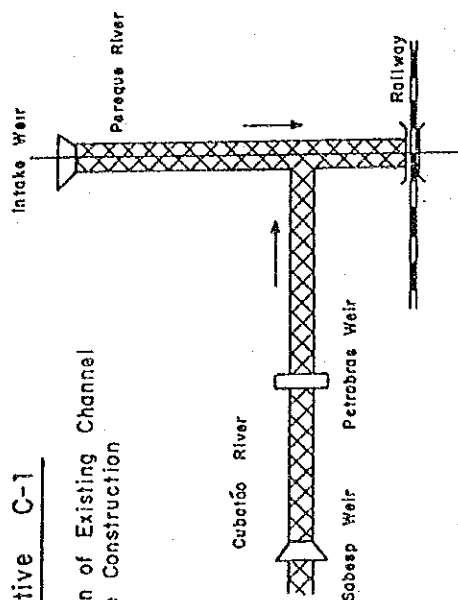


Cubatão River System

Alternative C-1

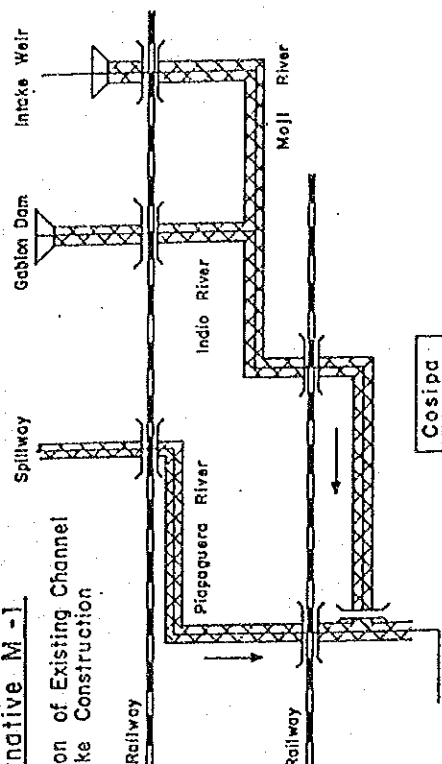
Excavation of Existing Channel and Dike Construction



Moji River System

Alternative M-1

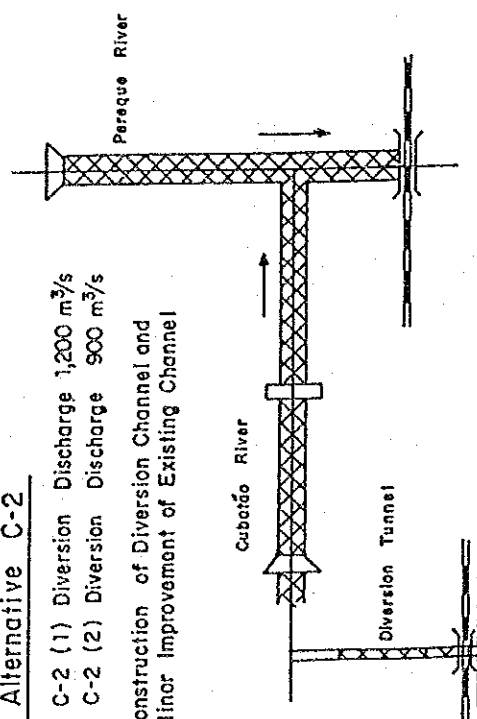
Excavation of Existing Channel and Dike Construction



Alternative C-2

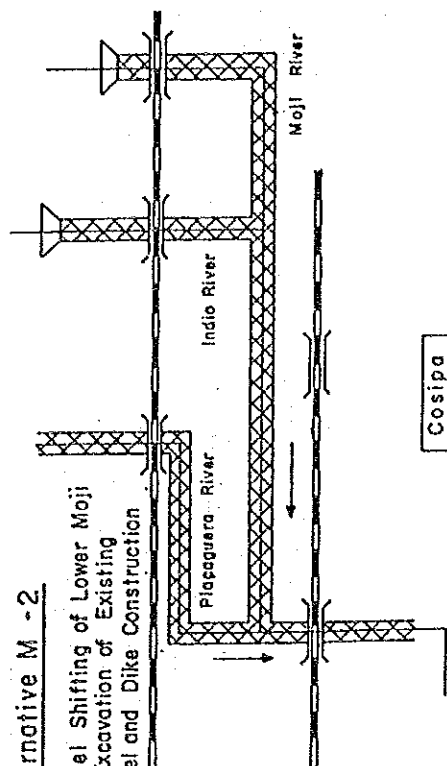
- C-2 (1) Diversion Discharge 1,200 m³/s
- C-2 (2) Diversion Discharge 900 m³/s

Construction of Diversion Channel and Minor Improvement of Existing Channel



Alternative M-2

Channel Shifting of Lower Moji and Excavation of Existing Channel and Dike Construction




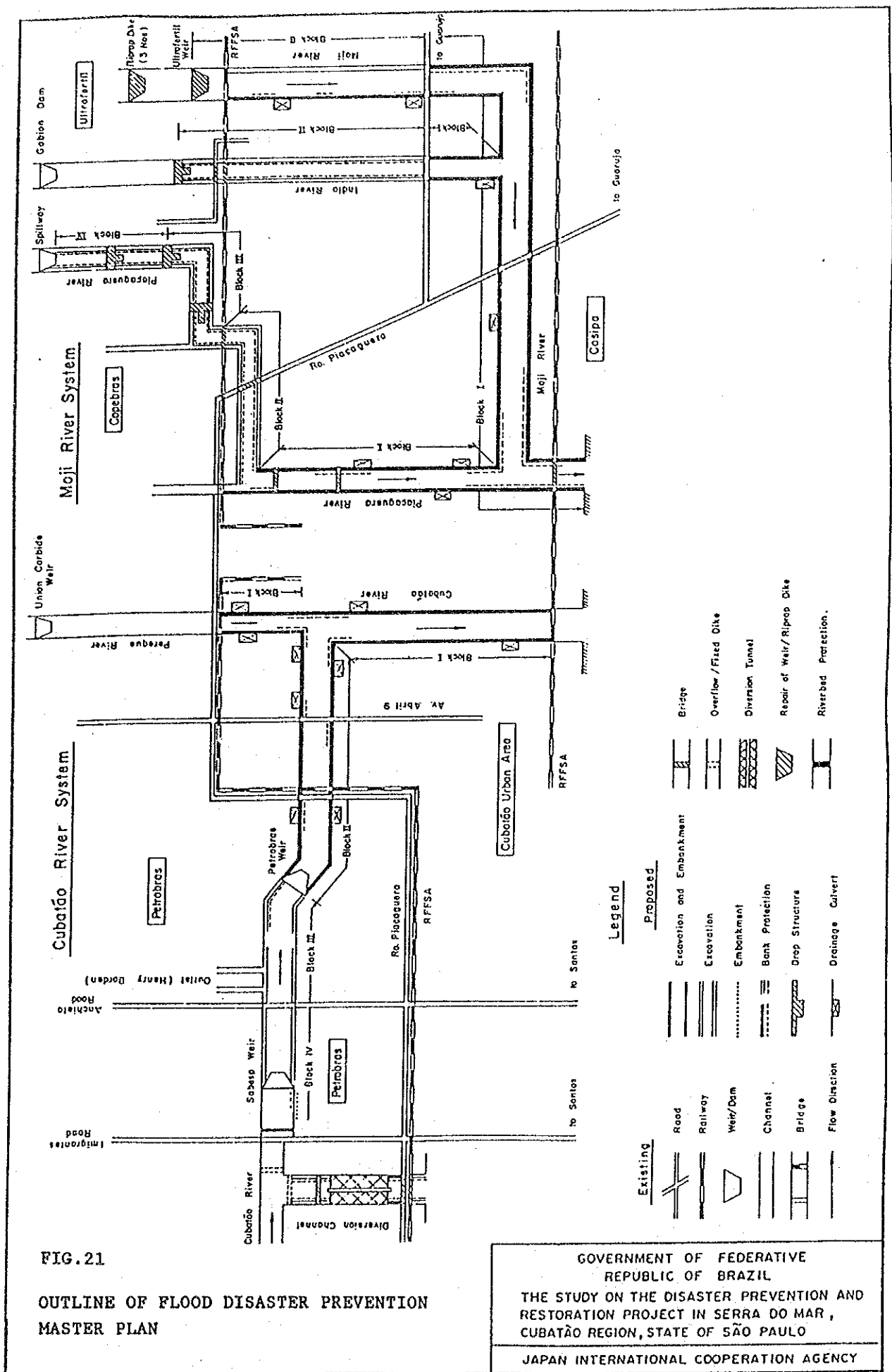
Note:  Stretch to be improved

FIG. 20

ALTERNATIVE SCHEMES OF OPTIMUM PLAN

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JAPAN INTERNATIONAL COOPERATION AGENCY



