 4

RS	Profile	Method	Value1	Value2
19	Encroachment	4	.15	
18.5	Encroachment	4	.15	
18	Encroachment	4	.15	
17.5	Encroachment	4	.15	
17	Encroachment	4	.15	

River = Unnamed Creek Reach = 1.5

RS	Profile	Method	Value1	Value2
11	Encroachment	4	.15	
10	Encroachment	4	.15	

River = Unnamed Creek Reach = 4.5

RS	Profile	Method	Value1	Value2
18	Encroachment	4	.15	
17.5	Encroachment	4	.15	

River = Unnamed Creek Reach = 5

RS	Profile	Method	Value1	Value2
23	Encroachment	4	.15	
22	Encroachment	4	.15	
21	Encroachment	4	.15	
20.5	Encroachment	4	.15	
20	Encroachment	4	.15	
19	Encroachment	4	.15	
18.5	Encroachment	4	.15	

River = Offsite2 Reach = 1

RS	Profile	Method	Value1	Value2
0.08	Encroachment	4	.15	
0.07	Encroachment	4	.15	
0.06	Encroachment	4	.15	
0.05	Encroachment	4	.15	
0.04	Encroachment	4	.15	
0.03	Encroachment	4	.15	
0.01	Encroachment	4	.15	
0	Encroachment	4	.15	

River = Offsite3 Reach = 1

RS	Profile	Method	Value1	Value2
0.3	Encroachment	4	.15	
0.25	Encroachment	4	.15	
0.24	Encroachment	4	.15	
0.23	Encroachment	4	.15	
0.22	Encroachment	4	.15	
0.21	Encroachment	4	.15	

River = Offsite4 Reach = 1

RS	Profile	Method	Value1	Value2
0.55	Encroachment	4	.15	
0.54	Encroachment	4	.15	
0.53	Encroachment	4	.15	
0.52	Encroachment	4	.15	
0.51	Encroachment	4	.15	

River = Offsite6 Reach = 1

RS	Profile	Method	Value1	Value2
23.05	Encroachment	4	.15	
23.04	Encroachment	4	.15	
23.03	Encroachment	4	.15	
23.02	Encroachment	4	.15	
23.01	Encroachment	4	.15	

River = Offsite6.5 Reach = 1

RS	Profile	Method	Value1	Value2
23.2	Encroachment	4	.15	
23.1	Encroachment	4	.15	

FLOW DATA

Flow Title: Site10PR
Flow File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.f07

Flow Data (m3/s)

River	Reach	RS	100yr	Encroachment	2yr
Offsite10	1	0.97	8.29	8.29	2.18
Offsite2	1	0.2	7.4	7.4	1.95
Offsite2	1	0.08	4.27	4.27	1.13
Offsite3	1	0.5	5.27	5.27	1.39
Offsite4	1	0.58	4.9	4.9	1.3
Offsite6	1	23.07	7.3	7.3	1.93
Offsite6.5	1	23.4	1.07	1.07	.29
Offsite7	1	23.9	34.3	34.3	9
Unnamed Creek	5	23	7.52	7.52	1.98
Unnamed Creek	3	16	44.6	44.6	11.83
Unnamed Creek	2	15	45.67	45.67	12.12
Unnamed Creek	1.5	11	65.34	65.34	17.41
Unnamed Creek	1	9	99.64	99.64	26.41
Unnamed Creek	1	4	105.64	105.64	28.05
Unnamed Creek	1	2	122.23	122.23	32.44
Unnamed Creek	0.5	1.5	122.23	122.23	32.44
Unnamed Creek	4.5	18	32.03	32.03	8.51
Unnamed Creek	4	17	37.3	37.3	9.9

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Offsite10	1	100yr	Critical	
Offsite10	1	Encroachment	Critical	
Offsite10	1	2yr	Critical	
Offsite2	1	100yr	Critical	
Offsite2	1	Encroachment	Critical	
Offsite2	1	2yr	Critical	

Offsite3	1	100yr	Critical
Offsite3	1	Encroachment	Critical
Offsite3	1	2yr	Critical
Offsite4	1	100yr	Critical
Offsite4	1	Encroachment	Critical
Offsite4	1	2yr	Critical
Offsite6	1	100yr	Critical
Offsite6	1	Encroachment	Critical
Offsite6	1	2yr	Critical
Offsite6.5	1	100yr	Critical
Offsite6.5	1	Encroachment	Critical
Offsite6.5	1	2yr	Critical
Offsite7	1	100yr	Critical
Offsite7	1	Encroachment	Critical
Offsite7	1	2yr	Critical
Unnamed Creek	5	100yr	Critical
Unnamed Creek	5	Encroachment	Critical
Unnamed Creek	5	2yr	Critical
Unnamed Creek	0.5	100yr	Normal S = 0.013
Unnamed Creek	0.5	Encroachment	Normal S = 0.013
Unnamed Creek	0.5	2yr	Normal S = 0.013

GEOMETRY DATA

Geometry Title: Site10PR
Geometry File : h:\Gurabo\Desarrollo Sector Urrutia\HEC-RAS\May 2008\Revised\UrrutiaMay08.g07

Reach Connection Table

River	Reach	Upstream Boundary	Downstream Boundary
Offsite10	1	J	
Offsite2	1	N	
Offsite3	1	Y	
Offsite4	1	Z	
Offsite6	1	F	
Offsite6.5	1	G	
Offsite7	1	I	
Unnamed Creek	5		Z
Unnamed Creek	4.5	Z	Y
Unnamed Creek	4	Y	F
Unnamed Creek	3	F	G
Unnamed Creek	2	G	N
Unnamed Creek	1.5	N	I
Unnamed Creek	1	I	J
Unnamed Creek	0.5	J	

JUNCTION INFORMATION

Name: I
Description:
Energy computation Method

Length across Junction River	Reach	Tributary River	Reach	Length	Angle
Unnamed Creek	1.5	to Unnamed Creek	1		88
Offsite7	1	to Unnamed Creek	1	103	

Name: G
Description:
Energy computation Method

Length across Junction River	Reach	Tributary River	Reach	Length	Angle
Unnamed Creek	3	to Unnamed Creek	2		69
Offsite6.5	1	to Unnamed Creek	2	96	

Name: J
Description:
Energy computation Method

Length across Junction		Tributary			
River	Reach	River	Reach	Length	Angle
Unnamed Creek	1	to Unnamed Creek	0.5		41
Offsite10	1	to Unnamed Creek	0.5	67	

Name: F
Description:
Energy computation Method

Length across Junction		Tributary			
River	Reach	River	Reach	Length	Angle
Unnamed Creek	4	to Unnamed Creek	3		69
Offsite6	1	to Unnamed Creek	3	42	

Name: N
Description:
Energy computation Method

Length across Junction		Tributary				
River	Reach	River	Reach	Length	Angle	
Unnamed Creek	2	to Unnamed Creek	1.5		79	0
Offsite2	1	to Unnamed Creek	1.5	0	0	

Name: Z
Description:
Energy computation Method

Length across Junction		Tributary				
River	Reach	River	Reach	Length	Angle	
Unnamed Creek	5	to Unnamed Creek	4.5		30	0
Offsite4	1	to Unnamed Creek	4.5	0	0	

Name: Y
Description:
Energy computation Method

Length across Junction		Tributary				
River	Reach	River	Reach	Length	Angle	
Unnamed Creek	4.5	to Unnamed Creek	4		30	0
Offsite3	1	to Unnamed Creek	4	0	0	

CROSS SECTION

RIVER: Offsite10
REACH: 1 RS: 0.97

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	174.95	.42	174.94	1.5	175.11	2.25	175.1	3.22	175.04
5.21	174.95	6.56	174.68	7.69	174.57	9.95	174	11.16	173.61
12.45	173.16	13.32	172.82	15.61	172	16.04	171.84	16.6	171.65
20.28	170.21	20.82	170	21.18	169.87	21.42	169.77	21.68	169.8
23.8	170	25.38	170.15	25.7	170.18	28.46	170.42	29.37	170.54
31.56	170.82	32.81	171.01	35.87	171.68	36.46	171.8	37.85	172
39.29	172.2	42.04	172.41	42.9	172.47	45.58	172.68	47.64	173.01
50.07	173.44	50.68	173.57						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	20.28	.04	25.7	.04

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

20.28 25.7 57 59 56 .1 .3

CROSS SECTION

RIVER: Offsite10
REACH: 1 RS: 0.96

INPUT
Description:
Station Elevation Data num= 42

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	154.07	.15	154	1.66	153.26	4.28	152	4.62	151.83
5.8	151.26	7.61	150.39	8.42	150	10.12	149.18	12.61	148
13.14	147.75	15.47	146.52	16.45	146	18.63	144.9	20.34	144
23.18	142.53	24.16	142	25.38	141.35	27.04	140.468	27.94	139.99
28.29	139.8	28.91	139.98	29.48	140.15	30.03	140.31	30.58	140.471
32.69	141.09	35.83	142	37.01	142.34	39.51	143.07	41.46	143.63
42.75	144	45.39	144.76	48.41	145.62	48.93	145.76	49.78	146
52.33	146.68	53.17	146.86	54.08	147.08	54.62	147.2	57.32	147.66
57.97	147.84	58.22	147.92						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	27.04	.04	30.58	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
27.04	30.58	62	61	71	.1	.3

CROSS SECTION

RIVER: Offsite10
REACH: 1 RS: 0.95

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	121.75	1.8	121.15	5.04	120	6.69	119.52	8.63	118.91
9.89	118.53	11.53	118	18.3	116.04	18.36	116.02	18.42	116
24.43	114.32	25.54	114	28.72	113.05	30.27	112.597	31.01	112.38
31.99	112.1	32.15	112.06	32.18	112.05	32.22	112.06	32.79	112.12
33.39	112.27	33.75	112.38	34.46	112.599	36.35	113.18	40.19	114
40.93	114.19	41.6	114.35	43.51	114.91	48.03	116	48.53	116.13
51.09	116.9	55.85	118	55.87	118.01	56.1	118.06	62.97	119.79
63.85	120	64.35	120.12						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	30.27	.04	34.46	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
30.27	34.46	44	48	58	.1	.3

CROSS SECTION

RIVER: Offsite10
REACH: 1 RS: 0.94

INPUT
Description:
Station Elevation Data num= 38

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	110.14	.63	110	.97	109.92	1.48	109.81	6.72	108.6
9.51	108	11.07	107.66	14.69	106.85	17.08	106.3	18.45	106
21.85	105.25	23.82	104.84	27.13	104	28.05	103.75	30.31	103.16
33.57	102.32	33.98	102.21	34.4	102.096	34.75	102	35.81	102
36.56	102	36.81	102.097	37.13	102.22	39.83	103.24	41.87	104

44.93 105.15 47.28 106 51.23 107.41 52.82 108 55.93 109.13
58.28 110 59.88 110.59 62.21 111.42 63.75 112 66.11 112.8
69.57 114 70.71 114.4 71 114.51

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .04 34.4 .04 36.81 .04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
34.4 36.81 54 59 48 .1 .3

CROSS SECTION

RIVER: Offsite10
REACH: 1 RS: 0.93

INPUT
Description:
Station Elevation Data num= 35
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 100.36 1.14 100 4.64 98.9 7.49 98 9.78 97.28
13.83 96 16.6 95.38 22.63 94 26.54 93.34 27.64 93.15
30.64 92.65 33.47 92.195 33.81 92.14 34.72 92 34.79 92
37.27 92 37.92 92 38.87 92 39.26 92 39.7 92.14
39.87 92.195 43.18 93.27 44.6 93.76 45.35 94 48.01 94.86
50.95 96 54.48 97.45 55.85 98 56.66 98.25 61.95 100
63.72 100.69 66.81 102 67.78 102.44 71.37 104 71.53 104.08

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .04 33.47 .04 39.87 .04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
33.47 39.87 60 59 51 .1 .3

CROSS SECTION

RIVER: Offsite10
REACH: 1 RS: 0.92

INPUT
Description:
Station Elevation Data num= 33
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 94.19 .09 94.15 .52 94 6 92.02 6.07 92
6.77 91.75 11.63 90 15.42 88.64 17.21 88 20.35 87.09
23.72 86.13 24.18 86 26.22 85.51 31.14 84.35 32.64 84
32.68 84 33.19 84 34.29 84.36 34.48 84.42 39.38 86
41.33 86.64 45.59 88 47.48 88.51 51.03 89.43 51.93 89.65
53.09 90 59.54 91.97 59.63 92 60.29 92.26 64.66 94
69.2 95.75 69.95 96 70.65 96.24

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .04 31.14 .04 34.29 .04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
31.14 34.29 69 78 64 .1 .3

CROSS SECTION

RIVER: Offsite10
REACH: 1 RS: 0.91

INPUT
Description:
Station Elevation Data num= 35

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	87.84	2.5	86.49	3.42	86	5.49	84.94	7.38	84
11.96	82.64	14.37	82	19.81	80.63	22.29	80	24.96	79.3
30.03	78	33.48	77.06	36.32	76.376	36.72	76.28	37.27	76.15
38.28	76	38.9	76	39.31	76	41.04	76.28	41.78	76.4
50.64	78	58.45	79.58	59.94	79.87	60.5	80	65.97	81.78
66.7	82	67.7	82.34	72.65	84	77.48	85.67	78.48	86
79.69	86.4	84.51	88	88.4	89.29	90.51	90	90.62	90.03

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	36.32	.04	41.78	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
36.32	41.78	63	65	68	.1	.3

CROSS SECTION

RIVER: Offsite10
REACH: 1 RS: 0.90

INPUT
Description:
Station Elevation Data num= 31

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	79.07	2.65	78	3.58	77.73	6.58	77.04	11.53	76
13.17	75.69	14.99	75.31	18.55	74.58	21.37	74	25.86	73.59
28.93	73.28	34.57	72.75	38.74	72.337	39.21	72.29	40.77	72.13
41.28	72.08	42.33	72.01	43.31	72.04	43.41	72.04	44.37	72.1
46.72	72.29	47.33	72.336	48.43	72.42	57.07	73.16	66.25	74
73.95	75.63	75.61	76	76.79	76.24	85.71	78	87.99	78
88.03	78								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	38.74	.04	47.33	.04

