

Figure 4.7 Demand Forecast (High)

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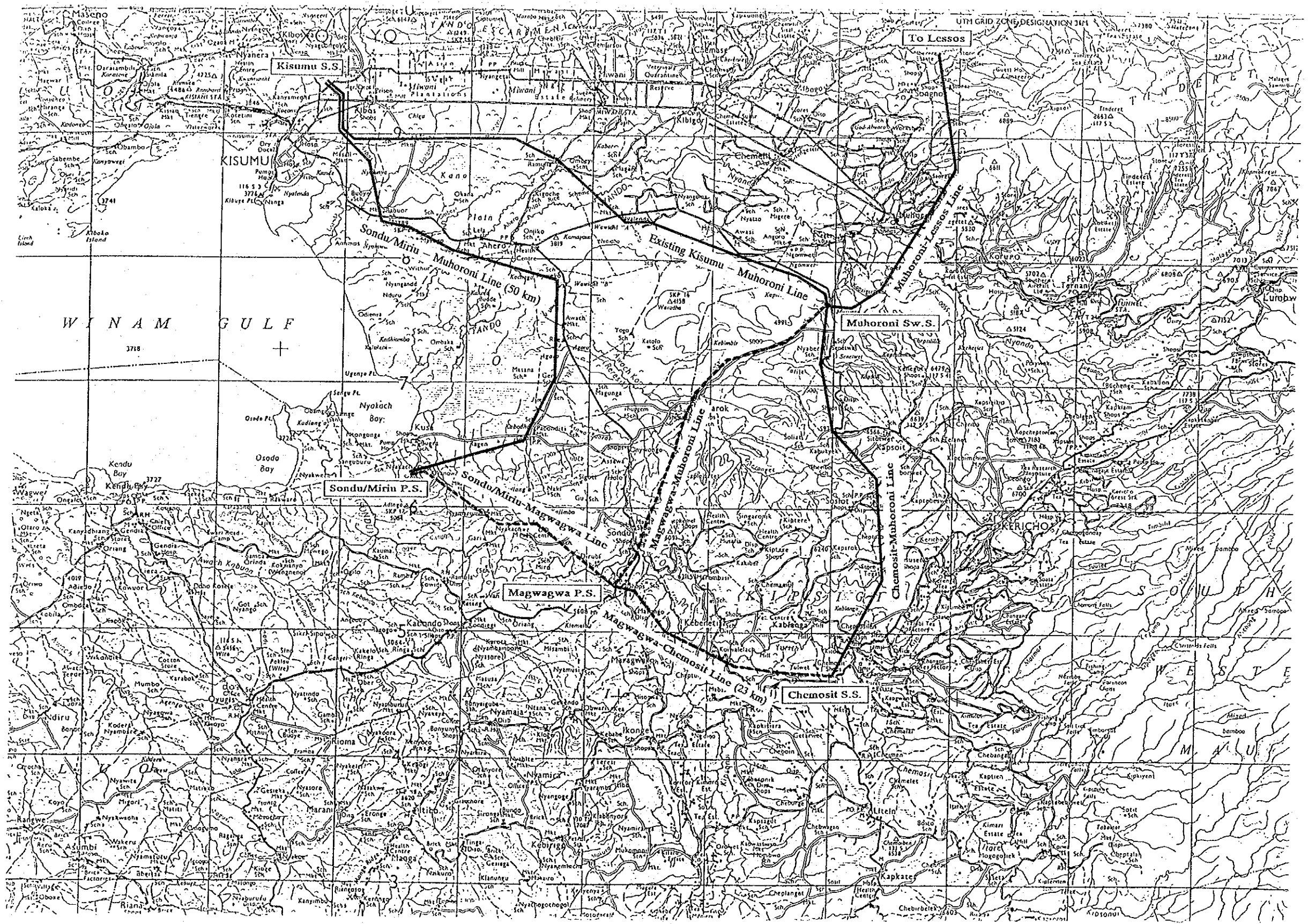


Figure 4.8 132 kV Transmission Line Routes

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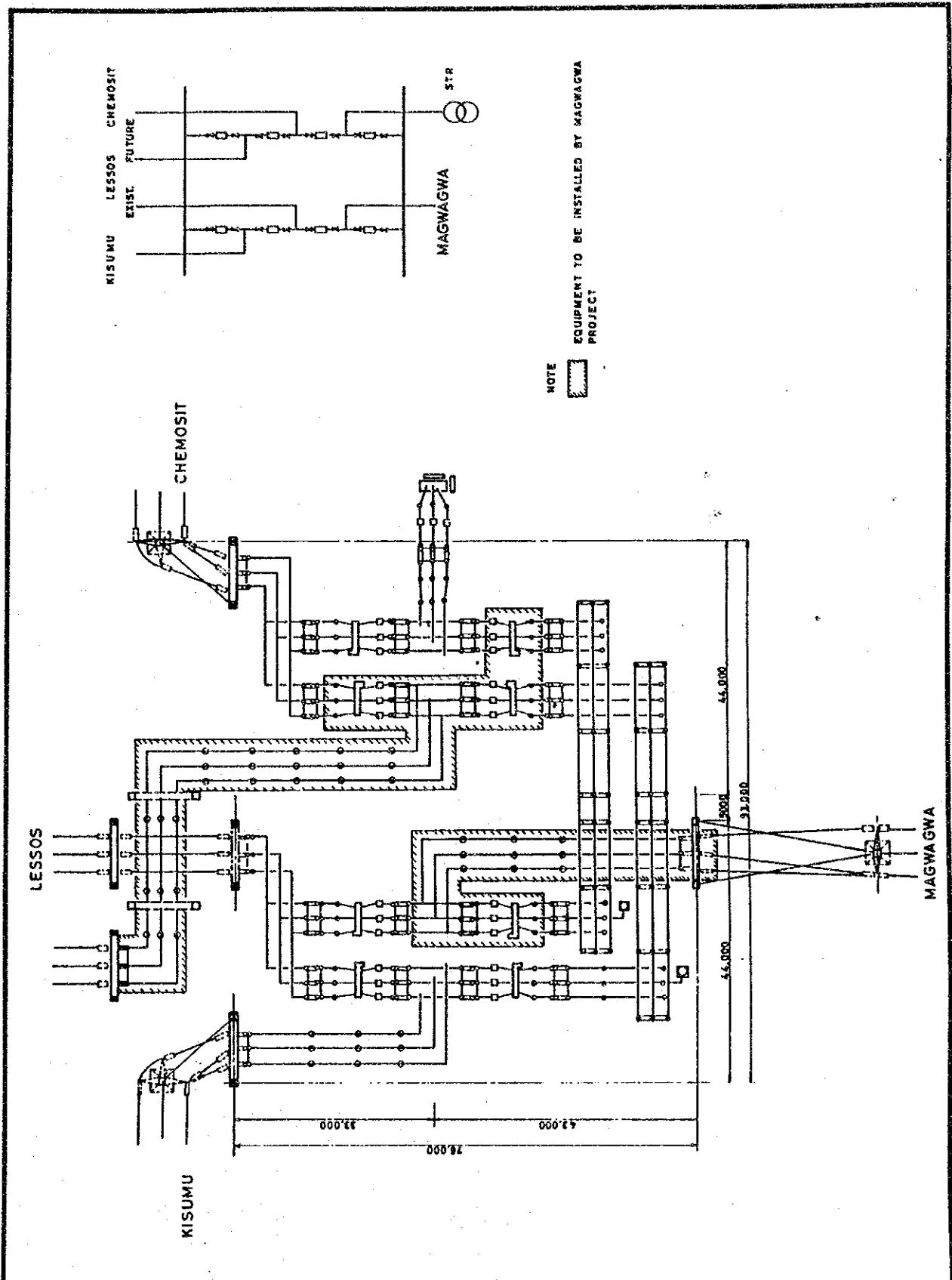
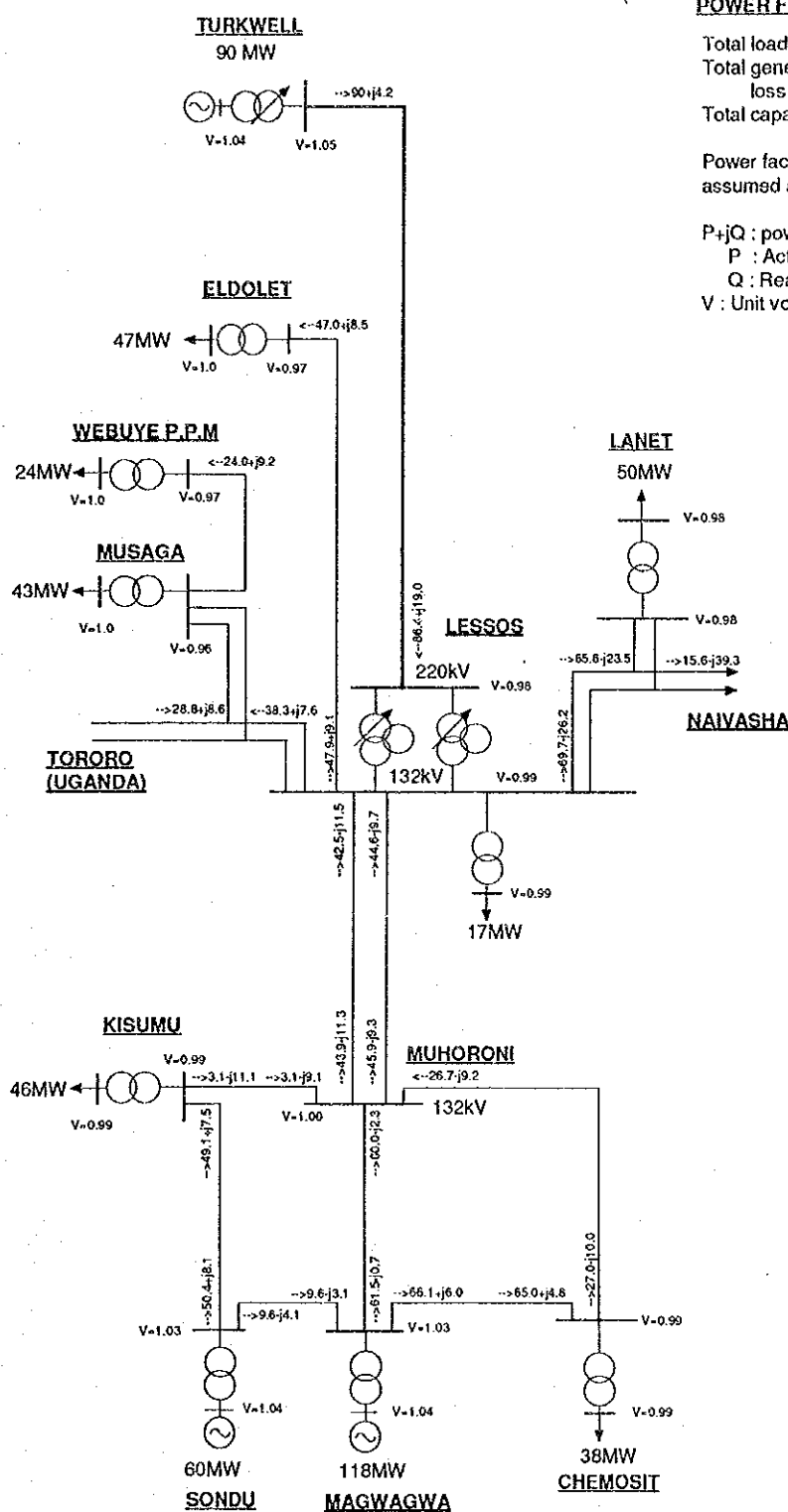


