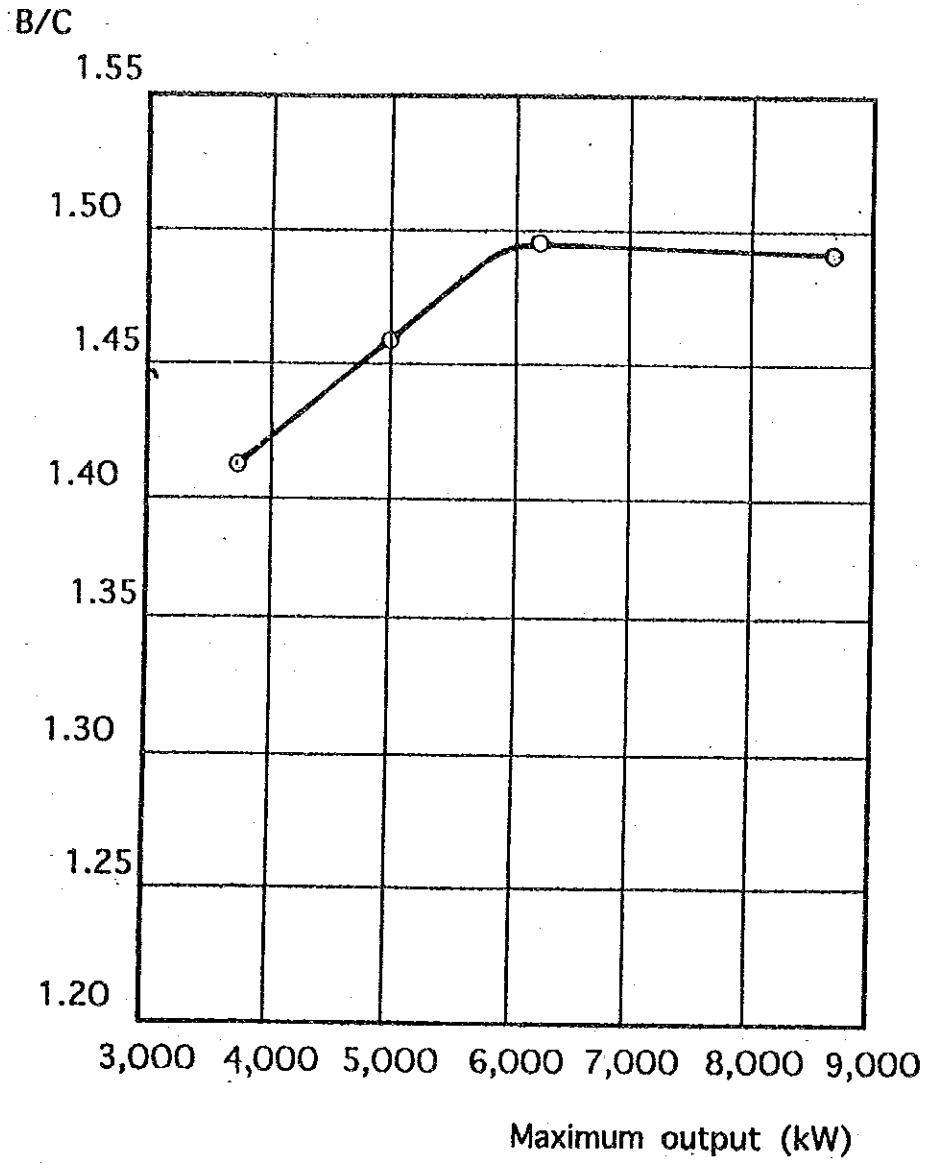


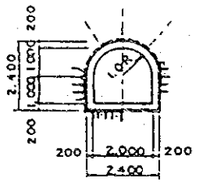
Fig. 4 – 2 Comparison of B/C

DRAWING LIST (7)

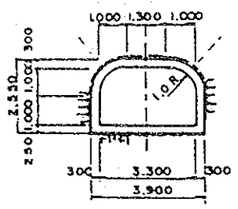
Drawing No.		Title
ILAM-F/S 001		General Layout
ILAM-F/S 002		Details for Intake Weir
ILAM-F/S 003		Details for Settling Basin
ILAM-F/S 004		Details for Head Tank & Reservoir
ILAM-F/S 005	- 1/4	Penstock Layout (Plan)
	- 2/4	Penstock Layout (Longitudinal Section)
	- 3/4	Details for Anchor Blocks
	- 4/4	Details for Anchor Blocks and Saddles
ILAM-F/S 006		Outline of Power House
ILAM-F/S 007		Intake Weir (Alternative)
ILAM-F/S 008		Settling Basin (Alternative)
ILAM-F/S 009		Details for Spillway (Adit)

TYPICAL TUNNEL SECTIONS

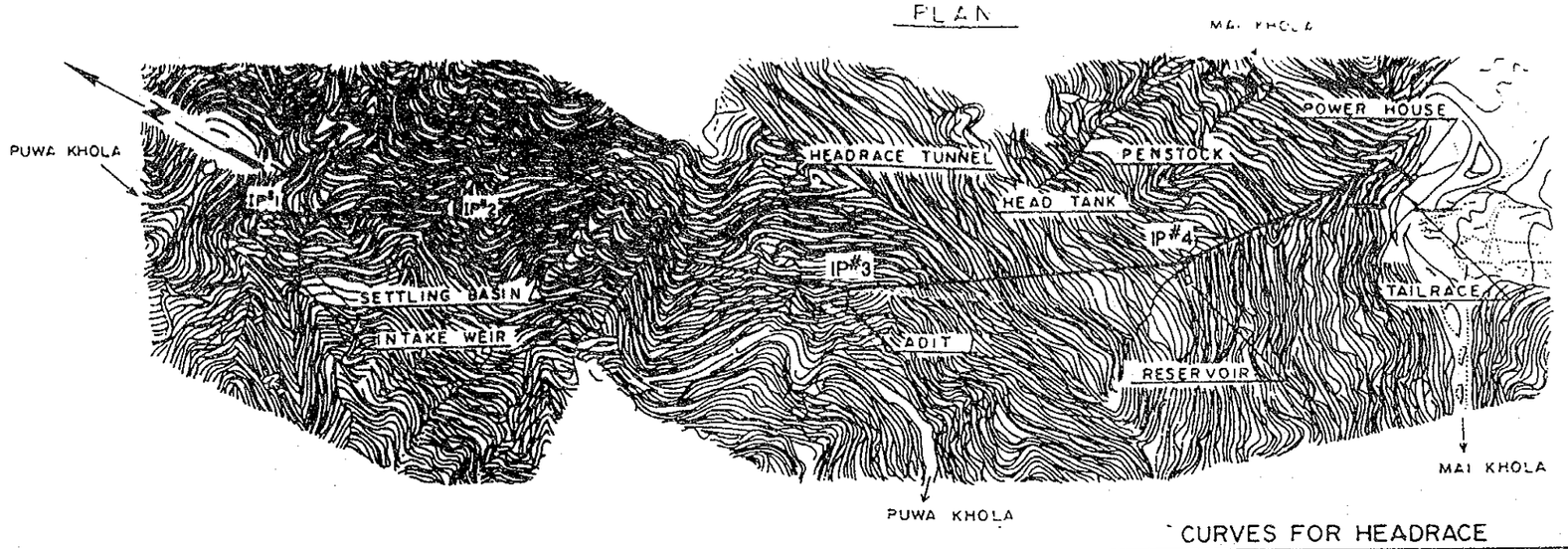
(HEADRACE)



(SIDING)



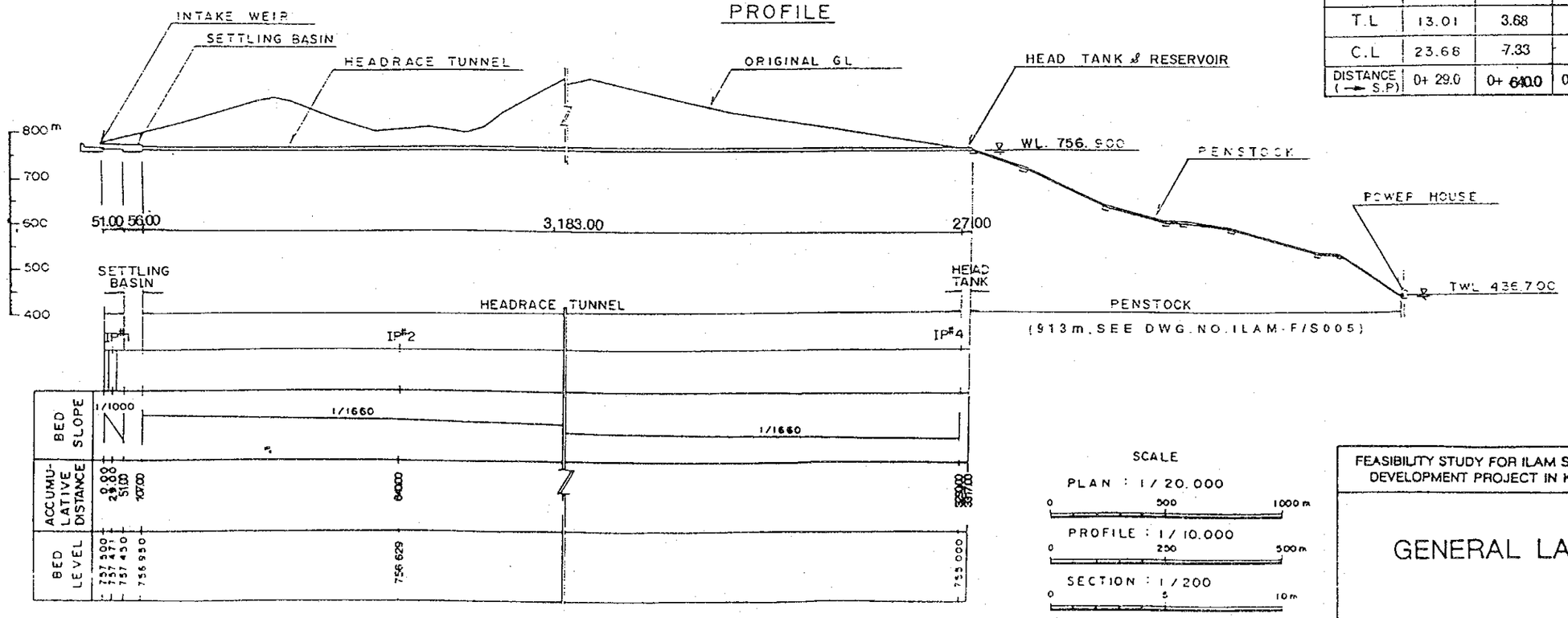
PLAN



CURVES FOR HEADRACE

	IP#1	IP#2	IP#3	IP#4
I.A	59°00'	14° 00'	13° 30'	20° 05'
R	23.0	30.0	30.0	30.0
T.L	13.01	3.68	3.55	5.31
C.L	23.66	7.33	7.07	10.52
DISTANCE (→ S.P)	0+ 29.0	0+ 640.0	0+2240.0	0+3290.0