Bank Sta: Left	Right	Coeff Contr.	Expan.
38.74	47.33	.1	.3

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0.2

INPUT
Description:
Station Elevation Data num= 33

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	237.98	1.21	237.68	2.58	237.34	5.4	236.63	7.94	236
9.32	235.65	10.65	235.31	13.03	234.71	15.86	234	16.76	233.76
17.16	233.65	18.86	233.19	21.31	232.52	22.24	232.28	23.34	232
24.27	231.74	25.21	232	26.2	232.25	27.01	232.45	29.68	233.09
32.88	233.95	32.97	233.97	33.07	234	38.41	235.23	39.24	235.41
41.83	236	43.54	236.38	44.21	236.52	46.37	236.98	49.51	237.68
50.09	237.8	50.97	238	51.05	238.02				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	22.24	.04	26.2	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
22.24	26.2	36	35	34	.1	.3

CROSS SECTION

RIVER: Offsite2

REACH: 1 RS: 0.1

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	221.79	.3	221.71	4.61	220.57	7.13	220	8.03	219.79
8.99	219.56	12.27	218.78	15.88	218.07	16.04	218.04	16.32	218
19.67	217.9	22.53	217.83	25.39	217.84	25.69	217.81	28.15	217.8
29.35	217.84	32.37	217.93	32.47	217.94	32.64	217.96	32.96	218
37.29	219.11	41.05	220	44.18	220.98	47.48	222	48.38	222.3
50.75	223.03	52.8	223.67	53.86	224	54.24	224.12		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	25.39	.04	29.35	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
25.39	29.35	29	33	35	.1	.3

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0.09

INPUT
Description:
Station Elevation Data num= 34

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	214.32	.02	214.31	.7	214.1	1.03	214	6.3	212.47
7.27	212.24	8.2	212	12.85	210.82	16.08	210	16.27	209.95
16.42	209.91	19.82	209.11	22.03	208.56	23.01	208.36	24.06	208.15
24.85	208	25.92	207.78	26.15	207.84	26.35	207.9	26.66	208
27.18	208.16	30.7	209.21	33.17	210	35.06	210.56	36.31	210.95
37.98	211.51	39.35	212	40.95	212.6	43.88	214	44.91	214.38
49.9	216	49.99	216.03	56.37	218	56.49	218.04		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	24.06	.04	27.18	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
24.06	27.18	70	67	68	.1	.3

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0.08

INPUT
Description:
Station Elevation Data num= 27

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	198.01	.05	198	4.46	197.19	9.42	196.15	9.85	196.06
10.16	196	14.65	194.65	16.55	194	17.44	193.65	19.89	192.74
20.75	192.4	20.87	192.35	22.23	192	22.61	192	23.12	192
23.39	192	23.55	192	24.94	192.41	26.19	192.77	29.04	193.75
29.39	193.88	29.74	194	33	195.08	35.31	195.82	35.83	196
40.45	197.48	41.59	197.93						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	20.75	.04	24.94	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
20.75	24.94	72	66	65	.1	.3

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0.07

INPUT
Description:
Station Elevation Data num= 20

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	179.82	4.91	178.34	6.04	178	9.95	177.02	12.87	176.13
13.32	176	18.79	174.77	20.33	174.33	21.51	174	23.1	174
23.29	174	23.82	174	24.63	174.32	26.13	174.91	29.97	176
31.11	176.45	35.09	178	35.88	178.31	40.17	180	40.51	180.14

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	20.33	.04	24.63	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
20.33	24.63	65	69	76	.1	.3

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0.06

INPUT
Description:
Station Elevation Data num= 32

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	180.01	.06	180	1.95	179.56	8.31	178	10.14	176.86
11.44	176	13.57	174.62	14.52	174	16.49	172.75	17.62	172
18.02	171.73	20.63	170	22.12	169	22.4	168.81	23.63	168
23.92	168	23.93	168	24.84	168	25.98	168.76	27.74	169.93
27.84	170	27.93	170.06	30.83	172	31.18	172.24	33.81	174
34.5	174.47	36.88	176	38.45	177.08	39.84	178	41.25	179.01
42.66	180	43.32	180.46						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	22.4	.04	25.98	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
22.4	25.98	65	69	66	.1	.3

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0.05

INPUT
Description:
Station Elevation Data num= 31

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	166	2.43	165.07	5.24	164	6.22	163.48	8.97	162
10.21	161.34	12.67	160	14.49	159.04	16.4	158	19.18	156.52
20.16	156	22.6	154.71	22.78	154.63	23.94	154.12	24.17	154.23
24.23	154.25	24.92	154.62	27.49	156	29.68	157.43	30.61	158
33.11	159.69	33.59	160	36.32	161.52	37.12	162	37.76	162.35
38.44	162.67	40.22	163.49	41.24	164	43.02	164.84	43.85	165.36
44.33	165.77								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	22.78	.04	24.92	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
22.78	24.92	67	71	80	.1	.3

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0.04

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	149.87	.98	149.36	3.43	148	3.55	147.94	3.73	147.84
6.93	146	10.05	144.72	11.93	144	14.83	143.22	16.82	142.72
17.79	142.48	19.73	142.01	19.77	142	19.81	142	19.91	142.07
21.05	142.72	23.27	144	26.44	145.92	26.58	146	26.6	146.02
29.89	148	32.26	149.43	34.44	150.47	35.86	151.02	38.38	152
42.72	153.53	44.1	154	44.42	154.11				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	16.82	.04	21.05	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
16.82	21.05	71	80	77	.1	.3

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0.03

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	140.28	.58	140	1.68	139.47	4.61	138.06	4.7	138.02
4.74	138	10.26	136.15	10.69	136	14.6	134.74	16.88	134
22.48	132.16	22.79	132.06	22.97	132	27.43	130.53	28.77	130.09
29.03	130.07	29.45	130.01	30.24	130.26	30.89	130.55	34.09	132
36.61	132.89	39.32	134	44.55	135.69	45.53	136	46.17	136.2
51.89	138	53.12	138.68	56.09	140.36				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	27.43	.04	30.89	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
27.43	30.89	57	54	47	.1	.3

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0.025

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	126.06	.17	126	2.36	125.32	6.62	124	10.01	122.95
12.19	122.29	13.11	122	14.69	121.51	19.6	120	22.73	119.03
24.11	118.64	25.07	118	25.17	118	26.87	118	26.89	118
26.94	118	28.73	118	28.97	118.59	32.41	120	34.63	120.97
37.15	122	42.08	123.75	42.8	124	44.77	124.85	47.49	126
48.15	126.32	51.53	128	54.93	129.62	55.64	130		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	24.11	.04	28.97	.04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
24.11 28.97 30 30 30 .3 .5

BRIDGE

RIVER: Offsite2
REACH: 1 RS: .024

INPUT
Description:
Distance from Upstream XS = .1
Deck/Roadway Width = 13
Weir Coefficient = 1.44
Upstream Deck/Roadway Coordinates
num= 9

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
0	121		25.07	121	118	25.527	121	118.92
25.985	121	119.28	26.87	121	119.5	27.78	121	119.28
28.24	121	118.92	28.67	121	118	100	121	

Upstream Bridge Cross Section Data
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	126.06	.17	126	2.36	125.32	6.62	124	10.01	122.95
12.19	122.29	13.11	122	14.69	121.51	19.6	120	22.73	119.03
24.11	118.64	25.07	118	25.17	118	26.87	118	26.89	118
26.94	118	28.73	118	28.97	118.59	32.41	120	34.63	120.97
37.15	122	42.08	123.75	42.8	124	44.77	124.85	47.49	126
48.15	126.32	51.53	128	54.93	129.62	55.64	130		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	24.11	.04	28.97	.04

Bank Sta: Left Right Coeff Contr. Expan.
24.11 28.97 .3 .5

Downstream Deck/Roadway Coordinates
num= 9

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
0	121		25.07	121	118	25.527	121	118.92
25.985	121	119.28	26.87	121	119.5	27.78	121	119.28
28.24	121	118.92	28.67	121	118	100	121	

Downstream Bridge Cross Section Data
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	126.06	.17	126	2.36	125.32	6.62	124	10.01	122.95
12.19	122.29	13.11	122	14.69	121.51	19.6	120	22.73	119.03
24.11	118.64	25.07	118	25.17	118	26.87	118	26.89	118
26.94	118	28.73	118	28.97	118.59	32.41	120	34.63	120.97
37.15	122	42.08	123.75	42.8	124	44.77	124.85	47.49	126
48.15	126.32	51.53	128	54.93	129.62	55.64	130		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	24.11	.04	28.97	.04

Bank Sta: Left Right Coeff Contr. Expan.
24.11 28.97 .3 .5

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 = .95
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

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: Offsite2
REACH: 1 RS: 0.02

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	126.06	.17	126	2.36	125.32	6.62	124	10.01	122.95
12.19	122.29	13.11	122	14.69	121.51	19.6	120	22.73	119.03
24.11	118.64	25.07	118	25.17	118	26.87	118	26.89	118
26.94	118	28.73	118	28.97	118.59	32.41	120	34.63	120.97
37.15	122	42.08	123.75	42.8	124	44.77	124.85	47.49	126
48.15	126.32	51.53	128	54.93	129.62	55.64	130		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	24.11	.04	28.97	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
24.11	28.97	62	76	82	.3	.5

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0.01

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	111.91	.87	111.66	3.53	110.74	4.83	110.31	5.69	110
8.78	109.01	11.78	108	14.06	106.86	15.74	106	18.47	104.64
19.47	104.14	19.96	104.02	20	104.01	20.01	104.02	21.12	104.62
22.14	105.18	23.51	106	23.91	106.24	24.55	106.57	25.95	107.35
27.05	108	29.91	109.63	30.58	110	31.42	110.46	34.17	112
35.81	112.91	37.79	114	38.95	114.64	41.02	115.77		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	18.47	.04	21.12	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18.47	21.12	48	54	48	.1	.3

CROSS SECTION

RIVER: Offsite2
REACH: 1 RS: 0

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	106	4	104	5.08	103.43	7.77	102	10.48	100.6
11.61	100	13.11	99.22	15.5	98	18.16	96.63	18.42	96.5
19.56	96.04	19.62	96.01	19.64	96.01	20.35	96.03	20.59	96.09
20.82	96.14	20.98	96.2	22.16	96.63	25.93	98	31.03	99.96
31.11	100	31.24	100.06	35.4	102	37.64	103.1	39.48	104
41	104.76	43.53	106	46.62	107.56				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	18.16	.04	22.16	.04

Bank Sta: Left	Right	Coeff Contr.	Expan.
18.16	22.16	.1	.3

CROSS SECTION

RIVER: Offsite3
REACH: 1 RS: 0.5

INPUT
Description:
Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	236	9	234	19.06	232.28	20.7	232	23	232
24.11	232.281	30.9	234	35	236	41.3	238		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	19.06	.04	24.11	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19.06	24.11	48	54	50	.1	.3

CROSS SECTION

RIVER: Offsite3
REACH: 1 RS: 0.4

INPUT
Description:
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	222	14.9	220	23.74	218.25	25	218	26.74	218.249
39	220	45.2	222	51	224				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	23.74	.04	26.74	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
23.74	26.74	44	50	51	.1	.3

CROSS SECTION

RIVER: Offsite3
REACH: 1 RS: 0.3

INPUT
Description:
Station Elevation Data num= 7

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	210	9	208	20.55	206.407	23.5	206	25.33	206.407
32.5	208	51	210						

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .04 20.55 .04 25.33 .04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
20.55 25.33 28 41 51 .1 .3

CROSS SECTION

RIVER: Offsite3
REACH: 1 RS: 0.25

INPUT
Description:
Station Elevation Data num= 10
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 196 8.4 194 13.11 192 17.63 190.258 18.3 190
19.05 190.259 24.1 192 29.5 194 34.7 196 39.6 198

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .04 17.63 .04 19.05 .04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
17.63 19.05 38 38 37 .1 .3

CROSS SECTION

RIVER: Offsite3
REACH: 1 RS: 0.24

INPUT
Description:
Station Elevation Data num= 10
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 188 4.6 186 9 184 15.9 182 21.56 180.428
23.1 180 25 180.427 32 182 37.8 184 43.4 186

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .04 21.56 .04 25 .04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
21.56 25 55 43 36 .1 .3

CROSS SECTION

RIVER: Offsite3
REACH: 1 RS: 0.23

INPUT
Description:
Station Elevation Data num= 25
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 172.02 .06 172 2.88 171.33 6.43 170.57 7.99 170.22
9.12 170 14.39 168.94 17.73 168.3 18.57 168.14 18.94 168.07
19.27 168.03 19.86 168 20.17 168 20.99 168.3 21.2 168.38
23.63 170 26.54 171.75 26.96 172 27.25 172.17 30.29 174
31.54 174.76 33.56 176 36.88 177.98 36.92 178 36.96 178.03

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .04 17.73 .04 20.99 .04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
17.73 20.99 28 41 36 .1 .3

CROSS SECTION

RIVER: Offsite3
REACH: 1 RS: 0.22

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	170.02	.03	170	.1	169.96	3.51	168	5.77	166.7
7	166	8.94	164.88	10.47	164	12.17	163.03	13.96	162
16.33	160.67	16.6	160.56	17.25	160.29	17.39	160.23	17.58	160.18
18.05	160.34	18.5	160.3	19.32	160.56	23.84	162	25.78	162
32.74	163.8	33.51	164	34.56	164.34	37.42	165.16	39.83	166
43.1	167.34	44.6	168	45.09	168.25				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	16.6	.04	19.32	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
16.6	19.32	41	38	34	.1	.3

