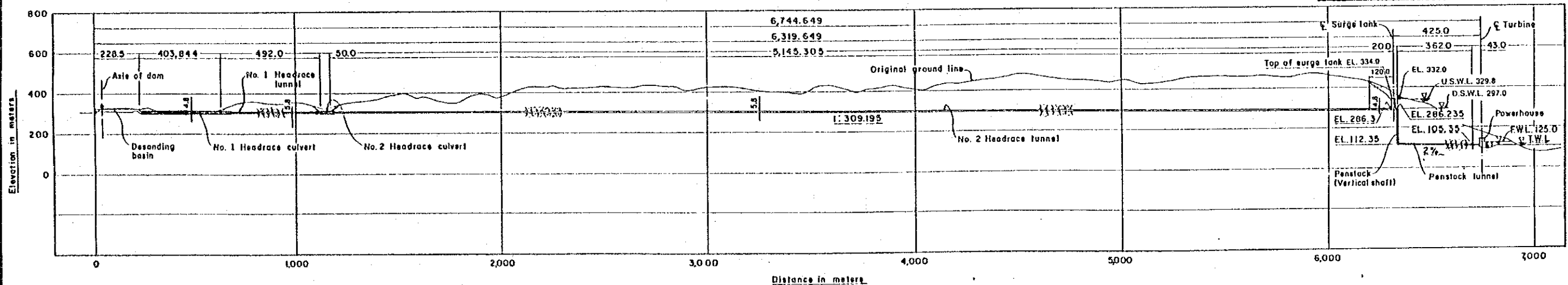


General Plan

COORDINATES (Unit : m)

Points	N	E
D1	6,997,560.000	647,100.000
D2	6,997,850.000	646,800.000
W	6,997,622.552	647,035.291
HCB	6,997,759.160	647,167.345
HTB	6,997,830.000	647,540.000
HC4	6,998,135.656	647,925.536
HCS	6,998,166.719	647,964.717
ST	7,001,363.255	651,996.630
SB	7,001,600.573	652,295.969
Po	7,001,627.287	652,329.665

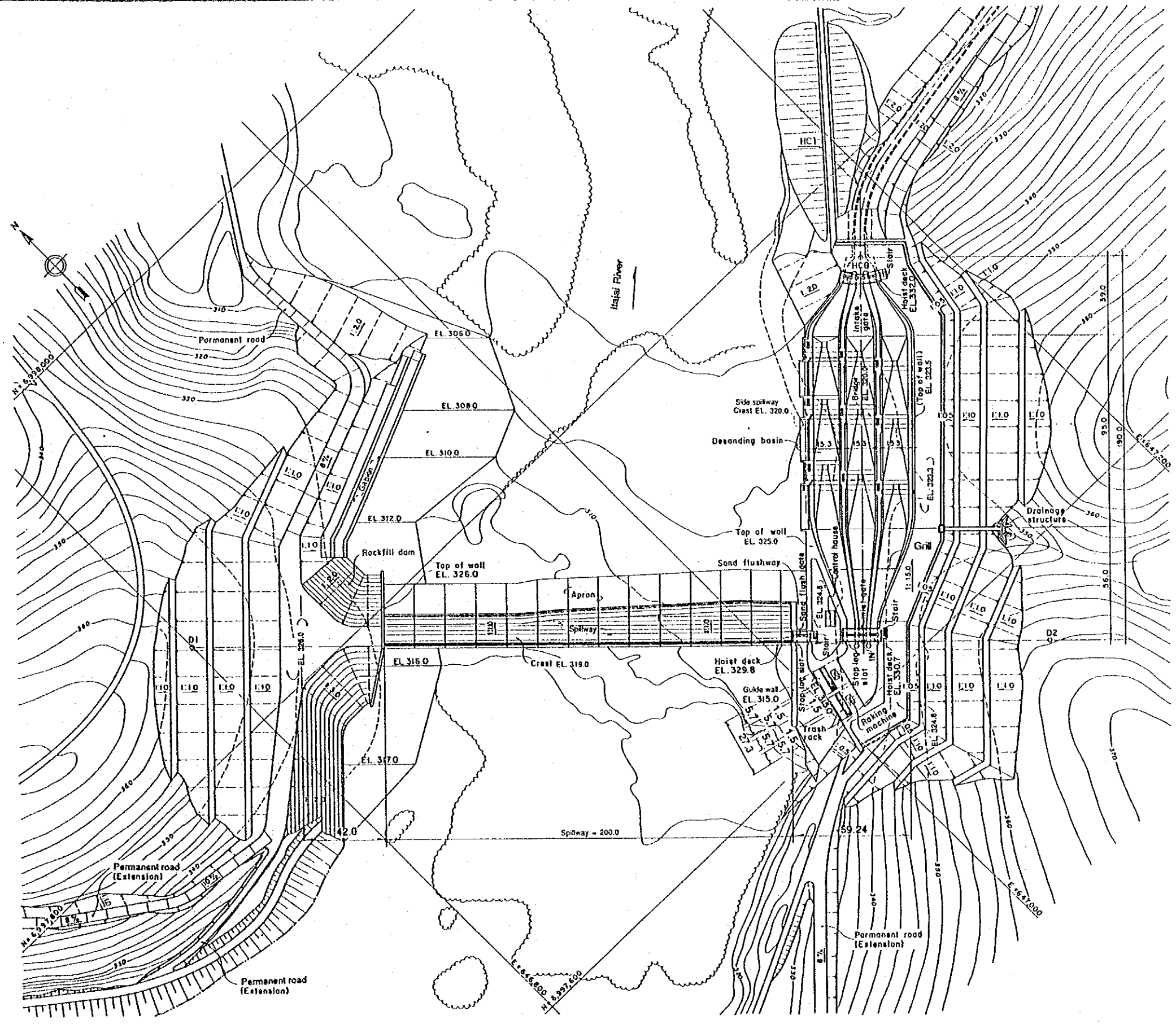


Profile

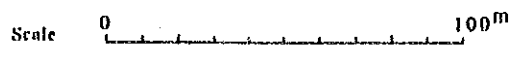


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図 9.2
 全体平面図及び縦断図

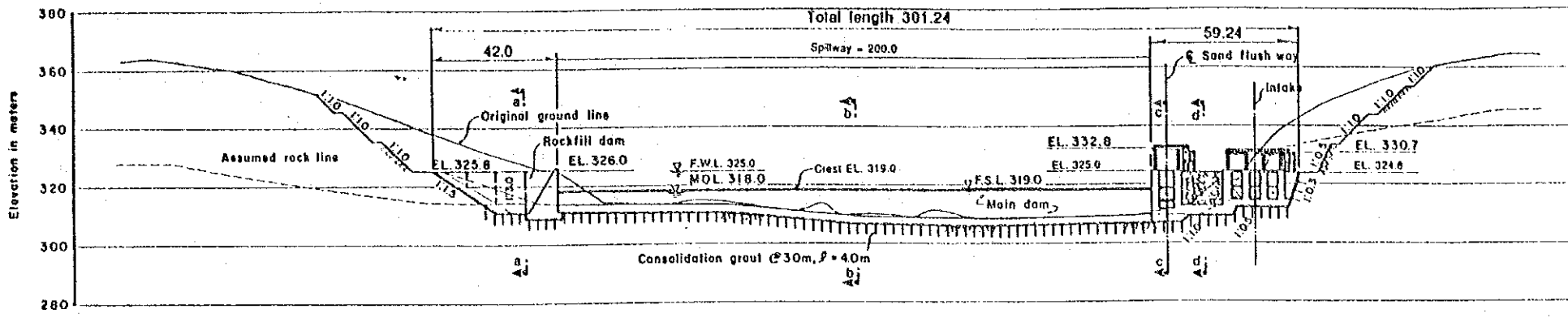


PLAN

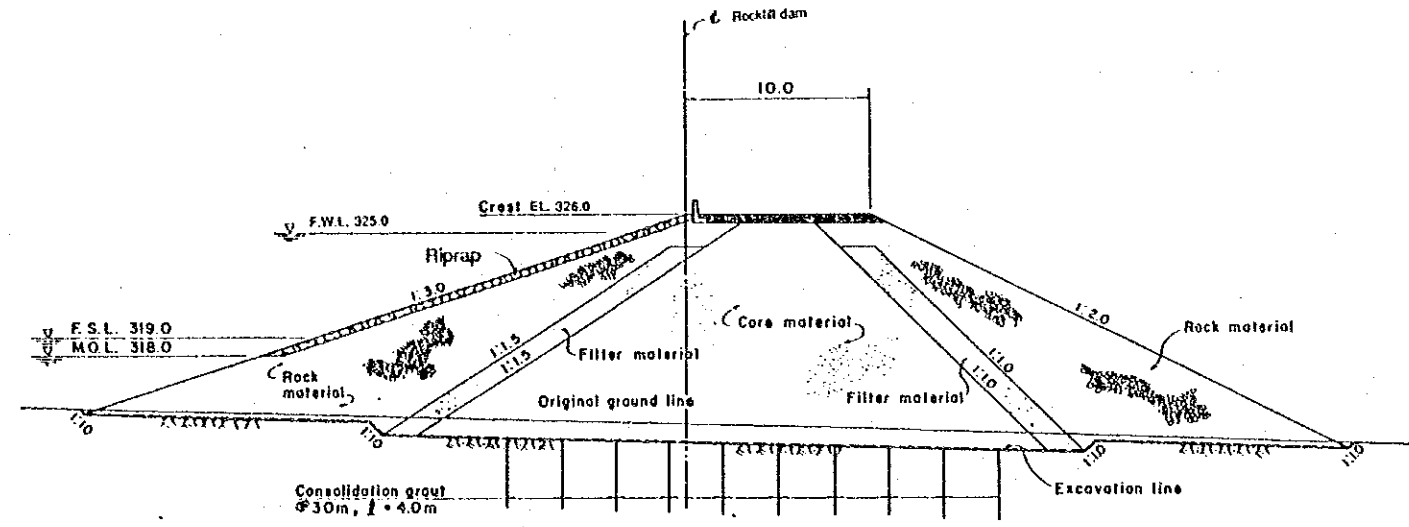


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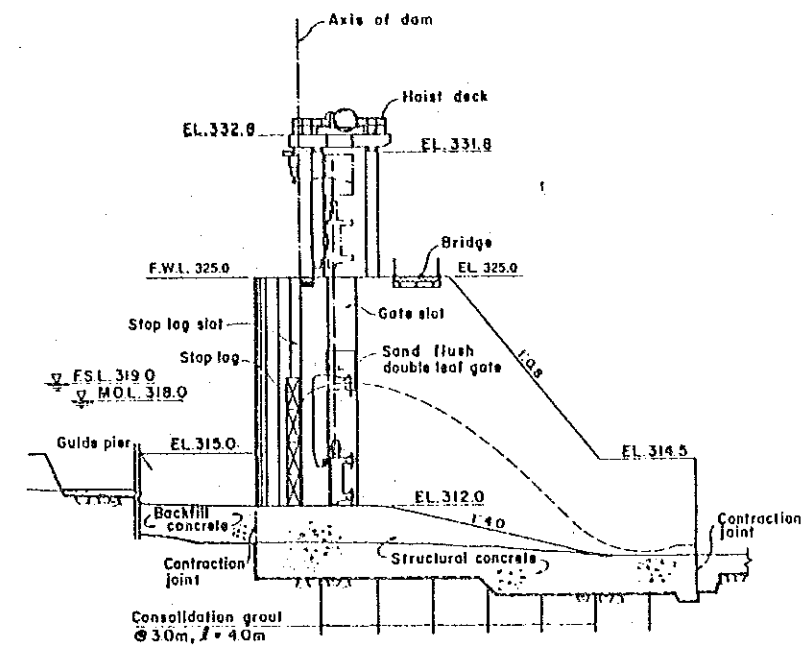
図 9.3
 ダム及び取水設備全体平面図