PROFILE



SCALE

PLAN : 1/20.000
0 500 1000 m

PROFILE : 1/10.000
0 250 500 m

SECTION : 1/200
0 5 10 m

FEASIBILITY STUDY FOR ILAM SMALL HYDROPOWER DEVELOPMENT PROJECT IN KINGDOM OF NEPAL

GENERAL LAYOUT

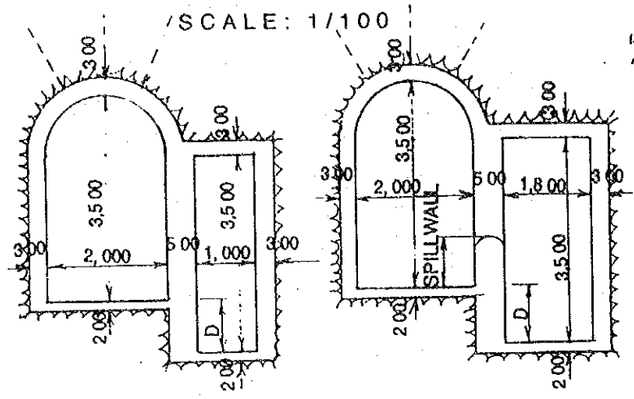
JAPAN INTERNATIONAL COOPERATION AGENCY

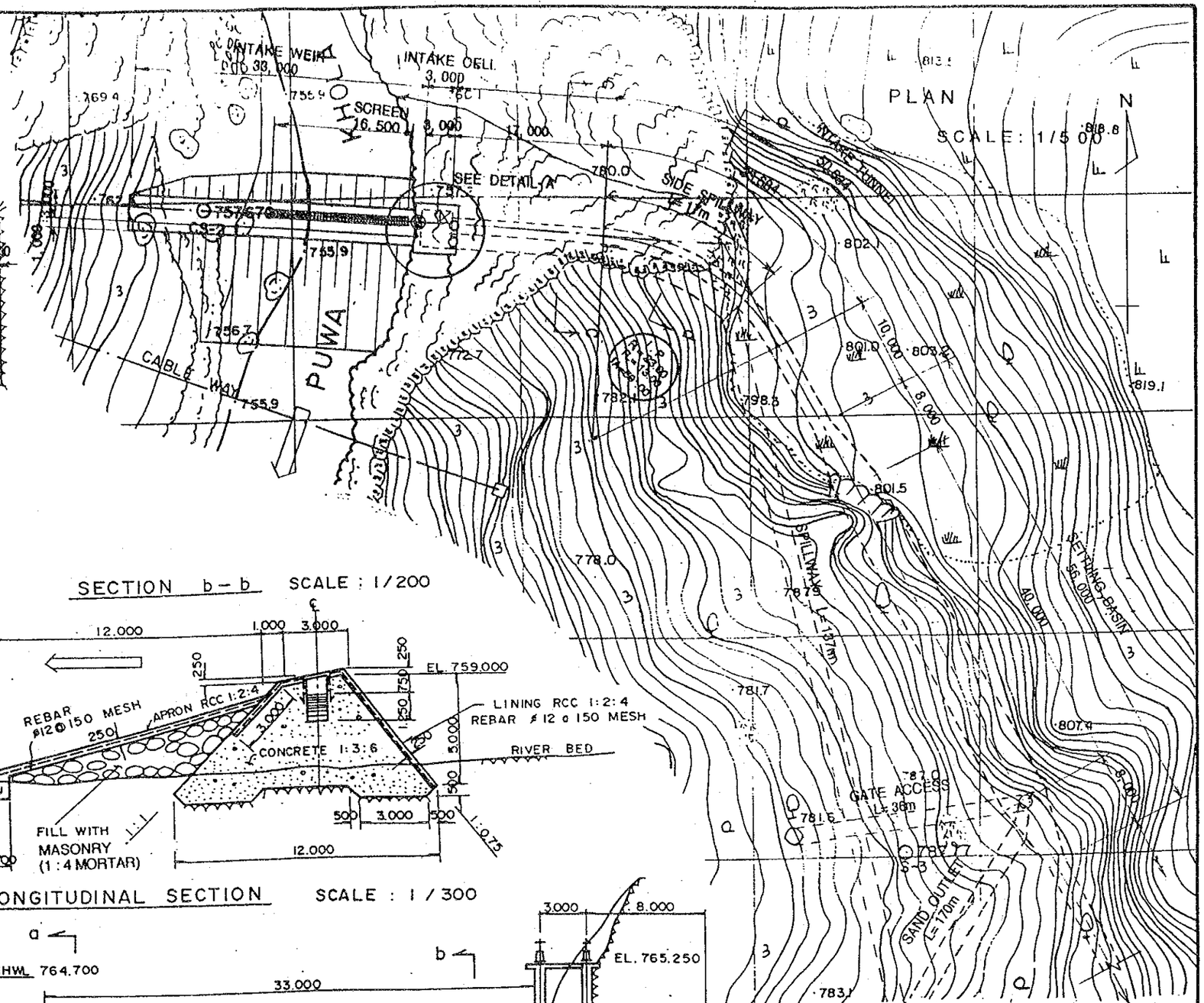
DWG.NO. ILAM-F/S001 SHEET 1 OF 1

SECT.-c-c

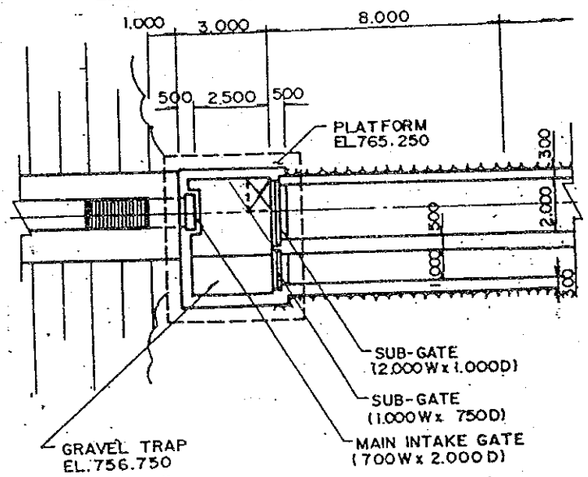
SECT.-d-d

SCALE: 1/100



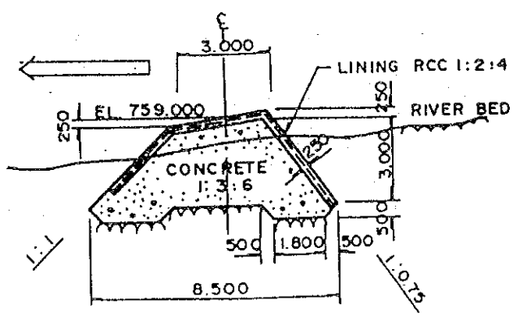


DETAIL - A SCALE : 1/200

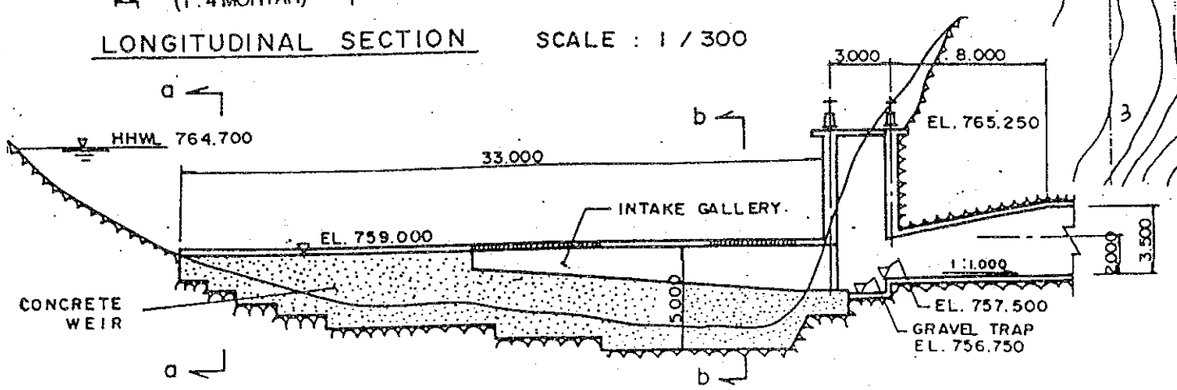


SECTION b - b SCALE : 1/200

SECTION a - a SCALE : 1/200



LONGITUDINAL SECTION SCALE : 1/300



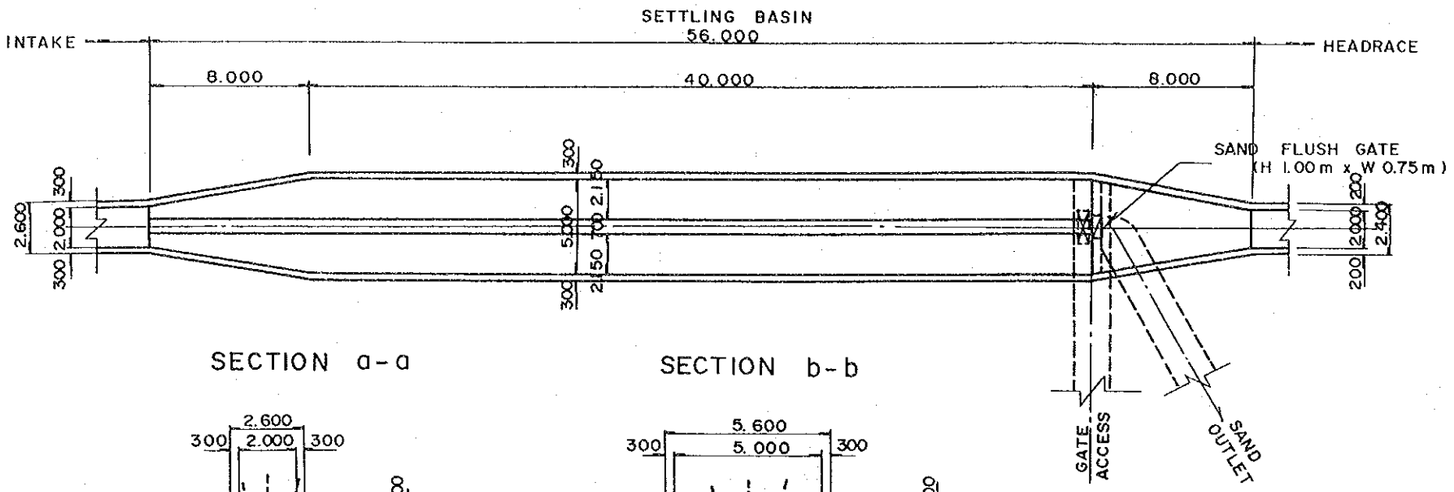
FEASIBILITY STUDY FOR ILAM SMALL HYDROPOWER DEVELOPMENT PROJECT IN KINGDOM OF NEPAL

DETAILS FOR INTAKE WEIR

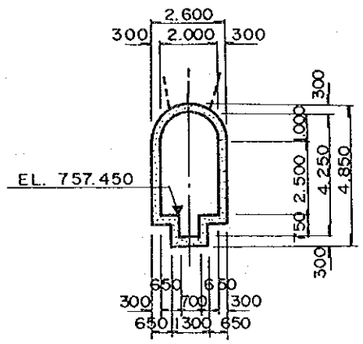
JAPAN INTERNATIONAL COOPERATION AGENCY

DWG.NO. ILAM-F/S002 SHEET 1 OF 1

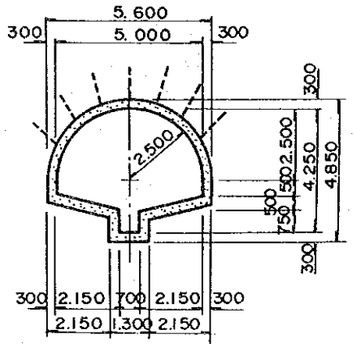
PLAN



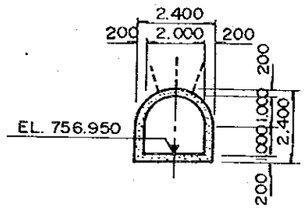
SECTION a-a



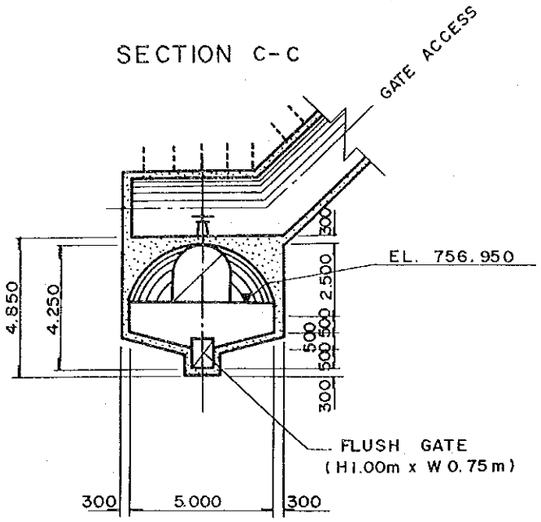
SECTION b-b



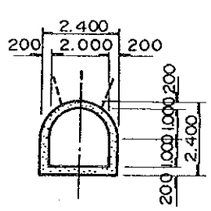
SECTION d-d



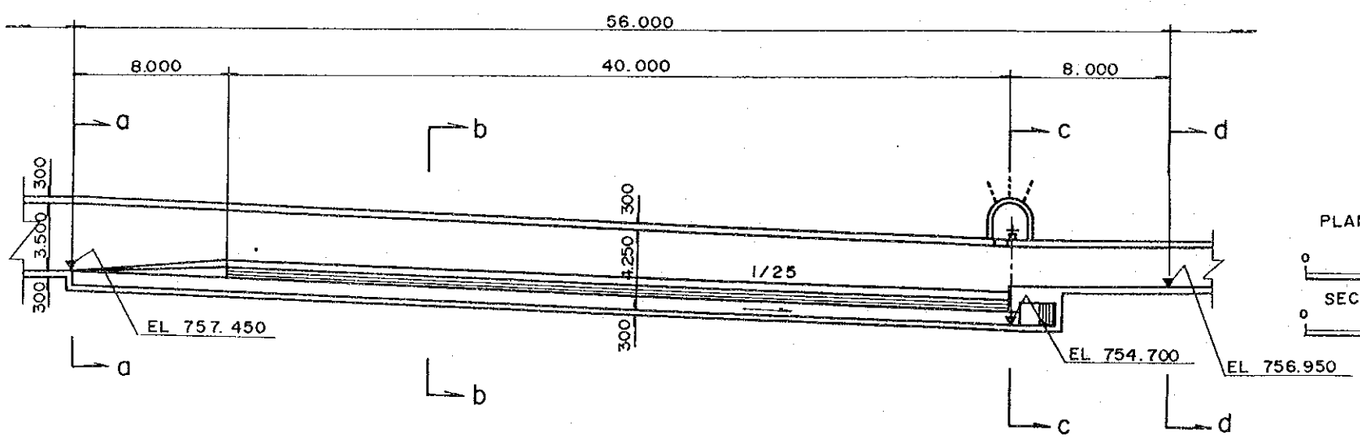
SECTION c-c



SECTION FOR SAND OUTLET & ACCESS



LONGITUDINAL SECTION



SCALE

PLAN / PROFILE : 1/300

0 7.5 15m

SECTION : 1/200

0 5 10m

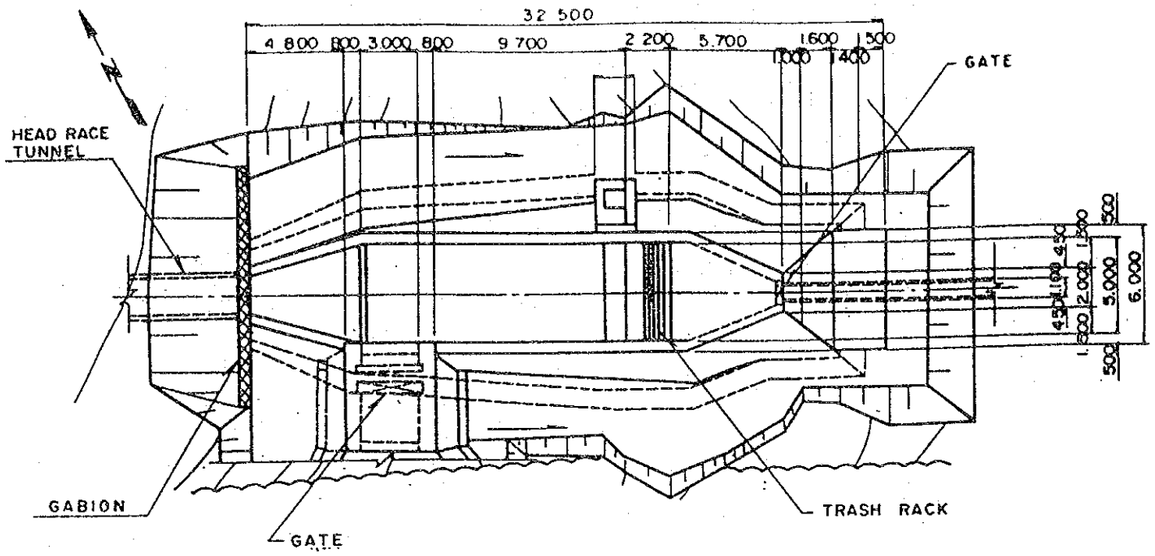
FEASIBILITY STUDY FOR ILAM SMALL HYDROPOWER DEVELOPMENT PROJECT IN KINGDOM OF NEPAL

