

No 2

REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS

DIRECTORATE GENERAL
OF
WATER RESOURCES DEVELOPMENT

ROKAN RIVER BASIN
OVERALL IRRIGATION DEVELOPMENT PLAN STUDY

VOLUME IV
DRAWINGS

OCTOBER 1992

JAPAN INTERNATIONAL COOPERATION AGENCY

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ROKAN RIVER BASIN OVERALL IRRIGATION DEVELOPMENT PLAN STUDY
VOLUME IV DRAWINGS

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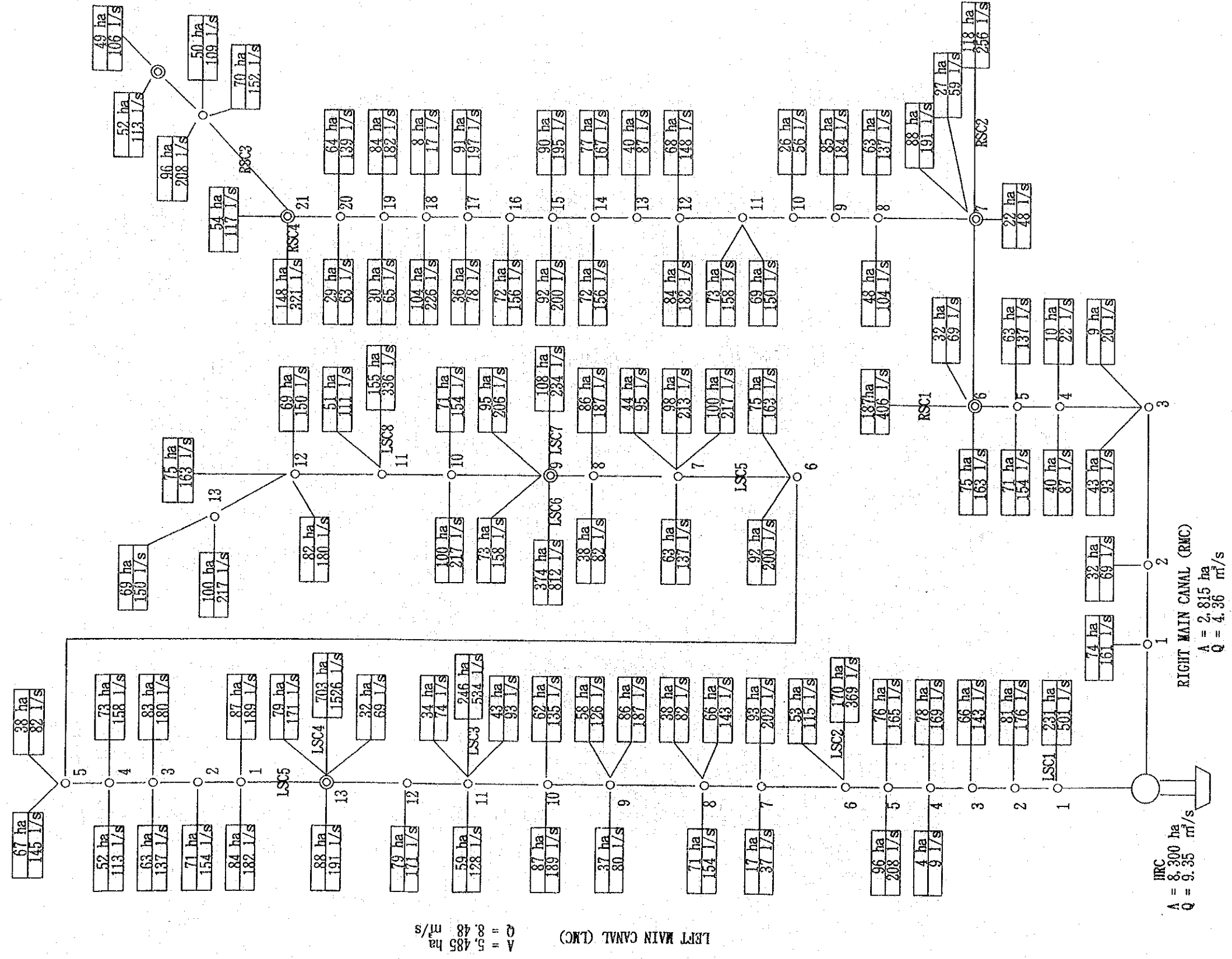
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ROKAN RIVER BASIN
OVERALL IRRIGATION DEVELOPMENT PLAN STUDY

VOLUME IV

DRAWINGS

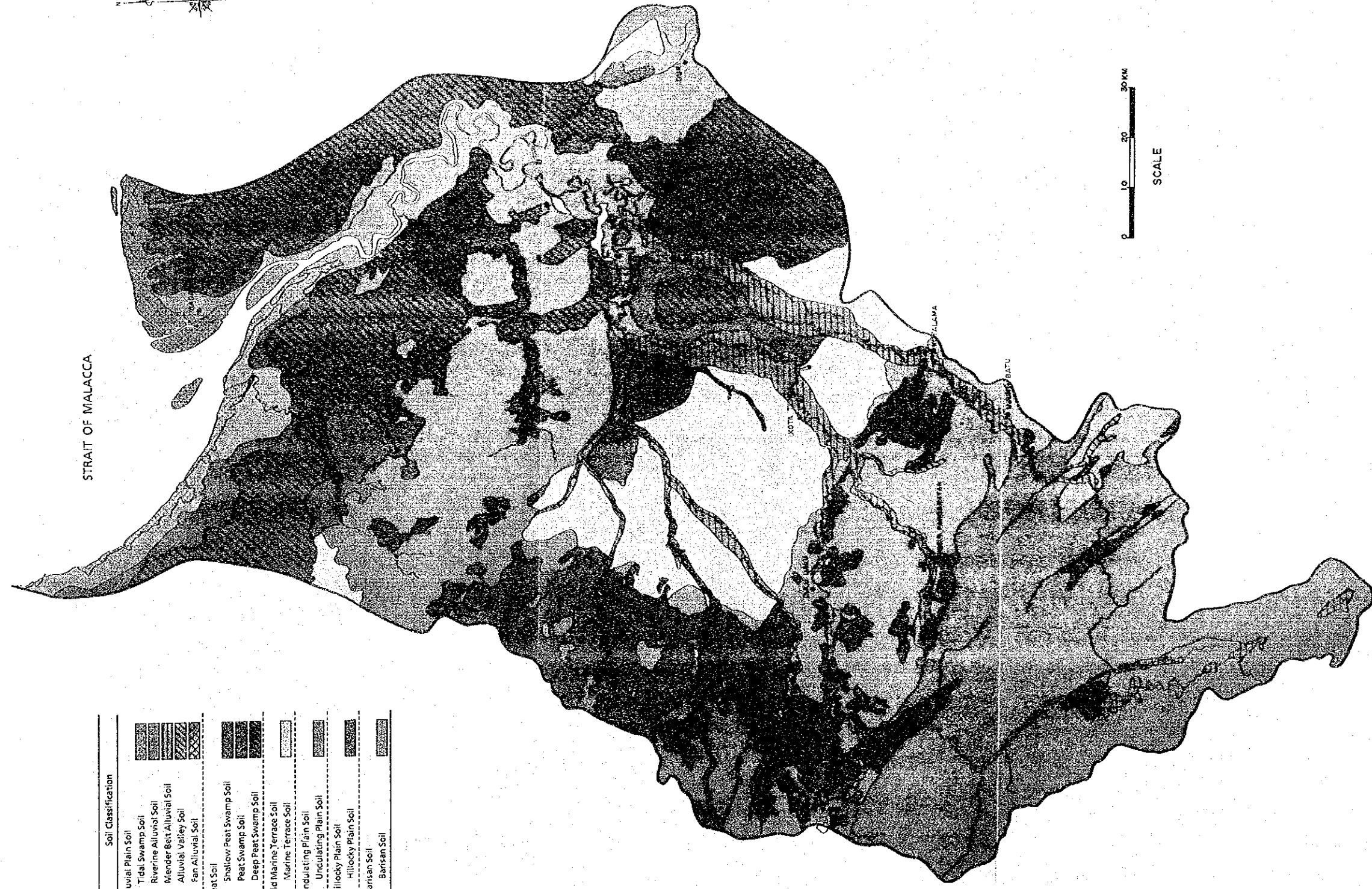
DRAWING NO.	TITLE OF DRAWING
1	GENERAL PLAN
2	IRRIGATION WATER DISTRIBUTION DIAGRAM
3	SOIL DISTRIBUTION MAP(OBJECTIVE AREA)
4	SOIL DISTRIBUTION MAP(PROJECT AREA)
5	PRESENT LAND USE MAP(OBJECTIVE AREA)
6	PRESENT LAND USE/VEGETATION MAP(PROJECT AREA)
7	PROPOSED LAND USE PLAN FOR THE PROJECT
8	LAND SUITABILITY FOR PADDY
9	LAND SUITABILITY FOR UPLAND CROPS
10	LAND SUITABILITY FOR PERENNIAL CROPS
11	GEOLOGICAL PROFILE AT PROPOSED WEIR SITE
12	PLAN OF WEIR(1)
13	PLAN OF WEIR(2)
14	PROFILE OF WEIR AXIS
15	PROFILE OF RIVER AXIS
16	SECTION OF WEIR(1)
17	SECTION OF WEIR(2)
18-31	PLAN & PROFILE OF HEADREACH CANAL(1/14 - 14/14)
32-34	PROFILE OF RIGHT MAIN CANAL(1/3 - 3/3)
35-38	PROFILE OF LEFT MAIN CANAL(1/4 - 4/4)
39	LAYOUT OF TERTIARY SYSTEM