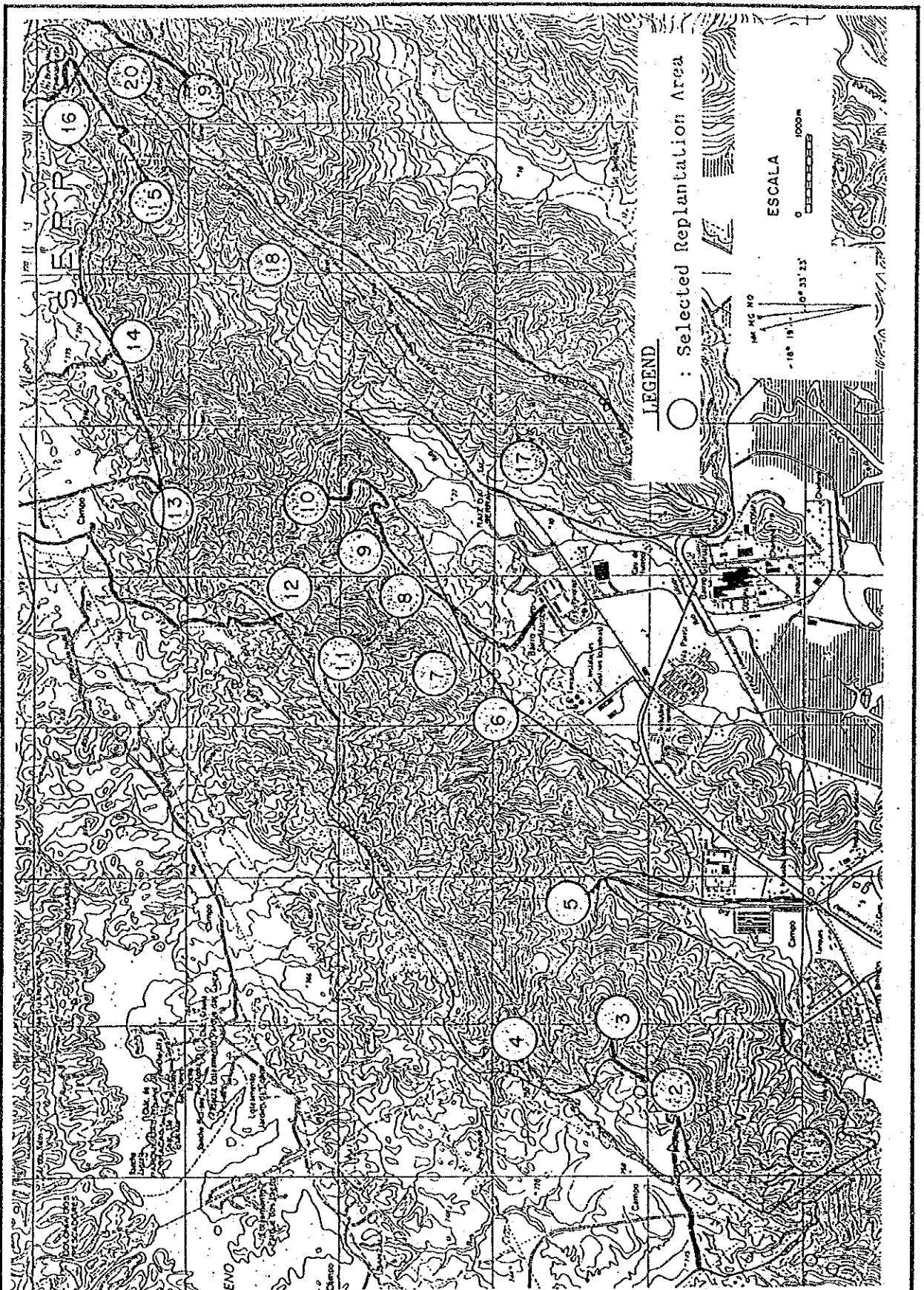


FIG.22

SELECTED REPLANTATION AREAS

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	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
1. STAGE-I (Priority Project)	F/S I/P Appraisal E/N	D/D	Contract Tendering	Construction						
2. STAGE-II			Review I/P Appraisal E/N	D/D	Contract Tendering					

F/S : Feasibility Study E/N : Exchange of Note
I/P : Implementation Program D/D : Detailed Design

FIG. 23 |

IMPLEMENTATION SCHEDULE (SEDIMENT RUN-OFF
AND FLOOD DISASTER PREVENTION WORKS)

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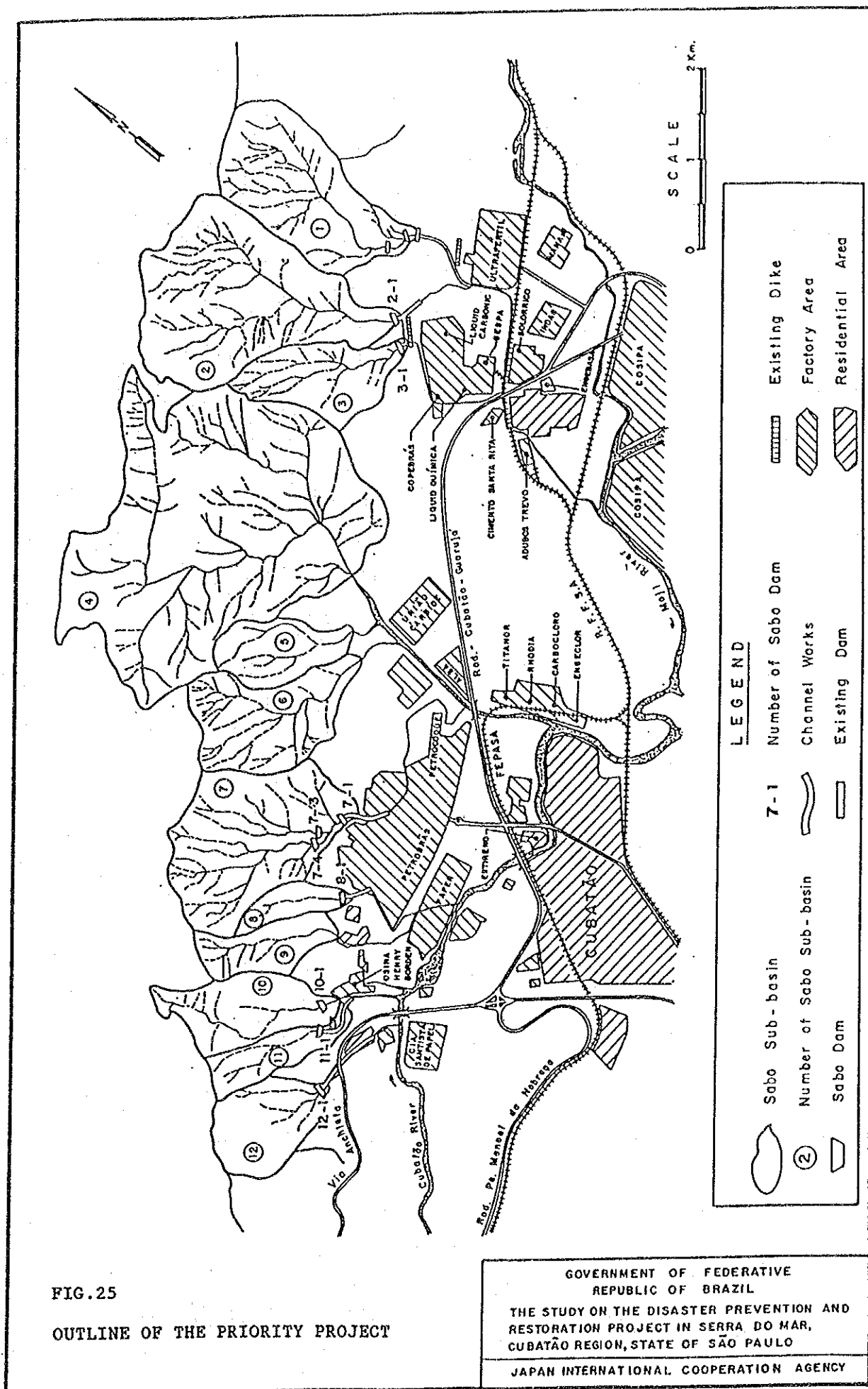
work items	years	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Selection of 20 wood areas		▨										
Selection of tree species		▨	▨									
Seedlings production			▨	▨	▨							
Service road restoration				▨	▨							
Topographic works				▨	▨							
Planting works				▨	▨							
Maintenance works				▨	▨							
Management works		▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨
Monitoring in field					▨	▨	▨	▨	▨	▨	▨	▨
Monitoring by aerophotos							▨				▨	

FIG. 24
IMPLEMENTATION SCHEDULE
(FOREST RESTORATION PLAN)

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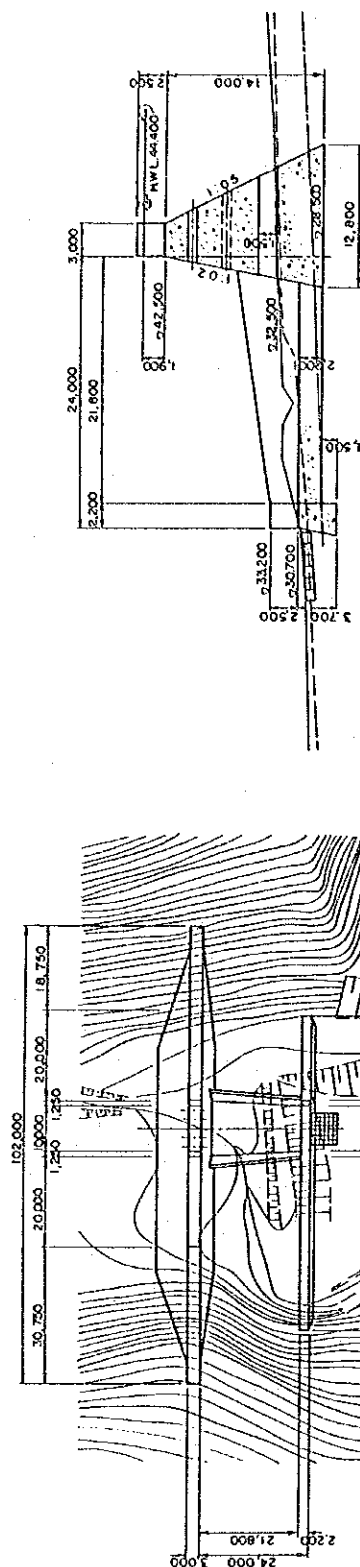
THE STUDY ON THE DISASTER PREVENTION AND
RESTORATION PROJECT IN SERRA DO MAR,
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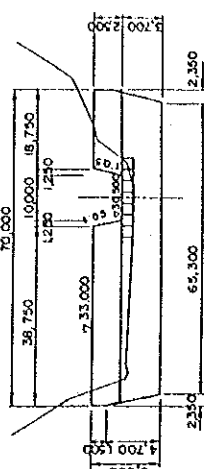


JAPAN INTERNATIONAL COOPERATION AGENCY

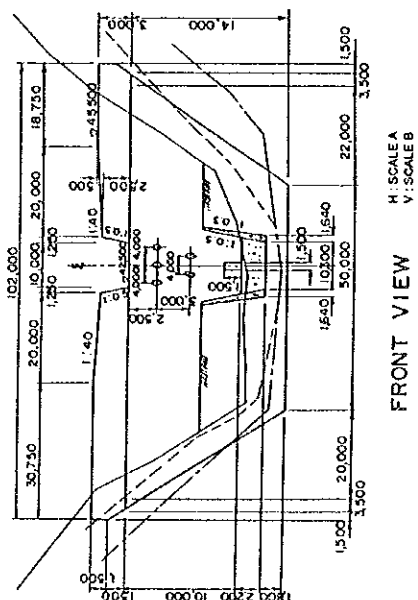
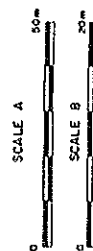


PLAN SCALE A

STANDARD CROSS SECTION SCALE B



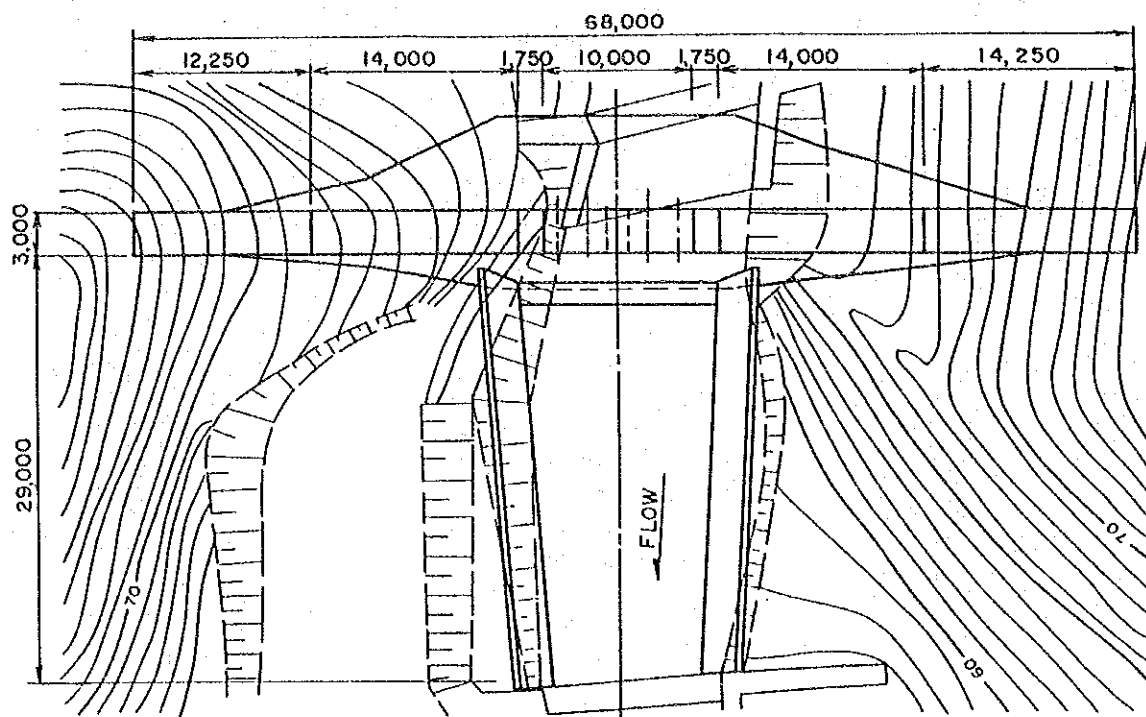
FRONT VIEW OF SUB DAM H: SCALE A V: SCALE B