DETAILS FOR SETTLING BASIN

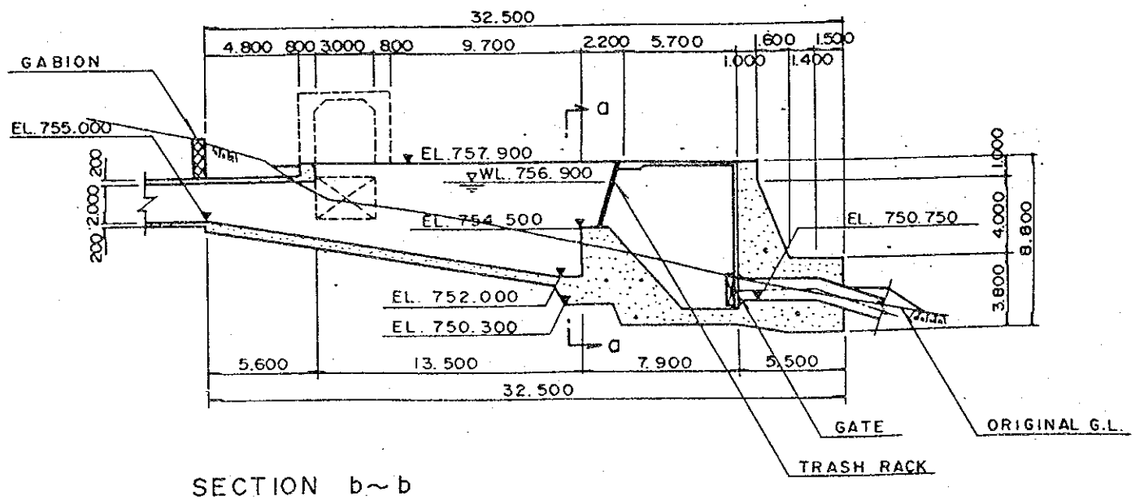
JAPAN INTERNATIONAL COOPERATION AGENCY

DWG.NO. ILAM-F/S003 SHEET 1 OF 1

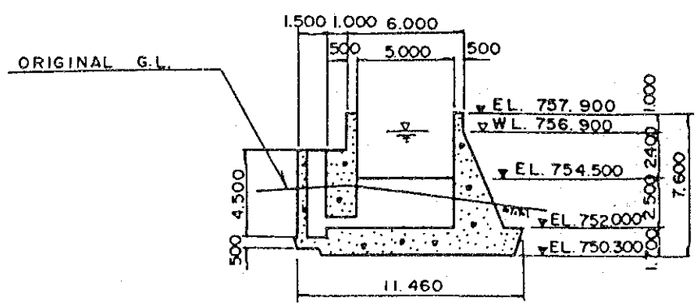
PLAN- HEAD TANK



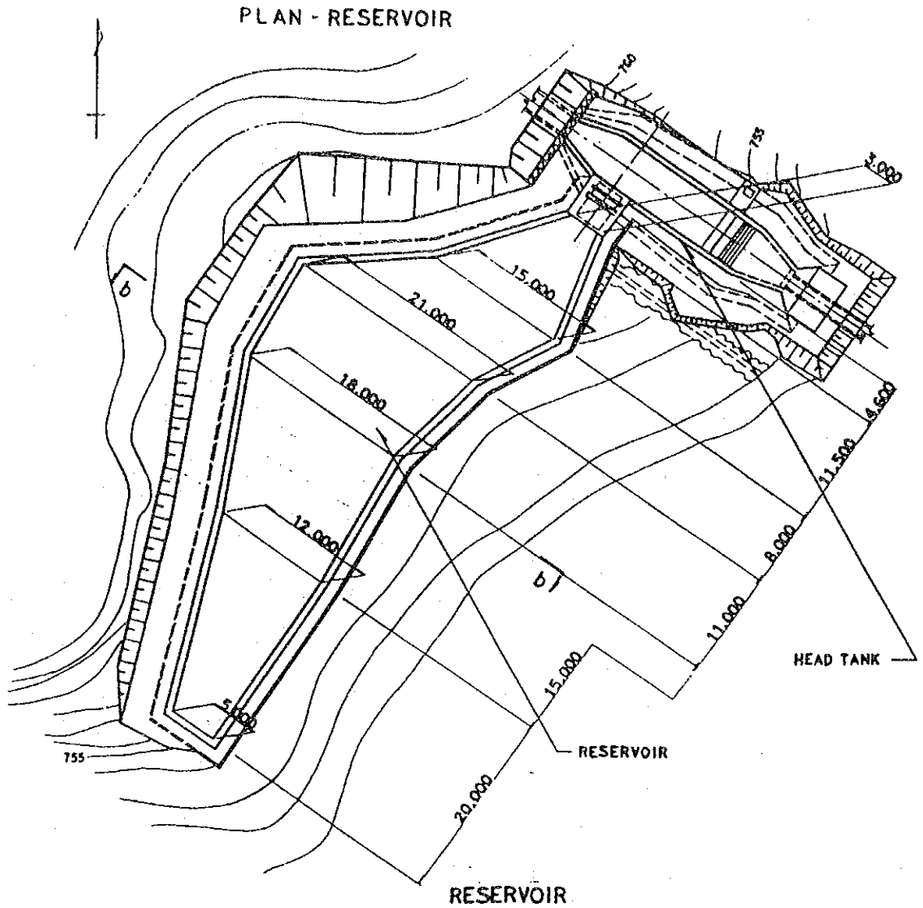
LONGITUDINAL PROFILE



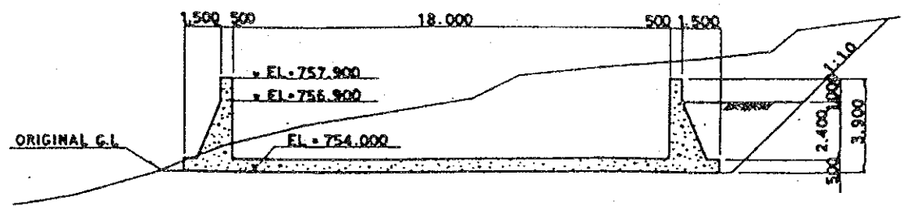
SECTION b~b



PLAN - RESERVOIR



RESERVOIR
TYP. SECTION b - b SCALE : 1/200

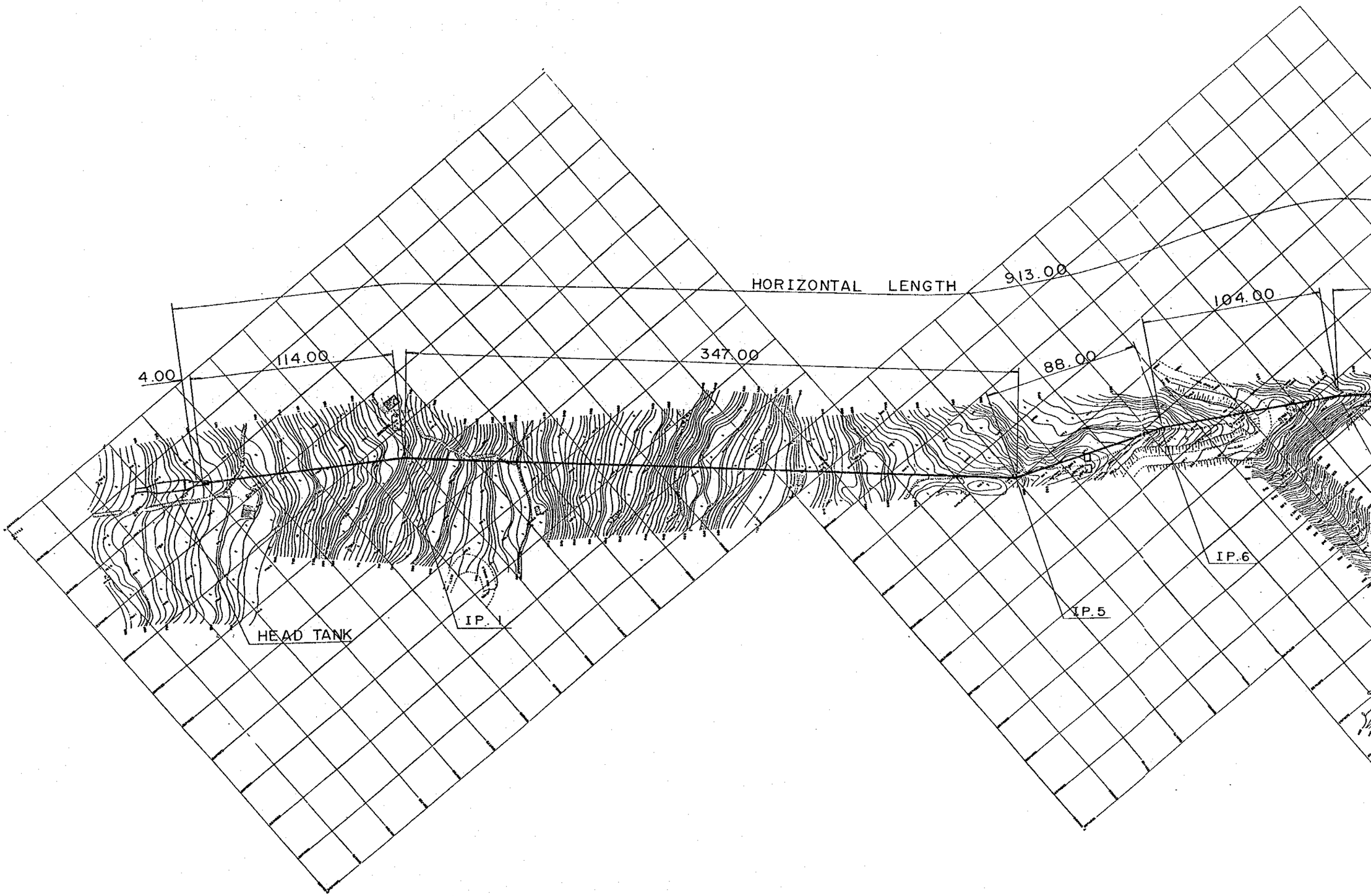


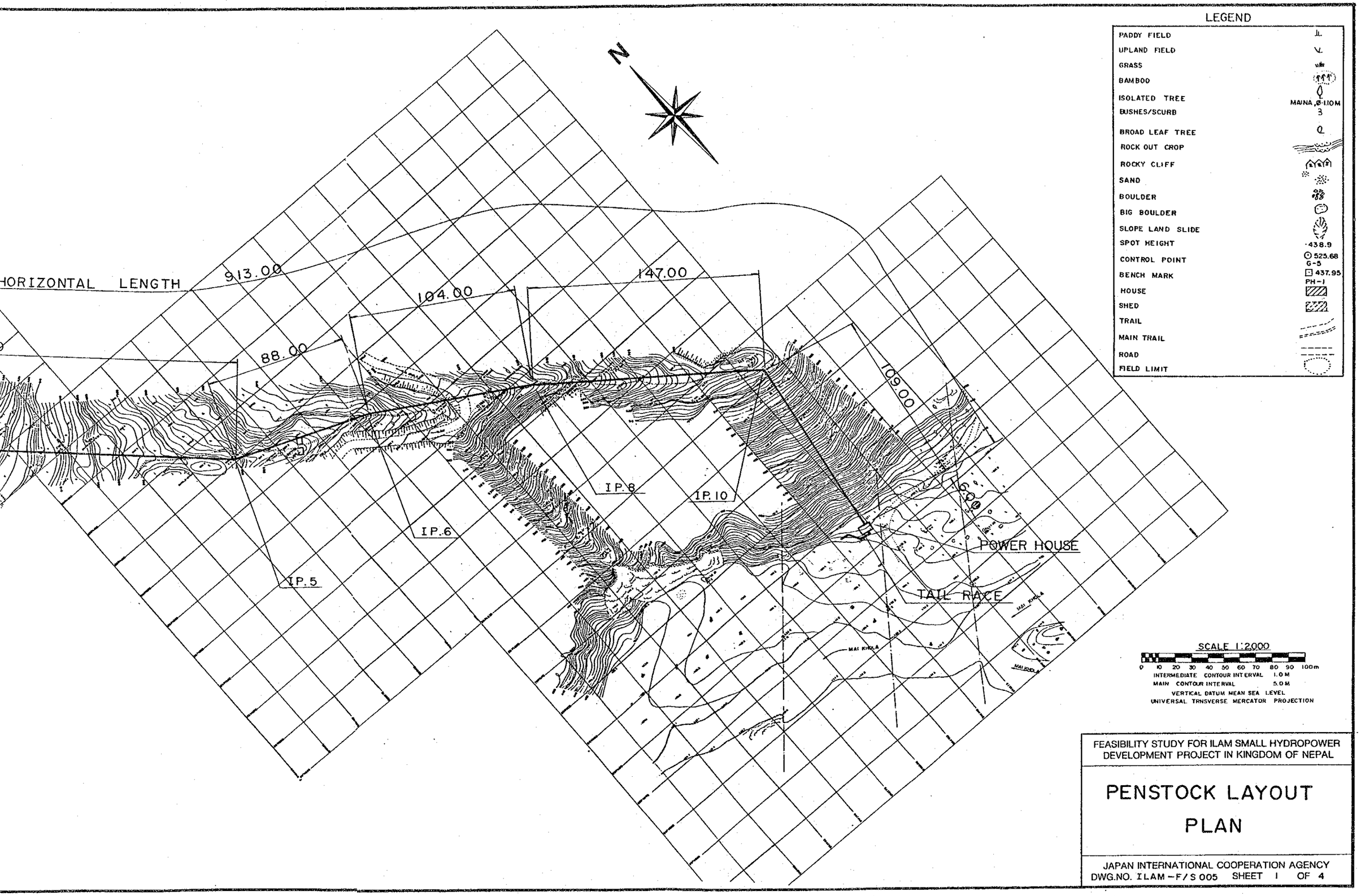
SCALE
RESERVOIR : 1/600
0 10 20 m
OTHERS : 1/300
0 5 10m

FEASIBILITY STUDY FOR ILAM SMALL HYDROPOWER DEVELOPMENT PROJECT IN KINGDOM OF NEPAL

DETAILS FOR HEAD TANK & RESERVOIR

JAPAN INTERNATIONAL COOPERATION AGENCY
DWG.NO. ILAM-F/S004 SHEET 1 OF 1


HORIZONTAL LENGTH
4.00
114.00
347.00
913.00
104.00
88.00
HEAD TANK
IP. 1
IP. 5
IP. 6



LEGEND

PADDY FIELD	
UPLAND FIELD	
GRASS	
BAMBOO	
ISOLATED TREE	MAINA, Ø-1.10M
BUSHES/SCURB	
BROAD LEAF TREE	
ROCK OUT CROP	
ROCKY CLIFF	
SAND	
BOULDER	
BIG BOULDER	
SLOPE LAND SLIDE	
SPOT HEIGHT	·438.9
CONTROL POINT	⊙ 525.68 G-5
BENCH MARK	⊡ 437.95 PH-1
HOUSE	
SHED	
TRAIL	
MAIN TRAIL	
ROAD	
FIELD LIMIT	

SCALE 1:2,000

0 10 20 30 40 50 60 70 80 90 100m

INTERMEDIATE CONTOUR INTERVAL 1.0 M

MAIN CONTOUR INTERVAL 5.0 M

VERTICAL DATUM MEAN SEA LEVEL

UNIVERSAL TRNSVERSE MERCATOR PROJECTION

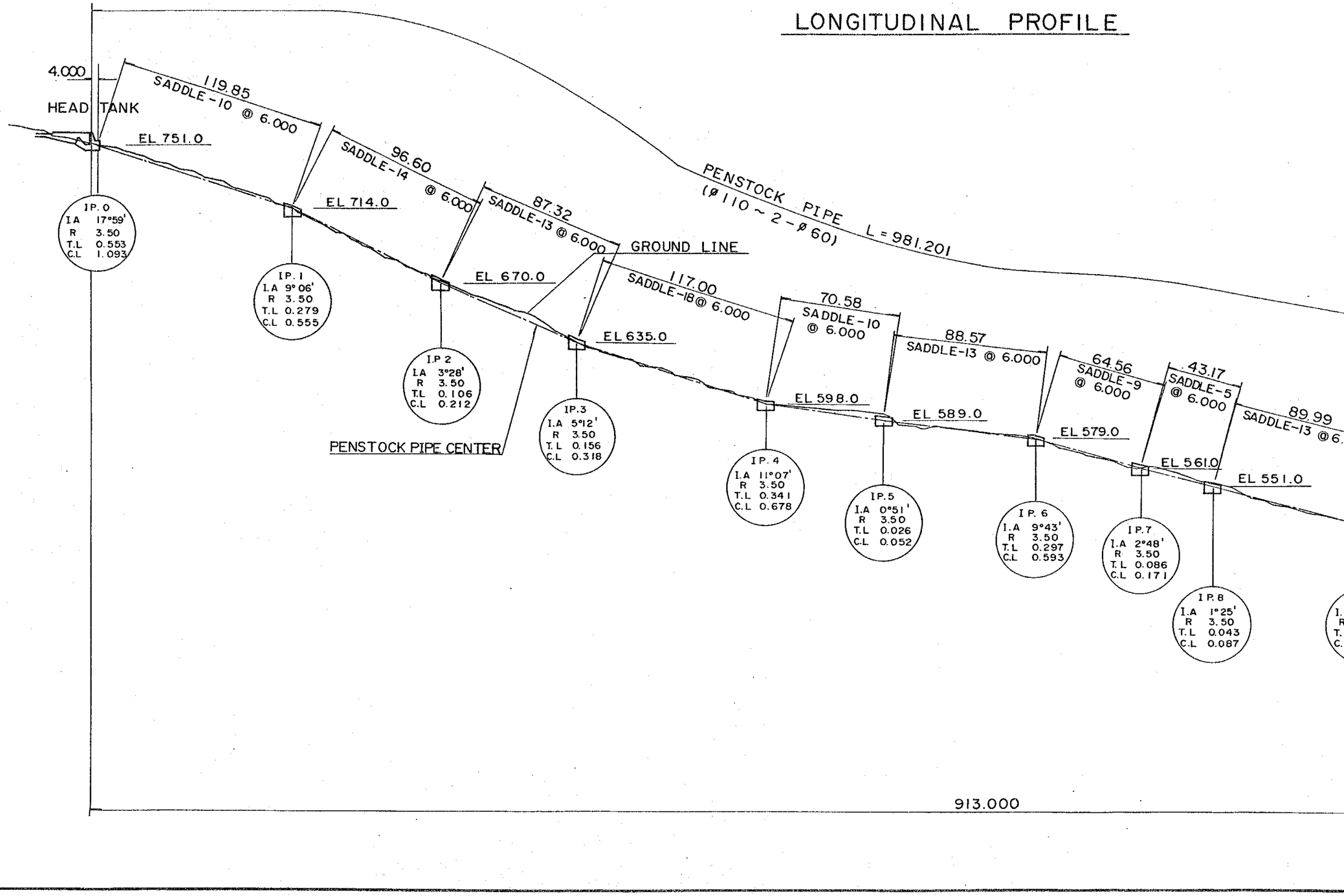
FEASIBILITY STUDY FOR ILAM SMALL HYDROPOWER DEVELOPMENT PROJECT IN KINGDOM OF NEPAL

