

KISUMU DISTRICT

WEST KOCUTA

Geological Legend

Age	Symbol	Description
Recent		Hill wash, Talus deposit unconsolidated sand, silt, clay, gravel
Pleistocene		River terrace deposit sand, silt, gravel
Tertiary		Phonolite
Upper Pre-Cambrian		(Bukoban System) porphyryite, basalts
		Basalts with minor tuff intercalations
Post Nyanzian		(Miriu Granodiorite) granodiorite, diorite
Post Nyanzian		Roof Pendant hornblende gneiss

	Geological boundaries (observed and approximate)		Boring Point
	Fault (Inferred)		Test Pit
	Fault dip and strike (measuring point)		Seismic Line
	Joint dip and strike (vertical)		
	Schistosity dip and strike (vertical)		

KISUMU DISTRICT

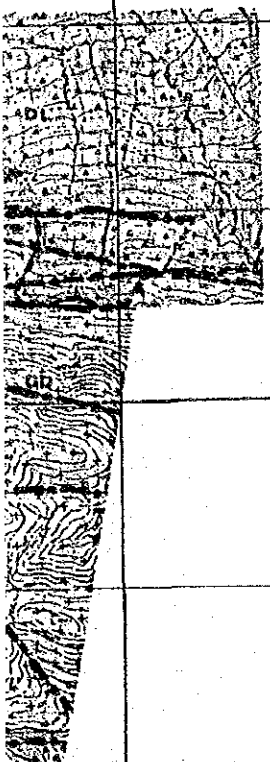
KISUMU DISTRICT

SOUTH NYANZA DISTRICT

SOUTH NYANZA DISTRICT

図-4.1  
ソンドゥ/ミリウ計画地区の地質図

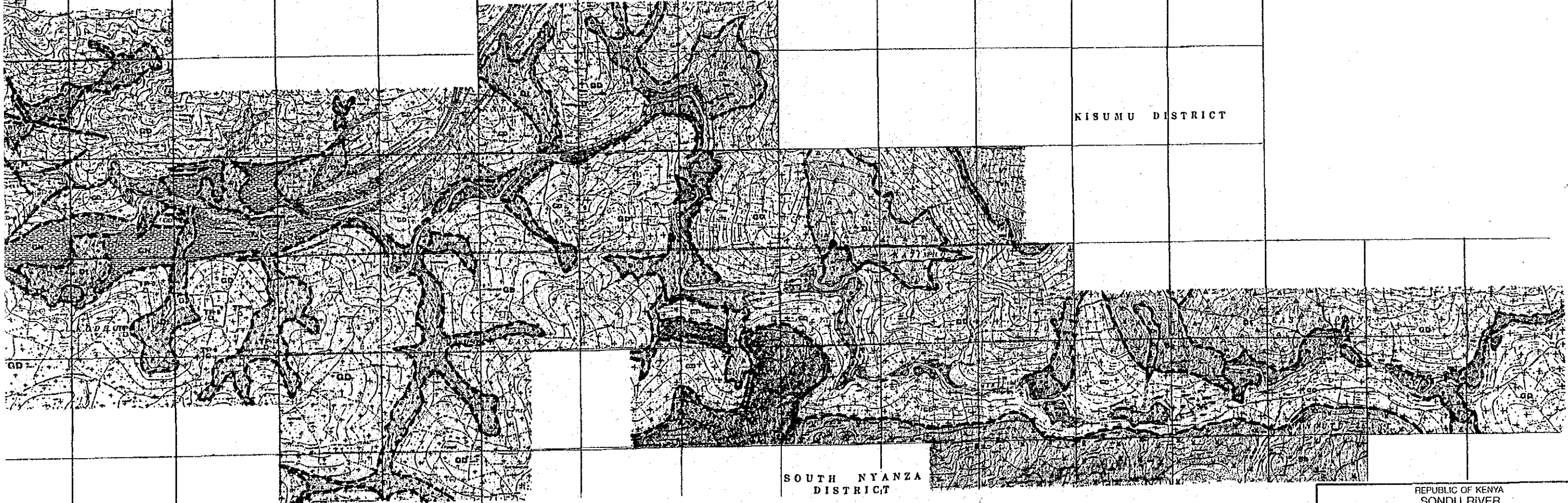
DISTRICT  
KOCUTA



Geological Legend

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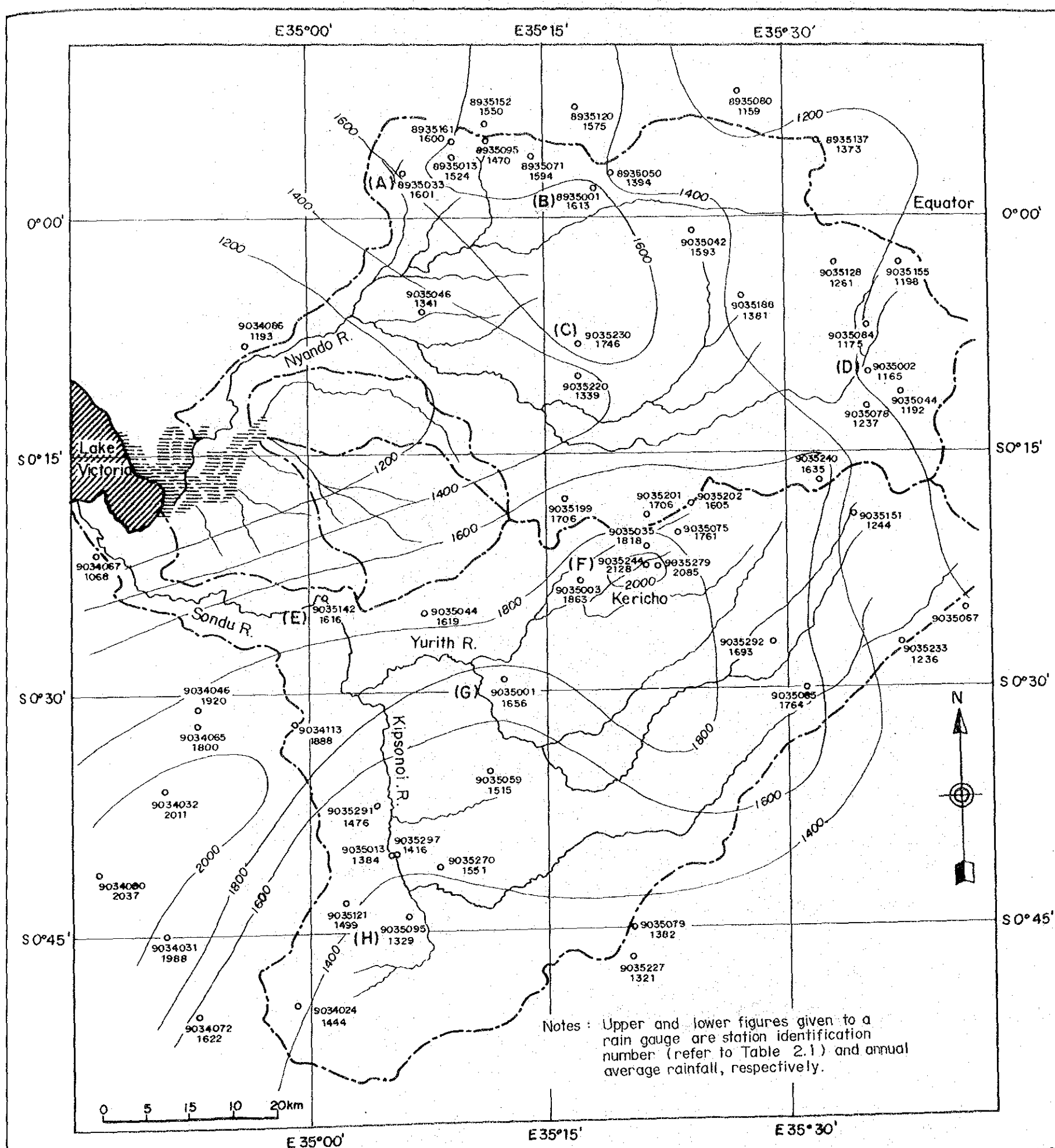
KISUMU DISTRICT



SOUTH NYANZA  
DISTRICT

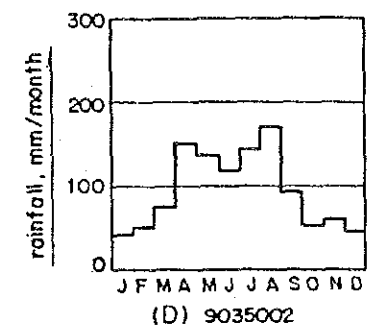
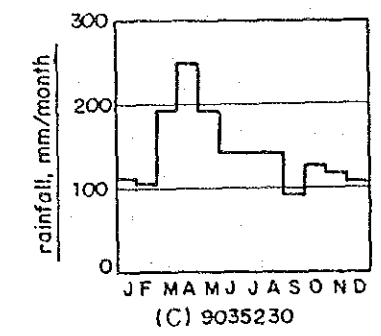
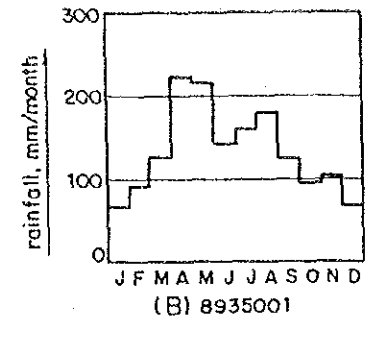
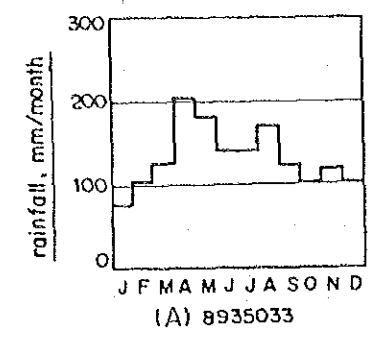
KISUMU DISTRICT

図-4.1  
ソンドウ/ミリウ計画地区の地質図

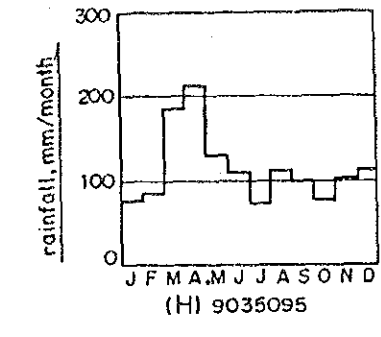
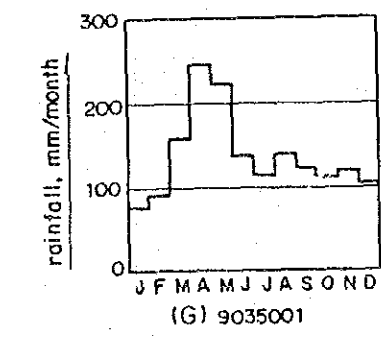
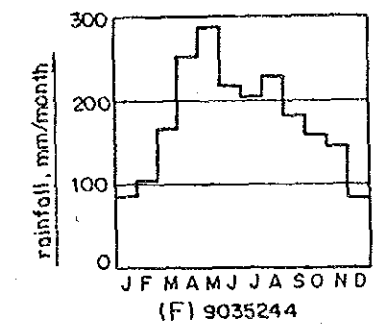
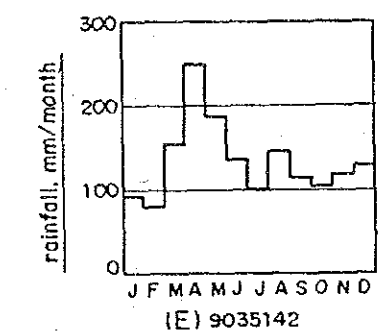


Notes: Upper and lower figures given to a rain gauge are station identification number (refer to Table 2.1) and annual average rainfall, respectively.

Nyando River Basin



Sondu River Basin



Monthly mean rainfall of selected rain gauges

図-4.2  
ソンドゥ川流域内及び周辺の等雨量線図

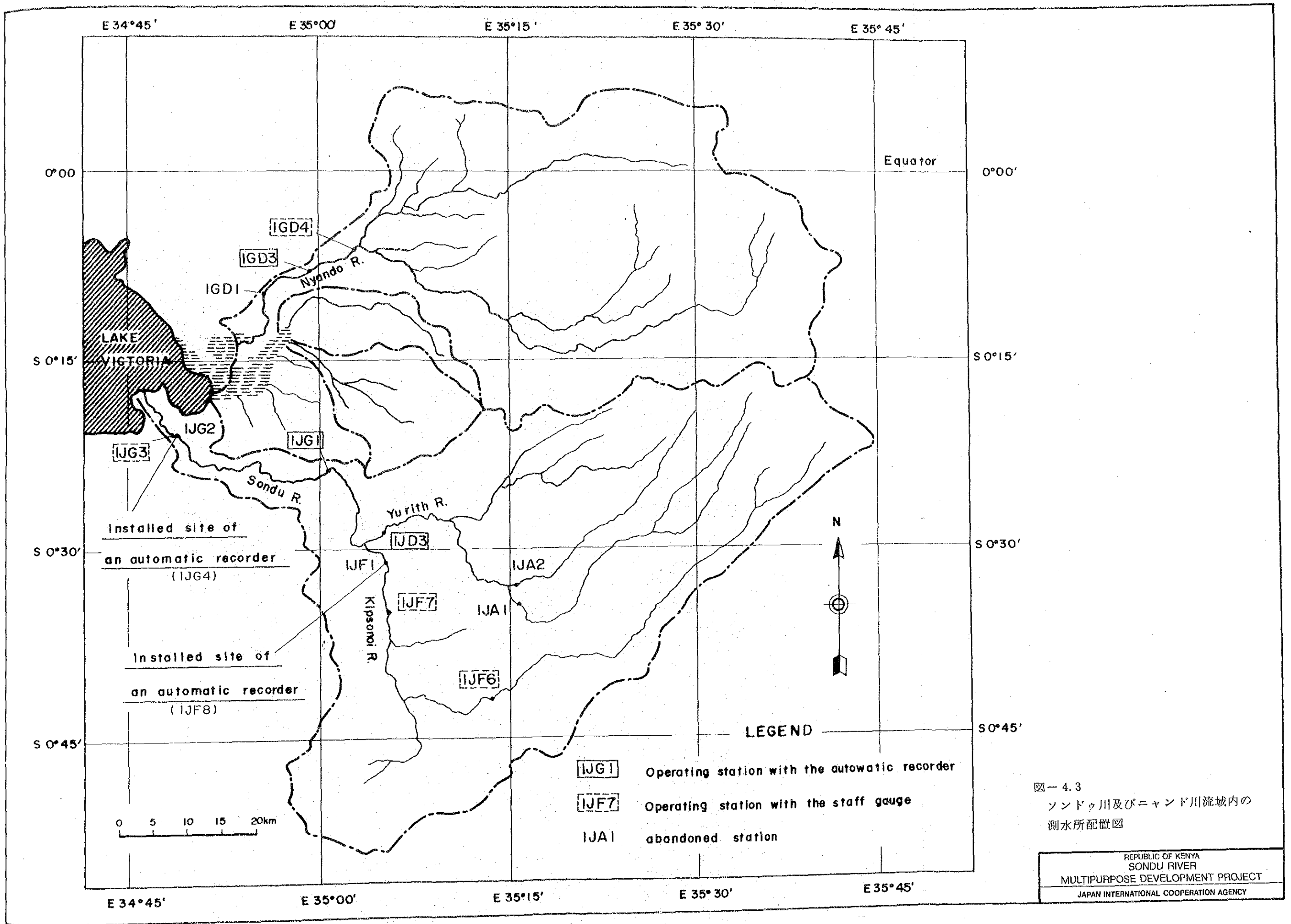


図-4.3  
ソンドゥ川及びニヤンド川流域内の  
測水所配置図



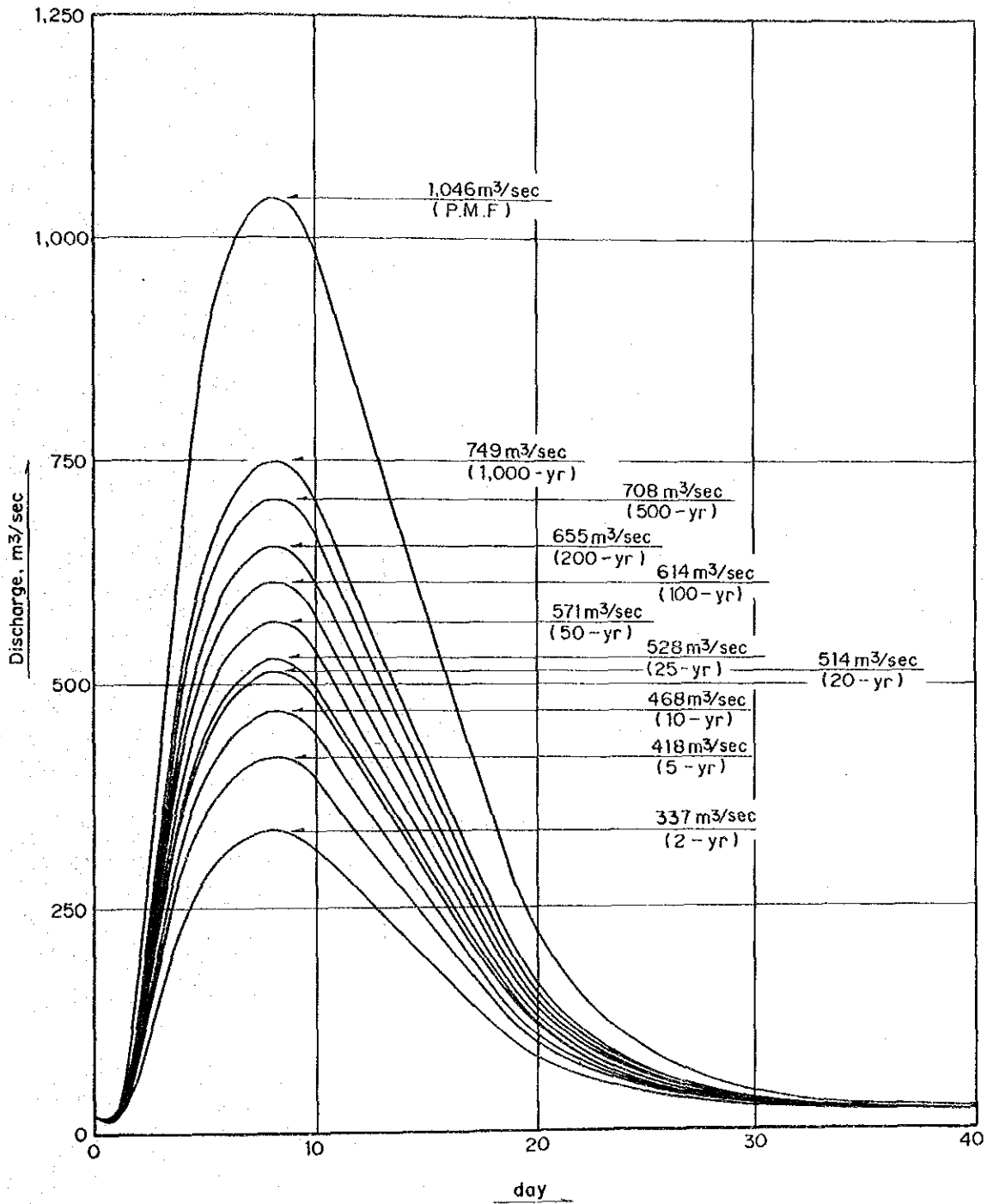


図-4.4

1 J G 1 測水所における  
確率洪水量図

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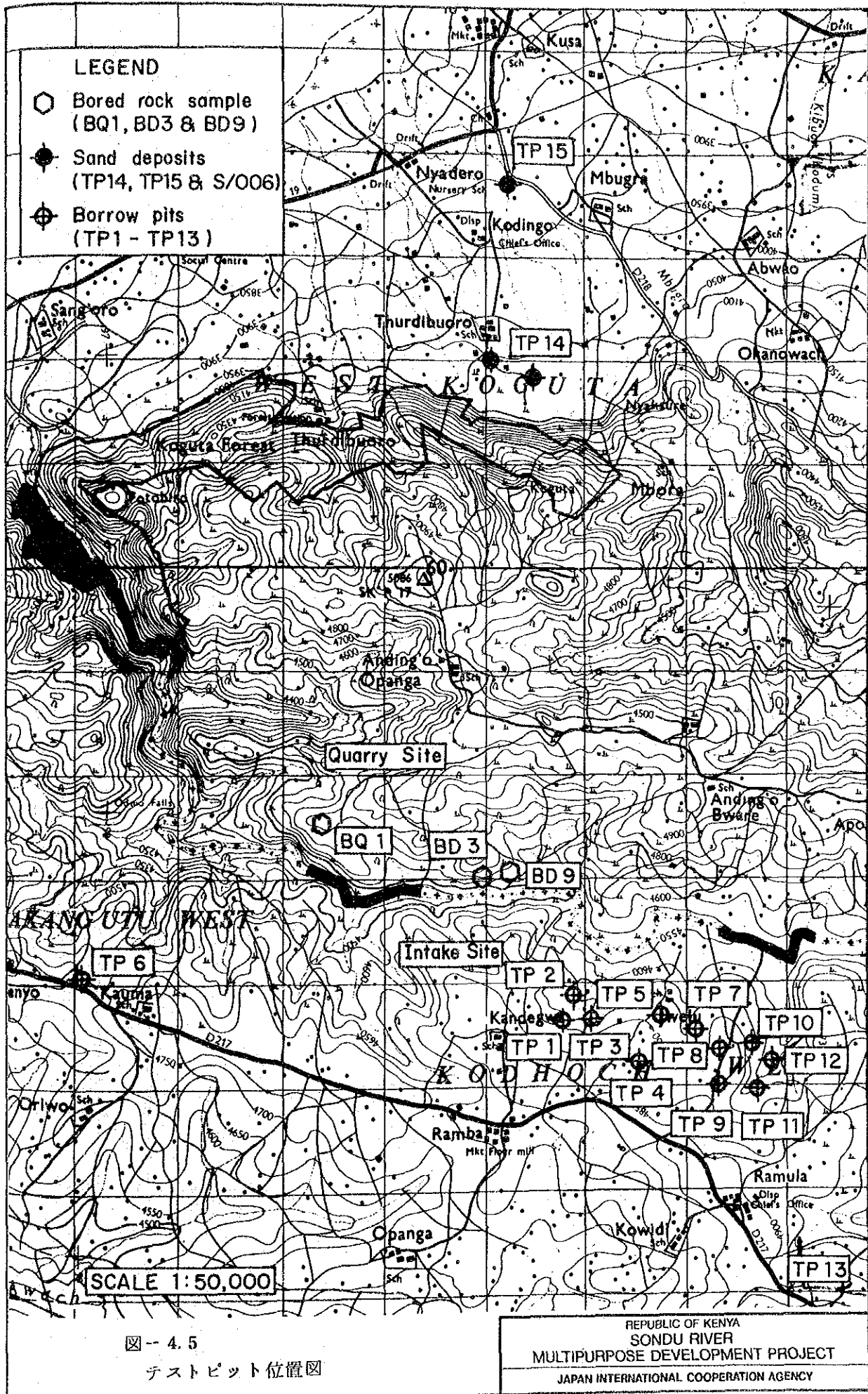


