

SECTION CR-1	DOWNSSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI 4.90	'N' VALUE BY SEGMENTS					
	CHANNEL 900.	VALLEY 900.	CHANNEL 1225.	VALLEY 1225.		NO. 1 0.080	NO. 2 0.060	NO. 3 0.080	NO. 4	NO. 5	NO. 6

ELEVATION	KD VALUES		TOTAL	END AREA SQ. FT.
	CHANNEL	VALLEY		
313.00	282291.9	304752.0	587044.0	4528.11
312.00	265842.3	271407.5	537249.8	4183.38
311.00	249842.2	241361.8	491204.1	3859.57
310.00	234167.5	213523.4	447690.9	3550.65
309.00	218817.9	187892.2	406710.1	3256.60
308.00	204066.5	165944.7	370011.3	2989.34
307.00	189585.6	145545.0	335130.7	2733.98
306.00	175580.7	127801.4	303382.1	2499.45
305.00	162032.6	112405.5	274438.1	2284.45
304.00	148867.5	98954.6	247822.2	2085.63
303.00	136139.4	87694.1	223833.5	1905.04
302.00	123986.9	76954.2	200941.1	1744.26
301.00	112227.0	66608.3	178835.4	1591.13
300.00	100858.5	56733.8	157592.3	1444.41
299.00	90054.5	47076.7	138131.3	1306.26
298.00	79787.0	40478.2	120265.2	1176.02
297.00	70008.7	33777.0	103785.7	1052.81
296.00	60731.8	27691.7	88423.5	936.00
295.00	51952.3	22107.5	74059.9	824.50
294.00	43763.9	17235.7	60999.6	718.11
293.00	36148.4	13022.7	49171.1	616.48
292.00	29128.3	9439.5	38567.8	519.61
291.00	22710.3	6441.0	29151.4	427.37
290.00	16964.7	4037.0	21001.8	340.02
289.00	11883.4	2167.7	14051.2	257.25
288.00	7567.7	869.0	8436.7	179.48
287.00	4124.3	208.6	4332.9	110.70
286.00	1713.0	18.9	1732.0	57.38
285.00	353.3	0.0	353.3	18.63
284.00	31.0	0.0	31.0	2.50
283.30	1.0	0.0	1.0	0.19

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
24.83	1.71	284.84	38.21	1.79	285.09	58.86	1.96	285.36
90.62	2.16	285.66	139.65	2.28	286.08	215.12	2.37	286.65
331.23	2.29	287.52	510.23	1.99	288.98	785.66	1.70	291.38
1210.10	1.63	294.22	1863.53	1.71	297.25	2869.80	1.78	301.12
4419.68	1.81	305.75	6806.35	1.53	312.69	10481.98	1.58	318.77

CSM NO. 15 OVER EHI. ANSWER BASED ON VERTICAL WALLS

-----DISTANCES-----											
SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CR-2	1225.	1225.	900.	900.	4.87	0.100	0.070	0.100			

-----KD VALUES-----				END AREA
ELEVATION	CHANNEL	VALLEY	TOTAL	SQ. FT.
326.00	94959.0	516426.1	611385.2	6784.90
325.00	89340.6	467703.2	557043.8	6303.59
324.00	83855.9	422113.5	505969.4	5841.40
323.00	78460.4	378613.0	457073.4	5391.97
322.00	73292.5	340085.9	413378.5	4974.42
321.00	68217.8	303390.3	371608.1	4569.59
320.00	63282.7	269442.4	332725.1	4183.88
319.00	58526.3	238307.9	296834.3	3820.96
318.00	53899.8	209320.7	263220.6	3474.11
317.00	49401.4	182499.7	231901.1	3142.79
316.00	45121.5	159097.6	204219.1	2837.38
315.00	40976.1	137630.3	178606.5	2547.50
314.00	36963.2	117928.3	154891.5	2272.76
313.00	33121.4	100128.0	133249.5	2017.09
312.00	29482.5	83303.8	112786.3	1779.01
311.00	26010.6	68170.2	94180.9	1553.53
310.00	22709.6	54669.7	77379.4	1340.68
309.00	19576.3	42682.4	62258.7	1139.91
308.00	16641.8	32368.9	49010.7	953.07
307.00	13901.5	23565.1	37466.7	779.37
306.00	11362.7	16209.2	27571.9	618.81
305.00	9024.8	10191.9	19216.7	470.86
304.00	6910.2	5551.6	12461.9	336.32
303.00	5017.3	2189.1	7206.5	214.39
302.00	3395.9	505.9	3901.9	114.24
301.00	2020.4	8.1	2028.6	54.33
300.00	1066.0	0.0	1066.0	34.02
299.00	386.0	0.0	386.0	17.42
298.00	29.8	0.0	29.8	3.15
297.40	1.5	0.0	1.5	0.34

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
24.71	1.92	298.70	38.03	2.27	298.95	58.58	2.64	299.30
90.20	3.08	299.73	138.99	3.55	300.29	214.11	4.00	300.96
329.67	3.78	301.65	507.83	3.41	302.38	781.98	3.31	303.18
1204.43	3.35	304.17	1854.79	3.48	305.44	2856.35	3.47	307.25
4398.96	3.34	309.87	6774.44	2.78	314.59	10432.83	2.50	319.94

SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CR-3	900.	900.	900.	900.	4.84	0.100	0.070	0.100			

ELEVATION	KD VALUES			TOTAL	END AREA SQ. FT.
	CHANNEL	VALLEY	VALLEY		
325.00	61760.6	1596781.5	1658542.0	18008.73	
324.00	57700.0	1447370.7	1505070.7	16835.83	
323.00	53730.0	1303886.7	1357616.7	15683.80	
322.00	49850.7	1166329.7	1216180.5	14552.63	
321.00	46138.5	1039417.0	1085555.5	13459.01	
320.00	42498.3	916984.6	959482.8	12381.30	
319.00	38982.9	802246.2	841229.1	11330.98	
318.00	35621.2	696682.1	732303.2	10313.50	
317.00	32364.0	597218.3	629582.3	9317.94	
316.00	29212.5	503851.1	533063.6	8344.28	
315.00	26223.0	419632.7	445855.7	7403.49	
314.00	23354.1	341383.1	364737.2	6485.42	
313.00	20618.7	269880.3	290499.0	5589.70	
312.00	18015.9	205303.9	223319.8	4714.05	
311.00	15549.0	148072.0	163621.0	3858.29	
310.00	13239.6	99439.1	112678.7	3024.90	
309.00	11079.8	59206.9	70286.8	2212.02	
308.00	9078.2	29190.6	38268.8	1426.33	
307.00	7239.5	11028.9	18268.5	767.12	
306.00	5571.4	2513.3	8084.7	307.67	
305.00	4099.8	97.4	4197.2	99.03	
304.00	2998.6	0.0	2998.6	66.29	
303.00	2078.6	0.0	2078.6	50.82	
302.00	1295.5	0.0	1295.5	36.39	
301.00	670.7	0.0	670.7	23.09	
300.00	233.6	0.0	233.6	11.10	
299.00	43.1	0.0	43.1	3.10	
298.00	0.4	0.0	0.4	0.09	
297.90	0.4	0.0	0.4	0.09	

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
24.60	1.23	300.74	37.86	1.47	301.20	58.30	1.75	301.77
89.77	2.07	302.49	138.34	2.44	303.39	213.10	2.72	304.48
328.12	1.83	305.48	505.44	1.47	306.08	778.28	1.30	306.65
1198.74	1.29	307.25	1846.04	1.33	307.95	2842.86	1.30	308.97
4378.19	1.18	310.79	6742.45	0.92	314.91	10303.58	0.82	320.13



SECTION CR-5	DISTANCES		DRAINAGE		'N' VALUE BY SEGMENTS					
	DOWNSTREAM CHANNEL 500.	VALLEY 500.	UPSTREAM CHANNEL 100.	VALLEY 100.	AREA, SQ MI 4.52	NO. 1 0.040	NO. 2 0.060	NO. 3 0.080	NO. 4	NO. 5

-----KD VALUES-----

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
335.00	164551.2	1696140.2	1860691.5	11695.74
334.00	155329.8	1535320.2	1690650.0	10798.32
333.00	146171.0	1377691.2	1523862.2	9910.02
332.00	137385.6	1241735.0	1379120.5	9082.39
331.00	128743.7	1112305.2	1241049.0	8280.02
330.00	120317.3	992666.1	1112983.5	7515.55
329.00	112184.2	888122.2	1000306.5	6806.78
328.00	104199.6	788884.0	893083.6	6128.73
327.00	96515.2	695773.1	792288.3	5517.87
326.00	89047.0	608526.0	697573.0	4945.58
325.00	81791.8	527280.6	609072.3	4409.97
324.00	74812.2	454406.0	529218.3	3918.26
323.00	68115.3	389660.0	457775.2	3471.00
322.00	61634.1	330799.0	392432.1	3057.35
321.00	55370.8	277718.3	333089.1	2677.48
320.00	49454.0	229778.6	279232.6	2342.75
319.00	43800.6	185877.7	229678.4	2027.07
318.00	38416.7	146505.9	184922.6	1729.95
317.00	33308.8	111755.4	145064.2	1451.24
316.00	28477.8	81654.0	110131.9	1190.73
315.00	23975.6	57619.1	81594.8	953.06
314.00	19789.4	38902.8	58692.3	741.47
313.00	15931.5	24297.8	40229.3	556.74
312.00	12409.3	13367.3	25776.6	398.25
311.00	9262.2	5900.4	15162.7	266.13
310.00	6482.5	1386.6	7869.2	155.90
309.00	4129.2	0.0	4129.3	82.80
308.00	2535.9	0.0	2535.9	58.39
307.00	1338.2	0.0	1338.2	37.07
306.00	502.2	0.0	502.2	18.90
305.00	57.0	0.0	57.0	4.27
304.20	1.4	0.0	1.4	0.26