IRRIGATION WATER DISTRIBUTION DIAGRAM

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 FEASIBILITY STUDY ON LOWER ROKAN KIRI
 IRRIGATION PROJECT

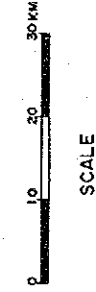
IRRIGATION WATER DISTRIBUTION DIAGRAM



STRAIT OF MALACCA

Soil Classification

Alluvial Plain Soil	[Pattern]
Tidal Swamp Soil	[Pattern]
Riverine Alluvial Soil	[Pattern]
Meander Belt Alluvial Soil	[Pattern]
Alluvial Valley Soil	[Pattern]
Fan Alluvial Soil	[Pattern]
Peat Soil	[Pattern]
Shallow Peat Swamp Soil	[Pattern]
Peat Swamp Soil	[Pattern]
Deep Peat Swamp Soil	[Pattern]
Old Marine Terrace Soil	[Pattern]
Marine Terrace Soil	[Pattern]
Undulating Plain Soil	[Pattern]
Undulating Plain Soil	[Pattern]
Hilly Plain Soil	[Pattern]
Hilly Plain Soil	[Pattern]
Barisan Soil	[Pattern]
Barisan Soil	[Pattern]



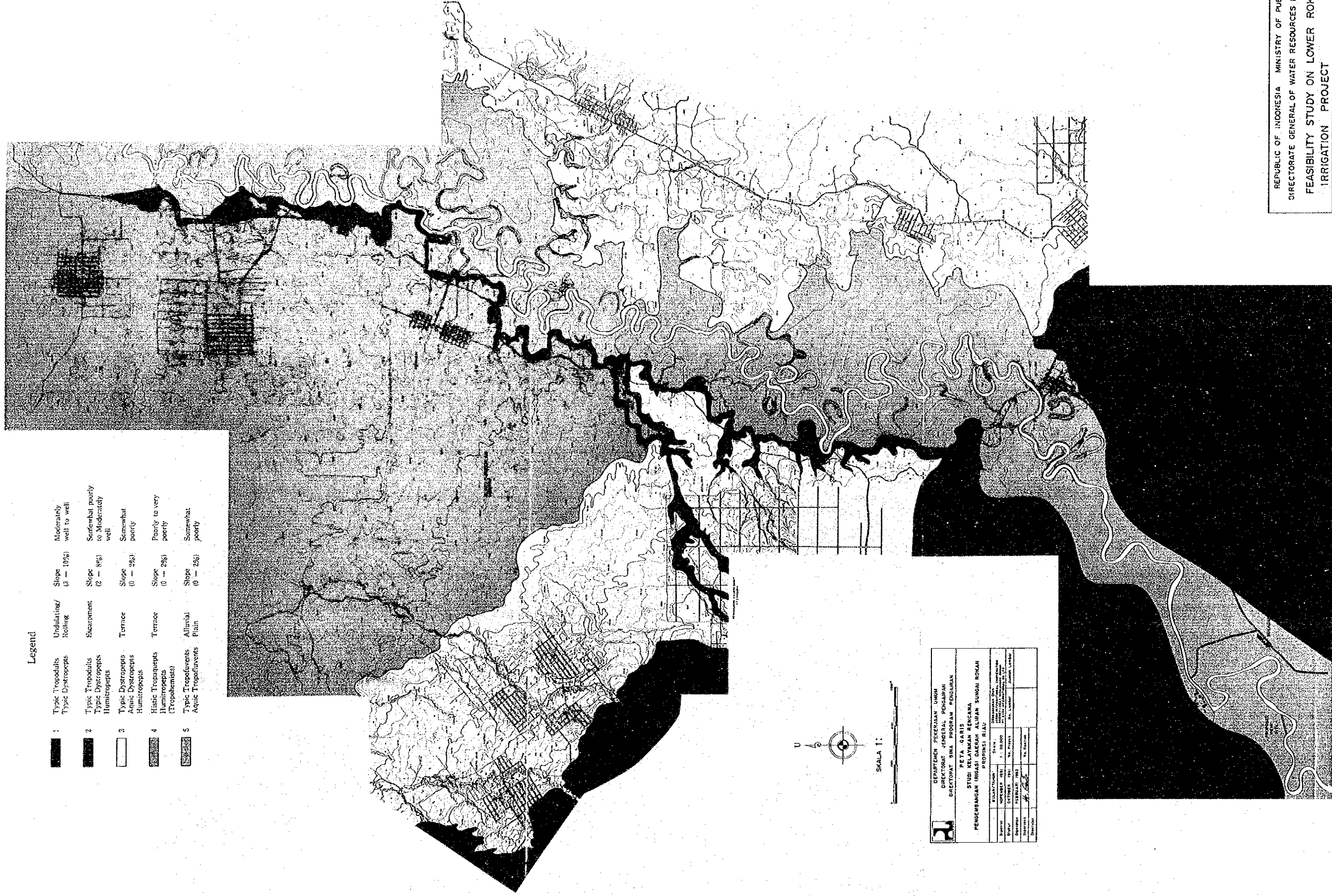
SCALE

SOIL DISTRIBUTION MAP (OBJECTIVE AREA)

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 FEASIBILITY STUDY ON LOWER ROKAN KIRI
 IRRIGATION PROJECT

SOIL DISTRIBUTION MAP
 (OBJECTIVE AREA)

