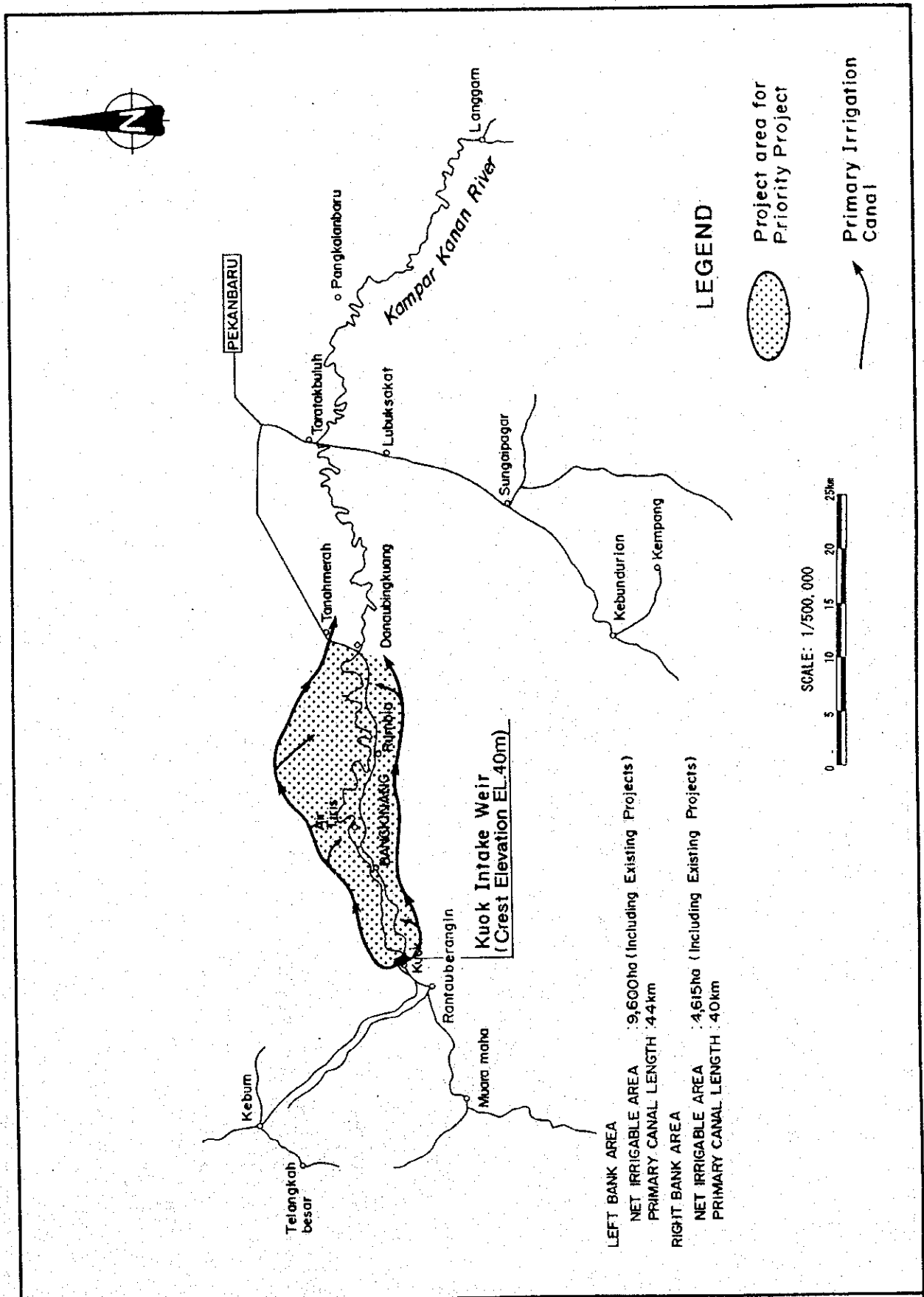
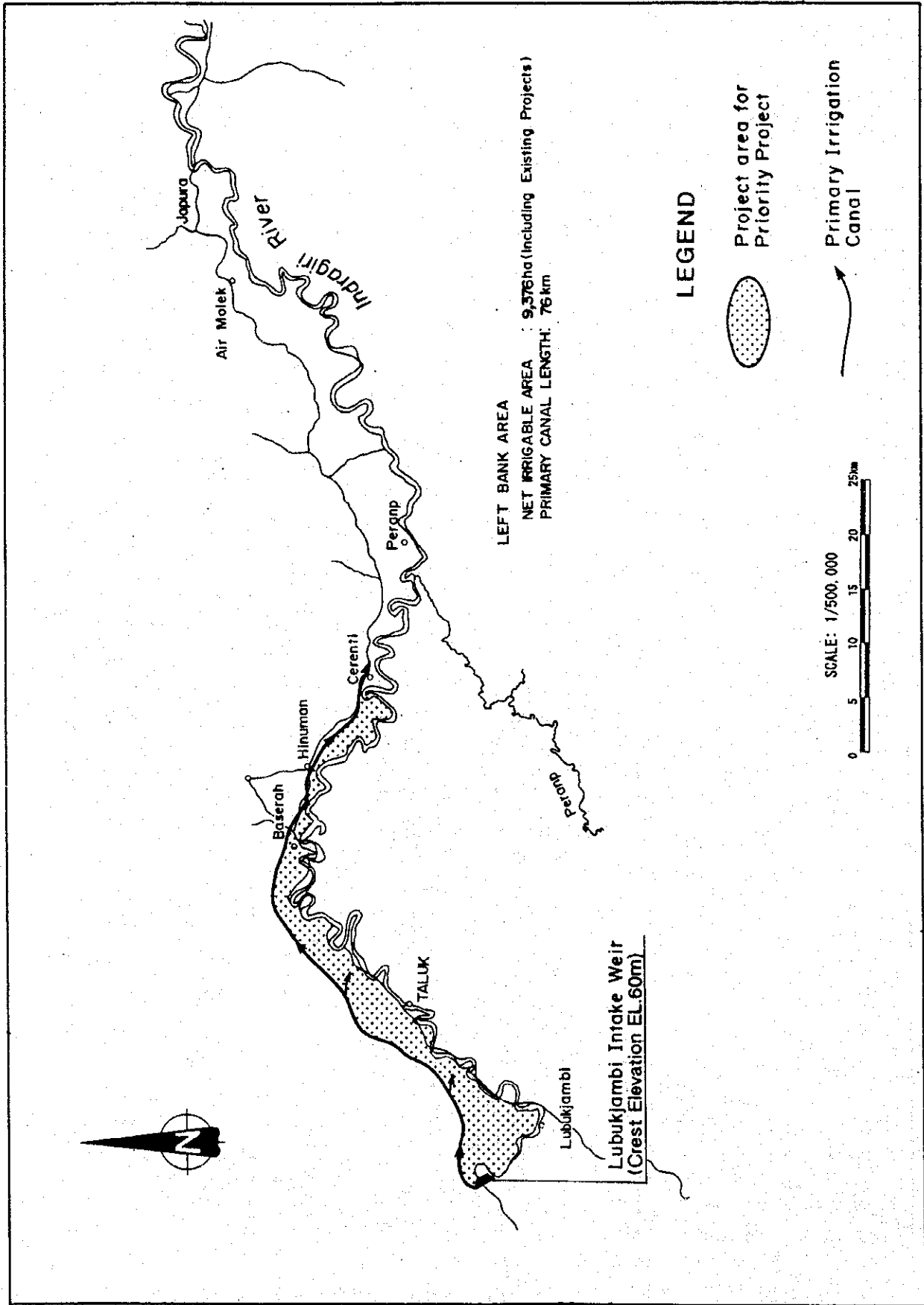


<p>THE STUDY ON          KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT          IN THE REPUBLIC OF INDONESIA          JAPAN INTERNATIONAL COOPERATION AGENCY</p>	<p>Fig. 5.5.3  <b>IRRIGATION CANAL ALIGNMENT FOR          LUBUKJAMBI IRRIGATION DEVELOPMENT          PROJECT (OVERALL PLAN)</b></p>
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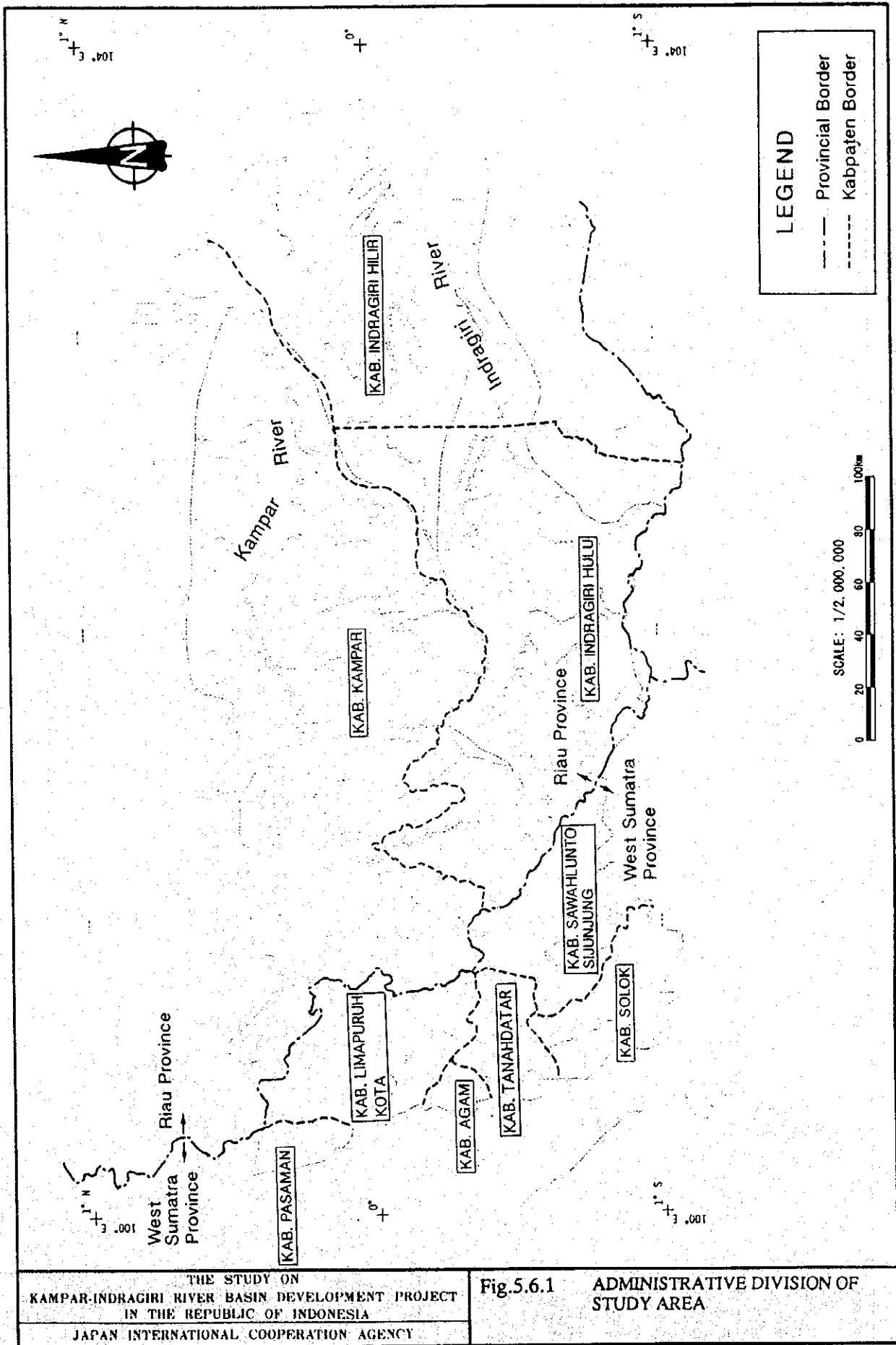
THE STUDY ON  
 KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
 IN THE REPUBLIC OF INDONESIA  
 JAPAN INTERNATIONAL COOPERATION AGENCY

**Fig. 5.5.4**  
 PRIORITY PROJECT AREA AND IRRIGATION  
 CANAL ALIGNMENT IN RANTAUBERANGIN  
 IRRIGATION DEVELOPMENT PROJECT



THE STUDY ON  
 KAMPAR – INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
 IN THE REPUBLIC OF INDONESIA  
 JAPAN INTERNATIONAL COOPERATION AGENCY

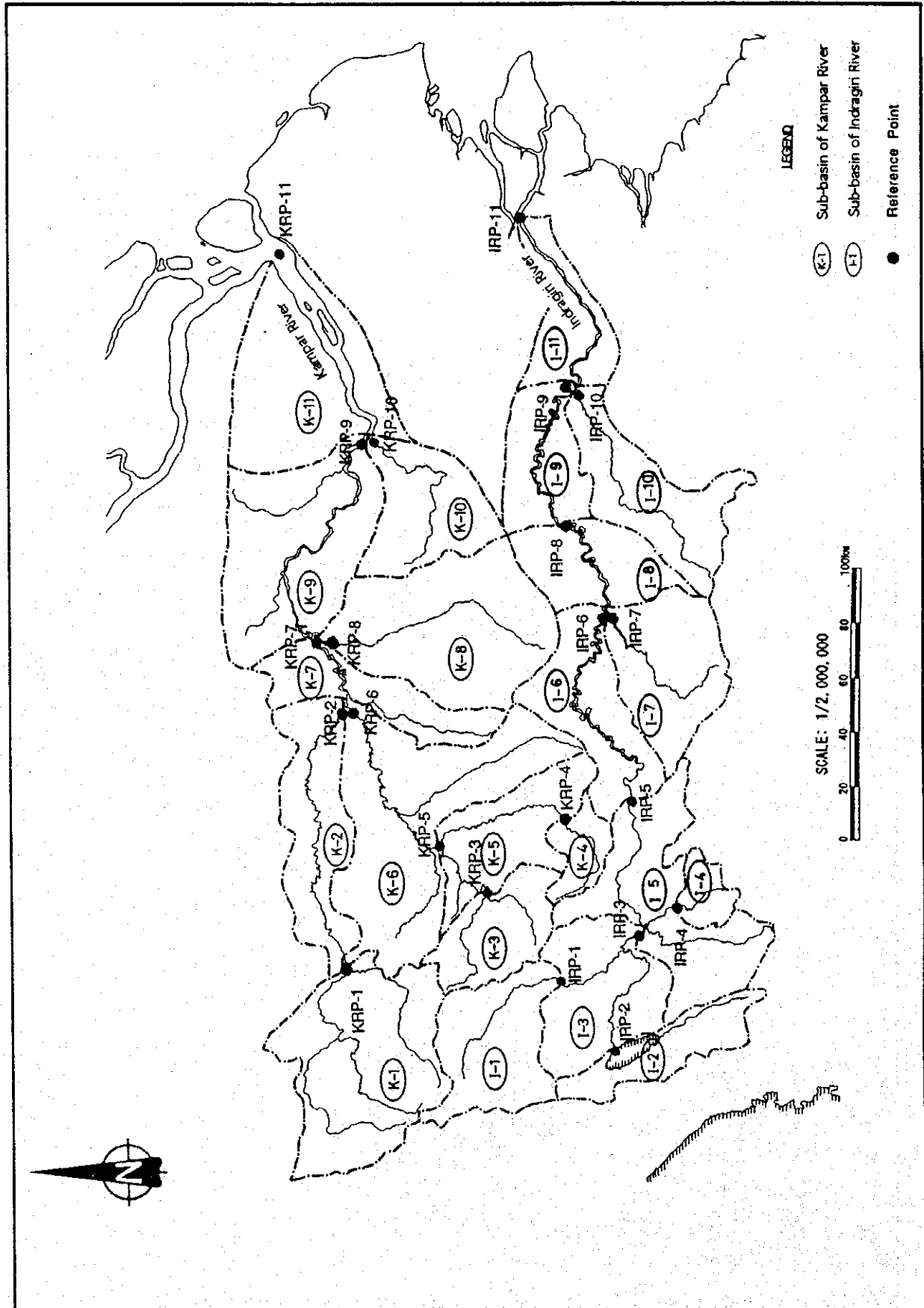
Fig. 5.5.5  
 PRIORITY PROJECT AREA AND IRRIGATION  
 CANAL ALIGNMENT IN LUBUKJAMBI  
 IRRIGATION DEVELOPMENT PROJECT



THE STUDY ON  
KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
IN THE REPUBLIC OF INDONESIA

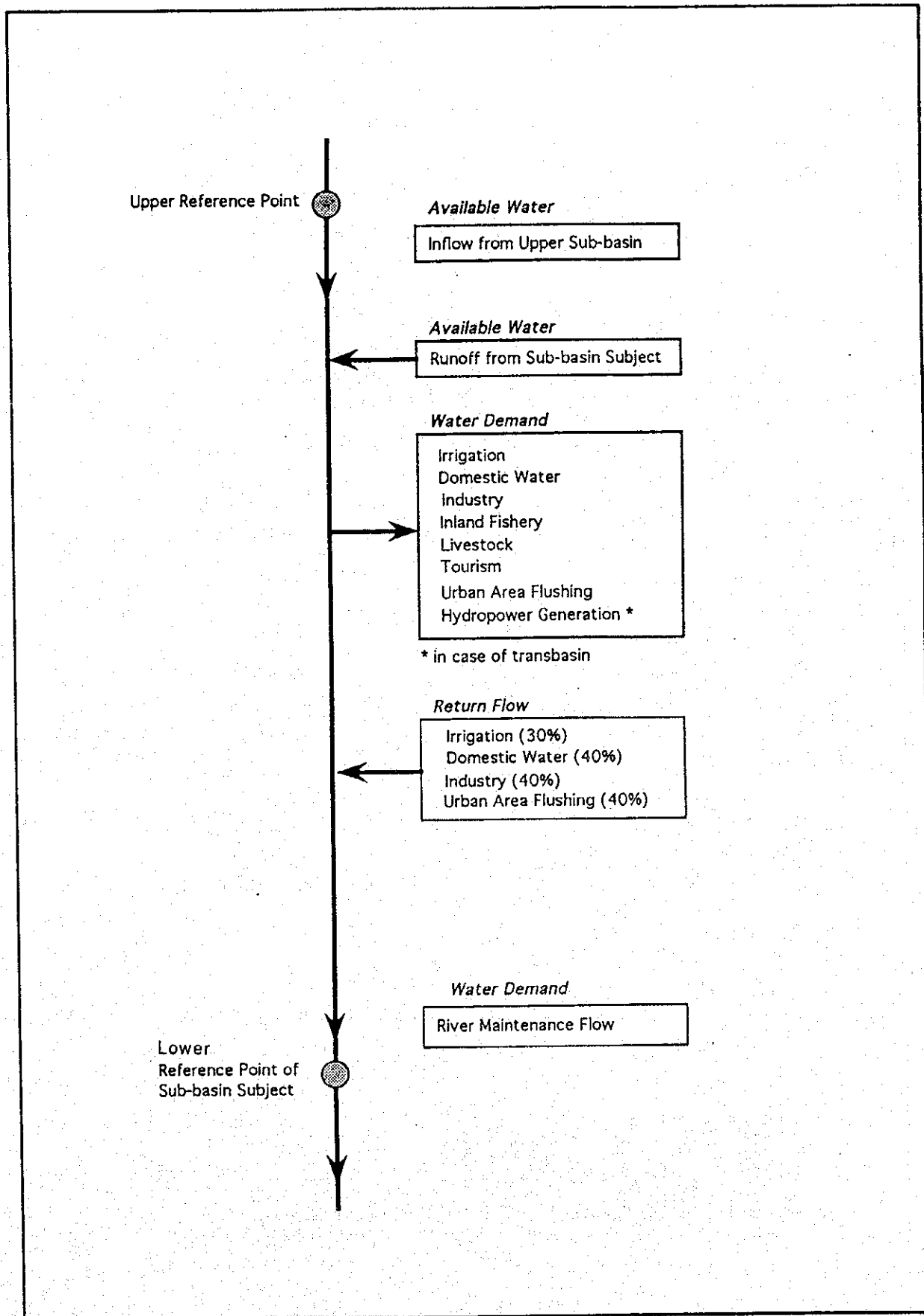
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig.5.6.1 ADMINISTRATIVE DIVISION OF STUDY AREA



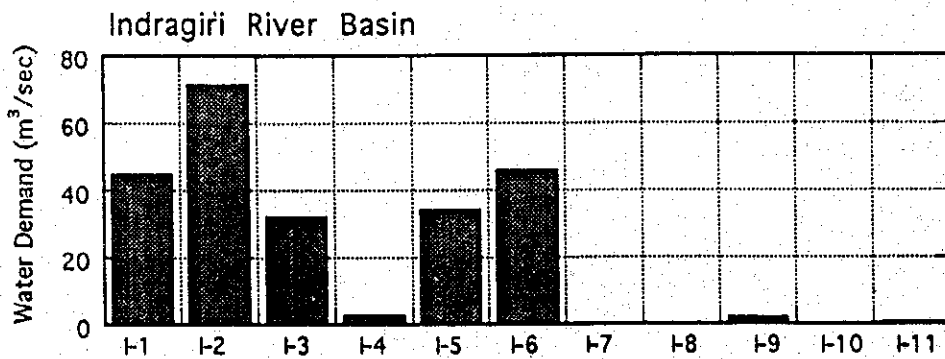
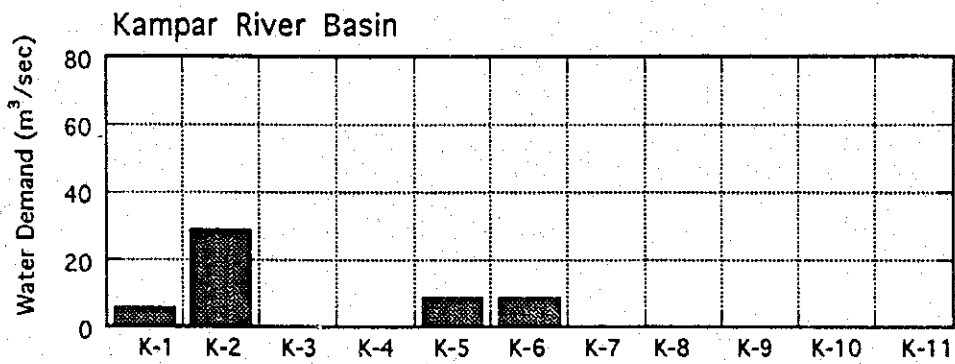
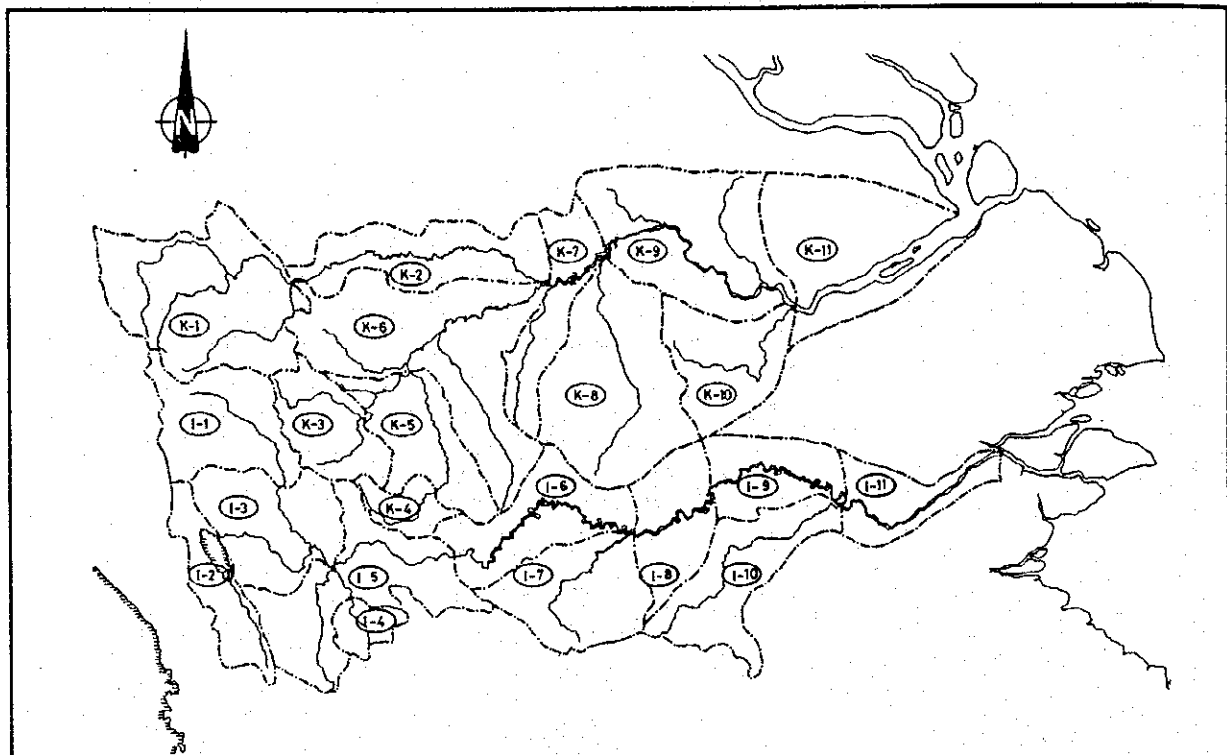
THE STUDY ON  
 KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
 IN THE REPUBLIC OF INDONESIA  
 JAPAN INTERNATIONAL COOPERATION AGENCY

Fig.5.6.2 **BASIN DIVISION FOR WATER BALANCE ANALYSIS**



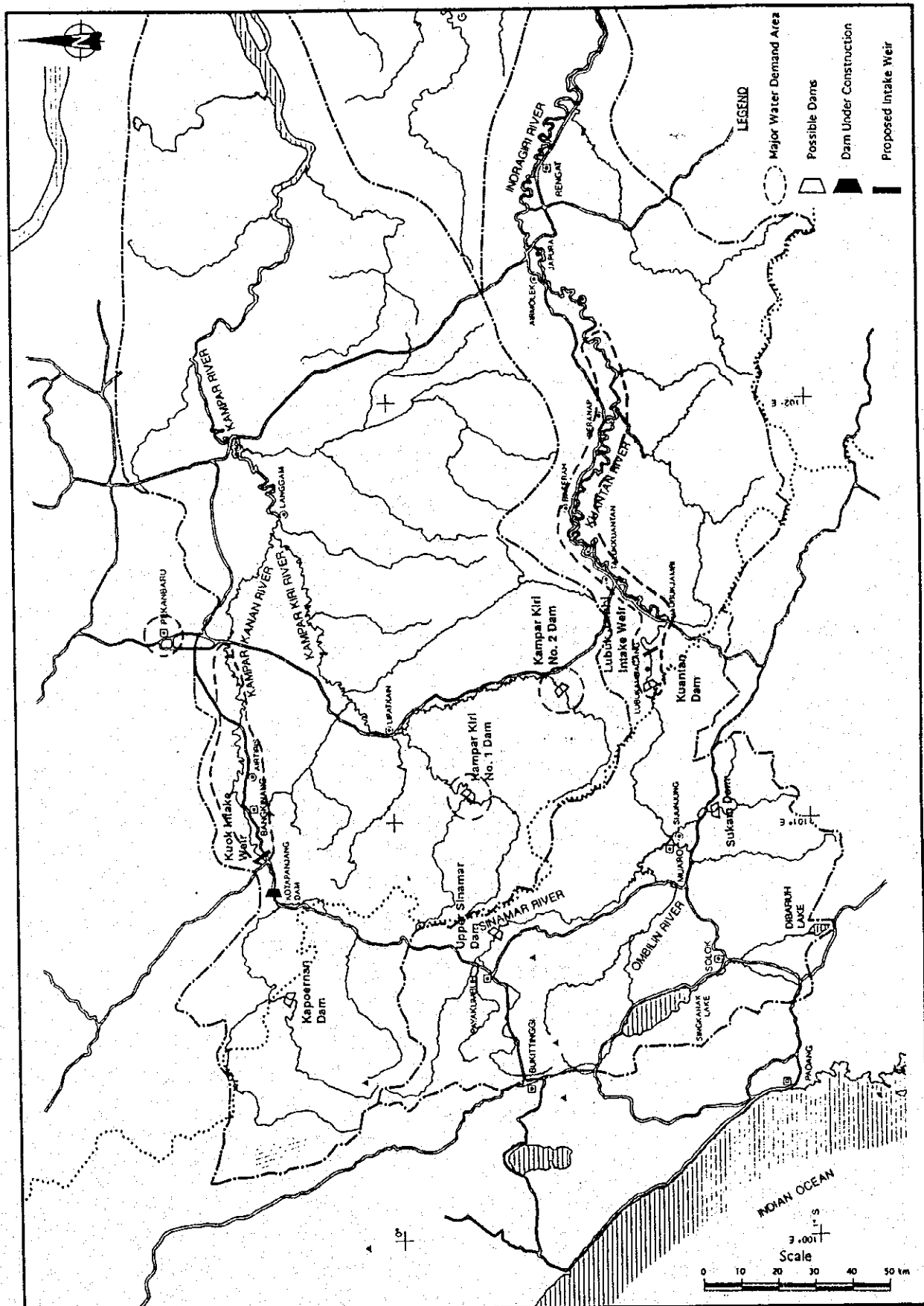
THE STUDY ON  
 KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
 IN THE REPUBLIC OF INDONESIA  
 JAPAN INTERNATIONAL COOPERATION AGENCY

