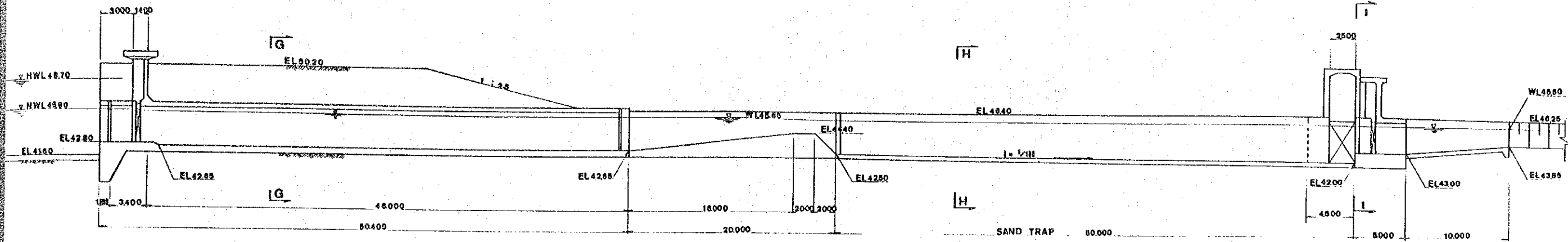
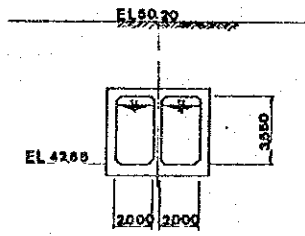


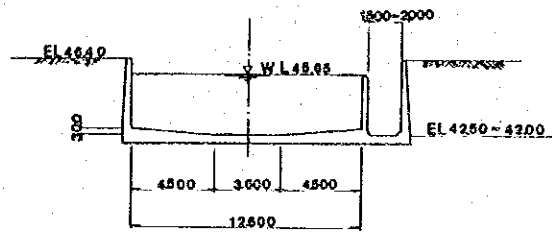
SECTION F - E



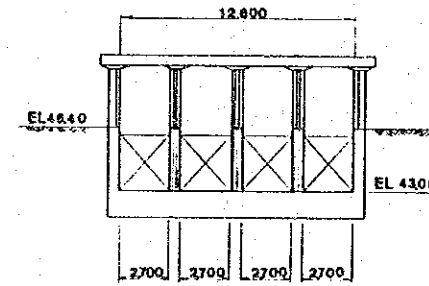
SECTION G - G



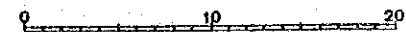
SECTION H - H



SECTION I - I

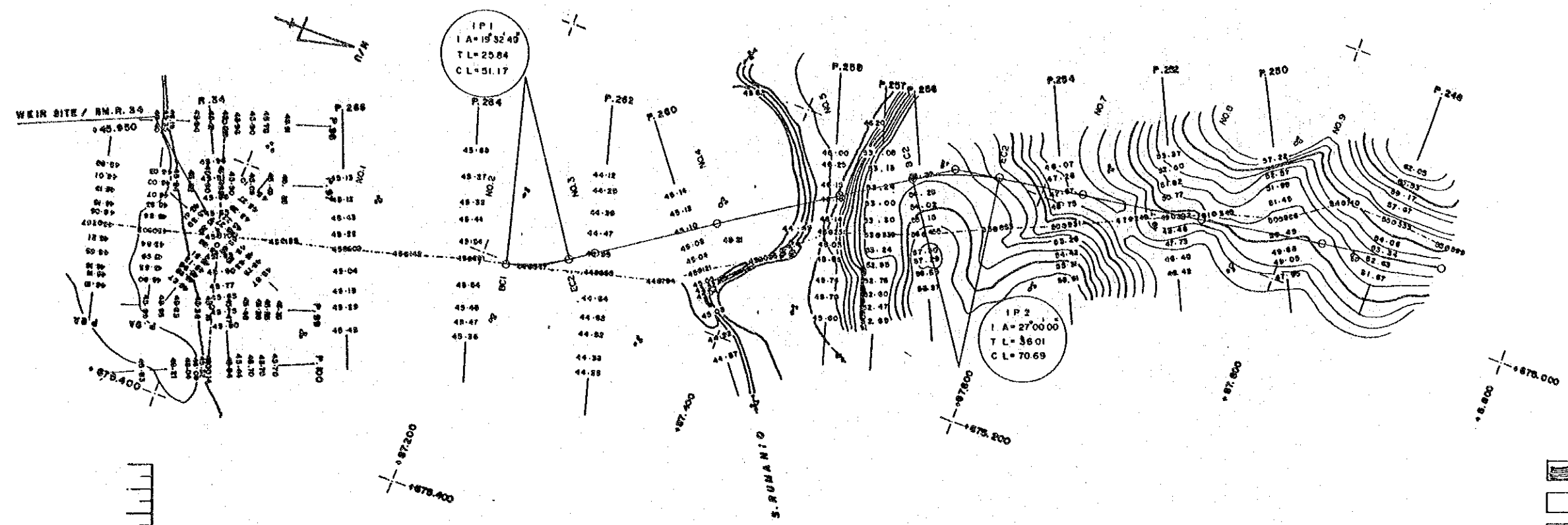


SCALE



SECTION OF WEIR(2)

REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT FEASIBILITY STUDY ON LOWER ROKAN KIRI IRRIGATION PROJECT	
SECTION OF WEIR (2)	
JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO (JICA)	DWG. NO. 17



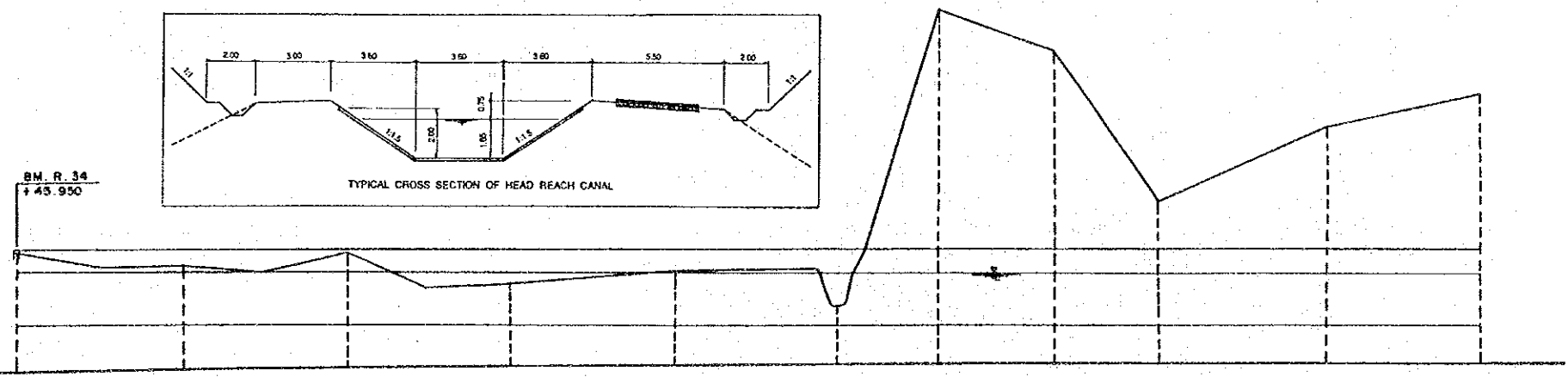
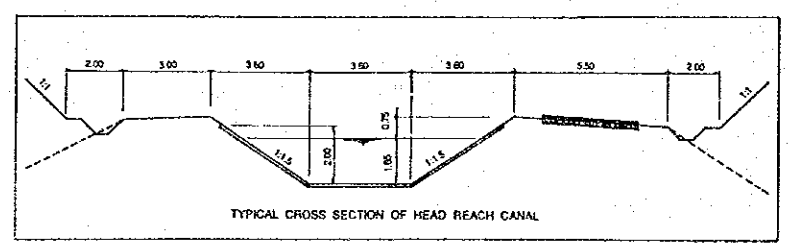
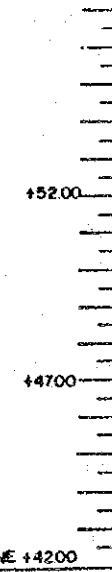
**LEGENDA
LEGEND**

- Series kotagedas Center line
- Titik tetap Benchmark
- Titik polya Traverse point
- Sungai River
- Saluran Canal
- Arak aliran Flow direction
- Hutan belahar Primary forest

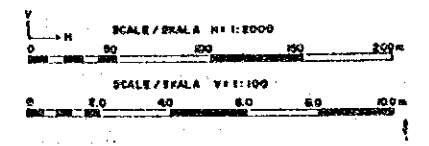
NO	BM	COORDINATE		ELEVATION
		X (m)	Y (m)	
1	R. 34	675.260	87.000	45.950

Coordinate of IP Points

	X	Y
BP	675.260	87.000
IP1	675.197	87.245
IP2	675.005	87.530

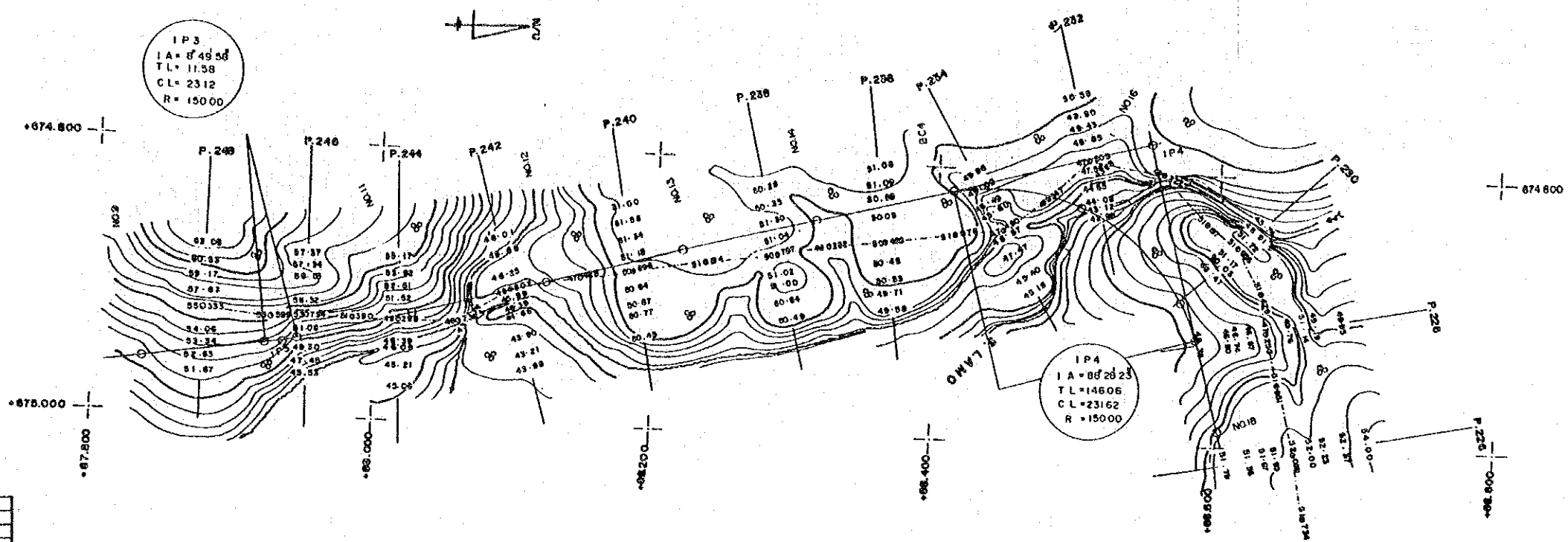


DESIGN	Q = 9.35 m ³ /s = 0.000271 V = 0.935 m/s h = 1.65 m													
	CANAL DIMENSION													
WATER SURFACE ELEVATION		45.06	45.04	45.03	45.01	45.01	44.98	44.95	44.94	44.93	44.92	44.85		
CANAL BED ELEVATION		43.44	43.4	43.39	43.38	43.36	43.35	43.30	43.29	43.28	43.27	43.20		
GROUND ELEVATION IN CENTER LINE		43.70	43.31	43.69	44.59	45.10	45.91	53.30	53.00	53.00	47.20	49.50		
TOTAL DISTANCE	0	100.00	200.00	227.13	276.31	300.00	400.00	500.00	560.10	600.00	630.76	700.00	800.00	900.00
DISTANCE	0	100.00	1000	273	518	2169	10000	10000	6010	3690	3078	8822	10000	10000
STATION	BP	NO.1	NO.2	BC1	EC1	NO.3	NO.4	NO.5	BC2	NO.6	BC2	NO.7	NO.8	NO.9



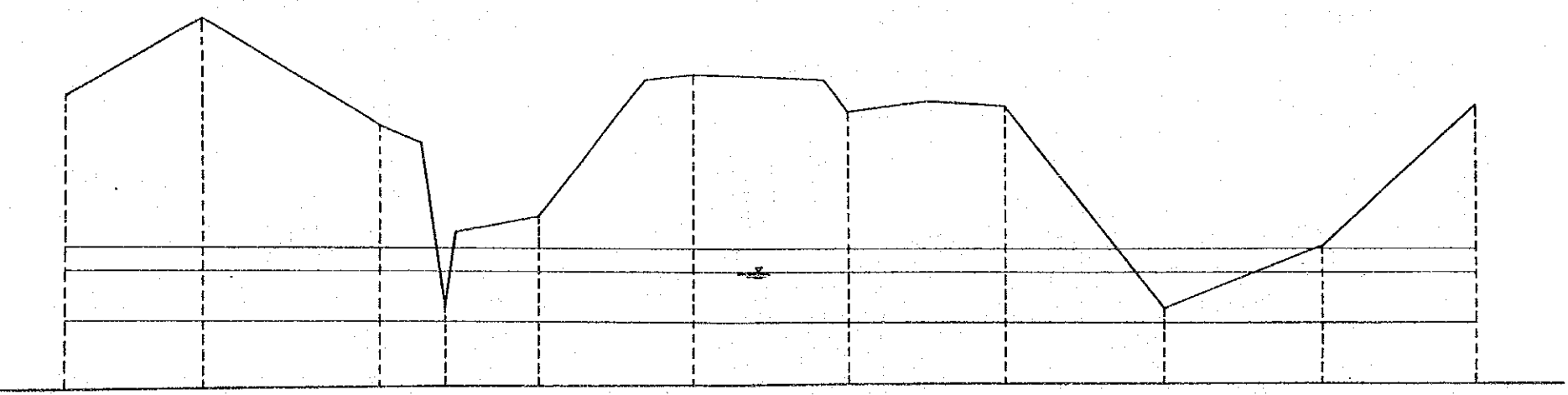
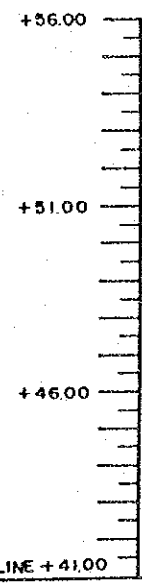
REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON LOWER ROKAN KIRI IRRIGATION PROJECT
PLAN & PROFILE OF HEAD REACH CANAL (1/14)
 JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO (JICA) DWG NO. 18

PLAN & PROFILE OF HEADREACH CANAL(1/14)



LEGENDA
LEGEND

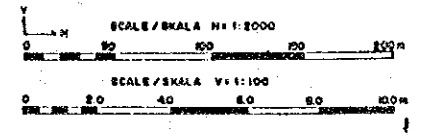
	Saris Balingga Center line
	Tan palitan Trench point
	Sungai River
	Saluran Canal
	Arah aliran Flow direction
	Hutan Balduh Primary forest



Coordinate of IP Point

	X	Y
IP3	874956	87931
IP4	874980	88553

DESIGN	CANAL DIMENSION												
	Q = 9.35 m ³ /s I = 0.000271 V = 0.935 m/s h = 1.65 m												
	WATER SURFACE ELEVATION	44.83	44.62	44.62	44.79	44.76	44.74	44.71	44.68	44.66	44.63	44.62	
CANAL BED ELEVATION	43.20	43.17	43.17	43.14	43.11	43.09	43.06	43.03	43.01	42.98	42.97		
GROUND ELEVATION IN CENTER LINE	50.50	53.00	53.00	49.50	46.50	51.20	49.80	43.50	45.50	45.50	50.00		
TOTAL DISTANCE	900.00	987.17	1000.00	1100.00	1200.00	1300.00	1400.00	1499.00	1600.00	1700.00	1730.00		
DISTANCE	1000	871.7	1285	997	1000	1000	1000	997	1000	1000	307		
STATION	NC3	BC3	NC10	EC3	NC11	NC12	NC13	NC14	BC4	NC16	NC17	EC4	NC18