Figure 4.9 Recommended Layout of Muhoroni Sub station

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POWER FLOW in 2002

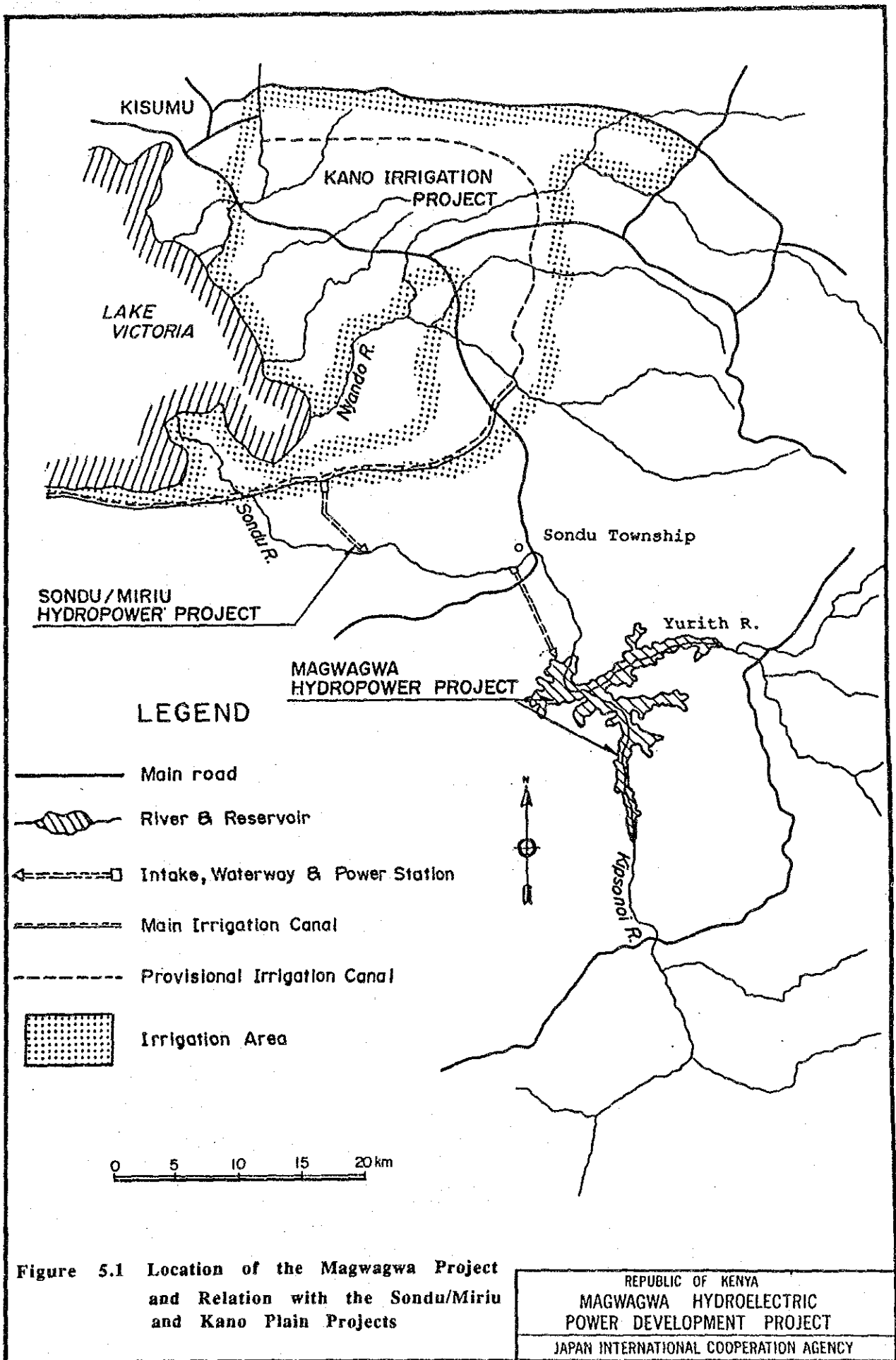
Total load : 1,044MW
 Total generation : 1,090MW
 loss : 46MW
 Total capacitor : 55MVA

Power factor of load is assumed at 0.95.

P+jQ : power flow
 P : Active power
 Q : Reactive power
 V : Unit voltage (P.U)

Figure 4.10 Power Flow in the Western Region

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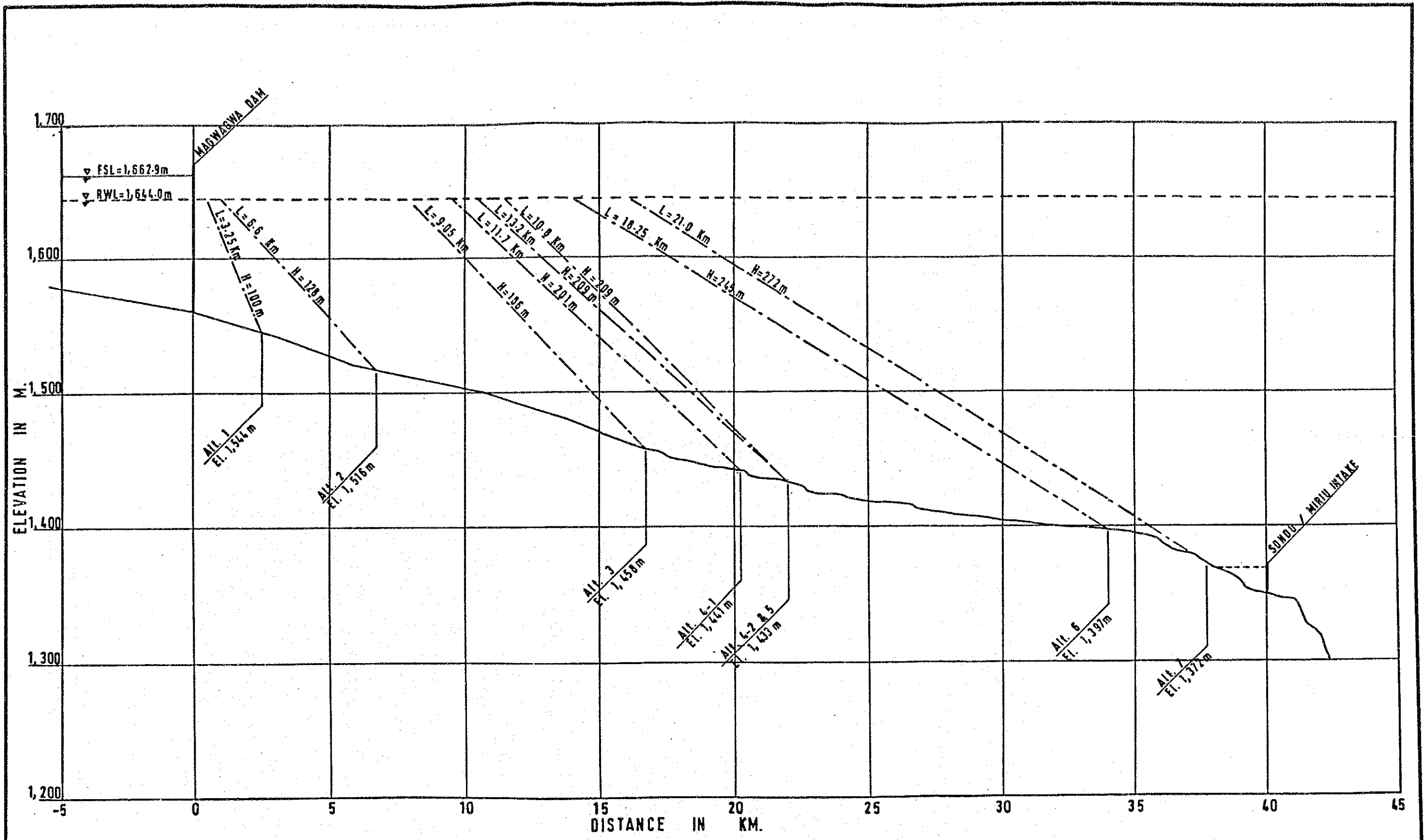


Figure 5.2 River Gradient of the Sondu River

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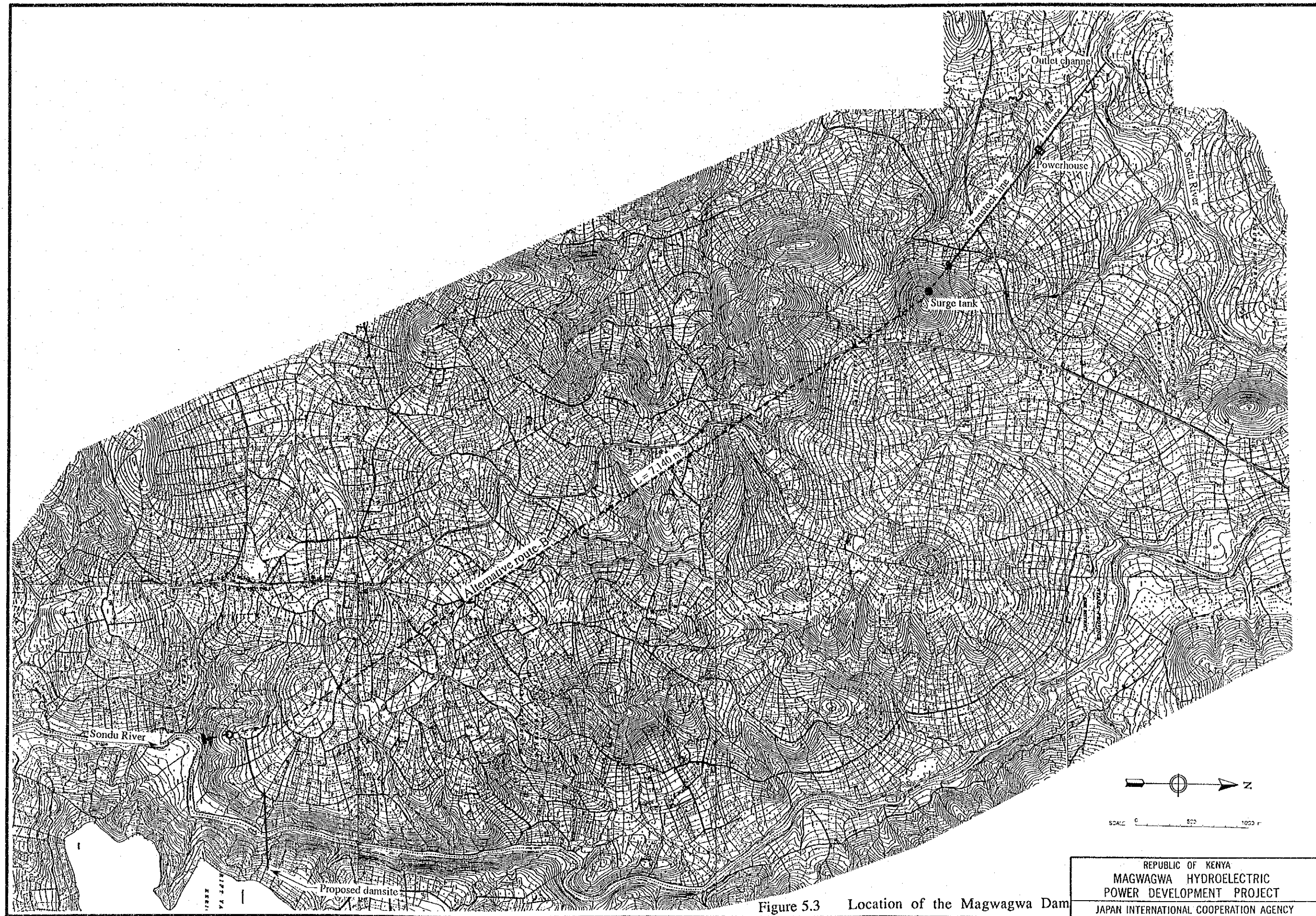


Figure 5.3 Location of the Magwagwa Dam

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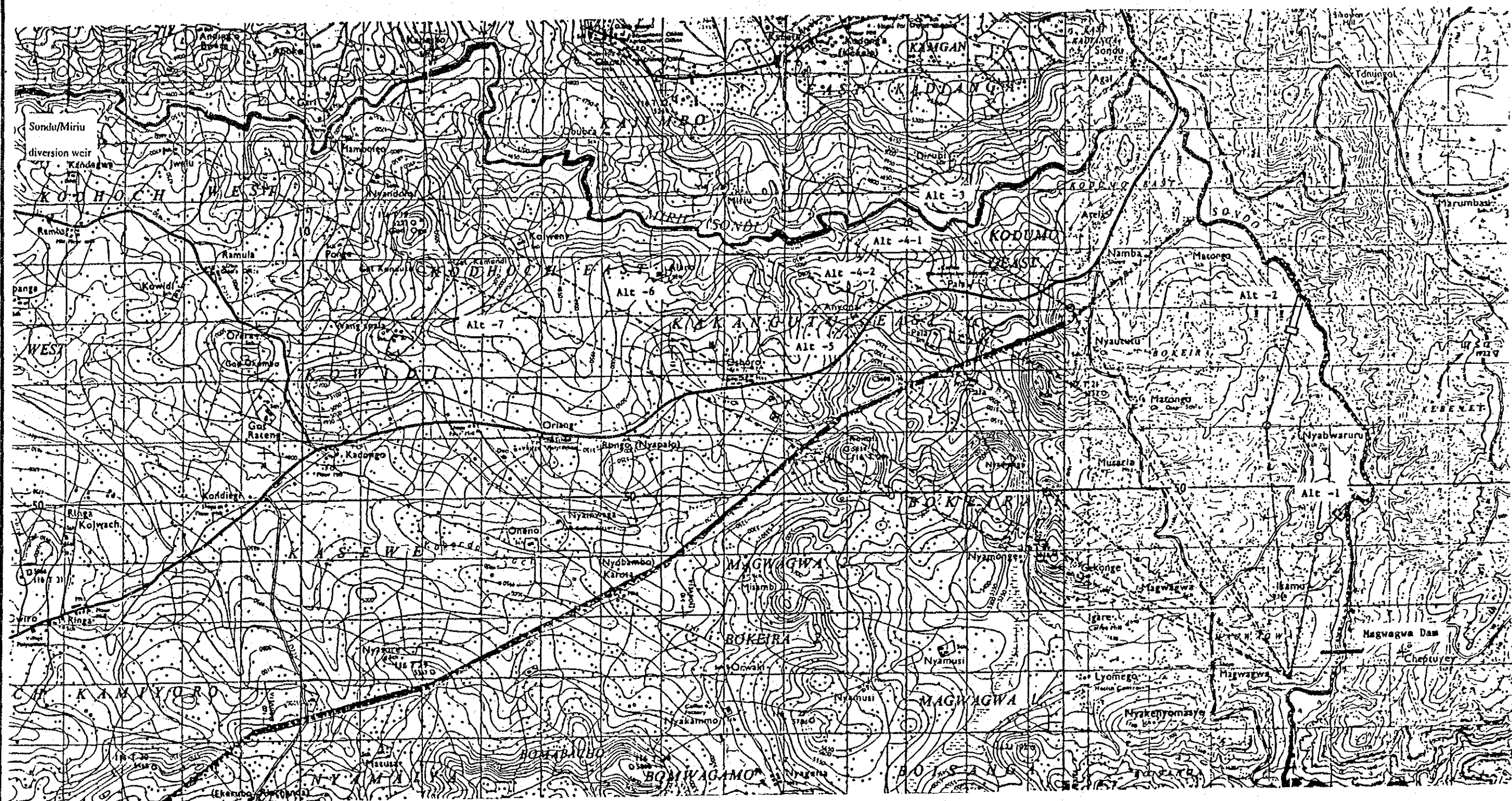