Fig.5.6.3 SCHEMATIC DIAGRAM OF WATER BALANCE



THE STUDY ON  
 KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
 IN THE REPUBLIC OF INDONESIA  
 JAPAN INTERNATIONAL COOPERATION AGENCY

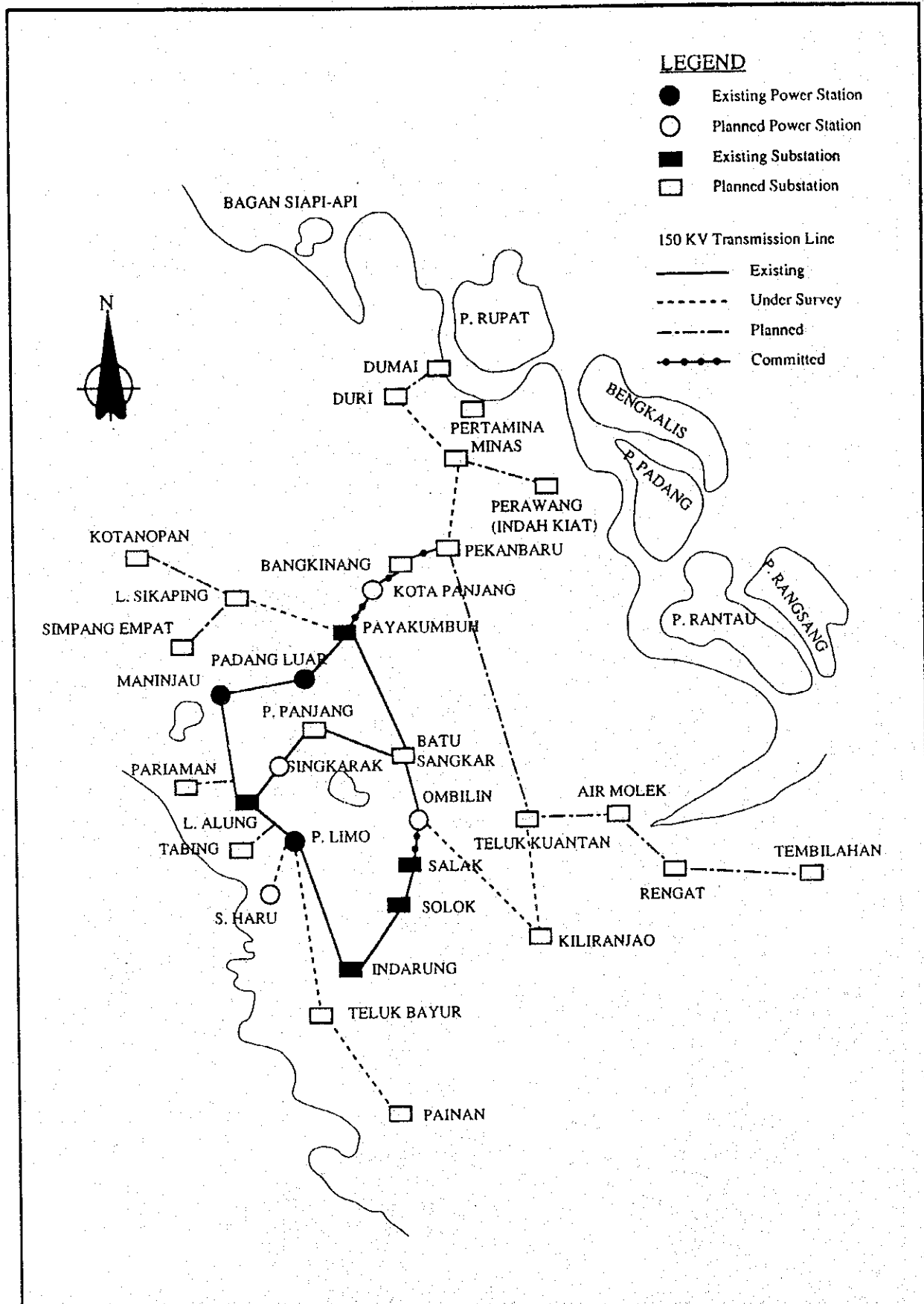
**Fig.5.6.4 FUTURE WATER DEMAND IN 2019 BY SUB-BASIN**



THE STUDY ON  
 KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
 IN THE REPUBLIC OF INDONESIA  
 JAPAN INTERNATIONAL COOPERATION AGENCY

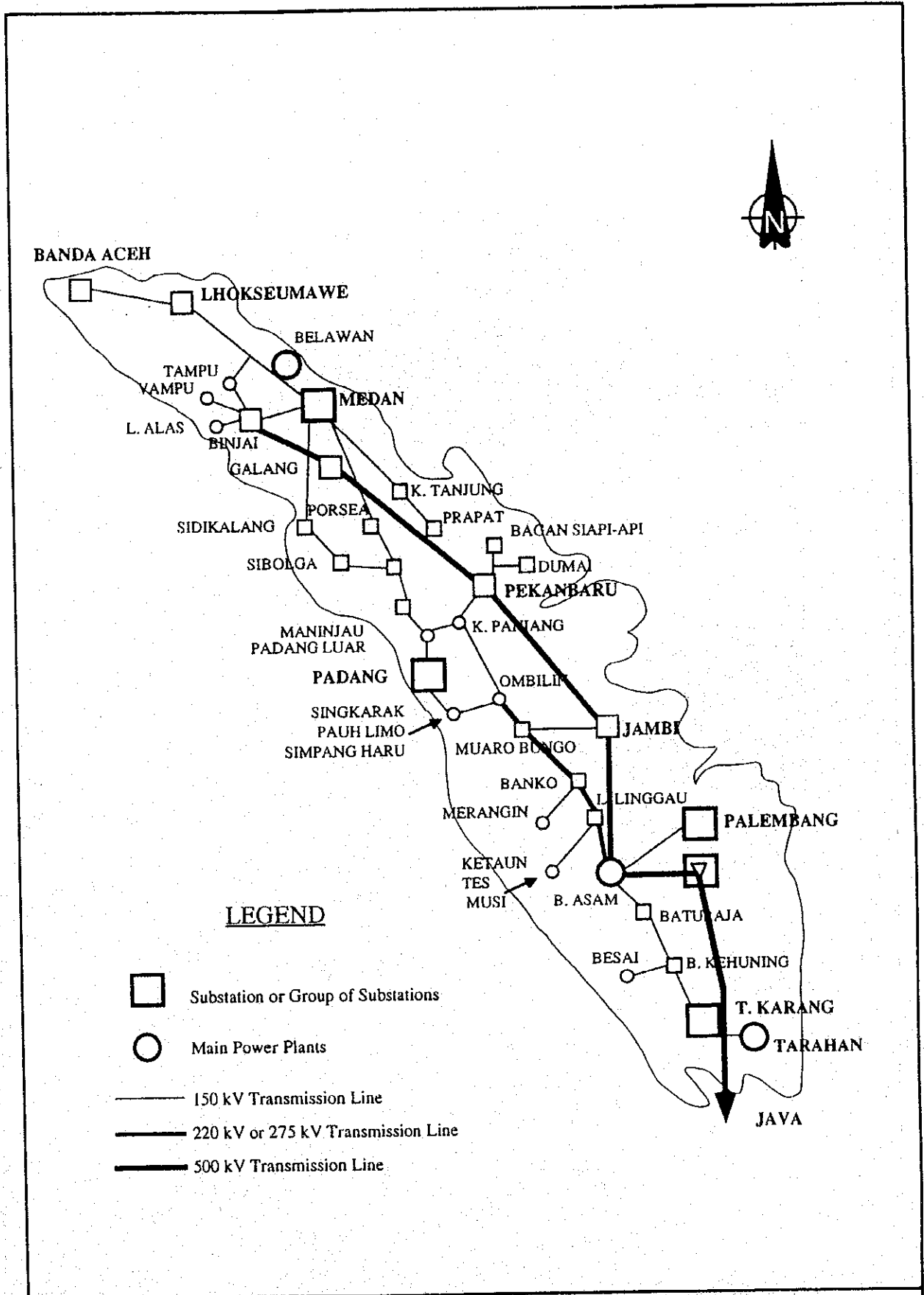
Fig.5.6.5 MAJOR WATER DEMAND AREA





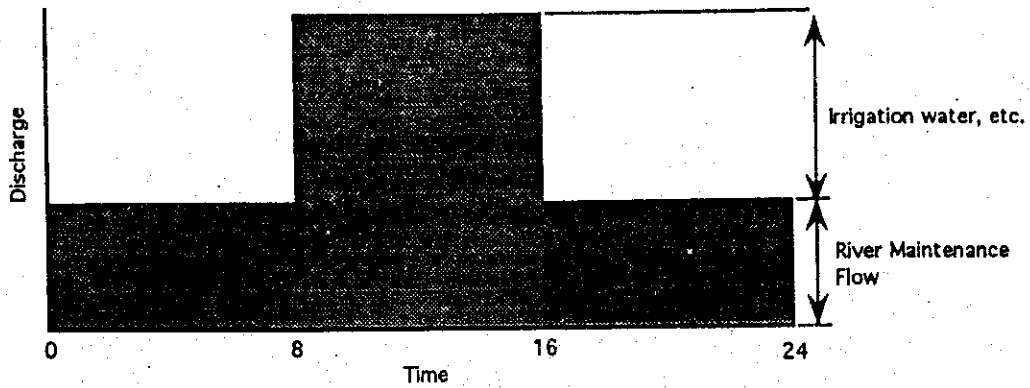
THE STUDY ON  
 KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
 IN THE REPUBLIC OF INDONESIA  
 JAPAN INTERNATIONAL COOPERATION AGENCY

Fig.5.7.1 POWER SYSTEM INTERCONNECTION PROGRAM IN PLN REGION III

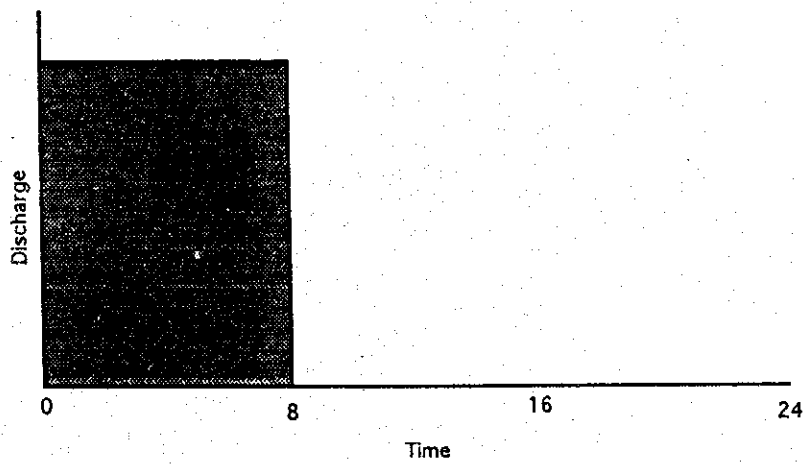


THE STUDY ON  
 KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
 IN THE REPUBLIC OF INDONESIA  
 JAPAN INTERNATIONAL COOPERATION AGENCY

Fig.5.7.2 WHOLE SUMATRA POWER SYSTEM INTERCONNECTION PLAN IN 2010

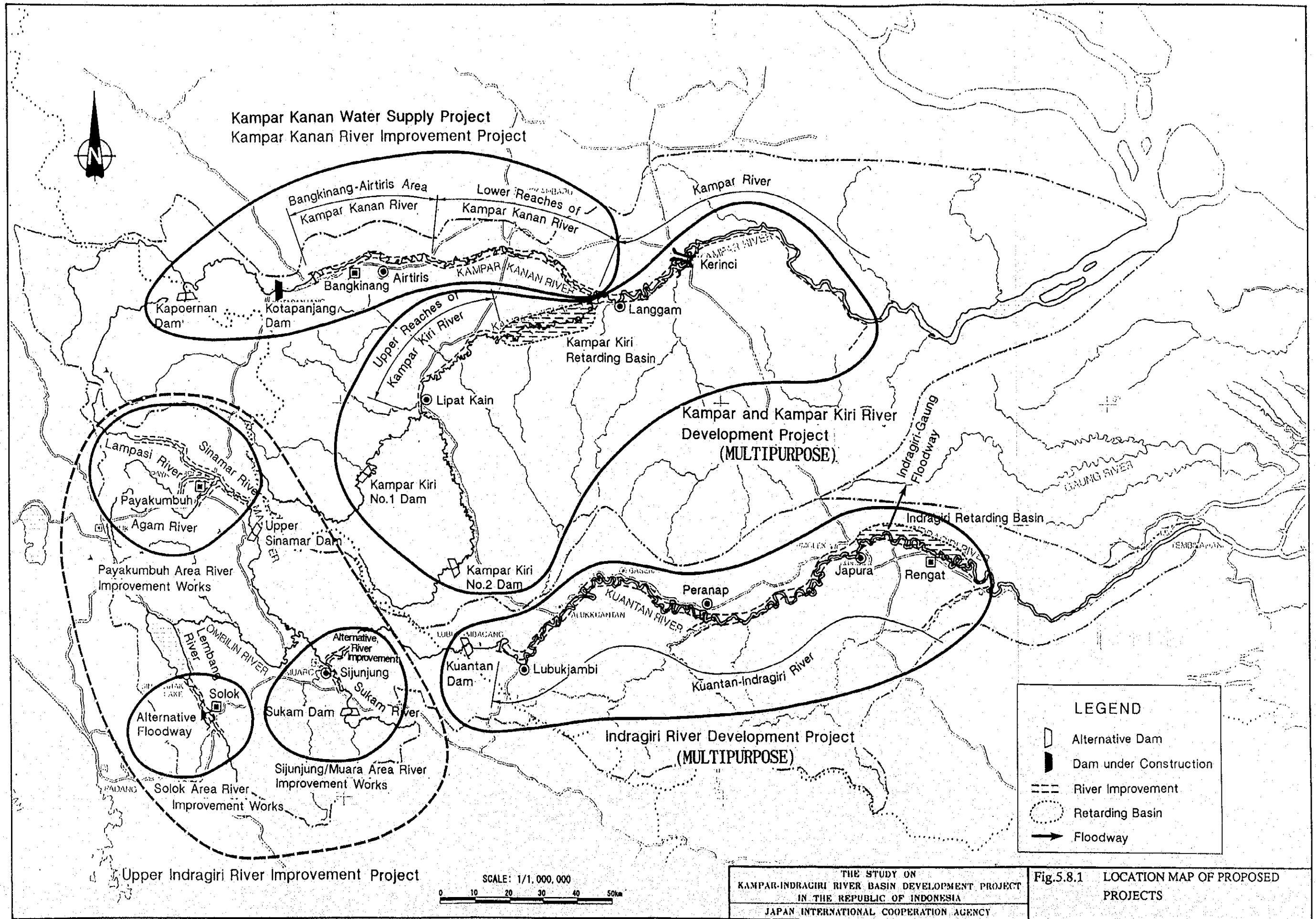


Upper Sinamar and Kuantan Power Stations



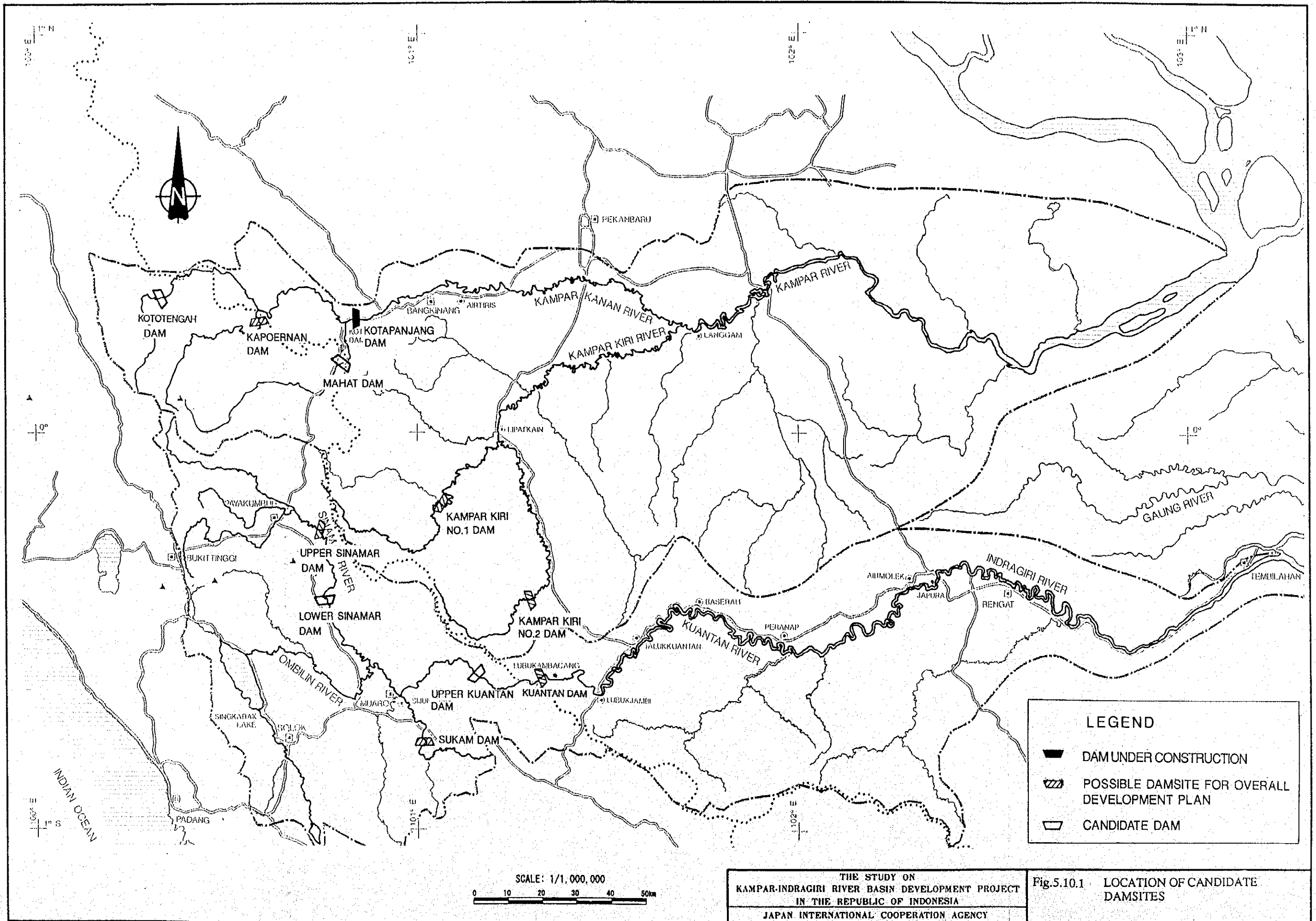
Kampar Kiri No1, Kampar Kiri No.2 and Sukam Power Stations

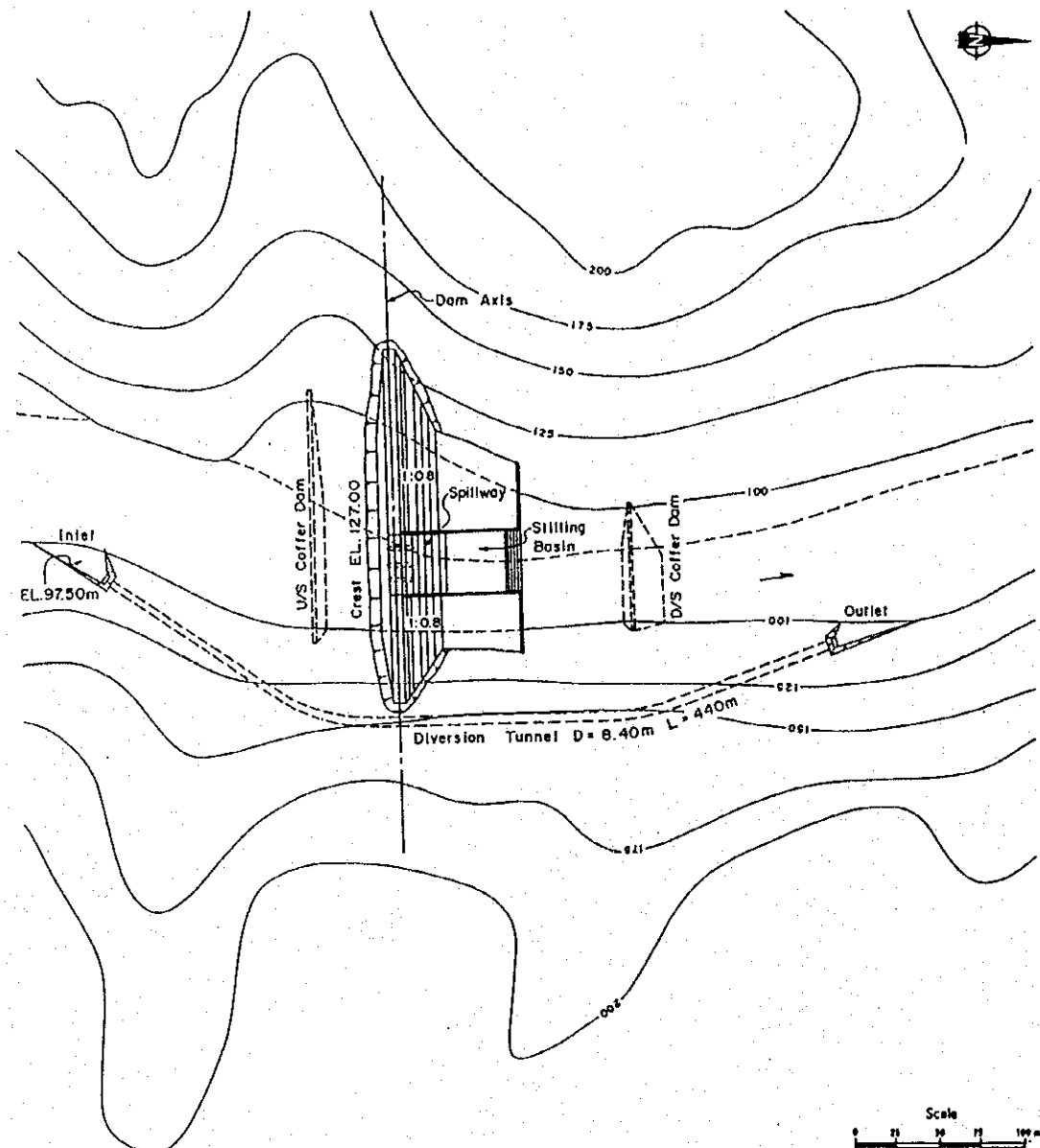




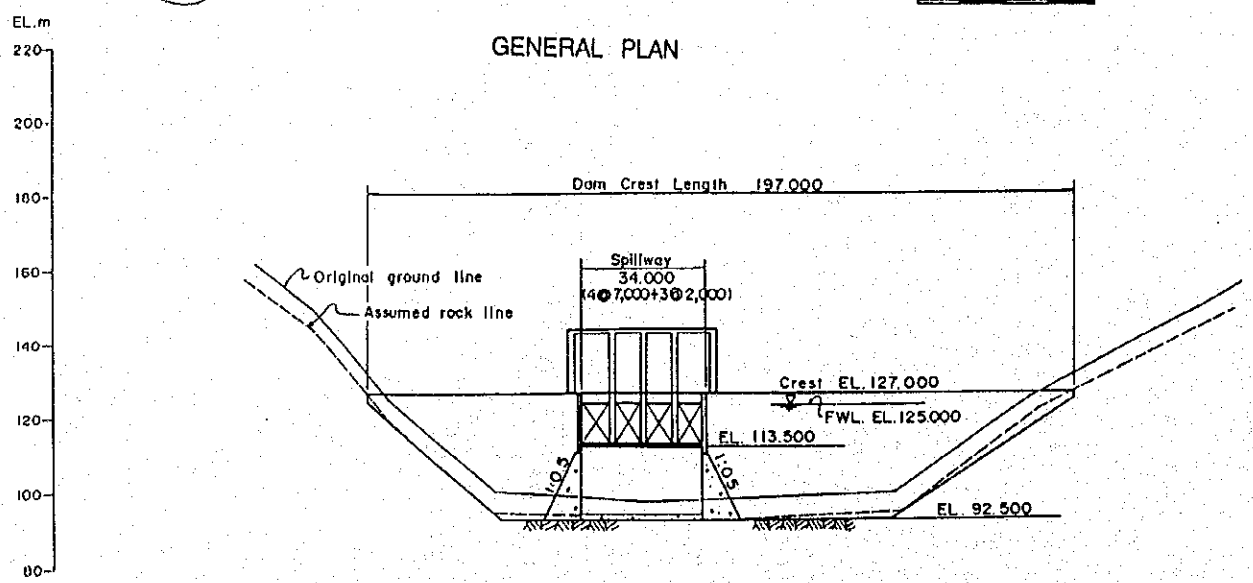
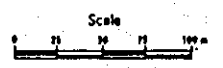
THE STUDY ON  
 KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
 IN THE REPUBLIC OF INDONESIA  
 JAPAN INTERNATIONAL COOPERATION AGENCY