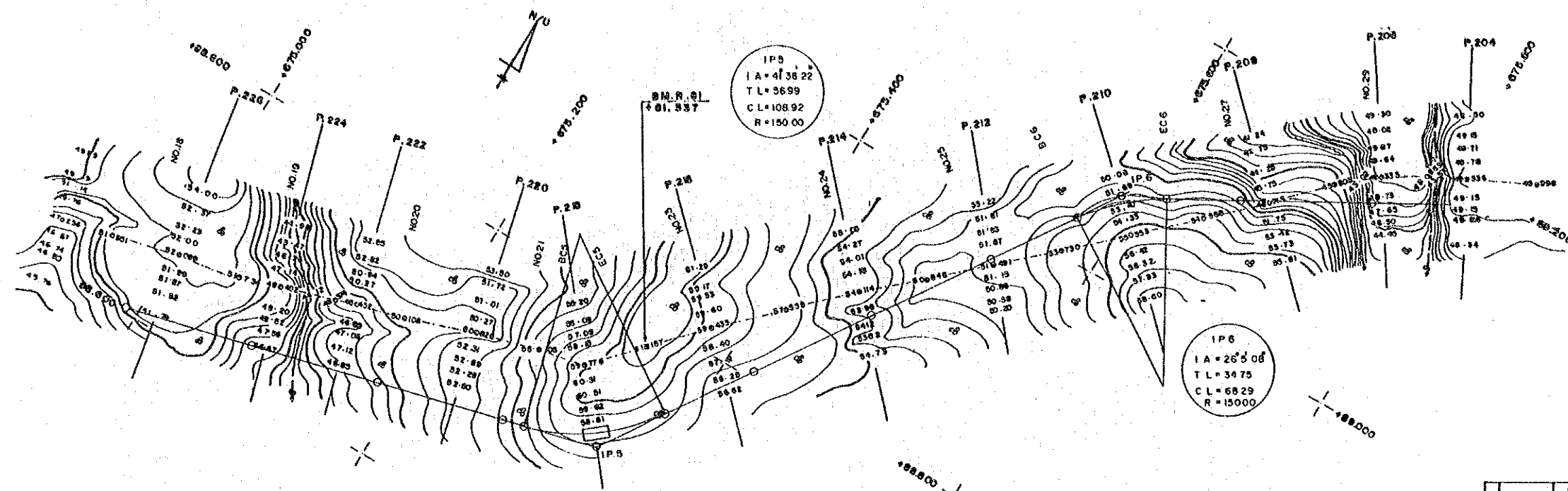


PLAN & PROFILE OF HEADREACH CANAL(2/14)

REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON LOWER ROKAN KIRI IRRIGATION PROJECT

PLAN & PROFILE OF HEAD REACH CANAL (2/14)

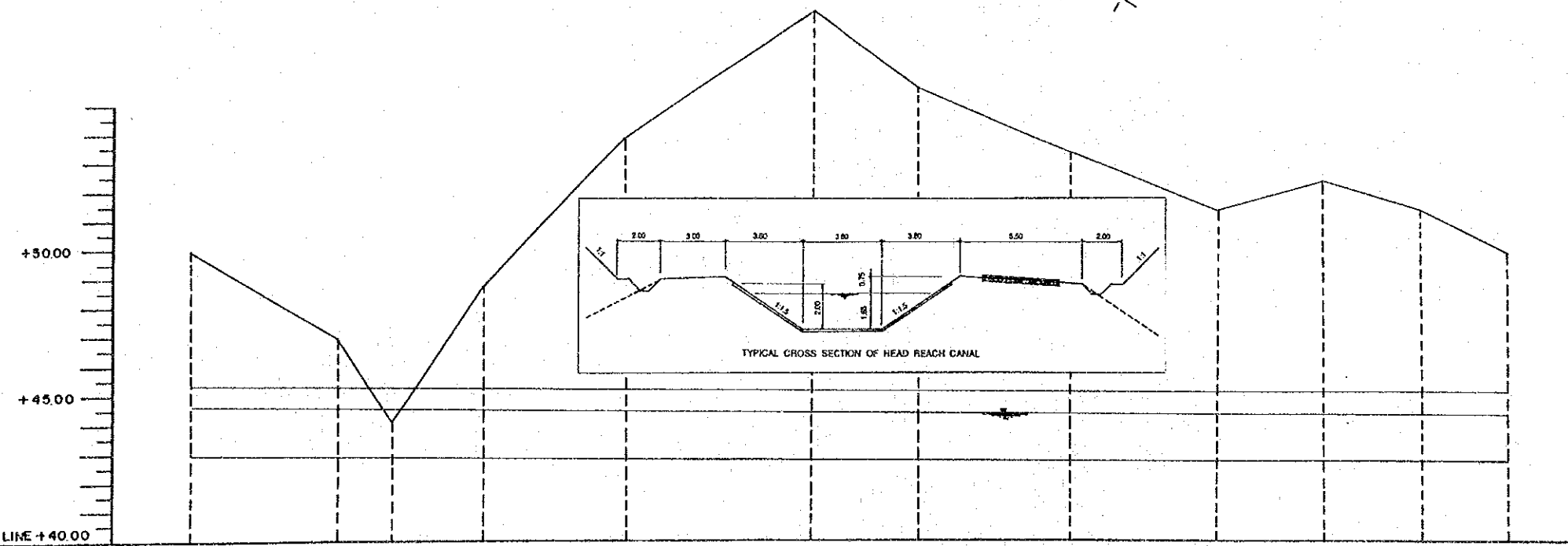
JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO (JICA) DWG. NO. 19



LEGENDA

	Saris halnggion Center line
	Titik tetap Bench mark
	Titik paitan Traversing point
	Saluran Canal
	Arah aliran Flow direction
	Kanan bahu Primary force
	Rumah House

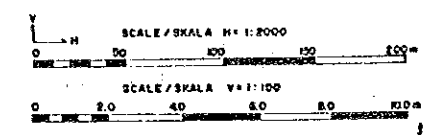
NO.	B.M.	COORDINATE		ELEVATION m
		E (X) m	N (Y) m	
1.	R. 81	675 344.486	68 780.017	61.337



Coordinate of IP Points

	X	Y
IP 5	675 350	89 698
IP 6	675 598	89 064

DESIGN	Q = 9.35 m ³ /s = 0.000271 V = 0.935 m/s h = 1.65 m										
	CANAL DIMENSION										
WATER SURFACE ELEVATION		44.60	44.58	44.53	44.52	44.52	44.49	44.49	44.47	44.44	44.39
CANAL BED ELEVATION		42.95	42.93	42.90	42.87	42.87	42.84	42.84	42.82	42.79	42.74
GROUND ELEVATION IN CENTER LINE		50.00	47.00	46.80	54.30	54.30	58.50	58.50	55.70	53.50	52.50
TOTAL DISTANCE		1800.00	1900.00	2000.00	2100.00	2115.81	2200.00	2224.73	2300.00	2400.00	2500.00
DISTANCE		69.30	100.00	100.00	100.00	15.81	81.19	24.73	75.27	100.00	100.00
STATION		NO.18	NO.19	NO.20	NO.21	BC5	NO.22	EC5	NO.23	NO.24	NO.25
										BC6	NO.26
											EC6
											NO.27

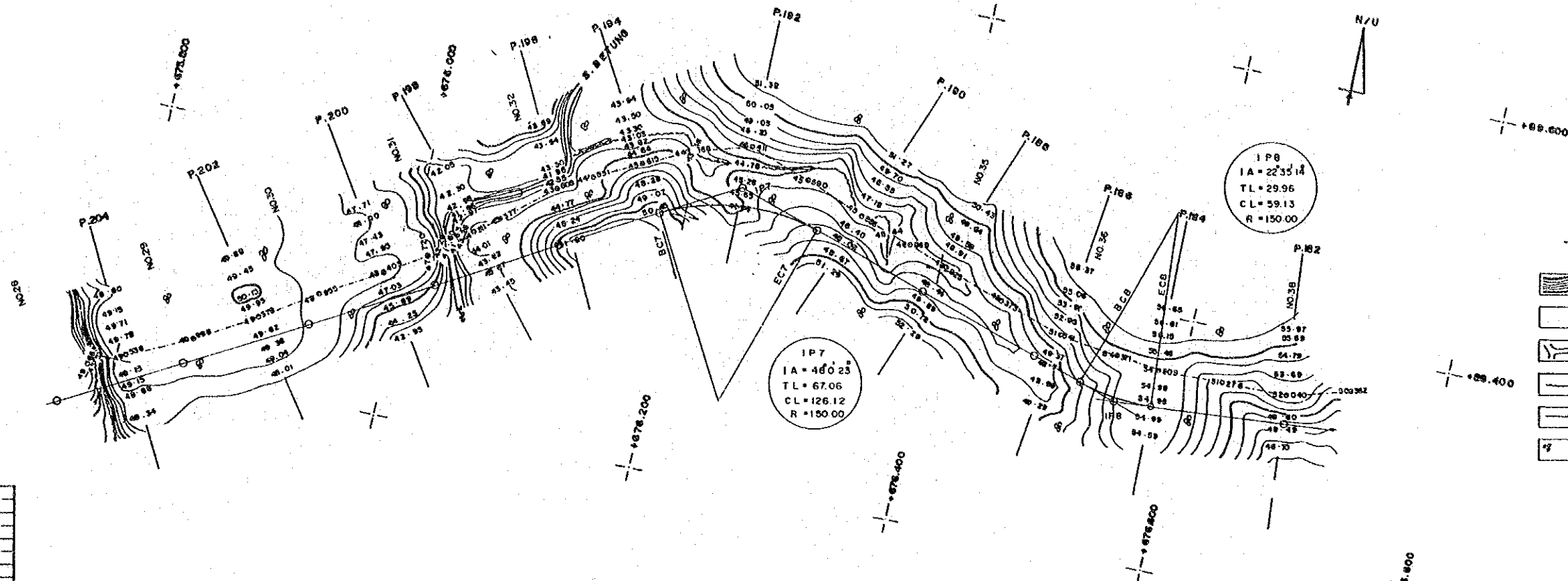


PLAN & PROFILE OF HEADREACH CANAL(3/14)

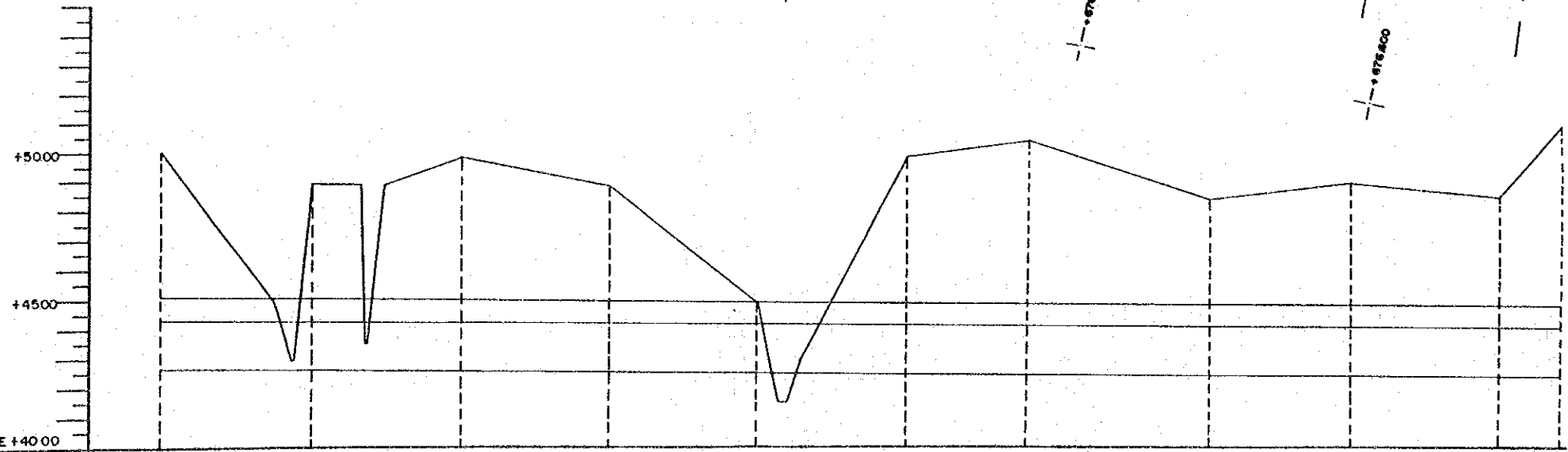
REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
 FEASIBILITY STUDY ON LOWER ROKAN KIRI
 IRRIGATION PROJECT

**PLAN & PROFILE OF
 HEAD REACH CANAL (3/14)**

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) TOKYO (JICA) DWG NO. 20



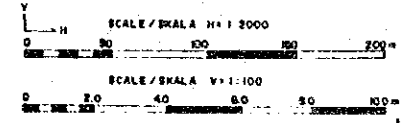
- LEGENDA**
LEGEND
- Garis ketinggian
Contour line
 - Titik pelangan
Traverse point
 - Sungai
River
 - Saluran
Canal
 - Arah aliran
Flow direction
 - Jalan balok
Primary Road



Coordinate of IP Points

	X	Y
IP 7	676.239	89.431
IP 8	676.552	89.327

DESIGN	CANAL DIMENSION										
	Q = 9.35 m ³ /s I = 0.000271 V = 0.935 m/s h = 1.65 m										
WATER SURFACE ELEVATION	44.36	44.33	44.30	44.28	44.25	44.22	44.20	44.20	44.17	44.14	44.10
CANAL BED ELEVATION	42.71	42.68	42.65	42.63	42.60	42.57	42.55	42.55	42.52	42.49	42.45
GROUND ELEVATION IN CENTER LINE	50.00	49.00	50.00	49.00	48.00	50.00	50.50	50.50	48.50	49.00	51.00
TOTAL DISTANCE	2700.00	2800.00	2900.00	3000.00	3100.00	3200.00	3280.22	3300.00	3400.00	3500.00	3600.00
DISTANCE	56.61	1000.00	1000.00	1000.00	1000.00	1000.00	80.22	19.78	1000.00	936.7	1000.00
STATION	NO.27	NO.28	NO.29	NO.30	NO.31	NO.32	BC.7	NO.33	NO.34	NO.35	NO.36

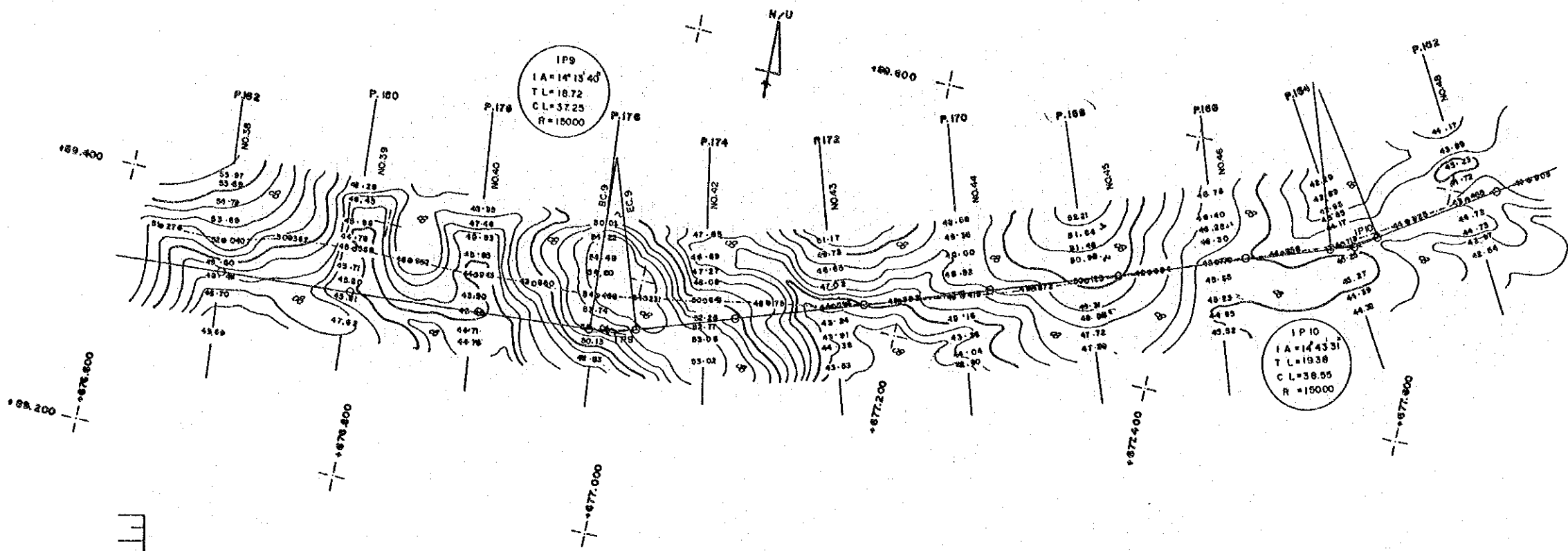


PLAN & PROFILE OF HEADREACH CANAL (4/14)

REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON LOWER ROKAN KIRI
IRRIGATION PROJECT

PLAN & PROFILE OF
HEAD REACH CANAL (4/14)