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
23.34	1.48	305.81	35.92	1.67	306.15	55.32	1.90	306.58
85.17	2.14	307.13	131.25	2.43	307.81	202.18	2.76	308.61
311.31	2.88	309.38	479.54	3.17	309.96	738.42	3.56	310.49
1137.33	4.07	311.11	1751.47	4.73	311.80	2697.24	5.41	312.64
4153.92	5.96	313.77	6397.08	5.20	316.16	9851.69	3.94	320.47

BRIDGE SECTION CR-6

COEFFICIENTS  
OPENING=0.899, ORIFICE=0.600, ROADWAY=0.800

-----DISTANCES-----  
DOWNSTREAM                      UPSTREAM  
CHANNEL            VALLEY            CHANNEL            VALLEY  
100.0                100.0                125.0                125.0

ELEVATION	OPENING		Q CRIT.	ROADWAY	
	END AREA			ELEVATION	Q IN CFS
304.6000	0.00		0.00	317.0000	0.00
304.8649	0.39		0.81	317.4750	88.53
305.1298	1.57		4.58	317.9500	335.81
305.3947	4.00		14.21	318.4249	767.13
305.6596	8.52		35.19	318.8998	1412.34
305.9245	13.52		65.99	319.3748	2297.14
306.1895	18.77		105.28	319.8497	3373.02
306.4544	24.15		151.49	320.3246	4616.67
306.7193	29.65		203.69	320.7996	6034.75
306.9843	35.26		261.50	321.2745	7634.54
307.2492	40.99		324.64	321.7495	9449.79
307.5141	46.83		392.93	322.2244	11488.04
307.7791	52.80		466.20	322.6993	13757.28
308.0440	59.08		544.75	323.1743	16265.41
308.3089	65.65		629.30	323.6492	19019.12
308.5739	72.34		719.22	324.1241	22025.88
308.8388	79.14		814.25	324.5991	25293.09
309.1037	86.06		914.32	325.0740	28964.90
309.3687	93.10	1019.30		325.5490	32944.38
309.6336	100.25	1129.11		326.0239	37218.21
309.8985	107.52	1243.75		326.4988	41804.74
310.1635	114.91	1363.13		326.9738	46711.78
310.4284	122.41	1487.21		327.4487	51945.10
310.6933	130.04	1616.01		327.9236	57512.17
310.9583	137.78	1749.47		328.3986	63354.67
311.2232	145.64	1887.56		328.8735	69521.82
311.4881	153.61	2032.28		329.3484	76032.35
311.7531	161.67	2185.40		329.8234	82893.31
312.0180	169.81	2342.88		330.2983	90108.85
312.2829	178.03	2504.78		330.7733	97686.71
312.5479	186.33	2671.07		331.2482	105630.78
312.8128	194.71	2841.68		331.7231	114237.10
313.0777	203.17	3016.68		332.1981	123298.45
313.3427	211.71	3196.01		332.6730	132755.06
313.6076	220.33	3379.61		333.1479	142644.28
313.8725	229.03	3567.55		333.6229	152963.43
314.1375	237.81	3759.77		334.0978	163715.96
314.4024	246.67	3956.22		334.5728	174910.59
314.6673	255.61	4156.98		335.0477	186291.31
314.9323	264.63	4361.99		335.5226	195690.40
315.2000	273.82	4573.43		336.0000	205391.09

THE HEAD-LOSS IS REFLECTED BETWEEN THE EXIT AND APPROACH SECTIONS. A RATING CURVE IS NOT DEVELOPED SEPERATELY FOR THE BRIDGE. NORMAL PROFILES ARE COMPUTED WHEN THE BRIDGE DOES NOT CONTROL THE FLOW.

-----DISTANCES-----

SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CR-7	125.	125.	975.	975.	4.50	0.080	0.055	0.080			

-----KD VALUES-----

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
335.00	96606.9	1027863.8	1124470.7	10746.15
334.00	91044.5	915207.6	1006252.0	9873.35
333.00	85631.3	810945.6	896576.8	9036.49
332.00	80303.9	711636.6	791940.5	8220.35
331.00	75172.2	624524.8	699697.1	7452.15
330.00	70151.8	544439.1	614590.8	6718.14
329.00	65242.5	471379.5	536622.1	6018.31
328.00	60537.8	407883.6	468421.5	5382.35
327.00	55921.5	348254.0	404175.5	4773.04
326.00	51457.9	295165.8	346623.7	4209.36
325.00	47182.2	248665.7	295847.9	3698.30
324.00	43034.3	206495.2	249529.5	3220.38
323.00	39015.4	168619.6	207635.1	2775.10
322.00	35194.4	137025.0	172219.4	2377.93
321.00	31520.3	109431.0	140951.4	2012.36
320.00	28008.8	85866.2	113875.0	1680.90
319.00	24658.6	65873.9	90532.5	1382.34
318.00	21473.3	49346.7	70820.1	1117.88
317.00	18479.0	37574.9	56054.0	901.30
316.00	15665.8	27860.6	43526.4	729.59
315.00	13043.3	19216.9	32260.2	576.47
314.00	10616.8	12322.1	22938.9	437.95
313.00	8394.5	7378.6	15773.1	318.11
312.00	6384.4	3925.0	10309.4	218.61
311.00	4612.1	1784.0	6396.2	140.87
310.00	3072.7	599.7	3672.5	83.01
309.00	1782.4	110.2	1892.7	44.73
308.00	798.6	10.4	809.1	23.50
307.00	231.0	0.0	231.0	9.49
306.00	42.8	0.0	42.8	2.48
305.00	0.4	0.0	0.4	0.07
304.90	0.4	0.0	0.4	0.07

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
23.26	1.98	307.20\$	35.79	2.19	307.54\$	55.13	2.55	307.90\$
84.88	2.79	308.37\$	130.80	2.99	308.95\$	201.49	3.01	309.66\$
310.25	2.99	310.41\$	477.91	3.21	311.12\$	735.90	3.57	311.84\$
1133.45	3.99	312.67\$	1745.49	4.95	313.29	2688.02	3.70	315.97
4139.74	3.09	318.84	6375.23	3.75	320.05	9818.04	4.29	321.77

‡ BRIDGE DID NOT CONTROL FLOW

-----DISTANCES-----											
SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CR-8	975.	975.	900.	900.	4.40	0.080	0.055	0.080			

-----KD VALUES-----				END AREA
ELEVATION	CHANNEL	VALLEY	TOTAL	SQ. FT.
349.00	151583.0	1464072.7	1615655.7	14154.76
348.00	143412.6	1333546.2	1476958.7	13199.93
347.00	135337.8	1207272.5	1342610.2	12263.84
346.00	127517.3	1090139.0	1217656.2	11376.05
345.00	119821.3	977254.5	1097075.7	10510.63
344.00	112369.5	872227.0	984596.5	9686.39
343.00	105104.7	773938.1	879042.7	8892.51
342.00	97964.5	680142.2	778106.7	8118.87
341.00	91142.8	597110.2	688253.1	7395.82
340.00	84443.4	517945.3	602388.7	6691.75
339.00	77927.2	444581.7	522508.9	6016.14
338.00	71702.8	379860.6	451563.5	5384.80
337.00	65657.7	317519.0	383176.6	4777.20
336.00	59793.3	260283.5	320077.0	4193.78
335.00	54174.3	217131.6	271306.0	3643.81
334.00	48789.0	194075.1	242864.1	3175.66
333.00	43628.4	166147.0	209775.4	2767.39
332.00	38692.6	133390.2	172082.9	2394.58
331.00	33986.6	104148.7	138135.4	2040.12
330.00	29515.6	78352.0	107867.6	1704.03
329.00	25322.5	56417.7	81740.2	1388.96
328.00	21390.3	37946.5	59336.9	1093.02
327.00	17728.2	22932.0	40660.3	816.19
326.00	14346.3	15273.1	29619.5	582.94
325.00	11275.5	10208.1	21483.7	427.68
324.00	8500.8	5618.5	14119.3	298.90
323.00	6038.4	2553.1	8591.6	193.36
322.00	3924.4	817.4	4741.8	112.42
321.00	2180.8	90.4	2271.2	56.58
320.00	961.9	0.0	961.9	28.19
319.00	216.6	0.0	216.6	10.53
318.00	2.6	0.0	2.6	0.45

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
22.86	2.06	319.03	35.18	2.53	319.20	54.18	2.90	319.47
83.42	3.38	319.81	128.55	3.92	320.23	198.02	4.06	320.77
304.91	4.20	321.32	469.68	4.34	321.93	723.23	4.52	322.63
1113.94	4.72	323.43	1715.45	5.08	324.33	2641.76	5.05	325.62
4068.48	4.69	327.18	6265.50	5.19	328.38	9649.06	5.79	329.88



-----DISTANCES-----											
SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CR-9	900.	900.	1350.	1350.	4.13	0.070	0.055	0.070			