CROSS SECTION

RIVER: Offsite3
REACH: 1 RS: 0.21

INPUT
Description:
Station Elevation Data num= 22

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	159.99	1.35	159.45	4.91	158	5.53	157.74	6.52	157.34
9.81	156	13.22	154.59	14.67	154	17.18	152.97	18.65	152.35
19.47	152	19.96	152	20.04	152	20.56	152.21	20.87	152.34
24.84	154	28.16	155.5	29.35	156	32.1	157.33	33.53	158
36.22	159.27	37.02	159.67						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	18.65	.04	20.87	.04

Bank Sta: Left	Right	Coeff Contr.	Expan.
18.65	20.87	.1	.3

CROSS SECTION

RIVER: Offsite4
REACH: 1 RS: 0.58

INPUT
Description:
Station Elevation Data num= 33

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	320.13	.62	320	4.2	319.27	6.52	318.79	10.4	318
11.98	317.68	14.5	317.01	16.85	316.42	18.16	316	21.37	314.79
23.4	314	24.43	313.62	28.75	312	31.44	311.04	33.48	310.26
34.17	310	34.31	309.96	35.43	310	35.74	310.01	35.78	310.02
38.38	310.26	40.75	310.48	41.88	310.6	43.5	310.89	44.82	311.08
45.84	311.32	46.76	311.65	47.18	311.77	47.76	312	49.47	312.65
53.96	314	55.29	314.41	60.05	315.84				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	33.48	.04	38.38	.04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
33.48 38.38 45 52 47 .1 .3

CROSS SECTION

RIVER: Offsite4
REACH: 1 RS: 0.57

INPUT
Description:
Station Elevation Data num= 33

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	300.23	.74	300	1.41	299.79	1.78	299.67	6.18	298.31
7.01	298.05	7.17	298	10.87	296.75	13.38	296	14.67	295.6
19.52	294	21.78	293.26	25.61	292	27.12	291.5	30.41	290.43
30.69	290.34	31.05	290.22	31.86	290.34	31.93	290.35	36.57	291.02
43.56	292	43.75	292.03	43.83	292.04	43.99	292.06	49.71	292.82
52.51	293.13	54.14	293.33	54.61	293.39	55.35	293.5	60.35	293.88
60.73	293.9	62.05	294	64	294.13				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	30.69	.04	31.86	.04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
30.69 31.86 63 54 40 .1 .3

CROSS SECTION

RIVER: Offsite4
REACH: 1 RS: 0.56

INPUT
Description:
Station Elevation Data num= 51

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	277.95	.33	277.96	.37	277.97	4.34	277.81	6.63	277.95
6.81	277.96	7.55	278	9.78	278	10.84	277.95	12.99	278
14.3	278	15.53	278	19.02	277.62	19.75	277.6	19.86	277.59
20.79	277.55	21.81	277.51	32.15	276.89	33.99	276.79	36.08	276.61
40.25	276.28	41.4	276.14	42.48	276	42.55	276	42.98	276
46.4	276.07	46.53	276.07	52.64	276.12	52.78	276.12	52.85	276.12
52.98	276.13	53.1	276.13	53.76	276.14	57.05	276.18	57.34	276.18
60.54	276.22	61.33	276.26	61.8	276.32	64.19	276.36	65.06	276.35
66.87	276.33	68.29	276.54	71.56	276.81	73.78	277.21	75	277.39
78.07	278	78.31	278.09	78.73	278.28	80.62	279.09	82.08	280
82.25	280.12								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	41.4	.04	53.76	.04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
41.4 53.76 47 49 43 .1 .3

CROSS SECTION

RIVER: Offsite4
REACH: 1 RS: 0.55

INPUT
Description:
Station Elevation Data num= 49

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	260.17	.6	260	2.45	259.36	3.84	259.03	4.91	258.69
5.6	258.57	6.92	258.26	7.3	258.21	8.48	258	8.62	257.98
8.67	257.97	12.63	257.48	13.45	257.38	15.64	257.17	17.4	257.04

19.29	256.89	20.8	256.73	23.7	256	24.04	255.91	24.17	255.88		
26.39	255.44	27.98	255.16	30.46	254.72	33.26	254	35.46	253.41		
38.51	252.55	39.56	252.25	40.44	252	44.15	250.94	45.58	250.55		
46.31	250.35	47.22	250.09	47.81	250.34	49.65	251.14	50.55	251.53		
51.62	252	52.97	252.59	55.05	253.52	55.8	253.81	56.26	254		
59.47	255.3	61.23	256	62.69	256.58	63.71	257.01	65.82	258		
66.97	258.54	69.26	259.83	69.49	259.95	69.53	259.97				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	46.31	.04	47.81	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
46.31	47.81	57	54	43	.1	.3

CROSS SECTION

RIVER: Offsite4
REACH: 1 RS: 0.54

INPUT
Description:
Station Elevation Data num= 43

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	240.12	.32	240	1.27	239.65	1.6	239.55	2.06	239.46
4.46	238.79	7.45	238	8.02	237.84	8.99	237.64	13.32	236.75
17.04	236.02	17.09	236.01	17.16	236	20.5	235.34	22.85	234.9
24.51	234.54	27.21	234.04	27.27	234.03	27.4	234	29.13	233.56
29.95	233.42	30.42	233.34	32.39	232.84	34.97	232.1	35.16	232.05
35.31	232	39.57	230.61	40.35	230.35	40.89	230.19	42.01	230.61
43.89	231.31	45.79	232	48.9	233.12	51.19	234	52.07	234.33
53.04	234.73	54.88	235.53	55.95	236	57.84	236.83	60.38	238
61.52	238.51	64.71	240	64.99	240.13				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	39.57	.04	42.01	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
39.57	42.01	56	66	72	.1	.3

CROSS SECTION

RIVER: Offsite4
REACH: 1 RS: 0.53

INPUT
Description:
Station Elevation Data num= 34

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	210.19	.59	210	2.93	209.12	6.1	208	8.74	207.07
11.35	206	12.12	205.71	15.76	204.36	16.58	204.06	16.73	204
18.58	203.22	21.46	202	21.85	201.79	23.59	200.8	24.67	200.18
24.81	200.1	25.02	200	25.1	199.96	25.37	200	26.58	200.18
27.33	200.29	27.61	200.42	28.15	200.64	30.11	202	32.3	203.34
33.1	203.79	33.49	204	36.91	205.91	37.08	206	39.57	207.33
40.85	208	42.51	208.88	44.65	210	45.67	210.3		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	24.67	.04	26.58	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
24.67	26.58	53	49	53	.1	.3

CROSS SECTION

RIVER: Offsite4
REACH: 1 RS: 0.52

INPUT
Description:
Station Elevation Data num= 27

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	190.08	.19	190	1.19	189.57	5.19	188	6.31	187.56
8.55	186.68	10.3	186	11.89	185.38	15.46	184	15.69	183.91
17.04	183.43	19.88	182.41	20.6	182.15	20.75	182.11	23.3	182.33
23.87	182.34	24.31	182.4	25.65	182.59	26.7	182.75	27.77	183.01
29.73	184	31.7	185.09	33.32	186	35.54	187.23	36.91	188
39.4	189.39	39.81	189.61						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	19.88	.04	24.31	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
19.88	24.31	30	37	36	.1	.3

CROSS SECTION

RIVER: Offsite4
REACH: 1 RS: 0.51

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	175.95	3.59	174.46	4.63	174	6.66	173.11	9.18	172
10.21	171.55	11.33	171.08	13.77	170	14.52	169.67	16.95	168.6
17.81	168.2	18.26	168	22.25	166.35	22.6	166.19	22.77	166.15
23.36	166	24.41	166	24.48	166	24.89	166.15	25.49	166.36
29.54	168	30.56	168.44	34.07	170	35.31	170.57	38.48	172
41.27	173.37	42.62	174	45.63	175.41				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	22.77	.04	24.89	.04

Bank Sta: Left	Right	Coeff Contr.	Expan.
22.77	24.89	.1	.3

CROSS SECTION

RIVER: Offsite6
REACH: 1 RS: 23.07

INPUT
Description:
Station Elevation Data num= 38

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	230.49	.53	230	1.47	229.11	2.55	228	4.26	227.66
4.94	227.64	15.53	226	16.58	226	18.32	226	20.03	225.28
21.59	224.7	22.64	224.33	24.34	224	24.72	223.91	24.79	223.88
26.56	223.25	27.89	223.11	28.99	222.84	29.23	222.8	30.24	222.67
31.59	222.48	33.38	222.53	34.51	222.66	35.35	222.824	35.38	222.83
37.36	223.05	38.18	223.28	39.09	223.41	41.06	223.93	41.14	223.95
41.3	224	45.97	225.36	47.95	226	55.13	227.11	59.87	227.71
60.84	227.85	62.1	228	62.69	228.27				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	28.99	.04	35.35	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
28.99	35.35	24	31	32	.1	.3

CROSS SECTION

RIVER: Offsite6
REACH: 1 RS: 23.06

INPUT
Description:
Station Elevation Data num= 40

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	222.2	.39	222	3.32	220.46	4.19	220	6.51	218.73
7.82	218	8.17	217.78	11.06	216	12.14	215.36	14.51	214
17.48	212.26	17.95	212	18.56	211.67	20.76	210.58	21.63	210.145
21.76	210.08	21.83	210.06	22.13	210	22.48	210	22.64	210
23	210.148	24.3	210.68	27.11	212	27.77	212.3	29.74	213.36
30.7	213.88	30.9	214	31.11	214.13	34.3	216	36.75	217.44
37.68	218	39.34	219	41.02	220	41.88	220.52	44.35	222
46.06	223	47.72	224	50.67	225.72	51.17	226	51.6	226.05

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	21.63	.04	23	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
21.63	23	40	47	50	.1	.3

CROSS SECTION

RIVER: Offsite6
REACH: 1 RS: 23.05

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	210.52	.66	210	2.83	208.25	3.14	208	3.52	207.7
5.67	206	6.59	205.27	8.19	204	9.52	202.93	10.71	202
12.04	200.93	13.21	200	14.28	199.14	15.74	198	18.01	196.536
18.5	196.22	19.06	196.19	19.78	196.2	20.64	196.44	20.87	196.536
20.88	196.54	23.75	198	27.76	200	27.77	200	31.72	202
32.33	202.31	33.63	202.69	37.28	204	40.58	205.36		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	18.01	.04	20.87	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
18.01	20.87	43	54	54	.1	.3

CROSS SECTION

RIVER: Offsite6
REACH: 1 RS: 23.04

INPUT
Description:
Station Elevation Data num= 42

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	200.68	.1	200.58	.66	200	2.11	198.5	2.61	198
2.72	197.9	4.67	196	6.07	194.55	6.63	194	6.85	193.76
8.74	192	9.14	191.58	11.02	190	11.83	189.28	13.37	188
15.78	186.03	15.82	186	15.98	185.87	18.03	184.24	18.33	184
18.72	183.69	20.87	182	22.87	181.01	24.37	180.49	25.06	180.25
25.91	180.16	26.86	180.46	26.92	180.491	29.35	181.76	29.68	181.93
29.81	182	29.95	182.08	33.34	184	35.48	185.21	36.87	186
39.22	187.34	40.43	188	41.83	188.58	44.6	190	47.8	191.26
49.64	192	50.42	192.3						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	24.37	.04	26.92	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
24.37	26.92	51	59	60	.1	.3

CROSS SECTION

RIVER: Offsite6
REACH: 1 RS: 23.03

INPUT
Description:
Station Elevation Data num= 40

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	180.27	.16	180.16	.4	180	.66	179.82	3.45	178
5.29	176.68	6.4	176	9.29	174.08	9.42	174	9.49	173.95
12.61	172	13.26	171.59	15.8	170	18.89	168.08	19.02	168
21.67	166.35	22.22	166	24.53	164.56	25.43	164	27.45	162.74
28.63	162	31.12	160.54	33.16	160	33.4	160	33.55	160.02
34.68	160.61	37.52	162	38.42	162.5	41.34	164	41.45	164.07
44.83	166	46.68	167.1	48.19	168	49.18	168.57	51.53	170
54.16	171.58	54.86	172	55.29	172.27	58.15	174	60.65	175.04

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	31.12	.04	34.68	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
31.12	34.68	51	60	56	.1	.3

CROSS SECTION

RIVER: Offsite6
REACH: 1 RS: 23.02

INPUT
Description:
Station Elevation Data num= 50

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	159.66	.66	159.1	1.93	158	2.61	157.43	4.7	156
7.65	154	8.17	153.64	10.58	152	11.12	151.61	12.99	150.41
13.36	150.18	13.69	150	15.25	149.12	17.24	148	17.35	147.94
17.53	147.83	19.94	146.62	21.17	146	22.81	145.17	25.13	144
25.87	143.62	28.93	142.08	29.05	142.02	29.1	142	31.24	140.87
32.54	140.188	32.88	140.01	32.89	140	34.41	140	34.74	140
35.77	140	36.06	140.189	36.46	140.45	38.77	142	40.8	143.41
41.68	144	44.42	145.9	44.57	146	44.86	146.19	47.31	148
49.34	149.65	49.8	150	50.41	150.53	52.47	152	54.81	153.58
55.39	153.91	55.55	154	56.9	154.77	59.14	156	59.33	156.13

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	32.54	.04	36.06	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
32.54	36.06	54	54	45	.1	.3

CROSS SECTION

RIVER: Offsite6
REACH: 1 RS: 23.01

INPUT
Description:

Station Elevation Data num= 36

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	139.97	1.31	139.39	4.61	138	7.14	136.96	9.65	136
10.9	135.52	15.03	134	18.12	132.83	20.37	132	25.09	130.22
25.66	130	28.87	128.68	30.54	128	30.66	128	34.65	126.47
35.51	126.14	35.71	126.15	36.07	126.2	38	126.29	38.37	126.466
41.09	127.76	41.64	128	42.92	128.63	45.78	130	47.48	131.05
48.91	132	49.43	132.39	50.99	133.38	51.73	133.86	53.8	133.94
53.86	133.96	54.2	134	57.26	134.29	58.4	134.5	62.18	135.03
66.27	135.76								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	34.65	.04	38.37	.04

Bank Sta: Left	Right	Coeff Contr.	Expan.
34.65	38.37	.1	.3

CROSS SECTION

RIVER: Offsite6.5
REACH: 1 RS: 23.4

INPUT
Description:
Station Elevation Data num= 44

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	231.99	.15	231.94	.29	231.89	2.94	230.82	4.91	230
6.18	229.48	9.44	228	11.07	227.28	13.82	226	15.24	225.33
18.12	224	19.1	223.47	20.78	222.59	22	222	25.08	220.55
26.11	220.14	26.46	220	26.9	219.84	27.33	220	27.66	220.136
28.83	220.62	30.63	221.22	32.71	222	34.74	222.79	37.1	223.62
37.65	223.82	38.12	224	40.54	224.89	43.34	226	45.03	226.68
47.02	227.45	48.35	228	50.88	229.01	51.79	229.37	53.38	230
54.66	230.5	55.08	230.64	55.76	230.8	56.97	231.06	59.46	231.35
62.19	231.79	62.52	231.83	64.06	232	64.96	232.03		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	26.11	.04	27.66	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
26.11	27.66	42	34	27	.1	.3

CROSS SECTION

RIVER: Offsite6.5
REACH: 1 RS: 23.3

INPUT
Description:
Station Elevation Data num= 30

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	205.98	1.71	205.7	2.66	205.56	5.61	205.1	9.85	204.24
10.37	204.13	10.56	204.08	10.87	204	13.83	203.2	17.04	202.33
17.61	202.16	18.13	202	21.26	201.04	24.66	200	24.72	199.982
24.96	199.91	25.13	199.983	25.17	200	26	200.38	29.73	202
31.56	202.79	34.34	204	35.87	204.66	38.93	206	40.21	206.56
43.51	208	44.88	208.6	48.13	210	49.14	210.43	51.4	211.35

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	24.72	.04	25.13	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
24.72	25.13	43	40	35	.1	.3

CROSS SECTION

RIVER: Offsite6.5
REACH: 1 RS: 23.25

INPUT
Description:
Station Elevation Data num= 31

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	183.58	1.98	183.44	3.12	183.29	4.85	183.04	10.69	182.02
10.77	182.01	10.82	182	14.67	181.33	16.55	181	18.72	180.62
22.17	180.012	22.24	180	22.31	179.99	22.33	179.98	22.38	179.98
23.15	179.84	23.62	180	23.66	180.014	26.32	180.93	29.45	182
30.46	182.35	32.37	183.01	34.29	183.66	35.26	184	38.31	185.05
41.04	186	42.03	186.34	43.4	186.82	46.71	188	49.83	189.11
51.71	189.86								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	22.17	.04	23.66	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
22.17	23.66	39	41	43	.1	.3

CROSS SECTION

RIVER: Offsite6.5
REACH: 1 RS: 23.2

INPUT
Description:
Station Elevation Data num= 41

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	172	1.01	172	5.93	171.02	10.57	170	13.9	169.26
19.45	168	23.19	166.82	26.44	166	28.68	165.04	31.32	164
33.13	163.22	35.99	162	38.37	161.07	39.53	160.65	40.94	160.37
41.24	160.31	41.79	160.25	42.07	160.21	42.9	160.37	43.89	160.56
48.37	161.65	49.34	161.9	49.77	162	54.62	163.5	55.37	163.74
56.43	164	60.04	165.13	63.37	166	63.81	166.09	64.12	166.13
66.97	166.59	69.59	166.95	71.98	167.36	73.17	167.54	75.4	168
78.59	168.72	80.45	169.16	84.17	170	84.52	170.08	85.09	170.19
85.76	170.33								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	40.94	.04	42.9	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
40.94	42.9	48	56	58	.1	.3

CROSS SECTION

RIVER: Offsite6.5
REACH: 1 RS: 23.1

INPUT
Description:
Station Elevation Data num= 44

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	156.38	1.12	156	6.46	154.01	6.48	154	6.5	153.99
10.59	152	11.86	151.37	14.69	150	15.88	149.42	18.82	148
22.63	146.13	22.89	146	23.01	145.94	27	144	27.27	143.87
31.1	142	31.56	141.78	33.16	141.11	35.38	140.15	35.44	140.136
36.01	140	36.23	139.94	36.76	140	37.32	140.05	37.42	140.06
37.57	140.1	37.71	140.135	40.11	140.73	43.29	141.79	43.64	141.9
43.93	142	44.87	142.35	49.33	144	50.36	144.37	51.64	144.83
55.14	146	56.67	146.32	59.62	146.78	60.11	146.76	66.95	146.45
67.4	146.41	68.26	146.33	71	146	71.63	145.91		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	35.44	.04	37.71	.04

Bank Sta: Left Right Coeff Contr. Expan.

35.44	37.71	.1	.3

CROSS SECTION

RIVER: Offsite7
REACH: 1 RS: 23.9

INPUT
Description:
Station Elevation Data num= 31

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	122.05	.13	122	2.05	121.16	4.28	120	7.05	118.49
7.94	118	8.68	117.64	12.4	116	14.54	115.14	17.47	114
21.11	112.6	22.65	112	25.33	111.05	25.88	110.88	28.72	110
29.4	110	29.49	110	29.76	110	32.97	110.86	34.97	111.39
37.07	112	38.16	112.3	44.71	114	47.03	114.88	49.17	115.52
50.55	116	52.79	116.8	56.2	118	61.55	119.91	61.81	120
61.99	120.06								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	25.88	.04	32.97	.04

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

25.88	32.97	52	67	79	.1	.3

CROSS SECTION

RIVER: Offsite7
REACH: 1 RS: 23.8

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	110.03	.12	110	.36	109.94	.59	109.87	4.16	108.85
6.95	108.05	7.15	108	7.24	108	13.23	107.5	17.2	106.55
18.11	106.38	19.45	106	21.23	105.16	23.49	104	25.71	103.48
27.97	102.91	30.66	102.28	31.85	102	33.14	102	33.43	102
33.79	102	34.93	102.28	37.56	102.92	39.69	103.39	40.68	103.61
42.46	104	49.25	105.17	51.21	105.5	53.49	106	55.64	107.17
57.15	108	59.65	109.37	60.77	110	63.28	111.34	64.53	112
64.58	112.03	65.11	112.31						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	30.66	.04	34.93	.04

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

30.66	34.93	51	48	44	.1	.3

CROSS SECTION

RIVER: Offsite7
REACH: 1 RS: 23.7

INPUT
Description:
Station Elevation Data num= 25

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	104.04	.11	104	.37	103.91	5.89	102	5.98	101.97

```
 11.65   100  16.59  98.29  17.42    98  18.66  97.57  20.94  96.78
 20.95  96.78   23.2    96  23.74    96  23.97    96  24.07    96
  25.8  96.73  26.62  97.08  28.58    98  31.02  99.23  32.65   100
 35.76 101.57  36.65   102   39.1 103.3  40.45   104  40.65   104

Manning's n Values      num=     3
   Sta  n Val   Sta  n Val   Sta  n Val
     0   .04  20.95   .04  25.8   .04

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     20.95  25.8          65    50    38         .1      .3

CROSS SECTION


RIVER: Offsite7
REACH: 1              RS: 23.6

INPUT
Description:
Station Elevation Data   num=     30
   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
     0  95.92    .8  95.68   6.57    94   7.28  93.79  10.71  92.8
 13.02  92.12  13.44    92  18.42  90.55  20.43    90  25.03  88.69
 25.68  88.55  26.62  88.35  27.61  88.13  27.73  88.11  28.42    88
 28.76    88  29.23    88  29.89    88  30.21    88  31.52  88.35
 34.28  89.08  37.08    90   38.7  90.43  44.56    92  45.64  92.35
 48.55  93.39  49.74  93.81  50.24    94  52.46  94.89   55.1  95.96

Manning's n Values      num=     3
   Sta  n Val   Sta  n Val   Sta  n Val
     0   .04  26.62   .04  31.52   .04

Bank Sta: Left  Right   Lengths: Left Channel  Right    Coeff Contr.  Expan.
     26.62  31.52          44    42    32         .1      .3

CROSS SECTION


RIVER: Offsite7
REACH: 1              RS: 23.5

INPUT
Description:
Station Elevation Data   num=     33
   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
     0  90.25    .2  90.18    .72    90   1.24  89.82   6.49    88
  9.67  86.91  12.28    86  15.92  84.77  18.18    84  19.26  83.64
 24.12    82  24.25  81.96  24.73  81.82  28.95  80.55  29.73  80.32
  31.4    80  31.73    80  32.43    80  33.26  80.19  34.14  80.53
 37.47  81.81  37.83  81.94   37.9  81.97  37.98    82  42.85  83.98
 42.88    84  46.59  85.54   47.7    86  52.75  87.47  54.71    88
 60.95  89.76   61.8    90  61.98  90.06

Manning's n Values      num=     3
   Sta  n Val   Sta  n Val   Sta  n Val
     0   .04  28.95   .04  34.14   .04

Bank Sta: Left  Right   Coeff Contr.  Expan.
     28.95  34.14          .1      .3

CROSS SECTION


RIVER: Unnamed Creek
REACH: 5              RS: 23

INPUT
Description:
Station Elevation Data   num=     49
```

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	286.14	1.07	286	3.78	284.97	7.13	284	7.78	283.86
8.15	283.79	10.63	283.3	12.41	282.98	13.31	282.75	15.3	282.41
16.65	282	17.34	282	17.66	281.85	21.12	280	22.98	279.55
27.28	278	32.29	276.05	32.44	276	36.31	274.79	39.18	274
39.55	274	40.84	273.5	43.34	272	44.29	270.75	44.75	270.15
44.82	270.08	44.93	270.07	46.82	270.76	50.24	272	50.61	272.16
51.22	272.39	53.74	273.33	54.28	273.49	56.71	274	58.42	274.51
61.09	276	63.65	277.35	65.43	278	66.71	278.55	68.15	279.01
69.7	279.51	71.49	280	76.05	281.1	79.49	282	81.27	282.45
86.82	283.88	87.2	283.97	87.31	284	88.45	284.32		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	44.29	.04	46.82	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
44.29	46.82	60	54	49	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 5 RS: 22

INPUT
Description:
Station Elevation Data num= 54

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	270.4	.13	270.35	1.04	270	3.05	269.22	6.19	268
7.8	267.41	11.47	266	12.3	265.72	17.13	264	18.41	263.58
23.11	262	25.89	260.75	27.52	260	30.76	258.45	31.7	258
35.59	256.13	35.86	256	36.96	255.46	39.95	254	40.84	253.52
41.64	253.19	44.07	252.49	44.08	252.49	44.77	252.34	45.12	252.37
45.41	252.49	45.49	252.52	47.79	254	48.93	254.66	51.05	256
54.02	257.78	54.37	258	54.75	258	55.24	258	58.57	258
59.77	258.21	60.89	258.36	62.1	258.34	62.85	258.72	63.58	258.83
65.55	259.84	65.74	259.93	65.9	260	70.79	261.33	73.5	262
75.04	262.32	75.79	262.48	77.32	262.8	79.85	263.34	80.23	263.38
82.61	263.93	82.82	264	84.54	264.67	87.76	265.94		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	44.08	.04	45.41	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
44.08	45.41	41	41	28	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 5 RS: 21

INPUT
Description:
Station Elevation Data num= 50

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	260.07	.14	260	2.16	258.72	3.28	258	5.98	256.29
6.44	256	8.23	254.87	9.65	254	10.83	253.29	12.96	252
15.22	250.67	16.48	250	19.84	248.24	20.19	248.06	20.32	248
23.25	246.53	24.3	246	27.9	244.23	28.36	244	31.79	242.33
32.47	242	35.1	241.33	35.42	241.25	37.67	241.28	40.58	241.13
43.41	241.33	49.05	241.96	49.15	241.97	49.3	242	49.32	242
49.36	242	51.44	243.67	51.98	244	54.96	245.81	55.33	246
57.72	247.23	59.29	248	61.87	249.28	63.3	250	65.07	250.87
65.62	251.12	66.6	251.63	68.29	251.53	71.13	251.3	73.03	251.44
73.84	251.37	75.6	251.3	79.23	251.67	79.7	251.62	80.16	251.8

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	35.1	.04	43.41	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
35.1	43.41	54	47	38	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 5 RS: 20.5

INPUT
Description:
Station Elevation Data num= 44

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	245.71	3.47	244	3.6	243.93	7.52	242	7.6	241.96
7.76	241.88	10.15	240.75	11.61	240	13.97	238.84	15.6	238
21.06	237.42	33.88	236	34.27	235.84	38.83	234	40.93	233.26
44.21	232	49.46	230.22	50.09	230	50.35	229.88	52.82	229.56
54.24	229.83	54.36	229.83	54.53	229.87	54.9	230	57.77	230.89
60.59	231.81	61.11	232	63.49	232.82	65.01	233.29	66.76	234
69.19	234.81	72.35	236	73.68	236.46	74.73	236.83	76.03	237.24
78.19	238	79.7	238	81.84	238.6	84.22	240	87.17	241.95
87.24	242	87.33	242.02	97.78	244	98.18	244.05		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	50.35	.04	54.53	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
50.35	54.53	59	78	89	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 5 RS: 20