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO (JICA) DWG NO. 21

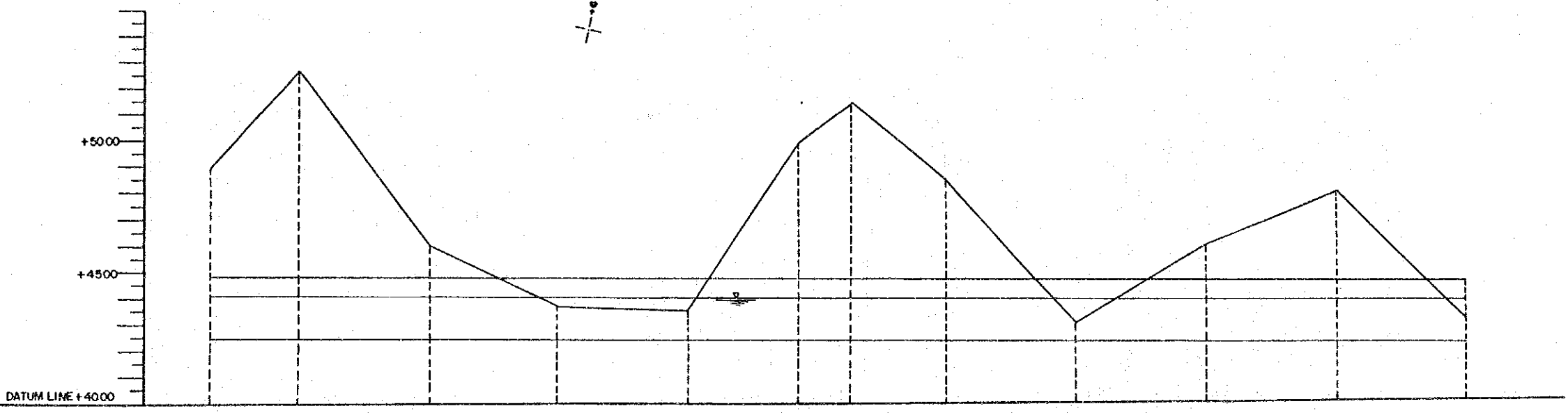


LEGENDA
LEGEND

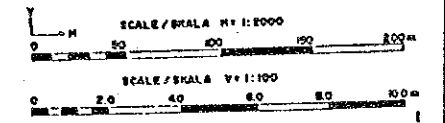
	Batas ketinggian Contour line
	Titik polygon Triangulation point
	Hydra balok Primary force

Coordinate of IP Points

	X	Y
IP 9	675.987	89.359
IP 10	677.536	89.542



CANAL DIMENSION											
WATER SURFACE ELEVATION		44.10	44.09	44.09	44.03	44.01	43.98	43.98	43.92	43.90	43.84
CANAL BED ELEVATION		42.45	42.44	42.44	42.41	42.38	42.36	42.36	42.27	42.25	42.19
GROUND ELEVATION IN CENTER LINE		51.00	54.80	48.00	45.70	45.50	52.00	50.50	45.00	50.10	45.20
TOTAL DISTANCE		3639.15	3698.28	3700.00	3900.00	4000.00	4085.78	4100.00	4200.00	4400.00	4600.00
DISTANCE		3915	2913	172	10000	10000	85.78	14.22	10000	10000	10000
STATION		BC 8	EC 8	NO 37	NO 38	NO 39	NO 40	NO 41	NO 42	NO 43	NO 44



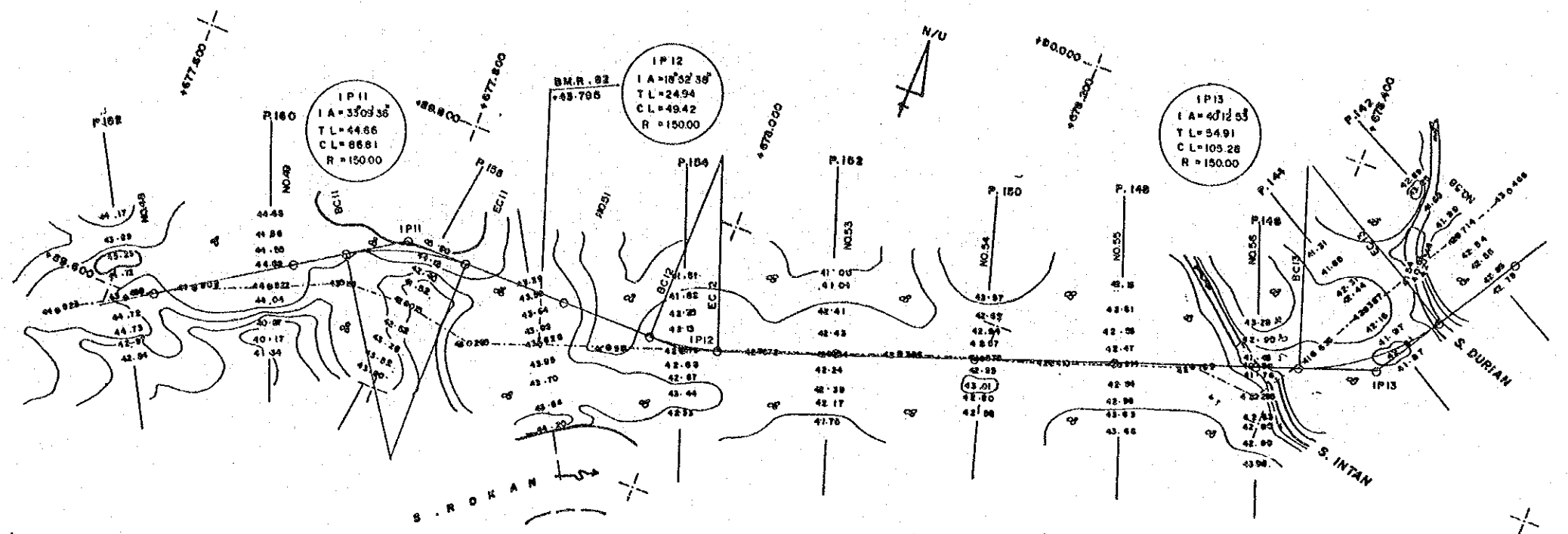
PLAN & PROFILE OF HEADREACH CANAL(5/14)

REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON LOWER ROKAN KIRI
IRRIGATION PROJECT

PLAN & PROFILE OF
HEAD REACH CANAL (5/14)

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO (JICA)

DWG. NO. 22



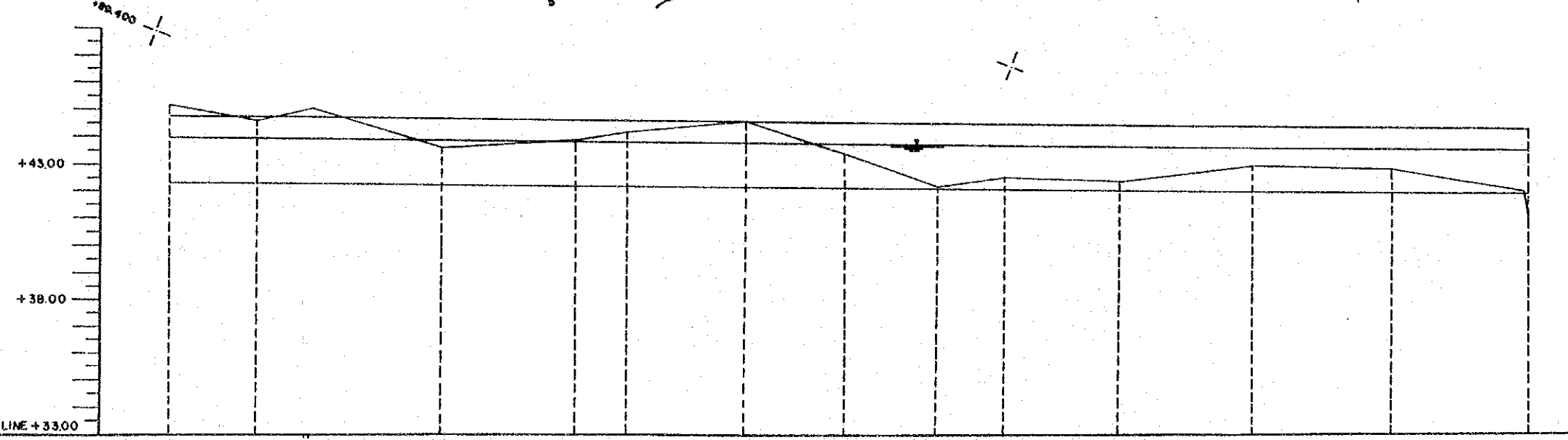
LEGENDA
LEGEND

	Batas kelurahan Counsellor line
	Titik tetap Benchmark
	Titik pelinggai Traverse point
	Sungai River
	Arah aliran Flow direction
	Jalan primer Primary road

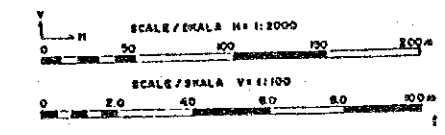
NO	BM	COORDINATE		ELEVATION m
		E (X) m	N (Y) m	
1	R. 82	677.901.442	69.872.828	43.786

Coordinate of IP Points

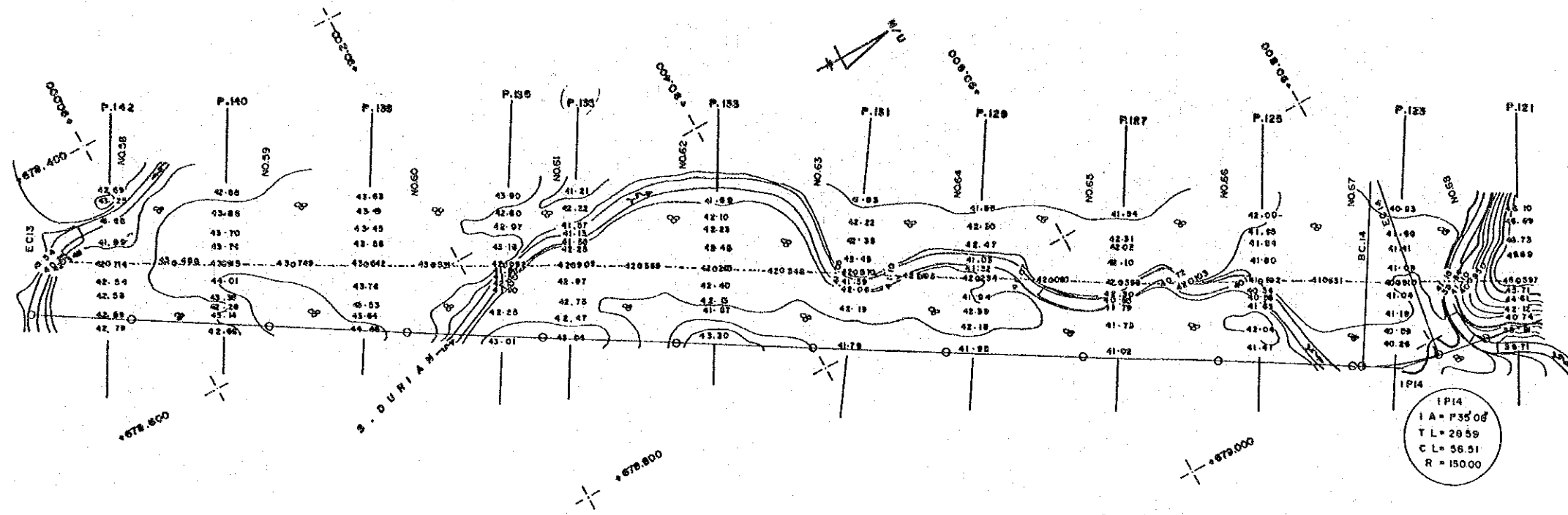
	X	Y
IP 11	677.787	69.706
IP 12	677.998	69.706
IP 13	678.463	69.865



STATION	CANAL DIMENSION	WATER SURFACE ELEVATION	CANAL BED ELEVATION	GROUND ELEVATION IN CENTER LINE	TOTAL DISTANCE	DISTANCE
NO.46	10000.00	43.84	42.19	43.00	4600.00	10000.00
BC10	6362	43.83	42.18	44.50	4663.62	6362
NO.47	3639	43.82	42.17	44.90	4700.00	3639
EC10	217	43.82	42.17	44.90	4702.17	217
NO.48	9783	43.79	42.14	43.00	4800.00	9783
NO.49	10000	43.76	42.11	43.80	4900.00	10000
BC11	3796	43.75	42.10	44.10	4937.96	3796
NO.50	6204	43.73	42.08	44.50	5000.00	6204
EC11	2477	43.73	42.08	44.50	5024.77	2477
NO.51	7523	43.71	42.06	43.30	5100.00	7523
BC12	6618	43.69	42.04	42.10	5166.18	6618
NO.52	3382	43.68	42.03	42.00	5200.00	3382
EC12	1560	43.68	42.03	42.50	5215.60	1560
NO.53	8440	43.65	42.00	42.40	5300.00	8440
NO.54	10000	43.63	41.98	43.00	5400.00	10000
NO.55	10000	43.60	41.95	42.90	5500.00	10000
NO.56	10000	43.57	41.92	41.00	5600.00	10000



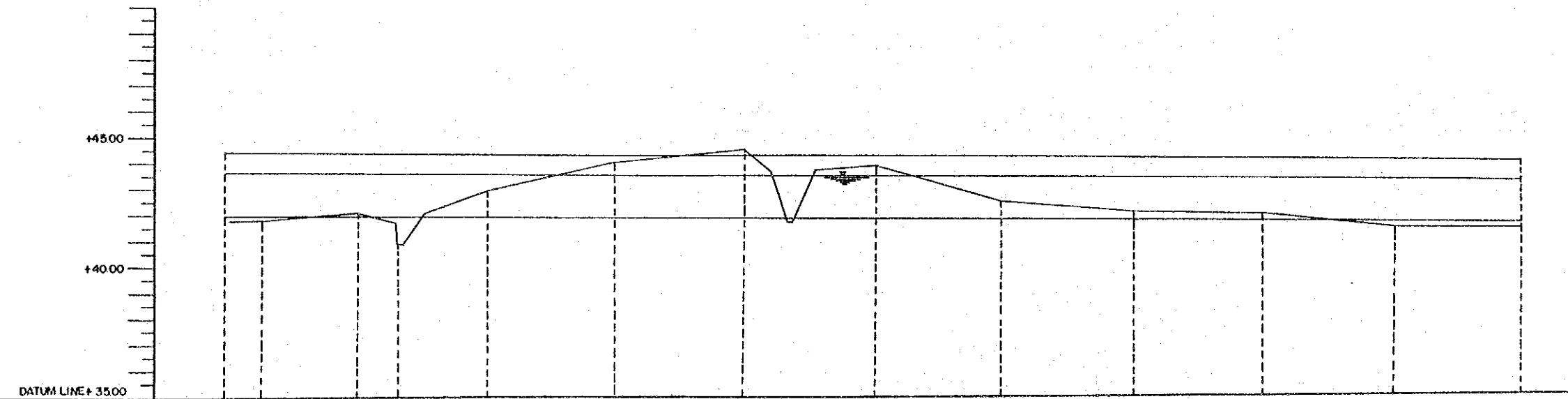
PLAN & PROFILE OF HEADREACH CANAL(6/14)



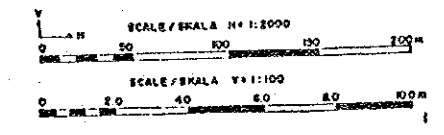
- LEGENDA**
LEGEND
- Garis belahkiri
Center line
 - Titik poligon
Transverse point
 - Sungai
River
 - Arah aliran
Flow direction
 - Helen betok
Primary trench

Coordinate of IP Points

	X	Y
IPI4	679.006	90.772



CANAL DIMENSION																		
WATER SURFACE ELEVATION		41.92-43.57		41.90-43.55		41.87-43.52		41.84-43.49		41.81-43.46		41.78-43.44		41.75-43.38		41.68-43.33		41.65-43.30
CANAL BED ELEVATION		41.92-43.57		41.90-43.55		41.87-43.52		41.84-43.49		41.81-43.46		41.78-43.44		41.75-43.38		41.68-43.33		41.65-43.30
GROUND ELEVATION IN CENTER LINE		41.00		42.00		42.90		44.00		44.30		43.90		42.50		42.00		41.50
TOTAL DISTANCE		5600.00		5700.00		5800.00		5900.00		6000.00		6100.00		6200.00		6300.00		6400.00
DISTANCE		27.18		72.82		67.54		100.00		100.00		100.00		100.00		100.00		100.00
STATION		NO.56		NO.57		NO.58		NO.59		NO.60		NO.61		NO.62		NO.63		NO.66