PENSTOCK LAYOUT PLAN

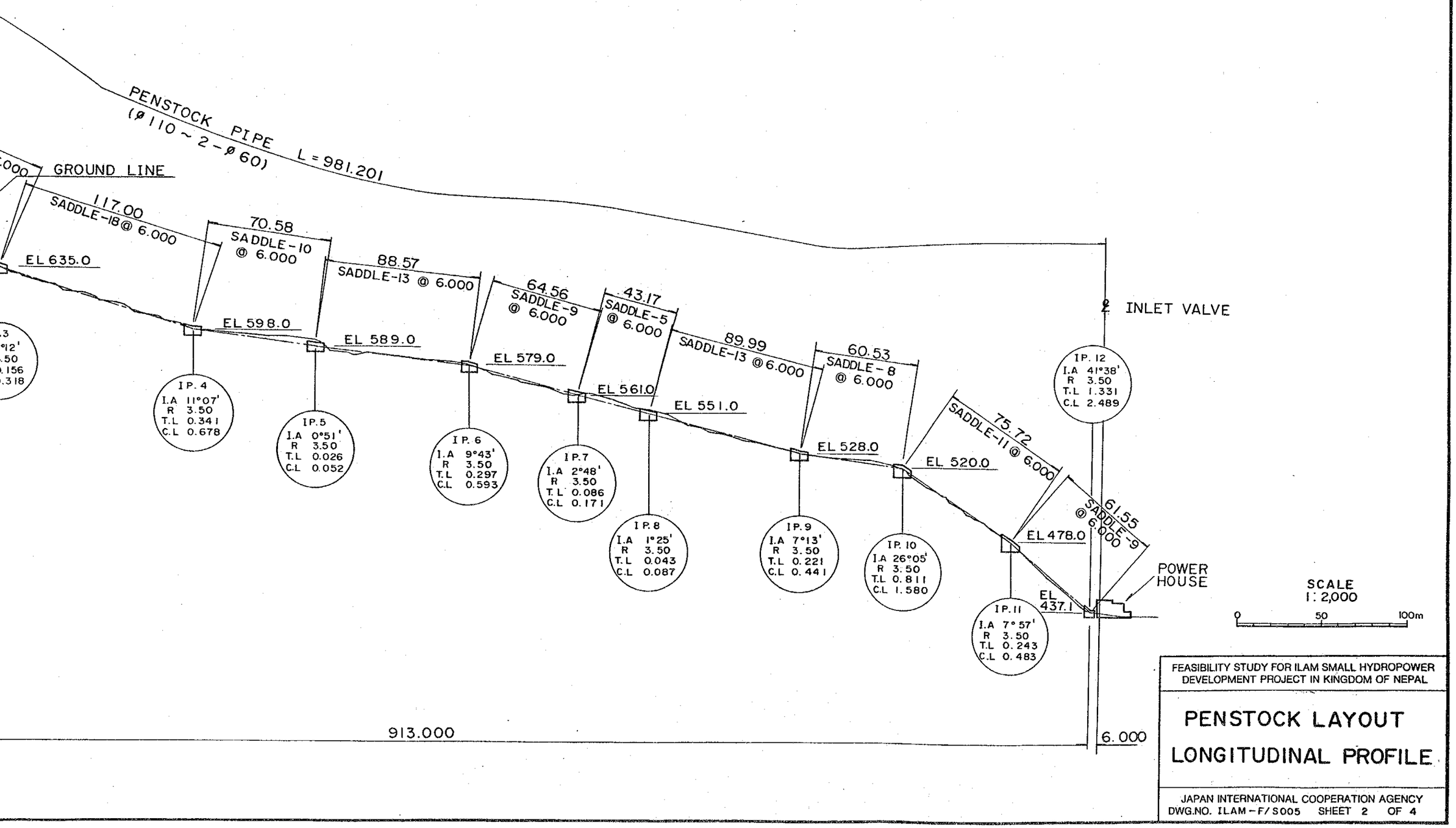
JAPAN INTERNATIONAL COOPERATION AGENCY

DWG.NO. ILAM-F/S 005 SHEET 1 OF 4

LONGITUDINAL PROFILE



LONGITUDINAL PROFILE



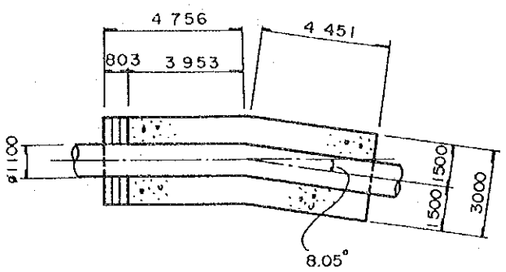
FEASIBILITY STUDY FOR ILAM SMALL HYDROPOWER DEVELOPMENT PROJECT IN KINGDOM OF NEPAL

PENSTOCK LAYOUT
LONGITUDINAL PROFILE

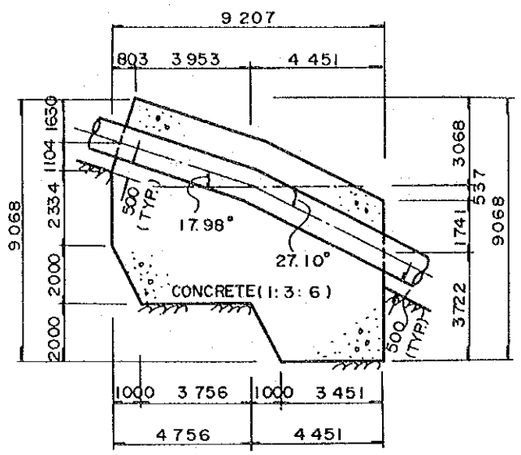
JAPAN INTERNATIONAL COOPERATION AGENCY
DWG.NO. ILAM-F/S005 SHEET 2 OF 4

ANCHOR BLOK No. 1

PLAN 1/200

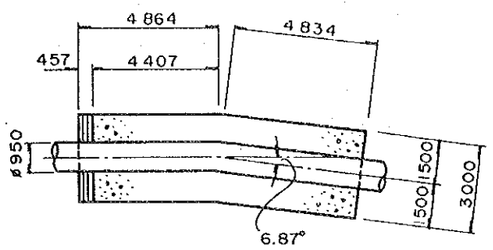


LONGITUDINAL SECTION 1/200

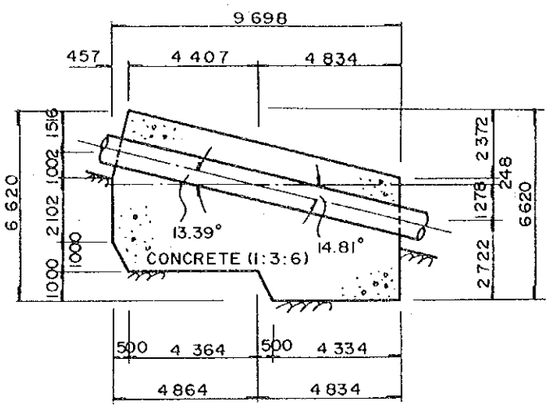


ANCHOR BLOCK No. 8

PLAN 1/200

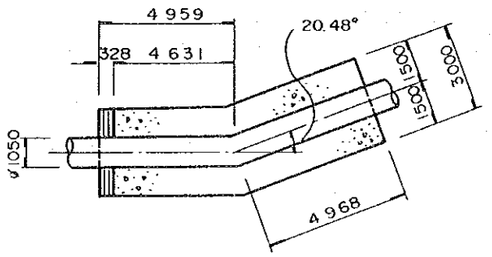


LONGITUDINAL SECTION 1/200

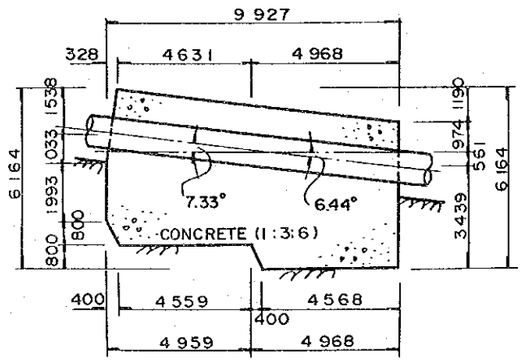


ANCHOR BLOK No. 5

PLAN 1/200

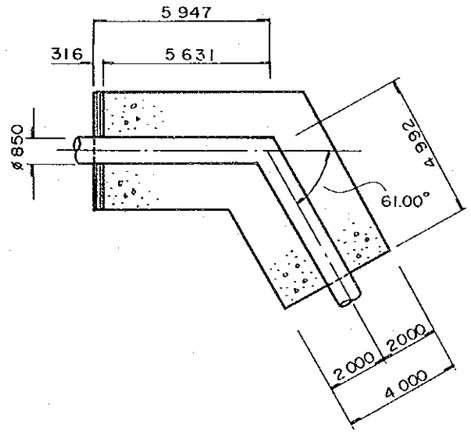


LONGITUDINAL SECTION 1/200

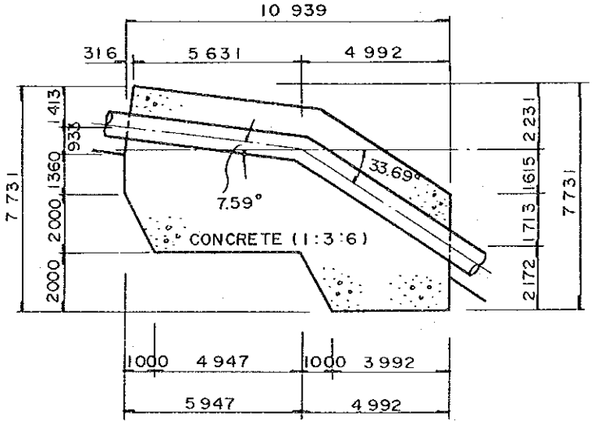


ANCHOR BLOCK No. 10

PLAN 1/200

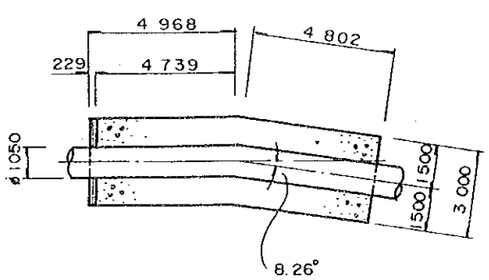


LONGITUDINAL SECTION 1/200

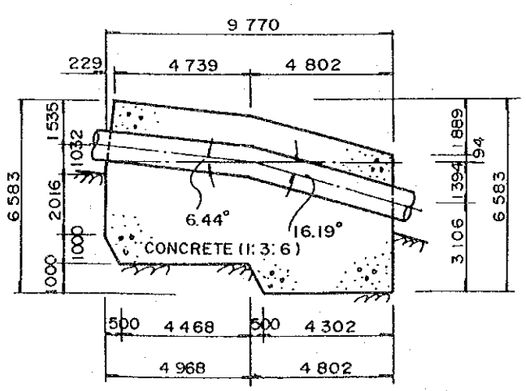


ANCHOR BLOCK No. 6

PLAN 1/200



LONGITUDINAL SECTION 1/200



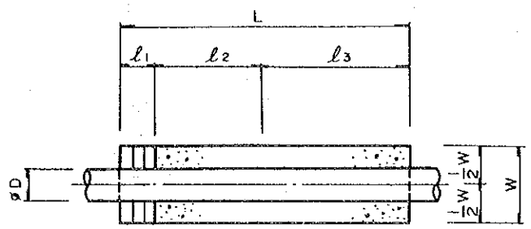
FEASIBILITY STUDY FOR ILAM SMALL HYDROPOWER DEVELOPMENT PROJECT IN KINGDOM OF NEPAL

DETAILS FOR PENSTOCK ANCHOR BLOCKS

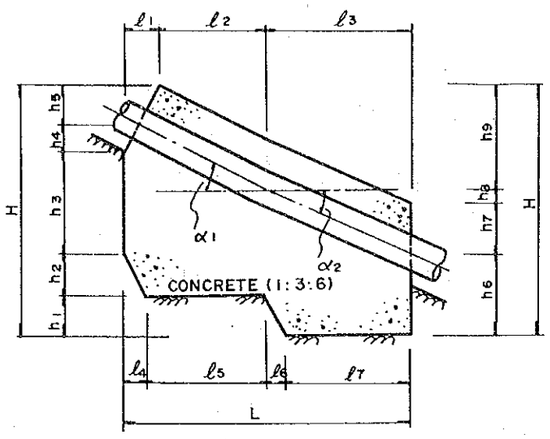
JAPAN INTERNATIONAL COOPERATION AGENCY
DWG.NO. ILAM- F/S005 SHEET 3 OF 4

ANCHOR BLOCK No. 2, 3, 4, 7, & 9

PLAN 1/200



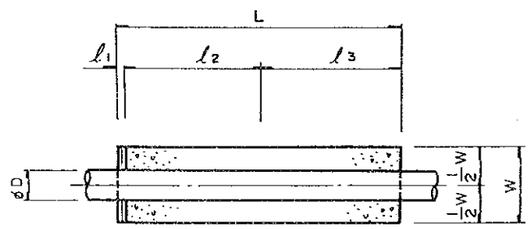
LONGITUDINAL SECTION 1/200



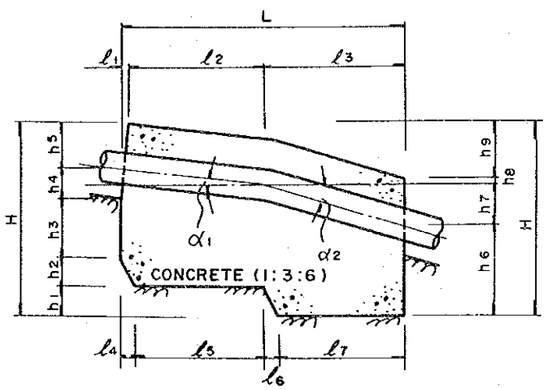
No	α_1	α_2	L	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	H	h_1	h_2	h_3	h_4	h_5	h_6	h_7	h_8	h_9	W
2	27.10°	23.63°	9,935	1,184	3,712	5,039	700	4,196	700	4,339	7,641	1,400	1,400	3,326	935	1,380	2,795	1,692	513	3,641	3,600
3	23.63°	18.43°	10,257	1,022	4,017	5,218	800	4,239	700	4,518	8,422	1,400	1,600	3,086	939	1,397	3,261	1,607	132	3,422	2,600
4	18.43°	7.33°	9,703	806	3,938	4,959	800	3,944	250	4,709	6,921	500	1,600	2,401	972	1,448	3,362	638	900	2,021	2,600
7	16.19°	13.39°	9,666	683	3,819	4,864	300	4,502	300	4,564	6,732	600	600	3,179	936	1,417	2,842	1,158	358	2,374	2,600
9	14.81°	7.59°	9,790	601	4,233	4,956	500	4,334	500	4,456	6,635	1,000	1,000	2,363	894	1,378	3,334	666	772	1,863	2,600