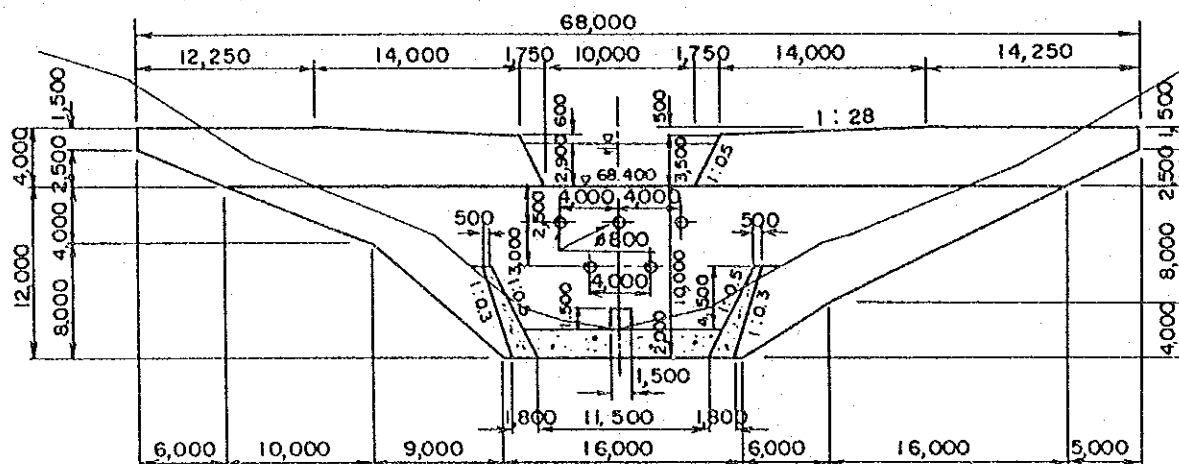
FRONT VIEW H: SCALE A V: SCALE B

FIG.26
PRELIMINARY DESIGN OF SABO DAM (2/9)
(DAM NO.3-1)

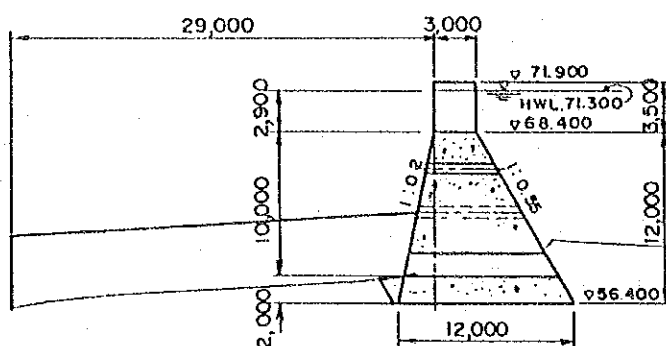
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REPUBLIC OF BRAZIL
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PLAN SCALE A



FRONT VIEW SCALE A



STANDARD CROSS SECTION

SCALE A

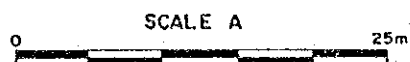
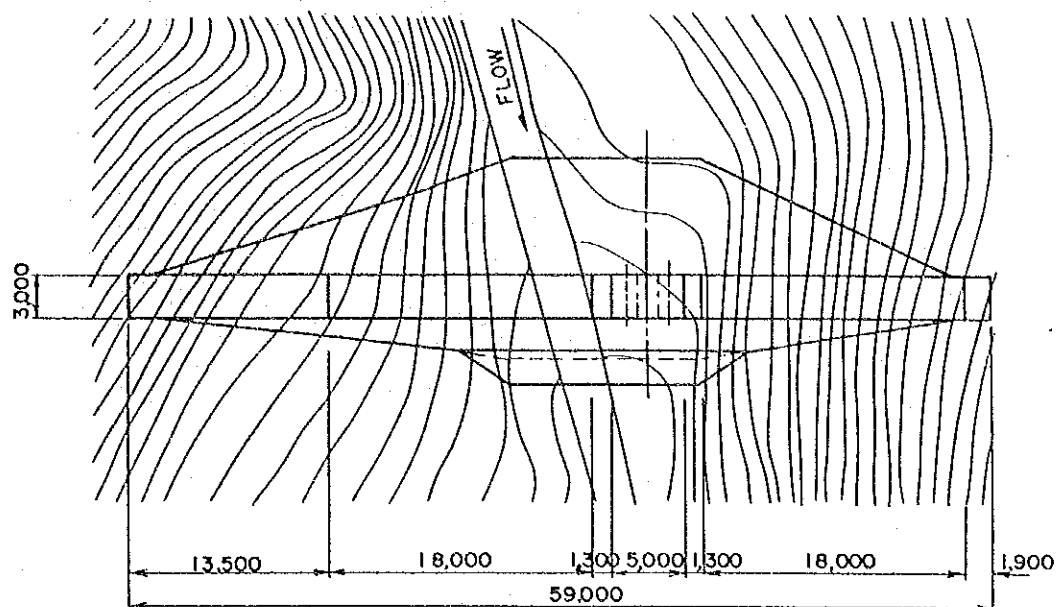


FIG. 26

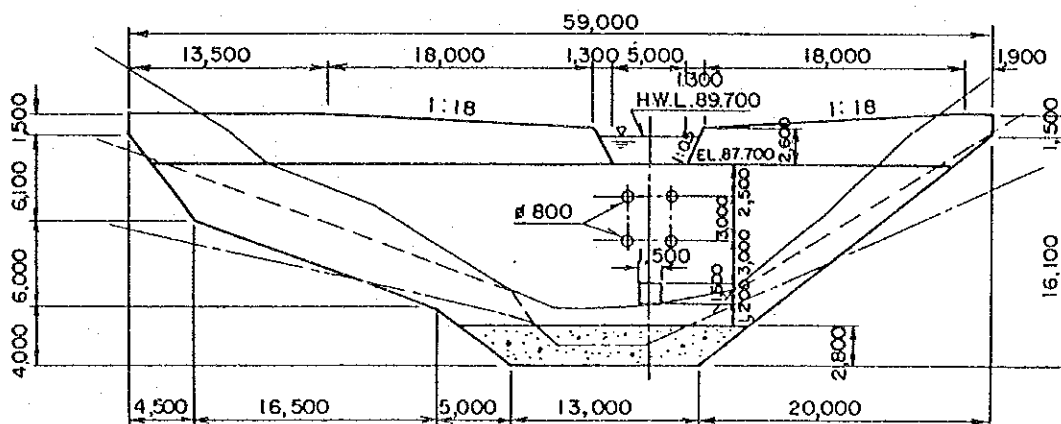
PRELIMINARY DESIGN OF SABO DAM (3/9)
(DAM NO.7-1)

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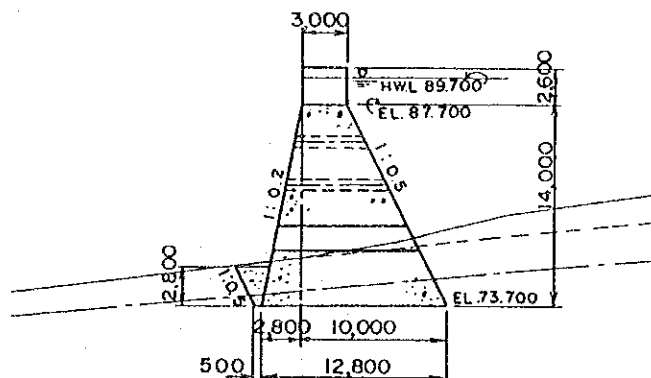
JAPAN INTERNATIONAL COOPERATION AGENCY



PLAN SCALE A



FRONT VIEW SCALE A



STANDARD CROSS SECTION SCALE A

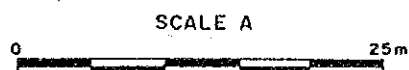
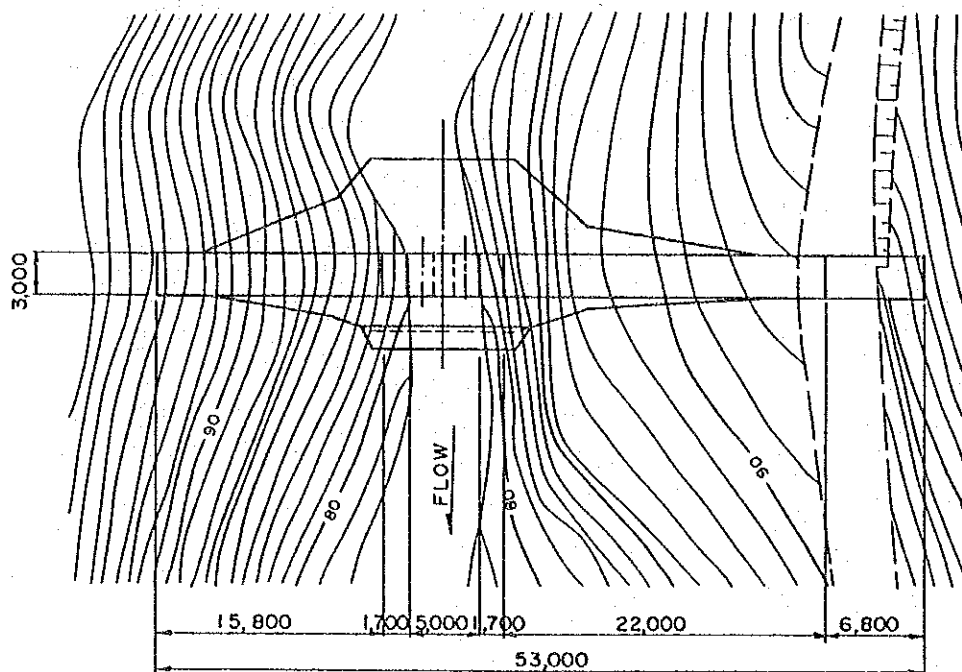
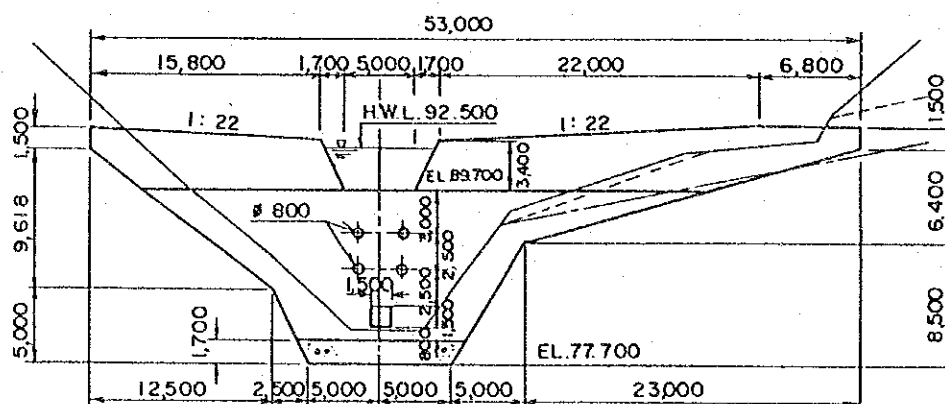