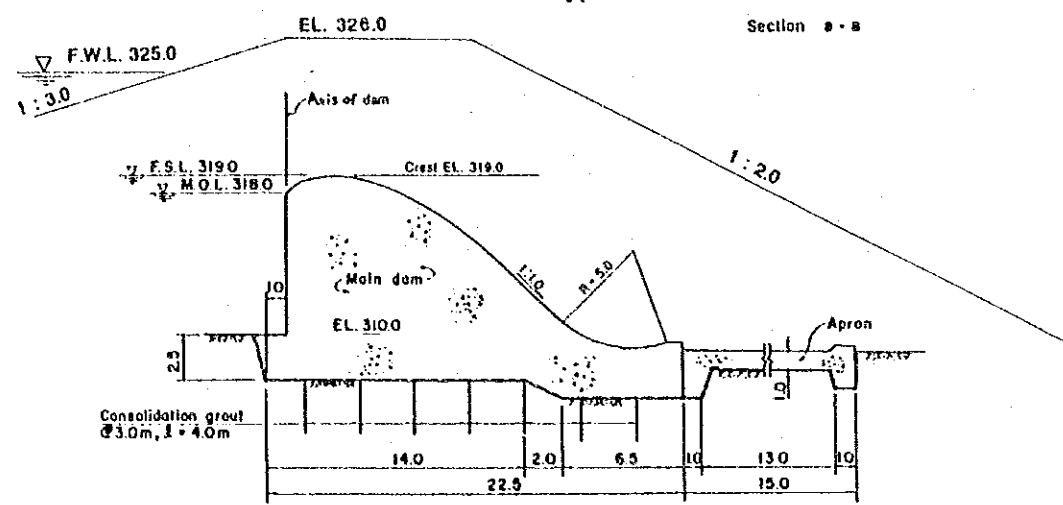
Profile of Dam scale a



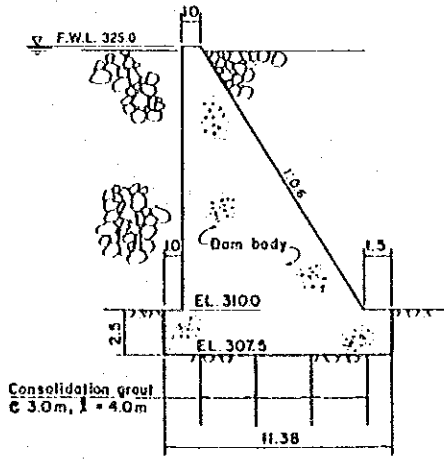
Typical Section of Rockfill Dam scale b



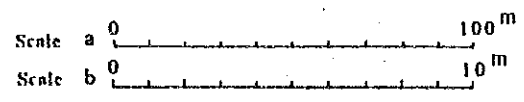
Typical Section of Sandflush Way scale b



Typical Section of Main Dam Spillway Portion scale b

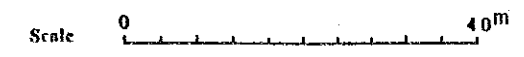
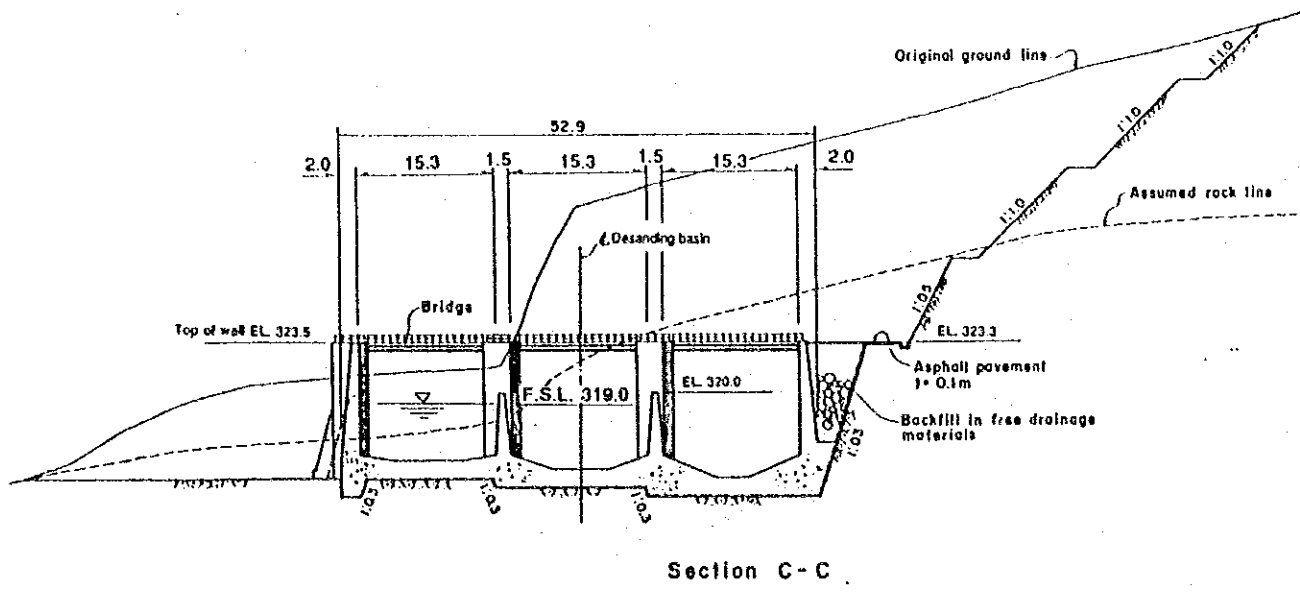
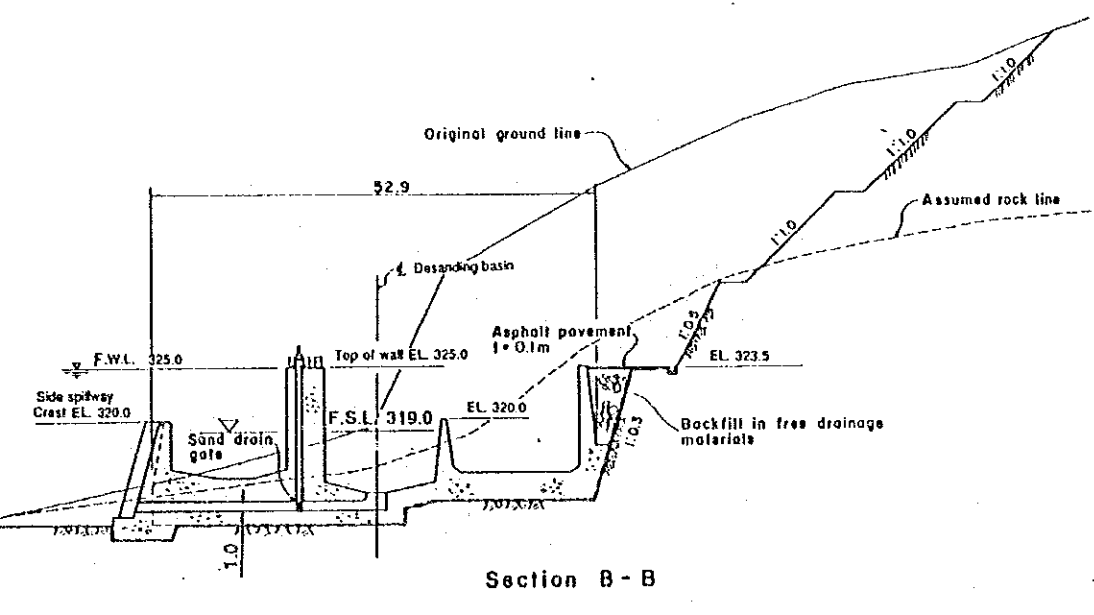
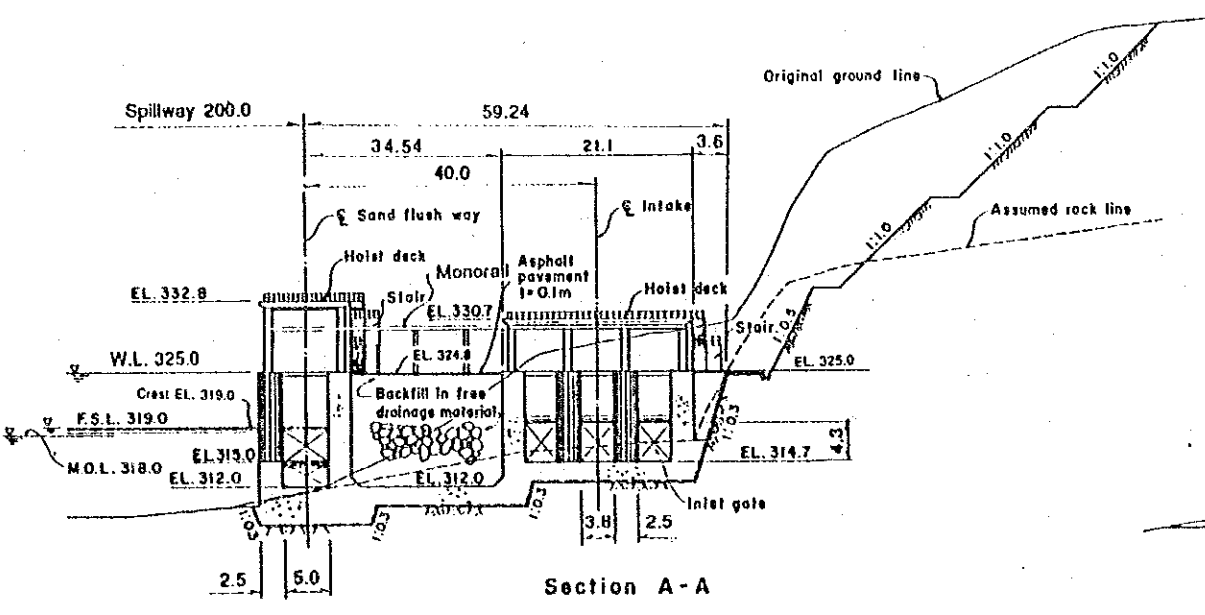
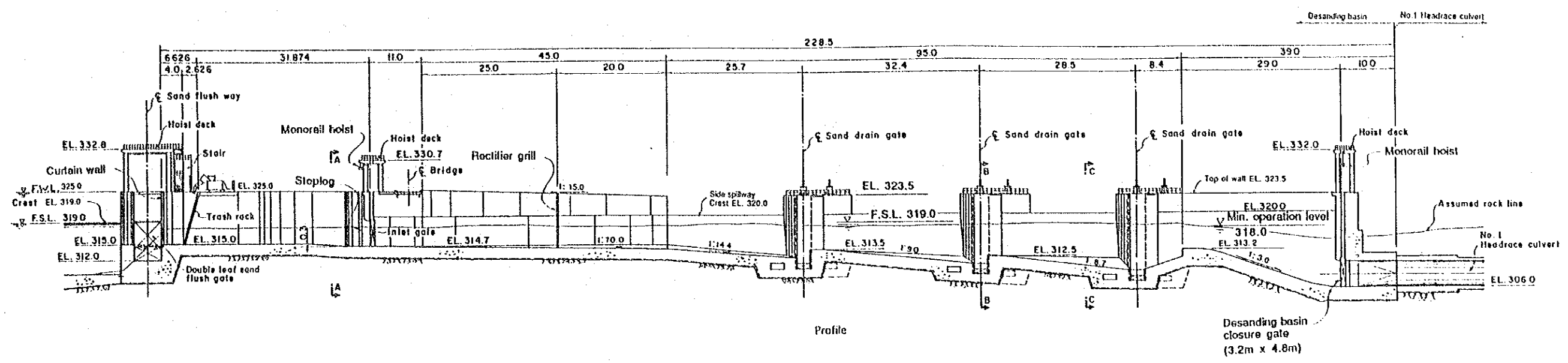


Typical Section of Non Overflow Portion scale b



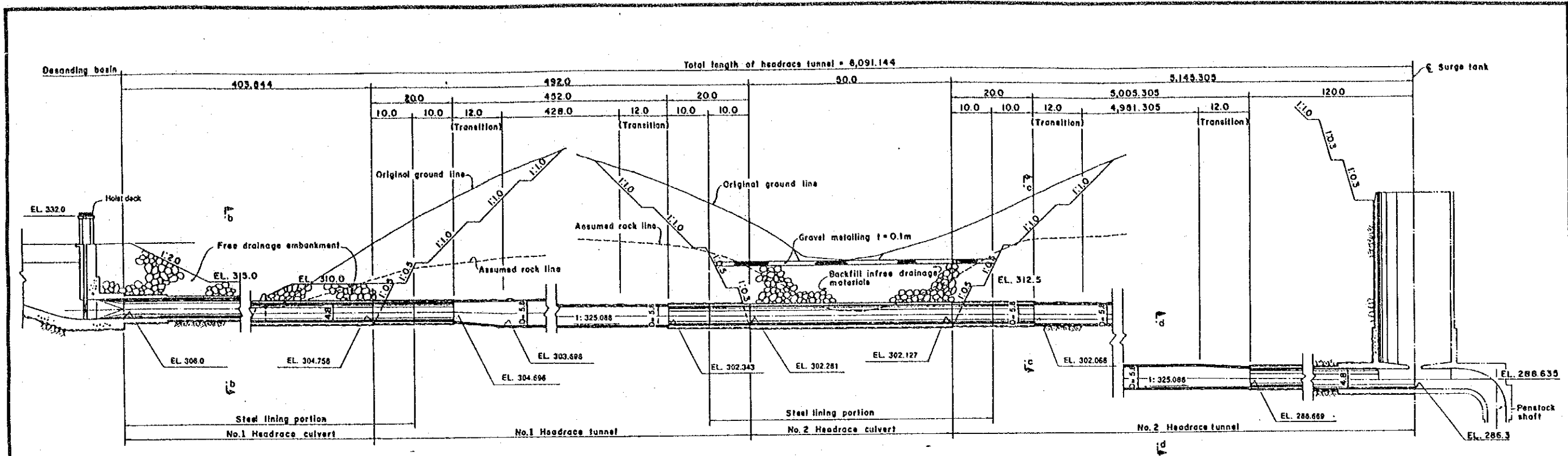
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図 9.4
ダム、縦断面図及び標準断面図

