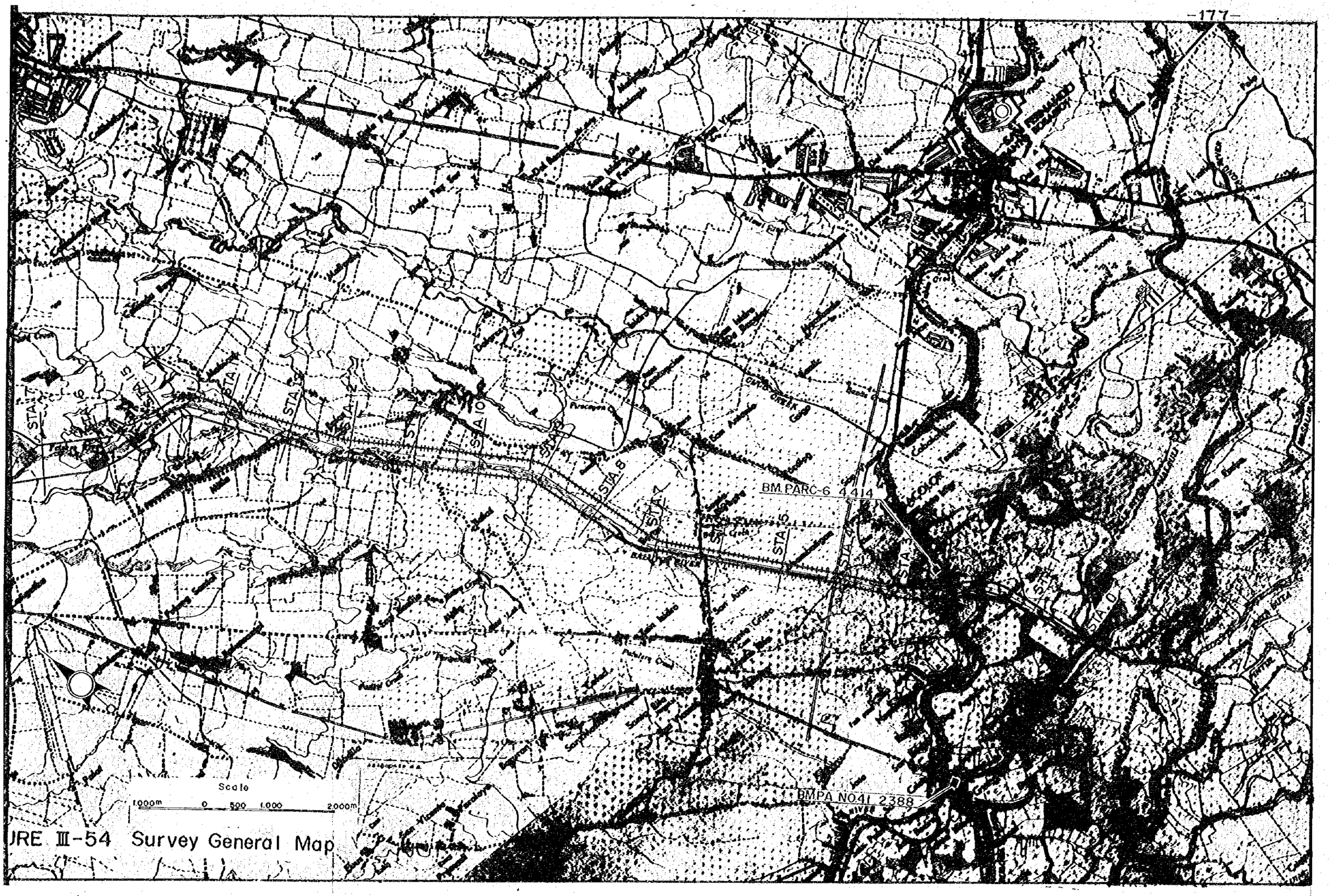

JRE III-54 Survey General Map

TABLE III-29 EXISTING BENCH MARK

B.M. Height

i)	Cabotican Bocolor (B.M. PARC 6)	B.M.	4.414 m
ii)	Gua - Gua (PA NO.41)	B.M.	2.388 m
iii)	Porac Bridge (B.M. PARC 29)	B.M.	69.723 m
iv)	Mancatian Bridge	T.B.M.	96.228 m
v)	San, Matias	B.M.	3.153 m
vi)	Sanfrancisco Minalin (on the Gate of Charch)	T.B.M.	2.663 m
vii)	Valdez Bridge (PA NO.69)	B.M.	21.219 m

Legent

B.M. is the elevation from M.S.L. surveyed by Geodetic and Coastal Survey in 1956.

TABLE III-3: ELEVATION OF BENCH MARK

LEFT BANK		STATION NO.	RIGHT BANK	
B. M. (m)	PILE (m)		PILE (m)	B. M. (m)
2.075	2.036	0 + 000	1.428	
	1.933	0 + 200		
	2.109	0 + 400		
	2.412	0 + 600		
	2.779	0 + 800		
1.823	1.832	1 + 000		
	2.166	1 + 200		
	2.475	1 + 400		
	2.863	1 + 600		
	2.834	1 + 800		
3.560	3.623	2 + 000	4.464	
	3.754	2 + 200	3.970	
	2.771	2 + 400		
	6.535	2 + 600		
	7.019	2 + 800		
7.104	7.160	3 + 000		
	7.020	3 + 200		
	5.945	3 + 400		
	6.099	3 + 600		
	6.157	3 + 800		
7.747	7.822	4 + 000	6.906	6.808
	10.496	4 + 200		
	7.713	4 + 400	7.890	
	7.987	4 + 600		
	8.351	4 + 800		
6.920	6.987	5 + 000	7.416	7.267
	7.962	5 + 200		
	8.441	5 + 400		
	9.352	5 + 600		

(to be continued)

LEFT BANK		STATION NO.	RIGHT BANK	
B.M. (m)	PILE (m)		PILE (m)	B.M.(m)
	9.911	5 + 800		
10.290	10.405	6 + 000	9.770	9.739
	10.415	6 + 200		
	11.645	6 + 400		
	12.408	6 + 600		
	13.131	6 + 800		
13.625	13.668	7 + 000	13.881	13.833
	14.789	7 + 200	12.436	
	15.844	7 + 400	15.327	
	17.064	7 + 600	15.609	
	17.482	7 + 800	18.583	
18.554	18.585	8 + 000	18.761	18.695
	19.683	8 + 200	19.346	
	20.364	8 + 400	20.536	
	21.056	8 + 600	22.083	
	21.862	8 + 800	22.466	
22.692	22.722	9 + 000	23.255	23.182
	23.981	9 + 200	24.321	
	25.337	9 + 400	25.658	
	26.100	9 + 600	26.425	
	27.347	9 + 800	27.596	
28.026	28.107	10 + 000	28.713	28.612
	29.772	10 + 200	30.053	
	31.167	10 + 400	31.446	
	32.537	10 + 600	32.047	
	33.675	10 + 800	32.391	
35.198	35.306	11 + 000	33.261	33.177
	35.308	11 + 200	34.240	
	36.715	11 + 400	35.724	
	38.354	11 + 600	36.531	
	39.035	11 + 800	37.856	

(to be continued)

LEFT BANK		STATION NO.	RIGHT BANK	
B.M. (m)	PILE (m)		PILE (m)	B.M.(m)
39.563	39.658	12 + 000	39.206	39.101
	41.301	12 + 200	38.742	
	42.665	12 + 400	41.683	
	43.366	12 + 600	43.463	
	44.788	12 + 800	44.617	
46.661	46.763	13 + 000	45.633	45.597
	47.921	13 + 200	44.961	
	49.180	13 + 400	46.563	
	50.177	13 + 600	48.352	
	49.575	13 + 800	50.345	
52.867	52.886	14 + 000	51.480	51.357
	55.185	14 + 200	52.950	
	56.265	14 + 400	54.722	
	57.146	14 + 600	55.870	
	58.091	14 + 800	58.002	
60.367	60.533	15 + 000	60.587	60.497
	61.928	15 + 200	60.794	
	63.111	15 + 400	62.523	
	66.428	15 + 600	65.763	
	65.710	15 + 800	66.060	
67.557	67.690	16 + 000	69.676	69.502
	69.862	16 + 200	69.355	
	71.783	16 + 400	73.974	
	75.851	16 + 600	76.834	
	77.945	16 + 800	78.397	
80.800	80.900	17 + 000	80.830	80.761
	83.044	17 + 200	82.943	
	85.433	17 + 400	85.098	
	87.731	17 + 600	87.162	
	89.523	17 + 800	88.746	
91.615	91.744	18 + 000	92.137	92.052

(to be continued)

LEFT BANK		STATION NO	RIGHT BANK	
B.M. (m)	PILE (m)		PILE (m)	B.M.(m)
	93.486	18 + 200	94.327	
	95.051	18 + 400	99.075	99.178
	97.310	18 + 600	101.867	
	101.605	18 + 800	104.962	
104.417	104.479	19 + 000	107.973	107.869
	107.615	19 + 200	111.229	
	110.745	19 + 400	114.930	
	114.000	19 + 600	118.583	
	117.915	19 + 800	121.717	
121.228	121.269	20 + 000	125.385	125.311
	124.449	20 + 200	128.527	
	127.832	20 + 400	132.674	
	131.242	20 + 600	135.688	
	134.694	20 + 800	139.004	
	138.741	21 + 000	142.881	142.786
	142.539	21 + 200	146.060	
	146.120	21 + 400	149.843	
	150.274	21 + 600	153.055	
	153.620	21 + 800	156.822	
	157.592	22 + 000	160.744	160.589
	161.120	22 + 200	162.986	
	165.130	22 + 400	166.660	
	168.978	22 + 600	171.289	
	172.518	22 + 800	169.571	
	177.073	23 + 000	173.562	178.076
	180.504	23 + 200	181.217	
	183.660	23 + 400	183.948	
		23 + 600	186.657	
	191.790	23 + 800	190.297	
	195.005	24 + 000	192.363	192.263
	198.883	24 + 200	196.978	

(to be continued)

LEFT BANK		STATION NO.	RIGHT BANK	
B.M. (m)	PILE (m)		PILE (m)	B.M.(m)
	203.517	24 + 400	198.717	
	206.232	24 + 600	208.568	
	210.367	24 + 800	211.987	
213.074	213.240	25 + 000	215.401	215.024
	216.180	25 + 200	217.859	
	218.520	25 + 400	210.859	
	217.153	25 + 600	226.764	
	219.659	25 + 800	224.299	
221.747	221.920	26 + 000	233.086	233.039
	244.419	26 + 200	237.169	
	230.822	26 + 400	240.885	
	224.596	26 + 600	244.763	
	224.371	26 + 800	248.244	
230.608	229.466	27 + 000	252.060	252.037
	234.890	27 + 200	255.790	
	238.016	27 + 400	257.930	
	236.548	27 + 600	261.551	
	239.462	27 + 800	266.888	
240.815	240.894	28 + 000	268.014	267.811
211.627		PPS A		
212.407		PPS A-A		
241.338		PPS B		
266.614		PPS C		
299.313		PPS D		
324.048		PPS E		
349.133		PPS F		
335 682		PPSY 1		
262 511		PPST 2		
287 811		PPST 3		

TABLE III-31 INVESTIGATED QUANTITY

No.	Works	place		number	Unit	area	Total length or area
6 - 8	Pasig - potrero River profiles	STA. 0 + 000	STA. 34 + 000	1	34,000m		34,000 m
9 - 11	Pasig - potrero River Cross- Sections	STA. 0 + 000	STA. 16 + 000	22	242 m		5,312 m
12 - 16	"	STA. 16 + 200	STA. 28 + 000	26	967 m		25,142 m
17 - 20	"	STA. 28 + 200	STA. 34 + 000	35	78 m		2,730 m
21 - 23	Timbu River Plan	Timbu River				155,000 m^2	155,500 m^2
24	Timbu River No 5, Dam site plan	No. 5 Dam site				1,440 m^2	1,440 m^2
25	Timbu River Profiles (up - stream)	STA. 0 + 000	STA. 1 + 800	1	1,800 m		1,800 m^2
26	Timbu River Profiles (down - stream)	STA. 0 + 000	STA. 1 + 376	1	1,376		1,376 m^2
27- 30	Timbu River cross Sections (up - stream)	STA. 0 + 000	STA. 1 + 800	14	221 m		3,100 m^2
31	Timbu River Cross Sections (down - stream)	STA. 0 + 000	STA. 1 + 000	7	72 m		504 m^2

(to be continued)

No.	Works	Place	number	Unit	Area	Total length or area
32	Yangca River Profiles	STA. 0 + 000 STA. 1 + 000	1	1,000 m		1,000 m^2
33	Yangca River Cross Sections	STA. 0 + 000 STA. 1 + 000	6	67 m		402 m
34	Pasig - Potrero and Gua-gua Confluence Cross Sections	No 1 No.5	5	200 m		1,000 m
35	STA. 1 + 900 Left Dike plan				16,000 m^2	16,000 m^2
36	STA. 1 + 856 Right Dike plan				15,400 m^2	15,400 m^2
37	STA. 13 + 800 Left Dike plan				15,500 m^2	15,500 m^2
38	STA. 13 + 250 Right Dike plan				13,200 m^2	13,200 m^2
39	Pasig - Potrero River Cross Sections	Pasig - Potrero River	3	410 m		1,230 m^2
40	Gua gua River Cross Sections	Gua gua River	2	150 m		300 m
41	Porac River Cross Sections	Porac River	2	145 m		90 m
	leveling	BM. PARC. 6 PA. No. 41 BM. PARC. 29 STA. 18 + 400				5,000 m
	Bench Mark		40			

LIST OF REFERENCE MATERIALS

1. Varied Flow Calculation Result ..... R 1

   (1) Present Channel ..... R 1

      1) Cross Section Characteristics ..... R 1

      2) Varied Flow Calculation Characteristics ..... R 8

   (2) Proposed Channel ..... R 14

      1) Cross Section Characteristics ..... R 14

      2) Varied Flow Calculation Result ..... R 22

2. Flowing Sand Calculation Result ..... R 28

   (1) Present Channel ..... R 28

      1) Laursen Formula ..... R 28

      2) Brown Formula (Traction Sand) ..... R 34

      3) Lane - Kalinske Formula (Suspended Sediment) . R 40

      4) Brown + Lane - Kalinske Formula ..... R 46

   (2) Proposed Channel ..... R 52

      1) Laursen Formula ..... R 52

      2) Sato, Kikukawa and Ashida Formula ..... R 58

      3) Lane - Kalinske Formula ..... R 64

      4) Sato, Kikukawa and Ashida + Lane - Kalinske Formula ..... R 70

3. Inundation Water Calculation Result ..... R 76

   (1) Calculation for No. 1 Drainage Sluice (STA. 1 + 856) ..... R 76

1. Varied flow calculation Result

(1) Present channel

1) Cross Section cahracteristics

Legend

H	:	Water level (EL.m)
A	:	Cross sectional area of flow (m^2)
R	:	Hydraulic radius (m)
B	:	Width of channel (m)
Dx	:	Distance (m)

SECTION NO 0. DX = 0.

M	A	B	B
-3.400	0.	0.	0.
-3.000	4.3	0.220	13.5
-2.000	37.4	0.811	44.7
-1.000	92.1	1.445	61.3
0.	155.2	2.037	67.3
1.000	227.5	2.400	73.2
2.000	334.4	2.121	155.2
3.000	494.9	2.399	148.1
4.000	659.5	3.842	147.6
4.700	775.3	4.417	172.0
5.000	829.9	4.710	172.0
6.000	1001.9	5.684	172.0

SECTION NO 0.33 DX = 333.0

M	A	B	B
-2.500	0.	0.	0.
-2.000	2.7	0.179	14.4
-1.000	33.2	0.907	32.5
0.	66.3	1.445	39.5
1.000	103.7	2.359	46.4
2.000	153.5	3.124	45.6
3.000	207.5	2.405	82.5
4.000	302.2	2.943	99.0
5.000	436.5	2.955	142.7
6.000	593.5	3.769	149.7
7.000	733.7	4.556	156.5
8.000	895.2	5.525	156.5

SECTION NO 0.77 DX = 333.0

M	A	B	B
-1.000	0.	0.	0.
0.	19.7	0.504	39.0
1.000	43.5	1.253	74.1
2.000	124.0	1.615	104.3
3.000	335.7	1.956	172.3
4.000	513.2	2.552	174.4
5.000	649.4	3.745	151.6
5.500	733.7	4.152	146.0
6.000	872.4	4.674	144.3
7.000	1035.0	5.660	144.0

SECTION NO 3.33 DX = 333.0

M	A	B	B
1.244	0.	0.	0.
2.000	24.7	0.203	121.7
3.000	155.7	1.144	136.5
4.000	224.5	2.045	142.3
5.000	442.6	2.945	149.2
5.440	503.3	3.322	152.0
6.000	596.4	3.539	155.6
7.000	749.6	4.755	155.3
8.000	905.7	5.744	155.3

SECTION NO 1.33 DX = 333.0

M	A	B	B
-3.200	0.	0.	0.
-3.000	27.0	0.424	63.5
0.	133.6	1.223	81.4
1.000	199.6	1.506	131.5
2.000	331.3	2.309	144.7
3.000	489.0	3.036	155.2
4.000	665.1	3.933	167.0
5.000	813.1	4.755	167.9
5.800	945.4	5.474	173.2
6.000	943.9	5.572	173.2
7.000	1157.1	6.552	173.2

SECTION NO 4.33 DX = 333.0

M	A	B	B
2.150	0.	0.	0.
3.000	63.0	0.410	124.3
4.000	171.2	1.277	133.5
5.000	337.7	2.131	152.5
6.000	459.2	3.167	145.5
6.520	524.5	3.507	143.7
7.000	575.5	3.945	151.2
8.000	753.1	4.973	152.2
9.000	932.2	5.563	152.2

SECTION NO 1.33 DX = 332.0

M	A	B	B
-0.600	0.	0.	0.
0.	7.4	0.317	23.1
1.000	53.2	1.075	45.5
2.000	95.1	1.959	46.4
3.000	145.8	1.619	99.3
4.000	235.0	2.009	143.5
5.000	445.1	2.717	140.6
5.500	593.0	3.544	147.2
6.000	745.8	4.222	172.5
7.000	743.3	4.417	172.5
8.000	952.9	5.395	172.5

SECTION NO 4.33 DX = 333.0

M	A	B	B
2.400	0.	0.	0.
3.000	37.3	0.325	49.6
4.000	127.1	0.994	115.3
5.000	251.6	1.555	127.9
6.000	392.3	2.105	133.5
7.000	533.3	2.554	137.7
8.000	655.5	2.945	139.4
9.000	795.7	3.334	139.0
10.000	945.5	3.751	142.2
10.274	985.0	3.904	142.5
11.000	1093.0	4.334	142.5
12.000	1242.5	4.927	142.5

SECTION N° 5.00 DX = 500.0

H	A	R	B
3.524	0.	0.	0.
4.000	31.2	0.256	121.4
5.000	159.9	1.188	133.5
6.000	297.0	2.074	142.6
6.942	423.1	2.789	150.0
7.000	443.9	2.932	153.7
8.000	596.4	3.826	155.2
9.000	755.3	4.780	156.5
10.000	917.1	5.775	156.8

SECTION N° 6.00 DX = 1000.0

H	A	R	B
5.832	0.	0.	0.
6.000	3.7	0.086	3.0
7.000	93.4	0.625	124.5
8.000	215.4	1.545	137.0
9.000	359.5	2.435	146.4
9.570	442.7	2.923	150.6
10.000	507.9	3.335	152.2
11.000	663.9	4.283	153.1
12.000	814.0	5.292	155.1

SECTION N° 7.00 DX = 1000.0

H	A	R	B
9.232	0.	0.	0.
10.000	0.0	0.022	0.5
11.000	151.4	0.802	132.2
12.000	256.4	1.737	145.7
13.000	403.2	2.650	152.7
13.530	495.5	3.088	154.2
14.000	559.2	3.541	156.9
15.000	719.1	4.535	156.9

SECTION N° 8.00 DX = 1000.0

H	A	R	B
14.944	0.	0.	0.
15.000	1.0	0.051	20.8
16.000	197.2	0.745	244.6
17.000	465.6	1.706	272.5
18.000	742.1	2.635	280.4
18.366	845.5	2.971	285.5
19.000	1025.4	3.596	284.1
20.000	1309.6	4.592	284.1

SECTION N° 9.00 DX = 1000.0

H	A	R	B
19.616	0.	0.	0.
20.000	15.0	0.150	99.4
21.000	242.1	0.913	264.7
22.000	513.7	1.869	272.4
22.624	682.2	2.452	277.2
23.000	786.5	2.824	277.5
24.000	1064.0	3.821	277.5

SECTION N° 10.00 DX = 1000.0

H	A	R	B
24.594	0.	0.	0.
25.000	11.7	0.137	85.6
26.000	253.6	0.869	287.0
27.000	542.6	1.852	296.0
27.950	827.5	2.715	303.6
28.000	842.7	2.764	303.3
29.000	1146.5	3.763	305.3
30.000	1453.6	4.763	305.3

SECTION N° 11.00 DX = 1000.0

H	A	R	B
30.324	0.	0.	0.
31.000	86.5	0.352	251.5
32.000	355.2	1.261	294.4
33.000	545.4	2.271	297.5
33.369	645.8	2.264	300.0
34.000	762.0	3.161	302.5
35.000	1247.4	4.112	302.5
36.000	1575.9	5.105	302.7
37.000	1942.7	6.100	302.7

SECTION N° 12.00 DX = 1000.0

H	A	R	B
36.236	0.	0.	0.
37.000	51.8	0.245	211.1
38.000	326.8	1.155	285.2
39.000	517.5	2.059	297.2
39.072	639.1	2.124	303.1
40.000	919.3	3.033	302.5
41.000	1221.7	4.031	302.5

[illegible] 1000.0

[illegible]	[illegible]	[illegible]	0.
[illegible]	[illegible]	[illegible]	82.5
[illegible]	[illegible]	[illegible]	254.4
[illegible]	[illegible]	[illegible]	288.5
[illegible]	[illegible]	[illegible]	300.4
[illegible]	[illegible]	[illegible]	303.2
[illegible]	[illegible]	[illegible]	305.6
[illegible]	[illegible]	[illegible]	308.4

[illegible] = 1000.0

[illegible]	[illegible]	[illegible]	0.
[illegible]	[illegible]	0.331	234.5
[illegible]	[illegible]	1.126	299.4
[illegible]	[illegible]	1.900	303.5
[illegible]	[illegible]	3.095	303.5
[illegible]	[illegible]	3.095	303.5

SECTION NO 16.55 DX = 800.[illegible]

[illegible]	0.	0.	0.
[illegible]	[illegible]	0.166	95.7
57.000	119.3	0.724	143.5
58.000	335.5	1.285	237.0
59.000	532.6	1.957	371.6
60.000	599.1	2.890	302.7
61.000	1281.9	3.775	317.9
62.000	1531.8	4.644	326.0
63.000	1559.8	5.631	326.0

SECTION NO 15.33 DX = 200.0

[illegible]	0.	0.	0.
[illegible]	178.3	0.855	276.4
[illegible]	[illegible]	1.535	301.7
[illegible]	[illegible]	2.348	332.3
[illegible]	[illegible]	3.310	335.0
[illegible]	[illegible]	[illegible]	335.0
[illegible]	[illegible]	[illegible]	335.0
[illegible]	[illegible]	[illegible]	335.1

SECTION NO 16.33 DX = 1000.0

68.400	0.	0.	0.
67.000	18.7	0.1[illegible]	100.0
68.000	179.1	[illegible]	173.5
69.000	359.4	[illegible]	184.1
70.000	567.4	[illegible]	263.3
71.000	897.0	[illegible]	330.0
72.000	1247.0	[illegible]	330.0
73.000	1597.0	[illegible]	330.0

SECTION NO 16.20 DX = 200.0

69.400	0.	0.	0.
70.000	56.9	0.331	332.5
71.000	253.8	[illegible]	224.7
72.000	502.5	[illegible]	[illegible]
73.000	853.1	2.235	37[illegible]
74.000	1232.1	3.259	376.3
75.000	1615.1	[illegible]	376.3
76.000	1991.1	[illegible]	37[illegible]

SECTION NO 16.43 DX = [illegible]

70.000	0.	[illegible]	[illegible]
71.000	58.5	[illegible]	[illegible]
72.000	452.4	[illegible]	[illegible]
73.000	935.6	[illegible]	459.7
74.000	1375.7	[illegible]	[illegible]
75.000	1855.7	3.933	435.0
76.000	2335.7	4.799	435.0

SECTION NO 17.33 DX = 550.0

77.000	0.	0.	0.
78.000	122.0	0.708	283.4
79.000	532.5	1.416	413.8
80.000	935.7	2.373	413.3
81.000	1451.1	2.682	537.3
82.000	1968.1	3.665	537.3
83.000	2525.1	4.642	537.3
84.000	3062.1	5.622	537.3

SECTION NO 17.00 DX = 600.0

M	A	R	B
80.000	0.	0.	0.
81.000	3.1	0.100	31.3
82.000	265.8	0.530	501.5
83.000	872.0	1.302	649.6
84.000	1593.2	2.187	721.5
85.000	2302.3	3.175	722.9
86.000	3029.3	4.165	723.0
87.000	3748.3	5.148	723.0
88.000	4471.3	6.115	723.0
89.000	5194.3	7.104	723.0

SECTION NO 18.00 DX = 600.0

M	A	R	B
88.700	0.	0.	0.
89.000	19.3	0.085	231.2
90.000	449.5	0.829	521.5
91.000	976.2	1.627	573.9
92.000	1599.2	2.168	748.0
93.000	2446.2	3.087	743.0
94.000	3192.2	4.322	743.0
95.000	3943.2	4.766	743.0

SECTION NO 19.00 DX = 600.0

M	A	R	B
96.300	0.	0.	0.
97.000	135.2	0.595	247.7
98.000	593.6	0.977	525.5
99.000	1153.4	1.272	555.0
100.000	2215.4	2.111	555.3
101.000	3302.4	2.949	555.0
102.000	3345.4	3.792	545.0

SECTION NO 19.30 DX = 600.0

M	A	R	B
101.500	0.	0.	0.
102.000	8.7	0.250	34.8
103.000	69.9	0.435	139.9
104.000	321.5	0.941	341.3
105.000	943.4	1.728	764.0
106.000	1743.3	1.997	879.6
107.000	2727.4	2.732	993.7
107.700	3425.9	3.407	1000.0
108.000	3725.0	3.765	1000.0
109.000	4725.9	4.699	1000.0

SECTION NO 19.60 DX = 600.0

M	A	R	B
108.400	0.	0.	0.
109.000	79.9	0.309	259.5
110.000	392.7	0.882	456.7
111.000	1102.3	1.475	934.5
112.000	2047.4	2.106	972.6
113.000	3543.3	3.016	1023.2
114.000	4107.9	3.845	1028.8
114.700	4832.0	4.655	1034.5
115.000	5135.2	4.916	1041.0
116.000	6176.2	5.904	1041.0

SECTION NO 20.00 DX = 600.0

M	A	R	B
117.000	0.	0.	0.
118.000	107.3	0.511	207.5
119.000	419.2	0.822	467.2
120.000	1023.5	1.455	655.1
121.000	1757.3	2.053	854.5
122.000	2653.2	2.724	905.5
123.000	3567.5	3.582	912.5
124.000	4453.2	4.844	915.4
125.000	5405.0	5.727	925.3
126.000	6353.0	6.731	925.3

SECTION NO 20.30 DX = 600.0

M	A	R	B
124.700	0.	0.	0.
125.000	17.3	0.152	255.5
126.000	453.1	0.455	622.2
127.000	949.7	1.326	567.4
128.000	1555.5	1.924	554.2
129.000	2244.7	2.613	701.4
130.000	2947.9	3.332	733.6
131.000	3733.4	4.135	737.5
132.000	4442.9	4.933	741.4
133.000	5145.6	5.737	743.0
134.000	5929.6	6.557	743.0