FIG.26
PRELIMINARY DESIGN OF SABO DAM (4/9)
(DAM NO.7-3)

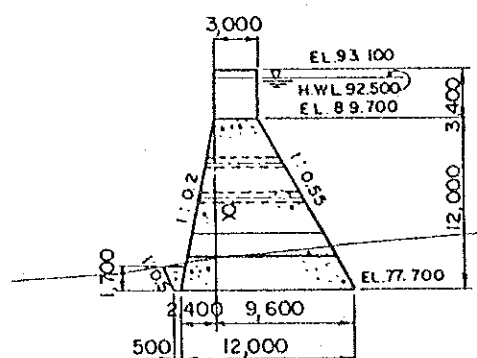
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RESTORATION PROJECT IN SERRA DO MAR,
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PLAN SCALE A



FRONT VIEW SCALE A



STANDARD CROSS SECTION SCALE A

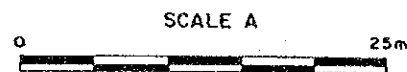


FIG.26
PRELIMINARY DESIGN OF SABO DAM (5/9)
(DAM NO.7-4)

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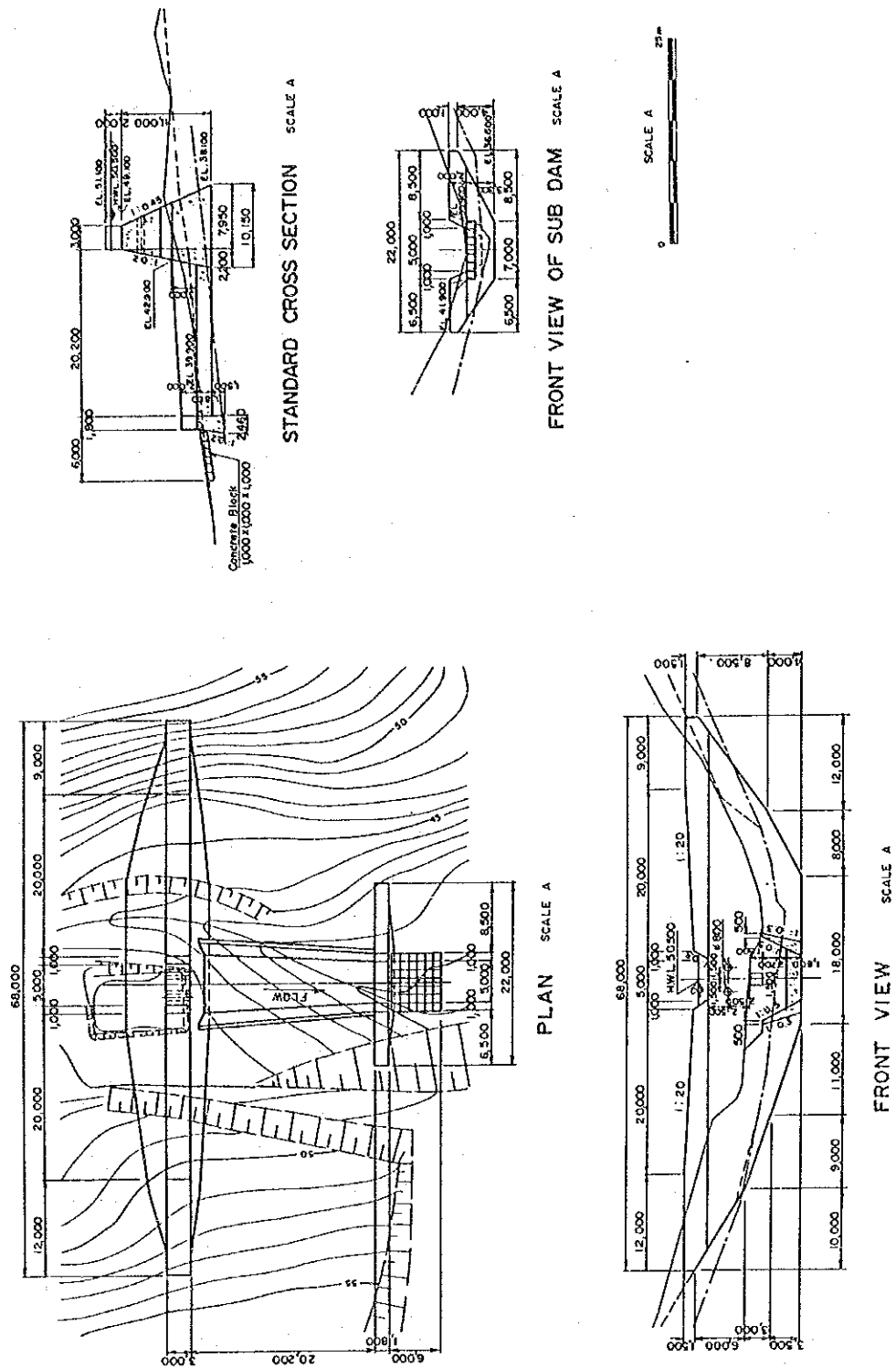
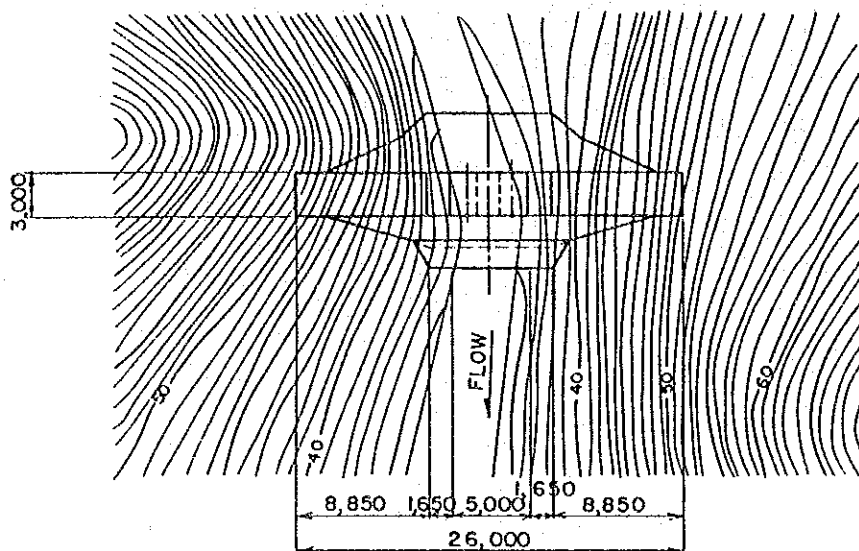
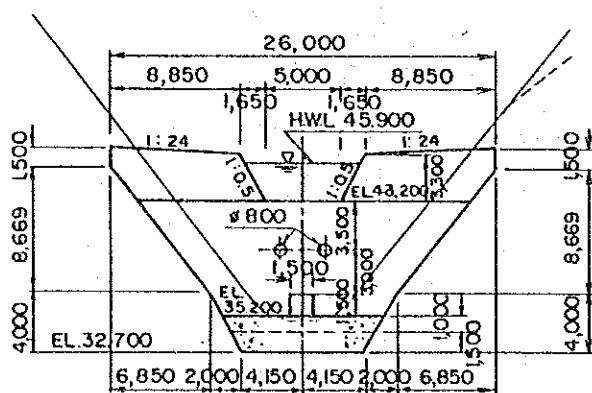


FIG.26
PRELIMINARY DESIGN OF SABO DAM (6/9)
(DAM NO.8-1)

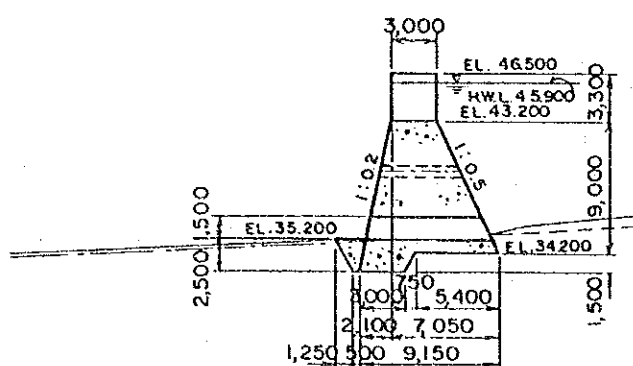
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PLAN SCALE A



FRONT VIEW SCALE A



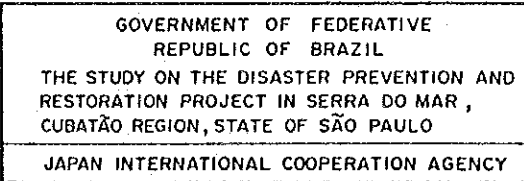
STANDARD CROSS SECTION SCALE A

SCALE A



FIG.26
PRELIMINARY DESIGN OF SABO DAM (7/9)
(DAM NO.10-1)