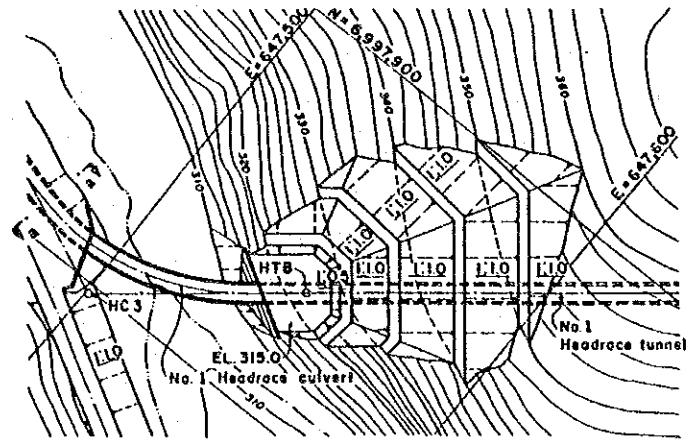


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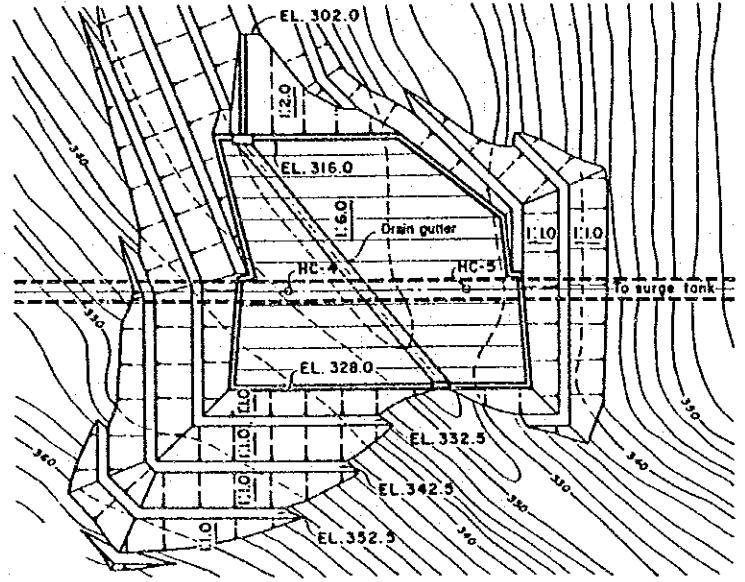
図 9.5
 取水口及び沈砂池、標準断面図



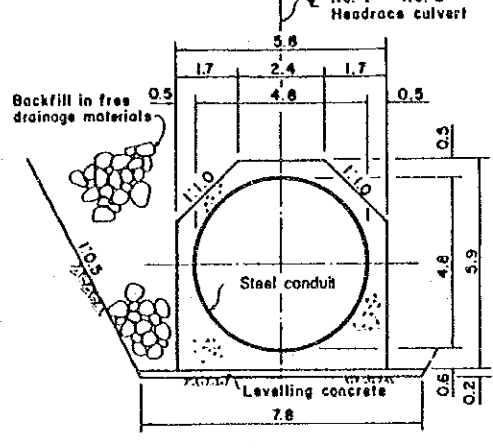
Profile of Headrace Tunnel scale b



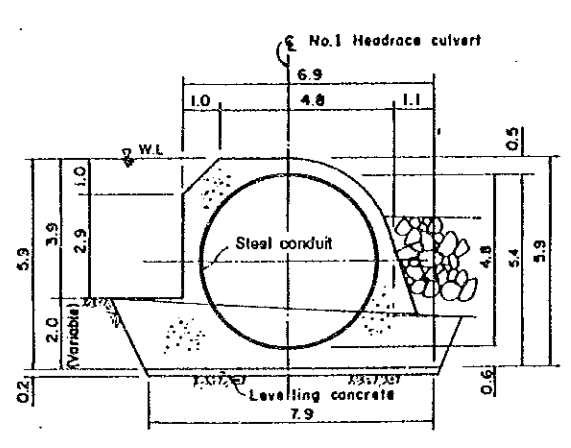
Plan (Portal of headrace tunnel) scale a



Plan (No.2 Headrace culvert portion) scale a



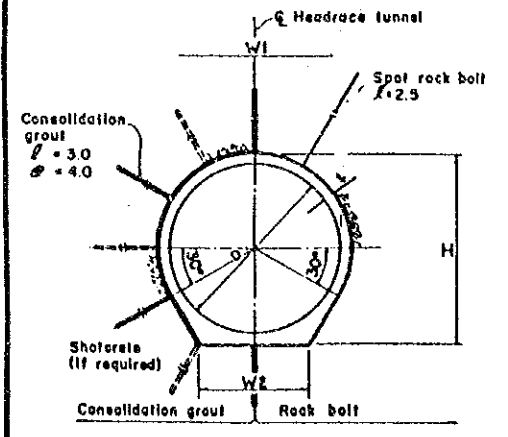
Section a-a scale c



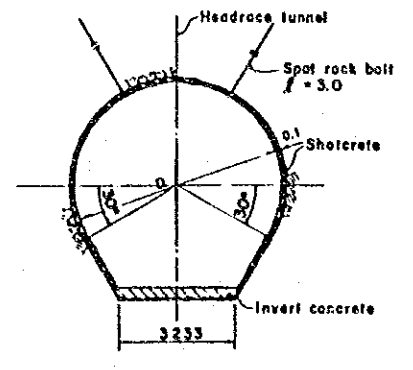
Section (Swamp cross portion) scale c

COORDINATES (Unit : m)

Points	N	E
HTB	6,997,830.000	647,540.000
HC4	6,998,135.656	647,925.536
HC5	6,998,166.719	647,964.717



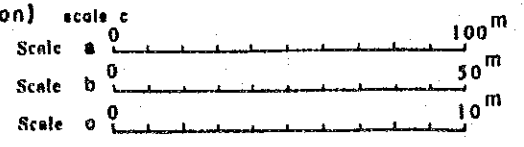
Typical Section for Fair condition & Good condition scale c



Section (Shotcrete portion) scale c

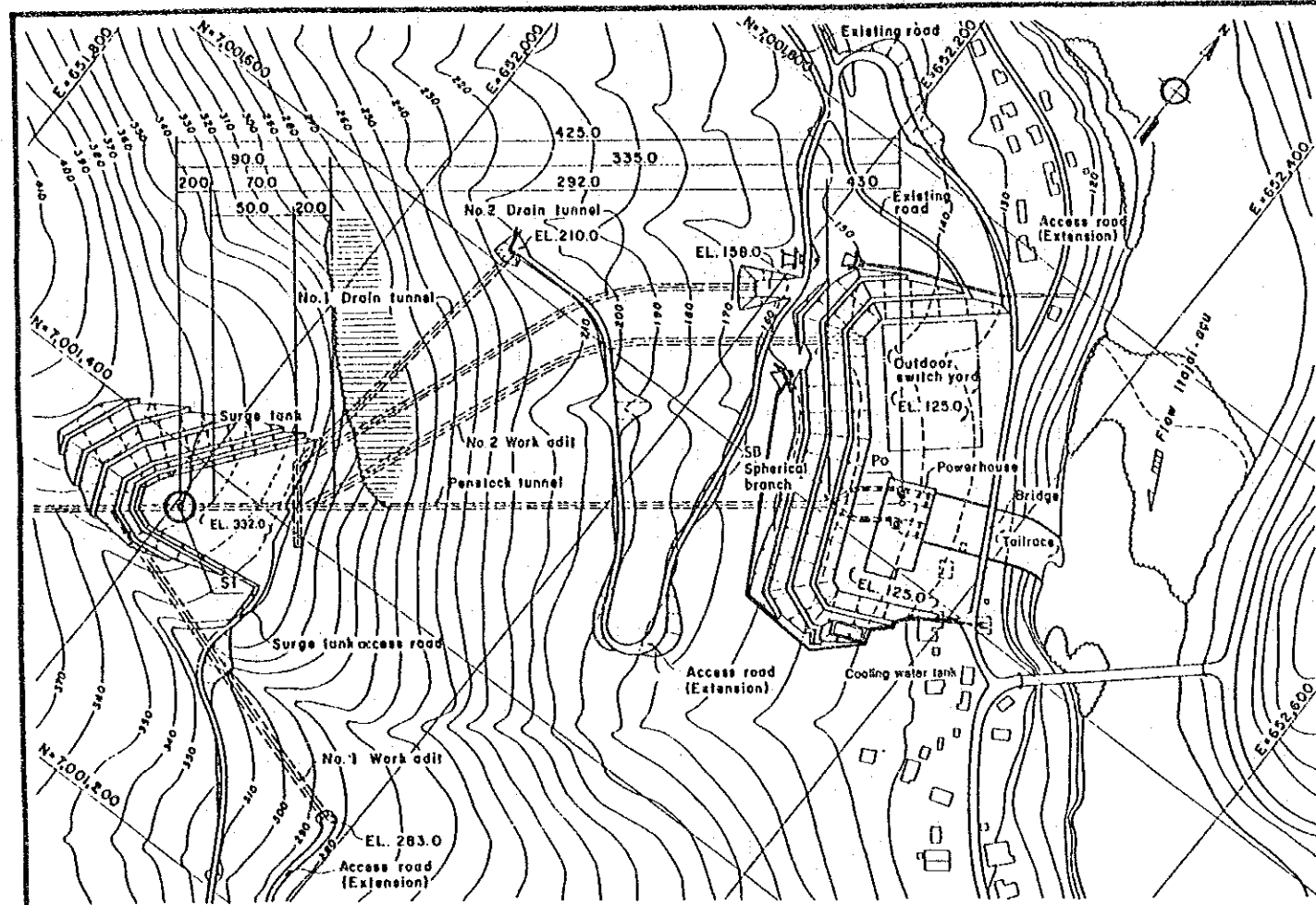
Dimension Table

	0-4.8		0-5.9	
	l=40cm	l=25cm	l=40cm	l=25cm
W1	8.6	5.9	6.8	5.1
W2	3.398	3.377	2.817	2.8
H	5.88	6.85	4.88	4.85

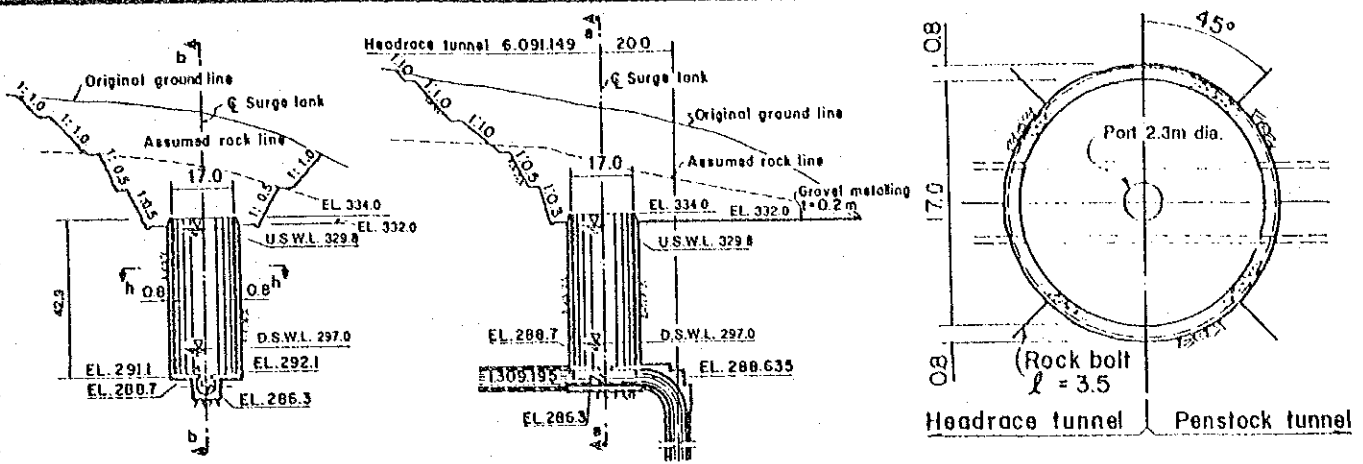


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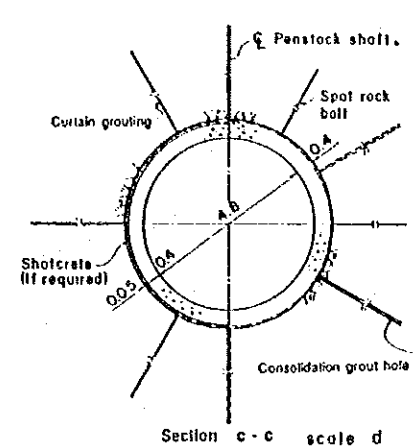
図 9.6 導水路、平面図及び標準断面図