JAPAN INTERNATIONAL COOPERATION AGENCY 1978
 TOKYO, JAPAN



Legend

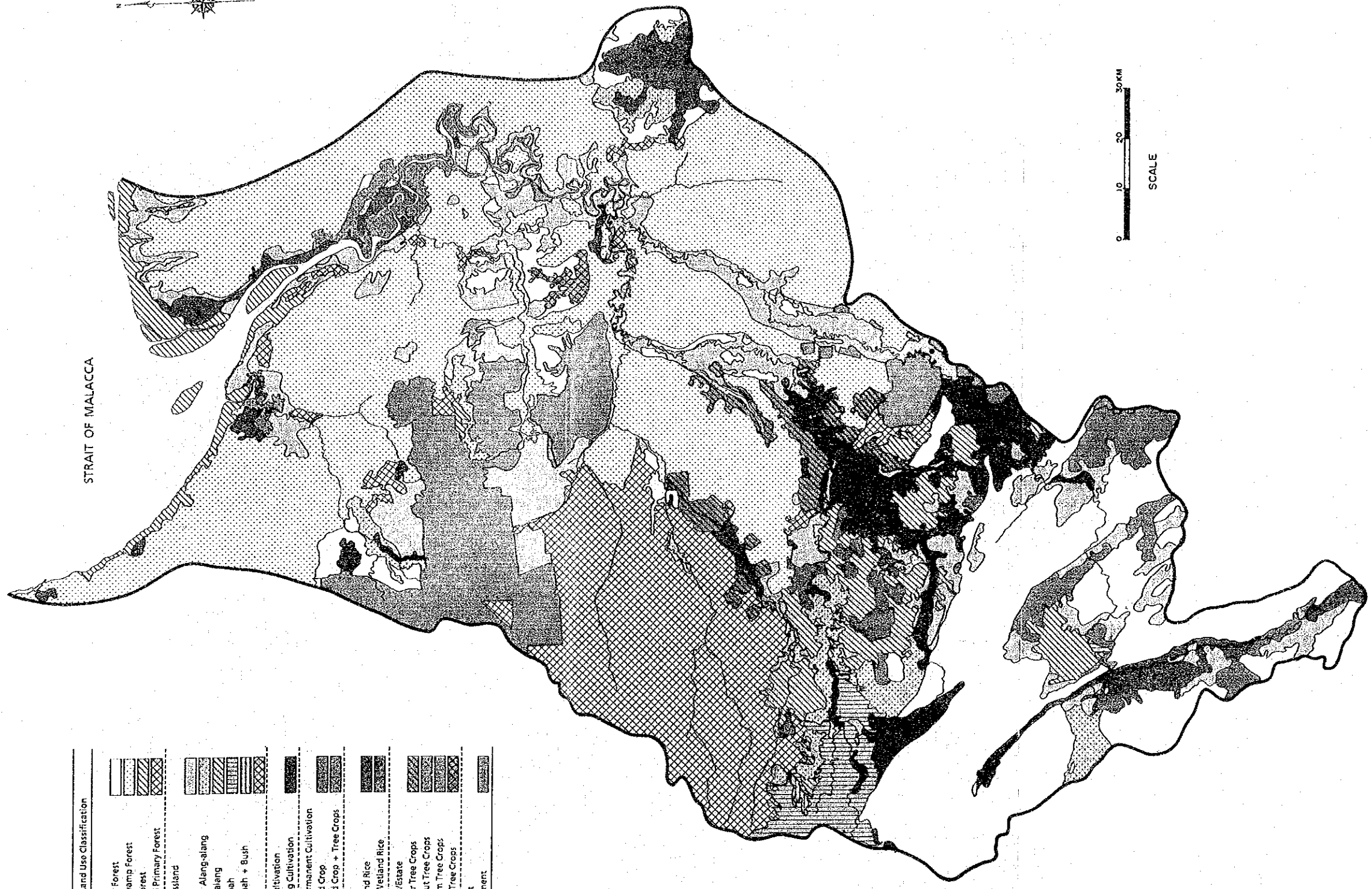
- | | | | | |
|---|---|------------------------|--------------------|--|
| 1 | Typic Tropodults
Typic Dystrropeps | Undulating/
Rolling | Slope
(3 - 10%) | Moderately
well to well |
| 2 | Typic Tropodulis
Typic Dystrropeps
Humitropeps | Escarpment | Slope
(2 - 8%) | Somewhat poorly
to Moderately
well |
| 3 | Typic Dystrropeps
Aquic Dystrropeps
Humitropeps | Terrace | Slope
(0 - 2%) | Somewhat
poorly |
| 4 | Hiadic Troponquents
Humitropeps
(Tropohumists) | Terrace | Slope
(0 - 2%) | Poorly to very
poorly |
| 5 | Typic Tropofluvents
Aquic Tropofluvents | Alluvial
Plain | Slope
(0 - 2%) | Somewhat
poorly |

DEPARTEMEN PERKERJAAN UMUM DIREKTORAT JENJERAL PENGARAB DIREKTORAT SINA PROGRAM PENGORABAN	
PETA GARIS STUDI KELAYAKAN RENCANA PENGEMBANGAN IRRIGASI DAERAH ALIRAN SUNGAI ROKAN PROPINSI RIAU	
RENCANA/PROJEK NO. 10/1980 TAHUN 1980	NO. 10/1980 TAHUN 1980
DIREKTOR N. S. S.	DIREKTOR N. S. S.



SKALA 1:

SOIL DISTRIBUTION MAP (PROJECT AREA)



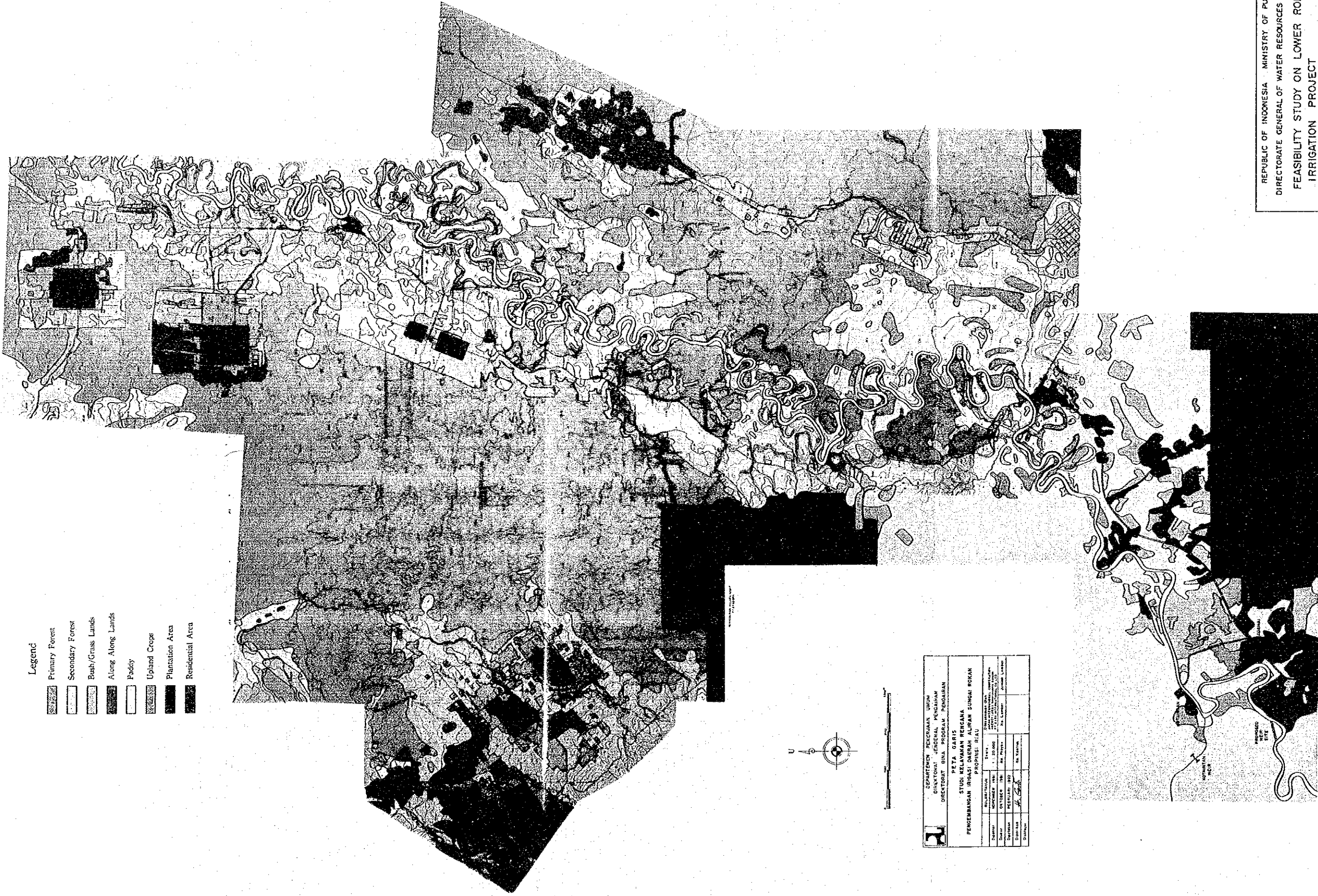
Land Use Classification

Forest	Natural Forest
	Peat Swamp Forest
	Tidal Forest
	Logged Primary Forest
Bush & Grassland	Bush
	Bush + Alang-alang
	Alang-alang
	Savannah
	Savannah + Bush
	Others
Shifting Cultivation	Shifting Cultivation
Upland Permanent Cultivation	Upland Permanent Cultivation
Upland Crop	Upland Crop + Tree Crops
Wetland	Wetland
Wetland Rice	Tidal Wetland Rice
Tree Crops/State	Rubber Tree Crops
	Coconut Tree Crops
	Oilpalm Tree Crops
	Other Tree Crops
Settlement	Settlement