Fig.5.8.1 LOCATION MAP OF PROPOSED PROJECTS

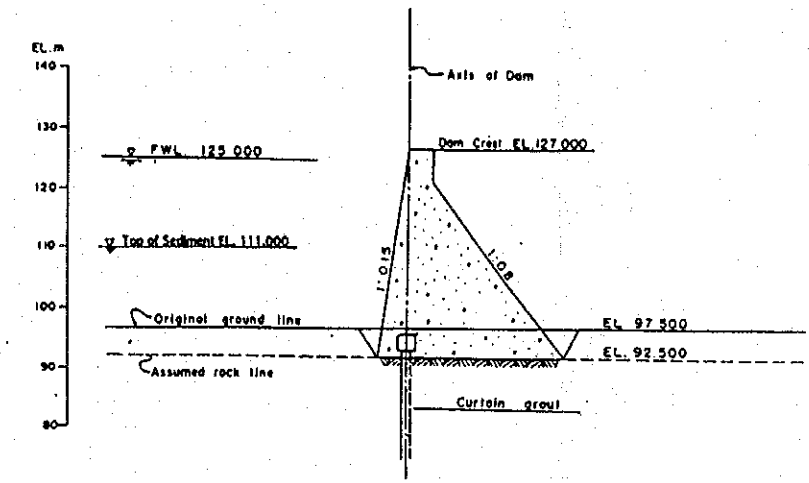




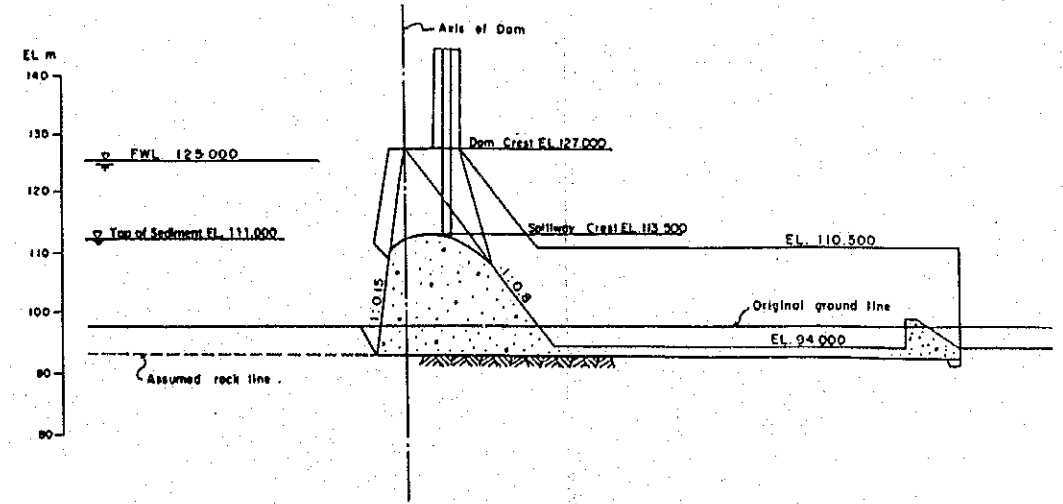
GENERAL PLAN



DOWNSTREAM ELEVATION



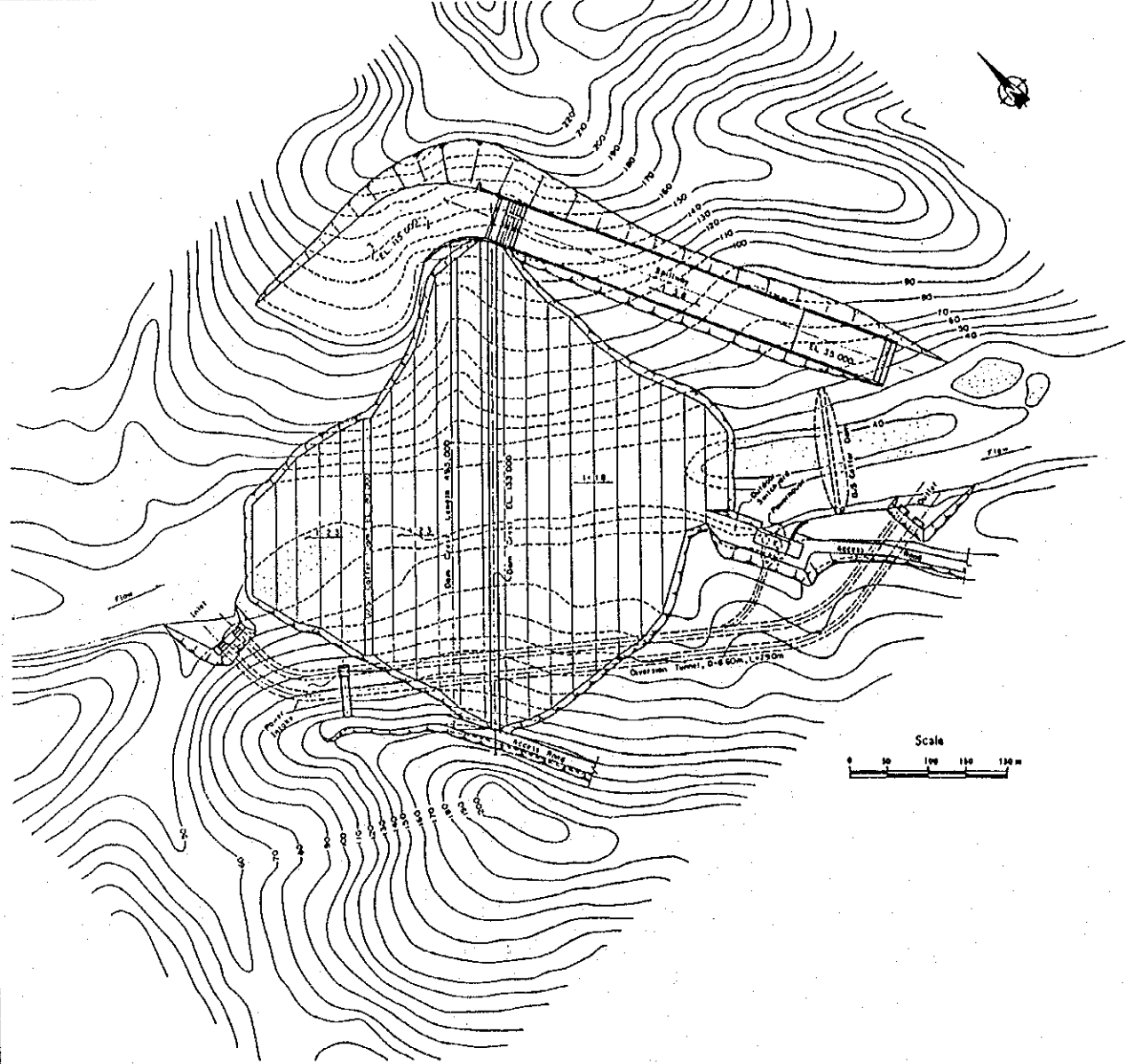
TYPICAL CROSS SECTION OF DAM



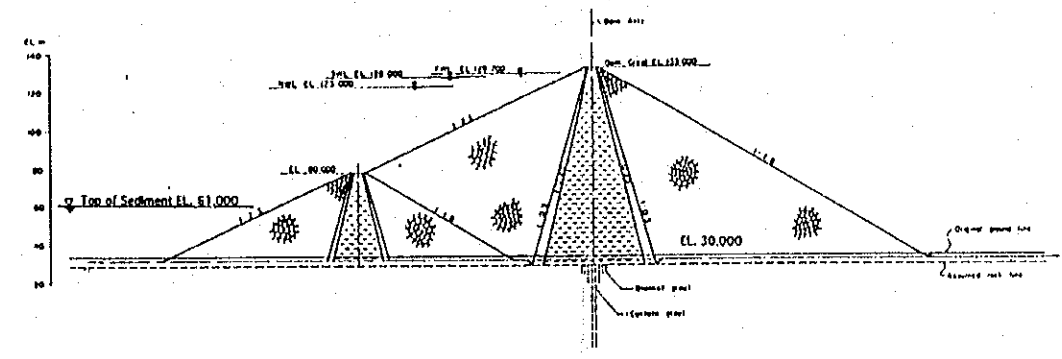
PROFILE OF SPILLWAY

THE STUDY ON  
KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
IN THE REPUBLIC OF INDONESIA  
JAPAN INTERNATIONAL COOPERATION AGENCY

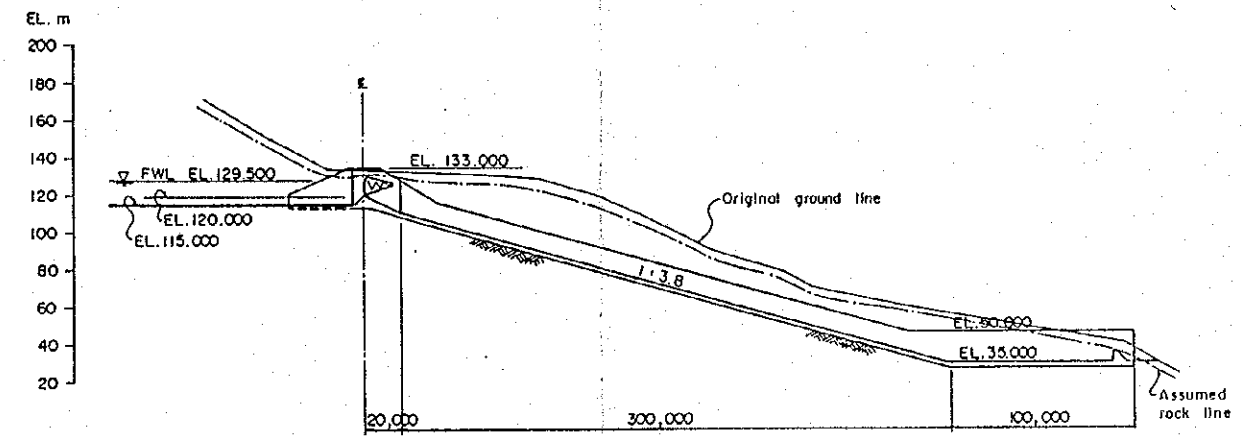
Fig.5.10.2 (1/6) STRUCTURAL LAYOUT PLAN  
OF POSSIBLE DAMS  
(KAPOERNAN DAM)



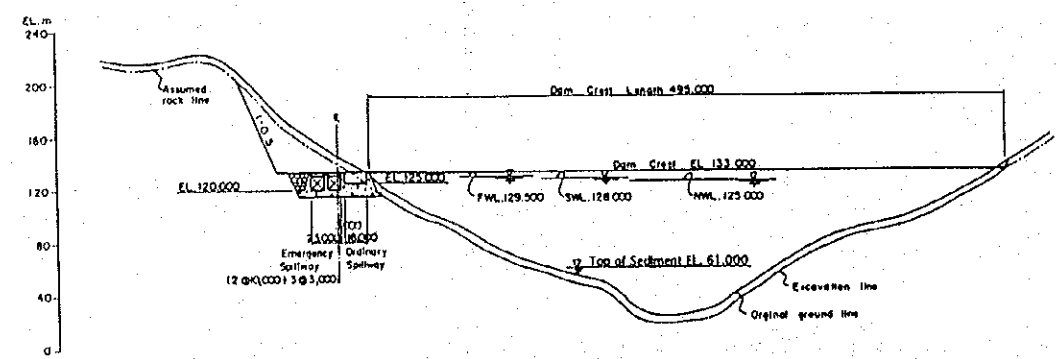
GENERAL PLAN



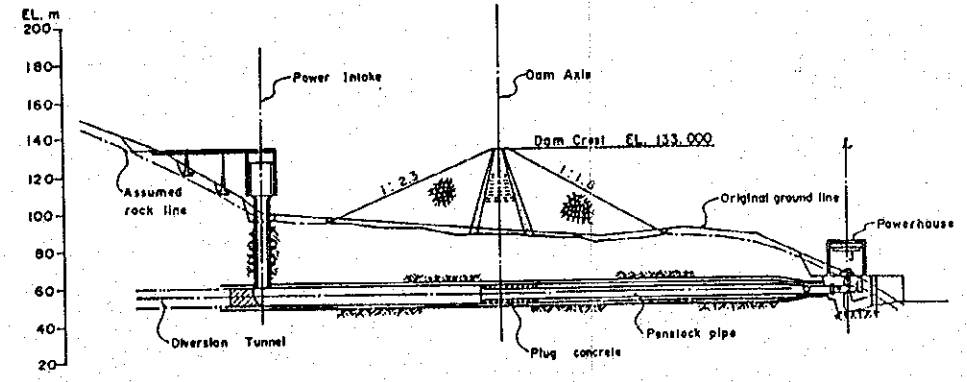
TYPICAL CROSS SECTION OF DAM



PROFILE OF SPILLWAY



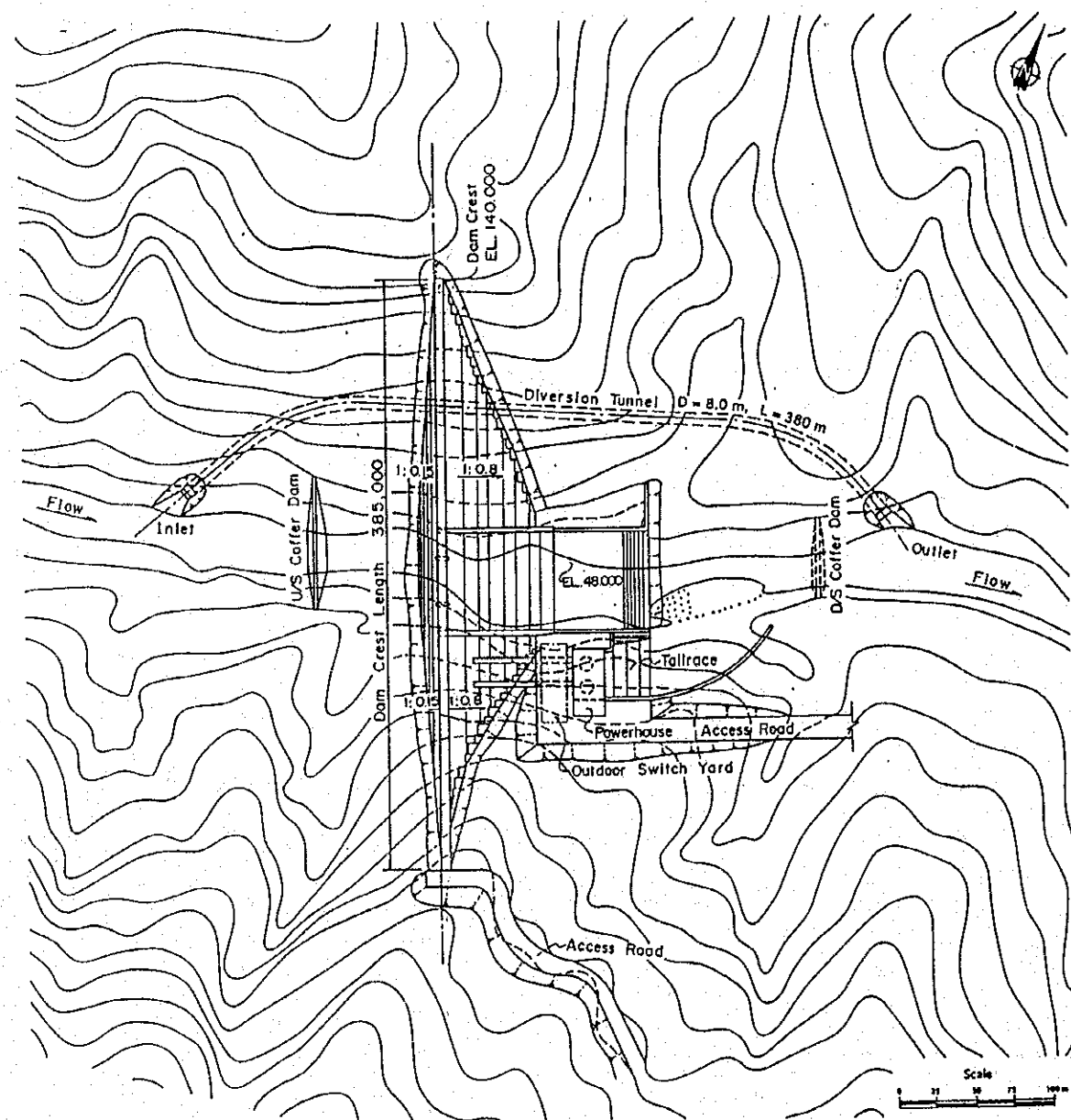
PROFILE



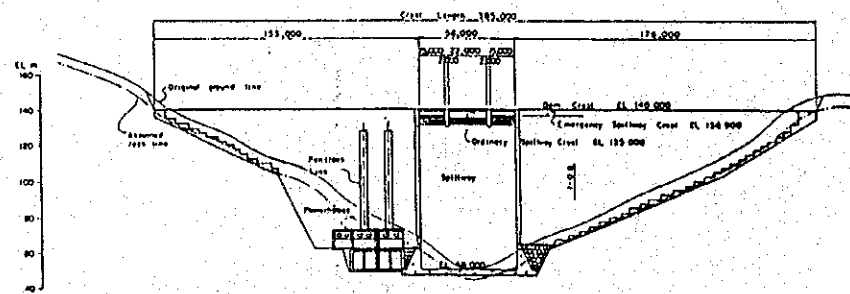
PROFILE OF POWER LINE

THE STUDY ON KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT IN THE REPUBLIC OF INDONESIA JAPAN INTERNATIONAL COOPERATION AGENCY	Fig.5.10.2 (2/6) STRUCTURAL LAYOUT PLAN OF POSSIBLE DAMS (KAMPAR KIRI NO. 1 DAM)
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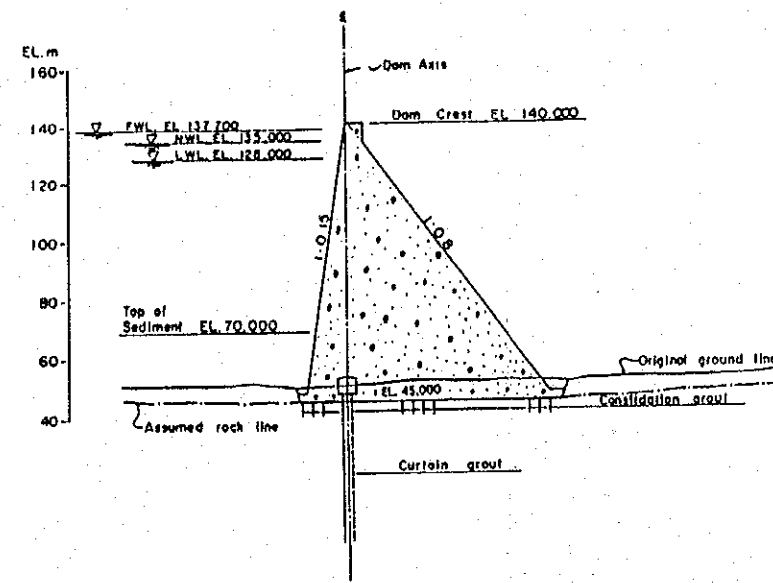




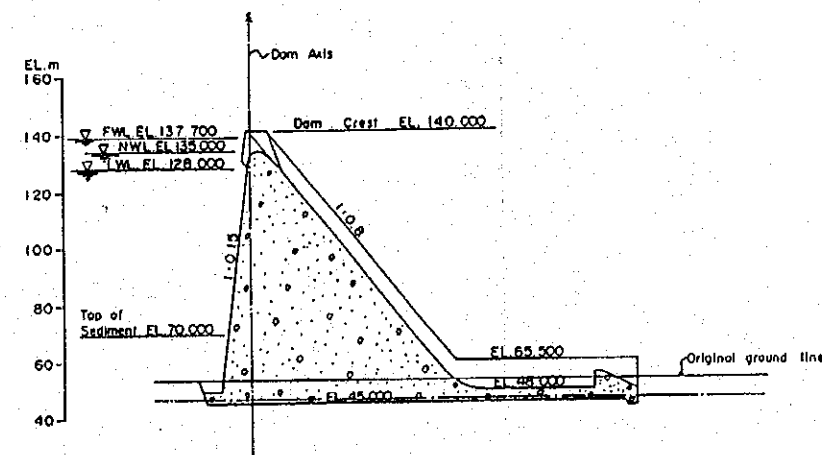
GENERAL PLAN



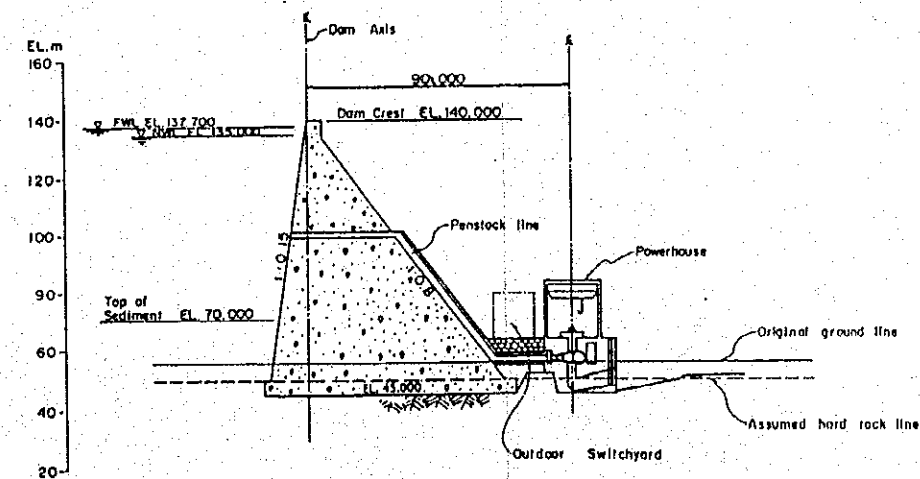
DOWNSTREAM ELEVATION



TYPICAL CROSS SECTION OF DAM



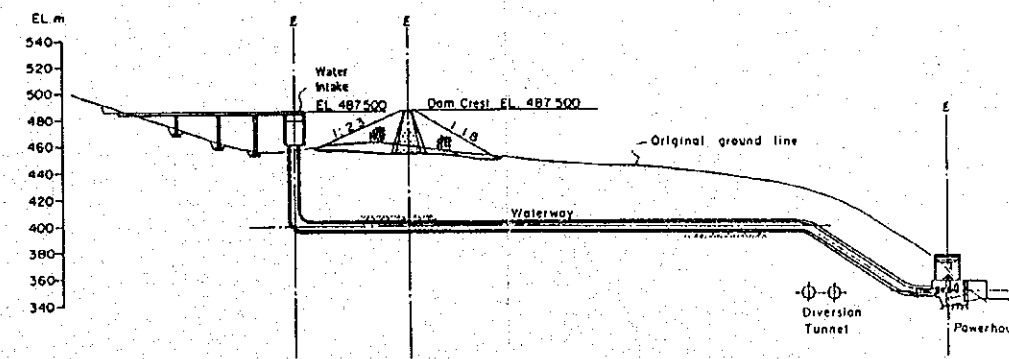
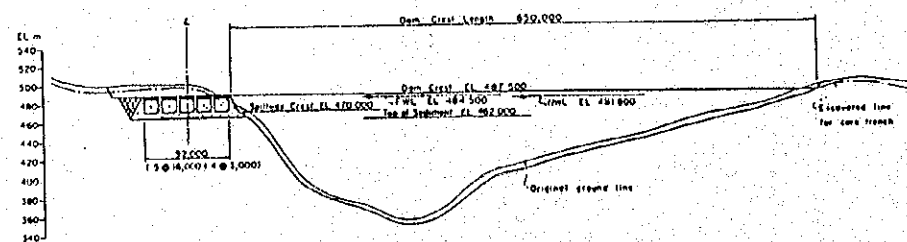
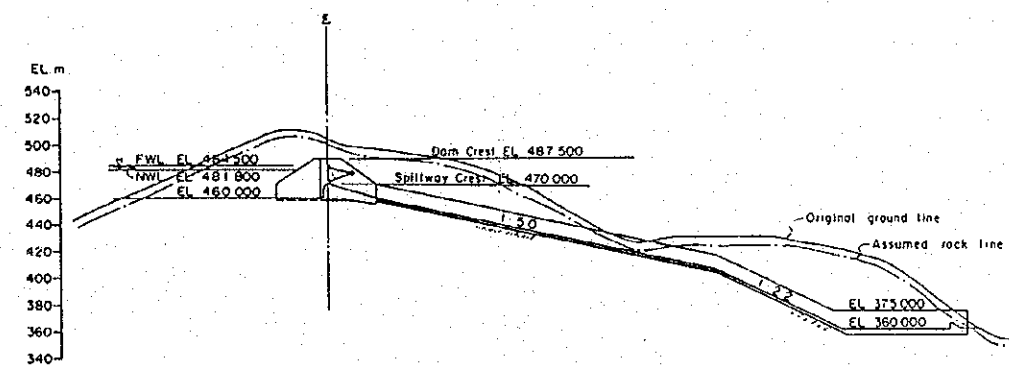
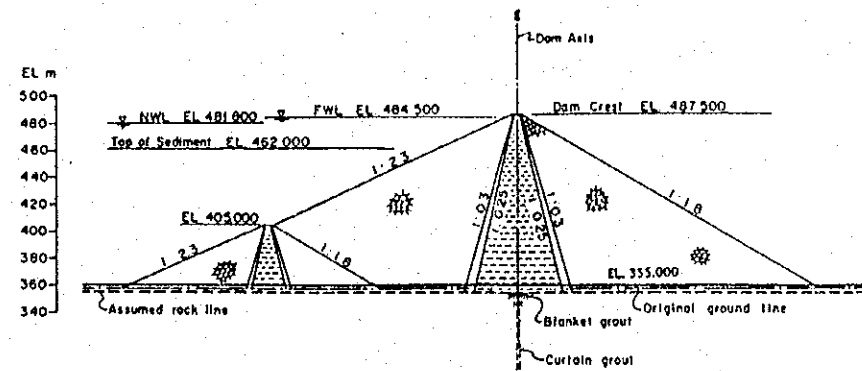
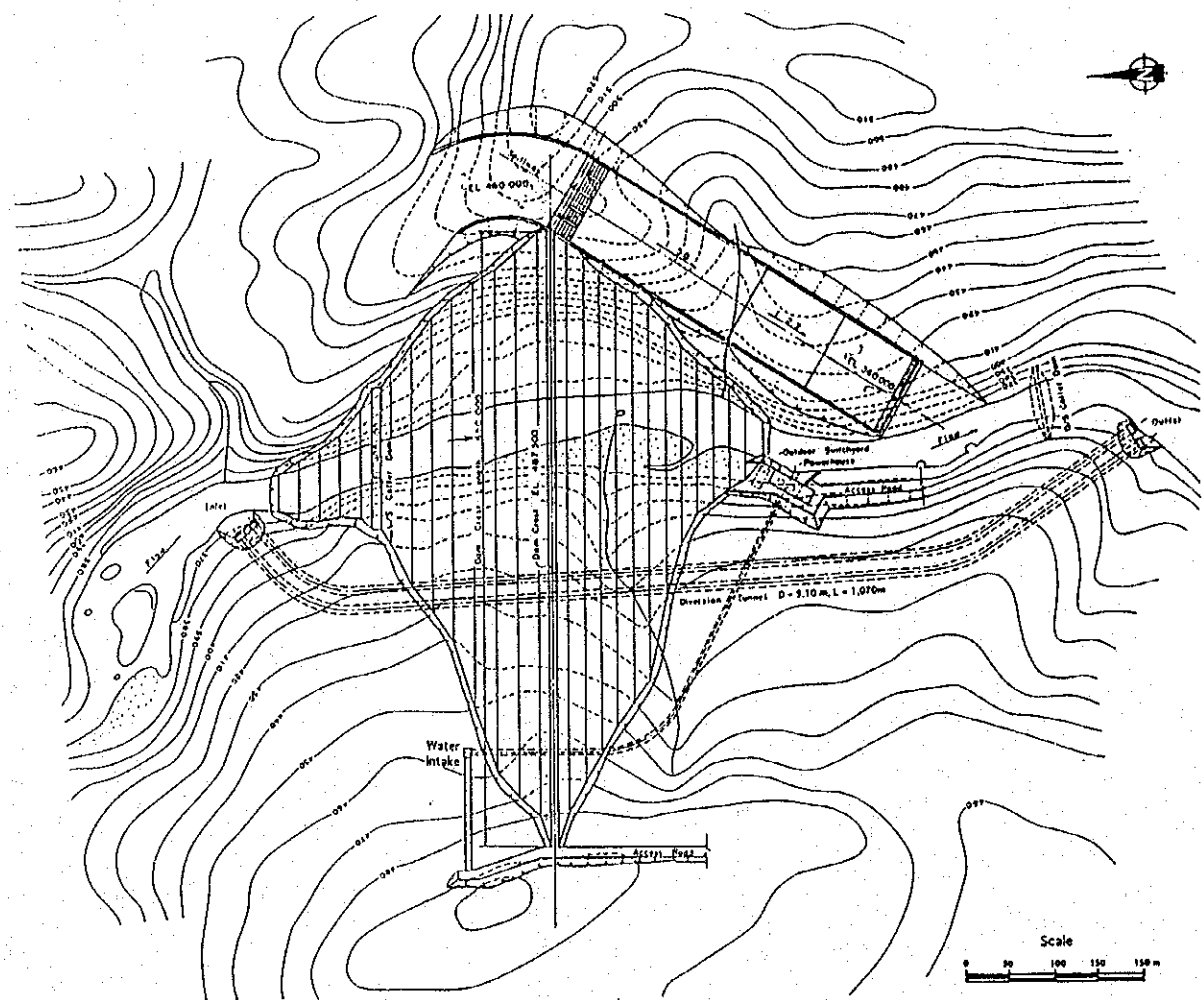
PROFILE OF SPILLWAY