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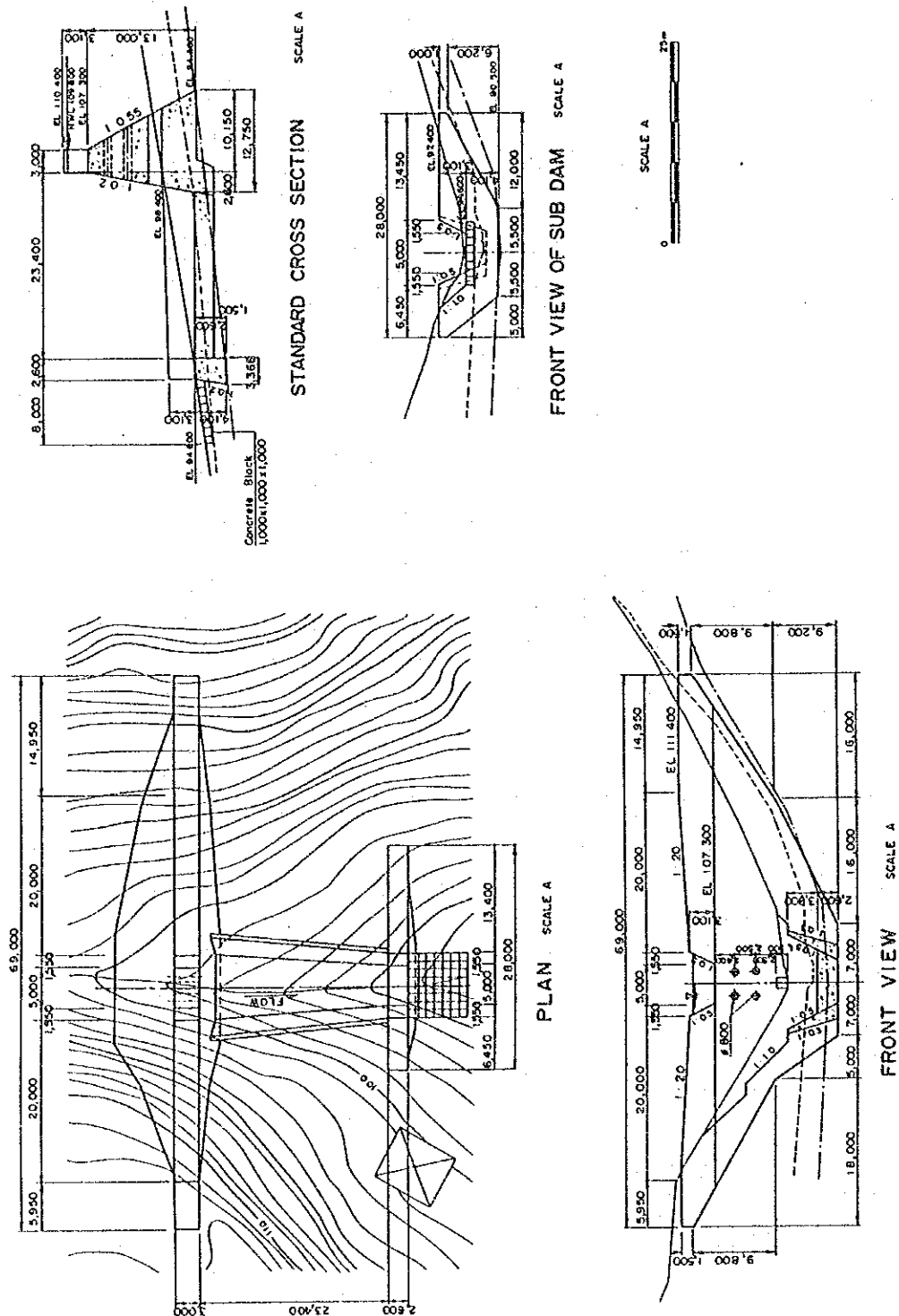


FIG.26
PRELIMINARY DESIGN OF SABO DAM (9/9)
(DAM NO.12-1)

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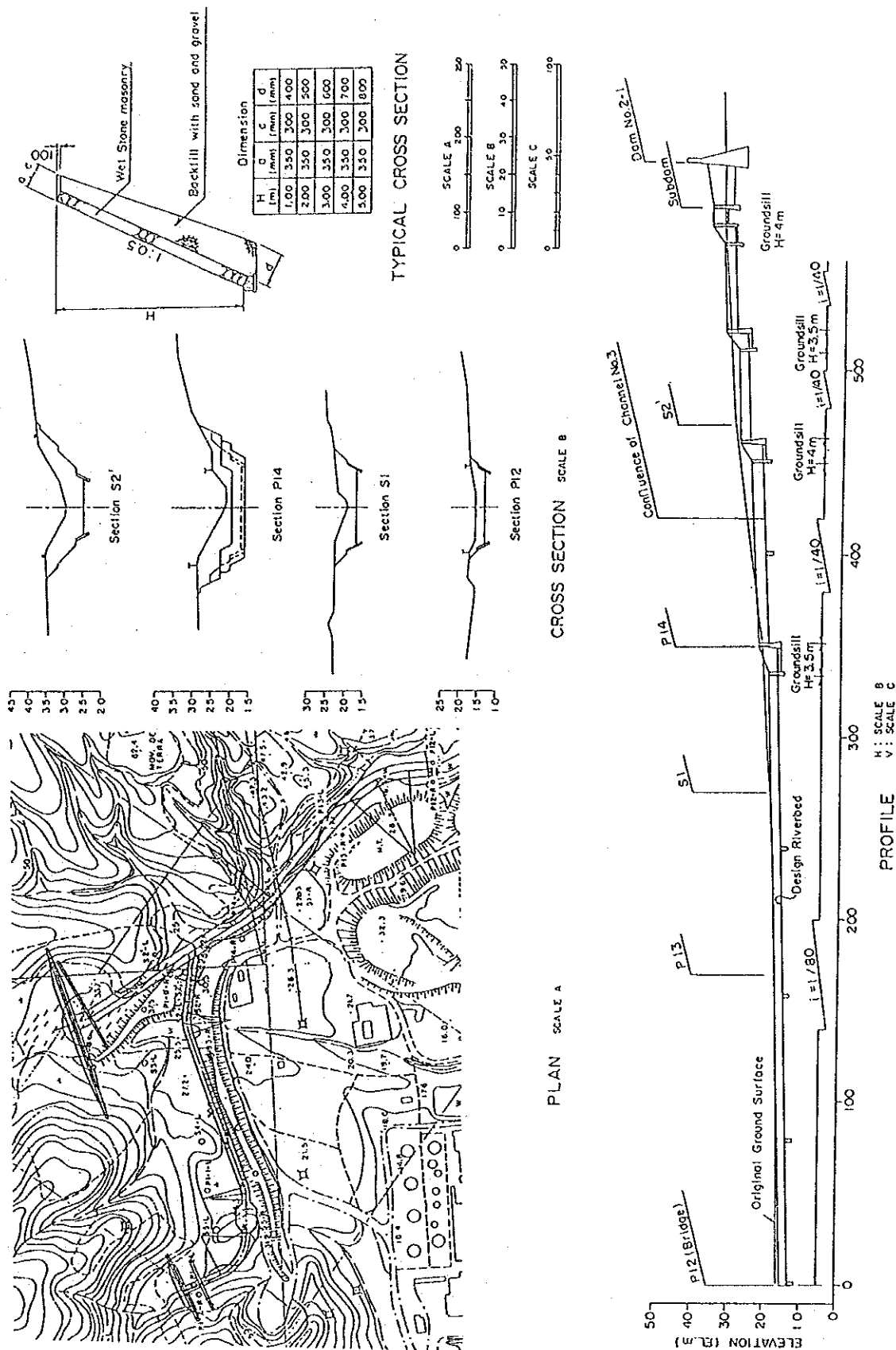
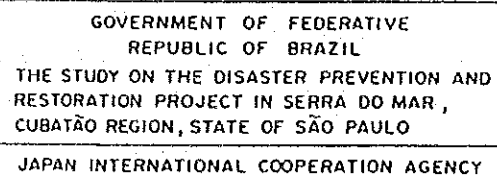
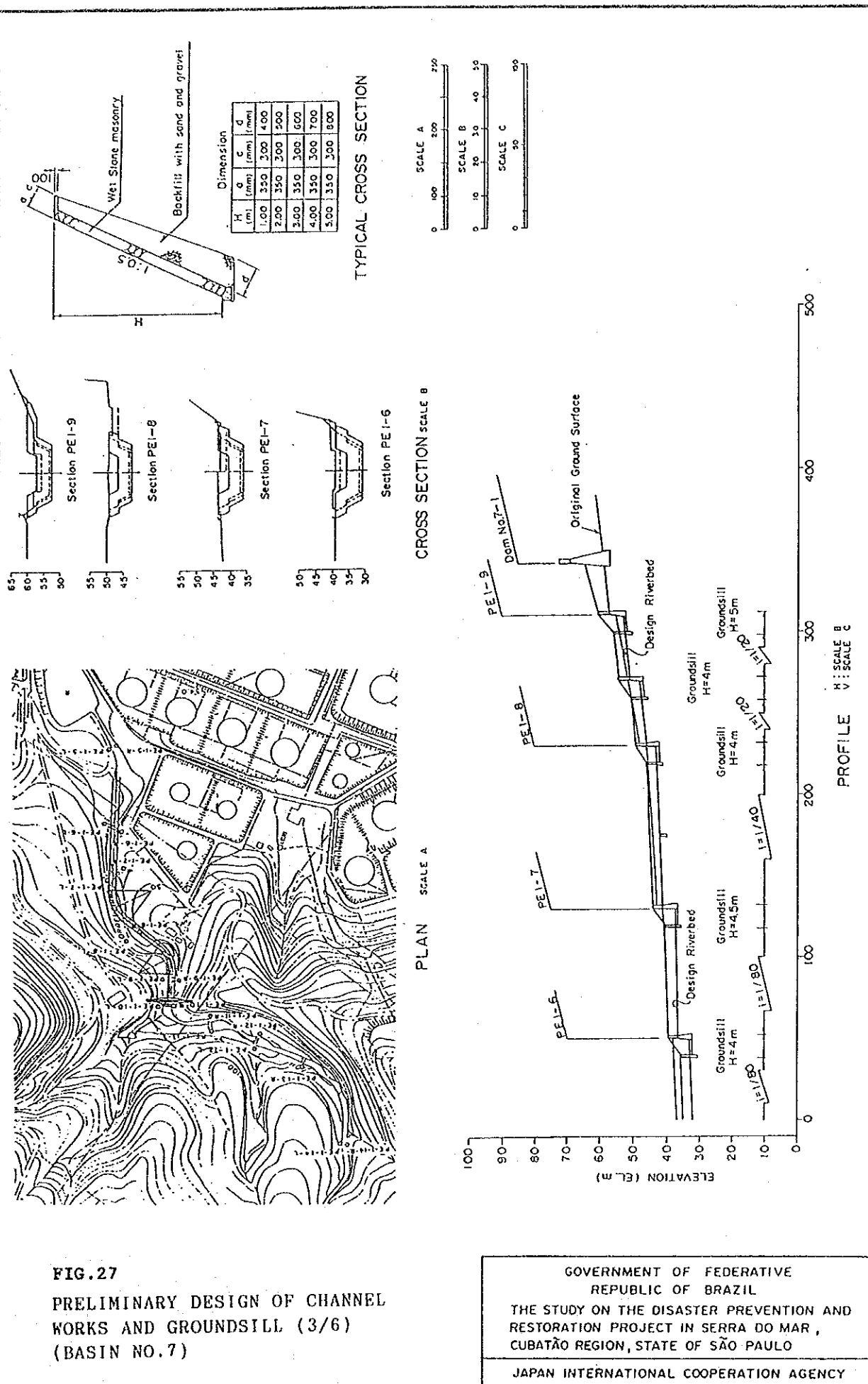


FIG. 27
PRELIMINARY DESIGN OF CHANNEL
WORKS AND GROUNDSILL (1/6)
(BASIN NO. 2)

