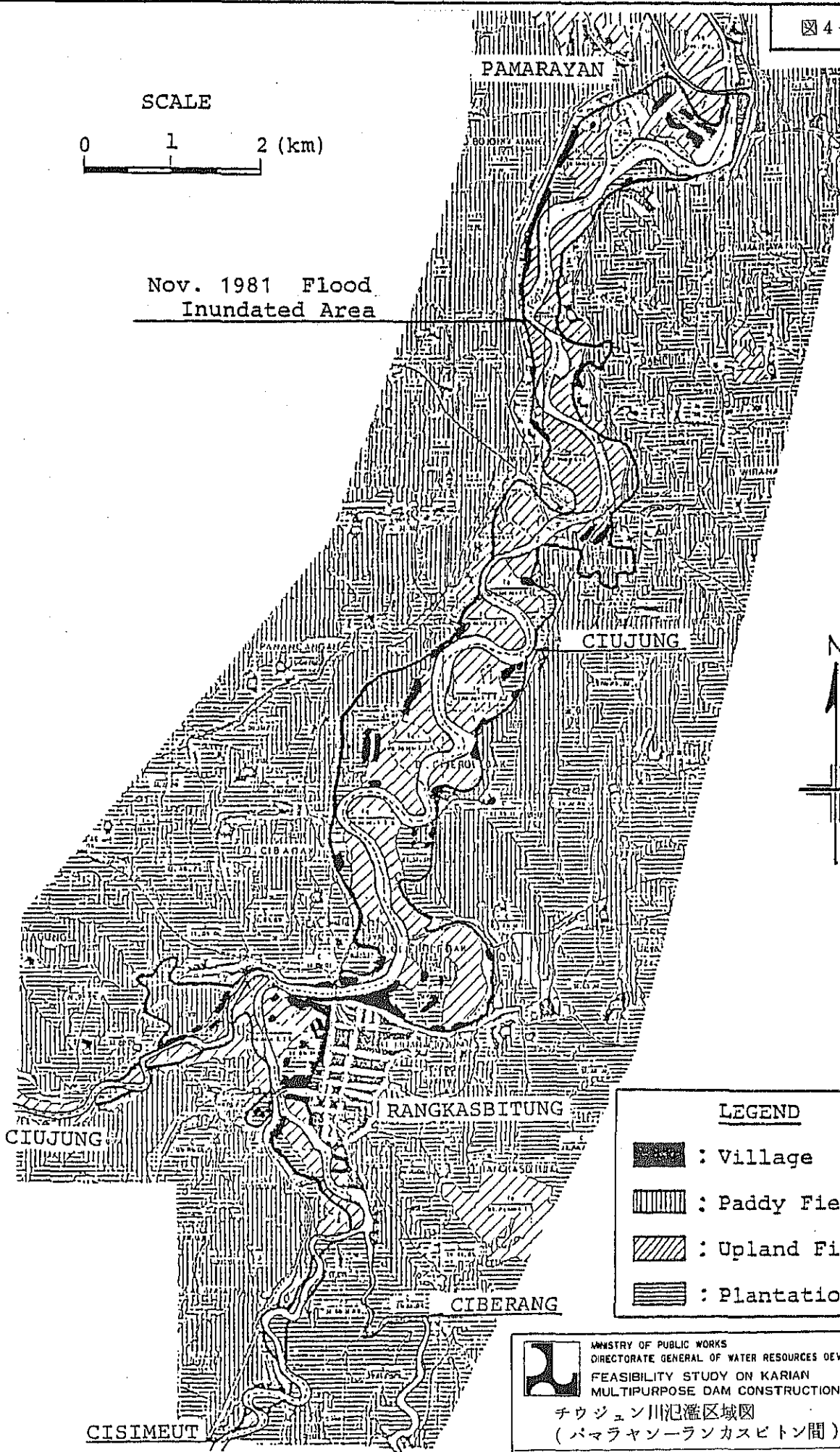

 MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT
 チウジョン川の河道特性と流下能力縦断
 JAPAN INTERNATIONAL COOPERATION AGENCY





SCALE



Nov. 1981 Flood Inundated Area



LEGEND

-  : Village
-  : Paddy Field
-  : Upland Field
-  : Plantation

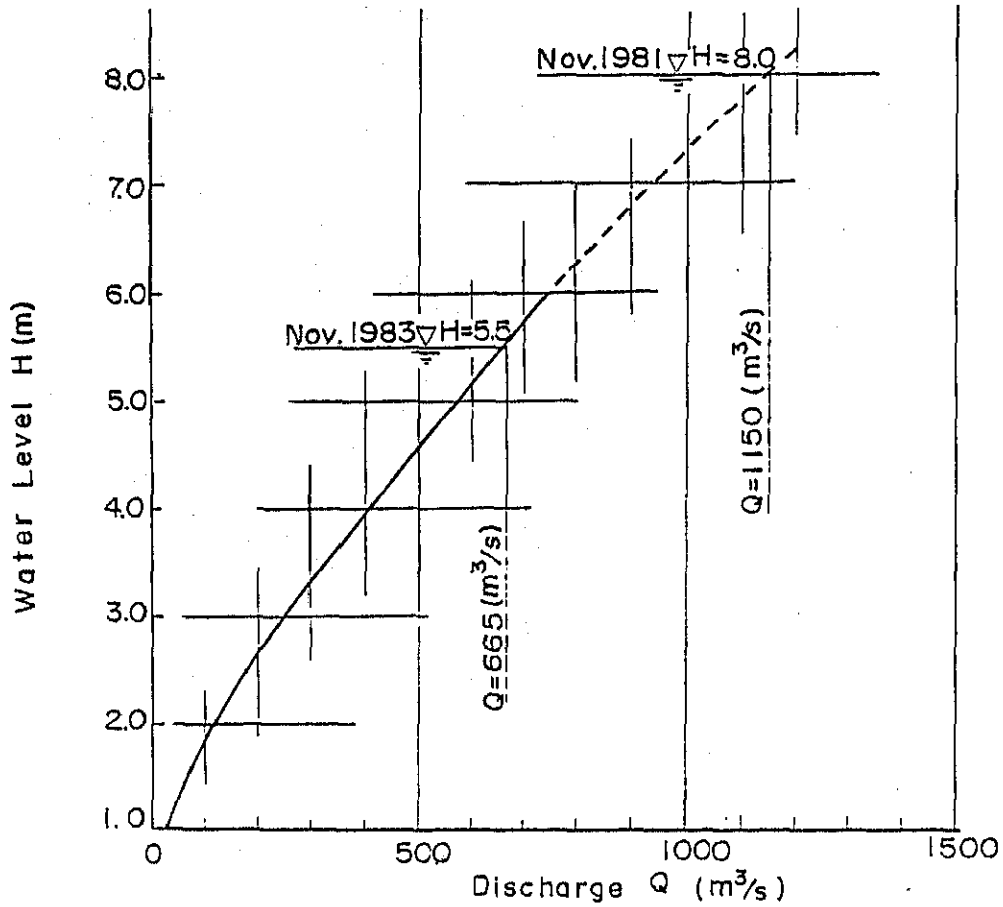


MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT

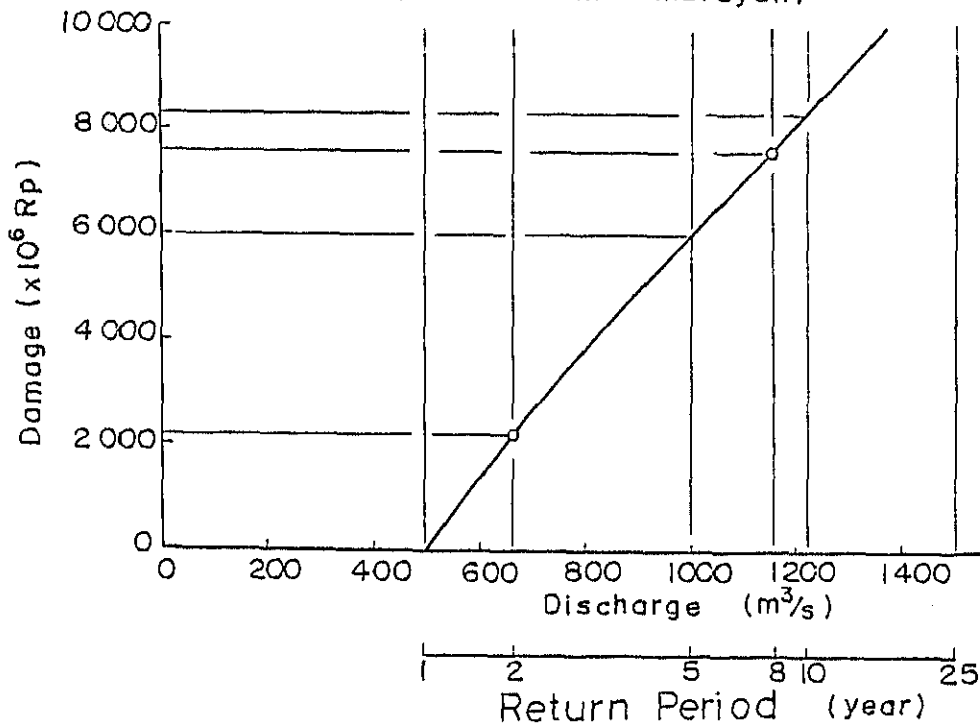
チウジュン川氾濫区域図
 (パマラヤン-ランカスピトン間)

JAPAN INTERNATIONAL COOPERATION AGENCY

(1) OBSERVED RATING CURVE AT RANGKASBITUNG (DPMA)



(2) RELATION BETWEEN FLOOD DISCHARGE AND DAMAGE
(Upstream from Pamarayan)

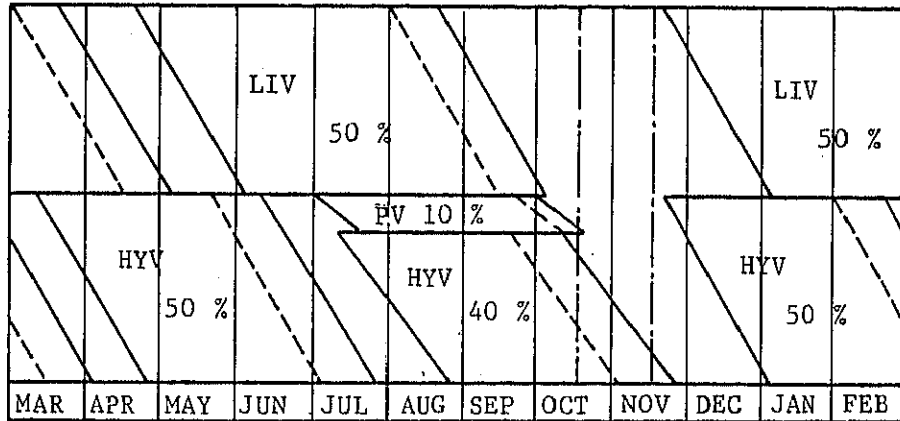


MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON KARIAN
MULTIPURPOSE DAM CONSTRUCTION PROJECT

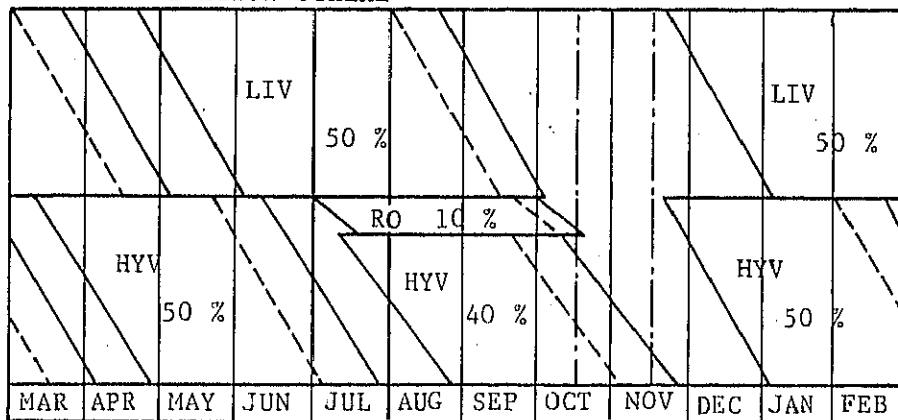
ランカスピトンの水位-流量-被害額曲線

JAPAN INTERNATIONAL COOPERATION AGENCY

CIUJUNG IRRIGATION SCHEME



K-C-C & CICINTA IRRIGATION SCHEME



Remarks LIV:Locally Improved Variety (Paddy)

HYV:High-Yielding Variety (Paddy)

PV :Palawija or Vegetables

RO :Red Onion

Canal Maintenance Period : middle of Oct.- middle of Nov.

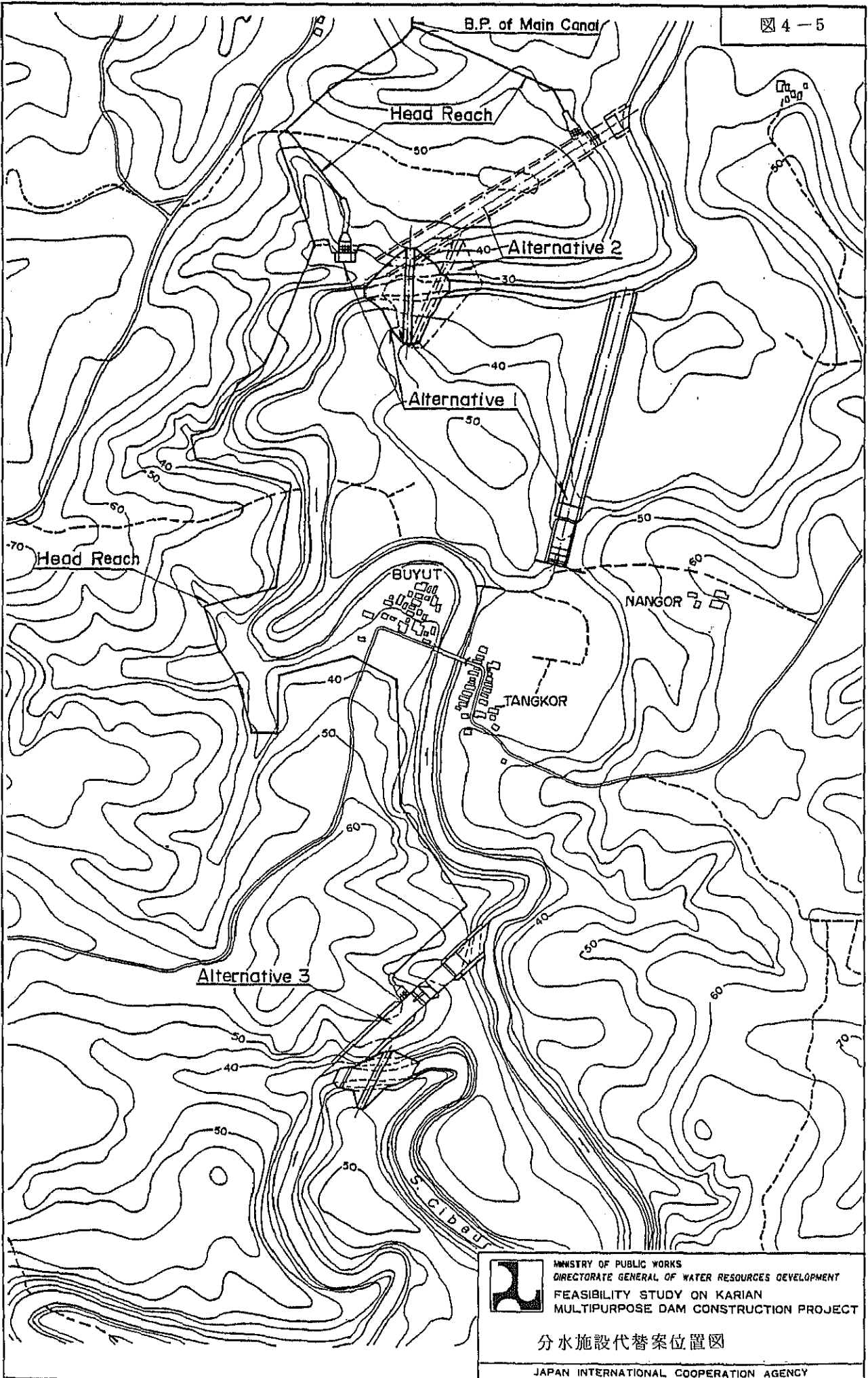
Note : These patterns show the growing period in main fields excluding nursery period. Dotted lines express stoppage of irrigation.



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 MULTIPURPOSE DAM CONSTRUCTION PROJECT

計画作付体系

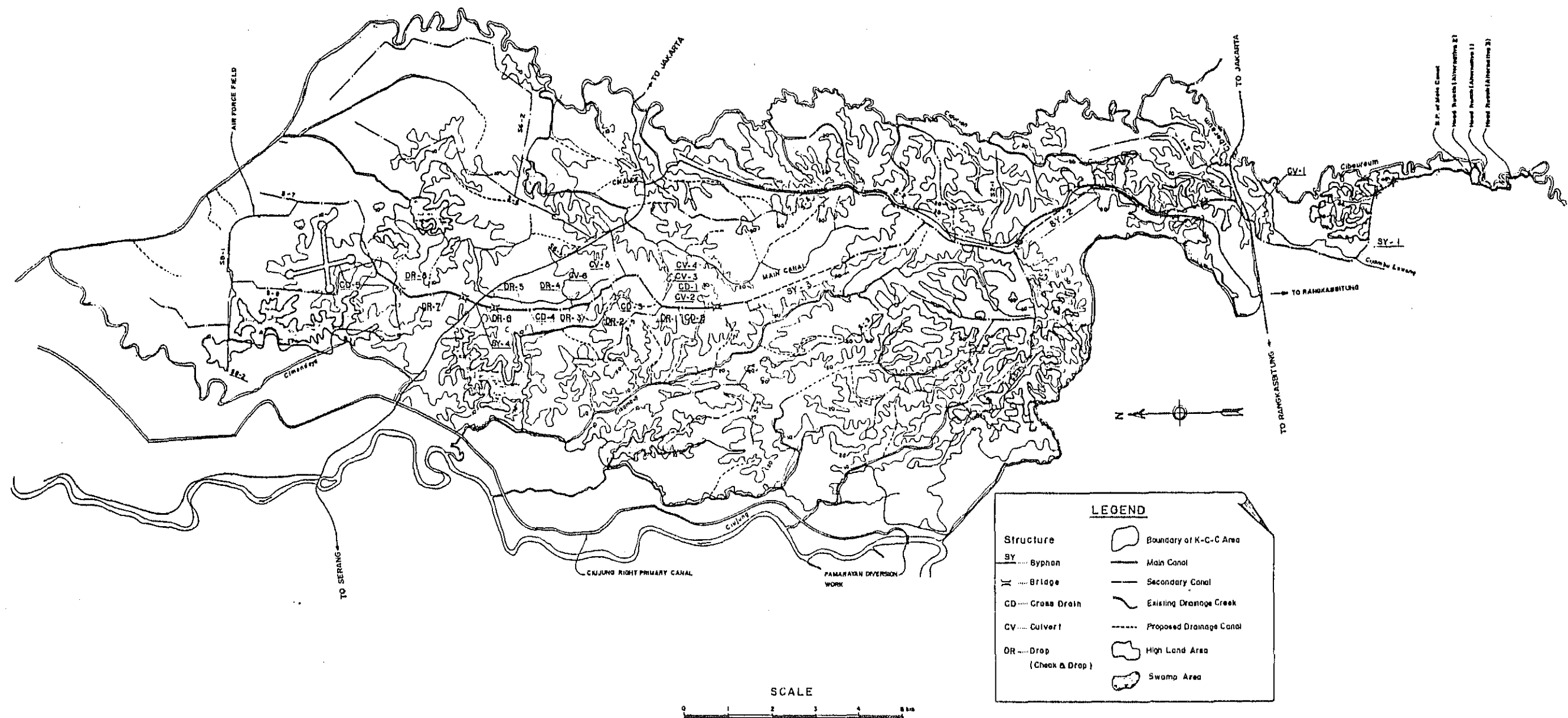
JAPAN INTERNATIONAL COOPERATION AGENCY




MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT

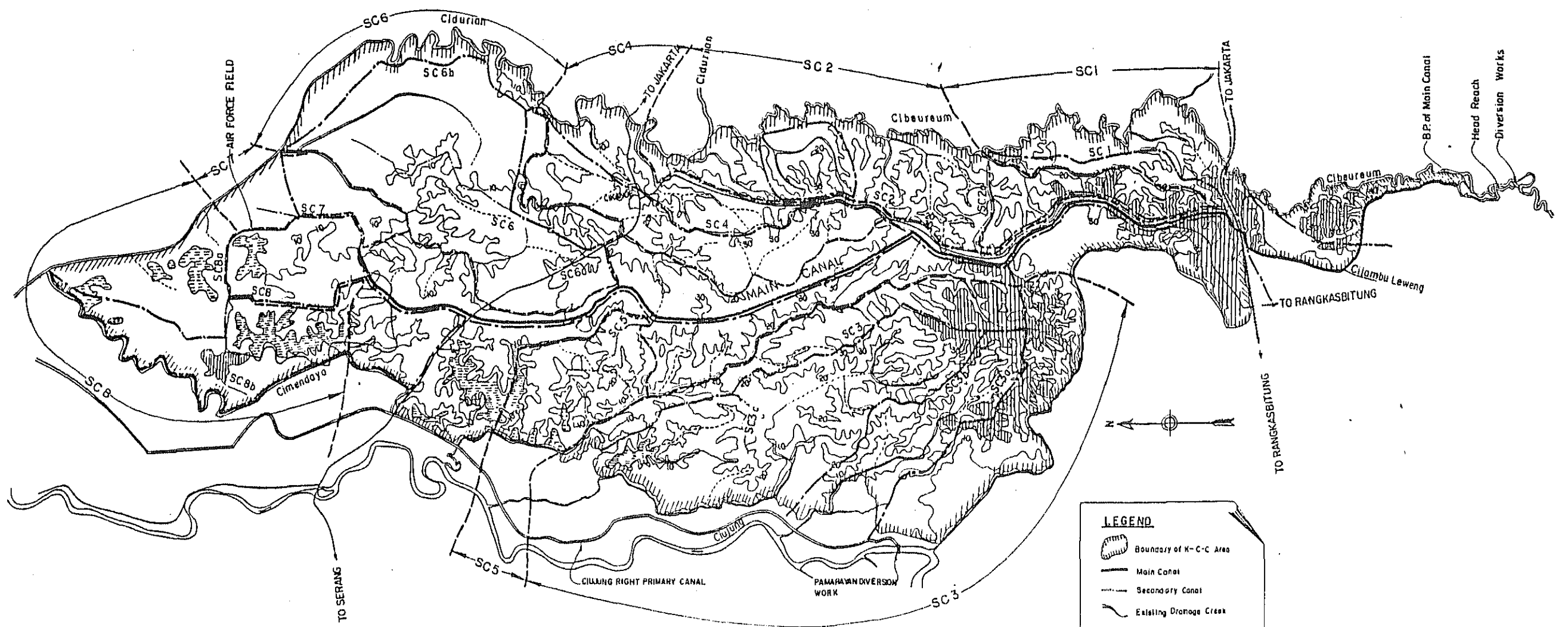
分水施設代替案位置図

JAPAN INTERNATIONAL COOPERATION AGENCY



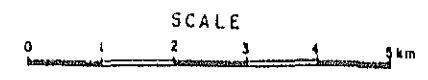

 MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT
 K-C-Cかんがい計画地区概略図(1/2)
 JAPAN INTERNATIONAL COOPERATION AGENCY

--- Boundary of Irrigation Block by Secondary Canal
 --- Boundary of Catchment Area by Main & Secondary Drain



LEGEND

- Boundary of K-C-C Area
- Main Canal
- Secondary Canal
- Existing Drainage Creek
- Proposed Drainage Canal
- High Land Area
- Swamp Area



MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT

K-C-C かんがい計画地区概略図(2/2)










JAPAN INTERNATIONAL COOPERATION AGENCY

Commanding Area = 157 ha in Net

T.O.M-36

MAIN CANAL

El.1.0m

-  Irrigable Area
-  Residential Area
-  Boundary of Air Force Field
-  Main Canal
-  Tertiary Canal (4,250m)
-  Quaternary Canal (7,200m)
-  Drainage Canal (7,750m)
-  Inspection Road
-  Tertiary Box

El.1.0m

AIR FORCE FIELD

El.1.5m

El.1.5m

SCALE

0 100 200 300 400 500m

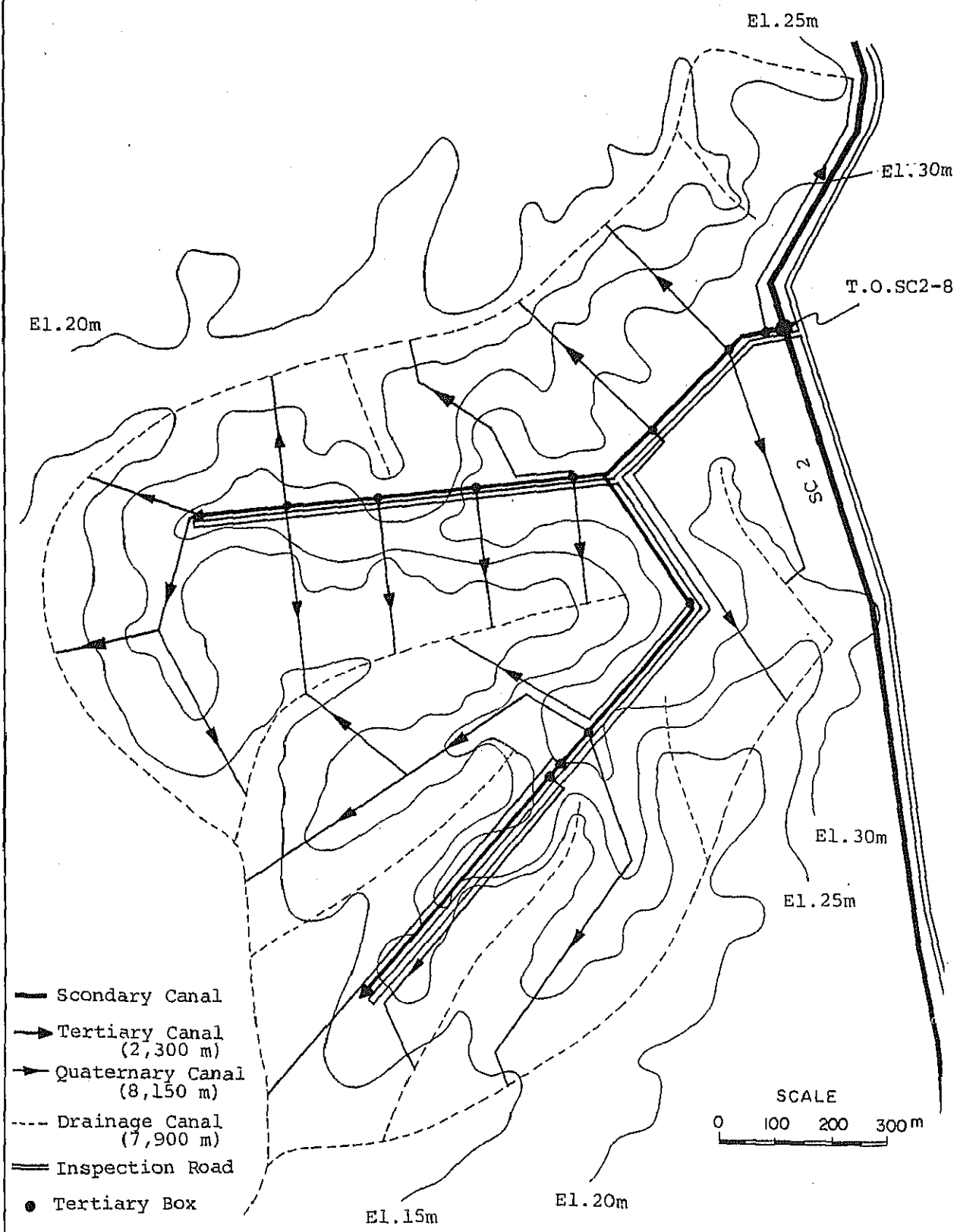


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 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT

末端圃場システム設計例 (平面地形)

JAPAN INTERNATIONAL COOPERATION AGENCY

Commanding Area = 95 ha in Net



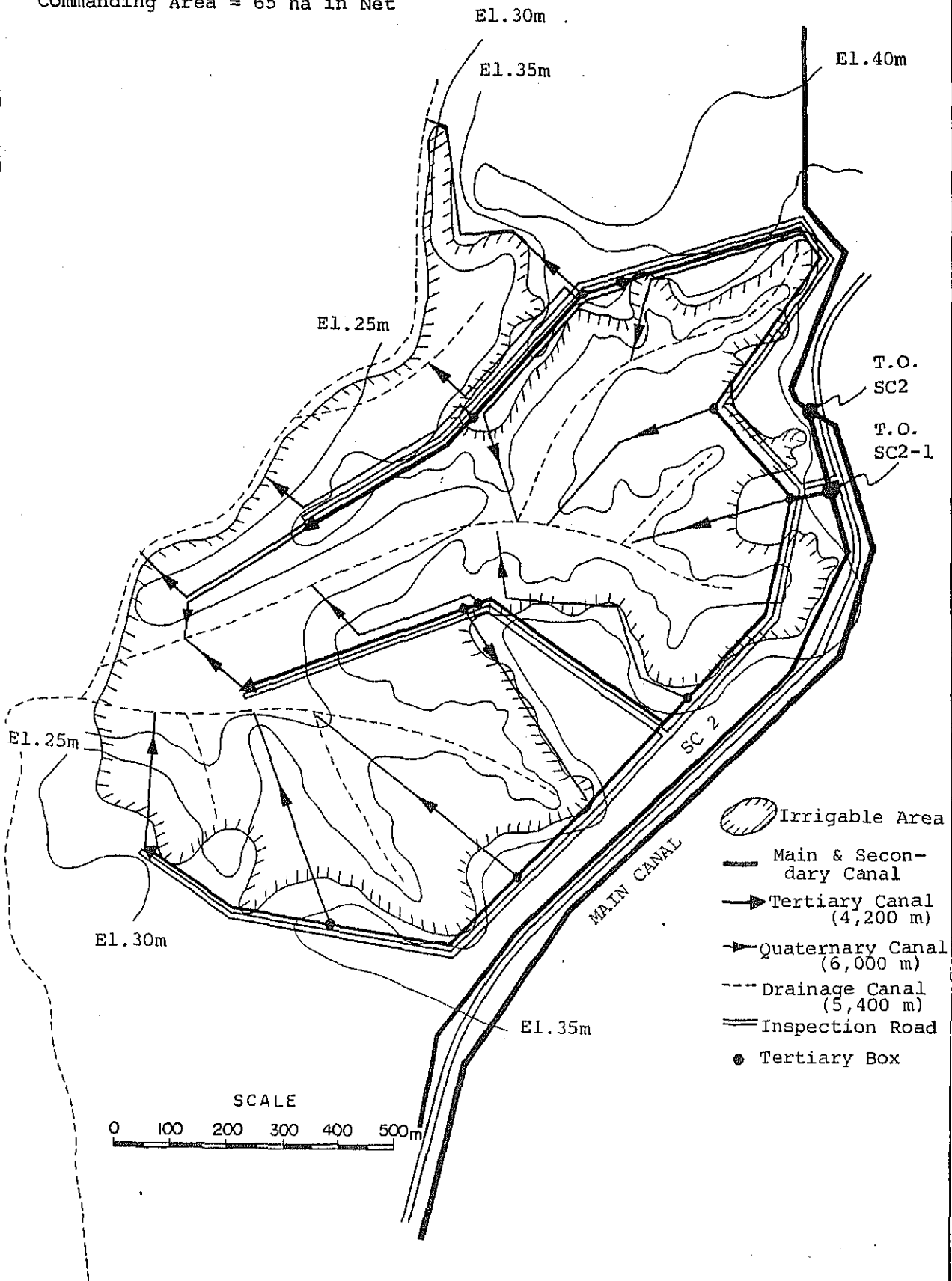
- Secondary Canal
- Tertiary Canal (2,300 m)
- ⇨ Quaternary Canal (8,150 m)
- - - Drainage Canal (7,900 m)
- == Inspection Road
- Tertiary Box

MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT

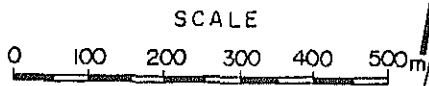
末端圃場システム設計例 (緩勾配地形)


JAPAN INTERNATIONAL COOPERATION AGENCY

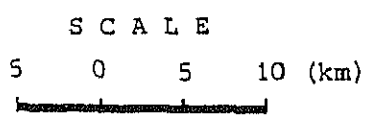
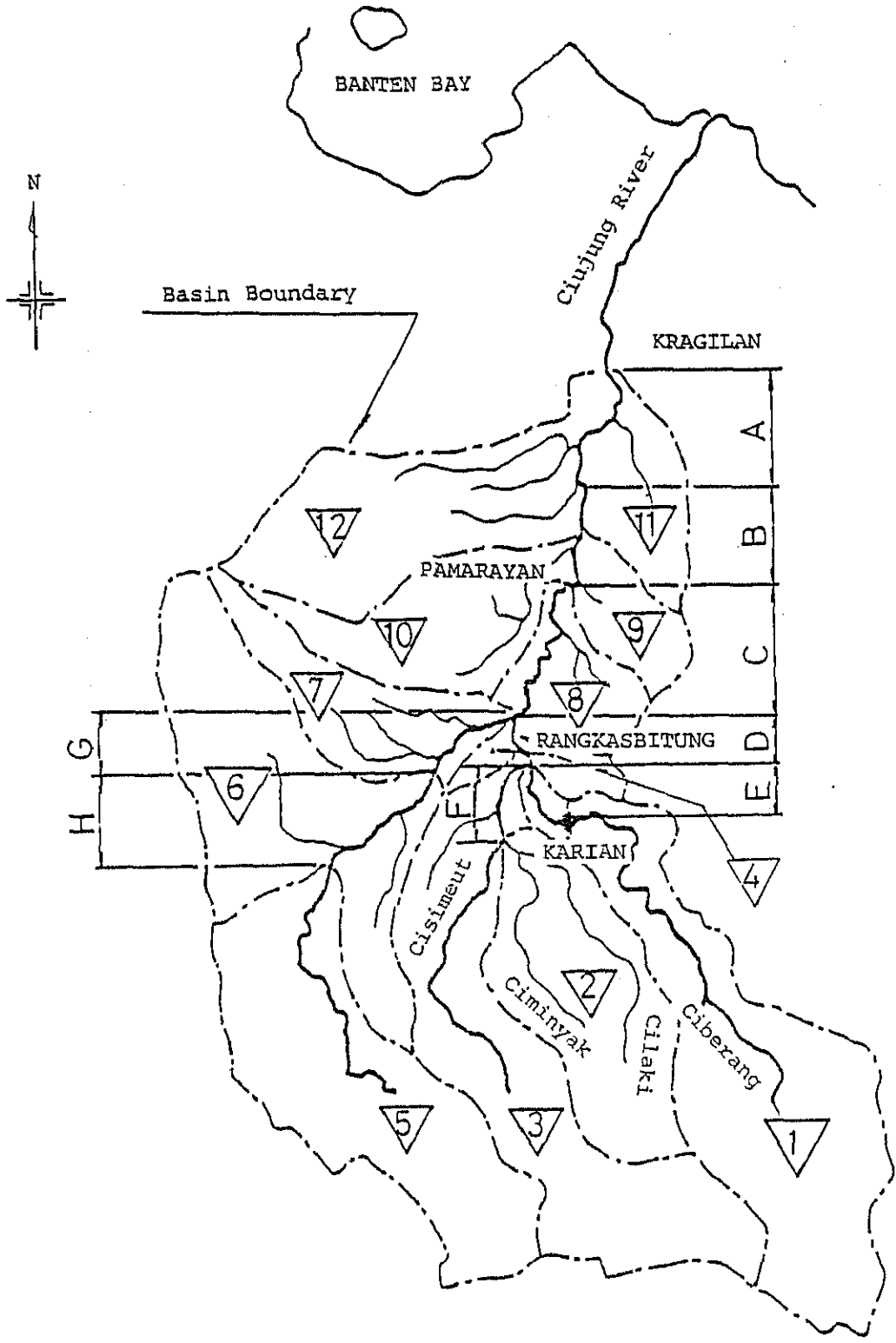
Commanding Area = 65 ha in Net



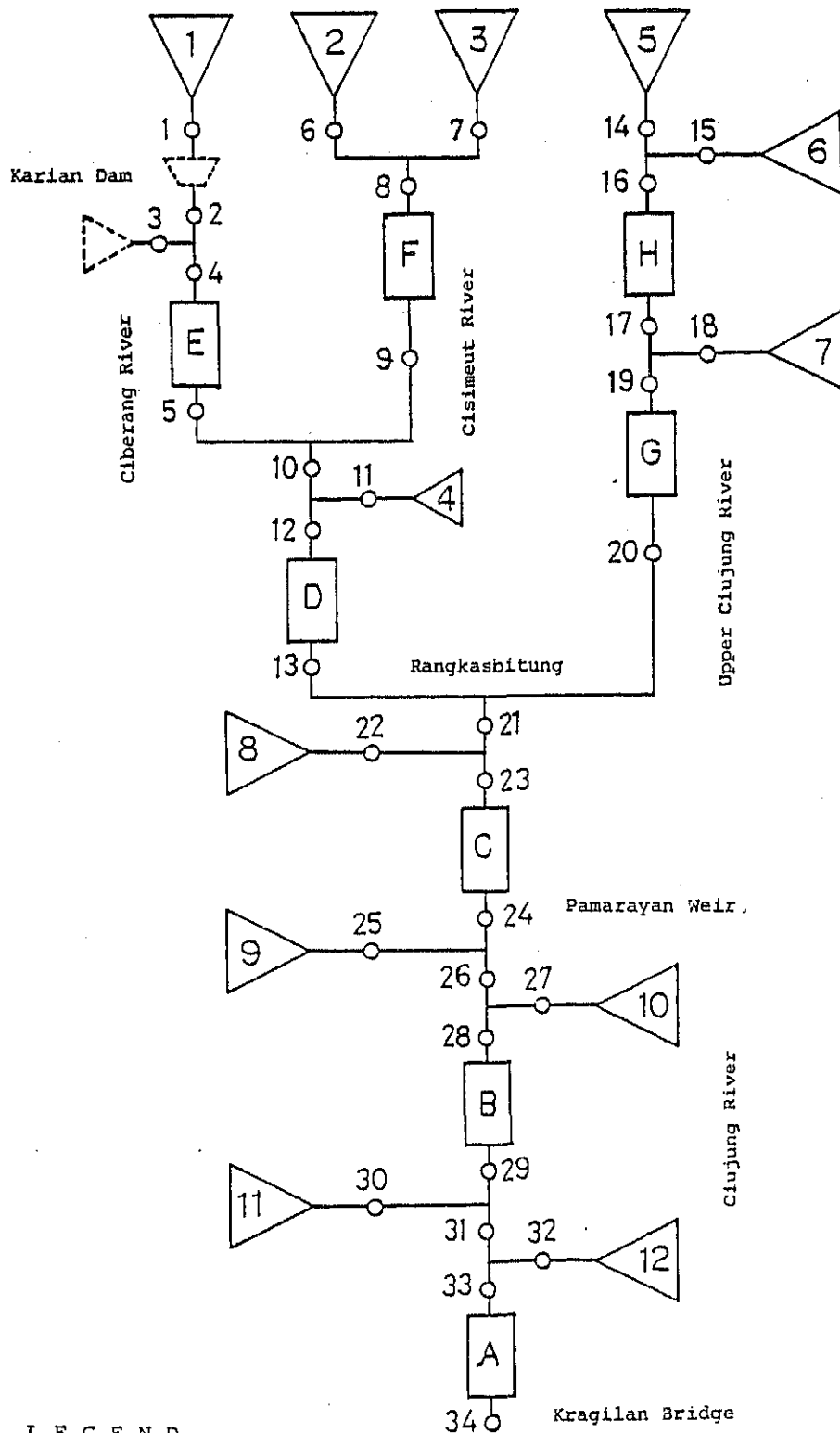
- Irrigable Area
- Main & Secondary Canal
- Tertiary Canal (4,200 m)
- Quaternary Canal (6,000 m)
- Drainage Canal (5,400 m)
- Inspection Road
- Tertiary Box



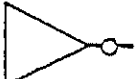



 MINISTRY OF PUBLIC WORKS
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 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT
 末端圃場システム設計例 (急勾配地形)
 JAPAN INTERNATIONAL COOPERATION AGENCY




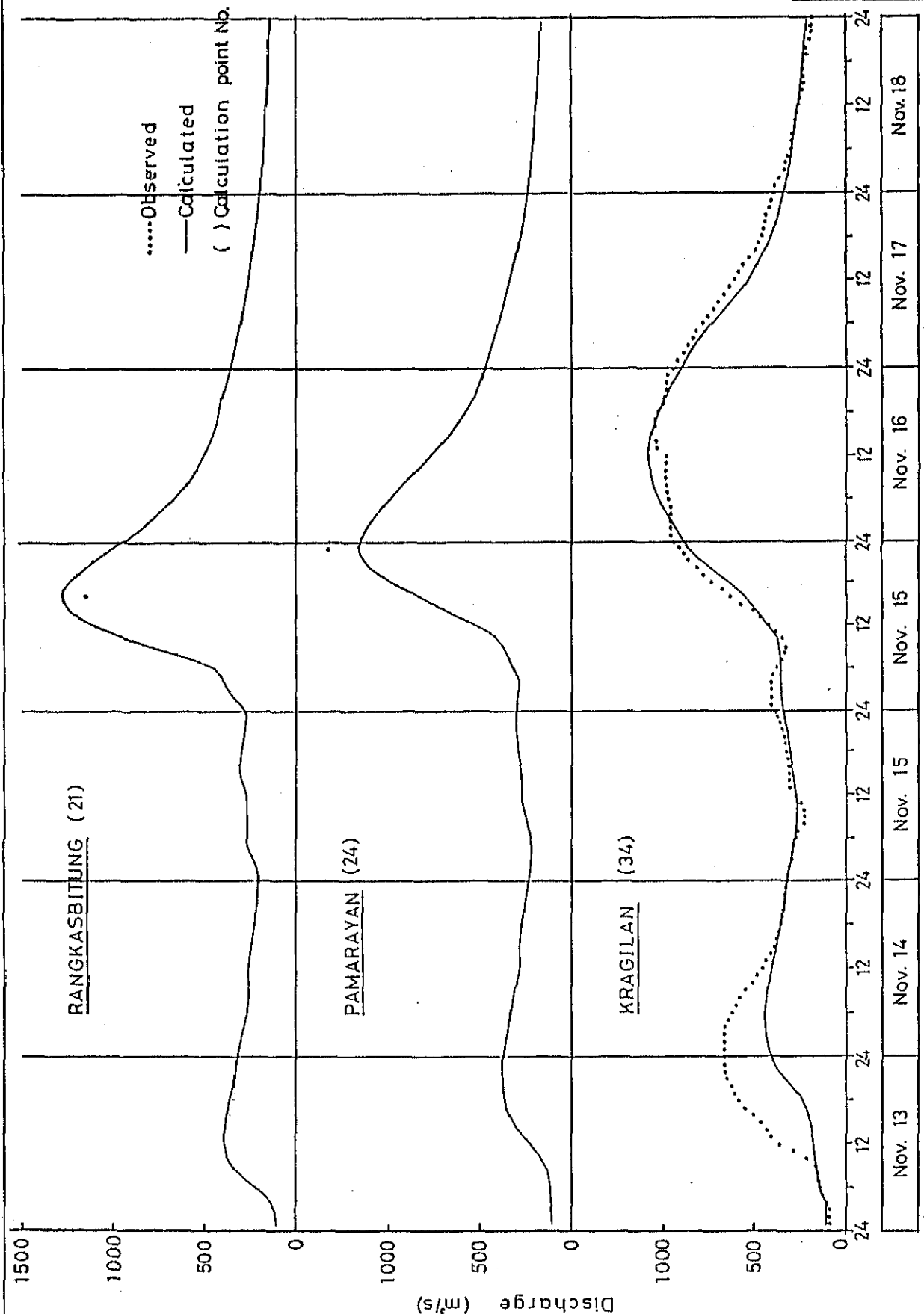
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON KARIAN
MULTIPURPOSE DAM CONSTRUCTION PROJECT
チウジュン流域及び河道分割図
JAPAN INTERNATIONAL COOPERATION AGENCY



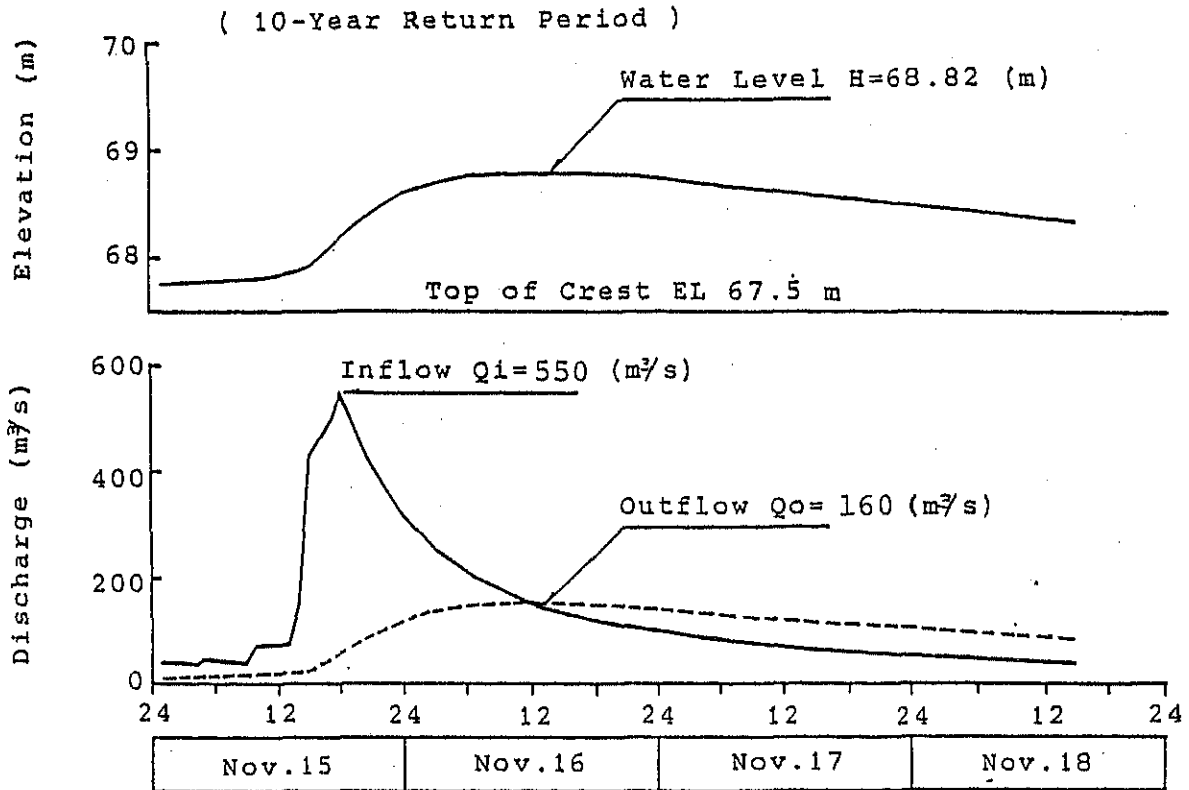
LEGEND

-  sub-basin
-  channel & inundated area
-  calculation point No.

	MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
	FEASIBILITY STUDY ON KARIAN MULTIPURPOSE DAM CONSTRUCTION PROJECT
チウジュン川流出系統図	
JAPAN INTERNATIONAL COOPERATION AGENCY	



MINISTRY OF PUBLIC WORKS
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 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT
 1981年11月洪水実績と
 計算流量ハイドログラフ
 JAPAN INTERNATIONAL COOPERATION AGENCY



(Under Spillway Crest Length L = 50 m)

Item	Return Period (Years)			
	5	10	25	50
Inflow Peak discharge Q_i (m^3/s)	450	550	690	800
Outflow peak discharge Q_o (m^3/s)	140	160	190	210
$Q_i - Q_o$ (m^3/s)	310	390	500	590
Storage Volume V ($\times 10^6/m^3$)	19.6	21.8	24.9	27.0
Over flow depth h (m)	1.19	1.32	1.51	1.62

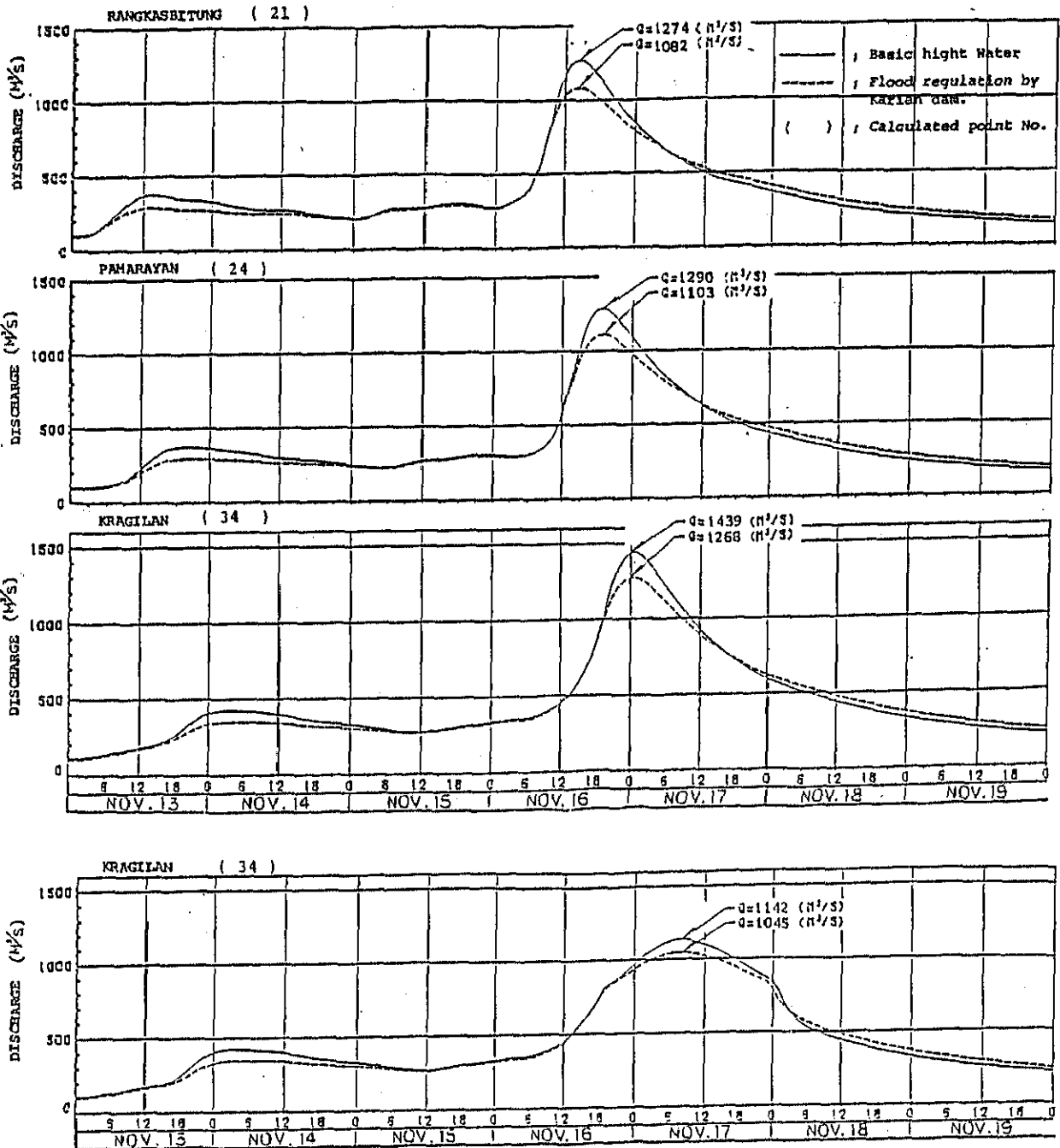


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 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT

カリアンダム洪水調節効果計算結果

JAPAN INTERNATIONAL COOPERATION AGENCY

(10 YEAR RETURN PERIOD)



Under present condition with flooding in the section from Kragilan to Pamarayan weir

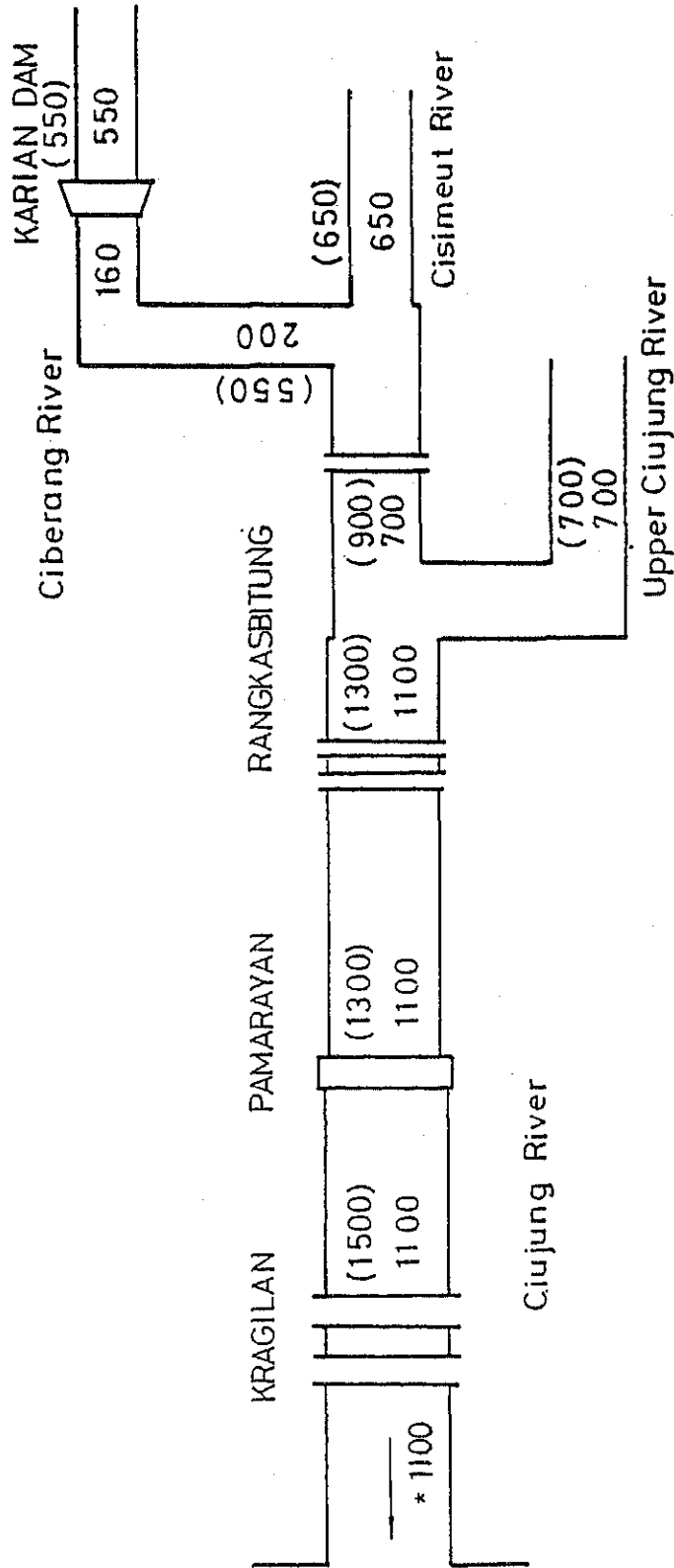


MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT

基本高水とダム調節後ハイドログラフ

JAPAN INTERNATIONAL COOPERATION AGENCY

(10-Year Return Period)



Unit : m³/s

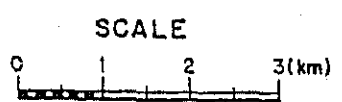
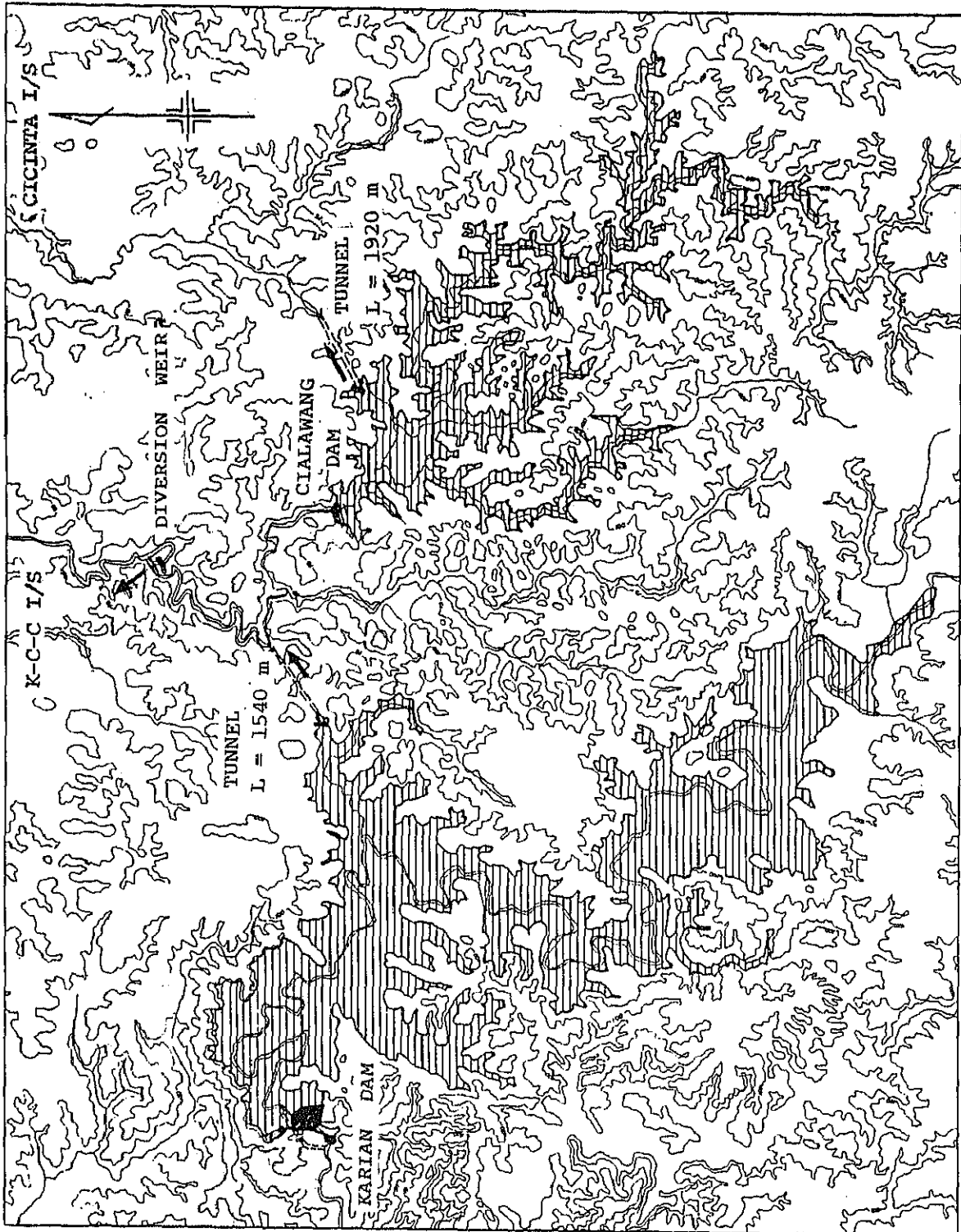
() : Basic High Water

* : Design Discharge by PROSIDA

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 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT

計画高水流量配分図

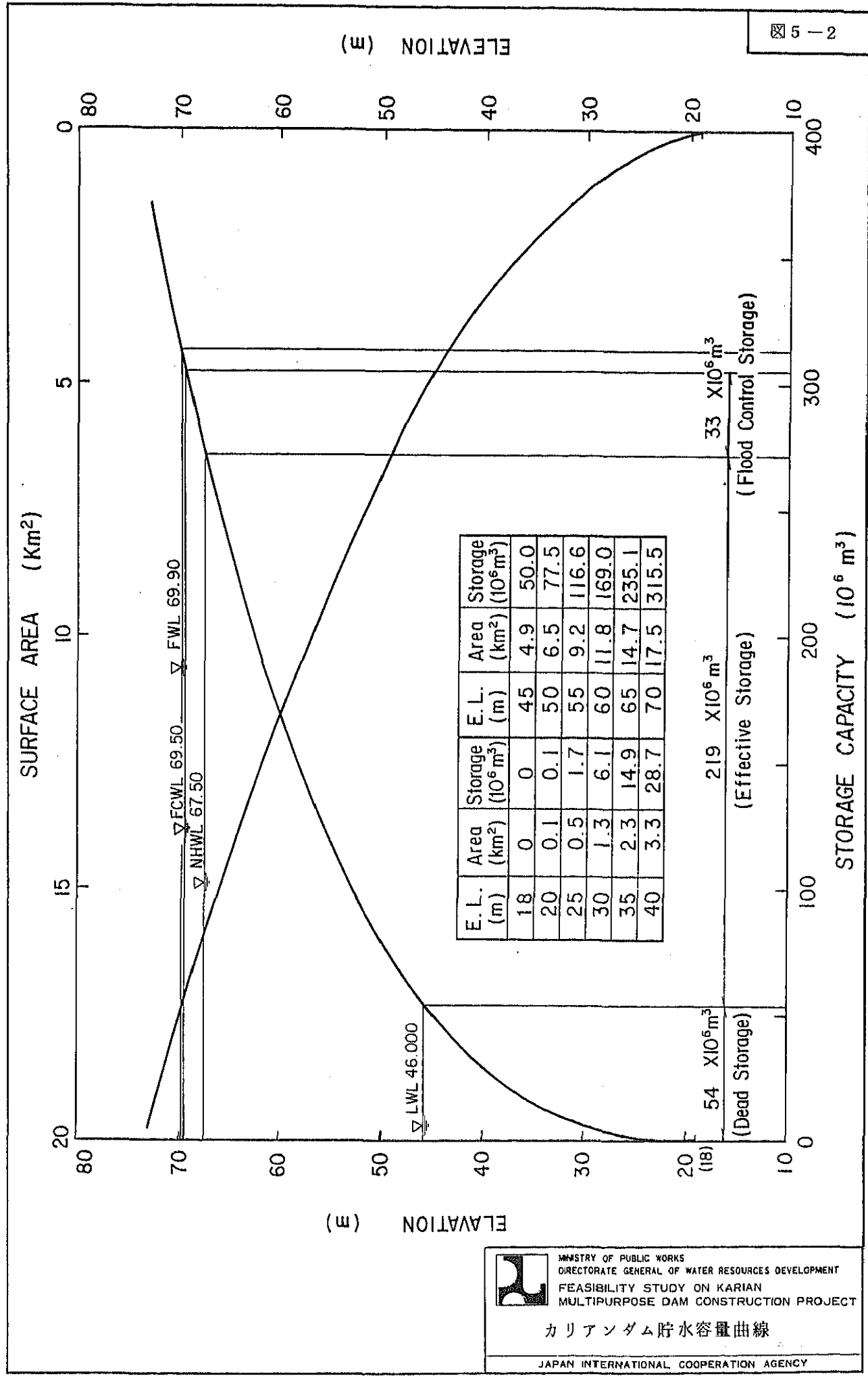
JAPAN INTERNATIONAL COOPERATION AGENCY




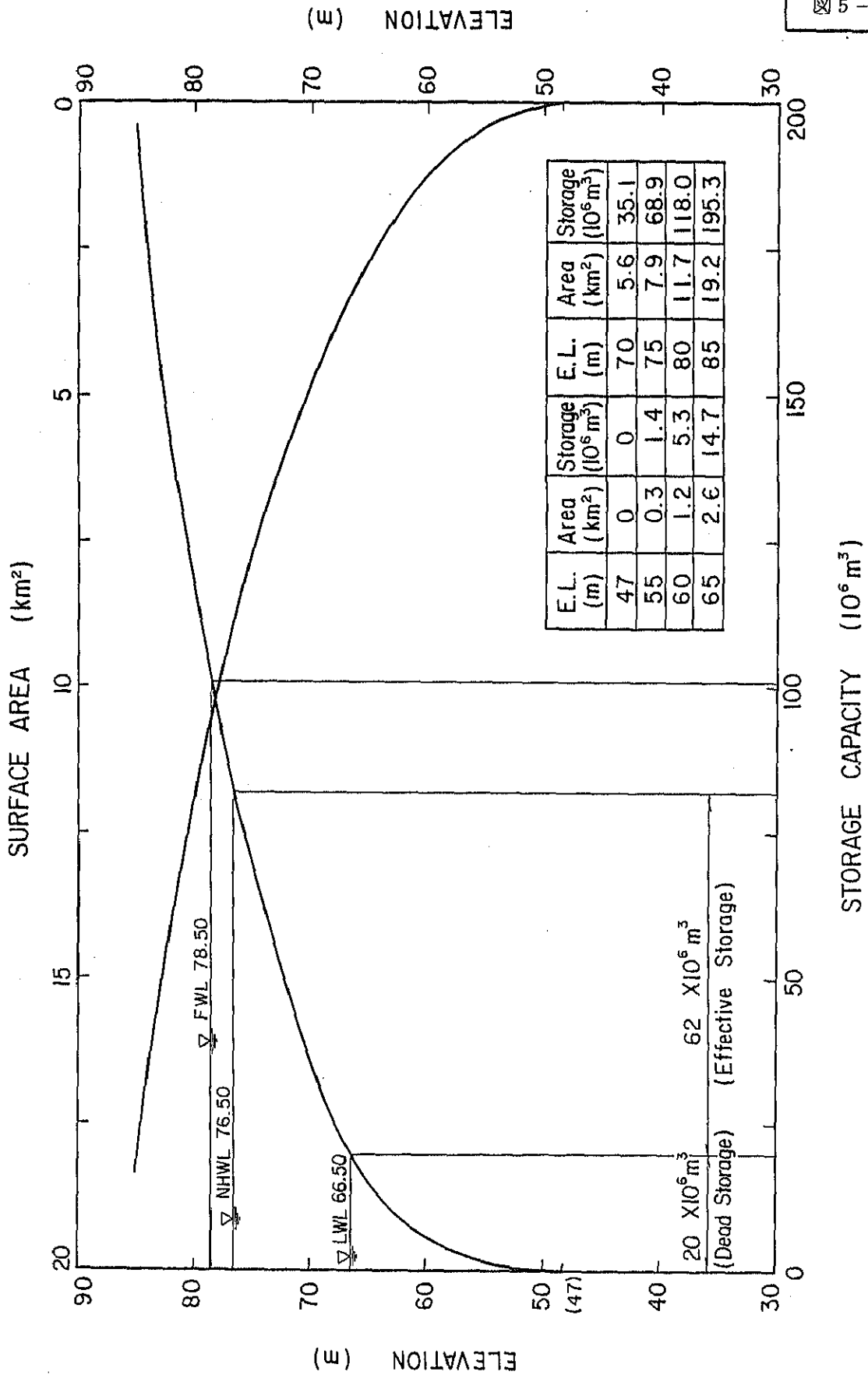
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON KARIAN
MULTIPURPOSE DAM CONSTRUCTION PROJECT

カリアンダム及びチラワンダム概念図

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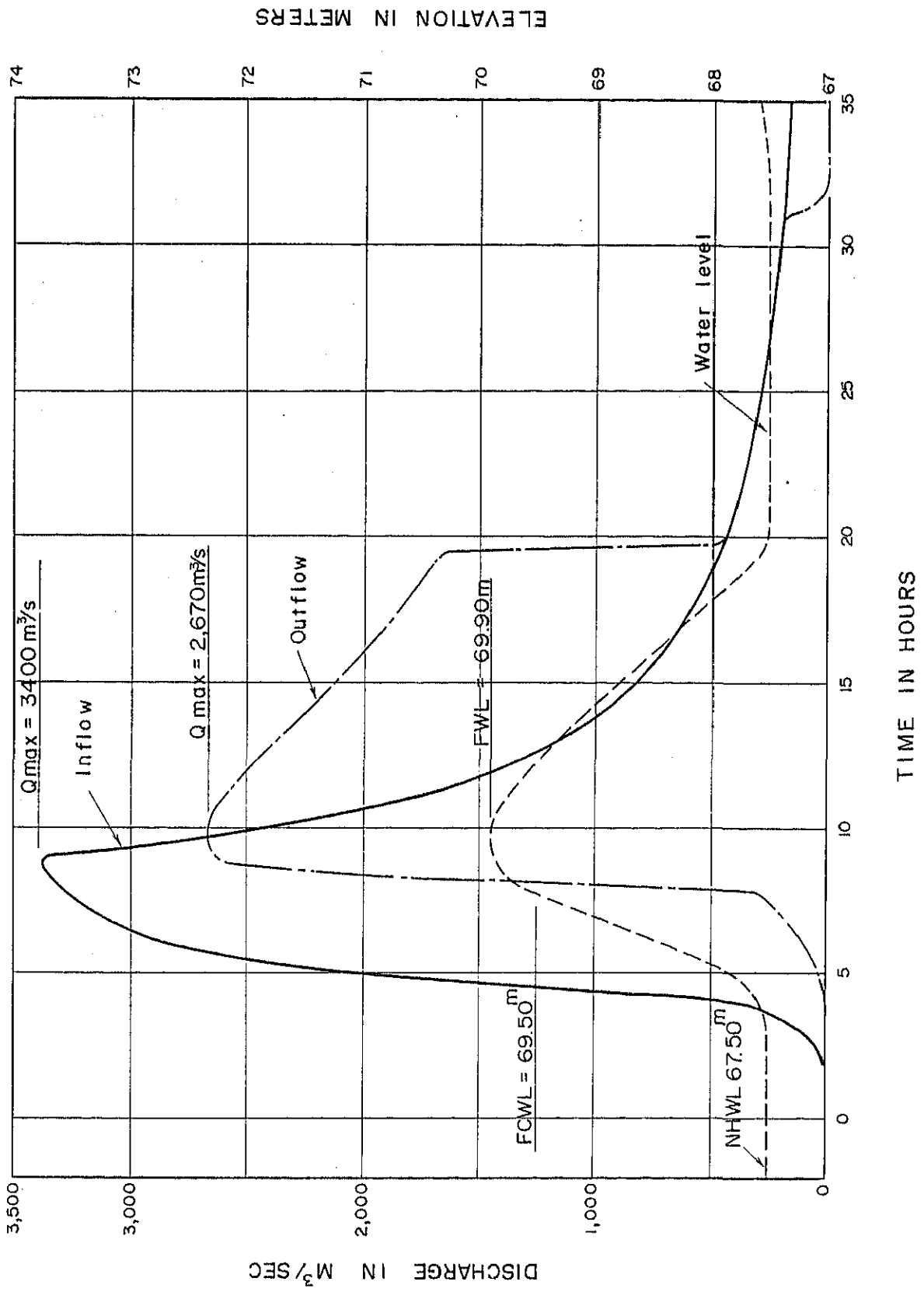

 MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT
 カリアンダム貯水容量曲線
 JAPAN INTERNATIONAL COOPERATION AGENCY




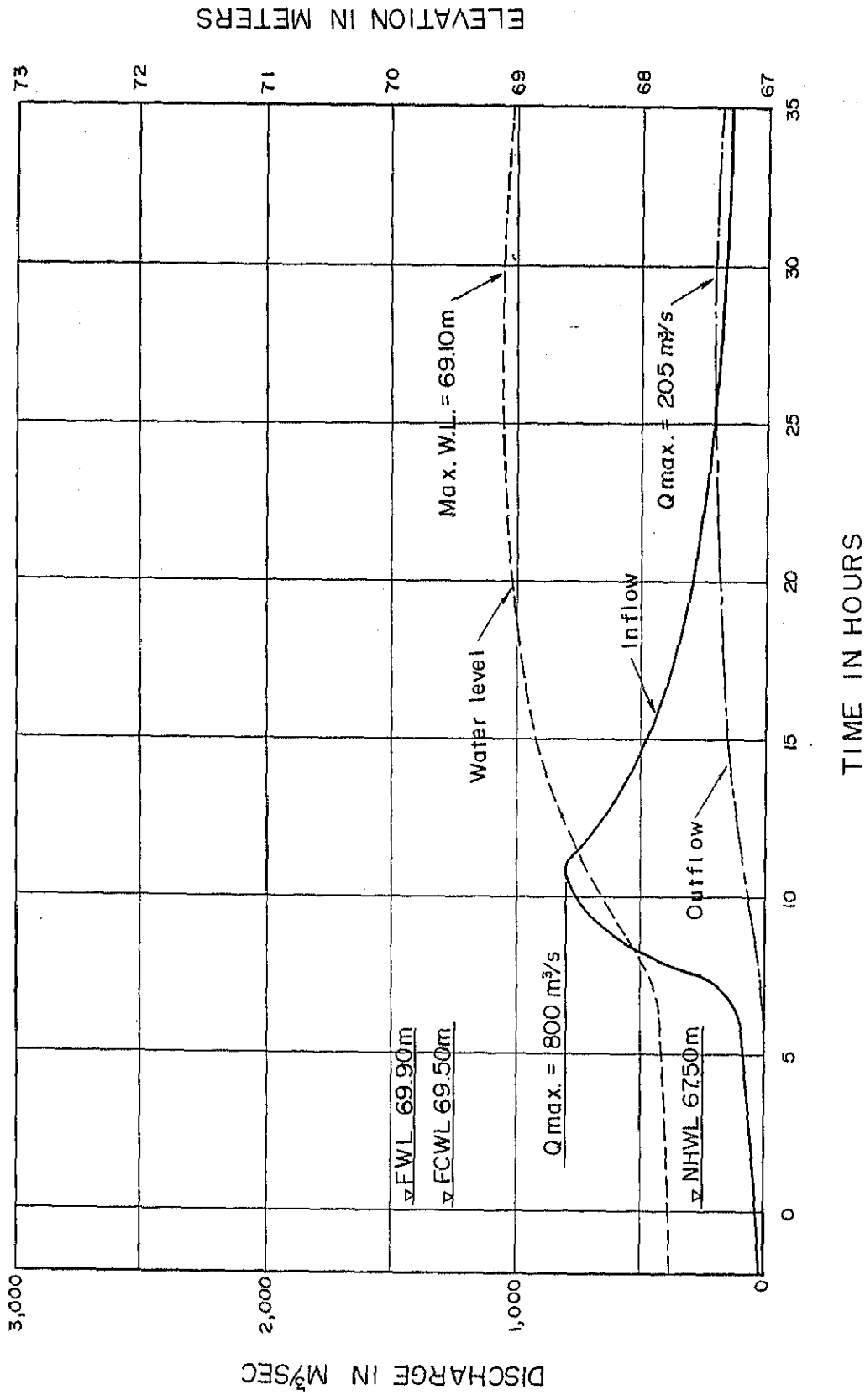
MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT

チラワンダム貯水容量曲線

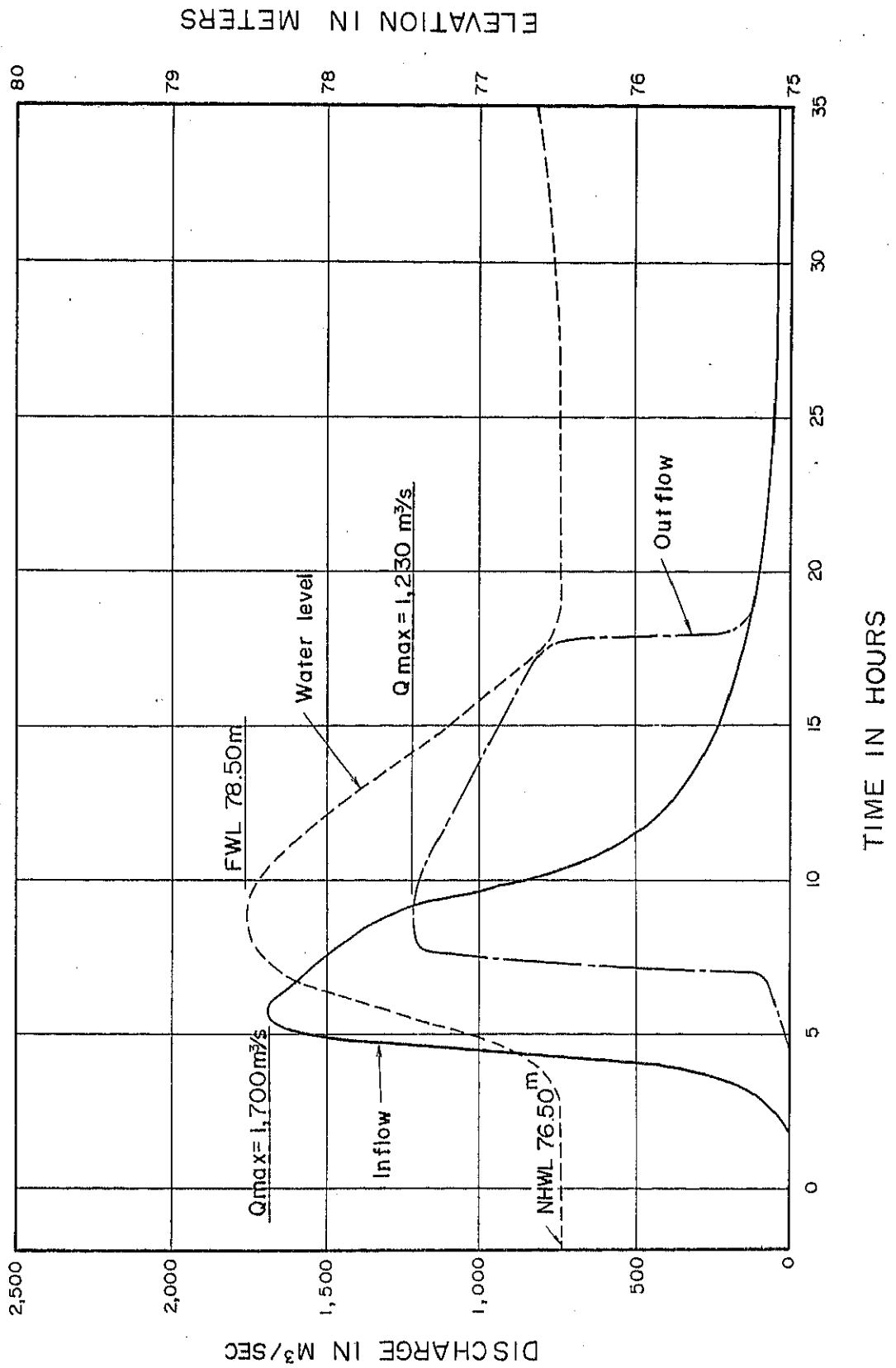
JAPAN INTERNATIONAL COOPERATION AGENCY



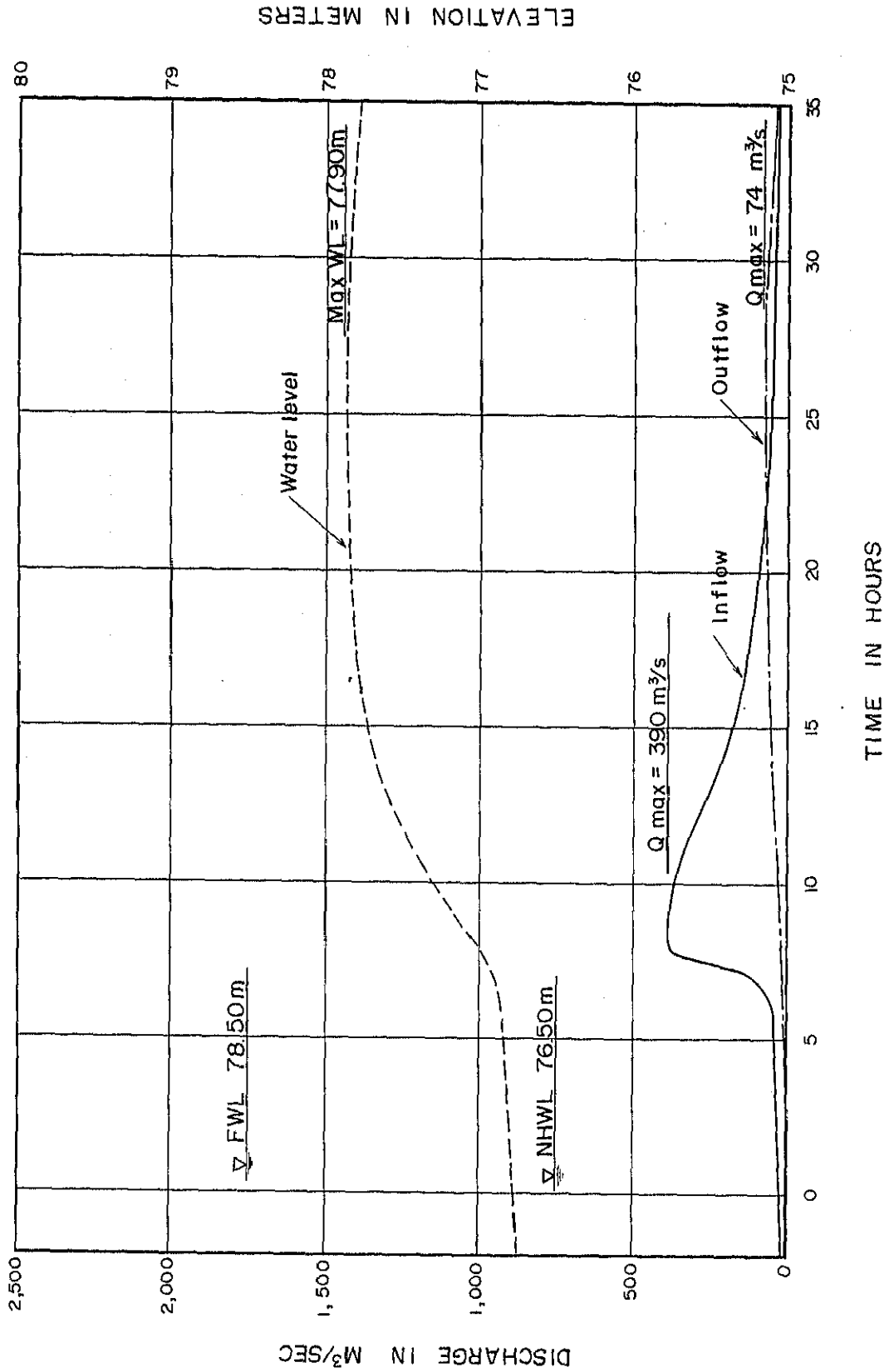

 MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT
 カリアンダム洪水吐き放流量
 (可能最大洪水)
 JAPAN INTERNATIONAL COOPERATION AGENCY



MINISTRY OF PUBLIC WORKS
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 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT
 カリアンダム洪水吐き放流量
 (50年確率洪水)
 JAPAN INTERNATIONAL COOPERATION AGENCY



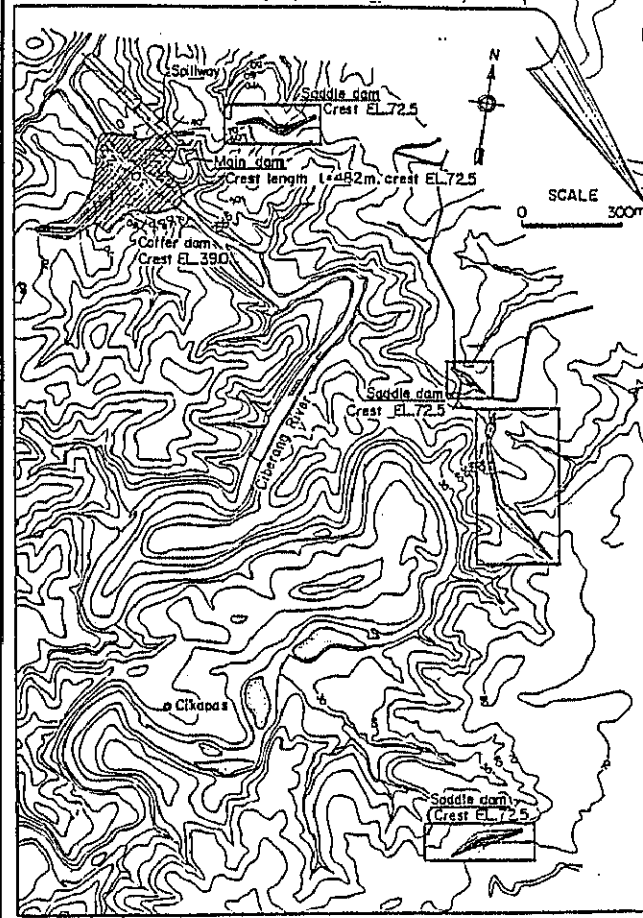
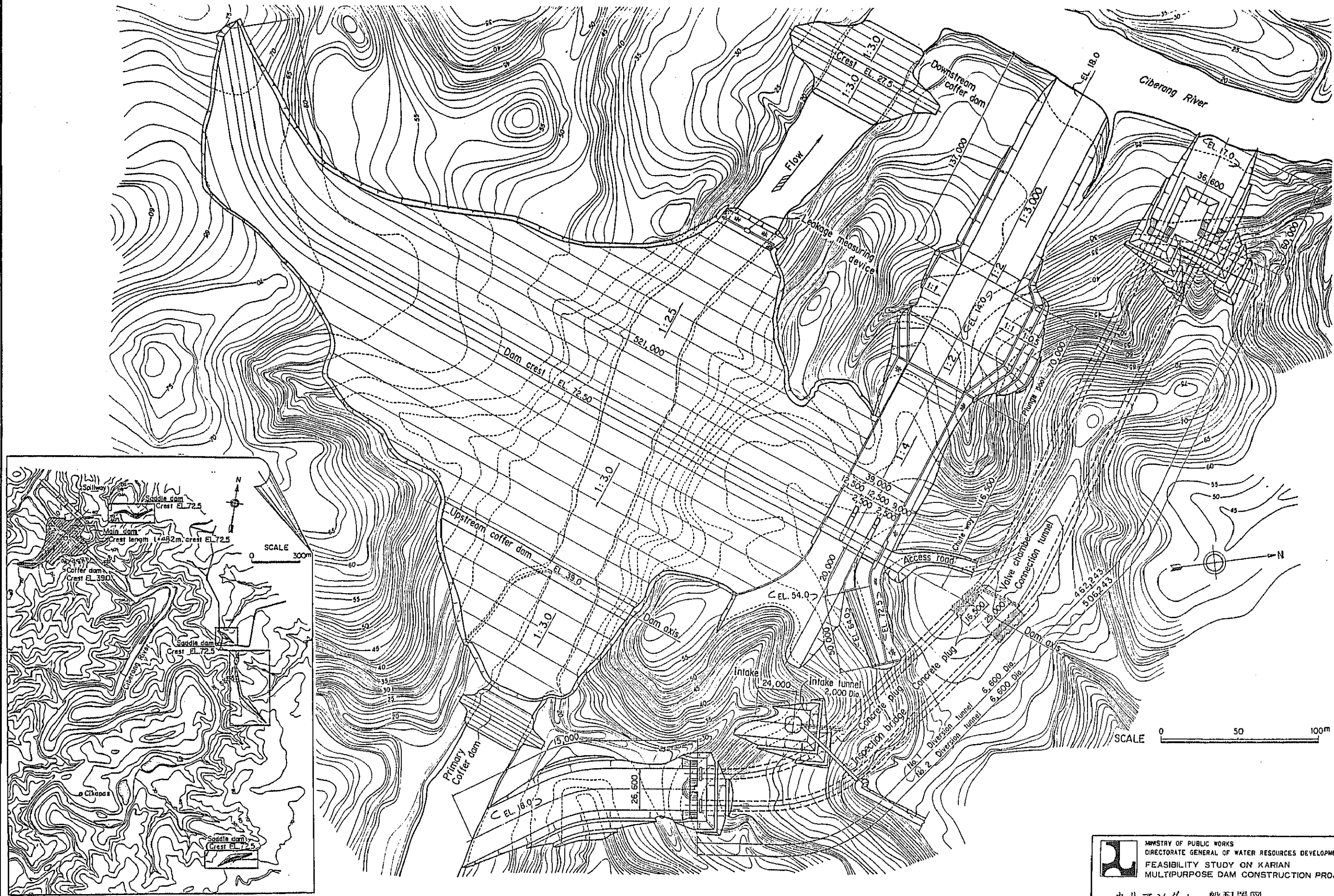
MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT
 チラワンダム洪水吐き放流量
 (可能最大洪水)
 JAPAN INTERNATIONAL COOPERATION AGENCY



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 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT

チラワンダム洪水吐き放流量
 (50年確率洪水)

JAPAN INTERNATIONAL COOPERATION AGENCY

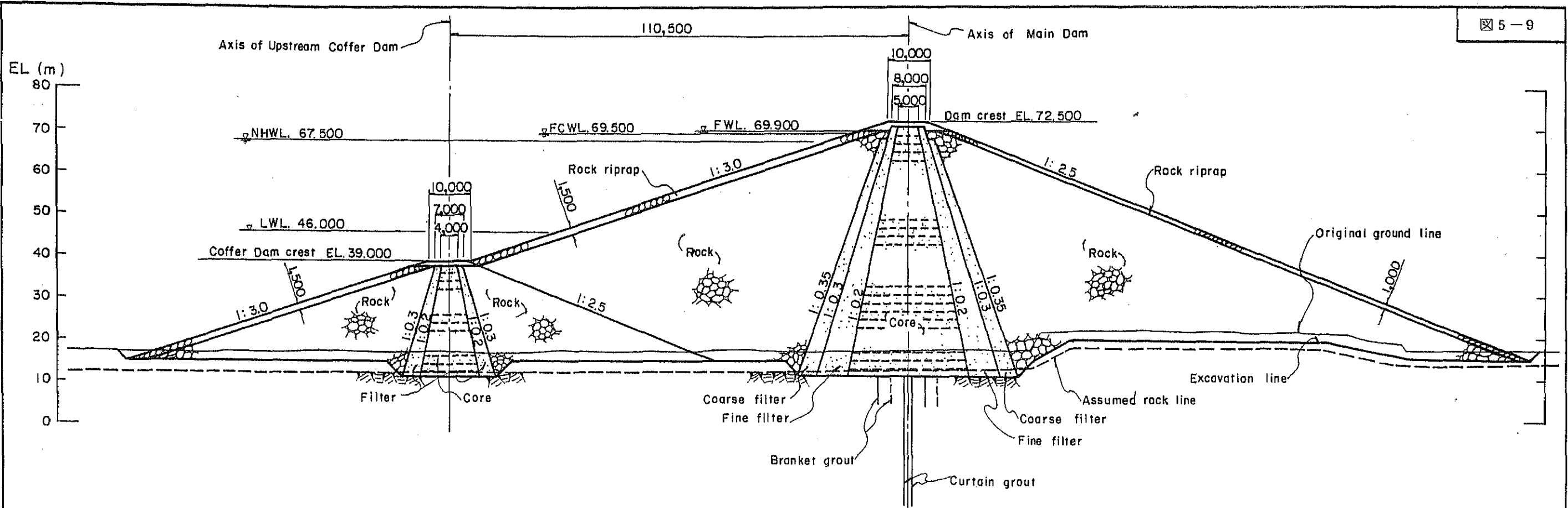


LOCATION MAP

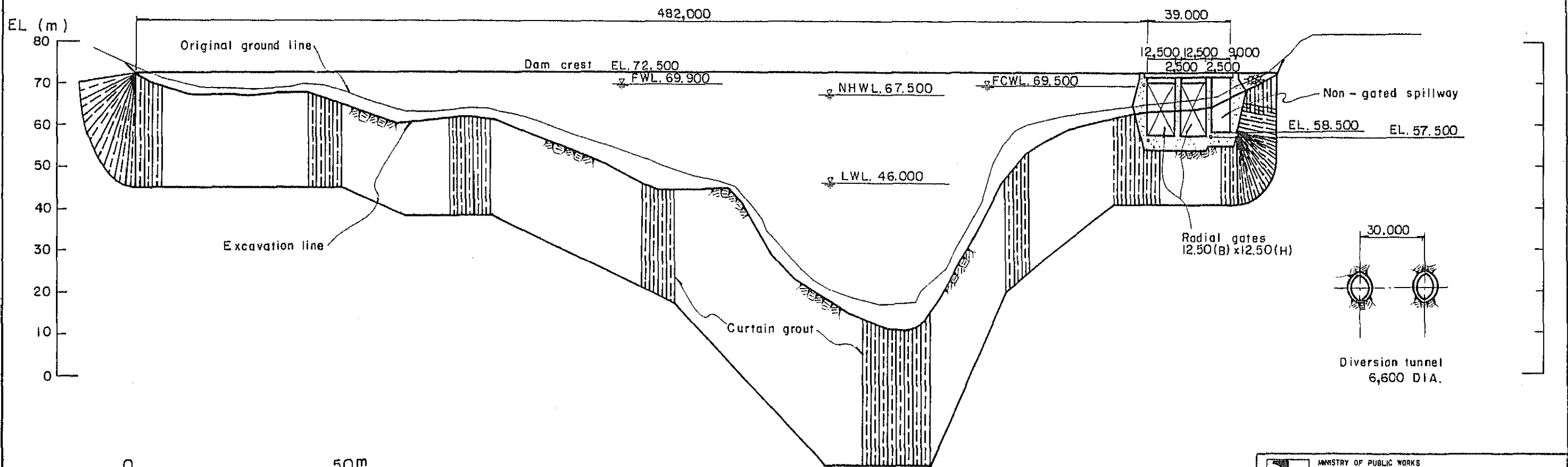
MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT

カリアンダム一般配置図

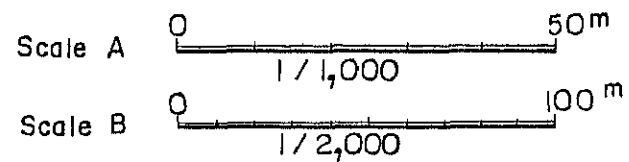
JAPAN INTERNATIONAL COOPERATION AGENCY



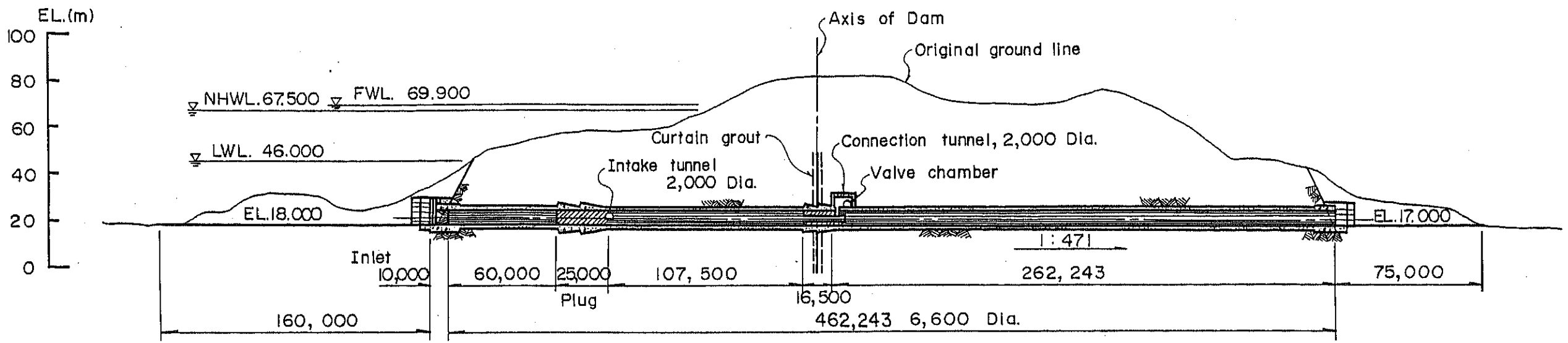
TYPICAL CROSS SECTION OF MAIN DAM
(Scale A)



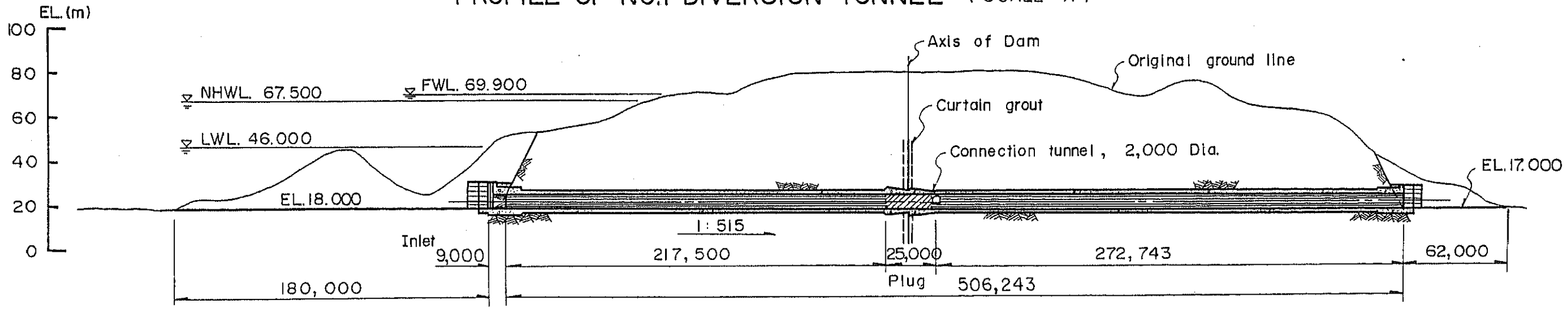
PROFILE OF DAM
(Scale H: 1/2,000; V: 1/1,000)



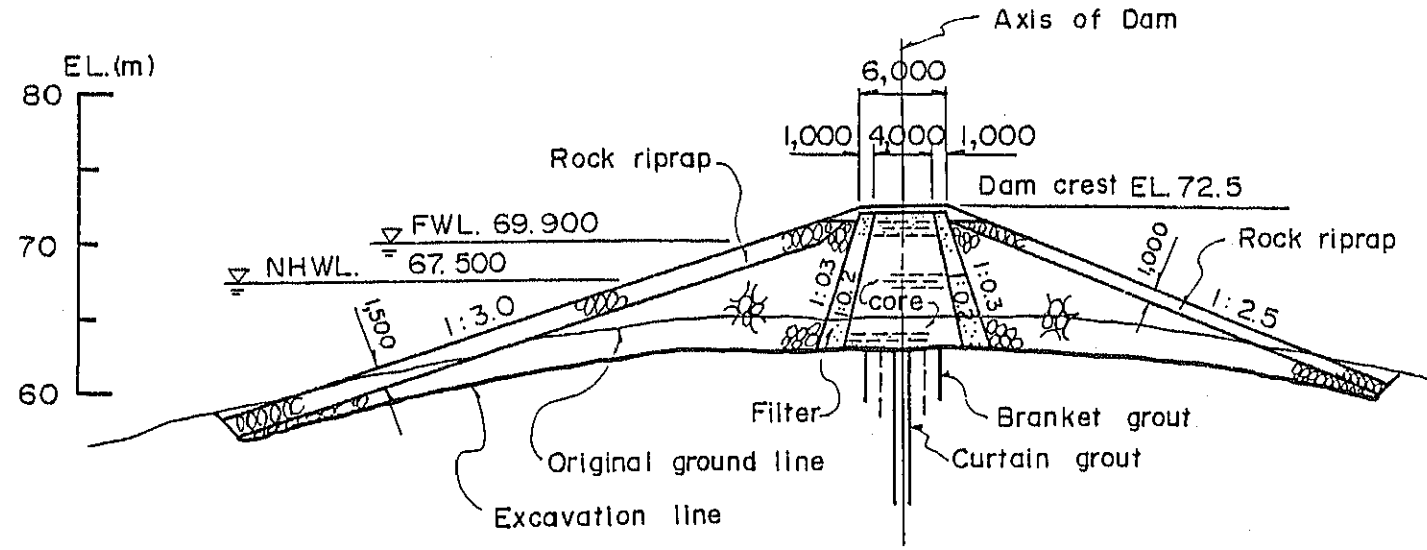
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON KARIAN
MULTIPURPOSE DAM CONSTRUCTION PROJECT
カリアンダム ダム縦横断面図
JAPAN INTERNATIONAL COOPERATION AGENCY



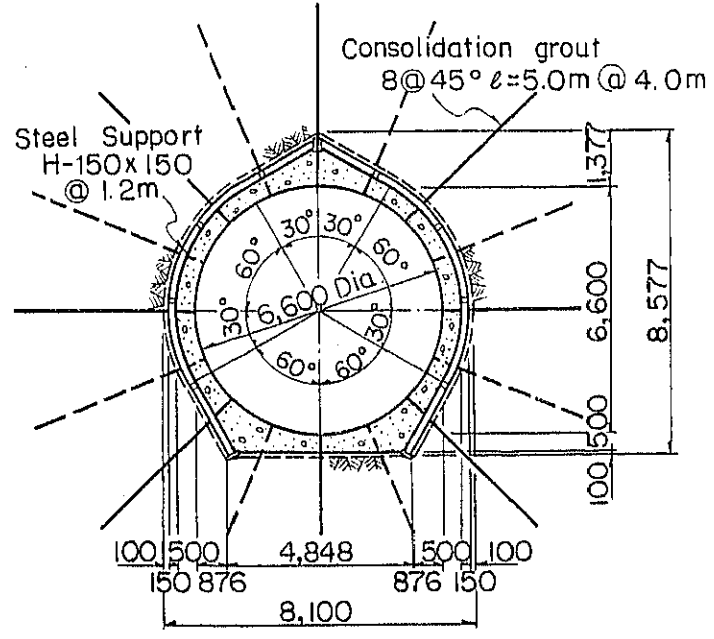
PROFILE OF NO.1 DIVERSION TUNNEL (SCALE A)



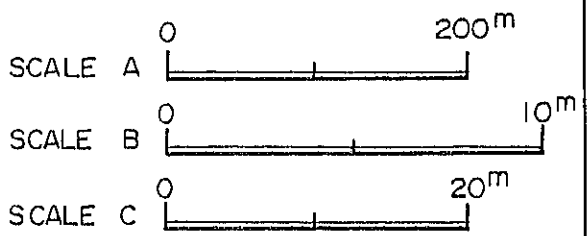
PROFILE OF NO.2 DIVERSION TUNNEL (SCALE A)



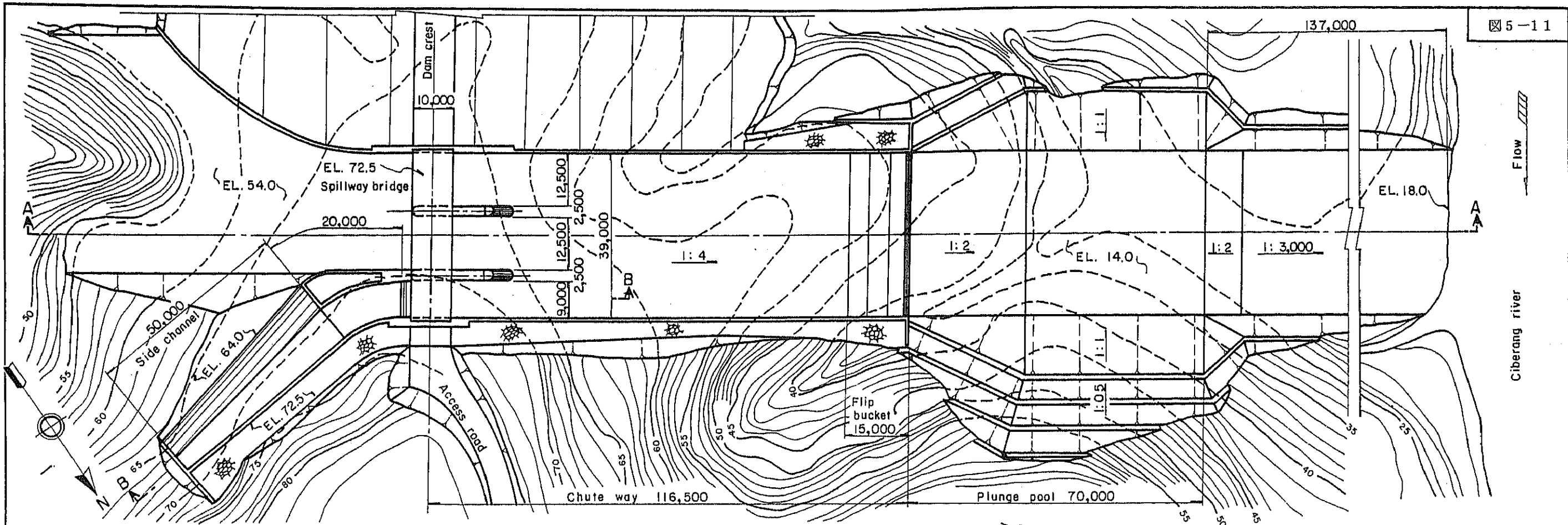
TYPICAL CROSS SECTION OF SADDLE DAM (SCALE C)



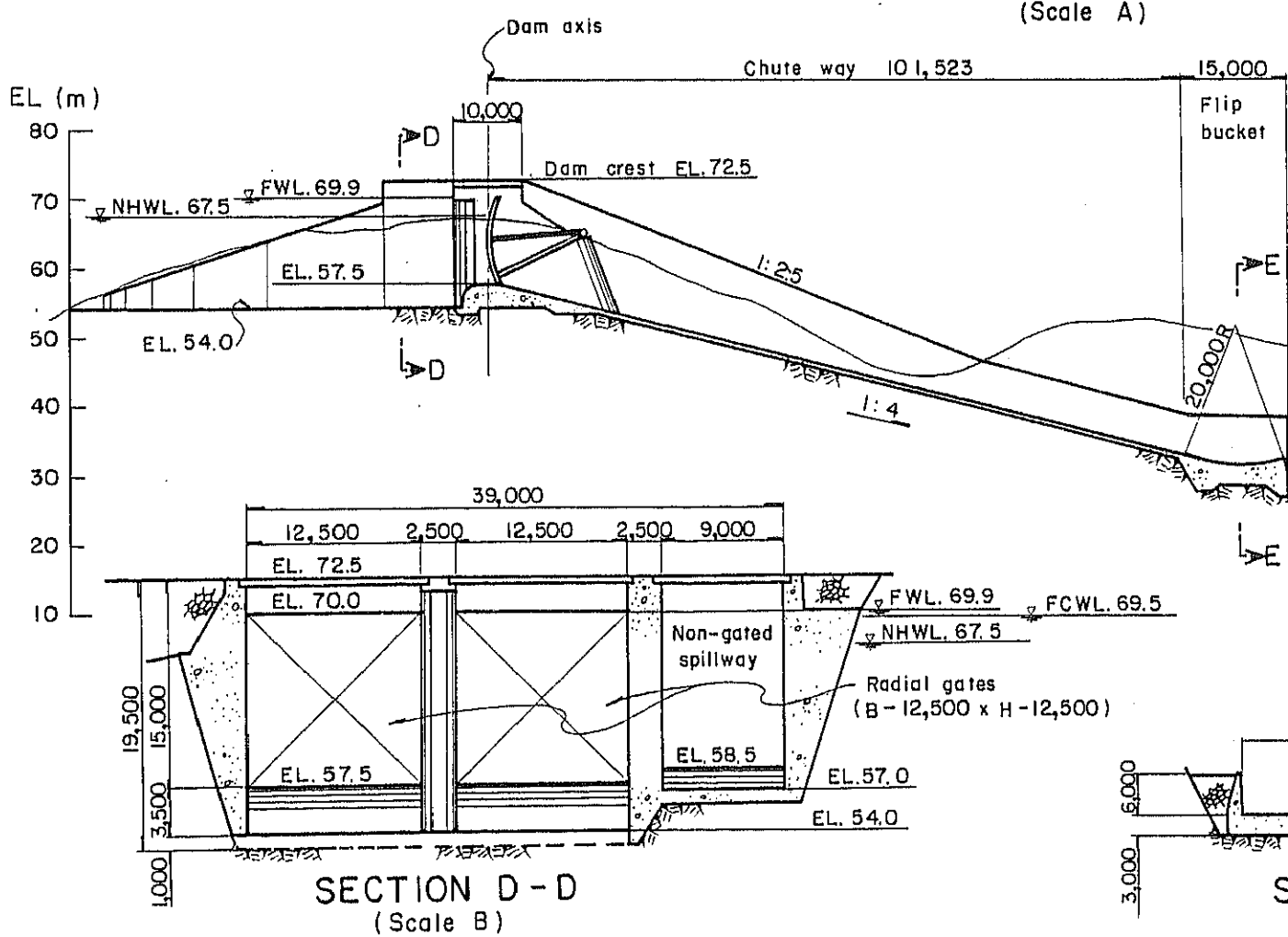
TYPICAL SECTION OF TUNNELS (SCALE B)



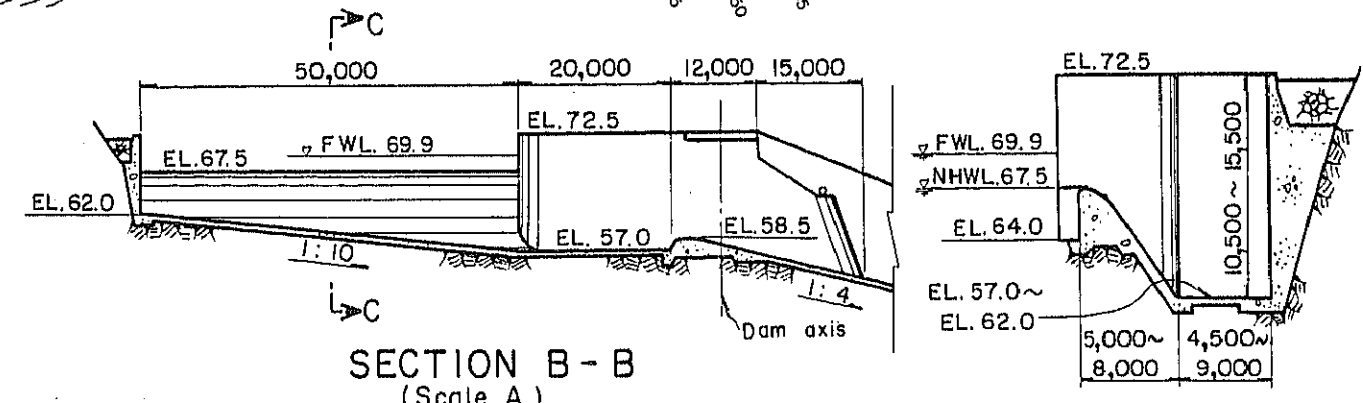
MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT
 カリアンダム仮排水路トンネル及び脇ダム
 JAPAN INTERNATIONAL COOPERATION AGENCY



PLAN
(Scale A)

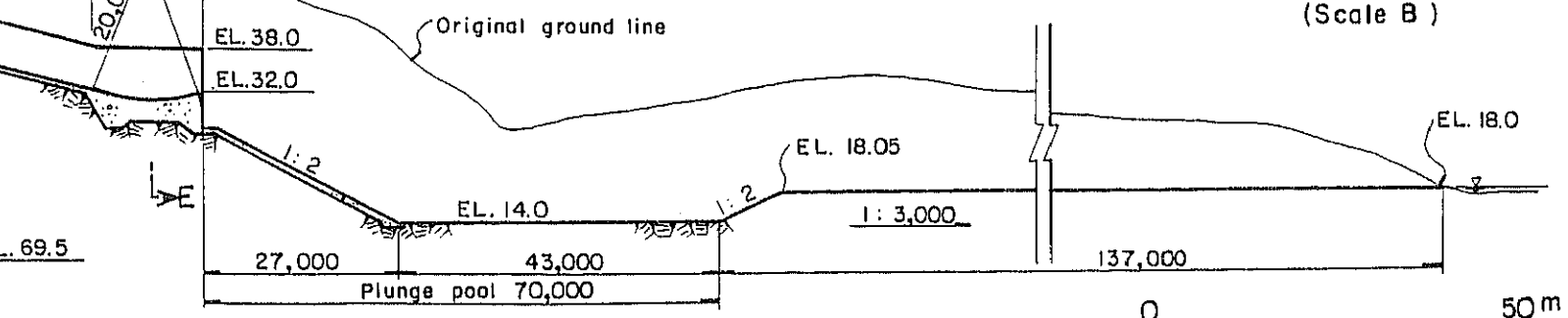


SECTION D-D
(Scale B)

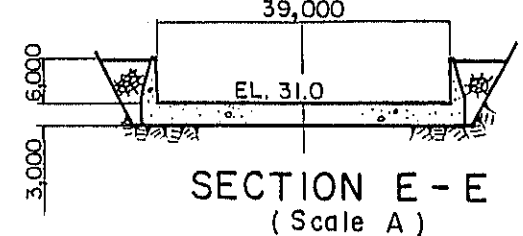


SECTION B-B
(Scale A)

SECTION C-C
(Scale B)



SECTION A-A
(Scale A)



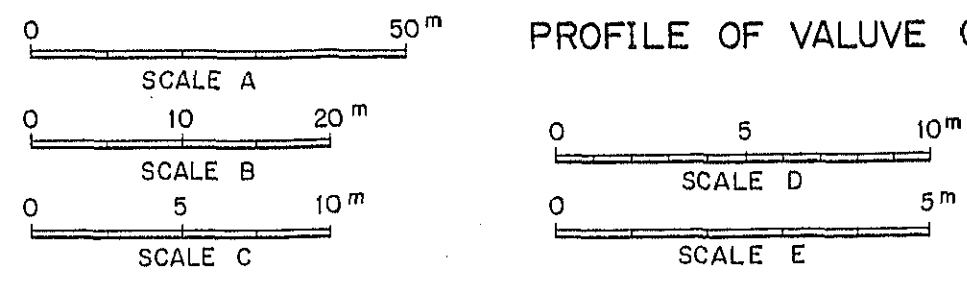
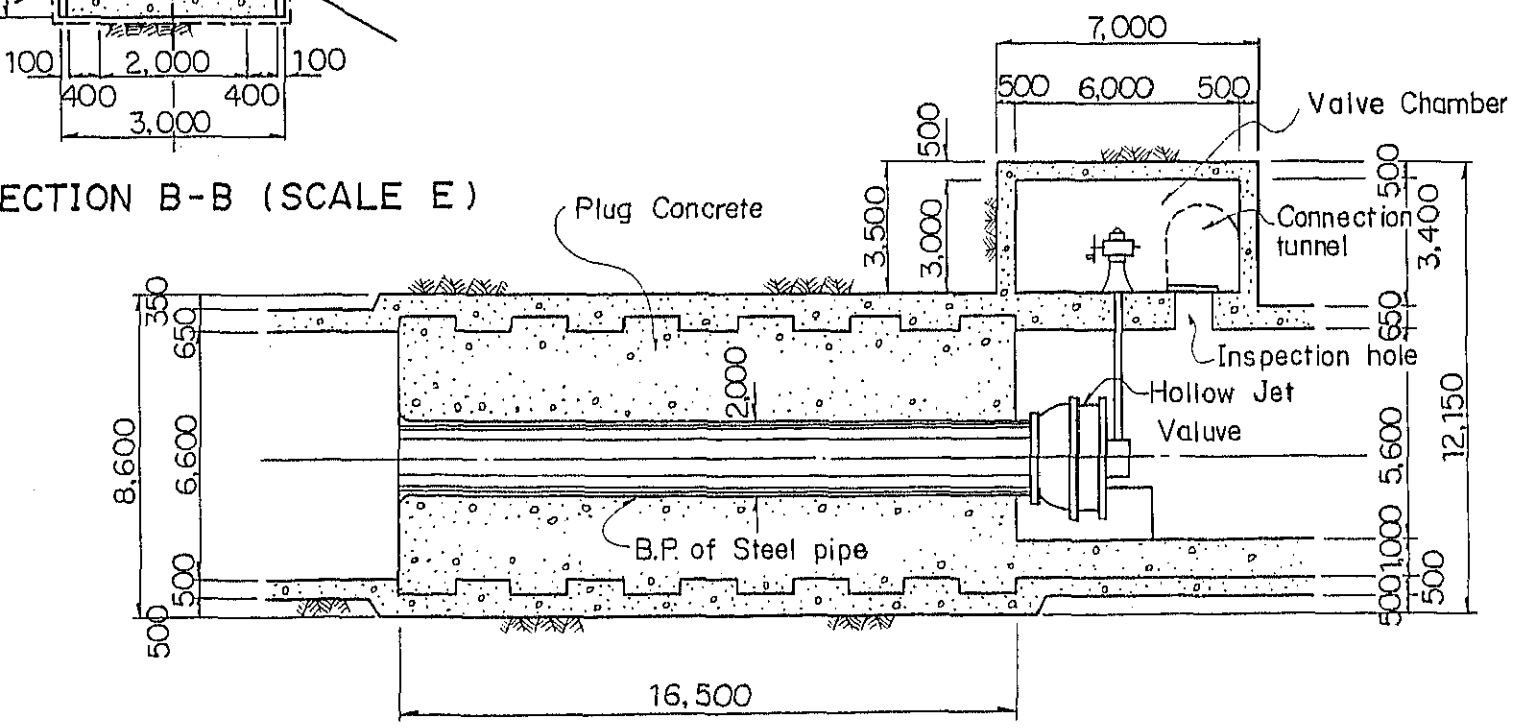
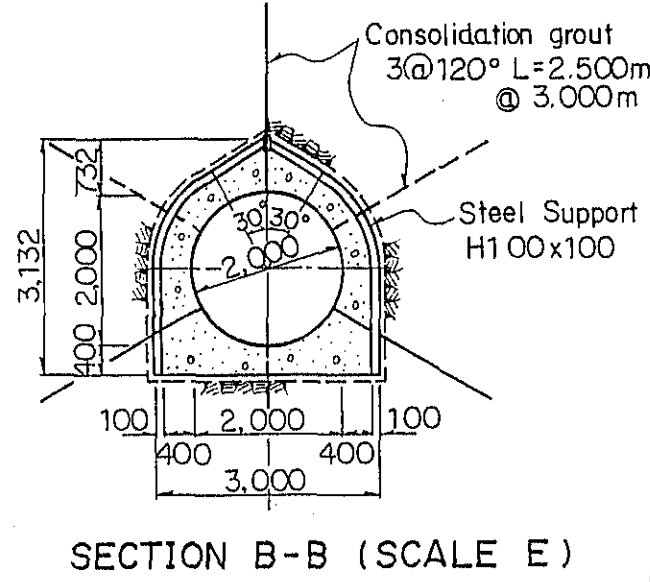
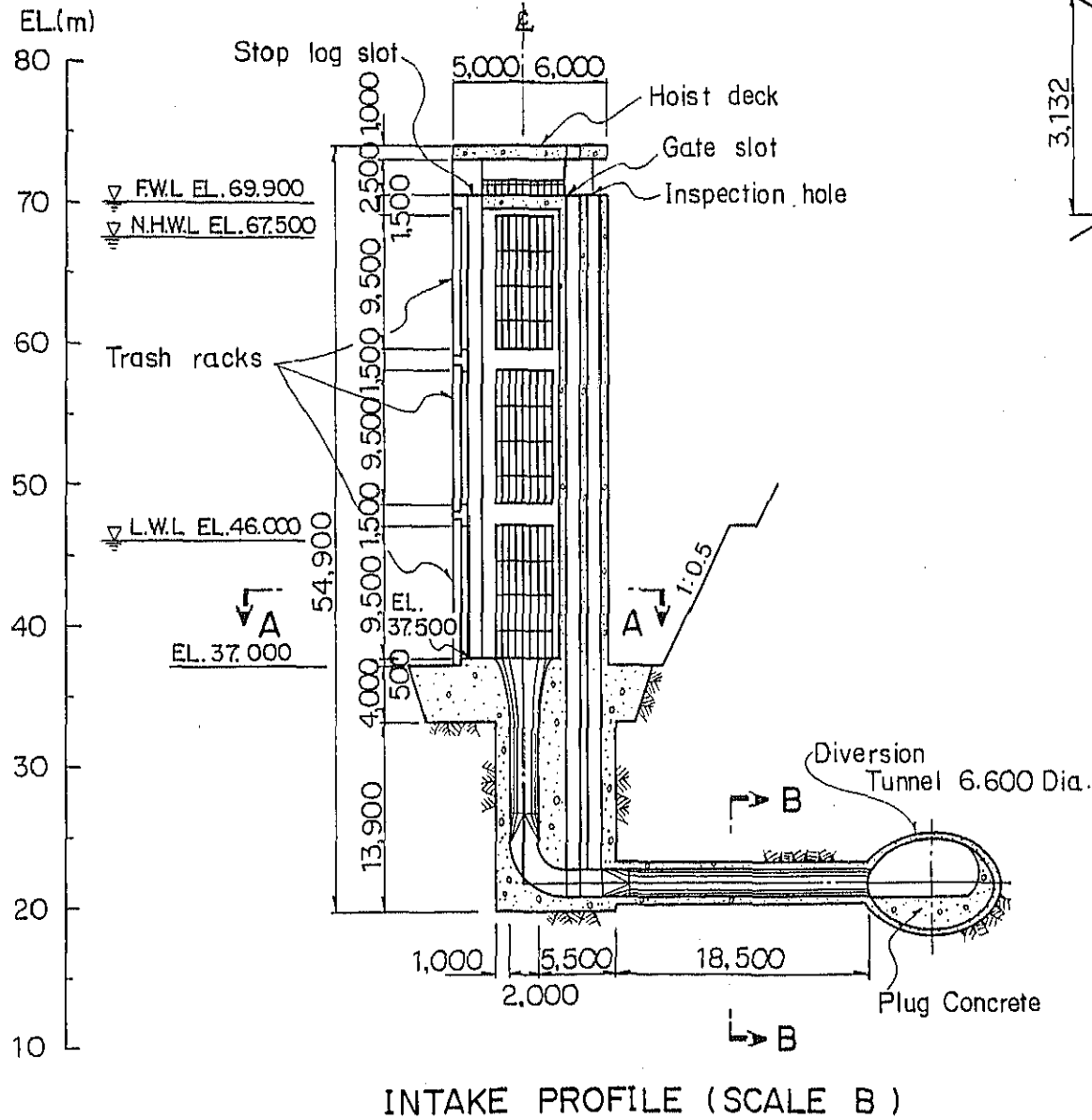
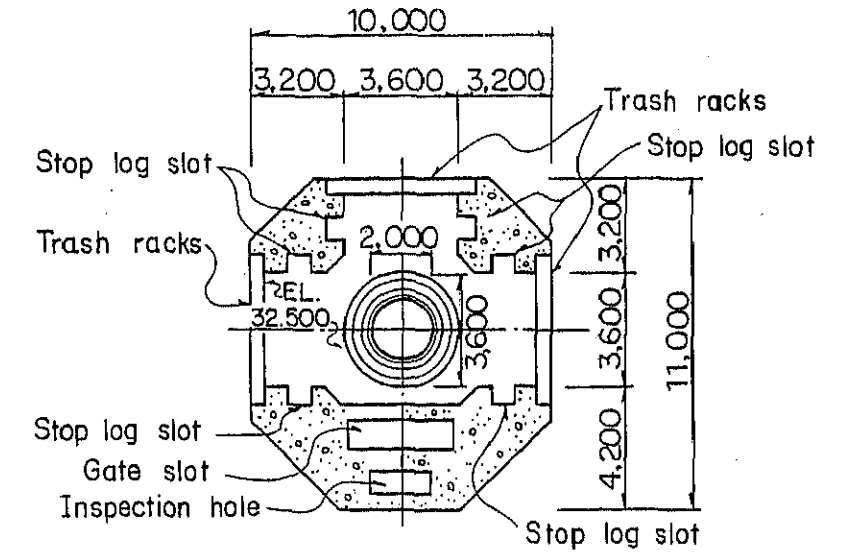
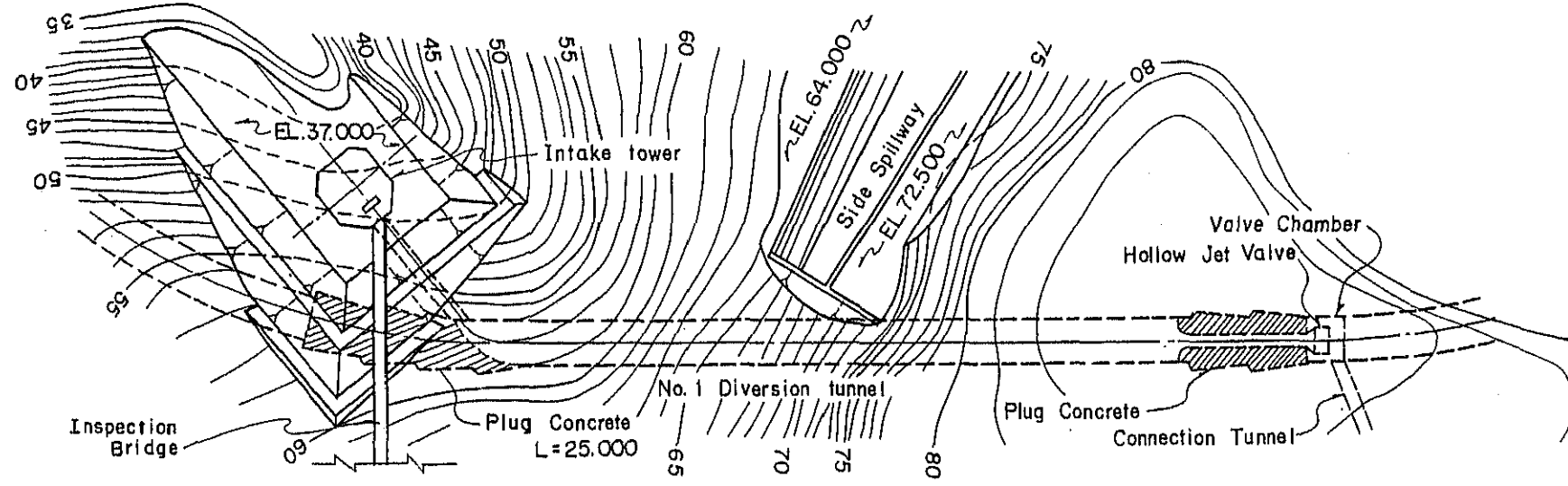
SECTION E-E
(Scale A)