-----KD VALUES-----				END AREA
ELEVATION	CHANNEL	VALLEY	TOTAL	SQ. FT.
359.00	117205.3	1355034.7	1472240.0	11511.48
358.00	110666.3	1232214.2	1342880.5	10726.81
357.00	104246.5	1113995.2	1218241.7	9963.03
356.00	97946.0	1000377.7	1098323.7	9220.13
355.00	91871.2	897014.5	988885.7	8515.61
354.00	85898.4	797998.3	883896.7	7828.14
353.00	80105.0	706466.0	786570.8	7170.52
352.00	74494.9	619267.0	693761.8	6539.43
351.00	68988.5	535124.0	604112.5	5923.04
350.00	63708.4	461770.8	525479.2	5336.57
349.00	58596.4	399826.5	458422.9	4781.41
348.00	53630.2	346513.7	400143.9	4259.11
347.00	48836.2	301929.8	350766.0	3782.19
346.00	44269.5	265962.0	310231.5	3365.61
345.00	39848.4	230980.5	270829.0	2981.55
344.00	35616.4	195849.5	231465.9	2631.22
343.00	31567.8	160742.7	192310.5	2301.46
342.00	27730.8	129592.8	157323.7	1990.53
341.00	24112.2	102267.8	126380.0	1698.45
340.00	20678.6	78012.8	98691.5	1421.89
339.00	17465.1	57235.5	74700.6	1163.30
338.00	14472.9	39764.5	54237.5	922.16
337.00	11710.6	25565.9	37276.5	698.47
336.00	9170.6	15213.1	24383.8	495.32
335.00	6899.4	8354.1	15253.5	331.59
334.00	4906.1	4101.6	9007.7	208.89
333.00	3172.6	1492.4	4665.1	118.58
332.00	1773.2	277.7	2050.9	56.14
331.00	729.3	3.1	732.5	22.42
330.00	194.2	0.0	194.2	8.55
329.00	4.8	0.0	4.8	0.57
328.70	1.3	0.0	1.3	0.22

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
21.76	2.42	330.04	33.49	2.82	330.29	51.58	3.17	330.62
79.42	3.55	330.99	122.39	3.67	331.42	188.53	3.86	331.85
290.29	4.05	332.31	447.16	4.19	332.84	688.55	4.47	333.44
1060.53	4.68	334.17	1633.20	4.94	334.99	2515.10	5.23	335.93
3873.42	5.51	337.02	5965.10	6.19	338.17	9186.43	7.02	339.57

-----DISTANCES-----											
SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CR-10	1350.	1350.	1200.	1200.	4.01	0.080	0.060	0.080			

-----KD VALUES-----					END AREA
ELEVATION	CHANNEL	VALLEY	TOTAL	SQ. FT.	
371.00	171013.0	654771.2	825784.2	6720.56	
370.00	160971.6	599373.2	760344.7	6295.50	
369.00	151113.1	546583.0	697696.0	5882.34	
368.00	141612.8	498596.6	640209.5	5492.03	
367.00	132274.2	452674.3	584948.5	5111.89	
366.00	123220.1	410321.9	533542.1	4749.52	
365.00	114457.2	370127.5	484584.7	4404.40	
364.00	105858.9	331035.5	436894.5	4068.46	
363.00	97619.8	293539.0	391158.8	3748.53	
362.00	89647.7	258519.2	348166.9	3439.42	
361.00	81907.3	225588.4	307495.8	3139.60	
360.00	74440.6	195054.6	269495.3	2850.59	
359.00	67335.3	167500.6	234835.9	2575.50	
358.00	60461.7	141765.5	202227.2	2309.14	
357.00	53888.8	118316.5	172205.4	2053.94	
356.00	47608.1	96989.4	144597.5	1809.33	
355.00	41664.6	77988.8	119653.5	1576.66	
354.00	36069.3	61422.7	97492.0	1356.03	
353.00	30769.3	47112.6	77881.9	1147.05	
352.00	25820.9	35038.6	60859.5	952.61	
351.00	21226.6	24876.5	46103.2	772.61	
350.00	17000.6	16533.8	33534.5	607.06	
349.00	13131.8	9808.6	22940.4	454.94	
348.00	9695.5	4870.1	14565.6	318.27	
347.00	6708.7	1645.9	8354.7	196.63	
346.00	4175.6	87.0	4262.7	92.03	
345.00	2418.8	0.0	2418.8	57.68	
344.00	1132.2	0.0	1132.2	34.36	
343.00	305.9	0.0	305.9	14.41	
342.00	6.6	0.0	6.6	0.84	
341.70	1.7	0.0	1.7	0.33	

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
21.27	1.77	342.87	32.73	2.04	343.08	50.41	2.43	343.34
77.62	2.82	343.67	119.61	3.27	344.10	184.25	3.75	344.65
283.69	4.32	345.31	437.00	4.25	346.11	672.91	3.97	346.76
1036.44	4.21	347.42	1596.09	4.57	348.23	2457.95	5.04	349.22
3785.41	5.62	350.41	5829.56	6.32	351.83	8977.70	7.11	353.56

SECTION	DISTANCES		DRAINAGE		N VALUE BY SEGMENTS						
	DOWNSTREAM CHANNEL	VALLEY	UPSTREAM CHANNEL	VALLEY	AREA, SQ MI	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CR-11	1200.	1200.	1625.	1625.	3.90	0.000	0.060	0.080			

ELEVATION	KD VALUES		TOTAL	END AREA SQ. FT.
	CHANNEL	VALLEY		
379.00	160016.2	568958.1	728974.2	6060.86
378.00	150907.5	512999.4	663907.0	5658.03
377.00	142057.5	471557.0	613614.5	5270.43
376.00	133342.4	436141.5	569484.0	4898.79
375.00	124908.5	410319.5	535228.0	4575.79
374.00	116690.0	376781.6	493471.6	4265.19
373.00	108615.1	338099.6	446714.6	3962.86
372.00	100907.3	303106.4	404013.7	3675.76
371.00	93340.4	269449.7	362790.1	3394.37
370.00	85984.9	237798.1	323783.1	3121.55
369.00	78966.0	209160.5	288126.6	2862.05
368.00	72154.0	182271.1	254425.1	2610.54
367.00	65550.8	157109.8	222660.6	2367.03
366.00	59230.8	134199.4	193430.3	2134.18
365.00	53181.1	113308.6	166489.7	1911.23
364.00	47391.2	94275.6	141666.9	1697.61
363.00	41861.6	77018.6	118880.2	1493.12
362.00	36598.0	61496.7	98094.8	1297.77
361.00	31606.9	47670.6	79277.5	1111.56
360.00	26938.2	35735.8	62674.1	935.82
359.00	22572.9	25483.4	48056.3	769.59
358.00	18521.8	16889.4	35411.2	612.89
357.00	14797.7	9948.0	24745.8	465.70
356.00	11437.4	4854.6	16292.0	329.20
355.00	8424.6	1764.7	10189.3	210.50
354.00	5780.2	356.3	6136.5	123.81
353.00	3575.1	6.0	3581.1	74.58
352.00	1970.1	0.0	1970.1	49.41
351.00	837.1	0.0	837.1	27.91
350.00	191.4	0.0	191.4	9.90
349.00	6.6	0.0	6.6	1.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
20.81	1.62	350.20	32.03	1.81	350.47	49.32	2.10	350.78
75.95	2.45	351.14	117.03	2.83	351.63	180.28	3.28	352.24
277.59	3.75	352.98	427.60	3.96	353.78	658.44	3.92	354.59
1014.15	3.92	355.45	1561.77	4.10	356.38	2405.09	4.50	357.47
3704.00	5.05	358.76	5704.19	5.71	360.36	8784.62	6.48	362.30

SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ. MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CR-12	1625.	1625.	1800.	1800.	3.75	0.080	0.060	0.080			

ELEVATION	KD VALUES		TOTAL	END AREA SQ. FT.
	CHANNEL	VALLEY		
402.00	131553.2	638349.2	769902.5	6065.26
401.00	124186.4	584448.6	708635.0	5694.94
400.00	117121.5	535643.2	652764.7	5345.49
399.00	110114.9	487762.6	597877.6	4999.97
398.00	103341.3	443582.2	546923.6	4670.22
397.00	96735.7	401910.4	498646.1	4351.60
396.00	90242.0	361911.3	452153.3	4040.39
395.00	84034.6	325928.5	409963.1	3747.74
394.00	77944.3	291486.5	369430.8	3462.50
393.00	72029.8	259356.0	331385.9	3188.39
392.00	66340.3	229999.2	296339.5	2928.18
391.00	60814.7	202581.0	263395.7	2677.95
390.00	55450.5	177031.0	232481.5	2437.46
389.00	50362.4	153767.5	204130.0	2212.59
388.00	45444.6	131677.0	177121.5	1994.96
387.00	40694.4	110837.5	151531.9	1784.28
386.00	36161.1	91875.1	128036.3	1582.11
385.00	31885.6	75027.5	106913.1	1389.76
384.00	27822.6	59837.5	87660.2	1205.26
383.00	23977.7	46389.1	70366.9	1028.87
382.00	20347.2	34565.3	54912.6	860.53
381.00	16971.8	24509.6	41481.5	701.73
380.00	13846.6	16097.8	29944.4	551.93
379.00	10982.0	9338.7	20320.8	411.13
378.00	8379.1	4360.9	12740.0	280.25
377.00	6069.2	1546.1	7615.4	171.27
376.00	4053.5	265.5	4319.0	94.47
375.00	2438.9	8.3	2447.2	55.00
374.00	1333.9	0.0	1333.9	35.16
373.00	603.2	0.0	603.2	19.88
372.00	158.2	0.0	158.2	7.68
371.00	11.5	0.0	11.5	1.08
370.40	0.6	0.0	0.6	0.11