Figure 5.4 Waterway Alternatives of the Magwagwa Hydropower Scheme

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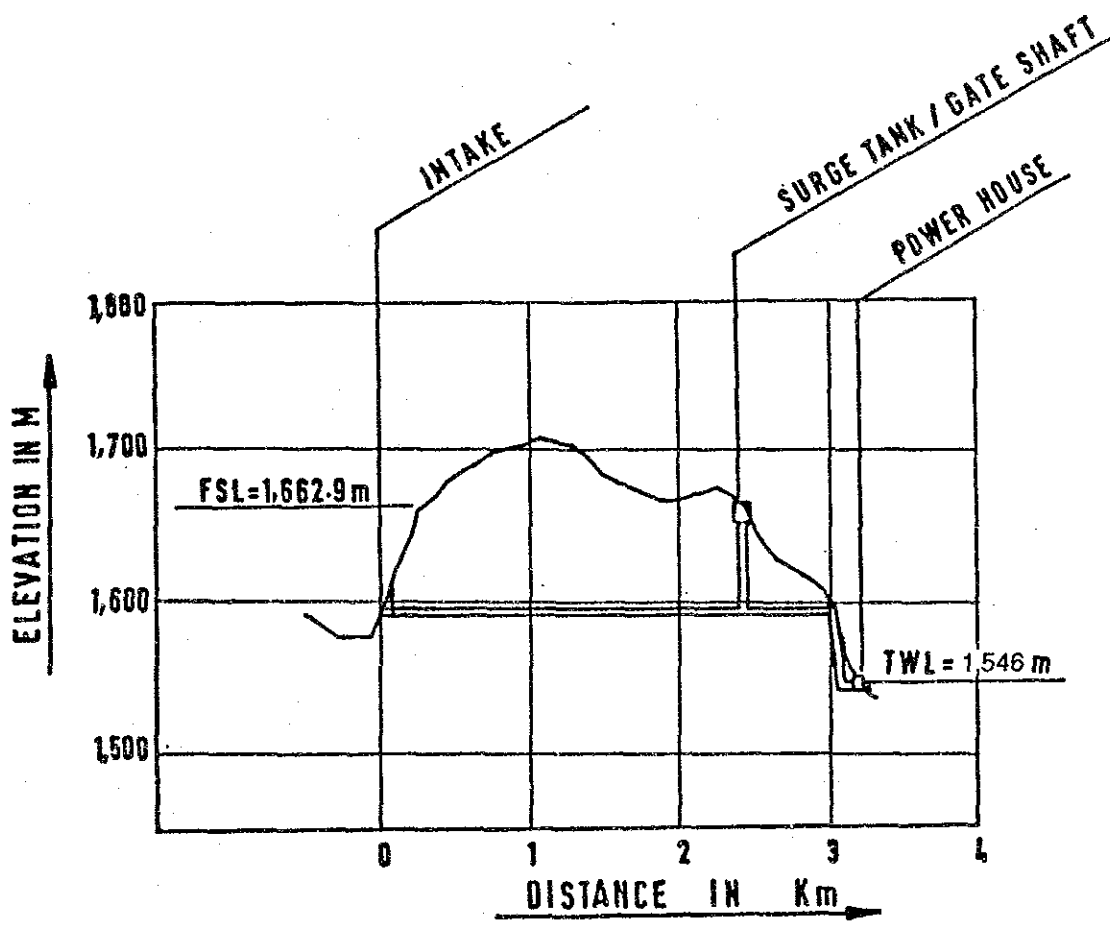


Figure 5.5 Profile of Alternative -1

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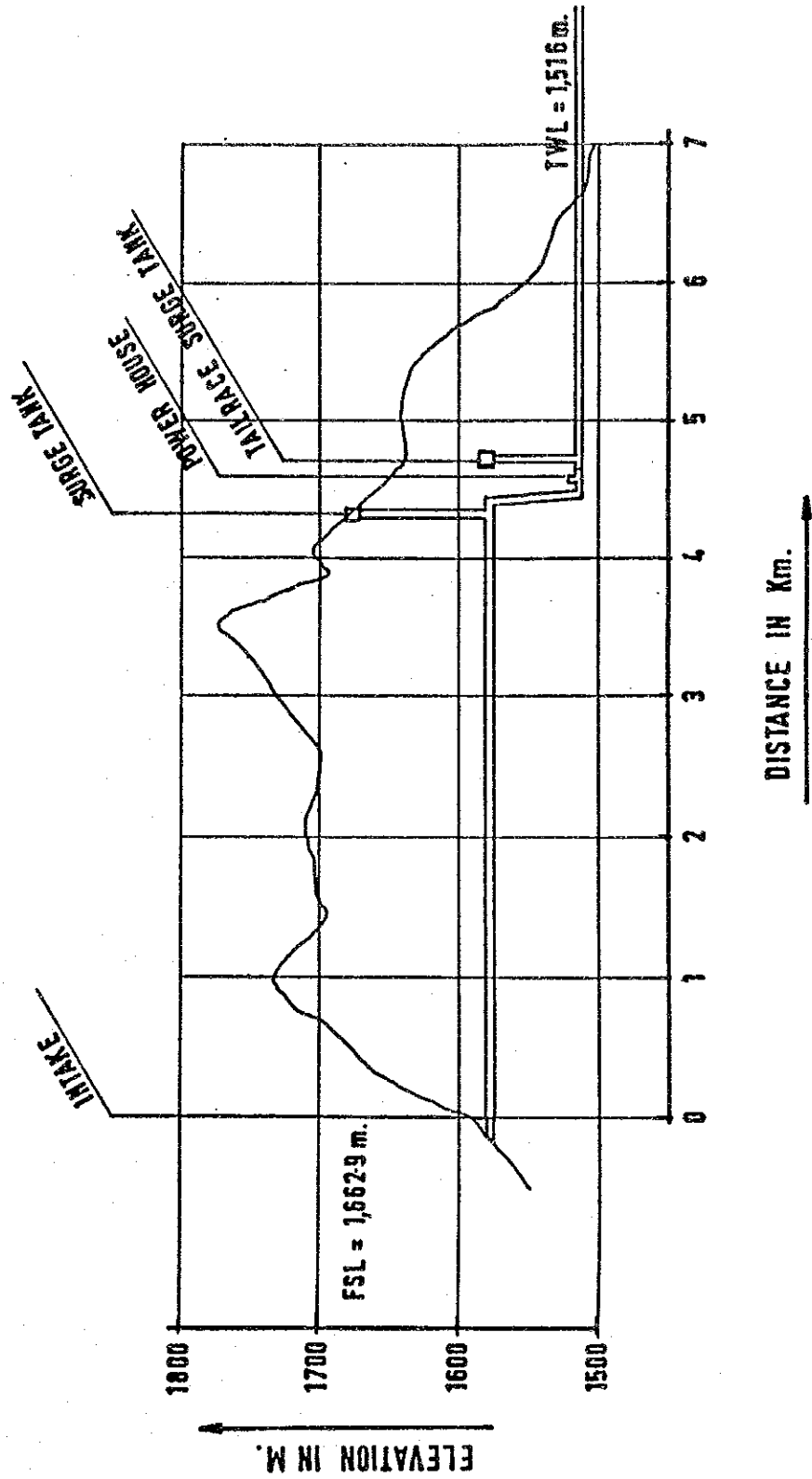


Figure 5.6 Profile of Alternative -2

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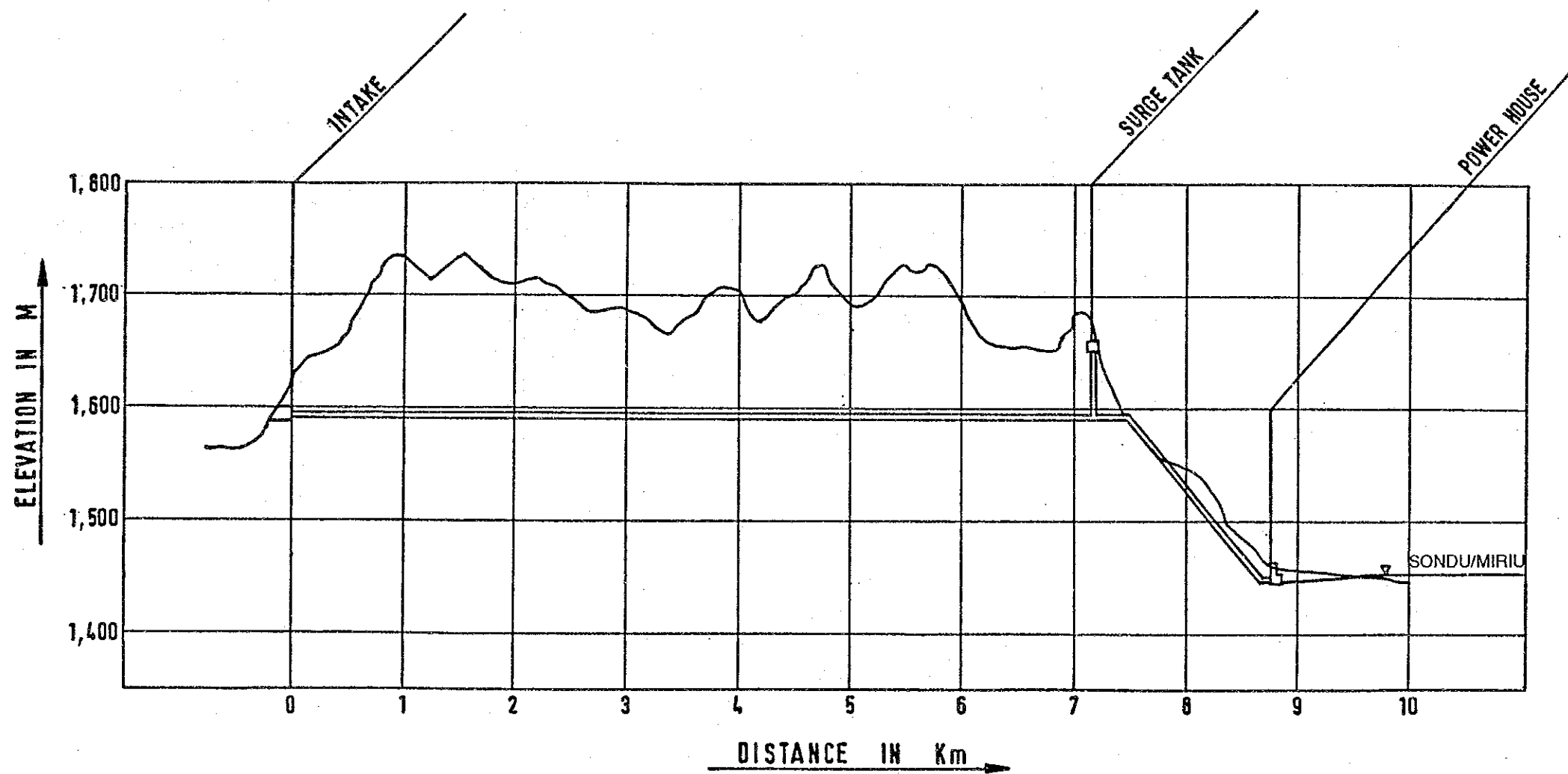