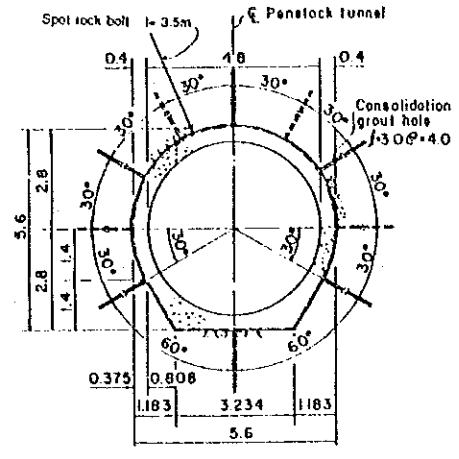
General Plan scale a



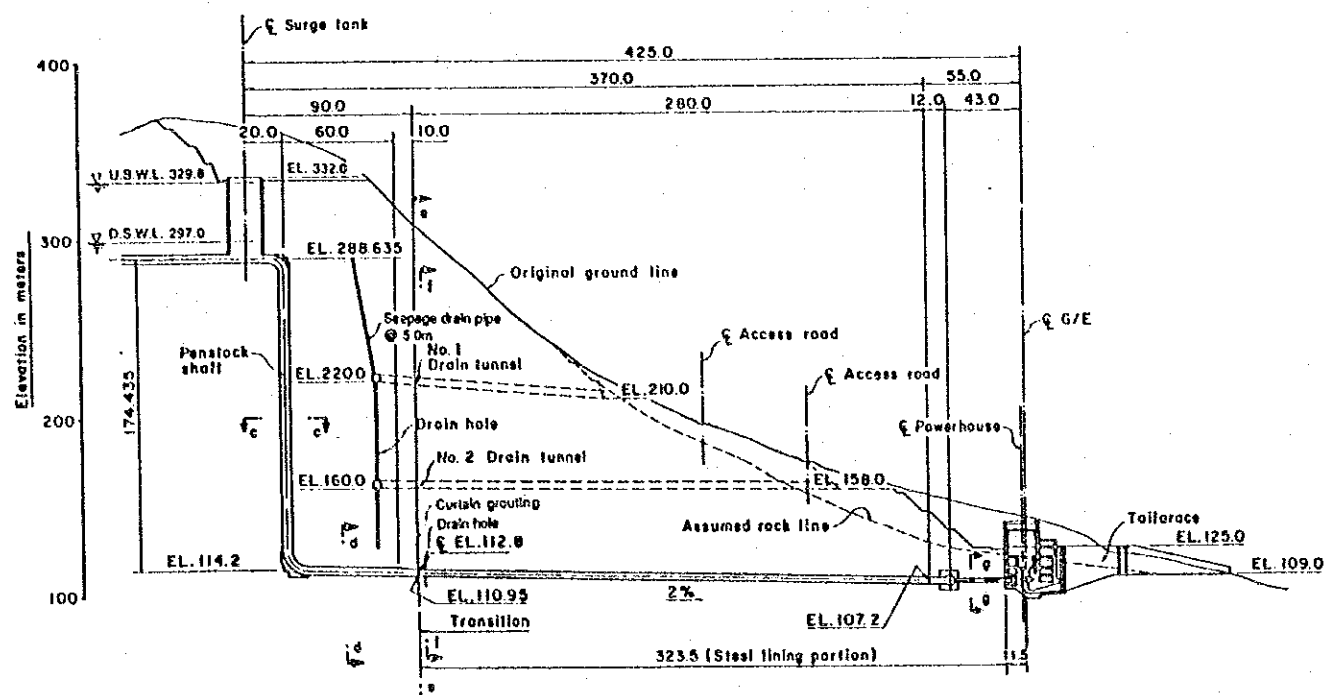
Section a-a scale b Section b-b scale b Section h-h scale c



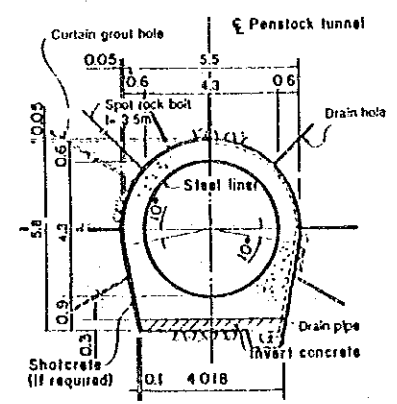
Section c-c scale d



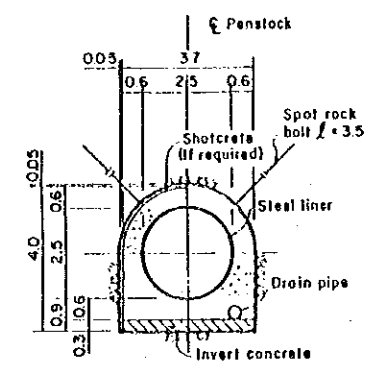
Section d-d scale d



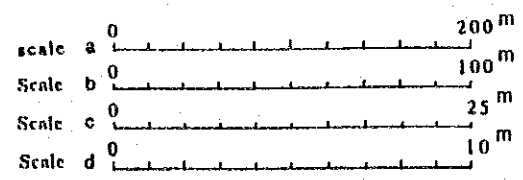
Profile scale a



Section e-e & f-f scale d

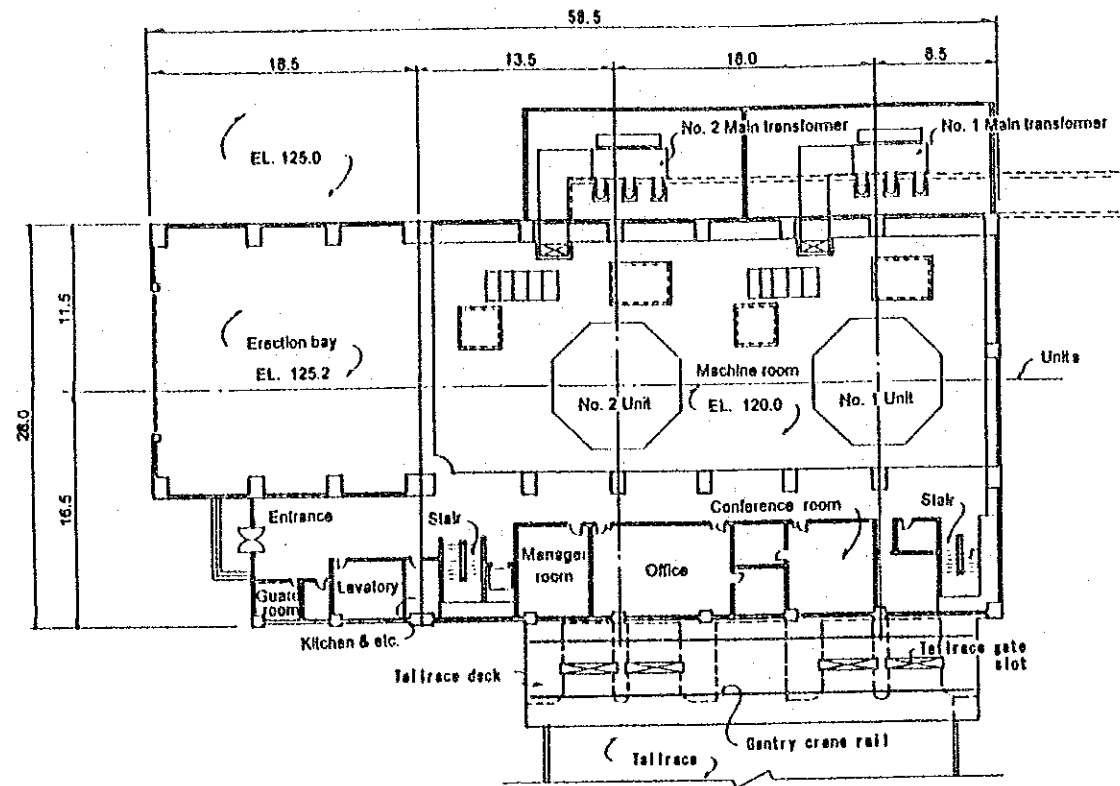


Section g-g scale d

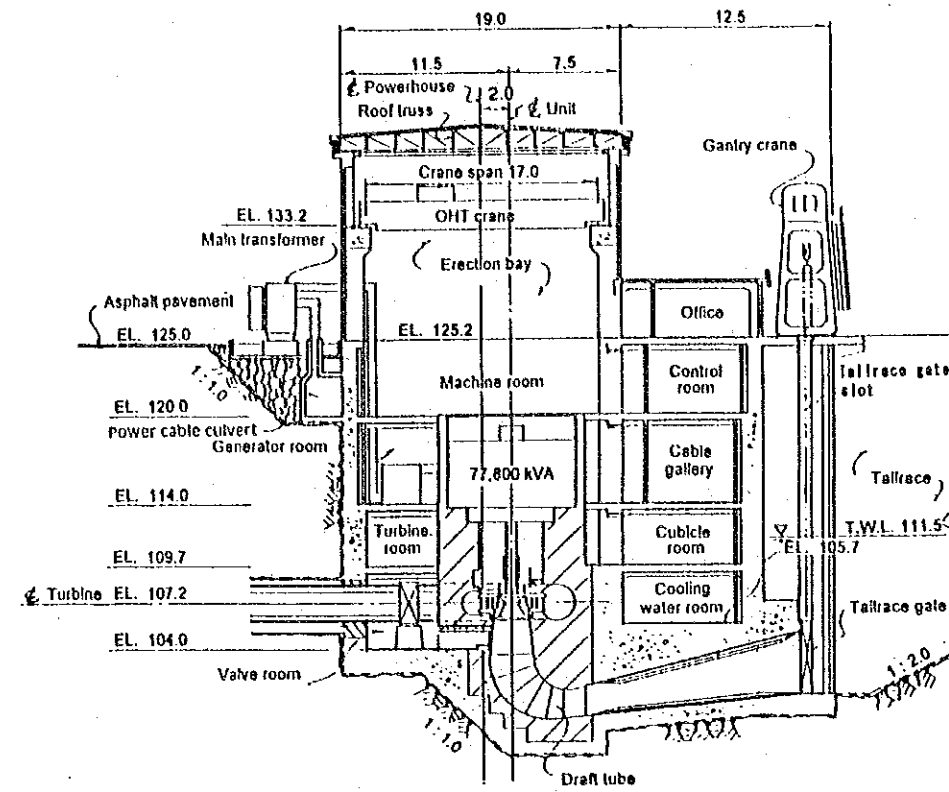


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CENTRAIS ELÉTRICAS DE SANTA CATARINA S. A., BRAZIL
SAI TO PILÃO HYDROELECTRIC POWER DEVELOPMENT PROJECT

