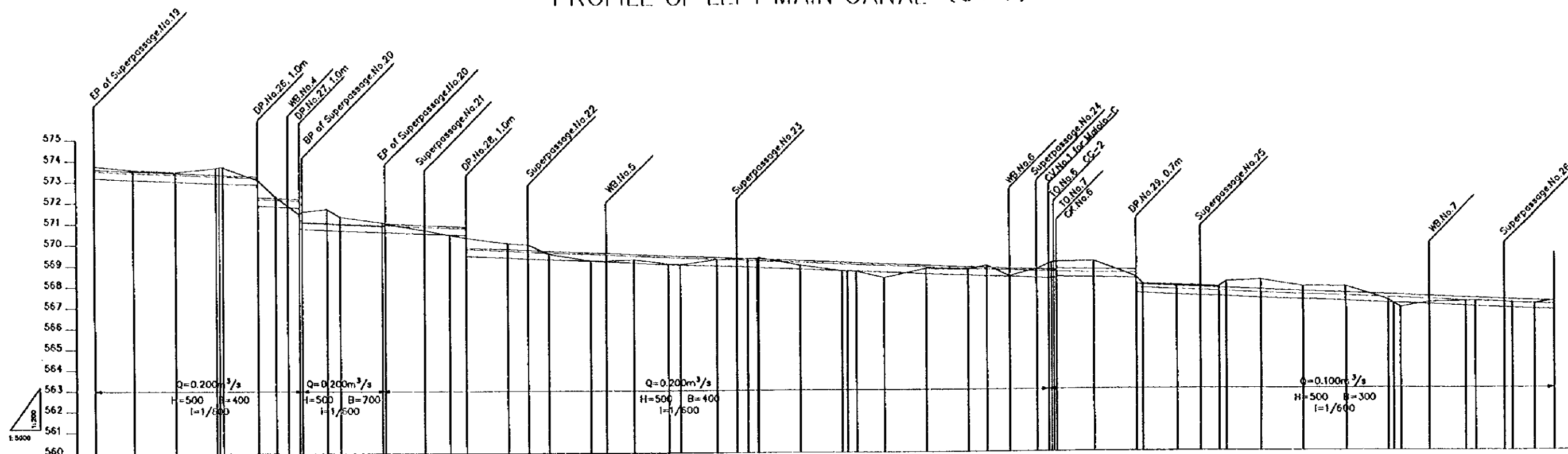


PROFILE OF LEFT MAIN CANAL (6 / 7)



CANAL TYPE	CANAL TYPE-I															CANAL TYPE-II															CANAL TYPE-I														
	CANAL TYPE-I					CANAL TYPE-II					CANAL TYPE-I					CANAL TYPE-II					CANAL TYPE-I					CANAL TYPE-II																			
CANAL BANK ELEVATION	573.49	573.71	573.83	573.84	573.85	573.86	573.87	573.88	573.89	573.90	573.91	573.92	573.93	573.94	573.95	573.96	573.97	573.98	573.99	574.00	574.01	574.02	574.03	574.04	574.05	574.06	574.07	574.08	574.09	574.10	574.11	574.12	574.13	574.14	574.15	574.16	574.17	574.18	574.19	574.20					
WATER SURFACE ELEVATION	573.49	573.71	573.83	573.84	573.85	573.86	573.87	573.88	573.89	573.90	573.91	573.92	573.93	573.94	573.95	573.96	573.97	573.98	573.99	574.00	574.01	574.02	574.03	574.04	574.05	574.06	574.07	574.08	574.09	574.10	574.11	574.12	574.13	574.14	574.15	574.16	574.17	574.18	574.19	574.20					
CANAL BASE ELEVATION	573.49	573.71	573.83	573.84	573.85	573.86	573.87	573.88	573.89	573.90	573.91	573.92	573.93	573.94	573.95	573.96	573.97	573.98	573.99	574.00	574.01	574.02	574.03	574.04	574.05	574.06	574.07	574.08	574.09	574.10	574.11	574.12	574.13	574.14	574.15	574.16	574.17	574.18	574.19	574.20					
GROUND SURFACE ELEVATION	573.77	573.90	573.93	573.94	573.95	573.96	573.97	573.98	573.99	574.00	574.01	574.02	574.03	574.04	574.05	574.06	574.07	574.08	574.09	574.10	574.11	574.12	574.13	574.14	574.15	574.16	574.17	574.18	574.19	574.20	574.21	574.22	574.23	574.24	574.25	574.26	574.27	574.28	574.29	574.30					
REDUCED DISTANCE	5755.48	8802.17	8852.17	8897.46	8947.46	8992.75	9042.75	9088.04	9138.04	9188.04	9238.04	9288.04	9338.04	9388.04	9438.04	9488.04	9538.04	9588.04	9638.04	9688.04	9738.04	9788.04	9838.04	9888.04	9938.04	9988.04	10038.04	10088.04	10138.04	10188.04	10238.04	10288.04	10338.04	10388.04	10438.04	10488.04	10538.04	10588.04	10638.04	10688.04					
DISTANCE	0.00	46.71	90.00	133.29	176.58	219.87	263.16	306.45	349.74	393.03	436.32	479.61	522.90	566.19	609.48	652.77	696.06	739.35	782.64	825.93	869.22	912.51	955.80	999.09	1042.38	1085.67	1128.96	1172.25	1215.54	1258.83	1302.12	1345.41	1388.70	1432.00	1475.29	1518.58	1561.87	1605.16	1648.45						
STATION NO.	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103						

I.P. No.	LA	TL	CL	I.P. No.	LA	TL	CL
P 65	+22° 56' 29"	4.06	8.01	P 72	-29° 43' 50"	5.31	10.38
P 66	+11° 47' 55"	-	-	P 73	+8° 56' 14"	-	-
P 67	-8° 40' 47"	-	-	P 74	-8° 37' 53"	-	-
P 68	+10° 59' 16"	-	-	P 75	+15° 20' 15"	-	-
P 69	+16° 4' 50"	-	-	P 76	-24° 3' 22"	4.26	8.4
P 70	-41° 2' 55"	7.49	14.33	P 77	-34° 20' 44"	6.18	11.99
P 71	+32° 21' 5"	5.8	11.29	P 78	+14° 8' 11"	-	-

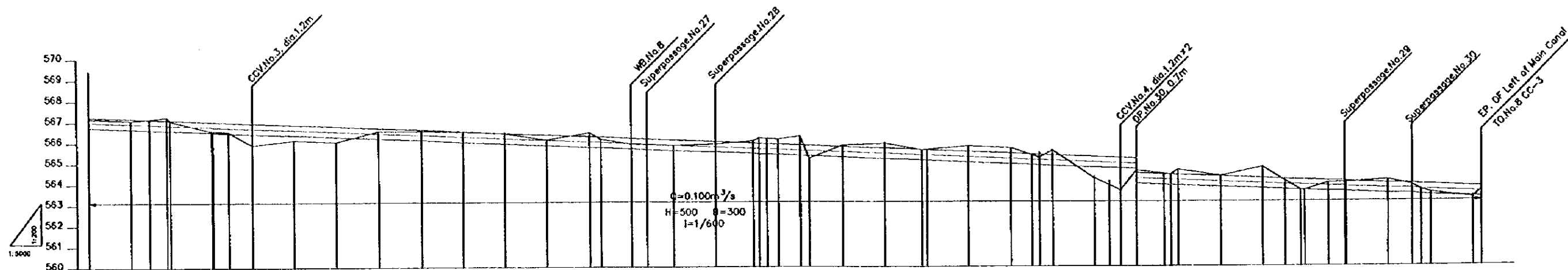
Basic Design Study on the Project for  
Mwega Smallholder Irrigation Scheme  
in Morogoro Region  
in the United Republic of Tanzania

TITLE OF DRAWING  
用水路  
左岸幹線用水路縦断面図 (6 / 7)

Date | Oct. 1999 | Drawing No. | 3-12

NIPPON KOEI CO., LTD. TOKYO, JAPAN

# PROFILE OF LEFT MAIN CANAL (7/7)



CANAL TYPE-I						
CANAL TYPE						
CANAL BANK ELEVATION	567.24	567.16	567.12	567.08	566.91	566.83
WATER SURFACE ELEVATION	566.74	566.66	566.62	566.58	566.41	566.33
CANAL BASE ELEVATION	567.17	567.04	567.15	567.23	566.50	566.58
GROUND SURFACE ELEVATION	567.17	567.04	567.15	567.23	566.50	566.58
REDUCED DISTANCE	0.00	10.50	22.51	33.52	50.00	50.00
DISTANCE	23.53	34.03	56.54	90.06	140.06	190.06
STATION NO.		BC 79	EC 79	BC 80	EC 80	IP 80A
						BC 81
						EC 81
						BC 82
						EC 82
						IP 83
						BC 84
						EC 84
						BC 85
						EC 85
						IP 86
						BC 87
						EC 87
						IP 88
						BC 89
						EC 89
						BP CC-3

I.P. No.	I.A.	TI	QL	I.P. No.	I.A.	TI	QL
IP 79	+61° 21' 36"	11.87	21.42	IP 85	+38° 28' 56"	6.98	13.43
IP 80	-53° 35' 24"	10.10	18.71	IP 86	+23° 2' 25"	4.08	8.04
IP 80A	-1° 7' 56"	-	-	IP 87	-50° 7' 38"	9.35	17.5
IP 81	+38° 59' 37"	7.08	13.81	IP 88	+6° 15' 40"	-	-
IP 82	-29° 34' 25"	5.28	10.32	IP 89	+32° 26' 40"	5.82	11.33
IP 83	-18° 32' 30"	-	-	E.P.	+28° 4' 58"	-	-
IP 84	-25° 13' 50"	4.48	8.81				

Basic Design Study on the Project for  
Mwega Smallholder Irrigation Scheme  
in Morogoro Region  
in the United Republic of Tanzania

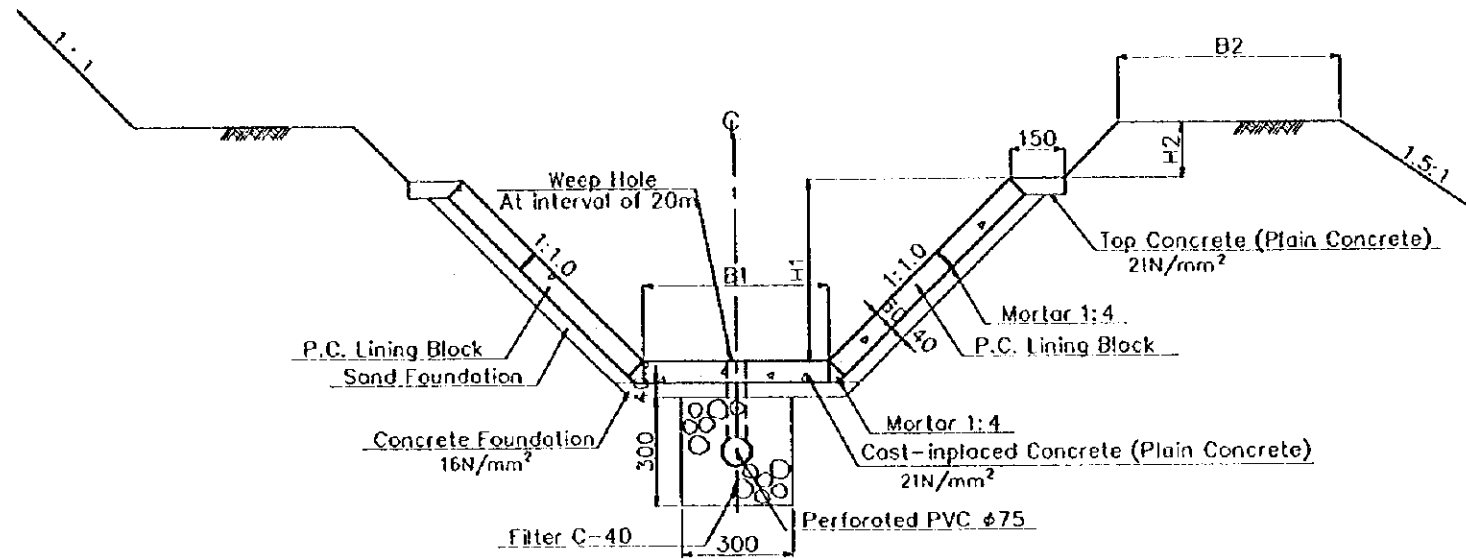
TITLE OF DRAWING  
用水路

左岸幹線用水路縦断面図 (7/7)

Date | Oct. 1999 | Drawing No. | 3-13

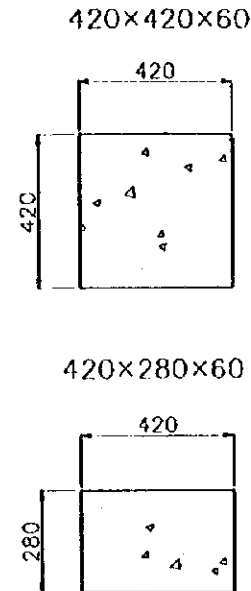
NIPPON KOEI CO., LTD. TOKYO, JAPAN

# TYPICAL CROSS SECTION OF MAIN CANAL



Note: Under Drain  
 Left main Canal BP.~Turnout No.3  
 Right main Canal BP.~Turnout No.5

## P.C. LINING BLOCK



## Dimension of Canal

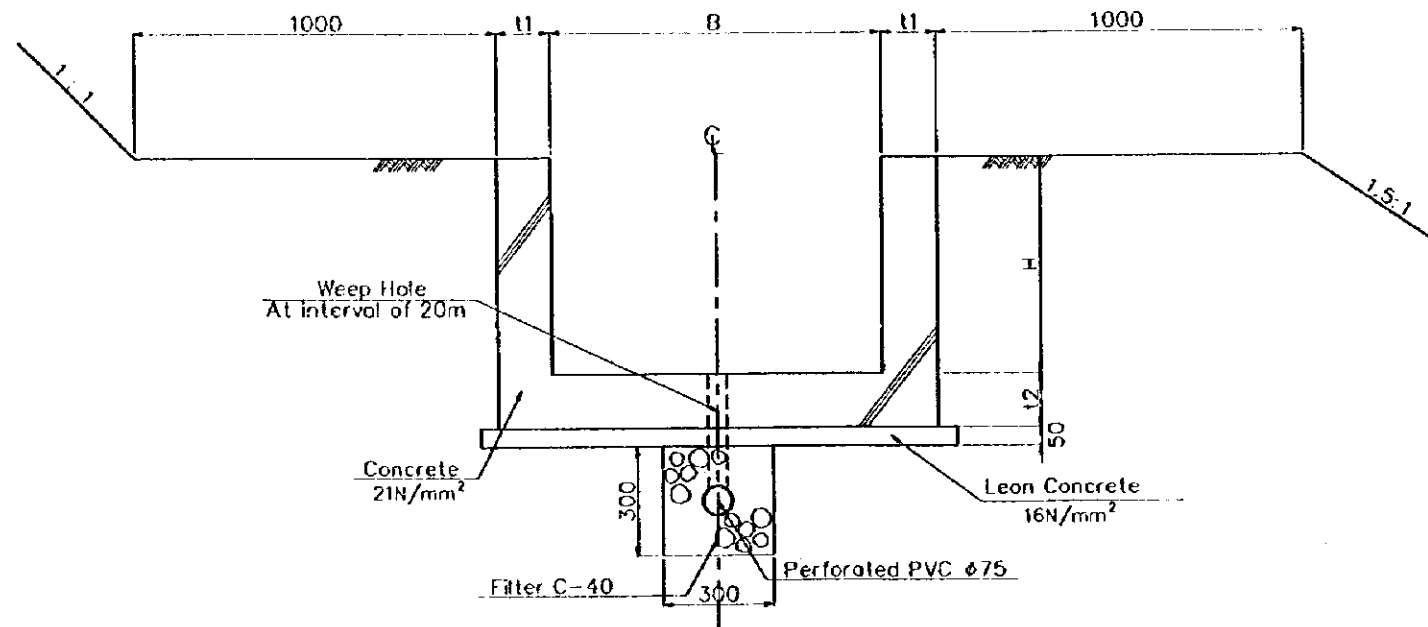
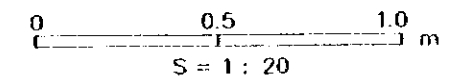
(Unit mm)

CANAL TYPE	H <sub>1</sub>	B <sub>1</sub>	H <sub>2</sub>	B <sub>2</sub>
TYPE-I	500	300	100	600
TYPE-II	500	400	100	600
TYPE-III	600	400	100	800
TYPE-IV	600	500	100	800
TYPE-V	700	500	150	1000
TYPE-VI	800	600	150	1000

## Dimension of Flume

(Unit mm)

FLUME TYPE	H	B	t1	t2
TYPE-I	600	800	150	200
TYPE-II	600	900	150	200
TYPE-III	700	900	150	200
TYPE-IV	700	1000	150	200
TYPE-V	800	1200	150	200



Basic Design Study on the Project for  
 Mwega Smallholder Irrigation Scheme  
 in Morogoro Region  
 in the United Republic of Tanzania

TITLE OF DRAWING  
 用水路

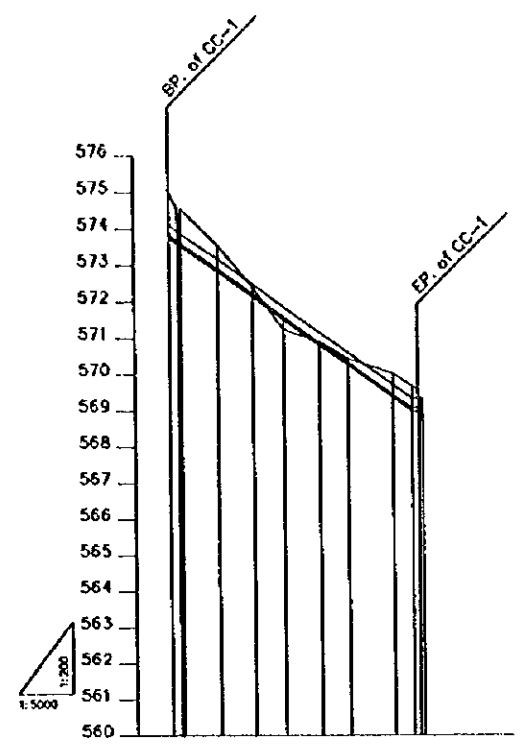
幹線用水路標準断面図

Date | Oct. 1999 | Drawing No. | 3-14

NIPPON KOEI CO., LTD. TOKYO, JAPAN

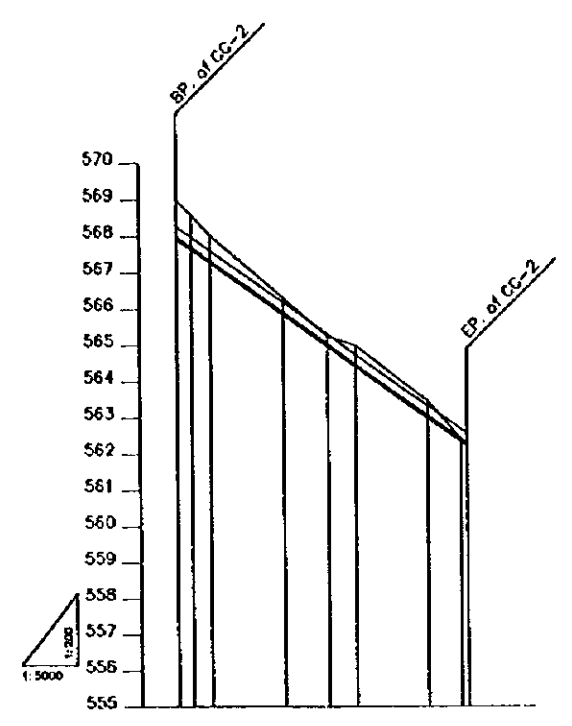
# PROFILE OF CONNECTION CANALS

CONNECTION CANAL No.1



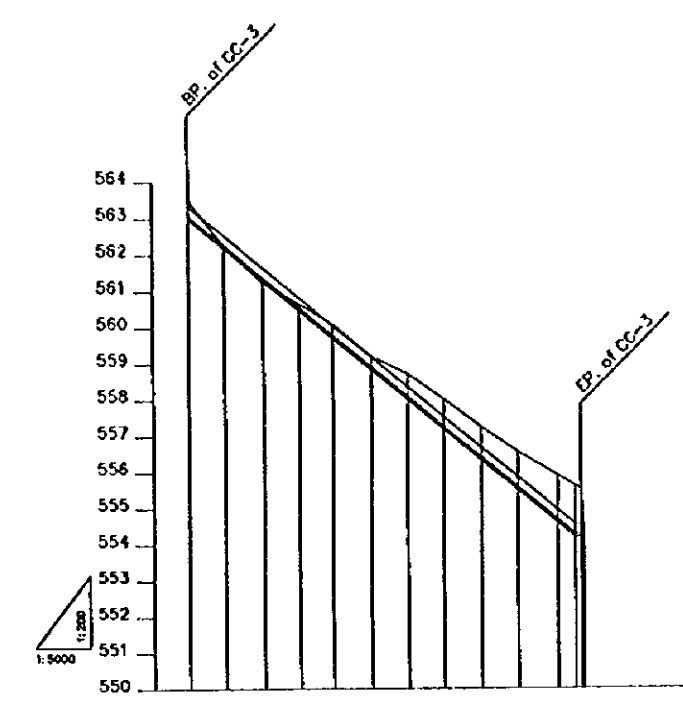
CANAL TYPE	Q=0.049m <sup>3</sup> /s		B=0.40m		H=0.35m	
	h=0.08m		I=1/35		V=1.62m/s	
CANAL BANK ELEVATION	574.89	574.89	574.89	574.89	574.89	574.89
WATER SURFACE ELEVATION	574.50	574.50	574.50	574.50	574.50	574.50
CANAL BASE ELEVATION	573.74	573.74	573.74	573.74	573.74	573.74
GROUND SURFACE ELEVATION	574.89	574.89	574.89	574.89	574.89	574.89
REDUCED DISTANCE	0.00	32.43	58.58	78.66	103.71	123.00
DISTANCE	0.00	24.04	24.15	22.10	25.03	18.29
STATION NO.	BP of CC-1					EP of CC-1

CONNECTION CANAL No.2



CANAL TYPE	Q=0.056m <sup>3</sup> /s		B=0.40m		H=0.35m	
	h=0.08m		I=1/35		V=1.69m/s	
CANAL BANK ELEVATION	568.25	568.25	568.25	568.25	568.25	568.25
WATER SURFACE ELEVATION	567.86	567.86	567.86	567.86	567.86	567.86
CANAL BASE ELEVATION	567.00	567.00	567.00	567.00	567.00	567.00
GROUND SURFACE ELEVATION	568.25	568.25	568.25	568.25	568.25	568.25
REDUCED DISTANCE	0.00	8.80	22.50	72.50	102.50	122.50
DISTANCE	0.00	12.70	50.00	35.00	20.00	50.00
STATION NO.	BP of CC-2					EP of CC-2

CONNECTION CANAL No.3



CANAL TYPE	Q=0.056m <sup>3</sup> /s		B=0.40m		H=0.35m	
	h=0.08m		I=1/30		V=1.79m/s	
CANAL BANK ELEVATION	563.34	563.34	563.34	563.34	563.34	563.34
WATER SURFACE ELEVATION	562.95	562.95	562.95	562.95	562.95	562.95
CANAL BASE ELEVATION	562.10	562.10	562.10	562.10	562.10	562.10
GROUND SURFACE ELEVATION	563.34	563.34	563.34	563.34	563.34	563.34
REDUCED DISTANCE	0.00	24.41	50.93	75.48	98.63	124.93
DISTANCE	0.00	26.52	24.55	23.17	20.28	24.77
STATION NO.	BP of CC-3					EP of CC-3

Basic Design Study on the Project for  
Mwega Smallholder Irrigation Scheme  
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in the United Republic of Tanzania

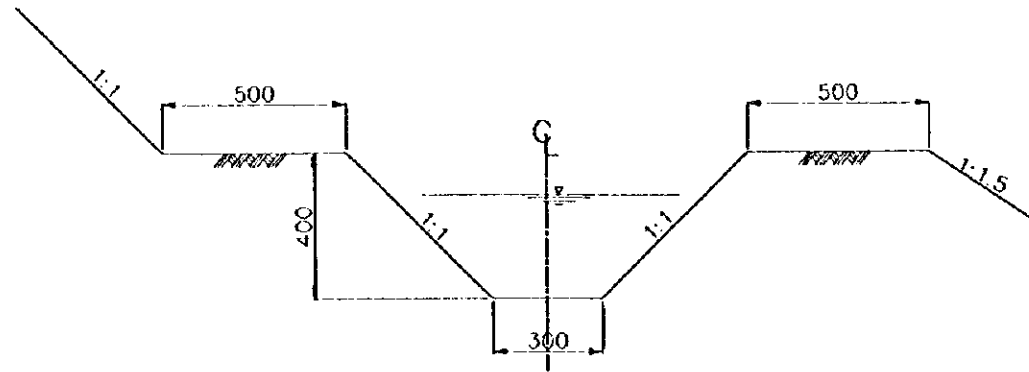
TITLE OF DRAWING  
用水路  
連路用水路縦断面図

Date	Oct. 1999	Drawing No.	3-15
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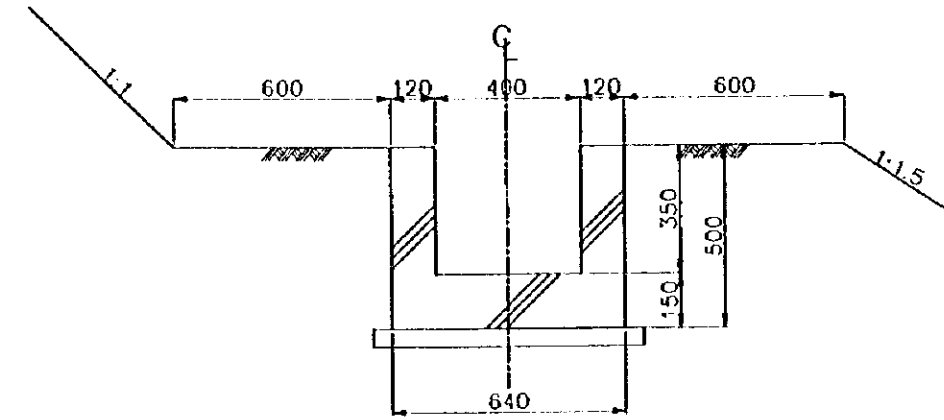
NIPPON KOEI CO., LTD. TOKYO, JAPAN

### TYPICAL CROSS SECTION OF CONNECTION CANAL AND LATERAL CANAL

LATERAL CANAL



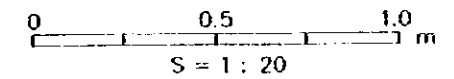
CONNECTION CANAL



List of Lateral Canals

Name of Lateral	Design Discharge (m <sup>3</sup> /sec)	Length (m)	Remarks
<b>(1). Right Main Canal Area</b>			
RLC-2	0.03	200	from Turnout No.2 of RMC
RLC-3	0.03	100	from Turnout No.3 of RMC
RLC-5	0.08	1502	from Turnout No.4 of RMC
RLC-7	0.07	225	to existing Canal C
<b>(2). Left Main Canal Area</b>			
LLC-2	0.06	660	from Turnout No.2 of LMC
LLC-3	0.07	1134	from Turnout No.3 of LMC
LLC-4	0.07	534	from Turnout No.4 of LMC
LLC-5	0.04	930	from Turnout No.5 of LMC

Note; Excavation of Lateral Canal should be performed by formers.