図 - 4.5

テストピット位置図





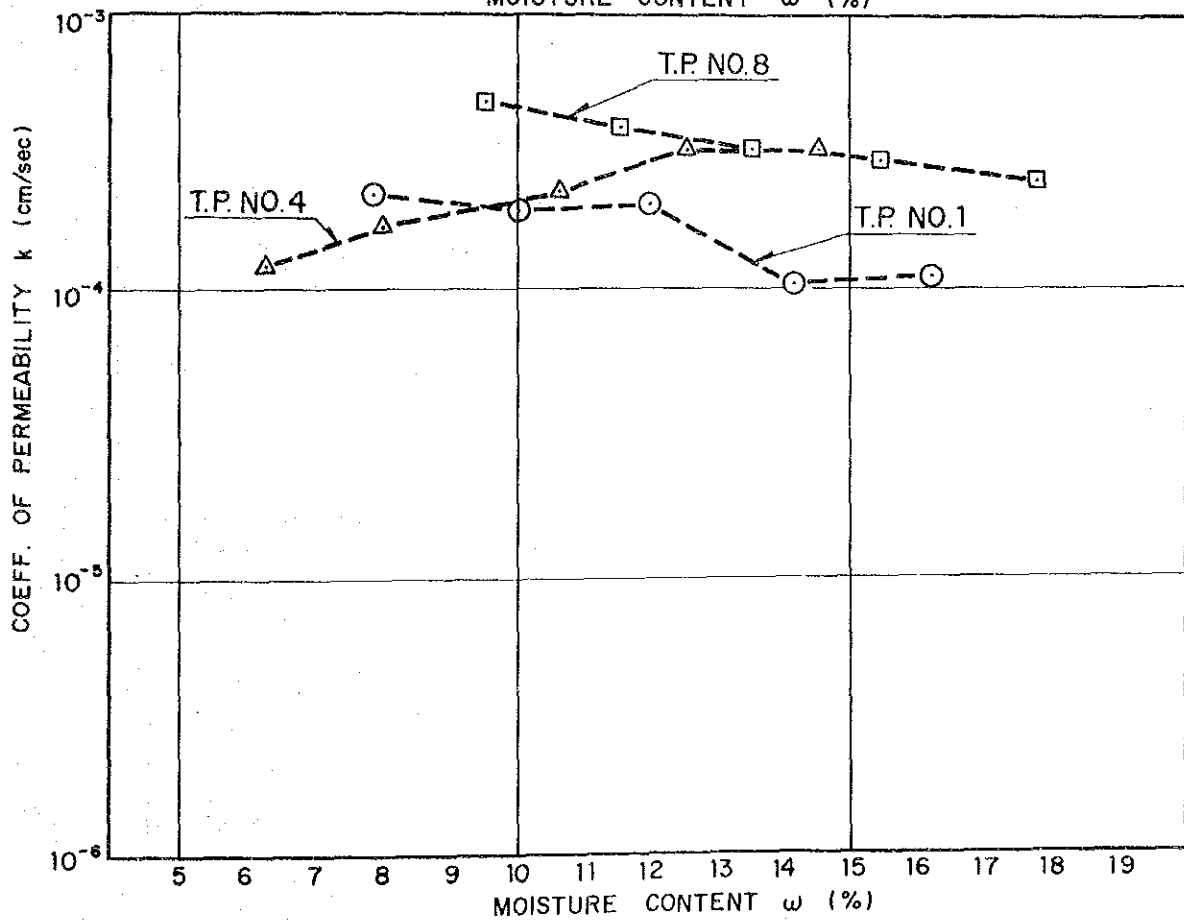
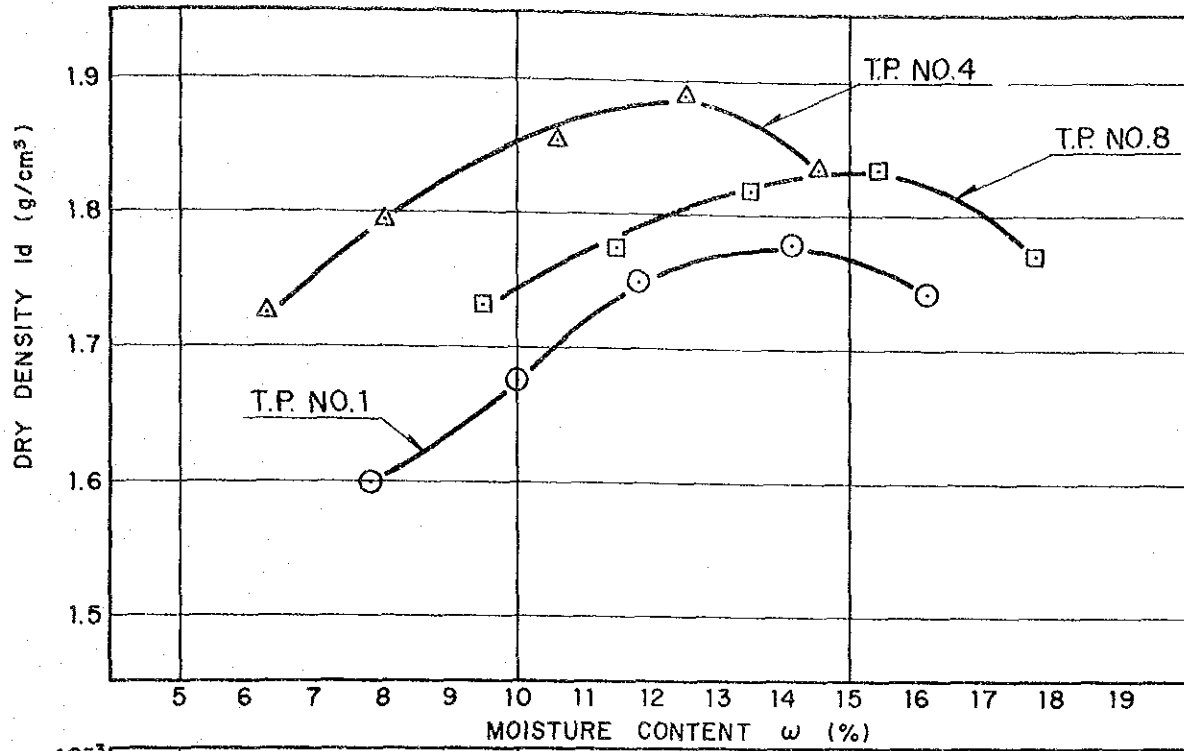


図-4.6  
風化花崗岩の透水特性



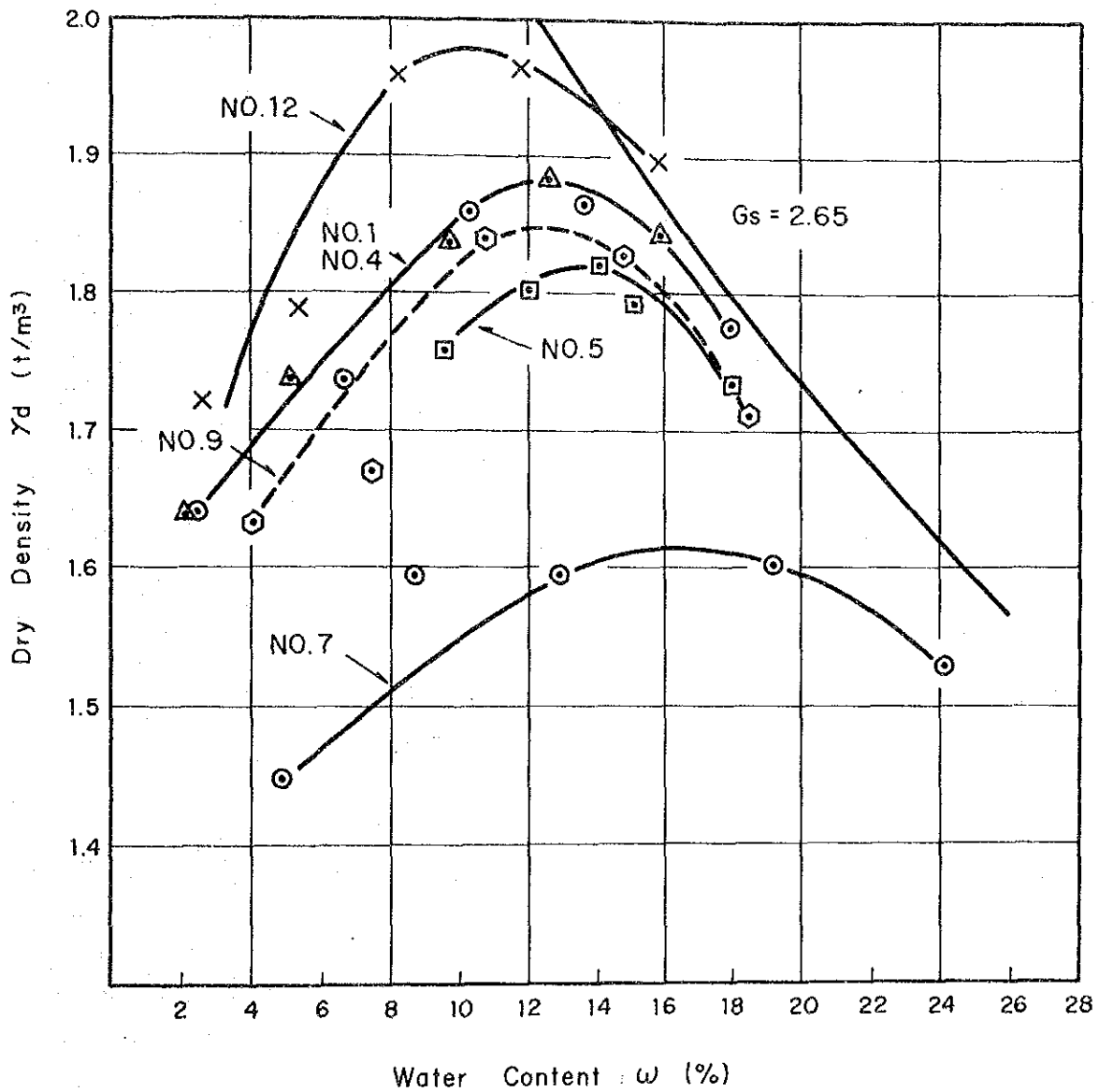


図-4.7  
風化花崗岩の締固め特性



Lateritized red soil  
Gs = 2.66

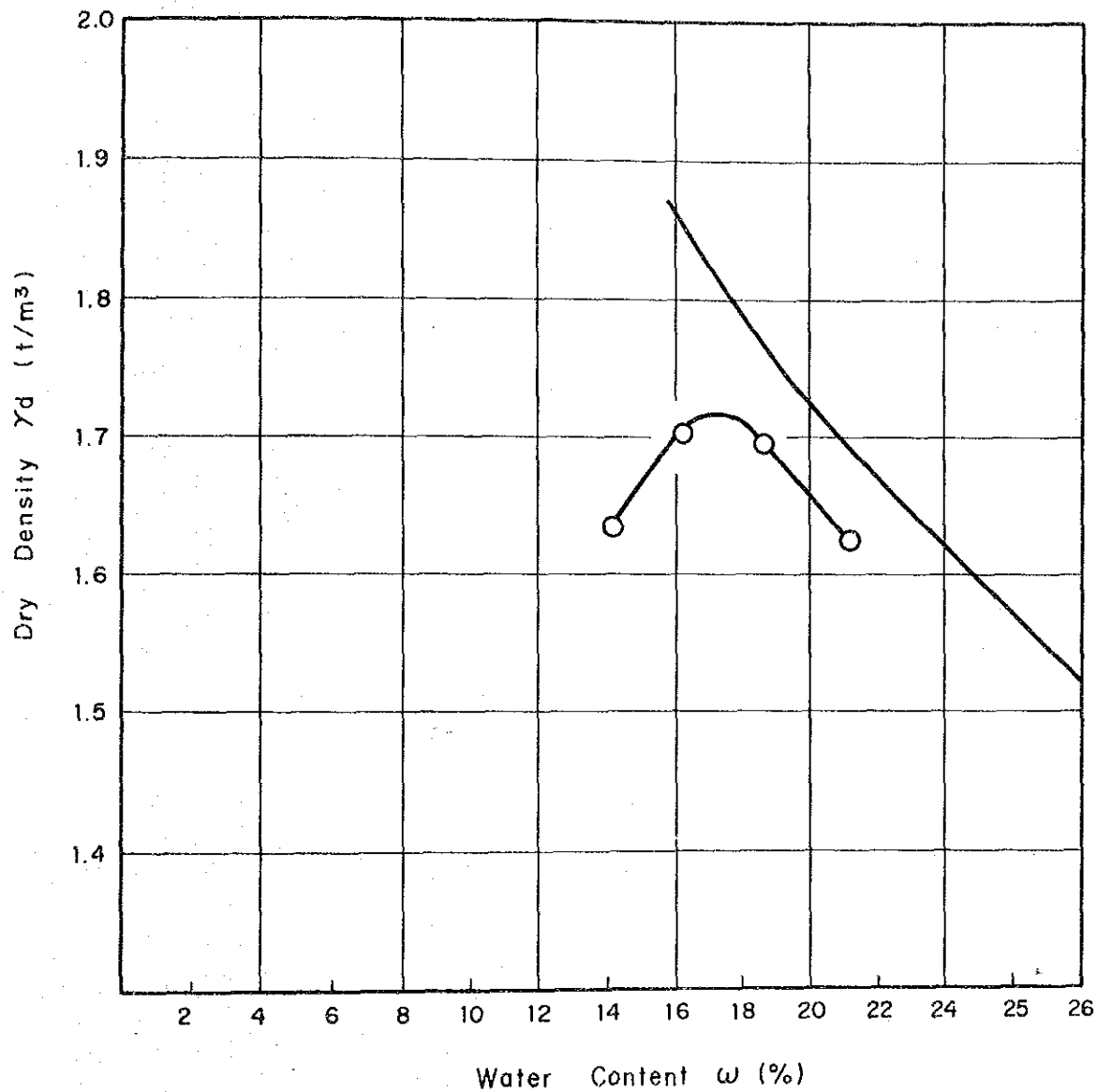
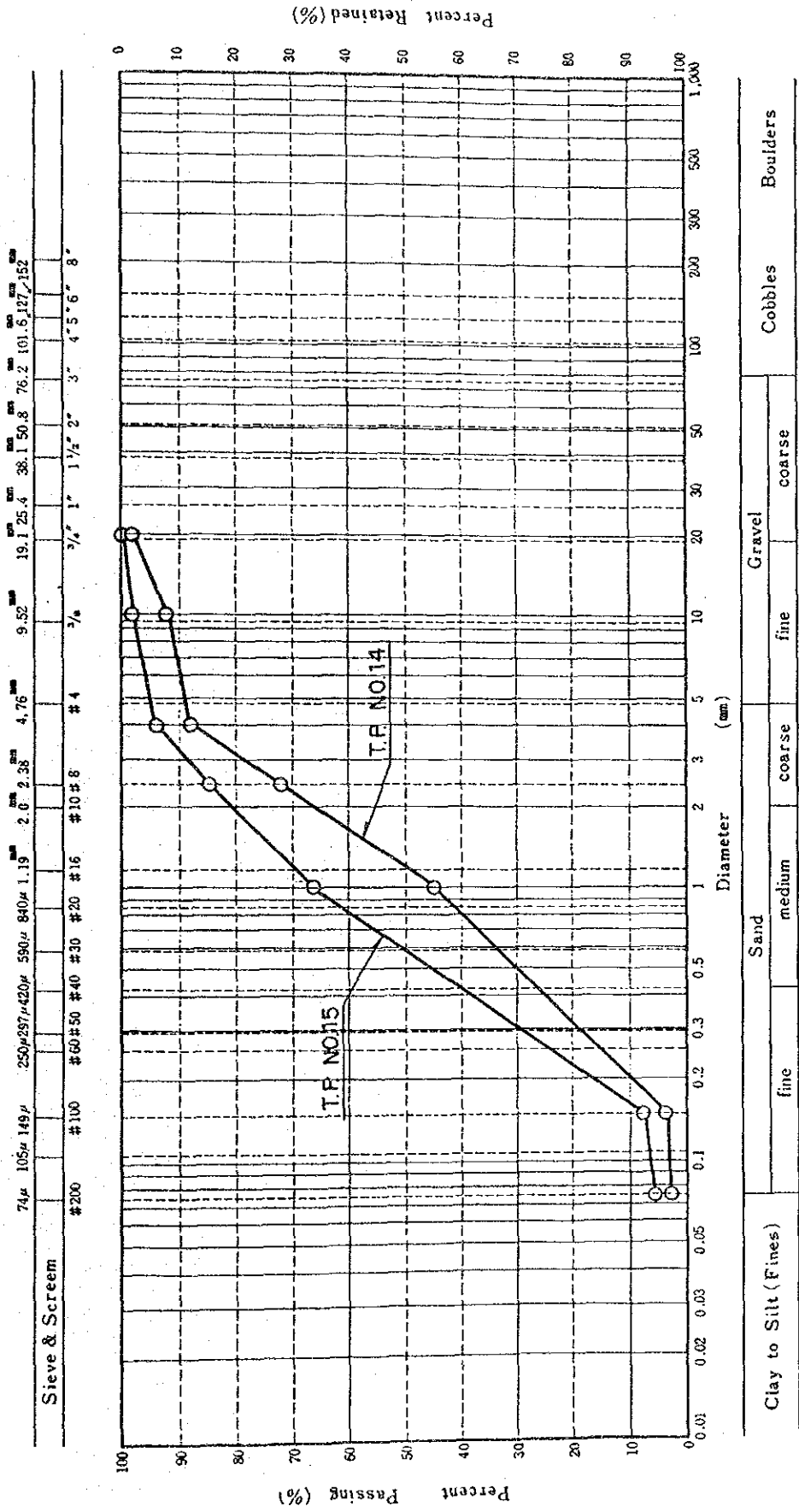


図-4.8  
ラテライト化された赤色土の締固め  
特性

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図 - 4.9  
砂の粒度分布







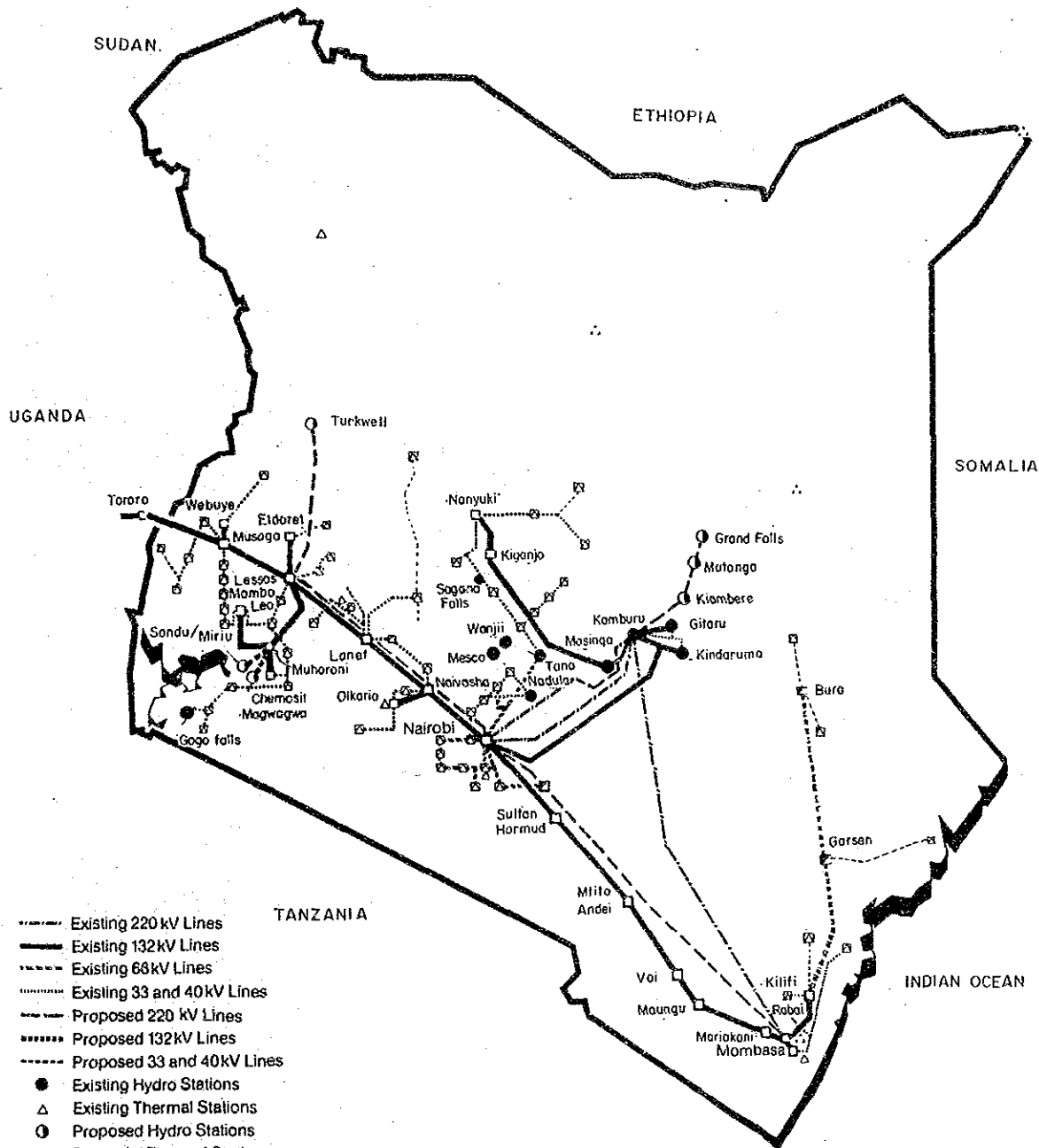


図 - 5.1  
主要送変電系統図

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(Unit: % p.a.)