SECTION NO 21.00 DX = 600.0

M	A	R	B
134.400	0.	0.	0.
135.000	9.4	0.100	14.0
136.000	133.4	0.357	289.2
137.000	553.2	0.992	532.9
138.000	1113.6	1.743	655.5
139.000	1759.1	2.583	657.5
140.000	2493.1	3.550	674.5
141.000	3177.2	4.507	699.7
142.000	3873.5	5.455	704.9
143.000	4596.5	6.405	709.0
144.000	5294.5	7.397	704.0

SECTION NO 21.40 DX = 400.0

N	A	R	B
142.100	0.	0.	49.0
143.000	152.8	0.584	257.9
144.000	499.2	1.253	397.0
145.000	934.1	1.979	473.0
146.000	1431.1	2.453	502.7
147.000	2917.5	3.424	504.4
148.000	2490.3	4.384	500.5
149.000	3191.8	5.337	504.4
150.000	3796.5	6.298	506.0
151.000	4393.5	7.287	500.0
152.000	4986.5	8.276	506.0

SECTION NO 22.00 DX = 400.0

N	A	R	B
152.100	0.	0.	0.
153.000	48.9	0.364	121.8
154.000	205.1	0.978	335.5
155.000	492.5	1.448	411.9
156.000	1184.5	2.622	414.2
157.000	1512.7	3.583	427.5
158.000	1982.8	4.155	469.7
159.000	2495.5	4.539	544.3
160.000	3044.0	5.474	557.3
161.000	3597.1	6.412	554.0
162.000	4151.9	7.405	554.0

SECTION NO 22.40 DX = 400.0

N	A	R	B
162.100	0.	0.	0.
163.000	11.1	0.229	37.5
164.000	147.6	0.902	235.3
165.000	431.5	1.615	345.3
166.000	934.0	2.289	426.2
167.000	1322.6	3.056	438.0
168.000	1755.0	4.007	435.8
169.000	2194.1	4.945	440.6
170.000	2635.1	5.896	445.1
171.000	3077.9	6.849	444.0
172.000	3523.9	7.837	444.0

SECTION NO 23.00 DX = 400.0

N	A	R	B
172.100	0.	0.	0.
173.000	152.5	0.933	139.5
174.000	272.0	1.493	163.5
175.000	463.2	1.799	236.4
176.000	739.3	2.036	273.7
177.000	1021.8	2.671	365.0
178.000	1403.7	3.627	383.4
179.000	1789.5	4.573	387.6
180.000	2173.0	5.507	391.4
181.000	2572.3	6.455	399.0
182.000	2967.8	7.376	398.0
183.000	3363.8	8.319	398.0
184.000	3757.8	9.299	394.0

SECTION NO 23.40 DX = 400.0

N	A	R	B
174.100	0.	0.	0.
175.000	97.4	0.440	225.1
176.000	353.5	1.329	264.7
177.000	623.1	2.239	275.2
178.000	901.5	3.097	249.0
179.000	1205.0	3.858	508.5
180.000	1519.3	4.470	320.6
181.000	1843.2	5.467	333.2
182.000	2212.1	5.942	375.3
183.000	2597.6	6.759	377.5
184.000	2965.9	7.476	369.0
185.000	3345.8	8.317	380.0
186.000	3726.8	9.595	383.0

SECTION NO 24.00 DX = 400.0

N	A	R	B
183.100	0.	0.	0.
184.000	145.4	0.507	266.2
185.000	433.6	1.492	289.6
186.000	724.6	2.464	292.5
187.000	1019.5	3.423	295.3
188.000	1323.2	4.035	324.9
189.000	1663.9	4.758	345.9
190.000	2011.4	5.685	349.5
191.000	2362.9	6.601	355.0
192.000	2721.0	7.292	367.7
193.000	3092.8	7.535	389.5
194.000	3532.5	7.529	475.8
195.000	4019.0	7.791	503.4
196.000	4551.2	8.291	542.1
197.000	5102.7	8.993	557.5
198.000	5661.7	9.940	559.0
199.000	6223.6	10.922	552.3

SECTION NO 24.40 DX = 400.0

N	A	R	B
188.100	0.	0.	0.
189.000	33.1	0.447	44.3
190.000	173.3	0.934	131.4
191.000	356.5	1.706	224.1
192.000	537.7	2.651	223.1
193.000	945.9	3.577	232.2
194.000	1375.1	4.485	236.2
195.000	1813.4	5.371	243.3
196.000	1555.7	6.242	244.6
197.000	1302.1	7.095	249.6
198.000	2352.6	7.935	252.5
199.000	2518.4	8.336	271.2
200.000	2591.3	9.206	275.9
201.000	2465.7	9.973	279.3
202.000	3353.8	10.594	258.4
203.000	3442.5	11.377	293.1
204.000	3736.5	12.221	295.3
205.000	4031.5	13.185	295.3

SECTION NO 25.33 DX = 633.0

M	A	Q	B
196.600	0.	0.	0.
197.000	15.5	0.204	90.7
198.000	244.0	0.752	323.4
199.000	558.1	1.738	324.9
200.000	993.7	2.714	326.3
201.000	1222.8	3.679	327.8
202.000	1549.3	4.635	329.2
203.000	1879.3	5.581	330.7
204.000	2213.7	6.517	332.2
205.000	2543.6	7.444	333.6
206.000	2874.0	8.362	335.1
207.000	3213.8	9.271	336.6
208.000	3551.1	10.171	338.0
209.000	3889.8	11.063	339.5
210.000	4230.8	11.946	340.9
211.000	4571.7	12.821	342.4
212.000	4914.8	13.688	343.9
213.000	5259.4	14.548	345.3
214.000	5603.1	15.451	346.1
215.000	5951.5	16.351	346.8
216.000	6298.7	17.246	347.5
217.000	6646.5	18.155	348.0
218.000	6994.5	19.104	348.0

SECTION NO 26.33 DX = 600.0

M	A	Q	B
208.300	0.	0.	0.
209.000	15.2	0.050	224.1
210.000	235.5	1.041	225.4
211.000	463.9	2.015	229.6
212.000	693.6	2.974	231.5
213.000	925.7	3.893	234.6
214.000	1171.0	4.104	281.9
215.000	1438.5	4.911	293.3
216.000	1717.5	5.695	304.7
217.000	2297.9	6.457	316.1
218.000	2585.6	7.332	320.4
219.000	2909.5	8.209	324.9
220.000	3336.4	9.075	324.9
221.000	3347.3	9.933	332.9
222.000	3795.7	10.125	332.4
223.000	4193.9	9.524	421.1
224.000	4533.2	10.345	430.5
225.000	4746.2	11.152	437.4
226.000	5405.4	11.935	444.3
227.000	5957.2	12.550	454.2
227.600	5136.6	12.374	465.5
228.000	5321.3	13.[illegible]	455.[illegible]
229.000	5747.9	14.251	457.5
230.000	7255.2	15.157	468.5
231.000	7725.9	16.094	471.5
232.000	8197.3	17.009	471.4
233.000	8669.2	17.922	471.5
234.000	9145.7	18.876	474.[illegible]
235.000	9637.5	19.852	474.[illegible]

SECTION NO 25.40 DX = 400.0

M	A	Q	B
201.300	0.	0.	0.
202.000	54.5	0.285	191.4
203.000	355.8	1.041	340.3
204.000	701.3	1.994	348.6
205.000	1063.7	2.712	385.9
206.000	1449.3	3.667	390.3
207.000	1841.4	4.611	393.9
208.000	2237.0	5.546	397.4
209.000	2636.2	6.470	400.9
210.000	3038.8	7.385	404.5
211.000	3445.1	8.290	408.0
212.000	3854.8	9.187	411.5
213.000	4268.1	10.074	415.0
214.000	4684.9	10.953	418.6
215.000	5105.3	11.823	422.1
216.000	5527.1	12.686	425.6
217.000	5956.5	13.540	429.2
218.000	6387.5	14.387	432.7
219.100	6833.9	15.471	433.1
219.000	6921.3	15.284	434.8
220.000	7257.0	16.182	436.7
221.000	7694.5	17.100	438.0
222.000	8132.6	18.074	438.0

SECTION NO 26.40 DX = 430.0

M	A	Q	B
213.400	0.	0.	0.
214.000	34.9	0.249	140.4
215.000	241.5	1.104	219.1
216.000	461.1	2.074	221.1
217.000	683.7	3.026	224.1
218.000	903.2	3.960	227.1
219.000	1137.8	4.879	230.1
220.000	1369.3	5.782	233.0
221.000	1603.9	6.670	236.0
222.000	1841.4	7.544	239.0
223.000	2081.9	8.405	242.0
224.000	2325.5	9.253	245.0
225.000	2572.0	10.088	248.0
226.000	2821.5	10.912	251.0
227.000	3074.0	11.724	254.0
228.000	3329.5	12.525	257.0
229.000	3589.0	13.316	260.0
230.000	3849.5	14.097	263.0
231.000	4116.1	14.855	266.2
232.000	4382.0	15.601	269.6
233.000	4653.3	16.335	273.0
234.000	4929.0	17.060	276.4
235.000	5205.1	17.777	279.8
236.000	5487.6	18.487	283.2
237.000	5772.5	19.183	286.5
238.000	6063.8	19.853	290.0
239.000	6352.5	20.571	293.4
239.300	6443.7	20.776	294.4
240.000	6647.0	21.367	295.2
241.000	6942.8	22.244	295.0
242.300	7235.7	23.192	295.0

2) Varied flow calculation Result

Legend

H	:	Water level (EL.m)
A	:	Cross sectional area of flow (m^2)
R	:	Hydraulic Radious (m)
B	:	Width of river (m)
V	:	Velocity of flow (m/sec)
F	:	Froud's Number
N	:	Coefficient of roughness
Q	:	Discharge (m^3/s)
Dx	:	Distance between Sections (m)
T	:	Time (day)

Discharge condition

Discharge cases used in this calculation are as below.

Q (m^3/s)	probability (1/years)
1100	1/200
900	1/80
520	1/10
400	1/5
120	1/1.1

Q = 1100 m^3/s

l = l [illegible] KERSAN

XQ	H	A	R	B	V	E	V	Q	XK	T
0.0	3.500	577.2	4.670	146.53	[illegible]	[illegible]	1.0330	1100.0	0.0	0.1417
0.7000	4.117	531.2	2.957	177.35	[illegible]	[illegible]	1.0330	1100.0	733.33	0.1417
1.0000	4.447	521.8	4.800	166.66	1.596	[illegible]	1.0330	1100.0	500.00	0.1417
1.8000	5.052	454.4	2.741	147.30	[illegible]	[illegible]	1.0330	1100.0	833.33	0.1417
2.0000	5.375	489.2	3.240	165.62	[illegible]	[illegible]	1.0330	1100.0	333.33	0.1417
2.3000	5.745	379.1	2.742	135.12	[illegible]	[illegible]	1.0330	1100.0	333.33	0.1417
3.0000	7.007	750.5	4.740	165.27	[illegible]	[illegible]	1.0330	1100.0	500.00	0.1417
4.0000	7.339	449.9	4.341	153.29	[illegible]	[illegible]	1.0330	1100.0	1333.33	0.1417
4.2000	7.407	545.9	4.310	163.80	[illegible]	[illegible]	1.0330	1100.0	200.00	0.1417
5.0000	7.912	593.3	3.747	154.32	[illegible]	[illegible]	1.0330	1100.0	800.00	0.1417
6.0000	9.207	388.8	2.413	147.88	[illegible]	[illegible]	1.0330	1100.0	1000.00	0.1417
7.0000	12.470	324.5	2.154	163.03	[illegible]	[illegible]	1.0330	1100.0	1333.33	0.1417
8.0000	16.484	434.0	1.537	271.51	[illegible]	[illegible]	1.0330	1100.0	1000.00	0.1417
9.0000	21.520	391.7	1.613	243.73	[illegible]	[illegible]	1.0330	1100.0	1333.33	0.1417
10.0000	26.619	431.0	1.642	232.87	[illegible]	[illegible]	1.0330	1100.0	1000.00	0.1417
11.0000	32.058	393.1	1.316	232.36	[illegible]	[illegible]	1.0330	1100.0	1333.33	0.1417
12.0000	38.210	384.1	1.327	283.01	[illegible]	[illegible]	1.0330	1100.0	1000.00	0.1417
13.0000	44.633	332.4	1.321	212.52	[illegible]	[illegible]	1.0330	1100.0	1333.33	0.1417
14.0000	52.163	387.5	1.284	300.20	[illegible]	[illegible]	1.0330	1100.0	[illegible]	0.1417
14.8000	58.209	347.7	1.473	252.04	[illegible]	[illegible]	1.0330	1100.0	833.33	0.1417
15.0000	59.727	334.3	1.594	234.97	[illegible]	[illegible]	1.0330	1100.0	[illegible]	0.1417
15.8000	68.934	323.3	1.739	133.14	[illegible]	[illegible]	1.0330	1100.0	1333.33	0.1417
16.2000	71.453	364.4	1.437	243.45	[illegible]	[illegible]	1.0330	1100.0	[illegible]	0.1417
16.4000	72.698	747.4	1.449	455.41	[illegible]	[illegible]	1.0330	1100.0	333.33	0.1417
17.0000	78.569	417.0	1.170	452.75	[illegible]	[illegible]	1.0330	1100.0	[illegible]	0.1417
17.4000	82.355	437.5	0.312	542.37	[illegible]	[illegible]	1.0330	1100.0	433.33	0.1417
18.0000	90.766	472.4	0.954	473.01	[illegible]	[illegible]	1.0330	1100.0	[illegible]	0.1417
19.4000	94.412	327.1	1.304	177.65	[illegible]	[illegible]	1.0330	1100.0	433.33	0.1417
19.0000	106.129	413.7	1.130	221.13	[illegible]	[illegible]	1.0330	1100.0	[illegible]	0.1417
19.4000	110.332	447.7	0.243	313.34	[illegible]	[illegible]	1.0330	1100.0	433.33	0.1417
20.0000	119.093	444.3	0.884	434.24	[illegible]	[illegible]	1.0330	1100.0	[illegible]	0.1417
20.4000	126.219	418.4	0.313	433.44	[illegible]	[illegible]	1.0330	1100.0	433.33	0.1417
21.0000	136.799	459.3	0.810	404.42	[illegible]	[illegible]	1.0330	1100.0	500.00	0.1417
21.4000	143.996	430.4	1.008	371.37	[illegible]	[illegible]	1.0330	1100.0	433.33	0.1417
22.0000	154.353	409.5	1.157	371.38	[illegible]	[illegible]	1.0330	1100.0	[illegible]	0.1417
22.4000	160.807	399.5	1.272	327.53	[illegible]	[illegible]	1.0330	1100.0	433.33	0.1417
23.0000	170.266	372.0	1.461	174.00	[illegible]	[illegible]	1.0330	1100.0	[illegible]	0.1417
23.4000	176.070	372.3	1.302	245.59	[illegible]	[illegible]	1.0330	1100.0	433.33	0.1417
24.0000	184.823	382.4	1.319	230.06	[illegible]	[illegible]	1.0330	1100.0	500.00	0.1417
24.4000	193.837	349.7	1.573	217.14	[illegible]	[illegible]	1.0330	1100.0	433.33	0.1417
25.0000	198.474	337.7	1.220	476.08	[illegible]	[illegible]	1.0330	1100.0	500.00	0.1417
25.4000	209.142	434.0	1.177	341.53	[illegible]	[illegible]	1.0330	1100.0	433.33	0.1417
26.0000	210.515	343.7	1.563	337.29	[illegible]	[illegible]	1.0330	1100.0	[illegible]	0.1417
26.4000	215.491	349.4	1.331	213.15	[illegible]	[illegible]	1.0330	1100.0	433.33	0.1417
27.0000	224.538	371.8	1.344	170.24	[illegible]	[illegible]	1.0330	1100.0	500.00	0.1417

Q = 900 m^3/s

L = 2 [illegible]

VO	H	A	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.0	3.599	577.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.7000	3.946	599.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1.0000	4.237	597.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1.8000	4.755	479.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2.0000	5.050	451.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2.3900	5.441	335.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3.0000	6.073	491.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.0000	6.925	537.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.2000	6.991	534.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5.0000	7.476	514.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6.0000	8.852	337.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.0000	12.215	294.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8.0000	16.676	478.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9.0000	21.367	340.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10.0000	26.434	377.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11.0000	31.896	334.3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
12.0000	38.070	365.3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
13.0000	44.453	331.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14.0000	52.001	348.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14.8000	58.022	314.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
15.0000	59.553	334.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16.0000	68.603	297.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16.2000	71.233	316.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14.4000	72.490	473.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
17.0000	74.417	358.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
17.4000	82.257	421.3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18.0000	89.915	411.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18.4000	96.176	235.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
19.0000	103.998	352.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
19.4000	109.957	384.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20.0000	118.972	349.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20.4000	126.091	394.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
21.0000	136.678	397.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
21.4000	143.647	354.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
22.0000	154.210	353.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
22.4000	160.442	334.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23.0000	169.952	245.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23.4000	175.896	324.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
24.0000	184.657	334.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
24.4000	190.628	302.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
25.0000	198.320	367.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
25.4000	202.932	353.3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26.0000	210.319	379.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26.4000	215.290	375.3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
27.0000	222.570	281.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

L - 3 [illegible]

Q = 520 m^3/s

NO	H	A	Z	R	V	E	N	Q	DX	T
0.0	1.300	240.2	2.597	101.27	1.928	0.3761E+00	0.0330	520.0	0.0	0.04170
0.7000	2.470	252.2	1.744	138.50	2.061	0.4355E+00	0.0330	520.0	700.00	0.04170
1.0000	3.012	490.9	3.093	156.22	1.059	0.1224E+00	0.0330	520.0	300.00	0.04170
1.8000	3.711	257.4	1.904	130.72	2.018	0.4623E+00	0.0330	520.0	800.00	0.04170
2.0000	4.042	307.8	2.944	100.83	1.690	0.3146E+00	0.0330	520.0	200.00	0.04170
2.3000	4.543	214.6	1.424	131.50	2.403	0.6024E+00	0.0330	520.0	330.00	0.04170
3.0000	5.975	590.5	3.914	153.51	0.883	0.1440E+00	0.0330	520.0	470.00	0.04170
4.0000	6.150	473.9	3.203	146.54	1.097	0.1050E+00	0.0330	520.0	1000.00	0.04170
4.2000	6.208	415.4	2.943	138.99	1.251	0.2322E+00	0.0330	520.0	200.00	0.04170
5.0000	6.581	342.0	2.549	147.69	1.361	0.2713E+00	0.0330	520.0	800.00	0.04170
6.0000	8.110	231.1	1.663	139.79	2.250	0.5607E+00	0.0330	520.0	1000.00	0.04170
7.0000	11.454	205.3	1.413	143.50	2.533	0.6803E+00	0.0330	520.0	1000.00	0.04170
8.0000	16.237	240.9	0.972	266.28	1.993	0.6656E+00	0.0330	520.0	1000.00	0.04170
9.0000	21.028	249.7	0.940	264.23	2.083	0.6843E+00	0.0330	520.0	1000.00	0.04170
10.0000	26.041	242.7	0.909	288.37	1.980	0.6633E+00	0.0330	520.0	1000.00	0.04170
11.0000	31.551	231.4	0.853	272.58	2.144	0.7654E+00	0.0330	520.0	1000.00	0.04170
12.0000	37.700	242.9	0.867	263.67	2.140	0.7245E+00	0.0330	520.0	1000.00	0.04170
13.0000	44.093	228.1	0.871	258.03	2.273	0.7727E+00	0.0330	520.0	1000.00	0.04170
14.0000	51.599	231.0	0.809	265.33	2.251	0.7998E+00	0.0330	520.0	1000.00	0.04170
14.8000	57.471	208.5	0.993	138.96	2.494	0.7927E+00	0.0330	520.0	800.00	0.04170
15.0000	59.180	230.9	0.809	280.97	2.252	0.7998E+00	0.0330	520.0	200.00	0.04170
16.0000	65.111	138.2	1.093	173.09	2.624	0.7998E+00	0.0330	520.0	1000.00	0.04170
16.2000	70.793	213.1	0.950	214.83	2.440	0.7997E+00	0.0330	520.0	200.00	0.04170
16.4000	72.035	418.0	1.050	462.20	1.111	0.3664E+00	0.0330	520.0	200.00	0.04170
17.0000	74.096	235.8	0.776	293.35	2.206	0.8000E+00	0.0330	520.0	600.00	0.04170
17.4000	82.024	280.4	0.349	505.36	1.854	0.7997E+00	0.0330	520.0	400.00	0.04170
18.0000	89.613	292.5	0.541	409.25	1.841	0.7998E+00	0.0330	520.0	600.00	0.04170
18.4000	95.668	134.1	1.122	174.39	2.652	0.7997E+00	0.0330	520.0	400.00	0.04170
19.0000	103.567	231.4	0.804	329.22	2.248	0.7997E+00	0.0330	520.0	600.00	0.04170
19.4000	109.535	248.3	0.700	375.47	2.044	0.7997E+00	0.0330	520.0	400.00	0.04170
20.0000	118.593	254.4	0.614	381.96	1.965	0.7996E+00	0.0330	520.0	600.00	0.04170
20.4000	125.757	247.5	0.603	389.43	1.944	0.7997E+00	0.0330	520.0	400.00	0.04170
21.0000	136.353	242.9	0.624	399.70	1.978	0.7998E+00	0.0330	520.0	600.00	0.04170
21.4000	143.307	243.4	0.727	307.29	2.136	0.7996E+00	0.0330	520.0	400.00	0.04170
22.0000	153.861	234.8	0.783	309.62	2.215	0.7996E+00	0.0330	520.0	600.00	0.04170
22.4000	160.231	224.1	0.859	250.28	2.321	0.7999E+00	0.0330	520.0	400.00	0.04170
23.0000	169.372	193.1	1.286	140.99	2.840	0.7998E+00	0.0330	520.0	600.00	0.04170
23.4000	175.495	222.4	0.871	244.31	2.336	0.7995E+00	0.0330	520.0	400.00	0.04170
24.0000	184.300	231.9	0.802	287.59	2.242	0.7996E+00	0.0330	520.0	600.00	0.04170
24.4000	190.151	202.7	1.250	187.82	2.566	0.7998E+00	0.0330	520.0	400.00	0.04170
25.0000	197.995	240.7	0.744	319.99	2.160	0.8000E+00	0.0330	520.0	600.00	0.04170
25.4000	202.615	239.9	0.750	282.98	2.169	0.7998E+00	0.0330	520.0	400.00	0.04170
26.0000	209.900	214.0	0.942	226.14	2.429	0.7996E+00	0.0330	520.0	600.00	0.04170
26.4000	214.959	210.3	0.975	206.35	2.473	0.7998E+00	0.0330	520.0	400.00	0.04170
27.0000	223.759	194.5	1.140	169.09	2.674	0.7998E+00	0.0330	520.0	600.00	0.04170

$Q = 400\ m^3/s$

AD	M	A	P	Q	V	F	N	Q	DY	T
0.0	0.700	204.1	2.631	74.83	1.941	0.3822E+00	0.0330	[illegible]	0.0	[illegible]
0.7000	2.015	180.3	1.677	109.71	2.219	0.5564E+00	0.0330	400.0	333.33	0.34177
1.0000	2.700	443.8	2.851	152.72	0.901	0.1755E+00	0.0330	400.0	400.00	0.34177
1.8000	3.341	212.6	1.760	115.24	1.883	0.6534E+00	0.0330	400.0	333.33	0.34177
2.0000	3.681	271.8	2.772	93.75	1.471	0.2823E+00	0.0330	400.0	200.00	0.34177
2.3000	4.250	174.4	1.337	130.60	2.265	0.4252E+00	0.0330	400.0	333.33	0.34177
3.0000	5.834	364.4	3.058	153.04	0.709	0.1184E+00	0.0330	400.0	400.00	0.34177
4.0000	5.337	431.3	3.017	143.12	0.906	0.1668E+00	0.0330	400.0	1333.33	0.34177
4.2000	5.979	342.7	2.761	137.69	1.046	0.2009E+00	0.0330	400.0	200.00	0.34177
5.0000	6.279	337.9	2.312	145.02	1.186	0.2688E+00	0.0330	400.0	833.33	0.34177
6.0000	7.843	194.2	1.401	137.33	2.060	0.3559E+00	0.0330	400.0	1000.00	0.34177
7.0000	11.445	175.2	1.213	142.18	2.283	0.4068E+00	0.0330	400.0	1333.33	0.34177
8.0000	16.082	219.2	0.823	265.02	1.825	0.6424E+00	0.0330	400.0	1000.00	0.34177
9.0000	20.990	215.9	0.821	244.86	1.862	0.6565E+00	0.0330	400.0	1333.33	0.34177
10.0000	25.872	220.0	0.775	262.11	1.818	0.6596E+00	0.0330	400.0	1000.00	0.34177
11.0000	31.426	234.7	0.733	267.79	1.935	0.7101E+00	0.0330	400.0	1333.33	0.34177
12.0000	37.561	246.9	0.743	253.20	1.993	0.7298E+00	0.0330	400.0	1000.00	0.34177
13.0000	43.211	133.4	0.746	264.30	2.067	0.7366E+00	0.0330	400.0	1333.33	0.34177
14.0000	51.453	192.1	0.692	252.95	2.083	0.7368E+00	0.0330	400.0	1000.00	0.34177
14.8000	57.275	171.5	0.233	184.15	2.333	0.7320E+00	0.0330	400.0	833.33	0.34177
15.0000	59.045	187.4	0.689	277.55	2.018	0.7276E+00	0.0330	400.0	200.00	0.34177
16.0000	67.922	145.7	0.330	172.33	2.416	0.7296E+00	0.0330	400.0	1333.33	0.34177
16.2000	70.610	177.1	0.814	201.60	2.259	0.7298E+00	0.0330	400.0	200.00	0.34177
16.4000	71.860	337.2	0.906	416.87	1.207	0.3379E+00	0.0330	400.0	200.00	0.34177
17.0000	77.960	192.9	0.686	272.27	2.074	0.7998E+00	0.0330	400.0	400.00	0.34177
17.4000	81.884	235.3	0.480	446.86	1.700	0.7238E+00	0.0330	400.0	400.00	0.34177
18.0000	88.304	235.7	0.650	377.59	1.697	0.7799E+00	0.0330	400.0	400.00	0.34177
18.4000	92.393	143.2	0.950	173.63	2.440	0.7226E+00	0.0330	400.0	400.00	0.34177
19.0000	109.404	190.3	0.713	225.33	2.113	0.7229E+00	0.0330	400.0	400.00	0.34177
19.4000	109.523	139.4	0.641	331.66	2.003	0.7237E+00	0.0330	400.0	400.00	0.34177
20.0000	114.457	214.1	0.547	334.81	1.851	0.7996E+00	0.0330	400.0	400.00	0.34177
20.4000	125.425	223.0	0.513	353.23	1.793	0.7927E+00	0.0330	400.0	400.00	0.34177
21.0000	136.236	214.4	0.556	366.66	1.866	0.7796E+00	0.0330	400.0	400.00	0.34177
21.4000	143.185	270.2	0.637	291.67	1.998	0.7775E+00	0.0330	400.0	400.00	0.34177
22.0000	153.657	191.4	0.685	263.49	2.087	0.7998E+00	0.0330	400.0	400.00	0.34177
22.4000	163.160	183.3	0.752	244.60	2.171	0.7238E+00	0.0330	400.0	400.00	0.34177
23.0000	169.161	153.3	1.086	140.14	2.610	0.7979E+00	0.0330	400.0	400.00	0.34177
23.4000	175.339	155.5	0.741	238.53	2.150	0.7179E+00	0.0330	400.0	400.00	0.34177
24.0000	184.179	194.5	0.675	287.27	2.056	0.7997E+00	0.0330	400.0	400.00	0.34177
24.4000	189.871	144.5	0.820	178.60	2.402	0.7222E+00	0.0330	400.0	400.00	0.34177
25.0000	197.801	139.2	0.643	277.18	2.008	0.7204E+00	0.0330	400.0	400.00	0.34177
25.4000	202.473	133.7	0.607	262.67	2.013	0.7238E+00	0.0330	400.0	400.00	0.34177
26.0000	209.748	179.7	0.791	225.30	2.226	0.7945E+00	0.0330	400.0	400.00	0.34177
26.4000	214.499	175.3	0.830	193.19	2.287	0.7990E+00	0.0330	400.0	400.00	0.34177
27.0000	223.573	143.2	0.950	168.75	2.431	0.7000E+00	0.0330	400.0	400.00	0.34177