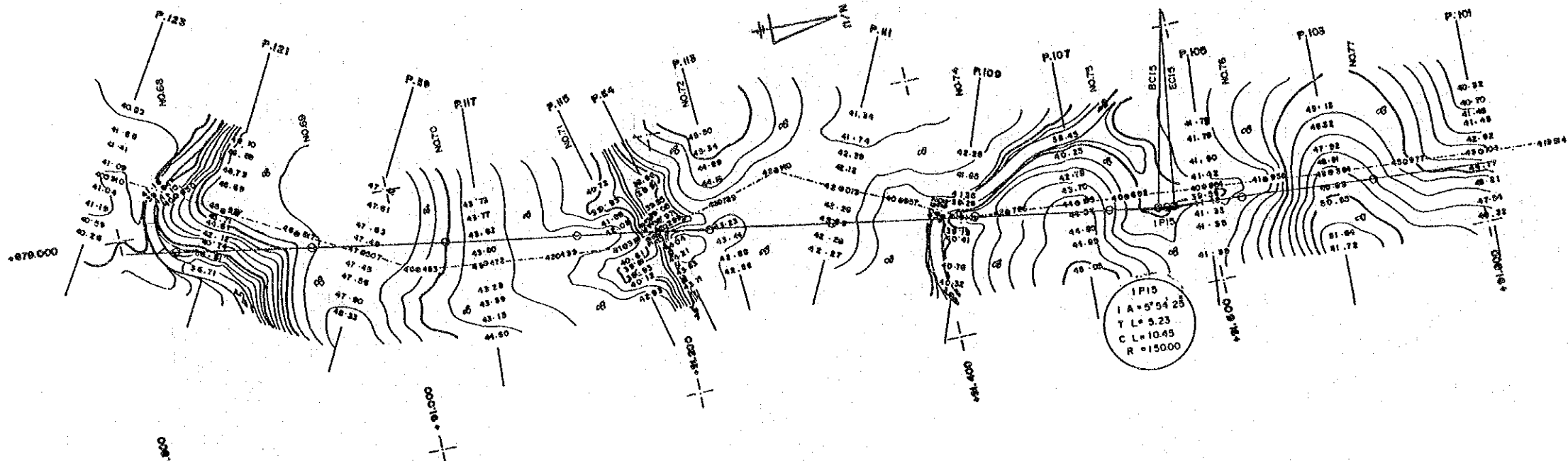
PLAN & PROFILE OF HEADREACH CANAL(7/14)

REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON LOWER ROKAN KIRI
IRRIGATION PROJECT

PLAN & PROFILE OF
HEAD REACH CANAL (7/14)

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO (JICA)

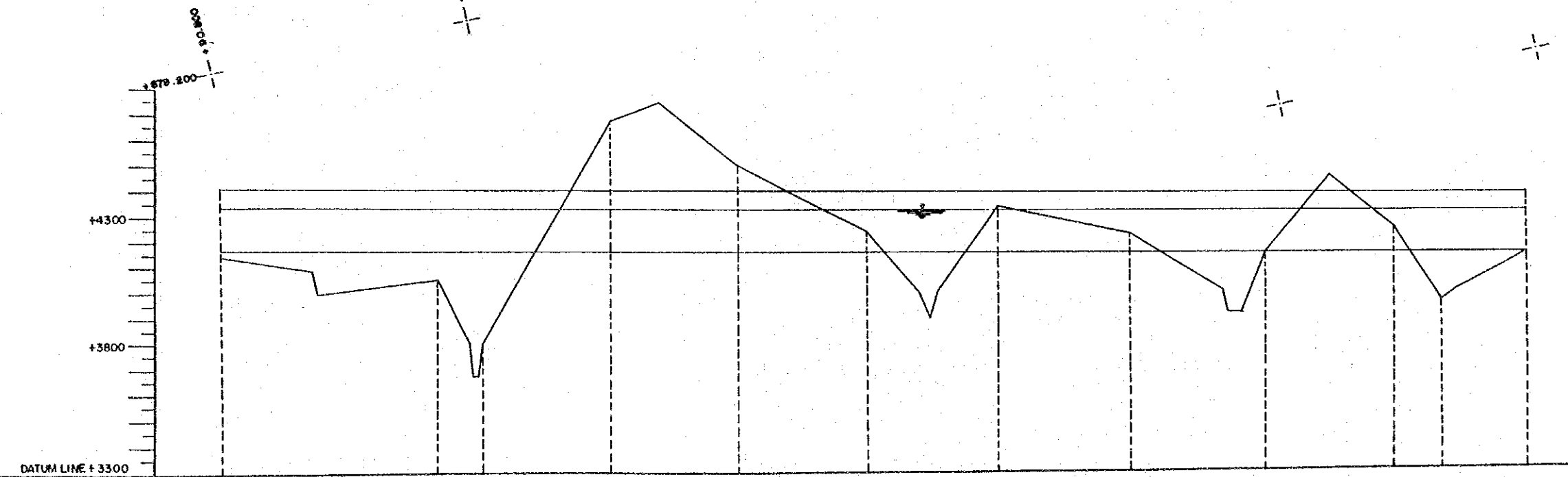
DWG. NO. 24



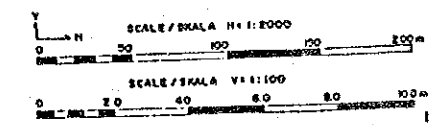
- LEGENDA**
LEGEND
- Garis ketinggian
Contour line
 - Titik poligon
Triangulation point
 - Sungai
River
 - Arah aliran
Flow direction
 - Hutan belukar
Primary forest

Coordinate of IP Points

	X	Y
IP15	679.137	91.570



CANAL DIMENSION																				
WATER SURFACE ELEVATION																				
CANAL BED ELEVATION																				
GROUND ELEVATION IN CENTER LINE																				
TOTAL DISTANCE																				
DISTANCE																				
STATION																				



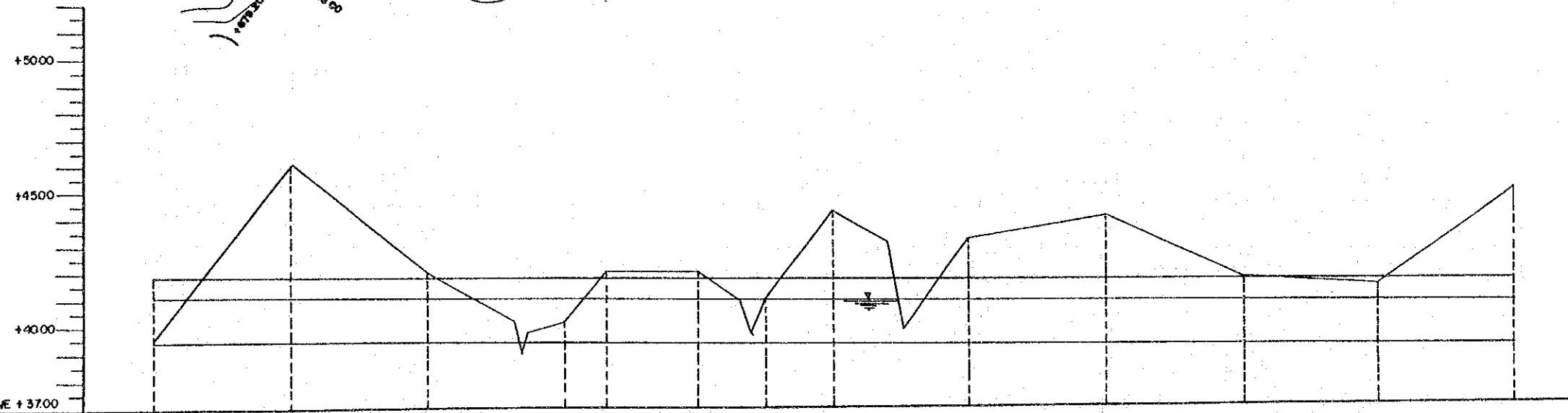
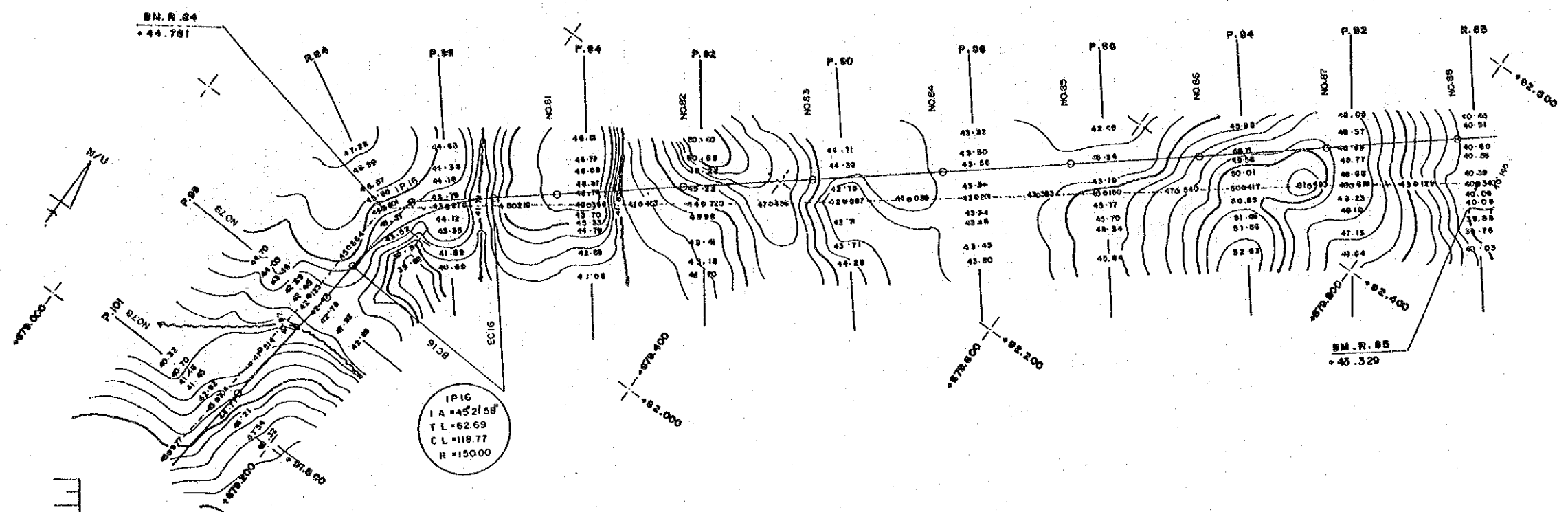
PLAN & PROFILE OF HEADREACH CANAL(8/14)

REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON LOWER ROKAN KIRI
IRRIGATION PROJECT

PLAN & PROFILE OF
HEAD REACH CANAL (8/14)

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO (JICA)

DWG. NO. 25



LEGENDA
LEGEND

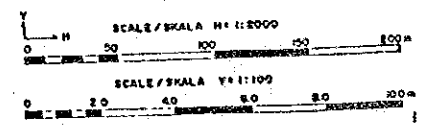
- Garis ketinggian
Contour line
- Titik tetap
Bench mark
- Titik pojok
Traverse point
- Saluran
Canal
- Arah aliran
Flow direction
- Halaman belahar
Primary terrace

NO	BM	COORDINATE		ELEVATION m
		E (X) m	N (Y) m	
1.	R. 04	+679 184.508	+92 008.282	+44.781
2.	R. 08	+679 241.396	+92 019.166	+43.329

Coordinate of IP Points

	X	Y
IP 16	679.179	92.020

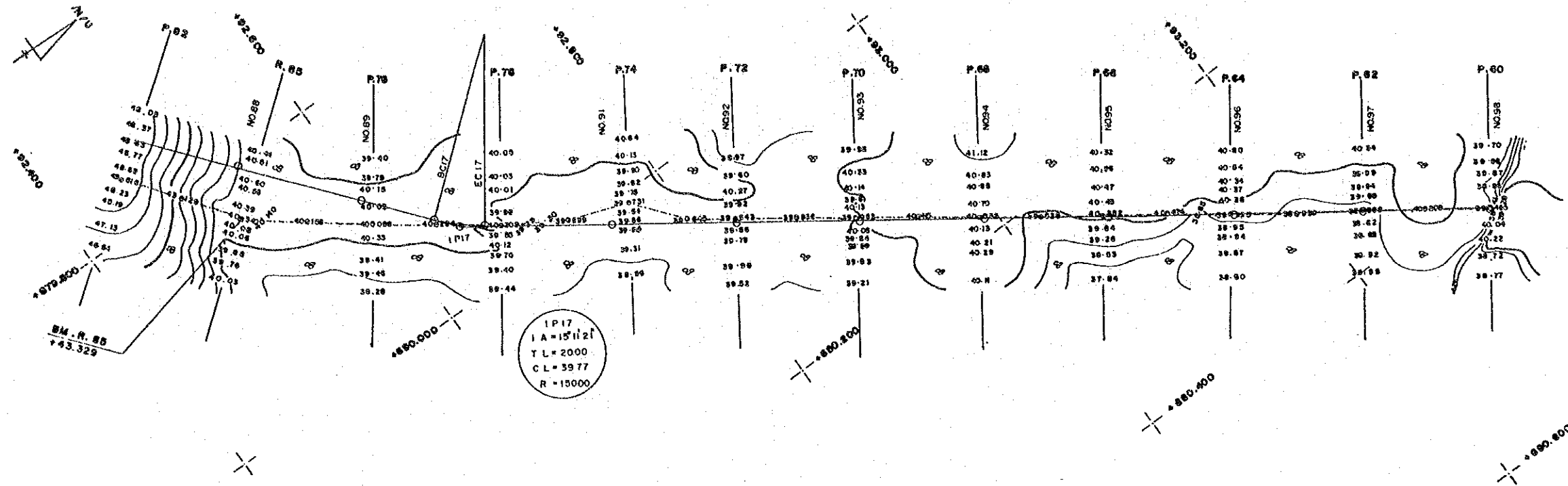
CANAL DIMENSION																	
WATER SURFACE ELEVATION		43.03	43.00	42.98	42.95	42.94	42.92	42.91	42.89	42.87	42.84	42.81	42.79	42.76			
CANAL BED ELEVATION		41.38	41.35	41.33	41.30	41.29	41.27	41.26	41.24	41.22	41.19	41.16	41.14	41.11			
GROUND ELEVATION IN CENTER LINE		41.56	41.60	41.60	41.60	41.60	41.60	41.60	41.60	41.60	41.60	41.60	41.60	41.60			
TOTAL DISTANCE		7600.00	7700.00	7800.00	7900.00	7931.92	8000.00	8055.69	8100.00	8200.00	8300.00	8400.00	8500.00	8600.00			
DISTANCE		3211	10000	10000	10000	3152	6809	5089	4931	10000	10000	10000	10000	10000			
STATION		NO76	NO77	NO78	NO79	EC16	NO80	EC16	NO81	NO82	NO83	NO84	NO85	NO86			



PLAN & PROFILE OF HEADREACH CANAL(9/14)

REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON LOWER ROKAN KIRI
IRRIGATION PROJECT

PLAN & PROFILE OF
HEAD REACH CANAL (9/14)



**LEGENDA
LEGEND**

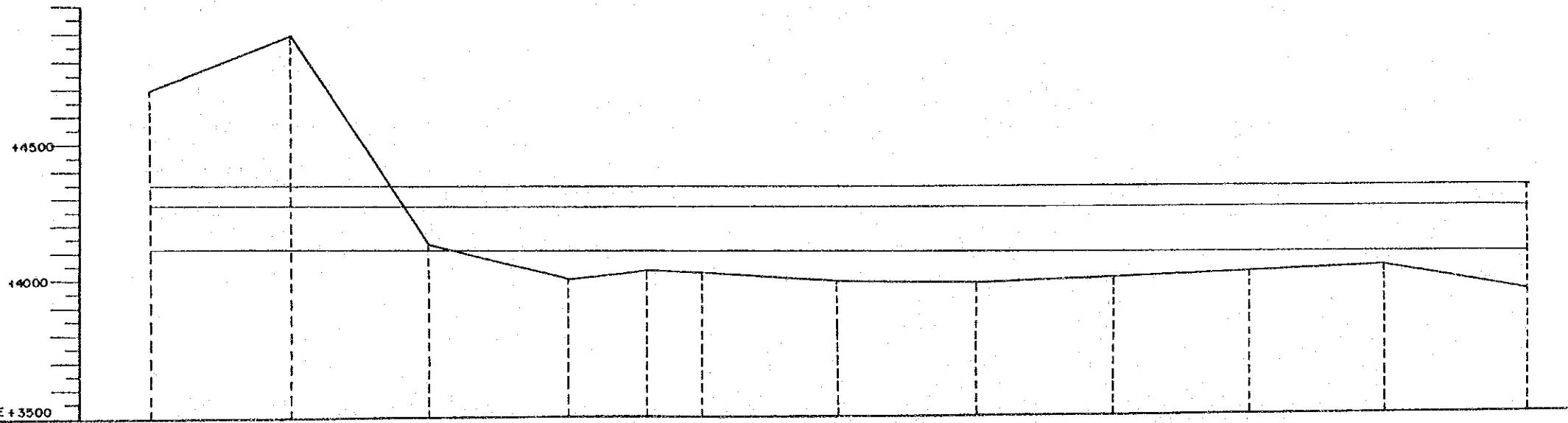
- Garis ketinggian
Contour line
- Titik stop
Benchmark
- Titik stasiun
Triangulation point
- Sungai
River
- Arah aliran
Flow direction
- Hutan primer
Primary forest