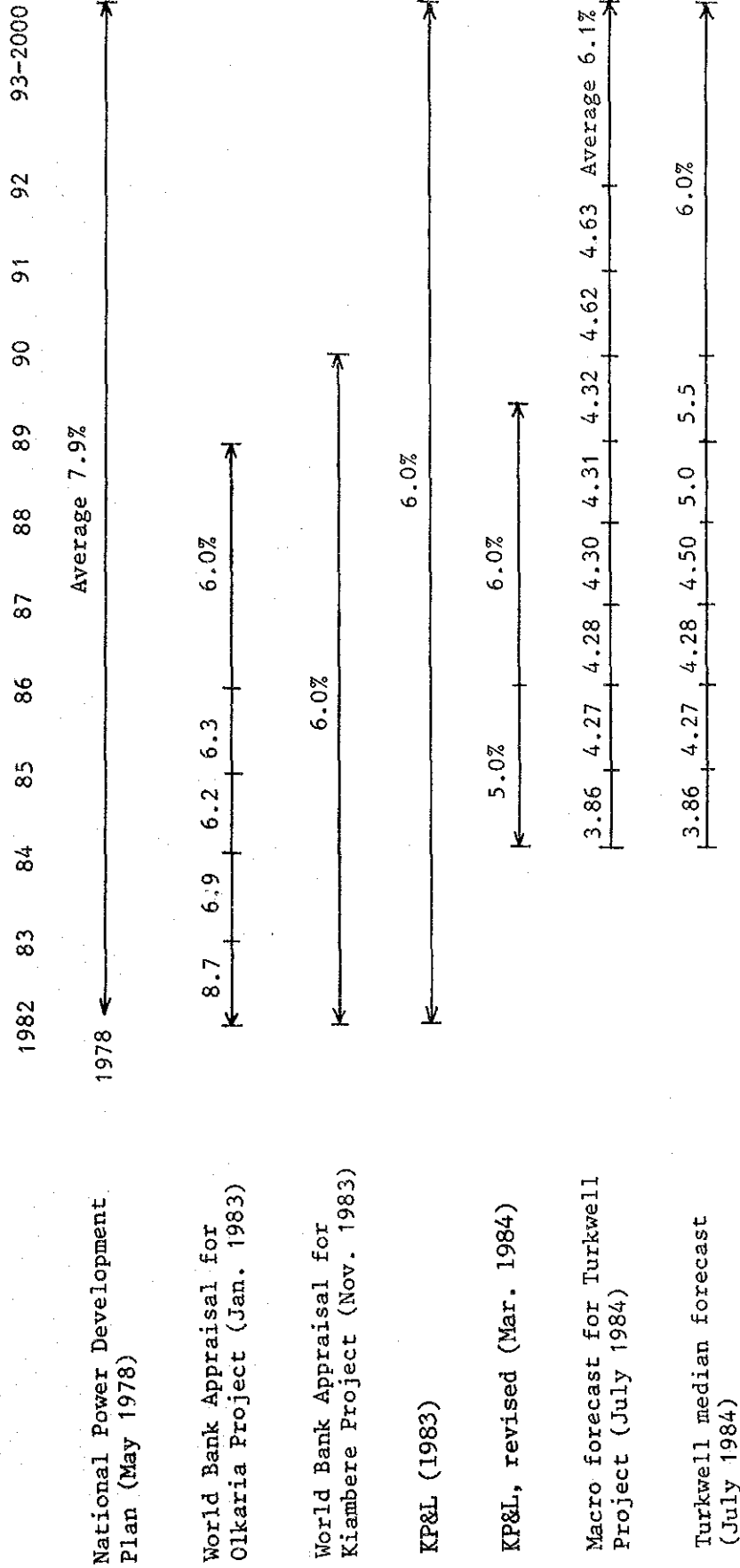


図 - 5.2

最近の調査による電力需要伸び率の比較



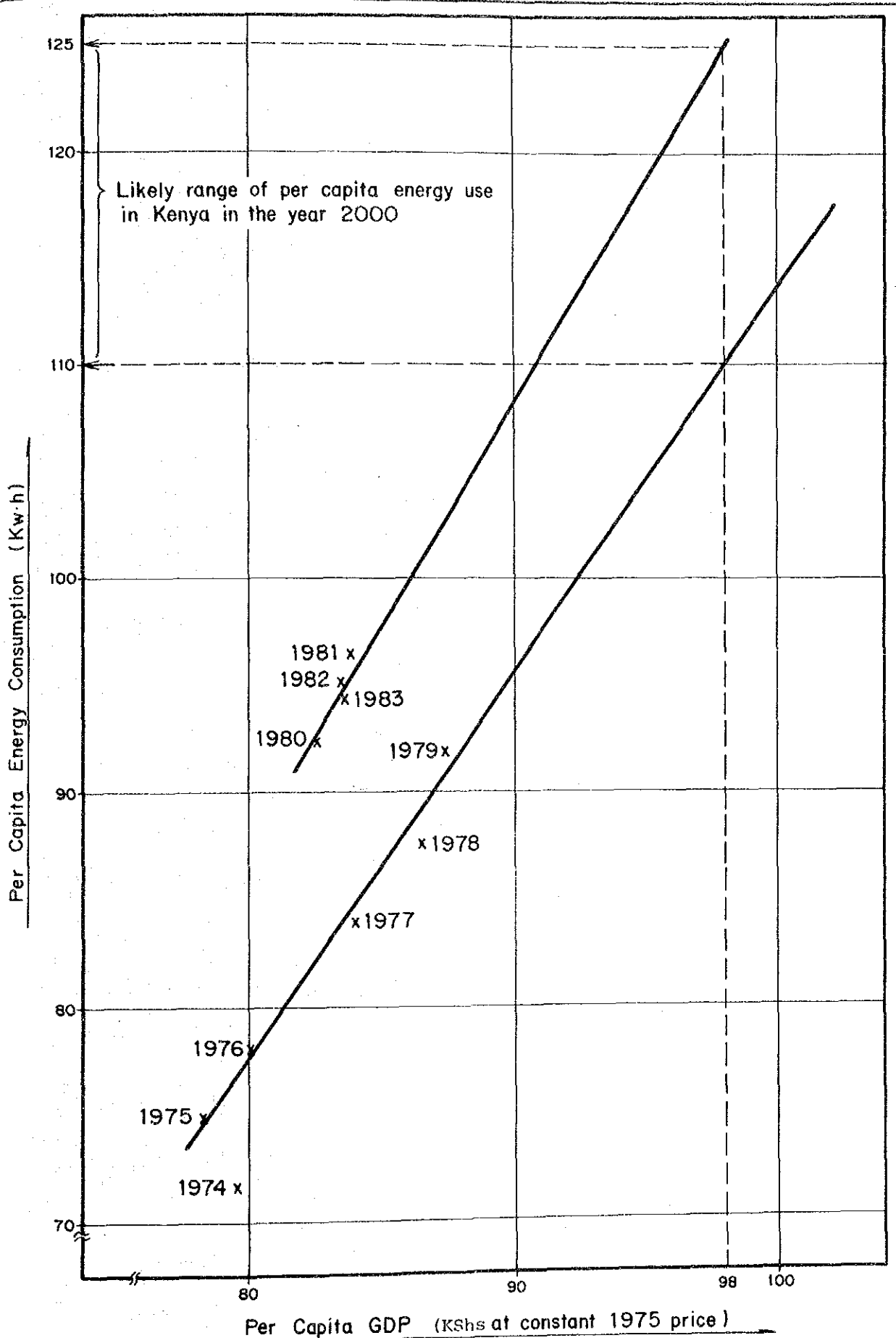


図-5.3  
 国民一人当りGDPと電力消費量の  
 関係

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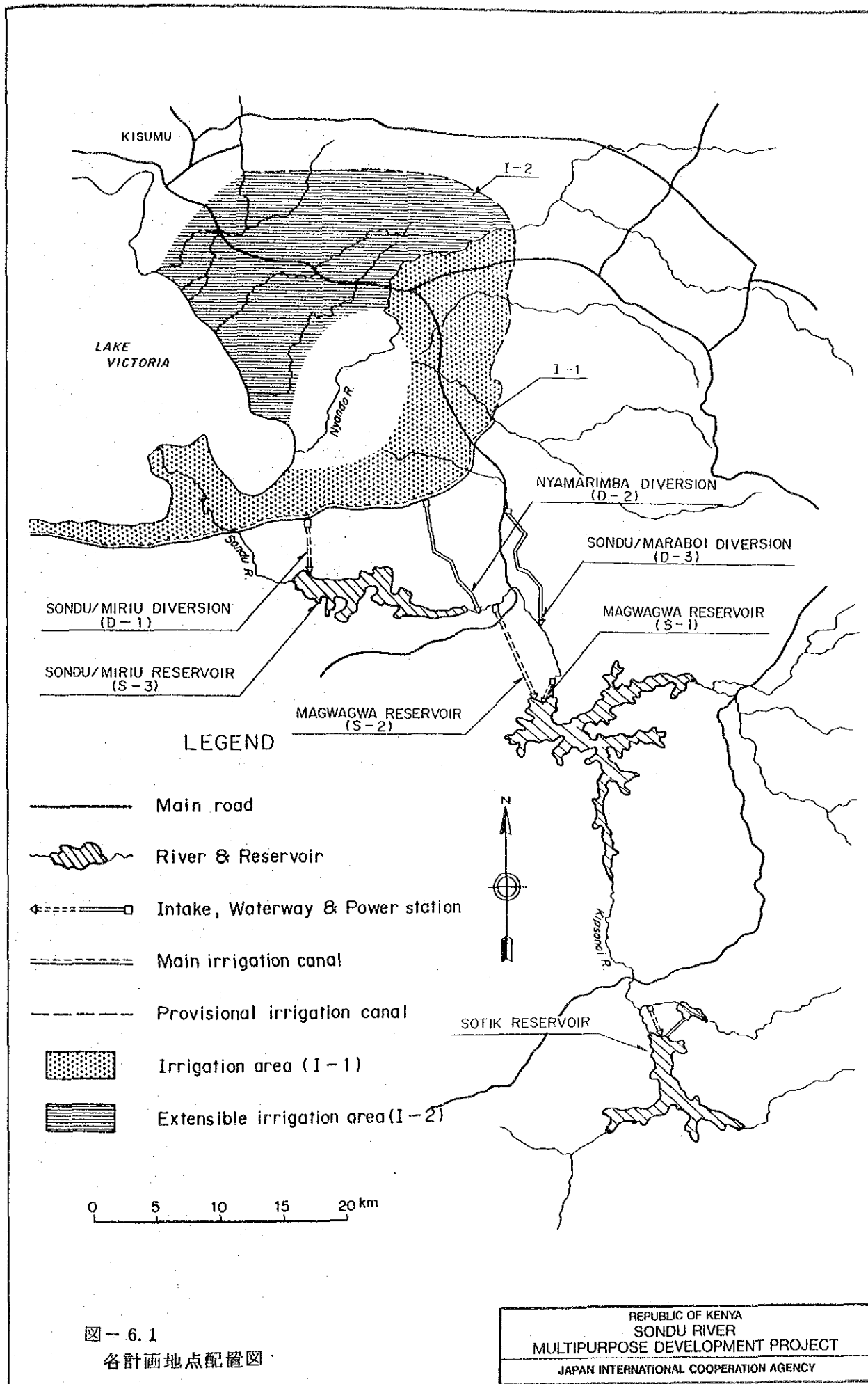
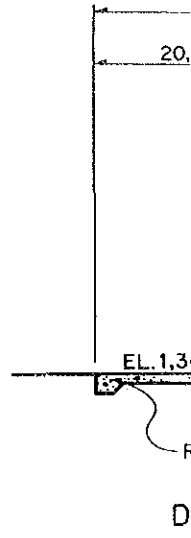
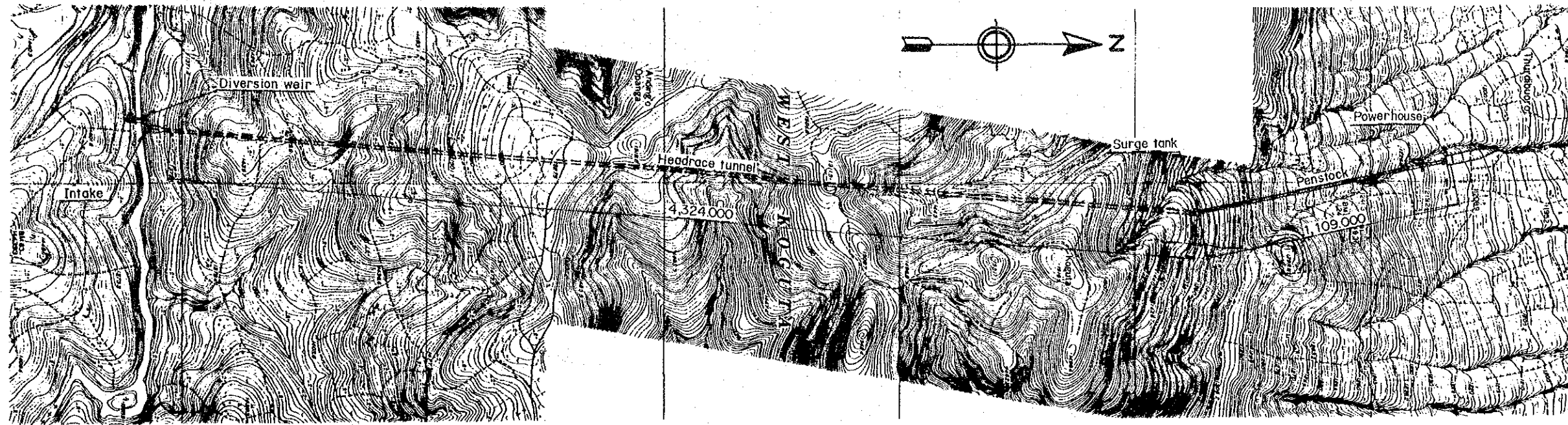


図-6.1  
各計画地点配置図

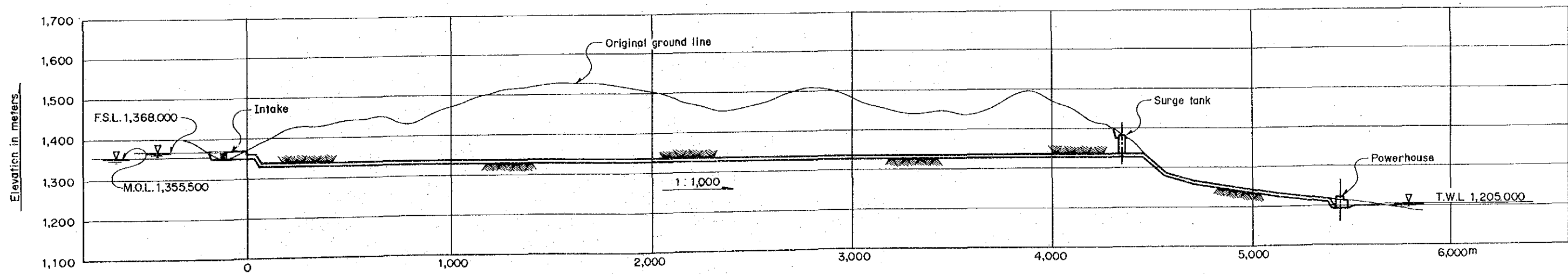
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SONDU RIVER  
MULTIPURPOSE DEVELOPMENT PROJECT  
JAPAN INTERNATIONAL COOPERATION AGENCY