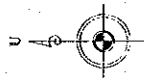
PRESENT LAND USE MAP (OBJECTIVE AREA)

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 FEASIBILITY STUDY ON LOWER ROKAN KIRI
 IRRIGATION PROJECT

PRESENT LAND USE MAP
 (OBJECTIVE AREA)



- Legend
- Primary Forest
 - Secondary Forest
 - Rush/Grass Lands
 - Along Along Lands
 - Paddy
 - Upland Crops
 - Plantation Area
 - Residential Area






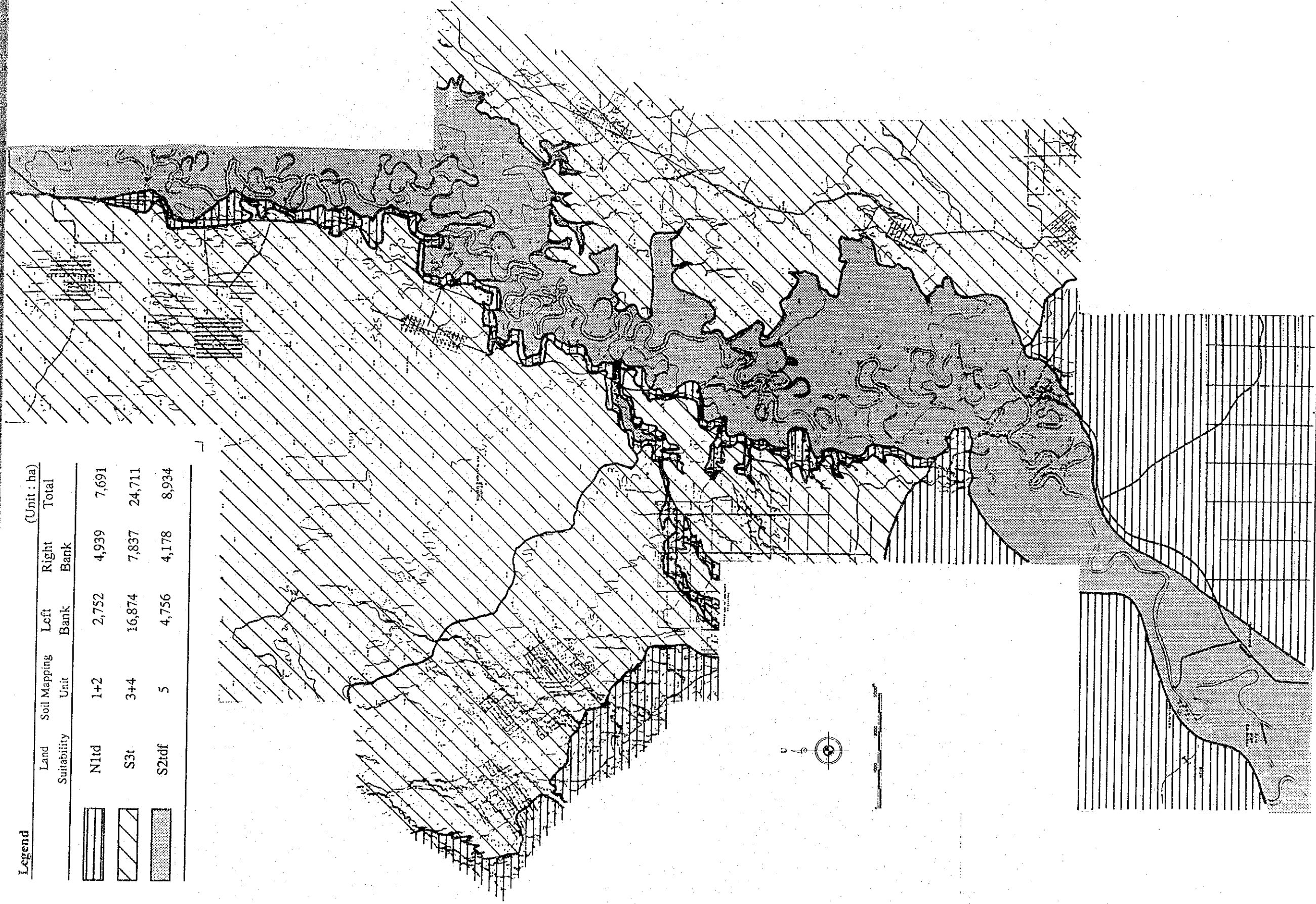
DEPARTEMEN REKREASIAN UMUM DIREKTORAT JABATAN PENGUJIAN DIREKTORAT BINA PROGRAM PERAIRAN	
PETA GARIS STUDI KELAYAKAN BERKACA PEMBANGUNAN IRIGASI DAERAH ALIRAN SUNGAI ROKAN PROPINSI RIAU	
NO. PETA 100/1000	TINGK. 1: 1: 100000 2: 1: 50000 3: 1: 25000
DIBUAT OLEH H. S. S.	DITAMBAH OLEH H. S. S.
DITAMBAH OLEH H. S. S.	DITAMBAH OLEH H. S. S.

PRESENT LAND USE/VEGETATION MAP (PROJECT AREA)

REPUBLIC OF INDONESIA · MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
 FEASIBILITY STUDY ON LOWER ROKAN KIRI
 IRRIGATION PROJECT
 PRESENT LAND USE / VEGETATION
 MAP (PROJECT AREA)
 JAPAN INTERNATIONAL COOPERATION AGENCY DWG. NO. 6
 TOKYO (JICA)

Legend


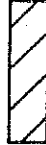
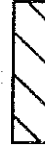

Land Suitability	Soil Mapping Unit	(Unit : ha)	
		Left Bank	Right Bank
	N1td	2,752	4,939
	S3t	16,874	7,837
	S2idf	4,756	4,178
		Total	Total
			7,691
			24,711
			8,934