PROFILE OF POWER LINE

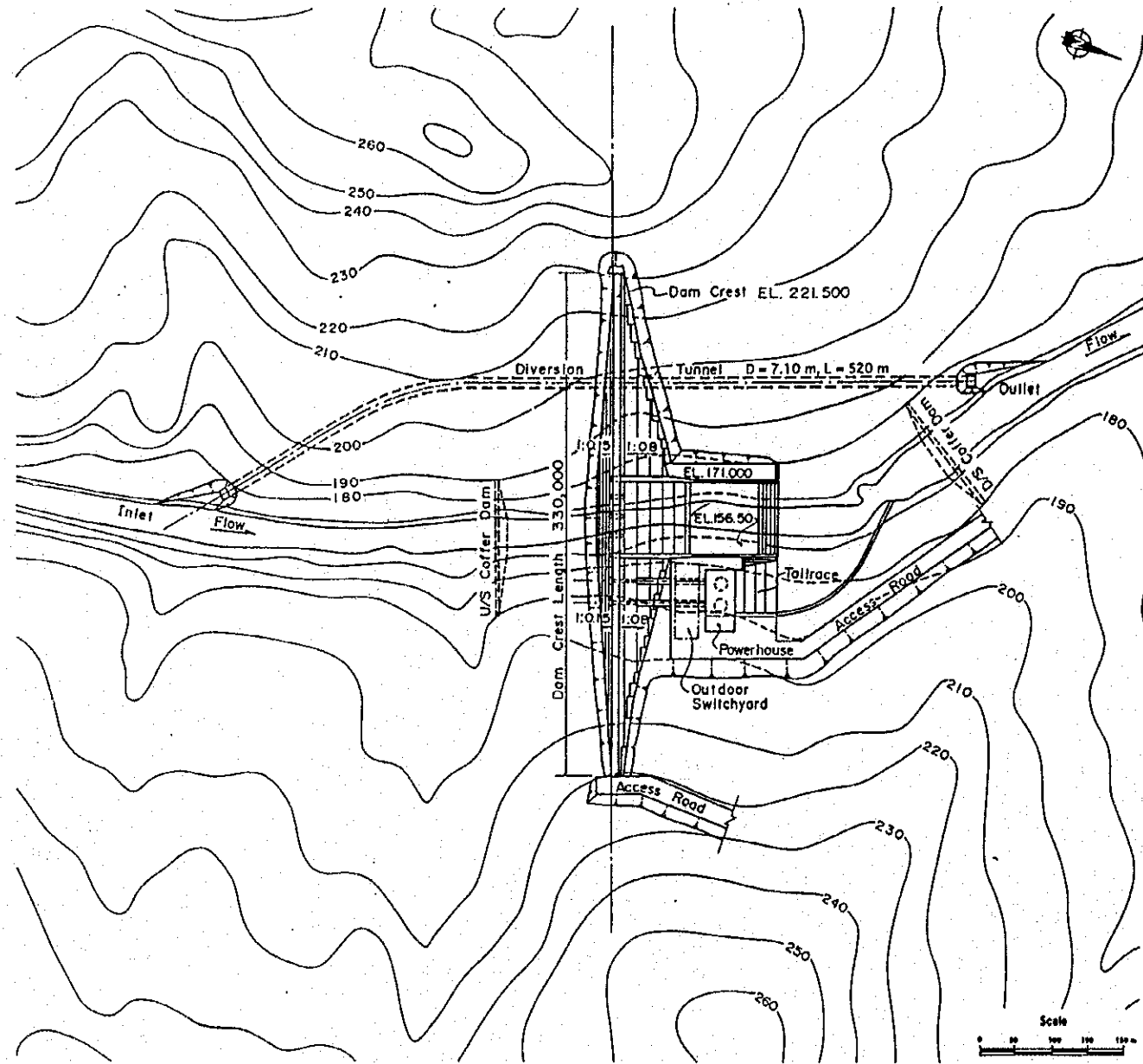
THE STUDY ON  
KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
IN THE REPUBLIC OF INDONESIA  
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig.5.10.2 (3/6) STRUCTURAL LAYOUT PLAN  
OF POSSIBLE DAMS  
(KAMPAR KIRI NO. 2 DAM)

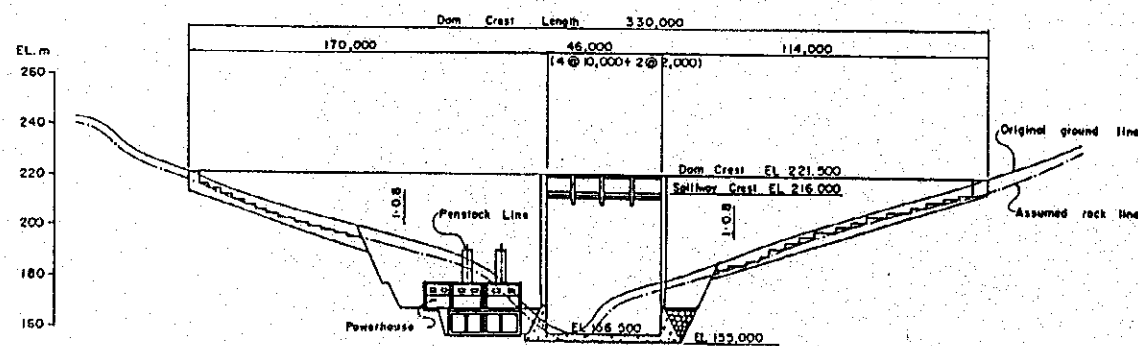


THE STUDY ON  
KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
IN THE REPUBLIC OF INDONESIA  
JAPAN INTERNATIONAL COOPERATION AGENCY

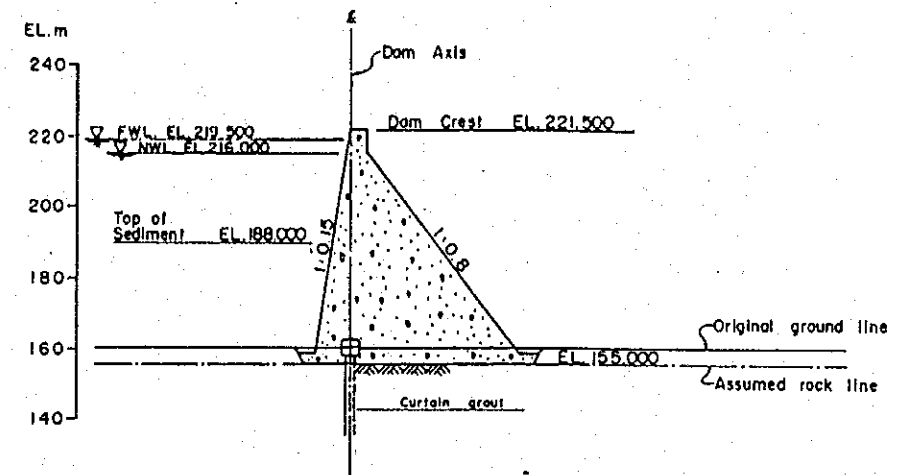
Fig.5.10.2 (4/6) STRUCTURAL LAYOUT PLAN  
OF POSSIBLE DAMS  
(UPPER SINAMAR DAM)



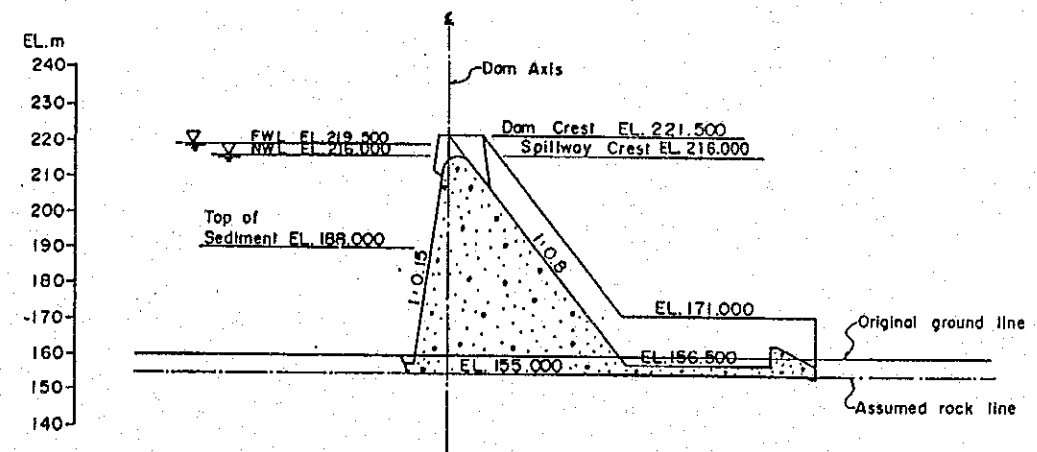
GENERAL PLAN



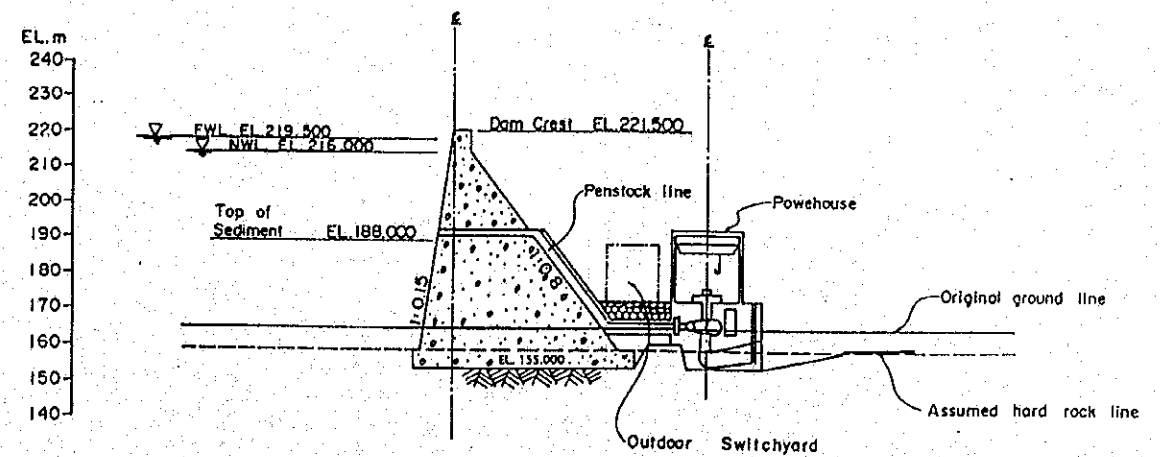
DOWNSTREAM ELEVATION



TYPICAL CROSS SECTION OF DAM



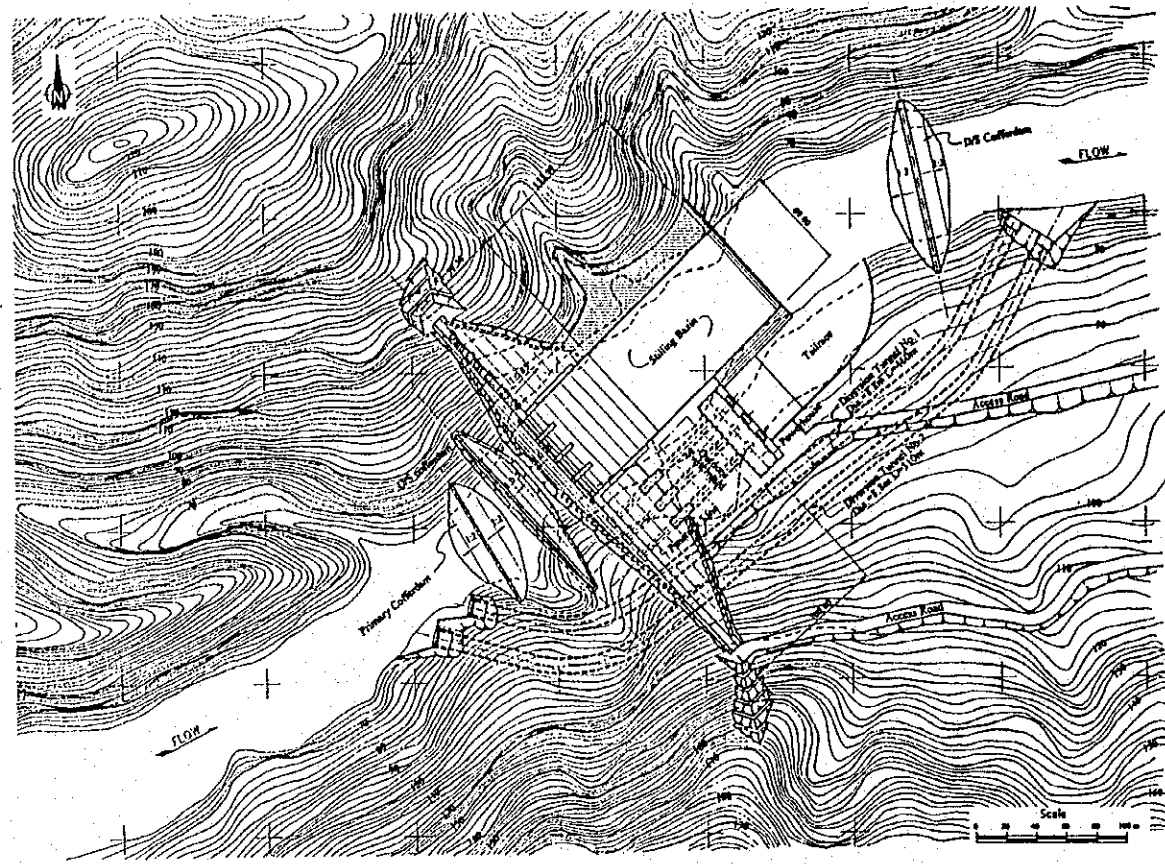
PROFILE OF SPILLWAY



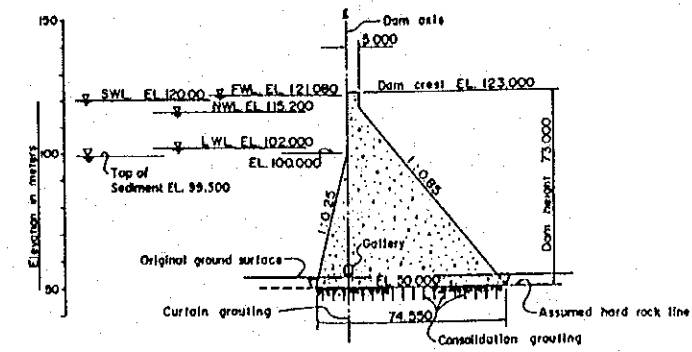
PROFILE OF POWER LINE

THE STUDY ON  
KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
IN THE REPUBLIC OF INDONESIA  
JAPAN INTERNATIONAL COOPERATION AGENCY

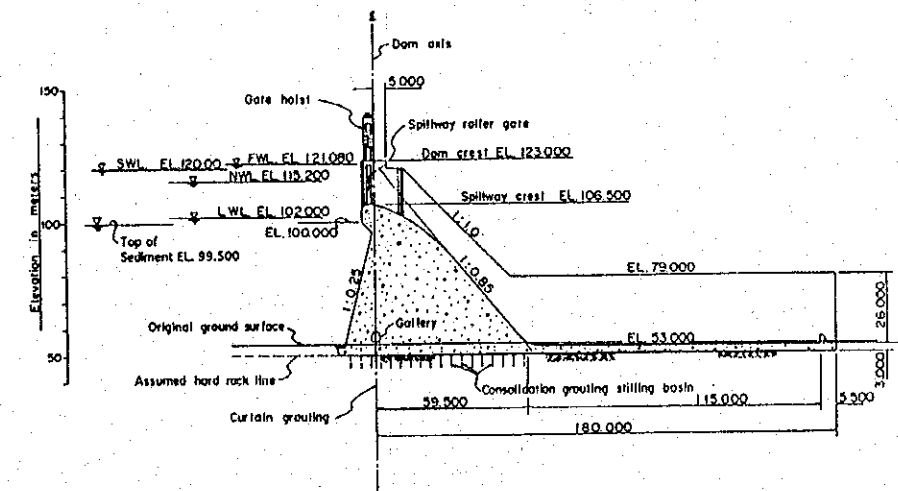
Fig.5.10.2 (5/6) STRUCTURAL LAYOUT PLAN  
OF POSSIBLE DAMS  
(SUKAM DAM)