L = 5 [illegible]

Q = 120 m^3/s

(m)	H	A	P	R	V	E	N	Q	DY	T
0.0	-1.200	92.1	1.465	61.30	1.303	0.3462E+00	0.0330	120.0	0.0	0.34170
0.7000	0.731	66.2	0.303	67.57	1.814	0.6077E+00	0.0330	120.0	333.33	0.34170
1.0000	1.529	272.8	1.930	138.62	0.440	0.1311E+00	0.0330	120.0	300.00	0.34170
1.8000	1.893	88.5	1.813	46.25	1.357	0.3320E+00	0.0330	120.0	333.33	0.34170
2.0000	2.097	154.2	3.193	45.89	0.778	0.1392E+00	0.0330	120.0	200.00	0.34170
2.3000	3.339	54.2	0.357	37.16	1.868	0.8000E+00	0.0330	120.0	333.33	0.34170
3.0000	6.327	465.1	6.139	154.46	0.186	0.2921E+01	0.0330	120.0	470.00	0.34170
4.0000	6.335	449.4	3.352	147.00	0.260	0.4131E+01	0.0330	120.0	1333.33	0.34170
4.2000	6.337	433.8	3.075	139.69	0.277	0.5039E+01	0.0330	120.0	200.00	0.34170
5.3000	6.358	352.4	2.380	145.73	0.343	0.7112E+01	0.0330	120.0	833.33	0.34170
6.0000	7.204	107.9	0.917	130.65	1.112	0.3741E+00	0.0330	120.0	1000.00	0.34170
7.0000	10.700	78.2	0.549	98.32	1.533	0.6443E+00	0.0330	120.0	1333.33	0.34170
8.0000	15.615	82.4	0.339	121.73	1.456	0.7995E+00	0.0330	120.0	1000.00	0.34170
9.0000	20.753	134.0	0.726	223.30	0.645	0.2621E+00	0.0330	120.0	1000.00	0.34170
10.0000	25.230	81.1	0.350	144.37	1.480	0.7775E+00	0.0330	120.0	1000.00	0.34170
11.0000	30.959	83.3	0.331	236.60	1.441	0.7993E+00	0.0330	120.0	1333.33	0.34170
12.0000	37.110	81.9	0.363	219.40	1.465	0.7997E+00	0.0330	120.0	1000.00	0.04170
13.0000	43.339	78.0	0.373	240.67	1.538	0.7974E+00	0.0330	120.0	1333.33	0.34170
14.0000	51.087	94.3	0.400	221.92	1.272	0.6423E+00	0.0330	120.0	1000.00	0.34170
14.8000	54.672	72.5	0.478	104.53	1.656	0.7644E+00	0.0330	120.0	833.33	0.34170
15.0000	58.386	87.9	0.318	135.14	1.366	0.7743E+00	0.0330	120.0	200.00	0.34170
15.8000	67.330	71.2	0.453	125.27	1.684	0.7234E+00	0.0330	120.0	1333.33	0.34170
16.2000	70.085	73.4	0.424	163.63	1.631	0.7995E+00	0.0330	120.0	200.00	0.34170
16.6000	71.333	219.1	0.535	332.03	0.563	0.2457E+00	0.0330	120.0	333.33	0.34170
17.0000	77.434	86.5	0.307	122.04	1.388	0.7995E+00	0.0330	120.0	400.00	0.34170
17.6000	81.424	114.5	0.282	230.52	1.048	0.6201E+00	0.0330	120.0	433.33	0.34170
18.0000	89.190	101.0	0.225	286.44	1.188	0.7995E+00	0.0330	120.0	400.00	0.34170
18.6000	95.915	71.4	0.465	153.42	1.676	0.7279E+00	0.0330	120.0	433.33	0.34170
19.0000	103.882	71.9	0.465	151.62	1.669	0.7995E+00	0.0330	120.0	400.00	0.34170
19.6000	109.025	77.5	0.382	205.76	1.567	0.7274E+00	0.0330	120.0	433.33	0.34170
20.0000	118.076	80.4	0.353	203.23	1.488	0.8001E+00	0.0330	120.0	400.00	0.34170
20.6000	125.245	85.0	0.254	269.03	1.263	0.7026E+00	0.0330	120.0	433.33	0.34170
21.0000	135.737	86.3	0.309	225.41	1.391	0.7996E+00	0.0330	120.0	400.00	0.34170
21.6000	142.674	85.1	0.319	169.09	1.410	0.7776E+00	0.0330	120.0	433.33	0.34170
22.0000	153.145	71.5	0.450	135.02	1.679	0.7997E+00	0.0330	120.0	400.00	0.34170
22.6000	159.474	72.6	0.439	126.91	1.658	0.7725E+00	0.0330	120.0	433.33	0.34170
23.0000	168.525	68.5	0.480	73.23	1.752	0.7995E+00	0.0330	120.0	400.00	0.34170
23.6000	174.827	90.3	0.354	181.94	1.496	0.7998E+00	0.0330	120.0	433.33	0.34170
24.0000	183.639	87.1	0.303	171.67	1.378	0.7995E+00	0.0330	120.0	400.00	0.34170
24.6000	187.273	64.9	0.544	104.24	1.850	0.7996E+00	0.0330	120.0	433.33	0.34170
25.0000	197.275	80.5	0.355	154.67	1.491	0.7995E+00	0.0330	120.0	400.00	0.34170
25.6000	202.099	90.9	0.351	206.47	1.686	0.7328E+00	0.0330	120.0	433.33	0.34170
26.0000	209.308	80.5	0.355	224.83	1.491	0.7995E+00	0.0330	120.0	400.00	0.34170
26.6000	214.132	74.4	0.413	155.36	1.609	0.7328E+00	0.0330	120.0	433.33	0.34170
27.0000	223.038	72.9	0.433	167.77	1.647	0.8000E+00	0.0330	120.0	400.00	0.34170

(2) Proposed channel

1) Cross Section characteristics

Legend

H	:	Water level (EL.m)
A	:	Cross-sectional area of flow (m^2)
R	:	Hydraulic Radious (m)
B	:	Wedge of channel (m)
Dx	:	Distance (m)

SECTION NO 0. DX = 0.

H	A	R	B
-2.500	0.	0.	0.
-2.000	23.0	0.368	62.2
-1.000	88.1	1.286	68.0
0.	159.0	2.131	73.8
1.000	235.7	2.919	79.6
1.582	283.9	3.235	131.3
2.000	336.0	3.400	141.3
3.000	480.3	3.989	147.4
4.000	630.7	4.719	153.4
5.000	787.1	5.488	159.2
6.000	946.4	6.364	159.2

SECTION NO 0.70 DX = 700.0

H	A	R	B
-2.111	0.	0.	59.9
-2.000	6.7	0.110	60.5
-1.000	70.3	1.048	66.7
0.	140.2	1.836	75.7
1.000	224.6	2.540	87.3
1.468	266.0	2.923	89.7
2.000	329.1	3.225	120.4
3.000	465.4	3.843	147.0
4.000	615.4	4.587	152.9
5.000	771.2	5.366	158.8
6.000	931.3	6.221	160.3

SECTION NO 1.00 DX = 300.0

H	A	R	B
-1.944	0.	0.	60.2
-1.000	59.5	0.900	65.8
0.	128.3	1.772	71.8
0.242	145.9	1.923	73.2
1.000	224.2	2.400	133.0
2.000	360.2	3.049	139.1
3.000	502.4	3.828	145.3
4.000	650.8	4.628	151.4
5.000	805.2	5.424	157.5
6.000	965.0	6.284	160.4

SECTION NO 1.80 DX = 800.0

H	A	R	B
-1.500	0.	0.	8.8
-1.000	40.3	0.477	84.2
0.	126.8	1.416	89.0
1.000	218.2	2.306	93.8
2.000	314.4	3.153	98.6
3.000	415.3	3.965	103.3
4.000	553.0	4.348	145.2
5.000	706.6	4.992	164.7
6.000	872.3	5.744	170.7
7.000	1043.0	6.607	170.7

SECTION NO 2.00 DX = 200.0

H	A	R	B
-1.398	0.	0.	0.
-1.000	24.2	0.385	62.6
0.	89.8	1.300	68.2
1.000	161.6	2.140	74.7
2.000	259.3	2.923	80.8
2.788	304.8	3.508	85.5
3.000	328.4	3.612	114.3
4.000	445.6	4.210	120.1
5.000	587.3	4.742	155.9
6.000	744.1	5.443	159.9
7.000	904.4	6.256	163.4

SECTION NO 2.30 DX = 330.0

H	A	R	B
0.227	0.	0.	57.0
1.000	45.8	0.742	61.5
2.000	113.2	1.623	67.3
2.592	151.1	2.111	100.3
3.000	198.1	2.259	129.9
4.000	334.4	2.858	132.4
5.000	476.7	3.635	145.2
6.000	624.8	4.440	151.1
7.000	777.7	5.315	153.3
8.000	931.0	6.252	153.3

SECTION NO 3.00 DX = 670.0

H	A	R	B
0.689	0.	0.	59.8
1.000	18.9	0.306	61.3
2.000	83.8	1.224	68.1
2.462	115.9	1.621	71.0
3.000	188.1	1.798	139.6
4.000	330.5	2.542	145.2
5.000	478.6	3.377	150.9
6.000	632.3	4.216	156.6
7.000	791.8	5.044	162.3
8.000	954.1	5.994	162.3

SECTION NO 4.00 DX = 1000.0

H	A	R	B
1.379	0.	0.	59.9
2.000	38.4	0.600	63.7
3.000	105.2	1.494	69.9
3.142	115.2	1.614	97.3
4.000	226.9	2.041	133.8
5.000	363.8	2.840	139.8
6.000	506.6	3.674	145.8
7.000	655.5	4.501	151.8
8.000	810.2	5.336	156.9
9.000	967.1	6.285	156.9
10.000	1124.0	7.245	156.9

SECTION NO 4.20 DX = 200.0

H	A	R	B
1.517	0.	0.	59.7
2.000	29.5	0.471	62.5
3.000	94.9	1.380	68.3
* 3.250	112.3	1.594	79.0
4.000	190.1	2.043	119.4
5.000	320.2	2.729	134.7
6.000	458.1	3.531	141.0
7.000	602.2	4.358	146.2
8.000	749.0	5.240	147.4
9.000	896.9	6.121	148.5
10.000	1045.5	7.063	148.6

SECTION NO 5.00 DX = 800.0

H	A	R	B
2.517	0.	0.	29.6
3.000	15.1	0.459	32.7
4.000	50.9	1.291	38.9
* 4.918	89.3	1.964	52.9
5.000	99.6	1.864	130.4
6.000	237.1	2.100	142.0
7.000	383.2	2.837	150.2
8.000	537.4	3.621	158.4
9.000	698.9	4.478	162.5

SECTION NO 6.00 DX = 1000.0

H	A	R	B
4.517	0.	0.	30.0
5.000	15.1	0.461	32.7
6.000	50.5	1.307	38.1
* 6.936	89.9	1.970	81.4
7.000	95.4	1.952	99.3
8.000	228.9	2.109	138.8
9.000	370.9	2.847	145.2
10.000	519.2	3.647	151.5
11.000	672.7	4.525	154.1

SECTION NO 7.00 DX = 1000.0

H	A	R	B
7.850	0.	0.	30.2
8.000	4.6	0.147	31.1
9.000	38.9	1.028	37.5
* 9.972	78.4	1.767	43.7
10.000	79.7	1.788	49.2
11.000	206.0	1.920	139.9
12.000	349.1	2.660	146.2
13.000	498.4	3.472	152.4
14.000	652.8	4.353	155.3
15.000	808.1	5.305	155.3

SECTION NO 8.00 DX = 1000.0

H	A	R	B
12.850	0.	0.	39.1
13.000	4.6	0.148	31.2
14.000	38.6	1.031	37.1
15.000	78.8	1.795	43.2
* 15.018	79.6	1.808	43.3
16.000	270.5	1.688	267.5
17.000	541.6	2.207	274.8
18.000	820.0	3.064	282.1
19.000	1104.6	3.981	285.5
20.000	1390.1	4.948	285.5

SECTION NO 9.00 DX = 1000.0

H	A	R	B
17.850	0.	0.	29.8
18.000	4.5	0.147	30.8
19.000	38.4	1.029	37.0
* 19.944	84.8	1.539	97.2
20.000	90.8	1.516	115.7
21.000	329.7	1.535	265.2
22.000	598.6	2.356	272.7
23.000	874.8	3.249	278.4

SECTION NO 10.00 DX = 1000.0

H	A	R	B
23.379	0.	0.	30.0
24.000	19.7	0.584	33.6
* 24.700	44.7	1.171	39.8
25.000	61.3	1.289	92.7
26.000	294.7	1.250	287.6
27.000	585.9	2.101	294.7
28.000	885.2	2.987	304.0
29.000	1189.9	3.953	304.7

SECTION NO 11.00 DX = 1000.0

H	A	R	B
29.261	0.	0.	30.0
30.000	23.9	0.685	34.7
* 30.452	46.5	0.906	82.6
31.000	142.1	0.795	273.9
32.000	426.6	1.562	290.9
33.000	722.3	2.463	300.3
34.000	1024.5	3.405	304.2
35.000	1333.7	4.343	308.1
36.000	1639.0	5.327	308.3

SECTION NO 12.00 DX = 1000.0

H	A	R	B
35.143	0.	0.	29.5
36.000	27.3	0.791	34.2
* 36.636	50.2	1.333	37.7
37.000	74.6	1.371	125.3
38.000	342.8	1.403	283.2
39.000	637.0	2.246	299.5
40.000	940.2	3.165	304.6

SECTION NO 13.00 DX = 1000.0

H	A	R	B
41.811	0.	0.	29.6
42.000	5.7	0.185	30.7
* 42.922	36.4	1.002	35.4
43.000	39.4	1.064	45.2
44.000	220.6	1.683	255.2
45.000	500.6	1.796	298.8
46.000	805.9	2.694	307.0
47.000	1113.2	3.636	310.5

SECTION NO 14.00 DX = 1000.0

H	A	R	B
48.954	0.	0.	29.7
49.000	1.4	0.046	29.9
50.000	33.8	0.956	35.0
* 50.824	87.4	1.125	213.3
51.000	126.0	1.029	224.6
52.000	405.5	1.559	269.7
53.000	699.4	2.441	297.5
54.000	997.3	3.402	298.0

SECTION NO 14.80 DX = 800.0

H	A	R	B
54.668	0.	0.	31.5
55.000	10.8	0.320	33.8
56.000	51.0	1.090	70.4
* 56.270	79.3	1.021	139.7
57.000	191.3	1.388	162.6
58.000	375.4	1.863	231.2
59.000	664.4	2.286	324.5
60.000	1003.6	2.972	360.0
61.000	1389.2	3.665	376.0
62.000	1785.2	4.619	396.0

SECTION NO 15.00 DX = 200.0

H	A	R	B
56.668	0.	0.	29.0
57.000	10.0	0.319	34.2
* 58.000	44.4	1.166	37.7
59.000	257.4	1.117	231.4
60.000	569.3	1.923	302.4
61.000	912.6	2.461	383.5
62.000	1302.2	3.414	390.0
63.000	1692.2	4.393	390.0

SECTION NO 16.00 DX = 1000.0

H	A	R	B
66.668	0.	0.	30.5
67.000	17.6	0.171	103.0
68.000	170.7	0.971	175.0
69.000	346.8	1.928	173.2
* 69.180	379.1	2.086	179.9
70.000	550.6	2.712	272.2
71.000	893.7	3.166	365.0

SECTION NO 16.20 DX = 200.0

H	A	R	B
68.668	0.	0.	127.9
69.000	43.2	0.329	131.3
* 69.500	109.8	0.842	134.9
70.000	191.0	1.233	179.1
71.000	383.1	2.013	214.8
72.000	615.6	2.730	255.6
73.000	961.6	3.169	361.5

SECTION NO 16.40 DX = 200.0

H	A	R	B
70.367	0.	0.	0.
* 70.680	27.1	0.162	165.7
71.000	91.8	0.389	272.5
72.000	502.5	1.121	443.9
73.000	950.6	2.036	452.4
74.000	1423.1	2.783	498.0
75.000	1921.1	3.737	493.0

SECTION NO 17.00 DX = 400.0

H	A	R	B
76.688	0.	0.	240.5
77.000	80.7	0.329	245.5
* 78.000	337.7	1.288	261.9
79.000	627.1	2.180	316.9
80.000	971.5	2.961	372.0
81.000	1378.6	3.593	470.7
82.000	1900.6	4.247	525.3
83.000	2425.9	5.098	525.3

SECTION NO 17.40 DX = 400.0

H	A	R	B
80.870	0.	0.	0.
81.000	0.	0.	28.7
* 81.470	119.4	0.271	451.8
82.000	491.4	0.719	578.3
83.000	1029.3	1.499	694.1
84.000	1746.5	2.399	732.3
85.000	2490.4	3.315	754.1
86.000	3245.8	4.303	755.8

SECTION NO 18.00 DX = 600.0

H	A	R	B
87.779	0.	0.	72.0
* 88.950	206.7	0.792	269.0
89.000	220.5	0.810	285.8
90.000	678.4	1.320	556.8
91.000	1293.2	1.968	694.4
92.000	2028.4	2.801	745.8
93.000	2776.3	3.764	748.6

SECTION NO 18.40 DX = 400.0

H	A	R	B
93.493	0.	0.	55.0
94.000	29.2	0.477	161.8
95.000	194.6	1.169	169.0
96.000	367.2	2.057	176.2
97.000	547.0	2.913	183.4
98.000	733.9	3.735	190.5
* 98.760	970.3	2.049	667.0
99.000	1130.4	2.197	667.0

SECTION NO 19.00 DX = 600.0

H	A	R	B
102.065	0.	0.	81.0
103.000	123.5	0.715	192.3
* 103.200	162.5	0.865	202.8
104.000	334.8	1.476	235.4
105.000	626.7	1.960	350.8
106.000	1018.4	2.543	432.5
107.000	1487.2	3.217	488.0
108.000	1975.2	4.146	488.0

SECTION NO 19.40 DX = 400.0

H	A	R	B
107.779	0.	0.	163.0
108.000	36.2	0.220	164.5
* 108.515	122.0	0.723	174.4
109.000	212.3	1.149	227.5
110.000	528.7	1.734	368.3
111.000	926.4	2.483	410.9
112.000	1346.4	3.320	429.0
113.000	1776.3	4.247	430.0
114.000	2206.3	5.207	430.0

SECTION NO 20.00 DX = 600.0

H	A	R	B
115.429	0.	0.	553.0
116.000	321.3	0.566	567.2
117.000	896.6	1.536	583.4
* 117.156	988.7	1.683	601.4
118.000	1506.9	2.481	620.9
119.000	2131.8	3.423	635.7
120.000	2790.3	4.339	666.3
121.000	3461.0	5.278	677.6
122.000	4140.8	6.238	680.0

SECTION NO 20.40 DX = 400.0

H	A	R	B
121.143	0.	0.	520.0
122.000	509.3	0.851	578.4
123.000	1112.9	1.826	603.6
124.000	1726.4	2.789	614.5
125.000	2350.8	3.732	640.2
* 125.271	2527.6	3.974	664.2
126.000	3014.3	4.640	671.3
127.000	3705.7	5.501	761.6
128.000	4477.4	6.346	781.0
129.000	5264.5	7.221	790.2
130.000	6056.7	8.123	794.1
131.000	6852.7	9.041	797.9

SECTION NO 21.00 DX = 500.0

H	A	R	B
133.567	0.	0.	71.5
134.000	31.6	0.424	74.4
135.000	109.2	1.342	80.9
* 135.936	228.8	1.685	342.6
136.000	251.5	1.624	364.9
137.000	728.2	1.768	517.3
138.000	1259.0	2.535	545.8
139.000	1805.8	3.441	547.5
140.000	2353.3	4.383	547.5

SECTION NO 21.40 DX = 400.0

H	A	R	B
140.234	0.	0.	75.0
141.000	59.3	0.740	79.7
142.000	142.1	1.637	85.9
* 142.091	150.0	1.715	86.5
143.000	387.3	1.689	335.0
144.000	731.9	2.247	394.0
145.000	1161.9	3.031	416.0
146.000	1579.5	3.937	418.9
147.000	1998.5	4.881	419.0
148.000	2417.5	5.835	419.0
149.000	2836.5	6.806	419.0

SECTION NO 22.00 DX = 600.0

H	A	R	B
150.234	0.	0.	71.0
151.000	56.4	0.737	76.4
152.000	136.3	1.625	83.4
* 152.928	216.7	2.391	89.9
153.000	223.9	2.445	108.7
154.000	493.6	2.259	345.7
155.000	873.6	2.684	411.6
156.000	1287.4	3.471	416.0
157.000	1705.6	4.338	420.3
158.000	2127.8	5.239	423.9
159.000	2552.5	6.178	425.0

SECTION NO 22.40 DX = 400.0

H	A	R	B
156.901	0.	0.	70.5
157.000	7.0	0.099	71.1
158.000	81.3	1.045	77.5
159.000	162.0	1.917	83.9
* 159.300	187.5	2.167	88.7
160.000	336.3	2.093	283.7
161.000	662.1	2.408	357.8
162.000	1070.3	2.935	428.5
163.000	1500.9	3.775	432.7
164.000	1935.7	4.660	437.0
165.000	2374.9	5.560	441.3
166.000	2817.2	6.492	443.2
167.000	3261.0	7.445	444.0

SECTION NO 23.00 DX = 600.0

H	A	R	B
166.901	0.	0.	75.5
167.000	7.5	0.099	76.1
168.000	86.3	1.053	81.6
169.000	172.3	1.227	137.6
170.000	316.1	2.163	144.0
* 170.760	432.5	2.785	264.0
171.000	495.9	2.821	264.8
172.000	765.0	3.324	289.7
173.000	1101.2	3.712	382.8
174.000	1488.4	4.436	388.1
175.000	1877.3	5.269	389.6
176.000	2267.7	6.142	391.2
177.000	2659.7	7.034	392.7
178.000	3052.7	7.961	393.0

SECTION NO 23.40 DX = 400.0

H	A	R	B
173.567	0.	0.	63.6
174.000	31.0	0.432	95.1
* 174.294	76.9	0.504	215.7
175.000	231.6	1.087	224.2
176.000	464.9	1.953	242.5
177.000	716.7	2.784	261.1
178.000	987.0	3.576	279.6
179.000	1275.9	4.336	293.1
180.000	1583.2	5.065	316.6
181.000	1909.1	5.771	335.1
182.000	2253.5	6.469	353.5
183.000	2616.4	7.141	372.2
184.000	2996.3	7.928	383.2

SECTION YO 23.49 DX = 400.0

M	A	R	Q
201.300	0.	0.	0.
202.000	54.9	0.285	191.4
203.000	355.8	1.041	340.5
204.000	701.3	1.994	344.4
205.000	1043.7	2.792	384.4
206.000	1449.3	3.607	390.3
207.000	1849.4	4.411	393.9
208.000	2237.3	5.346	397.4
209.000	2634.2	6.470	399.9
210.000	3038.4	7.385	404.3
211.000	3445.1	8.290	408.0
212.000	3854.8	9.187	411.5
213.000	4268.1	10.074	415.0
214.000	4684.9	10.953	418.8
215.000	5105.3	11.823	422.1
216.000	5527.1	12.684	425.8
217.000	5953.5	13.549	428.2
218.000	6382.5	14.387	432.7
219.100	6833.9	15.471	433.1
219.000	6921.3	15.254	434.8
220.000	7257.0	16.182	436.7
221.000	7696.5	17.100	438.0
222.000	8132.8	18.074	439.0

SECTION YO 26.49 DX = 400.0

M	A	R	Q
213.400	0.	0.	0.
214.000	34.9	0.249	142.4
215.000	241.5	1.104	219.1
216.000	451.1	2.074	224.1
217.000	683.7	3.026	224.1
218.000	902.2	3.940	227.1
219.000	1137.9	4.879	230.9
220.000	1369.3	5.782	235.0
221.000	1603.9	6.670	236.0
222.000	1841.4	7.544	239.0
223.000	2081.9	8.405	242.0
224.000	2325.5	9.253	245.0
225.000	2572.0	10.088	248.0
226.000	2821.5	10.912	251.0
227.000	3074.0	11.724	254.0
228.000	3329.5	12.525	257.0
229.000	3588.0	13.316	260.0
230.000	3849.5	14.097	263.0
231.000	4114.1	14.859	266.2
232.000	4382.0	15.601	269.6
233.000	4653.3	16.335	273.0
234.000	4926.0	17.060	276.6
235.000	5205.1	17.777	279.9
236.000	5487.6	18.487	283.2
237.000	5772.5	19.183	286.5
238.000	6063.9	19.885	290.0
239.000	6352.5	20.571	293.4
240.000	6647.7	21.274	296.4
241.000	6947.5	21.969	299.2
242.000	7242.8	22.244	295.0
243.000	7235.7	23.192	296.0

SECTION YO 26.99 DX = 400.0

M	A	R	Q
208.300	0.	0.	0.
209.000	11.2	0.050	224.1
210.000	235.5	1.063	226.4
211.000	453.9	2.015	229.6
212.000	693.6	2.974	233.3
213.000	929.7	3.893	236.6
214.000	1171.3	4.804	241.3
215.000	1418.9	4.711	243.3
216.000	1737.5	5.695	306.7
217.000	2347.9	6.452	316.1
218.000	2535.6	7.332	320.4
219.000	2703.5	8.207	324.9
220.000	3336.4	9.075	328.9
221.000	3547.3	9.951	332.2
222.000	3755.7	10.125	337.6
223.000	4171.3	9.526	423.3
224.000	4333.7	10.345	430.4
225.000	4756.7	11.152	437.6
226.000	5235.6	11.935	444.3
227.000	5337.7	12.555	454.7
228.000	5156.6	12.[illegible]	463.5
229.000	5521.3	13.[illegible]	466.[illegible]
230.000	5747.9	13.[illegible]	467.5
231.000	7255.7	13.[illegible]	468.[illegible]
232.000	7723.9	14.[illegible]	473.[illegible]
233.000	8197.1	15.[illegible]	477.[illegible]
234.000	8663.7	16.[illegible]	477.[illegible]
235.000	9147.7	16.[illegible]	478.[illegible]
236.000	9617.5	17.[illegible]	478.[illegible]

SECTION NO 24.00 DX = 633.0

N	A	B	A
183.100	0.	0.	0.
184.000	145.4	0.507	295.7
185.000	433.6	1.492	299.5
186.000	724.6	2.466	292.5
187.000	1018.5	3.425	295.5
188.000	1323.2	4.355	324.9
189.000	1463.9	4.759	345.9
190.000	2191.6	5.655	349.5
191.000	2562.9	6.504	353.3
192.000	2929.0	7.292	367.7
193.000	3292.5	7.535	369.4
194.000	3532.9	7.527	475.5
195.000	4013.9	7.791	537.6
196.000	4551.2	8.291	542.1
197.000	5102.7	8.923	557.2
198.000	5561.7	9.963	552.3
199.000	6223.6	10.922	552.3