INPUT
Description:
Station Elevation Data num= 59

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	230.86	2.05	230	3	229.6	4.6	228.93	5.45	228.53
6.44	228	7.59	227.39	9.95	226	10.99	224.84	11.73	224
12.06	223.63	13.48	222	14.59	220.85	15.49	220	17.12	218.91
18.45	218	20.8	216.4	21.38	216	21.95	215.61	23.55	214.52
24.32	214	24.73	213.77	27.98	212	30.08	210.69	31.22	210
32.54	209.23	34.76	208	35.83	207.39	36.34	207.13	38.72	206
39.87	205.45	41.37	204.67	42.77	204	46.92	202.02	46.95	202
50.41	200.45	50.67	200.33	51.2	200.2	52.24	200.27	53.1	200.29
53.48	200.44	57.39	202	57.42	202.01	59.64	203.04	61.74	204
61.78	204.02	66.04	206	67.97	207.05	70.04	208	72.27	209.26
73.63	210	76.11	211.4	77.16	212	79.64	213.29	80.62	213.57
80.99	213.71	81.22	213.76	82.8	214	82.94	214.02		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	50.41	.04	53.48	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
50.41	53.48	97	77	59	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 5 RS: 19

INPUT

Description:
Station Elevation Data num= 55

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	185.82	.8	185.56	4.44	184.46	5.8	184	8.03	183.28
11.26	182	12.04	181.75	17.46	180	17.77	180	18.74	179.57
23.44	178	25.79	177.1	28.83	176	30.31	175.54	34.63	174
37.54	172.84	39.66	172	43.94	170.26	44.52	170.02	44.58	170
44.6	170	45.86	170	45.89	170	46.23	170.24	47.29	170.99
48.83	172	50.36	173.02	51.75	174	53.89	175.44	54.69	176
56.83	177.38	57.78	178	58.45	178.41	60.9	180	62.24	180.64
63.31	181.17	63.83	181.36	65.83	182	66.58	182.34	67.96	182.89
69.44	183.47	70.74	184	72.7	184.76	76.46	186	78.39	186.64
82.23	188	82.49	188.09	84.98	188.98	87.54	189.89	87.87	190
92.57	191.64	93.8	192	95.56	192.54	96.74	192.84	96.8	192.85

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	43.94	.04	46.23	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
43.94	46.23	45	61	57	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 5 RS: 18.5

INPUT
Description:
Station Elevation Data num= 53

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	173.88	2.08	173.34	4.25	172.71	6.58	172	10.52	170.13
10.81	170	10.88	169.97	15.27	168	17.69	166.92	19.78	166
23.54	164.35	24.33	164	25.89	163.32	28.92	162	31.15	161.05
33.58	160	37.52	158.42	38.54	158	43.46	156.56	44.22	156.34
45.33	156.23	45.94	156.09	46.08	156.15	46.32	156.22	46.36	156.23
46.43	156.27	46.95	156.57	49.42	158	50.37	158.52	51.45	158.93
53.65	159.53	54.54	159.78	55.43	160	58.45	160.75	60.14	161.23
61.26	161.54	62.65	162	64.44	162.63	67.93	163.92	68.06	163.97
68.15	164	71.42	165.15	73.8	165.89	73.94	165.93	74.19	166
78.46	167.05	82.91	168	84.6	168.35	85.21	168.48	85.97	168.64
88.84	169.22	91.28	169.72	92.21	169.92				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	43.46	.04	46.95	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
43.46	46.95	28	30	29	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 4.5 RS: 18

INPUT
Description:
Station Elevation Data num= 53

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	167.88	2.08	167.34	4.25	166.71	6.58	166	10.52	164.13
10.81	164	10.88	163.97	15.27	162	17.69	160.92	19.78	160
23.54	158.35	24.33	158	25.89	157.32	28.92	156	31.15	155.05
33.58	154	37.52	152.42	38.54	152	43.44	150.57	44.22	150.34
45.33	150.23	45.94	150.09	46.08	150.15	46.32	150.22	46.36	150.23
46.43	150.27	46.93	150.56	49.42	152	50.37	152.52	51.45	152.93
53.65	153.53	54.54	153.78	55.43	154	58.45	154.75	60.14	155.23
61.26	155.54	62.65	156	64.44	156.63	67.93	157.92	68.06	157.97
68.15	158	71.42	159.15	73.8	159.89	73.94	159.93	74.19	160

78.46 161.05 82.91 162 84.6 162.35 85.21 162.48 85.97 162.64
88.84 163.22 91.28 163.72 92.21 163.92

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .04 43.44 .04 46.93 .04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
43.44 46.93 22 41 69 .1 .3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 4.5 RS: 17.5

INPUT
Description:
Station Elevation Data num= 63
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 157.92 3.69 156.46 4.8 156 7.2 155.21 9.79 154.27
10.16 154.14 10.5 154 11.67 153.28 13.86 152 14.55 151.62
17.27 150 17.41 149.95 17.65 149.87 21.22 148.62 22.97 148
24.14 147.56 24.97 147.26 27.21 146.57 28.72 146 31.9 145.01
34.51 144 35.86 143.61 38.75 142.63 39.9 142.27 40.65 142
45.33 140.8 48.23 140 50.37 139.48 52.9 138.9 55.28 138.34
56.54 138.09 57.24 138 57.25 138 57.29 138 57.95 138
58.41 138.09 61.71 138.11 61.78 138.13 62.53 138.15 62.6 138.15
63.87 138.38 68.99 140 70.77 140.62 75.39 142 76.07 142.24
80.96 144 81.32 144.15 85.53 146 86.12 146.28 86.77 146.6
89.65 148 91 148.76 93.36 150 94.35 150.53 97.18 152
97.94 152.41 99.37 153.11 101.07 154 102.63 154.83 104.56 156
106.85 157.36 107.92 158 108.43 158.3

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .04 55.28 .04 63.87 .04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
55.28 63.87 29 30 30 .1 .3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 4 RS: 17

INPUT
Description:
Station Elevation Data num= 65
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 149.92 3.69 148.46 4.8 148 7.2 147.21 9.79 146.27
10.16 146.14 10.5 146 11.67 145.28 13.86 144 14.55 143.62
17.27 142 17.41 141.95 17.65 141.87 21.22 140.62 22.97 140
24.14 139.56 24.97 139.26 27.21 138.57 28.72 138 31.9 137.01
34.51 136 35.86 135.61 38.75 134.63 39.9 134.27 40.65 134
45.33 132.8 48.23 132 50.37 131.48 52.9 130.9 55.28 130.34
55.6 130.28 56.54 130.09 57.24 130 57.25 130 57.29 130
57.95 130 58.41 130.09 61.71 130.11 61.78 130.13 62.53 130.15
62.6 130.15 63.32 130.28 63.87 130.38 68.99 132 70.77 132.62
75.39 134 76.07 134.24 80.96 136 81.32 136.15 85.53 138
86.12 138.28 86.77 138.6 89.65 140 91 140.76 93.36 142
94.35 142.53 97.18 144 97.94 144.41 99.37 145.11 101.07 146
102.63 146.83 104.56 148 106.85 149.36 107.92 150 108.43 150.3

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .04 55.6 .04 63.32 .04

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

55.6 63.32 34 34.5 33.5 .1 .3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 4 RS: 16.5

INPUT
Description:
Station Elevation Data num= 65

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	149.92	3.69	148.46	4.8	148	7.2	147.21	9.79	146.27
10.16	146.14	10.5	146	11.67	145.28	13.86	144	14.55	143.62
17.27	142	17.41	141.95	17.65	141.87	21.22	140.62	22.97	140
24.14	139.56	24.97	139.26	27.21	138.57	28.72	138	31.9	137.01
34.51	136	35.86	135.61	38.75	134.63	39.9	134.27	40.65	134
45.33	132.8	48.23	132	50.37	131.48	52.9	130.9	55.28	130.34
55.6	130.28	56.54	130.09	57.24	130	57.25	130	57.29	130
57.95	130	58.41	130.09	61.71	130.11	61.78	130.13	62.53	130.15
62.6	130.15	63.32	130.28	63.87	130.38	68.99	132	70.77	132.62
75.39	134	76.07	134.24	80.96	136	81.32	136.15	85.53	138
86.12	138.28	86.77	138.6	89.65	140	91	140.76	93.36	142
94.35	142.53	97.18	144	97.94	144.41	99.37	145.11	101.07	146
102.63	146.83	104.56	148	106.85	149.36	107.92	150	108.43	150.3

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	55.6	.04	63.32	.04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
55.6 63.32 34 34.5 33.5 .1 .3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 3 RS: 16

INPUT
Description:
Station Elevation Data num= 64

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	140.08	.22	140	2.3	139.29	6.38	138	7.71	137.57
12.77	136.2	13.48	136	14.34	135.79	21	134	21.97	133.7
22.35	133.62	25.21	133.08	29.02	132	30.83	130.62	31.59	130
33.31	129.08	35.09	128	35.91	127.68	37.64	127.21	39.96	126.46
42.08	126	44.44	125.29	47.71	124	49.01	123.47	52.37	122
52.74	121.86	57.15	120	57.98	119.71	58.49	119.51	59.81	119
61.31	118.42	62.56	118.28	62.89	118.28	62.92	118.29	64.51	118.98
66.87	120	67.36	120.22	71.08	122	75.21	123.85	75.47	123.96
75.55	124	78.99	125.88	79.18	126	83.02	127.77	83.53	128
83.57	128.02	87.21	130	88.09	130.5	90.71	132	91.54	132.48
94.2	134	94.91	134.41	97.73	136	99.11	136.68	99.42	136.8
100.33	137.17	102.7	137.66	103.36	137.81	103.55	138	104.01	138
105.2	138.83	106.13	140	106.33	140.3	107.3	141.68		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	59.81	.04	64.51	.05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
59.81 64.51 27 37 35 .1 .3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 3 RS: 15.5

INPUT
Description:
Station Elevation Data num= 64

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	135.79	.22	135.71	2.3	135	6.38	133.71	7.71	133.28
12.77	131.91	13.48	131.71	14.34	131.5	21	129.71	21.97	129.41
22.35	129.33	25.21	128.79	29.02	127.71	30.83	126.33	31.59	125.71
33.31	124.79	35.09	123.71	35.91	123.39	37.64	122.92	39.96	122.17
42.08	121.71	44.44	121	47.71	119.71	49.01	119.18	52.37	117.71
52.74	117.57	57.15	115.71	57.98	115.42	58.49	115.22	59.87	114.69
61.31	114.13	62.56	113.99	62.89	113.99	62.92	114	64.46	114.67
66.87	115.71	67.36	115.93	71.08	117.71	75.21	119.56	75.47	119.67
75.55	119.71	78.99	121.59	79.18	121.71	83.02	123.48	83.53	123.71
83.57	123.73	87.21	125.71	88.09	126.21	90.71	127.71	91.54	128.19
94.2	129.71	94.91	130.12	97.73	131.71	99.11	132.39	99.42	132.51
100.33	132.88	102.7	133.37	103.36	133.52	103.55	133.71	104.01	133.71
105.2	134.54	106.13	135.71	106.33	136.01	107.3	137.39		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	59.87	.04	64.46	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
59.87	64.46	35	33	24	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 2 RS: 15

INPUT
Description:
Station Elevation Data num= 64

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	130.16	.33	130	3.76	128.3	4.27	128.05	4.37	128
9.25	126.15	9.64	126	10.56	125.58	14.13	124	15.69	123.37
19.22	122	22.59	120.72	24.43	120	26.95	119.01	29.5	118
30.65	117.6	32.89	116.86	34.72	116.25	35.5	116	38.39	115.04
41.48	114	46.06	112.4	47.15	112	50.1	111.06	52.7	110.23
53.43	110.03	53.47	110.04	53.49	110.05	53.7	110.03	55.16	110.55
56.39	111.05	58.72	112	59.05	112.13	63.43	114	63.57	114.06
68.29	116	69.44	116.35	70.87	116.84	72.79	117.48	74.03	118
77.34	119.5	78.28	120	82.15	121.76	82.91	122	82.97	122
83.28	122.1	85.7	122.55	86.69	122.87	87.35	124	87.84	125.21
88.19	126	88.87	127.56	89.07	128	89.5	128.62	90.78	130
93.79	131.93	93.89	132	94.07	132.11	97.05	134	98.96	135.16
100.57	136	101.66	136.56	104.44	138	107.18	139.39		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	50.1	.04	56.39	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
50.1	56.39	54	75	66	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 2 RS: 14