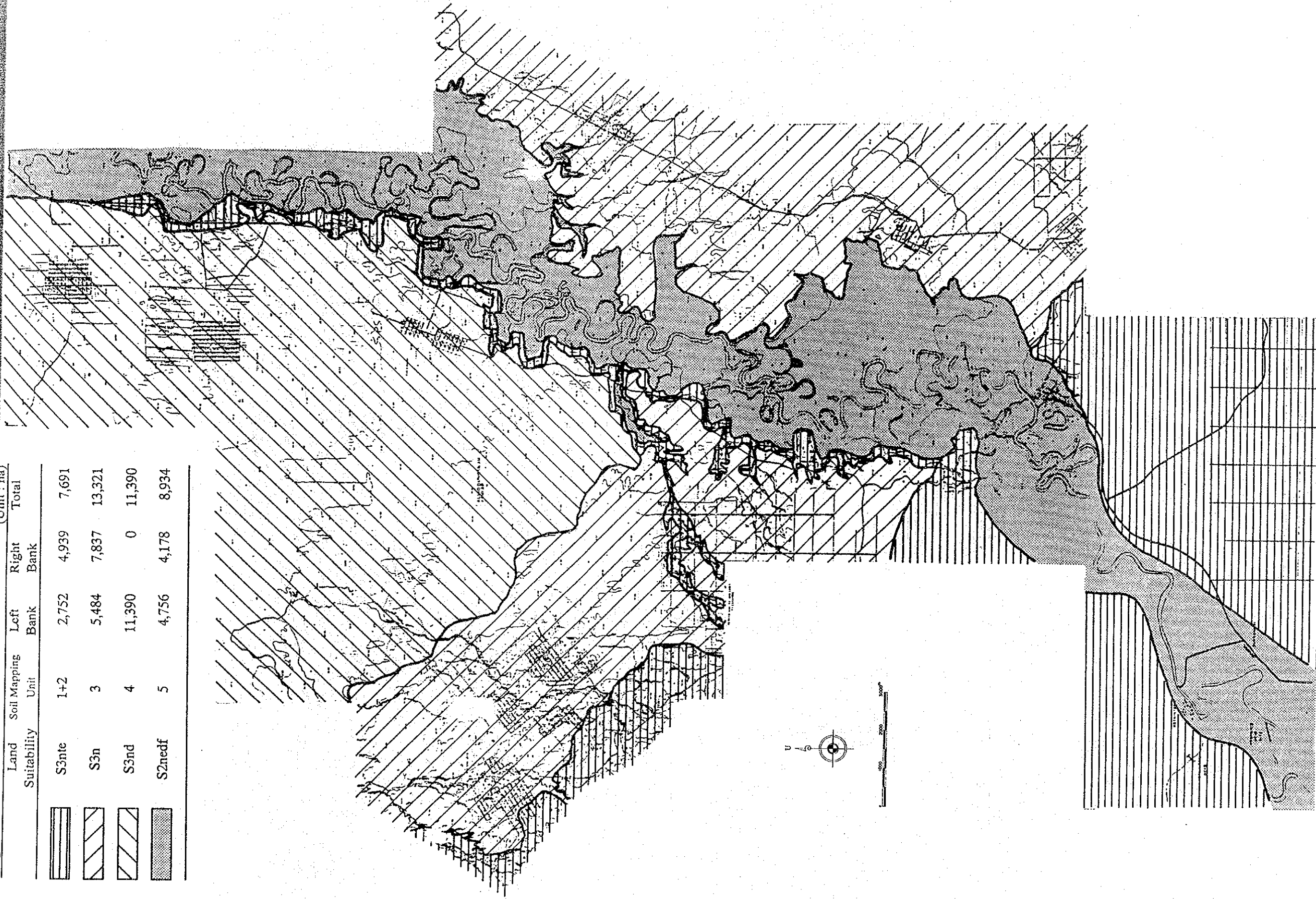


LAND SUITABILITY FOR PADDY

Legend



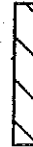

(Unit : ha)

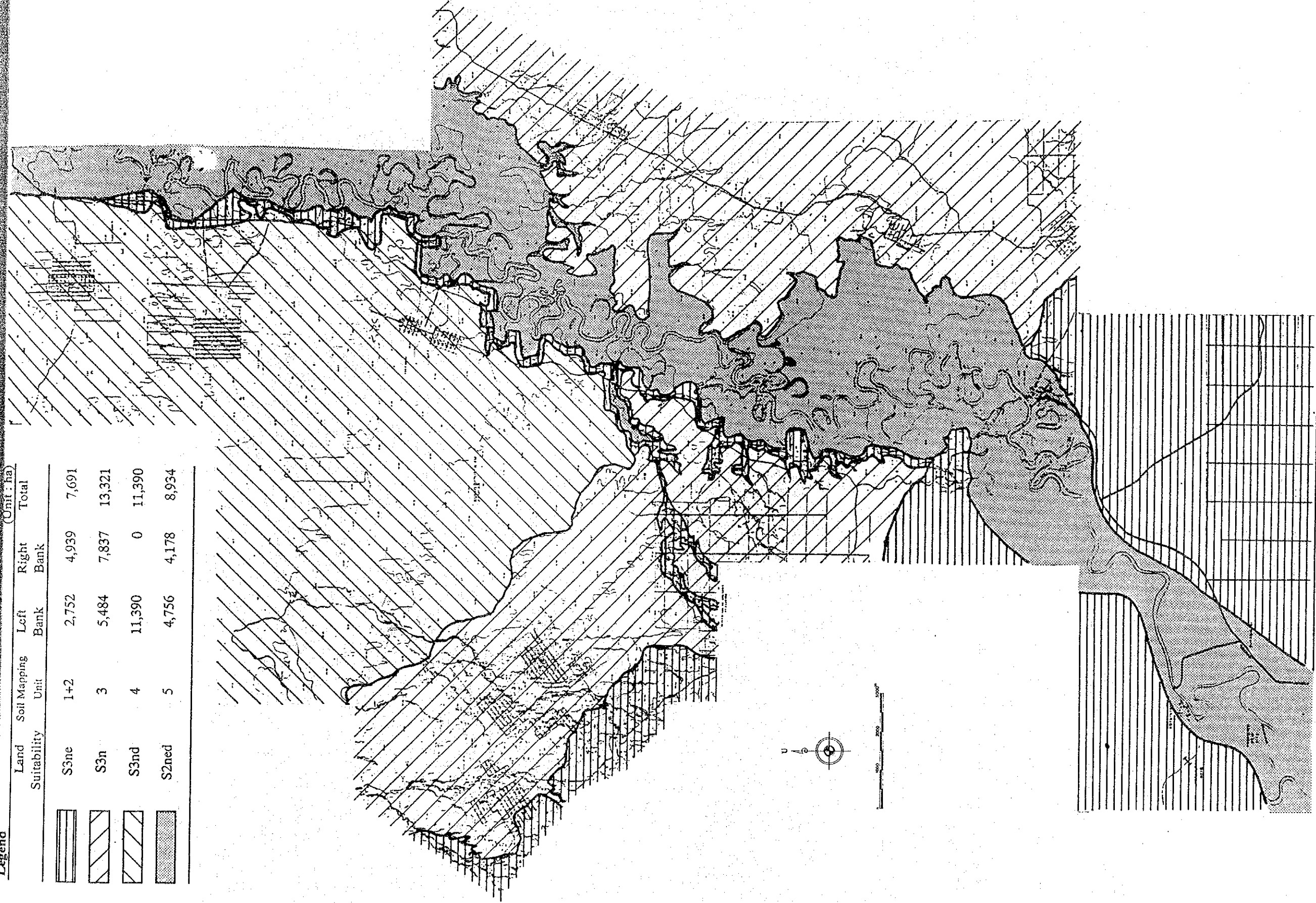
Land Suitability	Soil Mapping Unit	Left Bank	Right Bank	Total
	S3nte 1+2	2,752	4,939	7,691
	S3n 3	5,484	7,837	13,321
	S3nd 4	11,390	0	11,390
	S2nedf 5	4,756	4,178	8,934



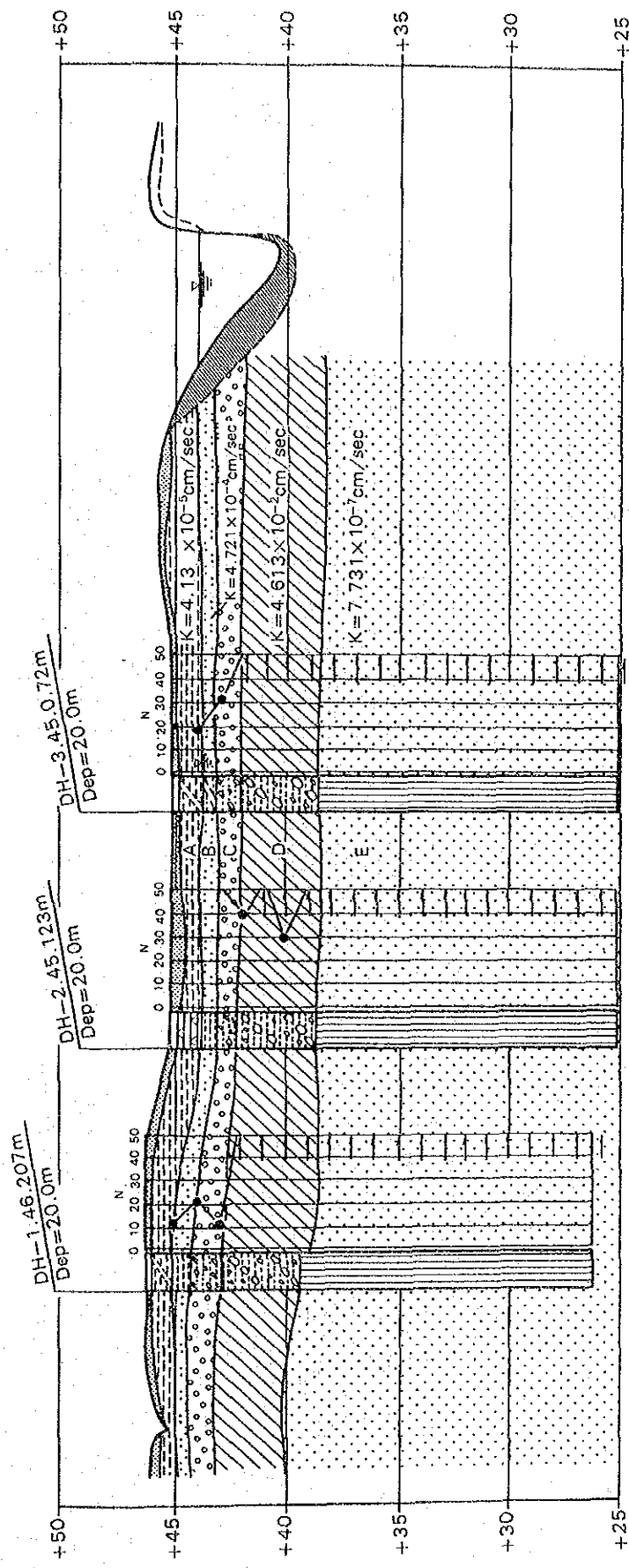
LAND SUITABILITY FOR UPLAND CROPS

Legend

Land Suitability	Soil Mapping Unit	Left Bank		Right Bank		Total
		Unit	Bank	Bank	Bank	
	S3ne	1+2	2,752	4,939	7,691	
	S3n	3	5,484	7,837	13,321	
	S3nd	4	11,390	0	11,390	
	S2ned	5	4,756	4,178	8,934	