Figure 5.7 Profile of Alternative -3

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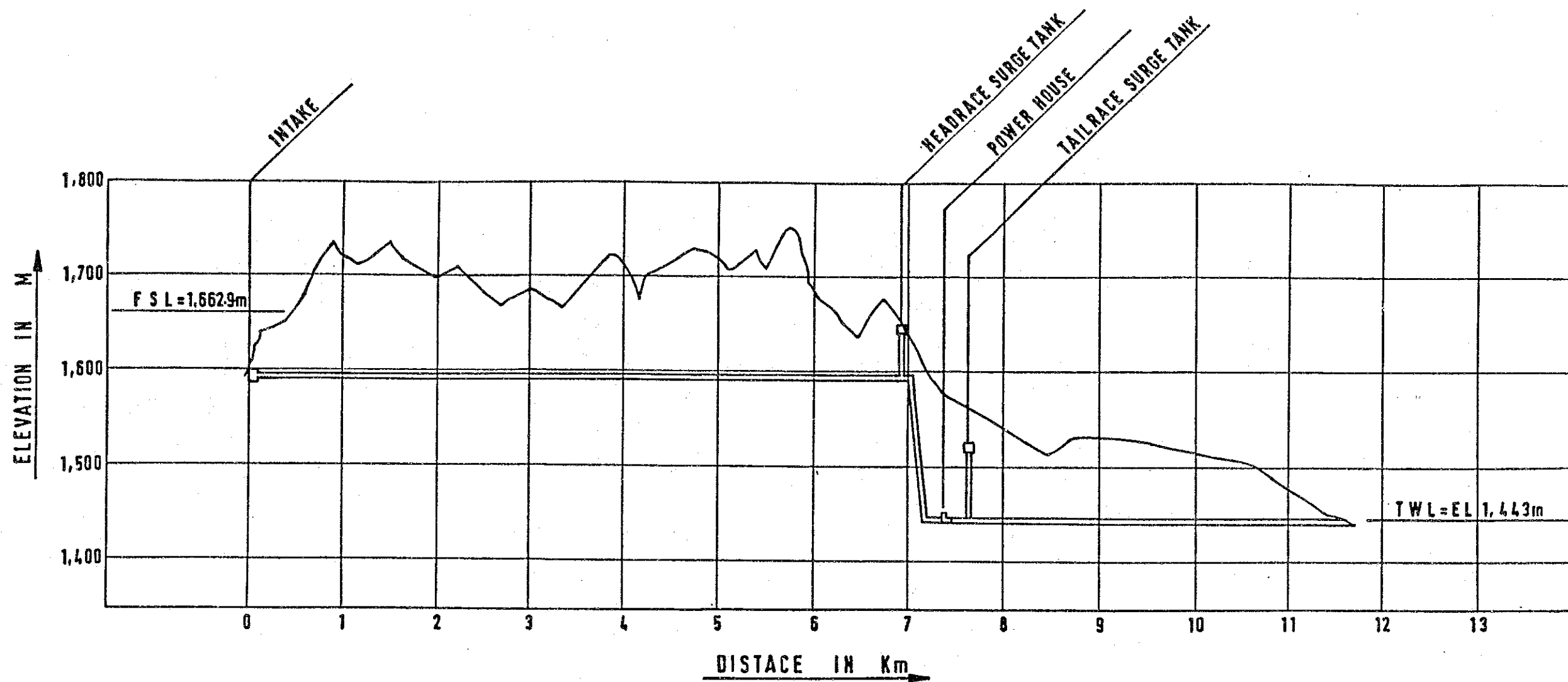


Figure 5.8 Profile of Alternative 4-1

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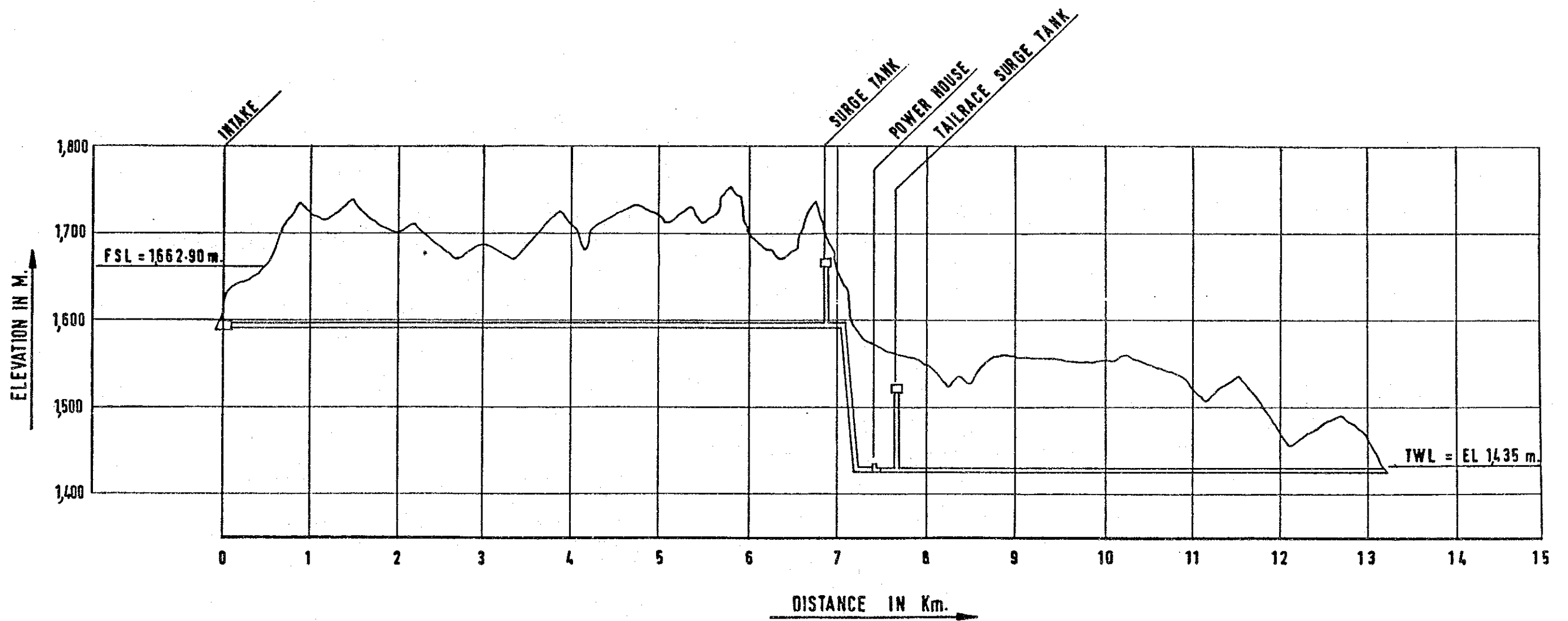


Figure 5.9 Profile of Alternative 4-2

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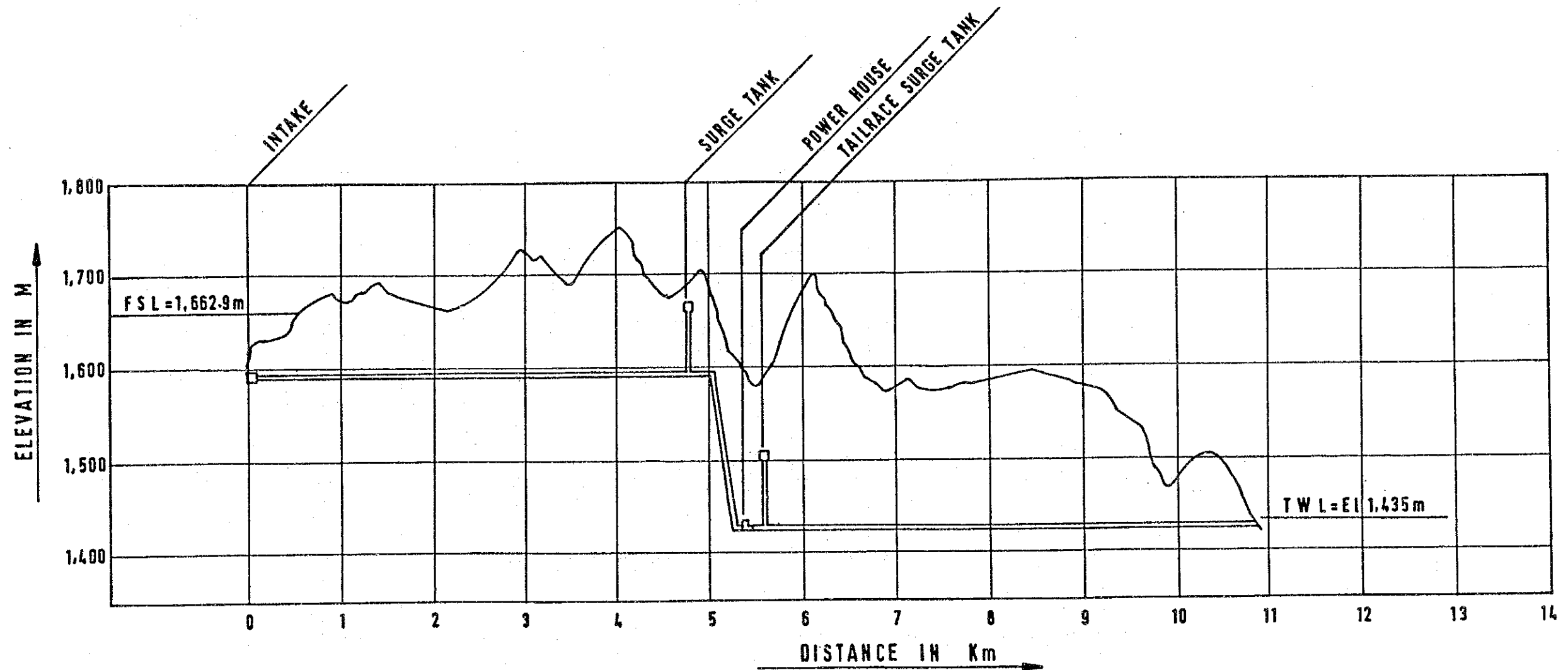


Figure 5.10 Profile of Alternative -5

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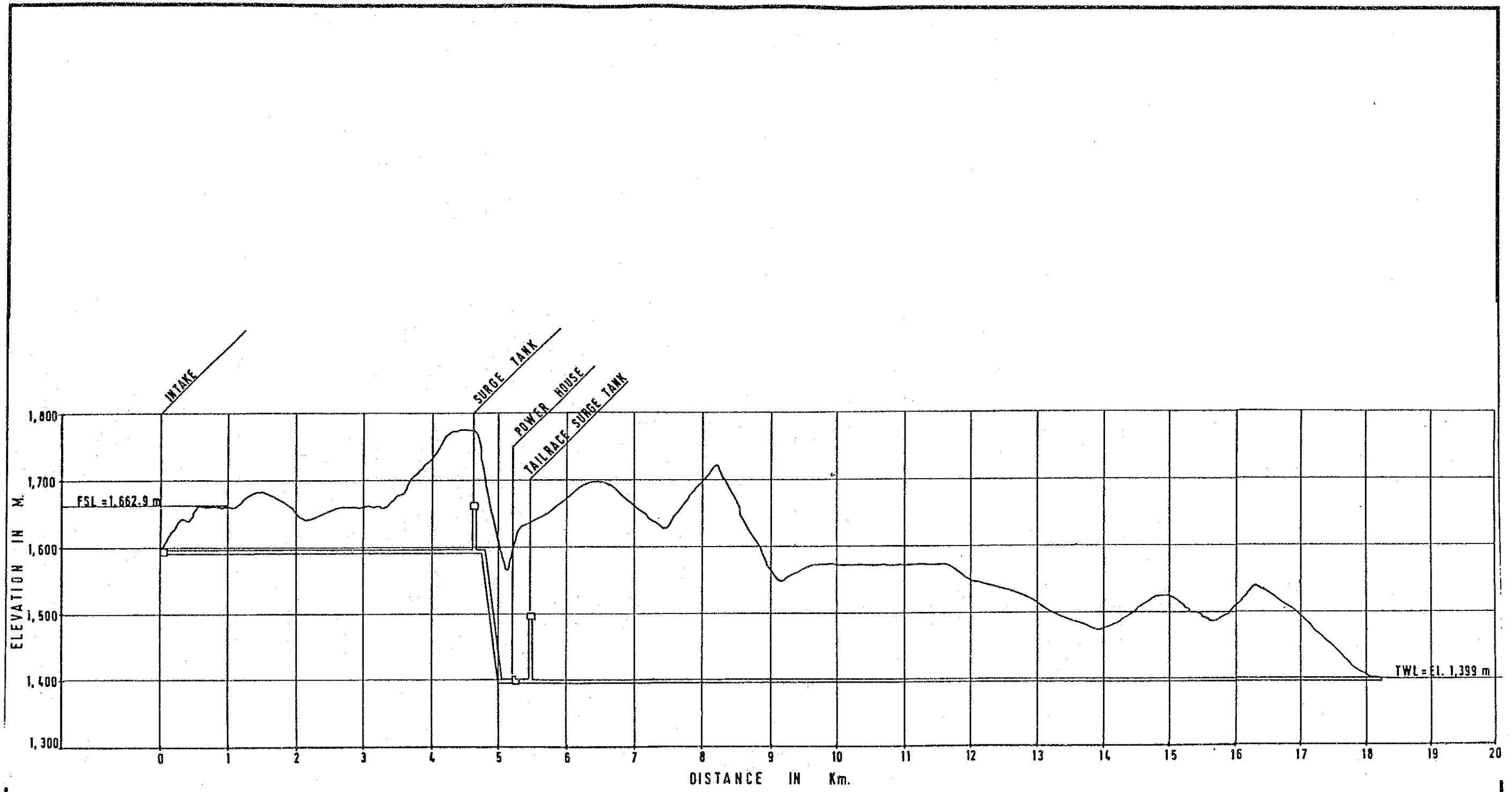