INPUT
Description:
Station Elevation Data num= 51

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	126.08	.21	126	.99	125.69	5.29	124	5.77	123.81
10.37	122	10.48	121.96	11.7	121.47	15.14	120.12	15.44	120
19.63	118.35	20.53	118	23.68	116.76	25.63	116	26.39	115.67
28.29	114.82	30.04	114	34.04	112.09	34.21	112	34.73	111.75

```
 38.35   110  38.61 109.88   42.4   108  45.89 106.35  46.62   106
 47.16 105.74  50.22 104.27  50.77   104  51.46   104  52.16   104
 52.52   104  52.89   104  58.46   104  59.21 104.19  59.52 104.25
 68.46   106  70.62 106.76  72.85   108   74.3 108.88  75.97   110
 78.58 111.69  79.02   112  79.76 112.5  81.97   114  87.72 115.56
 89.35   116  90.13 116.37  93.62   118  96.01 118.95  98.65   120
  99.5 120.34

Manning's n Values      num=    3
   Sta  n Val   Sta  n Val   Sta  n Val
    0   .05  50.22   .04  59.52   .05

Bank Sta: Left  Right   Lengths: Left Channel  Right   Coeff Contr.  Expan.
     50.22  59.52          100    93    61        .1     .3

CROSS SECTION


RIVER: Unnamed Creek
REACH: 2            RS: 13

INPUT
Description:
Station Elevation Data   num=    56
   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
    0 110.66   1.11   110   2.87 108.97   4.4   108   7.39 106.13
  7.59   106  10.74  104.3  11.29   104  11.41 103.94  15.42   102
 20.56 100.12   20.9   100  24.22  98.83  26.56    98  30.57  96.71
 32.68    96  33.38    96  37.63  95.55  40.35  95.28  41.82  95.12
 48.85  94.68  50.66  94.57  52.76  94.15  52.99  94.21  53.89    94
 55.51    94  56.02    94   56.4    94  56.47  94.06  57.16  94.67
 58.65    96  59.05  96.36  60.19  97.43  60.82    98   62.1   98.9
 63.61   100  66.04 101.02   68.2   102  72.41 103.69  73.15   104
 73.76 104.27  76.58 105.56   78.7   106  79.19   106  81.61 106.47
  83.6 107.13  85.55   107.9  85.72 107.95  85.83   108  86.07 108.08
 88.13 108.76  91.16   110  96.35  111.8   96.9   112  97.19 112.09
  97.3 112.13

Manning's n Values      num=    3
   Sta  n Val   Sta  n Val   Sta  n Val
    0   .05  48.85   .04  57.16   .05

Bank Sta: Left  Right   Lengths: Left Channel  Right   Coeff Contr.  Expan.
     48.85  57.16          73    74    65        .1     .3

CROSS SECTION


RIVER: Unnamed Creek
REACH: 2            RS: 12

INPUT
Description:
Station Elevation Data   num=    42
   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
    0 111.92   1.61 111.23   4.31   110   5.59 109.45   8.66   108
  11.7 106.37  12.38   106  12.86 105.69  14.97   104  16.32 102.94
 17.51   102  18.42 101.28  20.03   100  20.93  99.27  22.55    98
 24.37  96.52  25.02    96  26.65  94.71  27.57    94   27.8  93.81
 30.12    92  31.19  91.14  32.64    90  33.68  89.18  35.17    88
 36.75  86.78  37.52  86.19  37.76    86  38.13    86  38.22    86
 38.63    86  40.87  86.76  41.13  86.85  44.54    88  46.11  88.55
 50.29    90  52.24  90.64   56.9    92   57.1    92  58.68  92.37
  65.2  93.7  65.89  93.85

Manning's n Values      num=    3
   Sta  n Val   Sta  n Val   Sta  n Val
    0   .05  36.75   .04  40.87   .05

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

36.75 40.87 49 79 89 .1 .3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 1.5 RS: 11

INPUT
Description:
Station Elevation Data num= 42

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	99.9	.36	99.68	3.06	98	4.28	97.23	6.24	96
7.34	95.31	9.4	94	10.2	93.5	12.56	92	15.37	90.21
15.64	90.04	15.7	90	15.78	89.95	18.89	88	19.99	87.31
22.08	86	23.86	84.87	25.37	84	27.92	82.41	28.46	82
28.91	82	38.35	82	41.24	82	41.41	82	44.09	82
45.07	82.36	45.55	82.54	49.12	84	53.01	85.69	54.07	86
54.59	86	55.01	86	56.63	86.43	58.16	86.66	62.37	87.27
65.87	87.77	66.32	87.84	67.43	88	71.42	88.54	73.67	88.9
76.69	89.37	79.29	89.79						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	27.92	.04	45.07	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
27.92	45.07	54	58	63	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 1.5 RS: 10

INPUT
Description:
Station Elevation Data num= 49

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	89.69	1.21	89.3	4.51	88	6.97	87.14	7.85	86.71
9.75	86	11.53	85.36	12.98	84.94	16.56	84	20.78	82.7
22.73	82	27	80.68	29.04	80	29.4	79.9	31.13	79.33
37.99	78.46	40.75	78	45.6	78	46.09	78	48.12	78
48.59	78.42	49.84	79.53	50.37	80	50.72	80.28	52.72	82
54.27	83.23	55.21	84	55.79	84.48	58.03	86	58.38	86.24
60.91	88	62.35	88.98	63.84	90	64.54	90.48	66.79	92
67	92.14	68.19	92.94	69.25	93.7	69.68	94	71.85	95.47
72.64	96	75.69	97.99	75.71	98	77.02	98.42	78.87	98.9
81.01	99.59	81.79	99.77	82.29	100	82.38	100.04		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	37.99	.04	48.59	.04

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
37.99	48.59	80	88	63	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 1 RS: 9

INPUT
Description:
Station Elevation Data num= 39

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	84.08	.36	84	2.53	83.42	7.69	82	9.18	81.63
15.39	80	16.03	80	21.36	78.73	23.52	78	26.97	76.71
28.79	76	30.47	75.35	33.94	74	35.37	73.46	38.25	72.38

39.46	72	39.51	72	39.95	72	41.78	72.71	43.35	73.42	
44.63	74	45.73	74.53	48.85	76	51.24	77.15	53.03	78	
56.74	79.83	57.07	80	57.43	80.19	60.68	82	63.32	83.61	
63.93	84	65.08	84.72	67.13	86	69.18	87.31	70.28	88	
72.79	89.59	73.47	90	73.92	90	73.97	90.01			

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	35.37	.04	43.35	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
35.37	43.35	84	80	67	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 1 RS: 8

INPUT
Description:
Station Elevation Data num= 34

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	80.48	.79	80	2.84	79.18	5.52	78	7.71	77.03
10.01	76	13.24	74.53	14.31	74	15.91	73.17	18.18	72
20.63	70.74	22.04	70	23.86	69.06	24.86	68.54	25.9	68
26.49	68	27.69	68	29.4	68	30.01	68.33	31.52	69.02
33.65	70	33.79	70.06	34	70.16	37.86	72	39.48	72.74
41.06	73.46	42.32	74	46.61	75.85	46.92	76	48.33	76.58
51.78	78	53.69	78.61	57.75	80	57.82	80.02		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	23.86	.04	31.52	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
23.86	31.52	70	68	57	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 1 RS: 7

INPUT
Description:
Station Elevation Data num= 34

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	77.8	4.38	76.54	6.42	76	8	75.59	12.38	74.72
14.64	74.26	15.17	74.16	16.03	74	23.15	72.02	23.2	72
27.27	70.09	27.52	70	30.18	68.97	32.9	68	34.24	67.53
36.31	66.7	38.03	66	41.41	64.66	42.56	64.2	43.13	64
46.92	64	47.85	64	50.79	64	52.59	64.62	56.39	65.92
56.62	66	60.34	67.24	62.92	68	65.14	68.68	69.56	70
72.7	70.97	76.08	72	79.33	72.98	82.11	74		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	41.41	.04	52.59	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
41.41	52.59	62	62	67	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 1 RS: 6

INPUT

Description:
Station Elevation Data num= 33

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	74	.09	74	.16	73.97	5.41	72	10.62	70.03
10.7	70	10.73	69.99	11.62	69.65	15.86	68.05	15.99	68
19.63	66.64	21.37	66	24.3	64.93	26.18	64.24	26.82	64
27.9	64	30.61	64	32.32	64	34.05	64	36.19	64
43.98	64	46.2	64	47.57	64	47.66	64	50.56	64.92
51.49	65.21	54	66	54.07	66.04	54.51	66.27	57.66	68
59	68.74	61.31	70	61.63	70.18				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	24.3	.04	50.56	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
24.3	50.56	35	30	31	.3	.5

BRIDGE

RIVER: Unnamed Creek
REACH: 1 RS: 5.5

INPUT
Description:
Distance from Upstream XS = .1
Deck/Roadway Width = 21
Weir Coefficient = 1.44
Upstream Deck/Roadway Coordinates
num= 23

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
0	68.2	26.82	68.2	64	27.66	68.2	65.62
28.5	68.2	66.28	30.18	68.2	66.72	31.85	68.2	66.28
32.69	68.2	65.62	33.53	68.2	64	34.5	68.2	64
35.37	68.2	65.62	36.2	68.2	66.28	37.89	68.2	66.72
39.57	68.2	66.28	40.41	68.2	65.62	41.25	68.2	64
42.25	68.2	64	43.09	68.2	65.62	43.92	68.2	66.28
45.6	68.2	66.72	47.28	68.2	66.28	48.12	68.2	65.62
48.96	68.2	64	100	68.2				

Upstream Bridge Cross Section Data
Station Elevation Data num= 33

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	74	.09	74	.16	73.97	5.41	72	10.62	70.03
10.7	70	10.73	69.99	11.62	69.65	15.86	68.05	15.99	68
19.63	66.64	21.37	66	24.3	64.93	26.18	64.24	26.82	64
27.9	64	30.61	64	32.32	64	34.05	64	36.19	64
43.98	64	46.2	64	47.57	64	47.66	64	50.56	64.92
51.49	65.21	54	66	54.07	66.04	54.51	66.27	57.66	68
59	68.74	61.31	70	61.63	70.18				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	24.3	.04	50.56	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
24.3	50.56	.3	.5

Downstream Deck/Roadway Coordinates
num= 23

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
0	68.2	26.82	68.2	64	27.66	68.2	65.62
28.5	68.2	66.28	30.18	68.2	66.72	31.85	68.2	66.28
32.69	68.2	65.62	33.53	68.2	64	34.5	68.2	64
35.37	68.2	65.62	36.2	68.2	66.28	37.89	68.2	66.72
39.57	68.2	66.28	40.41	68.2	65.62	41.25	68.2	64
42.25	68.2	64	43.09	68.2	65.62	43.92	68.2	66.28
45.6	68.2	66.72	47.28	68.2	66.28	48.12	68.2	65.62
48.96	68.2	64	100	68.2				

Downstream Bridge Cross Section Data
Station Elevation Data num= 33

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	74	.09	74	.16	73.97	5.41	72	10.62	70.03
10.7	70	10.73	69.99	11.62	69.65	15.86	68.05	15.99	68
19.63	66.64	21.37	66	24.3	64.93	26.18	64.24	26.82	64
27.9	64	30.61	64	32.32	64	34.05	64	36.19	64
43.98	64	46.2	64	47.57	64	47.66	64	50.56	64.92
51.49	65.21	54	66	54.07	66.04	54.51	66.27	57.66	68
59	68.74	61.31	70	61.63	70.18				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	24.3	.04	50.56	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
24.3	50.56	.3	.5

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 = .95
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

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: Unnamed Creek
REACH: 1 RS: 5

INPUT
Description:
Station Elevation Data num= 33

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	74	.09	74	.16	73.97	5.41	72	10.62	70.03
10.7	70	10.73	69.99	11.62	69.65	15.86	68.05	15.99	68
19.63	66.64	21.37	66	24.3	64.93	26.18	64.24	26.82	64
27.9	64	30.61	64	32.32	64	34.05	64	36.19	64
43.98	64	46.2	64	47.57	64	47.66	64	50.56	64.92
51.49	65.21	54	66	54.07	66.04	54.51	66.27	57.66	68
59	68.74	61.31	70	61.63	70.18				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	24.3	.04	50.56	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
24.3	50.56	68	50	36	.3	.5

CROSS SECTION

RIVER: Unnamed Creek
REACH: 1 RS: 4

INPUT
Description:
Station Elevation Data num= 44

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	73.05	14.83	72	16.99	72	17.64	72	19.19	72
20.34	72	24.2	70.21	24.63	70	24.85	69.9	29.51	68
29.69	67.92	30.12	67.75	34.4	66	36.3	65.23	39.3	64
40.71	63.45	44.35	62	48.11	60.84	48.31	60.78	50.44	60
51.61	60	52.09	60	52.91	60	56.12	60.65	57	60.81
57.78	60.96	61.29	61.64	62.16	61.81	62.33	61.84	62.52	61.86
63.6	62	64.21	62	69.42	62.47	73.24	62.72	76.57	63.39
78.09	63.51	78.32	63.53	79.72	64	82.53	65.12	84.96	66
87.71	66.99	90.49	68	92.18	68.61	95	69.65		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	48.11	.04	57	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
48.11	57	59	59	54	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 1 RS: 3

INPUT
Description:
Station Elevation Data num= 39

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	69.95	2.42	68.62	3.54	68	4.41	67.52	7.17	66
10.22	64.51	11.3	64	12.76	63.56	18.47	62	23.24	61.21
30.36	60	33.93	59.42	35.91	59.09	37.22	58.87	41.56	58.52
44.03	58.25	44.67	58.21	47.77	58	48.43	58	48.78	58
49.6	58.27	50.16	58.45	52.04	58.93	52.64	59.08	56.25	60
58.72	60.67	62.45	62	63.61	62.45	67.29	64	69.16	64.79
72.02	66	77.6	67.84	78.03	68	82.9	69.67	83.35	69.81
83.51	69.86	84.02	70	87.9	71.07	89.57	71.57		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	35.91	.04	52.64	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
35.91	52.64	51	50	39	.1	.3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 1 RS: 2

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	67.89	4.85	66.19	5.38	66	8.65	64.81	10.9	64
11.27	63.87	16.4	62	18.2	61.34	21.89	60	26.08	58.46
27.34	58	28.31	57.65	30.44	56.87	32.83	56	33.18	56
33.48	56	34.05	56.21	35.77	56.96	37.49	57.64	38.4	58
42.21	59.42	44.07	60	46.3	60.68	49.5	61.66	50.52	62
55.25	63.7	56.09	64	56.21	64.04	61.18	65.94		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