Basic Design Study on the Project for  
Mwega Smallholder Irrigation Scheme  
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in the United Republic of Tanzania

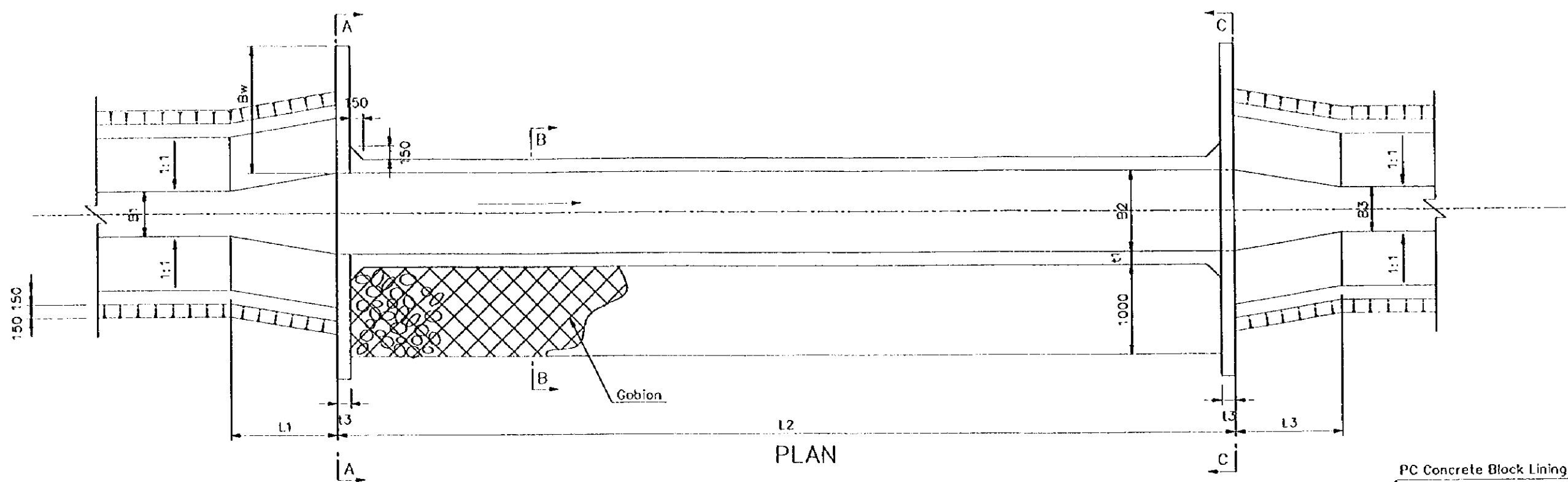
TITLE OF DRAWING  
用水路

連絡用水路及び支線用水路標準断面図

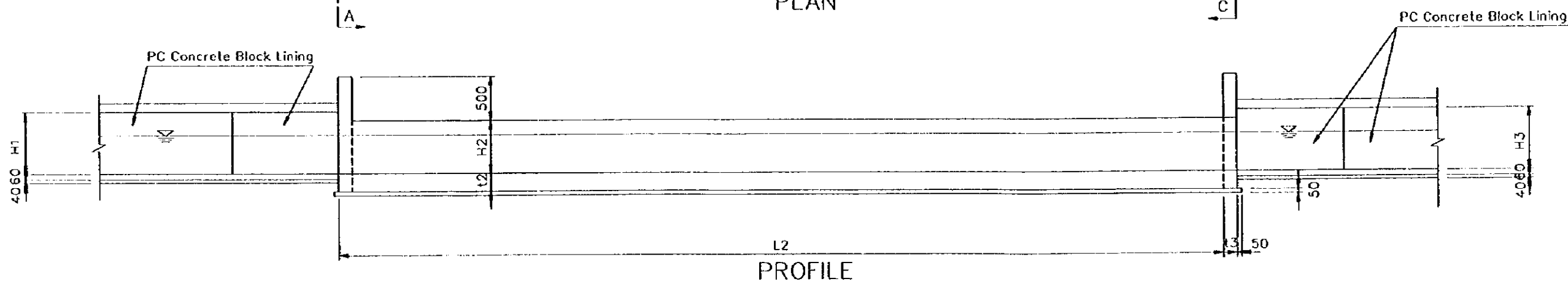
Date | Oct. 1999 | Drawing No. | 3-16

NIPPON KOEI CO., LTD. TOKYO, JAPAN

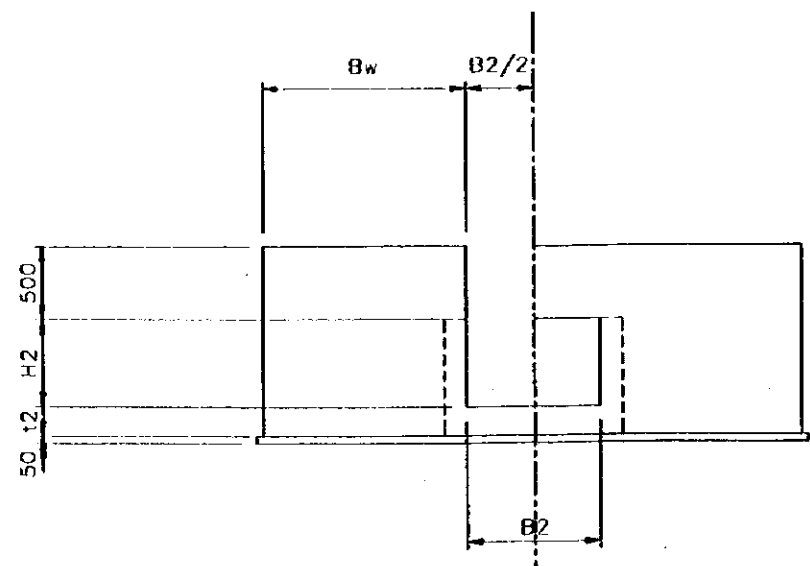
SUPERPASSAGE WITHOUT COVER



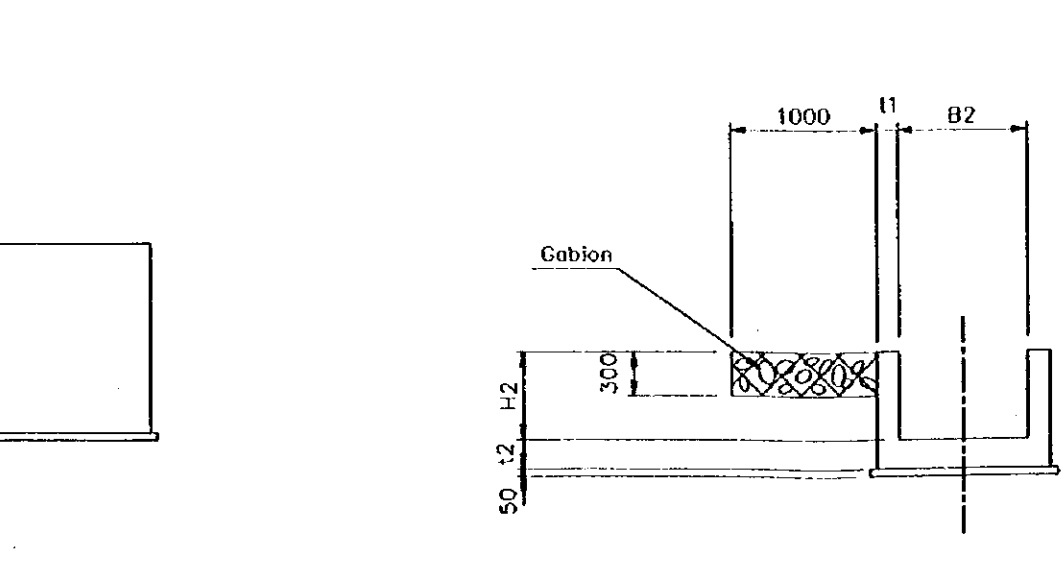
PLAN



PROFILE

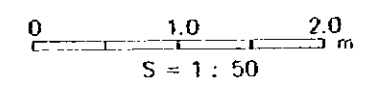


SECTION A-A



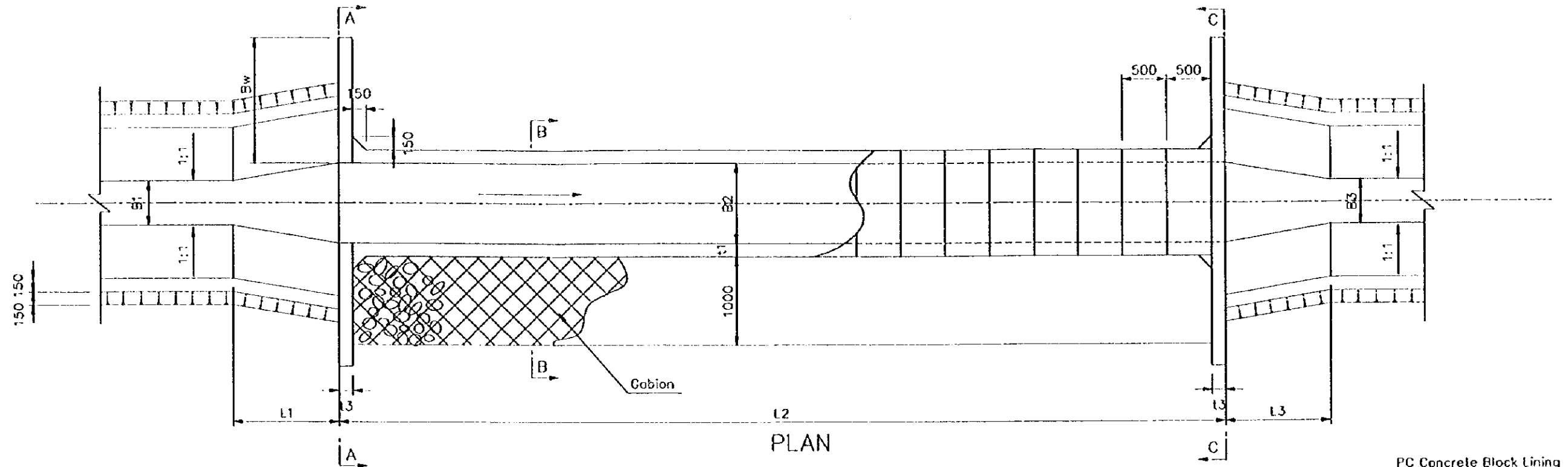
SECTION B-B

SECTION C-C

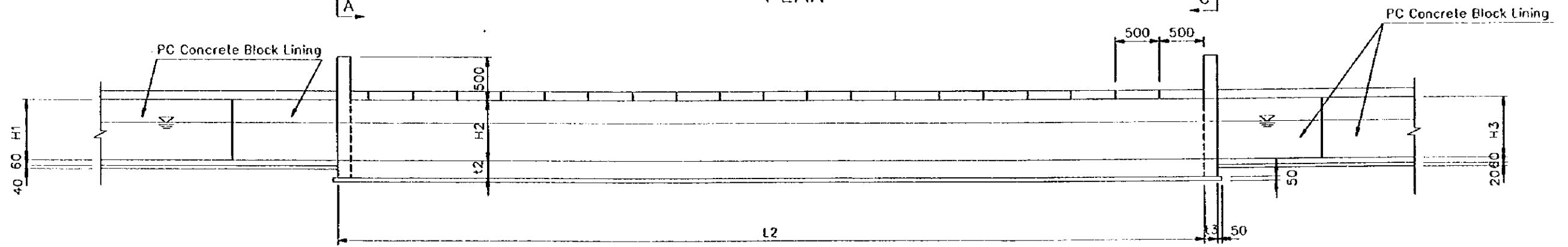


Basic Design Study on the Project for Mwega Smallholder Irrigation Scheme in Morogoro Region in the United Republic of Tanzania			
TITLE OF DRAWING 用水路			
上位横断排水工 (蓋なし)			
Date	Oct. 1999	Drawing No.	3-17
NIPPON KOEI CO., LTD. TOKYO, JAPAN			

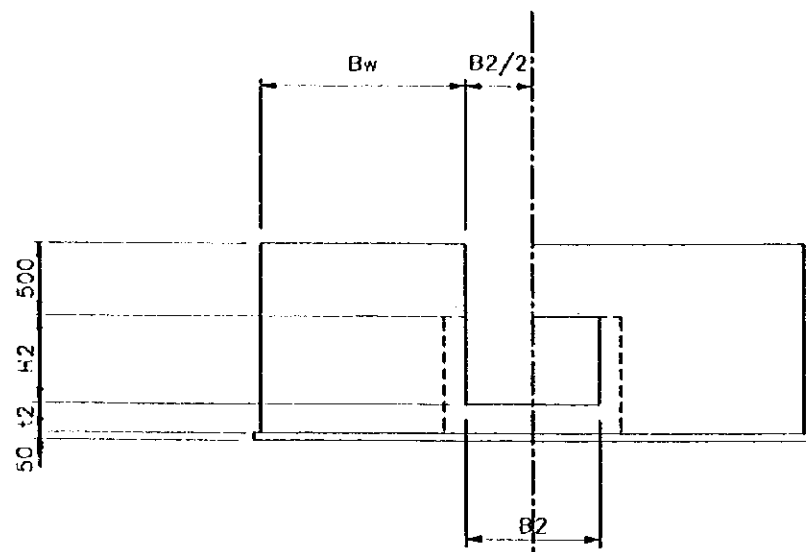
SUPERPASSAGE WITH COVER



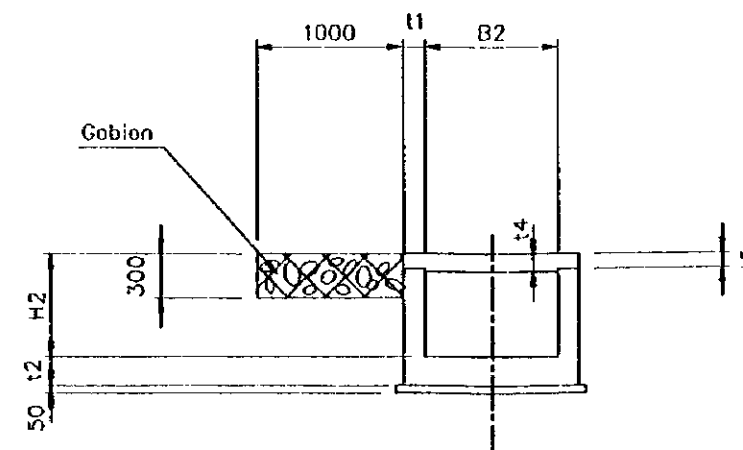
PLAN



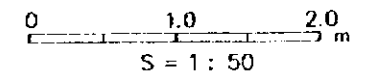
PROFILE



SECTION A-A



SECTION B-B



Basic Design Study on the Project for Mwega Smallholder Irrigation Scheme in Morogoro Region in the United Republic of Tanzania			
TITLE OF DRAWING 用水路			
上位横断排水工 (蓋あり)			
Date	Oct. 1999	Drawing No.	3-18
NIPPON KOEI CO., LTD. TOKYO, JAPAN			

### DIMENSION TABLE OF SUPERPASSAGE

Unit:(mm)

Name of Canal	Name of structure	Reduced Distance	Qi (m <sup>3</sup> /sec)	H1	H2	H3	L1(m)	L2(m)	L3(m)	B1	B2	B3	Bw	t1	t2	t3	t4	t5	Remarks
Right Main Canal	No.1 SUPERPASSAGE	680.43	0.37	700	700	700	1.2	6	1.2	500	900	900	1500	150	200	150	120	100	With concrete cover
	No.2 SUPERPASSAGE	1410.93	0.37	600	600	600	1.2	4	1.2	500	900	900	1400	150	200	150	120	100	With concrete cover
	No.3 SUPERPASSAGE	1770.11	0.37	600	600	600	1.2	4	1.2	500	900	500	1400	150	200	150	120	100	With concrete cover
	No.4 SUPERPASSAGE	2279.51	0.37	600	500	600	1.2	4	1.2	500	900	500	1400	150	200	150	--	--	
	No.5 SUPERPASSAGE	2625.37	0.37	600	500	600	1.2	5	1.2	500	800	500	1400	150	200	150	--	--	
	No.6 SUPERPASSAGE	3280.56	0.31	600	500	600	1.2	19	1.2	400	800	400	1400	150	200	150	--	--	
	No.7 SUPERPASSAGE	4344.34	0.31	600	500	600	1.2	4	1.2	400	800	400	1400	150	200	150	--	--	
	No.8 SUPERPASSAGE	4788.03	0.31	600	500	600	1.2	4	1.2	400	800	400	1400	150	200	150	--	--	
	No.9 SUPERPASSAGE	6357.11	0.18	500	500	500	1.2	4	1.2	300	600	300	1300	120	150	150	120	100	With concrete cover
	No.10 SUPERPASSAGE	7223.06	0.18	500	500	500	1.2	4	1.2	300	600	300	1300	120	150	150	120	100	With concrete cover
	No.11 SUPERPASSAGE	7418.79	0.18	500	400	500	1.2	4	1.2	300	600	300	1300	120	150	150	--	--	
	No.12 SUPERPASSAGE	8020.97	0.18	500	400	500	1.2	11	1.2	300	600	300	1300	120	150	150	--	--	
	No.13 SUPERPASSAGE	8512.65	0.18	500	400	500	1.2	10	1.2	300	600	300	1300	120	150	150	--	--	
Left Main Canal	No.1 SUPERPASSAGE	404.98	0.52	800	800	800	1.2	6	1.2	600	1200	600	1600	150	200	150	150	130	With concrete cover
	No.2 SUPERPASSAGE	936.93	0.52	700	700	700	1.2	4	1.2	500	1000	500	1500	150	200	150	120	100	With concrete cover
	No.3 SUPERPASSAGE	1313.67	0.52	700	700	700	1.2	4	1.2	500	1000	500	1500	150	200	150	120	100	With concrete cover
	No.4 SUPERPASSAGE	1880.89	0.52	700	600	700	1.2	15	1.2	1000	1000	1000	1500	150	200	150	--	--	
	No.5 SUPERPASSAGE	2751.79	0.43	700	700	700	1.2	4	1.2	500	900	500	1500	150	200	150	120	100	With concrete cover
	No.6 SUPERPASSAGE	3083.71	0.43	700	600	700	1.2	4	1.2	500	900	500	1500	150	200	150	--	--	
	No.7 SUPERPASSAGE	3540.46	0.43	700	600	700	1.2	14	1.2	900	900	900	1500	150	200	150	--	--	
	No.8 SUPERPASSAGE	3928.15	0.43	700	600	700	1.2	5	1.2	500	900	500	1500	150	200	150	--	--	
	No.9 SUPERPASSAGE	4540.44	0.43	700	600	700	1.2	4	1.2	500	900	500	1500	150	200	150	--	--	
	No.10 SUPERPASSAGE	5058.52	0.43	700	600	700	1.2	8	1.2	500	900	500	1500	150	200	150	--	--	
	No.11 SUPERPASSAGE	5704.49	0.43	700	600	700	1.2	9	1.2	500	900	500	1500	150	200	150	--	--	
	No.12 SUPERPASSAGE	6311.65	0.43	700	700	700	1.2	4	1.2	500	900	500	1500	150	200	150	--	--	
	No.13 SUPERPASSAGE	6533.12	0.25	600	600	600	1.2	4	1.2	400	700	400	1400	120	150	150	120	100	With concrete cover
	No.14 SUPERPASSAGE	7060.77	0.25	600	600	600	1.2	4	1.2	400	700	400	1400	120	150	150	120	100	With concrete cover
	No.15 SUPERPASSAGE	7359.51	0.25	600	600	600	1.2	4	1.2	400	700	400	1400	120	150	150	120	100	With concrete cover
	No.16 SUPERPASSAGE	7751.64	0.25	600	500	600	1.2	30	1.2	700	700	700	1400	120	150	150	--	--	
	No.17 SUPERPASSAGE	8088.87	0.25	600	500	600	1.2	30	1.2	700	700	700	1400	120	150	150	--	--	
No.18 SUPERPASSAGE	8393.19	0.25	600	500	600	1.2	30	1.2	700	700	700	1400	120	150	150	--	--		
No.19 SUPERPASSAGE	8739.46	0.20	500	400	500	1.2	30	1.2	700	700	700	1300	120	150	150	--	--		
No.20 SUPERPASSAGE	9055.29	0.20	500	500	500	1.2	100	1.2	700	700	700	1300	120	150	150	120	100	With concrete cover	
No.21 SUPERPASSAGE	9105.19	0.20	500	400	500	1.2	9	1.2	700	700	700	1300	120	150	150	--	--		
No.22 SUPERPASSAGE	9276.78	0.20	500	400	500	1.2	8	1.2	400	700	400	1300	120	150	150	--	--		
No.23 SUPERPASSAGE	9525.32	0.20	500	400	500	1.2	8	1.2	400	700	400	1300	120	150	150	--	--		
No.24 SUPERPASSAGE	9883.61	0.20	500	400	500	1.2	7	1.2	400	700	400	1300	120	150	150	--	--		
No.25 SUPERPASSAGE	10078.87	0.10	500	400	500	1.2	7	1.2	300	500	300	1300	120	150	150	--	--		
No.26 SUPERPASSAGE	10441.32	0.10	500	400	500	1.2	6	1.2	300	500	300	1300	120	150	150	--	--		
No.27 SUPERPASSAGE	11165.13	0.10	500	400	500	1.2	7	1.2	300	500	300	1300	120	150	150	--	--		
No.28 SUPERPASSAGE	11246.56	0.10	500	400	500	1.2	7	1.2	300	500	300	1300	120	150	150	--	--		
No.29 SUPERPASSAGE	11991.90	0.10	500	400	500	1.2	8	1.2	300	500	300	1300	120	150	150	--	--		
No.30 SUPERPASSAGE	12071.90	0.10	500	400	500	1.2	8	1.2	300	500	300	1300	120	150	150	--	--		

Basic Design Study on the Project for  
Mwega Smallholder Irrigation Scheme  
in Morogoro Region  
in the United Republic of Tanzania

TITLE OF DRAWING  
用水路

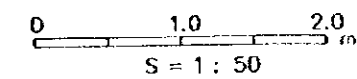
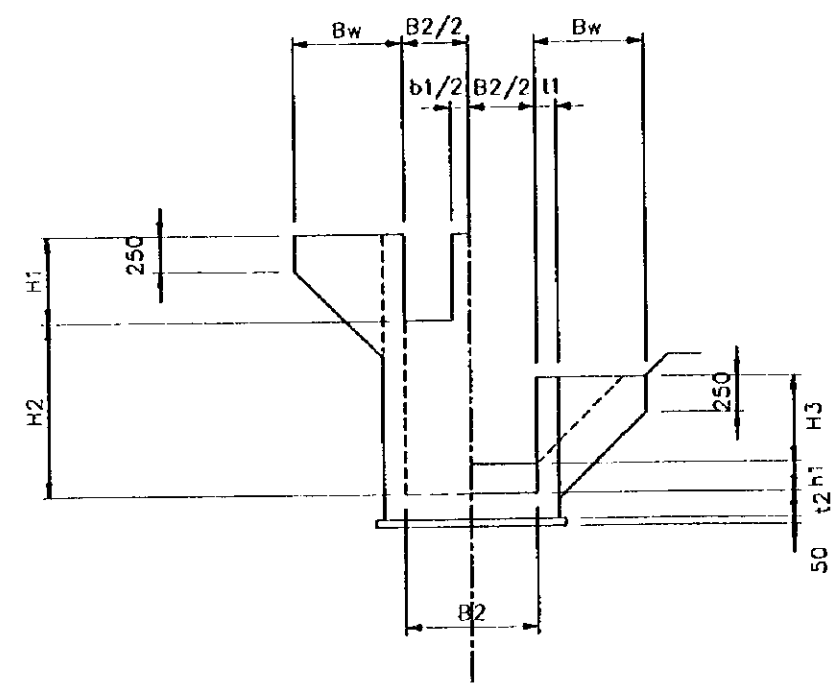
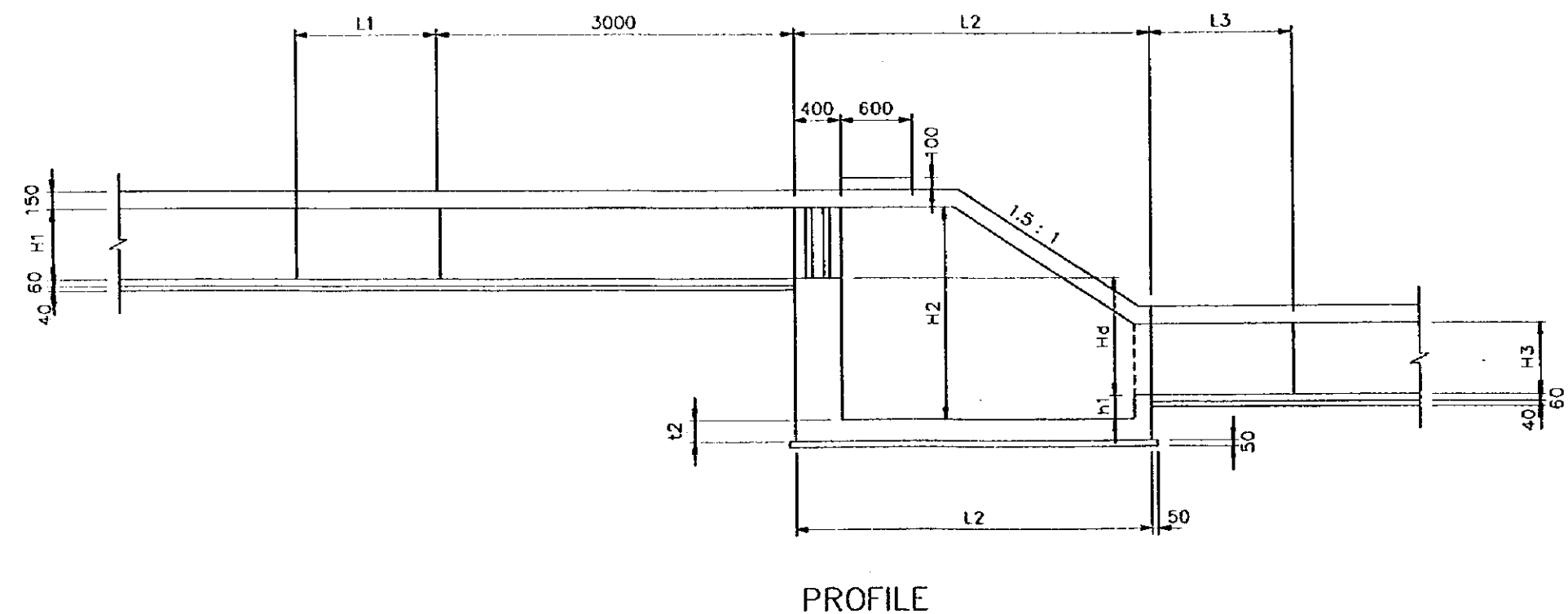
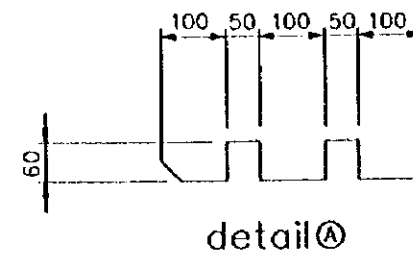
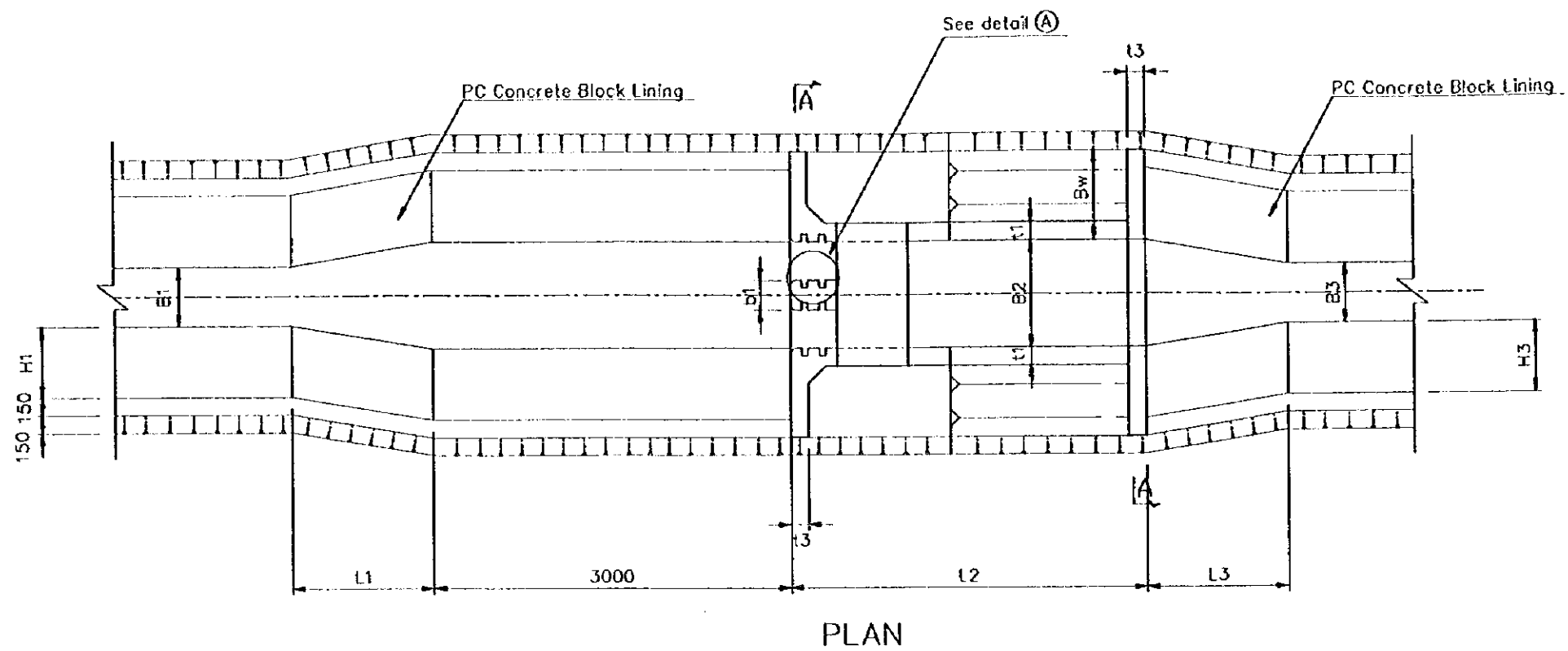
上位横断排水工諸元