Figure 5.11 Profile of Alternative -6

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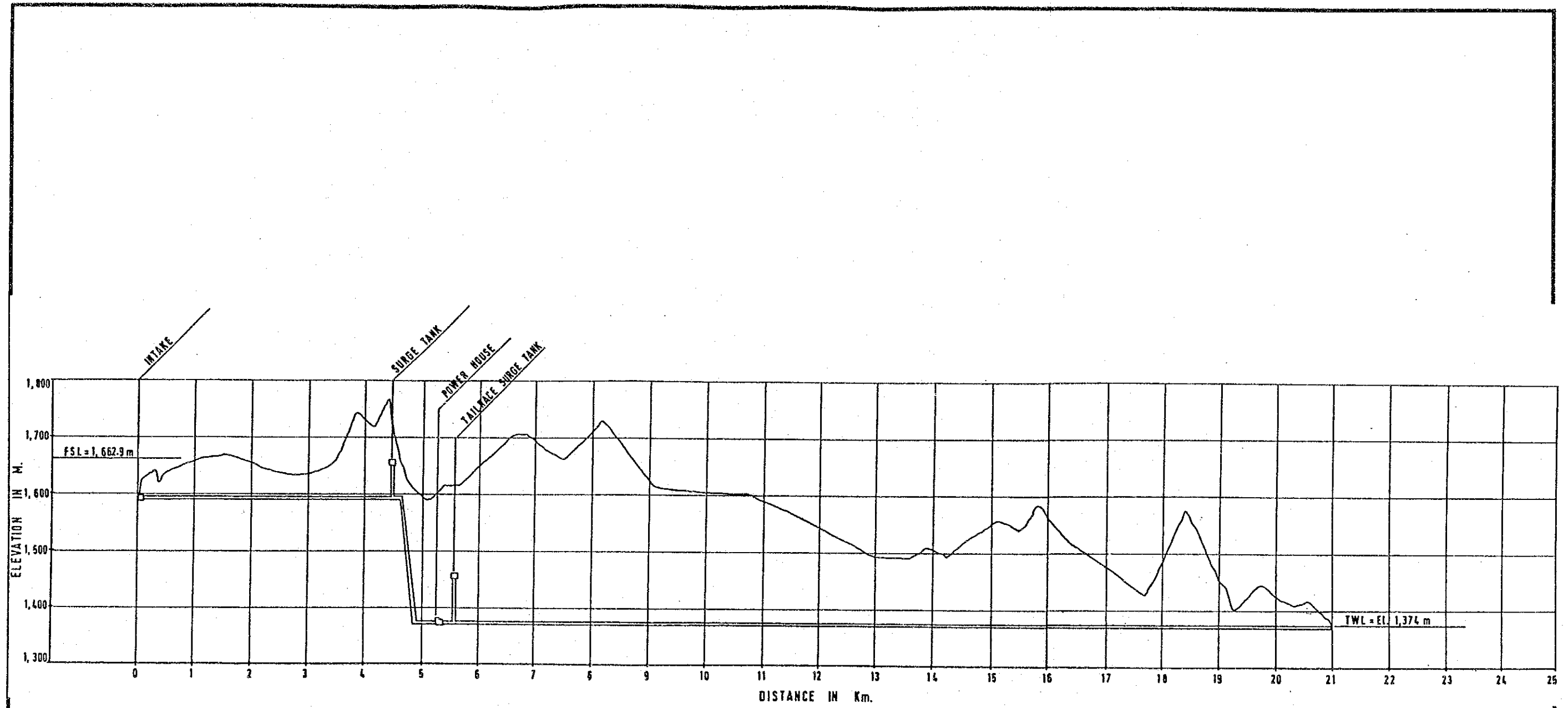


Figure 5.12 Profile of Alternative -7

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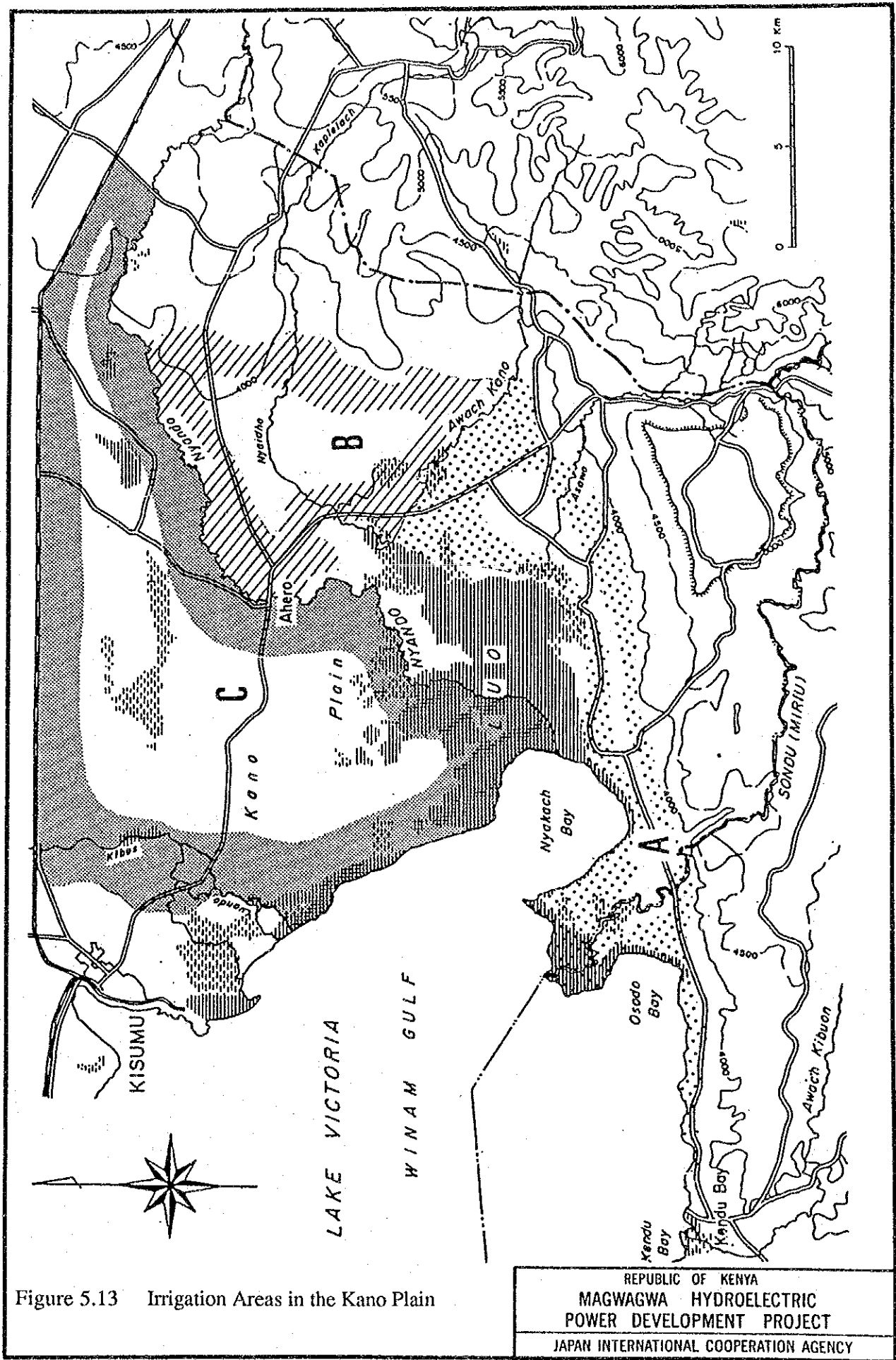


Figure 5.13 Irrigation Areas in the Kano Plain

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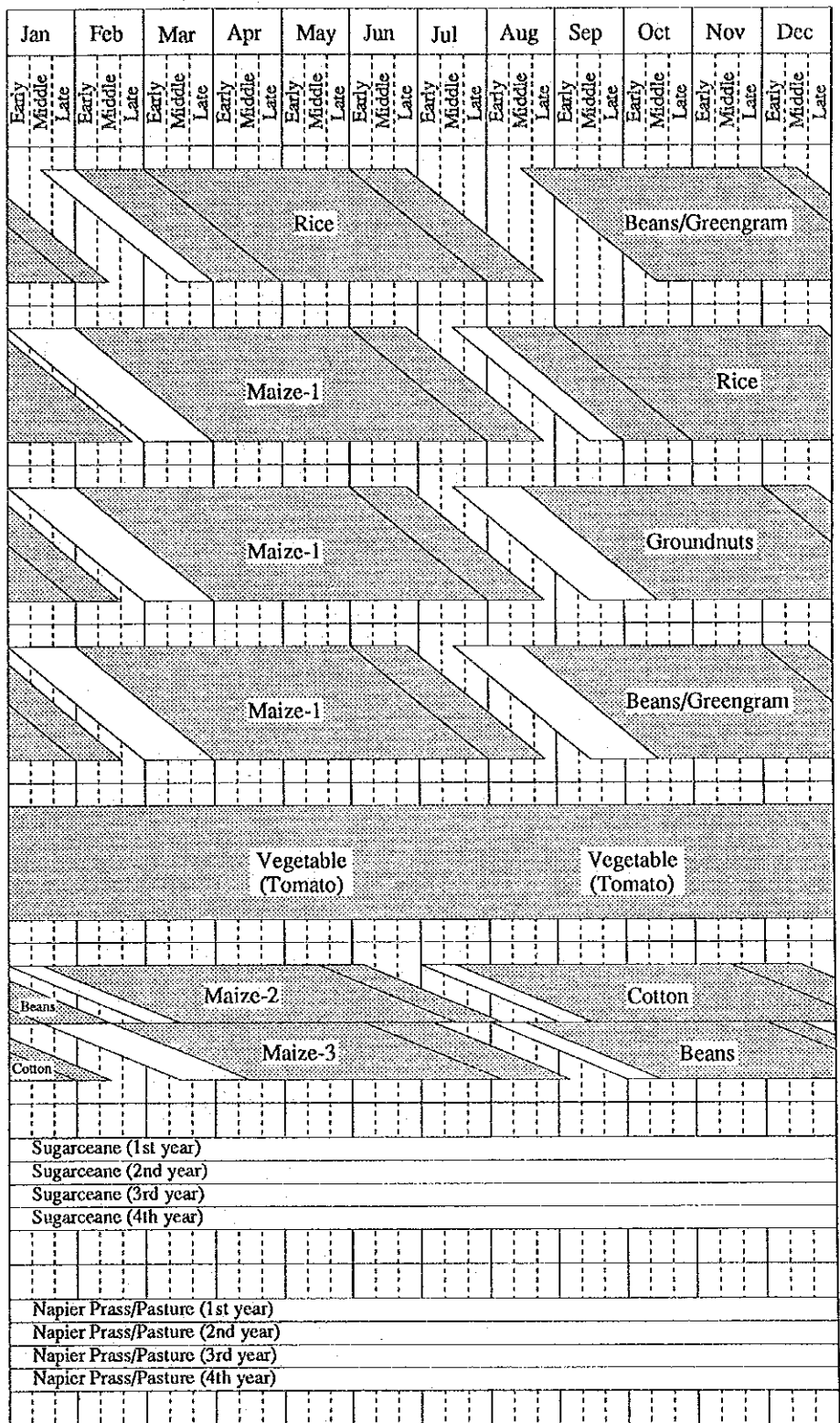