IP17
IA = 15° 11' 21"
TL = 2000
CL = 39 77
R = 15000

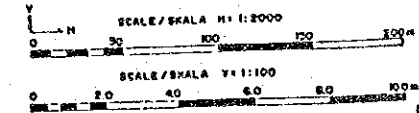
NO	BM	COORDINATE		ELEVATION m
		E (X) m	N (Y) m	
1.	R. 86	+ 679.945	+ 82 618.168	+ 49.329

Coordinate of IP Points

	X	Y
IP17	679.945	92.647



CANAL DIMENSION										
WATER SURFACE ELEVATION	4276	4273	4171	4268	4262	4257	4254	4252	4249	
CANAL BED ELEVATION	4111	4108	4105	4103	4101	4097	4095	4092	4089	4084
GROUND ELEVATION IN CENTER LINE	4700	4920	4130	4000	4030	3990	3980	4020	4040	3940
TOTAL DISTANCE	8600.00	8700.00	8900.00	8900.00	8937.89	9100.00	9200.00	9400.00	9500.00	9600.00
DISTANCE	100.00	100.00	100.00	100.00	37.89	202.11	100.00	100.00	100.00	100.00
STATION	NO.86	NO.87	NO.88	NO.89	BC17	NO.91	NO.92	NO.93	NO.94	NO.95

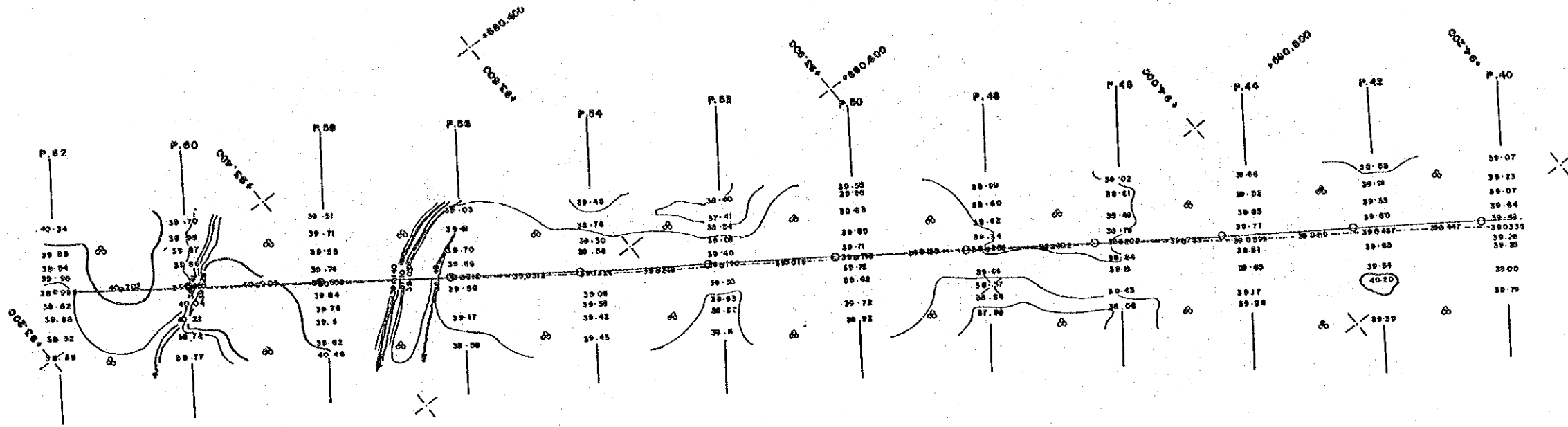


PLAN & PROFILE OF HEADREACH CANAL(10/14)

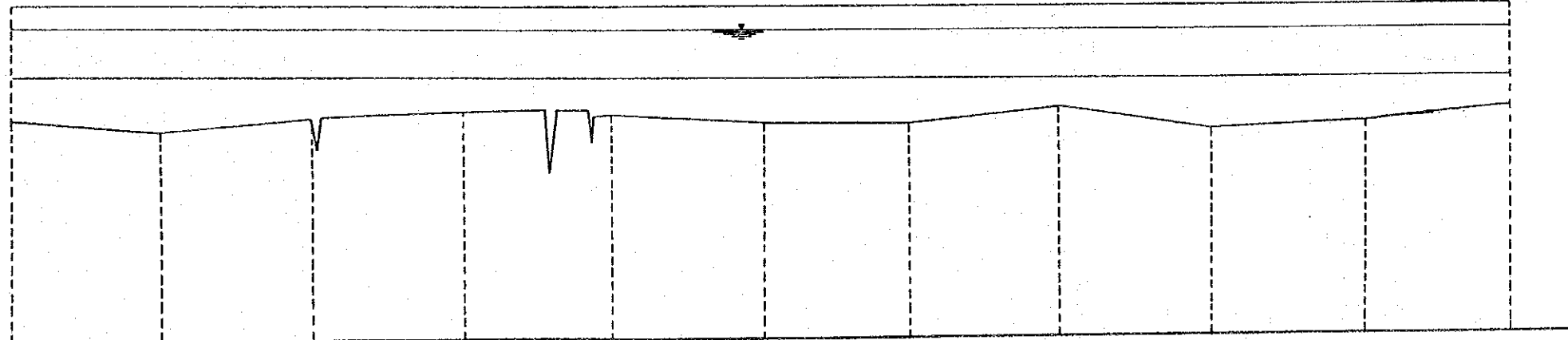
REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
**FEASIBILITY STUDY ON LOWER ROKAN KIRI
IRRIGATION PROJECT**

PLAN & PROFILE OF
HEAD REACH CANAL (10/14)

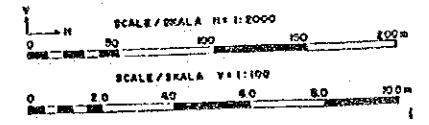
JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO (JICA) DWG. NO. 27



- LEGENDA**
LEGEND
- Garis Kelonggolan
Center line
 - Tumbuhan
Tree
 - Sungai
River
 - Saluran
Canal
 - Arah aliran
Flow direction
 - Hutan belukar
Primary forest



CANAL DIMENSION												
WATER SURFACE ELEVATION												
CANAL BED ELEVATION												
GROUND ELEVATION IN CENTER LINE												
TOTAL DISTANCE												
DISTANCE												
STATION												

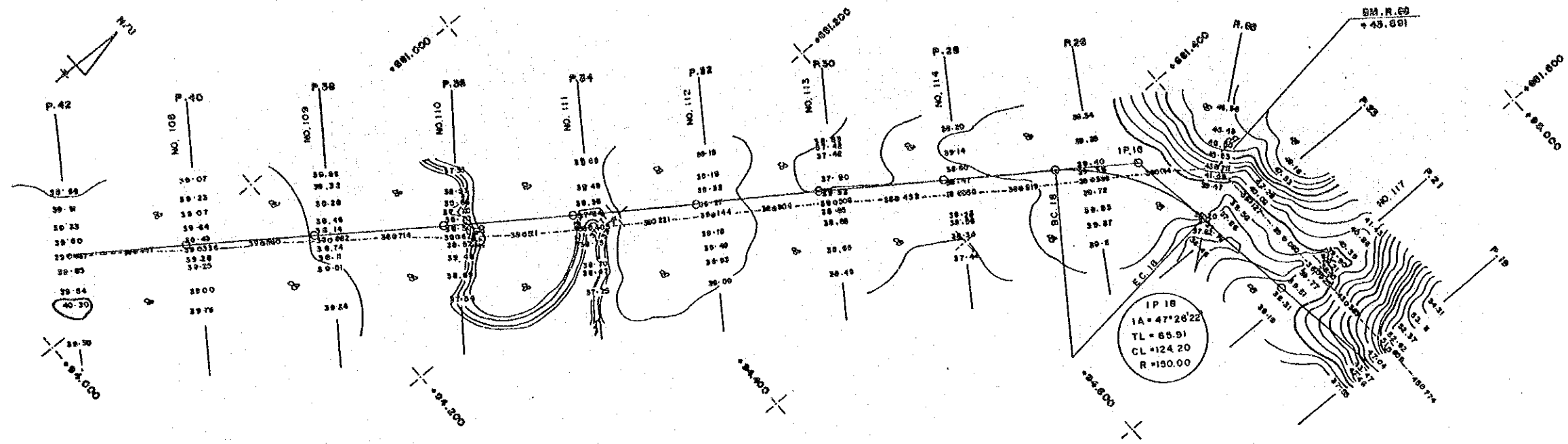


PLAN & PROFILE OF HEADREACH CANAL(11/14)

REPUBLIC OF INDONESIA. MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON LOWER ROKAN KIRI IRRIGATION PROJECT

PLAN & PROFILE OF HEAD REACH CANAL (11/14)

JAPAN INTERNATIONAL COOPERATION AGENCY TONYO (JICA) DWG. NO. 28

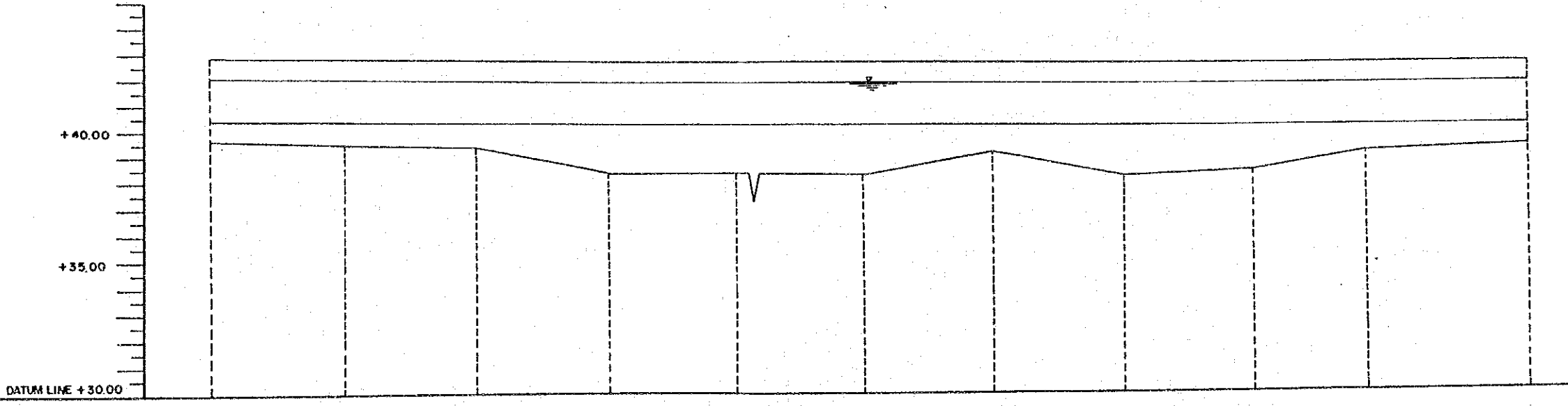


- LEGENDA**
LEGEND
- Garis tengah
Center line
 - Titik tetap
Bench mark
 - Titik potong
Spot elevation
 - Sungai
River
 - Arah aliran
Flow direction
 - Medan balok
Primary terrain

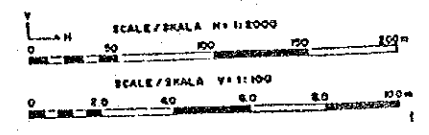
NO	BM	COORDINATE		ELEVATION
		E (X) m	N (Y) m	m
1	B. 28	+ 681 484.680	+ 94 790.247	+ 45.881

Coordinate of IP Points

	X	Y
IP 18	681.442	94.745



DESIGN	STATION	WATER SURFACE ELEVATION	CANAL BED ELEVATION	GROUND ELEVATION IN CENTER LINE	TOTAL DISTANCE	DISTANCE
	NO.108	42.22	40.37	39.70	10600.00	10600.00
	NO.109	42.19	40.34	38.50	10700.00	10700.00
	NO.110	42.16	40.31	39.50	10800.00	10800.00
	NO.111	42.14	40.29	38.50	10900.00	10900.00
	NO.112	42.11	40.26	38.50	11000.00	11000.00
	NO.113	42.08	40.23	38.50	11100.00	11100.00
	NO.114	42.05	40.20	38.50	11200.00	11200.00
	NO.115	42.03	40.18	38.50	11300.00	11300.00
	NO.116	41.96	40.11	39.20	11400.00	11400.00
	NO.117	41.97	40.12	39.20	11489.08	11489.08
	NO.118	41.94	40.09	39.40	11500.00	11500.00
	NO.119	41.94	40.09	39.40	11600.00	11600.00

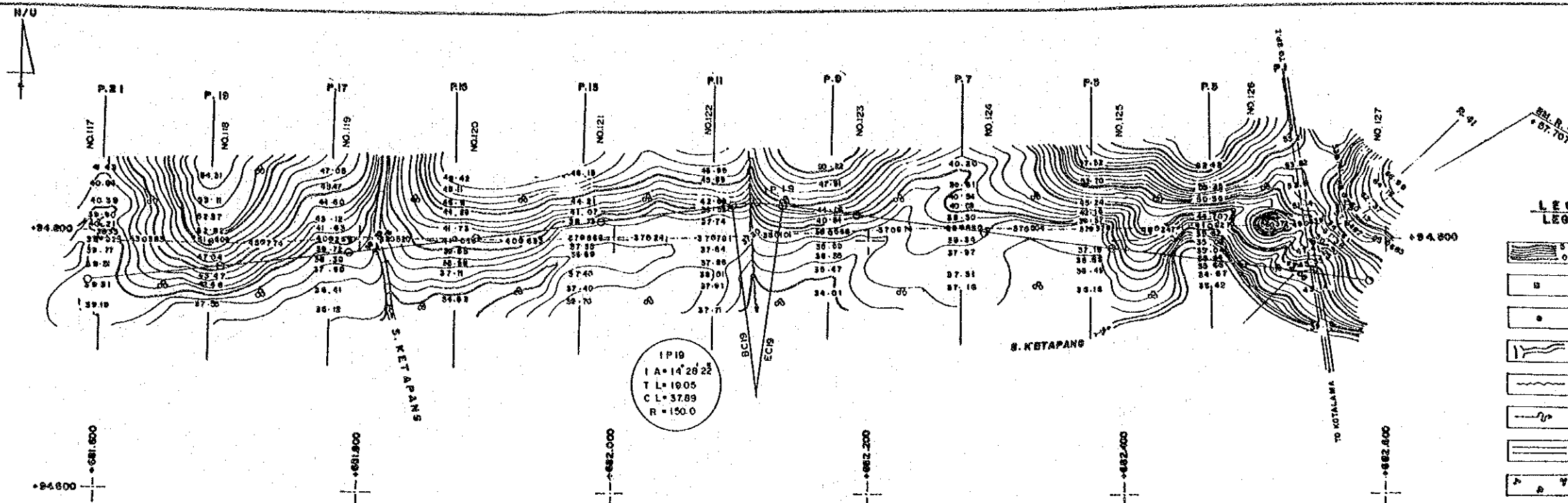


PLAN & PROFILE OF HEADREACH CANAL(12/14)

REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON LOWER ROKAN KIRI
IRRIGATION PROJECT

PLAN & PROFILE OF
HEAD REACH CANAL (12/14)

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) TOKYO (JICA) DWG. NO. 29

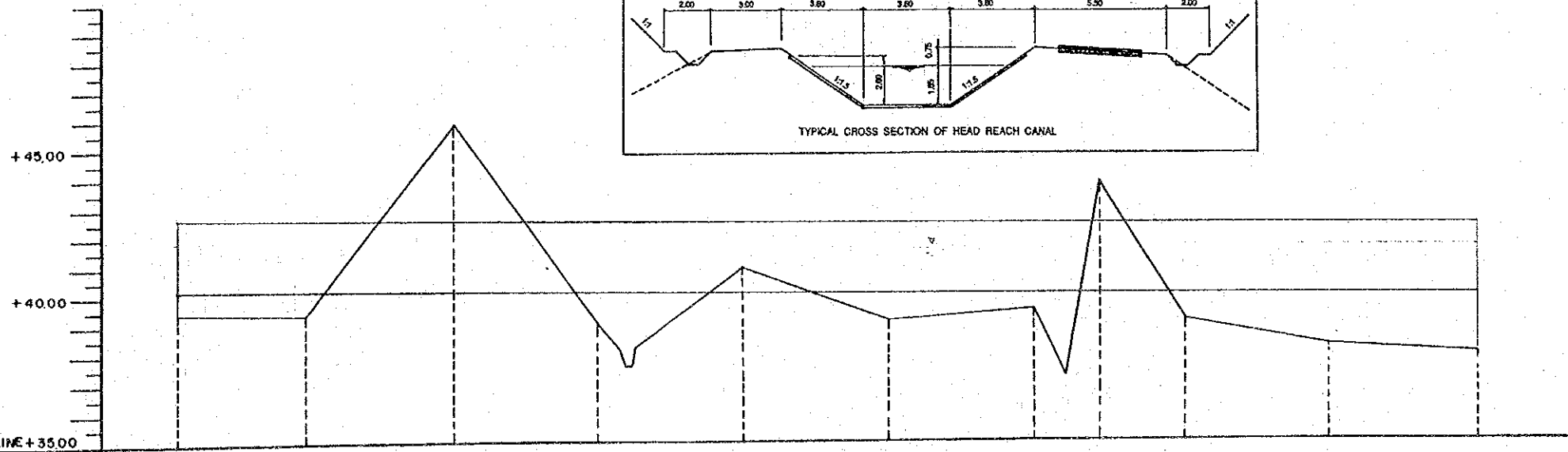
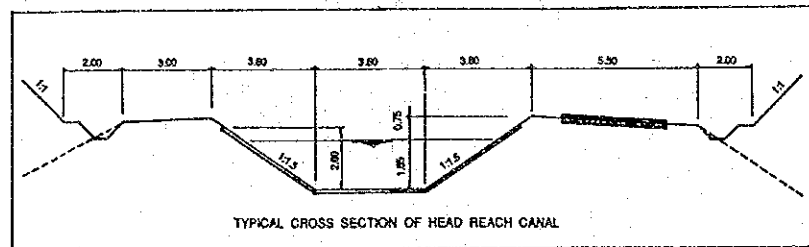