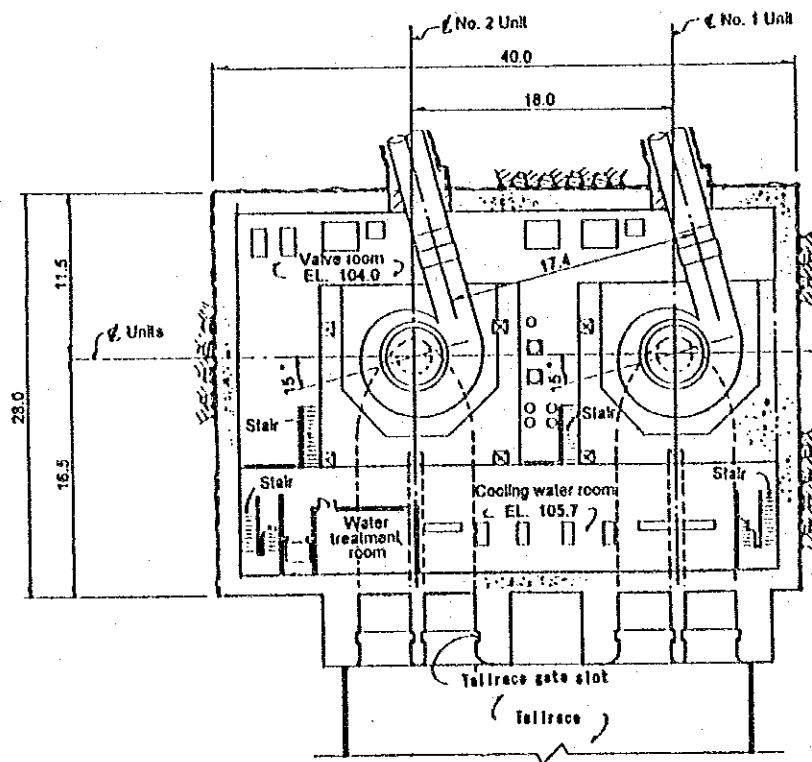
図 9.7
調圧水槽及びペンストック
平面図、縦断面図及び標準断面図



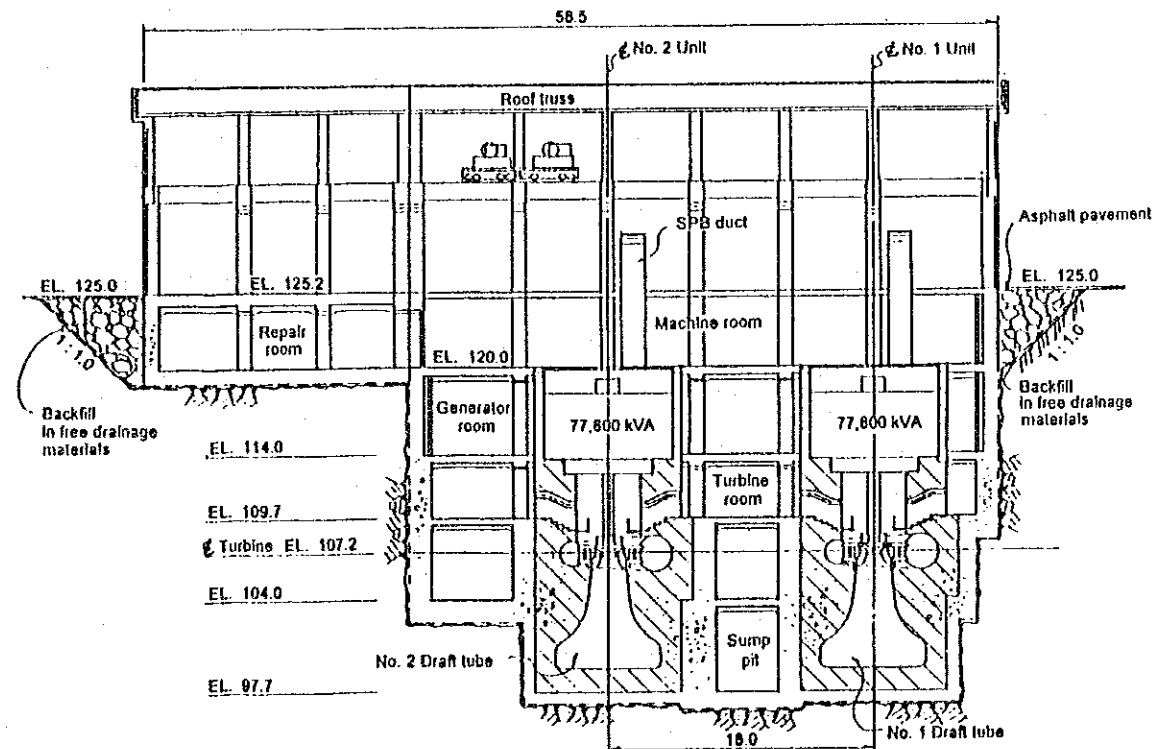
FLOOR PLAN 120.0 AND 125.2



TRANSVERSE SECTION



FLOOR PLAN EL. 104.0 AND 105.7

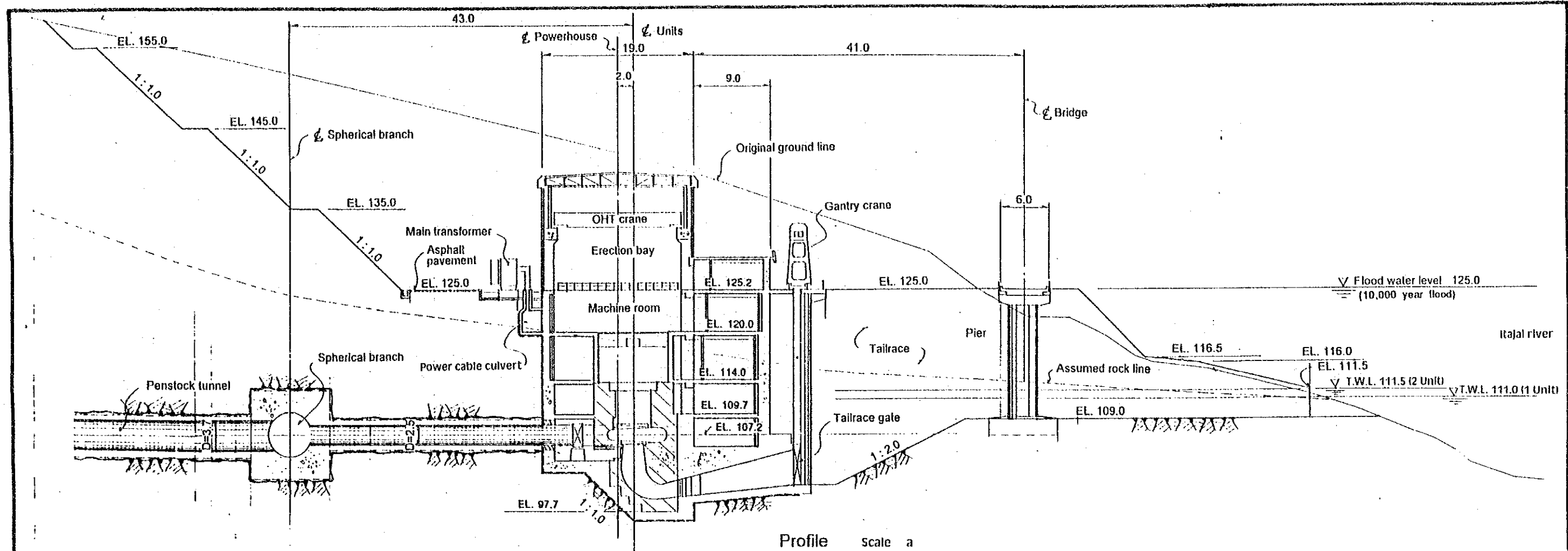


LONGITUDINAL SECTION

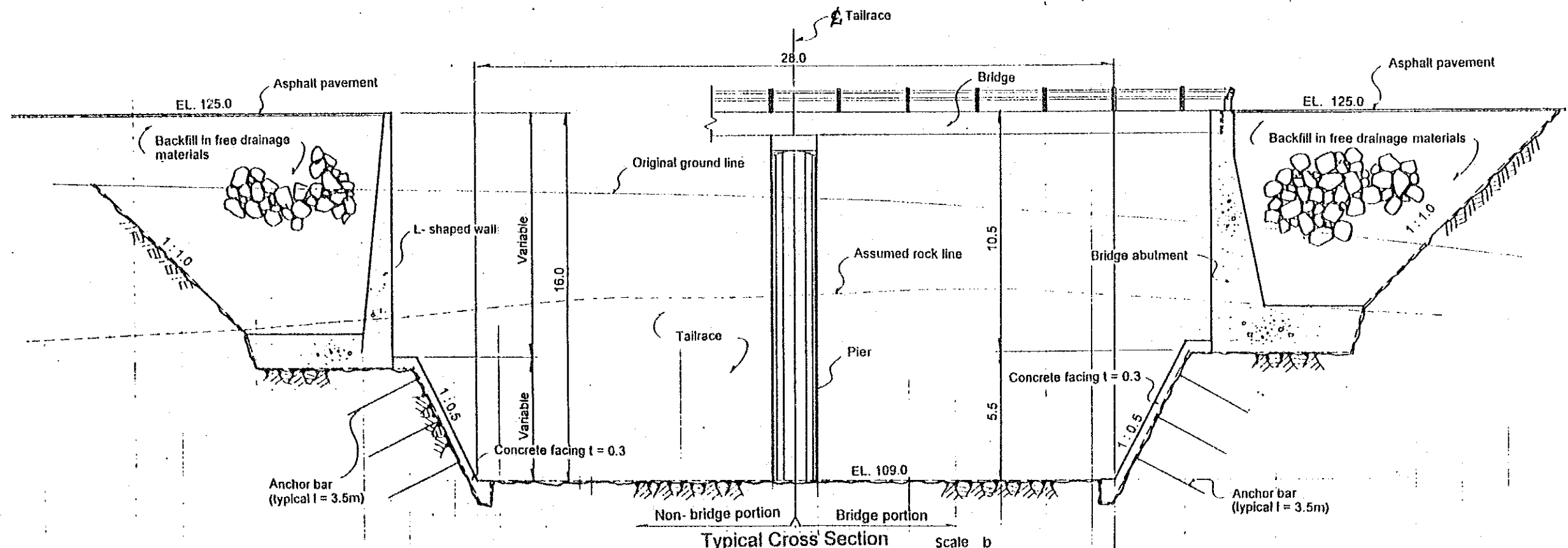


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 SALTO FILÃO HYDROELECTRIC POWER DEVELOPMENT PROJECT

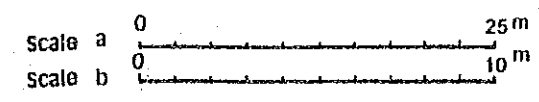
図 9.8
 発電所、平面図及び断面図



Profile scale a

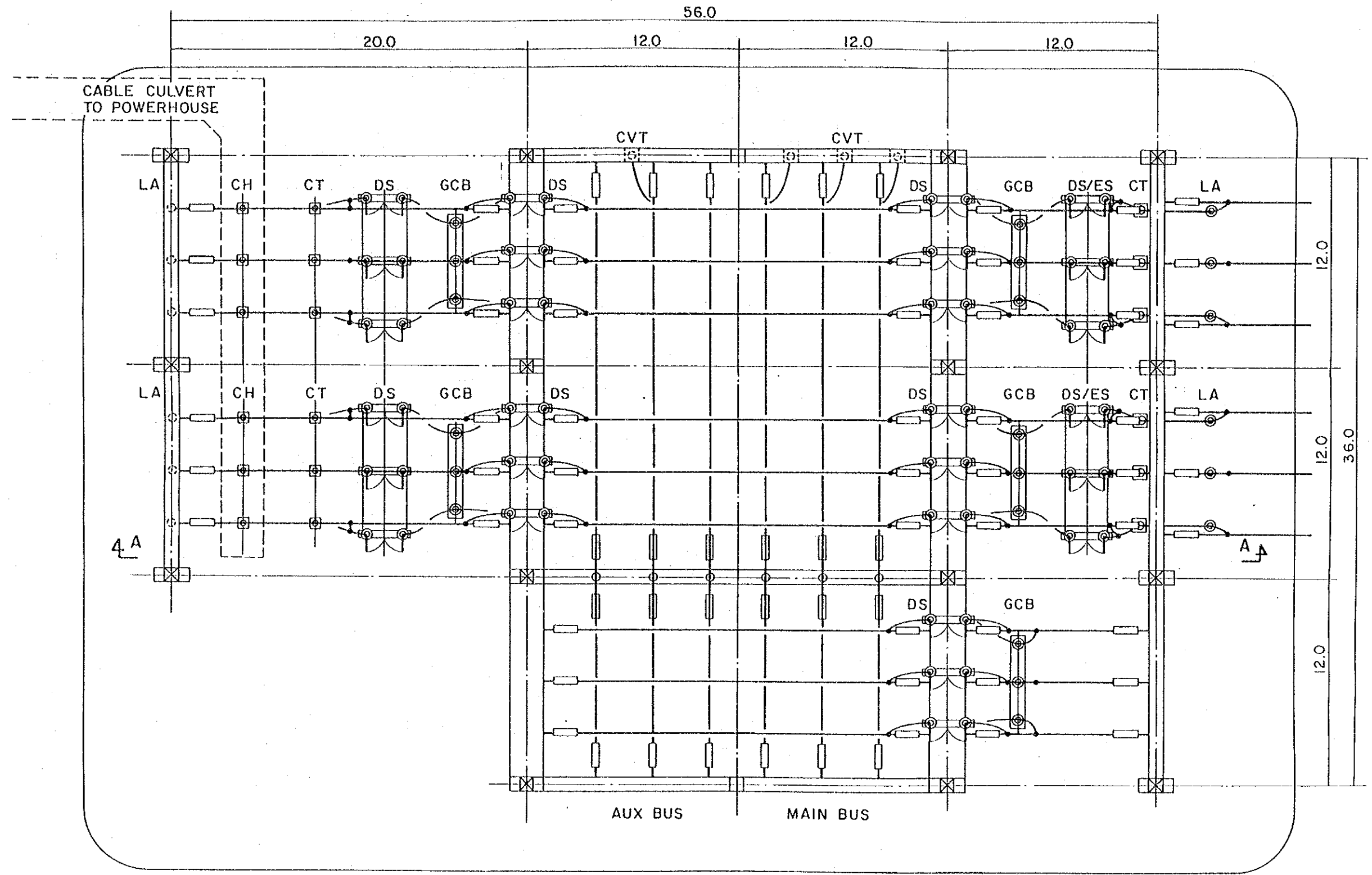


Typical Cross Section scale b



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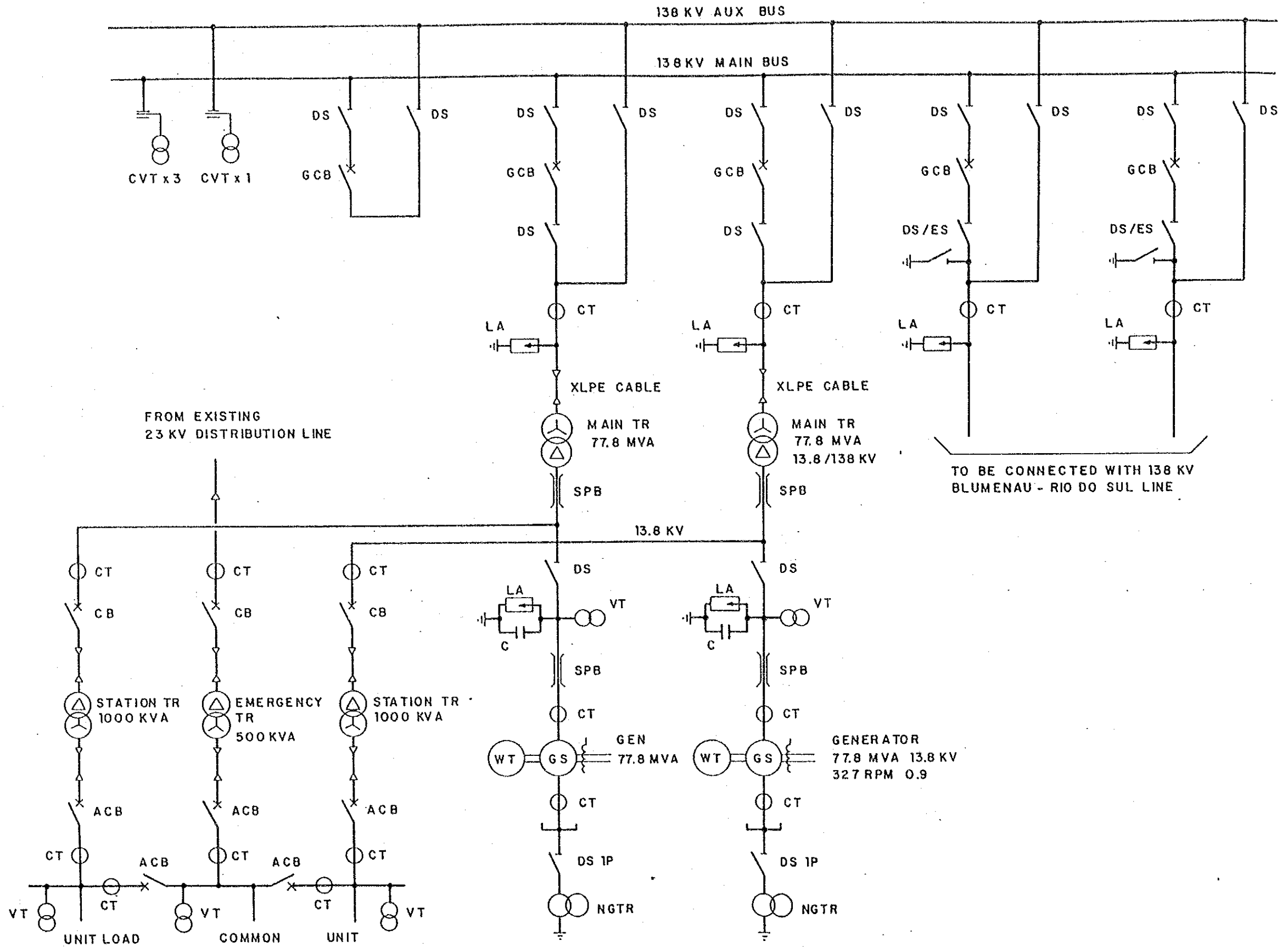
図 9.9
 放水路、縦断面図及び標準断面図



Scale _____
 Scale _____
 Scale _____

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 SALTO PIÃO HYDROELECTRIC POWER DEVELOPMENT PROJECT

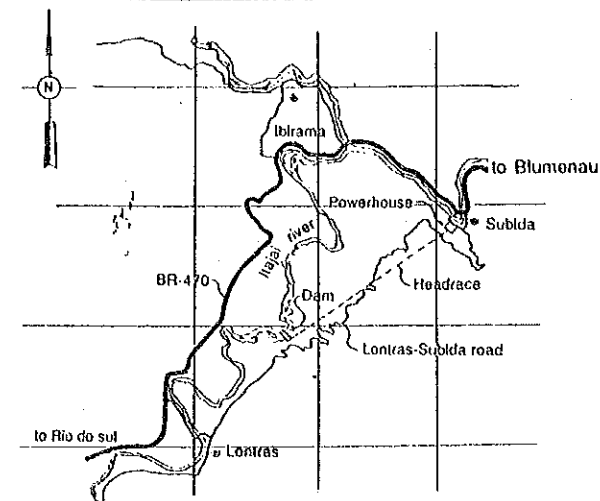
图 9.10 屋外開閉所、平面図



Scale _____
 Scale _____
 Scale _____

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 CENTRAIS ELÉTRICAS DE SANTA CATARINA S. A., BRAZIL
 SALTO PILÃO HYDROELECTRIC POWER DEVELOPMENT PROJECT

图 9.1.1 单线接线图



- CP-1 : Crushing plant (100/h)
- BP-1 : Concrete plant (60m³/h)
- QA : Quarry site (for concrete)
- QC : Quarry site (for rockfill dam)
- C.C : Camping site
- O.S : Office & Work shop

Spoil Bank

Spoil bank No.	Volume (m ³)
SB-1	135,000
SB-5	12,000
SB-8	116,000