Figure 5.14 Proposed Cropping Patterns

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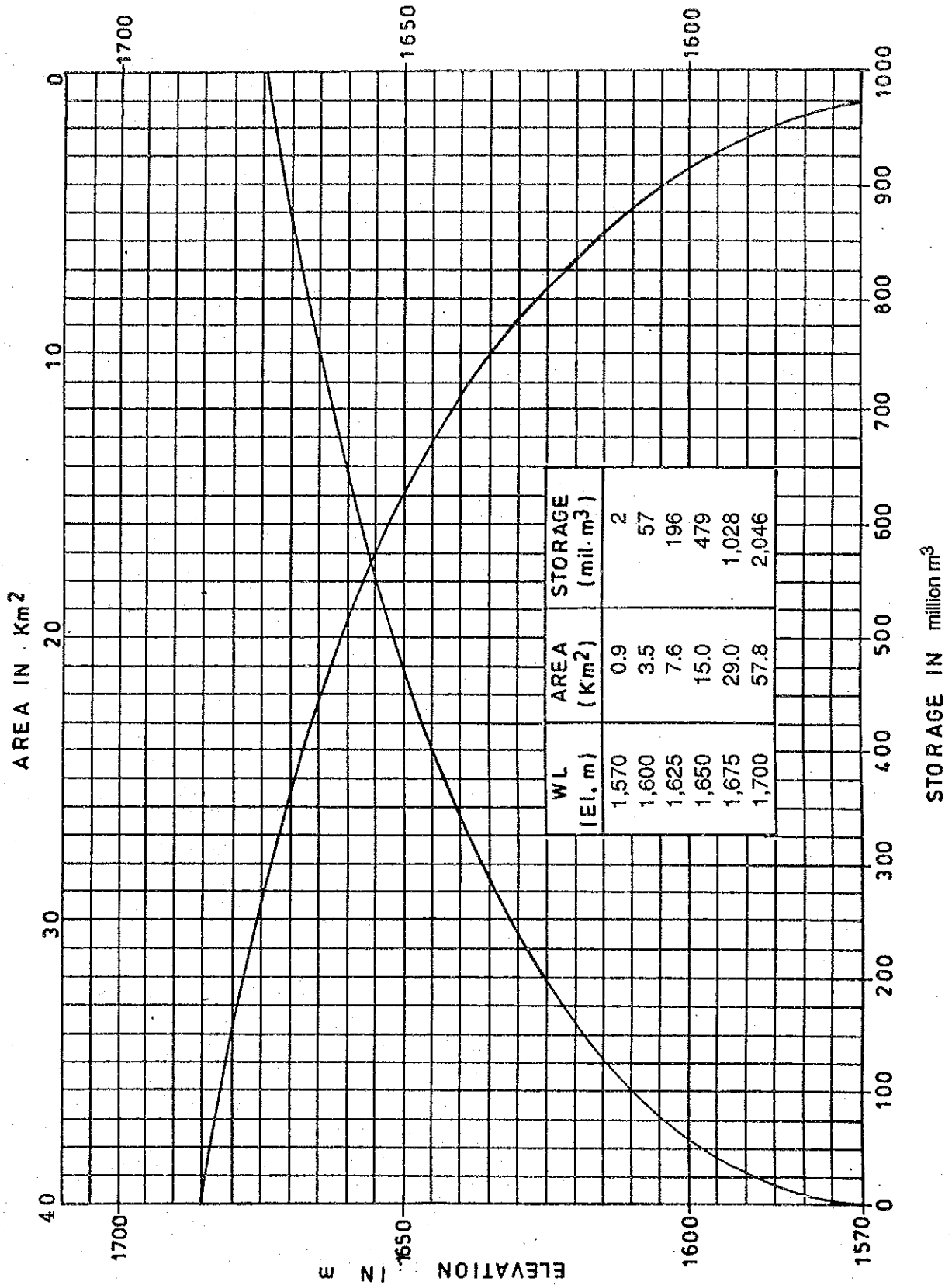


Figure 5.15 Storage - area Curves of the Magwagwa Reservoir

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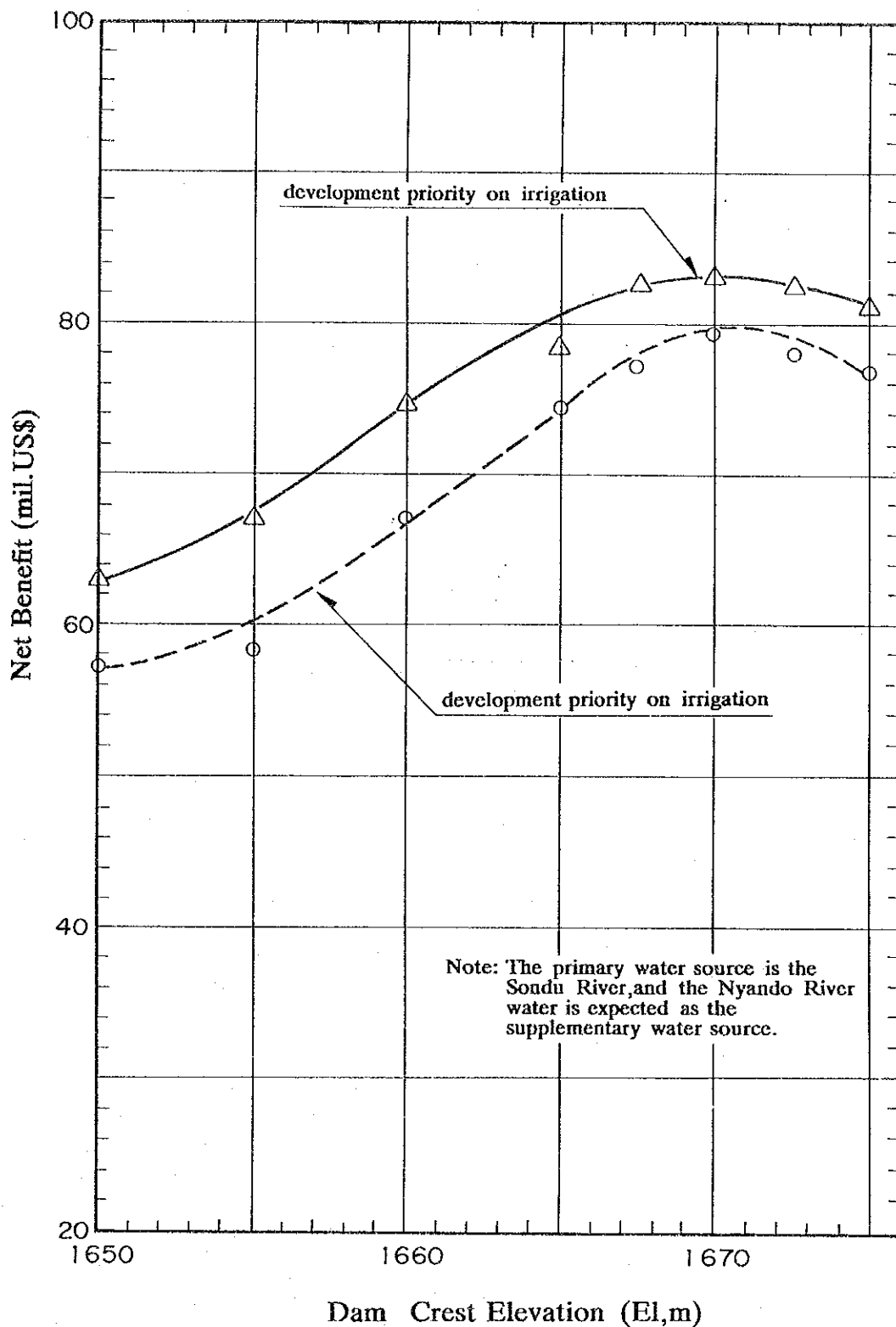


Figure 5.16 Optimization of the Magwagwa Dam

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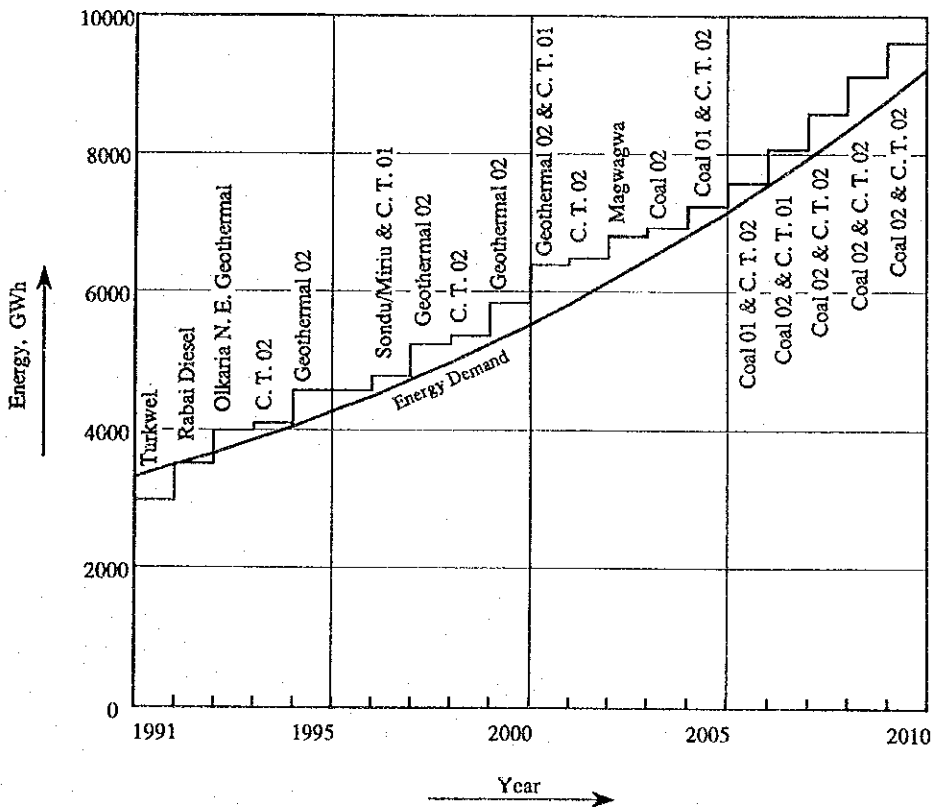
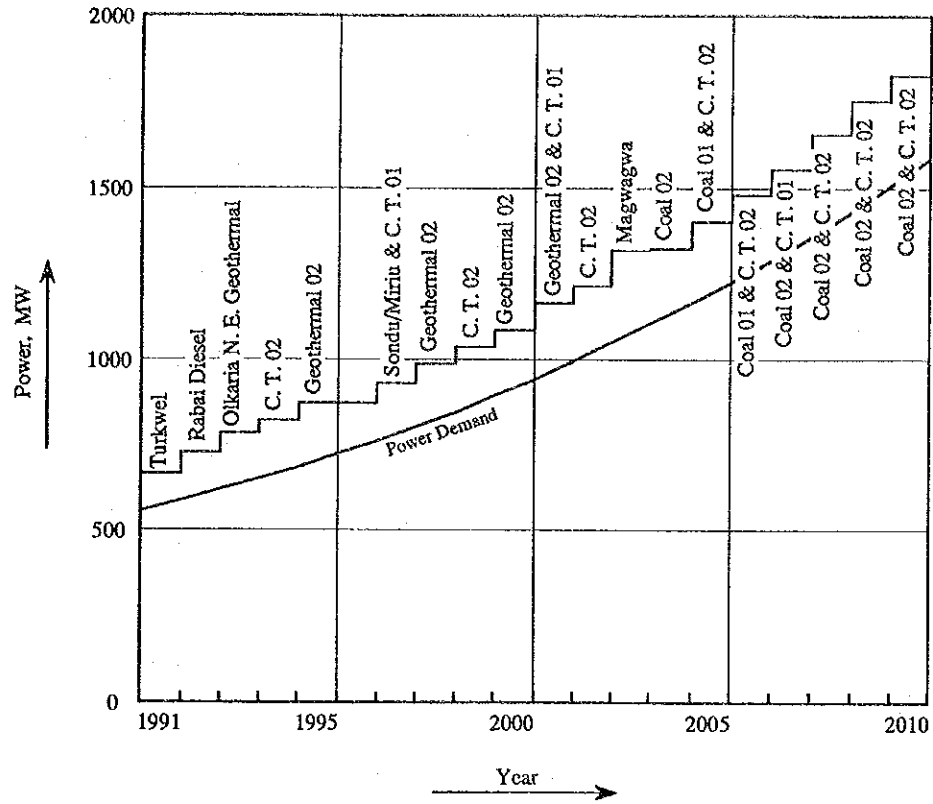