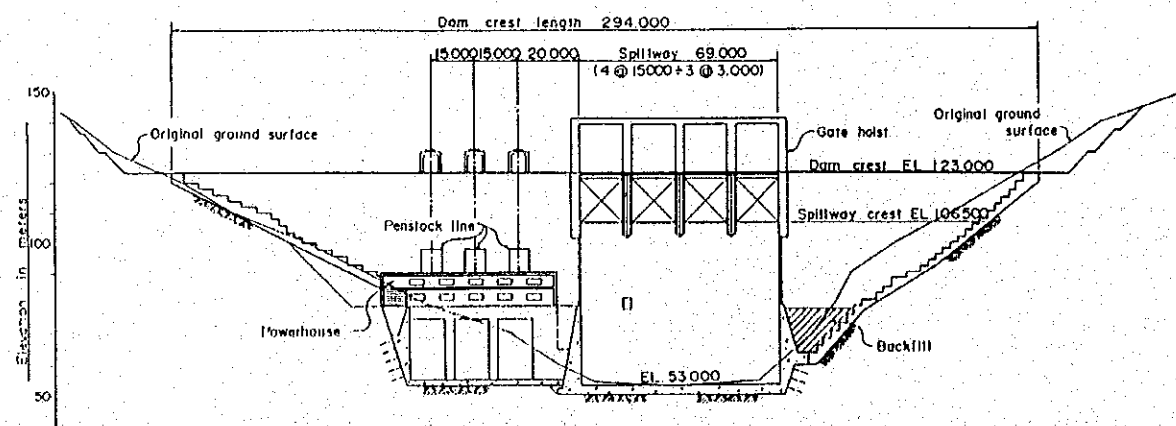
PLAN



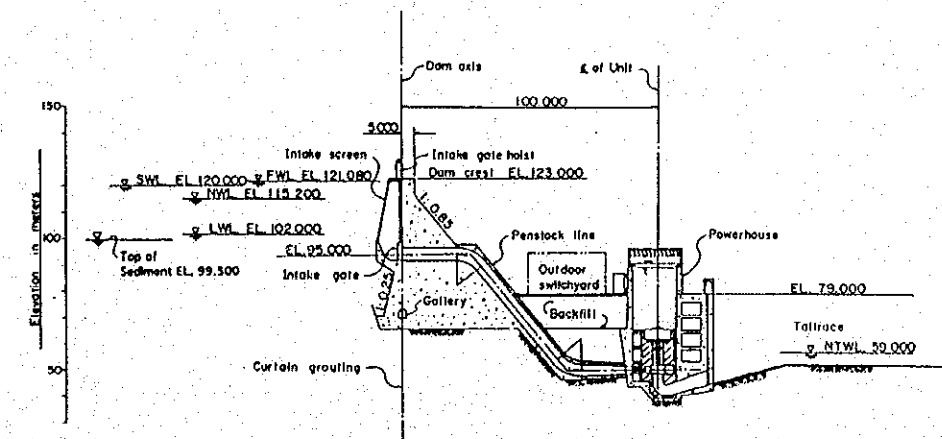
TYPICAL NON-OVERFLOW SECTION



TYPICAL OVERFLOW SECTION



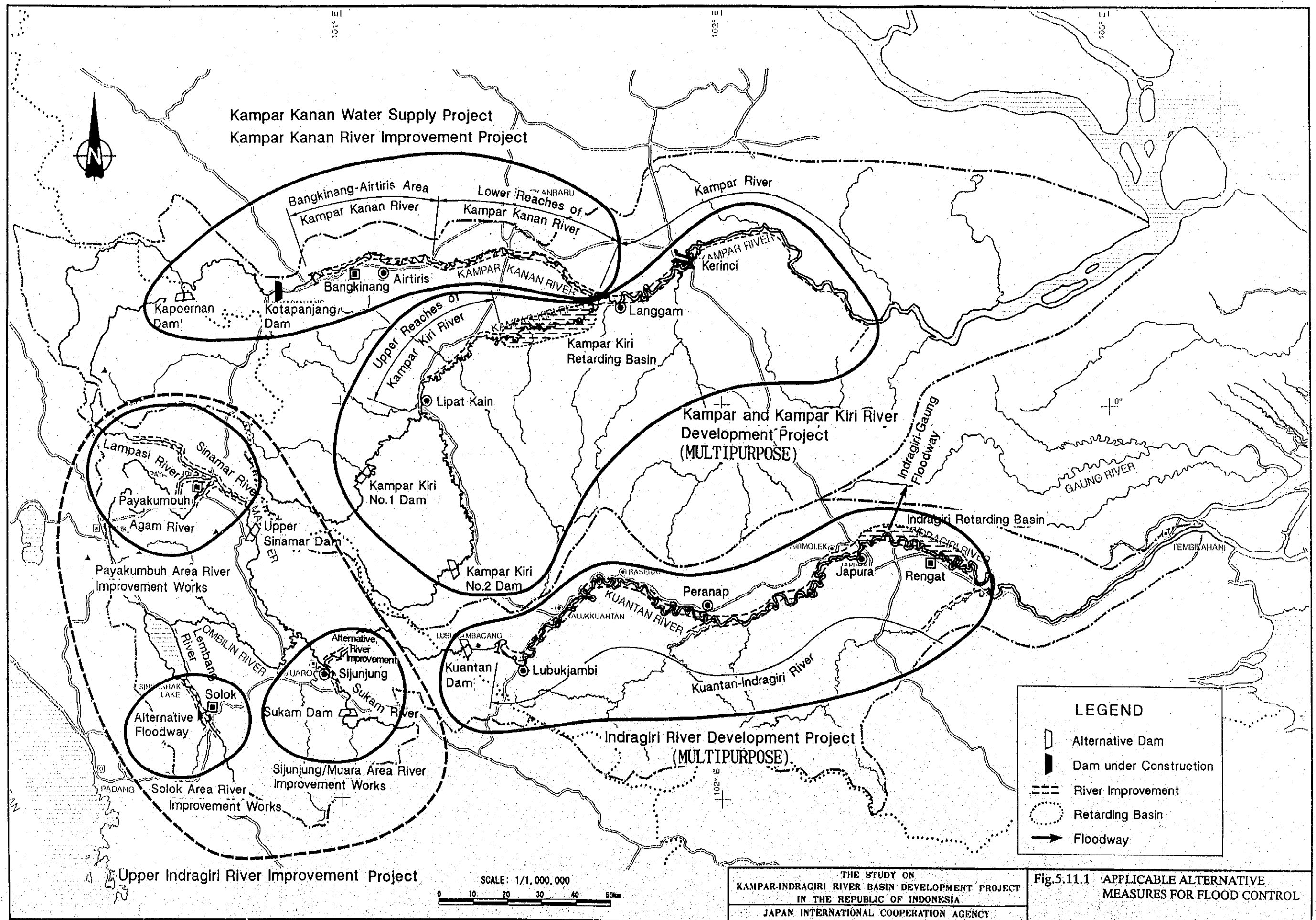
DOWNSTREAM ELEVATION



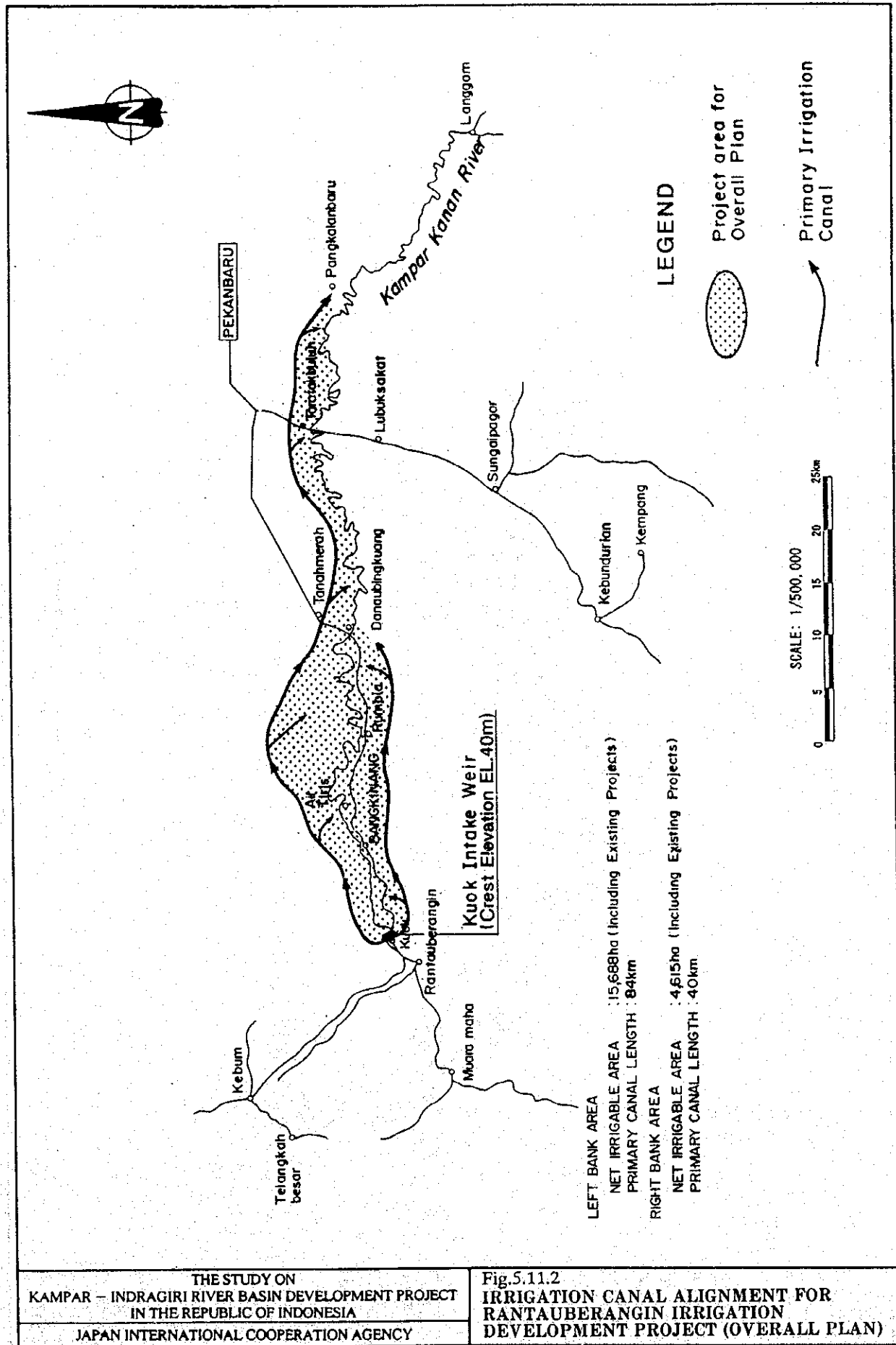
PROFILE OF WATERWAY

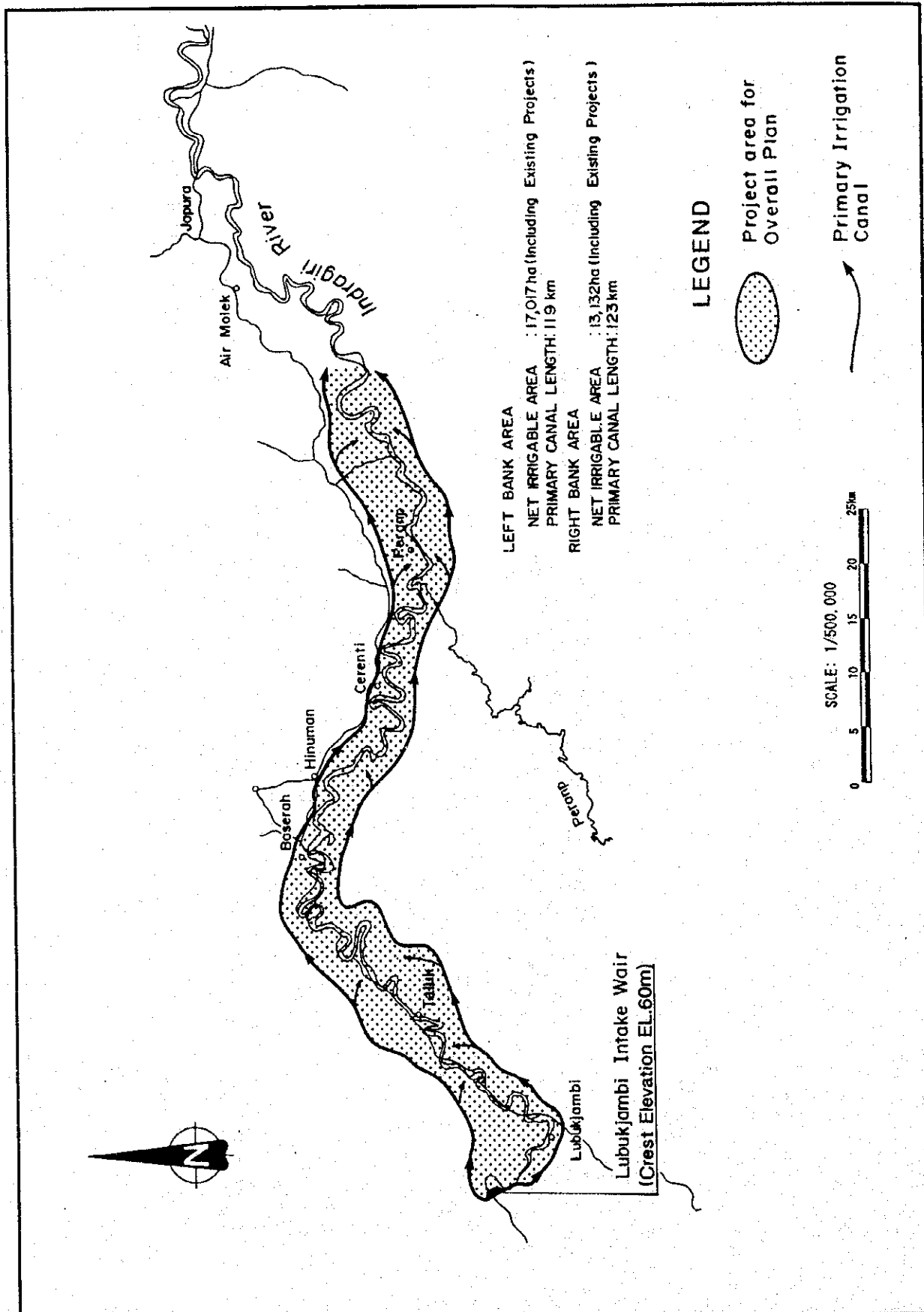
THE STUDY ON  
KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
IN THE REPUBLIC OF INDONESIA  
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig.5.10.2 (6/6) STRUCTURAL LAYOUT PLAN  
OF POSSIBLE DAMS  
(KUANTAN DAM)





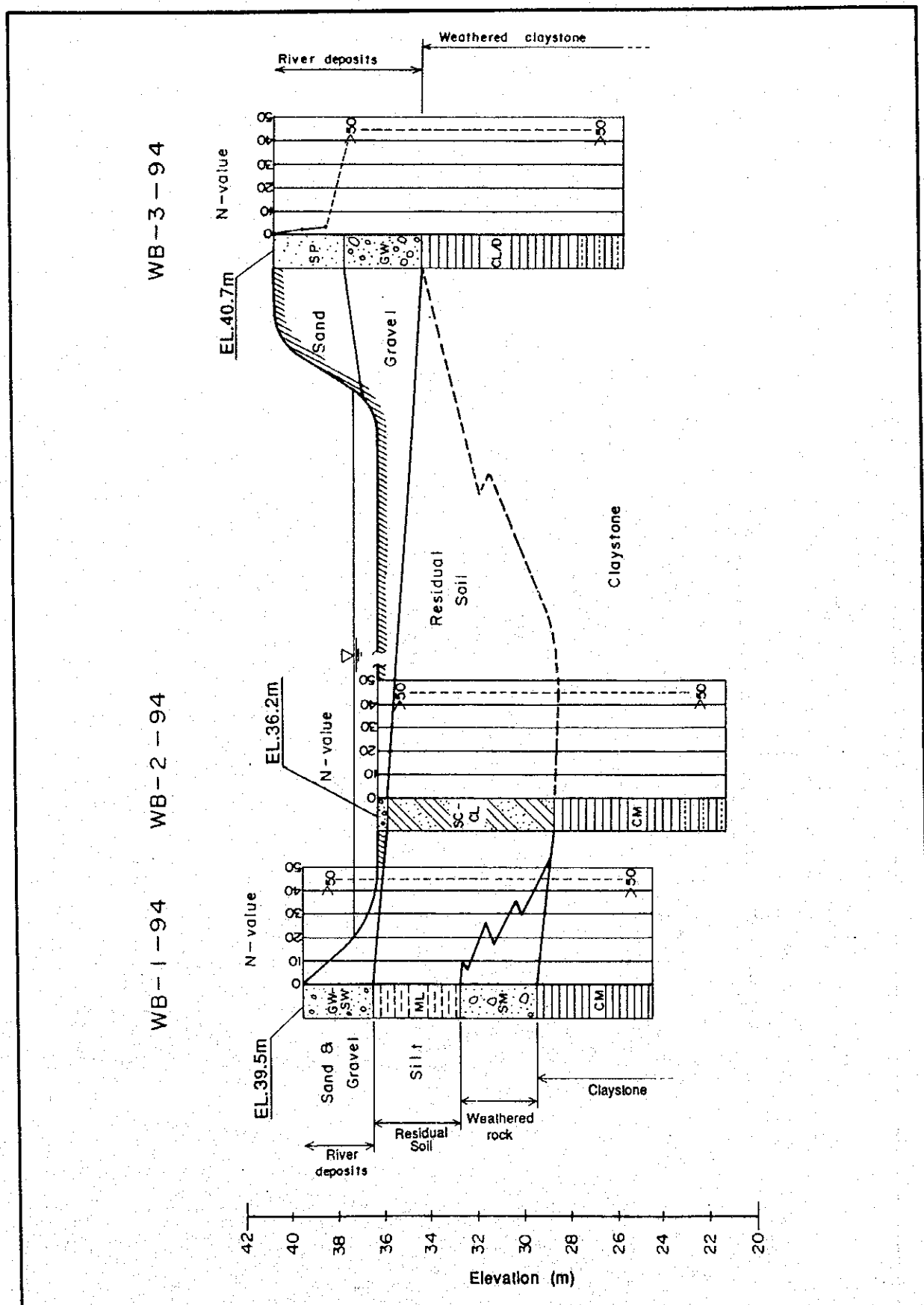




THE STUDY ON  
 KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
 IN THE REPUBLIC OF INDONESIA  
 JAPAN INTERNATIONAL COOPERATION AGENCY

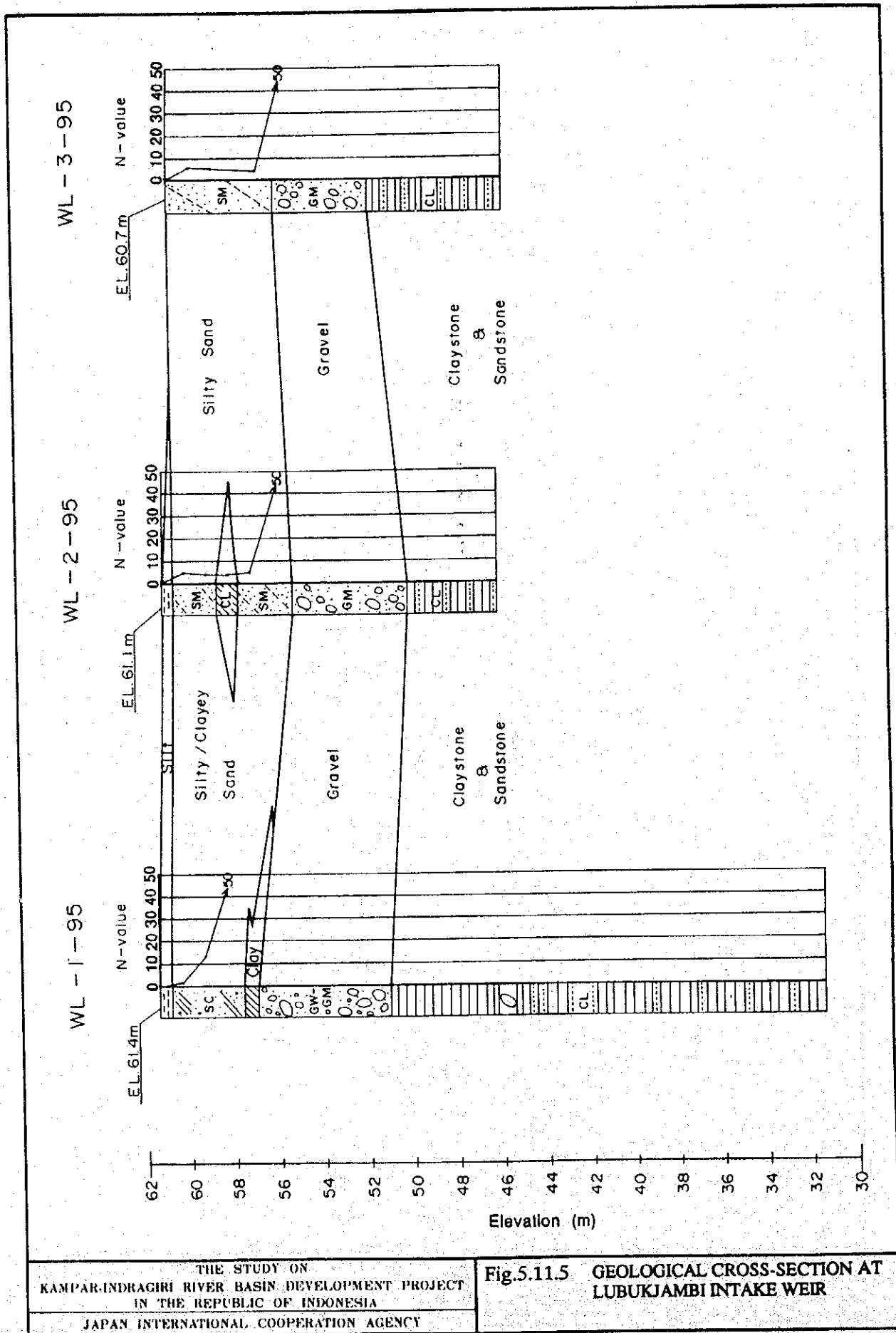
Fig.5.11.3  
 IRRIGATION CANAL ALIGNMENT FOR  
 LUBUKJAMBI IRRIGATION DEVELOPMENT  
 PROJECT (OVERALL PLAN)





THE STUDY ON  
 KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
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Fig.5.11.4 GEOLOGICAL CROSS-SECTION AT KUOK INTAKE WEIR



THE STUDY ON  
 KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
 IN THE REPUBLIC OF INDONESIA  
 JAPAN INTERNATIONAL COOPERATION AGENCY

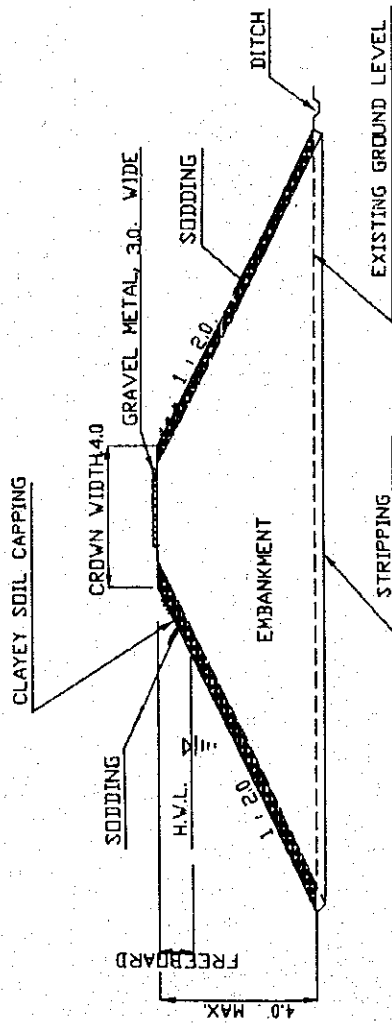
Fig.5.11.5 GEOLOGICAL CROSS-SECTION AT LUBUKJAMBI INTAKE WEIR



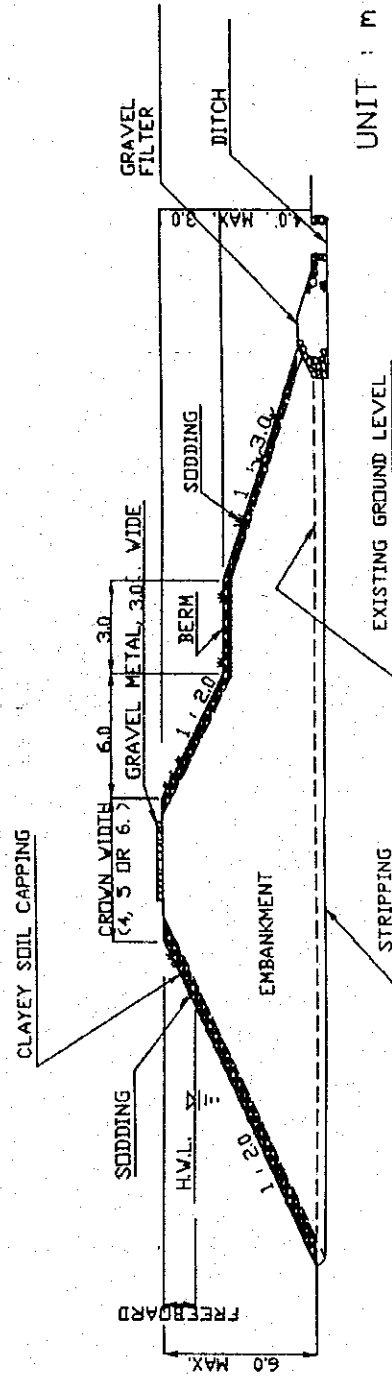




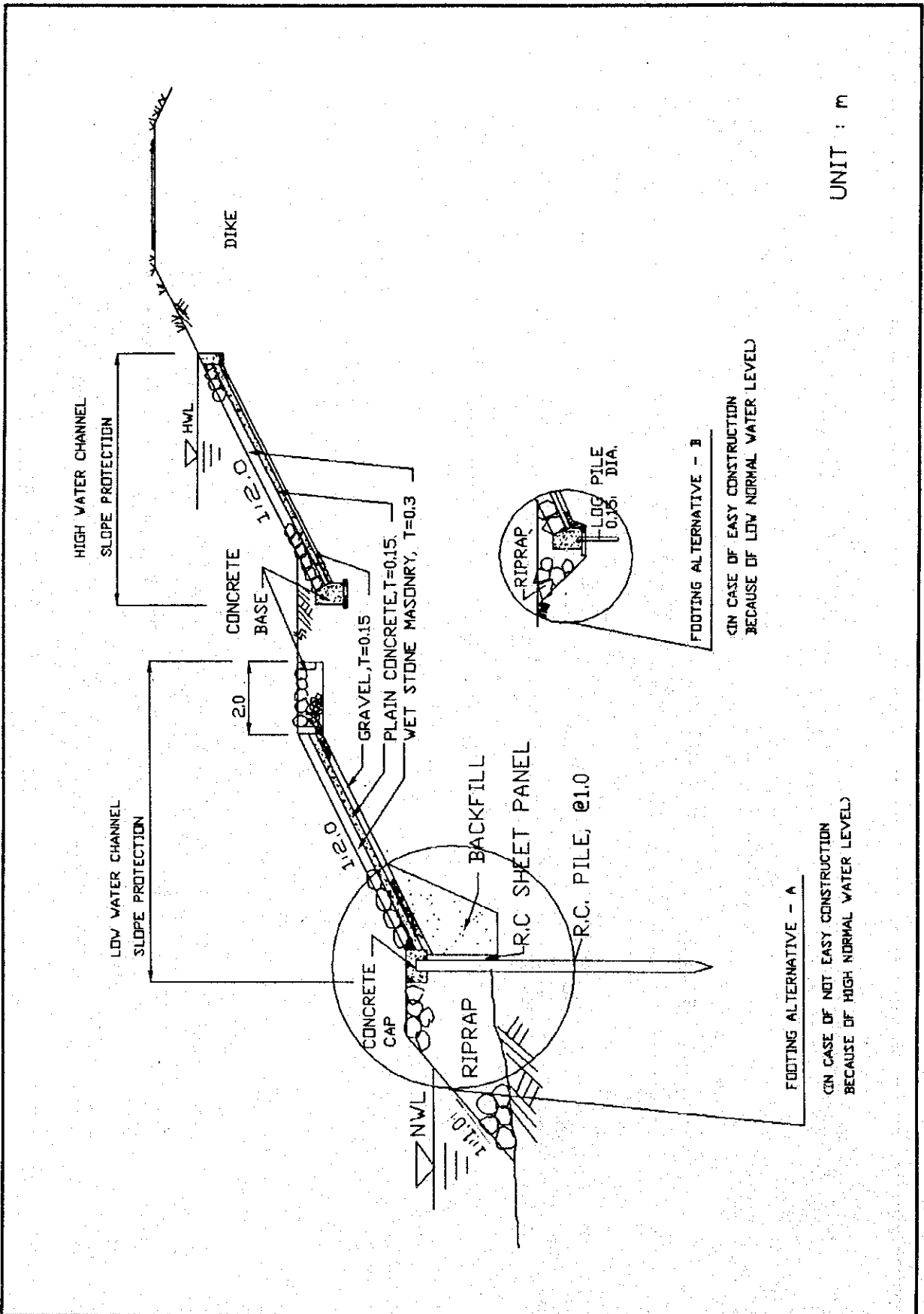
(1) TYPICAL DIKE SECTION FOR RIVERS OF UPPER INDRAGIRI RIVER



(2) TYPICAL DIKE SECTION FOR LOWER/MIDDLE KAMPAR AND INDRAGIRI RIVERS

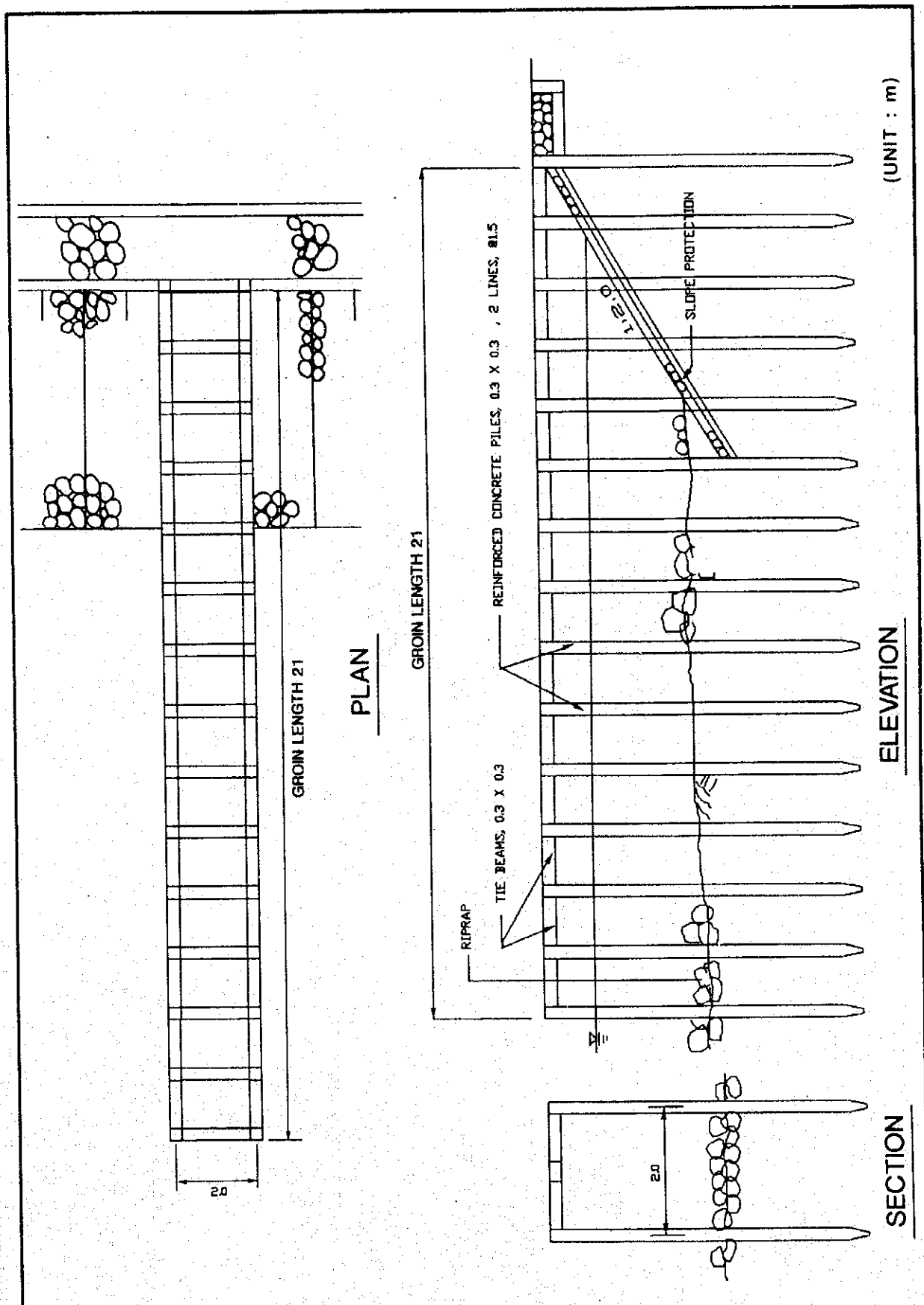


UNIT : m



THE STUDY ON  
 KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
 IN THE REPUBLIC OF INDONESIA  
 JAPAN INTERNATIONAL COOPERATION AGENCY

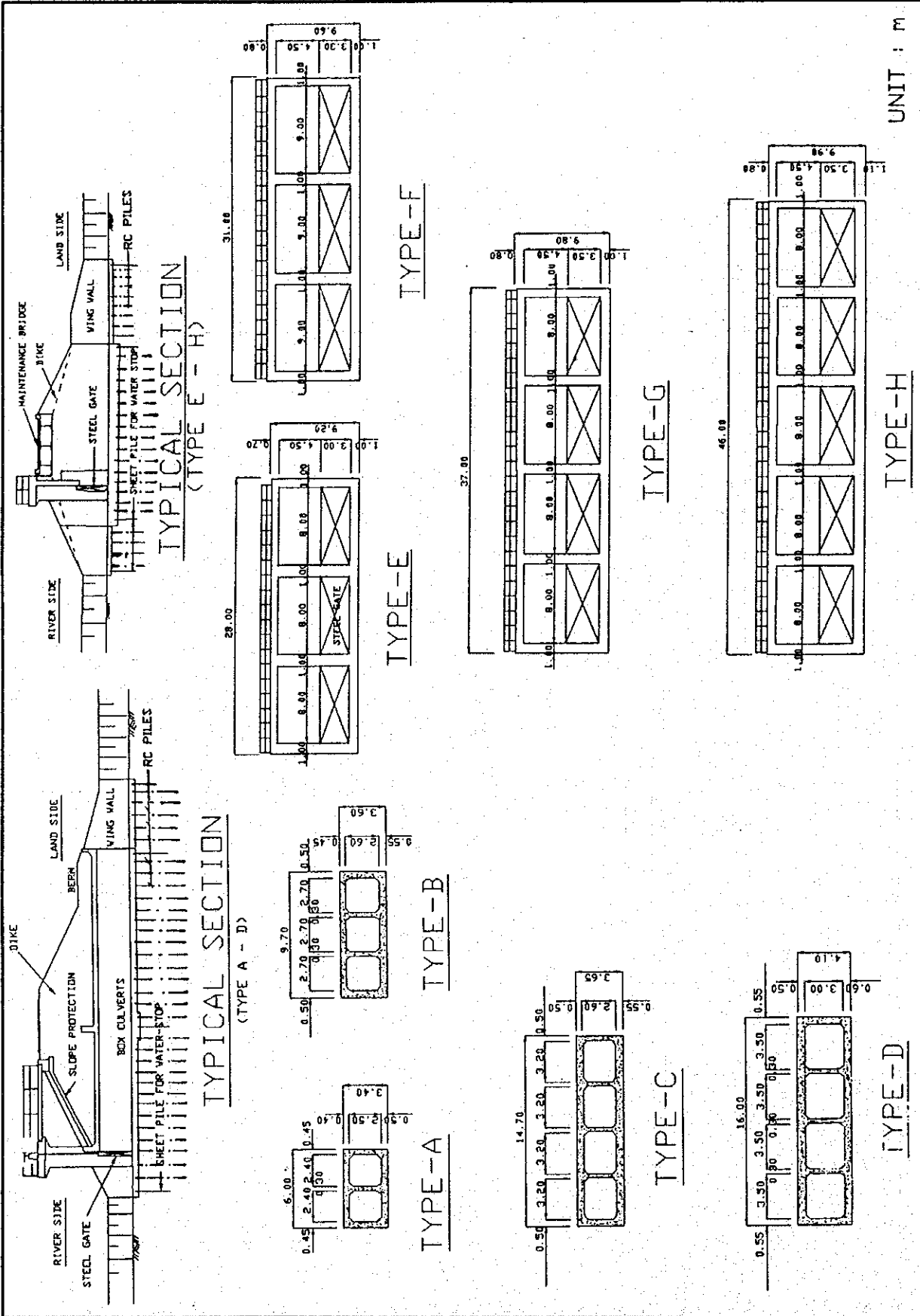
Fig.5.11.8 TYPICAL PROPOSED REVETMENT



THE STUDY ON  
 KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
 IN THE REPUBLIC OF INDONESIA  
 JAPAN INTERNATIONAL COOPERATION AGENCY