SECTION NO 25.00 DX = 633.0

N	A	B	A
196.608	0.	0.	0.
197.000	18.3	0.204	93.7
198.500	244.0	0.752	323.6
199.000	568.1	1.738	326.9
200.000	893.7	2.714	326.3
201.000	1223.8	3.679	327.8
202.000	1549.3	4.635	329.2
203.000	1879.3	5.581	330.7
204.000	2213.7	6.517	332.2
205.000	2545.6	7.444	333.6
206.000	2875.0	8.362	335.1
207.000	3213.8	9.271	336.6
208.000	3551.1	10.171	334.0
209.000	3889.8	11.063	339.5
210.000	4233.0	11.946	340.9
211.000	4571.7	12.821	342.4
212.000	4916.8	13.688	343.9
213.000	5259.4	14.545	345.3
214.000	5605.1	15.451	346.1
215.000	5951.5	16.351	346.8
216.000	6298.7	17.246	347.5
217.000	6646.5	18.155	348.0
218.000	6996.5	19.106	348.0

SECTION NO 26.00 DX = [illegible]

N	A	B	A
189.100	0.	0.	0.
190.000	88.1	[illegible]	[illegible]
190.000	173.1	[illegible]	[illegible]
191.000	356.5	[illegible]	274.1
192.000	533.7	2.651	[illegible]
193.000	543.9	3.577	232.2
194.000	1075.1	4.485	234.2
195.000	1313.4	5.371	243.3
196.000	1555.7	6.242	244.4
197.000	1792.1	7.095	248.6
198.000	2352.6	7.935	252.5
199.000	2594.4	8.535	271.2
200.000	2591.3	9.204	275.4
201.000	2455.7	9.971	277.5
202.000	3153.8	10.596	284.4
203.000	3442.5	11.377	293.1
204.000	3736.5	12.221	295.3
205.000	4035.5	13.195	295.3

2) Varied flow calculation result

Legend

H	:	Water Level (EL.m)
A	:	Cross sectional area of flow (m^2)
R	:	Hydraulic Radious (m)
B	:	Width of River (m)
V	:	Velocity of flow (m/sec)
F	:	Froud's Number
N	:	Coefficient of roughness
Q	:	Discharge (m^3/s)
Dx	:	Distance (m)
T	:	Time (day)

discharge condition

Discharge cases used in this calculation are as below

Q (m^3/s)	Probability (1/years)
1100	1/200
900	1/80
520	1/10
400	1/5
120	1/1.1

Q = 1100 m^3/s

NO	H	A	R	Q	V	E	N	Q	DX	T
0.0	3.300	555.5	4.354	150.30	1.980	0.7031E+00	0.0330	1100.0	0.0	0.04170
0.7000	3.913	402.4	4.522	152.37	1.324	0.2743E+00	0.0330	1100.0	700.00	0.04170
1.0000	4.376	442.4	4.480	151.97	1.440	0.2440E+00	0.0330	1100.0	300.00	0.04170
1.4000	4.396	411.4	4.597	152.73	1.700	0.2490E+00	0.0330	1100.0	400.00	0.04170
2.0000	4.619	394.9	4.433	154.24	2.179	0.3305E+00	0.0330	1100.0	200.00	0.04170
2.3000	4.666	429.2	3.374	153.24	2.543	0.4455E+00	0.0330	1100.0	330.00	0.04170
3.0000	5.327	559.7	3.919	153.93	1.945	0.3213E+00	0.0330	1100.0	670.00	0.04170
4.0000	6.235	541.4	3.943	147.25	2.731	0.3299E+00	0.0330	1100.0	1000.00	0.04170
4.2000	6.366	510.4	3.932	142.93	2.154	0.3515E+00	0.0330	1100.0	200.00	0.04170
5.0000	7.253	422.3	3.034	152.24	2.405	0.4774E+00	0.0330	1100.0	800.00	0.04170
6.0000	9.287	383.8	2.914	145.71	2.846	0.5341E+00	0.0330	1100.0	1000.00	0.04170
7.0000	11.414	322.4	2.523	145.00	3.412	0.4942E+00	0.0330	1100.0	1000.00	0.04170
8.0000	16.314	355.7	1.714	249.78	3.093	0.7544E+00	0.0330	1100.0	1000.00	0.04170
9.0000	21.197	380.1	1.489	244.57	2.896	0.7114E+00	0.0330	1100.0	1000.00	0.04170
10.0000	26.266	372.1	1.474	280.48	2.954	0.7772E+00	0.0330	1100.0	1000.00	0.04170
11.0000	31.451	394.2	1.443	283.37	2.343	0.7400E+00	0.0330	1100.0	1000.00	0.04170
12.0000	38.070	343.3	1.441	283.02	3.027	0.8000E+00	0.0330	1100.0	1000.00	0.04170
13.0000	44.516	345.0	1.449	277.49	3.114	0.7907E+00	0.0330	1100.0	1000.00	0.04170
14.0000	51.943	361.7	1.474	279.54	3.061	0.7907E+00	0.0330	1100.0	1000.00	0.04170
14.8000	57.744	332.0	1.751	215.04	3.313	0.7300E+00	0.0330	1100.0	800.00	0.04170
15.0000	59.380	348.4	1.423	289.34	2.094	0.7906E+00	0.0330	1100.0	200.00	0.04170
15.0000	68.882	326.1	1.815	177.92	3.373	0.7307E+00	0.0330	1100.0	1000.00	0.04170
16.2000	70.715	328.4	1.791	202.04	3.350	0.7907E+00	0.0340	1100.0	200.00	0.04170
16.4000	72.156	572.4	1.244	445.19	1.921	0.5457E+00	0.0340	1100.0	200.00	0.04170
17.0000	78.119	372.2	1.394	248.44	2.954	0.7907E+00	0.0340	1100.0	600.00	0.04170
17.4000	82.122	487.1	0.814	532.47	2.253	0.7305E+00	0.0340	1100.0	400.00	0.04170
18.0000	89.458	430.1	1.043	409.75	2.559	0.8000E+00	0.0340	1100.0	600.00	0.04170
18.4000	95.752	324.3	1.934	176.40	3.331	0.7905E+00	0.0340	1100.0	400.00	0.04170
19.0000	104.077	357.2	1.513	244.98	3.090	0.7908E+00	0.0340	1100.0	600.00	0.04170
19.4000	107.498	344.8	1.435	234.44	3.300	0.7906E+00	0.0340	1100.0	400.00	0.04170
20.0000	116.277	480.9	0.835	571.73	2.298	0.7905E+00	0.0340	1100.0	600.00	0.04170
20.4000	121.963	487.2	0.814	593.19	2.259	0.7906E+00	0.0340	1100.0	400.00	0.04170
21.0000	136.190	341.9	1.451	303.75	3.218	0.7905E+00	0.0340	1100.0	600.00	0.04170
21.4000	142.909	337.5	1.496	232.90	3.259	0.7908E+00	0.0340	1100.0	400.00	0.04170
22.0000	153.220	283.3	2.604	140.88	3.883	0.7905E+00	0.0340	1100.0	600.00	0.04170
22.4000	159.469	302.5	2.109	241.53	3.434	0.7908E+00	0.0340	1100.0	400.00	0.04170
23.0000	169.326	303.4	2.094	143.72	3.423	0.7905E+00	0.0340	1100.0	600.00	0.04170
23.4000	175.525	354.1	1.549	233.74	3.104	0.7907E+00	0.0340	1100.0	400.00	0.04170
24.0000	184.929	382.4	1.319	280.00	2.875	0.7905E+00	0.0340	1100.0	600.00	0.04170
24.4000	190.837	349.7	1.579	217.14	3.145	0.7906E+00	0.0340	1100.0	400.00	0.04170
25.0000	198.474	397.7	1.220	324.09	2.744	0.8000E+00	0.0340	1100.0	600.00	0.04170
25.4000	203.142	425.0	1.177	341.53	2.714	0.7908E+00	0.0340	1100.0	400.00	0.04170
24.0000	210.515	353.7	1.543	227.50	3.110	0.7905E+00	0.0340	1100.0	600.00	0.04170
26.4000	215.421	349.6	1.591	213.54	3.149	0.7906E+00	0.0340	1100.0	400.00	0.04170
27.0000	224.598	321.8	1.345	170.44	3.412	0.7905E+00	0.0340	1100.0	600.00	0.04170

Ka

L - 2 [illegible] KEISAN

Q = 900 m^3/s

NO	H	A	R	B	V	E	N	Q	QX	T
0.0	3.390	555.5	4.374	150.39	1.620	0.7000E+00	0.0330	900.0	0.0	0.04170
0.7000	3.779	542.3	4.423	151.67	1.544	0.7348E+00	0.0330	900.0	700.00	0.04170
1.0000	3.998	495.7	4.567	150.78	1.814	0.2121E+00	0.0330	900.0	300.00	0.04170
1.9000	4.134	573.4	4.434	147.94	1.540	0.2380E+00	0.0330	900.0	800.00	0.04170
2.0000	4.161	648.4	4.294	129.47	1.921	0.2041E+00	0.0330	900.0	200.00	0.04170
2.3000	4.370	347.1	3.144	141.53	2.525	0.4187E+00	0.0330	900.0	300.00	0.04170
3.0000	5.162	500.5	3.804	151.76	1.799	0.3072E+00	0.0330	900.0	800.00	0.04170
4.0000	5.816	490.3	3.520	144.74	1.874	0.3101E+00	0.0330	900.0	1000.00	0.04170
4.2000	5.942	450.2	3.685	140.49	1.999	0.3421E+00	0.0330	900.0	200.00	0.04170
5.0000	6.955	342.0	2.730	143.99	2.494	0.4907E+00	0.0330	900.0	800.00	0.04170
6.0000	8.746	384.9	2.450	143.44	2.488	0.5245E+00	0.0330	900.0	1000.00	0.04170
7.0000	11.504	278.7	2.294	143.09	3.229	0.4907E+00	0.0330	900.0	1000.00	0.04170
8.0000	16.118	302.0	1.571	248.34	2.980	0.7984E+00	0.0330	900.0	1000.00	0.04170
9.0000	21.024	334.3	1.555	245.35	2.477	0.4954E+00	0.0330	900.0	1000.00	0.04170
10.0000	26.090	320.8	1.324	248.22	2.805	0.7741E+00	0.0330	900.0	1000.00	0.04170
11.0000	31.405	399.9	1.329	245.70	2.469	0.7363E+00	0.0330	900.0	1000.00	0.04170
12.0000	37.855	304.0	1.399	244.48	2.940	0.7000E+00	0.0330	900.0	1000.00	0.04170
13.0000	44.331	313.2	1.317	243.43	2.974	0.4000E+00	0.0330	900.0	1000.00	0.04170
14.0000	51.847	304.9	1.377	243.81	2.933	0.7000E+00	0.0330	900.0	1000.00	0.04170
14.4000	57.434	282.3	1.422	134.51	3.149	0.7004E+00	0.0330	900.0	800.00	0.04170
15.0000	59.205	317.4	1.282	285.48	2.834	0.7000E+00	0.0330	900.0	200.00	0.04170
16.0000	69.649	294.9	1.591	177.07	3.159	0.7000E+00	0.0330	900.0	1000.00	0.04170
16.2000	70.681	283.4	1.409	191.59	3.175	0.7000E+00	0.0340	900.0	200.00	0.04170
16.4000	71.950	442.1	1.085	635.34	1.947	0.5725E+00	0.0340	900.0	200.00	0.04170
17.0000	77.965	323.5	1.232	250.04	2.741	0.7007E+00	0.0340	900.0	800.00	0.04170
17.4000	82.015	420.7	0.730	543.04	2.139	0.7004E+00	0.0340	900.0	400.00	0.04170
18.0000	89.315	344.9	0.971	349.91	2.444	0.7004E+00	0.0340	900.0	600.00	0.04170
18.4000	95.509	282.4	1.420	172.44	3.197	0.7000E+00	0.0340	900.0	400.00	0.04170
19.0000	105.868	304.5	1.375	292.52	2.997	0.7000E+00	0.0340	900.0	600.00	0.04170
19.4000	109.313	311.5	1.339	271.94	2.930	0.7004E+00	0.0340	900.0	400.00	0.04170
20.0000	118.172	420.0	0.733	570.02	2.143	0.7007E+00	0.0340	900.0	600.00	0.04170
20.4000	121.460	424.1	0.712	597.14	2.112	0.7008E+00	0.0340	900.0	400.00	0.04170
21.0000	136.062	281.2	1.433	374.37	3.200	0.8000E+00	0.0340	900.0	600.00	0.04170
21.4000	142.572	275.4	1.701	213.09	3.244	0.7000E+00	0.0340	900.0	400.00	0.04170
22.0000	153.023	230.0	2.441	114.03	3.919	0.8000E+00	0.0340	900.0	600.00	0.04170
22.4000	159.574	245.9	2.137	144.25	3.441	0.7000E+00	0.0340	900.0	400.00	0.04170
23.0000	169.654	295.1	1.960	142.97	3.785	0.7000E+00	0.0340	900.0	600.00	0.04170
23.4000	175.325	307.5	1.344	233.04	2.927	0.8000E+00	0.0340	900.0	400.00	0.04170
24.0000	186.037	354.7	1.154	299.41	2.380	0.7004E+00	0.0340	900.0	600.00	0.04170
24.4000	190.614	302.7	1.410	207.74	2.973	0.7000E+00	0.0340	900.0	400.00	0.04170
25.0000	199.320	347.8	1.248	323.84	2.587	0.7007E+00	0.0340	900.0	600.00	0.04170
25.4000	202.992	353.3	1.035	333.12	2.547	0.7007E+00	0.0340	900.0	400.00	0.04170
26.0000	210.319	309.1	1.352	227.07	2.911	0.7008E+00	0.0340	900.0	600.00	0.04170
26.4000	215.290	305.3	1.384	213.94	2.949	0.7000E+00	0.0340	900.0	400.00	0.04170
27.0000	224.270	281.1	1.634	170.02	3.202	0.7008E+00	0.0340	900.0	600.00	0.04170

L = 3 FUTOORYU KEISAN

Q = 520 m^3/s

VO	H	A	R	B	V	E	N	Q	DX	T
0.0	1.330	240.5	3.072	95.96	1.904	0.3478E+00	0.0330	520.0	0.0	0.04170
0.7000	1.930	320.9	3.195	114.34	1.421	0.2902E+00	0.0330	520.0	700.00	0.04170
1.0000	2.130	378.4	3.150	130.02	1.373	0.2477E+00	0.0330	520.0	300.00	0.04170
1.8000	2.465	341.3	3.531	120.74	1.639	0.2467E+00	0.0330	520.0	800.00	0.04170
2.0000	2.507	281.5	3.300	83.85	1.847	0.3240E+00	0.0330	520.0	200.00	0.04170
2.3000	2.874	193.5	2.213	123.40	2.933	0.4084E+00	0.0330	520.0	330.00	0.04170
3.0000	4.399	389.5	2.975	147.51	1.335	0.2915E+00	0.0330	520.0	670.00	0.04170
4.0000	4.919	352.4	2.774	139.35	1.475	0.2929E+00	0.0330	520.0	1030.00	0.04170
4.2000	5.029	324.2	2.752	136.00	1.404	0.3088E+00	0.0330	520.0	200.00	0.04170
5.0000	5.994	234.9	2.095	161.79	2.213	0.4883E+00	0.0330	520.0	800.00	0.04170
6.0000	8.001	229.1	2.110	139.80	2.270	0.4001E+00	0.0330	520.0	1000.00	0.04170
7.0000	10.796	190.2	1.893	121.34	2.394	0.4700E+00	0.0330	520.0	1000.00	0.04170
8.0000	15.656	162.4	1.449	140.57	3.202	0.7918E+00	0.0330	520.0	1000.00	0.04170
9.0000	20.477	204.8	1.525	194.00	2.540	0.5549E+00	0.0330	520.0	1000.00	0.04170
10.0000	25.530	185.0	1.248	195.08	2.811	0.7074E+00	0.0330	520.0	1000.00	0.04170
11.0000	31.329	235.4	1.047	273.47	2.207	0.4880E+00	0.0330	520.0	1000.00	0.04170
12.0000	37.381	176.7	1.883	187.20	2.944	0.7005E+00	0.0330	520.0	1000.00	0.04170
13.0000	43.886	200.0	1.079	231.30	2.491	0.7008E+00	0.0330	520.0	1000.00	0.04170
14.0000	51.240	193.2	1.154	260.30	2.307	0.7008E+00	0.0330	520.0	1000.00	0.04170
14.8000	56.919	178.9	1.347	143.05	2.904	0.7008E+00	0.0330	520.0	800.00	0.04170
15.0000	58.708	195.2	1.131	210.24	2.443	0.7008E+00	0.0330	520.0	200.00	0.04170
16.0000	68.149	224.9	1.113	175.47	2.441	0.7008E+00	0.0330	520.0	1000.00	0.04170
16.2000	69.993	188.2	1.219	149.85	2.743	0.7007E+00	0.0340	520.0	200.00	0.04170
16.4000	71.528	308.7	0.774	342.00	1.486	0.5108E+00	0.0340	520.0	200.00	0.04170
17.0000	77.556	273.7	0.942	254.41	2.324	0.7006E+00	0.0340	520.0	200.00	0.04170
17.4000	81.773	284.2	0.527	524.09	1.317	0.7007E+00	0.0340	520.0	400.00	0.04170
18.0000	89.019	229.4	0.920	299.07	2.247	0.8000E+00	0.0340	520.0	600.00	0.04170
18.4000	94.989	192.8	1.141	143.93	2.497	0.7006E+00	0.0340	520.0	400.00	0.04170
19.0000	103.401	205.8	1.019	211.74	2.527	0.7007E+00	0.0340	520.0	600.00	0.04170
19.4000	109.929	199.1	1.097	223.05	2.411	0.7000E+00	0.0340	520.0	400.00	0.04170
20.0000	115.945	290.6	0.512	564.35	1.701	0.7005E+00	0.0340	520.0	600.00	0.04170
20.4000	121.641	235.7	0.694	534.07	1.759	0.7005E+00	0.0340	520.0	400.00	0.04170
21.0000	135.667	148.8	1.513	211.30	3.080	0.7000E+00	0.0340	520.0	600.00	0.04170
21.4000	142.124	159.4	1.714	95.50	3.279	0.7000E+00	0.0340	520.0	400.00	0.04170
22.0000	152.213	154.7	1.901	84.87	3.340	0.7000E+00	0.0340	520.0	600.00	0.04170
22.4000	159.897	153.4	1.927	83.20	3.394	0.7000E+00	0.0340	520.0	400.00	0.04170
23.0000	169.072	192.5	1.295	139.05	2.849	0.7000E+00	0.0340	520.0	600.00	0.04170
23.4000	174.833	208.2	0.995	232.02	2.437	0.7008E+00	0.0340	520.0	400.00	0.04170
24.0000	184.300	231.9	0.802	287.50	2.242	0.7006E+00	0.0340	520.0	600.00	0.04170
24.4000	190.151	202.7	1.050	137.82	2.544	0.7008E+00	0.0340	520.0	400.00	0.04170
25.0000	197.985	240.7	0.744	319.00	2.140	0.8000E+00	0.0340	520.0	600.00	0.04170
25.4000	203.615	239.9	0.750	232.00	2.140	0.7000E+00	0.0340	520.0	400.00	0.04170
26.0000	209.900	214.0	0.942	224.14	2.429	0.7006E+00	0.0340	520.0	600.00	0.04170
26.4000	214.949	210.3	0.973	234.35	2.473	0.7008E+00	0.0340	520.0	400.00	0.04170
27.0000	223.759	194.5	1.140	149.00	2.474	0.7008E+00	0.0340	520.0	600.00	0.04170

L - 4 [illegible]

Q = 400 m^3/s

NO	H	A	R	A	V	E	N	Q	DX	T
0.0	0.700	212.7	2.[illegible]	77.98	1.[illegible]	[illegible]	0.0330	400.0	0.0	0.04170
0.7000	1.395	294.0	2.991	99.15	1.542	0.2044E+00	0.0330	400.0	700.00	0.04170
1.0000	1.367	301.3	2.768	154.67	1.327	0.2568E+00	0.0330	400.0	300.00	0.04170
1.3000	1.932	307.8	3.299	94.23	1.299	0.2344E+00	0.0330	400.0	830.00	0.04170
2.0000	1.985	258.0	2.004	80.44	1.481	[illegible]	0.0330	400.0	200.00	0.04170
2.3000	2.407	238.4	1.959	93.35	2.991	0.4600E+00	0.0330	400.0	330.00	0.04170
3.0000	3.172	395.0	2.[illegible]	145.79	1.125	0.2140E+00	0.0330	400.0	870.00	0.04170
4.0000	4.349	309.0	2.520	137.44	1.295	0.2405E+00	0.0330	400.0	1000.00	0.04170
4.2000	4.847	280.8	2.521	140.08	1.424	0.2644E+00	0.0330	400.0	200.00	0.04170
5.0000	5.615	184.1	2.309	137.53	2.172	0.4064E+00	0.0330	400.0	800.00	0.04170
6.0000	7.840	180.9	2.052	124.50	2.217	0.4832E+00	0.0330	400.0	1000.00	0.04170
7.0000	10.466	138.4	1.490	91.51	2.994	0.4770E+00	0.0330	400.0	1000.00	0.04170
8.0000	13.252	121.2	1.738	92.10	3.300	[illegible]	0.0330	400.0	1000.00	0.04170
9.0000	20.297	159.4	1.521	143.59	2.510	0.4500E+00	0.0330	400.0	1000.00	0.04170
10.0000	25.956	161.3	1.275	159.48	2.477	[illegible]	0.0330	400.0	1000.00	0.04170
11.0000	31.137	195.3	0.939	277.04	2.049	0.4752E+00	0.0330	400.0	1000.00	0.04170
12.0000	37.229	194.1	1.378	142.45	2.834	[illegible]	0.0330	400.0	1000.00	0.04170
13.0000	43.646	154.5	1.075	183.99	2.557	0.7478E+00	0.0330	400.0	1000.00	0.04170
13.7000	51.799	193.7	[illegible]	291.71	2.505	[illegible]	0.0330	400.0	1000.00	0.04170
14.4000	56.491	143.3	1.233	152.99	2.779	0.7997E+00	0.0330	400.0	800.00	0.04170
15.0000	58.494	149.5	1.142	157.08	2.475	0.7997E+00	0.0330	400.0	200.00	0.04170
16.0000	67.961	144.8	0.940	172.22	2.427	0.7999E+00	0.0330	400.0	1000.00	0.04170
16.2000	69.783	195.8	1.051	154.92	2.547	0.7901E+00	0.0340	400.0	200.00	0.04170
16.4000	71.392	248.4	0.443	337.74	1.409	0.4297E+00	0.0340	400.0	200.00	0.04170
17.0000	77.615	187.4	0.727	252.79	2.174	[illegible]	0.0340	400.0	400.00	0.04170
17.4000	81.645	237.4	0.452	523.04	1.483	0.7995E+00	0.0340	400.0	400.00	0.04170
18.0000	88.845	198.2	0.721	251.44	2.125	0.7995E+00	0.0340	400.0	400.00	0.04170
18.4000	94.781	158.4	1.017	147.44	2.525	0.7995E+00	0.0340	400.0	400.00	0.04170
19.0000	103.232	149.4	0.890	204.25	2.342	0.7995E+00	0.0340	400.0	400.00	0.04170
19.4000	108.750	145.7	0.929	233.30	2.413	0.7994E+00	0.0340	400.0	400.00	0.04170
20.0000	115.862	243.8	0.430	565.01	1.541	0.7995E+00	0.0340	400.0	400.00	0.04170
20.4000	121.541	268.2	0.415	534.17	1.412	0.7995E+00	0.0340	400.0	400.00	0.04170
21.0000	129.197	134.4	1.416	134.02	2.977	[illegible]	0.0340	400.0	400.00	0.04170
21.4000	141.855	130.1	1.507	85.05	3.074	0.7995E+00	0.0340	400.0	400.00	0.04170
22.0000	151.305	128.7	1.541	82.72	3.108	0.7997E+00	0.0340	400.0	400.00	0.04170
22.4000	158.582	129.2	1.452	91.20	3.119	0.7997E+00	0.0340	400.0	400.00	0.04170
23.0000	168.709	157.3	1.177	122.74	2.714	[illegible]	0.0340	400.0	400.00	0.04170
23.4000	174.729	172.3	0.940	221.22	2.322	0.7995E+00	0.0340	400.0	400.00	0.04170
24.0000	184.170	194.5	0.475	297.22	2.054	0.7997E+00	0.0340	400.0	400.00	0.04170
24.4000	189.971	144.5	0.929	174.40	2.402	0.3000E+00	0.0340	400.0	400.00	0.04170
25.0000	197.801	199.2	0.433	277.14	2.008	0.7998E+00	0.0340	400.0	400.00	0.04170
25.4000	202.679	136.7	0.447	242.47	2.313	0.7995E+00	0.0340	400.0	400.00	0.04170
26.0000	209.758	179.7	0.791	225.80	2.224	0.7997E+00	0.0340	400.0	400.00	0.04170
26.4000	214.640	175.3	0.830	133.10	2.282	0.3000E+00	0.0340	400.0	400.00	0.04170
27.0000	223.573	143.2	0.958	149.75	2.451	0.7999E+00	0.0340	400.0	400.00	0.04170

L = 5 [illegible]

Q = 120 m^3/s

NO	H	A	R	B	V	C	N	Q	DX	T
0.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0330	120.0	0.0	0.04170
0.7000	-0.254	122.6	1.434	73.41	0.990	0.2468E+00	0.0330	120.0	700.00	0.04170
1.0000	-0.095	121.8	1.490	71.72	0.995	0.2422E+00	0.0330	120.0	300.00	0.04170
1.8000	0.274	151.8	1.459	90.29	0.791	0.1941E+00	0.0330	120.0	800.00	0.04170
2.0000	0.546	114.7	1.300	70.78	1.067	0.2491E+00	0.0330	120.0	200.00	0.04170
2.3000	1.178	97.2	0.999	62.53	2.094	0.7044E+00	0.0330	120.0	330.00	0.04170
3.0000	3.297	230.4	2.019	161.75	0.521	0.1171E+00	0.0330	120.0	670.00	0.04170
4.0000	3.491	159.4	1.793	111.74	0.753	0.1902E+00	0.0330	120.0	1000.00	0.04170
4.2000	3.358	147.1	1.743	94.58	0.846	0.2720E+00	0.0330	120.0	200.00	0.04170
5.0000	4.351	45.4	1.549	44.29	1.930	0.6700E+00	0.0330	120.0	800.00	0.04170
6.0000	6.365	45.9	1.544	55.00	1.872	0.4451E+00	0.0330	120.0	1000.00	0.04170
7.0000	9.327	52.2	1.274	39.59	2.299	0.4501E+00	0.0330	120.0	1000.00	0.04170
8.0000	14.201	54.7	1.195	49.44	2.570	0.7963E+00	0.0330	120.0	1000.00	0.04170
9.0000	19.309	53.4	1.194	54.71	2.239	0.4530E+00	0.0330	120.0	1000.00	0.04170
10.0000	24.632	54.6	1.144	39.70	2.701	0.7008E+00	0.0330	120.0	1000.00	0.04170
11.0000	30.540	51.8	0.999	113.00	1.042	0.4593E+00	0.0330	120.0	1000.00	0.04170
12.0000	36.669	54.2	1.174	34.76	2.715	0.7008E+00	0.0330	120.0	1000.00	0.04170
13.0000	43.041	54.9	1.045	53.78	2.544	0.7938E+00	0.0330	120.0	1000.00	0.04170
14.0000	50.217	57.9	1.000	41.94	2.506	0.7997E+00	0.0330	120.0	1000.00	0.04170
14.8000	55.911	47.4	1.021	47.10	2.530	0.7997E+00	0.0330	120.0	800.00	0.04170
15.0000	57.999	64.6	1.155	37.77	2.706	0.8003E+00	0.0330	120.0	200.00	0.04170
16.0000	67.351	71.4	0.651	123.31	1.482	0.7305E+00	0.0330	120.0	1000.00	0.04170
16.2000	69.220	77.5	0.561	132.00	1.554	0.7108E+00	0.0340	120.0	200.00	0.04170
16.4000	70.979	87.5	0.376	265.17	1.372	0.7145E+00	0.0340	120.0	200.00	0.04170
17.0000	77.013	96.0	0.361	265.58	1.278	0.7412E+00	0.0340	120.0	600.00	0.04170
17.4000	81.335	100.4	0.229	334.40	1.195	0.7305E+00	0.0340	120.0	400.00	0.04170
18.0000	88.286	89.6	0.367	157.23	1.342	0.7327E+00	0.0340	120.0	600.00	0.04170
19.4000	96.194	41.3	0.611	143.22	1.057	0.7006E+00	0.0340	120.0	400.00	0.04170
19.0000	102.622	73.5	0.525	147.26	1.432	0.7005E+00	0.0340	120.0	600.00	0.04170
19.4000	109.219	72.8	0.434	143.73	1.449	0.7006E+00	0.0340	120.0	400.00	0.04170
20.0000	115.623	109.3	0.193	551.14	1.098	0.7005E+00	0.0340	120.0	600.00	0.04170
20.4000	121.330	111.2	0.184	591.97	1.079	0.7006E+00	0.0340	120.0	400.00	0.04170
21.0000	134.321	56.5	0.719	74.47	2.173	0.7006E+00	0.0340	120.0	600.00	0.04170
21.4000	140.969	54.9	0.719	73.54	2.109	0.7007E+00	0.0340	120.0	400.00	0.04170
22.0000	150.795	54.0	0.737	74.33	2.142	0.7005E+00	0.0340	120.0	600.00	0.04170
22.4000	157.663	54.2	0.724	73.35	2.133	0.7000E+00	0.0340	120.0	400.00	0.04170
23.0000	167.931	57.2	0.701	79.74	2.004	0.7006E+00	0.0340	120.0	600.00	0.04170
23.4000	174.241	48.7	0.647	136.35	1.747	0.7006E+00	0.0340	120.0	400.00	0.04170
24.0000	183.639	87.1	0.303	171.47	1.378	0.7005E+00	0.0340	120.0	600.00	0.04170
24.4000	189.203	44.9	0.544	136.24	1.950	0.7006E+00	0.0340	120.0	400.00	0.04170
25.0000	197.275	80.5	0.355	156.87	1.601	0.7005E+00	0.0340	120.0	600.00	0.04170
25.4000	202.098	80.9	0.351	234.42	1.484	0.7008E+00	0.0340	120.0	400.00	0.04170
26.0000	209.398	80.5	0.359	224.33	1.401	0.7005E+00	0.0340	120.0	600.00	0.04170
26.4000	214.122	74.4	0.413	155.34	1.473	0.7008E+00	0.0340	120.0	400.00	0.04170
27.0000	223.039	72.9	0.433	147.77	1.417	0.8000E+00	0.0340	120.0	600.00	0.04170

2. Flowing sand calculation result

(1) Present channel

1) Laursen formula

Legend

SSQB : Sediment discharge (m^3/s)

SQB : Sediment load (m^3)

DV : Variation in volume ($SQB_2 - SQB_1$) (m^3)

SDH : Variation in River Bed Elevation (m)

IE : Energy gradient

TAUO : Critical Tractive force $(ms)^2$

D1 : Sediment load, minimum grain size (m^3)

Discharge condition

Discharge cases used in this calculation are as below.