- LEGENDA**
LEGEND
- Garis ketinggian
Contour line
 - Titik tetap
Bench mark
 - Titik potong
Traversing point
 - Sungai
River
 - Saluran
Canal
 - Arah aliran
Flow direction
 - Jalan
 - Hutan belukar
Primary forest

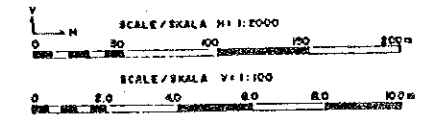
NO	BM	COORDINATE	ELEVATION
		E (X) m	N (Y) m
1	B. 41	+682 871.277	+84 814.117
			+87.707

Coordinate of IP Points

	X	Y
IP 19	682 113	94 826



DESIGN	Q = 9.35 m ³ /s I = 0.000271 V = 0.935 m/s h = 1.65 m									
	CANAL DIMENSION									
WATER SURFACE ELEVATION		41.94	41.92	41.89	41.89	41.84	41.81	41.78	41.76	41.76
CANAL BED ELEVATION		40.27	40.27	40.24	40.22	40.19	40.16	40.13	40.11	40.08
GROUND ELEVATION IN CENTER LINE		39.40	38.40	46.00	39.10	41.00	39.20	39.60	44.00	40.20
TOTAL DISTANCE		11613.27	11700.00	11800.00	11900.00	12000.00	12100.00	12200.43	12242.32	12300.00
DISTANCE		13.27	86.73	1100.00	1000.00	1000.00	1000.00	443	37.89	57.68
STATION		EC 18	NO 117	NO 119	NO 119	NO 120	NO 121	NO 122	NO 123	NO 124

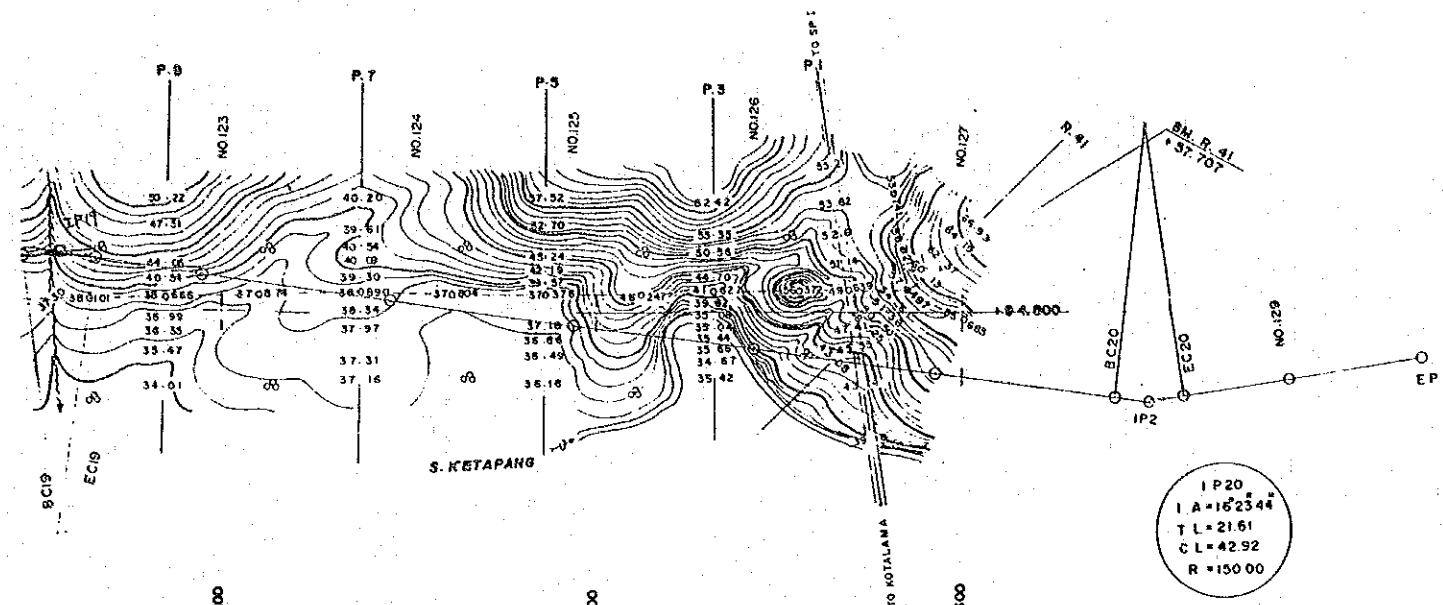


PLAN & PROFILE OF HEADREACH CANAL(13/14)

REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON LOWER ROKAN KIRI IRRIGATION PROJECT

PLAN & PROFILE OF HEAD REACH CANAL (13/14)

JAPAN INTERNATIONAL COOPERATION AGENCY DWG. NO. TOKYO (JICA) 30



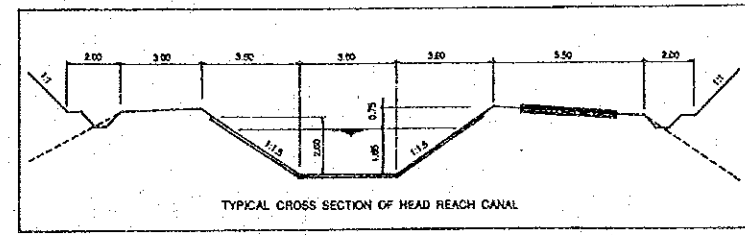
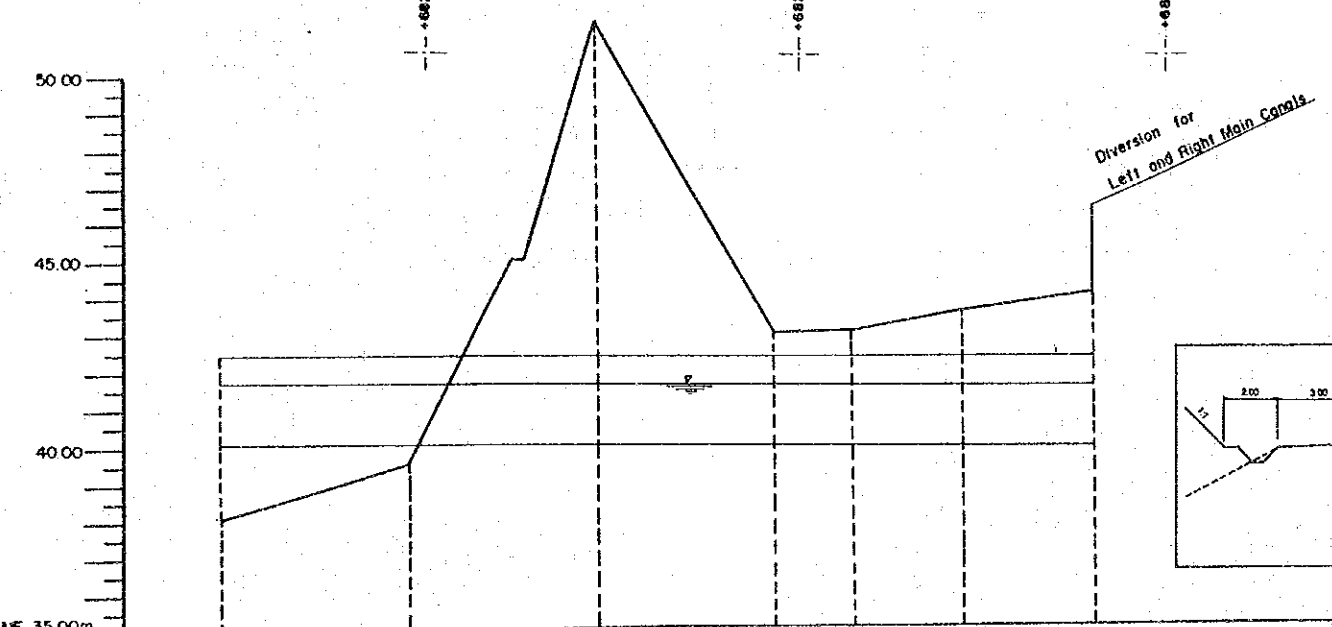
LEGENDA
LEGEND

- Garis ketinggian
Contour line
- Titik tetap
Benchmark
- Titik poligon
Traverse point
- Sungai
River
- Saluran
Canal
- Arah aliran
Flow direction
- Road
Jalan
- Hutan belukar
Primary forest

NO	B.M.	COORDINATE		ELEVATION m
		E (X) m	N (Y) m	
1	R. 41	682 571.277	94 814.117	57.707

Coordinate of IP Points

	X	Y
IP19	682 113	94828
IP20	682 704	94 751
EP	682 856	94 775



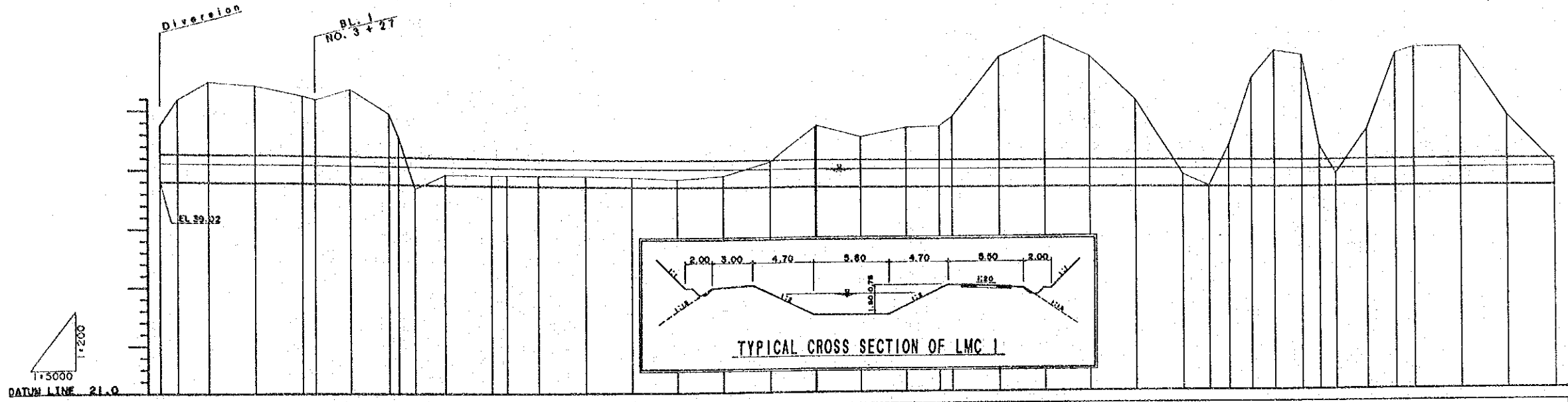
DESIGN	Q = 9.35 m ³ /s I = 0.000271 V = 0.935 m/s h = 1.65 m						
	CANAL DIMENSION						
WATER SURFACE ELEVATION	41.70	41.68	41.65	41.52	41.16	41.59	41.57
CANAL BED ELEVATION	40.05	40.03	40.00	39.97	39.96	39.94	39.92
GROUND ELEVATION IN CENTER LINE	38.00	39.90	41.50	43.00	43.00	43.50	44.00
TOTAL DISTANCE	12,300.00	12,600.00	12,700.00	12,797.66	12,840.39	12,900.00	12,972.86
DISTANCE	0.000	100.00	100.00	97.66	42.92	59.41	72.86
STATION	NO.123	NO.124	NO.125	BC20	EC20	NO.126	EP

PLAN & PROFILE OF HEADREACH CANAL(14/14)

REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON LOWER ROKAN KIRI IRRIGATION PROJECT

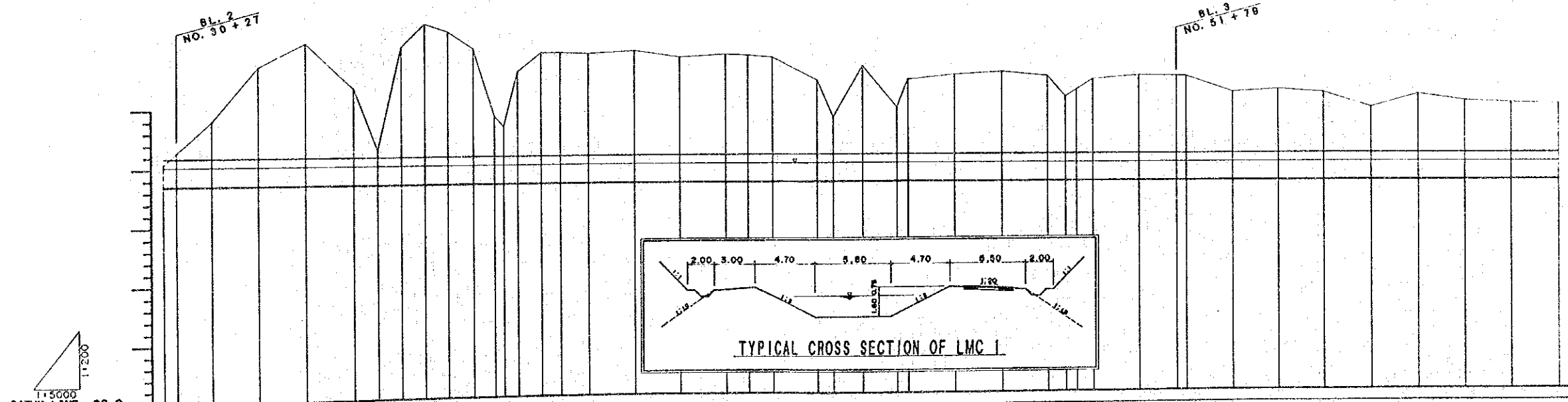
PLAN & PROFILE OF HEAD REACH CANAL (14/14)

JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO (JICA) DWG NO. 31



$Q = 8.48 \text{ m}^3/\text{s} \quad i = 0.000185 \quad V = 0.558 \text{ m/s} \quad h = 1.60 \text{ m (LMC 1)}$

DESIGN	CANAL DIMENSION	WATER SURFACE ELEVATION	CANAL BED ELEVATION	GROUND ELEVATION IN CENTER LINE	TOTAL DISTANCE	DISTANCE	STATION
		40.42	40.42	43.8	0.0	0.0	BL
		40.91	40.91	46.0	36.0	36.0	+36
		40.80	40.80	47.3	102.0	76.0	NO.1
		40.69	40.69	47.2	200.0	102.0	NO.2
		40.57	40.57	46.4	300.0	100.0	NO.3
		40.57	40.57	46.1	327.0	27.0	TP.1
		40.80	40.80	47.0	402.0	75.0	NO.4
		40.84	40.84	48.0	460.0	58.0	+60
		40.84	40.84	48.0	500.0	40.0	NO.5
		40.93	40.93	48.8	535.0	35.0	+35
		40.82	40.82	49.8	600.0	65.0	NO.6
		40.50	40.50	49.8	700.0	100.0	NO.7
		40.50	40.50	49.8	735.0	35.0	TP.2
		40.49	40.49	49.8	800.0	65.0	NO.8
		40.71	40.71	49.8	900.0	100.0	NO.9
		40.46	40.46	49.7	1000.0	100.0	NO.10
		40.44	40.44	49.8	1100.0	100.0	NO.11
		40.42	40.42	49.8	1200.0	100.0	NO.12
		40.41	40.41	41.0	1300.0	100.0	NO.13
		40.28	40.28	44.0	1400.0	100.0	TP.3
		40.28	40.28	44.0	1500.0	100.0	NO.14
		40.37	40.37	44.0	1600.0	100.0	NO.15
		40.34	40.34	44.0	1700.0	100.0	NO.16
		40.34	40.34	44.8	1800.0	100.0	NO.17
		40.32	40.32	50.0	1900.0	100.0	NO.18
		40.31	40.31	51.8	2000.0	100.0	NO.19
		40.27	40.27	50.0	2100.0	100.0	NO.20
		40.28	40.28	50.0	2200.0	100.0	NO.21
		40.28	40.28	50.0	2300.0	100.0	NO.22
		40.21	40.21	50.0	2400.0	100.0	NO.23
		40.21	40.21	50.0	2500.0	100.0	NO.24
		40.21	40.21	50.0	2600.0	100.0	NO.25
		40.20	40.20	50.0	2700.0	100.0	NO.26
		40.19	40.19	50.0	2800.0	100.0	NO.27
		40.18	40.18	50.0	2900.0	100.0	NO.28
		40.18	40.18	50.0	3000.0	100.0	NO.29
		40.18	40.18	50.0	3100.0	100.0	NO.30