Fig.5.11.9 TYPICAL PROPOSED GROIN

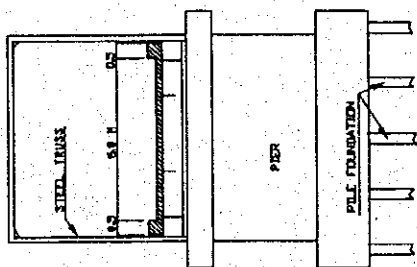




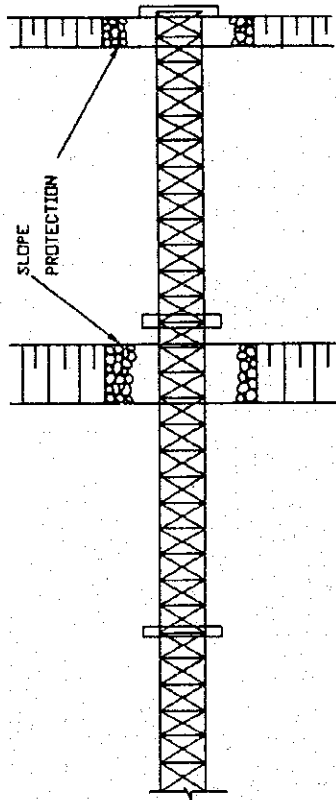
UNIT : M

THE STUDY ON  
 KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
 IN THE REPUBLIC OF INDONESIA  
 JAPAN INTERNATIONAL COOPERATION AGENCY

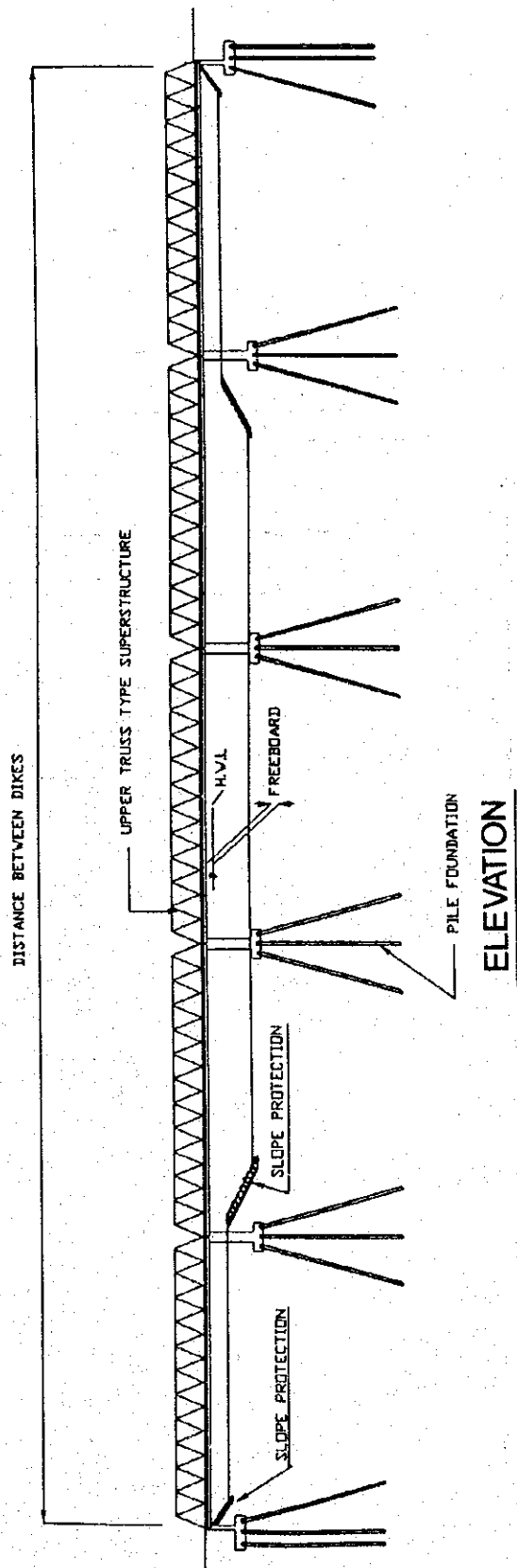
Fig.5.11.10 TYPICAL STRUCTURE OF PROPOSED SLUICES



**SECTION**



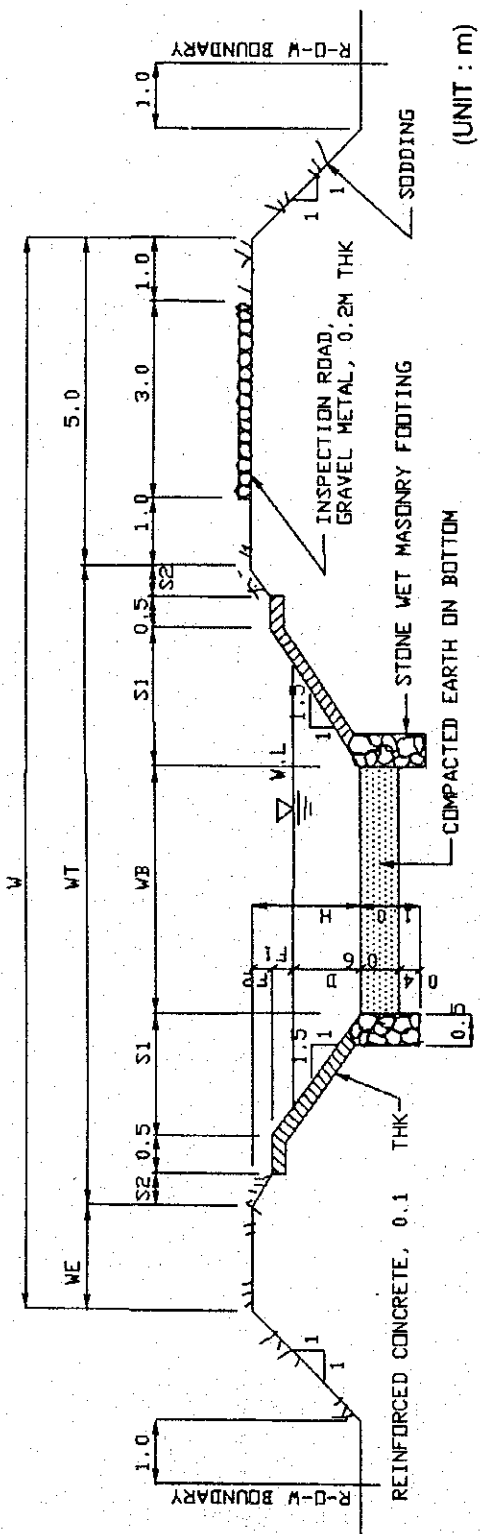
**PLAN**



**ELEVATION**

THE STUDY ON  
 KAMPAR-INDRAGIRI RIVER BASIN DEVELOPMENT PROJECT  
 IN THE REPUBLIC OF INDONESIA  
 JAPAN INTERNATIONAL COOPERATION AGENCY

Fig.5.11.11 TYPICAL STRUCTURE OF PROPOSED STEEL BRIDGE



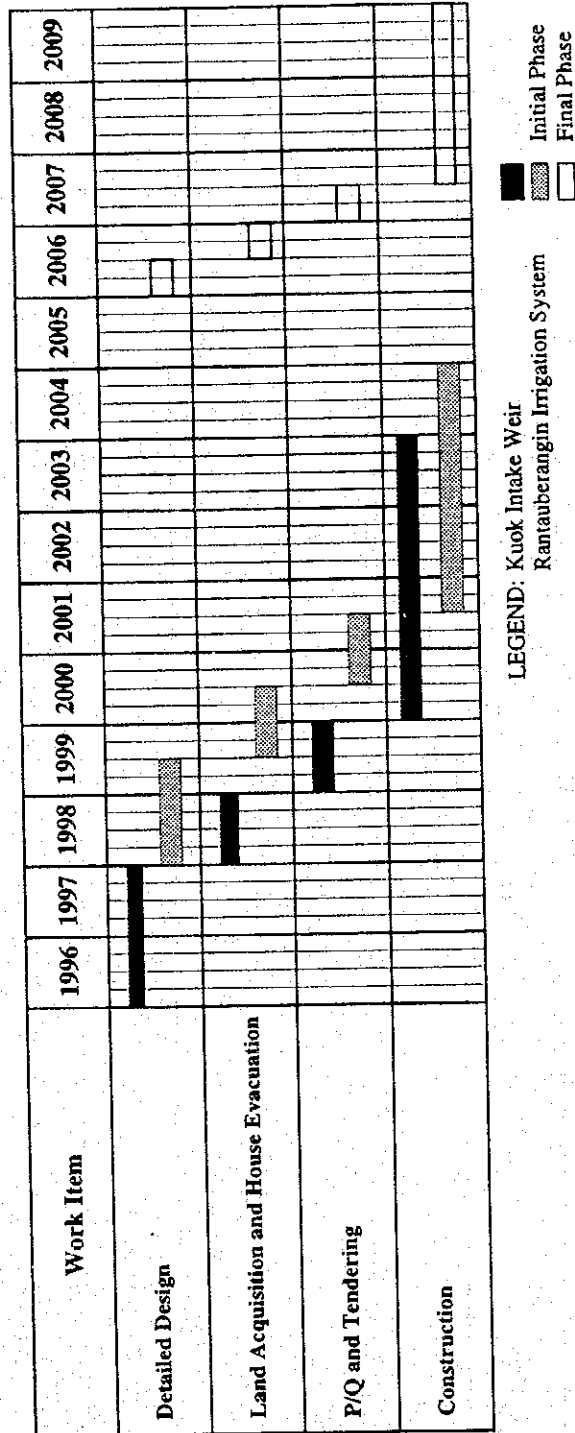
(1) RANTAUERANGIN IRRIGATION DEVELOPMENT PROJECT, KAMPAR RIVER BASIN

AREA	DESIGN DISCHARGE (m <sup>3</sup> /s)	D	F1	F2	H	S1	S2	WB	WT	WE	W
LEFT BANK UPPER REACHES	20.69	1.47	0.50	0.50	2.47	2.96	0.75	11.50	19.91	3.50	28.41
LEFT BANK LOWER REACHES	9.38	1.29	0.30	0.45	2.04	2.39	0.68	6.20	13.32	2.00	20.32
RIGHT BANK	4.80	1.14	0.25	0.35	1.74	2.09	0.53	3.70	9.92	1.50	16.42

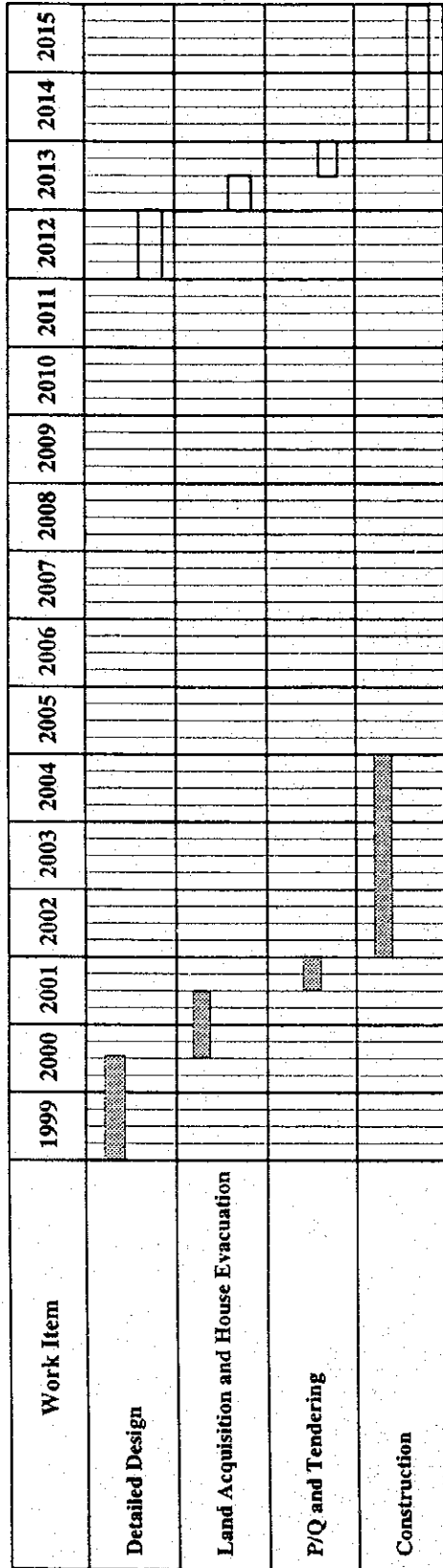
(2) LUBUKJAMBI IRRIGATION DEVELOPMENT PROJECT, INDRAGIRI RIVER BASIN

AREA	DESIGN DISCHARGE (m <sup>3</sup> /s)	D	F1	F2	H	S1	S2	WB	WT	WE	W
LEFT BANK UPPER REACHES	19.31	1.43	0.50	0.50	2.43	2.90	0.75	11.20	19.49	3.50	27.99
LEFT BANK LOWER REACHES	11.46	1.29	0.40	0.45	2.14	2.54	0.68	7.50	14.92	3.50	23.42
RIGHT BANK	17.62	1.38	0.50	0.50	2.38	2.82	0.75	10.80	18.94	3.50	27.44

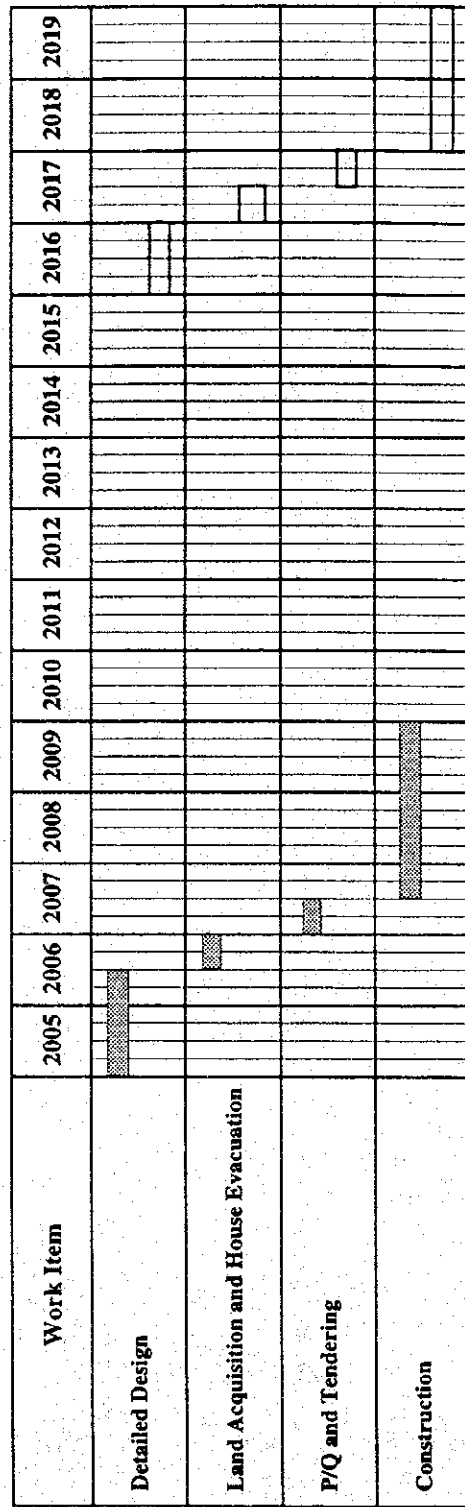
**KUOK INTAKE WEIR / RANTAUBERANGIN IRRIGATION SYSTEM CONSTRUCTION WORKS**



**BANGKINANG AREA RIVER IMPROVEMENT WORKS**



**LOWER KAMPAR KANAN RIVER IMPROVEMENT WORKS**



LEGEND :  Initial Phase  
 Final Phase

**Fig.5.12.2 IMPLEMENTATION SCHEDULE OF  
 KAMPAR KANAN RIVER  
 IMPROVEMENT PROJECT**

KAMPAR KIRI NO. 2 DAM CONSTRUCTION WORKS

Work Item	2010	2011	2012	2013	2014	2015
Detailed Design	█					
Land Acquisition and House Evacuation		█				
P/Q and Tendering			█			
Construction					█	

KAMPAR KIRI NO. 1 DAM CONSTRUCTION WORKS

Work Item	2004	2005	2006	2007	2008	2009
Detailed Design	█					
Land Acquisition and House Evacuation		█				
P/Q and Tendering			█			
Construction					█	

KAMPAR RIVER IMPROVEMENT WORKS

Work Item	2014	2015	2016	2017	2018	2019
Detailed Design	█					
Land Acquisition and House Evacuation		█				
P/Q and Tendering			█			
Construction					█	

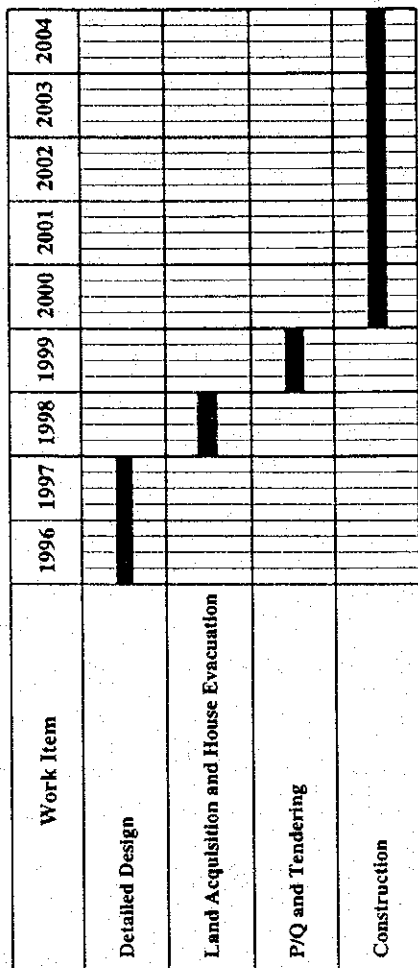
KAMPAR KIRI RIVER IMPROVEMENT WORKS

Work Item	2010	2011	2012	2013	2014
Detailed Design	█				
Land Acquisition and House Evacuation		█			
P/Q and Tendering			█		
Construction					█

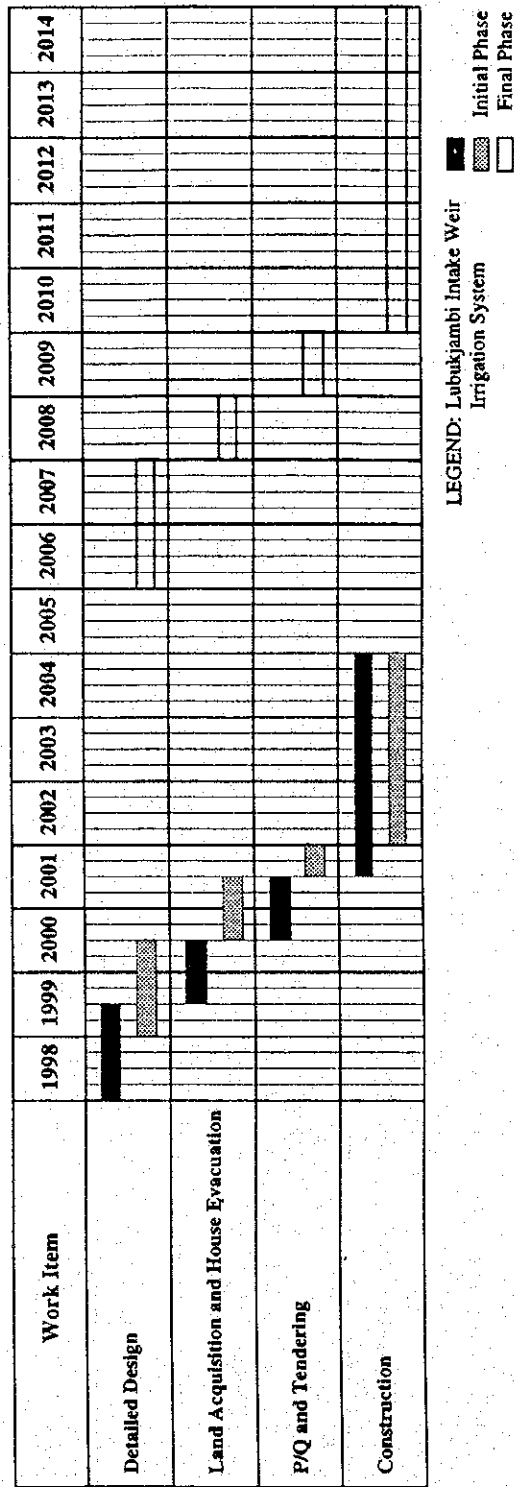
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Fig.5.12.3 IMPLEMENTATION SCHEDULE OF  
KAMPAR AND KAMPAR KIRI RIVER  
DEVELOPMENT PROJECT

KUANTAN DAM CONSTRUCTION WORKS



LUBUKJAMBI INTAKE WEIR / IRRIGATION SYSTEM CONSTRUCTION WORKS



LEGEND: Lubukjambi Intake Weir  
 Irrigation System  
 ■ Initial Phase  
 ▨ Final Phase

Fig.5.12.4 IMPLEMENTATION SCHEDULE OF  
 KUANTAN RIVER MULTIPURPOSE  
 DEVELOPMENT PROJECT

LUBUKJAMBI - PERANAP AREA RIVER IMPROVEMENT WORKS

Work Item	2010	2011	2012	2013	2014
Detailed Design	■				
Land Acquisition and House Evacuation		■			
P/Q and Tendering			■		
Construction				■	■

PERANAP - JAPURA AREA RIVER IMPROVEMENT WORKS

Work Item	2005	2006	2007	2008	2009
Detailed Design	■				
Land Acquisition and House Evacuation		■			
P/Q and Tendering			■		
Construction				■	■

RENGAT AREA FLOOD PROTECTION WORKS

Work Item	1996	1997	1998	1999	2000	2015	2016	2017	2018	2019
Detailed Design	■					□	□			
Land Acquisition and House Evacuation		■					□			
P/Q and Tendering			■				□			
Construction			■	■	■			□	□	□

LEGEND: Initial Phase ■ Final Phase □



**PAYAKUMBUH AREA RIVER IMPROVEMENT WORKS**

Work Item	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Detailed Design	Initial Phase												Final Phase			
Land Acquisition and House Evacuation		Initial Phase												Final Phase		
P/Q and Tendering			Initial Phase												Final Phase	
Construction			Initial Phase	Initial Phase	Initial Phase										Final Phase	Final Phase

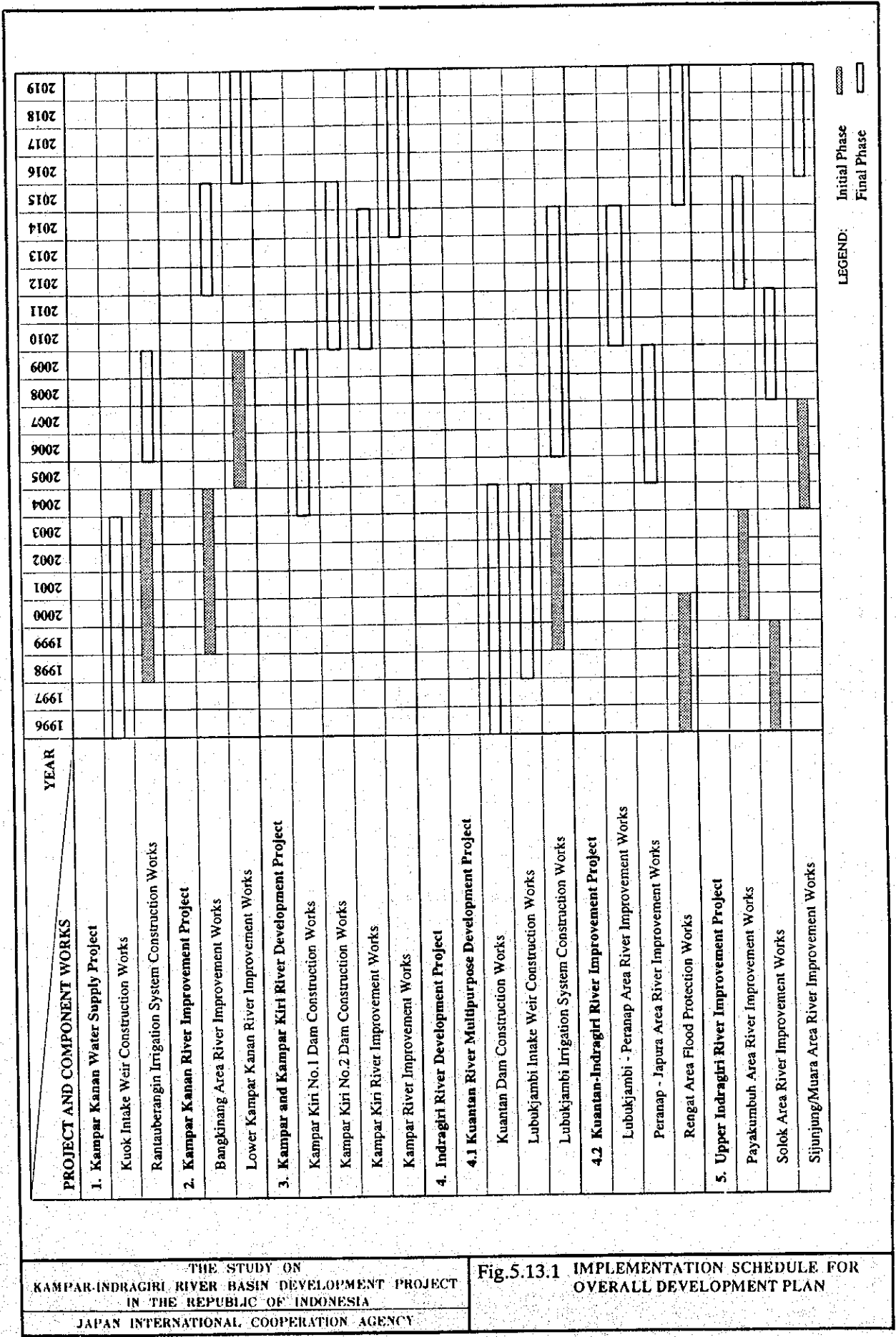
**SOLOK AREA RIVER IMPROVEMENT WORKS**

Work Item	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Detailed Design	Initial Phase												Final Phase			
Land Acquisition and House Evacuation		Initial Phase												Final Phase		
P/Q and Tendering			Initial Phase												Final Phase	
Construction			Initial Phase	Initial Phase	Initial Phase										Final Phase	Final Phase