PLAN



PROFILE

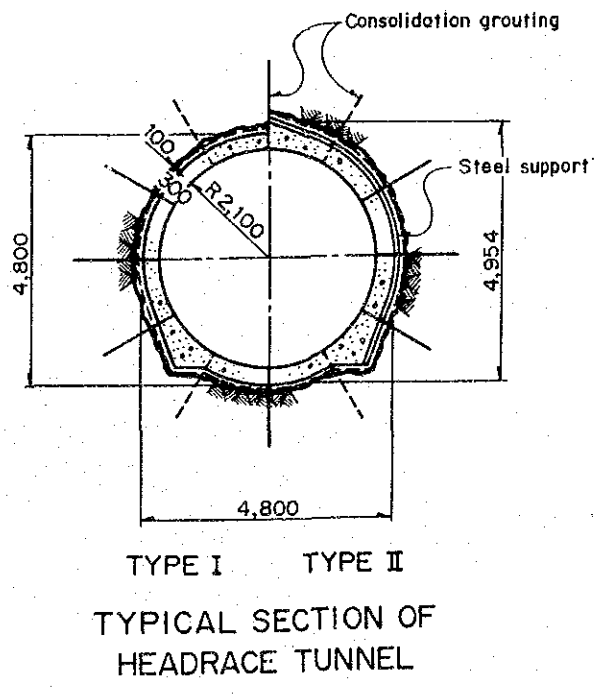
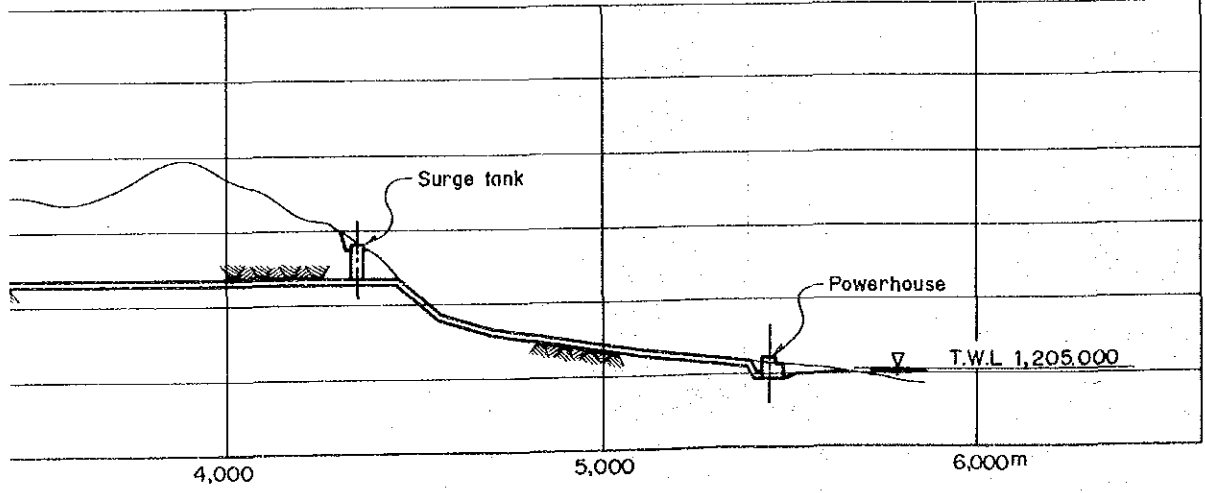
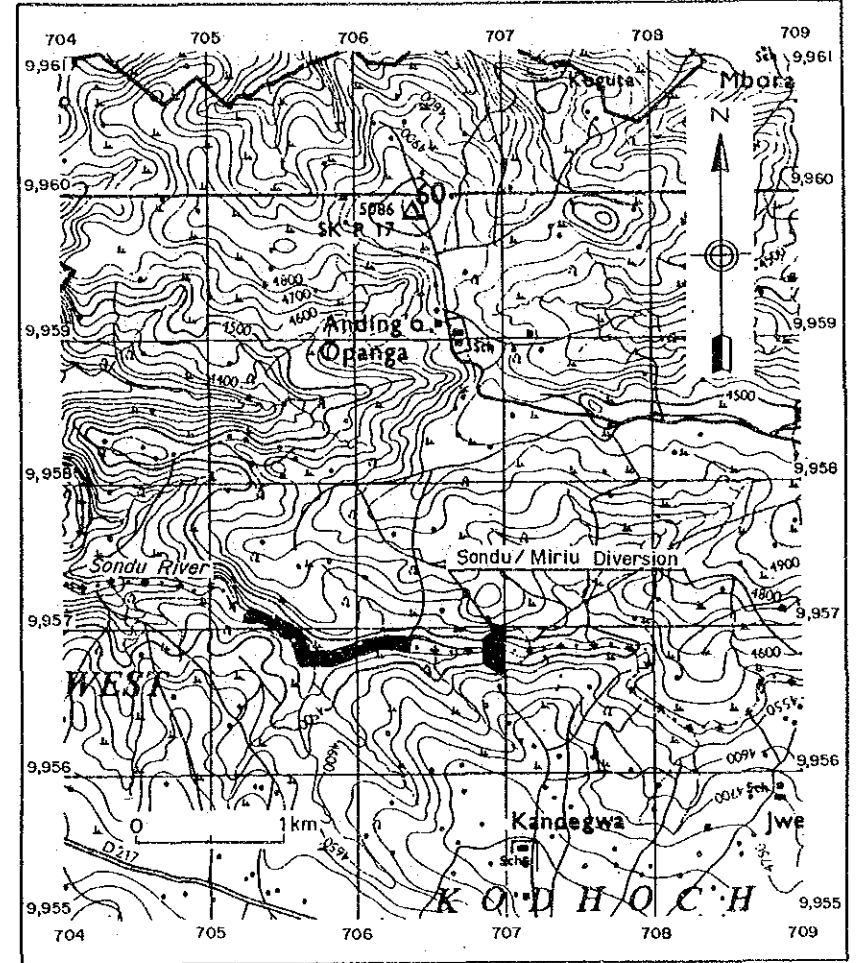
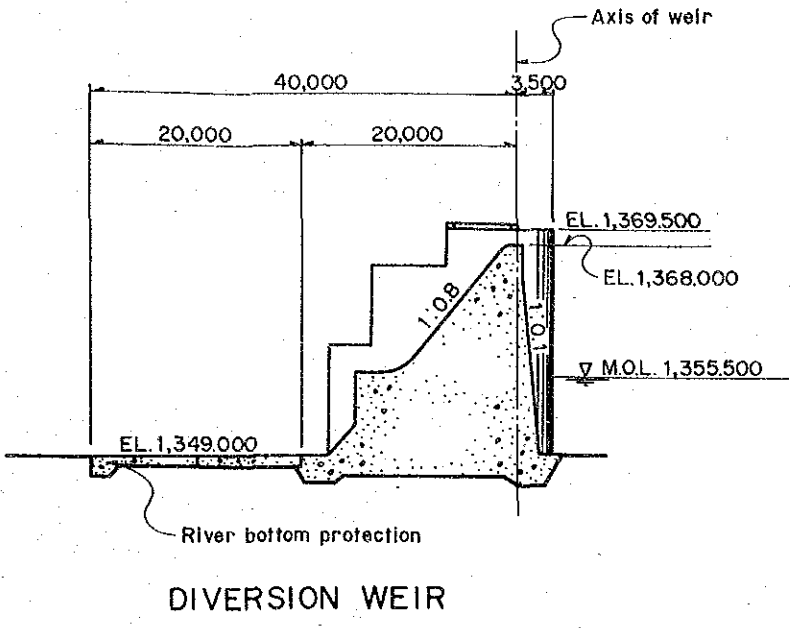
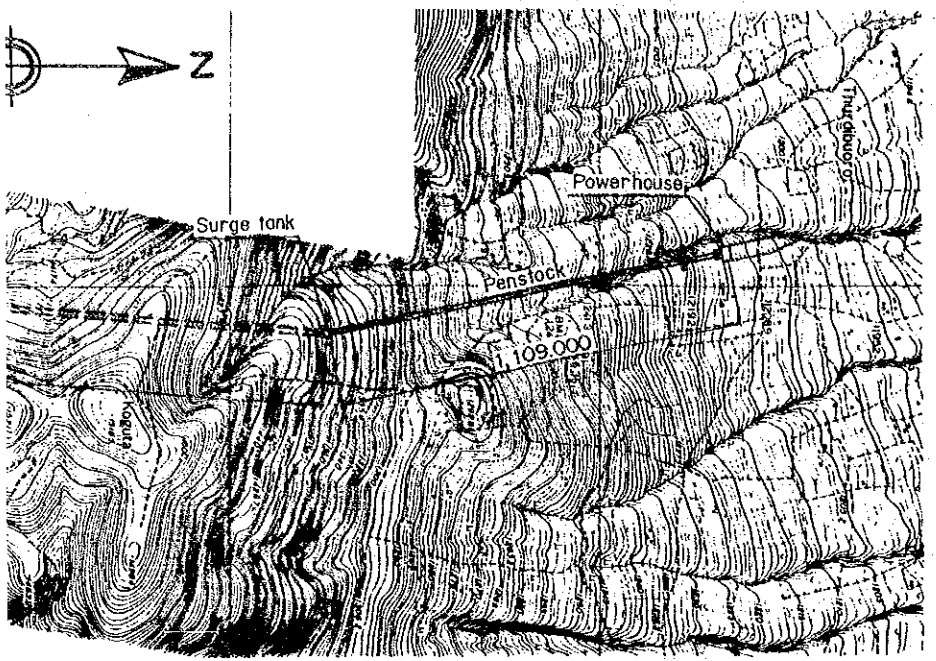
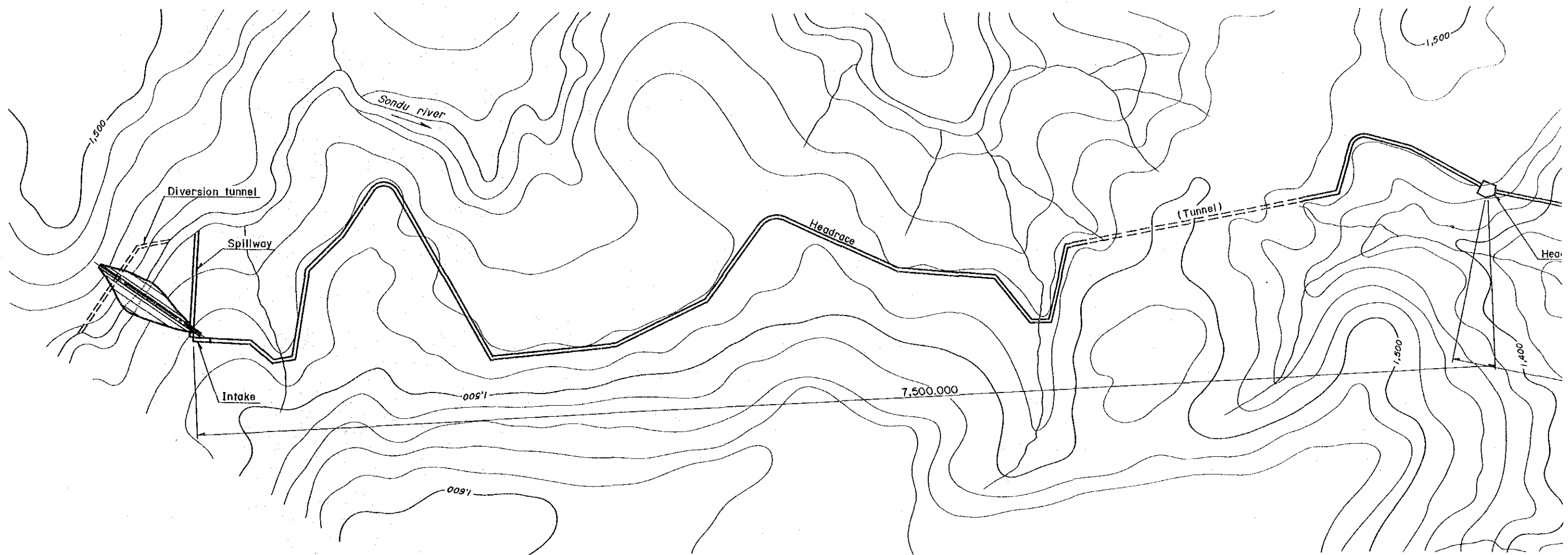
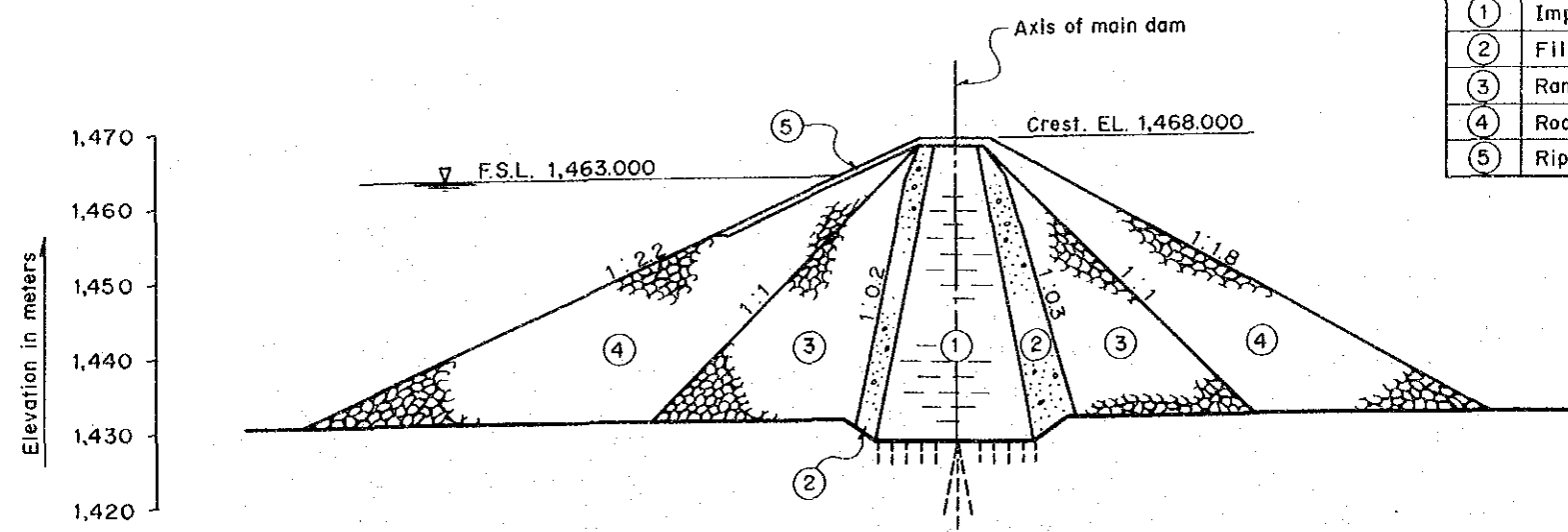


図-6.2  
ソンドウ/ミリウ流れ込み式水力発電計画

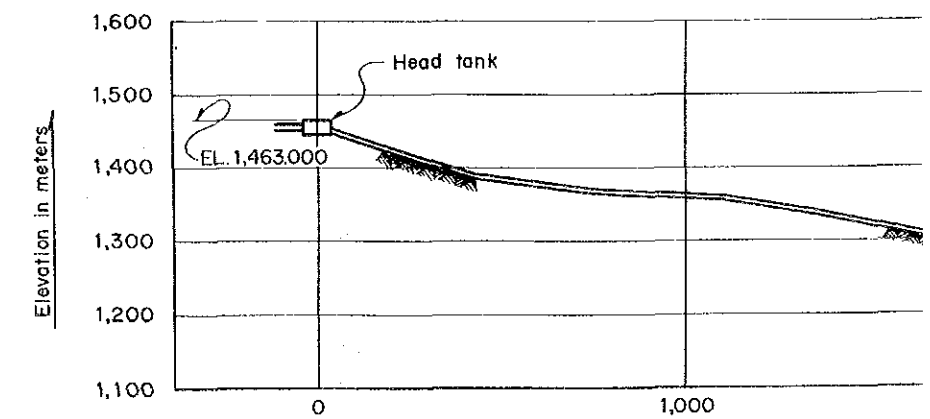


PLAN

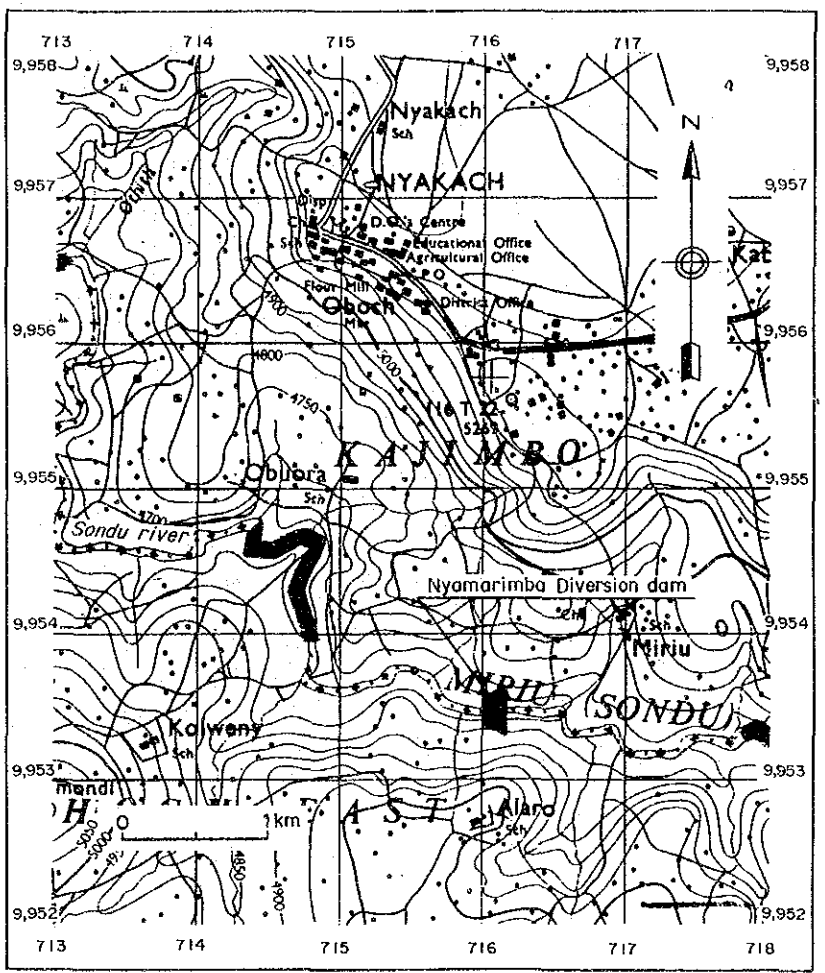
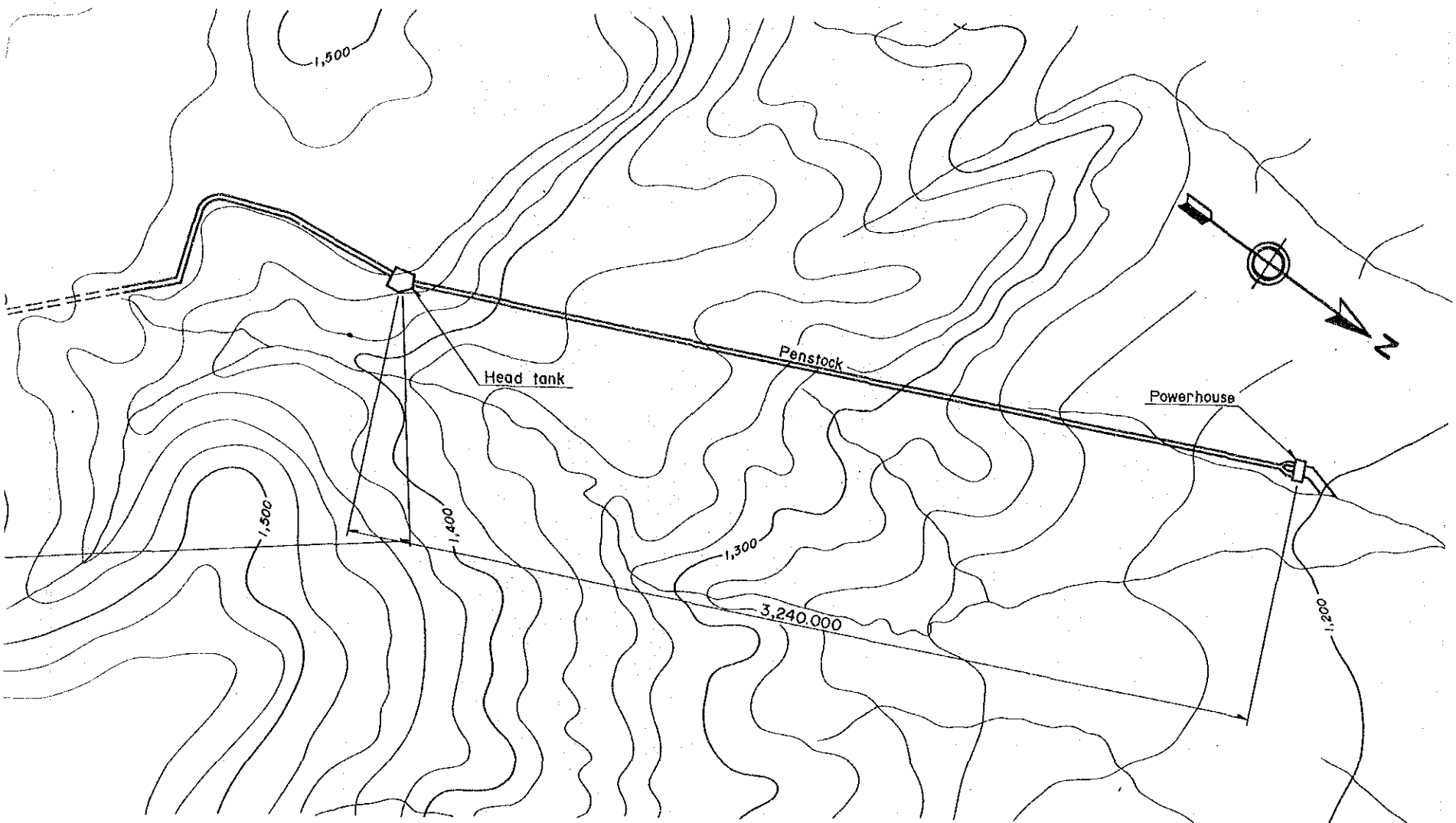


Zone	Material
①	Impervious core
②	Filter
③	Random material
④	Rock
⑤	Riprap

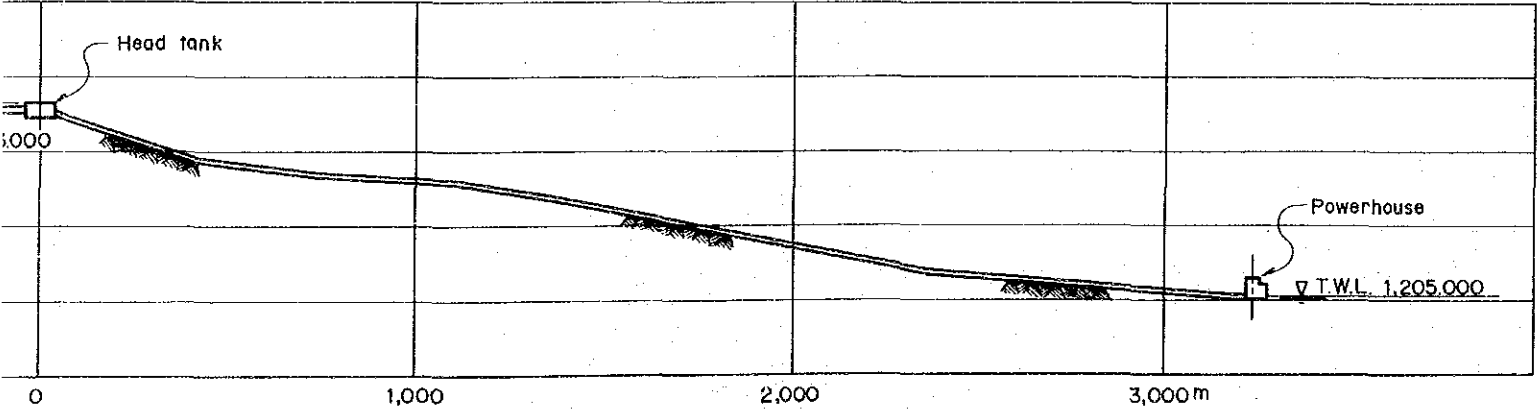
TYPICAL SECTION OF NYAMARIMBA DIVERSION DAM