Figure 5.17 National Power Development Plan in Kenya

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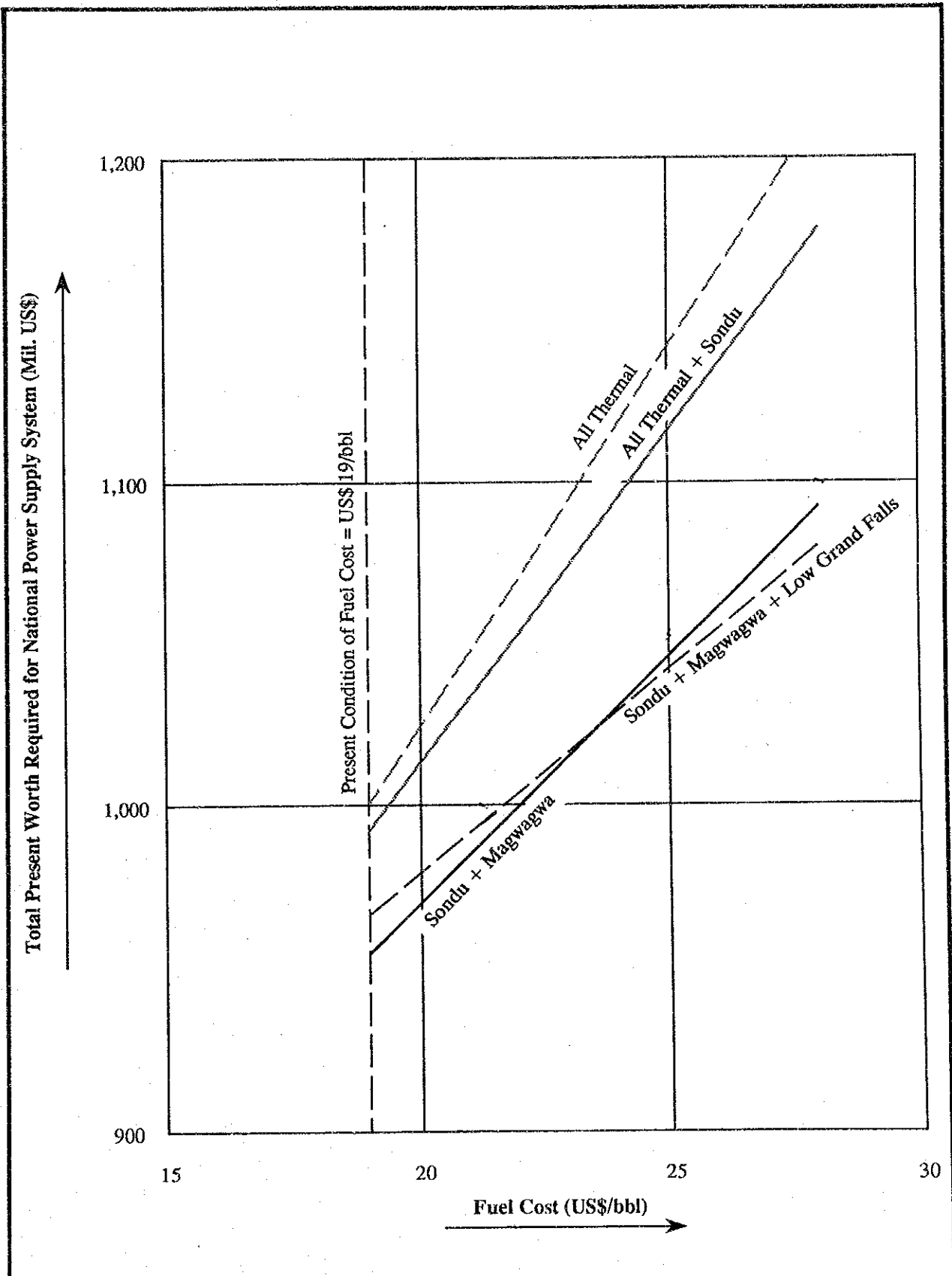


Figure 5.18 Results of the Sensitivity Test by Changing Fuel Prices

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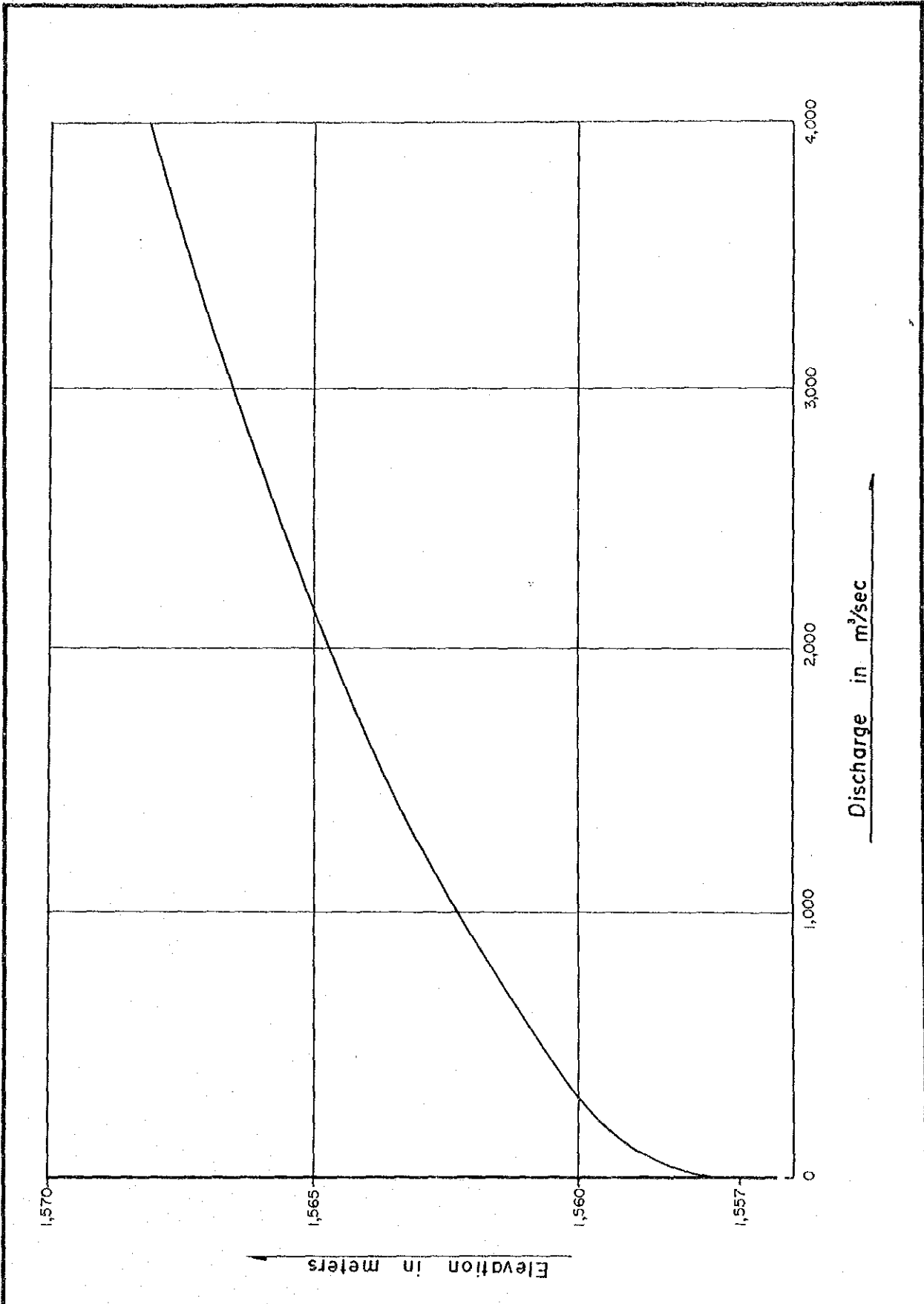


Figure 6.1 Rating Curve at Damsite

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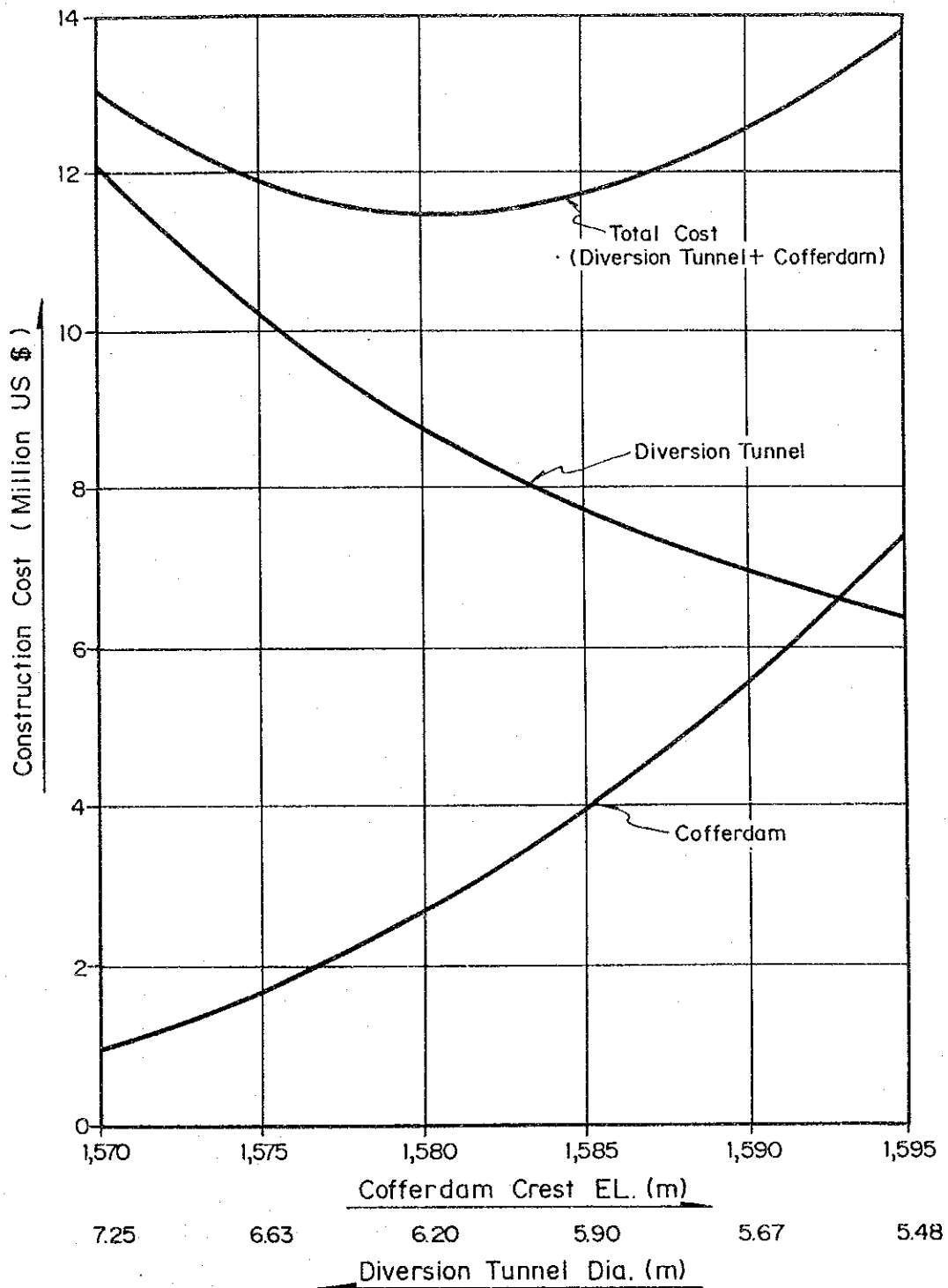
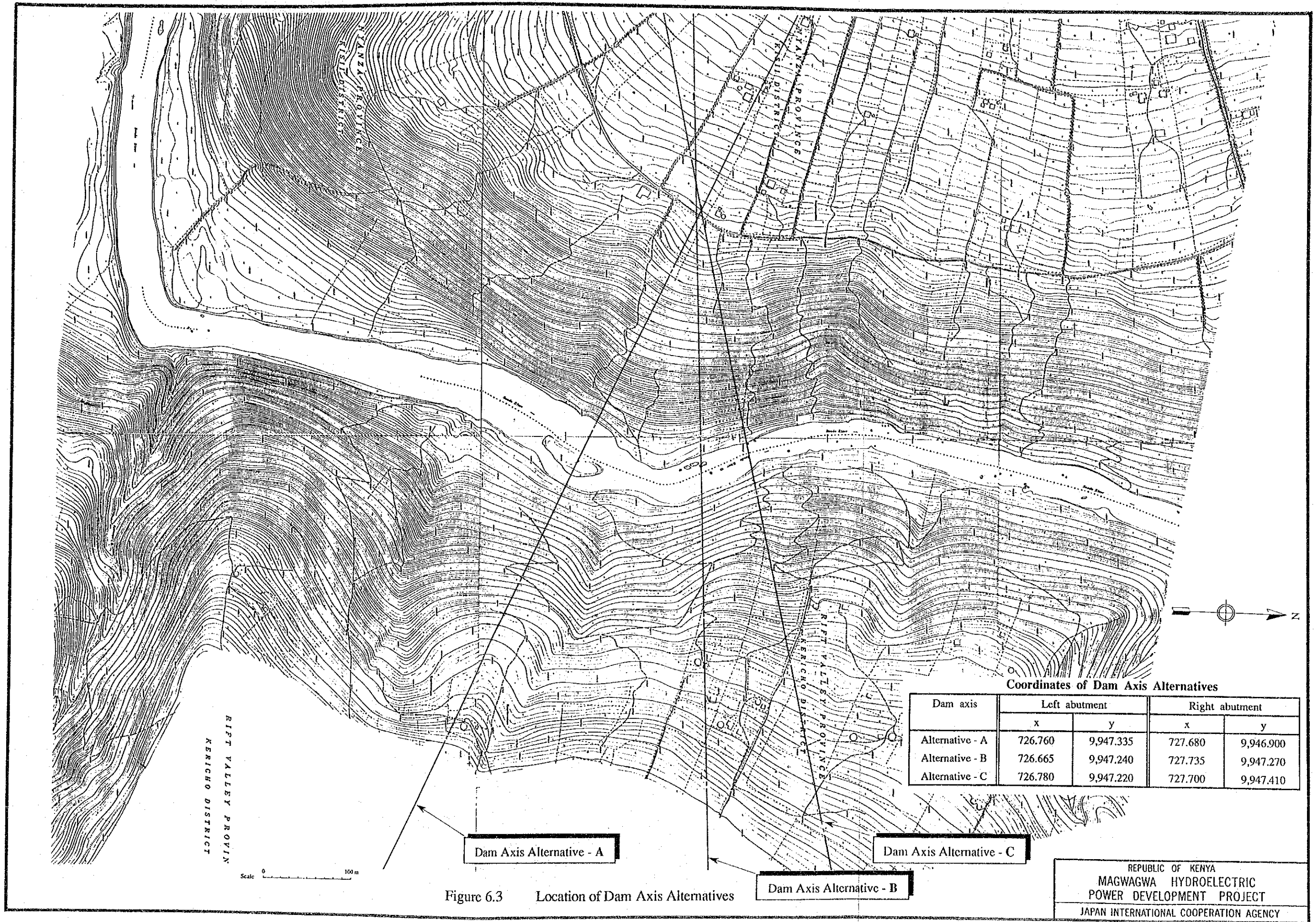