Q (m^3/s)	probability (1/years)
1100	1/200
900	1/80
520	1/10
400	1/5
120	1/1.1

Q = 1100 m^3/s

l - 1 (LAHOSEN)

NO	S SOA	S OA	TW	SMO	TE	TAN O	DR
0.0	0.4572E+01	0.1511E+05	[illegible]	[illegible]	[illegible]	0.2573E+03	0.0
0.7000	0.6255E+01	0.2256E+05	-0.1444E+05	-0.1979	0.1100E-02	0.3190E+03	0.0
1.0000	0.1632E+01	0.5377E+04	[illegible]	[illegible]	[illegible]	0.1524E+03	0.0
1.8000	0.1091E+02	0.3713E+05	-0.1242E+05	-0.1549	0.1444E-02	0.4454E+03	0.0
2.0000	0.6402E+01	0.2431E+05	[illegible]	[illegible]	[illegible]	0.3539E+03	0.0
2.3000	0.6119E+01	0.2205E+05	-0.2194E+05	-0.2251	0.2947E-02	0.4405E+03	0.0
3.0000	0.2257E+01	0.3133E+04	[illegible]	[illegible]	[illegible]	[illegible]	0.0
4.0000	0.1760E+01	0.4207E+04	-0.2442E+04	-0.0270	[illegible]	0.1996E+03	0.3460E+02
4.2000	0.4494E+00	0.1750E+04	[illegible]	[illegible]	[illegible]	0.2554E+03	0.5727E+01
5.0000	0.5560E-01	0.2003E+03	0.2547E+04	0.0198	0.4454E-03	0.2444E+03	0.0
6.0000	0.7626E+00	0.2764E+04	[illegible]	[illegible]	[illegible]	0.5294E+03	0.4798E+02
7.0000	0.2555E+01	0.9204E+04	-0.1020E+04	-0.0129	0.4402E-02	0.0403E+03	0.1344E+03
8.0000	0.2122E+01	0.7735E+04	[illegible]	[illegible]	[illegible]	0.2171E+03	[illegible]
9.0000	0.2206E+01	0.7948E+04	-0.3392E+04	-0.0144	0.5721E-02	0.7204E+03	0.1125E+03
10.0000	0.1127E+01	0.4564E+04	[illegible]	[illegible]	[illegible]	0.5125E+03	0.1352E+02
11.0000	0.2578E+01	0.9288E+04	-0.5555E+03	-0.0019	0.4229E-02	0.8029E+03	0.1284E+03
12.0000	0.2426E+01	0.8762E+04	[illegible]	[illegible]	[illegible]	0.7311E+03	0.1714E+03
13.0000	0.2277E+01	0.8184E+04	-0.5346E+04	-0.0211	0.4220E-02	0.8049E+03	0.1280E+03
14.0000	0.6153E+00	0.2213E+04	[illegible]	[illegible]	[illegible]	0.7461E+03	0.0
14.8000	0.1097E+01	0.3931E+04	0.1354E+04	0.0100	0.4063E-02	0.9493E+03	0.0
15.0000	0.1469E+01	0.5239E+04	0.1210E+05	[illegible]	[illegible]	0.7742E+03	0.0
16.0000	0.4826E+01	0.1739E+05	-0.2442E+04	-0.0224	0.5431E-02	0.0925E+03	0.1545E+03
16.2000	0.4533E+01	0.1493E+05	[illegible]	[illegible]	[illegible]	0.1014E+04	0.1149E+03
16.4000	0.1050E+00	0.3782E+03	0.7059E+04	0.0328	0.1345E-02	0.2200E+03	0.0
17.0000	0.2786E+01	0.7435E+04	[illegible]	[illegible]	[illegible]	0.7333E+03	0.0
17.4000	0.1964E+01	0.7074E+04	0.5479E+03	0.0020	0.2702E-02	0.4020E+03	0.0
18.0000	0.2121E+01	0.7453E+04	[illegible]	[illegible]	[illegible]	0.7224E+03	0.1235E+02
18.4000	0.1654E+01	0.5958E+04	-0.2274E+04	-0.0254	0.4462E-02	0.1190E+04	0.0
19.0000	0.1022E+01	0.3493E+04	0.6373E+03	[illegible]	[illegible]	0.7543E+03	0.0
19.4000	0.1149E+01	0.4141E+04	0.2000E+04	0.0109	0.2231E-02	0.7744E+03	0.0
20.0000	0.1327E+01	0.4793E+04	[illegible]	[illegible]	[illegible]	0.7494E+03	0.5137E+02
20.4000	0.1720E+01	0.6199E+04	-0.4764E+03	-0.0027	0.3535E-02	0.7523E+03	0.1133E+03
21.0000	0.1533E+01	0.5524E+04	[illegible]	[illegible]	[illegible]	0.7374E+03	0.1590E+03
21.4000	0.1647E+01	0.5961E+04	0.5470E+03	0.0020	0.2221E-02	0.9437E+03	0.4437E+02
22.0000	0.1797E+01	0.6433E+04	[illegible]	[illegible]	[illegible]	0.7746E+03	0.0
22.4000	0.1991E+01	0.7173E+04	0.2474E+04	0.0151	0.4005E-02	0.0350E+03	0.3124E+02
23.0000	0.2477E+01	0.8924E+04	[illegible]	[illegible]	[illegible]	0.1235E+04	0.1543E+03
23.4000	0.2084E+01	0.7508E+04	-0.0077E+03	-0.0078	0.2270E-02	0.0020E+03	0.4540E+02
24.0000	0.1807E+01	0.6511E+04	[illegible]	[illegible]	[illegible]	0.7574E+03	0.0
24.4000	0.2264E+01	0.8154E+04	0.2501E+04	0.0230	0.1278E-02	0.1070E+04	0.1100E+03
25.0000	0.2259E+01	0.8134E+04	[illegible]	[illegible]	[illegible]	0.1174E+04	0.1125E+03
25.4000	0.2718E+01	0.9794E+04	0.2425E+03	0.0014	0.4345E-02	0.0374E+03	0.1507E+03
26.0000	0.2785E+01	0.1003E+05	[illegible]	[illegible]	[illegible]	0.1123E+04	[illegible]
26.4000	0.1393E+01	0.6477E+04	0.0	0.0	[illegible]	0.1181E+04	0.1190E+03

R 29 -

1 - 2 ([illegible])

$Q = 900\ m^3/s$

NO	S SOR	S OR	JW	SOW	JE	TAIL O	OL
0.0	0.2287E+01	0.4233E+01	[illegible]	[illegible]	[illegible]	[illegible]	0.
0.7000	0.3973E+01	0.1431E+05	-0.1746E+06	-0.1223	0.2846E-02	0.2463E+03	0.0
1.0000	0.1312E+01	0.3538E+04	[illegible]	[illegible]	[illegible]	[illegible]	0.
1.8000	0.7655E+01	0.2758E+05	-0.3632E+04	-0.1225	0.1810E-02	0.2794E+03	0.0
2.0000	0.4335E+01	0.1870E+05	[illegible]	[illegible]	[illegible]	[illegible]	0.
2.3000	0.4622E+01	0.1445E+05	-0.1411E+05	-0.2474	0.2354E-02	0.5483E+03	0.0
3.0000	0.1253E+01	0.4537E+03	[illegible]	[illegible]	[illegible]	[illegible]	0.
4.0000	0.8379E+00	0.3019E+04	-0.1307E+04	-0.1231	0.4335E-03	0.1304E+03	0.4255E+01
4.2000	0.3363E+00	0.1312E+04	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5.0000	0.4113E+01	0.1487E+03	0.2071E+04	[illegible]	[illegible]	0.2143E+03	0.0
6.0000	0.6163E+00	0.2213E+04	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.0000	0.1852E+01	0.4471E+04	-0.2335E+03	-0.[illegible]	0.4478E-02	0.2443E+03	0.1338E+03
8.0000	0.1623E+01	0.5367E+04	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9.0000	0.1514E+01	0.5454E+04	-0.2254E+04	-0.[illegible]	0.5546E-02	0.4300E+03	0.4283E+02
10.0000	0.8881E+00	0.3250E+04	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11.0000	0.2007E+01	0.7232E+04	-0.1324E+04	-0.[illegible]	0.4501E-02	0.7370E+03	0.4198E+02
12.0000	0.1443E+01	0.5303E+04	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
13.0000	0.1807E+01	0.4509E+04	-0.4744E+04	-0.[illegible]	0.4470E-02	0.7441E+03	0.2911E+02
14.0000	0.4731E+00	0.1754E+04	[illegible]	[illegible]	[illegible]	[illegible]	0.
14.8000	0.8792E+00	0.3148E+04	0.1004E+04	0.[illegible]096	0.4253E-02	0.7045E+03	0.0
15.0000	0.1154E+01	0.4176E+04	[illegible]	[illegible]	[illegible]	[illegible]	0.
16.0000	0.3843E+01	0.1385E+05	-0.2033E+04	-0.[illegible]187	0.5336E-02	0.9012E+03	0.1201E+03
16.2000	0.3277E+01	0.1181E+05	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16.4000	0.8086E+01	0.2913E+03	0.5485E+04	0.[illegible]315	0.1378E-02	0.1002E+03	0.0
17.0000	0.1657E+01	0.5975E+04	[illegible]	[illegible]	[illegible]	[illegible]	0.
17.4000	0.1568E+01	0.5442E+04	0.3096E+03	0.[illegible]015	0.[illegible]E-02	0.4449E+03	0.0
18.0000	0.1577E+01	0.4041E+04	-0.1233E+04	-0.[illegible]	[illegible]	[illegible]	[illegible]
18.4000	0.1320E+01	0.4757E+04	-0.1308E+04	-0.[illegible]205	0.4054E-02	0.1046E+04	0.0
19.0000	0.8185E+00	0.2969E+04	[illegible]	[illegible]	[illegible]	[illegible]	0.
19.4000	0.9127E+00	0.3288E+04	0.2240E+04	0.[illegible]000	0.3514E-02	0.7234E+03	0.0
20.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20.4000	0.1377E+01	0.4943E+04	-0.4304E+03	-0.[illegible]021	0.3445E-02	0.7037E+03	0.7332E+02
21.0000	0.1233E+01	0.4443E+04	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
21.4000	0.1311E+01	0.4722E+04	0.4253E+03	0.[illegible]024	0.1300E-02	0.7246E+03	0.4245E+02
22.0000	0.1423E+01	0.5167E+04	[illegible]	[illegible]	[illegible]	[illegible]	0.
22.4000	0.1599E+01	0.5724E+04	0.2132E+04	0.[illegible]120	0.2776E-02	0.8488E+03	0.0
23.0000	0.2181E+01	0.7854E+04	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23.4000	0.1663E+01	0.5997E+04	-0.3704E+03	-0.[illegible]049	0.[illegible]E-02	0.9128E+03	0.4462E+02
24.0000	0.1421E+01	0.5118E+04	[illegible]	[illegible]	[illegible]	[illegible]	0.
24.4000	0.1804E+01	0.4494E+04	0.1207E+04	0.[illegible]134	0.2268E-02	0.1001E+04	0.7271E+02
25.0000	0.2333E+01	0.8405E+04	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
25.4000	0.2149E+01	0.7740E+04	0.4148E+03	0.[illegible]004	0.1030E-02	0.9144E+03	0.1210E+03
26.0000	0.2163E+01	0.7809E+04	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26.4000	0.1573E+01	0.4478E+04	0.0	0.0	[illegible]	0.3091E+03	0.4027E+02
27.0000	0.1335E+01	0.4478E+04	0.0	0.0	[illegible]	[illegible]	[illegible]

$Q = 520\ m^3/s$

I = 3 (LAUSEN)

NO	S SOM	S OM	DV	SOM	TE	TAU O	DI
0.0	0.3429E+01	0.1307E+04	[illegible]	[illegible]	[illegible]	[illegible]	0.0
0.7000	0.6542E+01	0.2357E+04	-0.2146E+04	-0.3124	0.2147E-02	0.3752E+03	0.0
1.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
1.4000	0.5705E+01	0.2055E+04	-0.1346E+04	-0.2110	0.1318E-02	0.3519E+03	0.0
1.7000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
2.3000	0.3756E+01	0.1353E+04	-0.1332E+04	-0.2087	0.3204E-02	0.5246E+03	0.0
3.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
4.0000	0.2411E+00	0.8487E+03	-0.5757E+03	-0.2046	[illegible]	0.4710E+02	[illegible]
4.2000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
5.0000	0.1542E+01	0.5554E+02	0.1104E+04	0.0023	0.5737E-03	0.1446E+03	0.0
6.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.0000	0.7436E+00	0.2679E+04	0.4485E+03	0.0033	0.4697E-02	0.4100E+03	0.4673E+02
8.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9.0000	0.5554E+00	0.2001E+04	-0.2450E+03	-0.0014	0.5193E-02	0.4724E+03	0.0
10.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11.0000	0.7983E+00	0.2874E+04	-0.1344E+03	-0.0005	0.5933E-02	0.5224E+03	0.0
12.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
13.0000	0.8671E+00	0.3124E+04	-0.2182E+04	-0.0025	[illegible]	0.4404E+03	0.1423E+02
14.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
14.8000	0.4896E+00	0.1747E+04	0.4008E+03	0.0040	0.4242E-02	0.4457E+03	0.0
15.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
16.0000	0.2056E+01	0.7407E+04	-0.1114E+04	-0.0104	0.4417E-02	0.7179E+03	0.4006E+02
16.2000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16.4000	0.4087E+01	0.1479E+03	0.3128E+04	0.0174	0.1420E-02	0.1543E+03	0.0
17.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
17.4000	0.8304E+00	0.2999E+04	0.1227E+03	0.0008	0.3022E-02	0.5386E+03	0.0
18.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
18.4000	0.6979E+00	0.2497E+04	-0.8918E+03	-0.0102	0.7217E-02	0.8504E+03	0.0
19.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
19.4000	0.5036E+00	0.1816E+04	0.1141E+04	0.0042	0.1167E-02	0.4274E+03	0.0
20.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
20.4000	0.7564E+00	0.2725E+04	-0.2489E+03	-0.0013	0.2413E-02	0.6481E+03	0.5900E+01
21.0000	0.6575E+00	0.2677E+04	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
21.4000	0.7056E+00	0.2542E+04	0.2304E+03	0.0015	0.0032E-02	0.4346E+03	0.0
22.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
22.4000	0.8587E+00	0.3094E+04	0.0002E+03	0.0040	0.5649E-02	0.7104E+03	0.0
23.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23.4000	0.8834E+00	0.3183E+04	-0.3380E+03	-0.0032	0.0802E-02	0.7257E+03	0.0
24.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
24.4000	0.9484E+00	0.3489E+04	0.0327E+03	0.0004	0.7095E-02	0.8277E+03	[illegible]
25.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
25.4000	0.3143E+01	0.4119E+04	-0.4181E+03	-0.0033	0.2044E-02	0.4176E+03	0.4813E+02
26.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26.4000	0.7950E+00	0.2844E+04	0.0	0.0	0.7133E-02	0.7830E+03	0.0
27.0000	0.5975E+00	0.2342E+04	0.0	0.0	[illegible]	[illegible]	0.0

L = 4 (All [illegible])

$Q_- = 400\ m^3/s$

NO	S SQ3	S Q9	PV	SQU	TE	TAU 0	QI
0.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
0.7000	0.6844E+01	0.2447E+04	-0.2355E+05	-0.4273	0.2312E-02	0.6471E+03	0.0
1.0000	0.4731E+01	0.1117E+04	0.1534E+05	[illegible]	[illegible]	0.5115E+03	0.0
1.9000	0.4178E+01	0.1596E+04	-0.1102E+05	-0.1019	0.1810E-02	0.3135E+03	0.0
2.0000	0.3118E+01	0.6337E+04	[illegible]	[illegible]	[illegible]	[illegible]	0.0
2.3000	0.3231E+01	0.1184E+04	-0.1134E+05	-0.1016	0.3735E-02	0.4072E+03	0.0
3.1000	0.4763E-03	0.1657E+01	[illegible]	[illegible]	[illegible]	[illegible]	0.0
4.0000	0.1093E+00	0.3939E+03	-0.2734E+03	-0.0031	0.2065E-02	0.4372E+02	[illegible]
4.2000	0.3343E-01	0.1293E+03	[illegible]	[illegible]	[illegible]	[illegible]	0.0
5.0000	0.8572E-02	0.3079E+02	0.7342E+02	0.0001	0.4046E-03	0.1132E+03	0.0
6.1000	0.2257E-03	0.8143E+03	0.2257E+03	[illegible]	[illegible]	0.2746E+03	[illegible]
7.0000	0.4835E+00	0.1742E+04	0.4303E+03	0.0037	0.4344E-02	0.5208E+03	0.2791E+02
8.1000	0.6377E+03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9.0000	0.3436E+00	0.1238E+04	-0.4307E+02	-0.0008	0.4012E-02	0.3052E+03	0.0
10.0000	0.3261E+00	0.1175E+04	0.5477E+03	[illegible]	[illegible]	[illegible]	[illegible]
11.0000	0.5114E+00	0.1843E+04	0.4310E+02	0.0002	0.4104E-02	0.4470E+03	0.0
12.0000	0.5262E+00	0.1895E+04	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
13.0000	0.5569E+00	0.2007E+04	-0.1207E+04	-0.0063	0.4335E-02	0.4792E+03	0.0
14.0000	0.1363E+00	0.7095E+03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14.6000	0.3543E+00	0.1277E+04	0.3423E+03	0.0037	0.4033E-02	0.4054E+03	0.0
15.0000	0.4493E+00	0.1613E+04	[illegible]	[illegible]	[illegible]	[illegible]	0.0
16.0000	0.1528E+01	0.5504E+04	-0.9417E+03	-0.0001	0.0375E-02	0.4373E+03	0.7488E+02
16.2000	0.1235E+01	0.4448E+04	[illegible]	[illegible]	[illegible]	[illegible]	0.0
16.4000	0.2731E-01	0.9840E+02	0.2336E+04	0.0140	0.1439E-02	0.1381E+03	0.0
17.0000	0.6751E+00	0.2432E+04	[illegible]	[illegible]	[illegible]	[illegible]	0.0
17.4000	0.5746E+00	0.2020E+04	0.2444E+03	0.0012	0.0944E-02	0.4400E+03	0.0
18.0000	0.6683E+00	0.2334E+04	-0.1237E+03	-0.0020	[illegible]	0.4741E+03	0.0
18.4000	0.5012E+00	0.1804E+04	-0.4002E+03	-0.0020	0.2241E-02	0.7401E+03	0.0
19.0000	0.3921E+00	0.1197E+04	0.1515E+03	0.0012	[illegible]	0.4360E+03	0.0
19.4000	0.3749E+00	0.1345E+04	0.2334E+03	0.0064	0.3620E-02	0.5014E+03	0.0
20.0000	0.8069E+00	0.2257E+04	-0.2[illegible]E+03	-0.0014	[illegible]	0.5322E+03	0.0
20.4000	0.5686E+00	0.2049E+04	-0.1783E+03	-0.0010	0.1015E-01	0.5102E+03	0.0
21.0000	0.5142E+00	0.1870E+04	0.4273E+03	[illegible]	[illegible]	0.5378E+03	[illegible]
21.4000	0.5970E+00	0.1913E+04	0.1467E+03	0.0011	0.3436E-02	0.5803E+03	0.0
22.0000	0.3272E+00	0.2079E+04	0.2[illegible]E+03	[illegible]	0.3172E-02	0.4244E+03	0.0
22.4000	0.6353E+00	0.2289E+04	0.5013E+03	0.0048	0.3035E-02	0.4592E+03	0.0
23.0000	0.7995E+00	0.2880E+04	-0.5[illegible]E+03	[illegible]	[illegible]	0.4615E+03	[illegible]
23.4000	0.6518E+00	0.2349E+04	-0.2475E+03	-0.0021	0.3000E-02	0.4524E+03	0.0
24.0000	0.3951E+00	0.2101E+04	0.6331E+03	[illegible]	0.3251E-02	0.4123E+03	0.0
24.4000	0.7172E+00	0.2584E+04	0.4703E+03	0.0037	0.3355E-02	0.7535E+03	0.0
25.0000	0.9795E+00	0.3273E+04	-0.2[illegible]E+03	[illegible]	[illegible]	0.3331E+03	[illegible]
25.4000	0.8463E+00	0.3043E+04	-0.3472E+02	-0.0003	0.3335E-02	0.5051E+03	0.0562E+02
26.0000	0.8346E+00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26.4000	0.5804E+00	0.2093E+04	0.0	0.0	0.3445E-02	0.7736E+03	0.0
27.0000	0.4432E+00	0.2093E+04	0.0	0.0	0.3445E-02	0.7741E+03	0.0

$Q = 120\ m^3/s$

I = 5 ([illegible])

NO	S SOB	S OB	JV	SOW	TE	TEIL A	DI
0.0	0.7651E+00	0.2737E+01	0.2313E+06	[illegible]	[illegible]	[illegible]	0.0
0.7000	0.3146E+01	0.1133E+06	-0.1195E+06	-0.3931	0.4048E-02	0.3426E+03	0.0
1.0000	0.2173E+01	0.7436E+02	0.1333E+06	[illegible]	[illegible]	0.1450E+02	0.0
1.8000	0.5471E+00	0.1971E+06	-0.1735E+06	[illegible]	0.2076E-03	0.7411E+03	0.0
2.0000	0.5545E+01	0.1437E+03	[illegible]	[illegible]	[illegible]	0.6332E+02	0.0
2.3000	0.2311E+01	0.8325E+06	-0.8325E+06	-0.1716	0.3302E-02	0.4520E+03	0.0
3.0000	0.0	0.0	0.0	0.0	[illegible]	[illegible]	0.0
4.0000	0.0	0.0	0.0	0.0	0.1253E-06	0.4115E+01	0.0
4.2000	0.0	0.0	0.0	0.0	[illegible]	[illegible]	0.0
5.0000	0.0	0.0	0.5348E+02	0.0004	0.4044E-06	0.9429E+01	0.0
6.0000	0.1490E+01	0.5348E+02	[illegible]	[illegible]	[illegible]	[illegible]	0.0
7.0000	0.1057E+00	0.3809E+03	0.8840E+03	0.0120	0.5348E-02	0.2080E+03	0.0
8.0000	0.3795E+00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
9.0000	0.1523E-02	0.5484E+01	0.4477E+03	0.0020	0.4044E-03	0.4065E+02	0.0
10.0000	0.1913E+00	0.4632E+03	[illegible]	[illegible]	[illegible]	[illegible]	0.0
11.0000	0.2002E+00	0.7216E+03	-0.8114E+01	-0.0000	0.3870E-02	0.3202E+03	0.0
12.0000	0.1975E+00	0.7114E+03	-0.4333E+02	[illegible]	[illegible]	0.3274E+03	0.0
13.0000	0.1866E+00	0.4717E+03	-0.5795E+03	[illegible]	0.4330E-02	0.3403E+03	0.0
14.0000	0.2552E-01	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
14.8000	0.7971E-01	0.2872E+03	0.7385E+03	0.0018	0.3371E-02	0.3741E+03	0.0
15.0000	0.1317E+00	0.3445E+03	[illegible]	[illegible]	[illegible]	[illegible]	0.0
16.0000	0.3869E+00	0.1394E+04	-0.2452E+03	-0.0086	0.8884E-02	0.3043E+03	0.0
16.2000	0.3135E+00	0.1129E+04	-0.4133E+04	[illegible]	[illegible]	[illegible]	0.0
16.4000	0.1531E-02	0.5517E+01	0.4020E+03	0.0048	0.2457E-03	0.4050E+02	0.0
17.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
17.4000	0.6524E-01	0.2350E+03	0.3723E+03	0.0032	0.2494E-02	0.2124E+03	0.0
18.0000	0.1586E+00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
18.4000	0.1277E+00	0.4383E+03	-0.1250E+03	-0.0014	0.1042E-01	0.4443E+03	0.0
19.0000	0.8495E-01	0.3133E+03	[illegible]	[illegible]	[illegible]	[illegible]	0.0
19.4000	0.9766E-01	0.3519E+03	0.2703E+03	0.0020	0.1110E-01	0.4100E+03	0.0
20.0000	0.1779E+00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
20.4000	0.1556E+00	0.5404E+03	-0.4410E+02	-0.0004	0.1281E-01	0.3105E+03	0.0
21.0000	0.1628E+00	0.5165E+03	[illegible]	[illegible]	[illegible]	[illegible]	0.0
21.4000	0.1418E+00	0.5108E+03	0.7199E+02	0.0000	0.1108E-01	0.3704E+03	0.0
22.0000	0.1617E+00	0.5827E+03	[illegible]	[illegible]	[illegible]	[illegible]	0.0
22.4000	0.1605E+00	0.4104E+03	0.3137E+03	0.0010	0.3060E-01	0.4503E+03	0.0
23.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
23.4000	0.1739E+00	0.6245E+03	-0.4120E+02	-0.0007	0.1164E-01	0.3008E+03	0.0
24.0000	0.1569E+00	0.5452E+03	[illegible]	[illegible]	[illegible]	[illegible]	0.0
24.4000	0.1978E+00	0.4964E+03	0.1393E+03	0.0007	0.7826E-02	0.6314E+03	0.0
25.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
25.4000	0.2165E+00	0.7790E+03	-0.4754E+02	-0.0006	0.1192E-01	0.3042E+03	0.0
26.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0
26.4000	0.1572E+00	0.5445E+03	0.0	0.0	[illegible]	0.4414E+03	0.0
27.0000	0.1178E+00	0.5445E+03	0.0	0.0	[illegible]	0.4754E+03	0.0

2) Brown formula (Tractive sand)

Legend

SSQB : Sediment Discharge (m^3/s)

SQB : Sediment load (m^3)

DV : Variation in Volume ($SQB_2 - SQB_1$) (m^3)

SDH : Variation in Rever Bed Elevation (m)

IE : Energy gradient

TAUO : Critical Tractive force $(m/s)^2$

Discharge Condition

Discharge cases used in this calculation are as below.