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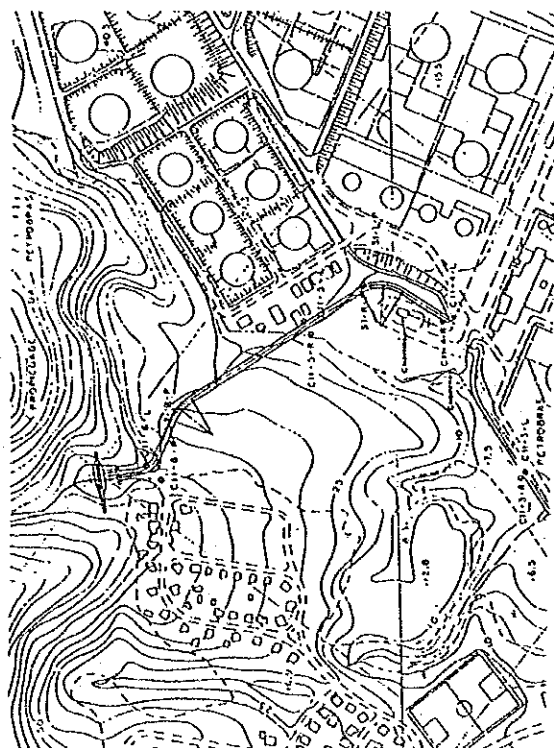
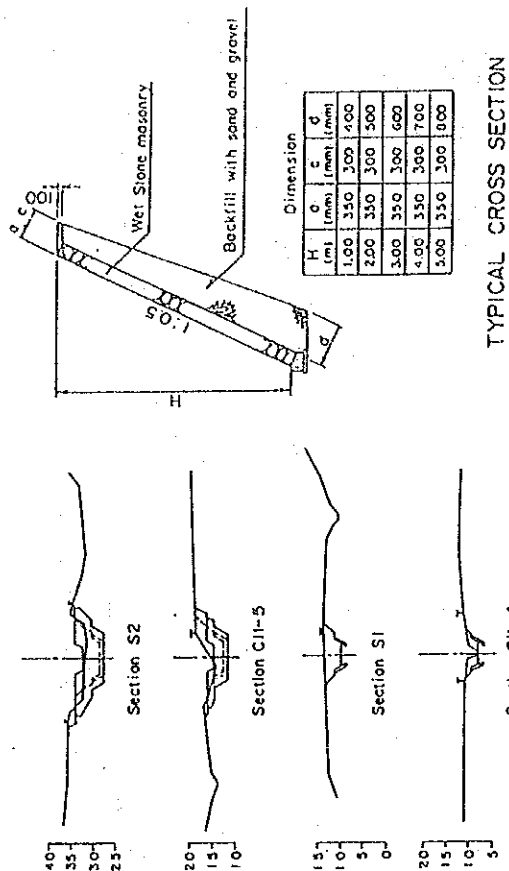


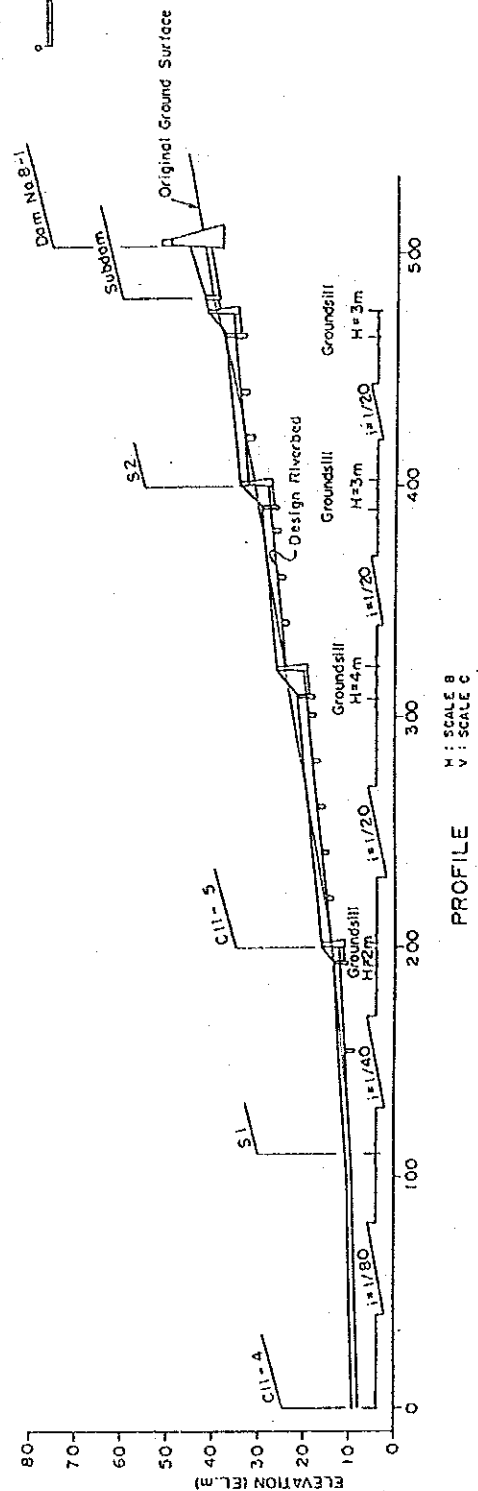
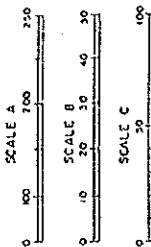
FIG. 27

PRELIMINARY DESIGN OF CHANNEL
WORKS AND GROUNDSILL (4/6)
(BASIN NO.8)