ANCHOR BLOCK No. 6 & 9

PLAN 1/200



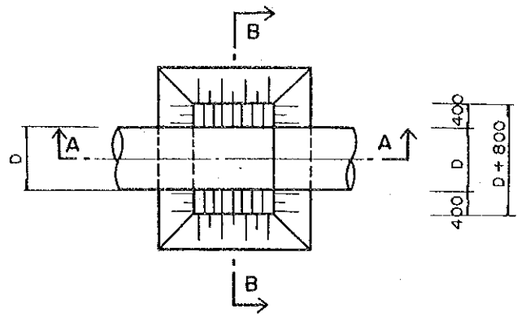
LONGITUDINAL SECTION 1/200



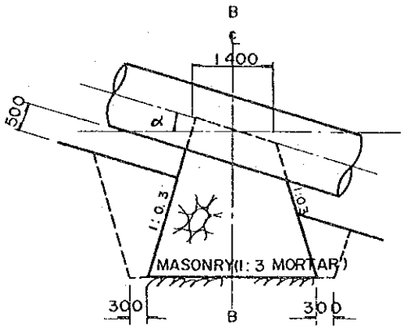
No	α_1	α_2	L	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	H	h_1	h_2	h_3	h_4	h_5	h_6	h_7	h_8	h_9	W
6	6.44°	16,19°	9,770	286	4,682	4,802	500	4,468	500	4,302	6,566	1,000	1,000	2,500	551	1,515	3,106	1,394	194	1,872	2,600
11	33.69°	41,64°	9,476	1,304	3,688	4,484	1,000	3,992	1,000	3,484	10,172	2,000	2,000	4,216	770	1,186	2,013	1,907	2,080	4,172	3,000

SADDLE (TYPICAL) 1/100

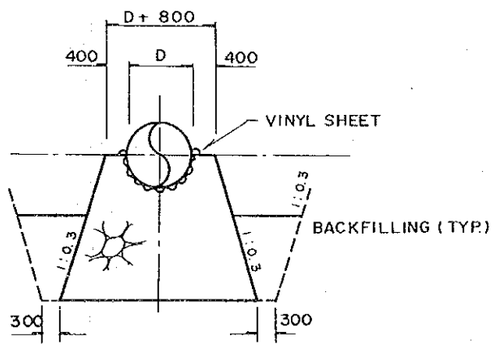
PLAN



SECT. A – A



SECT. B – B

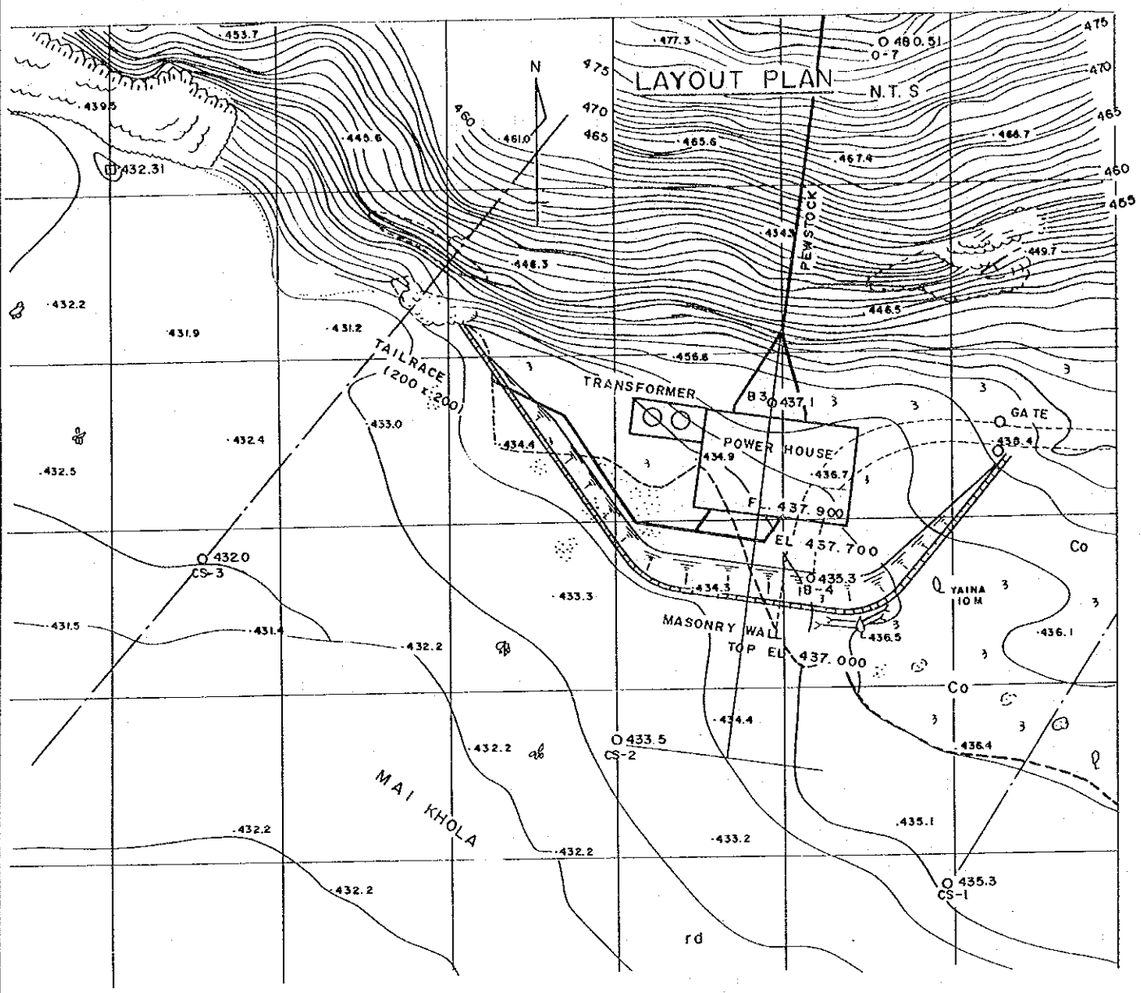


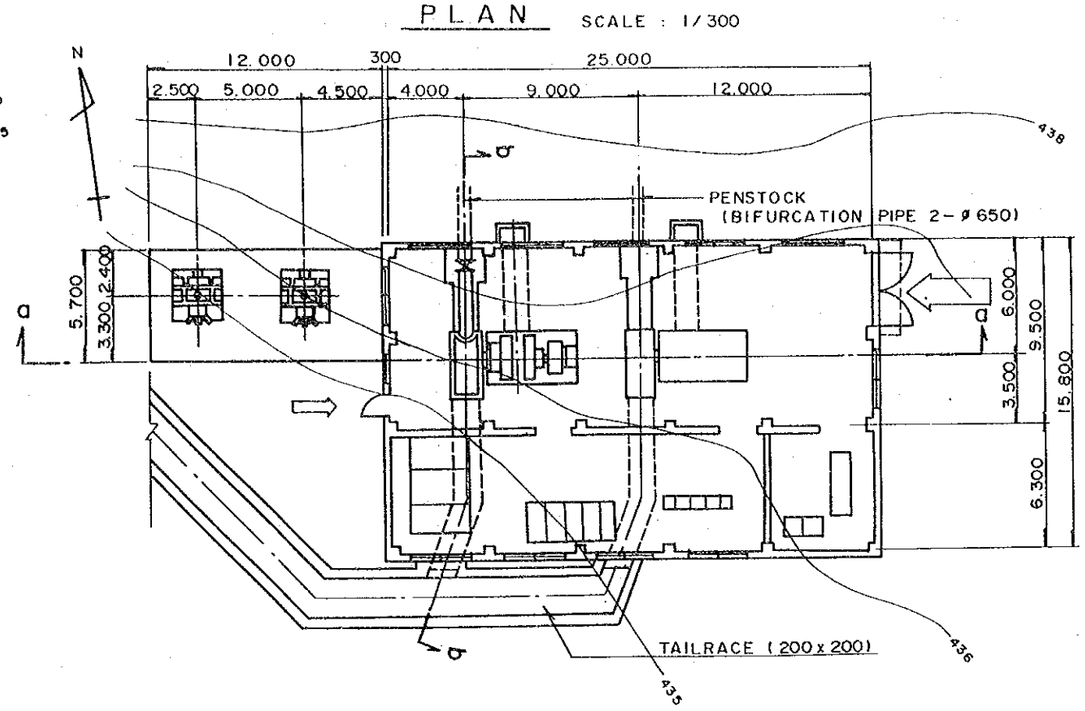
FEASIBILITY STUDY FOR ILAM SMALL HYDROPOWER DEVELOPMENT PROJECT IN KINGDOM OF NEPAL

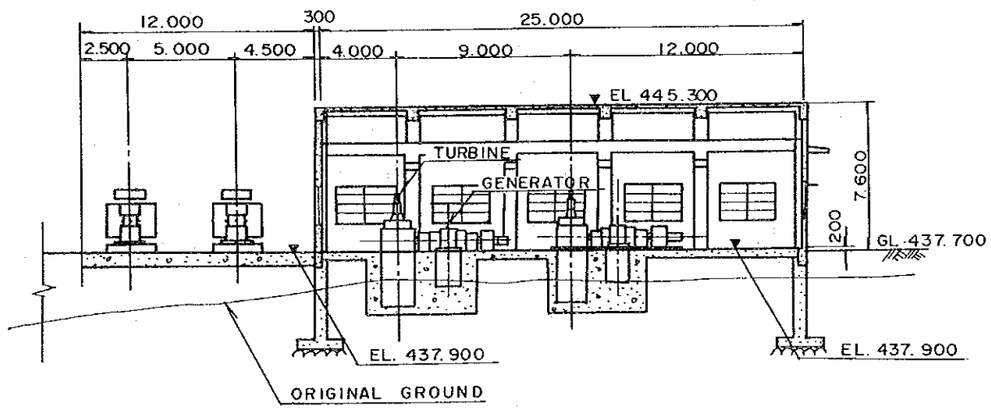
DETAILS FOR PENSTOCK AHCHOR BLOCKS & SADDLES

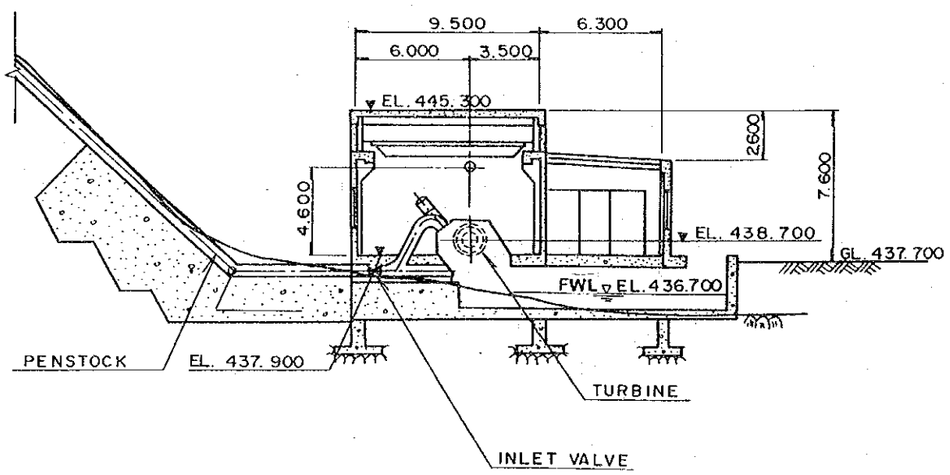
JAPAN INTERNATIONAL COOPERATION AGENCY

DWG.NO. ILAM-F/S005 SHEET 4 OF 4







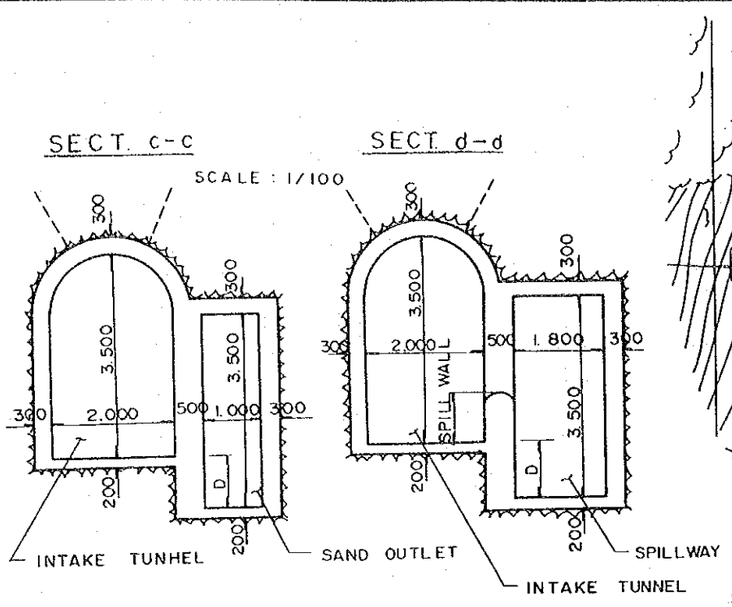


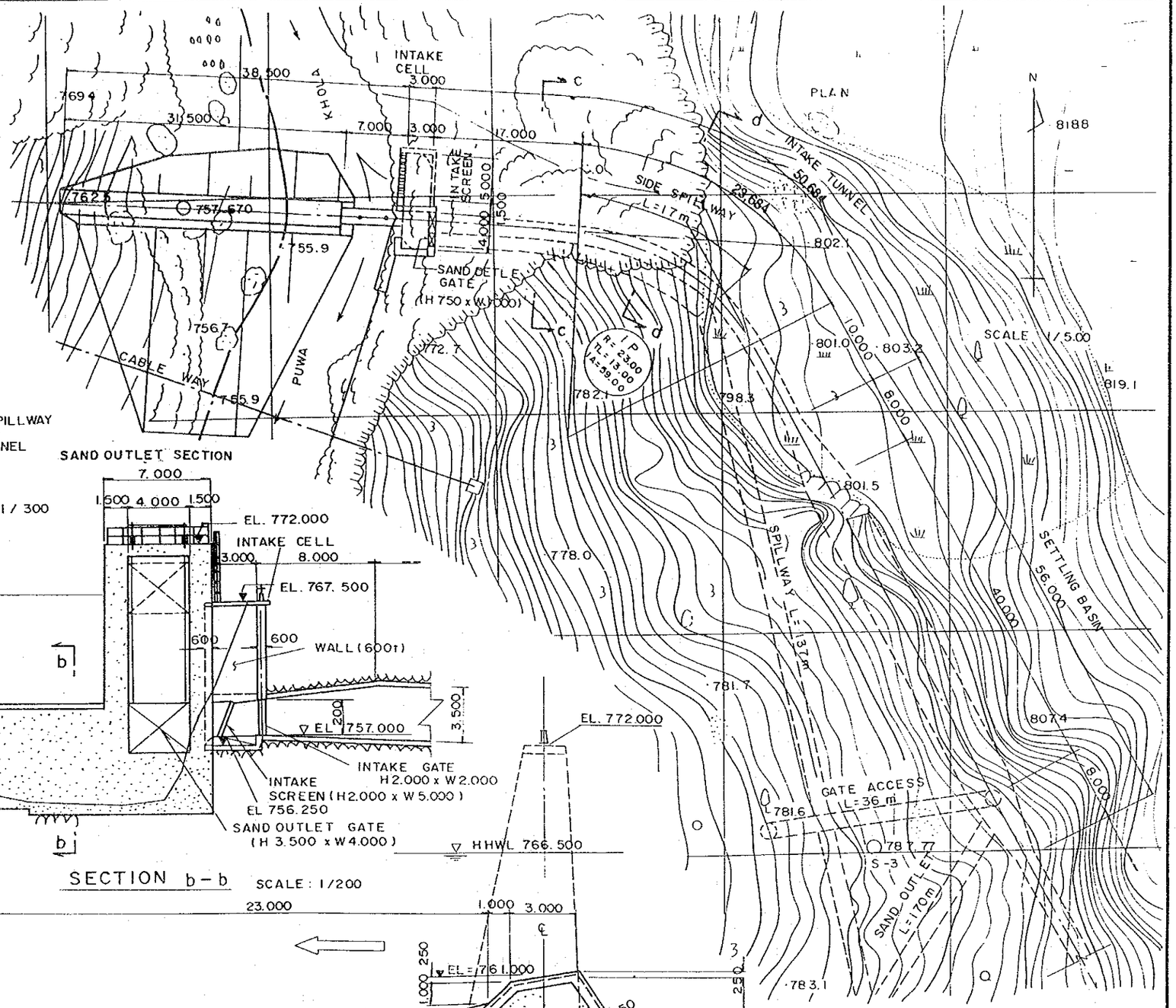
FEASIBILITY STUDY FOR ILAM SMALL HYDROPOWER DEVELOPMENT PROJECT IN KINGDOM OF NEPAL