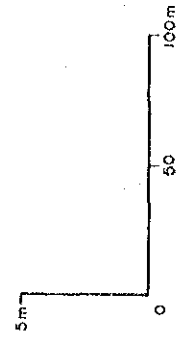


LAND SUITABILITY FOR PERENNIAL CROPS



EXPLANATION

- River deposit Sands and gravels.
 - Top soil, sandy silts mixed roots soft brawns.
 - Sandy silt clayey, brown soft rather sticky.
 - Fine sand up to medium sand silty-brawn-white loose.
 - Fine sand up to coarse, gravels and cobblestone, well sorted subangular subrounded, brown white loose.
 - Conglomeratic Sands fine sands up to coarse, gravely and cobblestone, well sorted subangular subrounded brownish whit, dense.
 - Clay stones calcareous contain foraminifera fossil, greenest grey, dense.
- Uncontormity
 Undisturbed Sample



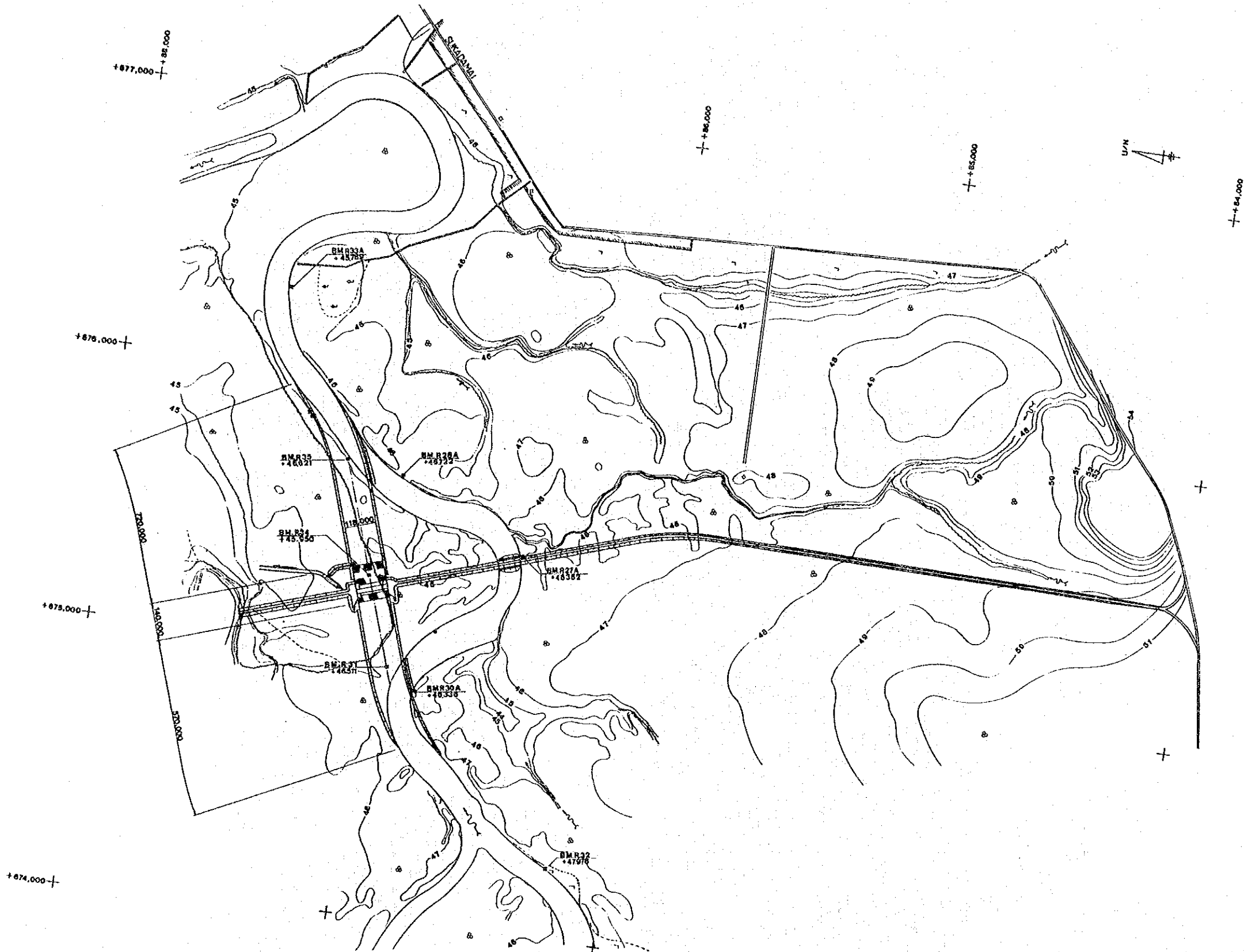
**GEOLOGICAL PROFILE
AT PROPOSED WEIR SITE**

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


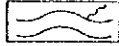
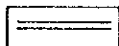

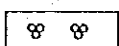
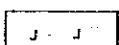
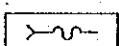
**GEOLOGICAL PROFILE
AT PROPOSED WEIR SITE**

JAPAN INTERNATIONAL COOPERATION AGENCY | DWG. NO. 11
 TOKYO, JAPAN

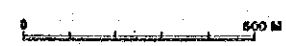
PLAN OF WEIR



LEGEND LEGENDA

-  GARIS TINGGI
CONTOUR LINE
-  SUNGAI
RIVER
-  JALAN
ROAD
-  TITIK TETAP
BENCH MARK
-  HUTAN BELUKAR
PRIMARY FOREST
-  LADANG
NON IRRIGATED FARMING
-  ARAH ALIRAN
FLOW DIRECTION

SCALE

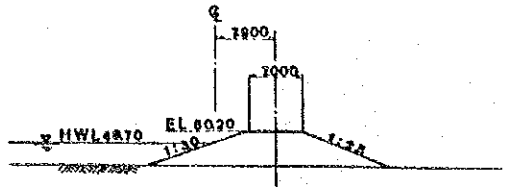


PLAN OF WEIR(1)

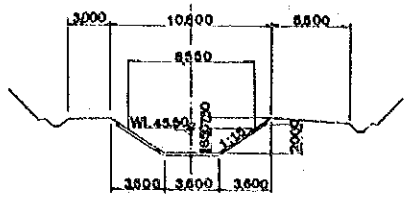
REPUBLIC OF INDONESIA, MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT FEASIBILITY STUDY ON LOWER ROKAN KIRI IRRIGATION PROJECT	
PLAN OF WEIR (1)	
JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO (JICA)	DWG. NO. 12