0 .05 28.31 .04 37.49 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
28.31 37.49 34 41 62 .1 .3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 0.5 RS: 1.5

INPUT
Description:
Station Elevation Data num= 40

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	64.98	.64	64.86	2.86	64.33	3.35	64.22	4.17	64
11.28	62.11	11.46	62.06	11.7	62	17.65	60.44	19.35	60
24.9	59.45	26.42	59.28	29.5	58.97	30.91	58.81	31.7	58.74
37.38	58	37.42	58	37.69	57.95	38.46	57.78	41.4	57.14
44.88	56.39	46.14	56.08	46.47	56	56.87	56	60.02	56
62.28	57.09	62.77	57.33	64.1	58	64.48	58.16	68.73	60
69.75	60.4	71.35	60.88	74.49	61.6	75.22	61.77	76.17	62
79.35	62.79	82.1	63.41	83.16	63.64	84.53	64	85.59	64.3

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	41.4	.04	62.28	.05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
41.4 62.28 20 20 20 .1 .3

CROSS SECTION

RIVER: Unnamed Creek
REACH: 0.5 RS: 1

INPUT
Description:
Station Elevation Data num= 40

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	64.98	.64	64.86	2.86	64.33	3.35	64.22	4.17	64
11.28	62.11	11.46	62.06	11.7	62	17.65	60.44	19.35	60
24.9	59.45	26.42	59.28	29.5	58.97	30.91	58.81	31.7	58.74
37.38	58	37.42	58	37.69	57.95	38.46	57.78	42.66	56.87
44.88	56.39	46.14	56.08	46.47	56	56.87	56	60.02	56
61.74	56.83	62.77	57.33	64.1	58	64.48	58.16	68.73	60
69.75	60.4	71.35	60.88	74.49	61.6	75.22	61.77	76.17	62
79.35	62.79	82.1	63.41	83.16	63.64	84.53	64	85.59	64.3

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	42.66	.04	61.74	.05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
42.66 61.74 0 0 0 .1 .3

SUMMARY OF MANNING'S N VALUES

River:Offsite10

Reach	River Sta.	n1	n2	n3
1	0.97	.04	.04	.04
1	0.96	.04	.04	.04
1	0.95	.04	.04	.04
1	0.94	.04	.04	.04
1	0.93	.04	.04	.04

1	0.92	.04	.04	.04
1	0.91	.04	.04	.04
1	0.90	.04	.04	.04

River:Offsite2

Reach	River Sta.	n1	n2	n3
1	0.2	.04	.04	.04
1	0.1	.04	.04	.04
1	0.09	.04	.04	.04
1	0.08	.04	.04	.04
1	0.07	.04	.04	.04
1	0.06	.04	.04	.04
1	0.05	.04	.04	.04
1	0.04	.04	.04	.04
1	0.03	.04	.04	.04
1	0.025	.04	.04	.04
1	.024	Bridge		
1	0.02	.04	.04	.04
1	0.01	.04	.04	.04
1	0	.04	.04	.04

River:Offsite3

Reach	River Sta.	n1	n2	n3
1	0.5	.04	.04	.04
1	0.4	.04	.04	.04
1	0.3	.04	.04	.04
1	0.25	.04	.04	.04
1	0.24	.04	.04	.04
1	0.23	.04	.04	.04
1	0.22	.04	.04	.04
1	0.21	.04	.04	.04

River:Offsite4

Reach	River Sta.	n1	n2	n3
1	0.58	.04	.04	.04
1	0.57	.04	.04	.04
1	0.56	.04	.04	.04
1	0.55	.04	.04	.04
1	0.54	.04	.04	.04
1	0.53	.04	.04	.04
1	0.52	.04	.04	.04
1	0.51	.04	.04	.04

River:Offsite6

Reach	River Sta.	n1	n2	n3
1	23.07	.04	.04	.04
1	23.06	.04	.04	.04
1	23.05	.04	.04	.04
1	23.04	.04	.04	.04
1	23.03	.04	.04	.04
1	23.02	.04	.04	.04
1	23.01	.04	.04	.04

River:Offsite6.5

Reach	River Sta.	n1	n2	n3

1	23.4	.04	.04	.04
1	23.3	.04	.04	.04
1	23.25	.04	.04	.04
1	23.2	.04	.04	.04
1	23.1	.04	.04	.04

River:Offsite7

Reach	River Sta.	n1	n2	n3
1	23.9	.04	.04	.04
1	23.8	.04	.04	.04
1	23.7	.04	.04	.04
1	23.6	.04	.04	.04
1	23.5	.04	.04	.04

River:Unnamed Creek

Reach	River Sta.	n1	n2	n3
5	23	.05	.04	.05
5	22	.05	.04	.05
5	21	.05	.04	.05
5	20.5	.05	.04	.05
5	20	.05	.04	.05
5	19	.04	.04	.04
5	18.5	.04	.04	.04
4.5	18	.04	.04	.04
4.5	17.5	.04	.04	.04
4	17	.04	.04	.04
4	16.5	.04	.04	.04
3	16	.05	.04	.05
3	15.5	.05	.04	.05
2	15	.05	.04	.05
2	14	.05	.04	.05
2	13	.05	.04	.05
2	12	.05	.04	.05
1.5	11	.04	.04	.04
1.5	10	.04	.04	.04
1	9	.05	.04	.05
1	8	.05	.04	.05
1	7	.05	.04	.05
1	6	.05	.04	.05
1	5.5	Bridge		
1	5	.05	.04	.05
1	4	.05	.04	.05
1	3	.05	.04	.05
1	2	.05	.04	.05
0.5	1.5	.05	.04	.05
0.5	1	.05	.04	.05

SUMMARY OF REACH LENGTHS

River: Offsite10

Reach	River Sta.	Left	Channel	Right
1	0.97	57	59	56
1	0.96	62	61	71
1	0.95	44	48	58
1	0.94	54	59	48
1	0.93	60	59	51
1	0.92	69	78	64
1	0.91	63	65	68
1	0.90			

River: Offsite2

Reach	River Sta.	Left	Channel	Right
1	0.2	36	35	34
1	0.1	29	33	35
1	0.09	70	67	68
1	0.08	72	66	65
1	0.07	65	69	76
1	0.06	65	69	66
1	0.05	67	71	80
1	0.04	71	80	77
1	0.03	57	54	47
1	0.025	30	30	30
1	.024	Bridge		
1	0.02	62	76	82
1	0.01	48	54	48
1	0			

River: Offsite3

Reach	River Sta.	Left	Channel	Right
1	0.5	48	54	50
1	0.4	44	50	51
1	0.3	28	41	51
1	0.25	38	38	37
1	0.24	55	43	36
1	0.23	28	41	36
1	0.22	41	38	34
1	0.21			

River: Offsite4

Reach	River Sta.	Left	Channel	Right
1	0.58	45	52	47
1	0.57	63	54	40
1	0.56	47	49	43
1	0.55	57	54	43
1	0.54	56	66	72
1	0.53	53	49	53
1	0.52	30	37	36
1	0.51			

River: Offsite6

Reach	River Sta.	Left	Channel	Right
1	23.07	24	31	32
1	23.06	40	47	50
1	23.05	43	54	54
1	23.04	51	59	60
1	23.03	51	60	56
1	23.02	54	54	45
1	23.01			

River: Offsite6.5

Reach	River Sta.	Left	Channel	Right
1	23.4	42	34	27
1	23.3	43	40	35
1	23.25	39	41	43

ESTADO LIBRE ASOCIADO DE PUERTO RICO
OFICINA DEL GOBERNADOR
JUNTA DE CALIDAD AMBIENTAL

IN RE: **DEPARTAMENTO DE LA VIVIENDA** **AGENCIA PROPONENTE**	**R-08-16-1** **PROYECTO RESIDENCIAL COMERCIAL LA AVENTURA CARR. PR-941, KM. 4.1 BO. JAGUAS Y CELADA GURABO, PUERTO RICO** **DIA-PA JCA-03-0001 (JP)**

RESOLUCIÓN INTERLOCUTORIA

En reunión celebrada el 8 de mayo de 2008 se sometió ante la consideración de la Junta de Gobierno de la Junta de Calidad Ambiental la Declaración de Impacto Ambiental Preliminar Actualizada (DIA-PA) presentada por la agencia proponente, Departamento de la Vivienda, así como el expediente administrativo para la acción propuesta proyecto residencial-comercial La Aventura, a desarrollarse en la Carretera PR-941, K.m. 4.1 del Barrio Jaguas y Celda del Municipio de Gurabo, Puerto Rico.

I. ACCION PROPUESTA

La acción propuesta comprende un Plan Maestro que incluye un proyecto residencial mixto, con componentes comerciales e institucionales (escuela) en una propiedad de 376.5 cuerdas. El concepto se ha desarrollado siguiendo el contorno natural de la topografía del terreno y respetando al máximo posible las quebradas existentes. Se propone la construcción de 1,935 unidades residenciales, de las cuales, 1,407 unidades serán de tipo residencial unifamiliar y 528 unidades serán de tipo residencial multifamiliar. El proyecto incluirá facilidades recreativas a desarrollarse en un área de 10.2 cuerdas, la construcción de un parque de pelota/balompié, tres (3) canchas de tenis y dos (2) canchas de baloncesto, una casa club con salones para reuniones y gazebos, gimnasio, piscinas y áreas recreativas para niños, pista para caminar, trotar y/o correr bicicleta de 1.45 kilómetros de largo bordeando una de las quebradas.

II. TRASFONDO PROCESAL

1- El 3 de enero de 2003 la agencia proponente, **Junta de Planificación** sometió ante la consideración de la Junta de Calidad Ambiental la Declaración de Impacto Ambiental Preliminar (DIA-P) para el proyecto propuesto de conformidad con el Artículo 4-C de la Ley 9 de 18 de junio de 1970, según enmendada, mejor conocida como Ley Sobre Política Pública Ambiental[1]. De esta manera la agencia proponente dio inicio al proceso de evaluación y trámite de la Declaración de Impacto Ambiental del proyecto propuesto, de conformidad con las disposiciones de la Ley sobre Política Pública Ambiental, *supra*, y el Reglamento para el Proceso de Presentación, Evaluación y Trámite de Documentos Ambientales (RPPETDA) de la JCA.

2- El 14 de enero de 2003 la JCA envió una carta a la Junta de Planificación acusando recibo de la DIA-P, incluyendo copia del Aviso Público y requiriendo la publicación del mismo.

3- El 6 de marzo de 2003 se publicó un Aviso Público informando al público y personas interesadas la disponibilidad de la DIA-P, según se dispone en la Regla 254(C) del Reglamento para el Proceso de Presentación, Evaluación y Trámite de Documentos Ambientales (RPPETDA). En dicho Aviso se concedieron treinta (30) días para someter comentarios e información que pudiera ser útil en la preparación de la DIA-Final, así como el derecho de solicitar una vista pública.

4- En el presente caso no fue solicitada la celebración de vista pública durante el periodo de participación pública, pero sí se recibieron comentarios de agencias estatales sobre el proyecto propuesto.

5- El 5 de julio de 2003 se emitió la Resolución Interlocutoria R-03-16-3

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1 Al presente corresponde al Artículo 4(B)(3) de la Ley Número 416 de 22 de septiembre de 2004, que derogó la Ley Núm. 9.

requiriendo a la Junta de Planificación una Declaración de Impacto Ambiental Preliminar Actualizada(DIA-PA), de conformidad con la Regla 254(H)(1) del Reglamento para el Proceso de Presentación, Evaluación y Trámite de Documentos Ambientales de la JCA.

6- El 13 de julio de 2007 el Departamento de la Vivienda, actuando ahora como agencia proponente, presentó la DIA-PA, según fuera requerido en la Resolución R-03-16-3.

7- El 6 de agosto de 2007, la JCA envió una carta al Departamento de la Vivienda acusando recibo de la DIA-PA, incluyendo copia del Aviso Público y requiriendo la publicación del mismo.

8- El 21 de agosto de 2007 se publicó en la red de Internet la DIA-PA.

9- El 31 de agosto de 2007 se publicó un Aviso Público informando al público y personas interesadas la disponibilidad de la DIA-P, según se dispone en la Regla 254(C) del Reglamento para el Proceso de Presentación, Evaluación y Trámite de Documentos Ambientales (RPPETDA). En dicho Aviso se concedieron treinta (30) días para someter comentarios e información que pudiera ser útil en la preparación de la DIA-Final, así como el derecho de solicitar una vista pública.

10- El 25 de septiembre de 2007 el Departamento de la Vivienda sometió los comentarios a la DIA-PA de: Autoridad de Acueductos y Alcantarillados (AAA), Compañía de Comercio y Exportación, Departamento de Agricultura, Autoridad de Carreteras y Transportación, Municipio de Gurabo, la Autoridad de Desperdicios Sólidos (ADS), Departamento de Recursos Naturales y Ambientales (DRNA) y del Servicio Federal de Pesca y Vida Silvestre.

11- En el presente caso, no se recibieron comentarios por parte del público ni se solicitó la celebración de vista pública durante el proceso de participación pública.

III. RESOLUCIÓN

Luego de revisado y analizado el expediente administrativo, y discutidos todos los méritos de la DIA-PA, al amparo de los poderes y facultades que le confiere a esta Junta de Calidad Ambiental la Ley Número 416 del 22 de septiembre de 2004, según enmendada, mejor conocida como Ley sobre Política Pública Ambiental y sus Reglamentos esta Junta **RESUELVE**:

- La Declaración de Impacto Ambiental Preliminar Actualizada (DIA-PA) presentada por la Agencia Proponente, Departamento de la Vivienda, en esta etapa cumple con la mayoría de los requisitos establecidos en la Ley Núm. 416, *supra*, y en el Reglamento para el Proceso de Presentación, Evaluación y Trámite de Documentos Ambientales (RPPETDA).
- Por tanto, la Agencia Proponente deberá presentar una Declaración de Impacto Ambiental Final (DIA-F) a tenor con las disposiciones de la Regla 254 (H)(2) del RPPETDA, donde se indiquen y atiendan las recomendaciones y requerimientos establecidos en esta Resolución, las cuales son especificadas mediante las siguientes determinaciones:
    1. La DIA-F deberá discutir y atender los señalamientos de la Autoridad de Carreteras y Transportación en su carta del 12 de septiembre de 2007, como lo es enmendar el Estudio de Tránsito y someter el Estudio de Sonido.
    2. Deberá incluir todas las modificaciones a la acción propuesta, tal como, pero sin limitarse a ello, el plano esquemático sometido por la Agencia Proponente en carta del 26 de octubre de 2007, en la cual se eliminan los lagos propuestos anteriormente.
    3. Deberá discutir con mayor amplitud los impactos acumulativos.
- La Agencia Proponente deberá presentar a la Junta de Calidad

Ambiental la DIA-Final dentro del término de un (1) año siguiente a la notificación de la presente resolución interlocutoria conforme lo dispuesto en la Regla 254 (K) del RPPETDA. De no presentarse la DIA-Final en este término, la Junta procederá a archivar el caso.

IV. APERCIBIMIENTO