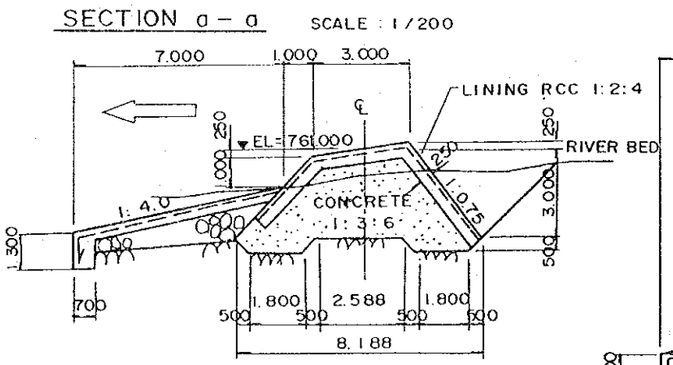
OUTLINE OF POWER HOUSE

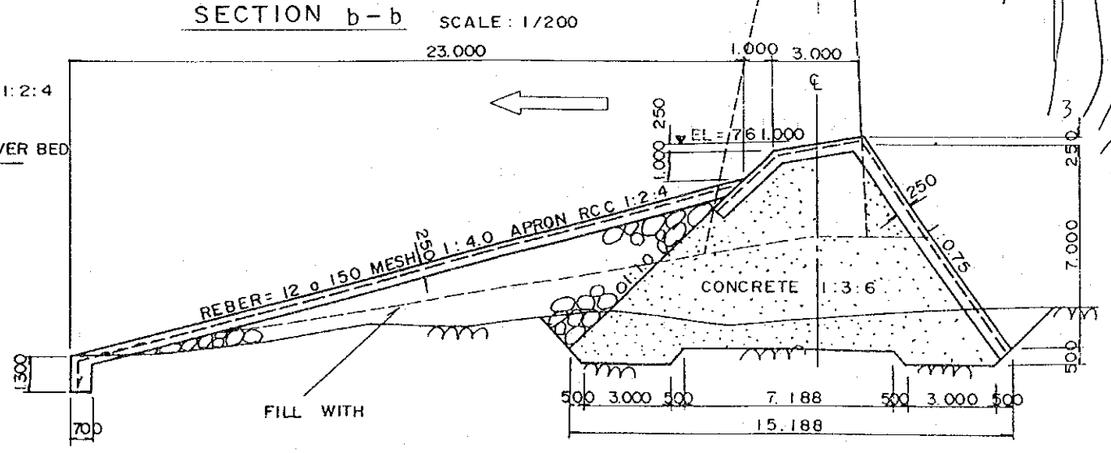
JAPAN INTERNATIONAL COOPERATION AGENCY

DWG.NO. ILAM-F/S006 SHEET 1 OF 1







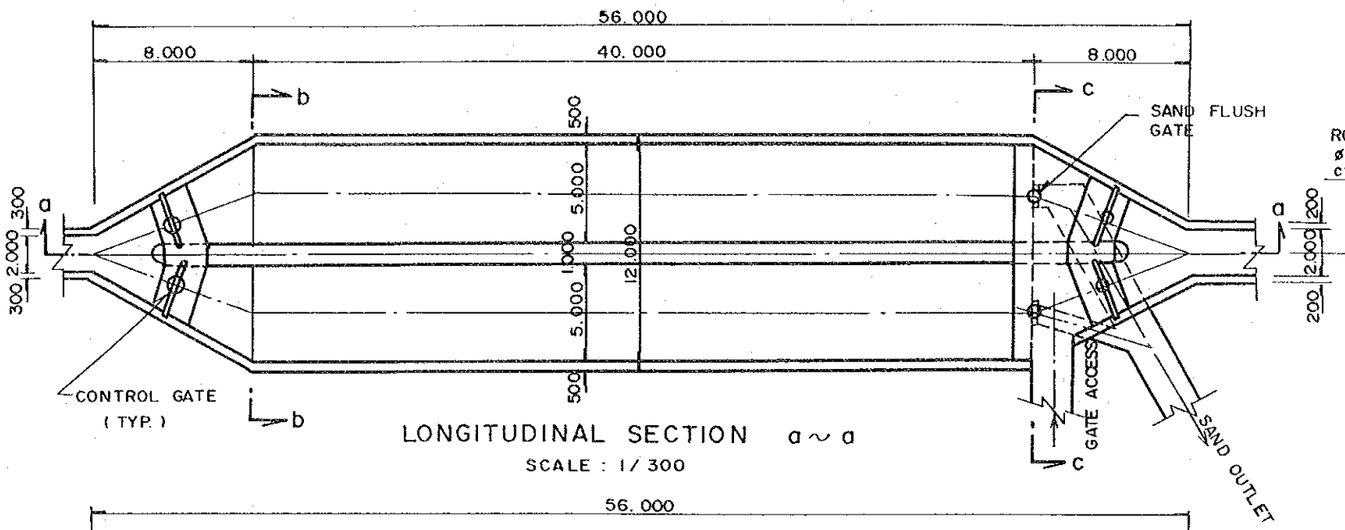


FEASIBILITY STUDY FOR ILAM SMALL HYDROPOWER DEVELOPMENT PROJECT IN KINGDOM OF NEPAL

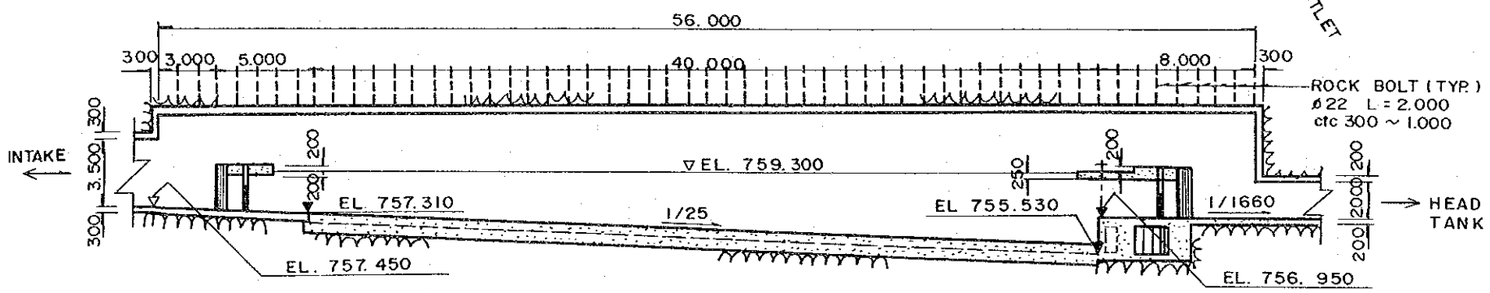
DETAILS FOR INTAKE WEIR (ALTERNATIVE PLAN)

JAPAN INTERNATIONAL COOPERATION AGENCY
DWG.NO. ILAM-F/S007 SHEET 1 OF 1

PLAN SCALE : 1/300



LONGITUDINAL SECTION a ~ a
SCALE : 1/300



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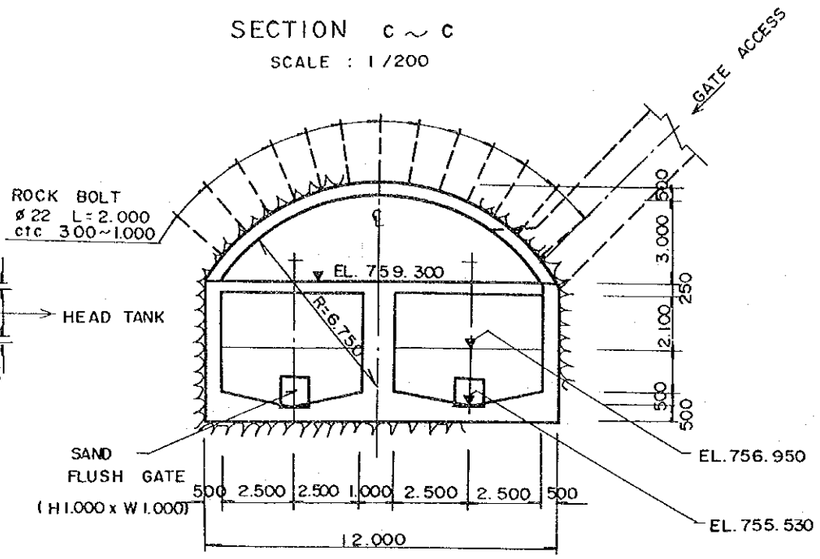

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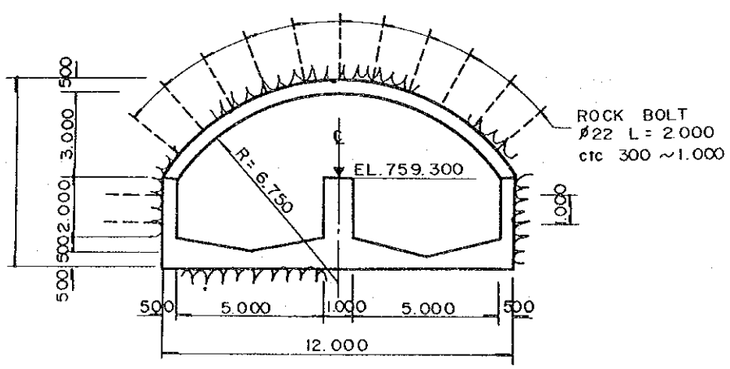
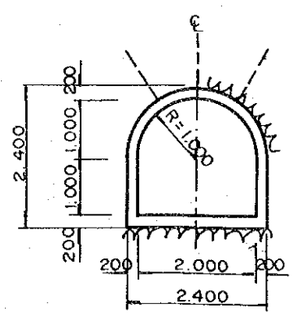


SECTION
FOR GATE ACCESS/ SAND OUTLET
SCALE : 1/100

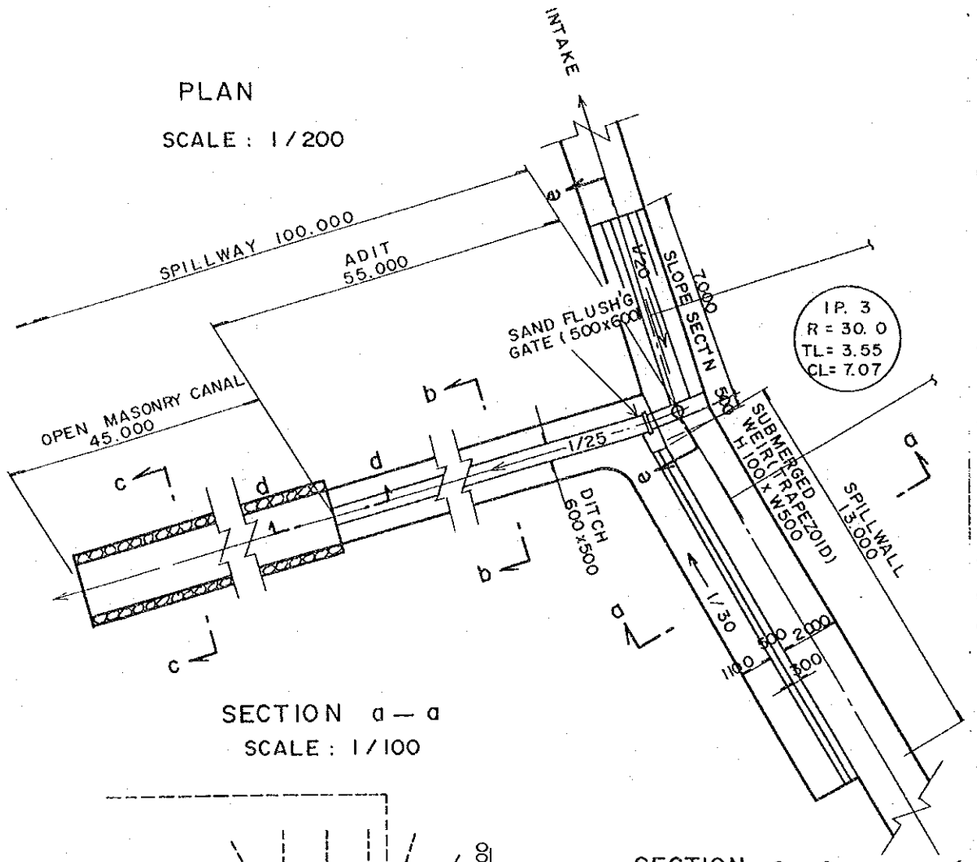


FEASIBILITY STUDY FOR ILAM SMALL HYDROPOWER DEVELOPMENT PROJECT IN KINGDOM OF NEPAL

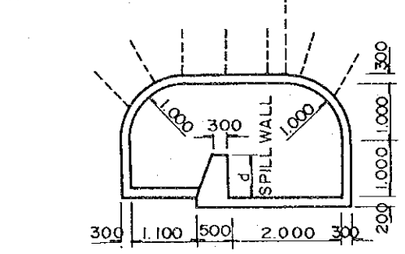
DETAILS FOR SETTLING BASIN (ALTERNATIVE PLAN)

JAPAN INTERNATIONAL COOPERATION AGENCY
DWG.NO. ILAM-F/S008 SHEET 1 OF 1

PLAN
SCALE : 1/200



SECTION a — a
SCALE : 1/100



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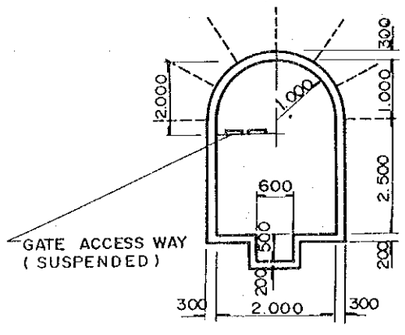

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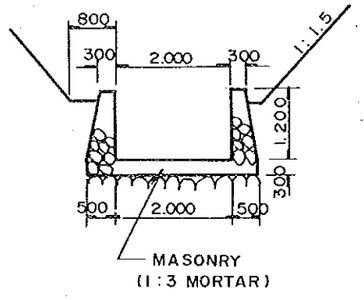