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
20.18	2.41	372.06	31.05	2.70	372.35	47.83	3.07	372.68
73.65	3.48	373.09	113.49	3.99	373.58	174.82	4.53	374.19
269.18	5.05	374.92	414.65	5.09	375.70	638.49	5.03	376.46
983.43	5.01	377.25	1514.46	5.17	378.10	2332.23	5.58	379.05
3591.79	6.25	380.16	5531.40	7.03	381.54	8518.51	7.90	383.28

SECTION CR-13  
 DISTANCES  
 DOWNSTREAM CHANNEL VALLEY 1800.  
 UPSTREAM CHANNEL VALLEY 1.  
 DRAINAGE AREA, SQ MI 2.84  
 'N' VALUE BY SEGMENTS  
 NO. 1 NO. 2 NO. 3 NO. 4 NO. 5 NO. 6  
 0.080 0.060 0.080 0.080 0.080 0.080

DISTANCES		UPSTREAM		DOWNSTREAM		DRAINAGE		'N' VALUE BY SEGMENTS		END AREA		
CHANNEL	VALLEY	CHANNEL	VALLEY	CHANNEL	VALLEY	AREA, SQ MI	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
1800.	1800.	1.	1.	1.	1.	2.84	0.080	0.060	0.080	0.080	0.080	0.080
-----KD VALUES-----												
ELEVATION	CHANNEL	VALLEY	TOTAL	SQ. FT.								
420.00	95823.3	450958.9	546782.2	5751.22								
419.00	89765.3	402261.3	492026.6	5206.67								
418.00	83781.8	352281.1	440063.0	4686.90								
417.00	78034.5	315043.3	393077.8	4237.40								
416.00	72421.4	277832.8	350254.1	3819.04								
415.00	66942.5	244649.8	311592.3	3431.82								
414.00	61695.5	214182.5	275878.0	3091.96								
413.00	56597.6	185042.3	241639.9	2771.67								
412.00	51648.1	157312.1	208960.3	2468.36								
411.00	46925.2	133044.8	179971.0	2189.12								
410.00	42386.0	110996.0	153382.0	1927.31								
409.00	37998.1	90859.8	128858.0	1679.73								
408.00	33807.4	73243.4	107050.9	1450.00								
407.00	29828.9	58111.6	87940.7	1238.98								
406.00	26068.9	45289.5	71358.4	1046.67								
405.00	22508.9	34378.0	56887.0	870.99								
404.00	19143.4	25167.2	44310.7	711.07								
403.00	16009.3	17767.7	33777.1	569.35								
402.00	13104.1	11908.0	25012.1	444.80								
401.00	10437.3	7395.4	17832.7	336.47								
400.00	8006.8	4042.6	12049.5	242.70								
399.00	5840.8	1800.1	7641.0	164.65								
398.00	4041.4	509.2	4550.7	102.92								
397.00	2629.3	53.7	2683.1	59.70								
396.00	1520.0	0.0	1520.0	37.56								
395.00	750.9	0.0	750.9	22.76								
394.00	237.5	0.0	237.5	10.33								
393.00	13.2	0.0	13.2	1.30								
392.50	1.0	0.0	1.0	0.19								
-----CFS VELOCITY ELEV.-----												
CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	
16.17	2.08	393.76	24.88	2.40	394.00	38.33	2.79	394.29	38.33	2.79	394.29	
59.02	3.21	394.67	90.94	3.65	395.15	140.09	4.16	395.75	140.09	4.16	395.75	
215.71	4.68	396.47	332.28	4.89	397.26	511.66	4.80	398.07	511.66	4.80	398.07	
788.07	5.03	398.89	1213.62	5.33	399.82	1868.95	5.70	400.91	1868.95	5.70	400.91	
2878.30	6.19	402.17	4432.61	6.73	403.65	6826.36	7.27	405.39	6826.36	7.27	405.39	

PAGE 1

// JOB

LOG DRIVE	CART SPEC	CART AVAIL	PHY DRIVE
0000	0005	0005	0000

V2 M11 ACTUAL BK CONFIG BK

// XEQ WSPIN ADP-2037 01-07-76 N. C. DURHAM COUNTY

WSPIN DURHAM CO. FLOOD INSURANCE STUDY 100-YEAR CROOKED RUN

A SECTION CR-1

BANKS ARE AT 227. 271.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	174.	328.	53.	44.	57.	154.	301.7	1696.	1.80
0.5	206.	307.	21.		36.	101.	302.2	1544.	1.98
1.0	210.	303.	17.		32.	93.	302.7	1513.	2.02
2.0	216.	297.	11.		26.	81.	303.7	1447.	2.11

B SECTION CR-2

BANKS ARE AT 481. 500.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	353.	528.	128.	19.	28.	175.	307.6	880.	3.46
0.5	405.	512.	76.		12.	107.	308.1	757.	4.02
1.0	417.	509.	64.		9.	92.	308.6	718.	4.24
2.0	433.	503.	48.		3.	70.	309.6	642.	4.74

C SECTION CR-3

BANKS ARE AT 530. 547.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	267.	1074.	263.	17.	527.	806.	309.2	2372.	1.28
0.5	369.	809.	161.		262.	440.	309.7	1893.	1.60
1.0	405.	744.	125.		197.	339.	310.2	1712.	1.77
2.0	444.	679.	86.		132.	235.	311.2	1493.	2.03

WSPIN DURHAM CO. FLOOD INSURANCE STUDY 100 YEAR CROOKED RUN

D SECTION CR-4

BANKS ARE AT 239. 272.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	118.	1205.	121.	33.	933.	1087.	310.0	2514.	1.18
0.5	197.	946.	42.		674.	749.	310.5	2169.	1.36
1.0	214.	670.	25.		398.	456.	311.0	1790.	1.65
2.0	231.	528.	8.		256.	297.	312.0	1508.	1.96

E SECTION CR-5

BANKS ARE AT 354. 380.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	245.	411.	109.	26.	31.	166.	312.8	521.	5.57
0.5	301.	385.	53.		5.	84.	313.3	427.	6.80
1.0	312.	380.	42.		0.	68.	313.8	397.	7.32
2.0	329.	380.	25.		0.	51.	314.8	371.	7.82

NO KD NEEDED IN RGHT FLOODPLAIN

NO KD NEEDED IN RGHT FLOODPLAIN

G SECTION CR-7

BANKS ARE AT 306. 320.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	173.	339.	133.	14.	19.	166.	316.4	794.	3.65
0.5	242.	330.	64.		10.	88.	316.9	649.	4.46
1.0	253.	327.	53.		7.	74.	317.4	612.	4.73
2.0	266.	324.	40.		4.	58.	318.4	565.	5.13



WSPIN DURHAM CO. FLOOD INSURANCE STUDY 100 YEAR CROOKED RUN

A SECTION CR-1

BANKS ARE AT 227. 271.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	174.	328.	53.	44.	57.	154.	301.7	1696.	1.80
0.5	206.	307.	21.		36.	101.	302.2	1544.	1.98
1.0	210.	303.	17.		32.	93.	302.7	1513.	2.02
2.0	216.	297.	11.		26.	81.	303.7	1447.	2.11

B SECTION CR-2

BANKS ARE AT 481. 500.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	353.	528.	128.	19.	28.	175.	307.6	880.	3.46
0.5	405.	512.	76.		12.	107.	308.1	757.	4.02
1.0	417.	509.	64.		9.	92.	308.6	718.	4.24
2.0	433.	503.	48.		3.	70.	309.6	642.	4.74

C SECTION CR-3

BANKS ARE AT 530. 547.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	267.	1074.	263.	17.	527.	806.	309.2	2372.	1.28
0.5	369.	809.	161.		262.	440.	309.7	1893.	1.60
1.0	405.	744.	125.		197.	339.	310.2	1712.	1.77
2.0	444.	679.	86.		132.	235.	311.2	1493.	2.03

WSPIN DURHAM CO. FLOOD INSURANCE STUDY 100 YEAR CROOKED RUN

D SECTION CR-4

BANKS ARE AT 239. 272.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	118.	1205.	121.	33.	933.	1087.	310.0	2514.	1.18
0.5	197.	946.	42.		674.	749.	310.5	2169.	1.36
1.0	214.	670.	25.		398.	456.	311.0	1790.	1.65
2.0	231.	528.	8.		256.	297.	312.0	1508.	1.96

E SECTION CR-5

BANKS ARE AT 354. 380.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	245.	411.	109.	26.	31.	166.	312.8	521.	5.57
0.5	301.	385.	53.		5.	84.	313.3	427.	6.80
1.0	312.	380.	42.		0.	68.	313.8	397.	7.32
2.0	329.	380.	25.		0.	51.	314.8	371.	7.82

NO KD NEEDED IN RGT FLOODPLAIN

NO KD NEEDED IN RGT FLOODPLAIN

G SECTION CR-7

BANKS ARE AT 306. 320.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	173.	339.	133.	14.	19.	166.	316.4	794.	3.65
0.5	242.	330.	64.		10.	88.	316.9	649.	4.46
1.0	253.	327.	53.		7.	74.	317.4	612.	4.73
2.0	266.	324.	40.		4.	58.	318.4	565.	5.13