Date | Oct. 1999 | Drawing No. | 3-19

NIPPON KOEI CO., LTD. TOKYO, JAPAN



# DROP



Basic Design Study on the Project for Mwega Smallholder Irrigation Scheme in Morogoro Region in the United Republic of Tanzania			
TITLE OF DRAWING 用水路 落差工			
Date	Oct. 1999	Drawing No.	3-20
NIPPON KOEI CO., LTD. TOKYO, JAPAN			

DIMENSION TABLE OF DROP

(Unit:mm)

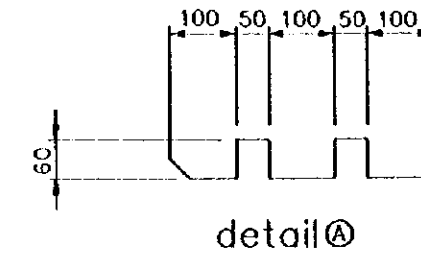
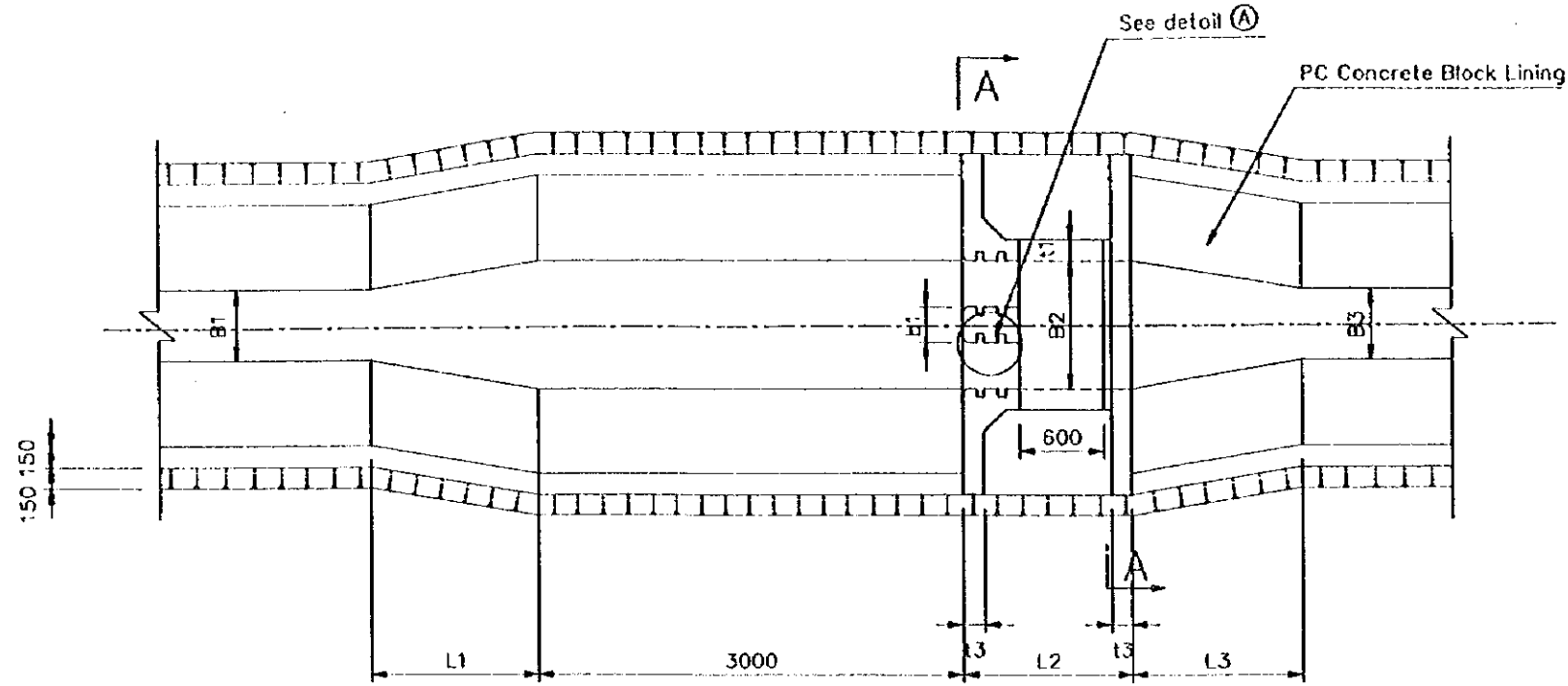
Name of Canal	Name of structure	Reduced Distance(m)	Qi (m3/sec)	H1	H2	H3	Hd	h1	L1	L2	L3	B1	B2	B3	b1	Bw	t1	t2	t3
Right Main Canal	No.1Drop	1084.17	0.37	700	1720	600	820	200	1200	2460	1200	500	1050	500	250	850	200	200	150
	No.2Drop	1274.17	0.37	600	1500	600	700	200	1200	2200	1200	500	1050	500	250	750	200	200	150
	No.3Drop	1325.08	0.37	600	1500	600	700	200	1200	2200	1200	500	1050	500	250	750	200	200	150
	No.4Drop	1570.96	0.37	600	1500	600	700	200	1200	2200	1200	500	1050	500	250	750	200	200	150
	No.5Drop	1720.36	0.37	600	1500	600	700	200	1200	2200	1200	500	1050	500	250	750	200	200	150
	No.6Drop	2029.51	0.37	600	1800	600	1000	200	1200	3000	1200	500	1050	500	250	750	200	200	150
	No.7Drop	2329.51	0.37	600	1800	600	1000	200	1200	3000	1200	500	1050	500	250	750	200	200	150
	No.8Drop	3071.06	0.31	600	1800	600	1000	200	1200	3000	1200	400	1050	400	250	750	200	200	150
	No.9Drop	3221.06	0.31	600	1500	600	700	200	1200	2200	1200	400	1050	400	250	750	200	200	150
	No.10Drop	3825.82	0.31	600	1500	600	700	200	1200	2200	1200	400	1050	400	250	750	200	200	150
	No.11Drop	4541.03	0.31	600	1800	600	1000	200	1200	3000	1200	400	1050	400	250	750	200	200	150
	No.12Drop	4588.03	0.31	600	1800	600	1000	200	1200	3000	1200	400	1050	400	250	750	200	200	150
	No.13Drop	5082.30	0.31	600	1800	600	1000	200	1200	3000	1200	400	1050	400	250	750	200	200	150
	No.14Drop	5132.30	0.31	600	1800	600	1000	200	1200	3000	1200	400	1050	400	250	750	200	200	150
	No.15Drop	5182.30	0.31	600	1500	600	700	200	1200	2200	1200	400	1050	400	250	750	200	200	150
	No.16Drop	5282.30	0.31	600	1500	600	700	200	1200	2200	1200	400	1050	400	250	750	200	200	150
	No.17Drop	6280.30	0.18	500	1700	500	1000	200	1200	3000	1200	300	850	300	250	650	200	200	150
	No.18Drop	6328.94	0.18	500	1400	500	700	200	1200	2200	1200	300	850	300	250	650	200	200	150
	No.19Drop	6925.30	0.18	500	1700	500	1000	200	1200	3000	1200	300	850	300	250	650	200	200	150
	No.20Drop	6989.17	0.18	500	1400	500	700	200	1200	2200	1200	300	850	300	250	650	200	200	150
	No.21Drop	8189.47	0.18	500	1700	500	1000	200	1200	3000	1200	300	850	300	250	650	200	200	150
	No.22Drop	8215.37	0.18	500	1700	500	1000	200	1200	3000	1200	300	850	300	250	650	200	200	150
	No.23Drop	8714.60	0.14	500	1700	500	1000	200	1200	3000	1200	300	850	300	250	650	200	200	150
Left Main Canal	No.1 Drop	1166.84	0.52	700	1900	700	1000	200	1200	3000	1200	500	1050	500	250	850	200	200	150
	No.2 Drop	1365.40	0.52	700	1900	700	1000	200	1200	3000	1200	500	1050	500	250	850	200	200	150
	No.3 Drop	1556.64	0.52	700	1900	700	1000	200	1200	3000	1200	500	1050	500	250	850	200	200	150
	No.4 Drop	1765.14	0.52	700	1600	700	700	200	1200	2200	1200	500	1050	500	250	850	200	200	150
	No.5 Drop	2609.34	0.52	700	1900	700	1000	200	1200	3000	1200	500	1050	500	250	850	200	200	150
	No.6 Drop	2659.34	0.43	700	1900	700	1000	200	1200	3000	1200	500	1050	500	250	850	200	200	150
	No.7 Drop	2771.85	0.43	700	1600	700	700	200	1200	2200	1200	500	1050	500	250	850	200	200	150
	No.8 Drop	2858.52	0.43	700	1600	700	700	200	1200	2200	1200	500	1050	500	250	850	200	200	150
	No.9 Drop	3208.52	0.43	700	1900	700	1000	200	1200	3000	1200	500	1050	500	250	850	200	200	150
	No.10 Drop	3358.52	0.43	700	1900	700	1000	200	1200	3000	1200	500	1050	500	250	850	200	200	150
	No.11 Drop	3608.52	0.43	700	1900	700	1000	200	1200	3000	1200	500	1050	500	250	850	200	200	150
	No.12 Drop	3808.52	0.43	700	1600	700	700	200	1200	2200	1200	500	1050	500	250	850	200	200	150
	No.13 Drop	4008.52	0.43	700	1900	700	1000	200	1200	3000	1200	500	1050	500	250	850	200	200	150
	No.14 Drop	4158.52	0.43	700	1600	700	700	200	1200	2200	1200	500	1050	500	250	850	200	200	150
	No.15 Drop	4358.52	0.43	700	1900	700	1000	200	1200	3000	1200	500	1050	500	250	850	200	200	150
	No.16 Drop	4458.52	0.43	700	1600	700	700	200	1200	2200	1200	500	1050	500	250	850	200	200	150
	No.17 Drop	4608.52	0.43	700	1900	700	1000	200	1200	3000	1200	500	1050	500	250	850	200	200	150
No.18 Drop	4808.52	0.43	700	1900	700	1000	200	1200	3000	1200	500	1050	500	250	850	200	200	150	
No.19 Drop	5154.38	0.43	700	1900	700	1000	200	1200	3000	1200	500	1050	500	250	850	200	200	150	
No.20 Drop	5380.49	0.43	700	1900	700	1000	200	1200	3000	1200	500	1050	500	250	850	200	200	150	
No.21 Drop	5555.87	0.43	700	1900	700	1000	200	1200	3000	1200	500	1050	500	250	850	200	200	150	
No.22 Drop	6768.16	0.25	600	1800	600	1000	200	1200	3000	1200	400	850	400	250	750	200	200	150	
No.23 Drop	6818.16	0.25	600	1800	600	1000	200	1200	3000	1200	400	850	400	250	750	200	200	150	
No.24 Drop	6910.77	0.25	600	1800	600	1000	200	1200	3000	1200	400	850	400	250	750	200	200	150	
No.25 Drop	8604.46	0.20	500	1400	500	700	200	1200	2200	1200	400	850	400	250	650	200	200	150	
No.26 Drop	8952.06	0.20	500	1700	500	1000	200	1200	3000	1200	400	850	400	250	650	200	200	150	
No.27 Drop	9002.06	0.20	500	1700	500	1000	200	1200	3000	1200	400	850	400	250	650	200	200	150	
No.28 Drop	9202.06	0.20	500	1700	500	1000	200	1200	3000	1200	400	850	400	250	650	200	200	150	
No.29 Drop	10000.86	0.10	400	1300	400	700	200	1200	2200	1200	300	500	300	-	550	150	150	150	
No.30 Drop	11745.09	0.10	400	1300	400	700	200	1200	2200	1200	300	500	300	-	550	150	150	150	

**Basic Design Study on the Project for  
 Mwega Smallholder Irrigation Scheme  
 in Morogoro Region  
 in the United Republic of Tanzania**

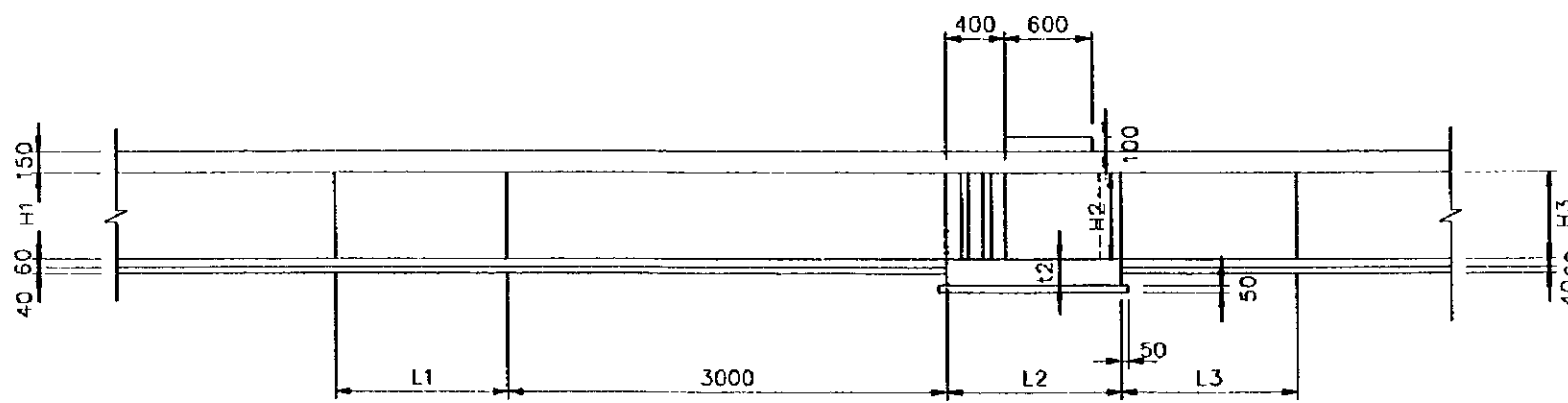
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 用水路  
 落差工諸元

Date | Oct. 1999 | Drawing No. | 3-21  
 NIPPON KOEI CO., LTD. TOKYO, JAPAN

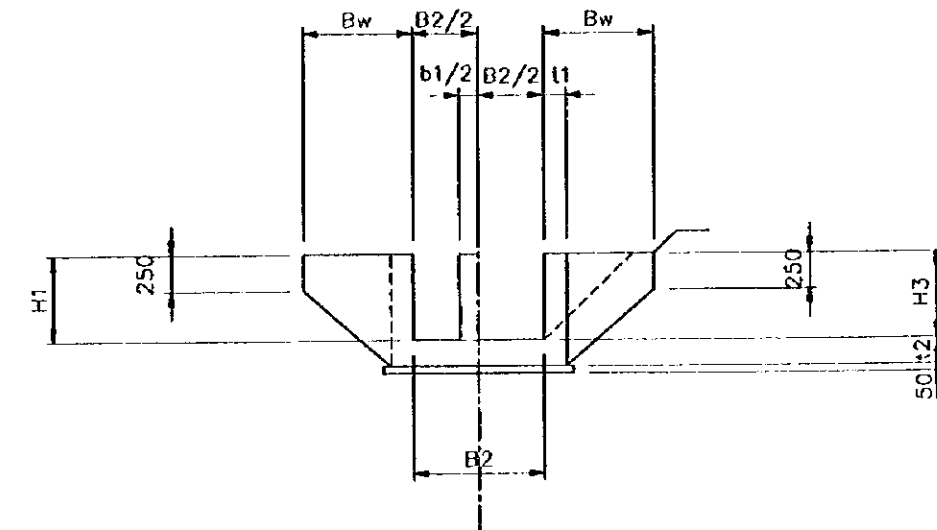
CHECK



PLAN



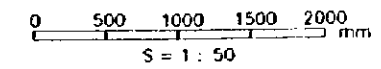
PROFILE



SECTION A-A

DIMENSION OF CHECK

		Unit: (mm)																			
Name of Canal	Name of structure	Reduced Distance(m)	Qi (m <sup>3</sup> /sec)	H1	H2	H3	Hd	h1	L1	L2	L3	B1	B2	B3	b1	Bw	t1	t2	t3	Remarks	
Right Main Canal	No.1 Check/Drop	1804.34	0.37	600	1800	600	1000	200	1200	3000	1200	500	1050	500	250	750	200	200	150	See Drawing of Drop	
	No.2 Check/Drop	2971.06	0.31	600	1800	600	1000	200	1200	3000	1200	500	1050	400	250	750	200	200	150	See Drawing of Drop	
	No.3 Check/Drop	4446.35	0.31	600	1500	600	700	200	1200	2200	1200	400	1050	400	250	750	200	200	150	See Drawing of Drop	
	No.4 Check/Drop	6213.42	0.18	500	1700	500	1000	200	1200	3000	1200	300	850	300	250	650	200	200	150	See Drawing of Drop	
	No.5 Check	8572.65	0.14	500	500	500	-	-	1200	1200	1200	300	500	300	-	650	150	150	150		
	No.6 Check	8963.20	0.14	500	500	500	-	-	1200	1200	1200	300	500	300	-	650	150	150	150		
Left Main Canal	No.1 Check/Drop	533.58	0.52	800	2000	800	1000	200	1200	3000	1200	1200	1050	600	250	950	200	200	150	See Drawing of Drop	
	No.2 Check/Drop	2353.27	0.43	700	1900	700	1000	200	1200	3000	1200	500	1050	500	250	850	200	200	150	See Drawing of Drop	
	No.3 Check/Drop	4250.44	0.43	700	1900	700	1000	200	1200	3000	1200	500	1050	500	250	850	200	200	150	See Drawing of Drop	
	No.4 Check	6326.65	0.25	700	700	600	-	-	1200	1200	1200	500	850	400	250	850	150	150	150		
	No.5 Check	8475.08	0.20	600	600	500	-	-	1200	1200	1200	400	850	400	250	750	150	150	150		
	No.6 Check	9906.61	0.10	500	500	500	-	-	1200	1200	1200	400	500	300	-	650	150	150	150		
	No.7 Check	12153.46	0.04	500	500	500	-	-	1200	1200	1200	300	500	300	-	650	150	150	150		



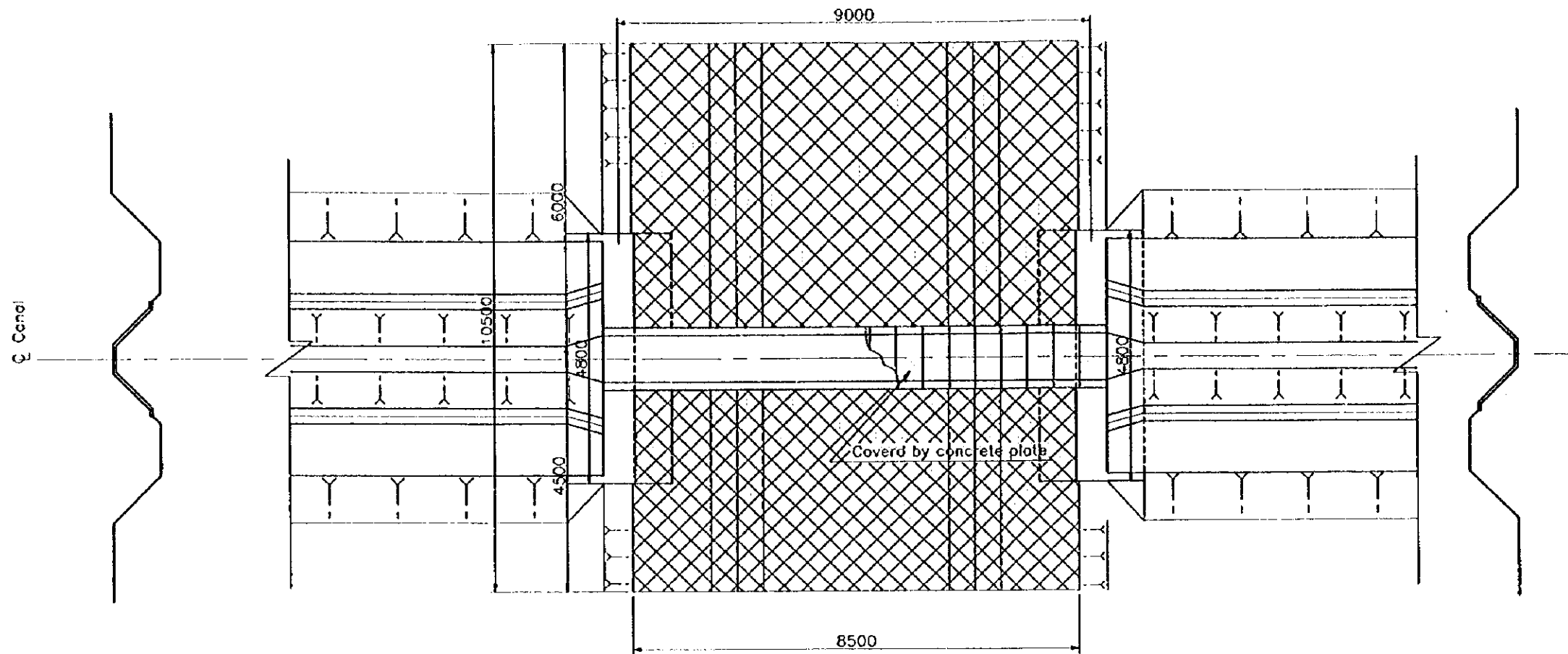
Basic Design Study on the Project for Mweza Smallholder Irrigation Scheme in Morogoro Region in the United Republic of Tanzania

TITLE OF DRAWING  
用水路  
水位調整工

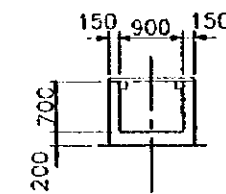
Date | Oct. 1999 | Drawing No. | 3-22

NIPPON KOEI CO., LTD. TOKYO, JAPAN

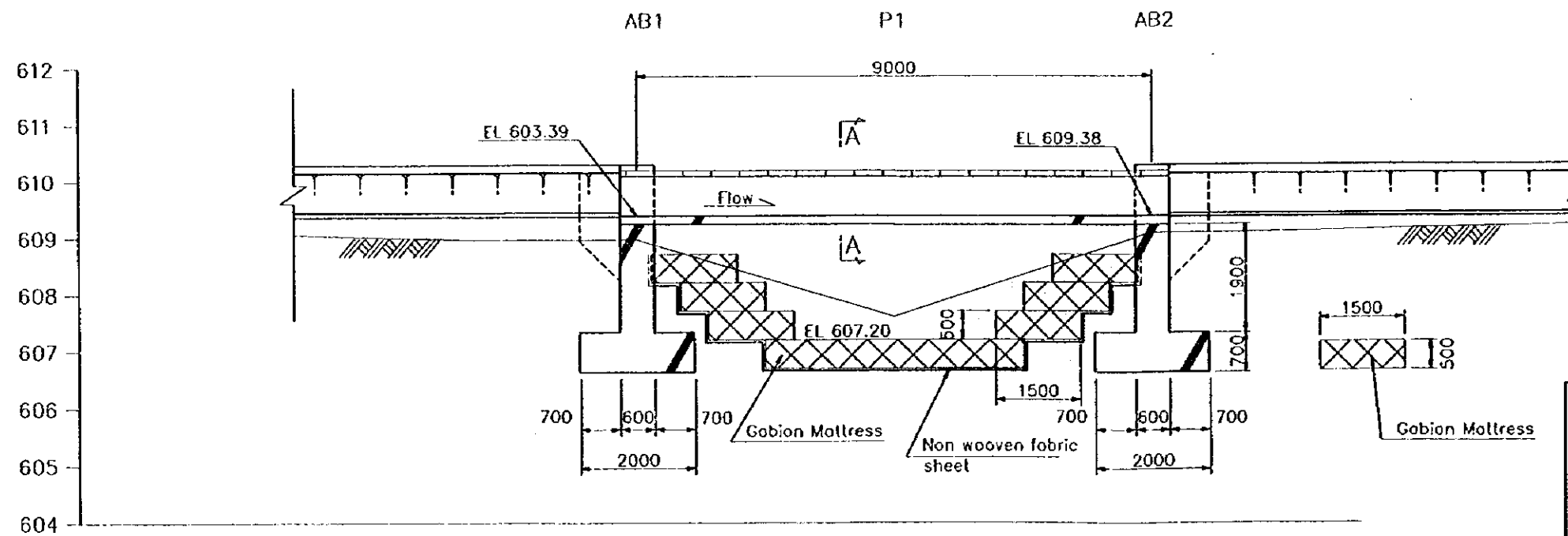
AQUEDUCT NO.1 ON RIGHT MAIN CANAL



PLAN

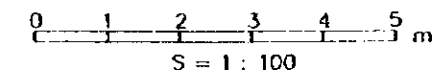


A-A SECTION



PROFILE

Note AB : Abutment  
P : Pier



Basic Design Study on the Project for  
Mwega Smallholder Irrigation Scheme  
in Morogoro Region  
in the United Republic of Tanzania