PROFILE



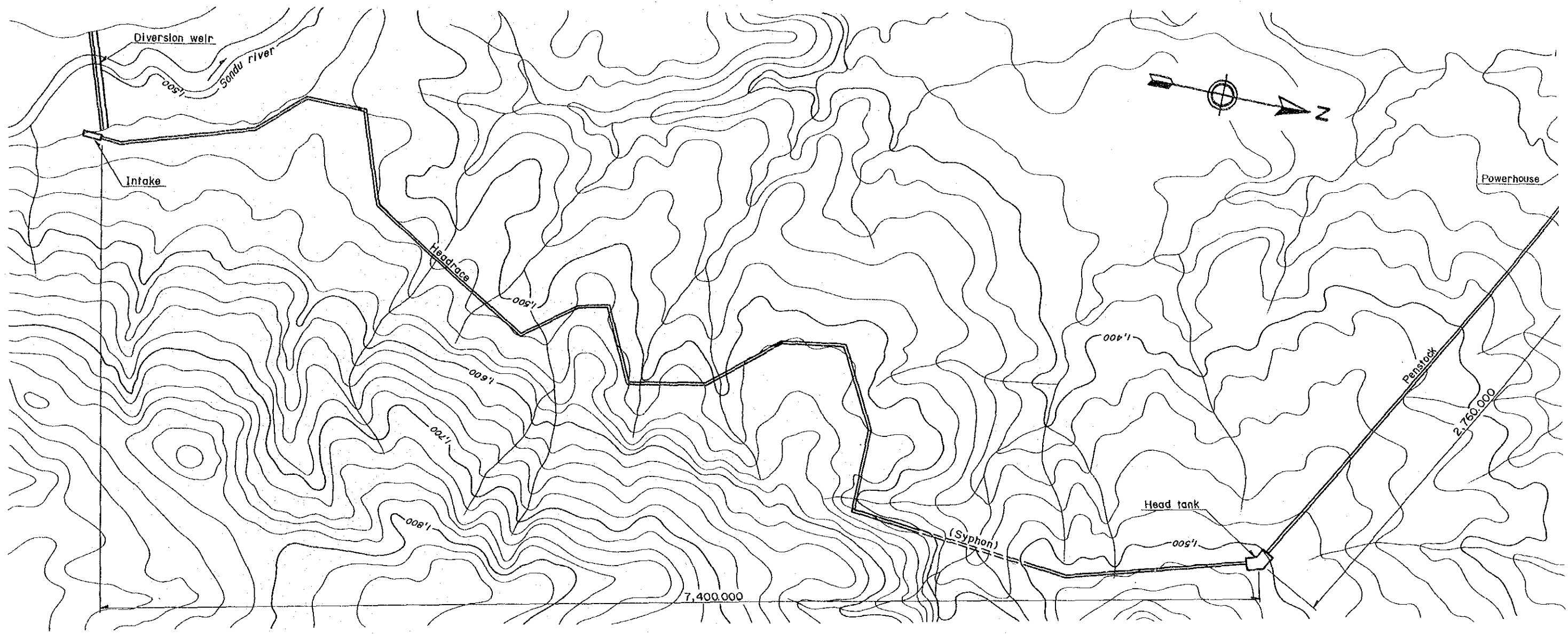
KEY MAP



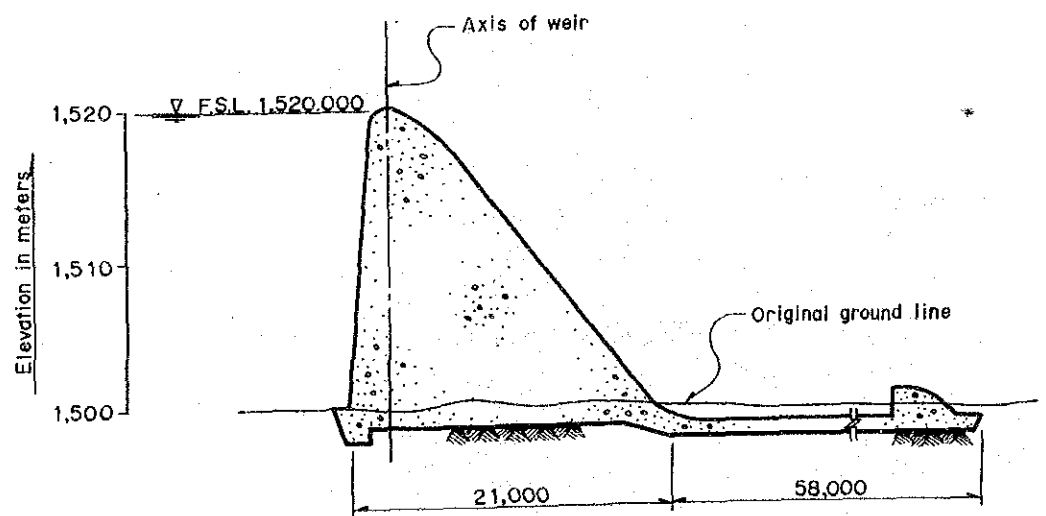
PROFILE

図-6.3 ニヤマリimba流れ込み式水力発電計画

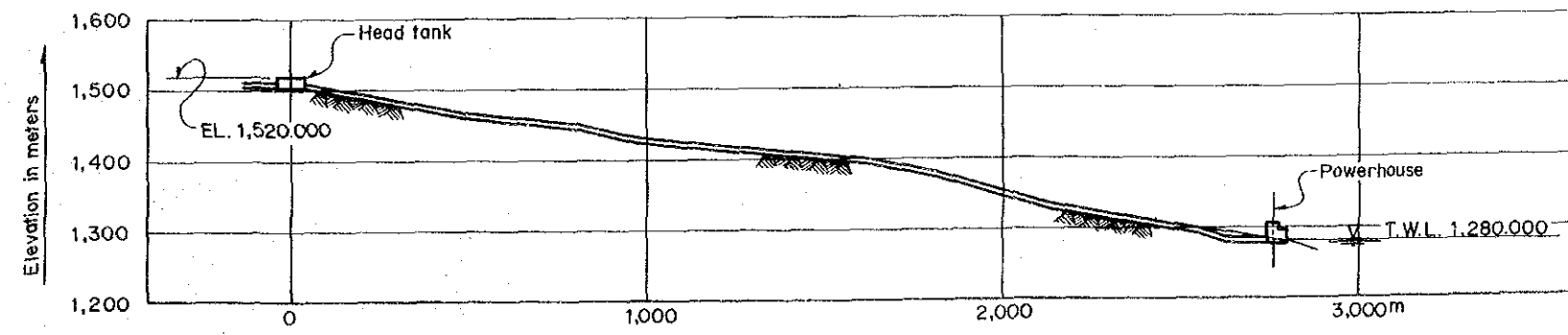
REPUBLIC OF KENYA  
 SONDU RIVER  
 MULTIPURPOSE DEVELOPMENT PROJECT  
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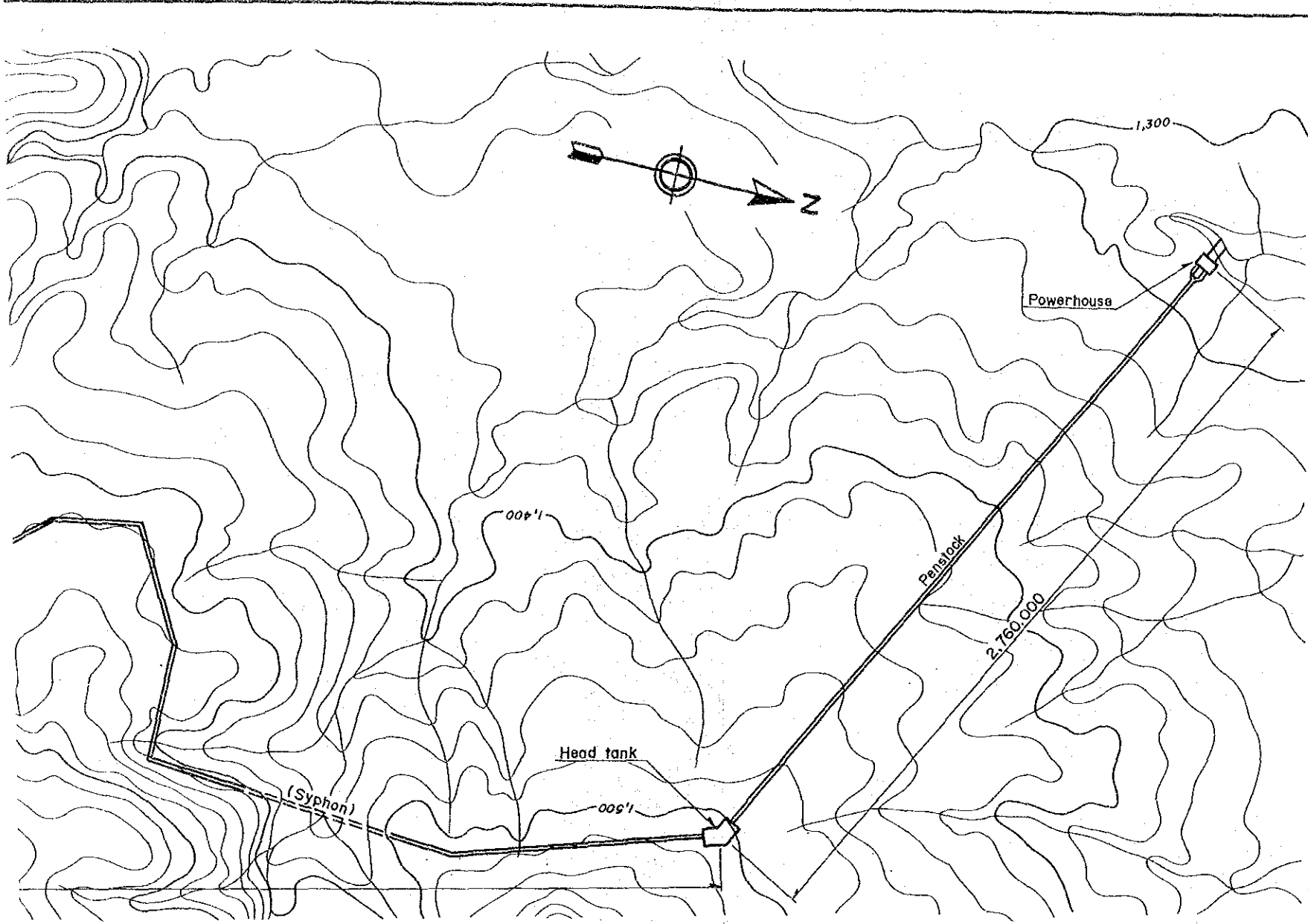
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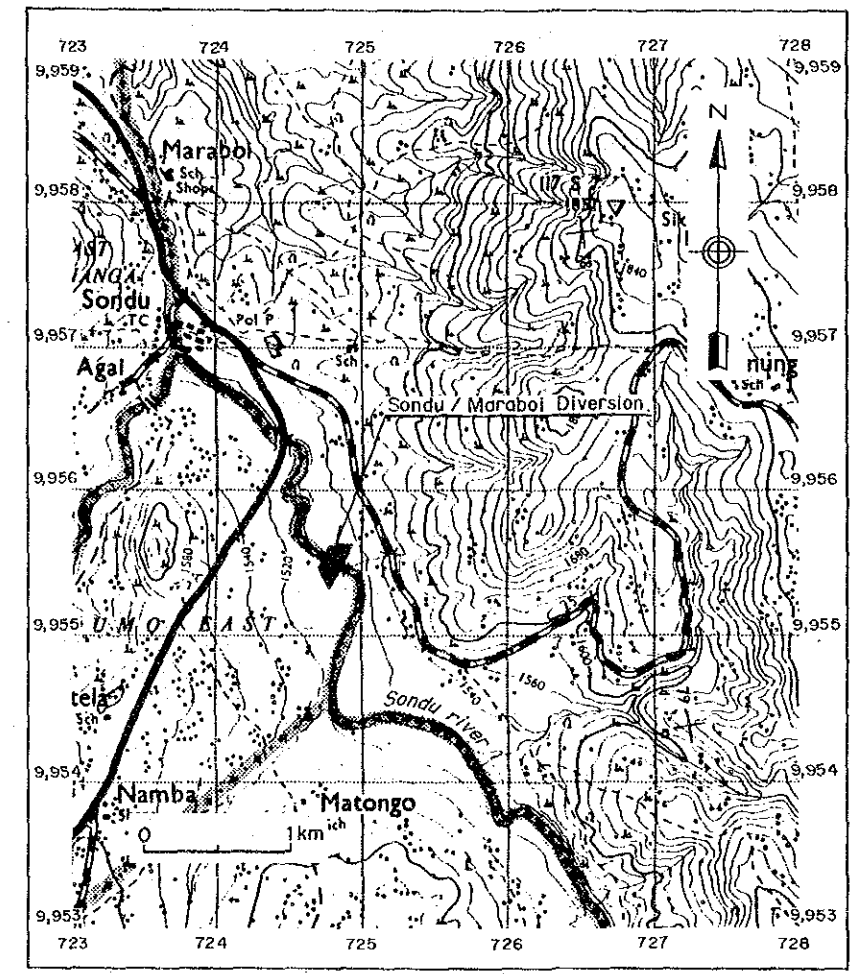
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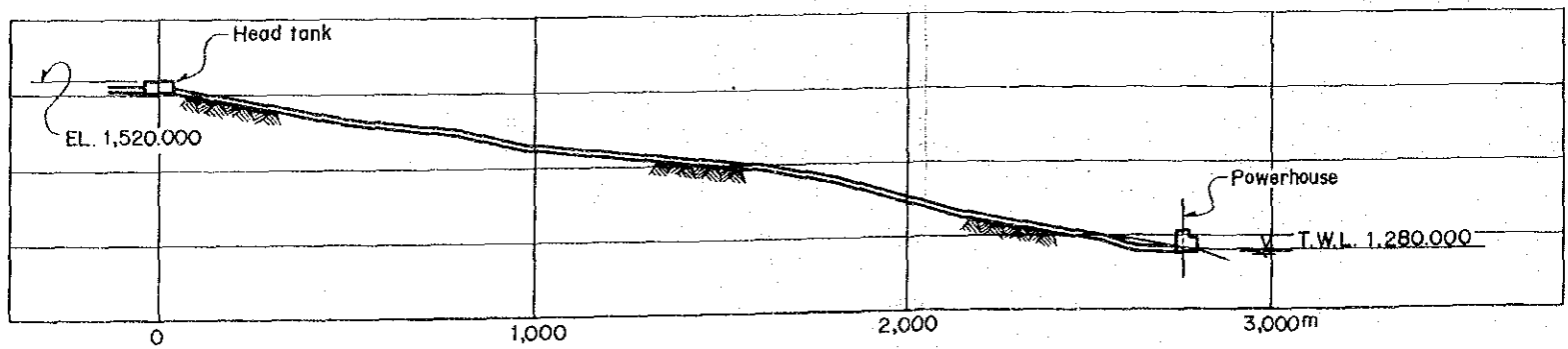
PROFILE



PLAN



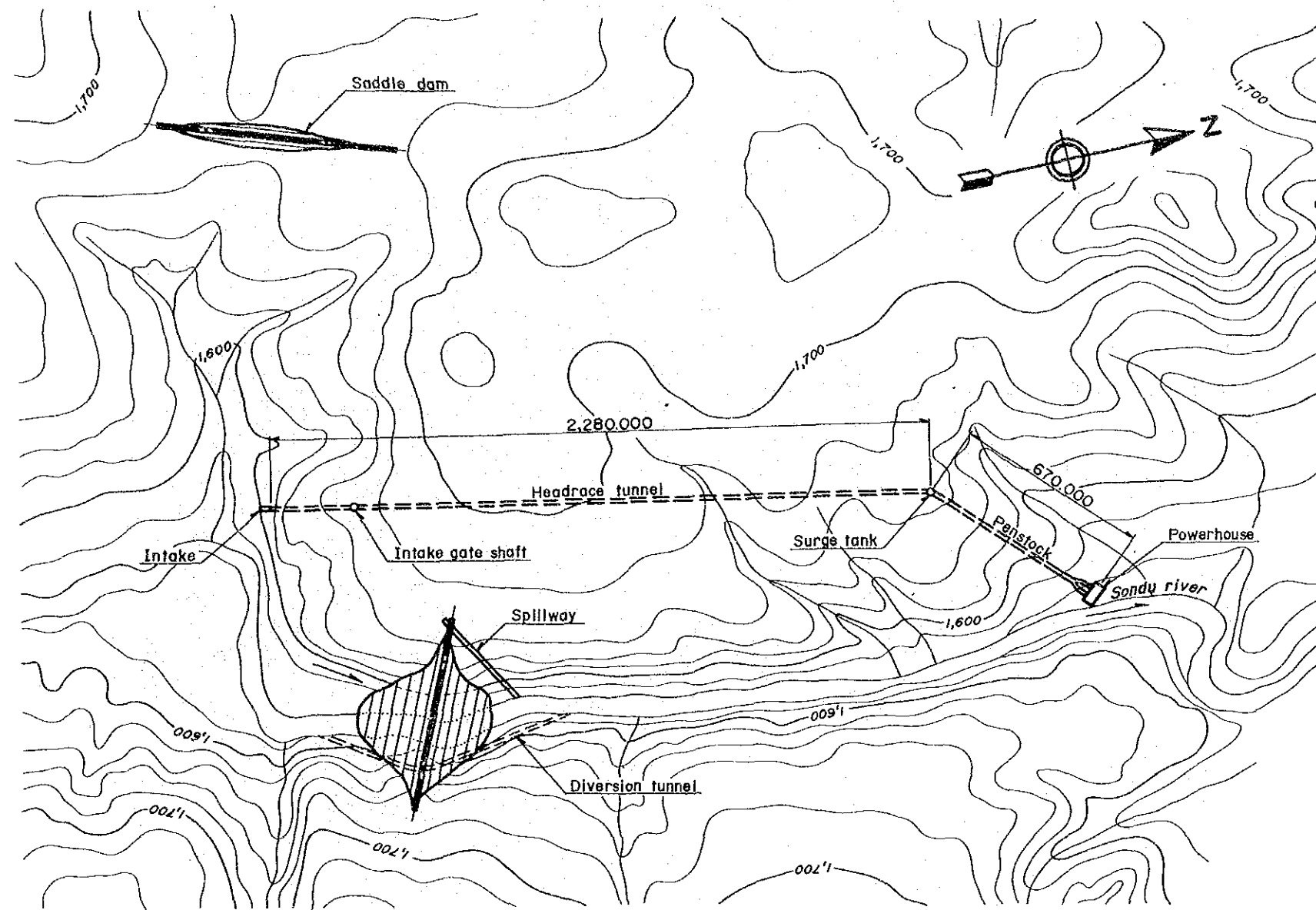
KEY MAP



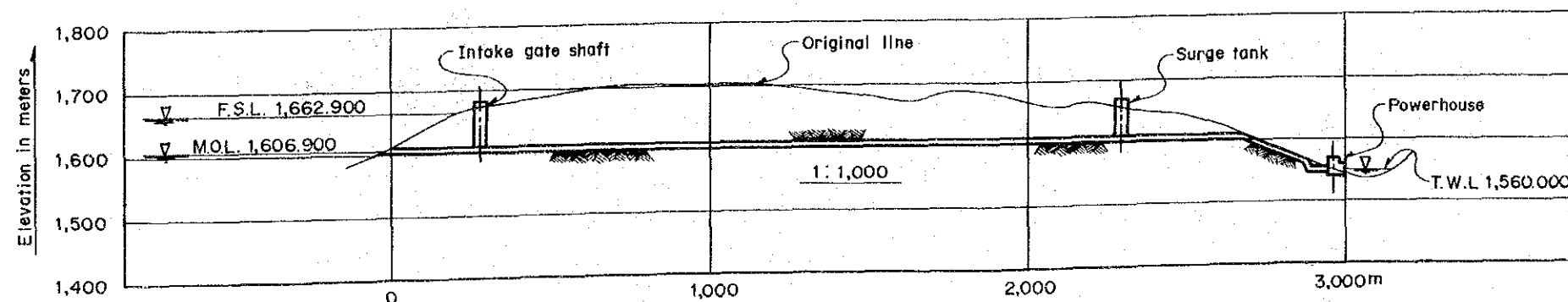
PROFILE

図-6.4  
ソンドゥ・マラボイ流れ込み式水力発電計画

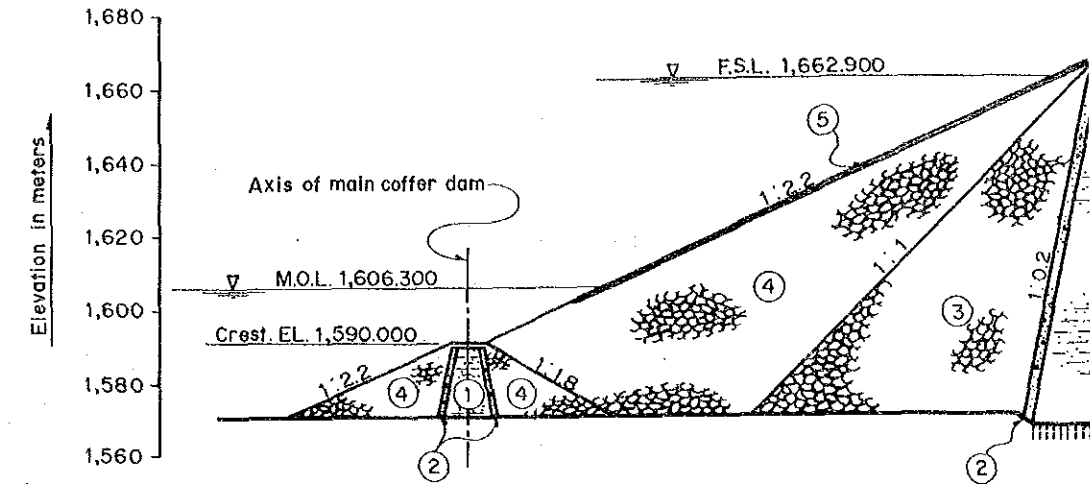
REPUBLIC OF KENYA  
SONDU RIVER  
MULTIPURPOSE DEVELOPMENT PROJECT  
JAPAN INTERNATIONAL COOPERATION AGENCY



PLAN

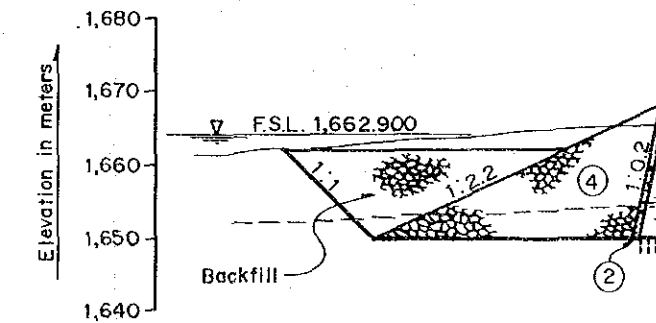


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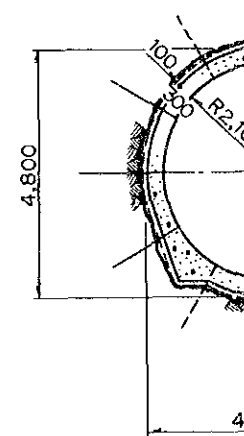


TYPICAL SECTION OF M

Zone	Material
①	Impervious core
②	Filter
③	Random material
④	Rock
⑤	Riprap

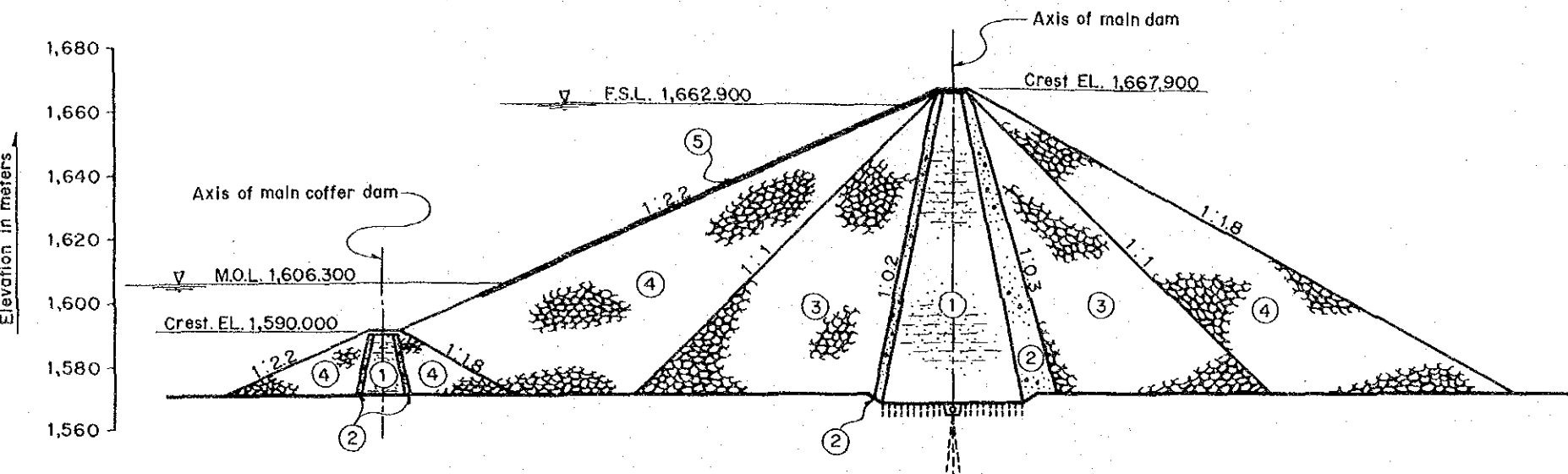


TYPICAL SECTION



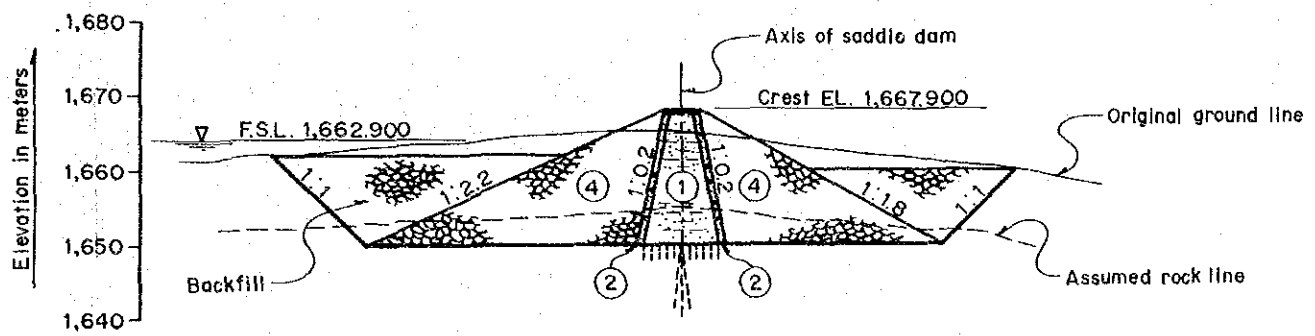
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TYPICAL  
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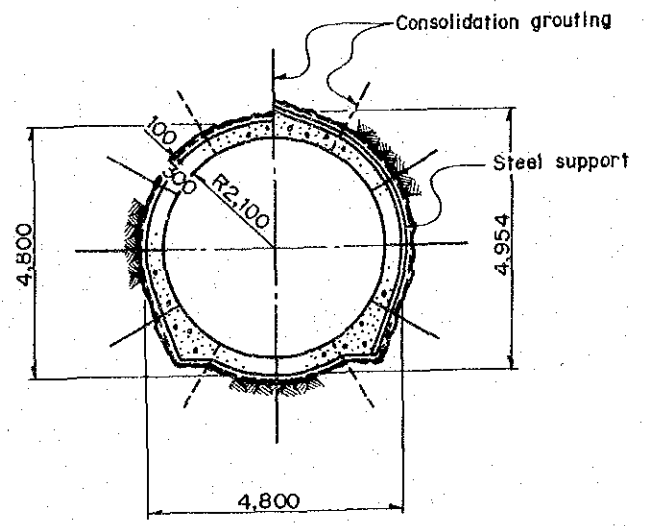