WSPIN DURHAM CO. FLOOD INSURANCE STUDY 100 YEAR CROOKED RUN

H SECTION CR-8

BANKS ARE AT 166. 186.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	141.	318.	25.	20.	132.	177.	325.9	565.	5.05
0.5	158.	228.	8.		42.	70.	326.4	419.	6.81
1.0	162.	219.	4.		33.	57.	326.9	388.	7.35
NO KD NEEDED IN LEFT FLOODPLAIN									
2.0	166.	205.	0.		19.	39.	327.9	325.	8.77

I SECTION CR-9

BANKS ARE AT 442. 458.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	398.	586.	44.	16.	128.	188.	336.1	512.	5.35
0.5	420.	494.	22.		36.	74.	336.6	381.	7.20
1.0	425.	485.	17.		27.	60.	337.1	356.	7.71
2.0	431.	475.	11.		17.	44.	338.1	321.	8.55

J SECTION CR-10

BANKS ARE AT 374. 402.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	258.	408.	116.	28.	6.	150.	349.4	513.	5.25
NO KD NEEDED IN RIGHT FLOODPLAIN									
0.5	316.	402.	58.		0.	86.	349.9	424.	6.35
NO KD NEEDED IN RIGHT FLOODPLAIN									
1.0	335.	402.	39.		0.	67.	350.4	384.	7.02
NO KD NEEDED IN RIGHT FLOODPLAIN									
2.0	359.	402.	15.		0.	43.	351.4	319.	8.45

WSPIN DURHAM CO. FLOOD INSURANCE STUDY 100 YEAR CROOKED RUN

SECTION CR-11

BANKS ARE AT 264. 289.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	185.	334.	79.	25.	45.	149.	357.7	568.	4.66
0.5	224.	310.	40.		21.	86.	358.2	478.	5.54
1.0	235.	303.	29.		14.	68.	358.7	441.	6.00
2.0	248.	294.	16.		5.	46.	359.7	377.	7.01

SECTION CR-12

BANKS ARE AT 408. 428.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	321.	460.	87.	20.	32.	139.	379.3	451.	5.72
0.5	367.	440.	41.		12.	73.	379.8	368.	7.01
1.0	379.	435.	29.		7.	56.	380.3	335.	7.70
NO KD NEEDED IN	RIGHT	FLOODPLAIN							
2.0	392.	428.	16.		0.	36.	381.3	278.	9.27

SECTION CR-13

BANKS ARE AT 260. 279.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	191.	296.	69.	19.	17.	105.	401.3	365.	5.93
NO KD NEEDED IN	RIGHT	FLOODPLAIN							
0.5	228.	279.	32.		0.	51.	401.8	295.	7.33
NO KD NEEDED IN	RIGHT	FLOODPLAIN							
1.0	238.	279.	22.		0.	41.	402.3	273.	7.92
NO KD NEEDED IN	RIGHT	FLOODPLAIN							
2.0	251.	279.	9.		0.	28.	403.3	233.	9.28

WSPIN DURHAM CO. FLOOD INSURANCE STUDY 100 YEAR CROOKED RUN

N SECTION CR14

BANKS ARE AT 0. 1445.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	605.	1432.	0.	1445.	0.	827.	416.2	1984.	1.07

CHANNEL WILL CARRY THE FLOW  
ONLY ONE SEGMENT - THE CHANNEL. COMPUTATIONS DISCONTINUED.

O SECTION CR-15

BANKS ARE AT 879. 894.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	729.	1090.	150.	15.	196.	361.	419.3	1200.	1.72
0.5	835.	985.	44.		91.	150.	419.8	881.	2.35
1.0	844.	968.	35.		74.	124.	420.3	822.	2.52
2.0	854.	947.	25.		53.	93.	421.3	742.	2.79

Q SECTION CR-17

BANKS ARE AT 669. 688.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	488.	886.	181.	19.	190.	398.	421.6	1744.	1.10
0.5	604.	801.	65.		113.	197.	422.1	1374.	1.40
1.0	617.	785.	52.		97.	168.	422.6	1295.	1.49
2.0	631.	763.	38.		75.	132.	423.6	1189.	1.62

WSPIN DURHAM CO. FLOOD INSURANCE STUDY 100 YEAR CROOKED RUN

R SECTION CR-18

BANKS ARE AT 665. 683.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V. AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	541.	726.	124.	18.	43.	185.	439.9	515.	3.53
0.5	605.	698.	60.		15.	93.	440.4	410.	4.43
1.0	619.	692.	46.		9.	73.	440.9	374.	4.86
NO KD NEEDED IN RGHT FLOODPLAIN									
2.0	636.	683.	29.		0.	47.	441.9	311.	5.84

S SECTION CR-19

BANKS ARE AT 161. 175.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V. AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	99.0	263.	62.	14.	88.	164.	452.1	551.	3.10
0.5	140.	232.	21.		57.	92.	452.6	468.	3.65
1.0	147.	222.	14.		47.	75.	453.1	435.	3.93
2.0	154.	210.	7.		35.	56.	454.1	396.	4.31

NOCC	NOCC	NOCC	NOCC	END	JOB 308	5.54.09 AM 30 MAR 76	M65 RJ007	SCSF2791	NC-HUD15	NOCC NOC
NOCC	NOCC	NOCC	NOCC	END	JOB 308	5.54.09 AM 30 MAR 76	M65 RJ007	SCSF2791	NC-HUD15	NOCC NOC
NOCC	NOCC	NOCC	NOCC	END	JOB 308	5.54.09 AM 30 MAR 76	M65 RJ007	SCSF2791	NC-HUD15	NOCC NOC
NOCC	NOCC	NOCC	NOCC	END	JOB 308	5.54.09 AM 30 MAR 76	M65 RJ007	SCSF2791	NC-HUD15	NOCC NOC
NOCC	NOCC	NOCC	NOCC	END	JOB 308	5.54.09 AM 30 MAR 76	M65 RJ007	SCSF2791	NC-HUD15	NOCC NOC

-----DISTANCES-----

SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CR-1	900.	900.	1225.	1225.	4.90	0.080	0.060	0.080			

-----KD VALUES-----

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
313.00	279959.0	302859.3	582818.3	4528.11
312.00	263645.3	269721.9	533367.2	4183.38
311.00	247777.5	239862.8	487640.3	3859.57
310.00	232232.3	212197.3	444429.6	3550.65
309.00	217009.6	186725.3	403734.9	3256.60
308.00	202380.1	164914.1	367294.3	2989.34
307.00	188018.9	144641.1	332660.0	2733.98
306.00	174129.6	127007.7	301137.3	2499.45
305.00	160693.5	111707.4	272400.9	2284.45
304.00	147637.3	98340.0	245977.3	2085.63
303.00	135014.3	87149.4	222163.7	1905.04
302.00	122962.2	76476.3	199438.5	1744.26
301.00	111299.5	66194.7	177494.2	1591.13
300.00	100024.9	56381.4	156406.4	1444.41
299.00	89310.3	47778.1	137088.5	1306.26
298.00	79127.6	40226.8	119354.4	1176.02
297.00	69430.2	33567.2	102997.4	1052.81
296.00	60229.9	27519.7	87749.6	936.00
295.00	51523.0	21970.2	73493.3	824.50
294.00	43402.2	17128.6	60530.9	718.11
293.00	35849.6	12941.8	48791.5	616.48
292.00	28887.6	9380.8	38268.5	519.61
291.00	22522.7	6401.0	28923.7	427.37
290.00	16824.5	4011.9	20836.5	340.02
289.00	11785.2	2154.2	13939.5	257.25
288.00	7505.2	863.6	8368.8	179.48
287.00	4090.2	207.3	4297.5	110.70
286.00	1698.9	18.8	1717.7	57.38
285.00	350.4	0.0	350.4	18.63
284.00	30.8	0.0	30.8	2.50
283.30	1.0	0.0	1.0	0.19

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
16.12	1.68	284.60	48.37	1.92	285.21	80.63	2.14	285.55
161.26	2.39	286.22	241.89	2.39	286.84	403.15	2.15	288.10
564.41	1.92	289.44	806.30	1.67	291.59	1209.46	1.63	294.22
1612.61	1.70	296.08	2418.92	1.80	299.24	3225.22	1.88	301.81
4031.53	1.91	304.12	4837.84	1.90	306.19			



-----DISTANCES-----

SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CR-2	1225.	1225.	900.	900.	4.87	0.100	0.070	0.100			

-----KD VALUES-----

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
326.00	94285.6	513857.0	608142.7	6784.90
325.00	88707.0	465376.5	554083.5	6303.59
324.00	83261.2	420013.6	503274.8	5841.40
323.00	77904.0	376729.4	454633.4	5391.97
322.00	72772.8	338394.0	411166.7	4974.42
321.00	67734.0	301881.0	369615.0	4569.59
320.00	62834.0	268102.0	330935.9	4183.88
319.00	58111.2	237122.4	295233.7	3820.96
318.00	53517.6	208279.4	261797.0	3474.11
317.00	49051.1	181591.8	230642.9	3142.79
316.00	44801.5	158306.1	203107.6	2837.38
315.00	40685.5	136945.6	177631.2	2547.50
314.00	36701.1	117341.6	154042.8	2272.76
313.00	32886.6	99629.9	132516.5	2017.09
312.00	29273.5	82889.3	112162.8	1779.01
311.00	25826.2	67831.1	93657.3	1553.53
310.00	22548.6	54397.7	76946.3	1340.68
309.00	19437.4	42470.1	61907.6	1139.91
308.00	16523.8	32207.8	48731.7	953.07
307.00	13802.9	23447.8	37250.8	779.37
306.00	11282.1	16128.5	27410.7	618.81
305.00	8960.8	10141.2	19102.0	470.86
304.00	6861.2	5524.0	12385.3	336.32
303.00	4981.8	2178.2	7160.0	214.39
302.00	3371.8	503.4	3875.3	114.24
301.00	2006.1	8.1	2014.2	54.33
300.00	1058.5	0.0	1058.5	34.02
299.00	383.3	0.0	383.3	17.42
298.00	29.6	0.0	29.6	3.15
297.40	1.5	0.0	1.5	0.34