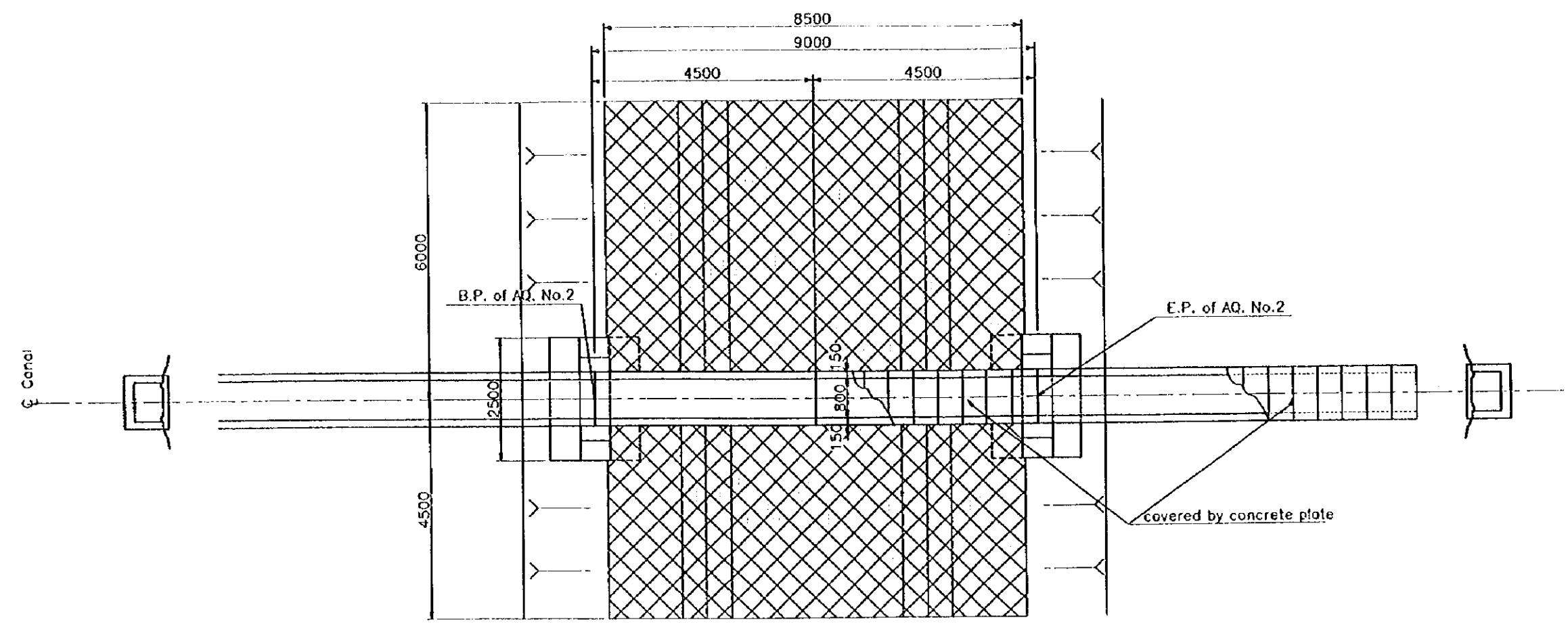
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用水路

水路橋 NO.1 (右岸幹線用水路)

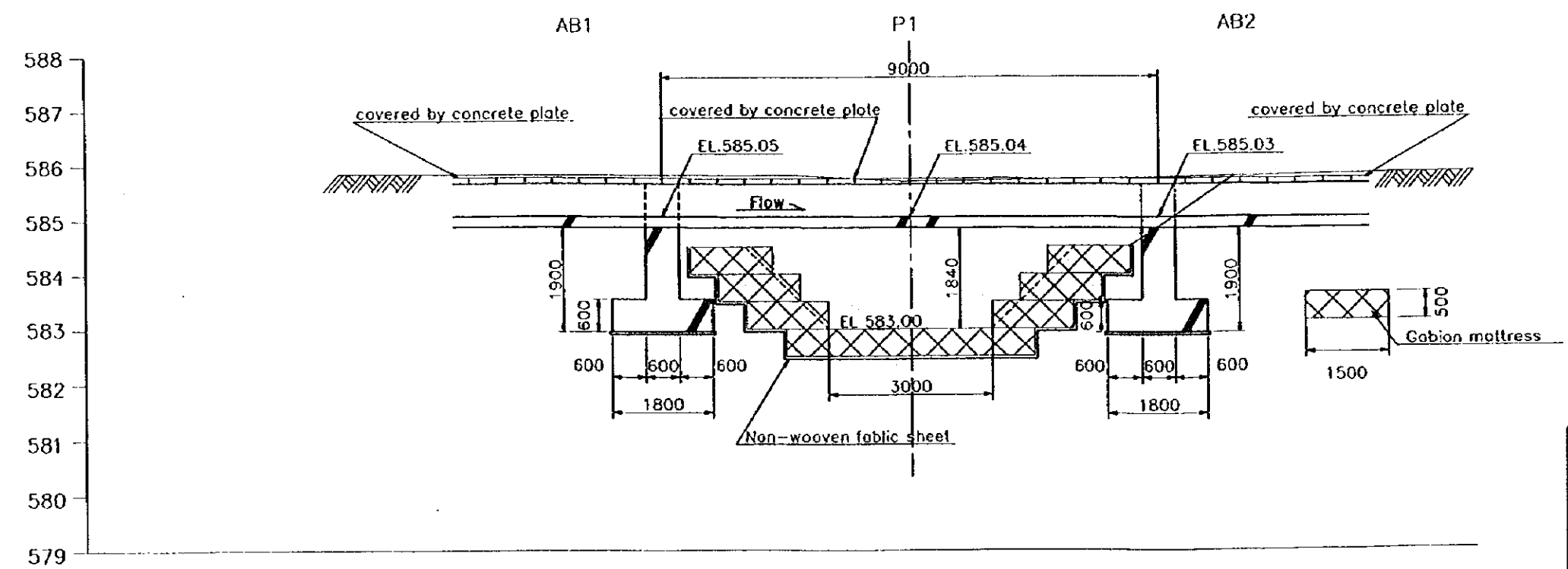
Date | Oct. 1999 | Drawing No. | 3-23

NIPPON KOEI CO., LTD. TOKYO, JAPAN

### AQUEDUCT NO.2 ON RIGHT MAIN CANAL



PLAN

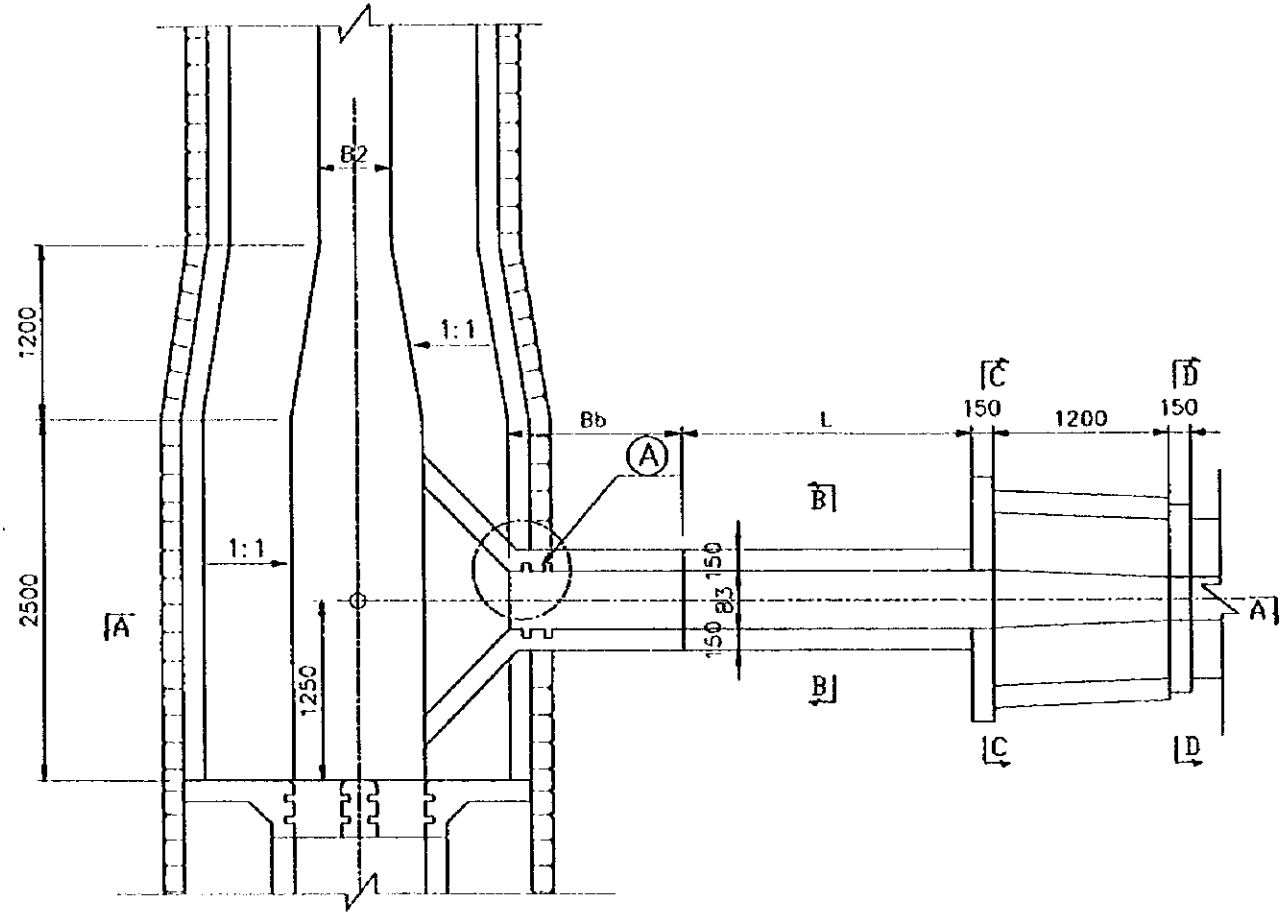


PROFILE

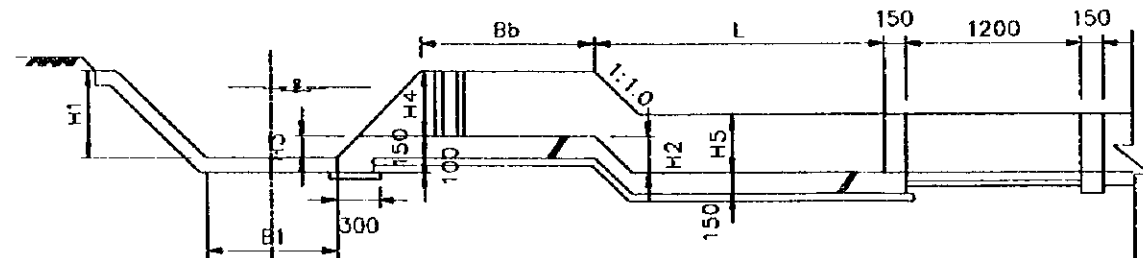
Note AB : Abutment  
P : Pier

Basic Design Study on the Project for Mwega Smallholder Irrigation Scheme in Morogoro Region in the United Republic of Tanzania			
TITLE OF DRAWING 用水路			
水路橋NO.2 (右岸幹線用水路)			
Date	Oct. 1999	Drawing No.	3-24
NIPPON KOEI CO., LTD. TOKYO, JAPAN			

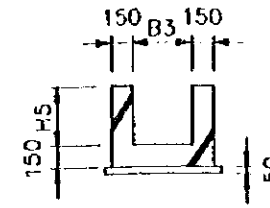
# TURNOUT



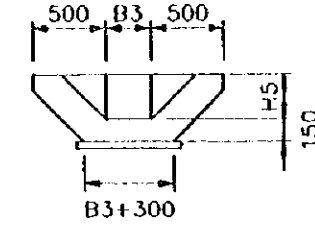
PLAN



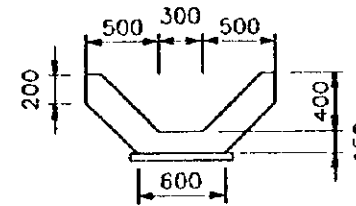
SECTION A-A



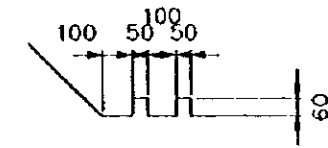
SECTION B-B



SECTION C-C



SECTION D-D



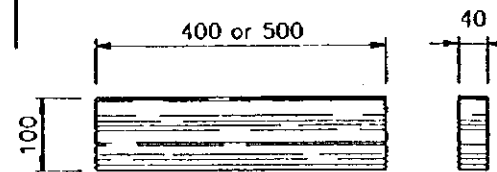
DETAIL A

Left Main Canal

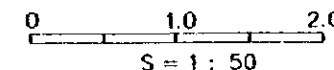
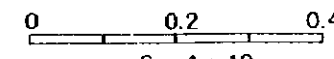
Name of Turnout	B1	B2	B3	H1	H2	H3	H4	H5	L	Bb	Direction	Remark
LT01	1050	600	300	800	200	400	400	400	2000	1600	Right	LLC-1
LT02	1050	500	300	700	150	300	400	400	2000	1600	Right	LLC-2
LT03	1050	500	400	700	150	200	500	400	2000	1600	Right	LLC-3
LT04	850	500	400	700	150	200	500	500	2000	1600	Right	LLC-4
LT05	See PLATE No.44											
LT06	See PLATE No.44											
LT07	See PLATE No.44											

Right Main Canal

Name of Turnout	B1	B2	B3	H1	H2	H3	H4	H5	L	Bb	Direction	Remark
RT01	500	500	300	700	200	250	450	400	2000	1600	Left	RLC-1
RT02	1050	500	300	600	150	200	400	400	2000	1200	Left	RLC-2
RT03	1050	500	300	600	300	200	400	400	2000	1200	Left	RLC-3
RT04	1050	400	300	600	200	150	450	400	2000	1200	Left	RLC-4
RT05	500	400	400	600	500	100	500	400	2000	1200	Left	RLC-5
RT06	500	300	300	500	200	150	350	400	2000	1000	Left	RLC-6
RT07	500	300	400	500	200	0	500	400	2000	1000	Left	RLC-7



WOODEN STOPLOG  
S = 1 : 10



Basic Design Study on the Project for  
Mwega Smallholder Irrigation Scheme  
in Morogoro Region  
in the United Republic of Tanzania

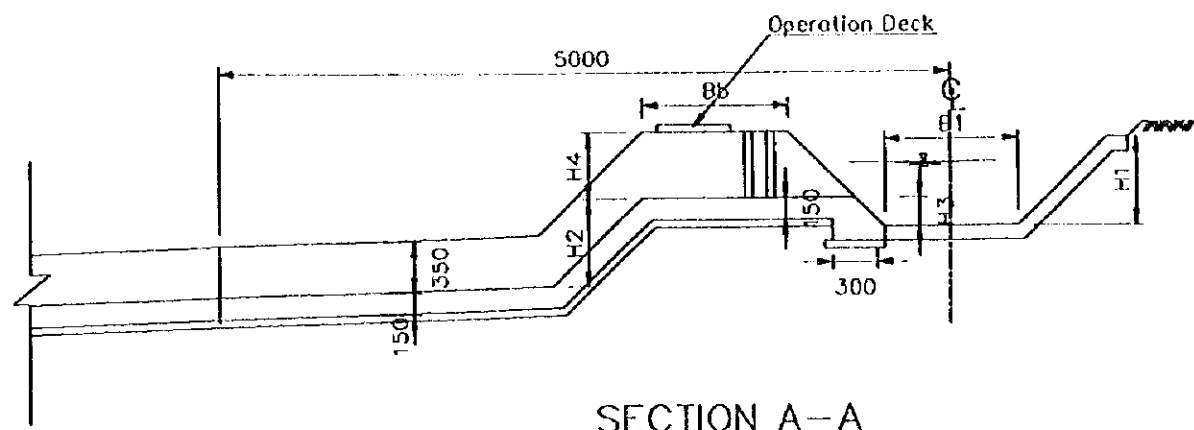
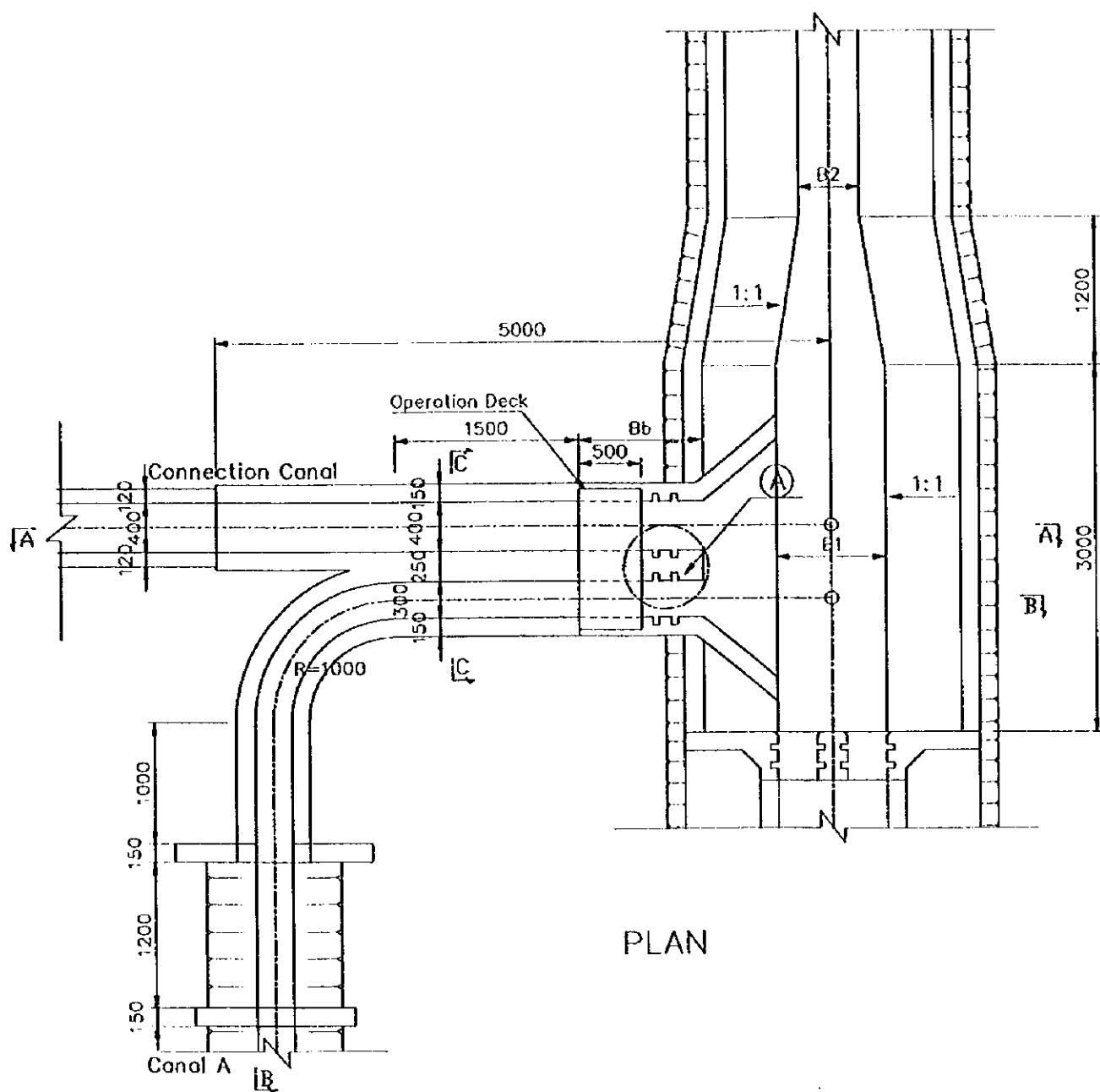
TITLE OF DRAWING  
用水路

分水工

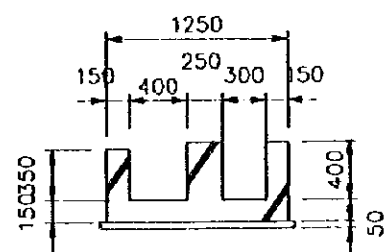
Date | Oct. 1999 | Drawing No. | 3-25

NIPPON KOEI CO., LTD. TOKYO, JAPAN

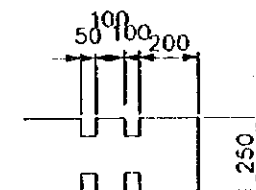
### TURNOUT (TWO OFFTAKES TYPE)



SECTION A-A

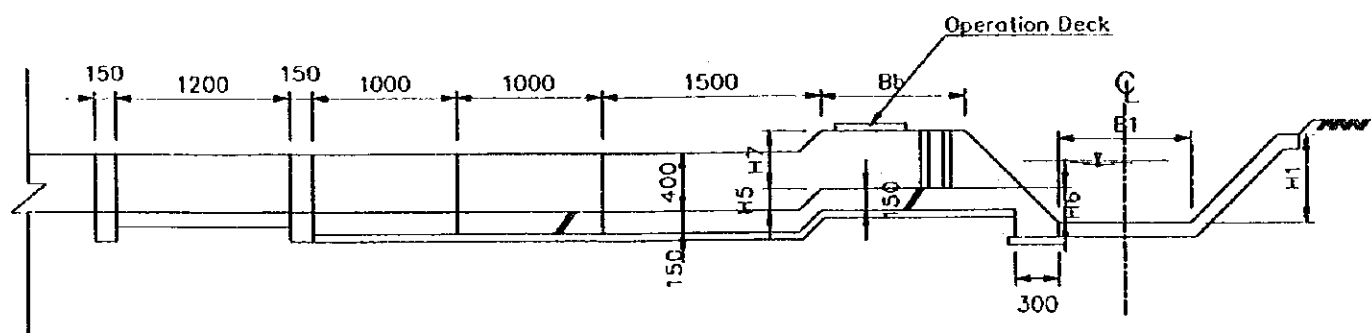


SECTION C-C

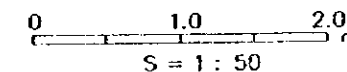


DETAIL A

Left Main Canal											
Name of Turnout	B1	B2	H1	H2	H3	H4	H5	H6	H7	Bb	Remark
LT05	850	400	600	600	150	450	150	150	450	1200	CC-1
LT06	500	400	500	400	100	400	150	100	400	1000	CC-2
LT07	400	400	500	300	50	450	150	50	450	1000	CC-3



SECTION B-B



Basic Design Study on the Project for  
Mwega Smallholder Irrigation Scheme  
in Morogoro Region  
in the United Republic of Tanzania

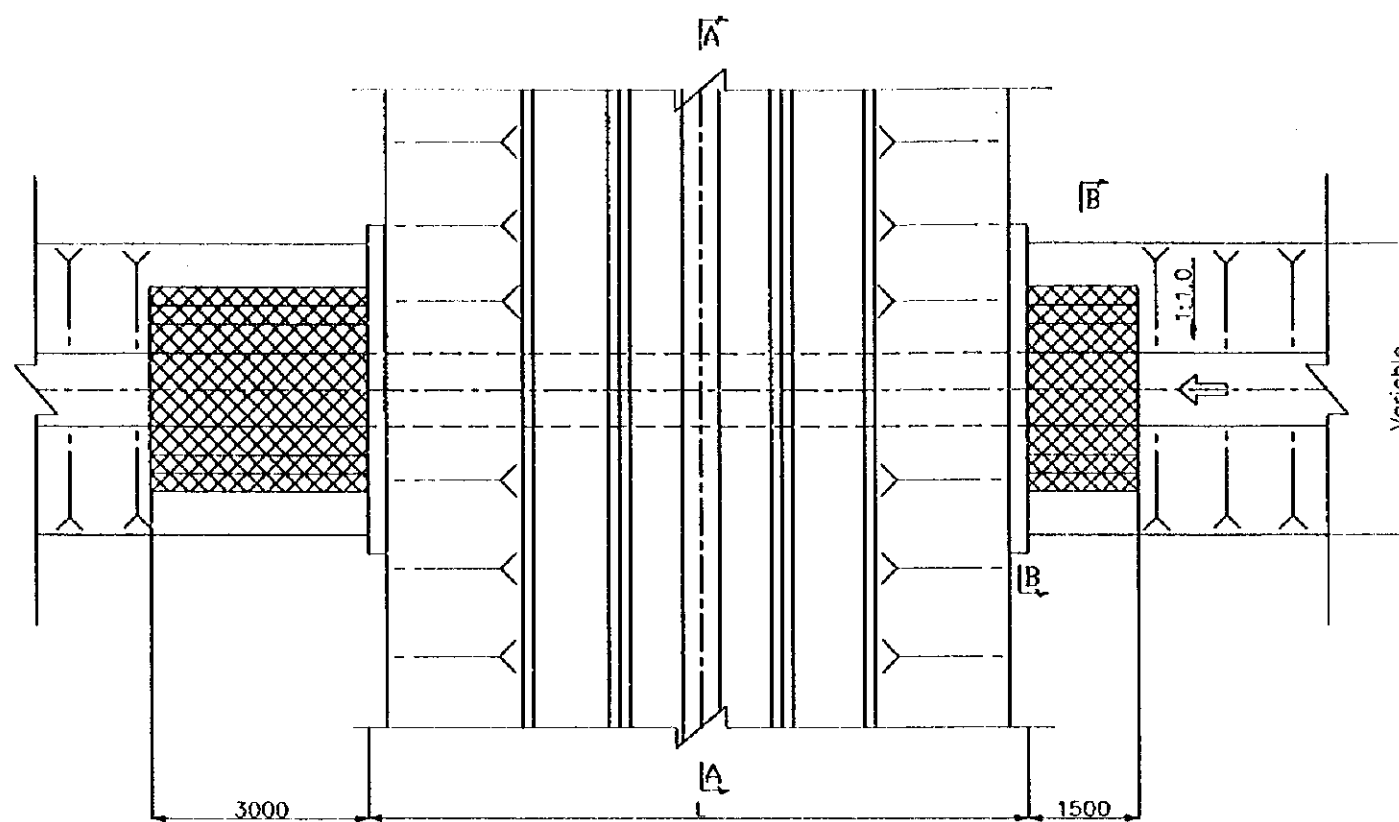
TITLE OF DRAWING  
用水路

分水I (2水路分水タイプ)