$Q = 8.48 \text{ m}^3/\text{s} \quad i = 0.000185 \quad V = 0.558 \text{ m/s} \quad h = 1.80 \text{ m (LMC 1)}$

DESIGN	CANAL DIMENSION	WATER SURFACE ELEVATION	CANAL BED ELEVATION	GROUND ELEVATION IN CENTER LINE	TOTAL DISTANCE	DISTANCE	STATION
		40.13	40.13	40.4	3000.0	100.0	NO.30
		40.18	40.18	41.4	3027.0	27.0	+27
		40.11	40.11	44.0	3100.0	73.0	NO.31
		40.09	40.09	43.6	3200.0	100.0	NO.32
		40.08	40.08	40.6	3300.0	100.0	NO.33
		40.08	40.08	46.7	3400.0	100.0	NO.34
		40.08	40.08	41.4	3450.0	50.0	+50
		40.04	40.04	50.2	3500.0	50.0	NO.35
		40.03	40.03	52.3	3590.0	90.0	+90
		40.03	40.03	51.3	3600.0	50.0	NO.36
		40.02	40.02	50.0	3650.0	50.0	+50
		40.01	40.01	44.2	3700.0	50.0	NO.37
		40.01	40.01	43.3	3750.0	50.0	+50
		40.00	40.00	48.0	3750.0	50.0	NO.38
		39.98	39.98	49.8	3800.0	50.0	NO.39
		39.98	39.98	49.8	3850.0	50.0	+50
		39.98	39.98	49.8	3900.0	50.0	NO.40
		39.98	39.98	49.7	3950.0	50.0	+50
		39.94	39.94	49.1	4000.0	50.0	NO.41
		39.93	39.93	48.5	4050.0	50.0	NO.42
		39.92	39.92	49.2	4100.0	50.0	TP.4
		39.91	39.91	49.0	4200.0	100.0	NO.43
		39.88	39.88	47.0	4300.0	100.0	NO.44
		39.89	39.89	43.8	4350.0	50.0	+50
		39.84	39.84	48.2	4400.0	50.0	NO.45
		39.84	39.84	44.8	4450.0	50.0	+50
		39.82	39.82	47.0	4500.0	50.0	NO.46
		39.84	39.84	47.5	4550.0	50.0	NO.47
		39.83	39.83	47.6	4600.0	50.0	NO.48
		39.81	39.81	47.2	4650.0	50.0	NO.49
		39.80	39.80	45.4	4700.0	50.0	+50
		39.80	39.80	44.0	4800.0	100.0	NO.50
		39.78	39.78	46.9	4850.0	50.0	+50
		39.78	39.78	45.7	4900.0	50.0	NO.51
		39.78	39.78	45.9	4950.0	50.0	+50
		39.75	39.75	47.1	5000.0	50.0	NO.52
		39.75	39.75	45.7	5100.0	100.0	NO.53
		39.75	39.75	45.9	5200.0	100.0	NO.54
		39.71	39.71	45.4	5300.0	100.0	NO.55
		39.71	39.71	45.4	5400.0	100.0	NO.56
		39.68	39.68	45.4	5500.0	100.0	NO.57
		39.64	39.64	44.0	5600.0	100.0	NO.58
		39.65	39.65	44.5	5700.0	100.0	NO.59
		39.65	39.65	44.5	5800.0	100.0	NO.60

**PROFILE OF
RIGHT MAIN CANAL(1/3)**

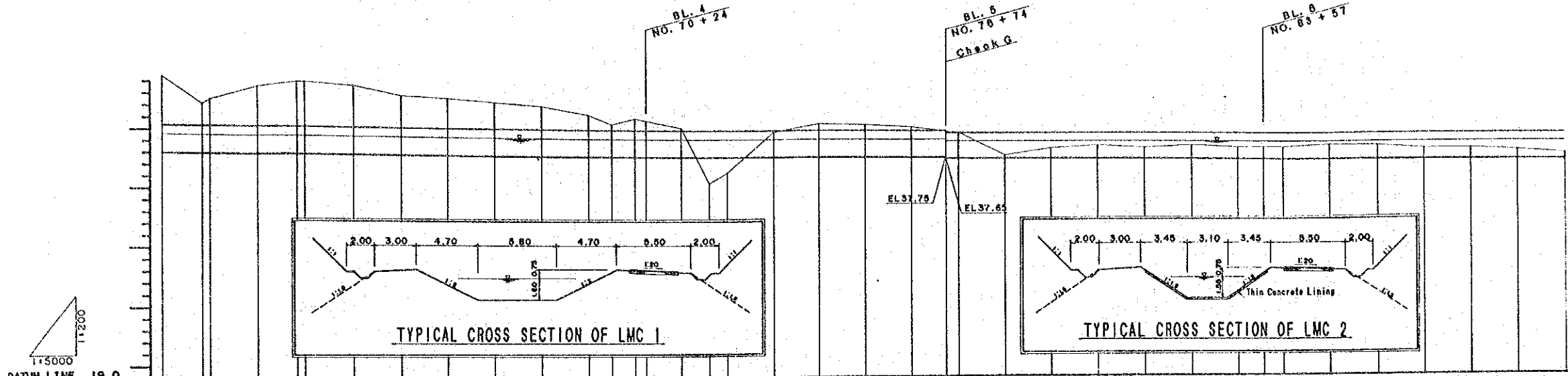
REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT

FEASIBILITY STUDY ON LOWER ROKAN KIRI
IRRIGATION PROJECT

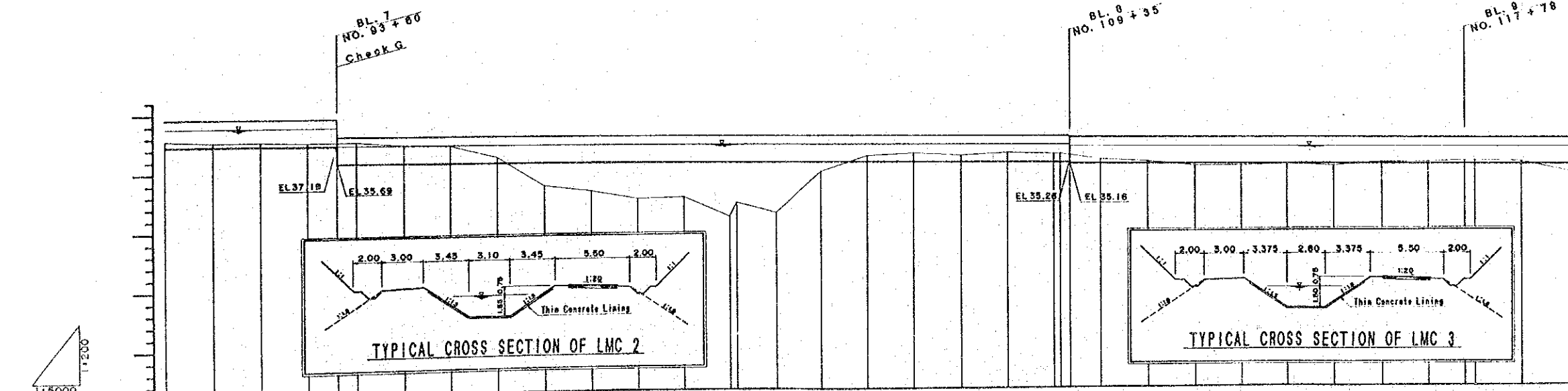
PROFILE OF LEFT MAIN CANAL (1/3)

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO (JICA)

DWG. NO. 32

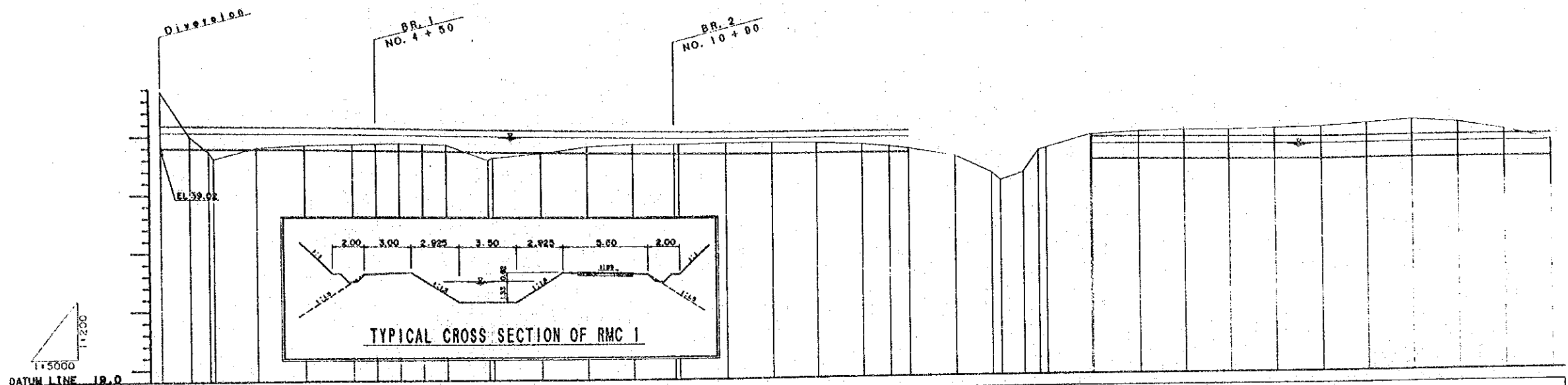


DESIGN		Q = 6.46 m³/s i = 0.000165 V = 0.598 m/s h = 1.60 m (LMC 1)																Q = 7.50 m³/s i = 0.000274 V = 0.692 m/s h = 1.55 m (LMC 2)															
WATER SURFACE ELEVATION		[Data points for water surface elevation]																															
CANAL BED ELEVATION		[Data points for canal bed elevation]																															
GROUND ELEVATION IN CENTER LINE		[Data points for ground elevation]																															
TOTAL DISTANCE		[Data points for total distance]																															
DISTANCE		[Data points for distance]																															
STATION		[Data points for stationing]																															



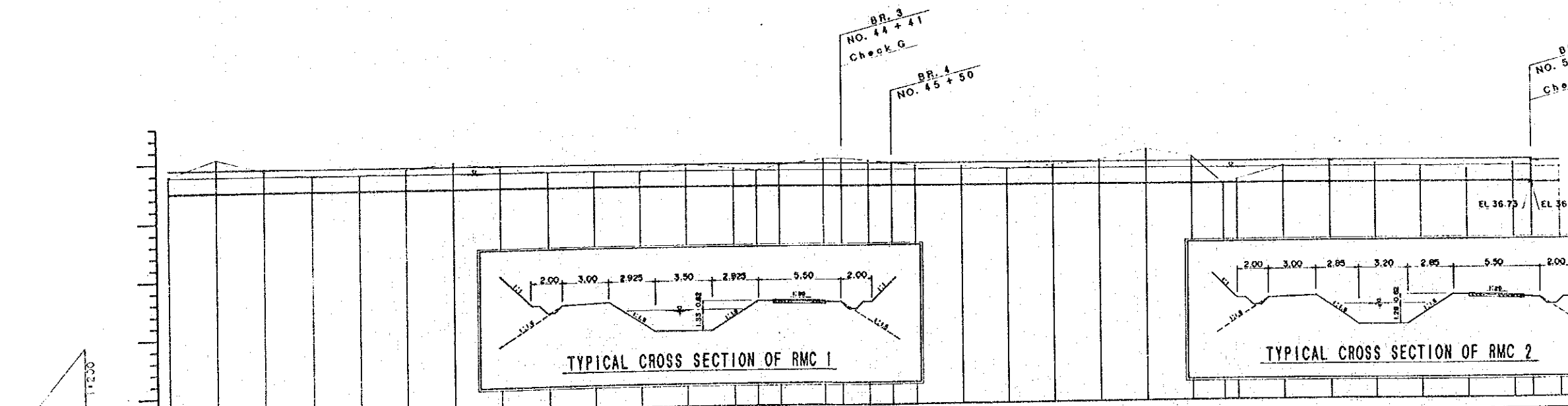
DESIGN		Q = 7.50 m³/s i = 0.000274 V = 0.692 m/s h = 1.55 m (LMC 2)																Q = 6.71 m³/s i = 0.000288 V = 0.683 m/s h = 1.50 m (LMC 3)															
WATER SURFACE ELEVATION		[Data points for water surface elevation]																															
CANAL BED ELEVATION		[Data points for canal bed elevation]																															
GROUND ELEVATION IN CENTER LINE		[Data points for ground elevation]																															
TOTAL DISTANCE		[Data points for total distance]																															
DISTANCE		[Data points for distance]																															
STATION		[Data points for stationing]																															

PROFILE OF
 RIGHT MAIN CANAL (2/3)
 REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
 FEASIBILITY STUDY ON LOWER ROKAN KIRI
 IRRIGATION PROJECT
 PROFILE OF LEFT MAIN CANAL (2/3)
 JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO (JICA)



$Q = 4.38 \text{ m}^3/\text{s} \quad i = 0.000260 \quad V = 0.594 \text{ m/s} \quad h = 1.33 \text{ m} \quad (\text{RMC 1})$

DESIGN	CANAL DIMENSION	WATER SURFACE ELEVATION	CANAL BED ELEVATION	GROUND ELEVATION IN CENTER LINE	TOTAL DISTANCE	DISTANCE	STATION
		40.30	38.97	40.30	0.0	0.0	0.0
		40.30	38.97	40.30	100.0	100.0	NO. 01
		40.30	38.97	40.30	200.0	200.0	NO. 02
		40.30	38.97	40.30	300.0	300.0	NO. 03
		40.30	38.97	40.30	400.0	400.0	NO. 04
		40.30	38.97	40.30	500.0	500.0	NO. 05
		40.30	38.97	40.30	600.0	600.0	NO. 06
		40.30	38.97	40.30	700.0	700.0	NO. 07
		40.30	38.97	40.30	800.0	800.0	NO. 08
		40.30	38.97	40.30	900.0	900.0	NO. 09
		40.30	38.97	40.30	1000.0	1000.0	NO. 10
		40.30	38.97	40.30	1100.0	1100.0	NO. 11
		40.30	38.97	40.30	1200.0	1200.0	NO. 12
		40.30	38.97	40.30	1300.0	1300.0	NO. 13
		40.30	38.97	40.30	1400.0	1400.0	NO. 14
		40.30	38.97	40.30	1500.0	1500.0	NO. 15
		40.30	38.97	40.30	1600.0	1600.0	NO. 16
		40.30	38.97	40.30	1700.0	1700.0	NO. 17
		40.30	38.97	40.30	1800.0	1800.0	NO. 18
		40.30	38.97	40.30	1900.0	1900.0	NO. 19
		40.30	38.97	40.30	2000.0	2000.0	NO. 20
		40.30	38.97	40.30	2100.0	2100.0	NO. 21
		40.30	38.97	40.30	2200.0	2200.0	NO. 22
		40.30	38.97	40.30	2300.0	2300.0	NO. 23
		40.30	38.97	40.30	2400.0	2400.0	NO. 24
		40.30	38.97	40.30	2500.0	2500.0	NO. 25
		40.30	38.97	40.30	2600.0	2600.0	NO. 26
		40.30	38.97	40.30	2700.0	2700.0	NO. 27
		40.30	38.97	40.30	2800.0	2800.0	NO. 28
		40.30	38.97	40.30	2900.0	2900.0	NO. 29
		40.30	38.97	40.30	3000.0	3000.0	NO. 30



$Q = 4.38 \text{ m}^3/\text{s} \quad i = 0.000280 \quad V = 0.594 \text{ m/s} \quad h = 1.33 \text{ m} \quad (\text{RMC 1})$

$Q = 3.79 \text{ m}^3/\text{s} \quad i = 0.000262 \quad V = 0.578 \text{ m/s} \quad h = 1.28 \text{ m} \quad (\text{RMC 2})$