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
16.05	1.71	298.46	48.15	2.49	299.12	80.25	2.97	299.59
160.50	3.72	300.49	240.75	3.97	301.13	401.26	3.64	301.95
561.76	3.46	302.50	802.52	3.35	303.21	1203.78	3.38	304.14
1605.05	3.46	304.95	2407.57	3.52	306.42	3210.10	3.53	307.74
4012.62	3.49	309.04	4815.15	3.42	310.31			

-----DISTANCES-----											
SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CR-3	900.	900.	900.	900.	4.84	0.100	0.070	0.100			

ELEVATION	-----KD VALUES-----			TOTAL	END AREA SQ. FT.
	CHANNEL	VALLEY			
325.00	61322.6	1588837.5		1650160.0	18008.73
324.00	57290.8	1440170.0		1497460.7	16835.83
323.00	53349.0	1297400.0		1350749.0	15683.80
322.00	49497.2	1160527.7		1210024.7	14552.63
321.00	45811.3	1034246.2		1080057.5	13459.01
320.00	42196.9	912423.0		954619.8	12381.30
319.00	38706.5	798255.2		836961.7	11330.98
318.00	35368.5	693216.2		728584.7	10313.50
317.00	32134.5	594247.2		626381.7	9317.94
316.00	29005.3	501344.5		530349.8	8344.28
315.00	26037.0	417545.0		443582.1	7403.49
314.00	23188.4	339684.7		362873.1	6485.42
313.00	20472.5	268537.7		289010.2	5589.70
312.00	17888.2	204262.5		222170.7	4714.05
311.00	15438.7	147335.3		162774.1	3858.29
310.00	13145.7	98944.4		112090.1	3024.90
309.00	11001.3	58912.3		69913.7	2212.02
308.00	9013.8	29045.4		38059.2	1426.33
307.00	7188.2	10974.0		18162.3	767.12
306.00	5531.9	2500.8		8032.7	307.67
305.00	4070.7	96.9		4167.7	99.03
304.00	2977.4	0.0		2977.4	66.29
303.00	2063.9	0.0		2063.9	50.82
302.00	1286.3	0.0		1286.3	36.39
301.00	665.9	0.0		665.9	23.09
300.00	232.0	0.0		232.0	11.10
299.00	42.8	0.0		42.8	3.10
298.00	0.4	0.0		0.4	0.09
297.90	0.4	0.0		0.4	0.09

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
15.97	1.06	300.35	47.92	1.62	301.49	79.87	1.98	302.27
159.74	2.57	303.73	239.62	2.68	304.75	399.36	1.82	305.68
559.11	1.57	306.11	798.73	1.42	306.58	1198.10	1.37	307.16
1597.47	1.35	307.64	2396.21	1.33	308.47	3194.94	1.30	309.29
3993.68	1.25	310.18	4792.42	1.19	311.17			

-----DISTANCES-----

SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	NO. 1	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY			NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	
CR-4	900.	900.	500.	500.	4.65	0.100	0.065	0.070				

-----KD VALUES-----

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
334.00	206653.7	5098406.0	5305059.0	31813.30
333.00	195304.7	4770949.0	4966253.0	30457.20
332.00	184118.8	4449643.0	4633761.0	29108.87
331.00	173267.1	4140207.5	4314075.0	27776.18
330.00	162558.7	3837318.5	3999877.0	26450.20
329.00	152265.1	3549107.0	3701372.0	25143.23
328.00	142150.8	3267438.0	3409588.5	23844.33
327.00	132347.0	2997071.0	3129418.0	22559.34
326.00	122860.8	2738138.0	2860998.5	21288.26
325.00	113557.4	2485763.5	2599320.5	20025.14
324.00	104672.6	2248303.0	2352975.5	18779.90
323.00	96011.4	2018736.2	2114747.5	17543.98
322.00	87616.8	1798564.0	1886180.7	16319.11
321.00	79607.9	1591900.2	1671508.0	15109.89
320.00	71907.2	1395596.2	1467503.5	13912.54
319.00	64474.8	1208326.5	1272801.2	12724.75
318.00	57359.9	1031774.6	1089134.5	11547.43
317.00	50635.9	868750.7	919386.6	10382.38
316.00	44245.2	717285.5	761530.7	9227.51
315.00	38192.8	577601.1	615794.0	8082.71
314.00	32488.0	450089.6	482577.6	6947.99
313.00	27136.7	335068.9	362205.6	5823.24
312.00	22207.2	235195.5	257402.8	4709.92
311.00	17681.7	150205.4	167887.1	3607.10
310.00	13579.1	81514.0	95093.1	2515.07
309.00	9917.6	32115.0	42032.7	1450.69
308.00	6756.5	8307.1	15063.6	600.38
307.00	4090.9	564.0	4655.0	151.77
306.00	2237.3	1.3	2238.7	61.81
305.00	1124.5	0.0	1124.5	36.41
304.00	460.9	0.0	460.9	18.27
303.00	149.6	0.0	149.6	7.28
302.00	21.7	0.0	21.7	1.68
301.10	0.3	0.0	0.3	0.07

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
15.49	1.32	303.49	46.47	1.66	304.58	77.45	1.84	305.26
154.91	2.06	306.39	232.36	1.50	307.01	387.27	1.17	307.60
542.18	1.10	307.84	774.55	1.05	308.20	1161.83	1.08	308.59
1549.11	1.09	308.96	2323.66	1.16	309.52	3098.22	1.17	310.12
3872.77	1.15	310.78	4647.33	1.09	311.58			

-----DISTANCES-----

SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CR-5	500.	500.	100.	100.	4.52	0.040	0.060	0.080			

-----KD VALUES-----

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
335.00	163191.3	1678271.5	1841462.7	11695.74
334.00	154046.1	1519032.2	1673078.2	10798.32
333.00	144963.0	1362953.7	1507916.7	9910.02
332.00	136250.2	1228354.2	1364604.2	9082.39
331.00	127679.8	1100219.0	1227898.7	8280.02
330.00	119323.0	981781.8	1101105.0	7515.55
329.00	111257.2	878308.5	989565.6	6806.78
328.00	103338.5	780099.3	883437.8	6128.73
327.00	95717.6	687984.2	783701.8	5517.87
326.00	88311.1	601673.6	689984.7	4945.58
325.00	81115.9	521305.0	602421.0	4409.97
324.00	74194.0	449227.5	523421.5	3918.26
323.00	67552.4	385200.7	452753.1	3471.00
322.00	61124.8	327002.4	388127.2	3057.35
321.00	54913.2	274528.5	329441.6	2677.48
320.00	49045.3	227133.4	276178.7	2342.75
319.00	43438.6	183730.1	227168.8	2027.07
318.00	38099.2	144806.1	182905.3	1729.95
317.00	33033.5	110453.2	143486.7	1451.24
316.00	28242.4	80698.3	108940.8	1190.73
315.00	23777.5	56941.2	80718.8	953.06
314.00	19625.9	38442.4	58068.3	741.47
313.00	15799.8	24008.4	39808.3	556.74
312.00	12306.7	13207.3	25514.1	398.25
311.00	9185.6	5829.5	15015.2	266.13
310.00	6429.0	1369.9	7798.9	155.90
309.00	4095.1	0.0	4095.2	82.80
308.00	2514.9	0.0	2514.9	58.39
307.00	1327.1	0.0	1327.1	37.07
306.00	498.0	0.0	498.0	18.90
305.00	56.6	0.0	56.6	4.27
304.20	1.4	0.0	1.4	0.26

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
15.15	1.31	305.53	45.46	1.80	306.37	75.78	2.08	306.96
151.56	2.53	308.06	227.34	2.94	308.78	378.91	3.16	309.57
530.47	3.40	310.00	757.82	3.68	310.48	1136.73	4.18	311.05
1515.64	4.56	311.53	2273.46	5.22	312.26	3031.28	5.67	312.86
3789.11	5.96	313.44	4546.93	6.08	314.03			