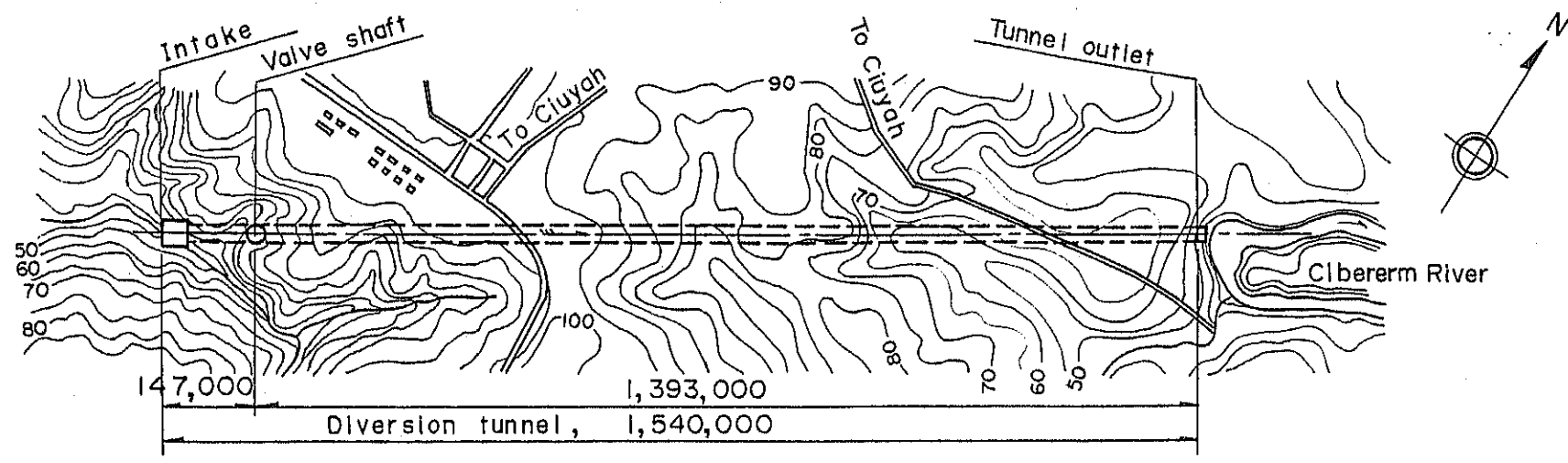
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON KARIAN
MULTIPURPOSE DAM CONSTRUCTION PROJECT

カリアンダム洪水吐き

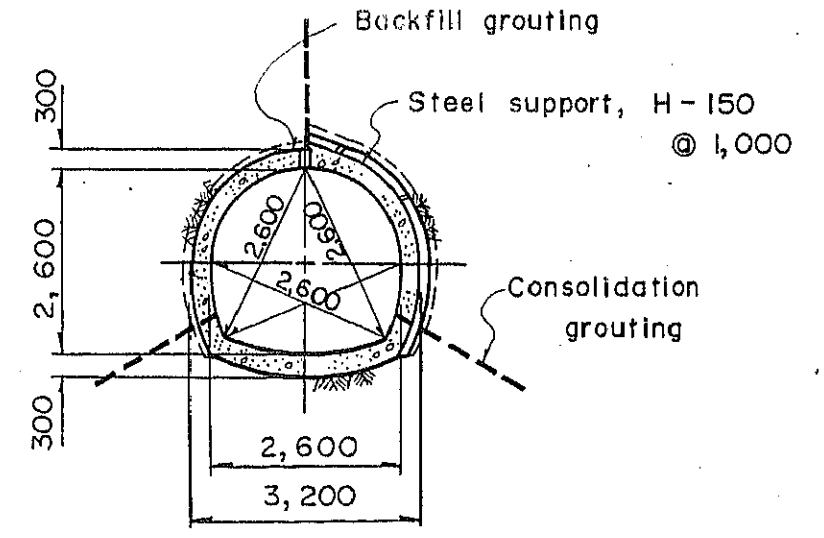
JAPAN INTERNATIONAL COOPERATION AGENCY



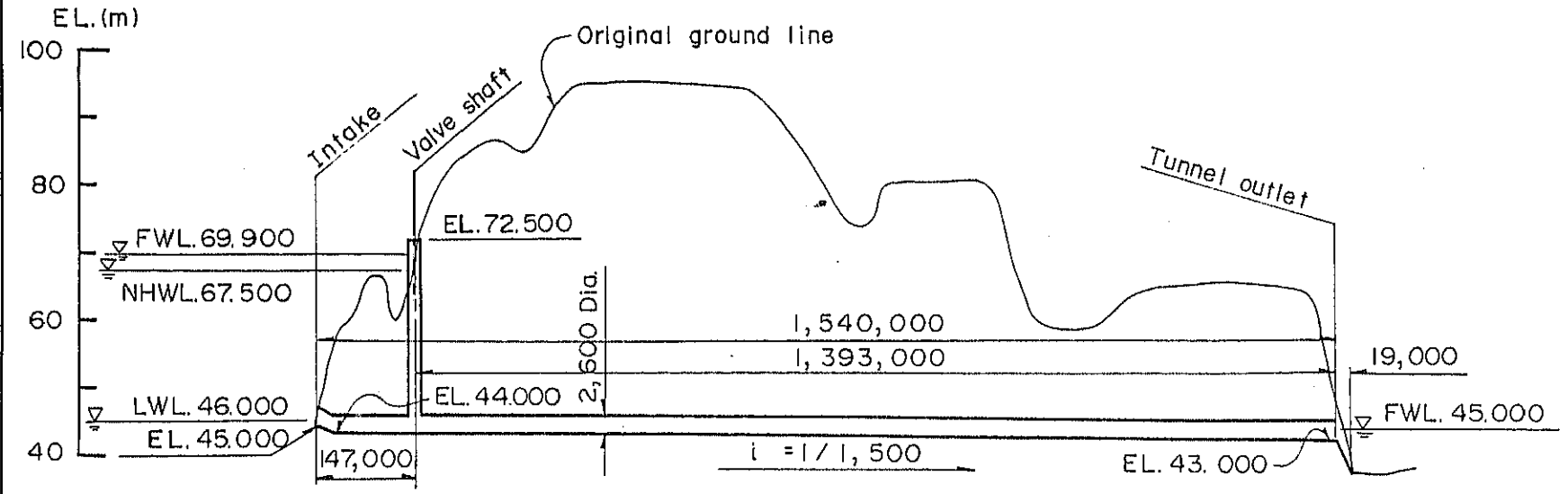
MINISTRY OF PUBLIC WORKS
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 JAPAN INTERNATIONAL COOPERATION AGENCY



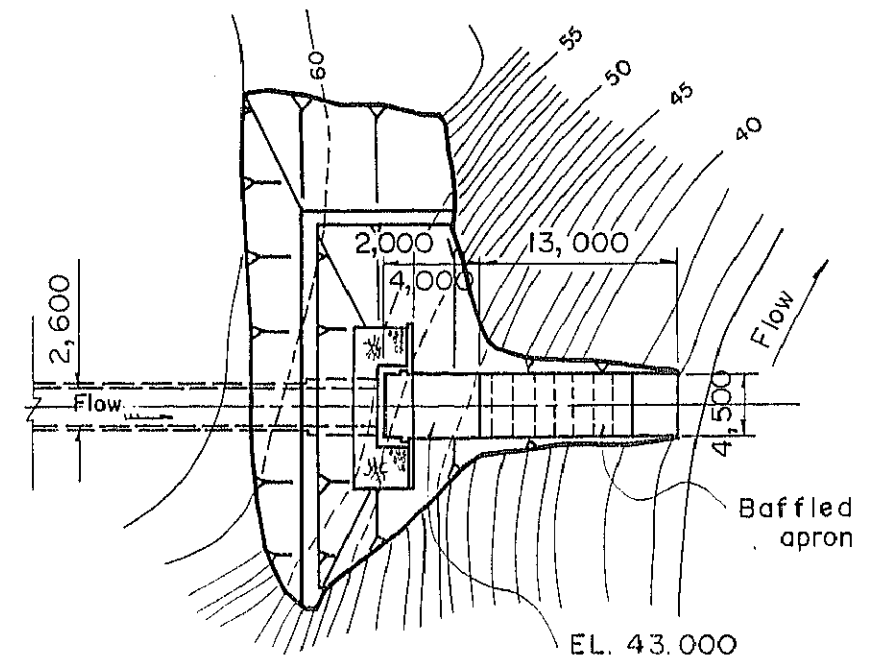
PLAN (SCALE A)



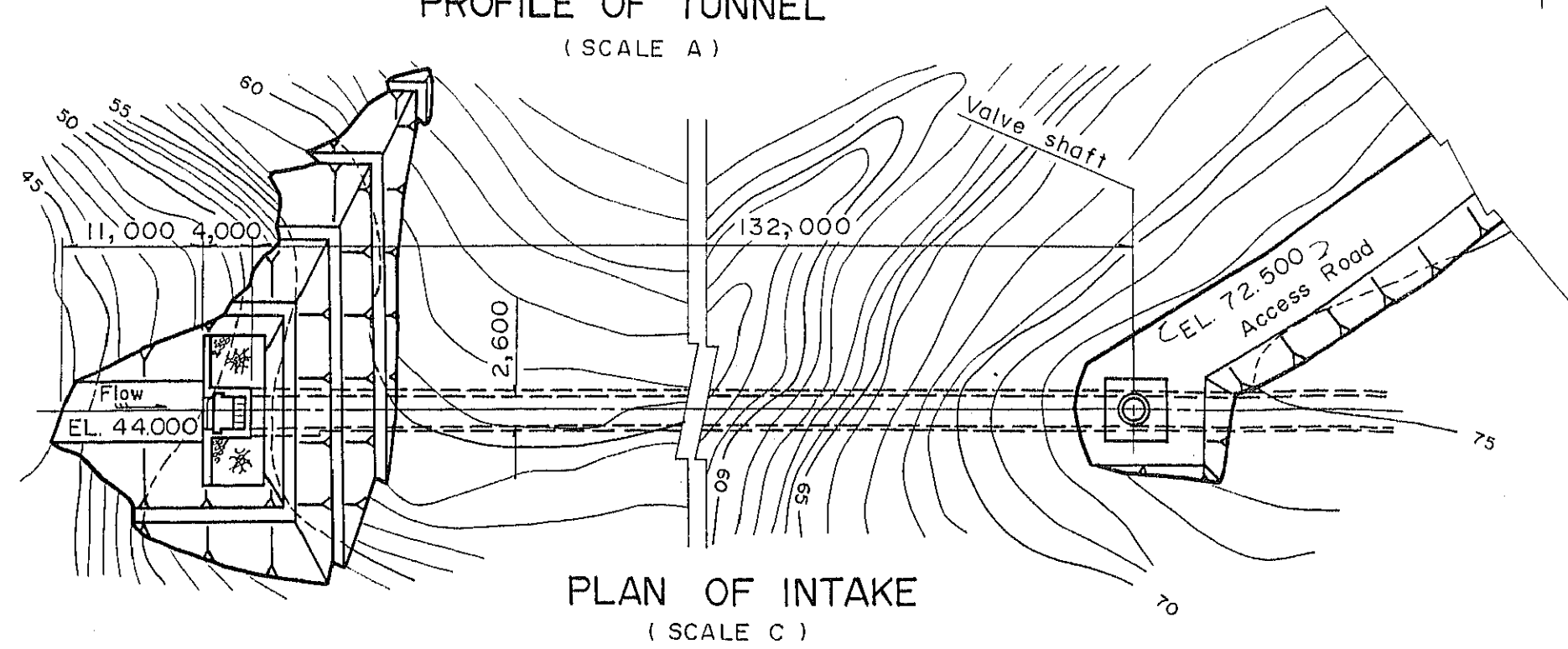
TYPICAL CROSS SECTION OF TUNNEL (SCALE B)



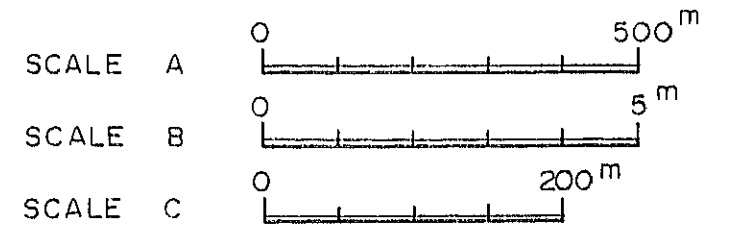
PROFILE OF TUNNEL (SCALE A)

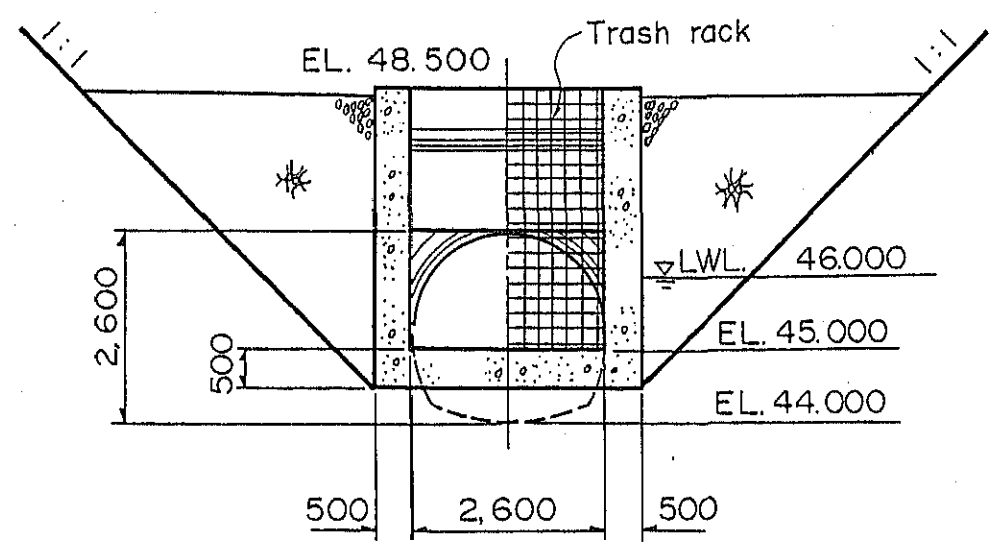


PLAN OF OUTLET (SCALE C)

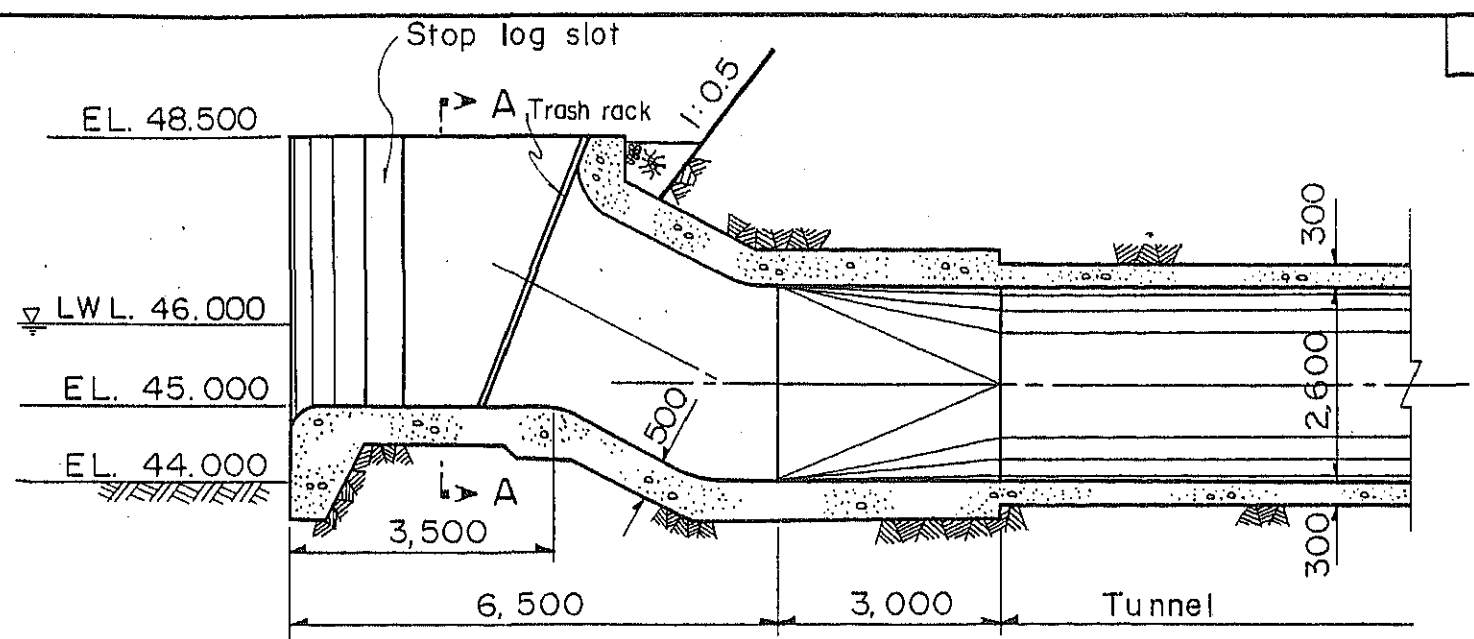


PLAN OF INTAKE (SCALE C)

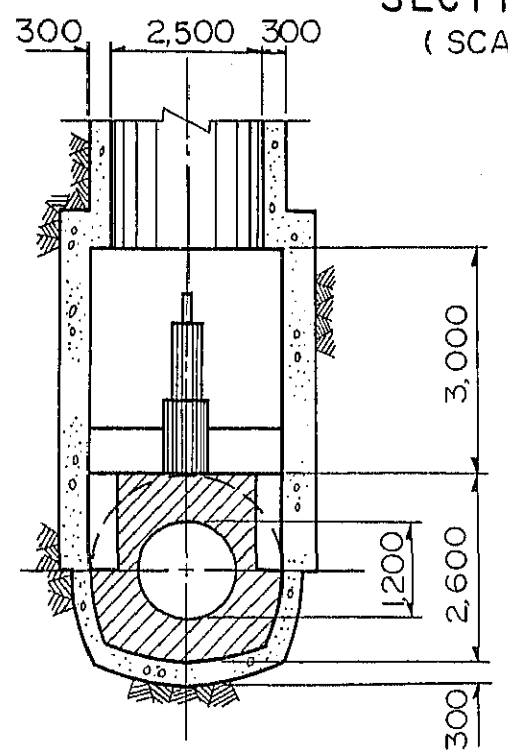




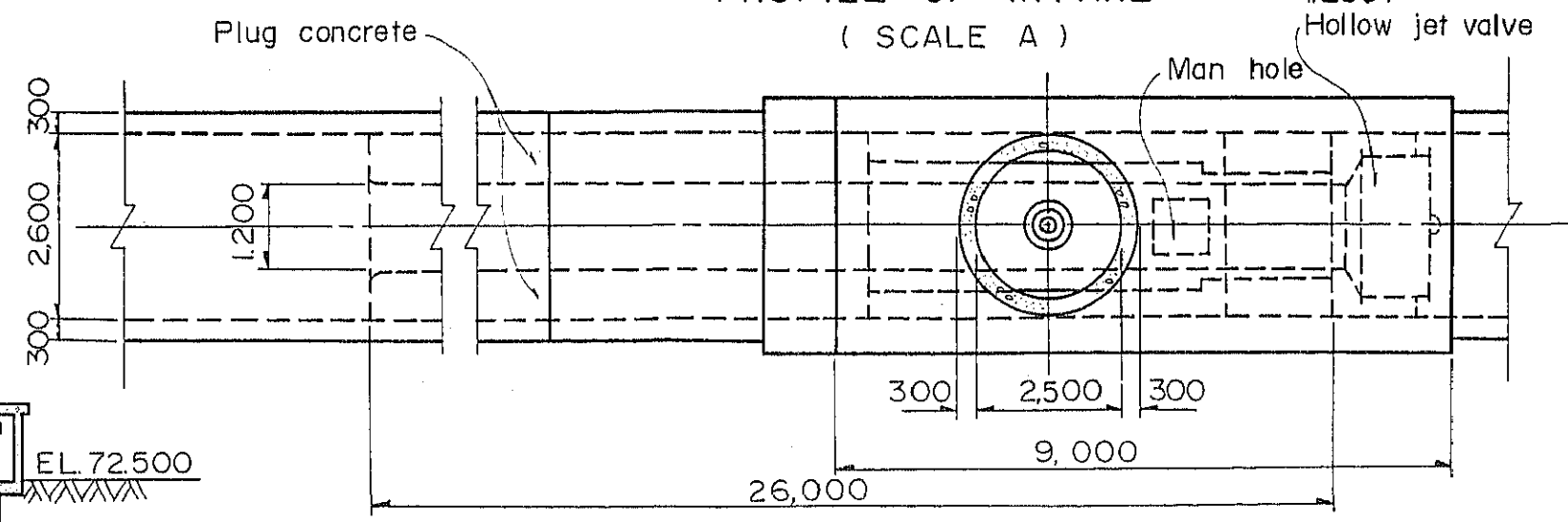
SECTION A - A
(SCALE A)



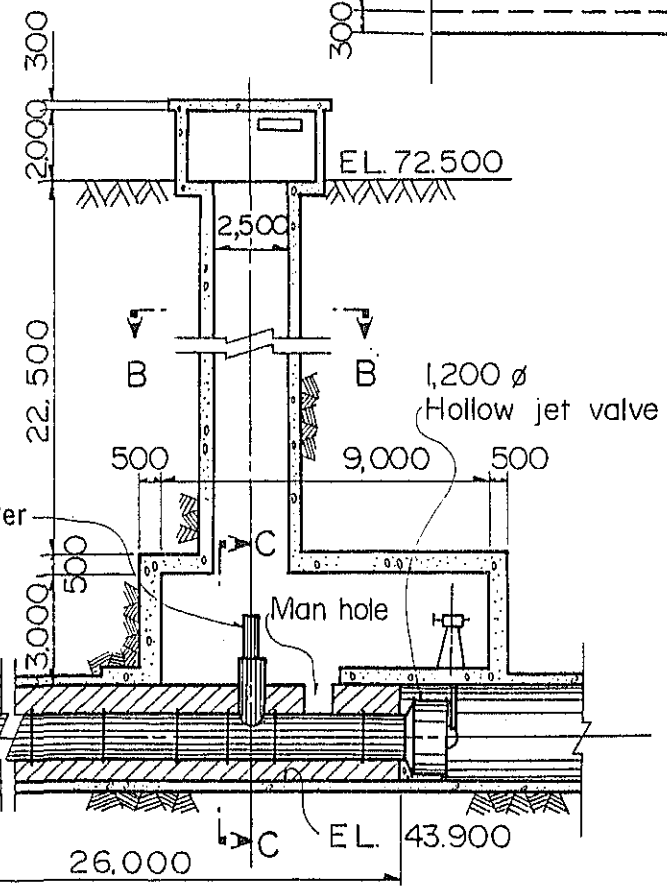
PROFILE OF INTAKE
(SCALE A)



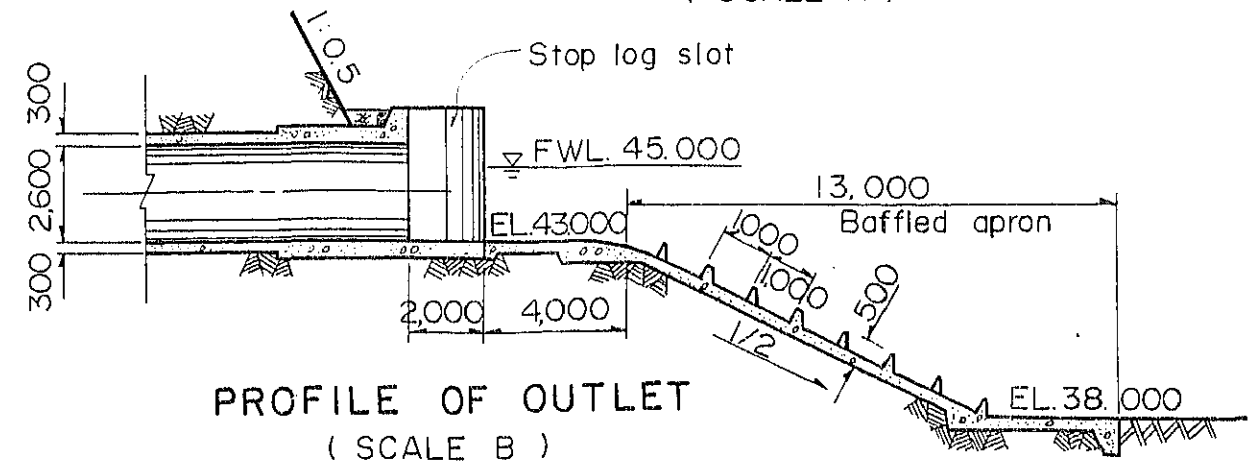
SECTION C - C
(SCALE A)



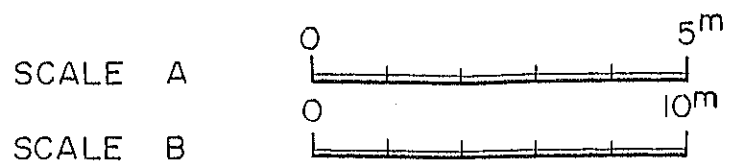
SECTION B - B
(SCALE A)



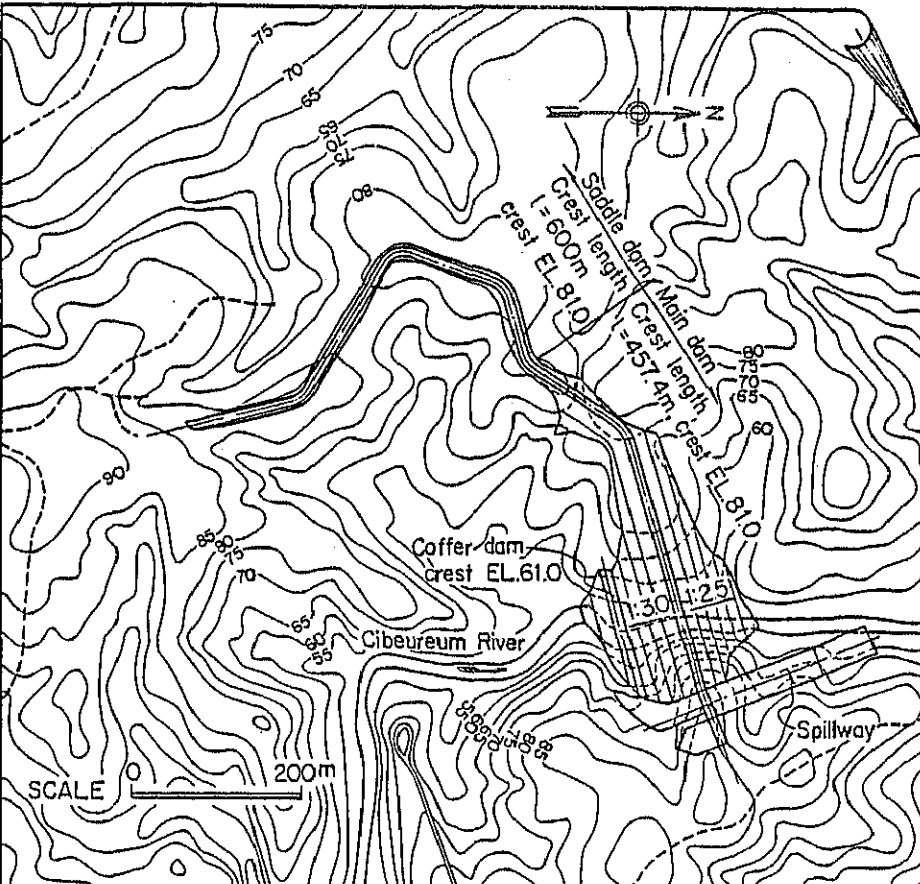
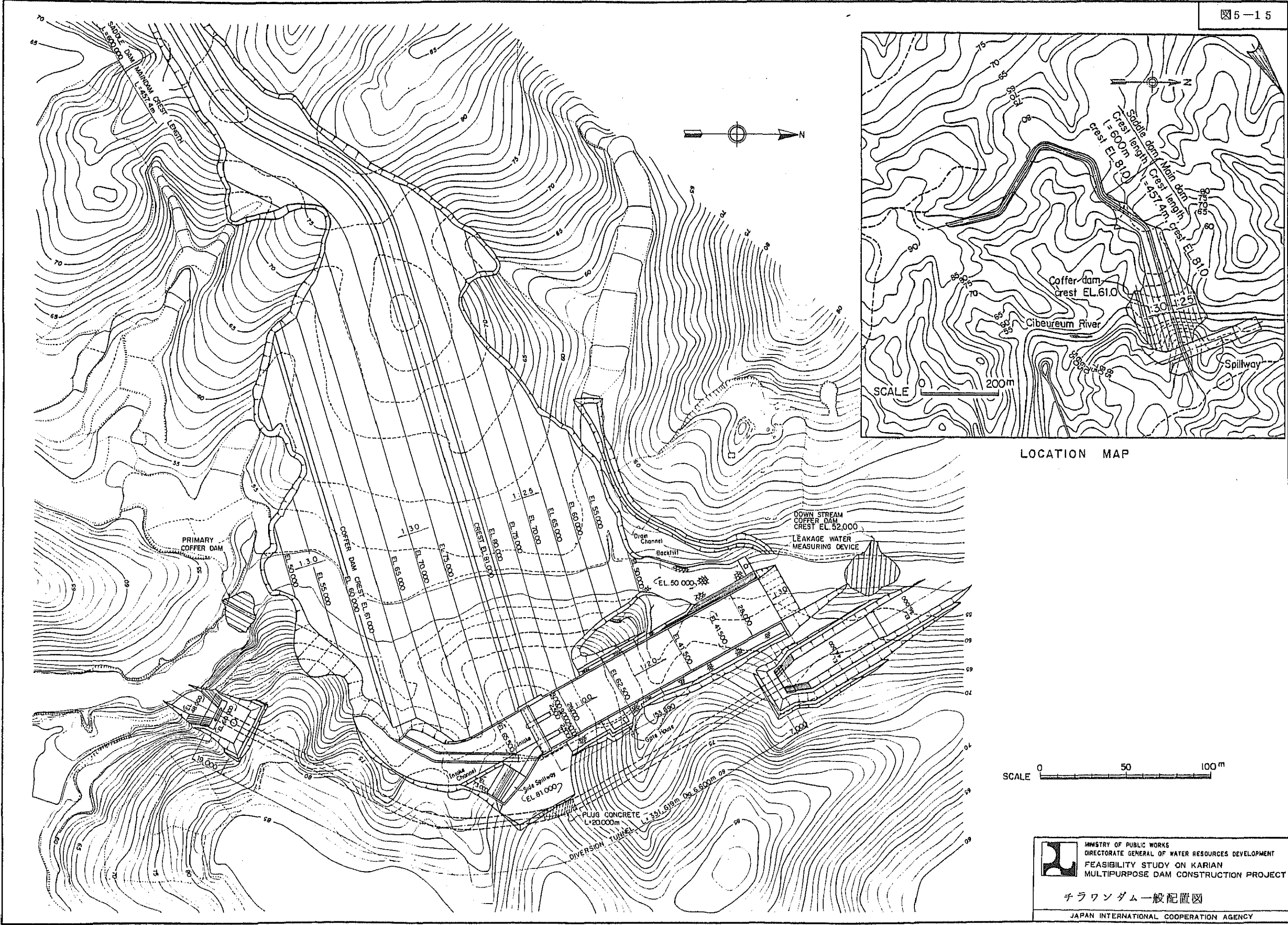
PROFILE OF SHAFT
(SCALE B)



PROFILE OF OUTLET
(SCALE B)