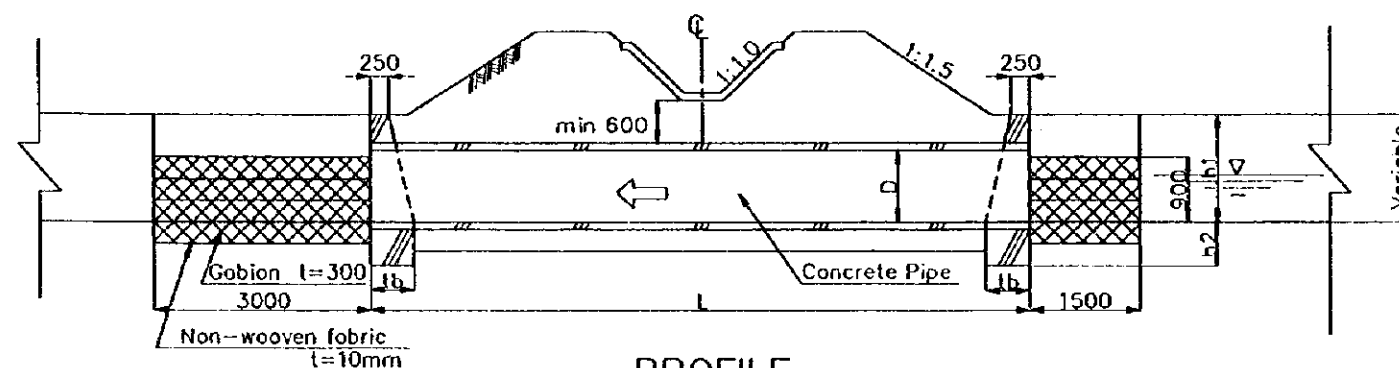
Date | Oct. 1999 | Drawing No. | 3-26

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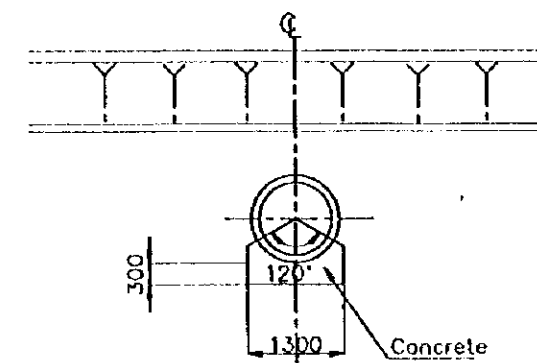
### CROSS DRAIN CULVERT (CCV)



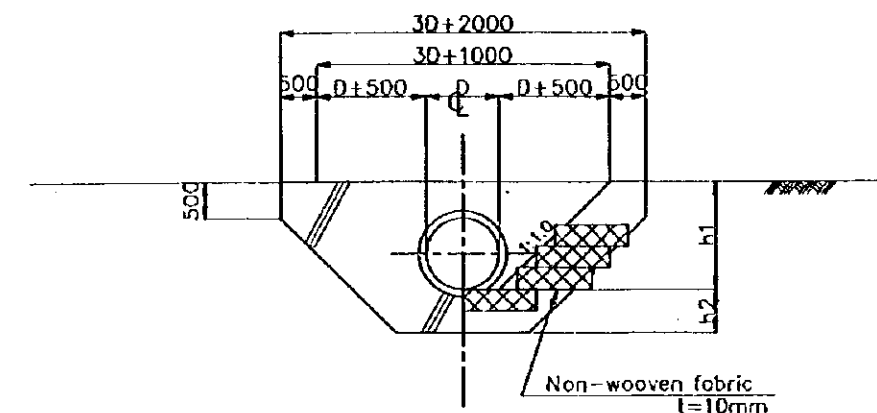
PLAN



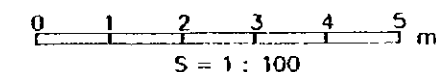
PROFILE



SECTION A-A



SECTION B-B



DEMENSION OF CROSS DRAIN CULVERT (CCV)

Name of Canal	Name of structure	Reduced Distance	Qi(m3/sec)	Ql(m3/sec)	L(mm)	D(mm)	h1(mm)	h2(mm)	tb(mm)
Right Main Canal	No.1 Cross Drain	924.31	0.37	1.00	9000	1000	1500	600	600
	No.2 Cross Drain	4033.28	0.78	1.60	9000	1200	1700	720	720
	No.3 Cross Drain	5482.30	0.78	1.00	9000	1000	1500	600	600
	No.4 Cross Drain	6676.75	0.78	1.00	9000	1000	1500	600	600
Left Main Canal	No.1 Cross Drain	2064.63	0.52	1.00	9000	1000	1500	600	600
	No.2 Cross Drain	4208.52	0.43	0.90	9000	1000	1500	600	600
	No.3 Cross Drain	10696.56	0.10	1.30	7000	1200	1700	720	720

Basic Design Study on the Project for  
Mwega Smallholder Irrigation Scheme  
in Morogoro Region  
in the United Republic of Tanzania

TITLE OF DRAWING  
用水路

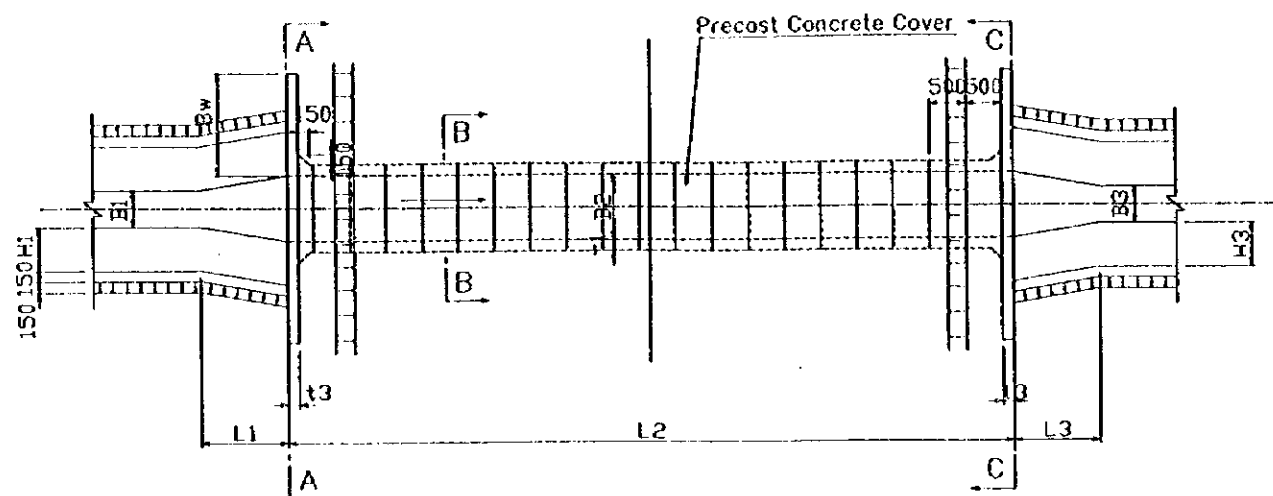
暗渠排水工

Date Oct. 1999 Drawing No. 3-27

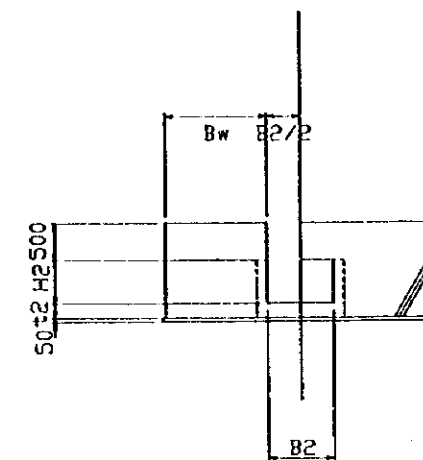
NIPPON KOEI CO., LTD. TOKYO, JAPAN



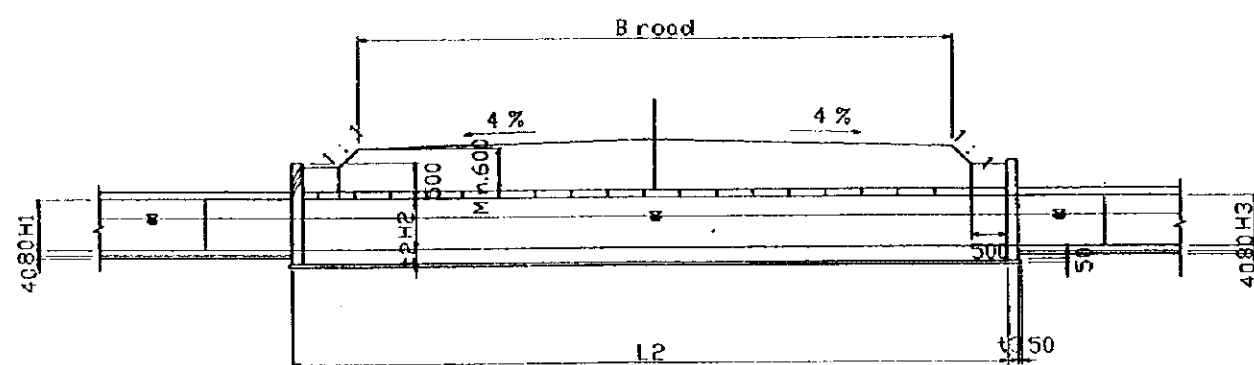
# CULVERT



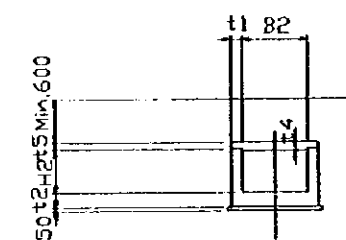
PLAN



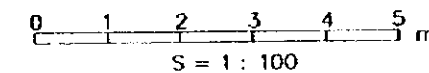
SECTION A-A



PROFILE



SECTION B-B



DIMENSION OF CULVERT

Name of Canal	Name of structure	Reduced Distance	Qi (m <sup>3</sup> /sec)	Unit:(mm)													
				H1	H2	H3	L1(m)	L2(m)	L3(m)	Broad	B1	B2	B3	Bw	t1	t2	t3
Right Main Canal	No.1CV	6188.42	0.31	600	600	600	1200	6500	1200	5000	400	800	400	1400	150	200	150
	No.2CV	7134.86	0.18	500	500	500	1200	6500	1200	5000	300	600	300	1300	120	150	150
	No.3CV	7321.14	0.18	500	500	500	1200	6500	1200	5000	300	600	300	1300	120	150	150
Left Main Canal	No.1CV	9897.61	0.20	500	500	500	1200	7500	1200	6000	400	700	400	1300	120	150	150

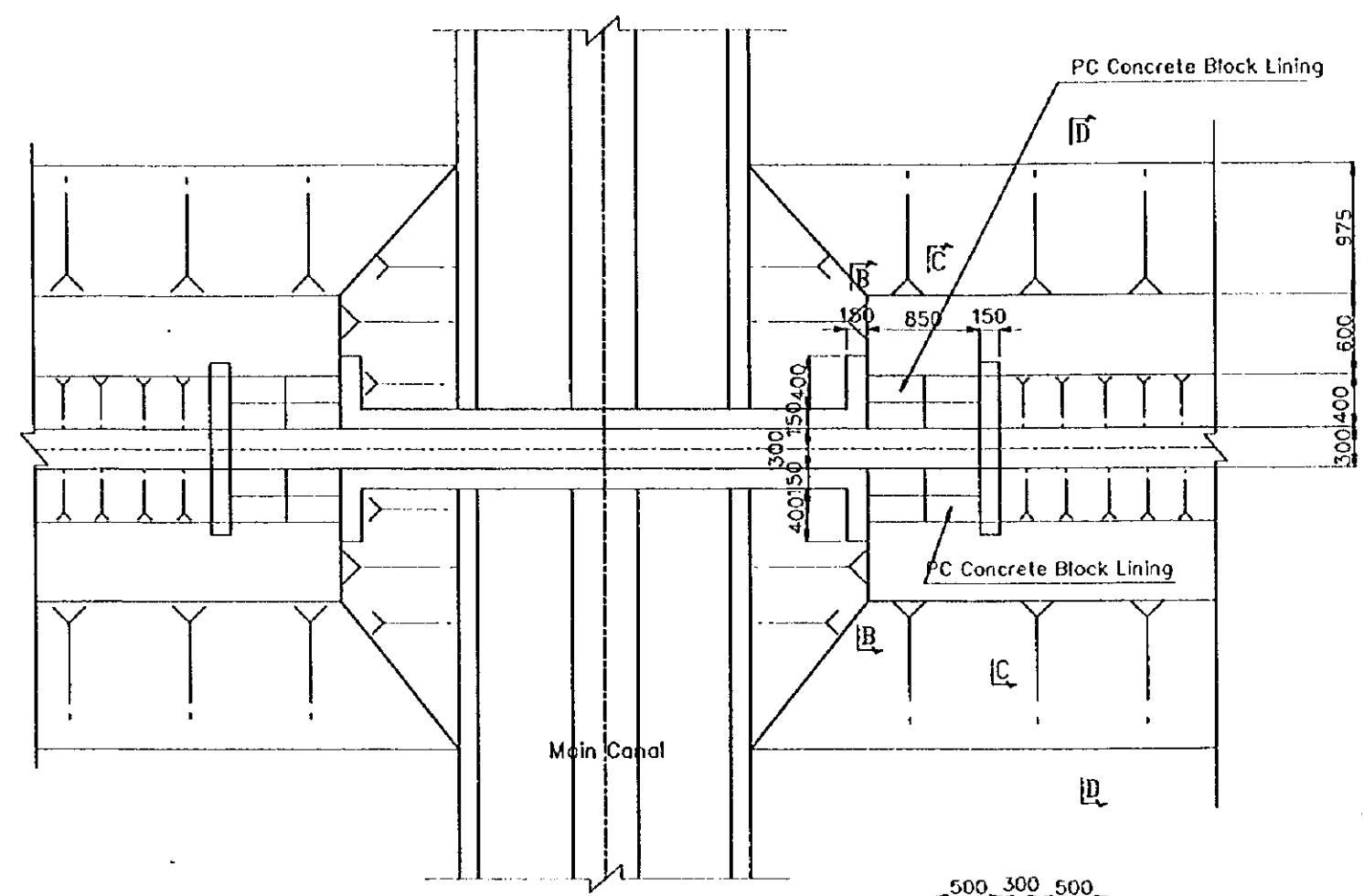
Basic Design Study on the Project for  
Mwega Smallholder Irrigation Scheme  
in Morogoro Region  
in the United Republic of Tanzania

TITLE OF DRAWING  
用水路  
暗渠

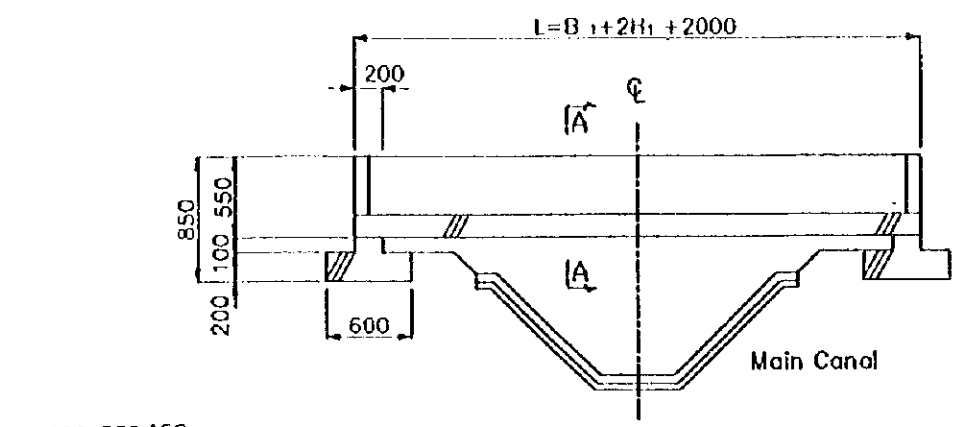
Date **Oct. 1999** Drawing No. **3-28**

NIPPON KOEI CO., LTD. TOKYO, JAPAN

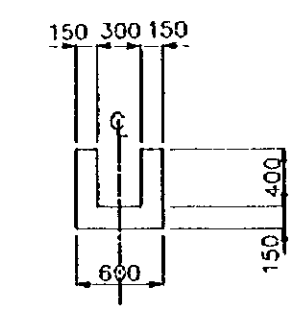
### CROSS OVER FLUME



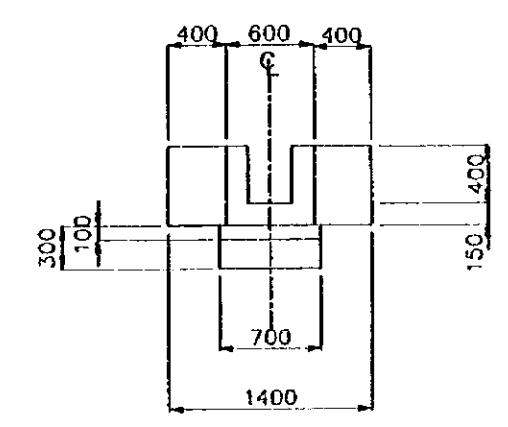
PLAN



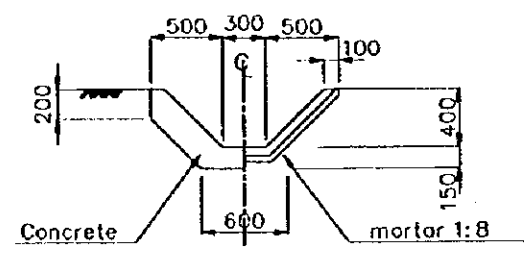
PROFILE



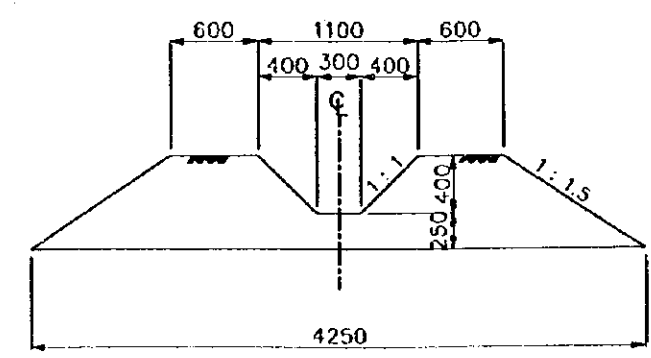
SECTION A-A



SECTION B-B

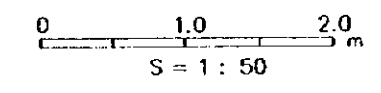


SECTION C-C



SECTION D-D

Name of Canal	Main Canal Type	Name of Structure	Reduced Distance	Q(m <sup>3</sup> /sec)	Dimension of Main Canal			
					H1(mm)	B1(mm)	H2(mm)	B2(mm)
Left Main Canal	Type-V	CF NO.1	1565.14	0.03	700	500	150	1000
Left Main Canal	Type-V	CF NO.2	2778.71	0.03	700	500	150	1000
Left Main Canal	Type-V	CF NO.3	3300.46	0.03	700	500	150	1000
Left Main Canal	Type-V	CF NO.4	3671.89	0.03	700	500	150	1000
Left Main Canal	Type-V	CF NO.5	4285.44	0.03	700	500	150	1000
Left Main Canal	Type-V	CF NO.6	4525.44	0.03	700	500	150	1000
Left Main Canal	Type-V	CF NO.7	5380.49	0.03	700	500	150	1000
Left Main Canal	Type-III	CF NO.8	6733.12	0.03	600	400	100	800
Right Main Canal	Type-IV	OCF NO.1	2000.11	0.03	600	500	100	800
Right Main Canal	Type-III	OCF NO.2	2981.06	0.03	600	400	100	800
Right Main Canal	Type-III	OCF NO.3	3526.40	0.03	600	400	100	800
Right Main Canal	Type-III	OCF NO.4	3843.66	0.03	600	400	100	800
Right Main Canal	Type-III	OCF NO.5	4572.10	0.03	600	400	100	800
Right Main Canal	Type-III	OCF NO.6	5162.52	0.03	600	400	100	800



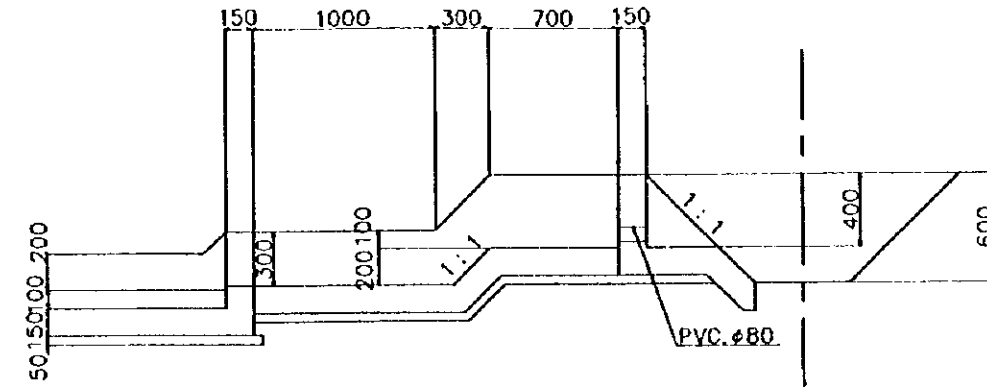
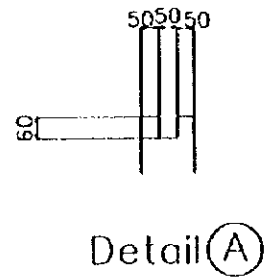
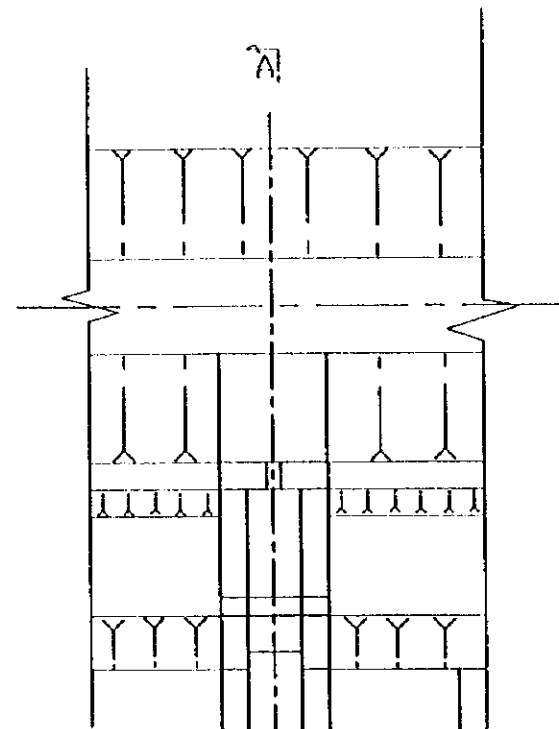
Basic Design Study on the Project for  
Mwega Smallholder Irrigation Scheme  
in Morogoro Region  
in the United Republic of Tanzania

TITLE OF DRAWING  
用水路  
上位横断用水工

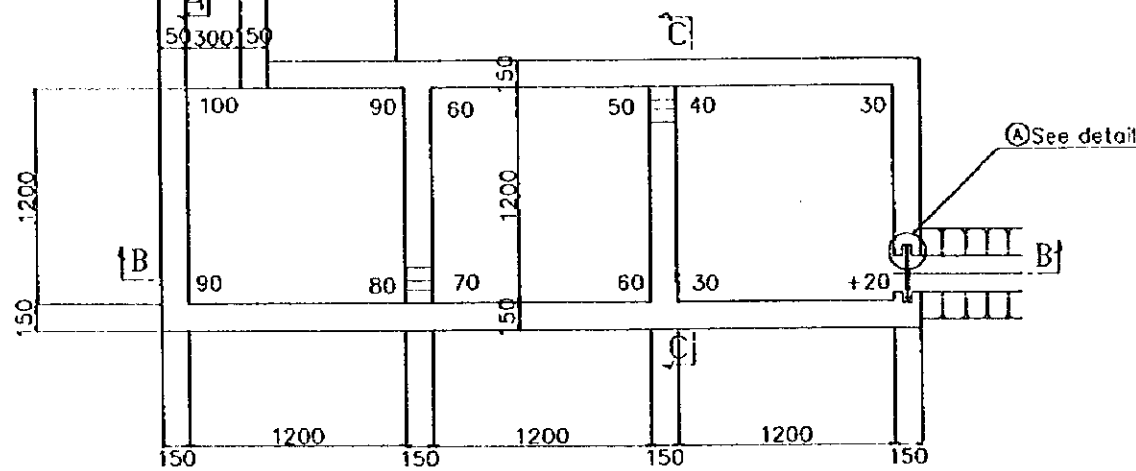
Date	Oct. 1999	Drawing No.	3-29
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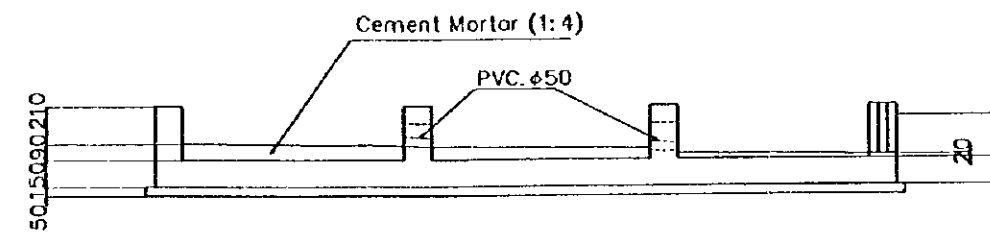
# WASHING BASIN



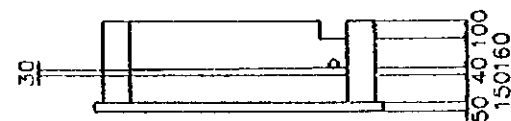
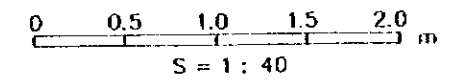
SECTION A-A



PLAN



SECTION B-B



SECTION C-C

DIMENSION OF WASHING BASIN

(Unit:m)

Name of Canal	Name of structure	Reduced Distance
Right Main Canal	No.1WB	6198.42
	No.2WB	6526.75
Left Main Canal	No.1WB	2163.46
	No.2WB	3194.46
	No.3WB	8572.72
	No.4WB	8988.77
	No.5WB	9402.06
	No.6WB	9850.86
	No.7WB	10350.74
	No.8WB	11146.56