SB-9	454,000
SB-16	150,000

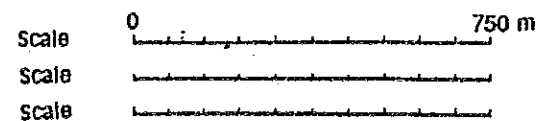
(1) Permanent Roads

Access road No.	New Construction (km)	Improvement of Existing road (km)	Sites to access
AR-1	0.20	-	Lontras-Subida road - Work adit No.1
AR-4	0.80	0.80	SB-8,9, Headrace tunnel
AR-5	-	0.70	SB-9
AR-9	0.40	1.00	Dam site right bank
AR-10	-	0.20	Quarry site-
AR-11	-	2.50	Dam site left bank
AR-15	0.20	0.90	Quarry site-
AR-18	-	0.80	Camping site
Lontras - Subida	-	23.15	BR-470-Dam right side -Powerhouse site
Total	1.60	30.55	

(2) Temporary roads

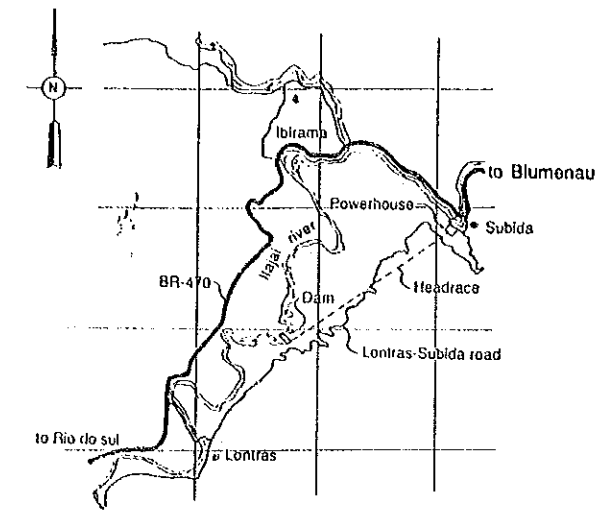
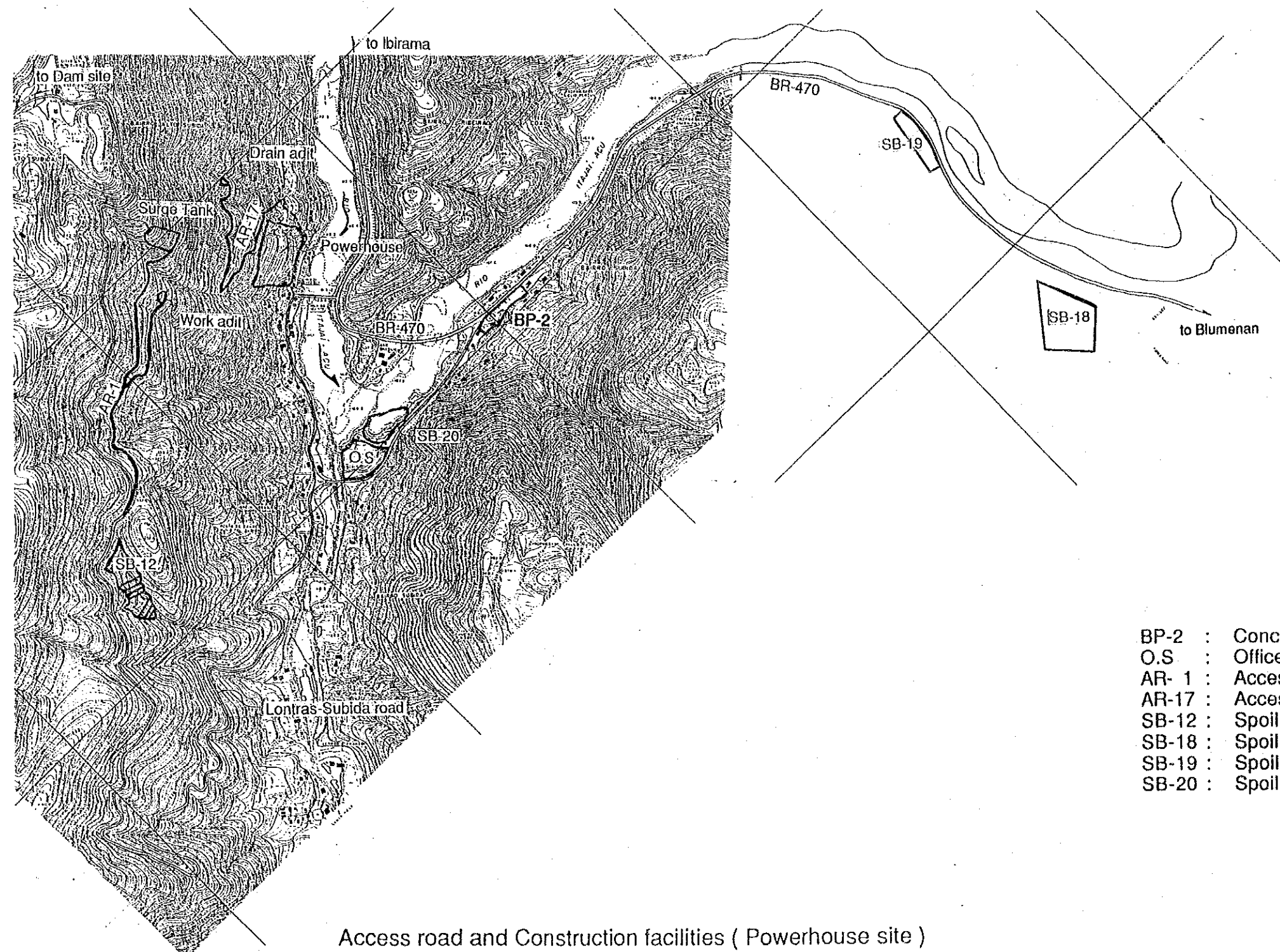
Access road No.	New Construction (km)	Improvement of Existing road (km)	Sites to access
AR-1	1.30	-	Surge tank, Drain adit
AR-9	0.30	0.25	Dam right side
AR-11	0.35	0.80	Dam left side
AR-17	0.80	-	Powerhouse, Drain adit
Total	2.75	1.05	

Access road and Construction facilities (Dam site)



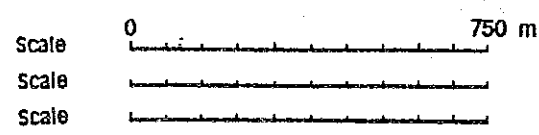
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 SALTO PILÃO HYDROELECTRIC POWER DEVELOPMENT PROJECT

図 10.1
 工事用道路及び施工設備位置図 (1 / 2)



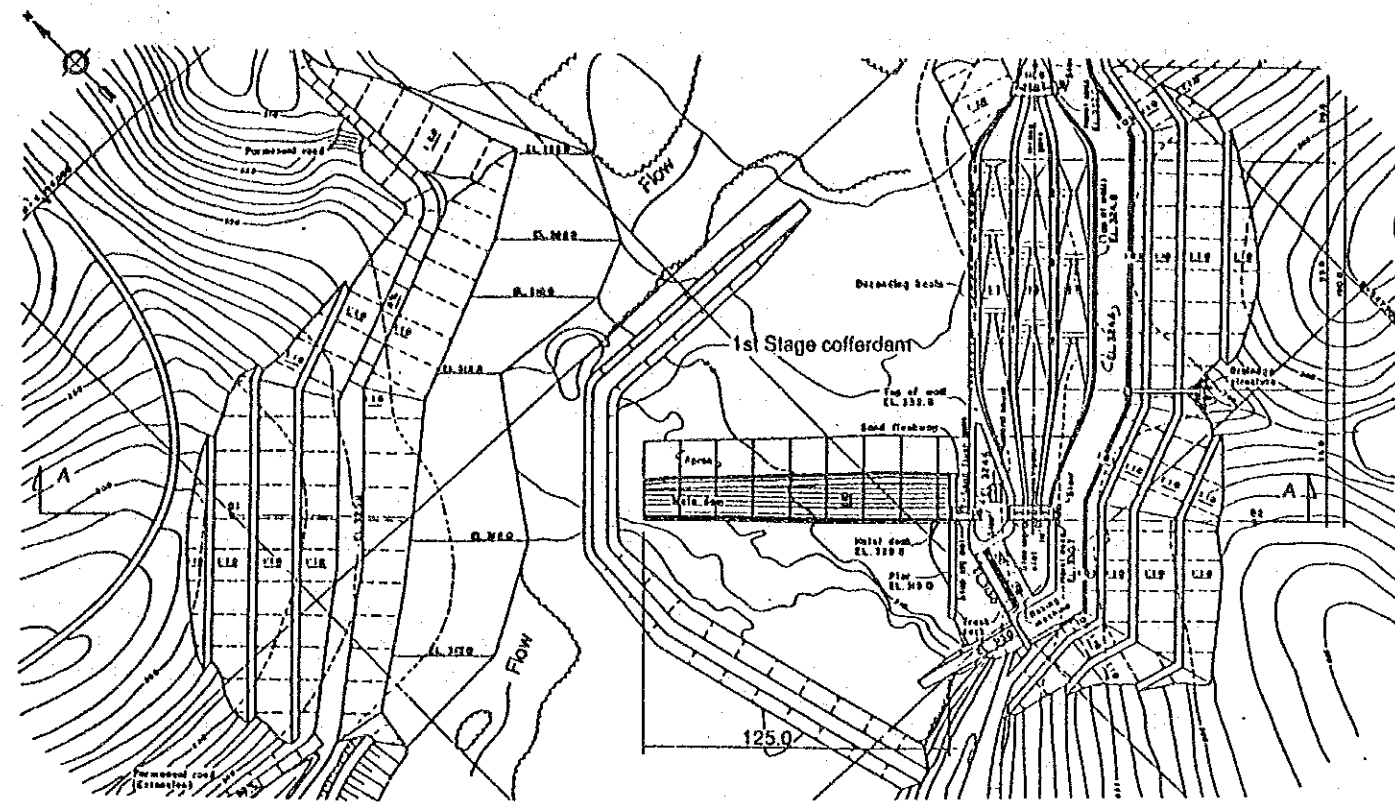
- BP-2 : Concrete plant (60m³/h)
- O.S : Office & Work shop
- AR- 1 : Access road (1.5km)
- AR-17 : Access road (0.8km)
- SB-12 : Spoil bank (248,000m³)
- SB-18 : Spoil bank (50,000m³)
- SB-19 : Spoil bank (371,000m³)
- SB-20 : Spoil bank (10,000m³)