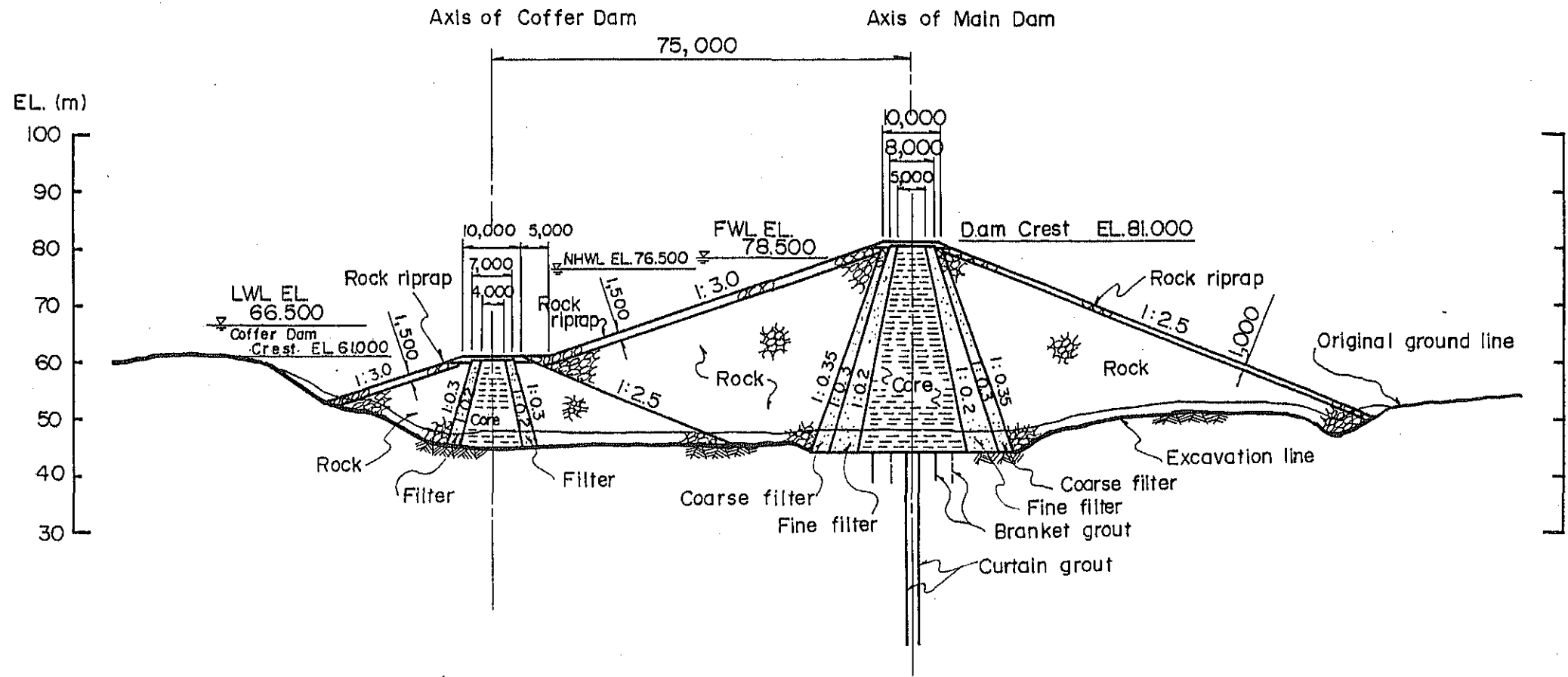
MINISTRY OF PUBLIC WORKS
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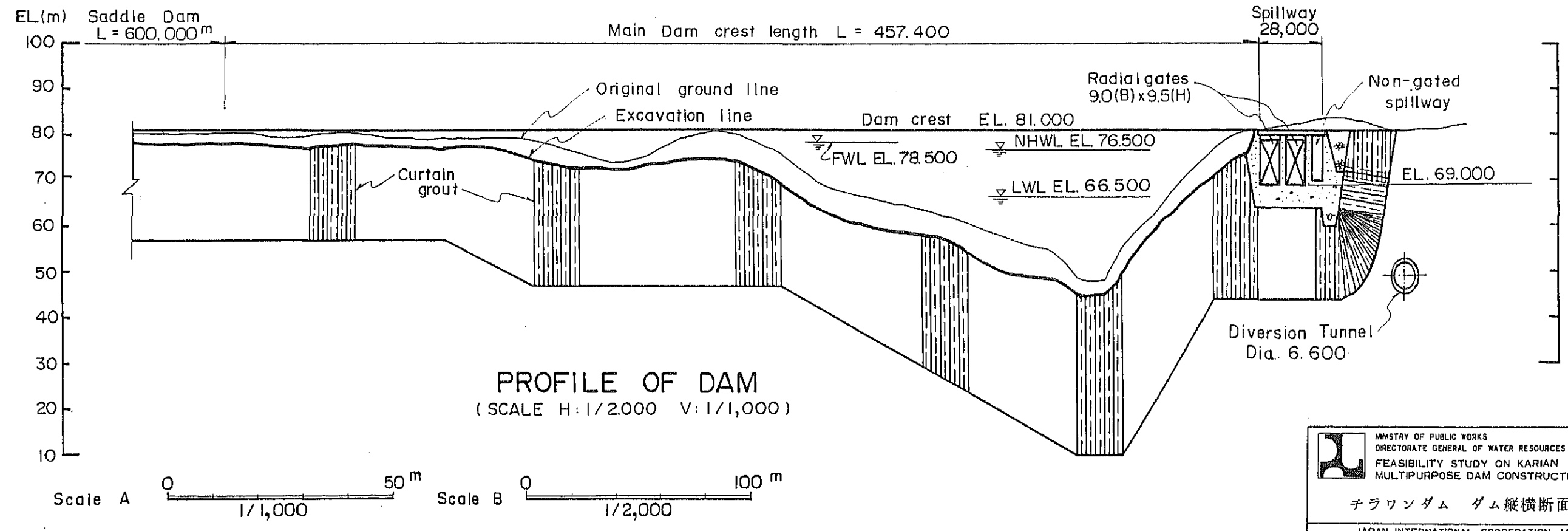
LOCATION MAP

SCALE 0 50 100m


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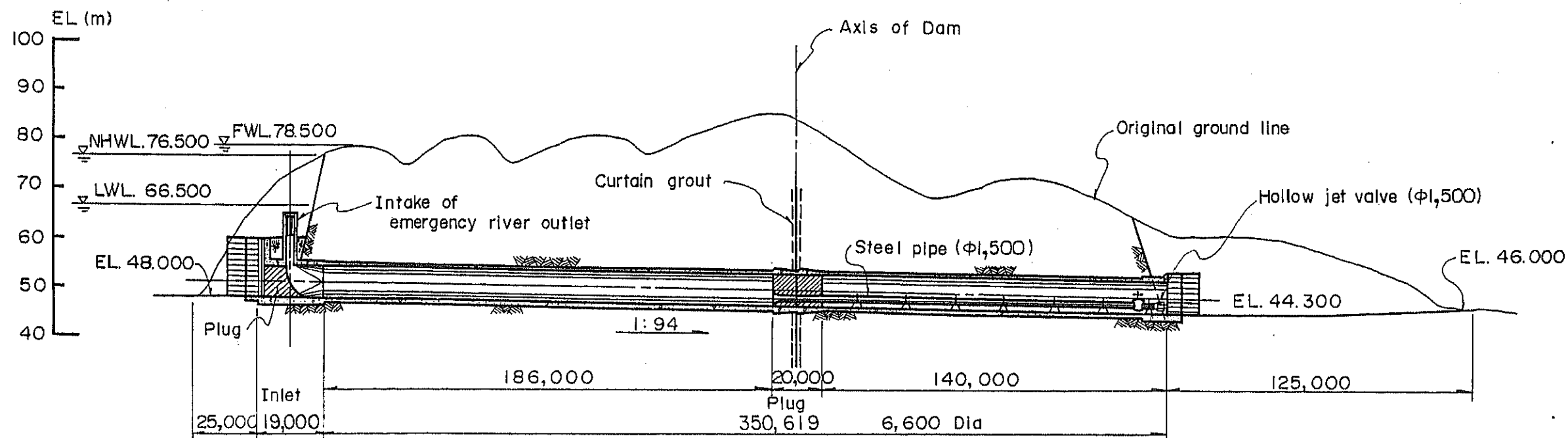


TYPICAL CROSS SECTION OF MAIN DAM
(SCALE A)

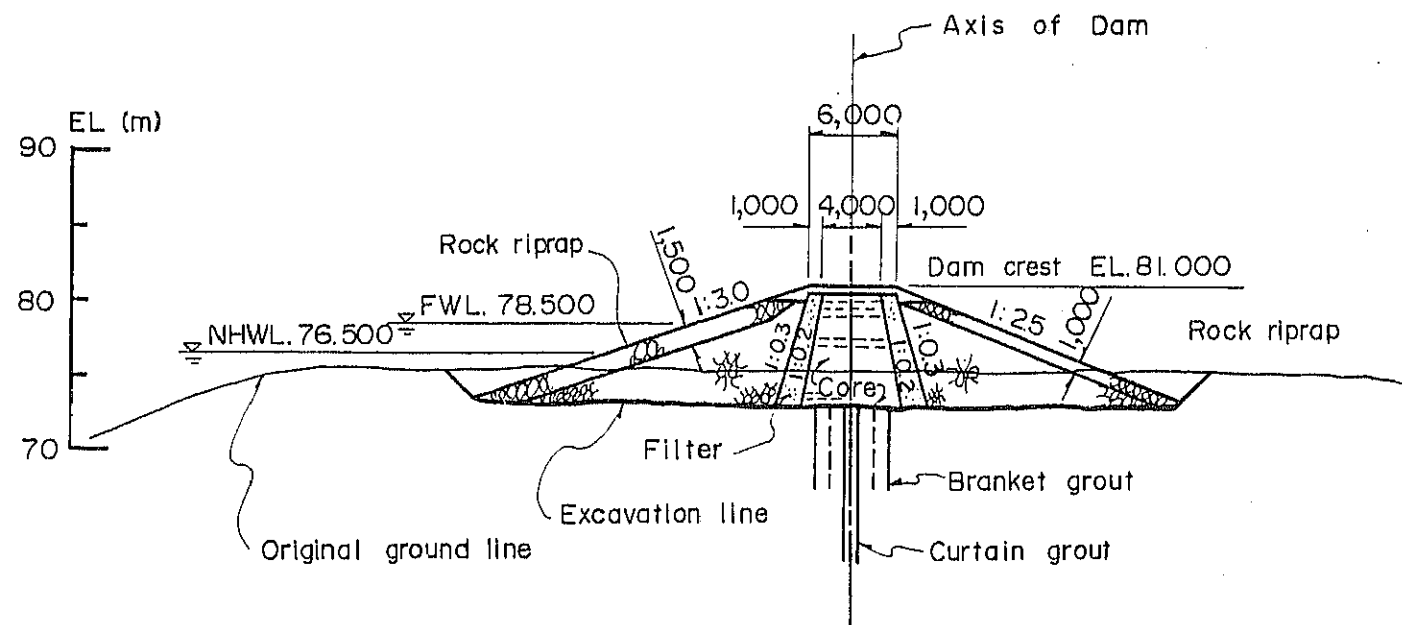


PROFILE OF DAM
(SCALE H: 1/2,000 V: 1/1,000)

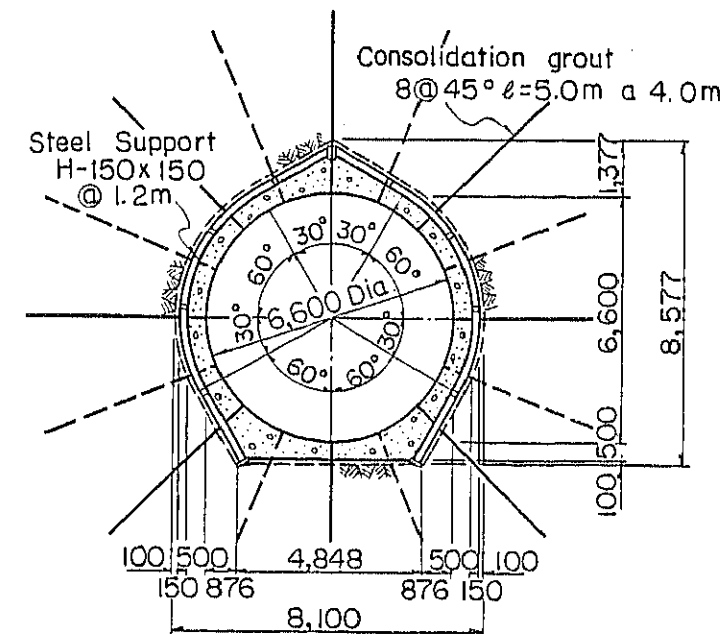
MINISTRY OF PUBLIC WORKS
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MULTIPURPOSE DAM CONSTRUCTION PROJECT
チラワダム ダム縦横断面
JAPAN INTERNATIONAL COOPERATION AGENCY



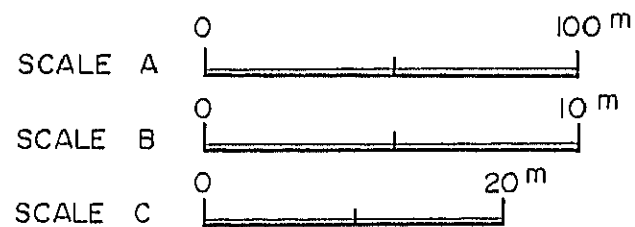
PROFILE OF DIVERSION TUNNEL (H - SCALE A)

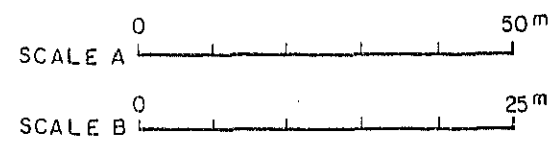
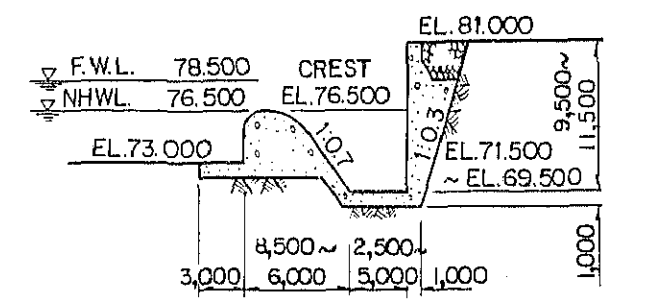
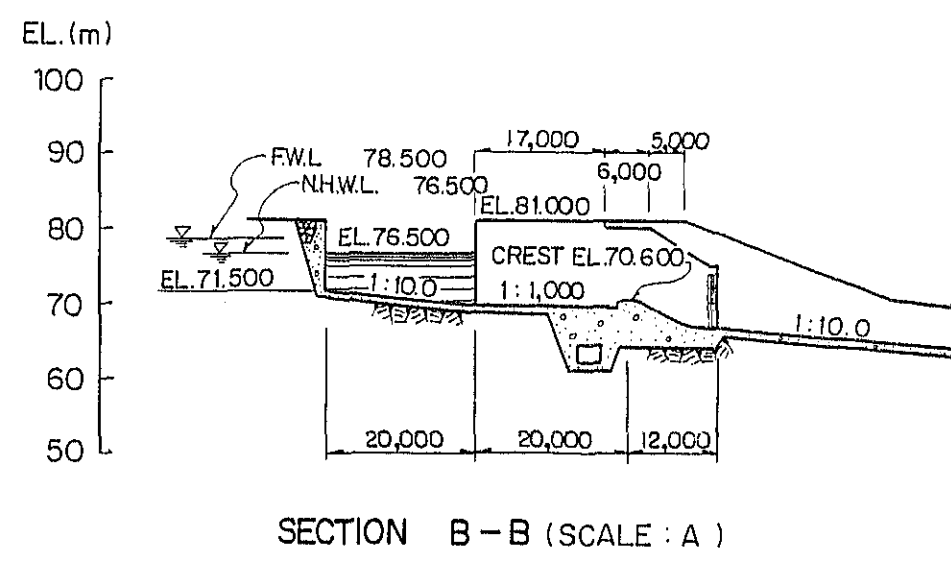
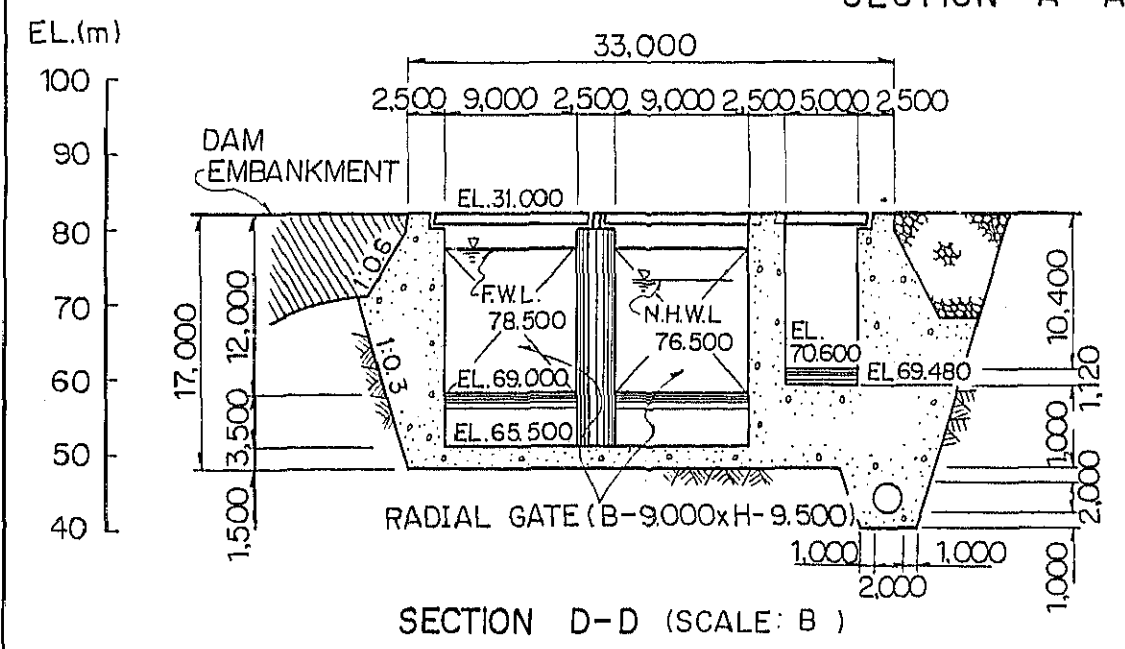
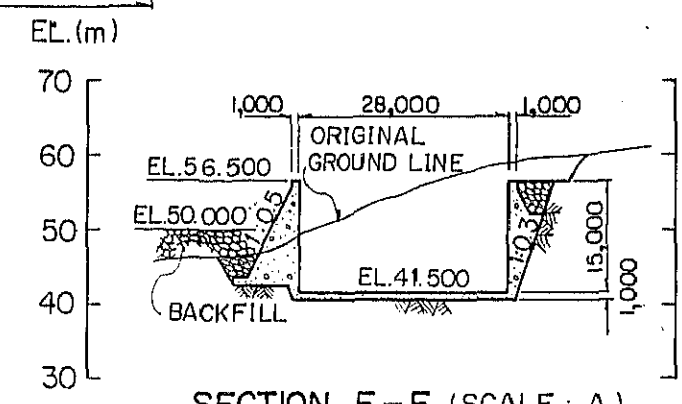
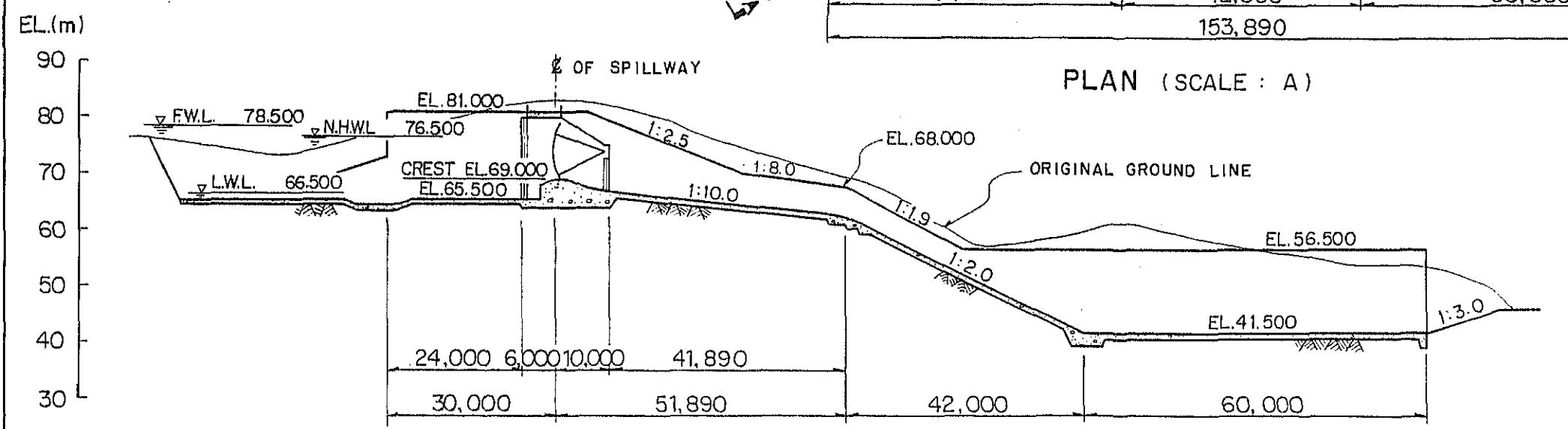
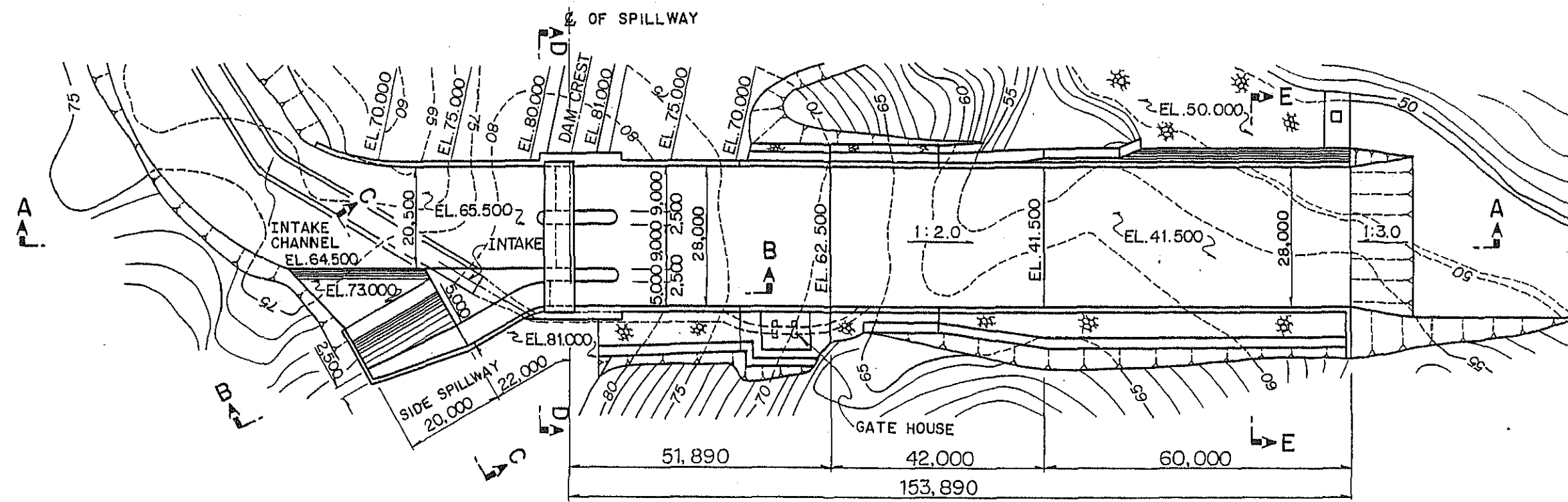


TYPICAL CROSS SECTION OF SADDLE DAM
(SCALE C)

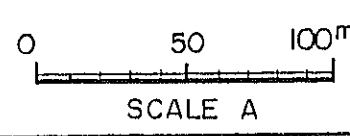
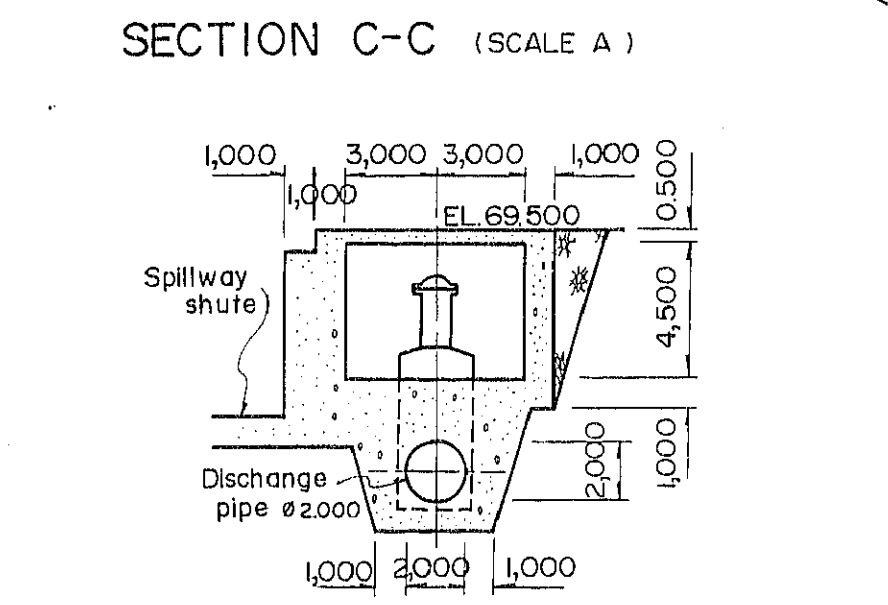
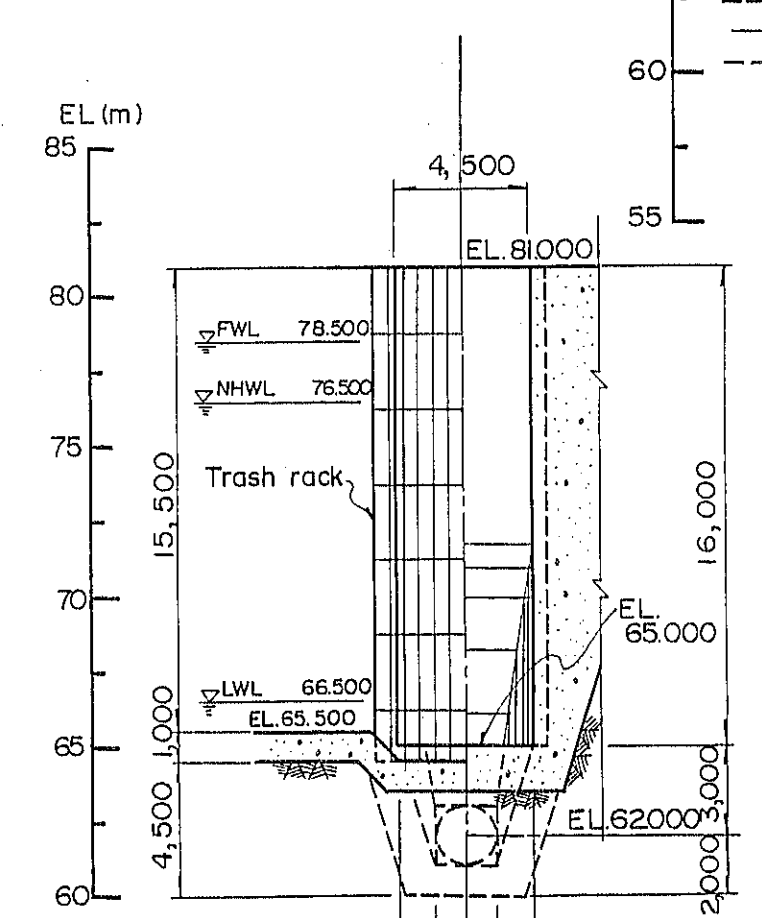
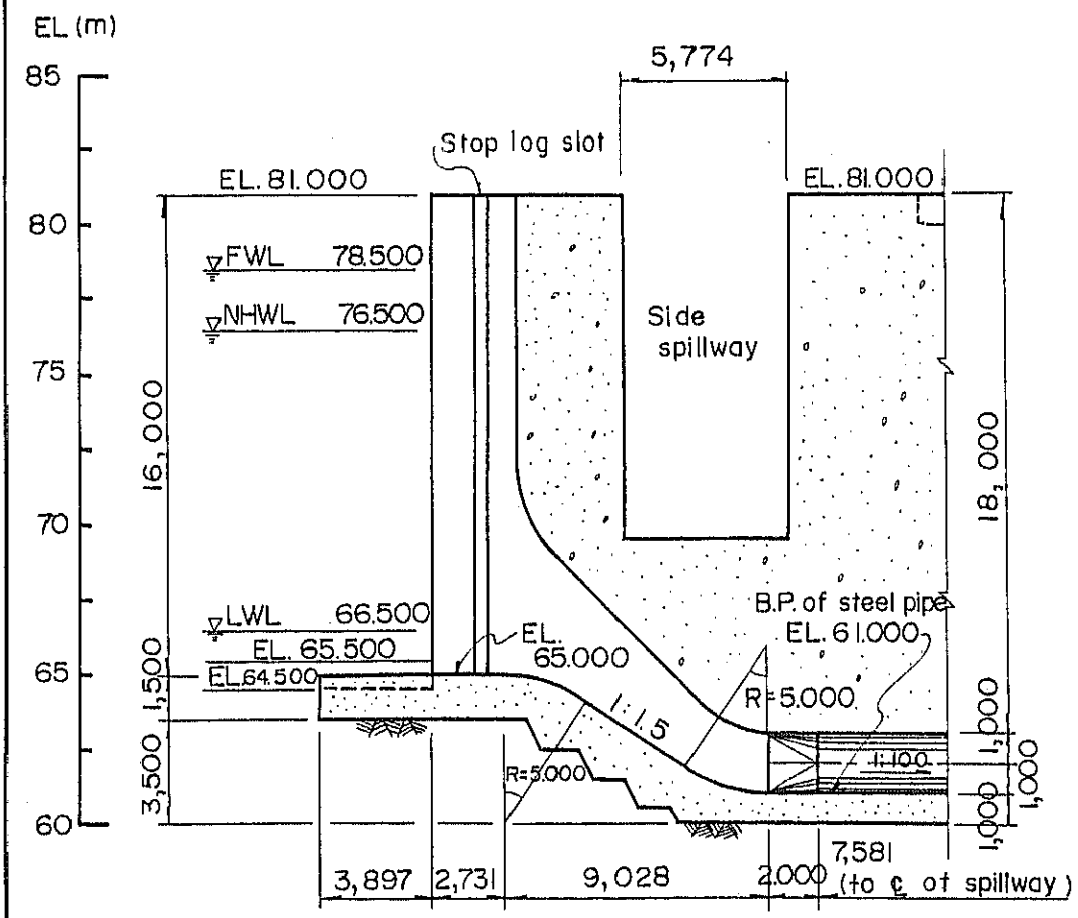
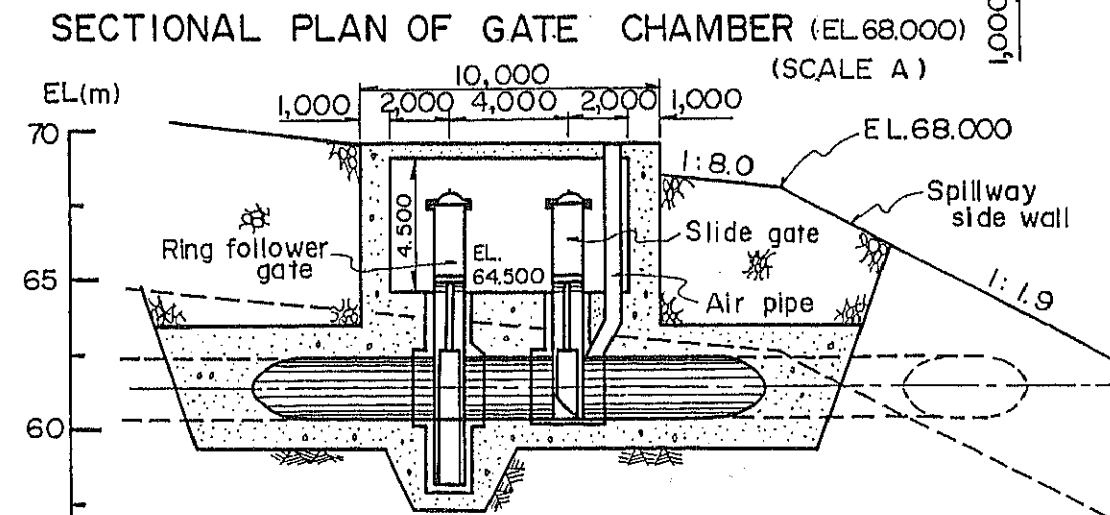
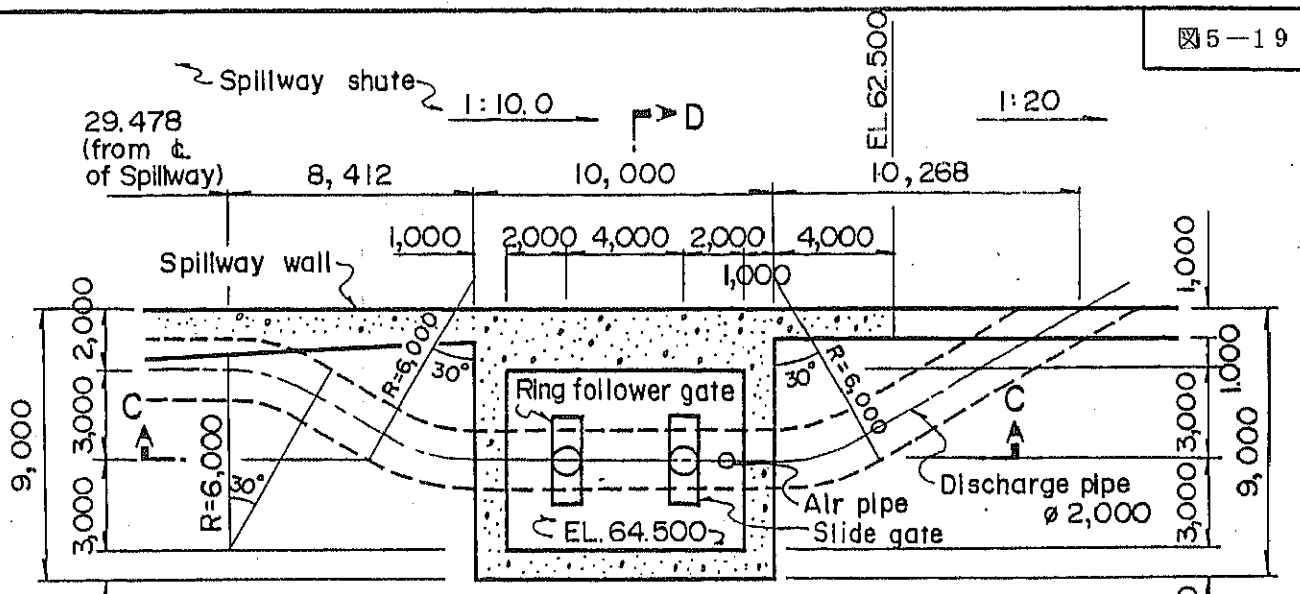
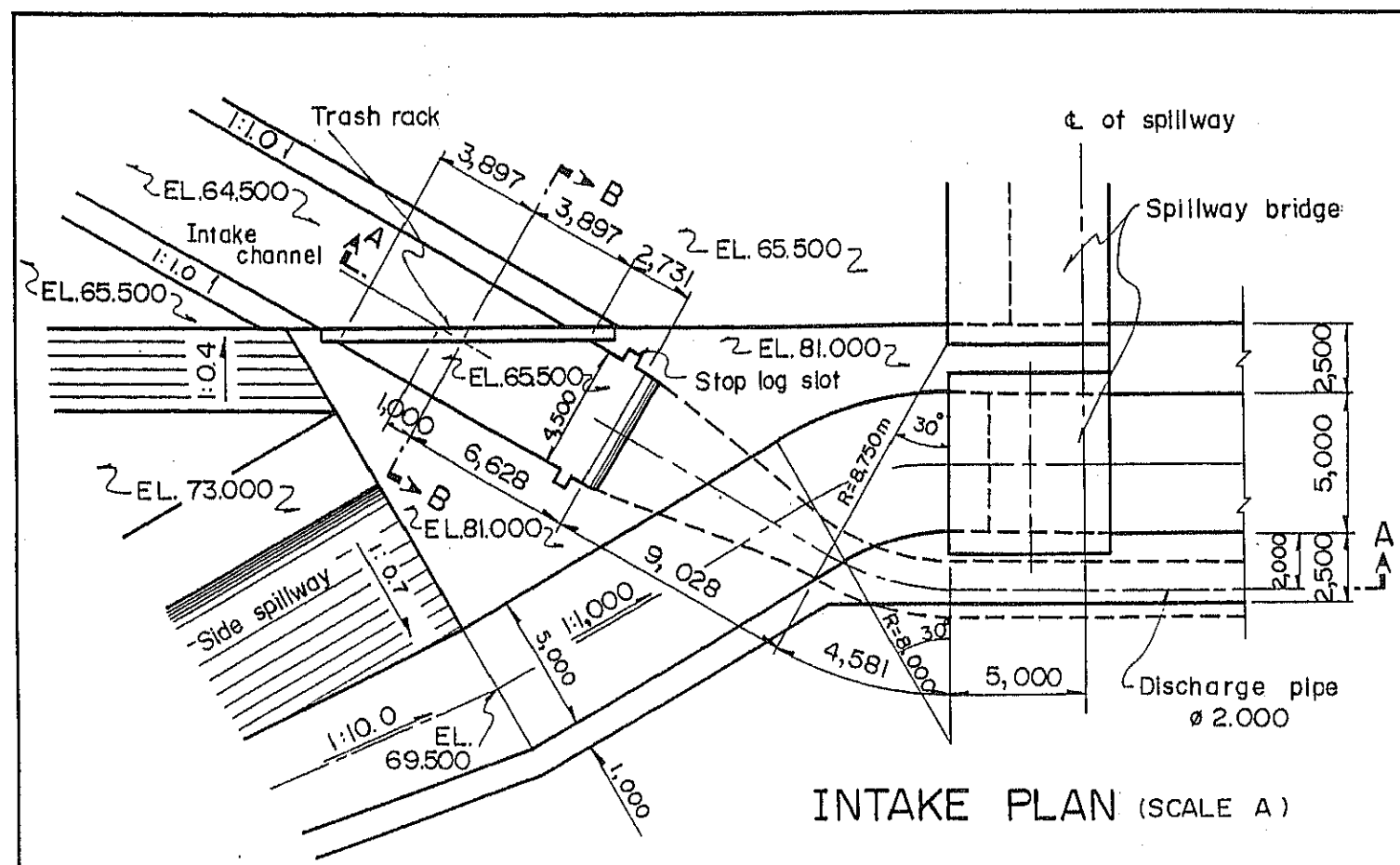