SECTION d — d
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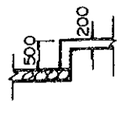
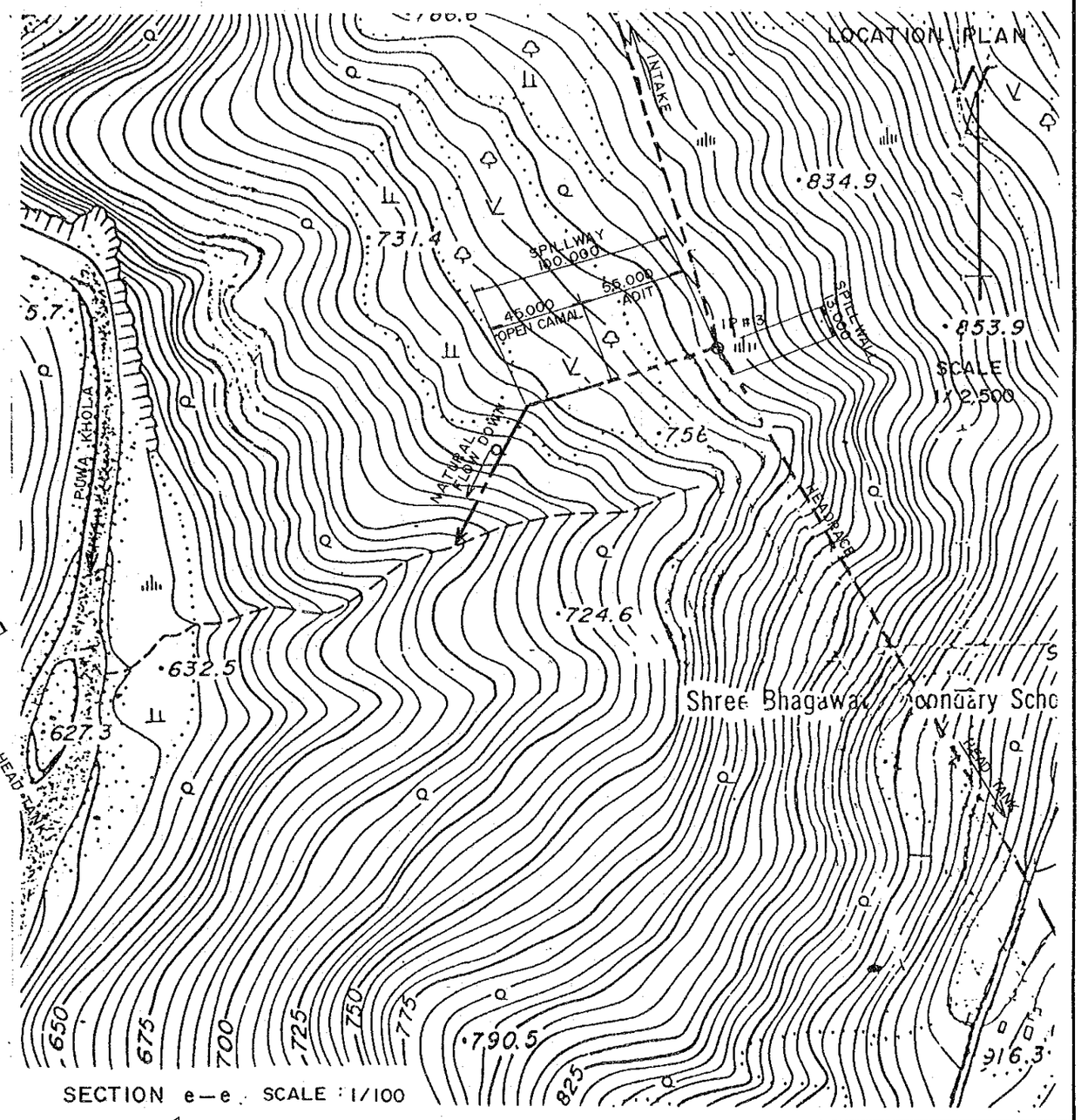


LOCATION PLAN



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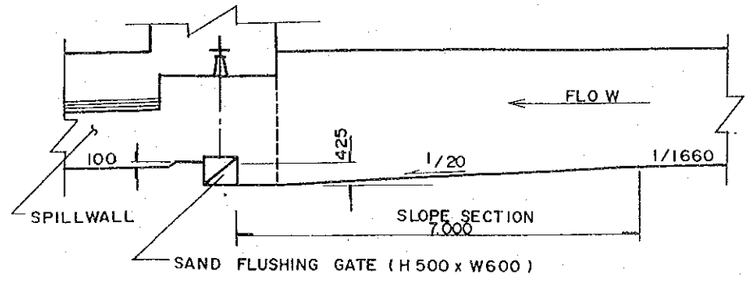


FEASIBILITY STUDY FOR ILAM SMALL HYDROPOWER DEVELOPMENT PROJECT IN KINGDOM OF NEPAL

DETAILS FOR SPILLWAY (ADIT)
(CH.0 + 2.240)

JAPAN INTERNATIONAL COOPERATION AGENCY
DWG.NO. ILAM-F/S 009 SHEET 1 OF 1

DRAWING LIST (8)

Drawing No.	Title
Fig. 5.5-1	Power House (Machine Layout)
Fig. 5.5-2	Single Line Diagram for Power House
Fig. 5.5-3	33KV Transmission Line Single Diagram
Fig. 5.5-4	33KV Transmission Line Route
Fig. 5.5-5	Pole (Type A)
Fig. 5.5-6	Pole (Type B)

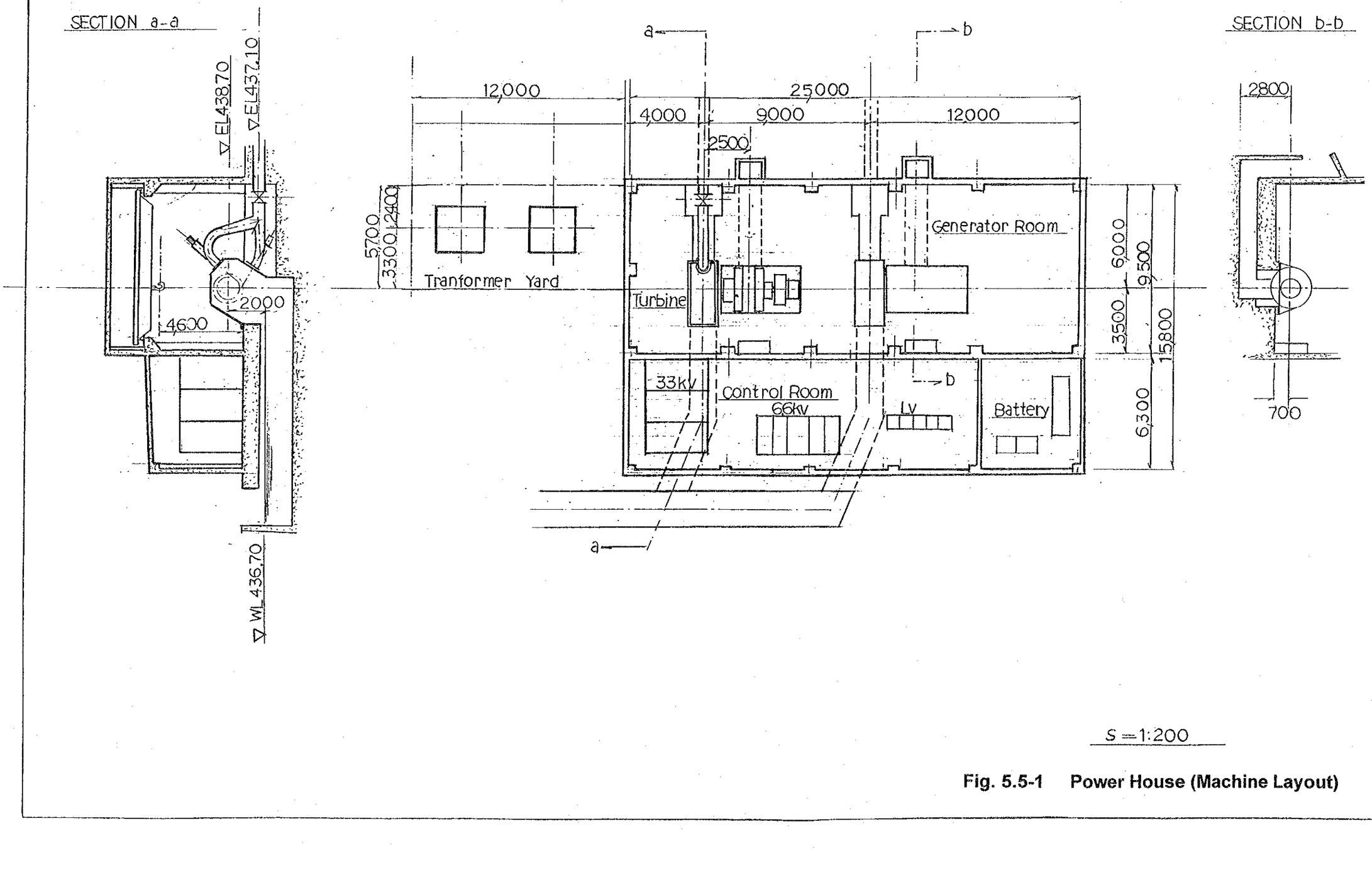


Fig. 5.5-1 Power House (Machine Layout)