Se apercibe a todas las partes interesadas que la presente resolución Interlocutoria es una de carácter parcial, la cual no pone fin al procedimiento de referencia. Por tanto, la presente Resolución Interlocutoria no es susceptible de reconsideración ante la Junta de Calidad Ambiental ni de revisión ante el Tribunal de Apelaciones, sin embargo, la misma podrá ser objeto de un señalamiento de error en el recurso de revisión que pueda ser incoado una vez se expida la orden o resolución final que emita la Junta de Calidad Ambiental en su día. Esto es cónsone a lo dispuesto en la Sección 2172 de la Ley de Procedimiento Administrativo Uniforme, Ley Número 170 de 12 de agosto de 1988, según enmendada, 3 L.P.R.A., Subsección 2101, et seq., que dispone que: "*Una orden o resolución interlocutoria de una agencia, incluyendo aquellas que se emitan en procesos que se desarrollen por etapas, no serán revisables directamente. La disposición interlocutoria de la agencia podrá ser objeto de un señalamiento de error en el recurso de revisión de la orden o resolución final de la agencia.*"

NOTIFÍQUESE: Por correo certifiicado con acuse de recibo a: **Arq. Federico del Monte**, Secretario Auxiliar Secretaría de Planificación y Servicios Técnicos, P. O. Box 21365, San Juan, PR 00928-1365; y personalmente a los siguientes funcionarios de la Junta de Calidad Ambiental: **Ing. Noella Rosa Jaime**, Vicepresidenta; **Ing. Angel O. Berríos**, Miembro Asociado; **Sr. Julio Iván Rodríguez**, Miembro Alterno; **Lcda. Edmeé Zeidan**, Gerente, Oficina de Servicios Legales; y al **Sr. Teófilo de Jesús**, Gerente, Area de Asesoramiento Científico.

DADA en San Juan, Puerto Rico, a 8 de mayo de 2008.

CARLOS W. LOPEZ FREYTES
PRESIDENTE

CERTIFICO: Que he notificado, por mensajero copia de la Resolución **R-08-16-1** al Arq. Federico del Monte y mediante mensajero interno a los funcionarios de la Junta de Calidad Ambiental, habiendo archivado el original en autos.

En San Juan, Puerto Rico, a 18 de junio de 2008.

SECRETARIO
JUNTA DE GOBIERNO

Autoridad de Acueductos
y Alcantarillados
ESTADO LIBRE ASOCIADO DE PUERTO RICO

Parque Industrial Angora
Edificio G
P.O. Box 5729, Caguas PR 00726-5729
Tel. (787) 744-7795, Ext. 4104
Fax (787) 993-9010 / 9011

Proyectos Públicos y Privados

5 de mayo de 2008

INTEGRAL GROUP
PMB 4301357
Ave. Ashford
San Juan, Puerto Rico 00907

RE: AAA-RE-07-33-0006
LA AVENTURA
(1935 UNIDADES)
PR-941, KM. 4.1
BARRIO JAGUAL & CELADA
GURABO

Estimados señores:

Con respecto a la reconsideración a nuestra carta de recomendaciones solicitada por usted para el proyecto de referencia, le informamos lo siguiente:

1. Se considerará una primera etapa correspondiente a 500 unidades de vivienda, del total de 1,935, sujeto a las mejoras discutidas en reunión del 10 de enero de 2008, según correspondencia del Ing. Francisco Martínez de la A.A.A. y confirmada en la carta del 28 de enero de 2008 emitida por el Ing. Al Risek, en representación del proponente.

2. Una vez el proyecto se encuentra en etapas mas avanzadas el mismo formará parte del Combinado Valenciano.

Para que el proyecto sea viable en su primera etapa, el dueño deberá cumplir con los siguientes requerimientos:

SISTEMA DE ACUEDUCTO

Utilizar los pozos existentes en terrenos a desarrollar, si como realizar los estudios necesarios para la hinca de pozos adicionales, a fin de determinar su capacidad y considerar este recurso para cubrir las necesidades de desarrollo en su etapa inicial.

Coordinar con esta Autoridad los trabajos necesarios para integrar estas fuentes de agua, a los sistemas existentes de agua potable en Gurabo mediante la infraestructura necesaria para ello, considerando la construcción de tanques de almacenamiento y tuberías de los diámetros requeridos para poder ofrecer el agua necesaria tanto al proyecto como al sector donde esta ubicado.

Deberá mantener comunicación con la Oficina de Proyectos Públicos y Privados en Caguas para su participación en el Combinado Valenciano.

SISTEMA DE ALCANTARILLADO

En el sector a desarrollarse no hay sistema de alcantarillado sanitario, por lo que el desarrollador deberá instalar la tubería necesaria para conectarse al sistema de alcantarillado troncal Juncos-Gurabo-Caguas, que descarga a la planta de alcantarillado sanitario regional (PASR) de Caguas a través de la estación de Bombas Santa Bárbara, cuyas mejoras deberán ser consultadas con el Área de Operaciones en Caguas.

Planos y copia digital para la instalación de los sistemas de distribución de agua en este proyecto deberán ser sometidos por los dueños del mismo para la aprobación de esta Autoridad. Estos planos se someterán de acuerdo con la Ley de Certificación de Planos de Construcción y conforme a las Normas de Diseño, especificaciones y reglamentos de esta Agencia. Será requisito la aprobación de los planos por esta Autoridad antes de proceder con la construcción de las obras.

Como parte del diseño, se incluirá perfil hidráulico donde se garantice que las presiones en cada unidad estarán entre 30 lb./pulg.^{2} y 50 lb./pulg.^{2}. El diseñador deberá incluir en su diseño, el equipo que sea necesario para cumplir con esta condición.

Esta evaluación es exclusivamente para un desarrollo donde el servicio a prestarse es para el equivalente a una unidad (1) de vivienda, por solar. De desarrollarse cualquier otro proyecto que no cumpla con el requisito de una unidad (1) equivalentes, por solar, será necesario someterlo a esta Autoridad para nueva evaluación y aplicación del reglamento vigente.

Estas recomendaciones estarán vigentes por el término de un (1) año a partir de la fecha de esta comunicación.

De usted requerir información adicional, puede comunicarse con el Ing. Eduardo Irizarry, al teléfono (787) 744-7795 Ext. 4100

Cordialmente,

EDUARDO IRIZARRY
Director Auxiliar, Proyectos Públicos y
Privados, Región Este

EI/GMA/mrr

cf Ing. Irizarry, Director Área Caguas, Ing. Moreno, File Proyecto, Reading File

Autoridad de Acueductos
y Alcantarillados

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Samuel

2007 FEB 21 PM 1:00

13 de febrero de 2007

Sr. Juan Carlos Vega Cidraz
Director
Subprograma de Consultas sobre Usos de Terrenos
Junta de Planificación
Centro Gubernamental Minillas
PO Box 41119
San Juan, Puerto Rico 00940-1119

Estimado señor Vega:

"La Aventura" Desarrollo mixto; 1,935 unidades de vivienda, área comercial y área institucional en PR-941 del Bo. Jaguas y Celada en Gurabo
Caso: 2001-47-0705-JPU

La Junta de Planificación envió documento del proyecto de referencia para evaluación y viabilidad de desarrollo. El proyecto consiste en 1,935 residencias de las cuales 1,407 unidades son unifamiliares y 528 unidades multifamiliares; 96,624 pies cuadrados de área comercial y 78,500 pies cuadrados para uso institucional. El mismo se ubica en finca con cabida de 376.5073 cuerdas localizado en la PR-941 Km. 4.1 del Barrio Jaguas y Celada en el Municipio de Gurabo.

De acuerdo a la información presentada, la Autoridad de Acueductos y Alcantarillados (AAA) determinó lo siguiente:

A. Sistema de Acueductos

En los terrenos a desarrollar existen tres pozos que generan alrededor de 465 gpm, por lo que la AAA recomienda el uso de este recurso para las necesidades del desarrollo en su etapa inicial.

El desarrollador deberá instalar tubería de 12" diámetro en Celada para poder ofrecer el agua necesaria para la totalidad del proyecto.

Deberá comunicarse con la Oficina de Proyectos Públicos y Privados (PPP) para participar del Combinado Valenciano, el cual incluye laterales, tanque y estación de bombas.

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B. Sistema de Alcantarillado

En el sector a desarrollar no hay alcantarillado sanitario, por lo que el desarrollador deberá instalar la tubería necesaria para conectarse al sistema de alcantarillado localizado en el área urbana.

Deberá mejorar la Estación de Bombas Santa Bárbara.

Esperar que finalice y esté en operación la expansión a la Planta de Alcantarillado Sanitario Regional (PASR) de Caguas.

De necesitar información adicional, puede comunicarse al (787) 999-1717 extensión 246.

Cordialmente,

Adamaris Quiñones, PE
Directora Auxiliar de Planificación

274-2150

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DEPARTAMENTO DE RECURSOS NATURALES Y AMBIENTALES

APR 0 3 2008

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To Yazell Domínguez	From Alexander Vázquez	
Co./Dept.	Co. DRNA	
Phone #	Phone #	
Fax # 724-5963	Fax #	

ARQ FEDERICO DEL MONTE
DEPARTAMENTO DE LA VIVIENDA
PO BOX 21365
SAN JUAN PR 00928-1365

Estimado arquitecto Del Monte:

Rediseño
Proyecto Residencial La Aventura
Carr. PR 941, Km. 4.1
Bo. Jaguas, Gurabo

O-PA-DIA01-SJ-00021-15032005
O-CE-EJP01-SJ-00426-09012007
2001-47-0705-JPU
C-9-2001-985

Hemos evaluado los documentos sometidos en relación al asunto descrito en epígrafe, en el cual se propone la construcción de 1,935 unidades residenciales distribuidas en 1,407 unidades unifamiliares y 528 unidades multifamiliares con sus respectivos estacionamientos y facilidades recreativas. Además, se propone la construcción de una escuela y área comercial en un predio de terreno de 373 cuerdas.

Del expediente se desprende que en comunicación del 21 de marzo de 2003, el Departamento de Recursos Naturales y Ambientales (DRNA) expresó su conformidad a la Declaración de Impacto Ambiental Preliminar (DIA-P) para un proyecto localizado en parte de los terrenos propuestos. Luego nos someten una Declaración de Impacto Ambiental Actualizada (DIA-PA) para un proyecto de mayor magnitud al evaluado anteriormente. Como resultado de la evaluación el 14 de diciembre de 2004, el DRNA expresó que la DIA-PA no discutía adecuadamente los aspectos ambientales bajo su jurisdicción y que estaba en la mejor disposición de evaluar un proyecto modificado y rediseñado, que considerara los asuntos en la carta antes mencionada. A estos efectos, la parte proponente somete el 11 de febrero de 2008 un proyecto modificado. A continuación emitimos los comentarios más relevantes:

- En la comunicación del 14 de diciembre de 2007, el DRNA indicó que los terrenos se encontraban dentro de la zona del Legado Forestal del área del Río Grande de Loíza. Esta aseveración tuvo el objetivo de expresar la importancia en términos forestales que tienen estos terrenos. La parte proponente reconoce y acepta esta aseveración cuando rediseña el proyecto para mantener en su estado natural un área boscosa de unas 27.24 cuerdas. Cabe señalar que, las mismas deberán ser inscritas a favor del DRNA y se mantendrán en su estado natural.

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- La parte proponente en la documentación presentada acepta que existen nueve (9) cuerpos de agua como lo identifica el mapa de suelos del Departamento de Agricultura Federal (USDA) y que los mismos se mantendrán en su estado natural. Además, el proyecto modificado cumple con nuestro requisito de una zona de amortiguamiento de 15 metros adicionales en estado natural a partir de los cinco (5) metros a ambos lados desde los bordes de cada una de las quebradas.

- El Proyecto modificado recoge el requerimiento de que las charcas de retención no estarán dentro del cauce de las quebradas y que no se construirá el paseo peatonal y de bicicleta dentro de las quebradas, ni en su zona de amortiguamiento.

- Los documentos sometidos discuten como se va a cumplir con la Ley Núm. 241 de 15 de agosto de 1999, conocida como "La Nueva Ley de Vida Silvestre de Puerto Rico y con lo dispuesto en la Sección 2.03 – Modificación de Hábitat Natural del Reglamento Núm. 6765 (Reglamento para Regir la Conservación y el Manejo de la Vida Silvestre, las Especies Exóticas y la Caza en el Estado Libre Asociado de Puerto Rico). El proyecto modificado va a conservar unas 107.31 cuerdas que representan el 28.5% de las 373 cuerdas del área total de la finca. Esto garantiza que no haya pérdida neta de hábitat de vida silvestre.

- Datos recopilados por el DRNA indican que la parte sureste del predio es utilizado por la paloma sabanera (*Patagioneas inornata*). La paloma sabanera es una especie en peligro de extinción que se ha refugiado en el área este central de Puerto Rico. La población de esta especie se ha reducido drásticamente debido al desarrollo desmedido que ha experimentado esta región en los últimos años. Esta paloma hace uso principalmente de los corredores naturales de vegetación asociado a quebradas y ríos, por lo que el proyecto modificado deberá conservar estos corredores al igual que el establecimiento de zonas de amortiguamiento entre el desarrollo y la zona ribereña. El protocolo sometido debe ser implementado en su totalidad y con todo el rigor para lograr la preservación de esta especie en peligro en extinción.