TYPICAL SECTION OF TUNNELS
(SCALE B)





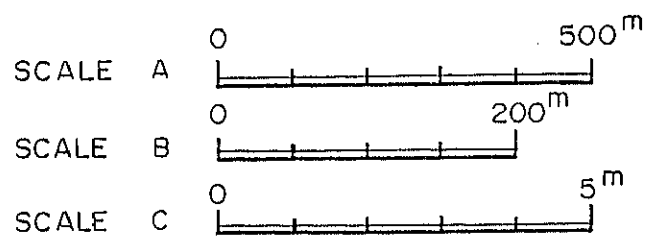
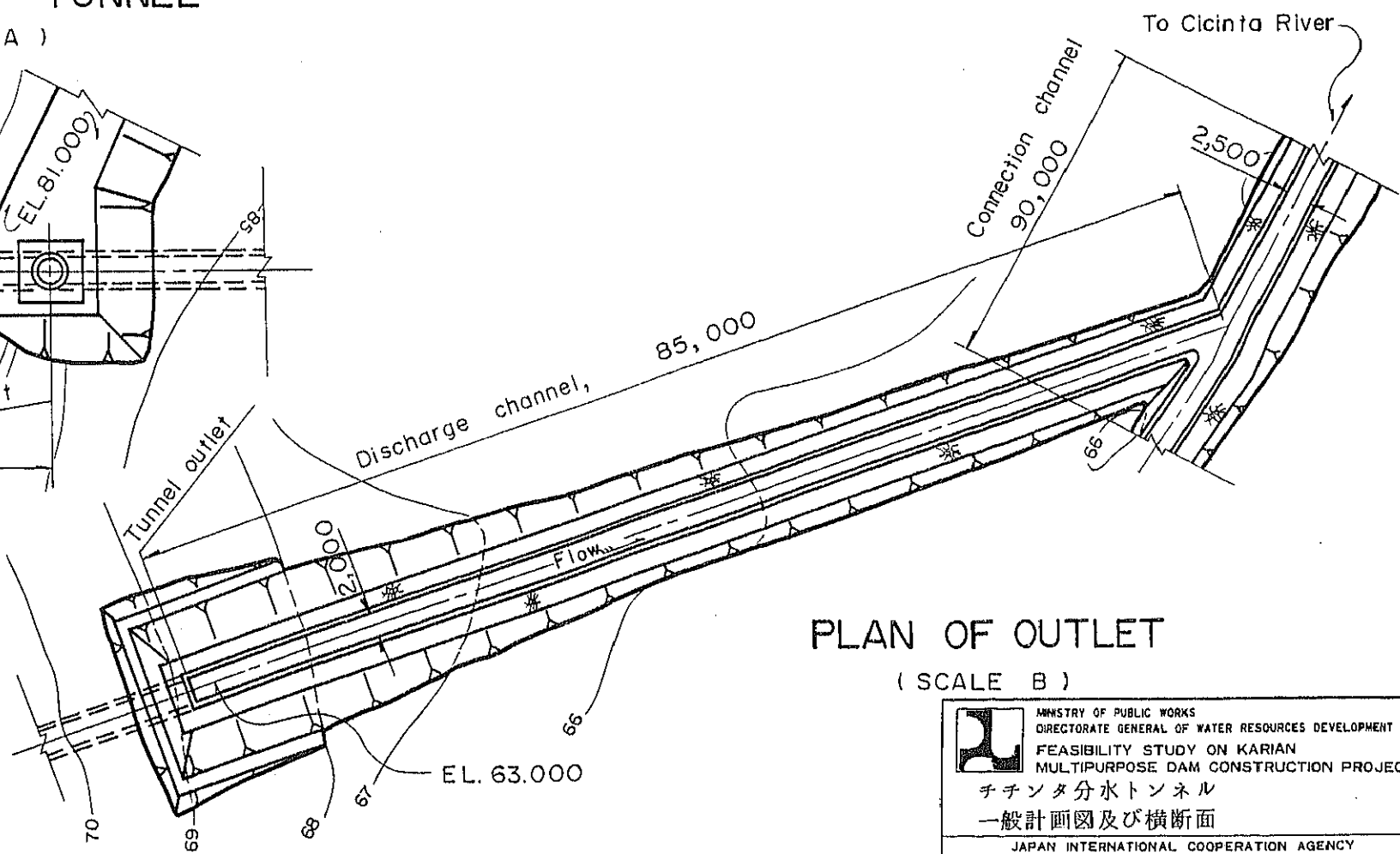
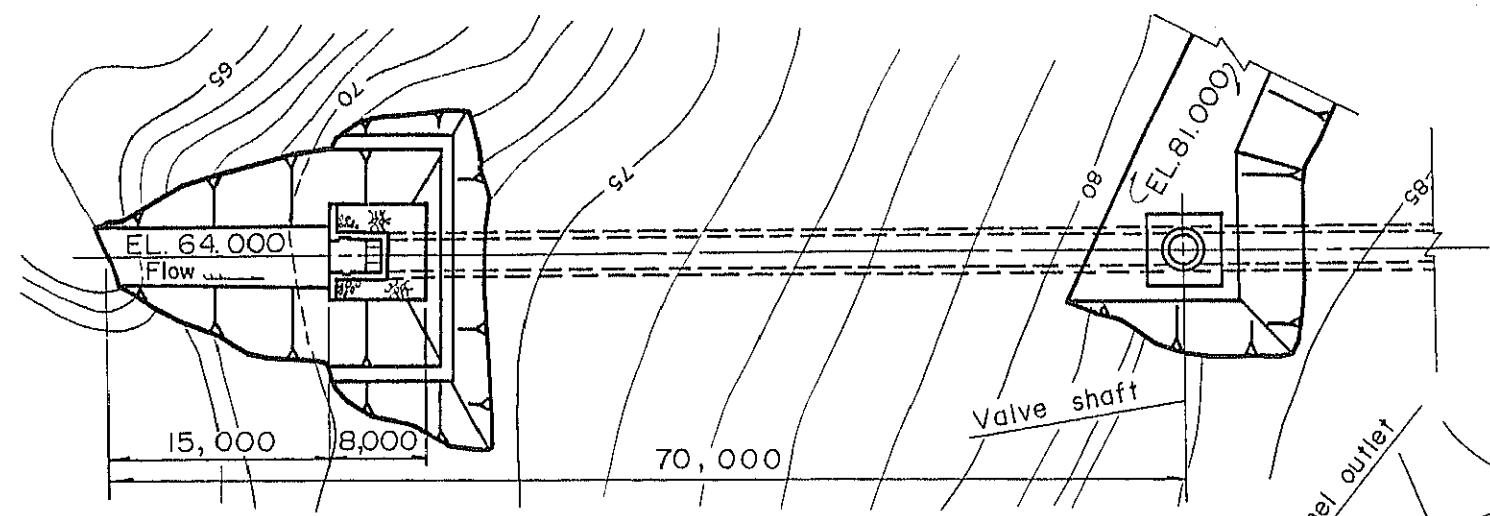
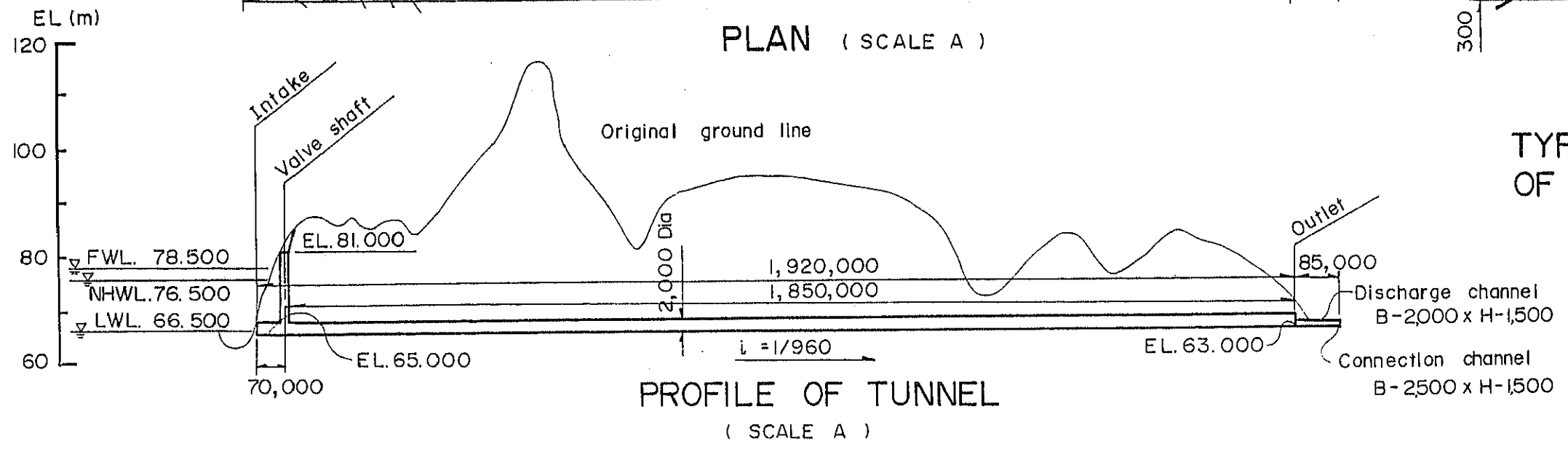
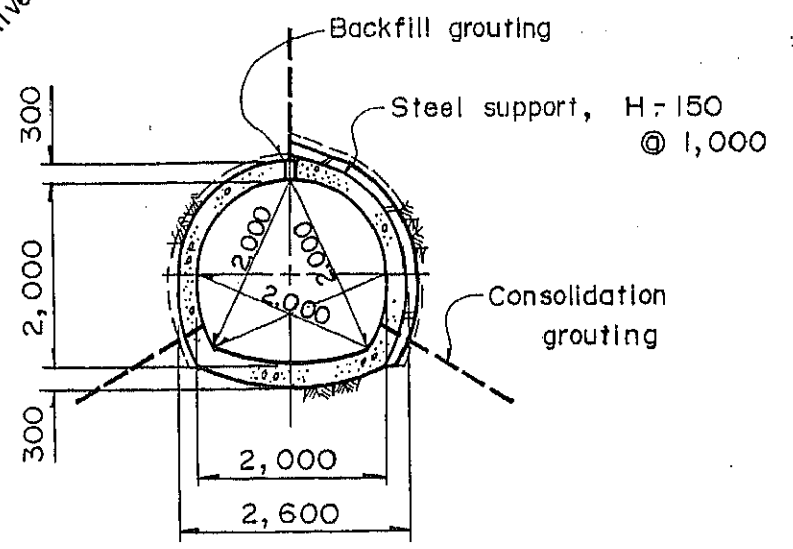
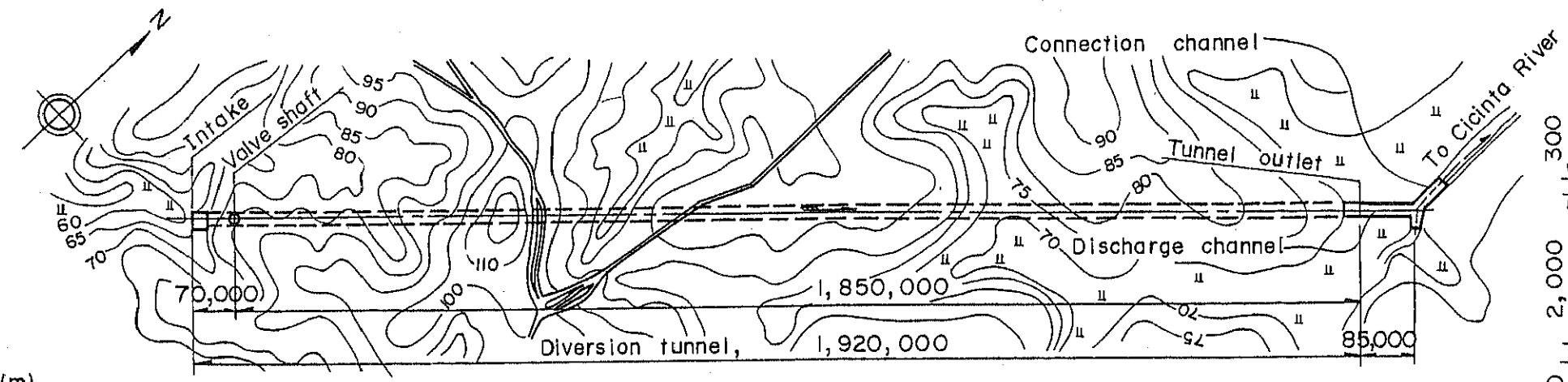
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 チラワンダム 洪水吐き
 JAPAN INTERNATIONAL COOPERATION AGENCY



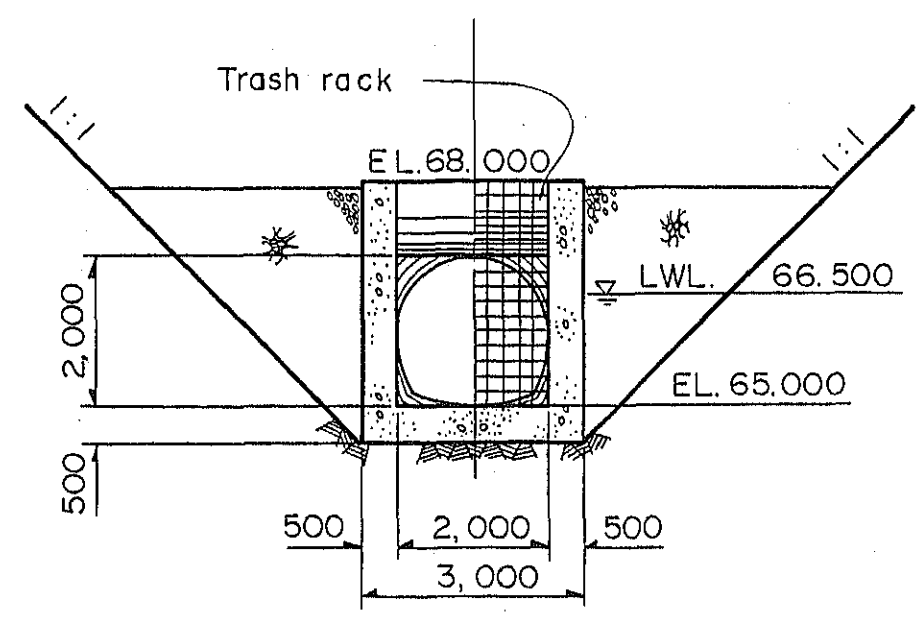
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
FEASIBILITY STUDY ON KARIAN
MULTIPURPOSE DAM CONSTRUCTION PROJECT

チラワソダム 取水施設

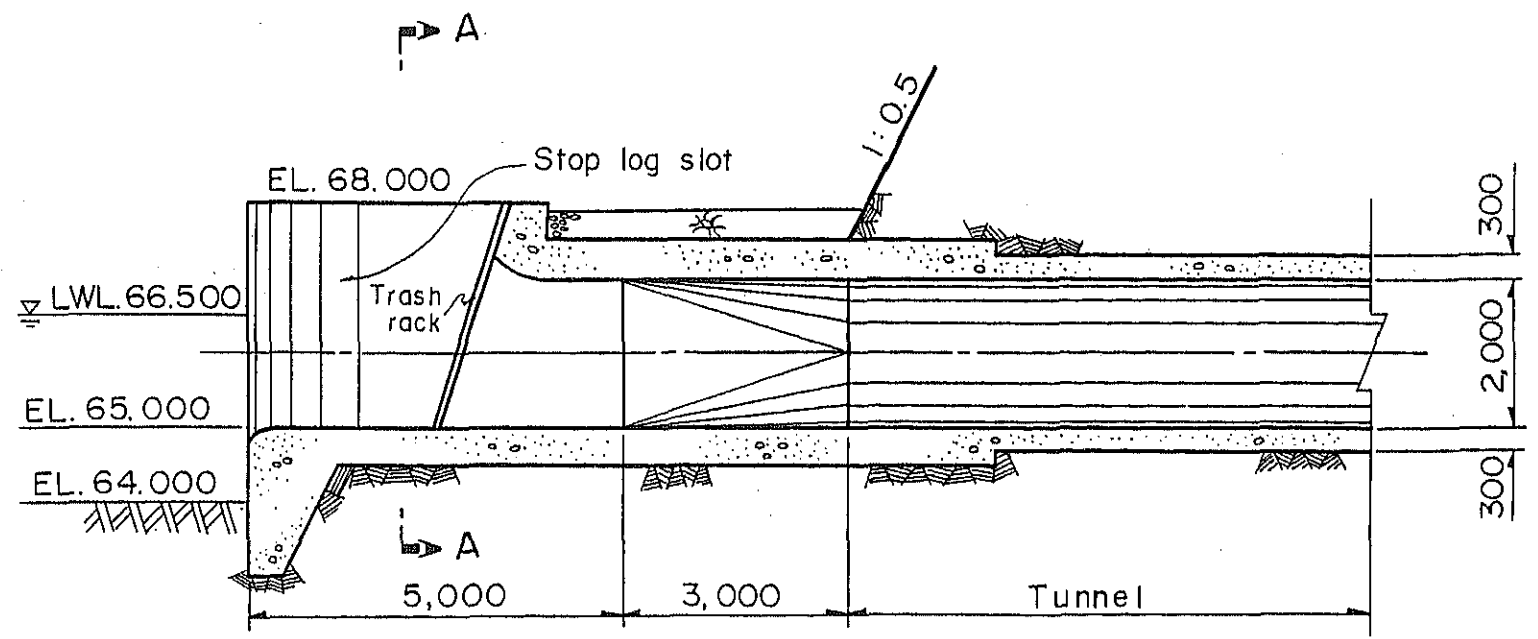
JAPAN INTERNATIONAL COOPERATION AGENCY



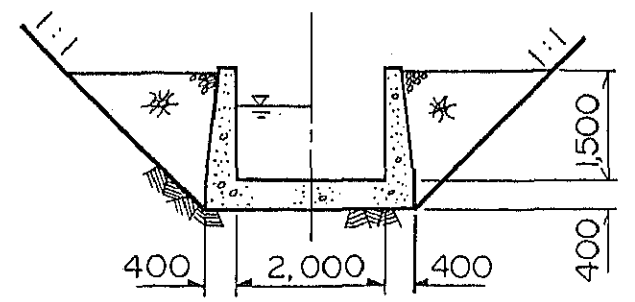
MINISTRY OF PUBLIC WORKS
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FEASIBILITY STUDY ON KARIAN
MULTIPURPOSE DAM CONSTRUCTION PROJECT
チナンタ分水トンネル
一般計画図及び横断面
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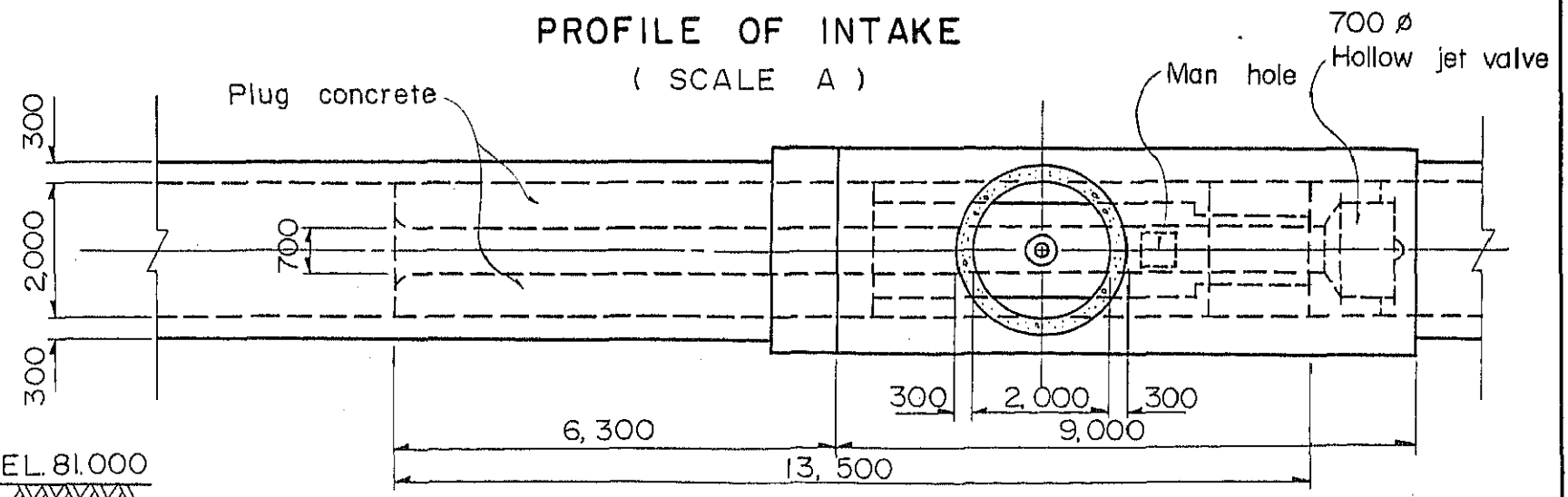
SECTION A - A
(SCALE A)



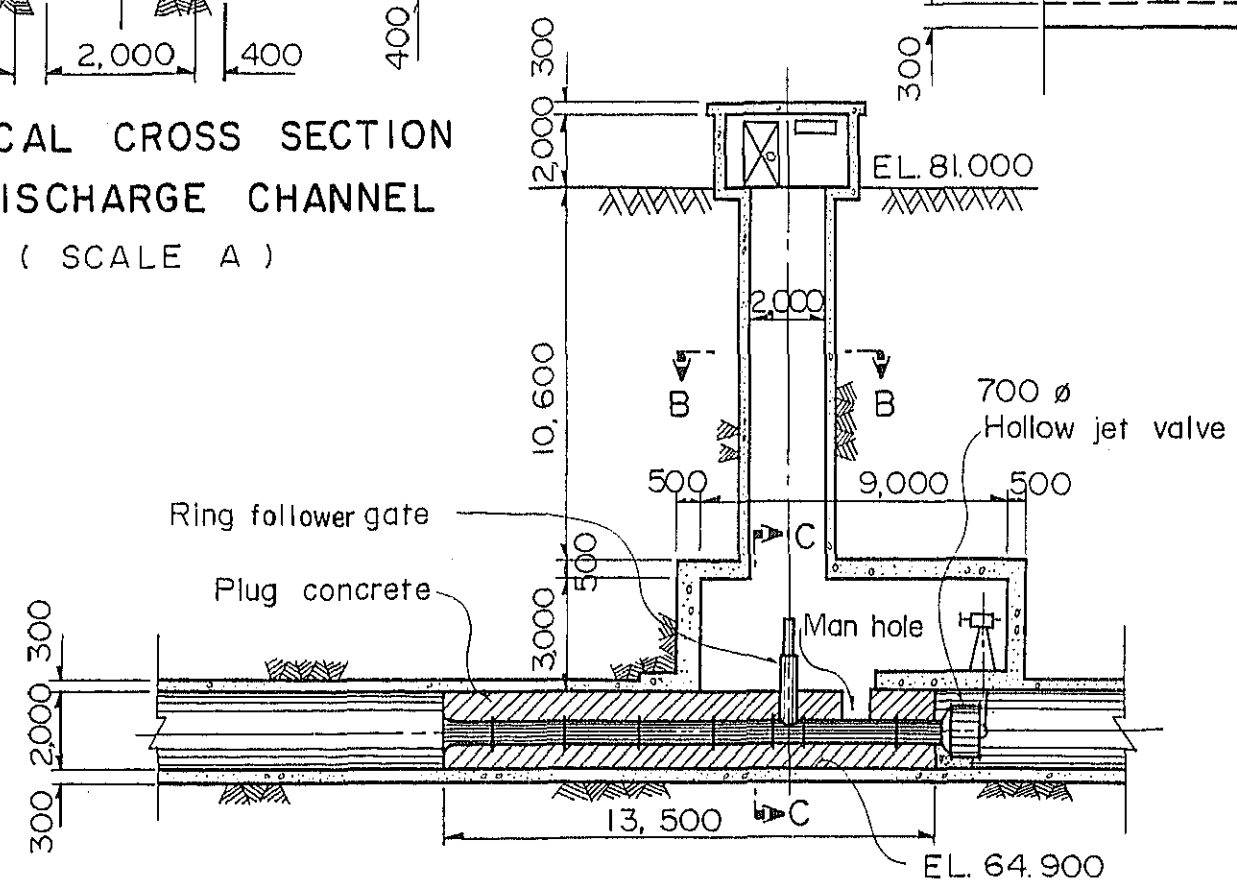
PROFILE OF INTAKE
(SCALE A)