**SIJUNJUNG/MUARA AREA RIVER IMPROVEMENT WORKS**

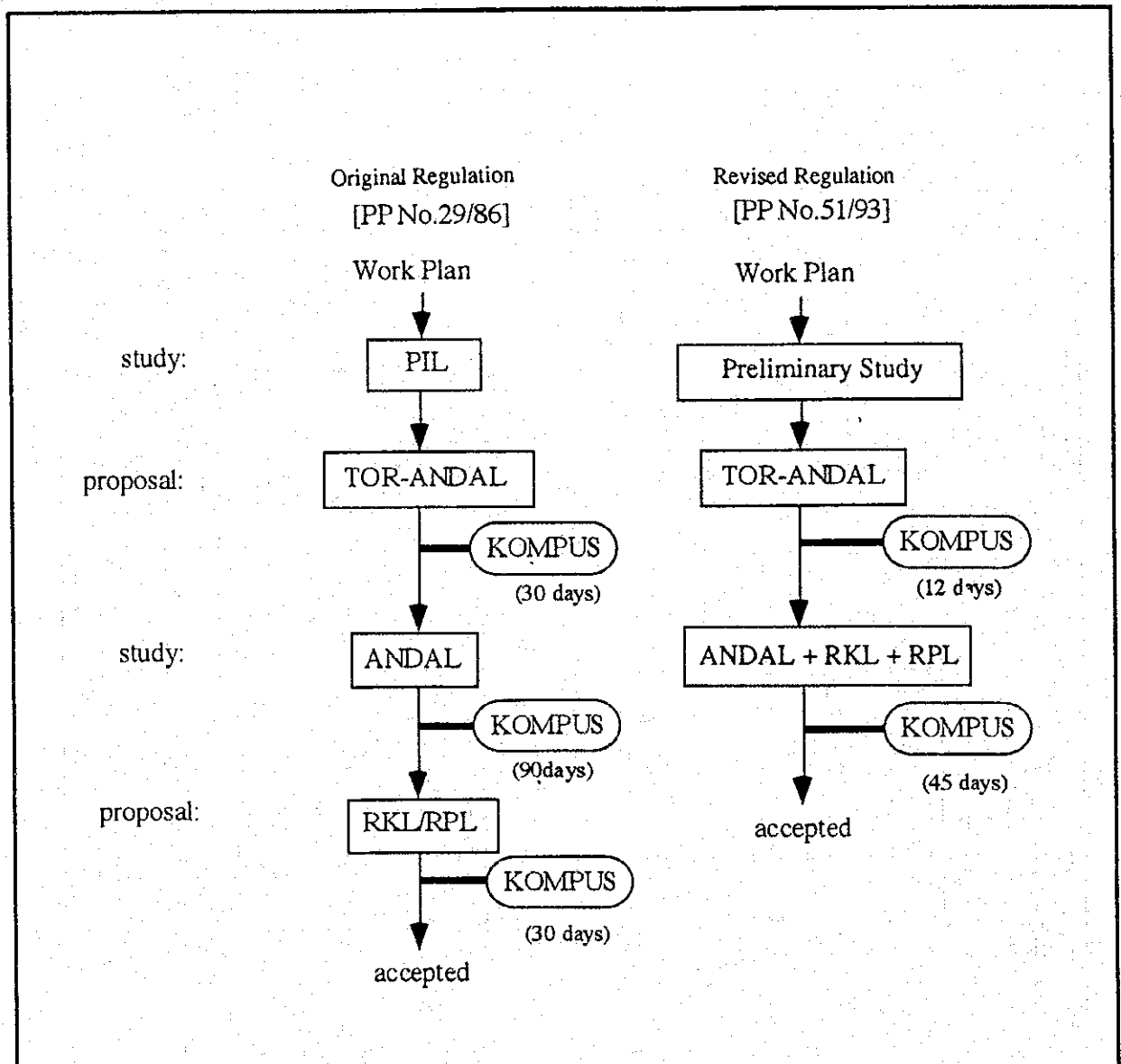
Work Item	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Detailed Design	Initial Phase												Final Phase			
Land Acquisition and House Evacuation		Initial Phase												Final Phase		
P/Q and Tendering			Initial Phase												Final Phase	
Construction			Initial Phase	Initial Phase	Initial Phase										Final Phase	Final Phase

LEGEND: Initial Phase   
 Final Phase 

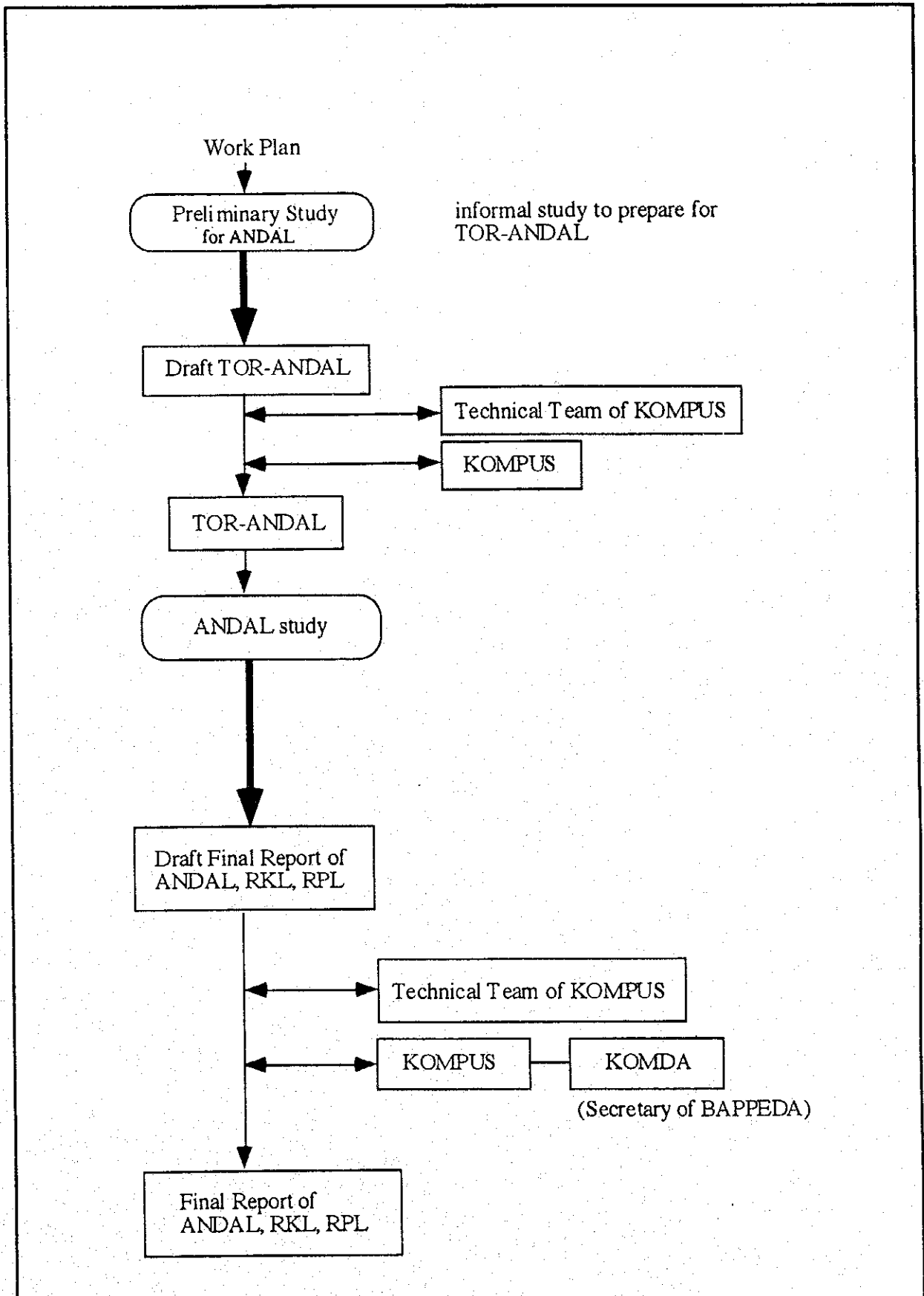


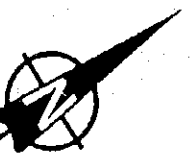
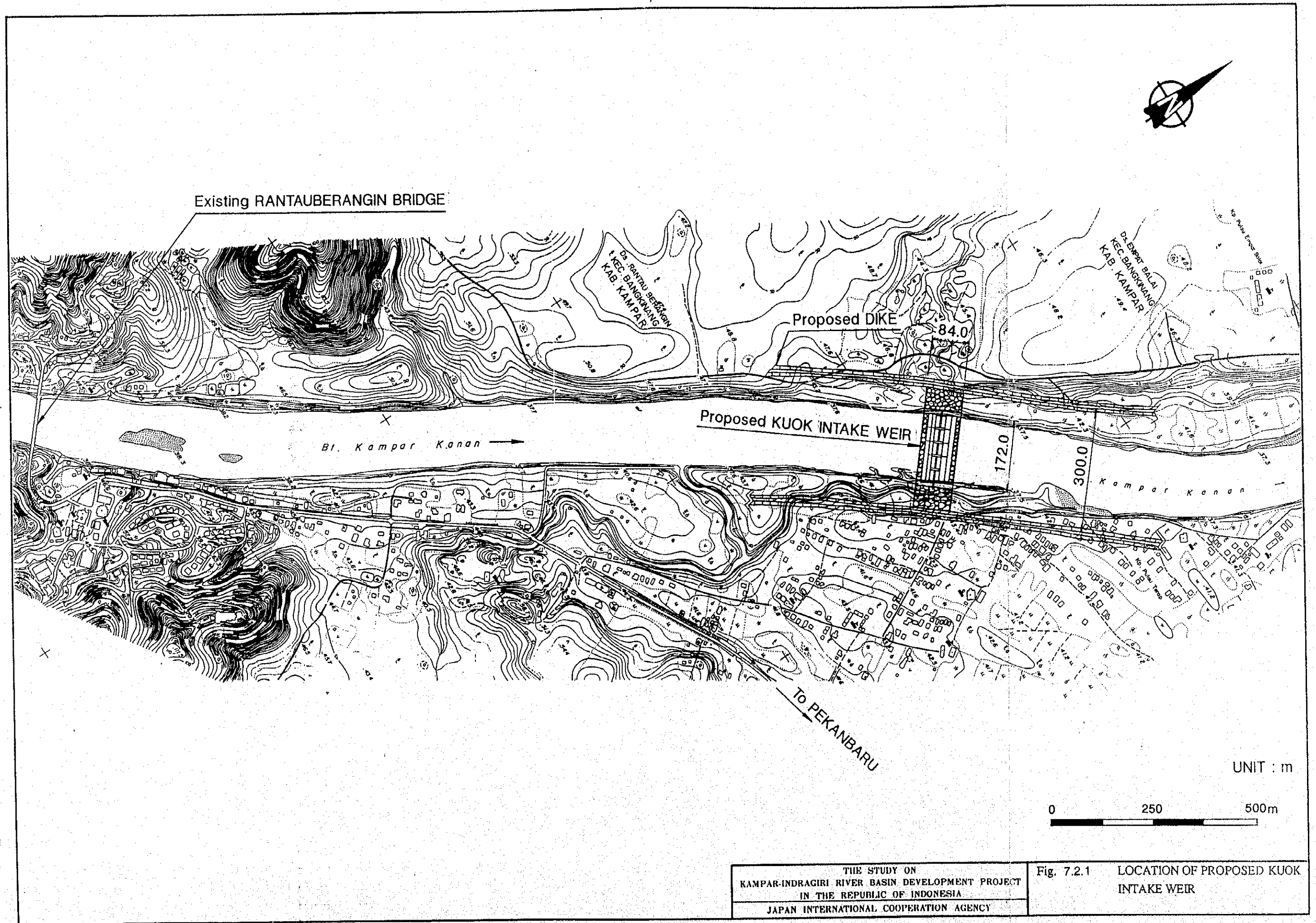
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Fig.5.13.1 IMPLEMENTATION SCHEDULE FOR OVERALL DEVELOPMENT PLAN

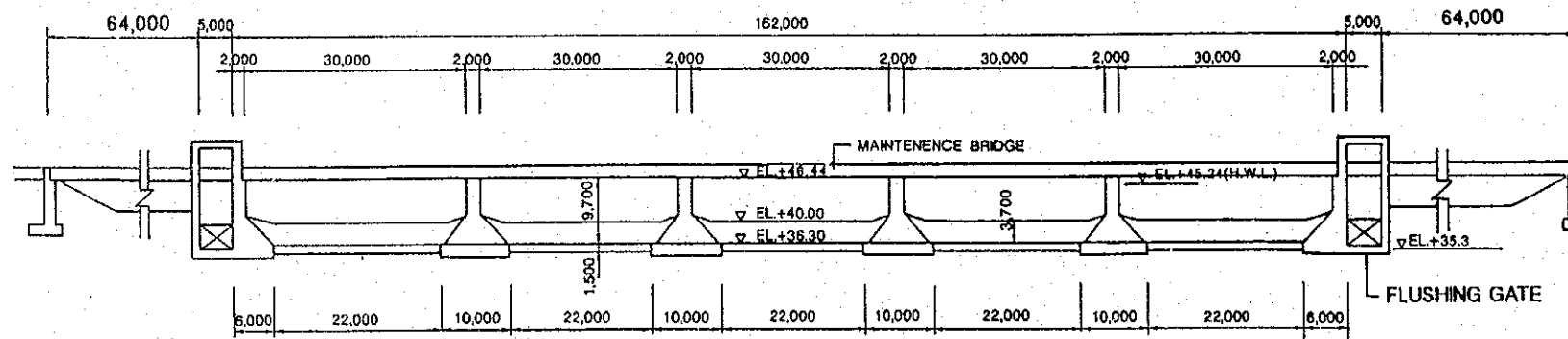


- Note)
- \*PIL : Initial environmental information
  - \*ANDAL : Environmental impact analysis
  - \*KOMPUS : Central committee of EIA
  - \*TOR-ANDAL: Terms of reference- Environmental impact analysis
  - \*RKL : Environmental management plan
  - \*RPL : Environmental monitoring plan
  - \*AMDAL : Environmental impact assessment
  - \*UU : a law
  - \*PP : Government ordinance, government regulation
  - EIA : Environmental Impact Assessment

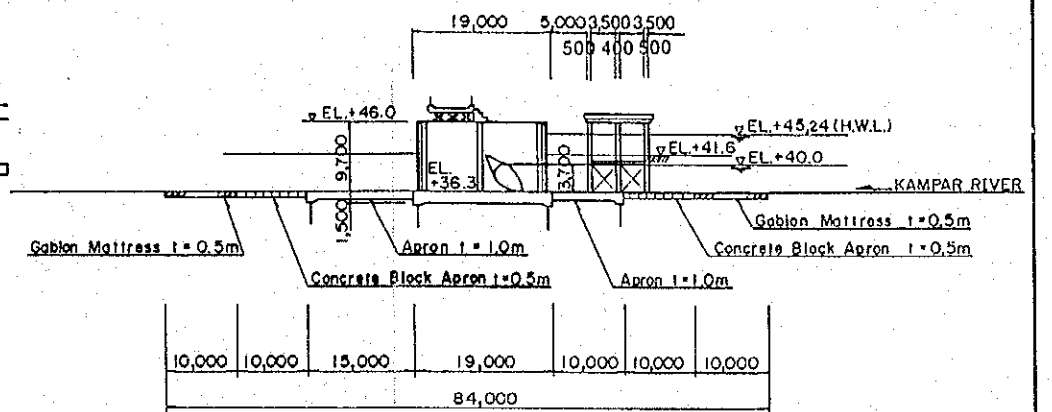




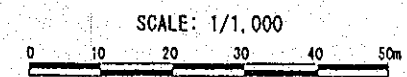
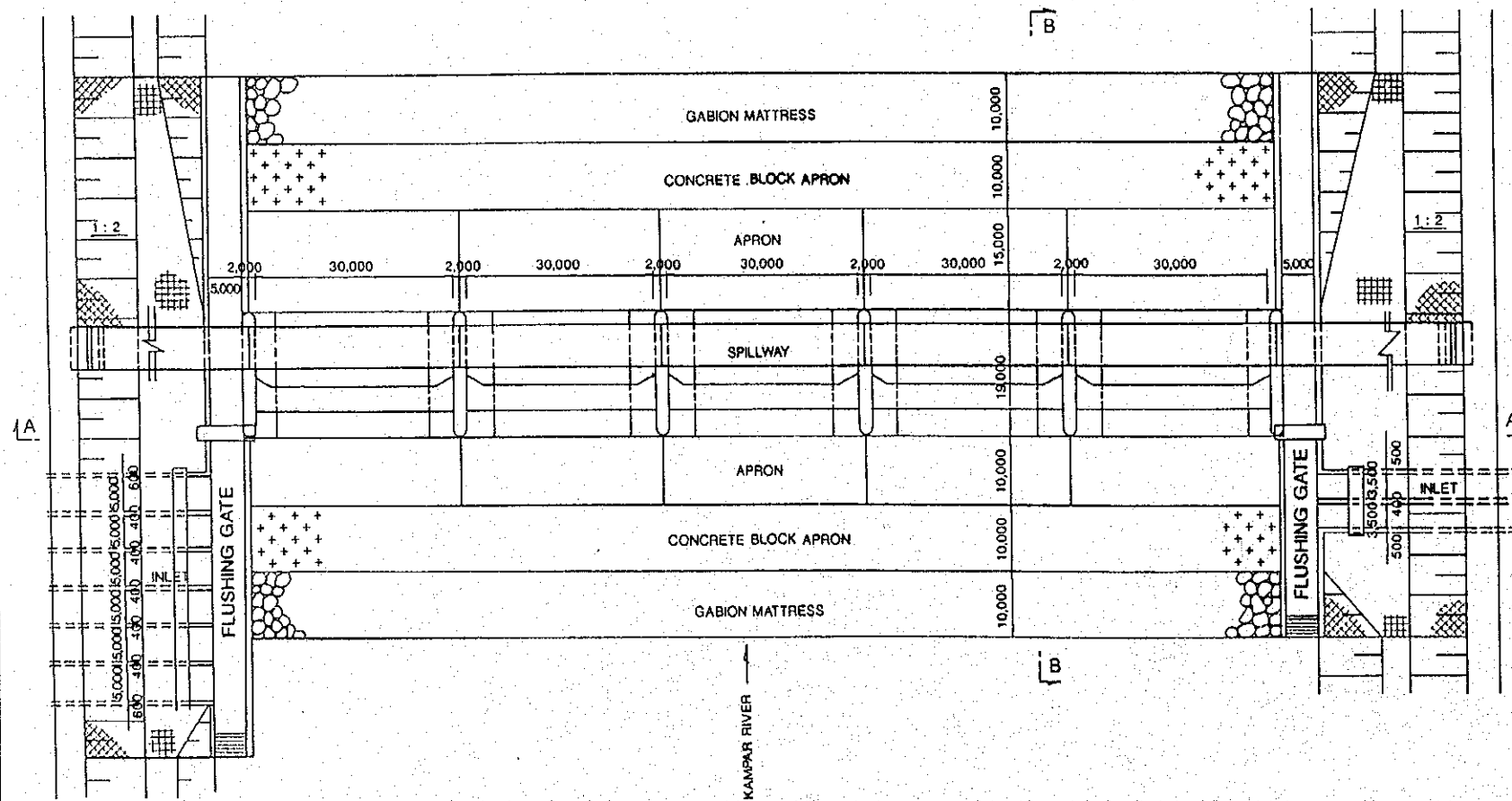
SECTION A - A



SECTION B - B



PLAN

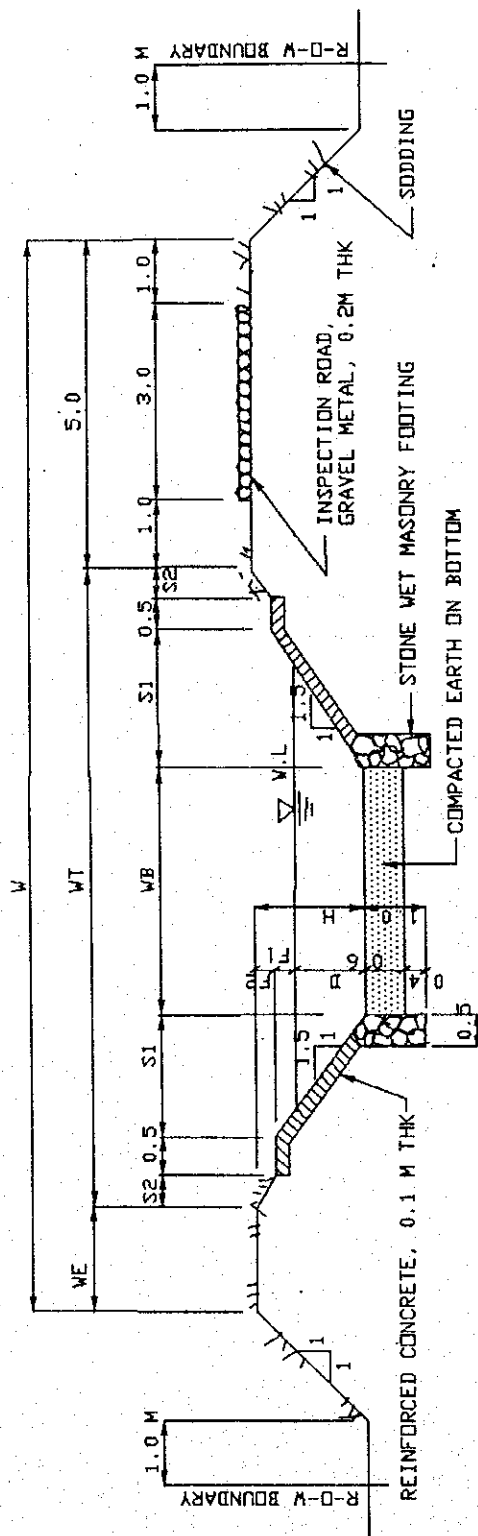


(UNIT : m)

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Fig. 7.2.2 PROPOSED KUOK INTAKE WEIR STRUCTURES





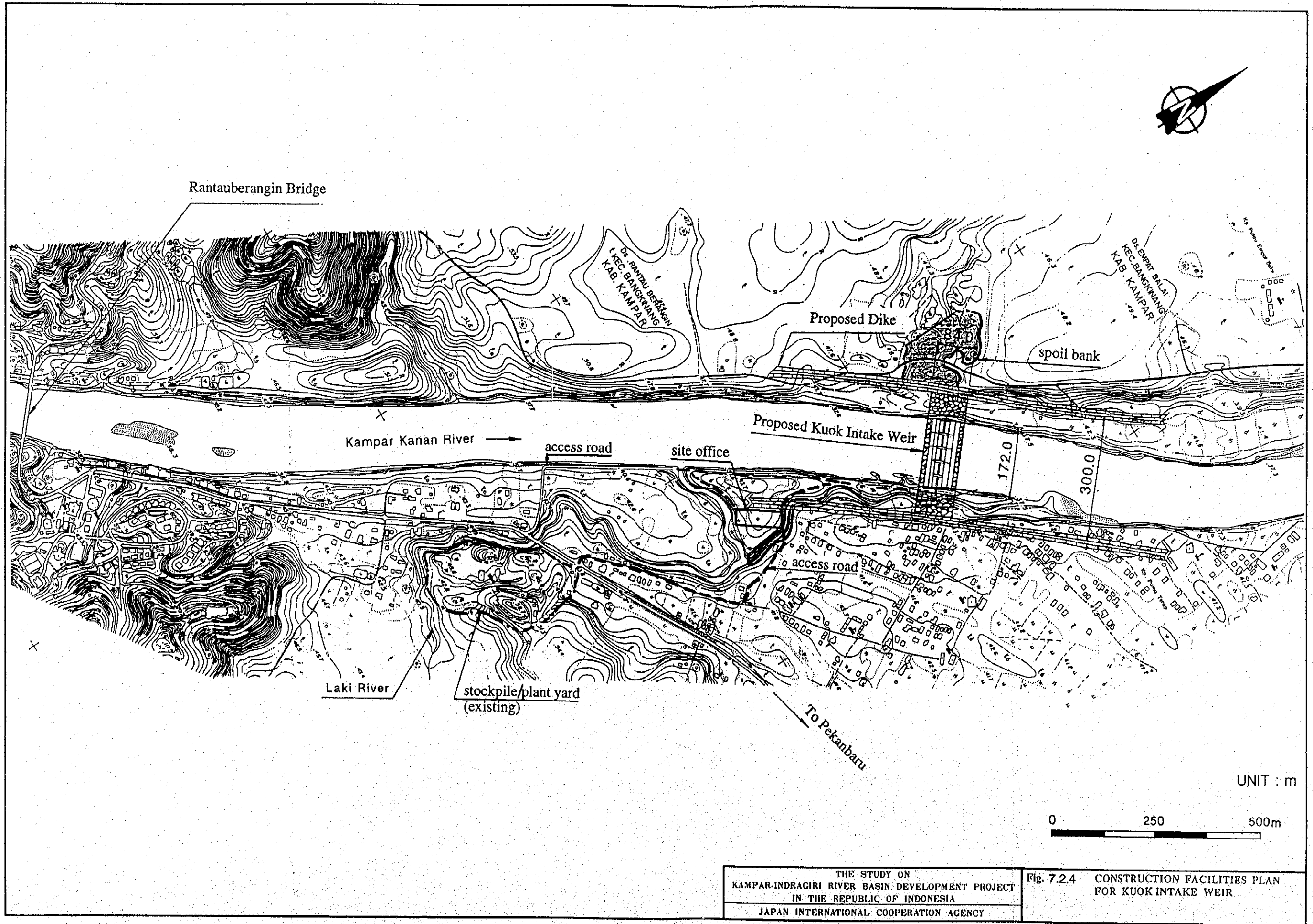
(1) RANTAUBERANGIN IRRIGATION DEVELOPMENT PROJECT, KAMPAR RIVER BASIN

AREA	DESIGN DISCHARGE (m <sup>3</sup> /s)	D	F1	F2	H	S1	S2	WB	WT	WE	W
LEFT BANK UPPER REACHES	11.31	1.47	0.50	0.50	2.47	2.96	0.75	5.40	19.81	3.50	22.31
RIGHT BANK	4.80	1.14	0.25	0.35	1.74	2.09	0.53	3.70	9.92	1.50	16.42

(2) LUBUKJAMBI IRRIGATION DEVELOPMENT PROJECT, INDRAGIRI RIVER BASIN

AREA	DESIGN DISCHARGE (m <sup>3</sup> /s)	D	F1	F2	H	S1	S2	WB	WT	WE	W
LEFT BANK UPPER REACHES	7.85	1.43	0.50	0.50	2.43	2.90	0.75	3.60	11.89	2.00	18.87