Q (m^3/s)	probability (1/years)
1100	1/200
900	1/80
520	1/10
400	1/5
120	1/1.1

表

I - 1 (99740) Q = 1100 m^3/s

NO	S. SOM	S. OR	DV	SDW	FF	TAU. A
0.0	0.1197E+03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.7000	0.4467E+03	0.4993E+04	-0.8130E+04	-3.7240	0.1300E-02	0.3808E+03
1.0000	0.7723E+02	0.8347E+04	[illegible]	[illegible]	[illegible]	[illegible]
1.8000	0.2481E+03	0.8939E+04	-0.1340E+04	-2.2270	0.1446E-02	0.4456E+03
2.0000	0.1362E+03	0.7079E+04	[illegible]	[illegible]	[illegible]	[illegible]
2.3000	0.8653E+02	0.3117E+04	-0.3984E+04	-4.0401	0.2867E-02	0.4405E+03
3.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.0000	0.9167E+01	0.3302E+04	-0.1121E+04	-0.1220	0.1574E-02	0.1984E+03
4.2000	0.6035E+01	0.2191E+04	[illegible]	[illegible]	[illegible]	[illegible]
5.0000	0.2071E+01	0.7449E+04	0.9204E+04	0.4477	0.5554E-02	0.2444E+03
6.0000	0.2762E+02	0.3352E+04	[illegible]	[illegible]	[illegible]	[illegible]
7.0000	0.8366E+02	0.3015E+04	-0.1003E+04	-0.1224	0.4403E-02	0.0403E+03
8.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9.0000	0.7541E+02	0.2717E+04	-0.1204E+04	-0.4014	0.4721E-02	0.7094E+03
10.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11.0000	0.9055E+02	0.3262E+04	-0.1100E+04	-0.0454	0.4228E-02	0.8020E+03
12.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
13.0000	0.8005E+02	0.2885E+04	-0.2224E+04	[illegible]	0.4220E-02	0.9340E+03
14.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14.9000	0.3611E+02	0.1301E+04	0.4383E+04	0.3910	0.4048E-02	0.6403E+03
15.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16.0000	0.1302E+03	0.4691E+04	0.0980E+04	0.2248	0.5431E-02	0.0295E+03
16.2000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16.4000	0.5444E+01	0.1943E+04	0.3020E+04	1.4405	0.7844E-02	0.2209E+03
17.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
17.4000	0.8575E+02	0.3089E+04	0.2934E+04	0.1057	0.2709E-02	0.4070E+03
18.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18.4000	0.6546E+02	0.2359E+04	-0.3360E+04	-0.4249	0.4460E-02	0.1190E+04
19.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
19.4000	0.5779E+02	0.2077E+04	0.7874E+04	0.5074	0.2939E-02	0.7744E+03
20.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20.4000	0.8182E+02	0.2946E+04	-0.4342E+04	-0.1427	0.2353E-02	0.7523E+03
21.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
21.4000	0.7268E+02	0.2419E+04	0.4870E+04	0.2474	0.8036E-02	0.0437E+03
22.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
22.4000	0.9634E+02	0.3471E+04	0.4279E+04	0.3570	0.7600E-02	0.0350E+03
23.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23.4000	0.9467E+02	0.3411E+04	-0.9842E+04	-0.2312	0.7278E-02	0.0070E+03
24.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
24.4000	0.1021E+03	0.3679E+04	0.1147E+04	1.0447	0.1012E-02	0.1170E+04
25.0000	[illegible]	0.4325E+04	[illegible]	[illegible]	[illegible]	[illegible]
25.4000	0.1217E+03	0.4384E+04	-0.3231E+04	-0.1101	0.7624E-02	0.1174E+03
26.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26.4000	0.8353E+02	0.3012E+04	0.0	0.0	0.1024E-02	0.1201E+04
27.0000	0.4522E+02	0.3012E+04	0.0	0.0	[illegible]	0.1234E+04

Q = 900 m^3/s

I - 2 (38?W?)

NO	S SQR	S QR	DV	SQW	TS	TAU 0
0.0	0.4170E+02	0.1503E+04	[illegible]	[illegible]	[illegible]	[illegible]
0.7000	0.8424E+02	0.3035E+04	-0.2433E+04	-2.0874	0.9904E-03	0.7443E+03
1.0000	0.1117E+02	0.4024E+04	[illegible]	[illegible]	[illegible]	[illegible]
1.8000	0.1604E+03	0.5777E+04	-0.1209E+04	-1.6444	0.1510E-02	0.3784E+03
2.0000	0.1768E+03	0.4559E+04	[illegible]	[illegible]	[illegible]	[illegible]
2.3000	0.6369E+02	0.2295E+04	-0.2277E+04	-2.2041	0.2356E-02	0.5483E+03
3.0000	0.4962E+03	0.1788E+04	[illegible]	[illegible]	[illegible]	[illegible]
4.0000	0.6001E+01	0.2142E+05	-0.4704E+04	-0.0745	0.4200E-03	0.1504E+03
4.2500	0.4115E+01	0.1483E+05	[illegible]	[illegible]	[illegible]	[illegible]
5.0000	0.1508E+01	0.5431E+04	0.7504E+05	0.6622	0.4574E-03	0.2143E+03
6.0000	0.2259E+02	0.8132E+05	[illegible]	[illegible]	[illegible]	[illegible]
7.0000	0.6206E+02	0.2234E+04	-0.4044E+05	-0.4171	0.4478E-02	0.9643E+03
8.0000	0.4524E+02	0.1641E+04	[illegible]	[illegible]	[illegible]	[illegible]
9.0000	0.5327E+02	0.1919E+04	-0.7081E+05	-0.2003	0.5546E-02	0.4800E+03
10.0000	0.3112E+02	0.1121E+04	[illegible]	[illegible]	[illegible]	[illegible]
11.0000	0.7187E+02	0.2589E+04	-0.4570E+05	-0.1401	0.4501E-02	0.7370E+03
12.0000	0.5913E+02	0.2137E+04	[illegible]	[illegible]	[illegible]	[illegible]
13.0000	0.6391E+02	0.2303E+04	-0.1775E+04	-0.4467	0.4708E-02	0.7441E+03
14.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14.8000	0.2940E+02	0.1043E+04	[illegible]	[illegible]	[illegible]	[illegible]
15.0000	0.3350E+02	0.1238E+04	[illegible]	[illegible]	[illegible]	[illegible]
16.0000	0.1042E+03	0.3754E+04	0.7506E+05	0.4050	0.5888E-02	0.9012E+03
16.2000	0.1253E+03	0.4513E+04	[illegible]	[illegible]	[illegible]	[illegible]
16.4000	0.4215E+01	0.1519E+04	0.2415E+04	1.3304	0.1379E-02	0.7007E+03
17.0000	0.7123E+02	0.2564E+04	[illegible]	[illegible]	[illegible]	[illegible]
17.4000	0.6916E+02	0.2492E+04	0.1000E+04	0.0404	0.2030E-02	0.4443E+03
18.0000	0.7221E+02	0.2602E+04	[illegible]	[illegible]	[illegible]	[illegible]
18.4000	0.5274E+02	0.1900E+04	-0.2147E+05	-0.2440	0.4054E-02	0.1084E+04
19.0000	0.4676E+02	0.1684E+04	[illegible]	[illegible]	[illegible]	[illegible]
19.4000	0.4644E+02	0.1673E+04	0.1091E+04	0.6771	0.9514E-02	0.7234E+03
20.0000	0.7563E+02	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20.4000	0.6509E+02	0.2347E+04	-0.3171E+05	-0.1338	0.2448E-02	0.7037E+03
21.0000	0.5583E+02	0.2013E+04	[illegible]	[illegible]	[illegible]	[illegible]
21.4000	0.5687E+02	0.2049E+04	0.4922E+05	0.2747	0.4100E-02	0.7926E+03
22.0000	0.7025E+02	0.2531E+04	[illegible]	[illegible]	[illegible]	[illegible]
22.4000	0.7485E+02	0.2697E+04	0.5101E+04	0.3904	0.7774E-02	0.4448E+03
23.0000	0.4926E+02	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23.4000	0.7518E+02	0.2709E+04	-0.2335E+04	-0.1832	0.7505E-02	0.9128E+03
24.0000	0.6956E+02	0.2670E+04	[illegible]	[illegible]	[illegible]	[illegible]
24.4000	0.8104E+02	0.2920E+04	0.9395E+05	0.3020	0.7268E-02	0.1001E+04
25.0000	0.1271E+03	0.4458E+04	[illegible]	[illegible]	[illegible]	[illegible]
25.4000	0.9756E+02	0.3515E+04	-0.1014E+05	-0.0520	0.2038E-02	0.8144E+03
26.0000	0.9475E+02	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26.4000	0.6698E+02	0.2413E+04	0.0	0.0	0.7200E-02	0.9001E+03
27.0000	0.4967E+02	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

$Q = 520\ m^3/s$

I - 3 (BROWN)

MD	S SQR	S QA	PW	SMW	YF	TAN Q
0.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.7000	0.1931E+00	0.4957E+04	-0.4706E+04	-0.8114	0.2147E-02	0.3752E+03
1.0000	0.4510E+01	0.1427E+05	[illegible]	[illegible]	[illegible]	[illegible]
1.8000	0.1113E+03	0.4011E+04	-0.2733E+04	-0.1814	0.1001E-02	0.3513E+03
2.0000	0.3548E+02	0.1279E+05	[illegible]	[illegible]	[illegible]	[illegible]
2.3000	0.3107E+02	0.1845E+04	-0.1937E+04	-0.7041	0.3706E-02	0.3244E+03
3.0000	0.7416E+01	0.2814E+04	[illegible]	[illegible]	[illegible]	[illegible]
4.0000	0.1794E+01	0.4441E+04	-0.1098E+04	-0.9124	0.2777E-03	0.8718E+02
4.2000	0.9905E+00	0.3549E+04	-0.1559E+04	[illegible]	[illegible]	[illegible]
5.0000	0.5904E+00	0.1911E+04	0.4210E+04	0.3140	0.5737E-03	0.1444E+03
6.0000	0.2222E+02	0.4601E+04	[illegible]	[illegible]	[illegible]	[illegible]
7.0000	0.2667E+02	0.8409E+04	-0.4484E+04	-0.7443	0.4400E-02	0.4100E+03
8.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9.0000	0.2055E+02	0.7404E+04	-0.1543E+04	-0.8600	0.5193E-02	0.4724E+03
10.0000	0.1422E+02	0.5867E+04	[illegible]	[illegible]	[illegible]	[illegible]
11.0000	0.2903E+02	0.1044E+04	-0.8797E+04	-0.0923	0.4258E-02	0.5224E+03
12.0000	0.2453E+02	0.2588E+04	[illegible]	[illegible]	[illegible]	[illegible]
13.0000	0.3229E+02	0.1143E+04	-0.8352E+04	-0.7440	0.1707E-02	0.5806E+03
13.8000	[illegible]	0.2481E+04	[illegible]	[illegible]	[illegible]	[illegible]
14.0000	0.1555E+02	0.5401E+04	0.2193E+04	0.2105	0.4047E-02	0.4457E+03
15.0000	0.2164E+02	0.7764E+04	[illegible]	[illegible]	[illegible]	[illegible]
16.0000	0.3492E+02	0.2051E+04	0.3772E+04	0.9470	0.4417E-02	0.7120E+03
16.2000	0.6726E+02	0.2479E+04	-0.2955E+04	[illegible]	[illegible]	[illegible]
16.4000	[illegible]	[illegible]	[illegible]	0.7990	0.1600E-03	0.1943E+03
17.3000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
17.4000	0.4005E+02	0.1443E+04	-0.7874E+04	-0.0040	0.7027E-02	0.5336E+03
18.0000	0.3365E+02	0.1233E+04	-0.1550E+04	-0.9757	[illegible]	[illegible]
18.4000	0.2915E+02	0.1050E+04	-0.2130E+04	-0.7462	0.7917E-02	0.4504E+03
18.7000	[illegible]	0.8944E+04	[illegible]	[illegible]	[illegible]	[illegible]
19.4000	0.2442E+02	0.8800E+04	0.4102E+04	0.2233	0.3147E-02	0.4274E+03
20.0000	0.3608E+02	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20.4000	0.3160E+02	0.1139E+04	-0.4545E+04	-0.0337	0.2412E-02	0.5481E+03
21.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
21.4000	0.3059E+02	0.1107E+04	0.2421E+04	0.3704	0.3092E-02	0.4456E+03
22.0000	0.3783E+02	0.1342E+04	[illegible]	[illegible]	[illegible]	[illegible]
22.4000	0.3902E+02	0.1428E+04	0.3102E+04	0.7442	0.2545E-02	0.7104E+03
23.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23.4000	0.3079E+02	0.1139E+04	-0.4343E+04	[illegible]	[illegible]	[illegible]
24.0000	0.3723E+02	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
24.4000	0.4491E+02	0.1415E+04	0.4745E+04	[illegible]	[illegible]	[illegible]
25.0000	0.5872E+02	0.2021E+04	[illegible]	[illegible]	[illegible]	[illegible]
25.4000	0.4763E+02	0.1714E+04	0.1482E+04	0.1017	0.2744E-02	0.4476E+03
26.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26.4000	0.3011E+02	0.1245E+04	[illegible]	[illegible]	[illegible]	[illegible]
27.0000	0.2439E+02	0.1245E+04	[illegible]	[illegible]	[illegible]	[illegible]

Q = 400 m^3/s

Y - 4 (ARDW)

NO	S SOR	S OR	DV	SDM	TG	TAN O
0.0	0.7047E+02	0.2539E+04	[illegible]	[illegible]	[illegible]	[illegible]
0.7000	0.2371E+03	0.8562E+04	-0.8667E+04	-15.4344	0.2912E-02	0.4471E+03
1.0000	0.2108E+01	0.7[illegible]E+04	0.2533E+04	[illegible]	[illegible]	[illegible]
1.8000	0.7981E+02	0.2469E+04	-0.2094E+04	-0.5[illegible]	[illegible]	0.2195E+03
2.0000	0.1737E+02	0.4253E+04	[illegible]	[illegible]	[illegible]	[illegible]
2.3000	0.4440E+02	0.1400E+04	-0.1590E+04	-2.[illegible]	0.3725E-02	0.4077E+03
3.0000	0.2725E-01	0.3814E+02	[illegible]	[illegible]	[illegible]	[illegible]
4.0000	0.5188E+00	0.1849E+04	-0.3632E+03	-0.0030	0.2057E-03	0.4072E+02
4.2000	0.4235E+00	0.1524E+04	-0.5551E+03	-0.0074	[illegible]	[illegible]
5.0000	0.2834E+00	0.1021E+04	0.3072E+05	0.2354	0.4004E-03	0.1732E+03
6.0000	0.8813E-01	0.3175E+05	[illegible]	0.2354	[illegible]	[illegible]
7.0000	0.1778E+02	0.4098E+05	0.1704E+04	0.0120	0.4346E-02	0.5208E+03
8.0000	0.1425E+02	0.4579E+05	[illegible]	[illegible]	[illegible]	[illegible]
9.0000	0.1215E+02	0.4377E+05	-0.4141E+04	-0.0160	0.4312E-02	0.3052E+03
10.0000	0.1103E+02	0.3953E+05	[illegible]	[illegible]	[illegible]	[illegible]
11.0000	0.1878E+02	0.4747E+05	-0.1580E+04	-0.0050	0.4104E-02	0.4420E+03
12.0000	0.1936E+02	0.4633E+05	[illegible]	[illegible]	[illegible]	[illegible]
13.0000	0.2086E+02	0.7514E+05	-0.5562E+05	-0.2240	0.4330E-02	0.4792E+03
14.0000	0.5478E+01	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14.8000	0.1135E+02	0.4089E+05	0.1733E+05	0.1014	0.4333E-02	0.4564E+03
15.0000	0.1432E+02	0.5832E+05	[illegible]	[illegible]	[illegible]	[illegible]
16.0000	0.4151E+02	0.1494E+04	0.2439E+05	0.2561	0.1320E-02	0.4373E+03
16.2000	0.6883E+02	0.1753E+04	-0.1731E+05	[illegible]	[illegible]	[illegible]
16.4000	0.1471E+01	0.5121E+04	0.1054E+04	0.4333	0.1400E-02	0.1331E+03
17.0000	0.5775E+02	0.1107E+05	[illegible]	[illegible]	[illegible]	[illegible]
17.4000	0.2563E+02	0.9234E+05	-0.7521E+04	-0.0337	0.3348E-02	0.4482E+03
18.0000	0.2456E+02	0.8591E+05	[illegible]	[illegible]	[illegible]	[illegible]
18.4000	0.2198E+02	0.7918E+05	-0.2018E+05	-0.2324	0.3241E-02	0.7401E+03
19.0000	0.1638E+02	0.5777E+05	[illegible]	[illegible]	[illegible]	[illegible]
19.4000	0.1862E+02	0.4708E+05	0.2424E+05	0.1804	0.3620E-02	0.5014E+03
20.0000	0.2591E+02	0.9444E+05	[illegible]	[illegible]	[illegible]	[illegible]
20.4000	0.2192E+02	0.7894E+05	0.2074E+04	0.0110	0.1315E-01	0.5102E+03
21.0000	0.2249E+02	0.8136E+05	0.2733E+04	[illegible]	[illegible]	[illegible]
21.4000	0.2325E+02	0.8377E+05	0.1139E+05	0.0791	0.3434E-02	0.5903E+03
22.0000	0.2561E+02	0.9515E+05	[illegible]	[illegible]	[illegible]	[illegible]
22.4000	0.2991E+02	0.1078E+04	0.2325E+05	0.1001	0.2335E-02	0.4592E+03
23.0000	0.3535E+02	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23.4000	0.2976E+02	0.1072E+04	-0.4472E+04	-0.0550	0.2300E-02	0.4524E+03
24.0000	0.2771E+02	0.1004E+05	[illegible]	[illegible]	[illegible]	[illegible]
24.4000	0.3421E+02	0.1233E+04	0.1850E+05	0.2072	0.2387E-02	0.7588E+03
25.0000	0.3933E+02	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
25.4000	0.3447E+02	0.1242E+04	0.1445E+05	0.1114	0.2387E-02	0.5251E+03
26.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26.4000	0.2516E+02	0.9344E+05	0.0	0.0	0.2445E-02	0.7734E+03
27.0000	0.1371E+02	0.2345E+03	[illegible]	[illegible]	[illegible]	[illegible]

No. [illegible]

Q = 120 m^3/s

I - 5 (RPM)

NO	S SQR	S QR	QW	SQW	TE	TAU O
0.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.7000	0.[illegible]E+02	0.3111E+0[illegible]	-0.[illegible]E+04	-0.7011	[illegible]	[illegible]
1.0000	0.7523E-01	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1.0000	0.5412E+01	0.2027E+05	-0.1300E+05	-0.0264	[illegible]	0.1411E+03
2.0000	0.3732E+03	0.1129E+0[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2.3000	0.2614E+02	0.9524E+05	-0.9524E+06	-0.0939	[illegible]	0.4529E+03
3.0000	0.3372E-06	0.1115E+03	[illegible]	[illegible]	[illegible]	[illegible]
4.0000	0.6307E-03	0.2272E+01	-0.4940E+00	-0.0000	0.1289E-04	0.4119E+01
4.2900	0.5100E-03	0.1839E+01	[illegible]	[illegible]	[illegible]	[illegible]
5.0000	0.5703E-03	0.2054E+01	0.2178E+04	0.0144	0.4044E-04	0.0620E+01
6.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.0000	0.3066E+01	0.1084E+05	0.8548E+04	0.0071	0.5940E-02	0.2080E+03
8.0000	0.5436E+01	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9.0000	0.6150E-01	0.2214E+03	0.7403E+05	0.0447	0.1045E-03	0.4045E+02
10.0000	0.4705E+01	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11.0000	0.7404E+01	0.2666E+05	-0.7022E+03	-0.0020	0.3370E-02	0.3202E+03
12.0000	0.7211E+01	0.2594E+05	[illegible]	[illegible]	[illegible]	[illegible]
13.0000	0.4944E+01	0.1781E+05	-0.1346E+05	-0.1177	0.6308E-02	0.3609E+03
14.0000	0.6451E+01	0.2325E+05	[illegible]	[illegible]	[illegible]	[illegible]
14.9000	0.1934E+01	0.6968E+04	-0.2704E+03	-0.0062	0.7718E-02	0.3741E+03
15.0000	0.1454E+01	0.4973E+04	[illegible]	[illegible]	[illegible]	[illegible]
16.0000	0.9129E+01	0.3289E+05	0.1537E+05	0.2020	0.3044E-02	0.3943E+03
16.2000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18.0000	[illegible]	0.3169E+03	0.1243E+05	0.0044	[illegible]	0.4048E+03
17.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
17.4000	0.2832E+01	0.4470E+04	0.1200E+05	0.1327	0.7444E-02	0.2124E+03
18.0000	0.5435E+01	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
19.0000	0.5558E+01	0.2003E+05	-0.5744E+04	-0.2740	0.1047E-01	0.4443E+03
20.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
19.4000	0.4875E+01	0.1754E+05	0.9125E+04	0.0068	0.1116E-01	0.4199E+03
20.0000	0.7512E+01	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20.4000	0.4793E+01	0.1727E+05	0.1420E+04	0.0115	0.1291E-01	0.3105E+03
21.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20.4000	0.4777E+01	[illegible]	0.9347E+04	0.0000	0.1104E-01	0.3704E+03
22.0000	0.4543E+01	0.2343E+05	[illegible]	[illegible]	[illegible]	[illegible]
22.4000	0.6212E+01	0.2238E+05	-0.4277E+04	-0.0434	0.1040E-01	0.4503E+03
23.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23.4000	0.6476E+01	0.2304E+05	-0.9205E+04	-0.0072	0.9546E-01	0.3040E+03
24.0000	0.4327E+01	0.1558E+05	[illegible]	[illegible]	[illegible]	[illegible]
24.4000	0.8343E+01	0.3008E+05	-0.7717E+03	-0.0110	0.1024E-02	0.8344E+03
25.0000	0.3135E+01	0.2737E+05	[illegible]	[illegible]	[illegible]	[illegible]
25.4000	0.9703E+01	0.3405E+05	0.1334E+04	0.0127	0.1157E-01	0.3343E+03
26.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26.4000	0.4314E+01	0.2274E+05	0.0	0.0	0.1301E-01	0.4414E+03
27.0000	0.5233E+01	0.2275E+05	0.0	0.0	[illegible]	[illegible]

3) Lane - Kalinske formula (Suspended sediment)

Legend

SFQB	:	Sediment discharge (m^3/s)
SQB	:	Sediment load (m^3)
DV	:	Variation in Volume (SQB_2 - SQB_1) (m^3)
FDH	:	Variation in River Bed Elevation (m)
IE	:	Energy gradient
TAUO	:	Critical tractive force ($(m/s)^2$)

Discharge Condition

Discharge cases used in this calculation are as below.

Q (m^3/s)	probability (1/years)
1100	1/200
900	1/80
520	1/10
400	1/5
120	1/1.1

Q = 1100 m^3/s

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.7000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1.4000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2.3000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.2000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
12.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
13.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16.2000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16.4000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18.4000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
19.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18.4000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20.4000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
21.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
21.4000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
22.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
22.4000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23.4000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
24.4000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
25.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
25.4000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26.4000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
27.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Q = 900 m^3/s

I = 2 [illegible]

NO	S [illegible]	S [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.0	0.1853E+03	0.5957E+03	[illegible]	[illegible]	[illegible]	[illegible]
0.7000	0.1145E+03	0.4126E+03	[illegible]	[illegible]	[illegible]	[illegible]
1.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1.4000	0.5161E+04	0.1859E+03	[illegible]	[illegible]	[illegible]	[illegible]
2.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2.3000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.0000	0.1327E+03	0.4773E+04	[illegible]	[illegible]	[illegible]	[illegible]
4.2000	0.5331E+01	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.0000	0.5968E+03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9.0000	0.3446E+03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10.0000	0.2370E+03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11.0000	0.3463E+03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
12.0000	0.2981E+03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
13.0000	0.2533E+03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14.0000	0.1337E+01	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14.4000	0.9327E+01	0.3577E+03	[illegible]	[illegible]	[illegible]	[illegible]
15.0000	0.1572E+03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16.0000	0.1393E+01	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16.2000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16.4000	0.7957E+01	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
17.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
17.4000	0.1617E+03	0.5827E+03	[illegible]	[illegible]	[illegible]	[illegible]
18.0000	0.1931E+03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18.4000	0.2027E+03	0.7305E+03	[illegible]	[illegible]	[illegible]	[illegible]
19.0000	0.7429E+01	0.2677E+03	[illegible]	[illegible]	[illegible]	[illegible]
19.4000	0.8911E+01	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20.4000	0.1184E+03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
21.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
21.4000	0.1257E+03	0.4528E+03	[illegible]	[illegible]	[illegible]	[illegible]
22.0000	0.1741E+03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
22.4000	0.2193E+03	0.7900E+03	[illegible]	[illegible]	[illegible]	[illegible]
23.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23.4000	0.2172E+03	0.7824E+03	[illegible]	[illegible]	[illegible]	[illegible]
24.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
24.4000	0.2347E+03	0.8453E+03	[illegible]	[illegible]	[illegible]	[illegible]
25.0000	0.3447E+03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
25.4000	0.3387E+03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26.4000	0.1343E+03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
27.0000	0.1073E+03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Q = 520 m^3/s

Q = 400 m^3/s

L = 4 [illegible]

NO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TAN [illegible]
0.0	0.1122E+05	0.4044E+04	[illegible]	[illegible]	[illegible]	[illegible]
0.7000	0.8285E+04	0.2985E+03	[illegible]	[illegible]	[illegible]	[illegible]
1.0000	0.1300E+04	0.4717E+03	[illegible]	[illegible]	[illegible]	[illegible]
1.8000	0.1970E+04	0.7097E+03	[illegible]	[illegible]	[illegible]	[illegible]
2.0000	0.3597E+04	0.2017E+04	[illegible]	[illegible]	[illegible]	[illegible]
2.3000	0.5129E+03	0.1848E+04	[illegible]	[illegible]	[illegible]	[illegible]
3.0000	0.9333E+02	0.3635E+02	[illegible]	[illegible]	[illegible]	[illegible]
4.0000	0.2613E+02	0.9437E+03	[illegible]	[illegible]	[illegible]	[illegible]
4.2000	0.9913E+00	0.3576E+04	[illegible]	[illegible]	[illegible]	[illegible]
5.0000	0.6846E+02	0.2444E+02	[illegible]	[illegible]	[illegible]	[illegible]
6.0000	0.9793E+01	0.3348E+03	[illegible]	[illegible]	[illegible]	[illegible]
7.0000	0.1431E+03	0.5157E+03	[illegible]	[illegible]	[illegible]	[illegible]
8.0000	0.2570E+03	0.9259E+03	[illegible]	[illegible]	[illegible]	[illegible]
9.0000	0.7450E+01	0.2486E+03	[illegible]	[illegible]	[illegible]	[illegible]
10.0000	0.6469E+01	0.2331E+03	[illegible]	[illegible]	[illegible]	[illegible]
11.0000	0.7971E+01	0.2834E+03	[illegible]	[illegible]	[illegible]	[illegible]
12.0000	0.7615E+01	0.2743E+03	[illegible]	[illegible]	[illegible]	[illegible]
13.0000	0.6657E+01	0.2327E+03	[illegible]	[illegible]	[illegible]	[illegible]
14.0000	0.3812E+02	0.1374E+02	[illegible]	[illegible]	[illegible]	[illegible]
14.9000	0.2962E+01	0.1047E+03	[illegible]	[illegible]	[illegible]	[illegible]
15.0000	0.4376E+01	0.1577E+03	[illegible]	[illegible]	[illegible]	[illegible]
16.0000	0.4212E+03	0.1517E+04	[illegible]	[illegible]	[illegible]	[illegible]
16.2000	0.2350E+03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16.4000	0.1302E+01	0.4621E+02	[illegible]	[illegible]	[illegible]	[illegible]
17.0000	0.8884E+00	0.2601E+03	[illegible]	[illegible]	[illegible]	[illegible]
17.4000	0.4533E+01	0.1638E+03	[illegible]	[illegible]	[illegible]	[illegible]
18.0000	0.5773E+01	0.1905E+03	[illegible]	[illegible]	[illegible]	[illegible]
18.4000	0.5749E+01	0.2071E+03	[illegible]	[illegible]	[illegible]	[illegible]
19.0000	0.2779E+01	0.8035E+02	[illegible]	[illegible]	[illegible]	[illegible]
19.4000	0.2718E+01	0.9792E+02	[illegible]	[illegible]	[illegible]	[illegible]
20.0000	0.4476E+01	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20.4000	0.3246E+01	0.1143E+03	[illegible]	[illegible]	[illegible]	[illegible]
21.0000	0.2514E+01	0.9054E+02	[illegible]	[illegible]	[illegible]	[illegible]
21.4000	0.3730E+01	0.1364E+03	[illegible]	[illegible]	[illegible]	[illegible]
22.0000	0.3361E+01	0.1193E+03	[illegible]	[illegible]	[illegible]	[illegible]
22.4000	0.6741E+01	0.2423E+03	[illegible]	[illegible]	[illegible]	[illegible]
23.0000	0.1277E+03	0.4622E+03	[illegible]	[illegible]	[illegible]	[illegible]
23.4000	0.6783E+01	0.2193E+03	[illegible]	[illegible]	[illegible]	[illegible]
24.0000	0.3546E+01	0.1278E+03	[illegible]	[illegible]	[illegible]	[illegible]
24.4000	0.7333E+01	0.2534E+03	[illegible]	[illegible]	[illegible]	[illegible]
25.0000	0.1331E+03	0.3711E+03	[illegible]	[illegible]	[illegible]	[illegible]
25.4000	0.9337E+01	0.3593E+03	[illegible]	[illegible]	[illegible]	[illegible]
26.0000	0.1183E+03	0.4305E+03	[illegible]	[illegible]	[illegible]	[illegible]
26.4000	0.5623E+01	0.1353E+03	[illegible]	[illegible]	[illegible]	[illegible]
27.0000	0.2822E+01	0.1446E+03	[illegible]	[illegible]	[illegible]	[illegible]

Q = 120 m^3/s

t - 5 [illegible]

NO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.7000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1.9000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2.3000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.2000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
12.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
13.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
15.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
17.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
19.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
21.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
22.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
24.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
25.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
27.0000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

4) Brown + Lane - Kalinske formula

Legend

SQB : Sediment discharge (m^3/s)

QB : Sediment load (m^3)

DV : Variation in Volume ($QB_2 - QB_1$) (m^3)

DR : Variation in River Bed Elevation (m)

Discharge Condition

Discharge cases used in this calculation are as below.