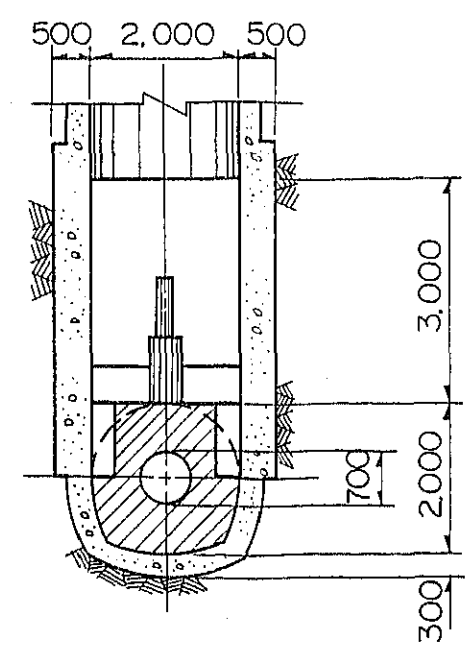
TYPICAL CROSS SECTION
OF DISCHARGE CHANNEL
(SCALE A)



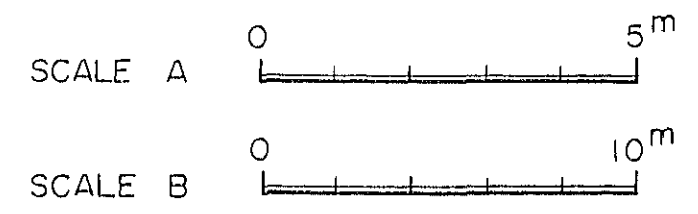
SECTION B - B
(SCALE A)

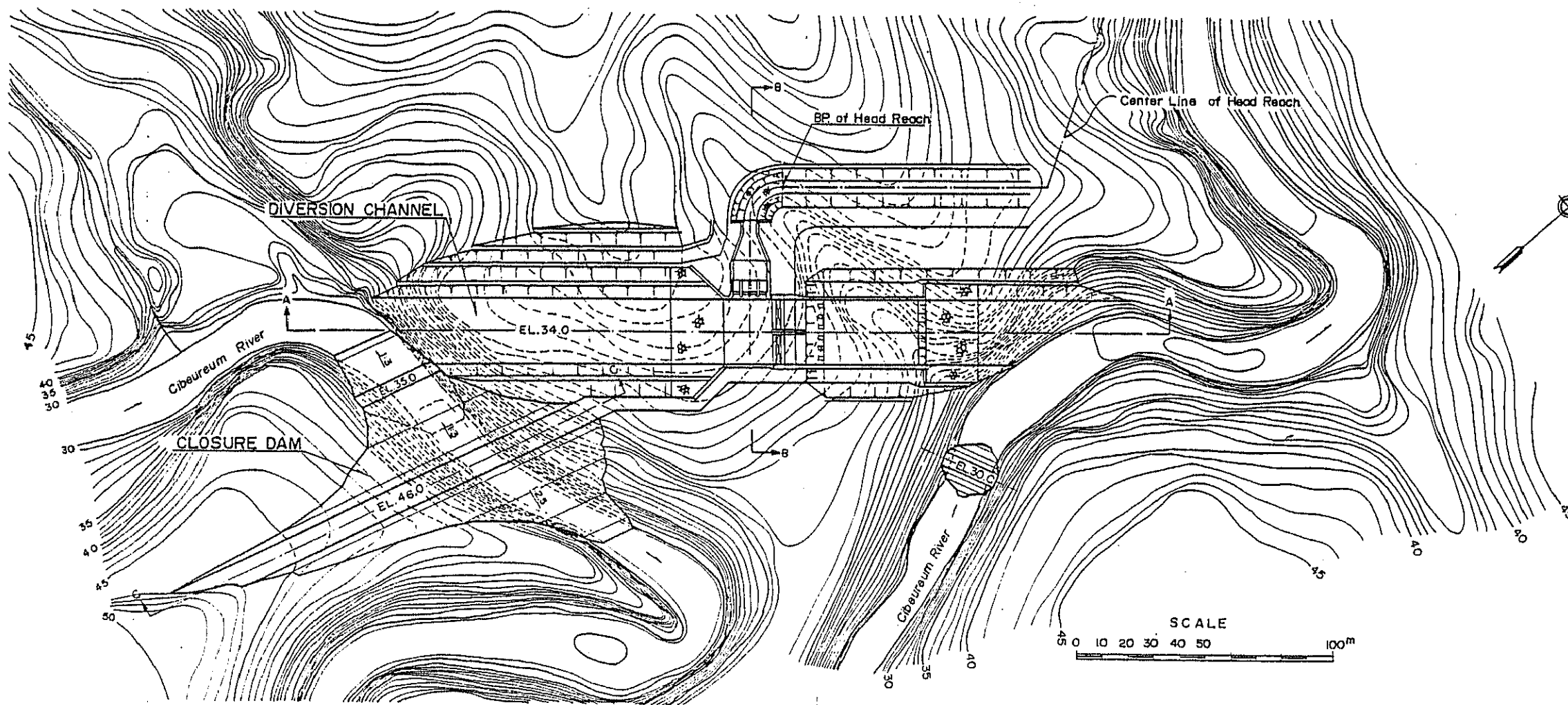


PROFILE OF SHAFT
(SCALE B)

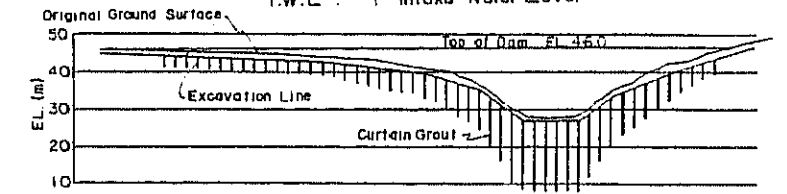


SECTION C - C
(SCALE A)



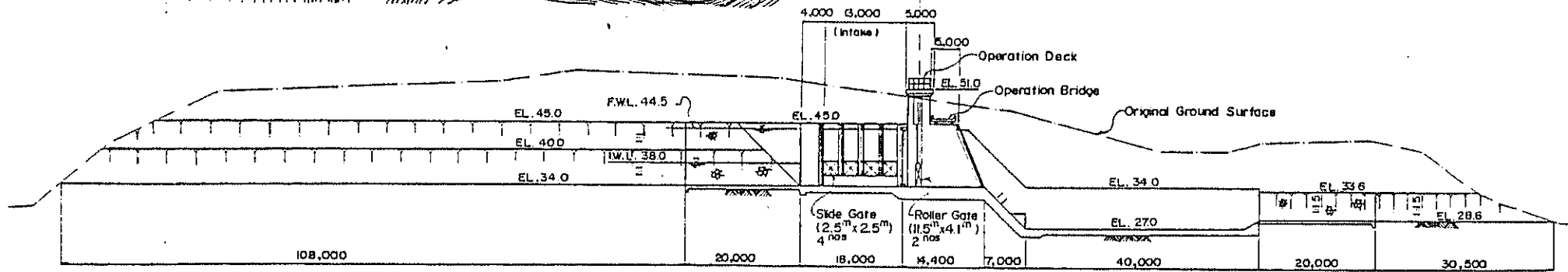


REMARKS
 F.W.L. . . . Flood Water Level by P.M.F
 I.W.L. . . . Intake Water Level



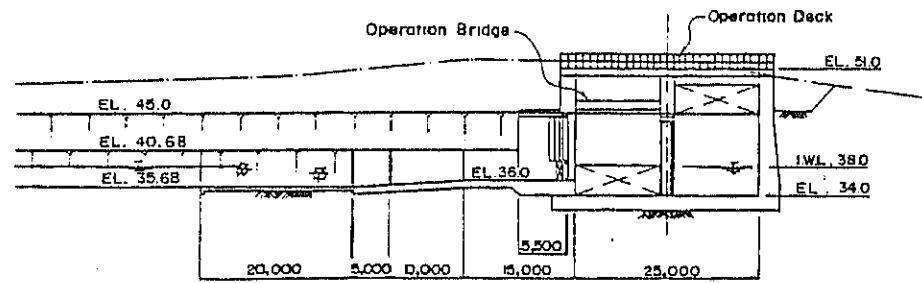
AXIS PROFILE OF CLOSURE DAM (SECTION C-C)

SCALE
 0 10 20 30 40 50m



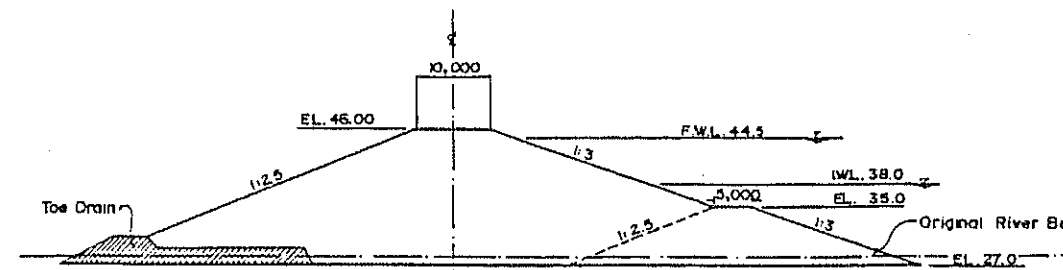
SECTION A-A

SCALE
 0 10 20 30m



SECTION B-B

SCALE
 0 10 20 30m



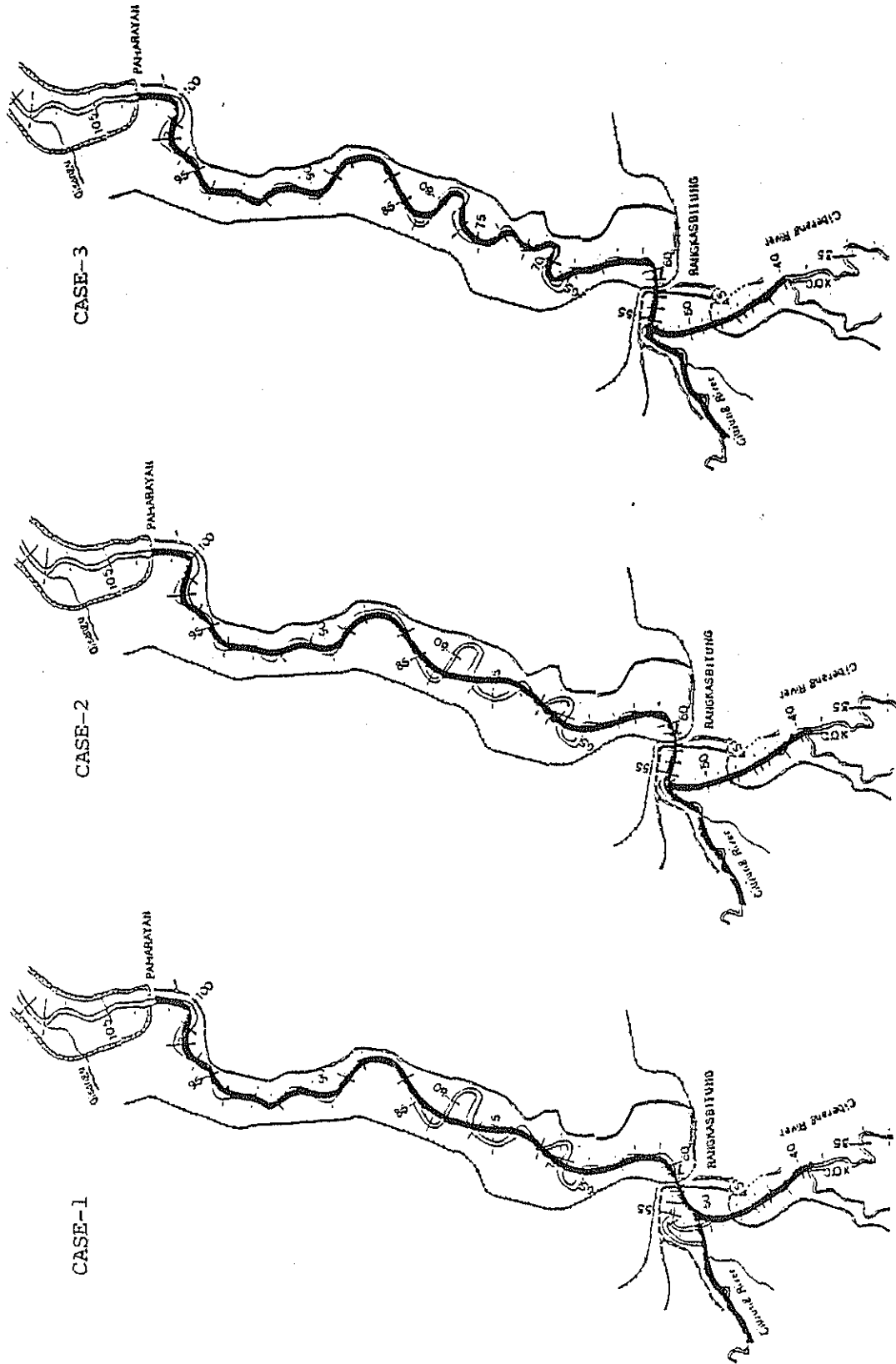
TYPICAL CROSS SECTION OF CLOSURE DAM


SCALE
 0 10 20 30m

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






ブユット取水堰

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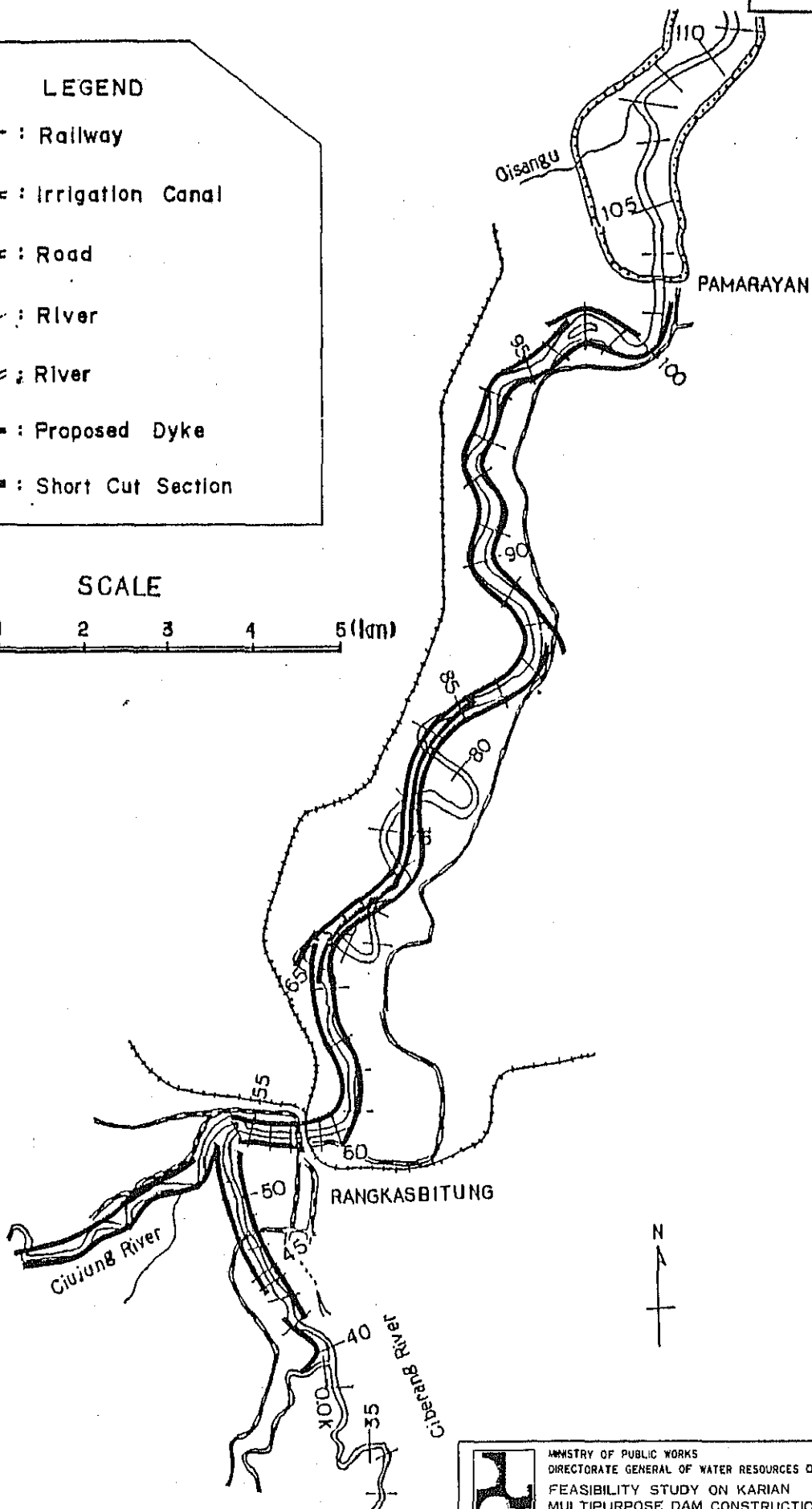
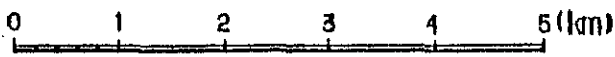



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LEGEND

-  : Railway
-  : Irrigation Canal
-  : Road
-  : River
-  : River
-  : Proposed Dyke
-  : Short Cut Section

SCALE

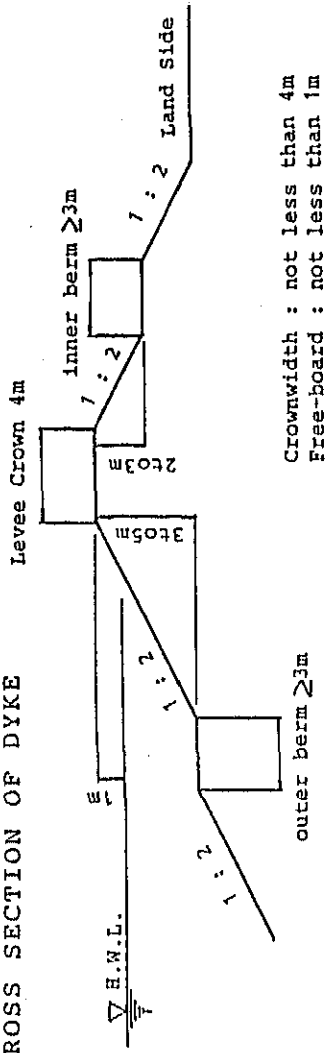


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河川改修計画平面図

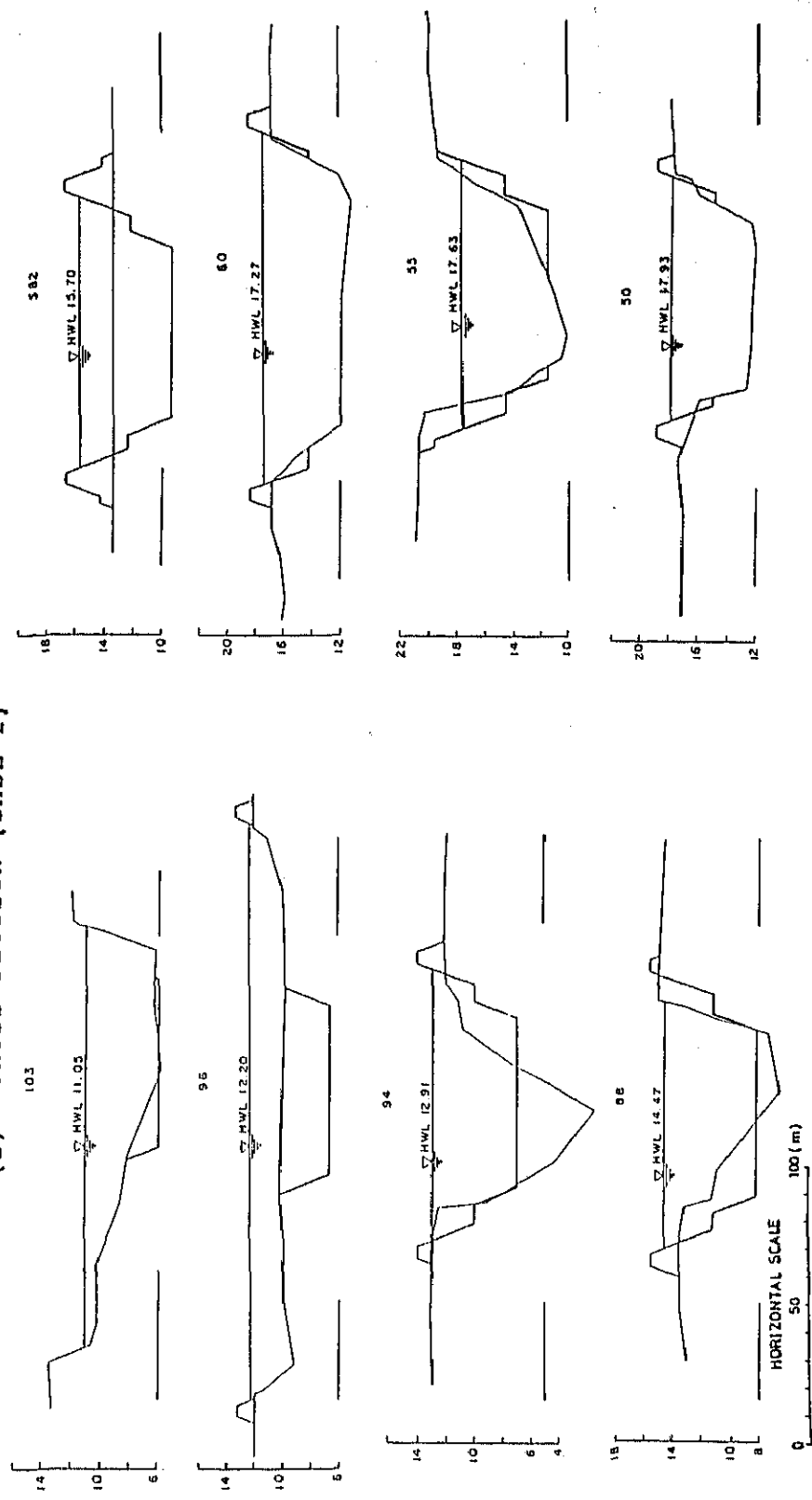
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(1) TYPICAL CROSS SECTION OF DYKE



Crownwidth : not less than 4m
 Free-board : not less than 1m

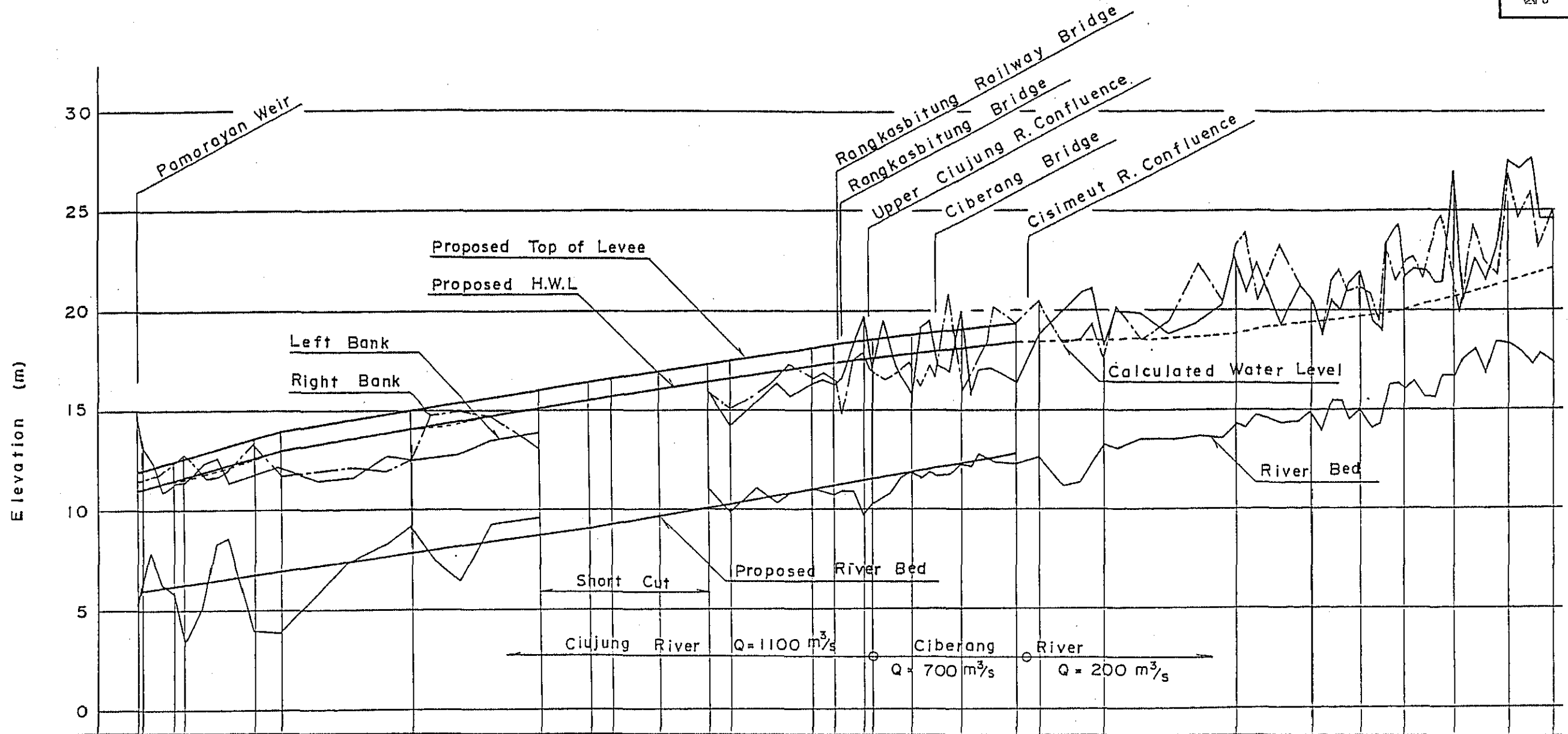
(2) CROSS SECTION (CASE-2)




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(1)堤防定規図
 (2)河川改修計画横断面図 (Case-2)

JAPAN INTERNATIONAL COOPERATION AGENCY



Proposed Plan	HWL Gradient	1/1550		1/2430		1/2650		1/3280															
	River Bed Gradient	L=9266		1/3040		L=9123		1/2310															
	Top of Levee (EL m)	12.00	12.05	13.55	15.04	16.13	16.51	16.70	17.07	17.46	17.62	18.27	18.44	18.63	18.67	18.93	19.24	19.58					
	High Water (EL m)	11.00	11.05	12.55	14.04	15.13	15.51	15.70	16.07	16.46	16.62	17.27	17.44	17.63	17.67	17.93	18.24	18.58					
	River Bed (EL m)	6.00	6.21	6.76	7.85	8.72	9.05	9.26	9.70	10.14	10.33	11.07	11.27	11.53	11.60	11.96	12.39	12.74					
Distance (m)	0	85	735	955	2403	2953	5703	8351	9351	9851	10851	11881	12311	14011	14470	15089	15239	16076	17082	18214	18714	20014	22744
Section NO.	P.W.	103	100	99	95	94	90	85	S83	S82	S80	65	64	60	58	55	54	50	45	40	39	35	30


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 JAPAN INTERNATIONAL COOPERATION AGENCY

PROJECT IMPLEMENTATION SCHEDULE FOR KARIAN DAM AND CIUYAH TUNNEL

Work Item	1986	1987	1988	1989	1990	1991
1. Detailed Design	—	—				
2. Preparation Works	—	—				
3. Dam Construction Works						
3.1 Preparation works			—			
3.2 Diversion works			—	—		
3.3 Cofferdam			—	—		
3.4 Main and Saddle dam			—	—	—	
3.5 Spillway				—	—	
3.6 Intake				—	—	
3.7 Metal works				—	—	
4. Tunnel Construction Works						
4.1 Tunnel works				—	—	
4.2 Metal works				—	—	
5. Administration and Engineering						

図 7-1



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カリアンダム及びチウヤトンネル
 事業実施予定

JAPAN INTERNATIONAL COOPERATION AGENCY

PROJECT IMPLEMENTATION SCHEDULE FOR CILAWANG DAM AND CICINTIA TUNNEL

Work Item	1986	1987	1988	1989	1990	1991
1. Detailed Design	—	—				
2. Preparation Works		—	—			
3. Dam Construction Works						
3.1 Preparation works			—			
3.2 Diversion works			—	—		
3.3 Cofferdam				—		
3.4 Main and Saddle dam				—	—	
3.5 Spillway and Intake				—	—	
3.6 Metal works					—	—
4. Tunnel Construction Works						
4.1 Tunnel works					—	—
4.2 Metal works					—	—
5. Administration and Engineering						

☒ 7-2



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チラワン及びチキンタトンネル
 事業実施予定

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PROJECT IMPLEMENTATIONS SCHEDULE FOR RIVER IMPROVEMENT WORKS

Work Item	1986	1987	1988	1989	1990	1991
1. Detailed Design		_____				
2. Procurement of Equipment Materials and Spare Parts			_____			
3. Land Acquisition		_____				
4. Civil Works						
4.1 Pamarayan weir to No.85 (8.35 km)			_____			
4.2 Short cut (3.53 km)			_____	_____		
4.3 No.65 to No.53 (3.28 km)			_____	_____		
4.4 Ciberang river (3.3 km)				_____	_____	
4.5 Upper Ciujung River (4.41 km)				_____	_____	
5. Administration and Engineering						

7-3



MINISTRY OF PUBLIC WORKS
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河川改修事業実施予定

JAPAN INTERNATIONAL COOPERATION AGENCY

PROJECT IMPLEMENTATION SCHEDULE FOR K-C-C IRRIGATION SCHEME

Work Item	1987	1987	1988	1989	1990	1991	1992	1993
1. Detailed Design	—	—	—	—	—	—	—	—
2. Preparatory Works	—	—	—	—	—	—	—	—
2.1 Land acquisition	—	—	—	—	—	—	—	—
2.2 Office and quarters	—	—	—	—	—	—	—	—
2.3 Loan arrangement	—	—	—	—	—	—	—	—
3. Major Construction Works	—	—	—	—	—	—	—	—
3.1 Diversion works	—	—	—	—	—	—	—	—
a) Diversion channel and weir	—	—	—	—	—	—	—	—
b) Intake	—	—	—	—	—	—	—	—
c) Closer dam	—	—	—	—	—	—	—	—
3.2 Head reach	—	—	—	—	—	—	—	—
3.3 Irrigation canals and inspection roads	—	—	—	—	—	—	—	—
a) Main	—	—	—	—	—	—	—	—
b) Secondary	—	—	—	—	—	—	—	—
c) Tertiary	—	—	—	—	—	—	—	—
3.4 Drainage canals	—	—	—	—	—	—	—	—
a) Main	—	—	—	—	—	—	—	—
b) Secondary	—	—	—	—	—	—	—	—
c) Tertiary	—	—	—	—	—	—	—	—
4. On-farm Development	—	—	—	—	—	—	—	—
5. Administration and Engineering	—	—	—	—	—	—	—	—



MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
 FEASIBILITY STUDY ON KARIAN
 MULTIPURPOSE DAM CONSTRUCTION PROJECT

K-C-C地区かんがい計画事業実施予定

JAPAN INTERNATIONAL COOPERATION AGENCY

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