TYPICAL SECTION OF MAGWAGWA DAM

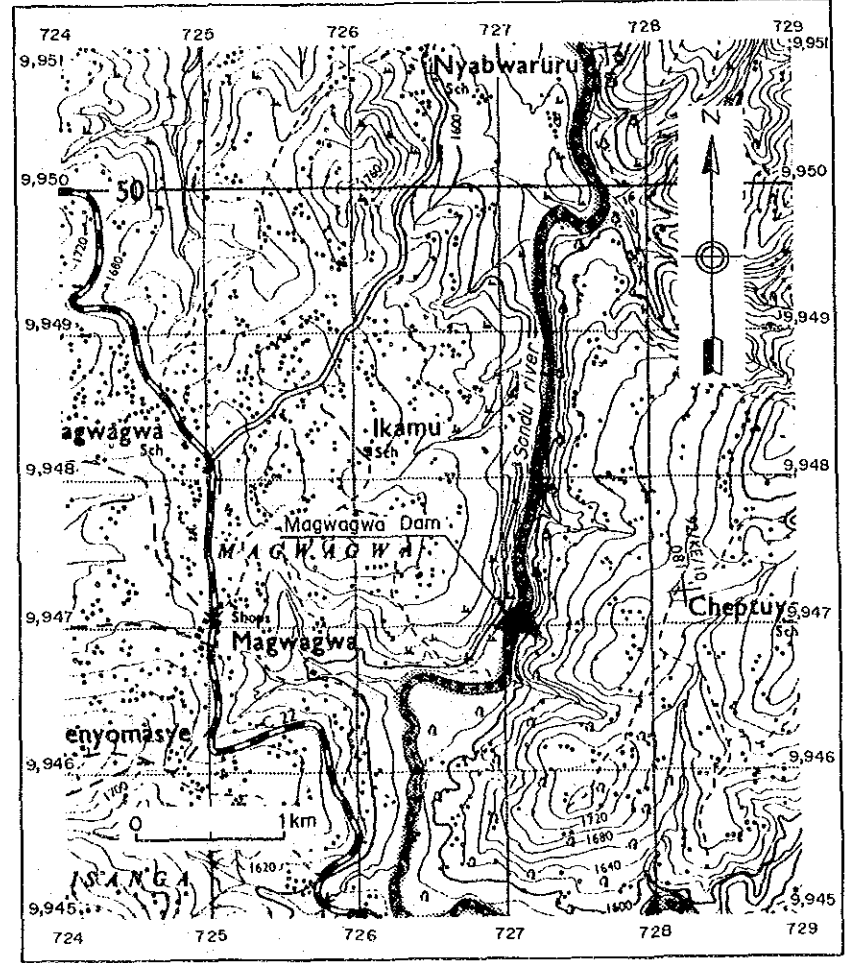
Zone	Material
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②	Filter
③	Random material
④	Rock
⑤	Riprap



TYPICAL SECTION OF SADDLE DAM

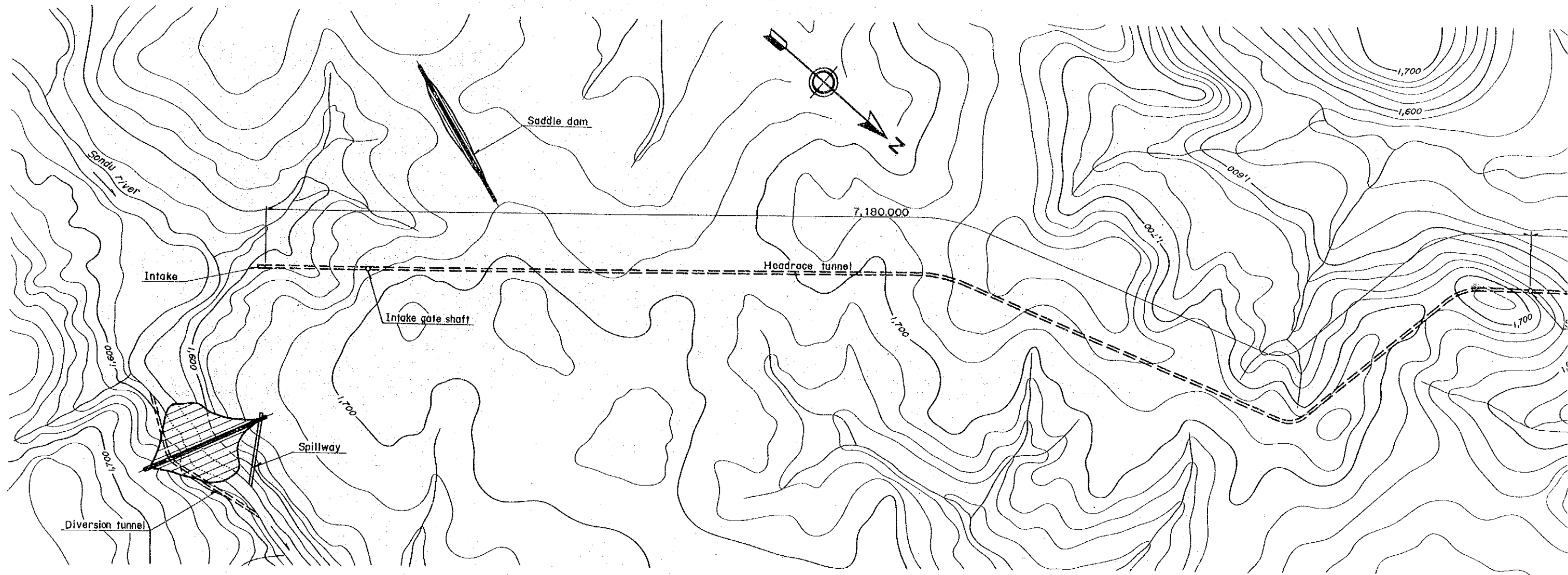


TYPICAL SECTION OF HEADRACE TUNNEL

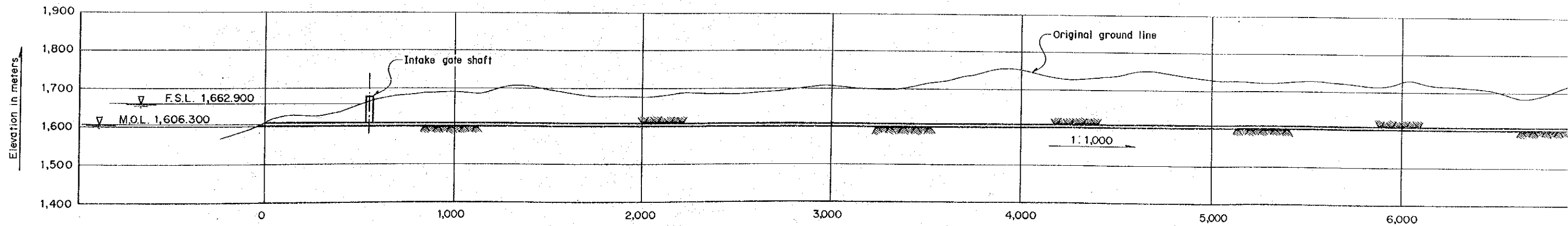


KEY MAP

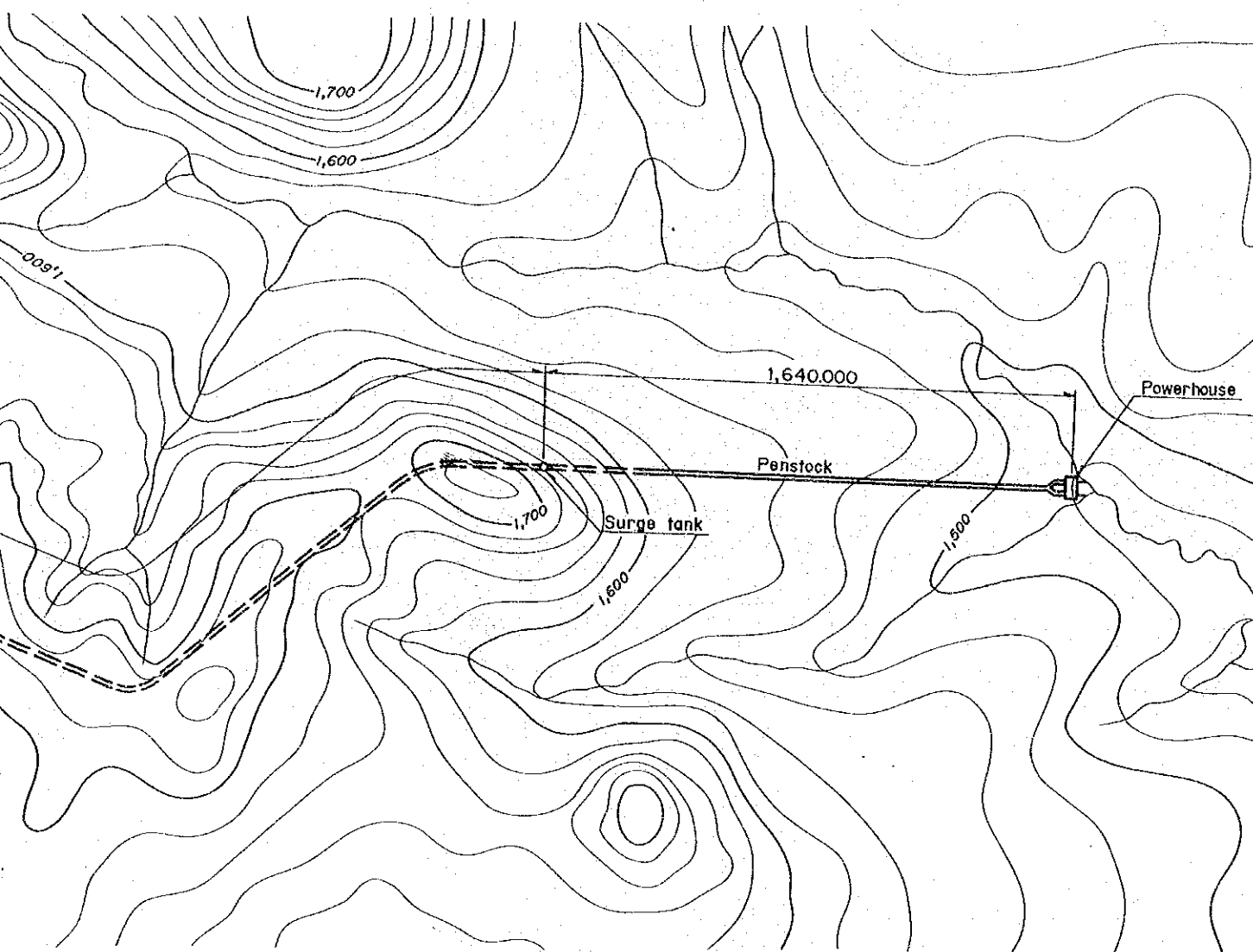
図-6.5 マグワグワ貯水池式水力発電計画



PLAN

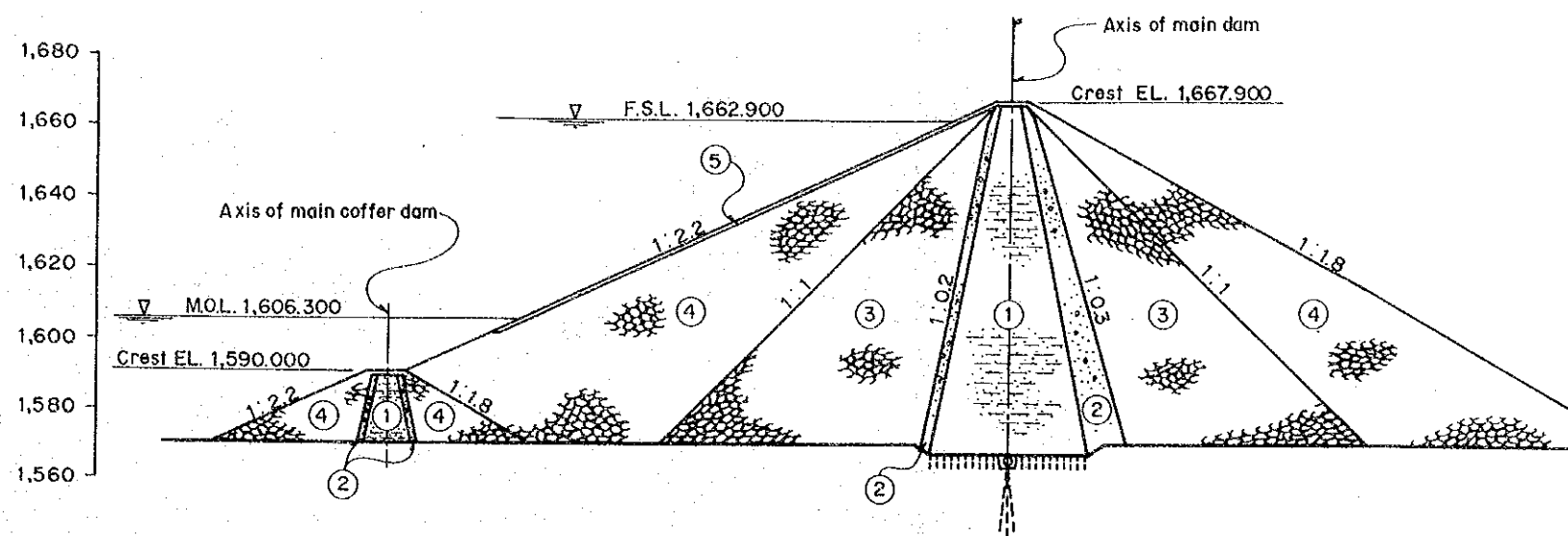


PROFILE

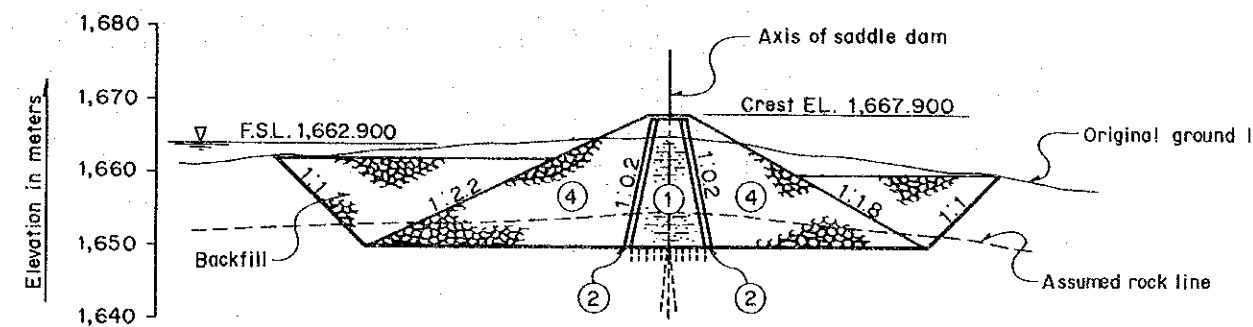


Elevation in meters

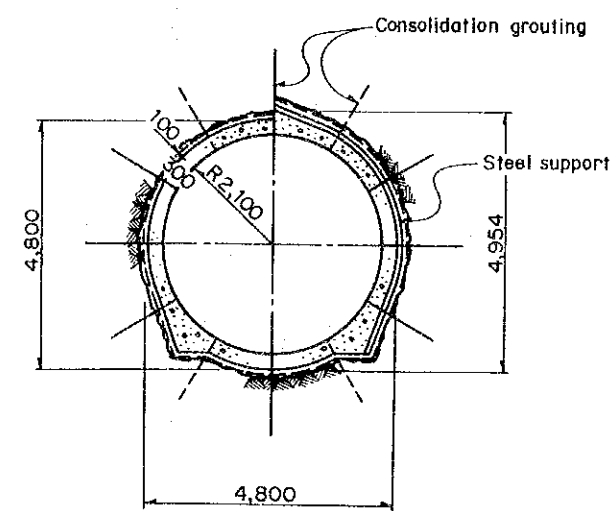
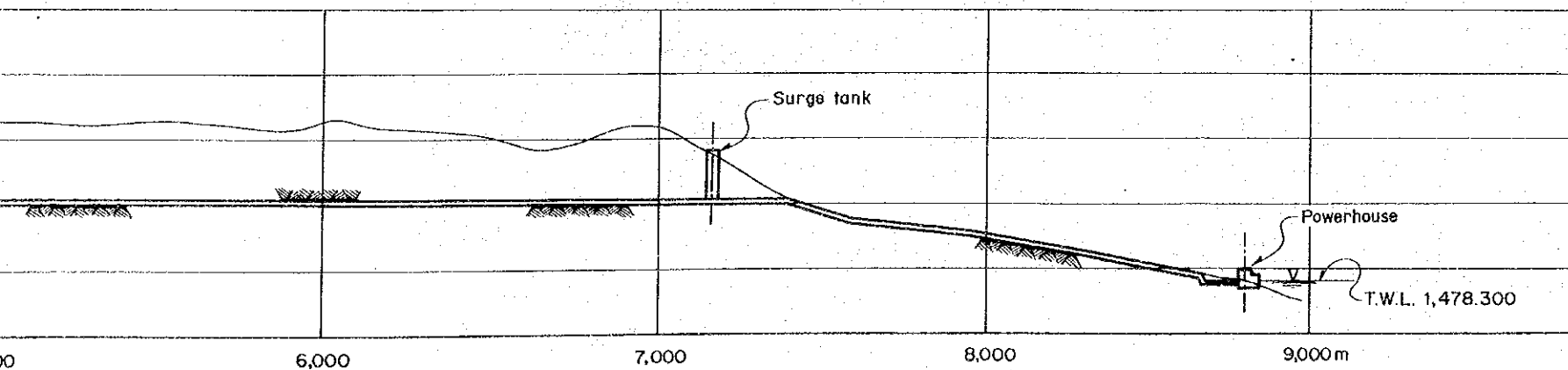
Zone	Material
①	Impervious core
②	Filter
③	Random material
④	Rock
⑤	Riprap