Basic Design Study on the Project for  
Mwega Smallholder Irrigation Scheme  
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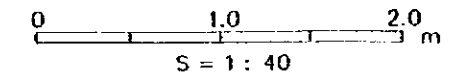
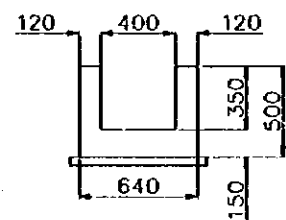
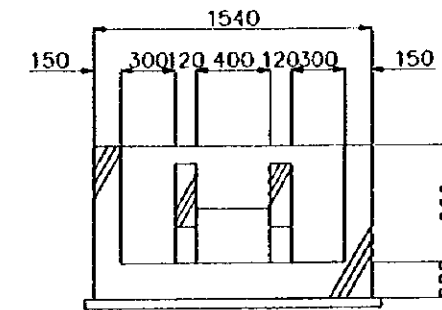
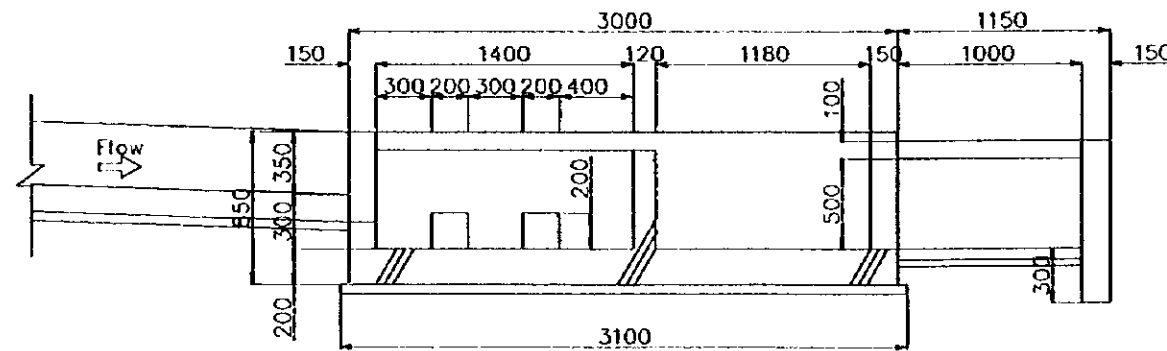
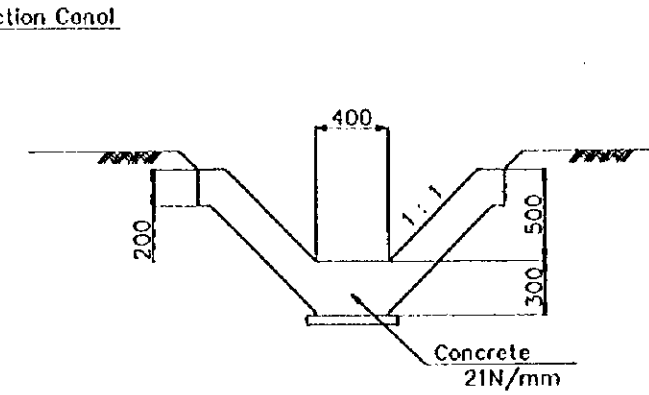
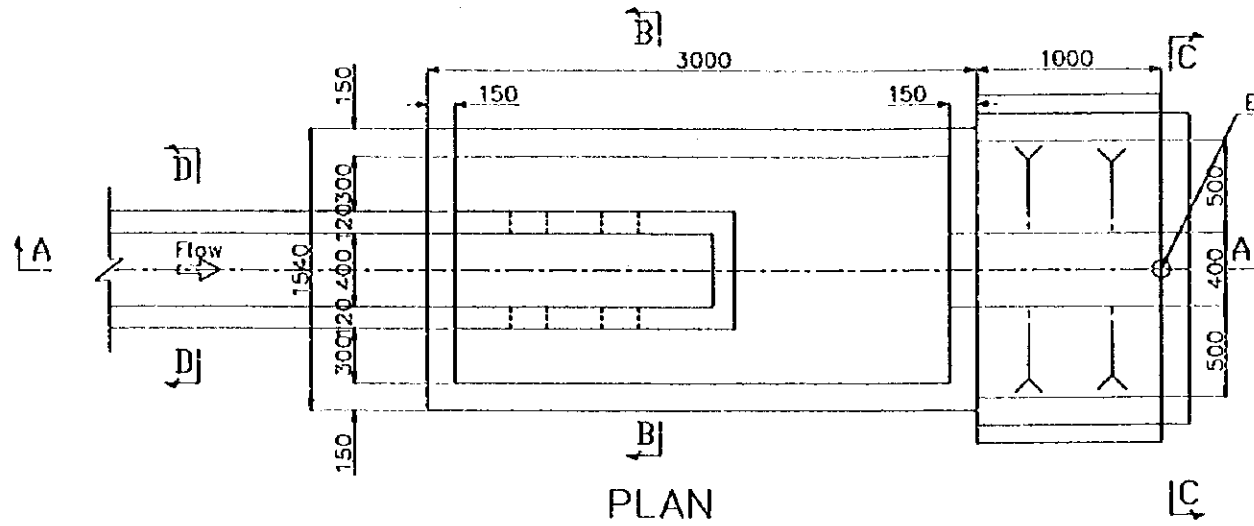
TITLE OF DRAWING  
用水路

洗濯場

Date | Oct. 1999 | Drawing No. | 3-30

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# ENERGY DISSIPATOR



An energy dissipator is provided at each of connection canals.

Basic Design Study on the Project for  
Mwega Smallholder Irrigation Scheme  
in Morogoro Region  
in the United Republic of Tanzania

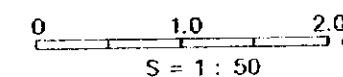
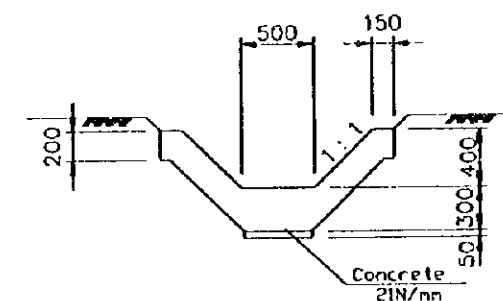
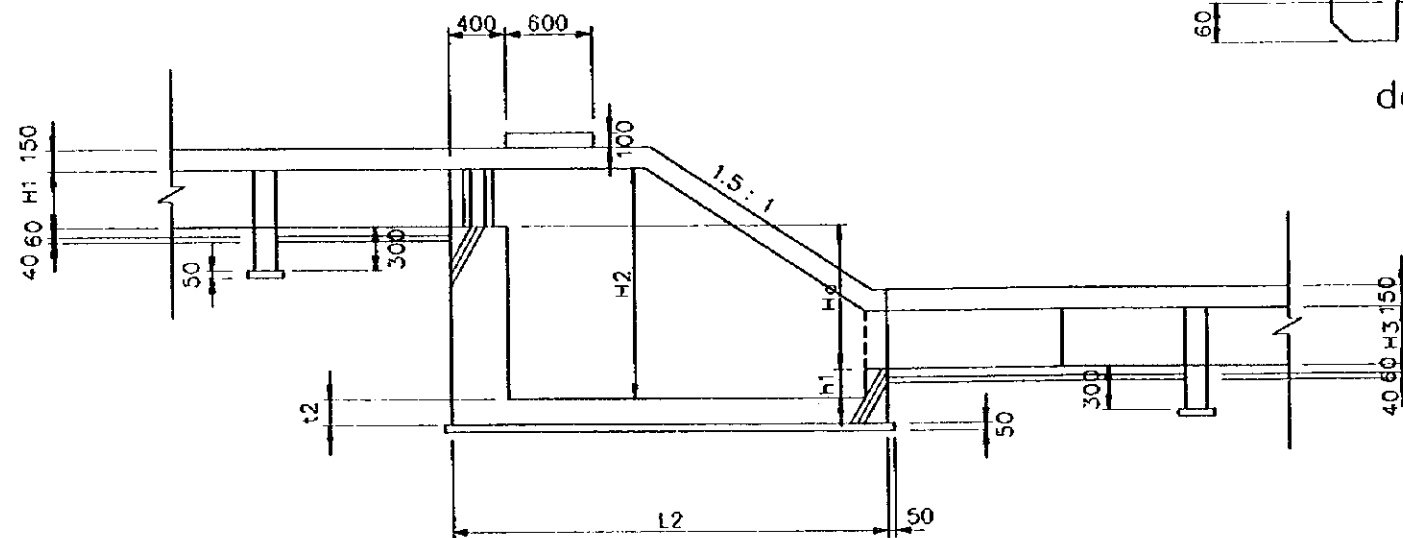
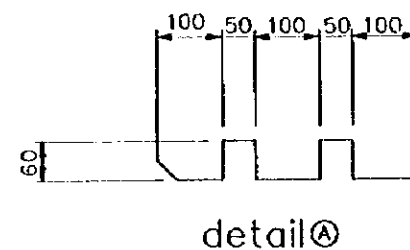
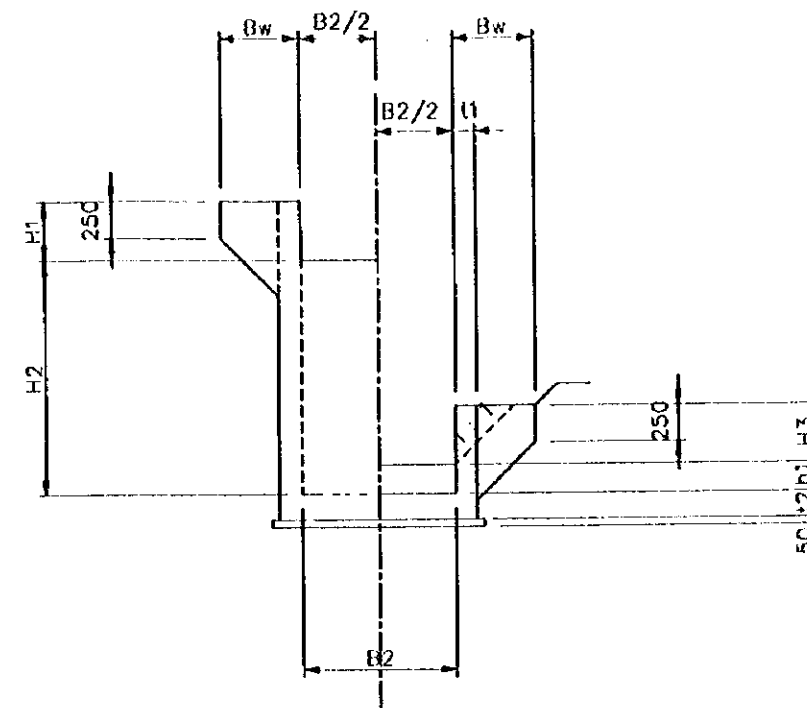
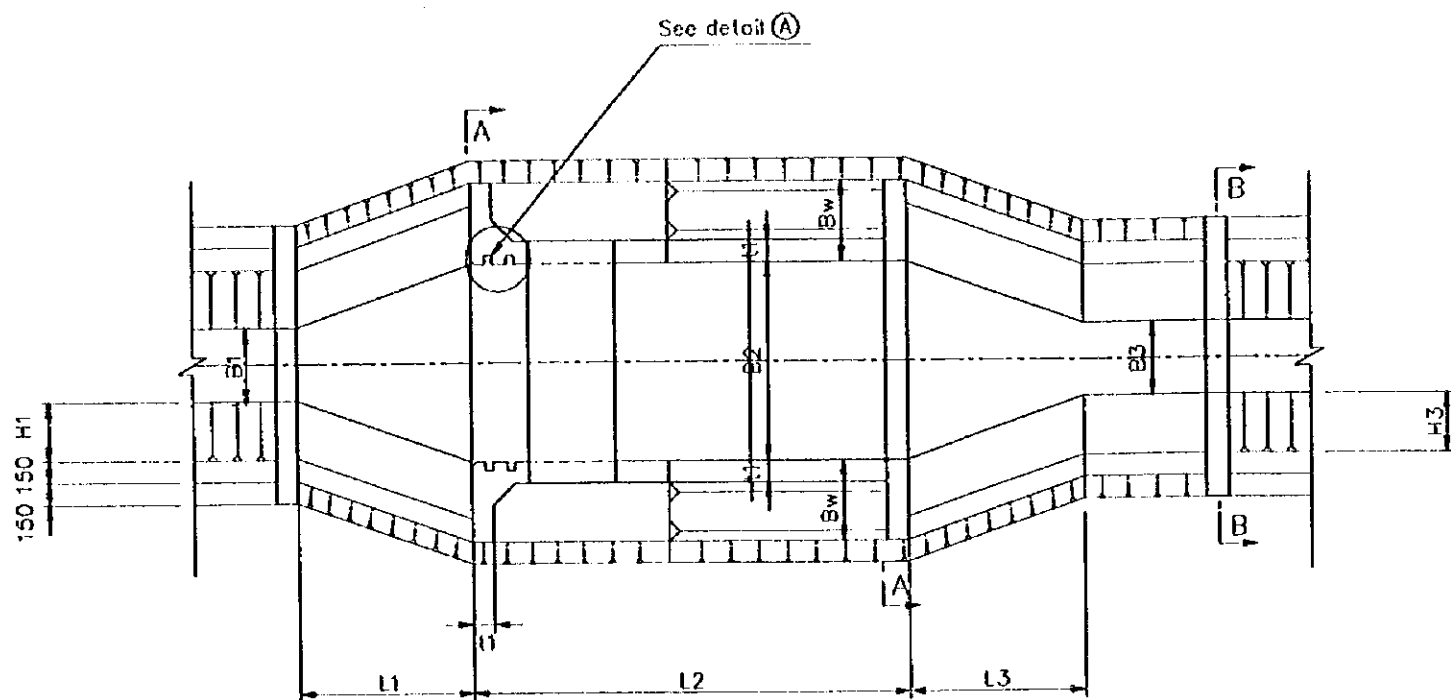
TITLE OF DRAWING  
用水路

減勢工

Date Oct. 1999 Drawing No. 3-31

NIPPON KOEI CO., LTD. TOKYO, JAPAN

### DROP FOR LATERAL CANAL



DIMENSION OF DROP FOR LATERAL CANAL

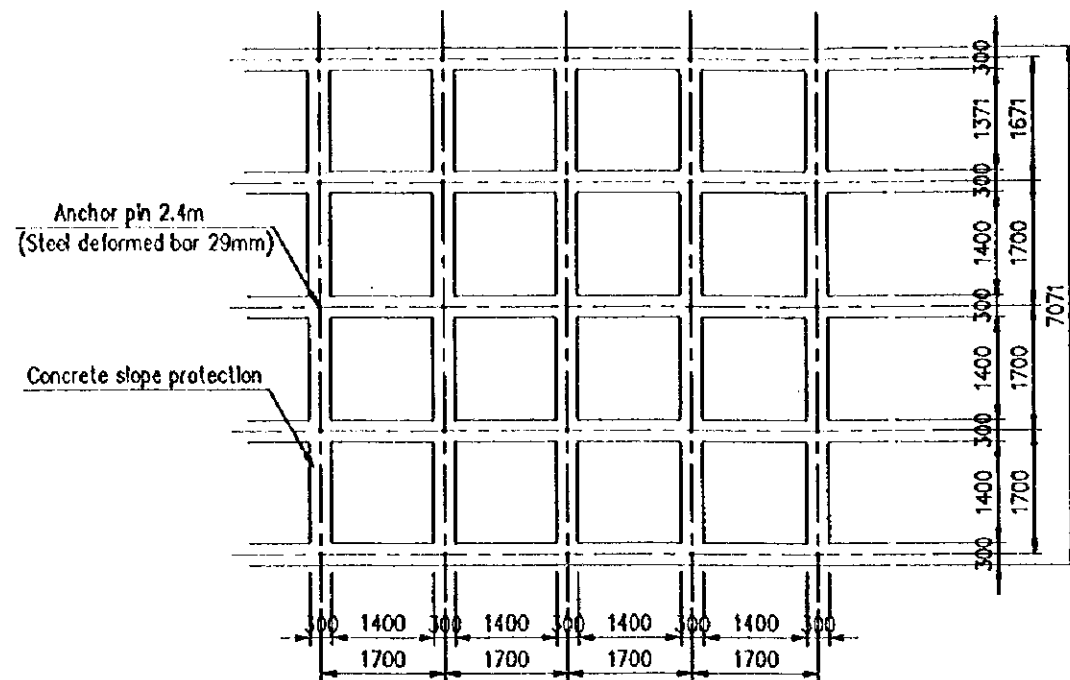
(Unit:mm)																	
Name of Canal	Name of structure	Reduced Distance	Qi (m <sup>3</sup> /sec)	H1	H2	H3	Hd	h1	L1	L2	L3	B1	B2	B3	Bw	t1	t2
RBC-5	No.1Drop	583.59	0.083	400	1600	400	1000	200	1200	3000	1200	300	500	300	550	200	200
LBC-2	No.1Drop	306.07	0.060	400	1400	400	800	200	1200	2400	1200	300	500	300	550	200	200
LBC-3	No.1Drop	590.71	0.070	400	1600	400	1000	200	1200	3000	1200	300	500	300	550	200	200
	No.2Drop	588.78	0.070	400	1100	400	500	200	1200	2200	1200	300	500	300	550	200	200
LBC-4	No.1Drop	597.18	0.073	400	1600	400	1000	200	1200	3100	1200	300	500	300	550	200	200
LBC-5	No.1Drop	527.29	0.037	400	1600	400	1000	200	1200	3100	1200	300	500	300	550	200	200

Basic Design Study on the Project for Mwega Smallholder Irrigation Scheme in Morogoro Region in the United Republic of Tanzania

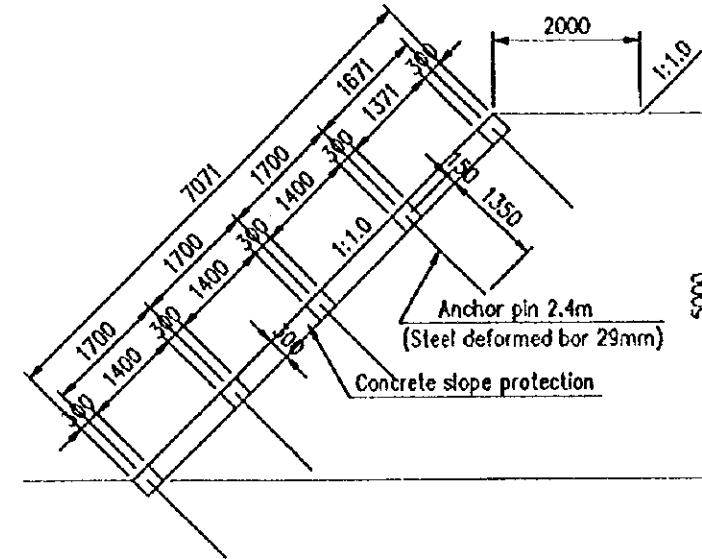
TITLE OF DRAWING  
用水路  
落差工 (支線用水路用)

Date	Oct. 1999	Drawing No.	3-32
NIPPON KOEI CO., LTD. TOKYO, JAPAN			

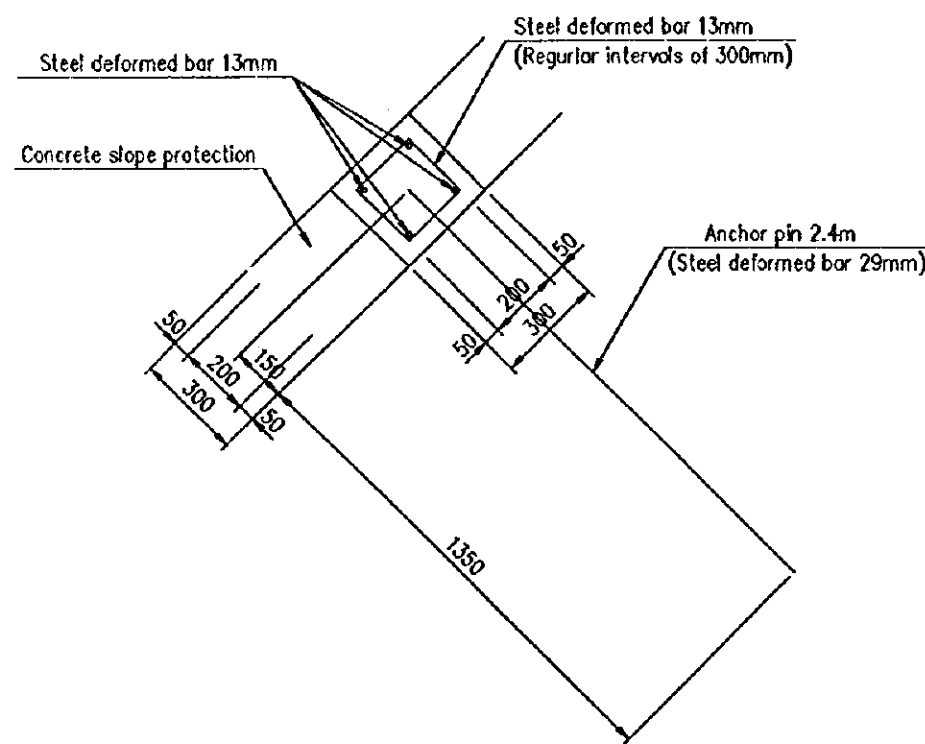
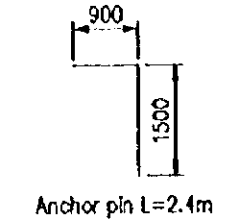
# CONCRETE FRAME SLOPE PROTECTION



Spread plan



Cross section

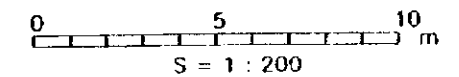


Cross section

Note : Concrete frame slope protection works shall be provided on the slope having a height more than 3 meters in  
 (i) the site of the headworks,  
 (ii) the right side slope of the Right Main Canal and the left side slope of Left Main Canal.

Construction materials (10m<sup>2</sup>)

Concrete	1.03 m <sup>3</sup>
Steel deformed bar	139.9 kg
Concrete mold	6.17 m <sup>2</sup>
Building stone	2.00 m <sup>3</sup>



Basic Design Study on the Project for  
 Mwega Smallholder Irrigation Scheme  
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TITLE OF DRAWING  
 用水路

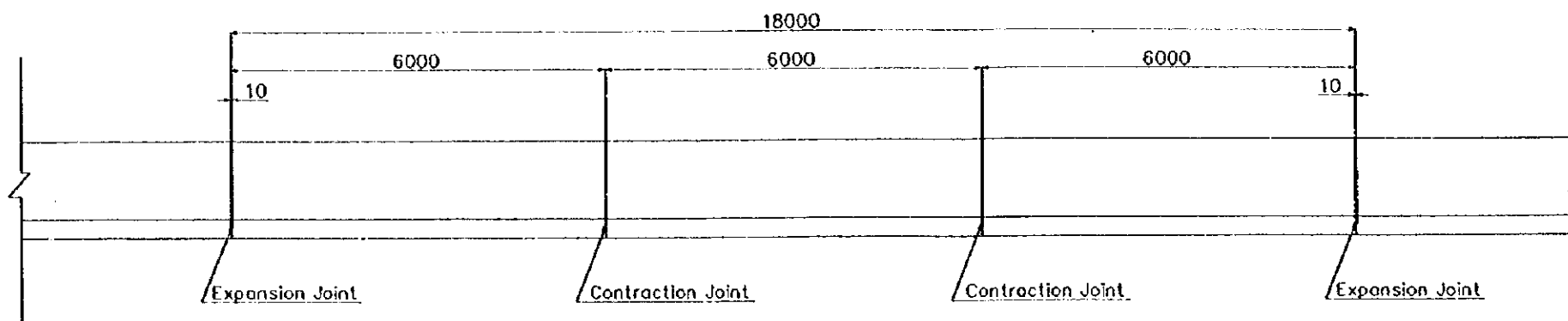
コンクリート法枠保護工

Date | Oct. 1999 | Drawing No. | 3-33

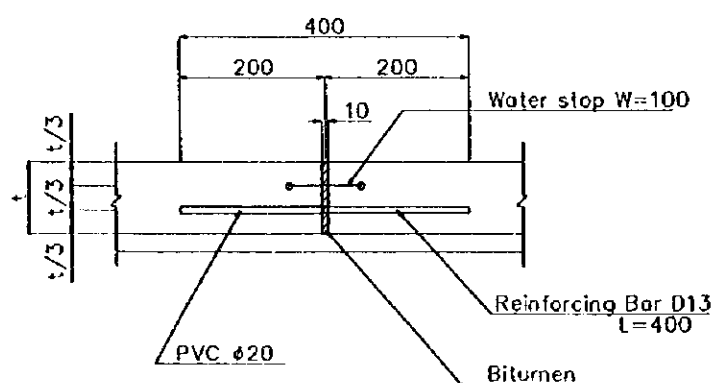
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# JOINT OF FLUME

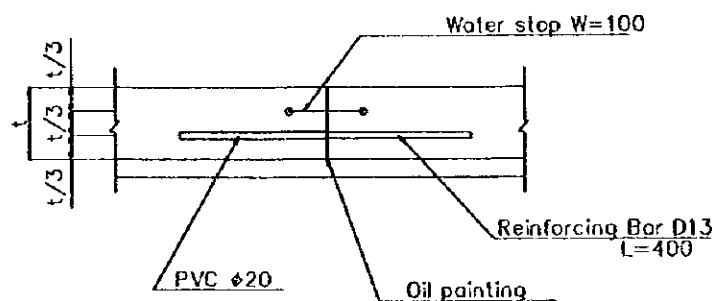
## JOINT INTERVEL FOR FLUME SCALE: A



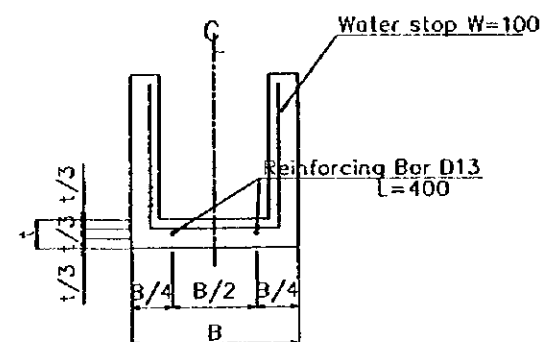
### EXPANSION JOINT SCALE: B



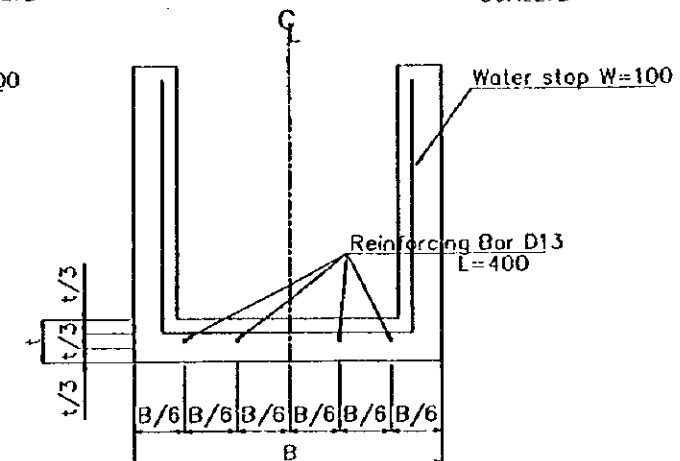
### CONTRACTION JOINT SCALE: B



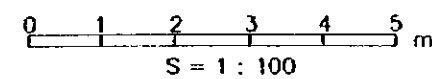
### JOINT FOR CONNECTION CANALS SCALE: B