BRIDGE SECTION CR-6

COEFFICIENTS  
 OPENING=0.899, ORIFICE=0.600, ROADWAY=0.800

-----DISTANCES-----

ELEVATION	DOWNSTREAM		UPSTREAM	
	CHANNEL 100.0	VALLEY 100.0	CHANNEL 125.0	VALLEY 125.0
	OPENING		ROADWAY	
	END AREA	Q CRIT.	ELEVATION	Q IN CFS
304.60	0.00	0.00	317.00	0.00
305.10	1.39	3.96	317.50	98.64
305.60	7.44	29.44	318.00	372.00
306.10	16.98	91.12	318.50	854.27
306.60	27.16	179.47	319.00	1578.28
307.10	37.75	288.44	319.50	2573.33
307.60	48.75	416.14	320.00	3743.23
308.10	60.46	562.17	320.50	5132.64
308.60	73.00	728.36	321.00	6684.22
309.10	85.96	912.88	321.50	8469.10
309.60	99.34	1114.93	322.00	10496.78
310.10	113.13	1334.10	322.50	12776.46
310.60	127.34	1570.11	323.00	15317.06
311.10	141.97	1822.77	323.50	18127.26
311.60	157.00	2096.40	324.00	21215.46
312.10	172.35	2392.53	324.50	24589.89
312.60	187.97	2704.30	325.00	28367.82
313.10	203.89	3031.59	325.50	32521.35
313.60	220.08	3374.30	326.00	36996.05
314.10	236.56	3732.32	326.50	41816.94
314.60	253.33	4105.57	327.00	46992.39
315.10	270.38	4493.96	327.50	52530.60
315.20	273.82	4573.43	328.00	58439.57
			328.50	64643.42
			329.00	71222.54
			329.50	78184.10
			330.00	85535.15
			330.50	93282.65
			331.00	101433.43
			331.50	110127.89
			332.00	119463.90
			332.50	129258.54
			333.00	139519.09
			333.50	150252.68
			334.00	161466.34
			334.50	173167.06
			335.00	185361.65
			335.50	195237.71
			336.00	205391.09

THE HEAD-LOSS IS REFLECTED BETWEEN THE EXIT AND APPROACH SECTIONS. A RATING CURVE IS NOT DEVELOPED SEPERATELY FOR THE BRIDGE. NORMAL PROFILES ARE COMPUTED WHEN THE BRIDGE DOES NOT CONTROL THE FLOW.

DISTANCES

SECTION	DOWNSTREAM CHANNEL	VALLEY	UPSTREAM CHANNEL	VALLEY	DRAINAGE AREA, SQ MI	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CR-7	125.	125.	975.	975.	4.50	0.080	0.055	0.080			

KD VALUES

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
335.00	95736.6	1021480.0	1117216.5	10746.15
334.00	90224.3	909523.6	999747.8	9873.35
333.00	84859.9	805909.0	890768.8	9036.49
332.00	79580.4	707216.8	786797.2	8220.35
331.00	74495.1	620646.1	695141.1	7452.15
330.00	69519.8	541057.8	610577.6	6718.14
329.00	64654.7	468451.9	533106.7	6018.31
328.00	59992.5	405350.3	465342.8	5382.35
327.00	55417.7	346091.1	401508.8	4773.04
326.00	50994.3	293332.6	344326.9	4209.36
325.00	46757.1	247121.3	293878.5	3698.30
324.00	42646.6	205212.7	247859.4	3220.38
323.00	38664.0	167572.4	206236.4	2775.10
322.00	34877.4	136173.9	171051.3	2377.93
321.00	31236.3	108751.4	139987.8	2012.36
320.00	27756.5	85332.9	113089.4	1680.90
319.00	24436.4	65464.8	89901.2	1382.34
318.00	21279.9	49040.2	70320.2	1117.88
317.00	18312.6	37341.6	55654.2	901.30
316.00	15524.7	27687.5	43212.3	729.59
315.00	12925.8	19097.5	32023.4	576.47
314.00	10521.1	12245.6	22766.8	437.95
313.00	8318.9	7332.8	15651.7	318.11
312.00	6326.9	3900.6	10227.5	218.61
311.00	4570.6	1773.0	6343.6	140.87
310.00	3045.1	596.0	3641.1	83.01
309.00	1766.4	109.6	1876.0	44.73
308.00	791.4	10.3	801.8	23.50
307.00	228.9	0.0	228.9	9.49
306.00	42.5	0.0	42.5	2.48
305.00	0.4	0.0	0.4	0.07
304.90	0.4	0.0	0.4	0.07

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
15.10	1.81	306.89	45.31	2.44	307.69	75.52	2.77	308.20
151.04	3.04	309.17	226.57	3.01	309.84	377.61	3.15	310.68
528.66	3.37	311.24	755.23	3.64	311.86	1132.85	4.03	312.64
1510.46	4.34	313.25	2265.70	4.85	314.21	3020.93	5.28	314.97
3776.17	5.63	315.62	4531.40	5.90	316.23			

-----DISTANCES-----

SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CR-8	975.	975.	900.	900.	4.40	0.080	0.055	0.080			

-----KD VALUES-----

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
349.00	150217.5	1454979.7	1605197.0	14154.76
348.00	142120.6	1325264.0	1467384.5	13199.93
347.00	134118.6	1199774.2	1333892.7	12263.84
346.00	126368.5	1083368.5	1209737.0	11376.05
345.00	118741.9	971185.0	1089927.0	10510.63
344.00	111357.2	866809.7	978167.0	9686.39
343.00	104157.8	769131.5	873289.3	8892.51
342.00	97082.0	675918.1	773000.1	8118.87
341.00	90321.8	593401.8	683723.6	7395.82
340.00	83682.7	514728.5	598411.2	6691.75
339.00	77225.2	441820.5	519045.7	6016.14
338.00	71056.8	377501.5	448558.3	5384.80
337.00	65066.2	315547.0	380613.1	4777.20
336.00	59254.7	256667.0	317921.8	4193.78
335.00	53686.2	215783.1	269469.3	3643.81
334.00	48349.4	192869.7	241219.2	3175.66
333.00	43235.3	165115.0	208350.4	2767.39
332.00	38344.0	132561.8	170905.8	2394.58
331.00	33680.4	103501.9	137182.4	2040.12
330.00	29249.7	77865.4	107115.1	1704.03
329.00	25094.3	56067.3	81161.7	1388.96
328.00	21197.6	37710.9	58908.5	1093.02
327.00	17568.5	22789.6	40358.1	816.19
326.00	14217.1	15178.3	29395.4	582.94
325.00	11174.0	10144.7	21318.7	427.68
324.00	8424.2	5583.6	14007.9	298.90
323.00	5984.0	2537.3	8521.3	193.36
322.00	3989.0	812.3	4701.4	112.42
321.00	2161.2	89.8	2251.0	56.58
320.00	953.2	0.0	953.2	28.19
319.00	214.7	0.0	214.7	10.53
318.00	2.6	0.0	2.6	0.45

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
14.84	1.87	318.84	44.53	2.77	319.33	74.22	3.29	319.69
148.44	4.12	320.40	222.67	4.23	320.88	371.11	4.36	321.57
519.56	4.44	322.07	742.23	4.56	322.66	1113.35	4.76	323.41
1484.47	4.94	324.01	2226.70	5.24	324.98	2968.94	5.32	325.84
3711.17	5.25	326.53	4453.41	5.26	327.11			

-----DISTANCES-----											
SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CR-9	900.	900.	1350.	1350.	4.13	0.070	0.055	0.070			

-----KD VALUES-----					END AREA
ELEVATION	CHANNEL	VALLEY	TOTAL	SQ. FT.	
359.00	116149.4	1345425.2	1461574.5	11511.48	
358.00	109669.4	1223475.7	1333145.0	10726.81	
357.00	103307.4	1106095.2	1209402.5	9963.03	
356.00	97063.6	993283.5	1090347.2	9220.13	
355.00	91043.6	890653.3	981696.8	8515.61	
354.00	85124.6	792339.2	877463.7	7828.14	
353.00	79383.3	701456.0	780839.2	7170.52	
352.00	73823.8	614875.3	688699.1	6539.43	
351.00	68367.0	531329.1	599696.1	5923.04	
350.00	63134.5	458496.1	521630.6	5336.57	
349.00	58068.5	396991.1	455059.6	4781.41	
348.00	53147.0	344056.3	397203.4	4259.11	
347.00	48396.3	299788.6	348184.8	3782.19	
346.00	43870.7	264075.9	307946.6	3365.61	
345.00	39489.5	229342.4	268832.0	2981.55	
344.00	35295.5	194460.6	229756.1	2631.22	
343.00	31283.4	159602.8	190886.2	2301.46	
342.00	27481.0	128673.8	156154.8	1990.53	
341.00	23895.0	101542.5	125437.6	1698.45	
340.00	20492.4	77459.6	97952.0	1421.89	
339.00	17307.8	56829.6	74137.4	1163.30	
338.00	14342.5	39482.5	53825.1	922.16	
337.00	11605.1	25384.6	36989.7	698.47	
336.00	9088.0	15105.2	24193.3	495.32	
335.00	6837.2	8294.8	15132.1	331.59	
334.00	4861.9	4072.5	8934.4	208.89	
333.00	3144.0	1481.8	4625.9	118.58	
332.00	1757.2	275.8	2033.0	56.14	
331.00	722.8	3.1	725.9	22.42	
330.00	192.4	0.0	192.4	8.55	
329.00	4.7	0.0	4.7	0.57	
328.70	1.3	0.0	1.3	0.22	

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
14.13	2.20	329.79	42.39	3.03	330.45	70.66	3.49	330.87
141.32	3.90	331.52	211.99	4.00	331.94	353.32	4.12	332.53
494.65	4.26	332.97	706.64	4.49	333.48	1059.97	4.71	334.16
1413.29	4.87	334.68	2119.94	5.12	335.52	2826.59	5.30	336.19
3533.24	5.48	336.75	4239.89	5.73	337.18			



-----DISTANCES-----

SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CR-10	1350.	1350.	1200.	1200.	4.01	0.080	0.060	0.080			