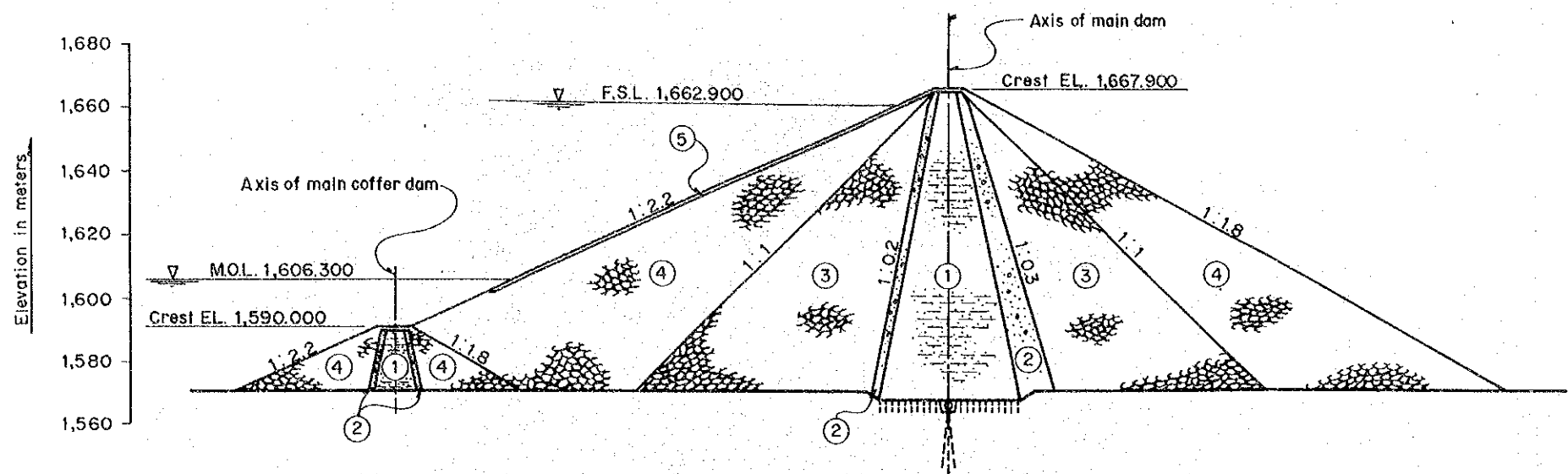
TYPICAL SECTION OF MAGWAGWA DAM



TYPICAL SECTION OF SADDLE DAM

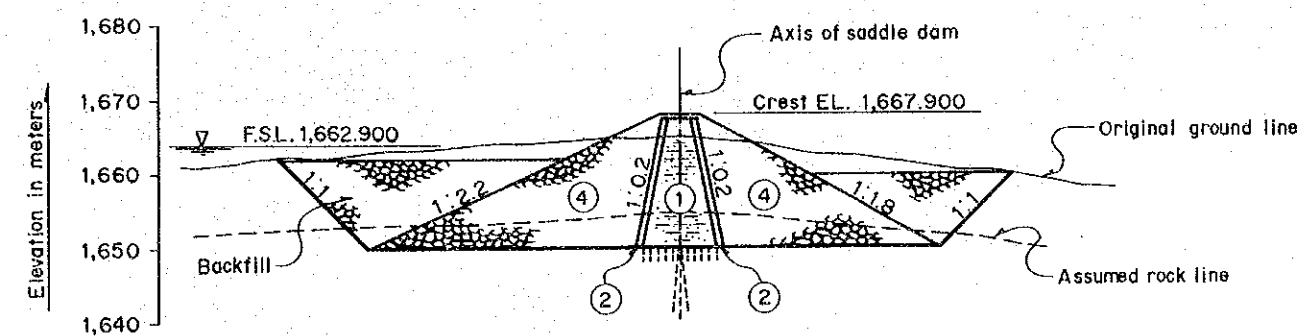


TYPICAL SECTION OF HEADRACE TUNNEL

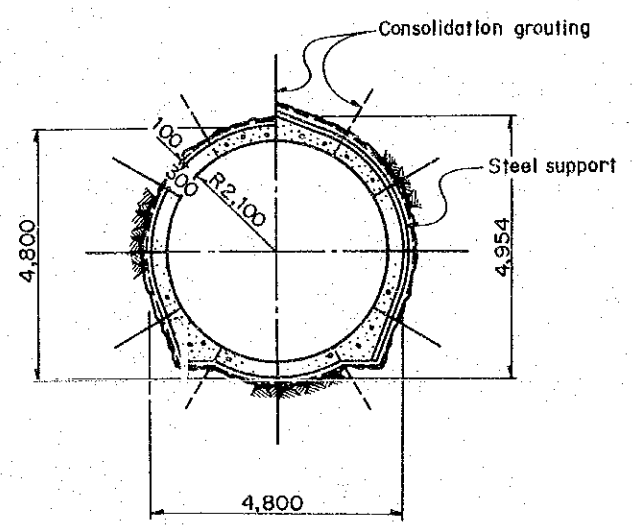


TYPICAL SECTION OF MAGWAGWA DAM

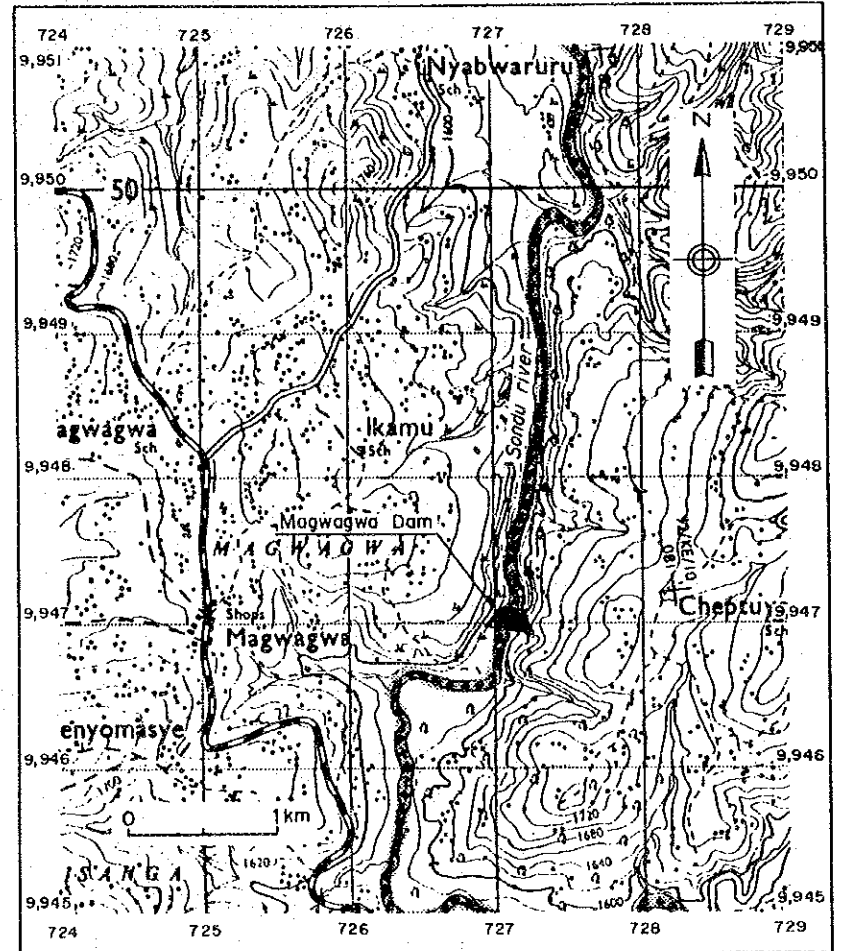
Zone	Material
①	Impervious core
②	Filter
③	Random material
④	Rock
⑤	Riprap



TYPICAL SECTION OF SADDLE DAM

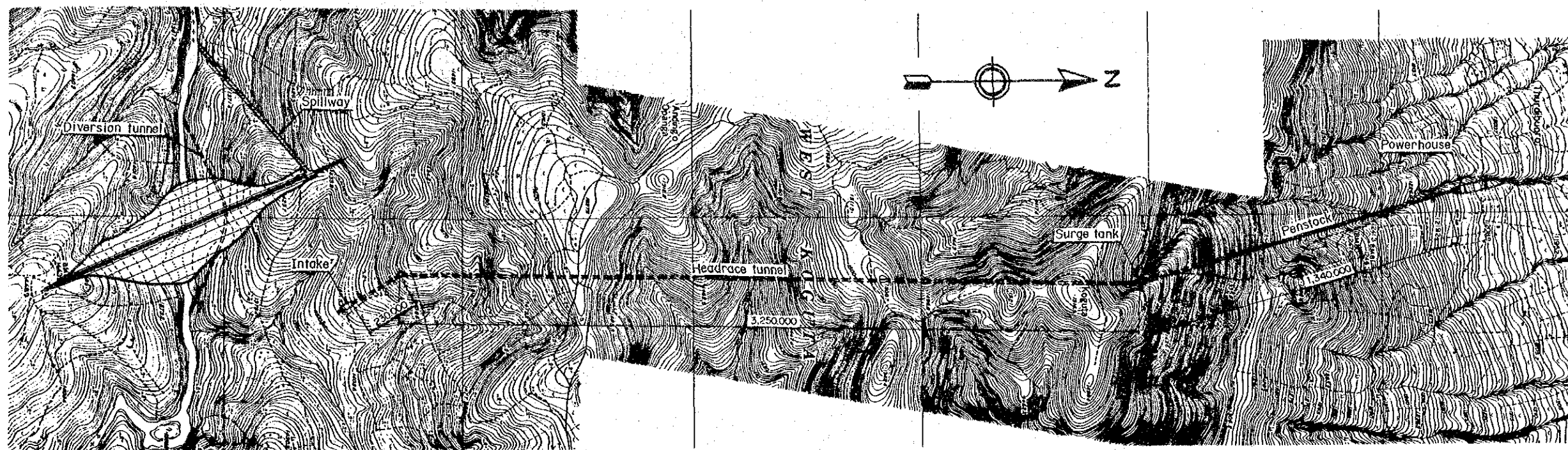


TYPICAL SECTION OF HEADRACE TUNNEL



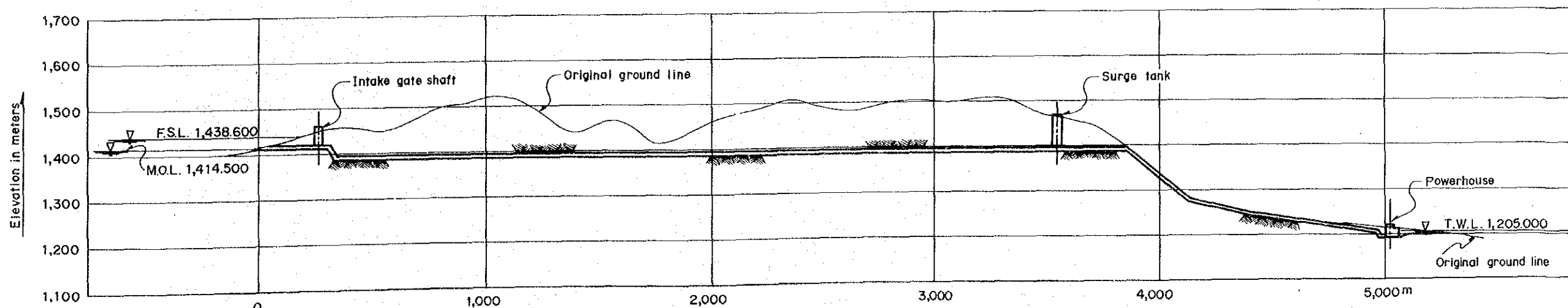
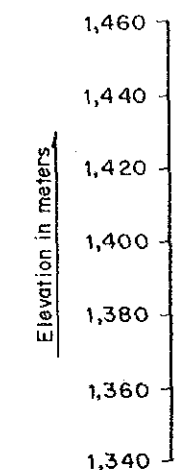
KEY MAP

図-6.6  
マグワグワ貯水池・水路式水力発電計画

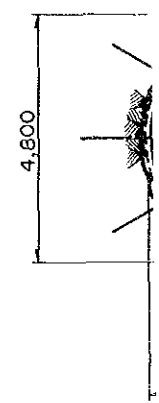


PLAN

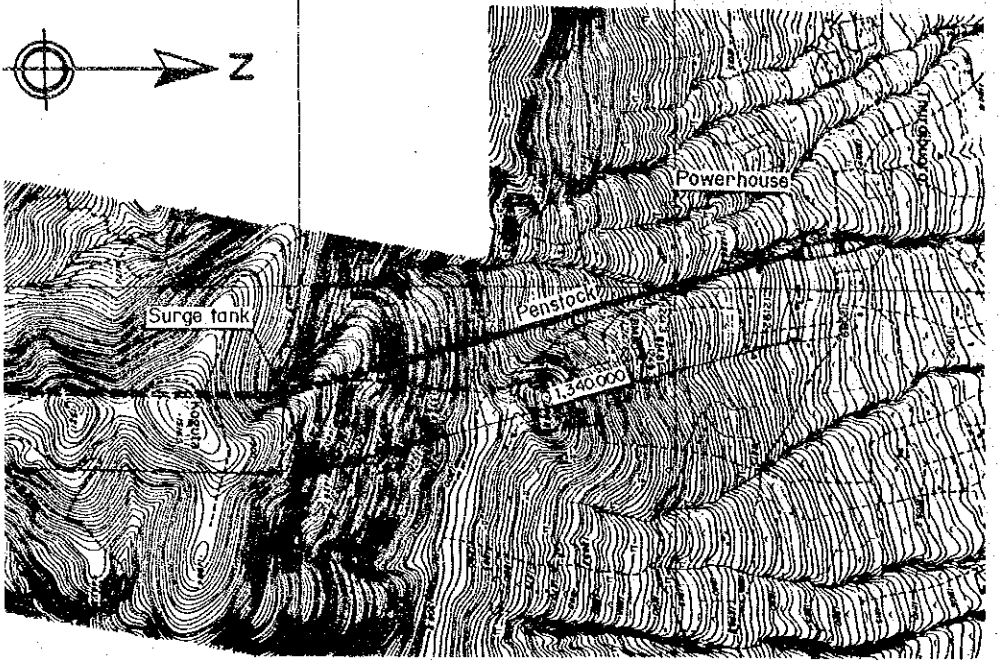
Zone	
①	Imperv
②	Filter
③	Rando
④	Rock
⑤	Ripra



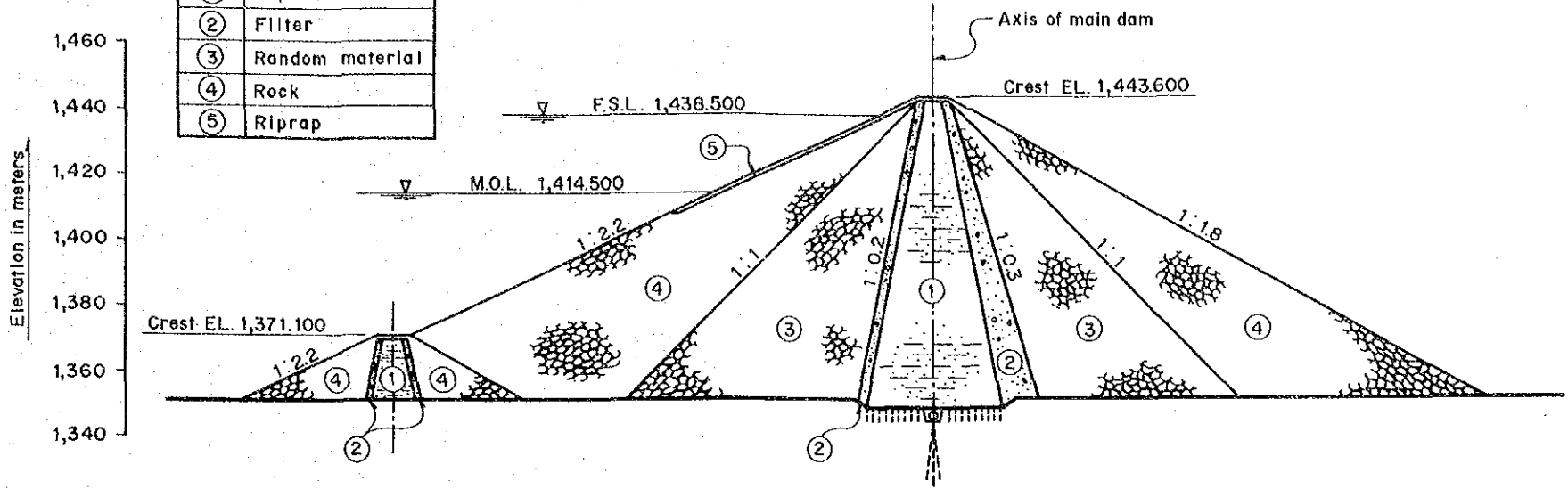
PROFILE



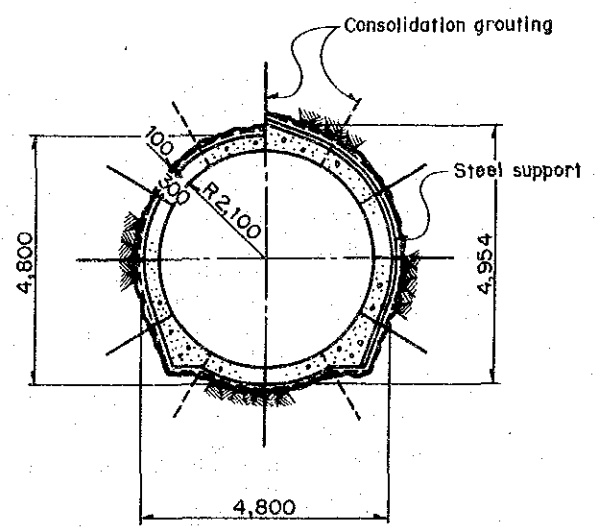
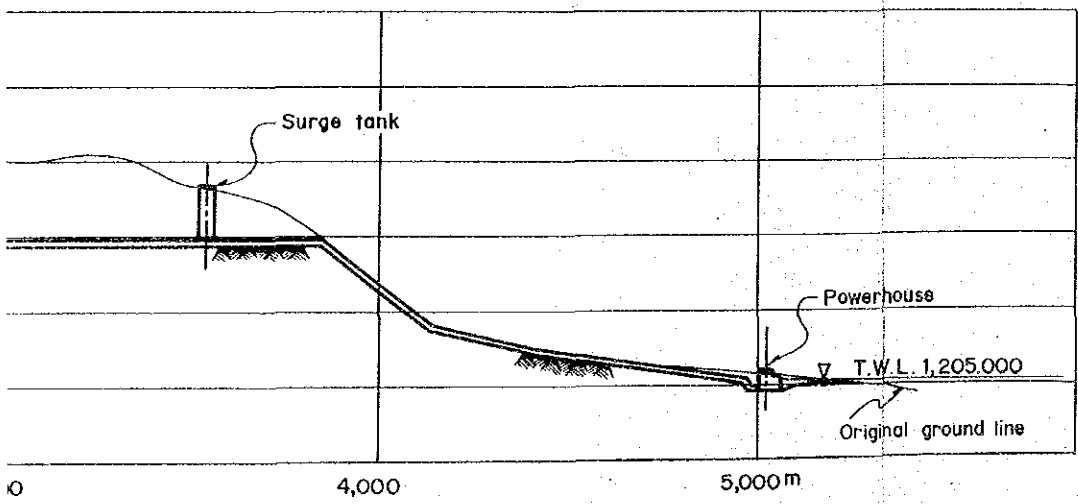
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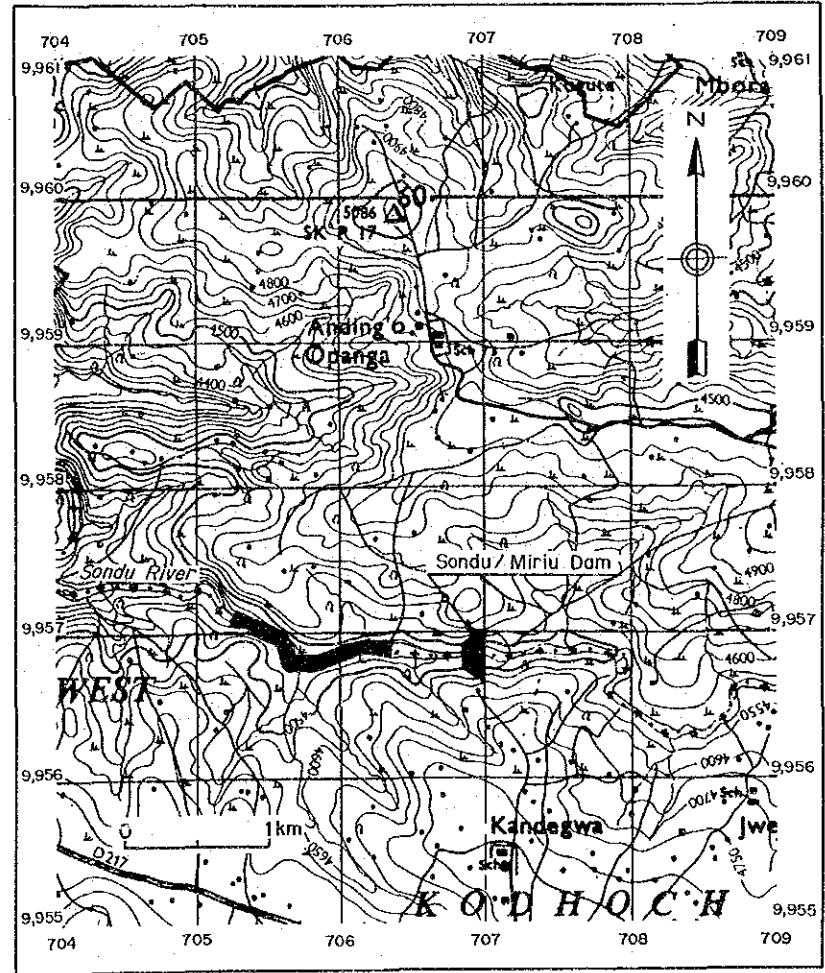
Zone	Material
①	Impervious core
②	Filter
③	Random material
④	Rock
⑤	Riprap



TYPICAL SECTION OF SONDU / MIRIU DAM



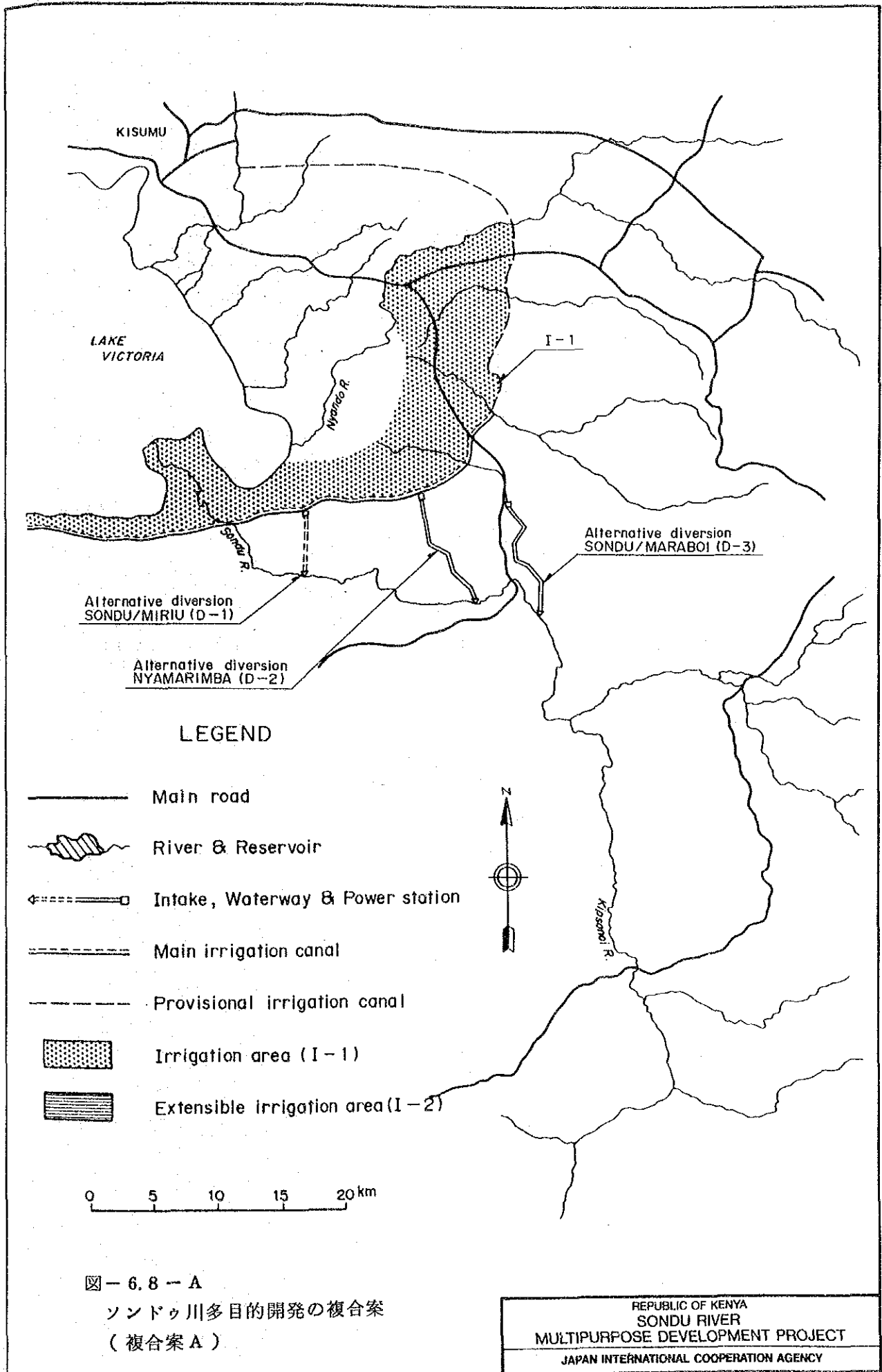
TYPE I TYPE II  
TYPICAL SECTION OF  
HEADRACE TUNNEL