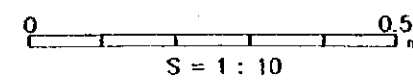
### SCALE: B



SCALE: A

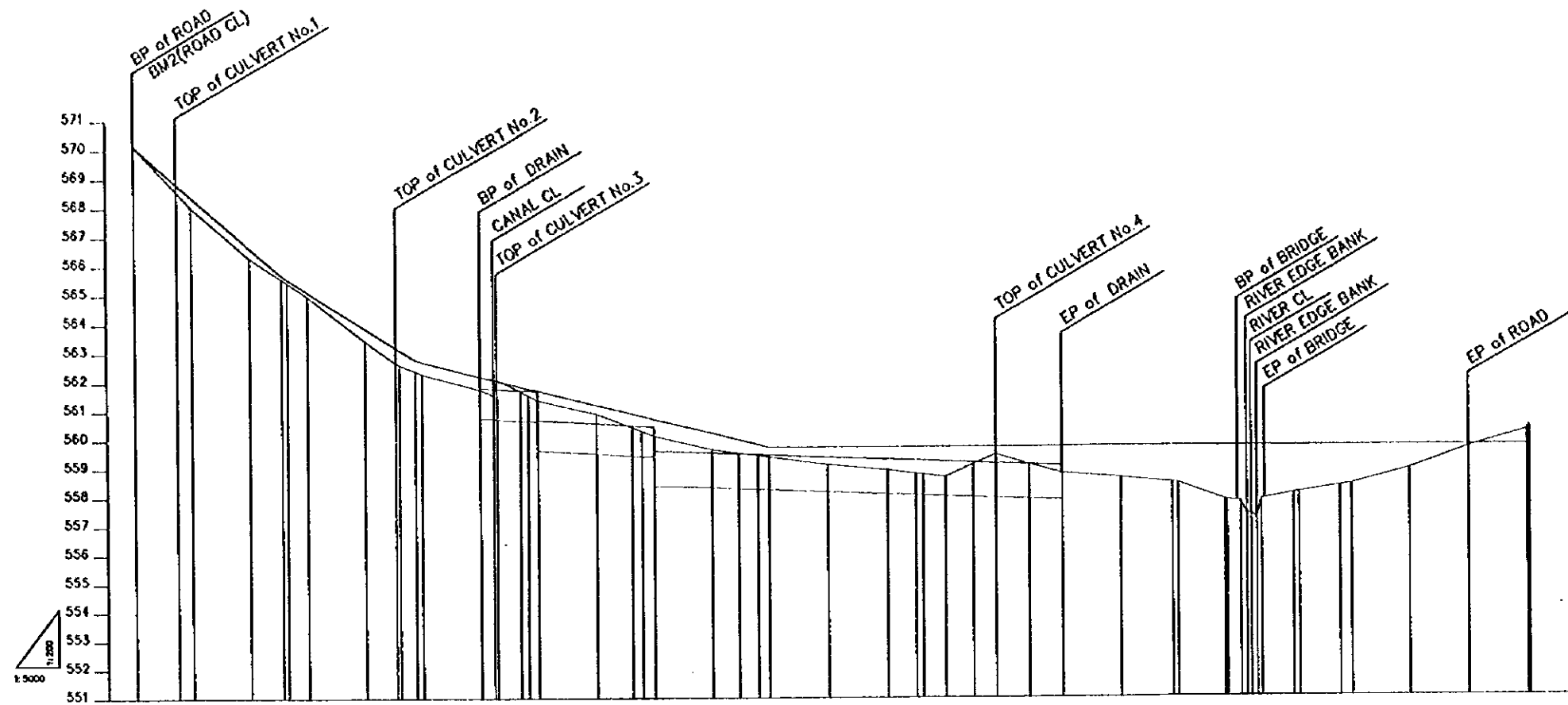


SCALE: B



Basic Design Study on the Project for Mwega Smallholder Irrigation Scheme in Morogoro Region in the United Republic of Tanzania			
TITLE OF DRAWING 用水路 フリューム水路縦目詳細図			
Date	Oct. 1999	Drawing No.	3-34
NIPPON KOEI CO., LTD. TOKYO, JAPAN			

### PROFILE OF MALOLO-CHABI ROAD & SIDE DRAIN



ROAD SURFACE SLOPE	3.5%		2.5%		1.0%				LEVEL																						
CANAL TYPE					$Q=6.0\text{m}^3/\text{s}$ $B=4.00$ $l=1/400$ $h=1.05$ $v=1.03$				$Q=6.0\text{m}^3/\text{s}$ $B=4.00$ $l=1/650$ $h=1.19$ $v=0.87$																						
CANAL BANK ELEVATION					560.78	561.43	562.08	562.73	558.33	558.98																					
WATER SURFACE ELEVATION					560.78	561.43	562.08	562.73	558.33	558.98																					
DESIGN ROAD ELEVATION	570.15	568.64	567.13	565.62	564.11	563.60	563.09	562.58	559.57	559.06																					
GROUND SURFACE ELEVATION	570.15	568.64	567.13	565.62	564.11	563.60	563.09	562.58	559.57	559.06																					
REDUCED DISTANCE	0.00	37.30	74.60	111.90	149.20	186.50	223.80	261.10	298.40	335.70																					
DISTANCE	0.00	37.30	74.60	111.90	149.20	186.50	223.80	261.10	298.40	335.70																					
STATION NO.	BP	No.1	No.2	BP.1 EP.1	No.3	No.4	BP.2 EP.2	No.5	No.6 BP.3 EP.3	No.7	No.8	BP.4 EP.4	No.9	No.10	BP.5 EP.5	No.11	No.12	No.13	BP.6 EP.6	No.14	BP.7	EP.7	No.16	No.17	BP.8 EP.8	No.19	BP.9 EP.9	No.21	No.22	No.23	No.24 Top of

Basic Design Study on the Project for Mwega Smallholder Irrigation Scheme in Morogoro Region in the United Republic of Tanzania

TITLE OF DRAWING  
道路改修  
マロロ-チャビ道路及び排水路断面図

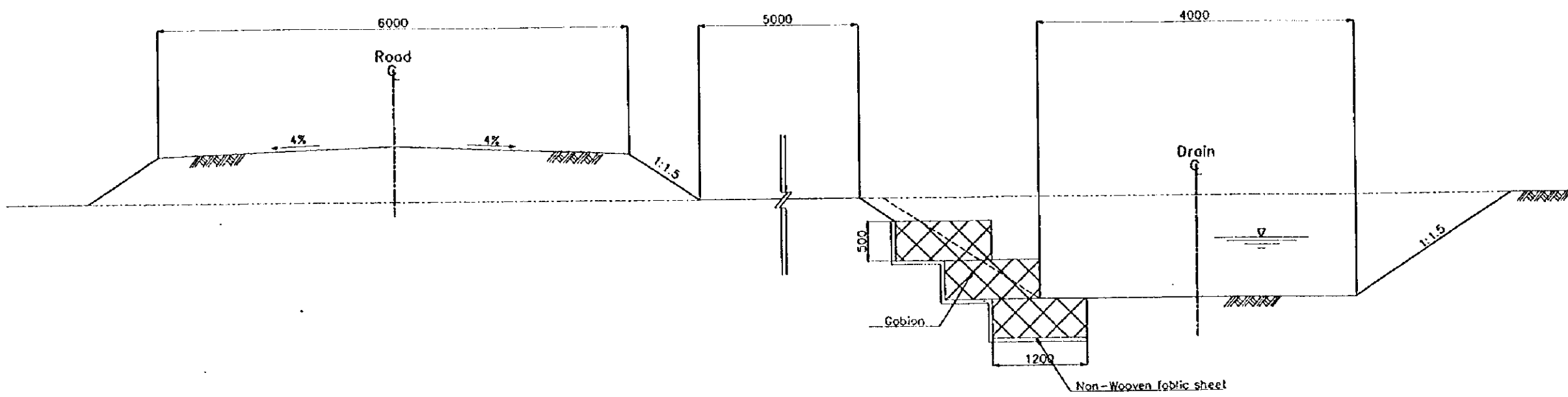
Date **Oct. 1999** Drawing No. **4-1**

NIPPON KOEI CO., LTD. TOKYO, JAPAN

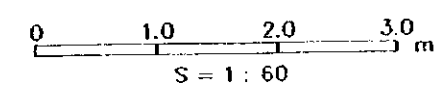
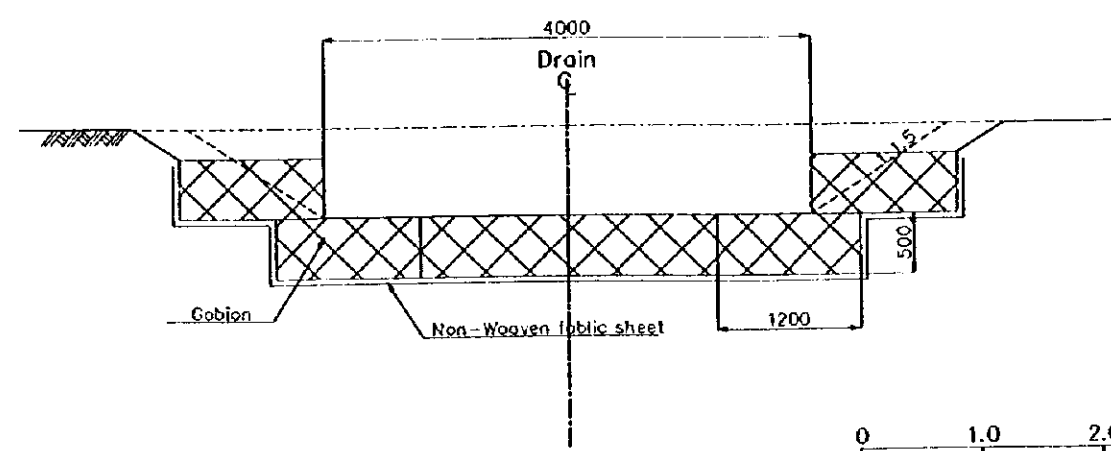
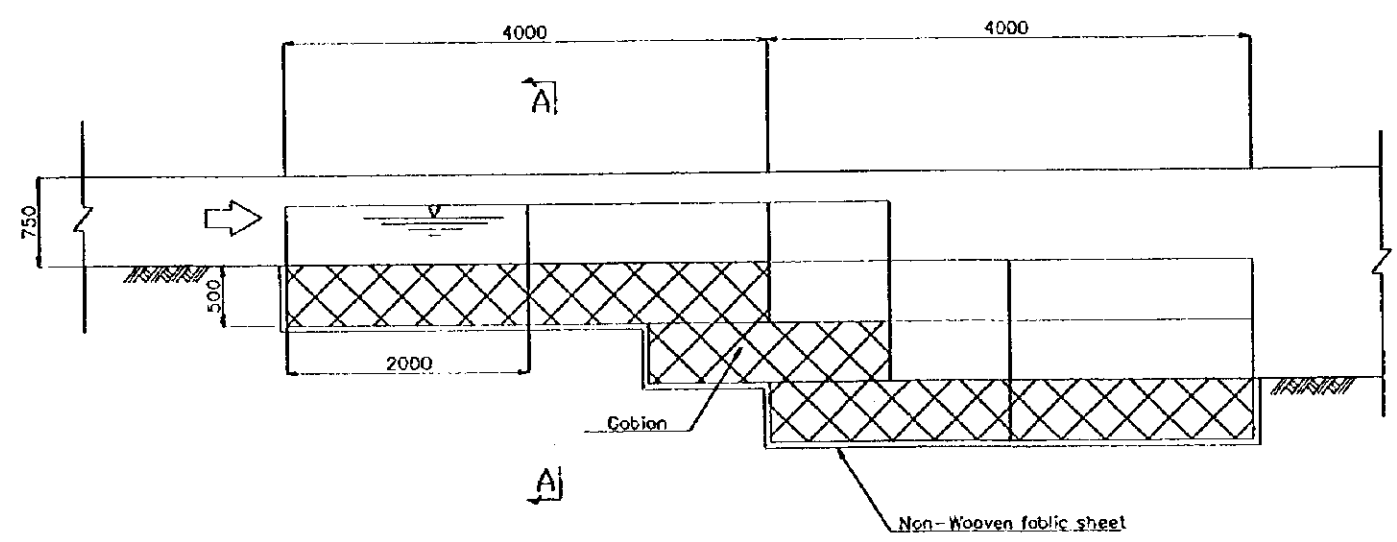


# TYPICAL CROSS SECTION OF MALOLO-CHABI ROAD AND SIDE DRAIN

## ROAD AND SIDE DRAIN



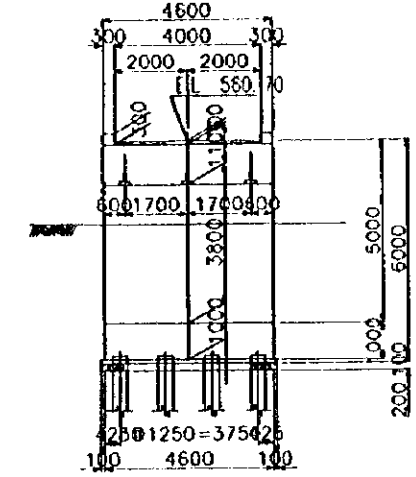
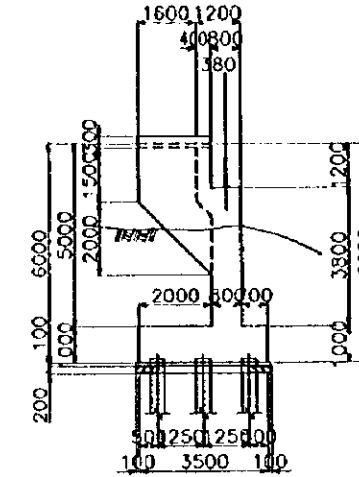
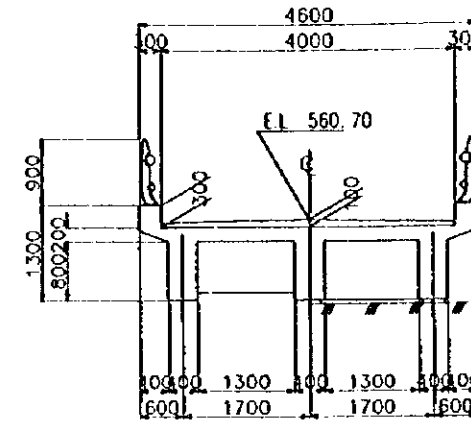
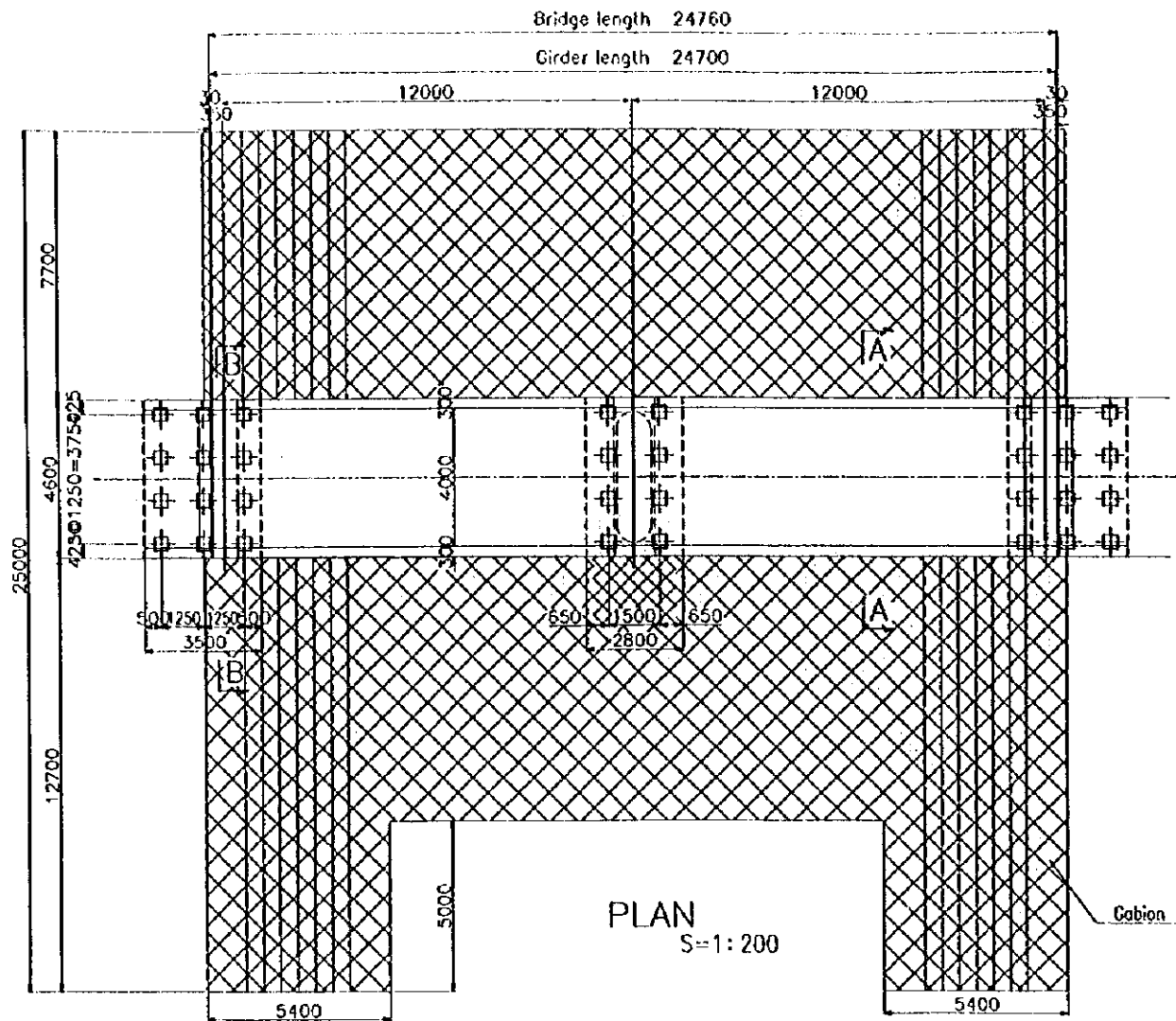
## DROP FOR SIDE DRAIN



## SECTION A-A

Basic Design Study on the Project for Mwega Smallholder Irrigation Scheme in Morogoro Region in the United Republic of Tanzania			
TITLE OF DRAWING 道路改修 マロローチャビ道路及び排水路標準断面図			
Date	Oct. 1999	Drawing No.	4-2
NIPPON KOEI CO., LTD. TOKYO, JAPAN			

# MALOLO-CHABI BRIDGE

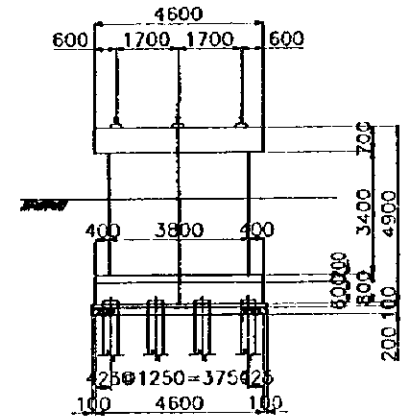
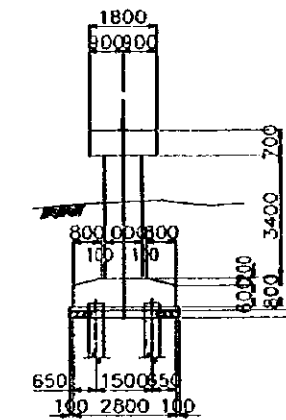
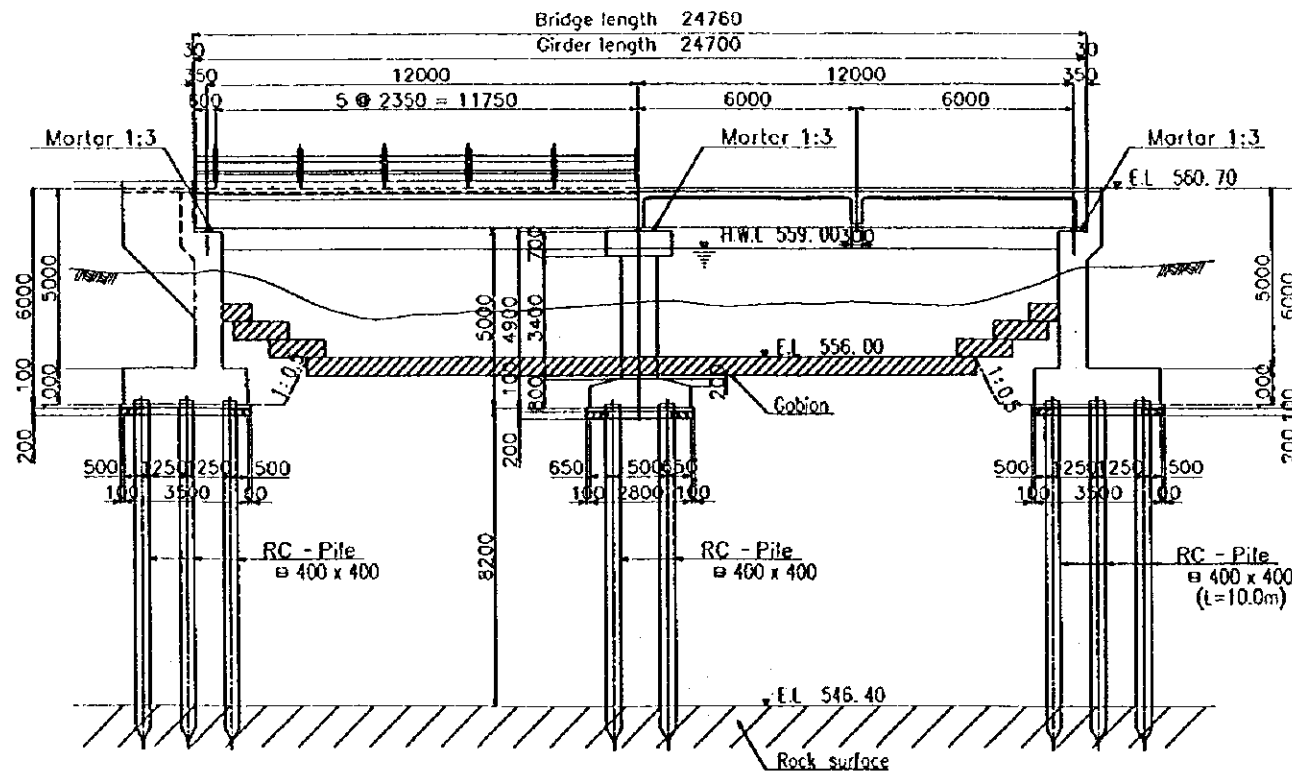


A-A SECTION B-B SECTION

S=1:100

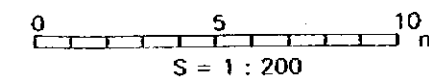
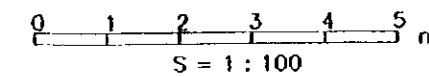
A1, A2 abutment

S=1:200



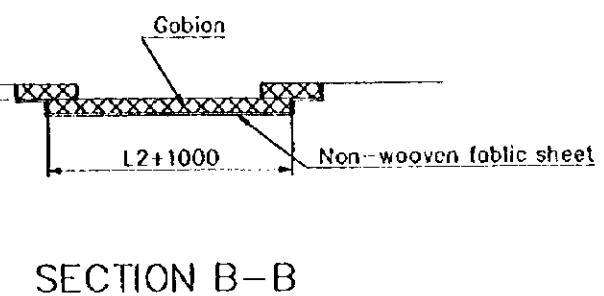
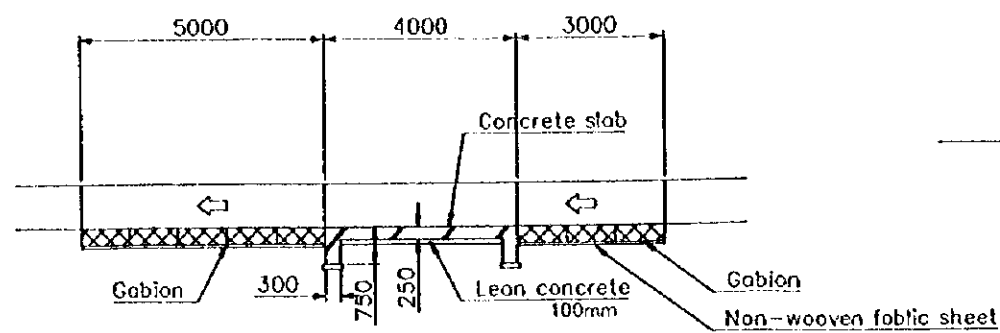
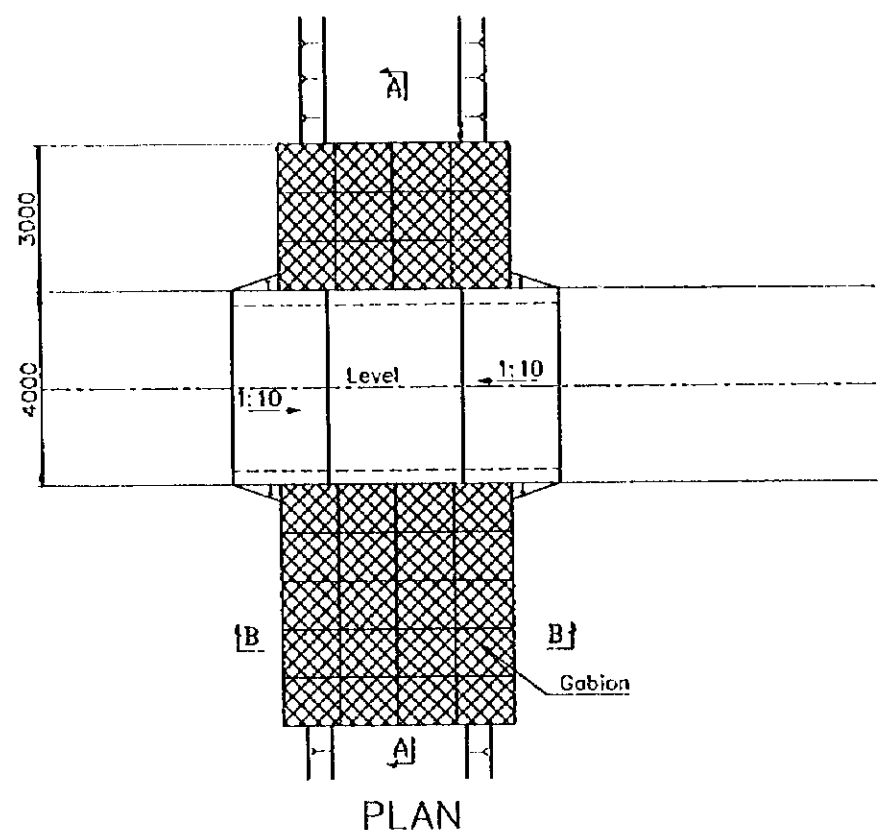
P1 Pier