-----KD VALUES-----

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
371.00	169599.8	650704.6	820304.3	6720.56
370.00	159641.3	595650.6	755291.8	6295.50
369.00	149864.3	543188.3	693052.6	5882.34
368.00	140442.5	495500.0	635942.5	5492.03
367.00	131181.0	449862.8	581044.0	5111.89
366.00	122201.8	407773.6	529975.5	4749.52
365.00	113511.3	367828.9	481340.2	4404.40
364.00	104984.1	328979.6	433963.7	4058.46
363.00	96813.1	291715.8	388528.9	3748.53
362.00	88906.8	256913.5	345820.4	3439.42
361.00	81230.4	224187.3	305417.8	3139.60
360.00	73825.5	193843.2	267668.7	2850.59
359.00	66778.8	166460.3	233239.1	2575.50
358.00	59962.0	140885.0	200847.0	2309.14
357.00	53443.5	117581.7	171025.2	2053.94
356.00	47214.7	96387.0	143601.7	1809.33
355.00	41320.3	77504.5	118824.8	1576.66
354.00	35771.2	61041.2	96812.5	1356.03
353.00	30515.0	46820.0	77335.1	1147.05
352.00	25607.5	34820.9	60428.5	952.61
351.00	21051.2	24722.0	45773.2	772.61
350.00	16860.2	16431.1	33291.3	607.06
349.00	13023.2	9747.7	22770.9	454.94
348.00	9615.4	4839.8	14455.3	318.27
347.00	6653.2	1635.7	8289.0	196.63
346.00	4141.1	86.5	4227.6	92.03
345.00	2398.8	0.0	2398.8	57.68
344.00	1122.9	0.0	1122.9	34.36
343.00	303.4	0.0	303.4	14.41
342.00	6.5	0.0	6.5	0.84
341.70	1.7	0.0	1.7	0.33

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
13.81	1.62	342.66	41.43	2.29	343.19	69.05	2.72	343.57
138.11	3.42	344.27	207.17	3.90	344.81	345.29	4.56	345.66
483.41	4.32	346.21	690.59	4.14	346.74	1035.88	4.24	347.40
1381.18	4.46	347.93	2071.77	4.86	348.80	2762.37	5.20	349.51
3452.96	5.51	350.12	4143.55	5.77	350.69			

SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CR-11	1200.	1200.	1625.	1625.	3.90	0.080	0.060	0.080			

ELEVATION	--KD VALUES--		TOTAL	END AREA SQ. FT.
	CHANNEL	VALLEY		
379.00	158693.8	565424.3	724118.1	6060.86
378.00	149660.4	509813.3	659473.7	5658.03
377.00	140883.5	468628.3	609511.8	5270.43
376.00	132240.4	433432.8	565673.2	4898.79
375.00	123876.2	407771.1	531647.3	4575.79
374.00	115725.6	374441.6	490167.2	4265.19
373.00	107717.5	335999.7	443717.1	3962.86
372.00	100073.4	301223.9	401297.3	3675.76
371.00	92569.0	267776.3	360345.3	3394.37
370.00	85274.3	236321.3	321595.6	3121.55
369.00	78313.4	207861.5	286175.0	2862.05
368.00	71557.7	181139.1	252696.8	2610.54
367.00	65009.0	156134.0	221143.1	2367.03
366.00	58741.3	133366.0	192107.3	2134.18
365.00	52741.6	112604.9	165346.5	1911.23
364.00	46999.6	93690.1	140689.7	1697.61
363.00	41515.6	76540.3	118056.0	1493.12
362.00	36295.6	61114.8	97410.4	1297.77
361.00	31345.7	47374.5	78720.2	1111.56
360.00	26715.6	35513.9	62229.5	935.82
359.00	22386.3	25325.1	47711.5	769.59
358.00	18368.7	16784.5	35153.2	612.89
357.00	14675.4	9886.3	24561.7	465.70
356.00	11342.9	4824.4	16167.3	329.20
355.00	8354.9	1753.7	10108.7	210.50
354.00	5732.4	354.1	6086.6	123.81
353.00	3545.6	5.9	3551.6	74.58
352.00	1953.8	0.0	1953.8	49.41
351.00	830.2	0.0	830.2	27.91
350.00	189.8	0.0	189.8	9.90
349.00	6.5	0.0	6.5	1.00

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
13.51	1.45	349.96	40.54	1.98	350.62	67.57	2.37	351.03
135.14	3.00	351.80	202.72	3.42	352.42	337.87	3.90	353.33
473.01	3.94	353.95	675.74	3.91	354.64	1013.61	3.91	355.45
1351.48	4.03	356.05	2027.22	4.34	357.01	2702.96	4.66	357.77
3378.70	4.94	358.45	4054.44	5.18	359.07			

-----DISTANCES-----

SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CR-12	1625.	1625.	1800.	1800.	3.75	0.080	0.060	0.080			

-----KD VALUES-----

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
402.00	130466.1	634384.7	764850.7	6065.26
401.00	123160.1	580818.8	703978.8	5694.94
400.00	116153.6	532316.6	648470.2	5345.49
399.00	109204.9	484733.4	593938.3	4999.97
398.00	102487.3	440827.2	543314.5	4670.22
397.00	95936.2	399414.2	495350.5	4351.60
396.00	89496.3	359663.5	449159.8	4040.39
395.00	83340.1	323904.2	407244.3	3747.74
394.00	77300.2	289676.2	366976.4	3462.50
393.00	71434.5	257745.3	329179.8	3188.39
392.00	65792.0	228570.7	294362.8	2928.18
391.00	60312.1	201322.8	261635.0	2677.95
390.00	54992.3	175931.5	230923.8	2437.46
389.00	49946.2	152812.5	202758.8	2212.59
388.00	45069.0	130859.1	175928.2	1994.96
387.00	40358.1	110149.1	150507.2	1784.28
386.00	35862.3	91304.5	127166.8	1582.11
385.00	31622.1	74561.5	106183.7	1389.76
384.00	27592.7	59465.9	87058.6	1205.26
383.00	23779.6	46101.0	69880.6	1028.87
382.00	20179.1	34350.7	54529.8	860.53
381.00	16831.6	24357.4	41189.0	701.73
380.00	13732.2	15997.8	29730.0	551.93
379.00	10891.3	9280.7	20172.0	411.13
378.00	8309.8	4333.8	12643.7	280.25
377.00	6019.1	1536.5	7555.6	171.27
376.00	4020.0	263.9	4283.9	94.47
375.00	2418.7	8.2	2427.0	55.00
374.00	1322.8	0.0	1322.8	35.16
373.00	598.2	0.0	598.2	19.88
372.00	156.9	0.0	156.9	7.68
371.00	11.4	0.0	11.4	1.08
370.40	0.6	0.0	0.6	0.11

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
13.10	2.21	371.79	39.31	2.93	372.51	65.52	3.43	372.94
131.05	4.20	373.75	196.58	4.70	374.37	327.63	5.26	375.26
458.68	5.27	375.83	655.27	5.18	376.45	982.90	5.12	377.21
1310.54	5.17	377.78	1965.81	5.46	378.62	2621.08	5.80	379.30
3276.35	6.14	379.87	3931.62	6.41	380.42			

SECTION	DISTANCES		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CR-13	1800.	1800.	1.	1.	2.84	0.080	0.060	0.080			

ELEVATION	KD VALUES		TOTAL	END AREA SQ. FT.
	CHANNEL	VALLEY		
420.00	95031.4	448158.1	543189.6	5751.22
419.00	89023.4	399763.0	488786.4	5206.67
418.00	83089.5	354068.4	437157.8	4686.90
417.00	77389.6	313086.6	390476.3	4237.40
416.00	71822.9	276107.3	347930.1	3819.04
415.00	66389.3	243130.3	309519.6	3431.82
414.00	61185.7	212852.2	274038.0	3091.96
413.00	56129.8	183893.0	240022.9	2771.67
412.00	51221.3	156335.1	207556.4	2468.36
411.00	46538.4	132218.5	178757.0	2189.12
410.00	42035.7	110306.7	152342.4	1927.31
409.00	37684.1	90295.5	127979.6	1679.73
408.00	33528.0	72788.5	106316.6	1450.00
407.00	29582.4	57750.9	87333.3	1238.98
406.00	25853.5	45008.2	70861.7	1046.67
405.00	22322.9	34164.5	56487.4	870.99
404.00	18985.2	25010.9	43996.2	711.07
403.00	15877.0	17657.4	33534.5	569.35
402.00	12995.8	11834.0	24829.9	444.80
401.00	10351.0	7349.4	17700.5	336.47
400.00	7940.6	4017.5	11958.2	242.70
399.00	5792.5	1788.9	7581.5	184.65
398.00	4008.0	506.1	4514.1	102.92
397.00	2607.6	53.4	2661.0	59.70
396.00	1507.4	0.0	1507.4	37.56
395.00	744.7	0.0	744.7	22.76
394.00	235.5	0.0	235.5	10.33
393.00	13.0	0.0	13.0	1.30
392.50	1.0	0.0	1.0	0.19

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
10.50	1.89	393.54	31.50	2.65	394.14	52.51	3.12	394.55
105.02	3.86	395.31	157.53	4.33	395.92	262.55	4.86	396.82
367.57	4.86	397.43	525.10	4.80	398.12	787.65	5.00	398.90
1050.20	5.23	399.49	1575.31	5.57	400.46	2100.41	5.87	401.21
2625.52	6.12	401.86	3150.62	6.31	402.46			