KEY MAP

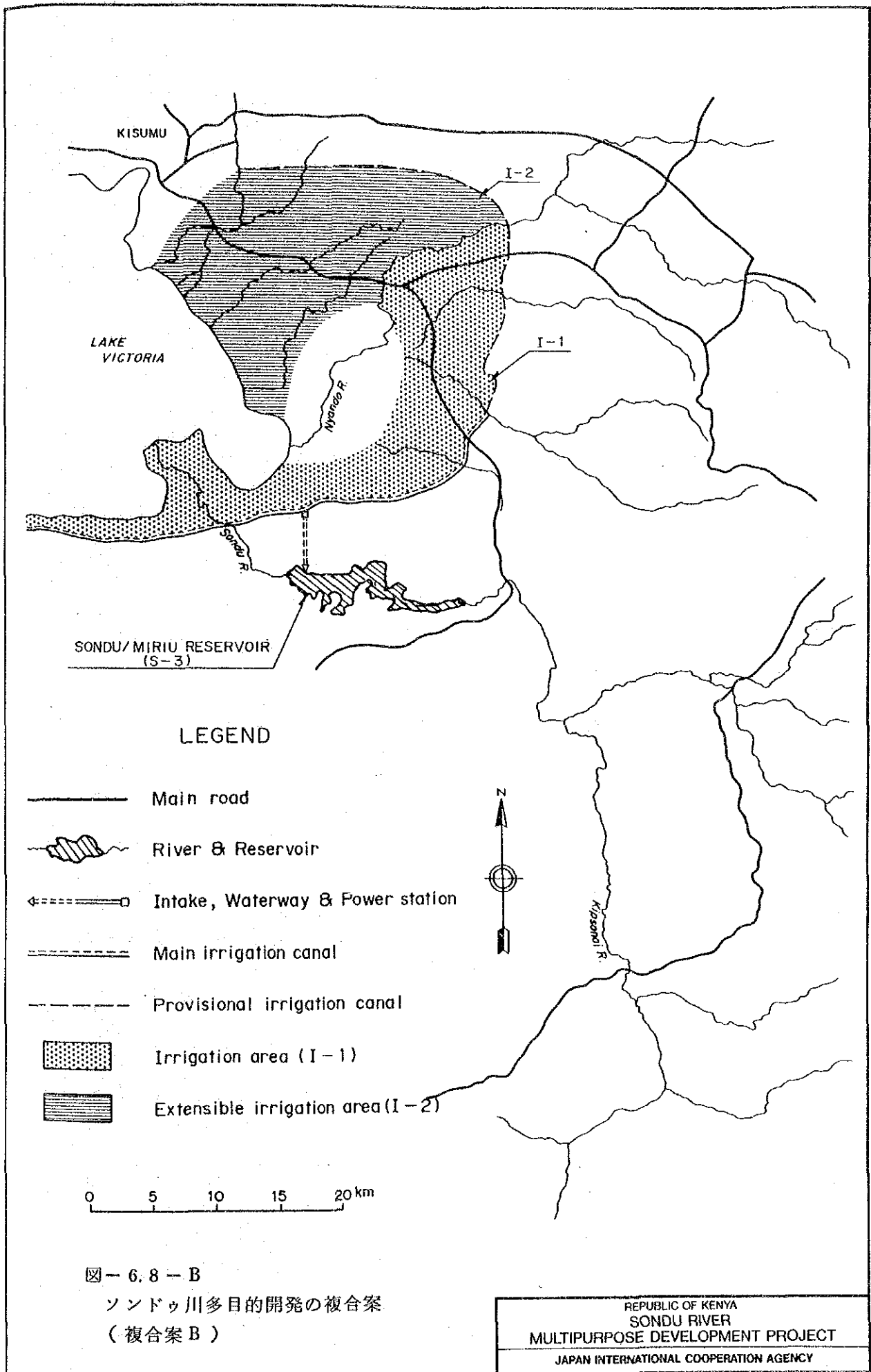
図-6.7  
ソンドウ/ミリウ貯水池式  
水力発電計画











SONDU/MIRIU RESERVOIR  
(S-3)

LEGEND

- Main road
- River & Reservoir
- Intake, Waterway & Power station
- Main irrigation canal
- Provisional irrigation canal
- Irrigation area (I-1)
- Extensible irrigation area (I-2)



0 5 10 15 20 km

図-6.8-B  
ソンドゥ川多目的開発の複合案  
(複合案B)

REPUBLIC OF KENYA  
SONDU RIVER  
MULTIPURPOSE DEVELOPMENT PROJECT  
JAPAN INTERNATIONAL COOPERATION AGENCY



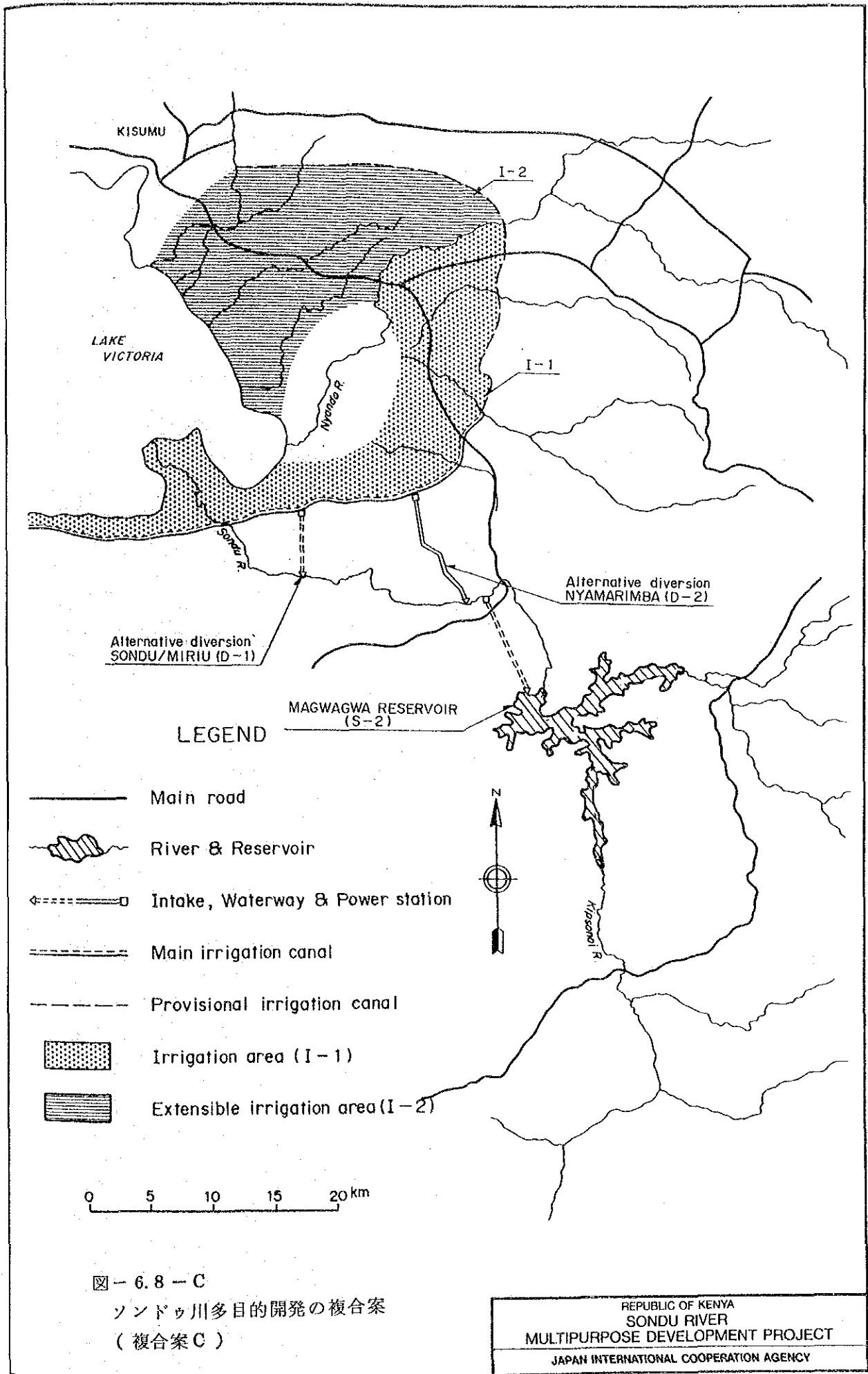


図-6.8-C  
 ソンドゥ川多目的開発の複合案  
 (複合案C)

REPUBLIC OF KENYA  
 SONDU RIVER  
 MULTIPURPOSE DEVELOPMENT PROJECT  
 JAPAN INTERNATIONAL COOPERATION AGENCY



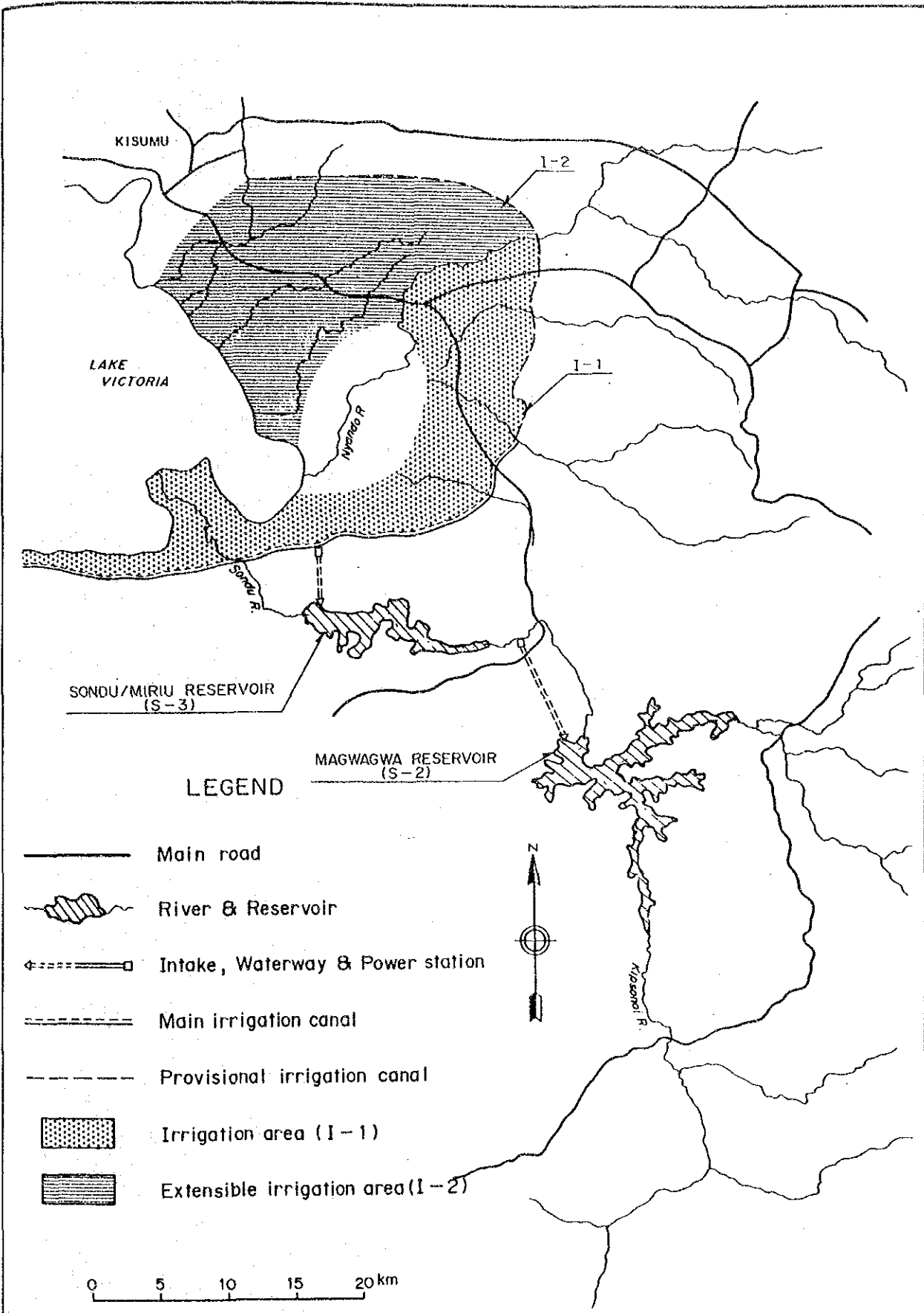


図-6.8-D  
 ソンドゥ川多目的開発の複合案  
 (複合案D)

REPUBLIC OF KENYA  
 SONDU RIVER  
 MULTIPURPOSE DEVELOPMENT PROJECT  
 JAPAN INTERNATIONAL COOPERATION AGENCY



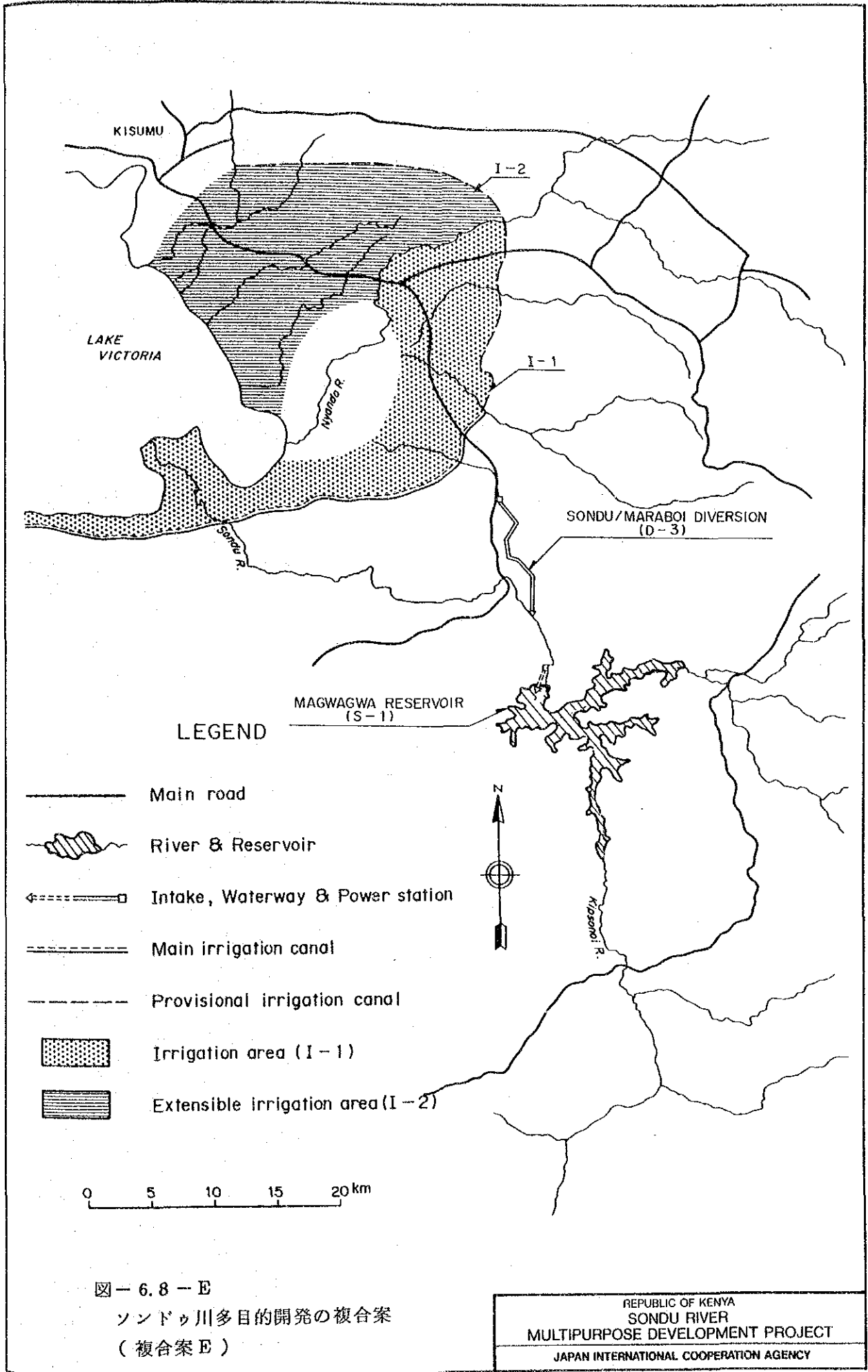


図-6.8-E  
 ソンドゥ川多目的開発の複合案  
 (複合案E)

REPUBLIC OF KENYA  
 SONDU RIVER  
 MULTIPURPOSE DEVELOPMENT PROJECT  
 JAPAN INTERNATIONAL COOPERATION AGENCY





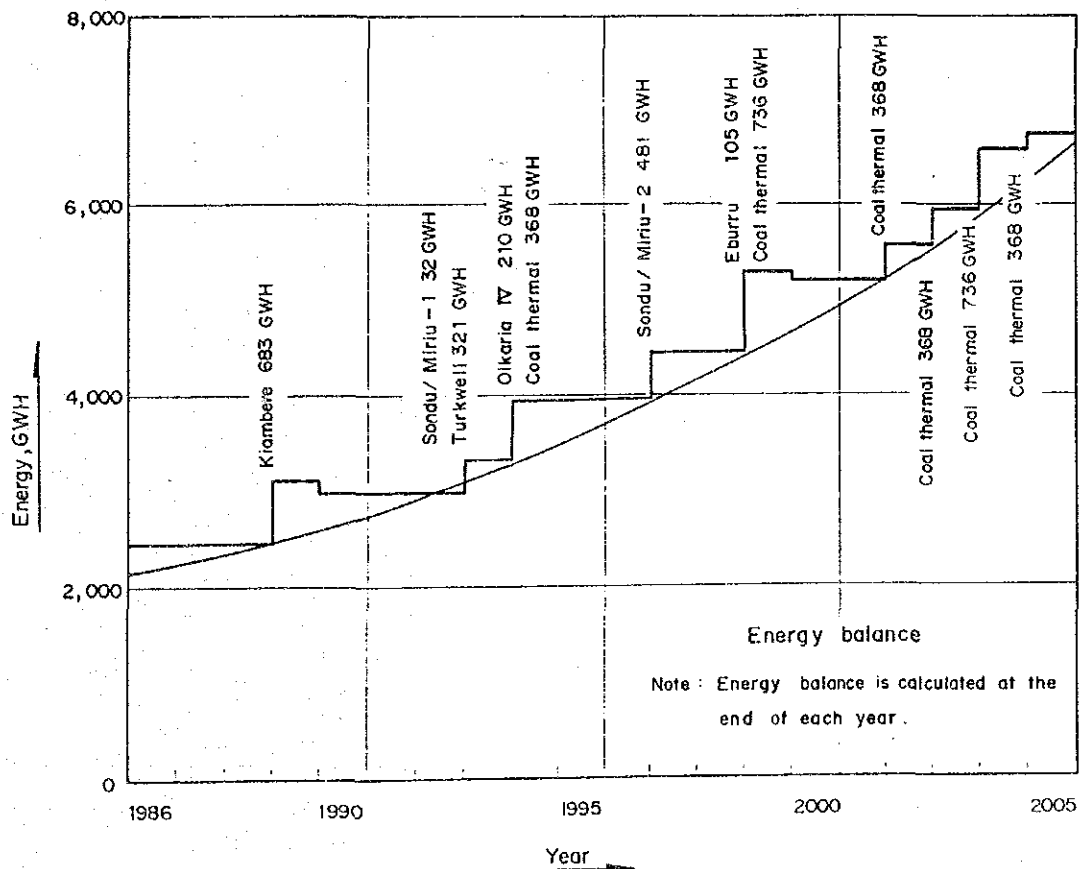
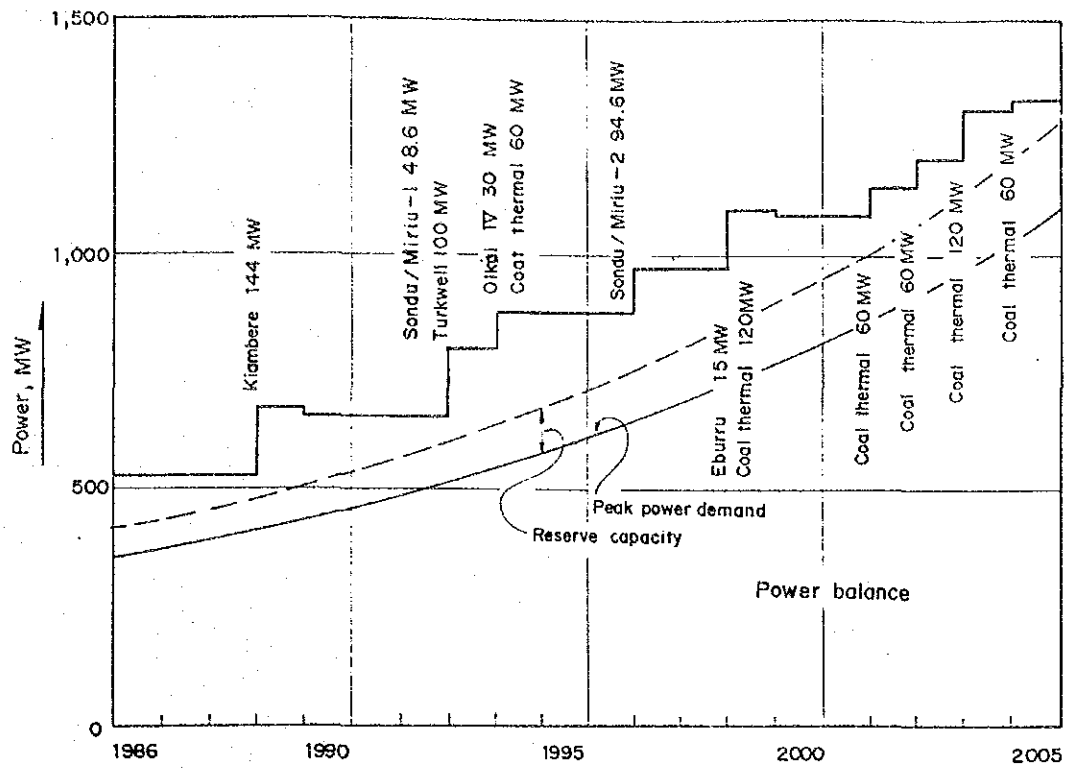


図-6.9

KP & L 電力供給システム需要に対する  
ピーク出力及び電力量収支



	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<u>Sondu/Miriu Diversion</u> ( first stage )											
Finance & tendering											
Detailed design											
Construction											
<u>Magwagwa reservoir</u> ( second stage )											
Feasibility study											
Finance & tendering											
Detailed design											
Construction											

図 - 6.10

ソンドウ/ミリウ開発の実施計画

REPUBLIC OF KENYA  
SONDU RIVER  
MULTIPURPOSE DEVELOPMENT PROJECT  
JAPAN INTERNATIONAL COOPERATION AGENCY