Access road and Construction facilities (Powerhouse site)

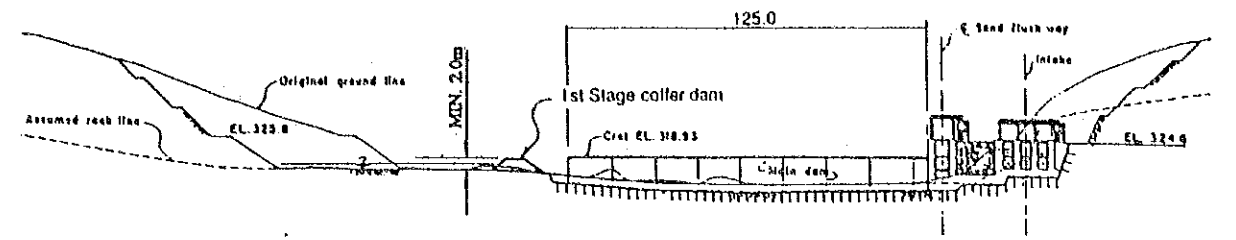


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 SALTO PILÃO HYDROELECTRIC POWER DEVELOPMENT PROJECT

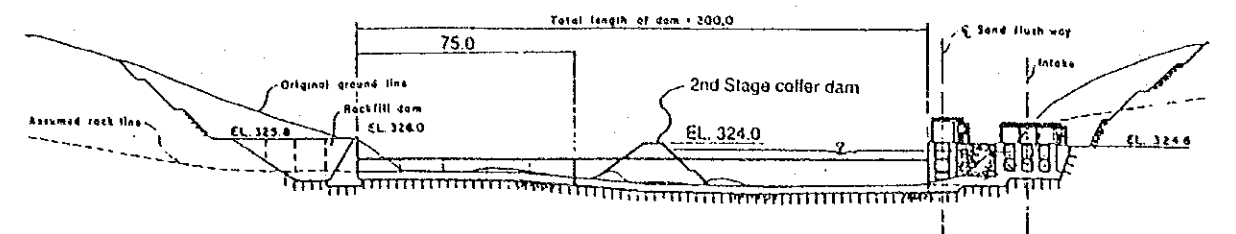
図 10.1
 工所用道路及び施工設備位置図 (2 / 2)