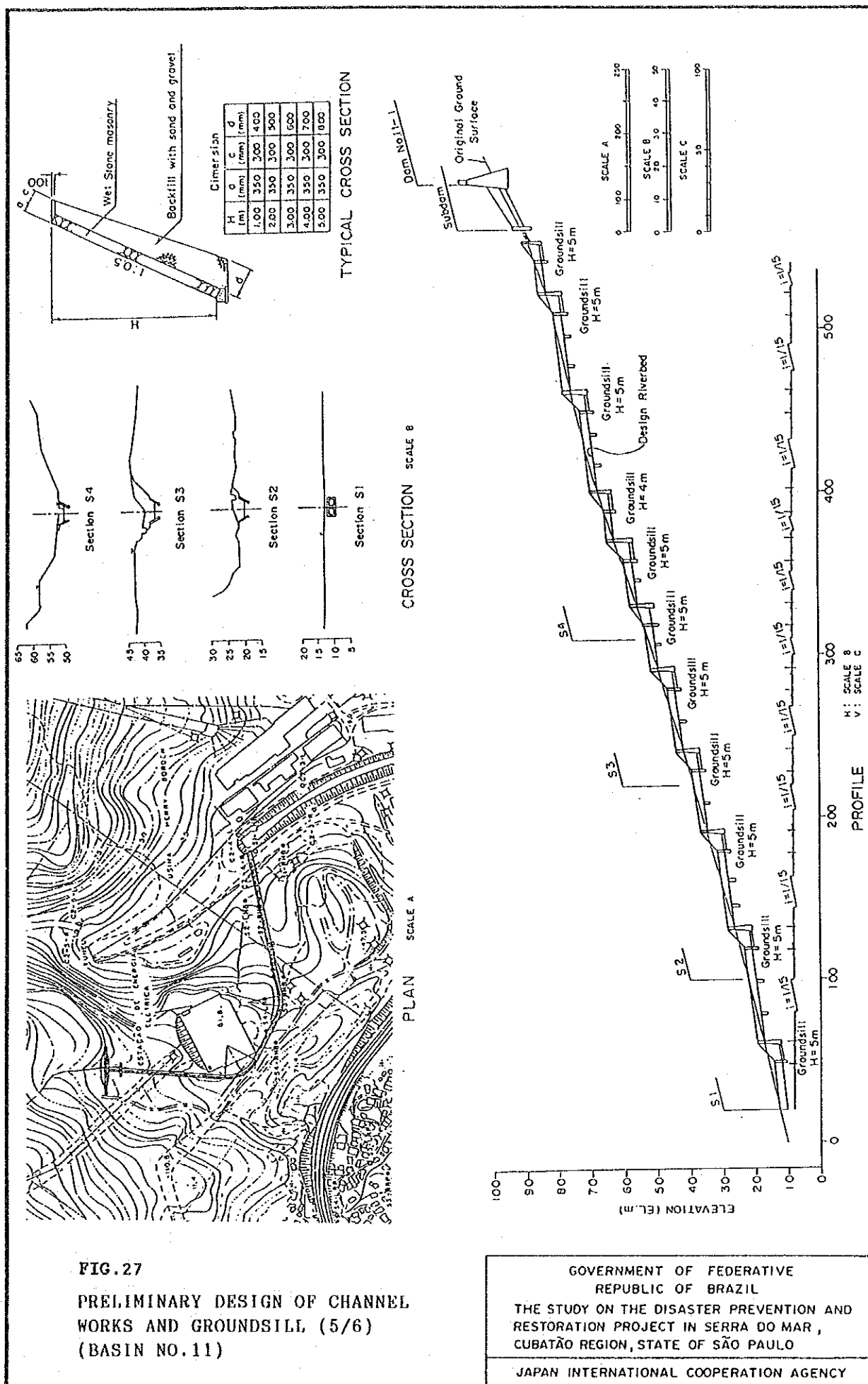
PLAN SCALE A

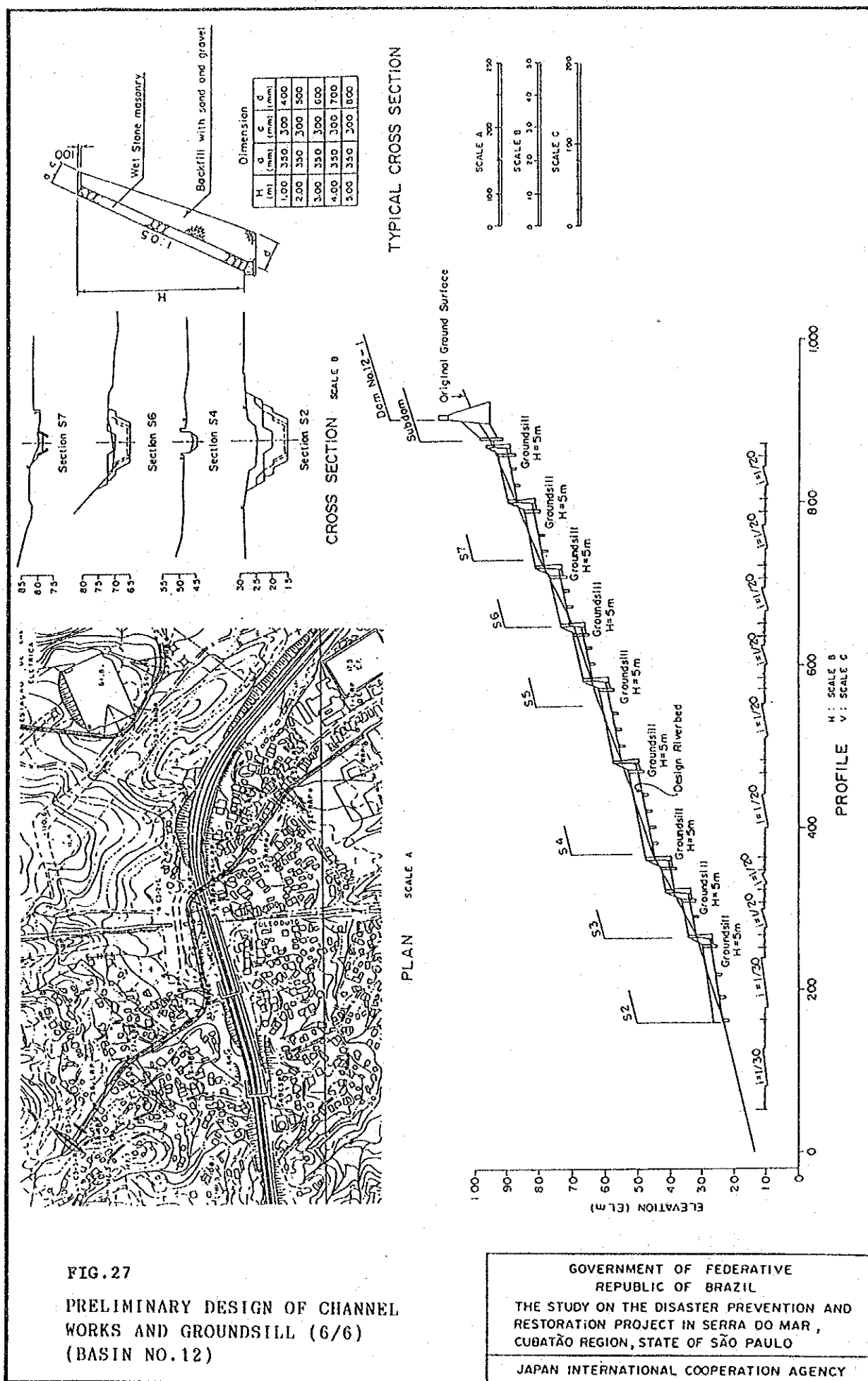
CROSS SECTION SCALE B



PROFILE
H: SCALE B
V: SCALE C

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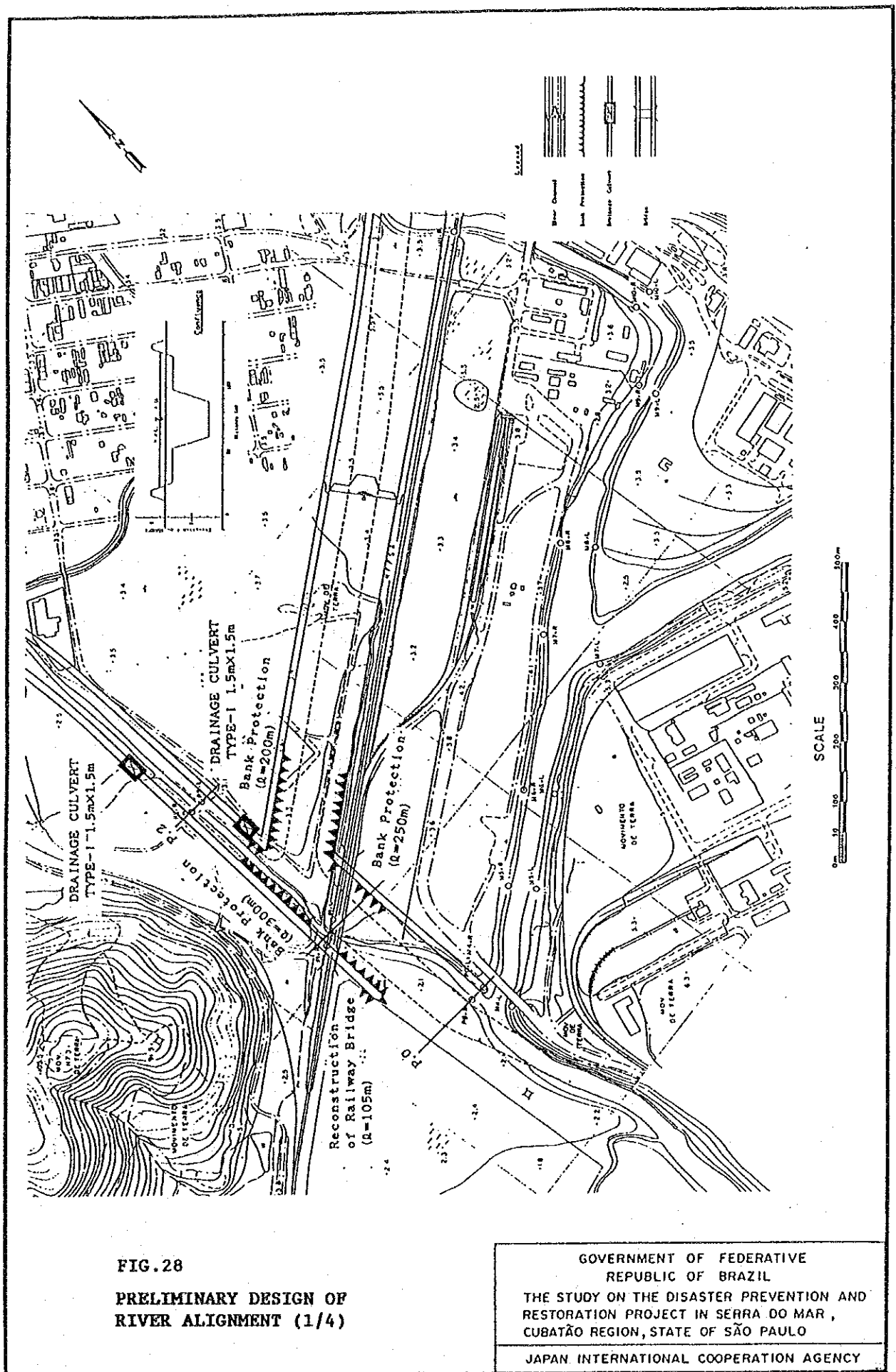
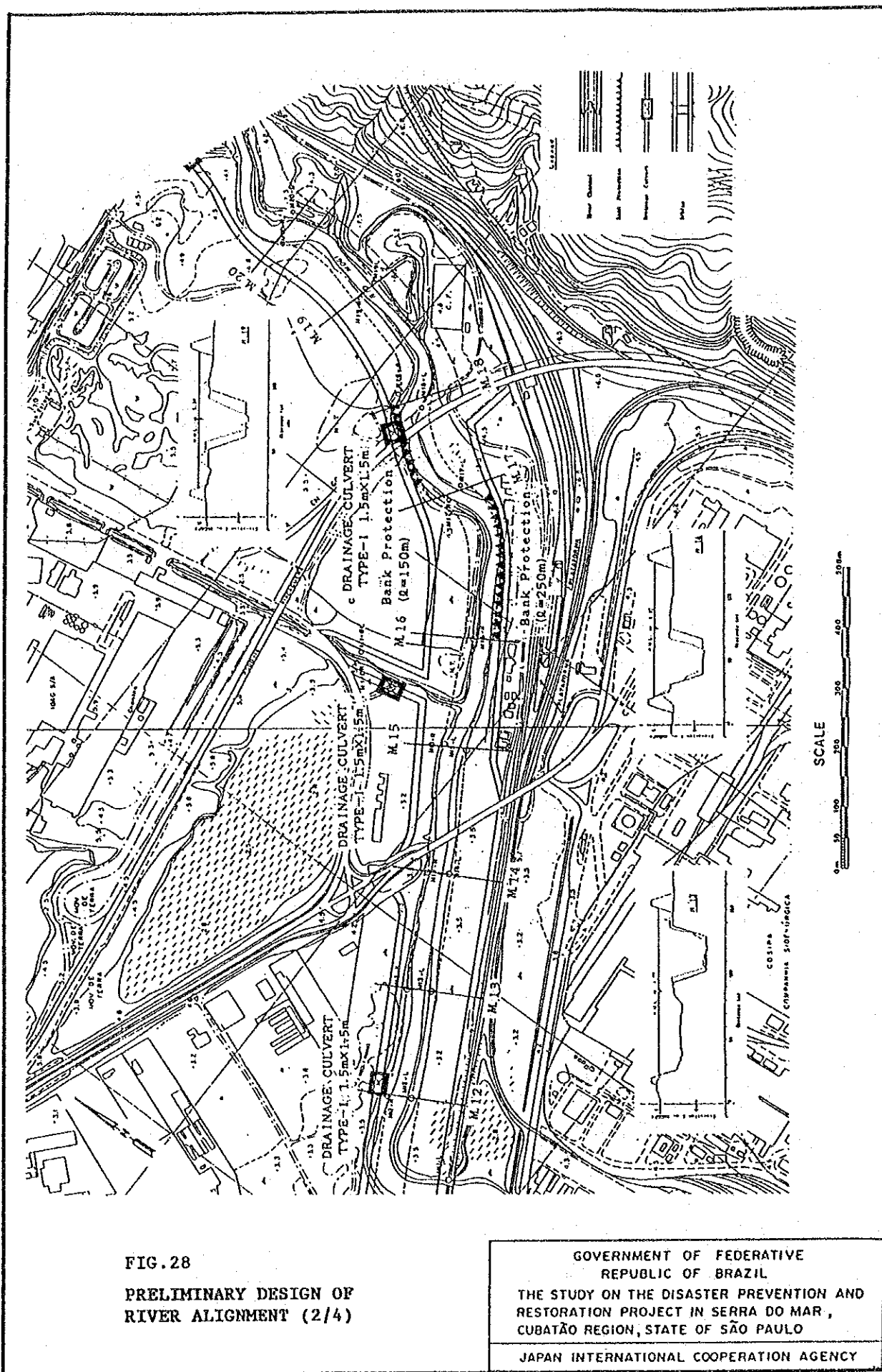