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Fig. 7.2.4 CONSTRUCTION FACILITIES PLAN FOR KUOK INTAKE WEIR



### KUOK INTAKE WEIR

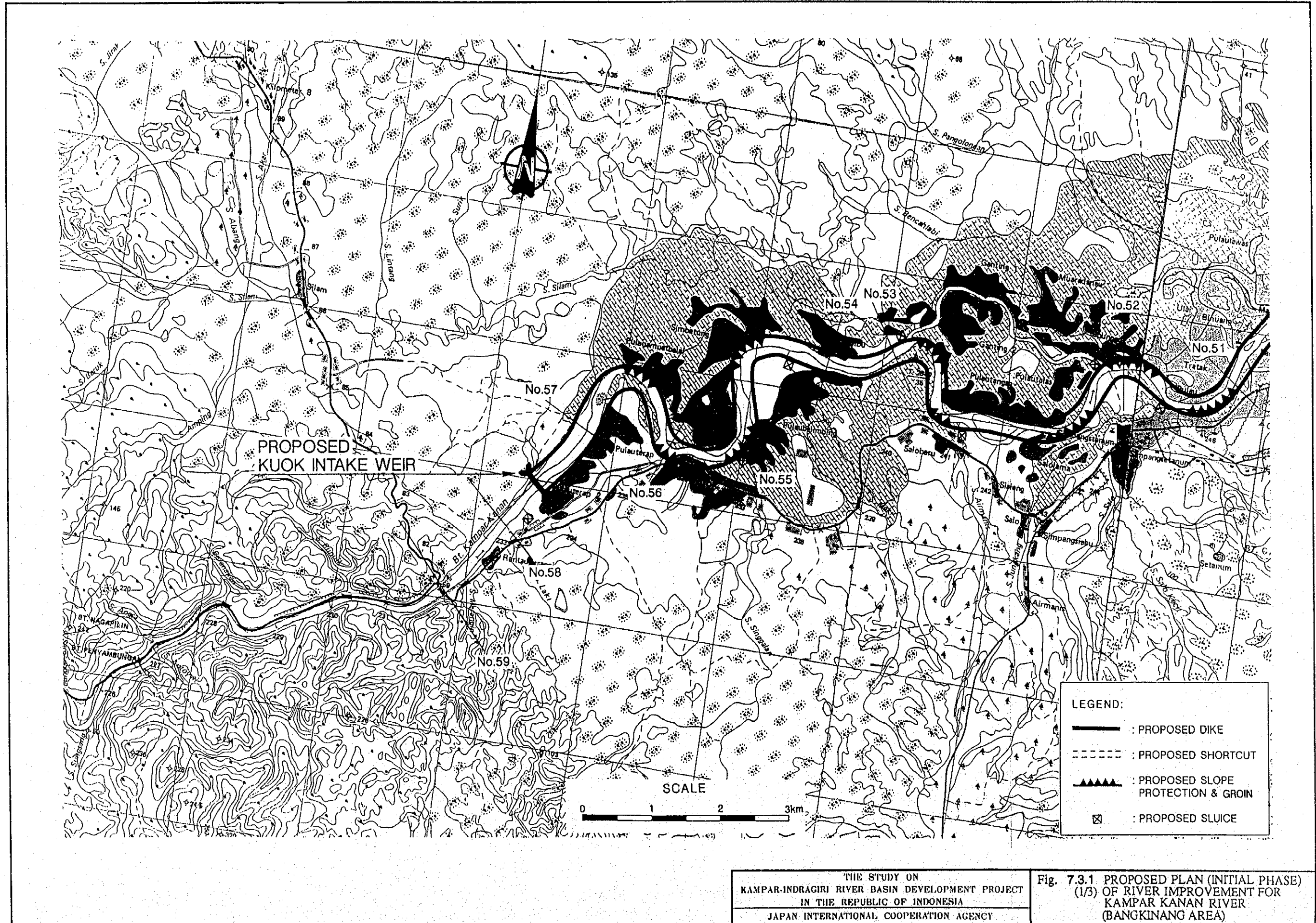
Work Item	Quantity	2000	2001	2002	2003
1. Preparatory Works	1 l.s.	—			
2. Head Works					
- Temporary Cofferdam	1 l.s.	—	—		
- Excavation	13,400 cu m	—	—	—	
- Backfill	3,300 cu m		—		—
- Embankment	12,300 cu m		—		—
- Weir					
Foundation Works	1 l.s.	—		—	
Concrete	7,750 cu m		—	—	
Apron	7,000 sq m		—	—	
Riverbed Protection	5,600 sq m		—	—	
Gate	481 sq m		—	—	
Revetment	1,460 sq m		—	—	
- Intake					
Foundation Works	1 l.s.		—	—	
Concrete	1,920 cu m		—	—	
Gate	137 sq m		—	—	
- Flushing Gate					
Foundation Works	1 l.s.		—	—	
Concrete	630 cu m		—	—	
Gate	47 sq m		—	—	
- Steel Stop Log	41 ton		—	—	
- Control Bridge	1,895 sq m		—	—	
- Control House	0 sq m				

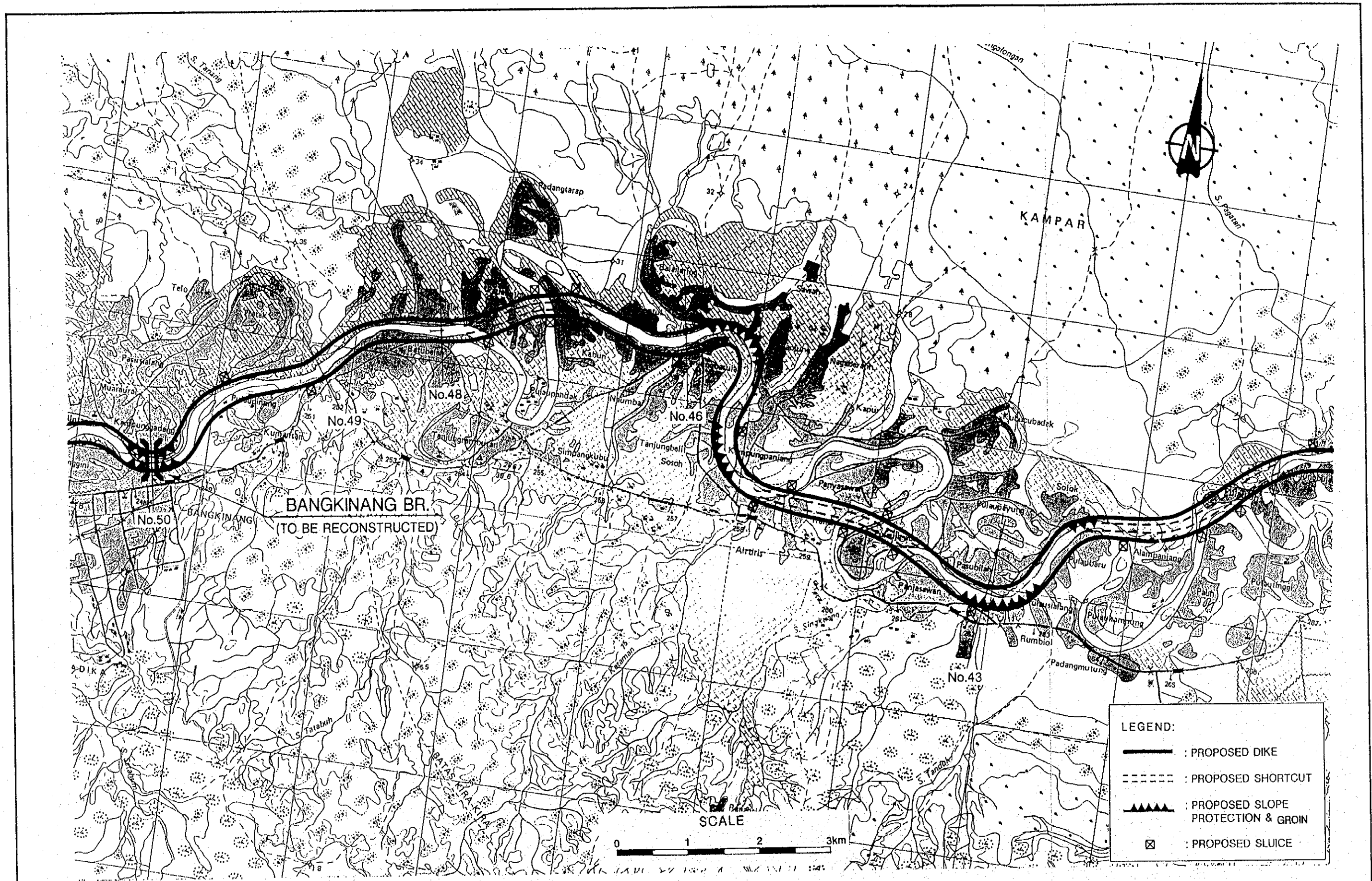
### RANTAUBERANGIN IRRIGATION SYSTEM - INITIAL PHASE

Work Item	Quantity	Initial			
		2001	2002	2003	2004
1. Preparatory Works	1 l.s.				
2. Irrigation Facilities					
a. Head Reach & Main Canal					
- Left Bank (L=44 km)					
Excavation	924,000 cu m				
Embankment	396,000 cu m				
Concrete Lining	36,100 cu m				
Footing	44,000 cu m				
Expansion Joint	82,000 m				
Weep Hole	1,200 units				
Gravel Metaling	26,400 cu m				
Regulation Ponds	1 l.s.				
- Right Bank (L=40 km)					
Excavation	407,000 cu m				
Embankment	210,000 cu m				
Concrete Lining	24,000 cu m				
Footing	44,000 cu m				
Expansion Joint	88,000 m				
Weep Hole	1,600 units				
Gravel Metaling	24,000 cu m				
Regulation Ponds	1 l.s.				
b. Left Bank Irrigation System					
- Existing/Existing *	1,837 ha				
- Existing/Rainfed	553 ha				
- Existing/Undeveloped	2,781 ha				
- New/Undeveloped	4,429 ha				
c. Right Bank Irrigation System					
- Existing/Existing *	1,822 ha				
- Existing/Rainfed	375 ha				
- Existing/Undeveloped	2,141 ha				
- New/Undeveloped	277 ha				

\* No construction work is generated because the existing irrigation facilities are to be utilized for water distribution.



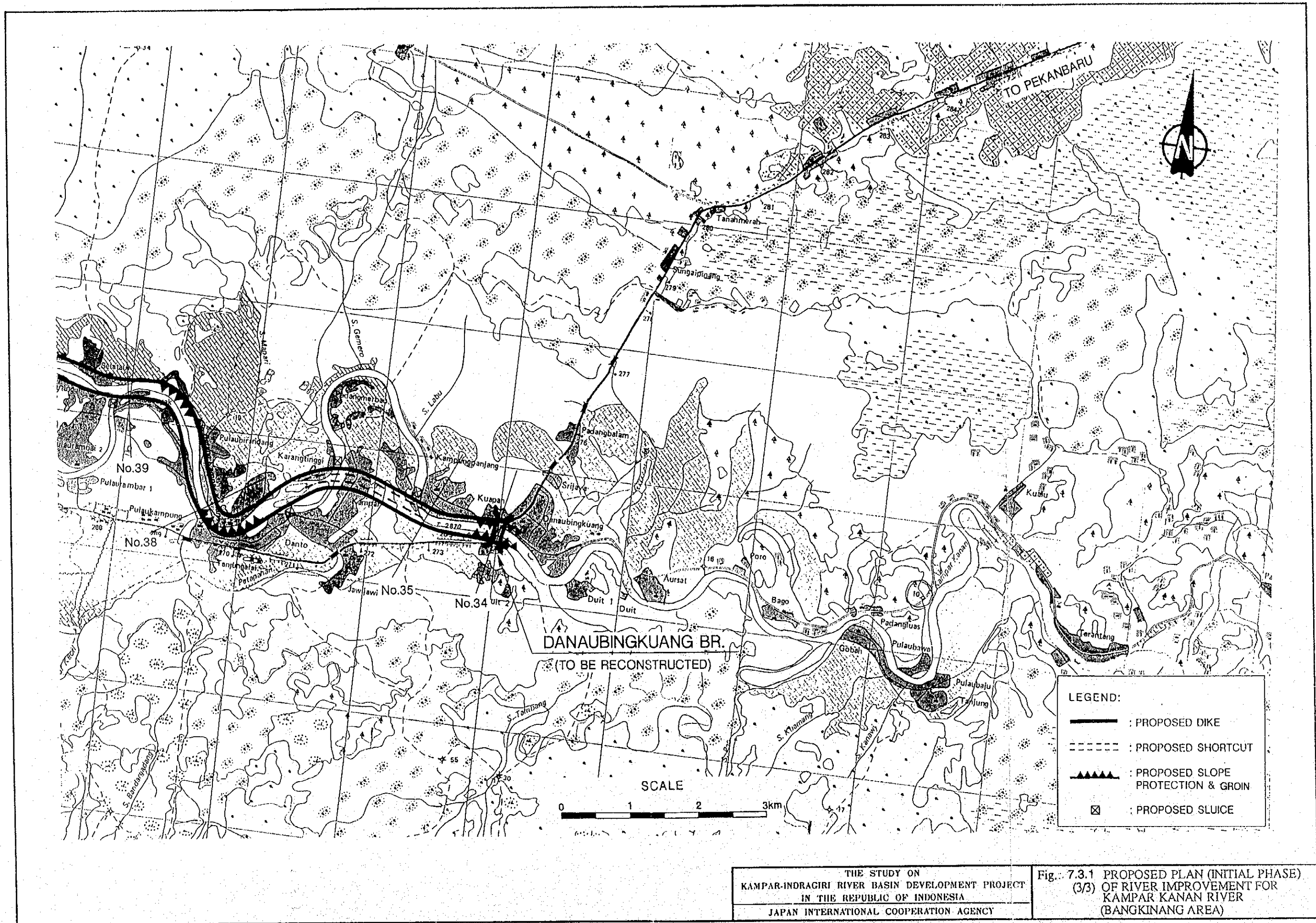




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Fig. 7:3.1. PROPOSED PLAN (INITIAL PHASE)  
 (2/3) OF RIVER IMPROVEMENT FOR  
 KAMPAR KANAN RIVER  
 (BANGKINANG AREA)



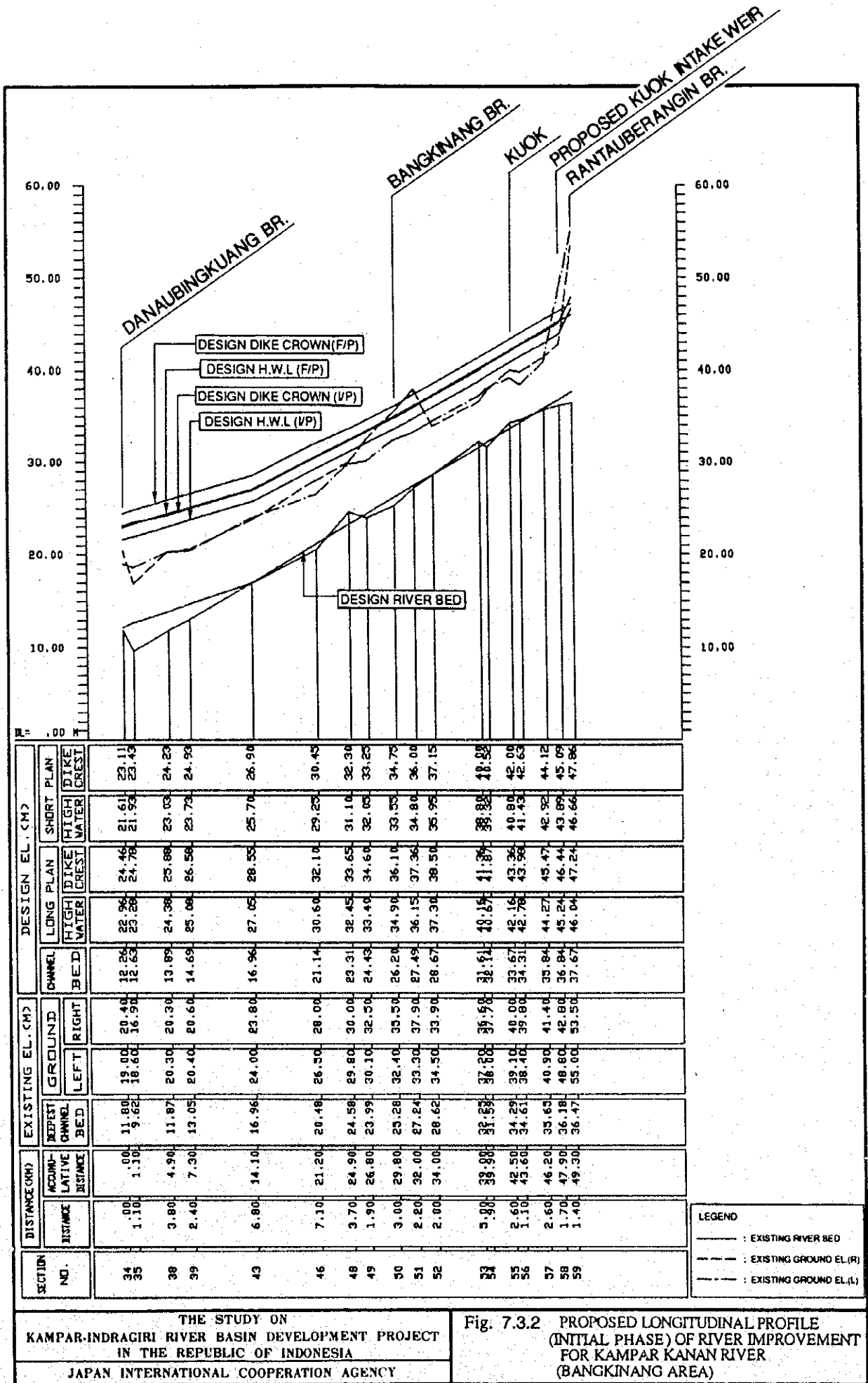


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 KAMPAR-INORAGIRI RIVER BASIN DEVELOPMENT PROJECT  
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Fig. 7.3.1 PROPOSED PLAN (INITIAL PHASE)  
 (3/3) OF RIVER IMPROVEMENT FOR  
 KAMPAR KANAR RIVER  
 (BANGKINANG AREA)



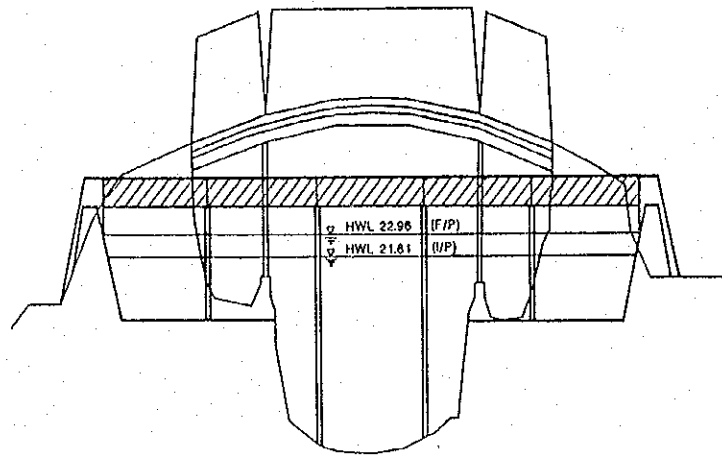




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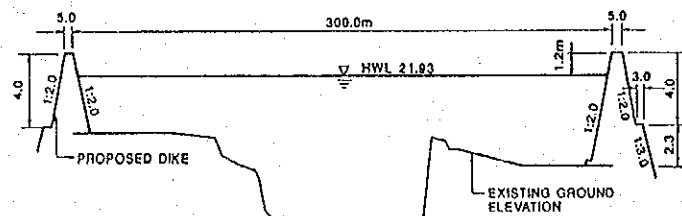
Fig. 7.3.2 PROPOSED LONGITUDINAL PROFILE (INITIAL PHASE) OF RIVER IMPROVEMENT FOR KAMPAR KANAN RIVER (BANGKINANG AREA)

No. 34 (DANAUBINGKUANG BRIDGE)



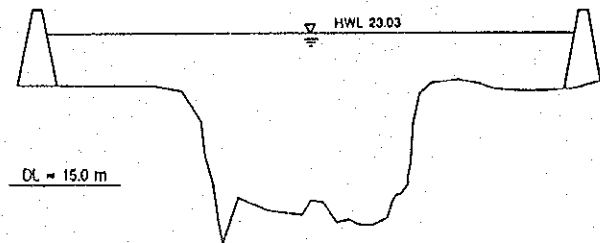
DL = 10.0 m

No. 35



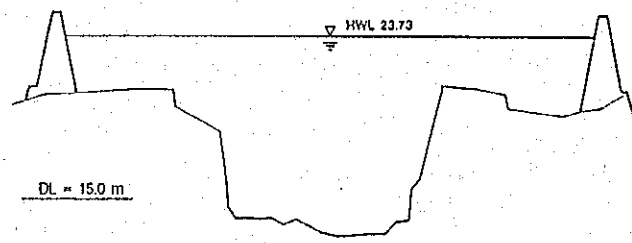
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No. 38



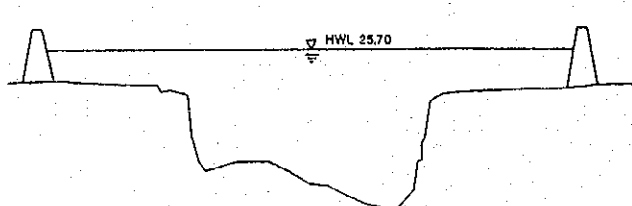
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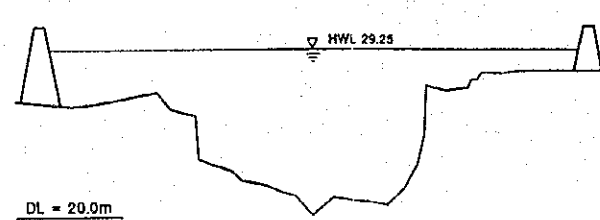
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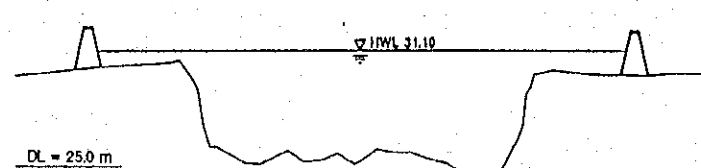
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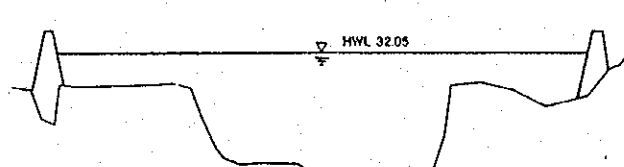
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No. 48



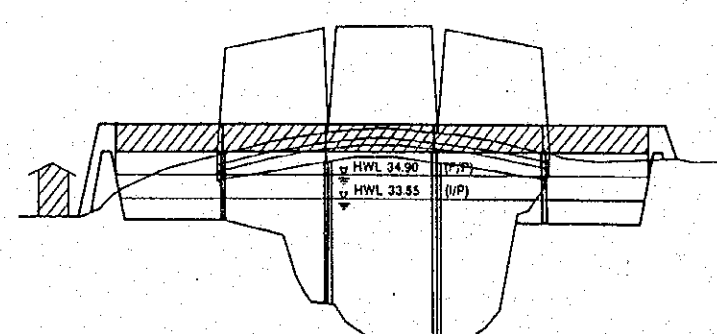
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No. 49



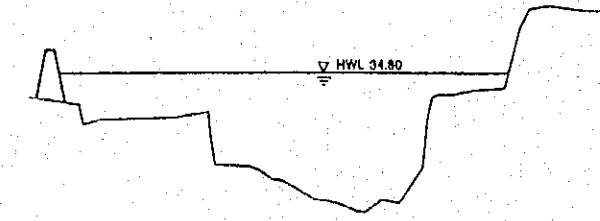
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No. 50 (BANGKINANG BRIDGE)



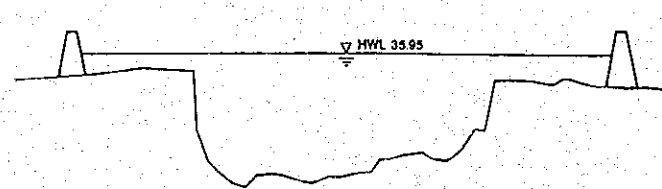
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No. 51



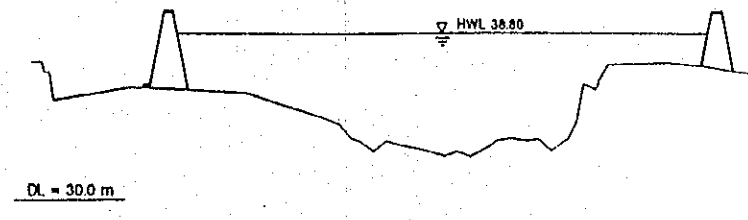
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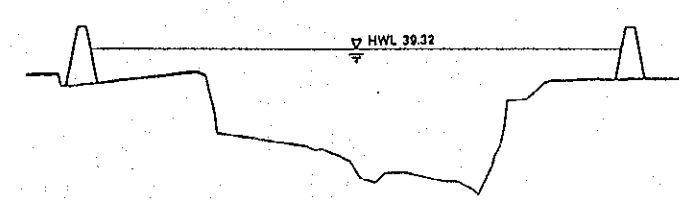
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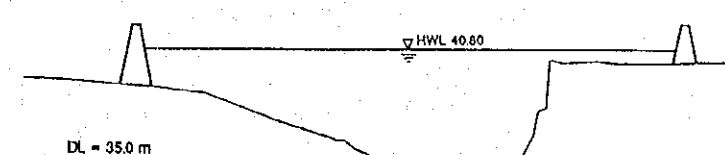
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No. 54



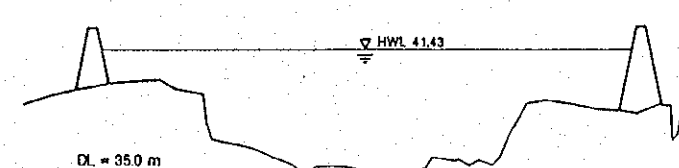
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No. 55



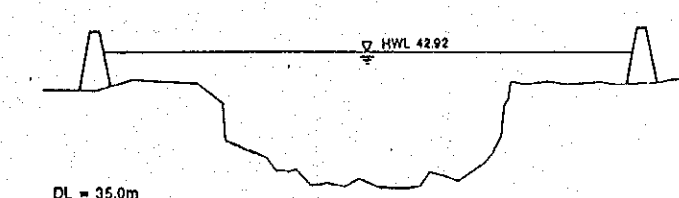
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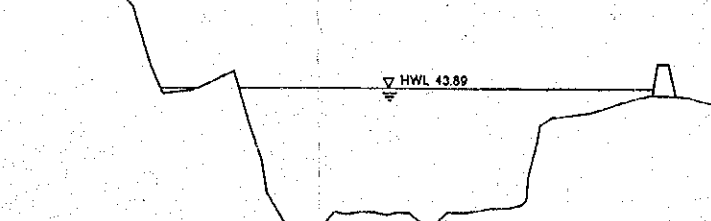
DL = 35.0 m

No. 57



DL = 35.0 m

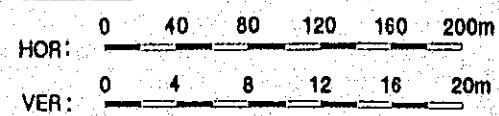
No. 58



DL = 35.0 m

NOTE :

- (1) EXPRESSED H.W.L IS SHOWN IN CASE OF INITIAL PHASE
- (2) DL=DATUM LEVEL
- I/P=INITIAL PHASE
- F/P=FINAL PHASE



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Fig. 7.3.3 PROPOSED CROSS SECTIONS (INITIAL PHASE) OF RIVER IMPROVEMENT FOR KAMPAR KANAN RIVER (BANGKINANG AREA)