Q (m^3/s)	probability (1/years)
1100	1/200
900	1/80
520	1/10
400	1/5
120	1/1.1

Q = 1100 m^3/s

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.7000	0.1791E+05	0.4903E+01	-0.3375E+03	[illegible]
1.0000	0.7561E+04	0.2725E+04	-0.4164E+04	-[illegible]
1.0700	0.7446E+04	0.2483E+03	0.7313E+03	[illegible]
[illegible]	0.2960E+05	0.1069E+00	-0.[illegible]	[illegible]
2.3000	0.1745E+03	0.3745E+04	-0.3723E+04	-[illegible]
3.0000	0.1029E+01	0.3709E+02	0.7004E+04	[illegible]
4.0000	0.1755E+03	0.7433E+01	-0.4534E+04	-[illegible]
[illegible]	[illegible]	[illegible]	-0.4[illegible]	-[illegible]
5.0000	0.2135E+01	0.7473E+01	0.0345E+04	[illegible]
6.0000	0.2007E+02	0.1012E+04	0.[illegible]	[illegible]
7.0000	0.8453E+02	0.3744E+04	-0.3375E+04	-[illegible]
8.0000	0.5700E+02	0.2745E+04	0.[illegible]	[illegible]
9.0000	0.7591E+02	0.2735E+04	-0.1337E+04	-[illegible]
10.0000	0.3982E+02	-0.1735E+04	0.1[illegible]	[illegible]
11.0000	0.9102E+02	0.3293E+04	-0.1[illegible]	-[illegible]
12.0000	0.8572E+02	0.3788E+04	-0.3[illegible]	-[illegible]
13.0000	0.9333E+02	0.3334E+04	-0.3[illegible]	-[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14.0000	0.9425E+02	0.1334E+04	0.4[illegible]	[illegible]
[illegible]	0.4275E+02	0.1734E+04	0.3[illegible]	[illegible]
16.0000	0.1321E+03	0.4754E+04	0.3[illegible]	[illegible]
16.2000	0.1365E+03	0.3333E+04	-0.3[illegible]	-[illegible]
16.4000	0.9441E+02	0.3304E+04	0.3[illegible]	[illegible]
17.0000	0.8054E+02	0.3733E+04	-0.[illegible]	-[illegible]
17.4000	0.9327E+02	0.3[illegible]E+04	0.3[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18.4000	0.4572E+02	0.3[illegible]E+04	-0.3[illegible]	-[illegible]
[illegible]	0.5469E+02	0.1774E+04	0.[illegible]	[illegible]
19.4000	0.9742E+02	0.3374E+04	0.3[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20.4000	[illegible]	0.3304E+04	-0.3[illegible]	-[illegible]
21.0000	0.7366E+02	0.2[illegible]E+04	0.[illegible]	[illegible]
21.4000	0.7745E+02	0.2[illegible]E+04	0.3[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
22.4000	0.9446E+02	0.3[illegible]E+04	0.3[illegible]	[illegible]
23.0000	0.1107E+03	0.3383E+04	-0.[illegible]	[illegible]
23.4000	0.9439E+02	0.3[illegible]E+04	-0.3[illegible]	-[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
24.4000	0.1774E+02	0.3[illegible]E+04	0.3[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
25.4000	0.1777E+03	0.4[illegible]E+04	-0.[illegible]	-[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26.4000	0.9334E+02	0.3[illegible]E+04	0.3[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

1 - 2 SOMEPISKA+PISKA

Q = 900 m^3/s

NO	SOR	OR	QV	QW
0.0	0.1637E+05	0.5972E+04	-0.9942E+07	*********
0.1000	0.1193E+05	0.4193E+01	-0.2343E+07	*********
1.0000	0.4950E+04	0.1780E+04	0.1900E+07	16.4099
1.9000	0.5321E+04	0.1917E+03	0.5669E+01	721.4979
2.0000	0.2098E+05	0.7540E+04	-0.7551E+06	*********
2.3000	0.7682E+02	0.2749E+04	-0.2764E+04	-4.7193
3.0000	0.8112E+00	0.2202E+04	0.4876E+04	0.9962
4.0000	0.1387E+03	0.4934E+04	-0.4455E+04	-5.1720
4.1000	0.9447E+01	0.3404E+03	-0.7826E+03	-0.1077
5.0000	0.1551E+01	0.5589E+01	0.7731E+03	0.5570
6.0000	0.2269E+02	0.8204E+03	0.1661E+04	0.0962
7.0000	0.6743E+02	0.2987E+04	-0.4367E+04	-0.5767
8.0000	0.9816E+02	0.3449E+04	0.7480E+04	0.1009
9.0000	0.5361E+02	0.1932E+04	-0.8712E+03	-0.2337
10.0000	0.3135E+02	0.1130E+04	0.1572E+04	0.5060
11.0000	0.7221E+02	0.2403E+04	-0.5334E+03	-0.1497
12.0000	0.3968E+02	0.2143E+04	0.1482E+03	0.0597
13.0000	0.6414E+02	0.2312E+04	-0.1786E+04	-0.5518
14.0000	0.1465E+02	0.5279E+03	0.5629E+03	0.2717
14.9000	0.2970E+02	0.1070E+04	0.3183E+03	0.2114
15.0000	0.3966E+02	0.1429E+04	0.7575E+03	1.2451
16.0000	0.1056E+03	0.3804E+04	0.7303E+03	0.4773
16.2000	0.1206E+03	0.4543E+04	-0.4398E+04	-0.1417
16.9000	0.4796E+02	0.1727E+04	0.2613E+04	0.8173
17.0000	0.7165E+02	0.2574E+04	-0.7509E+02	-0.0248
17.9000	0.6452E+02	0.2377E+04	0.2112E+03	0.7404
18.0000	0.7240E+02	0.2600E+04	-0.7132E+03	-0.2896
18.9000	0.5294E+02	0.1907E+04	-0.2233E+03	-0.2572
19.0000	0.4681E+02	0.1687E+04	-0.1947E+04	-0.0048
19.9000	0.4452E+02	0.1475E+04	0.1383E+04	0.6339
20.0000	0.7658E+02	0.2759E+04	-0.4977E+03	-0.1917
20.9000	0.6581E+02	0.2371E+04	-0.3133E+03	-0.1343
21.0000	0.5698E+02	0.2053E+04	0.7464E+02	0.0074
21.9000	0.9709E+02	0.2984E+04	0.5439E+03	0.2257
22.0000	0.7043E+02	0.2537E+04	0.1475E+03	0.0574
22.9000	0.7597E+02	0.2705E+04	0.3777E+03	0.3468
23.0000	0.8970E+02	0.3237E+04	-0.4156E+03	-0.1[illegible]
23.9000	0.7563E+02	0.2714E+04	-0.2613E+03	-0.1254
24.0000	0.6706E+02	0.2475E+04	0.2588E+03	0.1750
24.9000	0.8127E+02	0.2929E+04	0.3424E+03	0.1974
25.0000	0.1076E+03	0.3871E+04	-0.4633E+03	-0.2171
25.9000	0.9799E+02	0.3127E+04	-0.3353E+03	-0.1[illegible]
26.0000	0.9516E+02	0.3429E+04	-0.1[illegible]07E+03	-0.[illegible]
26.9000	0.4719E+02	0.2429E+04	0.0	0.0
27.0000	0.4951E+02	0.2429E+04	0.0	0.0

L = 3 SOORVISA+PIRVHSA

Q = 520 m^3/s

ND	SQR	QR	QV	QW
0.0	0.1348E+05	0.3570E+04	-0.1085E+04	*********
0.7000	0.9542E+04	0.3438E+04	-0.2457E+04	*********
1.0000	0.2187E+04	0.7808E+03	0.2721E+03	91.3491
1.4000	0.2313E+04	0.1052E+03	0.2175E+0	335.3491
2.0000	0.4485E+04	0.3237E+03	-0.4215E+04	*********
2.3000	0.5404E+02	0.2093E+04	-0.2332E+04	-3.1775
3.0000	0.1010E+00	0.3560E+03	0.1708E+04	1.4474
4.0000	0.4752E+02	0.1712E+04	-0.1411E+04	-1.3324
4.2000	0.2793E+01	0.1004E+03	-0.8102E+04	-0.1144
5.0000	0.5439E+03	0.1940E+04	0.4257E+03	0.3203
6.0000	0.1236E+02	0.4653E+03	0.5237E+04	0.4767
7.0000	0.2409E+02	0.9429E+03	-0.4331E+04	-0.3423
8.0000	0.2921E+02	0.9082E+03	-0.1437E+04	-0.7414
9.0000	0.2364E+02	0.7430E+03	-0.1572E+03	-0.3433
10.0000	0.1631E+02	0.5878E+03	0.4428E+04	0.1405
11.0000	0.2914E+02	0.1051E+04	-0.3330E+04	-0.3324
12.0000	0.2671E+02	0.9423E+03	0.7068E+04	0.[illegible]
13.0000	0.3233E+02	0.1147E+04	-0.3333E+04	-0.3422
14.0000	0.7448E+01	0.2586E+03	0.2742E+04	0.1770
14.8000	0.1659E+02	0.5417E+03	0.2133E+03	0.2223
15.0000	0.2167E+02	0.7809E+03	0.1202E+04	0.7444
16.0000	0.5753E+02	0.2073E+04	0.3461E+04	0.3323
16.2000	0.6764E+02	0.2437E+04	-0.2367E+04	-0.4441
16.4000	0.2215E+01	0.7982E+03	0.1330E+04	0.7313
17.0000	0.4078E+02	0.1469E+04	-0.2300E+04	-0.1442
17.4000	0.4012E+02	0.1445E+04	-0.2373E+04	-0.3330
18.0000	0.3353E+02	0.1208E+04	-0.1368E+04	-0.0774
18.4000	0.2924E+02	0.1053E+04	-0.2447E+04	-0.2474
19.0000	0.2325E+02	0.8374E+03	0.4376E+04	0.0274
19.4000	0.2446E+02	0.8814E+03	0.4237E+04	0.2234
20.0000	0.3812E+02	0.1301E+04	-0.1510E+04	-0.[illegible]
20.4000	0.3165E+02	0.1140E+04	-0.4331E+04	-0.3333
21.0000	0.2482E+02	0.1074E+04	0.2736E+04	0.1137
21.4000	0.3958E+02	0.1102E+04	0.2423E+03	0.1311
22.0000	0.3700E+02	0.1345E+04	0.4433E+04	0.2438
22.4000	0.3972E+02	0.1431E+04	0.3324E+03	0.2417
23.0000	0.4987E+02	0.1756E+04	-0.3143E+04	-0.4444
23.4000	0.3998E+02	0.1437E+04	-0.3113E+04	-0.3334
24.0000	0.3739E+02	0.1344E+04	0.2728E+04	0.1[illegible]
24.4000	0.4422E+02	0.1418E+04	0.4272E+03	0.3017
25.0000	0.5818E+02	0.2094E+04	-0.3364E+04	-0.2[illegible]
25.4000	0.4778E+02	0.1722E+04	0.1433E+03	0.1317
26.0000	0.5177E+02	0.1855E+04	-0.3[illegible]	-0.[illegible]
26.4000	0.3523E+02	0.1249E+04	0.0	0.0
27.0000	0.2442E+02	0.1249E+04	0.0	0.0

Q = 400 m^3/s

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.0	[illegible]	[illegible]	[illegible]	[illegible]
0.7000	[illegible]	[illegible]	[illegible]	[illegible]
1.4000	[illegible]	[illegible]	[illegible]	[illegible]
1.8300	[illegible]	[illegible]	[illegible]	[illegible]
2.0000	[illegible]	[illegible]	[illegible]	[illegible]
2.3000	[illegible]	[illegible]	[illegible]	[illegible]
3.0000	[illegible]	[illegible]	[illegible]	[illegible]
4.0000	[illegible]	[illegible]	[illegible]	[illegible]
4.2000	[illegible]	[illegible]	[illegible]	[illegible]
5.0000	[illegible]	[illegible]	[illegible]	[illegible]
6.0000	[illegible]	[illegible]	[illegible]	[illegible]
7.0000	[illegible]	[illegible]	[illegible]	[illegible]
8.0000	[illegible]	[illegible]	[illegible]	[illegible]
9.0000	[illegible]	[illegible]	[illegible]	[illegible]
10.0000	[illegible]	[illegible]	[illegible]	[illegible]
11.0000	[illegible]	[illegible]	[illegible]	[illegible]
12.0000	[illegible]	[illegible]	[illegible]	[illegible]
13.0000	[illegible]	[illegible]	[illegible]	[illegible]
14.0000	[illegible]	[illegible]	[illegible]	[illegible]
14.4300	[illegible]	[illegible]	[illegible]	[illegible]
15.0000	[illegible]	[illegible]	[illegible]	[illegible]
16.0000	[illegible]	[illegible]	[illegible]	[illegible]
16.2000	[illegible]	[illegible]	[illegible]	[illegible]
16.4300	[illegible]	[illegible]	[illegible]	[illegible]
17.0000	[illegible]	[illegible]	[illegible]	[illegible]
17.4300	[illegible]	[illegible]	[illegible]	[illegible]
18.0000	[illegible]	[illegible]	[illegible]	[illegible]
18.4300	[illegible]	[illegible]	[illegible]	[illegible]
19.0000	[illegible]	[illegible]	[illegible]	[illegible]
19.4300	[illegible]	[illegible]	[illegible]	[illegible]
20.0000	[illegible]	[illegible]	[illegible]	[illegible]
20.4300	[illegible]	[illegible]	[illegible]	[illegible]
21.0000	[illegible]	[illegible]	[illegible]	[illegible]
21.4300	[illegible]	[illegible]	[illegible]	[illegible]
22.0000	[illegible]	[illegible]	[illegible]	[illegible]
22.4300	[illegible]	[illegible]	[illegible]	[illegible]
23.0000	[illegible]	[illegible]	[illegible]	[illegible]
23.4300	[illegible]	[illegible]	[illegible]	[illegible]
24.0000	[illegible]	[illegible]	[illegible]	[illegible]
24.4300	[illegible]	[illegible]	[illegible]	[illegible]
25.0000	[illegible]	[illegible]	[illegible]	[illegible]
25.4300	[illegible]	[illegible]	[illegible]	[illegible]
26.0000	[illegible]	[illegible]	[illegible]	[illegible]
26.4300	[illegible]	[illegible]	[illegible]	[illegible]
27.0000	[illegible]	[illegible]	[illegible]	[illegible]

t - 5 SOORVIEW#JRVIEW

Q = 120 m^3/s

NO	SOR	OR	JV	JH
0.0	0.2093E+04	0.7540E+[illegible]	[illegible]	[illegible]
0.7000	0.2185E+04	0.7949E+0[illegible]	-0.7373E+07	********
1.0000	0.1361E+03	0.4905E+04	0.7717E+04	10.1713
1.4000	0.3593E+03	0.1262E+0[illegible]	0.3293E+04	35.5770
2.0000	0.5782E+03	0.2083E+0[illegible]	-0.1346E+07	********
2.3000	0.2754E+02	0.9728E+05	-0.9323E+04	-0.[illegible]
3.0000	0.6295E+04	0.1568E+0[illegible]	0.7505E+04	0.[illegible]
4.0000	0.7232E+03	0.2405E+04	-0.2552E+04	-0.0279
4.2000	0.1485E+04	0.5369E+07	-0.5161E+07	-0.0007
5.0000	0.5779E+03	0.2092E+0[illegible]	0.2133E+04	0.[illegible]
6.0000	0.6110E+00	0.2201E+04	0.4646E+04	0.[illegible]
7.0000	0.3365E+01	0.1105E+04	0.3[illegible]E+04	0.[illegible]
8.0000	0.3758E+01	0.2[illegible]E+05	-0.2[illegible]E+04	-0.[illegible]
9.0000	0.4232E+01	0.2265E+03	0.1621E+03	0.[illegible]
10.0000	0.4220E+01	0.1521E+05	0.1185E+04	0.0[illegible]
11.0000	0.7423E+01	0.2473E+05	-0.2331E+03	-0.[illegible]
12.0000	0.7225E+01	0.2403E+05	-0.8175E+04	-0.[illegible]
13.0000	0.6755E+01	0.1785E+05	-0.1153E+03	-0.1194
14.0000	0.6455E+01	0.2[illegible]E+04	0.4[illegible]E+04	0.[illegible]
14.4000	0.1335E+01	0.4943E+04	-0.2[illegible]E+03	-0.1951
15.0000	0.1866E+01	0.4[illegible]E+04	0.2[illegible]E+04	0.[illegible]
16.0000	0.9193E+01	0.3316E+05	0.1[illegible]E+04	0.2[illegible]
16.2000	0.1342E+02	0.4835E+04	-0.6[illegible]E+04	-0.[illegible]
16.4000	0.9733E+01	0.3[illegible]E+03	0.1[illegible]E+03	0.[illegible]
17.0000	0.3[illegible]E+01	0.1[illegible]E+04	-0.4[illegible]E+04	-0.[illegible]
17.4000	0.1934E+01	0.4413E+04	0.1[illegible]E+03	0.1[illegible]
18.0000	0.5443E+01	0.1[illegible]E+04	0.4[illegible]E+03	0.[illegible]
18.4000	0.5567E+01	0.2[illegible]E+05	-0.5[illegible]E+04	-0.0[illegible]
19.0000	0.3967E+01	0.1[illegible]E+05	0.3[illegible]E+04	0.[illegible]
19.4000	0.4887E+01	0.1769E+04	0.3[illegible]E+04	0.[illegible]
20.0000	0.7[illegible]E+01	0.2[illegible]E+04	-0.1[illegible]E+04	-0.[illegible]
20.4000	0.4733E+01	0.1723E+05	0.1[illegible]E+03	0.[illegible]
21.0000	0.5105E+01	0.1[illegible]E+05	-0.3[illegible]E+04	-0.[illegible]
21.4000	0.4727E+01	0.1523E+05	0.3[illegible]E+03	0.[illegible]
22.0000	0.6555E+01	0.2[illegible]E+04	-0.1[illegible]E+04	-0.[illegible]
22.4000	0.6225E+01	0.2[illegible]E+05	-0.6[illegible]E+03	-0.[illegible]
23.0000	0.5[illegible]E+01	0.1[illegible]E+04	0.[illegible]E+04	0.[illegible]
23.4000	0.4493E+01	0.2[illegible]E+05	-0.2[illegible]E+04	-0.[illegible]
24.0000	0.4401E+01	0.1[illegible]E+05	0.1[illegible]E+04	0.[illegible]
24.4000	0.8342E+01	0.3[illegible]E+05	-0.2[illegible]E+03	-0.[illegible]
25.0000	0.8159E+01	0.2[illegible]E+04	0.3[illegible]E+04	0.[illegible]
25.4000	0.9713E+01	0.3[illegible]E+04	0.1[illegible]E+03	0.[illegible]
26.0000	0.1[illegible]E+02	0.3[illegible]E+04	-0.1[illegible]E+04	-0.[illegible]
26.4000	0.6421E+01	0.2[illegible]E+04	0.[illegible]	0.[illegible]
27.0000	0.5212E+01	0.2270E+04	0.[illegible]	0.[illegible]

(2) Proposed channel

1) Laursen formula

Legend

SSQB:		Sediment discharge (m^3/s)
SQB	:	Sediment load (m^3)
DV	:	Variation in Volume ($SQB_2 - SQB_1$) (m^3)
SDH	:	Variation in River Bed Elevation (m)
IE	:	Energy gradient
TAUO	:	Critical Tractive Force ($(m/s)^2$)
D1	:	Sediment load, minimum grain size (m^3)

Discharge Condition

Discharge cases used in this calculation are as below.

Q (m^3/s)	probability (1/years)
1100	1/200
900	1/80
520	1/10
400	1/5
120	1/1.1

Q = 1100 m^3/s

1 - 1 (LAURSEN)

NO	S SOM	S OM	JV	SOM	TF	TAU O	DI
0.0	0.3987E+01	0.1437E+05	-0.2775E+04	-0.0991	0.5907E-03	0.2343E+03	0.9124E+02
0.7000	0.2486E+01	0.8957E+04	-0.2545E+04	-0.0558	0.4854E-03	0.2152E+03	0.1839E+02
1.0000	0.1776E+01	0.6392E+04	0.1311E+04	0.0258	0.3925E-03	0.1759E+03	0.1994E+02
1.8000	0.2066E+01	0.7442E+04	0.4797E+04	0.1088	0.4410E-03	0.2077E+03	0.1048E+02
2.0000	0.3394E+01	0.1223E+05	0.1539E+05	0.4290	0.7909E-03	0.3093E+03	0.2387E+02
2.3000	0.7551E+01	0.2721E+05	-0.1785E+05	-0.4490	0.1612E-02	0.6472E+03	0.4520E+02
3.0000	0.2671E+01	0.9425E+04	-0.4355E+04	-0.0773	0.7047E-03	0.2439E+03	0.1752E+02
4.0000	0.1465E+01	0.5279E+04	0.2074E+03	0.0070	0.7300E-03	0.2805E+03	0.1537E+02
4.2000	0.1548E+01	0.5577E+04	0.1157E+04	0.0331	0.3420E-03	0.3154E+03	0.2160E+02
5.0000	0.1869E+01	0.6734E+04	-0.3393E+04	-0.0933	0.1491E-02	0.5001E+03	0.7388E+02
6.0000	0.9272E+00	0.3341E+04	0.2149E+04	0.0135	0.2147E-02	0.4135E+03	0.1175E+03
7.0000	0.1718E+01	0.6189E+04	0.1248E+04	0.0080	0.3401E-02	0.9126E+03	0.2453E+03
8.0000	0.2064E+01	0.7437E+04	-0.2330E+04	-0.0327	0.5977E-02	0.3570E+03	0.3585E+03
9.0000	0.1501E+01	0.5407E+04	0.1438E+04	0.0093	0.4534E-02	0.7507E+03	0.2421E+03
10.0000	0.1200E+01	0.4864E+04	-0.1374E+04	-0.0042	0.5442E-02	0.3130E+03	0.3444E+03
11.0000	0.1602E+01	0.5771E+04	0.8932E+03	0.0068	0.5648E-02	0.7731E+03	0.2488E+03
12.0000	0.1939E+01	0.6424E+04	-0.3732E+03	-0.0021	0.4918E-02	0.3410E+03	0.3217E+03
13.0000	0.1734E+01	0.6254E+04	-0.2439E+03	-0.0014	0.4030E-02	0.8544E+03	0.2480E+03
14.0000	0.1461E+01	0.5985E+04	0.1325E+02	0.0002	0.5095E-02	0.3470E+03	0.7621E+03
14.8000	0.1671E+01	0.6020E+04	-0.4079E+03	-0.0042	0.5444E-02	0.9720E+03	0.2042E+03
15.0000	0.1558E+01	0.5412E+04	0.1135E+03	0.0012	0.4944E-02	0.3450E+03	0.2348E+03
16.0000	0.1582E+01	0.5724E+04	0.9432E+03	0.0115	0.5505E-02	0.8054E+03	0.2847E+03
16.2000	0.1857E+01	0.6489E+04	-0.5573E+04	-0.1147	0.6400E-02	0.1174E+04	0.2326E+03
16.4000	0.3555E+00	0.1281E+04	0.4749E+04	0.0494	0.3400E-02	0.6334E+03	0.0
17.0000	0.1474E+01	0.6030E+04	-0.3333E+03	-0.0073	0.7272E-02	0.9334E+03	0.1512E+03
17.4000	0.1426E+01	0.5139E+04	-0.4508E+02	-0.0003	0.8055E-02	0.4037E+03	0.0
18.0000	0.1498E+01	0.5073E+04	0.1315E+04	0.0047	0.3914E-02	0.3133E+03	0.0
18.4000	0.1400E+01	0.4089E+04	-0.5707E+03	-0.0050	0.4430E-02	0.1103E+04	0.2781E+03
19.0000	0.1532E+01	0.5518E+04	-0.5133E+03	-0.0024	0.7078E-02	0.1340E+04	0.1337E+03
19.4000	0.1415E+01	0.5100E+04	-0.4762E+03	-0.0045	0.7100E-02	0.1012E+04	0.1480E+03
20.0000	0.1284E+01	0.4428E+04	-0.1335E+03	-0.0004	0.3421E-02	0.7357E+03	0.0
20.4000	0.1255E+01	0.4327E+04	0.3006E+03	0.0014	0.8006E-02	0.4034E+03	0.0
21.0000	0.1339E+01	0.4822E+04	-0.2433E+02	-0.0001	0.1375E-02	0.1113E+04	0.2787E+03
21.4000	0.1331E+01	0.4794E+04	0.5340E+03	0.0029	0.4814E-02	0.1132E+04	0.2136E+03
22.0000	0.1480E+01	0.5333E+04	-0.3110E+03	-0.0025	0.4044E-02	0.1420E+04	0.3453E+03
22.4000	0.1394E+01	0.5022E+04	-0.9273E+02	-0.0008	0.4335E-02	0.1300E+04	0.3052E+03
23.0000	0.1348E+01	0.4723E+04	-0.4749E+03	-0.0037	0.4352E-02	0.1303E+04	0.3737E+03
23.4000	0.1250E+01	0.4504E+04	-0.2341E+03	-0.0010	0.7035E-02	0.1341E+04	0.1413E+03
24.0000	0.1195E+01	0.4270E+04	0.1443E+03	0.0013	0.7413E-02	0.3576E+03	0.5330E+02
24.4000	0.1224E+01	0.4417E+04	-0.3330E+03	-0.0027	0.4073E-02	0.1070E+04	0.1756E+03
25.0000	0.1135E+01	0.4093E+04	-0.1126E+03	-0.0007	0.7477E-02	0.3724E+03	0.0
25.4000	0.1104E+01	0.3974E+04	0.1171E+03	0.0011	0.7434E-02	0.3374E+03	0.0
26.0000	0.1154E+01	0.4143E+04	-0.6733E+02	-0.0006	0.7031E-02	0.1343E+04	0.1428E+03
26.4000	0.1142E+01	0.4114E+04	0.0	0.0	0.4374E-02	0.1391E+04	0.1470E+03
27.0000	0.1152E+01	0.4114E+04	0.0	0.0	0.4534E-02	0.1234E+04	0.2593E+03