PLAN OF WEIR

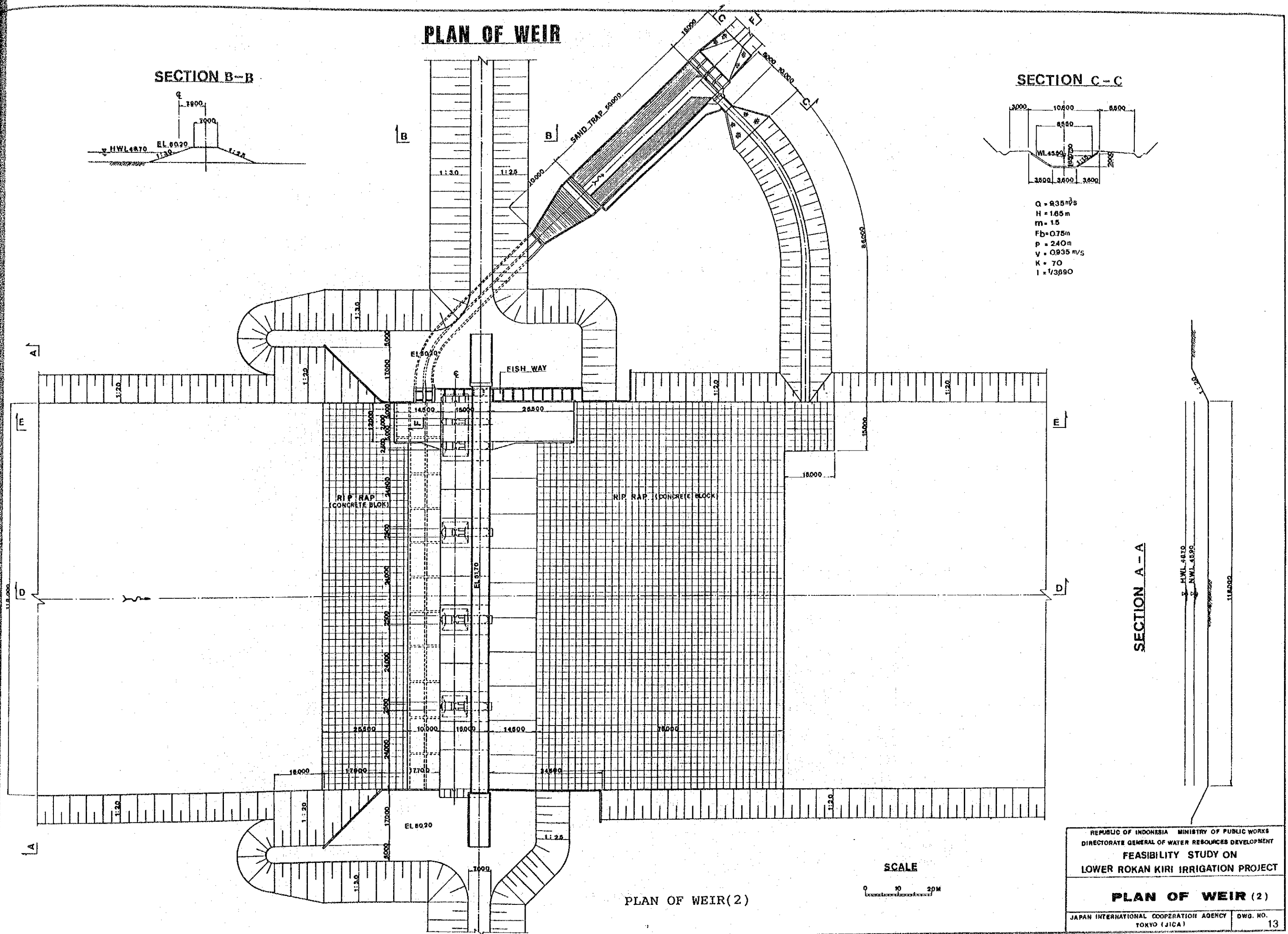
SECTION B-B



SECTION C-C

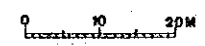


$Q = 935 \text{ m}^3/\text{s}$
 $H = 1.65 \text{ m}$
 $m = 1.5$
 $Fb = 0.75 \text{ m}$
 $p = 240 \text{ m}$
 $\gamma = 0.935 \text{ m}^3/\text{s}$
 $K = 70$
 $l = 1/3690$

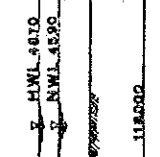


PLAN OF WEIR(2)

SCALE



SECTION A-A



REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON
LOWER ROKAN KIRI IRRIGATION PROJECT
PLAN OF WEIR (2)
 JAPAN INTERNATIONAL COOPERATION AGENCY TORYO (JICA) DWG. NO. 13

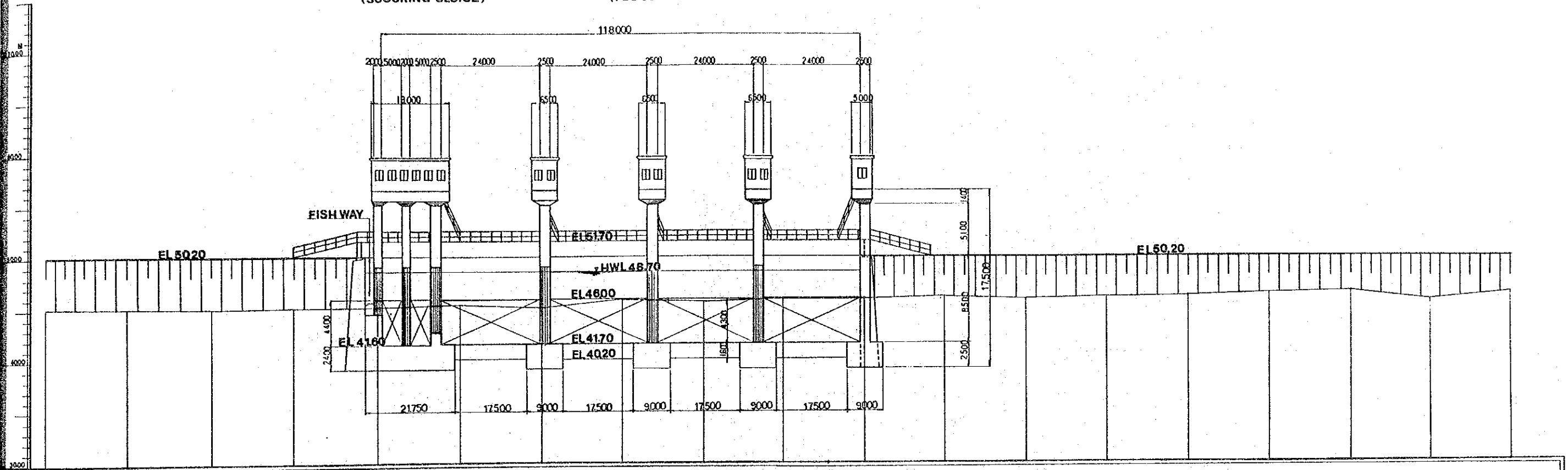
PROFILE OF WEIR AXIS

(LEFT SIDE)

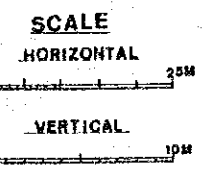
(SCOURING SLUICE)

(FLOOD SLUICE)

(RIGHT SIDE)



GROUND HEIGHT	45.18	43.14	43.10	43.20	43.30	43.50	43.20	43.95	43.80	43.00	43.10	43.20	43.15	43.30	43.50	43.70	43.90	43.00	
TOTAL DISTANCE	140.00	120.00	100.00	80.00	60.00	40.00	20.00	0.00	20.00	40.00	60.00	80.00	100.00	120.00	140.00	160.00	200.00	220.00	
DISTANCE	20.00	20.00	20.00	20.00	20.00	20.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	
SECTION	L.7	L.6	L.5	L.4	L.3	L.2	L.1	NO.0 (C.L)	R.1	R.2	R.3	R.4	R.5	R.6	R.7	R.8	R.9	R.10	R.11