DESIGN	CANAL DIMENSION	WATER SURFACE ELEVATION	CANAL BED ELEVATION	GROUND ELEVATION IN CENTER LINE	TOTAL DISTANCE	DISTANCE	STATION
		38.80	37.47	38.80	0.0	0.0	NO. 30
		38.80	37.47	38.80	100.0	100.0	NO. 31
		38.80	37.47	38.80	200.0	200.0	NO. 32
		38.80	37.47	38.80	300.0	300.0	NO. 33
		38.80	37.47	38.80	400.0	400.0	NO. 34
		38.80	37.47	38.80	500.0	500.0	NO. 35
		38.80	37.47	38.80	600.0	600.0	NO. 36
		38.80	37.47	38.80	700.0	700.0	NO. 37
		38.80	37.47	38.80	800.0	800.0	NO. 38
		38.80	37.47	38.80	900.0	900.0	NO. 39
		38.80	37.47	38.80	1000.0	1000.0	NO. 40
		38.80	37.47	38.80	1100.0	1100.0	NO. 41
		38.80	37.47	38.80	1200.0	1200.0	NO. 42
		38.80	37.47	38.80	1300.0	1300.0	NO. 43
		38.80	37.47	38.80	1400.0	1400.0	NO. 44
		38.80	37.47	38.80	1500.0	1500.0	NO. 45
		38.80	37.47	38.80	1600.0	1600.0	NO. 46
		38.80	37.47	38.80	1700.0	1700.0	NO. 47
		38.80	37.47	38.80	1800.0	1800.0	NO. 48
		38.80	37.47	38.80	1900.0	1900.0	NO. 49
		38.80	37.47	38.80	2000.0	2000.0	NO. 50
		38.80	37.47	38.80	2100.0	2100.0	NO. 51
		38.80	37.47	38.80	2200.0	2200.0	NO. 52
		38.80	37.47	38.80	2300.0	2300.0	NO. 53
		38.80	37.47	38.80	2400.0	2400.0	NO. 54
		38.80	37.47	38.80	2500.0	2500.0	NO. 55
		38.80	37.47	38.80	2600.0	2600.0	NO. 56
		38.80	37.47	38.80	2700.0	2700.0	NO. 57
		38.80	37.47	38.80	2800.0	2800.0	NO. 58
		38.80	37.47	38.80	2900.0	2900.0	NO. 59
		38.80	37.47	38.80	3000.0	3000.0	NO. 60

PROFILE OF LEFT MAIN CANAL (1/4)

REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT

FEASIBILITY STUDY ON LOWER ROKAN KIRI IRRIGATION PROJECT

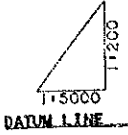
PROFILE OF RIGHT MAIN CANAL (1/4)

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) Dwg. 110. 35

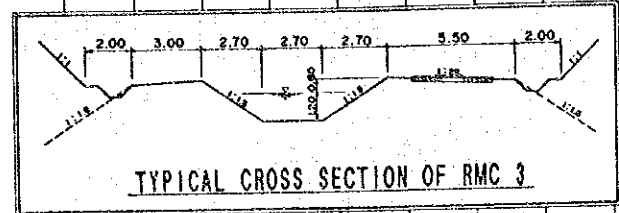
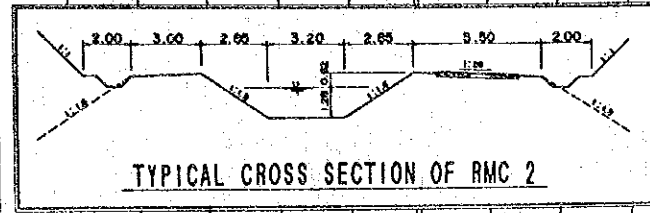
BR. 6
NO. 68 + 04

BR. 7
NO. 77 + 67

BR. 9
NO. 88 + 27



DATUM LINE 16.0



DESIGN		CANAL DIMENSION		Q = 3.79 m ³ /s l = 0.000282 V = 0.578 m/s h = 1.28 m (RMC 2)	
WATER SURFACE ELEVATION		37.49	37.87	37.84	37.69
CANAL BED ELEVATION		36.81	36.98	36.94	36.89
GROUND ELEVATION IN CENTER LINE		36.00	37.00	37.30	37.70
TOTAL DISTANCE		6000.0	6000.0	6000.0	6000.0
DISTANCE		41.0	100.0	100.0	100.0
STATION		NO. 60	NO. 61	NO. 62	NO. 63

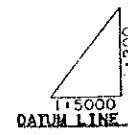
BR. 8
NO. 84 + 32

BR. 10
NO. 89 + 32

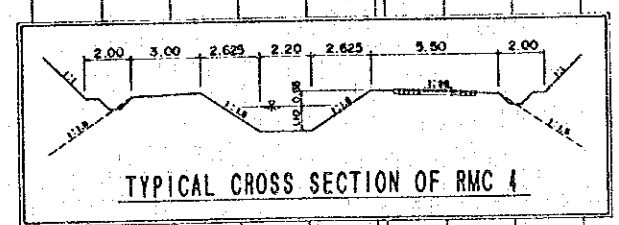
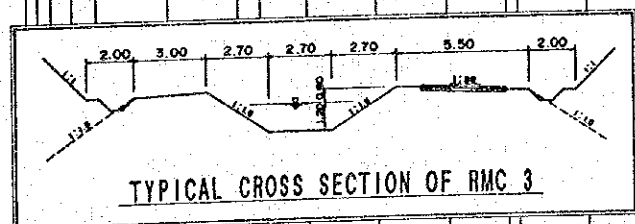
BR. 11
NO. 101 + 84

BR. 12
NO. 108 + 84
Check G

BR. 13
NO. 116 + 14



DATUM LINE 15.0



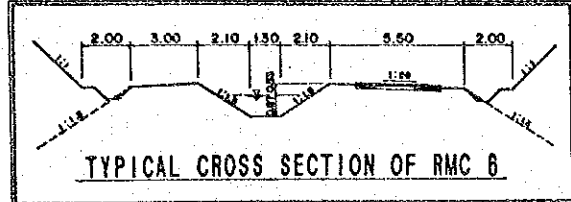
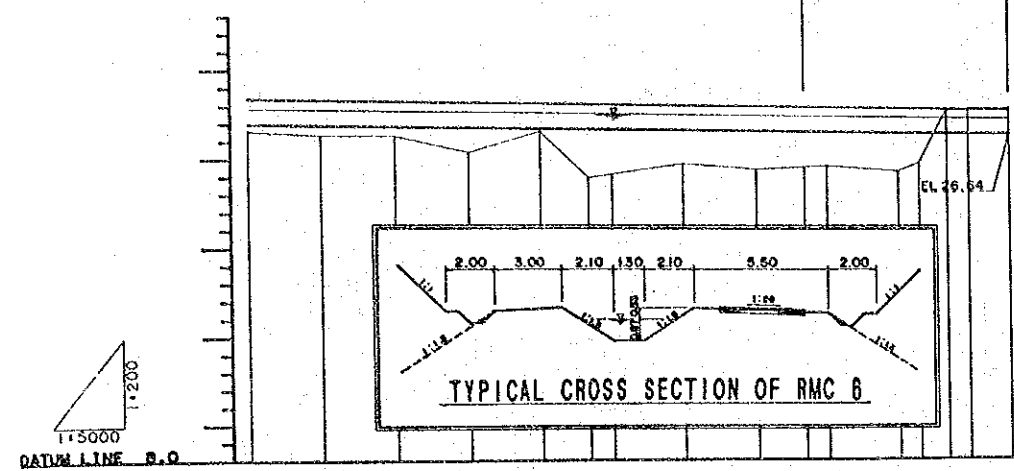
DESIGN		CANAL DIMENSION		Q = 2.84 m ³ /s l = 0.000285 V = 0.547 m/s h = 1.20 m (RMC 3)	
WATER SURFACE ELEVATION		34.08	34.80	34.77	34.84
CANAL BED ELEVATION		33.22	33.77	33.74	33.81
GROUND ELEVATION IN CENTER LINE		33.00	34.00	34.30	34.70
TOTAL DISTANCE		9000.0	9000.0	9000.0	9000.0
DISTANCE		75.0	100.0	100.0	100.0
STATION		NO. 90	NO. 91	NO. 92	NO. 93

PROFILE OF LEFT MAIN CANAL (2/4)

REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON LOWER ROKAN KIRI IRRIGATION PROJECT
PROFILE OF RIGHT MAIN CANAL (2/4)

BR. 20
NO. 187 + 68

BR. 21
EP OF RMC

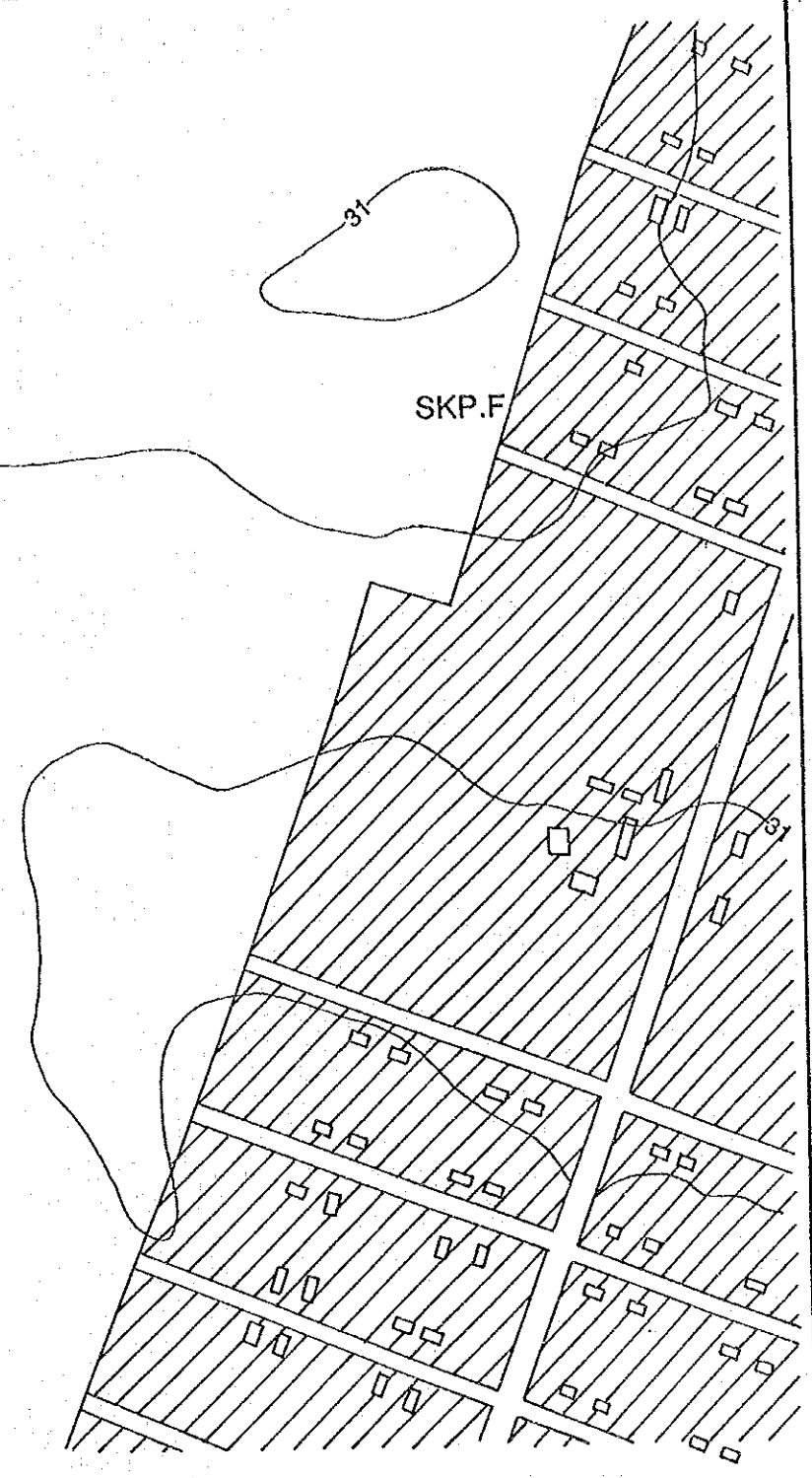
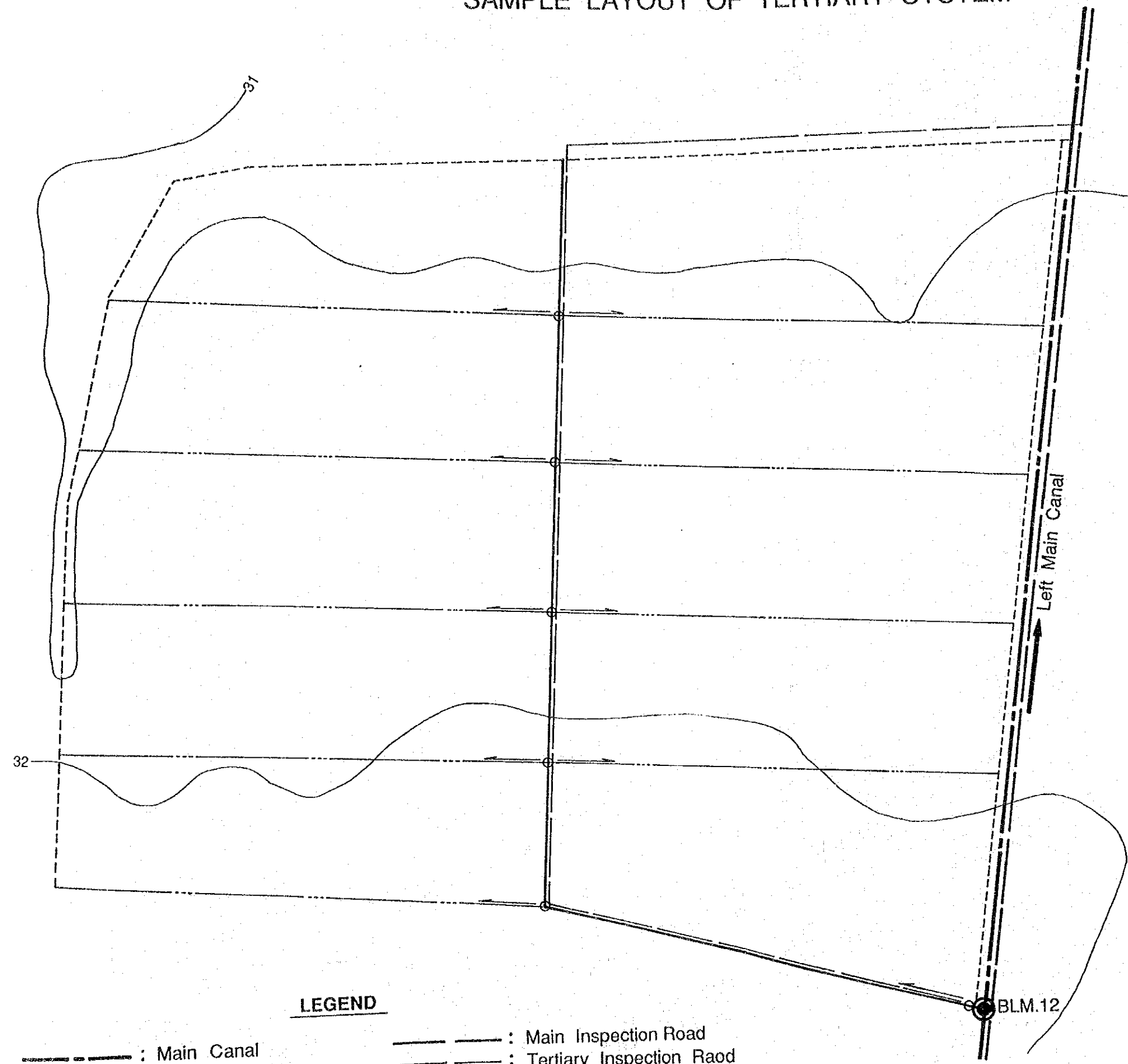


DESIGN		Q = 0.95 m ³ /s l = 0.000343 V = 0.418 m/s h = 0.87 m (RMC 6)																			
	CANAL DIMENSION																				
	WATER SURFACE ELEVATION	26.5	27.00	27.87																	
	CANAL BED ELEVATION																				
	GROUND ELEVATION IN CENTER LINE	26.5	27.00	27.87																	
	TOTAL DISTANCE																				
	DISTANCE	100.0	100.0	18100.0																	
	STATION	180.182	180.282	180.463																	

PROFILE OF
LEFT MAIN CANAL(4/4)

REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON LOWER ROKAN KIRI
IRRIGATION PROJECT
PROFILE OF RIGHT MAIN CANAL (4/4)

SAMPLE LAYOUT OF TERTIARY SYSTEM



SAMPLE AREA

Net Irrigable Area	: 97 ha
Tertiary Canal	: 1.4 km
Quaternary Canal	: 5.0 km
Tertiary Drain	: 2.3 km
Tertiary Inspection Road	: 1.7 km

LEGEND

- : Main Canal
- : Tertiary Canal
- : Quaternary Canal
- - - - : Tertiary Drain
- : Main Inspection Road
- : Tertiary Inspection Road
- ⊙ : Turnout for Tertiary Canal
- : Tertiary Division Box

LAYOUT OF TERTIARY SYSTEM

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**FEASIBILITY STUDY ON
 LOWER ROKAN KIRI IRRIGATION PROJECT**
LAYOUT OF TERTIARY SYSTEM
 JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) TOKYO (JICA) DWG. NO. 39

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