No

Q = 900 m^3/s

NO	S 504	S 09	DV	SDW	IF	TAU 0	DI
0.0	0.1947E+01	0.7014E+04	-0.3377E+03	-0.3338	0.4221E-03	0.1214E+03	0.1392E+02
0.7000	0.1402E+01	0.5053E+04	-0.1323E+04	-0.0288	0.3584E-03	0.1553E+03	0.8744E+01
1.0000	0.1035E+01	0.3730E+04	-0.2133E+03	-0.0224	0.2904E-03	0.1221E+03	0.7649E+01
1.4000	0.1291E+01	0.4450E+04	0.3180E+04	0.0723	0.3470E-03	0.1500E+03	0.4308E+01
2.0000	0.2173E+01	0.7829E+04	0.1121E+05	0.5904	0.5757E-03	0.2424E+03	0.1248E+02
2.3000	0.5480E+01	0.1974E+05	-0.1243E+05	-0.3340	0.1277E-02	0.3937E+03	0.4343E+02
3.0000	0.1379E+01	0.7110E+04	-0.3210E+04	-0.0553	0.3437E-03	0.2274E+03	0.1358E+02
4.0000	0.1080E+01	0.3894E+04	0.2349E+03	0.0055	0.7142E-03	0.2444E+03	0.8403E+01
4.2000	0.1165E+01	0.4129E+04	0.1145E+04	0.0619	0.3238E-03	0.2142E+03	0.1357E+02
5.0000	0.1551E+01	0.5589E+04	-0.3204E+04	-0.0220	0.1744E-02	0.4720E+03	0.4040E+02
6.0000	0.6609E+00	0.2381E+04	0.2576E+04	0.0154	0.7135E-02	0.3355E+03	0.4218E+02
7.0000	0.1328E+01	0.4784E+04	0.1329E+04	0.0045	0.3748E-02	0.4434E+03	0.2104E+03
8.0000	0.1496E+01	0.5109E+04	-0.2577E+04	-0.0159	0.3296E-02	0.4173E+03	0.2948E+03
9.0000	0.1002E+01	0.3437E+04	0.1771E+04	0.0124	0.4330E-02	0.4500E+03	0.1480E+03
10.0000	0.1501E+01	0.5409E+04	-0.1611E+04	-0.0042	0.5390E-02	0.7483E+03	0.2378E+03
11.0000	0.1109E+01	0.3997E+04	0.1341E+04	0.0077	0.5235E-02	0.4813E+03	0.1514E+03
12.0000	0.1487E+01	0.5359E+04	-0.3757E+03	-0.0022	0.5109E-02	0.7344E+03	0.2921E+03
13.0000	0.1383E+01	0.4989E+04	-0.1792E+03	-0.0010	0.4230E-02	0.8042E+03	0.1869E+03
14.0000	0.1335E+01	0.4815E+04	0.2737E+02	0.0002	0.5154E-02	0.7242E+03	0.1738E+03
14.8000	0.1340E+01	0.4828E+04	-0.3928E+03	-0.0040	0.5408E-02	0.4234E+03	0.2170E+03
15.0000	0.1231E+01	0.4435E+04	0.7539E+02	0.0008	0.5295E-02	0.7888E+03	0.1247E+03
16.0000	0.1252E+01	0.4510E+04	0.8304E+03	0.0090	0.5840E-02	0.9122E+03	0.1814E+03
16.2000	0.1482E+01	0.5341E+04	-0.6173E+04	-0.0789	0.5996E-02	0.1093E+04	0.1941E+03
16.4000	0.3436E+00	0.1238E+04	0.3444E+04	0.0354	0.4352E-02	0.4307E+03	0.0
17.0000	0.1306E+01	0.4706E+04	-0.5227E+03	-0.0062	0.7358E-02	0.9178E+03	0.1748E+03
17.4000	0.1141E+01	0.4184E+04	-0.4989E+02	-0.0002	0.9017E-02	0.4453E+03	0.0
18.0000	0.1249E+01	0.4135E+04	0.4622E+03	0.0043	0.9202E-02	0.7932E+03	0.0
18.4000	0.1331E+01	0.4797E+04	-0.4444E+03	-0.0048	0.4017E-02	0.1098E+04	0.1832E+03
19.0000	0.1202E+01	0.4330E+04	-0.2761E+03	-0.0026	0.7907E-02	0.7960E+03	0.1099E+03
19.4000	0.1126E+01	0.4054E+04	-0.3200E+03	-0.0030	0.7370E-02	0.9437E+03	0.8215E+02
20.0000	0.1337E+01	0.4734E+04	-0.2198E+02	-0.0020	0.7098E-02	0.5464E+03	0.0
20.4000	0.1012E+01	0.3444E+04	0.2975E+03	0.0014	0.3100E-02	0.4347E+03	0.0
21.0000	0.1096E+01	0.3942E+04	-0.1331E+02	-0.0000	0.4303E-02	0.1195E+04	-0.1443E+03
21.4000	0.1091E+01	0.3931E+04	0.4543E+03	0.0024	0.4908E-02	0.1135E+04	0.1745E+03
22.0000	0.1218E+01	0.4389E+04	-0.2569E+03	-0.0020	0.4037E-02	0.1444E+04	0.2356E+03
22.4000	0.1147E+01	0.4133E+04	-0.2753E+03	-0.0025	0.4308E-02	0.1321E+04	0.2536E+03
23.0000	0.1071E+01	0.3859E+04	-0.2579E+03	-0.0024	0.3427E-02	0.1199E+04	0.2247E+03
23.4000	0.9991E+00	0.3400E+04	-0.2067E+03	-0.0014	0.7324E-02	0.9805E+03	0.4943E+02
24.0000	0.9429E+00	0.3375E+04	0.1479E+03	0.0010	0.7761E-02	0.9799E+03	0.0
24.4000	0.9812E+00	0.3535E+04	-0.2479E+03	-0.0021	0.7248E-02	0.1001E+04	0.9735E+02
25.0000	0.9124E+00	0.3287E+04	-0.3223E+02	-0.0004	0.7345E-02	0.9317E+03	0.0
25.4000	0.8868E+00	0.3195E+04	0.9547E+02	0.0004	0.4030E-02	0.8144E+03	0.0
26.0000	0.9139E+00	0.3290E+04	-0.3552E+02	-0.0003	0.3347E-02	0.9799E+03	0.4329E+02
26.4000	0.9091E+00	0.3254E+04	0.0	0.0	0.7230E-02	0.9001E+03	0.4044E+02
27.0000	0.9239E+00	0.3254E+04	0.0	0.0	0.4304E-02	0.1195E+04	0.1528E+03

R 54 -

$Q = 520\ m^3/s$

(LAURSEN)

NO	S SQ	S QQ	DV	SDV	TS	TAU O	DL
0.0	0.3361E+01	0.1211E+05	-0.3334E+04	-0.1132	0.7715E-03	0.2274E+03	0.2727E+02
0.7000	0.1525E+01	0.5494E+04	-0.1333E+04	-0.0420	0.4108E-03	0.1907E+03	0.1070E+02
1.0000	0.9990E+00	0.3543E+04	-0.4445E+03	-0.0100	0.4449E-03	0.1373E+03	0.4344E+01
1.8000	0.8657E+00	0.3119E+04	0.3103E+04	0.0705	0.4125E-03	0.1452E+03	0.2324E+01
2.0000	0.1727E+01	0.4222E+04	0.2638E+05	1.0674	0.7545E-03	0.2464E+03	0.1718E+02
2.3000	0.8660E+01	0.3120E+05	-0.2374E+05	-0.7443	0.3037E-02	0.4575E+03	0.8538E+02
3.0000	0.6938E+00	0.2444E+04	-0.3337E+03	-0.0144	0.4747E-03	0.1338E+03	0.0
4.0000	0.4108E+00	0.1480E+04	0.1670E+03	0.0035	0.4070E-03	0.1452E+03	0.0
4.2000	0.4515E+00	0.1427E+04	0.1700E+04	0.0434	0.7243E-03	0.1350E+03	0.0
5.0000	0.9233E+00	0.3327E+04	-0.2222E+04	-0.0157	0.1080E-02	0.4095E+03	0.3389E+02
6.0000	0.2870E+00	0.1034E+04	0.1334E+04	0.0001	0.2073E-02	0.4237E+03	0.3226E+02
7.0000	0.6746E+00	0.2430E+04	0.1000E+04	0.0122	0.3973E-02	0.7194E+03	0.1121E+03
8.0000	0.1202E+01	0.4330E+04	-0.2533E+04	-0.0142	0.5438E-02	0.9222E+03	0.2029E+03
9.0000	0.4821E+00	0.1737E+04	0.1707E+04	0.0110	0.4001E-02	0.5990E+03	0.7249E+02
10.0000	0.9557E+00	0.3443E+04	-0.1351E+04	-0.0173	0.4243E-02	0.7791E+03	0.1718E+03
11.0000	0.4419E+00	0.1592E+04	0.1492E+04	0.0094	0.4088E-02	0.5110E+03	0.0
12.0000	0.8560E+00	0.3084E+04	-0.3323E+03	-0.0022	0.4123E-02	0.3379E+03	0.1431E+03
13.0000	0.7498E+00	0.2701E+04	-0.8145E+02	-0.0004	0.4457E-02	0.7037E+03	0.5591E+02
14.0000	0.7272E+00	0.2620E+04	0.2732E+02	0.0001	0.4504E-02	0.7350E+03	0.5235E+02
14.8000	0.7330E+00	0.2441E+04	-0.2034E+03	-0.0032	0.4181E-02	0.9140E+03	0.8454E+02
15.0000	0.6751E+00	0.2432E+04	-0.2333E+03	-0.0022	0.4554E-02	0.7244E+03	0.3334E+02
16.0000	0.6193E+00	0.2231E+04	0.5326E+03	0.0071	0.4535E-02	0.7192E+03	0.9015E+01
16.2000	0.7333E+00	0.2824E+04	-0.1367E+04	-0.0374	0.7405E-02	0.3331E+03	0.3473E+02
16.4000	0.2435E+00	0.8773E+03	0.1549E+04	0.0140	0.5157E-02	0.3921E+03	0.0
17.0000	0.4793E+00	0.2444E+04	-0.3321E+02	-0.0007	0.3533E-02	0.7210E+03	0.0
17.4000	0.6542E+00	0.2357E+04	0.1415E+02	0.0001	0.1046E-01	0.5101E+03	0.0
18.0000	0.4586E+00	0.2373E+04	0.3725E+02	0.0002	0.3434E-02	0.4374E+03	0.0
18.4000	0.6691E+00	0.2411E+04	-0.9409E+02	-0.0009	0.7724E-02	0.3791E+03	0.4485E+01
19.0000	0.6458E+00	0.2327E+04	-0.5331E+02	-0.0003	0.3072E-02	0.3050E+03	0.0
19.4000	0.6312E+00	0.2273E+04	-0.2277E+03	-0.0022	0.7004E-02	0.8422E+03	0.0
20.0000	0.5478E+00	0.2044E+04	-0.4532E+02	-0.0004	0.1215E-01	0.5021E+03	0.0
20.4000	0.5495E+00	0.1980E+04	0.2715E+03	0.0015	0.1327E-01	0.4971E+03	0.0
21.0000	0.6249E+00	0.2251E+04	0.2730E+02	0.0001	0.7079E-02	0.1350E+04	0.7610E+02
21.4000	0.6326E+00	0.2279E+04	-0.2410E+02	-0.0001	0.4702E-02	0.1141E+04	0.1039E+03
22.0000	0.6253E+00	0.2255E+04	-0.3354E+01	-0.0000	0.4673E-02	0.1172E+04	0.1147E+03
22.4000	0.6248E+00	0.2251E+04	-0.1453E+03	-0.0015	0.4447E-02	0.1190E+04	0.1177E+03
23.0000	0.5783E+00	0.2085E+04	-0.1333E+03	-0.0014	0.7454E-02	0.2450E+03	0.2143E+02
23.4000	0.5499E+00	0.1978E+04	-0.1121E+03	-0.0009	0.9130E-02	0.7035E+03	0.0
24.0000	0.5179E+00	0.1865E+04	0.4535E+02	0.0005	0.3738E-02	0.4372E+03	0.0
24.4000	0.5364E+00	0.1932E+04	-0.1338E+03	-0.0011	0.7003E-02	0.8227E+03	0.0
25.0000	0.4392E+00	0.1733E+04	-0.3517E+02	-0.0002	0.3343E-02	0.4541E+03	0.0
25.4000	0.4892E+00	0.1742E+04	0.6112E+01	0.0000	0.3044E-02	0.4574E+03	0.0
26.0000	0.4722E+00	0.1743E+04	-0.2311E+02	-0.0002	0.3333E-02	0.7457E+03	0.0
26.4000	0.4845E+00	0.1745E+04	0.0	0.0	0.9103E-02	0.7830E+03	0.0
27.0000	0.4852E+00	0.1745E+04	0.0	0.0	0.7774E-02	0.3370E+03	0.0

Q = 400 m^3/s

1 - 4 (CAMPSEN)

ND	S 503	S 504	W	S504	T2	TAU 0	D1
0.0	0.2751E+01	0.9312E+04	-0.2531E+04	-0.2224	0.1933E-02	0.2717E+03	0.2133E+02
0.7000	0.1291E+01	0.4450E+04	-0.1550E+04	-0.0330	0.4430E-03	0.1942E+03	0.8004E+01
1.0000	0.9580E+00	0.3091E+04	-0.7372E+03	-0.0134	0.4334E-03	0.1330E+03	0.3443E+01
1.8000	0.6369E+00	0.2294E+04	0.2351E+04	0.0534	0.4077E-03	0.1237E+03	0.8498E+00
2.0000	0.1283E+01	0.4445E+04	0.2572E+05	1.2784	0.7408E-03	0.2112E+03	0.4555E+01
2.3000	0.8423E+01	0.3037E+05	-0.2910E+06	-0.7740	0.3713E-02	0.7128E+03	0.9524E+02
3.0000	0.3522E+00	0.1249E+04	-0.4337E+03	-0.3074	0.3481E-03	0.3521E+02	0.0
4.0000	0.2305E+00	0.8304E+03	0.1039E+03	0.0024	0.5322E-03	0.1314E+03	0.0
4.2000	0.2533E+00	0.9343E+03	0.1533E+04	0.3447	0.4439E-03	0.1531E+03	0.0
5.0000	0.7130E+00	0.2549E+04	-0.1921E+04	-0.0125	0.2027E-02	0.3001E+03	0.2580E+02
6.0000	0.2375E+00	0.7477E+03	0.1233E+04	0.0273	0.2043E-02	0.4178E+03	0.2245E+02
7.0000	0.5423E+00	0.1954E+04	0.1549E+04	0.0101	0.3996E-02	0.7243E+03	0.9003E+02
8.0000	0.9791E+00	0.3524E+04	-0.2264E+04	-0.3143	0.3479E-02	0.3455E+03	0.2523E+03
9.0000	0.3547E+00	0.1278E+04	0.1610E+04	0.0001	0.3020E-02	0.5846E+03	0.5147E+02
10.0000	0.7461E+00	0.2688E+04	-0.1637E+04	-0.0303	0.4231E-02	0.7953E+03	0.1345E+03
11.0000	0.2999E+00	0.1081E+04	0.1292E+04	0.0073	0.4949E-02	0.4570E+03	0.0
12.0000	0.6584E+00	0.2372E+04	-0.4372E+03	-0.0325	0.5132E-02	0.3234E+03	0.1997E+03
13.0000	0.5371E+00	0.1935E+04	0.2532E+02	0.0001	0.4446E-02	0.4910E+03	0.2946E+02
14.0000	0.5442E+00	0.1961E+04	0.5323E+01	0.0003	0.5548E-02	0.7945E+03	0.2346E+02
14.8000	0.5455E+00	0.1965E+04	-0.8314E+02	-0.0014	0.4345E-02	0.7489E+03	0.4414E+02
15.0000	0.5203E+00	0.1874E+04	-0.1324E+03	-0.0020	0.5531E-02	0.7394E+03	0.2778E+02
16.0000	0.4701E+00	0.1694E+04	0.3452E+03	0.0043	0.4073E-02	0.4420E+03	0.0
16.2000	0.5714E+00	0.2059E+04	-0.1321E+04	-0.0254	0.7339E-02	0.3235E+03	0.0
16.4000	0.2069E+00	0.7382E+03	0.1129E+04	0.0115	0.5742E-02	0.3742E+03	0.0
17.0000	0.5181E+00	0.1867E+04	-0.3645E+02	-0.0007	0.3031E-02	0.3633E+03	0.0
17.4000	0.4941E+00	0.1780E+04	0.2533E+02	0.0001	0.1058E-01	0.4498E+03	0.0
18.0000	0.5011E+00	0.1805E+04	0.1555E+02	0.0001	0.7054E-02	0.5334E+03	0.0
18.4000	0.5054E+00	0.1821E+04	-0.4224E+02	-0.0004	0.3072E-02	0.8048E+03	0.0
19.0000	0.4937E+00	0.1779E+04	-0.4339E+02	-0.0003	0.3449E-02	0.7367E+03	0.0
19.4000	0.4806E+00	0.1731E+04	-0.2009E+03	-0.0010	0.8322E-02	0.7590E+03	0.0
20.0000	0.4246E+00	0.1530E+04	-0.4131E+02	-0.0002	0.1074E-01	0.4531E+03	0.0
20.4000	0.4132E+00	0.1489E+04	0.2207E+03	0.0012	0.1090E-01	0.4423E+03	0.0
21.0000	0.4744E+00	0.1709E+04	-0.3313E+01	-0.0000	0.7233E-02	0.1033E+04	0.5372E+02
21.4000	0.4736E+00	0.1706E+04	-0.1230E+02	-0.0001	0.7096E-02	0.1047E+04	0.5417E+02
22.0000	0.4701E+00	0.1694E+04	-0.3334E+01	-0.0001	0.7032E-02	0.1032E+04	0.5379E+02
22.4000	0.4673E+00	0.1684E+04	-0.1034E+03	-0.0010	0.7016E-02	0.1047E+04	0.5037E+02
23.0000	0.4372E+00	0.1575E+04	-0.3551E+02	-0.0011	0.7404E-02	0.8873E+03	0.0
23.4000	0.4134E+00	0.1490E+04	-0.9743E+02	-0.0007	0.3534E-02	0.7108E+03	0.0
24.0000	0.3832E+00	0.1402E+04	0.5345E+02	0.0004	0.3741E-02	0.5223E+03	0.0
24.4000	0.4057E+00	0.1462E+04	-0.1011E+03	-0.0008	0.8357E-02	0.7535E+03	0.0
25.0000	0.3774E+00	0.1341E+04	-0.3345E+02	-0.0002	0.3407E-02	0.5331E+03	0.0
25.4000	0.3642E+00	0.1337E+04	0.1293E+01	0.0000	0.3387E-02	0.5951E+03	0.0
26.0000	0.3495E+00	0.1331E+04	-0.1417E+02	-0.0001	0.3784E-02	0.5999E+03	0.0
26.4000	0.3650E+00	0.1315E+04	0.0	0.0	0.9448E-02	0.7034E+03	0.0
27.0000	0.3531E+00	0.1315E+04	0.0	0.0	0.3244E-02	0.7741E+03	0.0

Q = 120 m^3/s

NO	S.SQ3	S.Q3	SV	SQW	TE	TAU.0	QI
0.0	0.1142E+01	0.4185E+04	-0.1333E+04	-0.3340	0.1444E-02	0.1371E+03	0.3342E+01
0.7000	0.2913E+00	0.1049E+04	-0.7355E+02	-0.0014	0.6628E-03	0.8703E+02	0.3122E+00
1.0000	0.2709E+00	0.9758E+03	-0.6531E+03	-0.0113	0.5255E-03	0.3720E+02	0.2791E+00
1.8000	0.1437E+00	0.5177E+03	0.5247E+03	0.0124	0.3446E-03	0.5434E+02	0.0
2.0000	0.3093E+00	0.1114E+04	0.1364E+05	0.3342	0.4424E-03	0.1772E+03	0.0
2.3000	0.4044E+01	0.1457E+05	-0.1453E+05	-0.3874	0.5520E-02	0.4940E+03	0.3554E+02
3.0000	0.9739E-02	0.3515E+02	0.1233E+02	0.0002	0.1158E-03	0.2271E+02	0.0
4.0000	0.1320E-01	0.4754E+02	0.1430E+02	0.0003	0.2957E-03	0.4091E+02	0.0
4.2000	0.1716E-01	0.4184E+02	0.3561E+03	0.0159	0.3437E-03	0.4203E+02	0.0
5.0000	0.1710E+00	0.4140E+03	-0.4440E+03	-0.0032	0.2038E-02	0.3091E+03	0.4498E+01
6.0000	0.4163E-01	0.1500E+03	-0.2363E+03	-0.0019	0.1988E-02	0.3550E+03	0.1314E+01
7.0000	0.1212E+00	0.4348E+03	0.2951E+03	0.0010	0.4157E-02	0.5200E+03	0.1909E+02
8.0000	0.2031E+00	0.7319E+03	-0.3523E+03	-0.0023	0.5739E-02	0.3352E+03	0.3520E+02
9.0000	0.1024E+00	0.3690E+03	0.4175E+03	0.0027	0.4200E-02	0.5038E+03	0.1024E+02
10.0000	0.2183E+00	0.7865E+03	-0.6335E+03	-0.0023	0.5438E-02	0.7474E+03	0.3739E+02
11.0000	0.7966E-01	0.2869E+03	0.3950E+03	0.0022	0.4811E-02	0.4188E+03	0.0
12.0000	0.1893E+00	0.4813E+03	-0.3263E+02	-0.0025	0.5449E-02	0.7434E+03	0.2607E+02
13.0000	0.1463E+00	0.5993E+03	-0.3059E+02	-0.0002	0.4596E-02	0.4871E+03	0.1005E+02
14.0000	0.1579E+00	0.5687E+03	-0.3335E+02	-0.0022	0.5325E-02	0.5570E+03	0.5363E+00
14.8000	0.1506E+00	0.5427E+03	0.2737E+02	0.0006	0.4777E-02	0.4794E+03	0.0
15.0000	0.1582E+00	0.5701E+03	-0.3364E+02	-0.0013	0.5607E-02	0.7417E+03	0.1776E+02
16.0000	0.1322E+00	0.4745E+03	-0.1039E+03	-0.0012	0.8803E-02	0.3034E+03	0.0
16.2000	0.1036E+00	0.3725E+03	-0.3633E+02	-0.0007	0.3954E-02	0.3272E+03	0.0
16.4000	0.9386E-01	0.3382E+03	0.1290E+03	0.0013	0.8050E-02	0.3314E+03	0.0
17.0000	0.1297E+00	0.4581E+03	-0.1371E+02	-0.0002	0.1109E-01	0.3777E+03	0.0
17.4000	0.1351E+00	0.4848E+03	-0.1342E+03	-0.0007	0.1320E-01	0.2948E+03	0.0
18.0000	0.9731E-01	0.3504E+03	0.1771E+03	0.0012	0.9747E-02	0.3271E+03	0.0
18.4000	0.1465E+00	0.5277E+03	-0.3947E+02	-0.0006	0.2569E-02	0.5730E+03	0.0
19.0000	0.1355E+00	0.4880E+03	-0.1737E+02	-0.0001	0.1030E-01	0.4530E+03	0.0
19.4000	0.1307E+00	0.4707E+03	-0.2545E+02	-0.0002	0.1072E-01	0.4542E+03	0.0
20.0000	0.1236E+00	0.4535E+03	-0.4152E+01	-0.0000	0.1406E-01	0.2553E+03	0.0
20.4000	0.1219E+00	0.4391E+03	0.3139E+02	0.0002	0.1423E-01	0.2501E+03	0.0
21.0000	0.1305E+00	0.4705E+03	-0.7350E+01	-0.0000	0.2066E-02	0.5397E+03	0.0
21.4000	0.1286E+00	0.4427E+03	-0.6052E+01	-0.0000	0.9107E-02	0.4334E+03	0.0
22.0000	0.1267E+00	0.4544E+03	-0.3357E+01	-0.0000	0.2008E-02	0.4444E+03	0.0
22.4000	0.1256E+00	0.4524E+03	-0.9508E+01	-0.0001	0.9044E-02	0.4433E+03	0.0
23.0000	0.1232E+00	0.4431E+03	-0.2337E+02	-0.0004	0.2144E-02	0.4233E+03	0.0
23.4000	0.1150E+00	0.4143E+03	-0.1094E+02	-0.0001	0.1032E-01	0.4026E+03	0.0
24.0000	0.1120E+00	0.4034E+03	0.4943E+01	0.0000	0.1208E-01	0.3572E+03	0.0
24.4000	0.1133E+00	0.4084E+03	-0.1294E+02	-0.0001	0.9934E-02	0.5314E+03	0.0
25.0000	0.1098E+00	0.3955E+03	-0.4434E+01	-0.0000	0.1147E-01	0.3937E+03	0.0
25.4000	0.1085E+00	0.3911E+03	-0.4223E+01	-0.0000	0.1152E-01	0.3942E+03	0.0
26.0000	0.1069E+00	0.3847E+03	-0.4377E+01	-0.0000	0.1147E-01	0.3937E+03	0.0
26.4000	0.1054E+00	0.3803E+03	0.0	0.0	0.1091E-01	0.4414E+03	0.0
27.0000	0.1043E+00	0.3803E+03	0.0	0.0	0.1075E-01	0.4534E+03	0.0

2) Sato, Kikukawa & Ashida formula

Legend

SFQB : Sediment discharge (m^3/s)

SQB : Sediment load (m^3)

DV : Variation in Volume ($SQB_2 - SQB_1$) (m^3)

FDH : Variation in River Bed Elevation (m)

IE : Energy gradient

TAUO : Critical tractive force ($(m/s)^2$)

Discharge condition

Discharge cases used in this calculation are as below.

Q (m^3/s)	probability (1/years)
1100	1/200
900	1/80
520	1/10
400	1/5
120	1/1.1