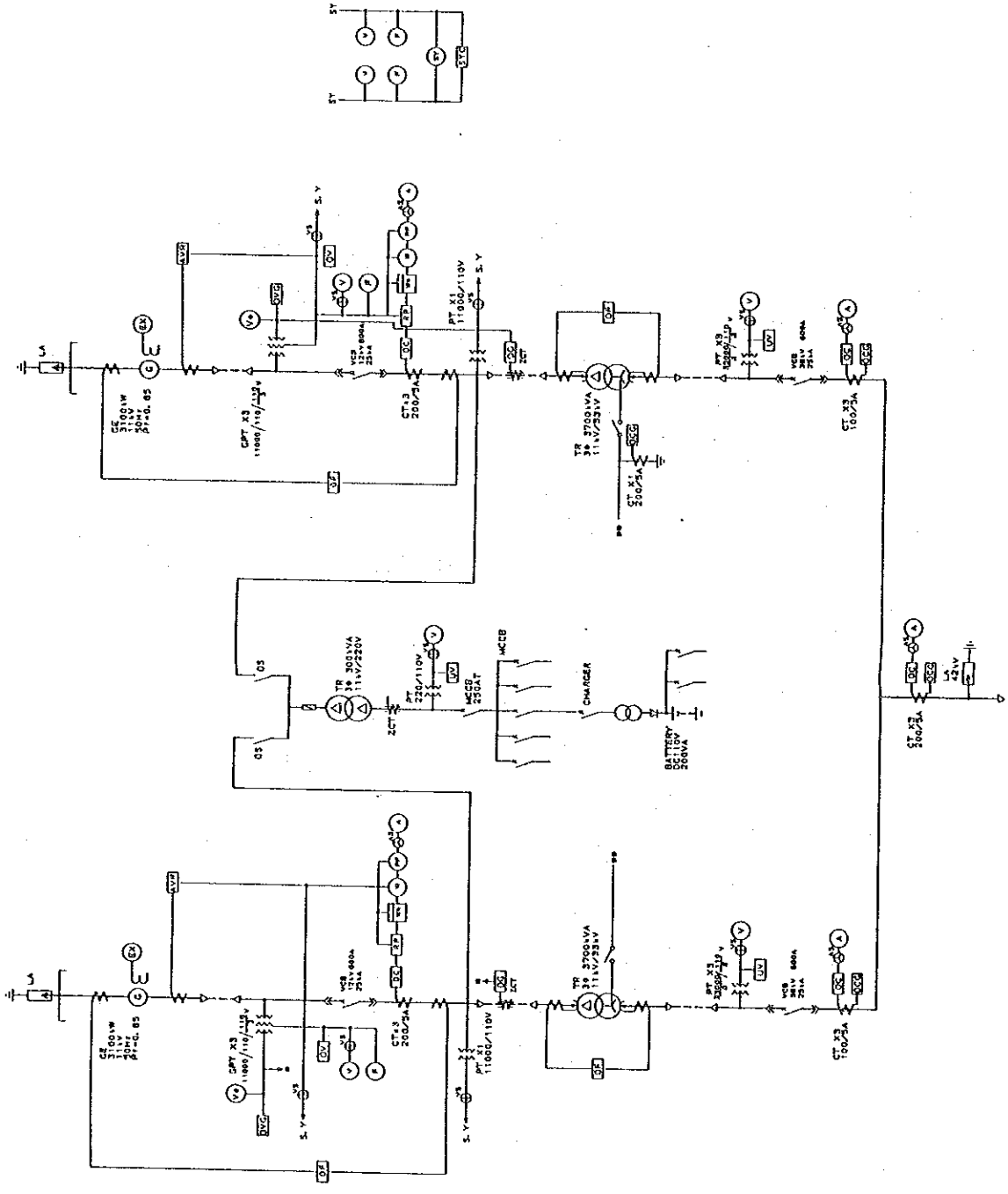


Fig. 5.5-2 Single Line Diagram for Power House

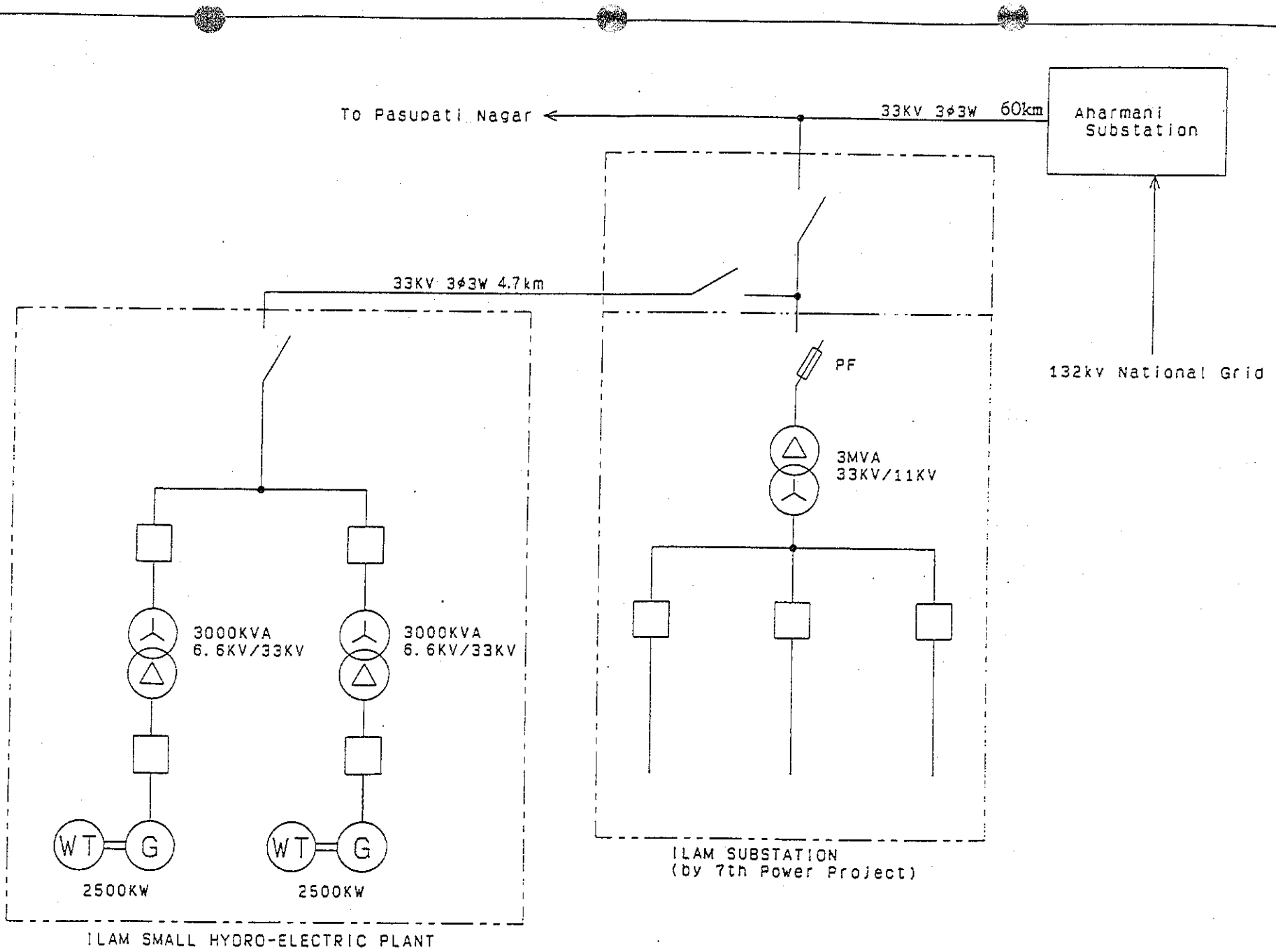


Fig. 5.5-3 33KV Transmission Line Single Diagram

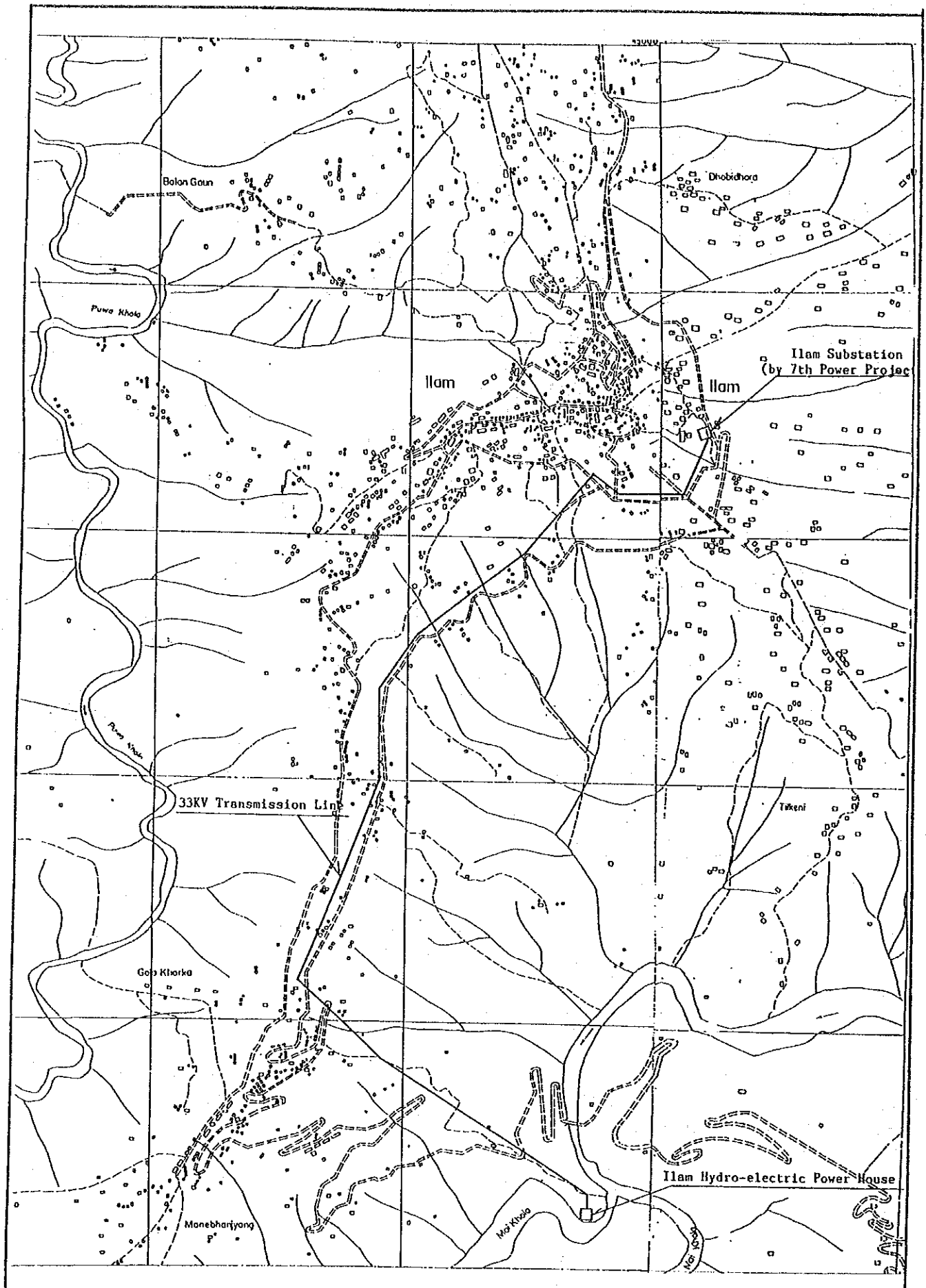
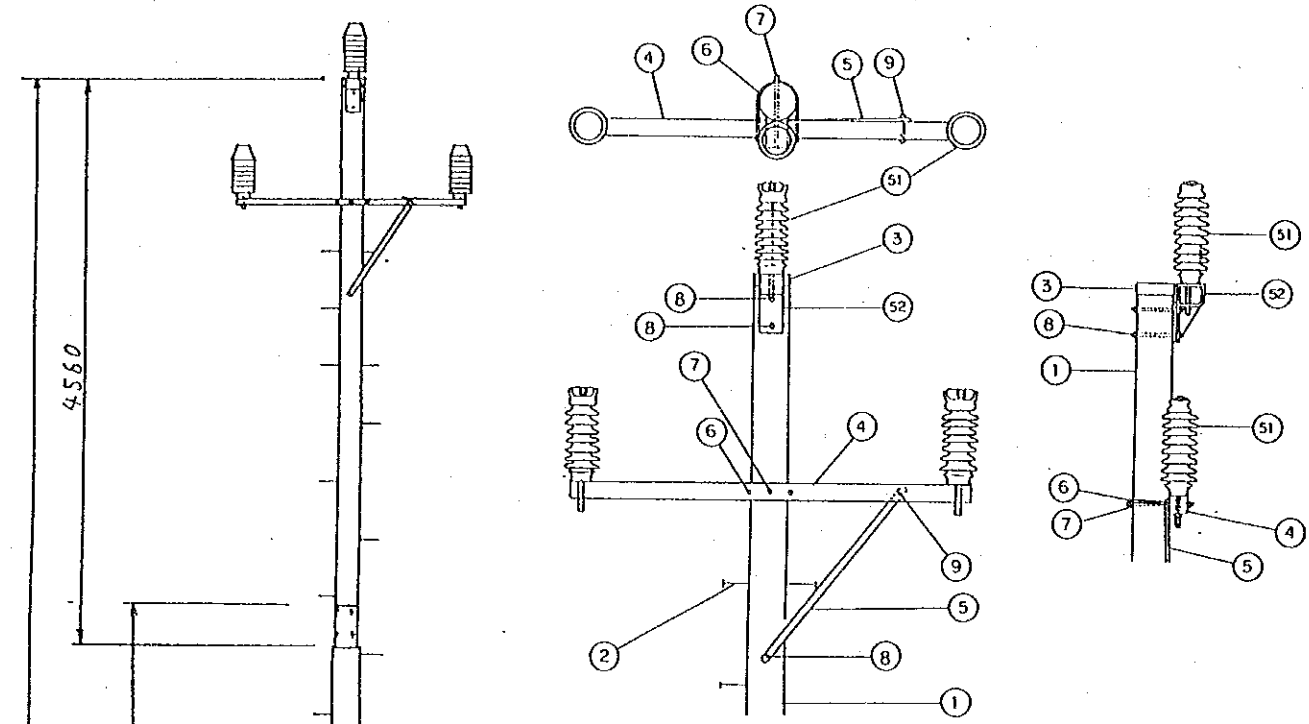
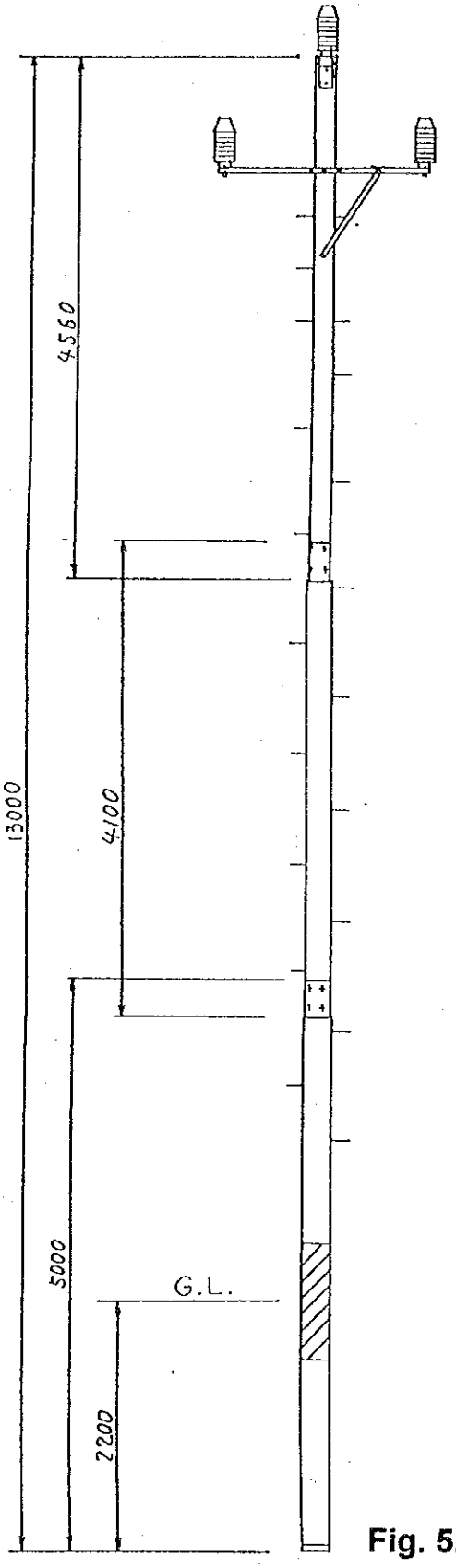


Fig. 5.5-4 33KV Transmission Line Route

TYPE-A

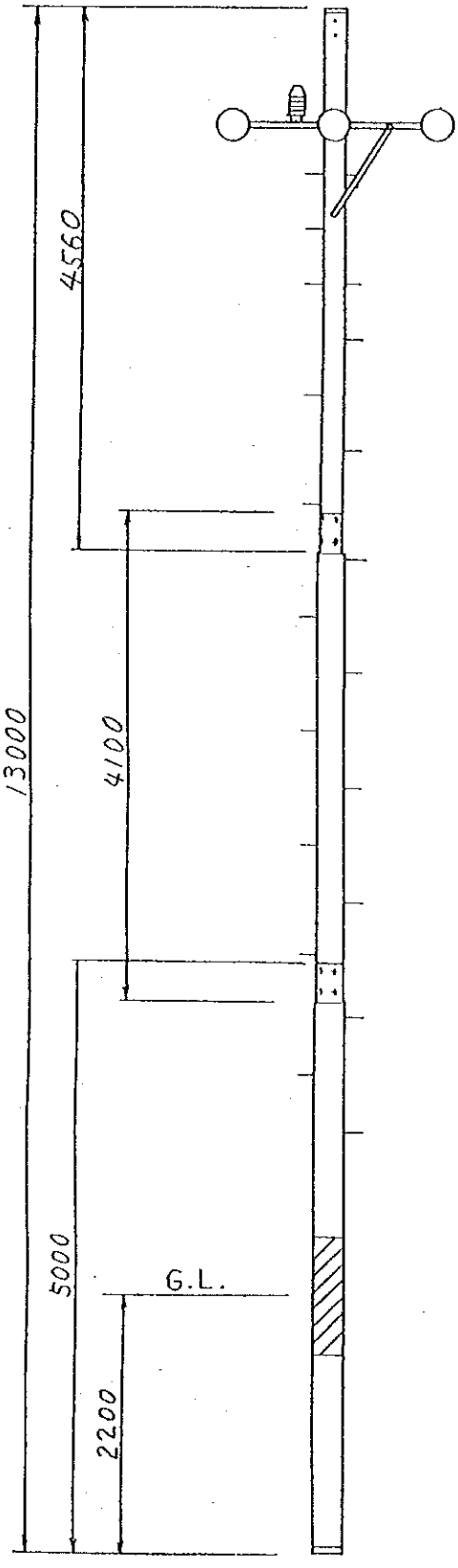


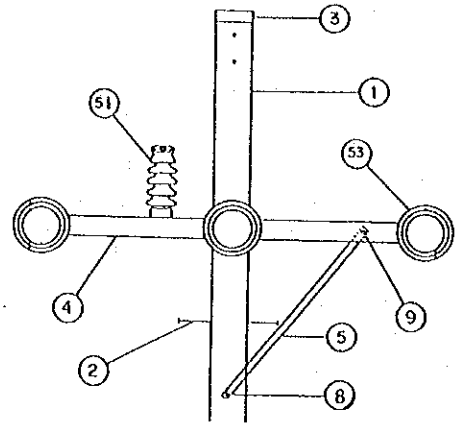


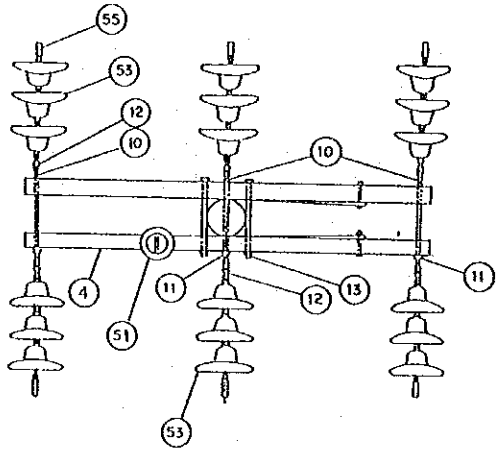
52	Pole Top Bracket	1
51	Line Post Insulator	3
9	Bolt & Nut M12X120	1
8	Bolt & Nut M16X200	2
7	Bolt & Nut M16X250	1
6	U-Bolt & Nut	1
5	Brace	1
4	Crossarm	1
3	Pole Cap	1
2	Step Bolt	20
1	Steel Pole, Three-Sectioned 13m	1

Fig. 5.5-5 Pole (Type A)

TYPE-B







54	Strain Clamp for ACSR 100sq.mm	6
53	Suspension Insulator ø250	18
51	Line Post Insulator	1
13	Double Arming Bolt & Nuts M16X350	1
12	Parallel Clevis Links	18
11	Eye Nut	2
10	Double Arming Eye Bolt & Nuts M16X350	6
9	Bolt & Nut M12X120	3
8	Bolt & Nut M16X200	3
7	Bolt & Nut M16X250	2
6	U-Bolt & Nut	1
5	Brace	2
4	Crossarm	2
3	Pole Cap	1
2	Step Bolt	20
1	Steel Pole, Three-Sectioned 13m	1

Fig. 5.5-6 Pole (Type B)