S=1:200



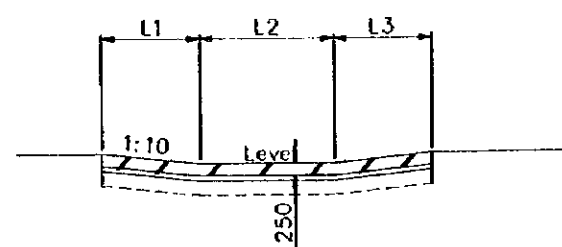
Basic Design Study on the Project for Mwega Smallholder Irrigation Scheme in Morogoro Region in the United Republic of Tanzania			
TITLE OF DRAWING 道路改修			
マロローチャビ橋			
Date	Oct. 1999	Drawing No.	4-3
NIPPON KOEI CO., LTD. TOKYO, JAPAN			

### CAUSEWAY



SECTION A-A

SECTION B-B



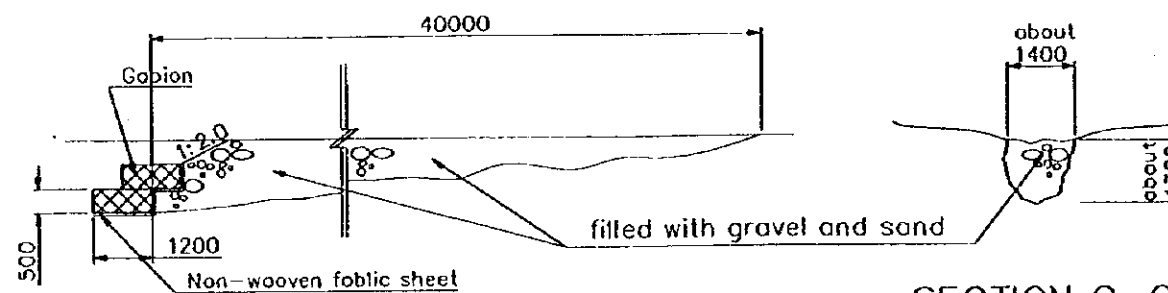
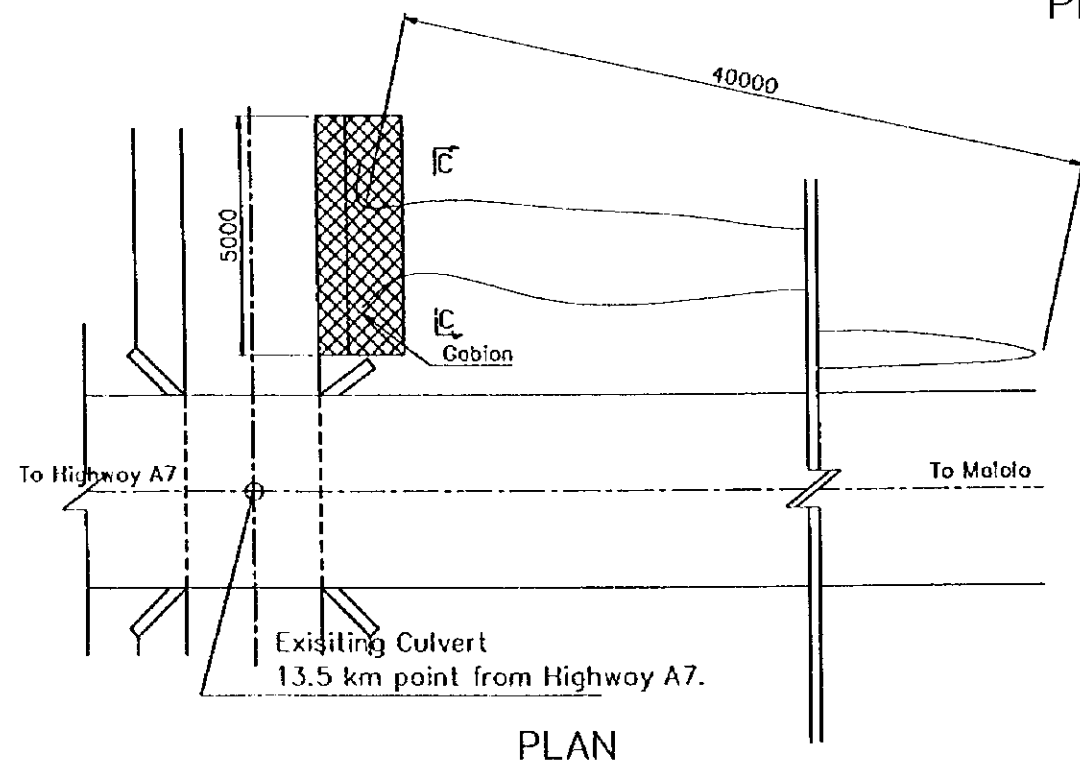
DIMENSION OF CAUSEWAY

Causeway	L1	L2	L3	Distance from A-7
No.1	5.00	15.00	5.00	0.1Km
No.2	5.00	41.00	5.00	0.5Km
No.3	5.00	12.00	5.00	0.8Km
No.4	5.00	5.00	5.00	1.5Km
No.5	4.00	4.00	4.00	6.1Km
No.6	5.00	5.00	4.00	7.1Km

PROFILE

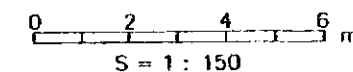
Note: These causeway structures are provided on the access road from A-7 highway to Maloto.

### PROTECTION AGAINST GULLY EROSION



SECTION C-C

PROFILE

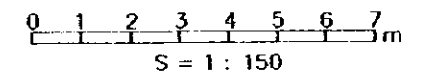
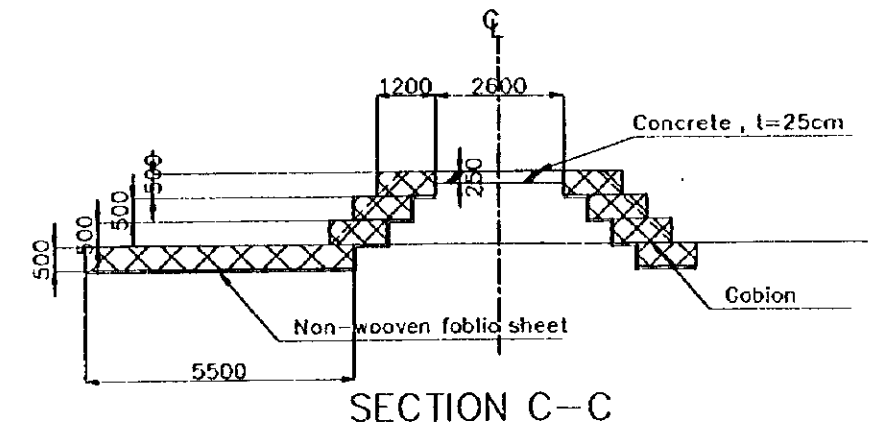
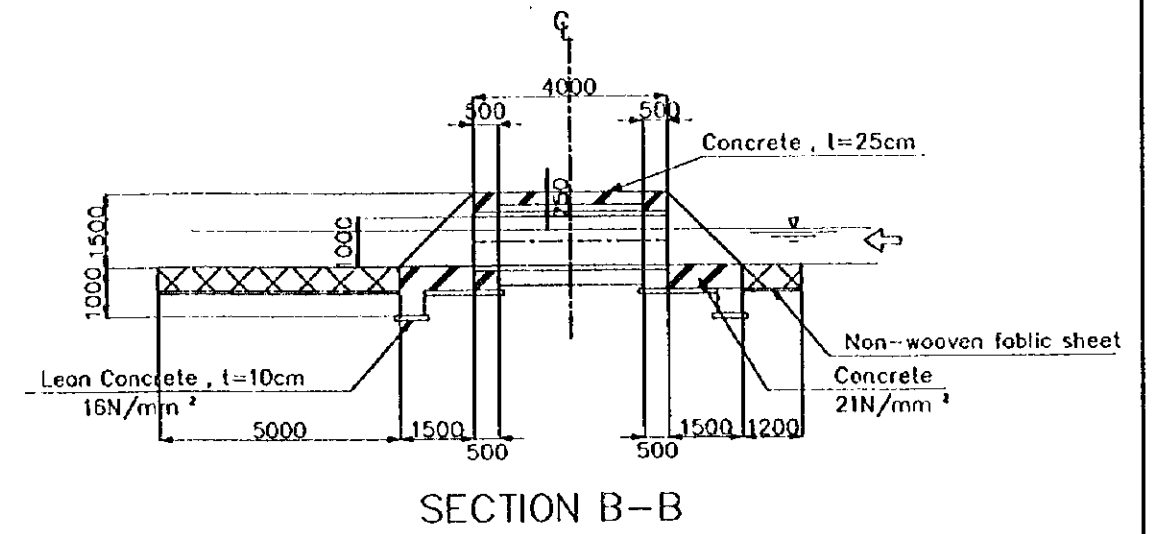
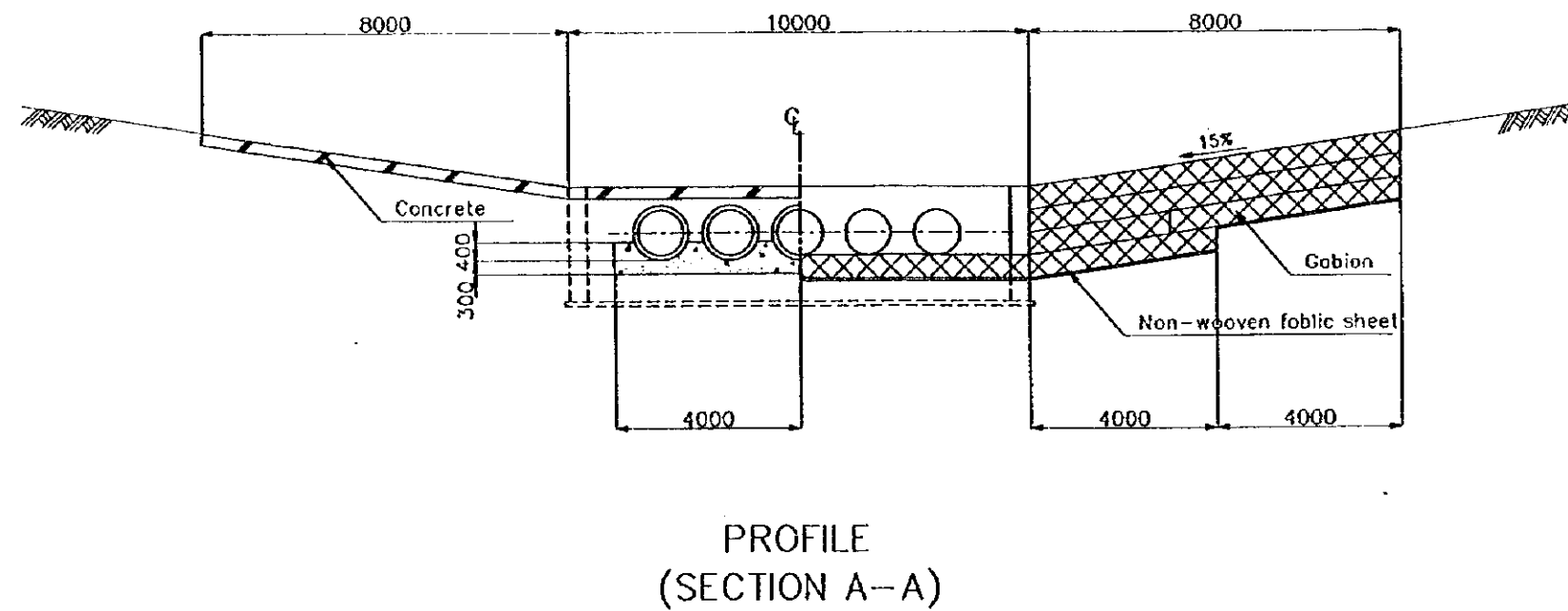
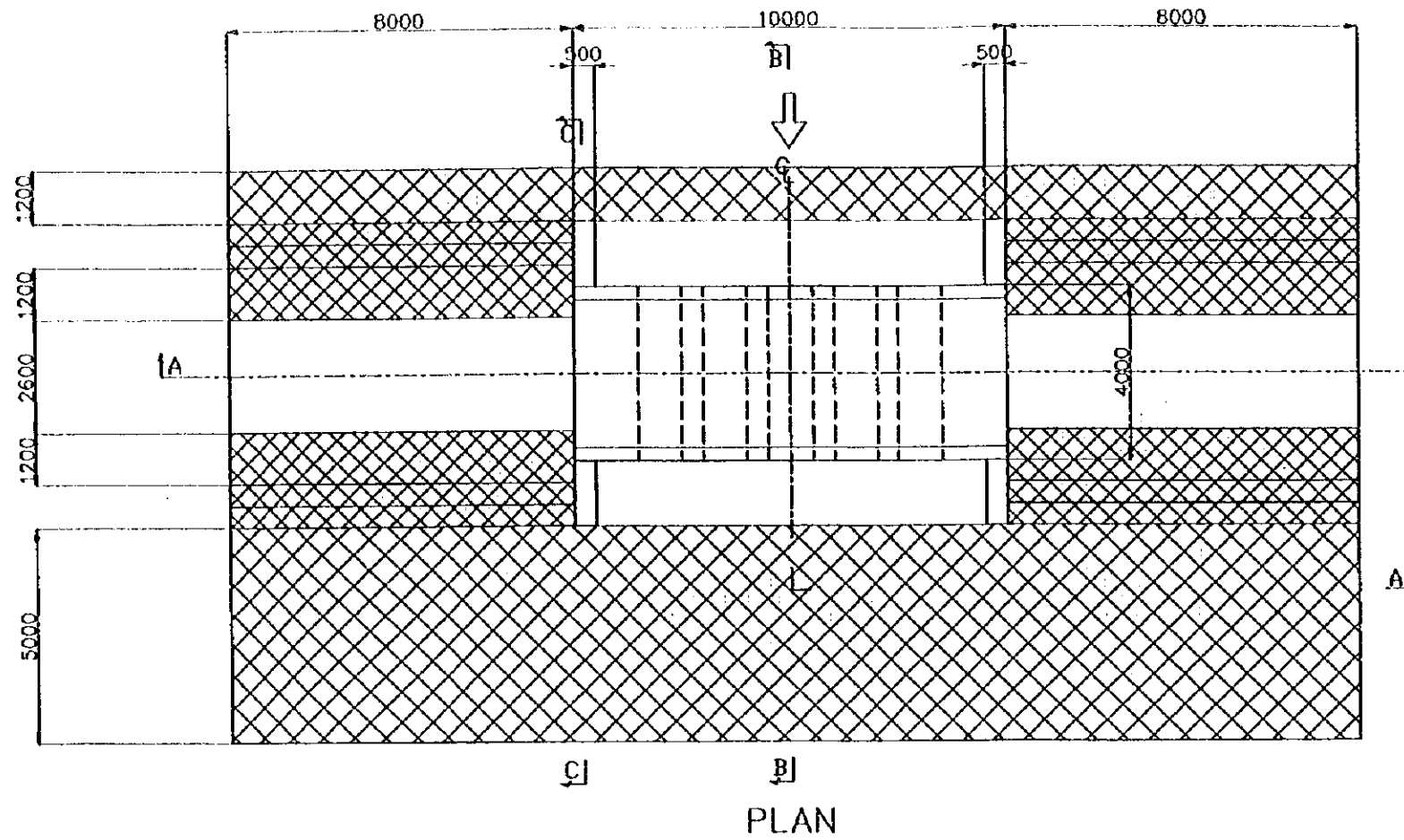


Basic Design Study on the Project for  
Mwega Smallholder Irrigation Scheme  
in Morogoro Region  
in the United Republic of Tanzania

TITLE OF DRAWING  
道路改修  
道路保護工及びガリ機食用保護工

Date | Oct. 1999 | Drawing No. | 4-4  
NIPPON KOEI CO., LTD. TOKYO, JAPAN

# SUBMERSIBLE BRIDGE



Basic Design Study on the Project for  
Mwega Smallholder Irrigation Scheme  
in Morogoro Region  
in the United Republic of Tanzania

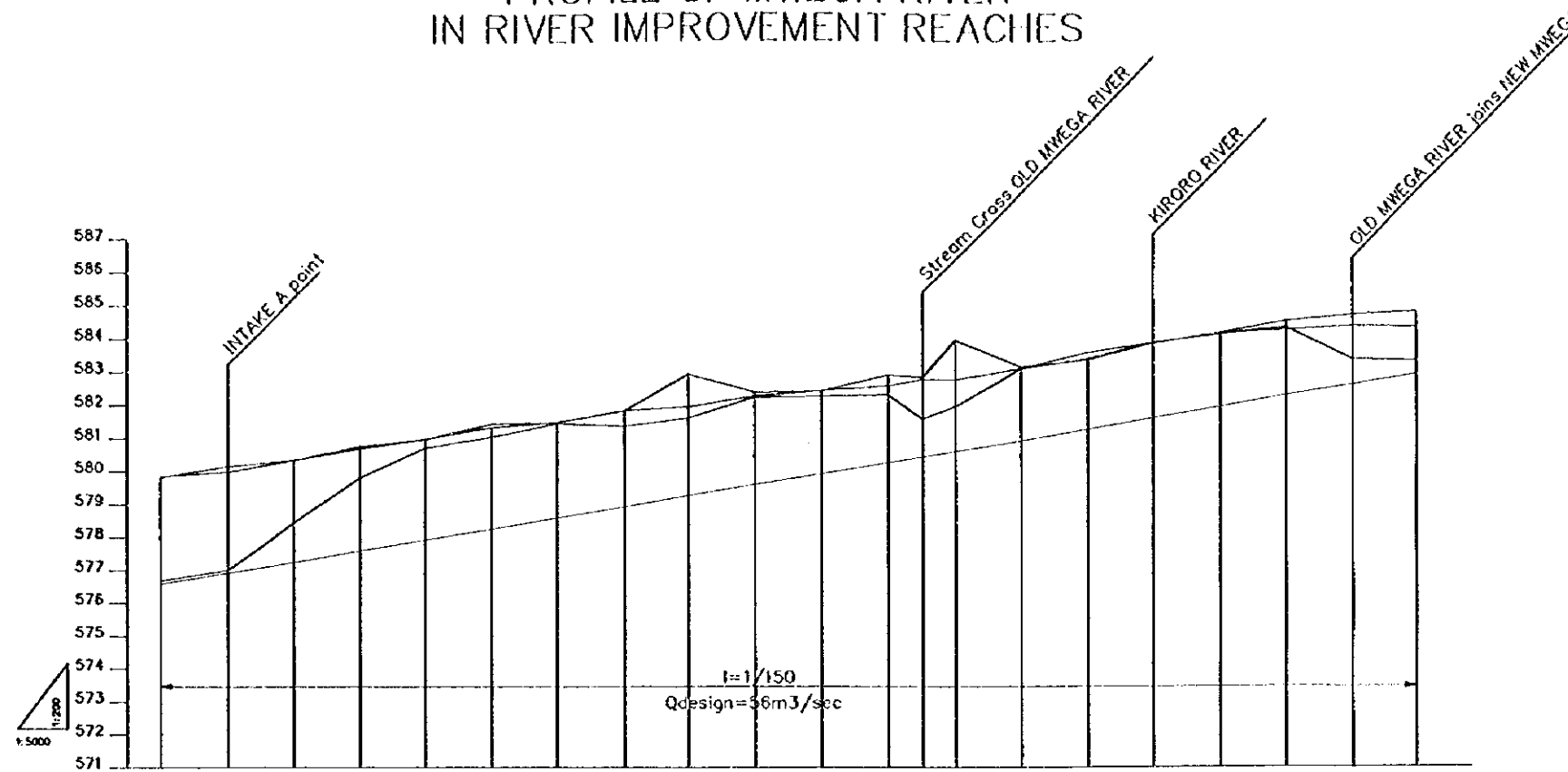
TITLE OF DRAWING  
道路改修

潜水橋

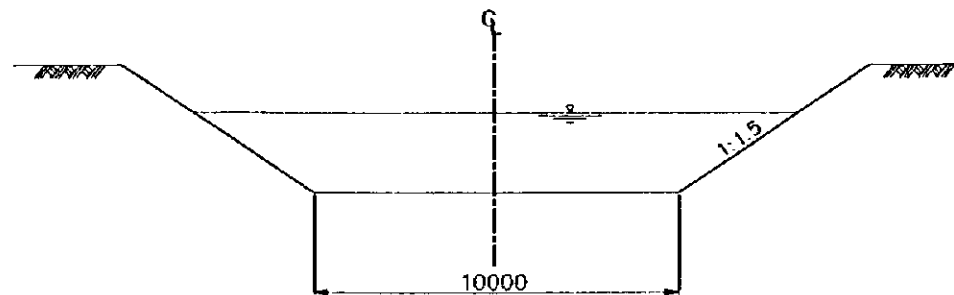
Date Oct. 1999 Drawing No. 4-5

NIPPON KOEI CO., LTD. TOKYO, JAPAN

### PROFILE OF MWEGA RIVER IN RIVER IMPROVEMENT REACHES



DESIGN RIVER BED ELEVATION	RIVER LEFT BANK ELEVATION	RIVER RIGHT BANK ELEVATION	RIVER BED ELEVATION	REDUCED DISTANCE	DISTANCE	STATION NO.
576.89	576.83	576.82	576.89	0.00	0.00	No.0
577.00	576.99	576.92	577.00	50.00	50.00	No.1
577.44	580.34	580.34	577.44	100.00	50.00	No.2
578.81	580.70	580.70	578.81	150.00	50.00	No.3
580.72	580.98	580.98	580.72	200.00	50.00	No.4
581.05	581.34	581.34	581.05	250.00	50.00	No.5
581.46	581.50	581.49	581.46	300.00	50.00	No.6
581.36	581.82	578.92	581.36	350.00	50.00	No.7
581.80	582.92	579.25	581.80	400.00	50.00	No.8
582.22	582.25	582.57	582.22	450.00	50.00	No.9
582.25	582.43	582.40	582.25	500.00	50.00	No.10
582.31	582.90	582.25	582.31	550.00	50.00	No.11
581.98	582.83	582.43	581.98	576.00	26.00	No.12
581.92	583.92	582.59	581.92	600.00	24.00	No.13
583.10	583.16	582.92	583.10	650.00	50.00	No.14
583.39	583.35	581.25	583.39	700.00	50.00	No.15
583.86	583.85	581.59	583.86	750.00	50.00	No.16
584.10	584.13	581.92	584.10	800.00	50.00	No.17
584.28	584.48	582.25	584.28	850.00	50.00	No.18
583.35	584.36	582.59	583.35	900.00	50.00	No.19
583.35	584.33	582.92	583.35	950.00	50.00	No.19



Basic Design Study on the Project for  
Mwega Smallholder Irrigation Scheme  
in Morogoro Region  
in the United Republic of Tanzania

TITLE OF DRAWING  
河川改修

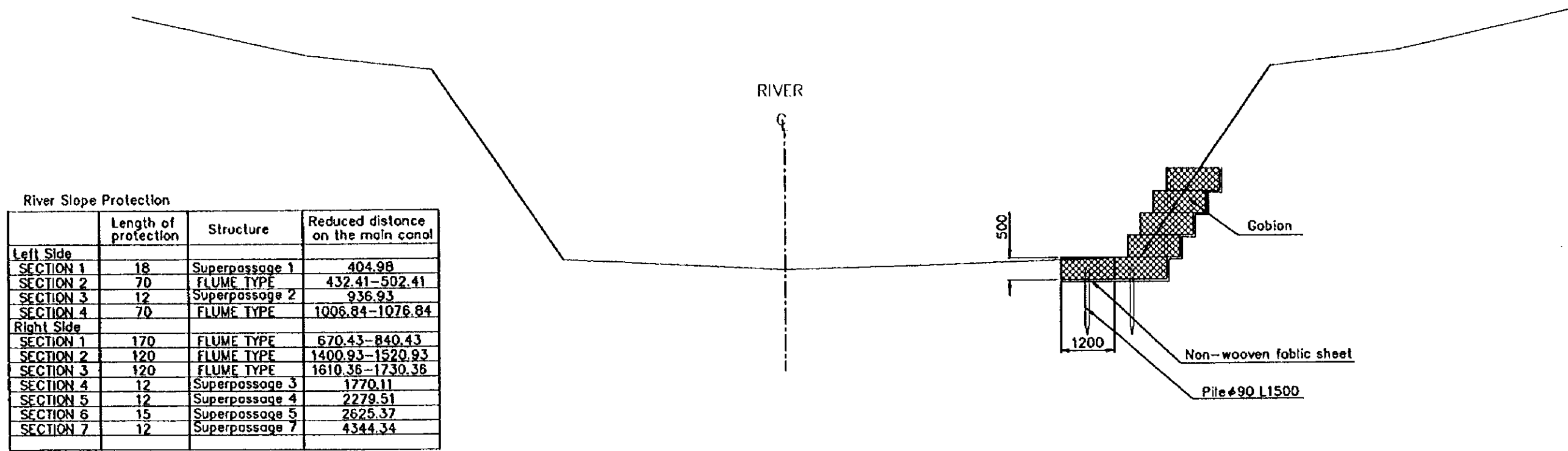
ムウェガ川河川改修区間縦断面図

Date | Oct. 1999 | Drawing No. | 5-1

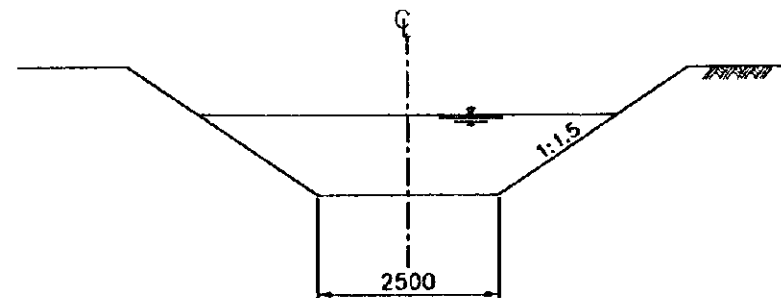
NIPPON KOEI CO., LTD. TOKYO, JAPAN

# TYPICAL CROSS SECTION OF KIKALO RIVER IN RIVER IMPROVEMENT REACHES AND RIVER SLOPE PROTECTION

## RIVER SLOPE PROTECTION

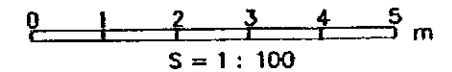


## KIKALO RIVER IMPROVEMENT



Section from the junction with the Mwega river to 0.31km joint of the upstream across the right main canal where an aqueduct(Aqueduct No.2) will be provided.

Note: River slope protection shall be provided along the concave side of the Mwega River where the proposed main irrigation canal will run within 15m from the river or in the river side where superpassage will be located within 50m from the river side.



Basic Design Study on the Project for Mwega Smallholder Irrigation Scheme in Morogoro Region in the United Republic of Tanzania

TITLE OF DRAWING 河川改善工事			
キカロ川標準断面図及びムウエガ川護岸工			
Date	Oct. 1999	Drawing No.	5-2
NIPPON KOEI CO., LTD. TOKYO, JAPAN			











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