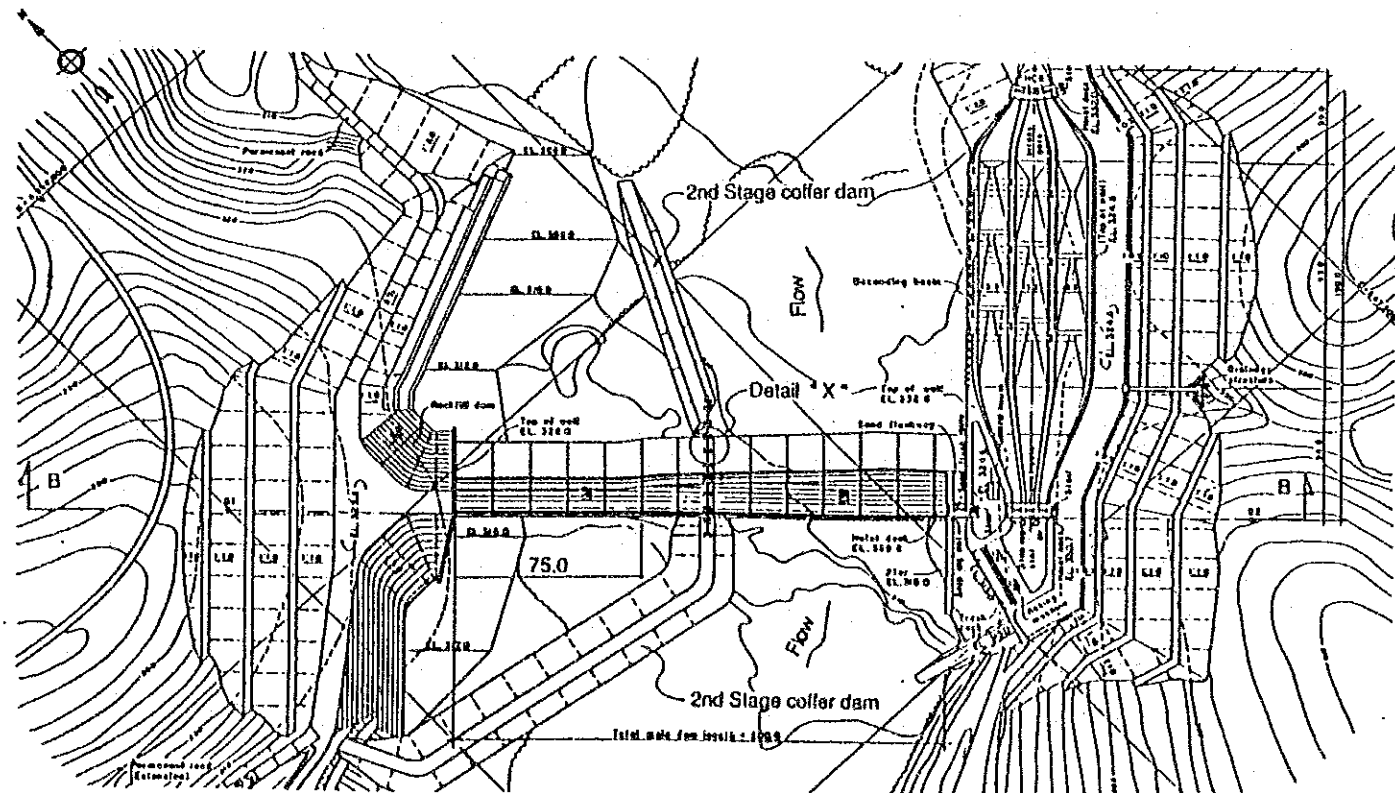
1st Stage Diversion No scale



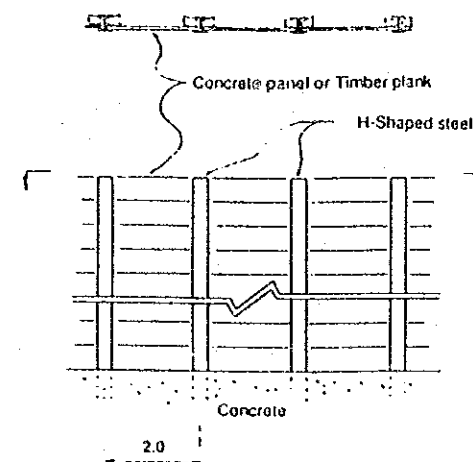
Section A - A No scale



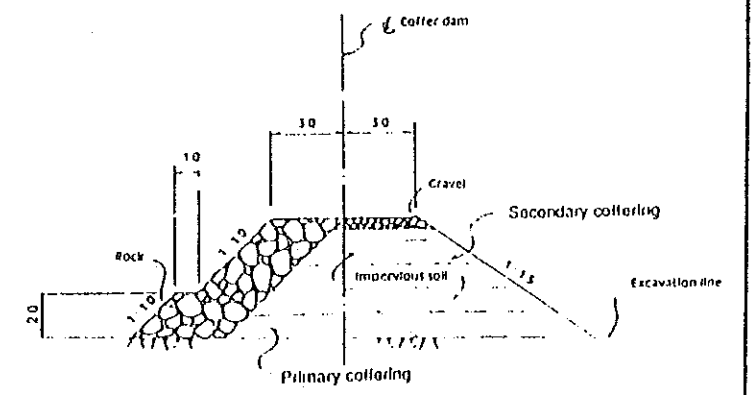
Section B - B No scale



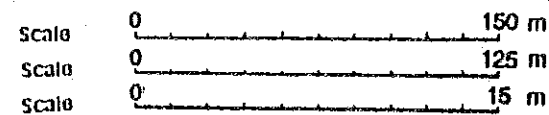
2nd Stage Diversion No scale



Detail of "X" Scale

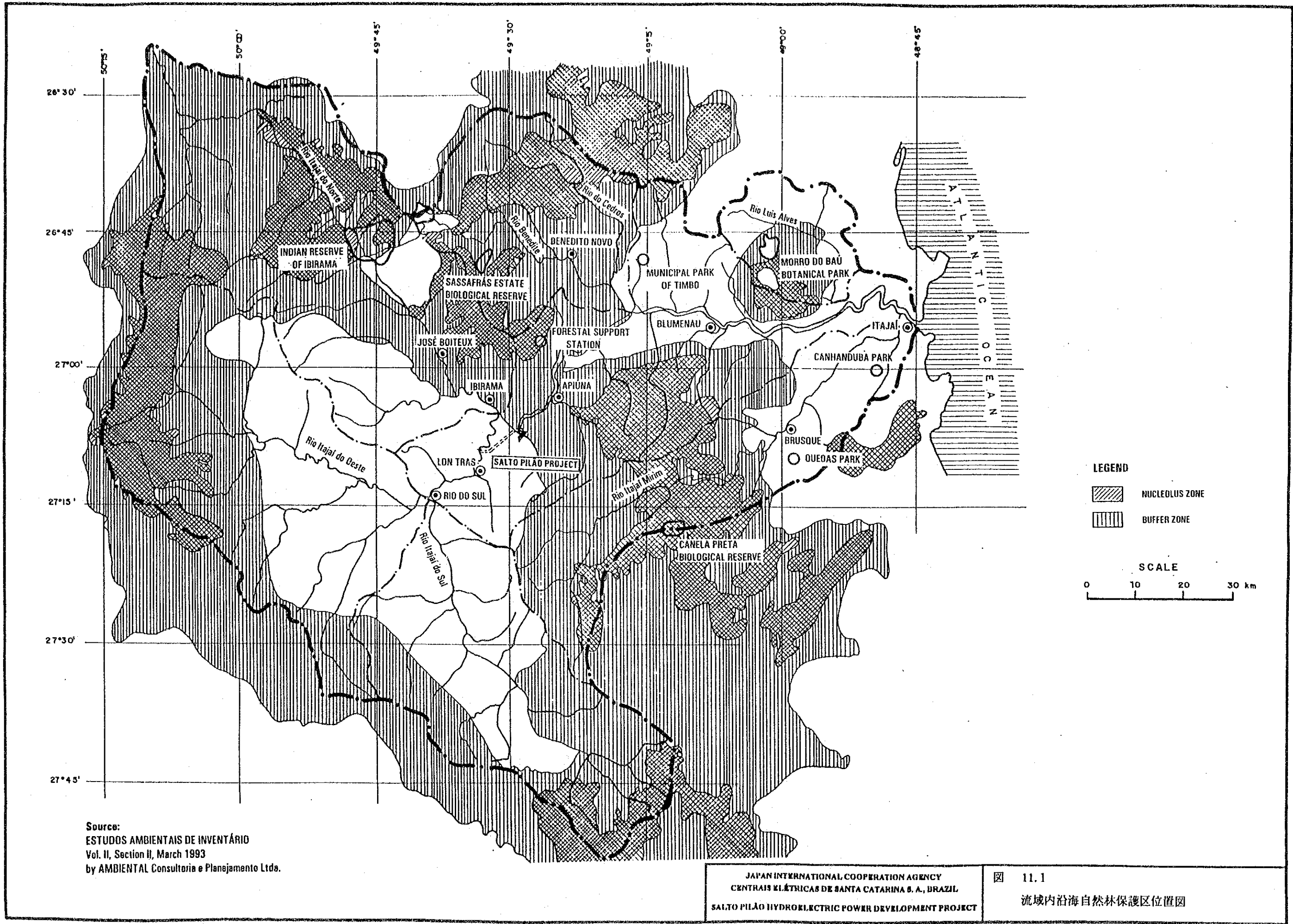


Typical Cross Section of Cofferdam Scale



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 SALTO PILÃO HYDROELECTRIC POWER DEVELOPMENT PROJECT

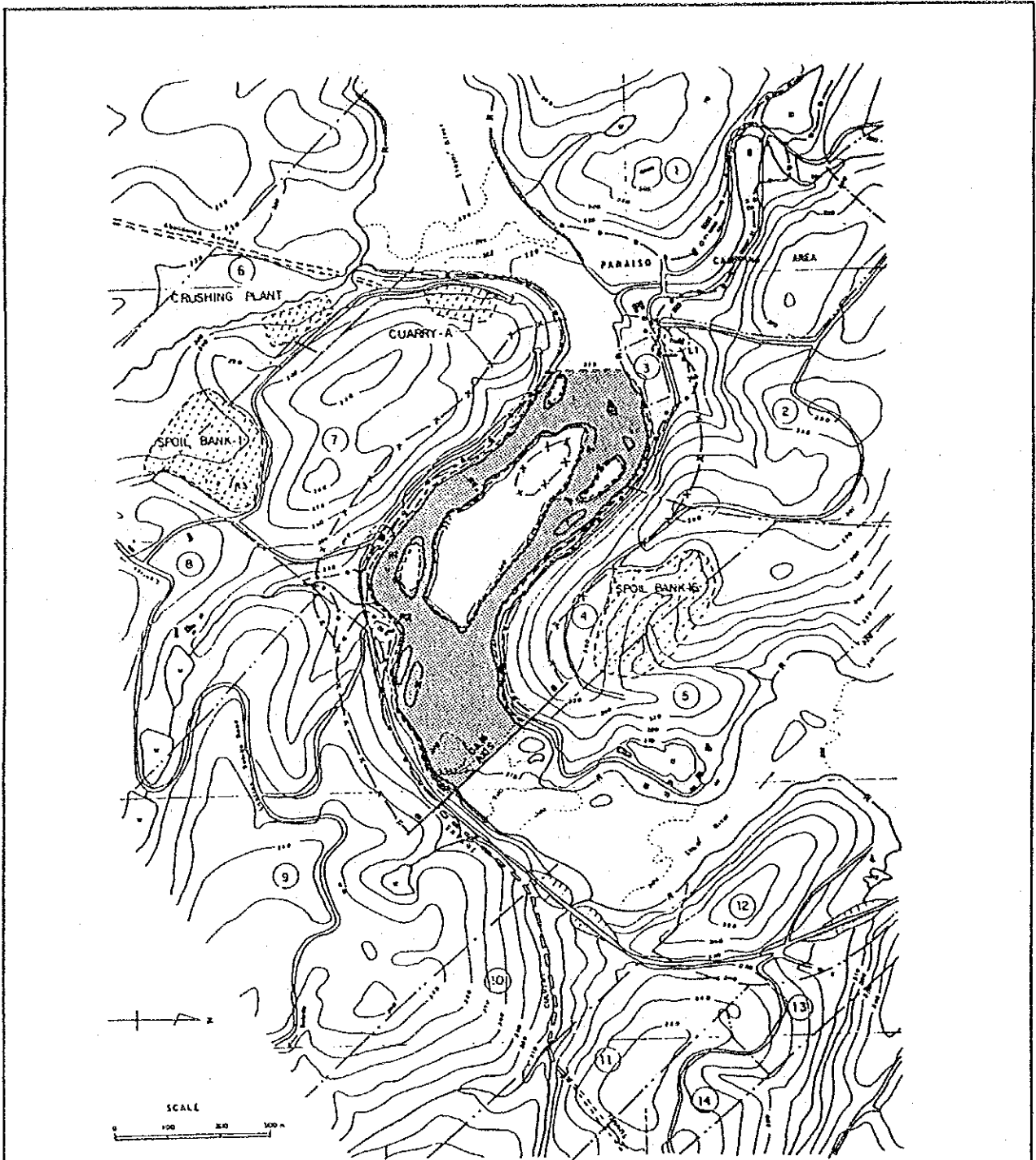
図 10.2
 ダム転流工、平面図及び標準断面図



Source:
 ESTUDOS AMBIENTAIS DE INVENTÁRIO
 Vol. II, Section II, March 1993
 by AMBIENTAL Consultoria e Planejamento Ltda.

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 SALTO PILÃO HYDROELECTRIC POWER DEVELOPMENT PROJECT

图 11.1
 流域内沿海自然林保护区位置图



LEGEND













- a — River Level (100 cms) without Project
- b — River Level (100 cms) with Project : FSL + 319 m
- c — River Level at 5,300 cms with Project
- x — 100m Protection (Buffer) Zone around Reservoir
- · — Approximate Estate Boundary (1) No of Estate
- : Building
- : Building to be Relocated

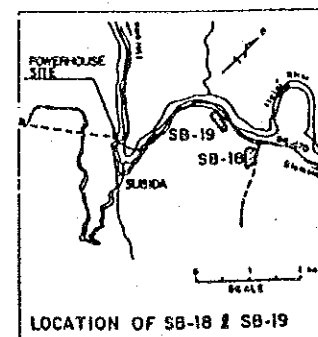
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图 11.2
 貯水池湛水影響範圍



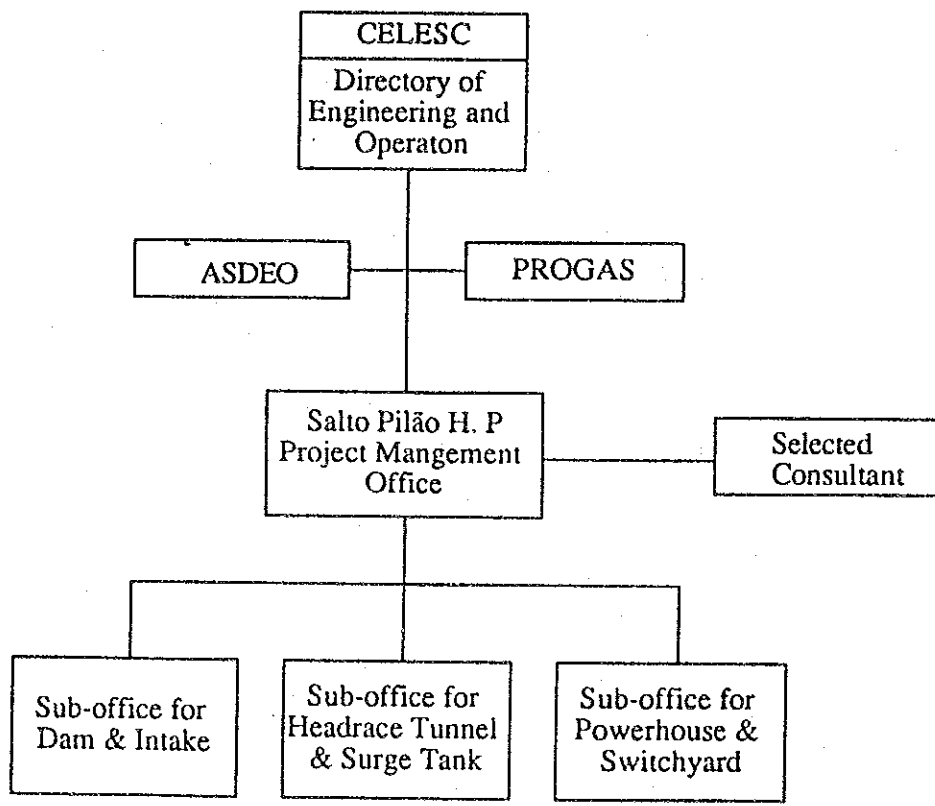
LEGEND

- | | | | |
|---|-----------------------------|--|------------------------------------|
|  | Temporary Facility Area |  | Existing Highway or Municipal Road |
|  | CC: Construction Camp |  | Existing Rural Road |
|  | OS: Office and Storage |  | Access Road, to be Improved |
|  | BP: Batching Plant |  | Access Road, to be constructed |
|  | CP: Crushing Plant | | |
|  | OA: Office Area | | |
|  | Quarry Site (Q-A, Q-B, Q-C) | | |
|  | Spoil Bank (SB) | | |



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図 11.3
 工事設備位置図

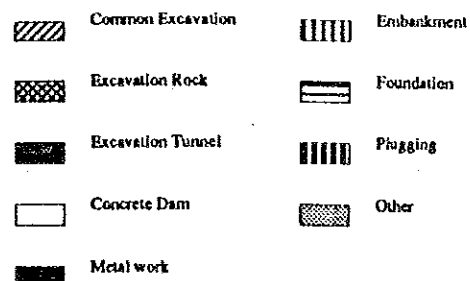
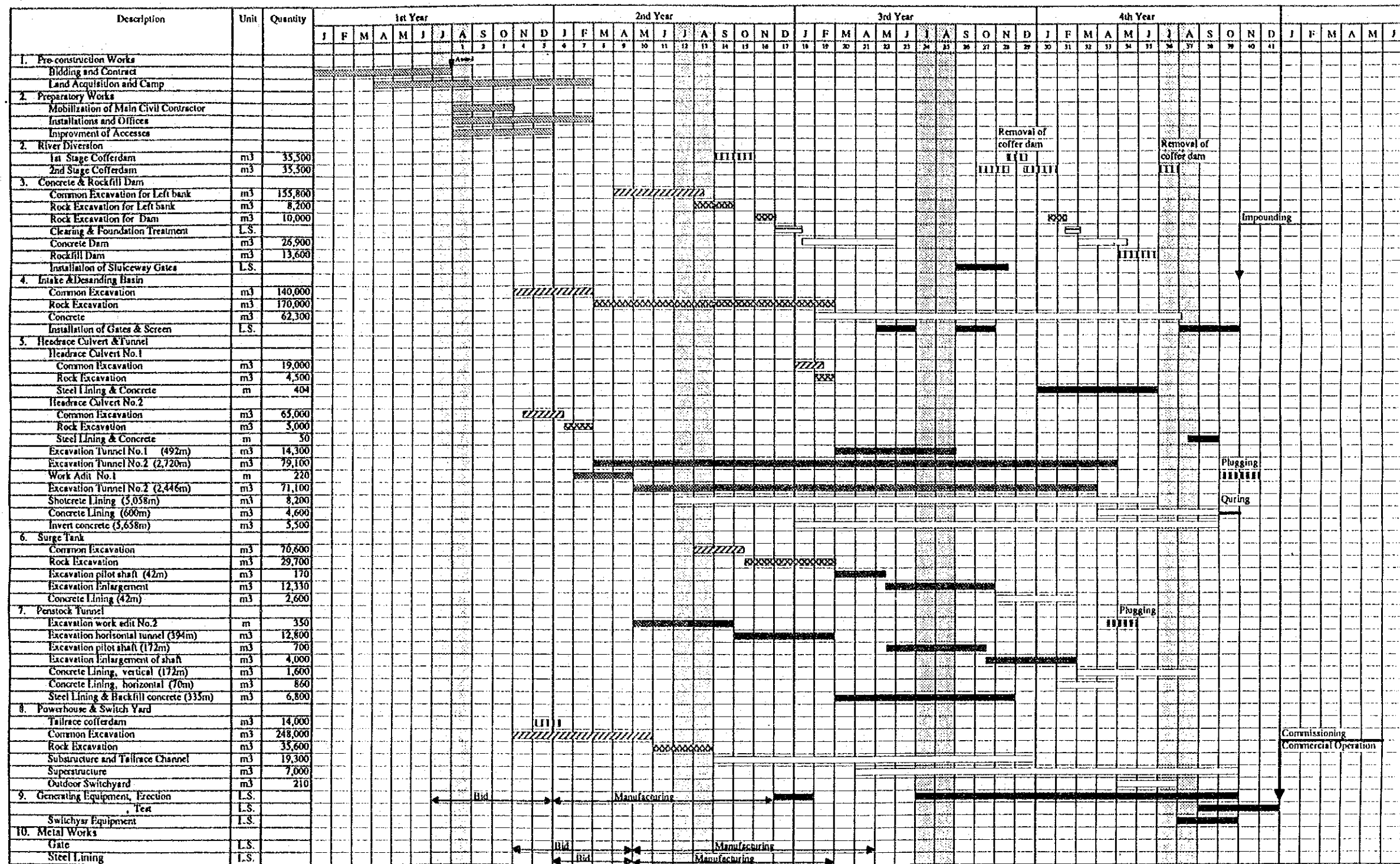


Description	Construction Year						
	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year
1. Project Appraisal for D/D	█						
2. Detail Design work	█	█					
3. Project Appraisal for Construction		█					
4. Tendering/Contract		█	█				
5. Preparatory Works			█				
6. Construction				█			
River Diversion				█			
Concrete & Rockfill Dam				█			
Desanding Basin				█			
Headrace Culvert & Tunnel				█			
Surge Tank				█			
Penstock Line				█			
Powerhouse & Switch Yard				█			
							Commissioning Commercial Operation

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☑ 13.2

プロジェクト実施全体工程



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図 13.3
 プロジェクト工事工程表

JICA