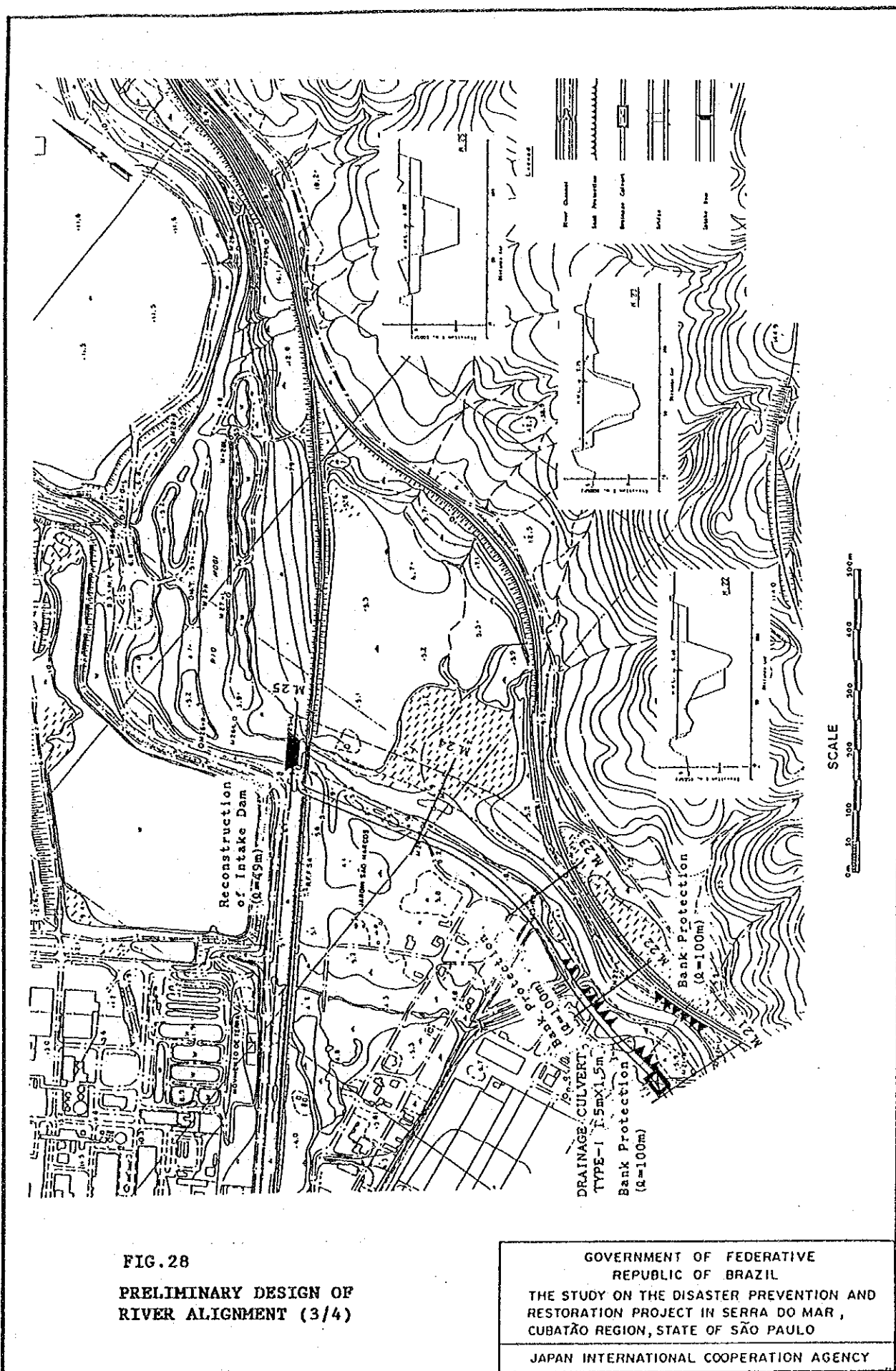
FIG.28

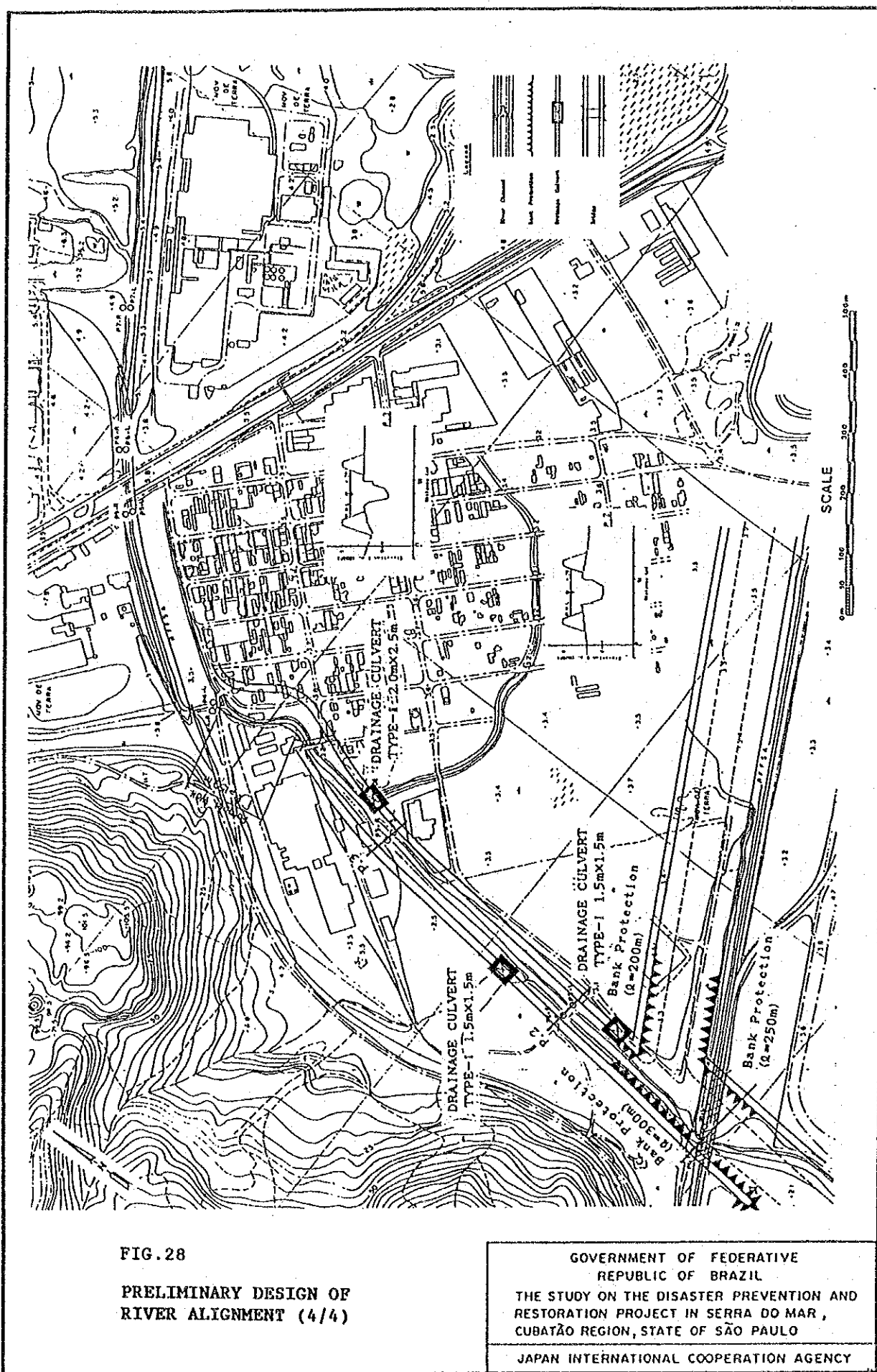
PRELIMINARY DESIGN OF
RIVER ALIGNMENT (1/4)

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RESTORATION PROJECT IN SERRA DO MAR,
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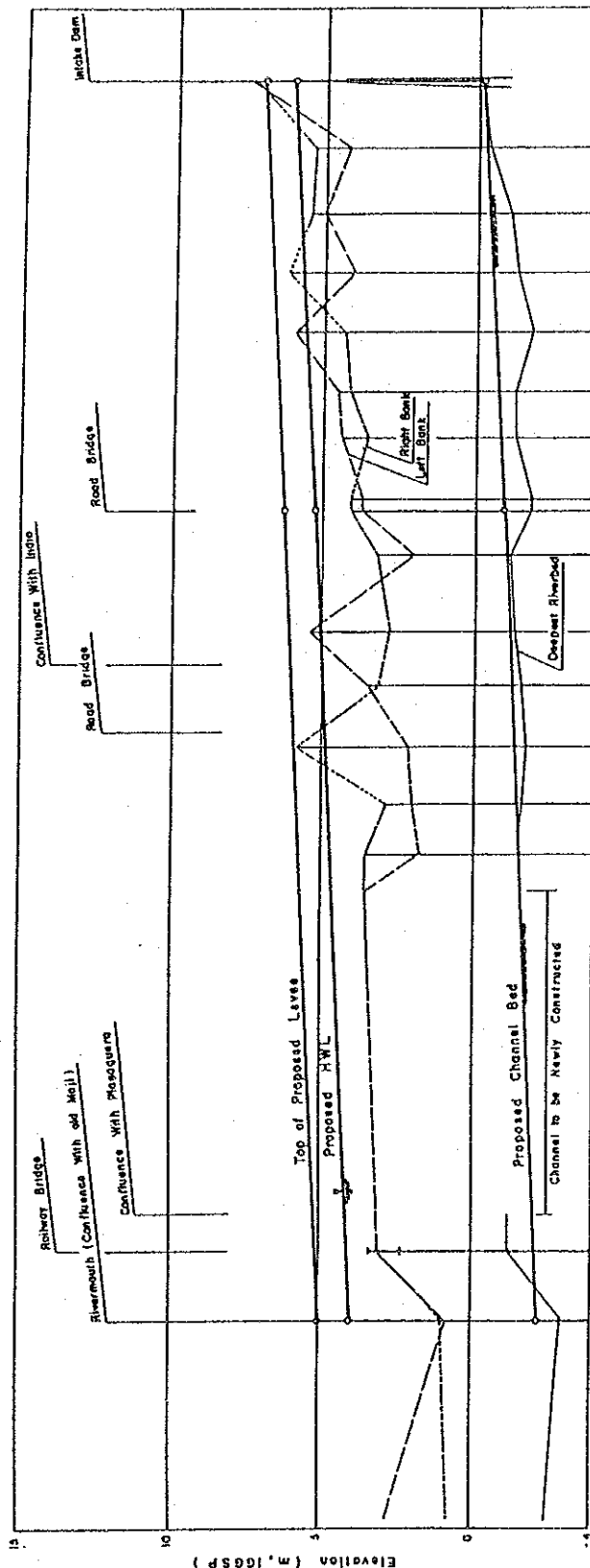
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MOJI RIVER



Section No	Distance (m)	Proposed Channel Bed (m. 100 SP)	Proposed HWL (m. 100 SP)	Top of Proposed Levee (m. 100 SP)	Gradient of Channel Bed	Gradient of Bedrock	Design Flood Discharge (m³/s)
1.0	8.90	-2.30	+0.00	6.00	0.11	0.16	4.00
2.1	9.40	-2.08	+0.11	6.11	0.11	0.16	4.11
3.1	10.70	-2.04	+0.14	6.14	0.11	0.16	4.14
4.1	11.90	-1.64	+0.44	6.44	0.11	0.16	4.44
5.1	12.30	-1.00	+0.70	6.70	0.11	0.16	4.70
6.1	13.00	-1.43	+0.77	6.77	0.11	0.16	4.77
7.1	13.70	-1.34	+0.86	6.86	0.11	0.16	4.86
8.1	14.00	-1.23	+0.90	6.90	0.11	0.16	4.90
9.1	14.90	-1.18	+0.92	6.92	0.11	0.16	4.92
10.1	15.00	-1.06	+0.94	6.94	0.11	0.16	4.94
11.1	15.40	-0.98	+0.98	6.98	0.11	0.16	4.98
12.1	15.70	-0.86	+0.94	6.94	0.11	0.16	4.94
13.1	16.20	-0.77	+0.83	6.83	0.11	0.16	4.83
14.1	16.30	-0.68	+0.84	6.84	0.11	0.16	4.84
15.1	16.50	-0.60	+0.80	6.80	0.11	0.16	4.80
16.1	16.70	-0.44	+0.76	6.76	0.11	0.16	4.76
17.1	17.00	-0.32	+0.80	6.80	0.11	0.16	4.80
18.1	17.20	-0.20	+0.80	6.80	0.11	0.16	4.80

FIG.29
PRELIMINARY DESIGN OF RIVER PROFILE

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