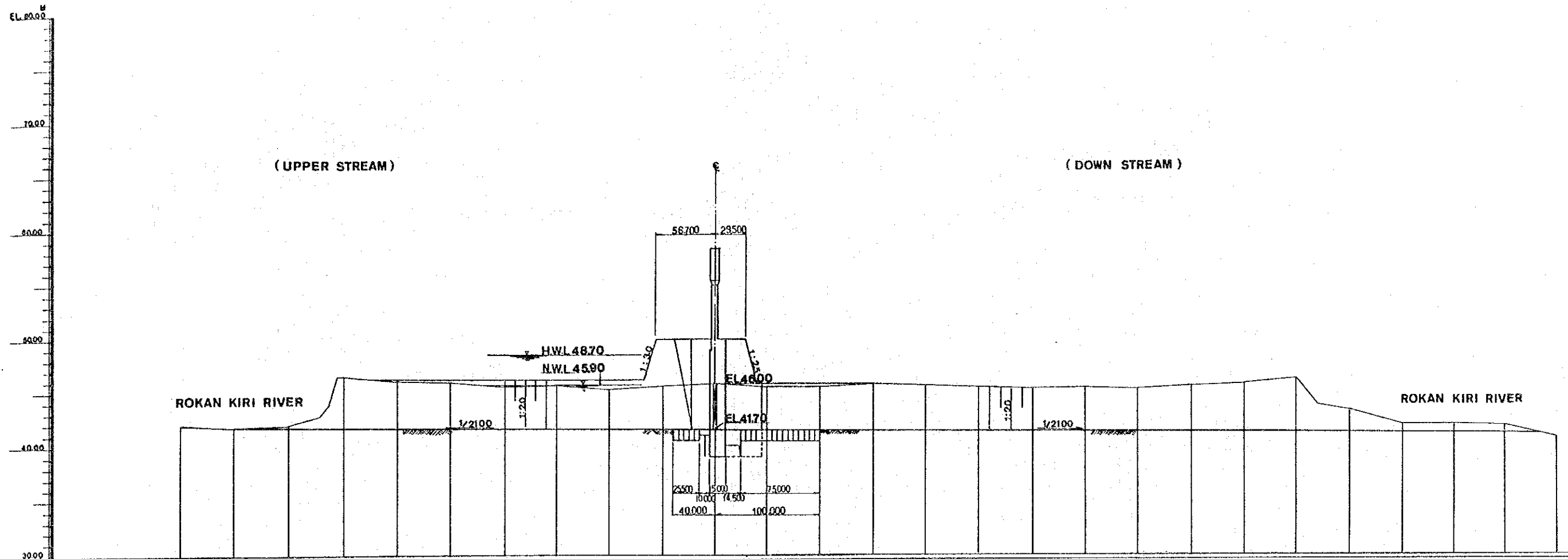
PROFILE OF WEIR AXIS

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

PROFILE OF WEIR AXIS

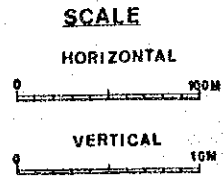
JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO (JICA) DWG. NO. 14

PROFILE OF RIVER AXIS



STATION	DISTANCE	TOTAL DISTANCE	EXISTING GROUND HEIGHT
U.10	50.00	500.00	42.10
U.9	50.00	450.00	41.90
U.8	50.00	400.00	42.10
U.7	50.00	350.00	42.70
U.6	50.00	300.00	43.30
U.5	50.00	250.00	43.20
U.4	50.00	200.00	43.80
U.3	50.00	150.00	43.90
U.2	50.00	100.00	43.50
U.1	50.00	50.00	43.80
N.O.	0.00	0.00	43.95
D.1	50.00	50.00	43.20
D.2	50.00	100.00	43.70
D.3	50.00	150.00	45.00
D.4	50.00	200.00	45.85
D.5	50.00	250.00	45.70
D.6	50.00	300.00	45.35
D.7	50.00	350.00	45.85
D.8	50.00	400.00	45.50
D.9	50.00	450.00	45.80
D.10	50.00	500.00	46.00
D.11	50.00	550.00	46.50
D.12	50.00	600.00	43.50
D.13	50.00	650.00	42.20
D.14	50.00	700.00	42.20
D.15	50.00	750.00	42.10
D.16	50.00	800.00	41.00

PROFILE OF RIVER AXIS

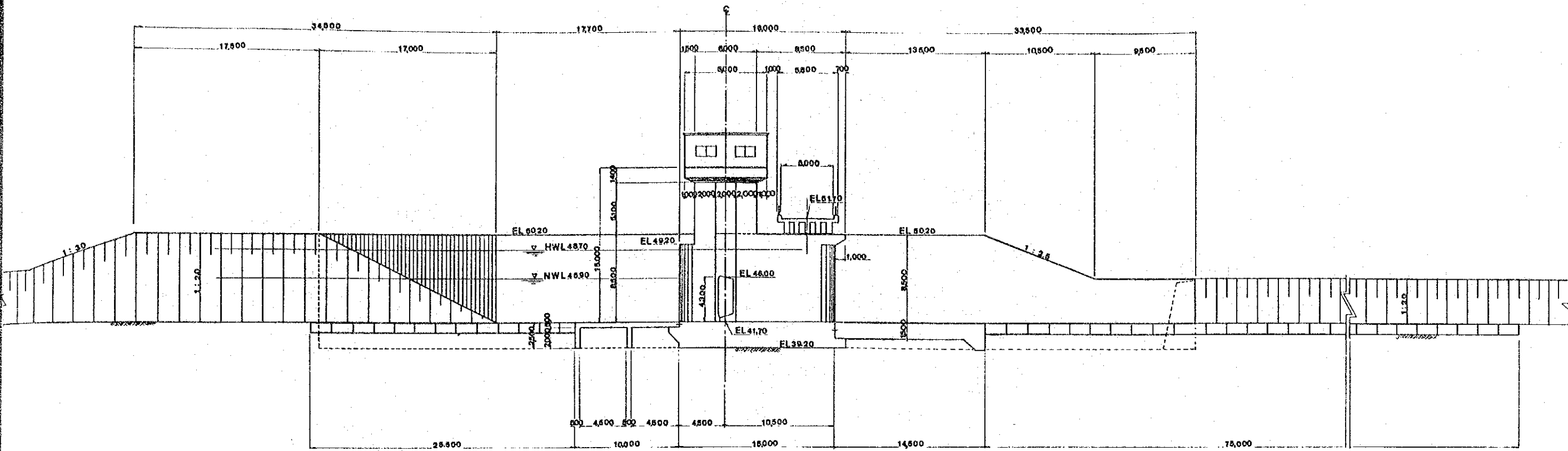


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 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
**FEASIBILITY STUDY ON
 LOWER ROKAN KIRI IRRIGATION PROJECT**

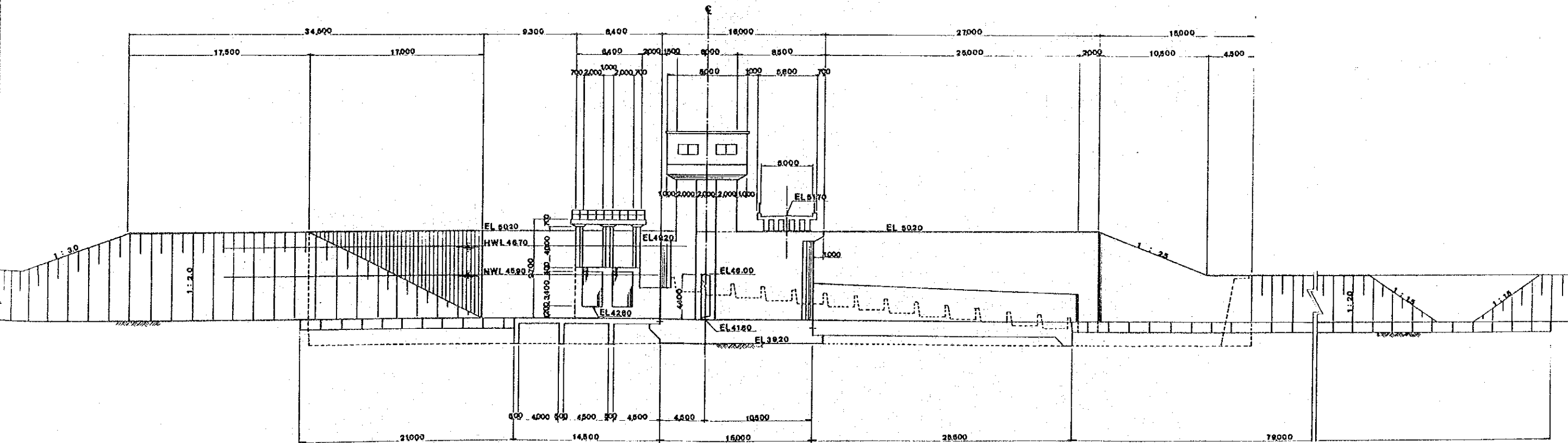
PROFILE OF RIVER AXIS

JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO (JICA) DWG. NO. 15

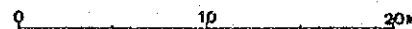
SECTION D - D



SECTION E - E



SCALE



SECTION OF WEIR (1)

REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT FEASIBILITY STUDY ON LOWER ROKAN KIRI IRRIGATION PROJECT	
SECTION OF WEIR (1)	
JAPAN INTERNATIONAL COOPERATION AGENCY YOKYO (JICA)	DWG. NO. 16