Figure 6.2 Construction Cost Curve for Diversion Tunnel and Cofferdam

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Coordinates of Dam Axis Alternatives

Dam axis	Left abutment		Right abutment	
	x	y	x	y
Alternative - A	726.760	9,947.335	727.680	9,946.900
Alternative - B	726.665	9,947.240	727.735	9,947.270
Alternative - C	726.780	9,947.220	727.700	9,947.410

Dam Axis Alternative - A

Dam Axis Alternative - C

Dam Axis Alternative - B

Figure 6.3 Location of Dam Axis Alternatives

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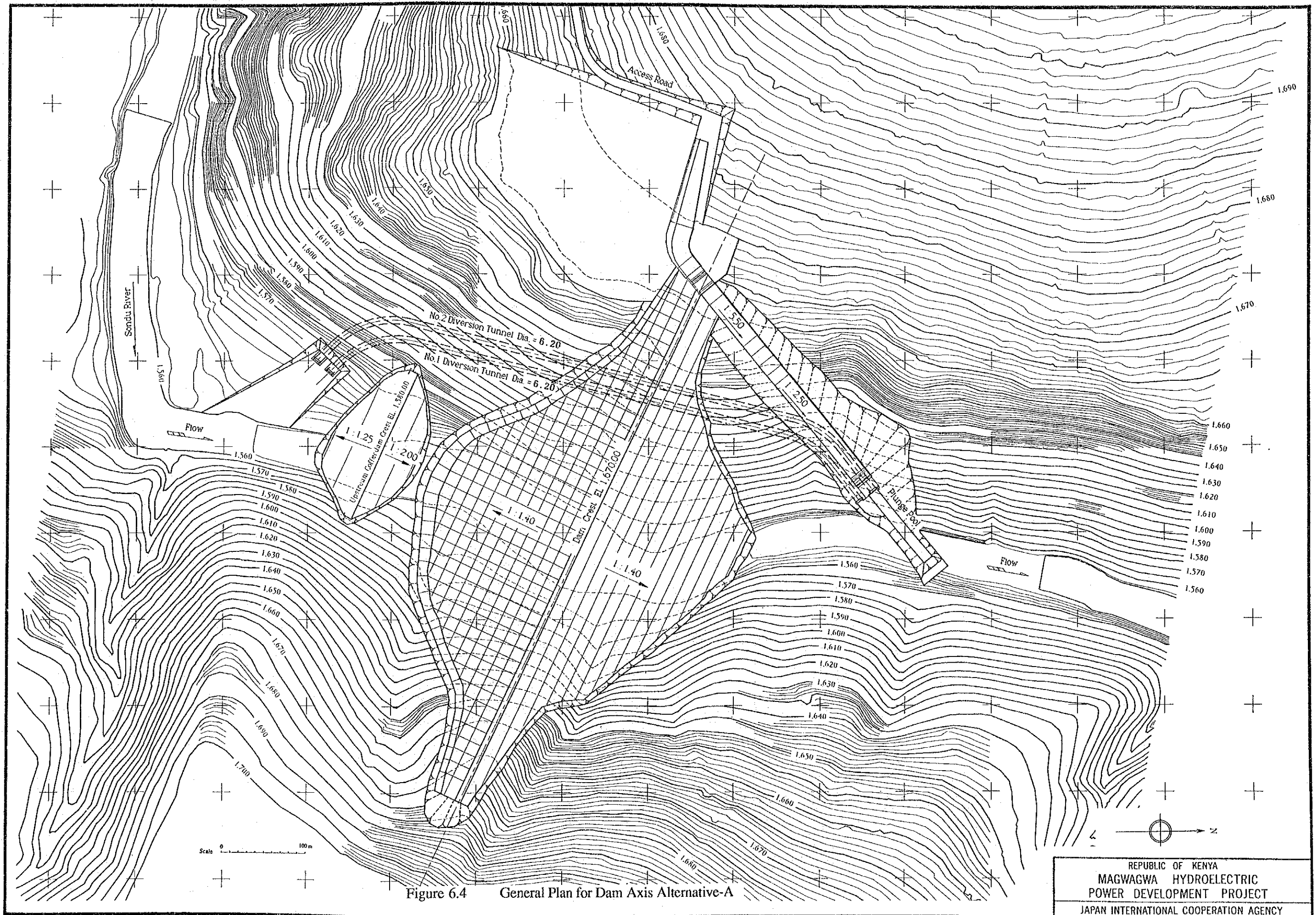
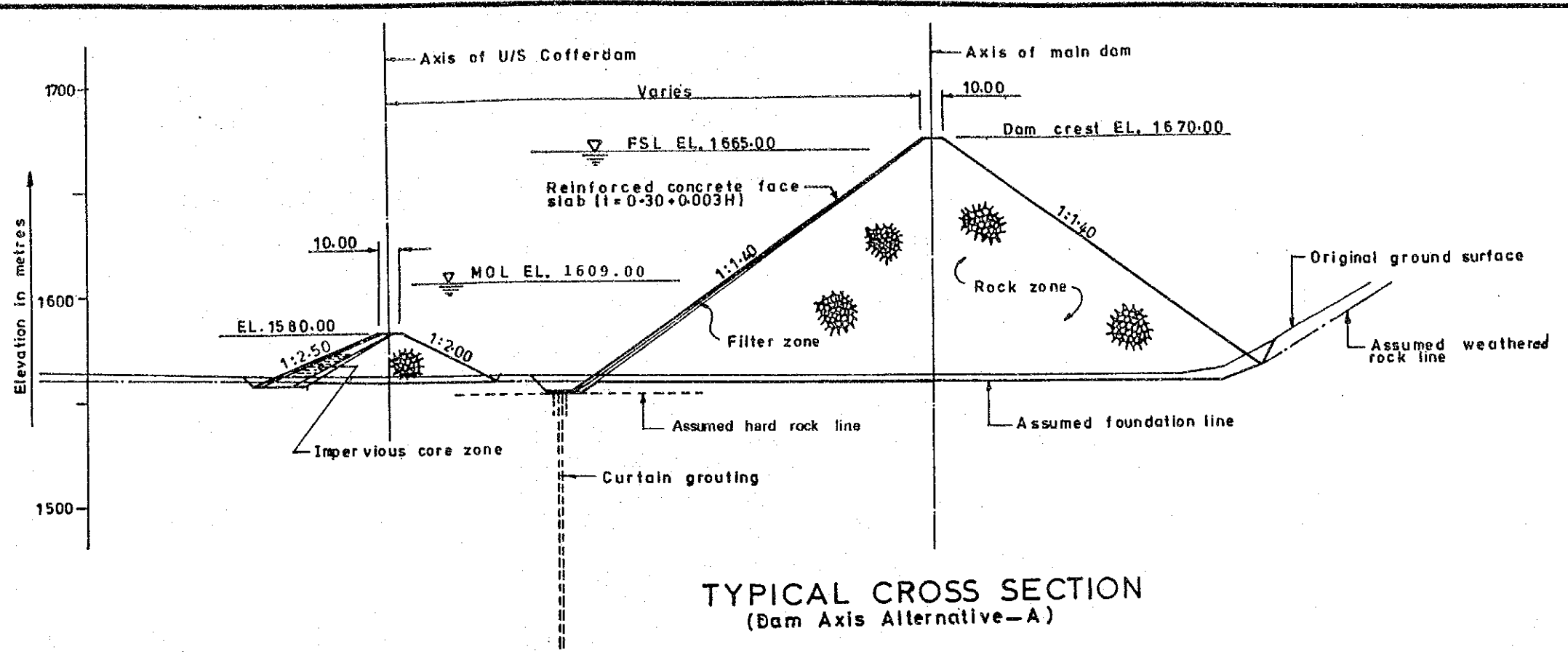
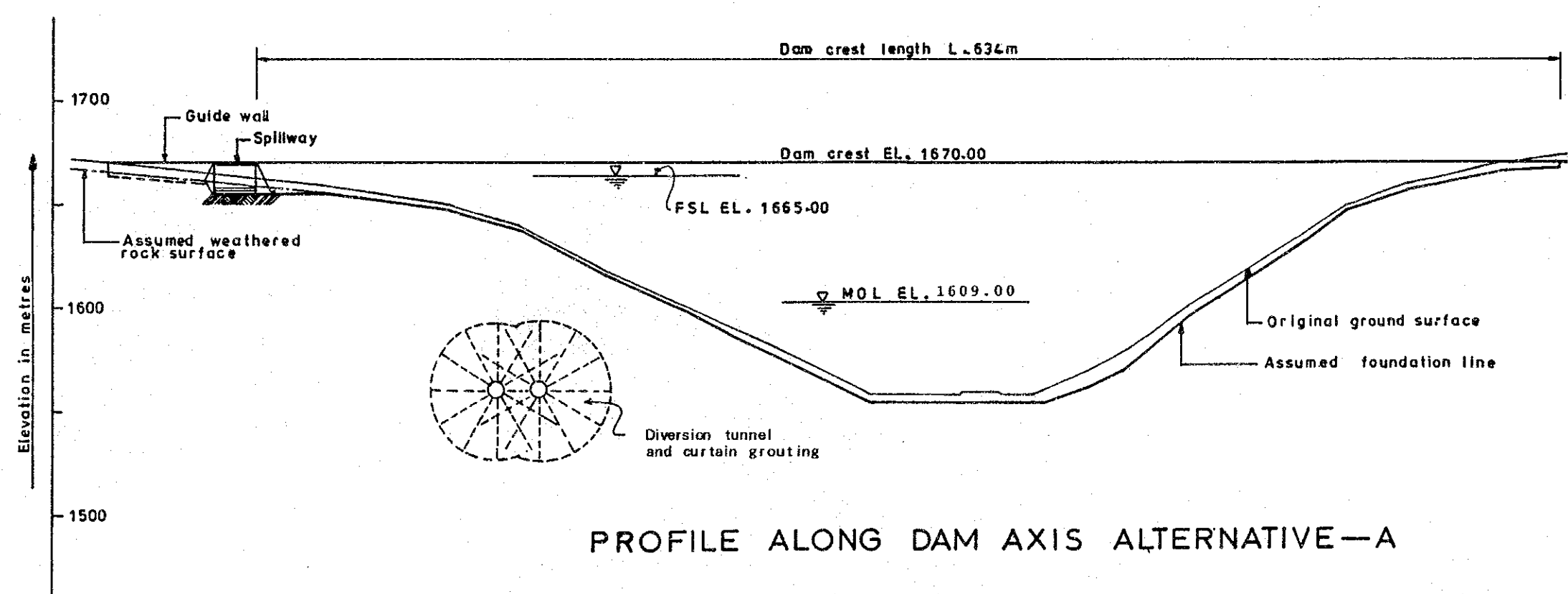


Figure 6.4 General Plan for Dam Axis Alternative-A

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TYPICAL CROSS SECTION
(Dam Axis Alternative-A)



PROFILE ALONG DAM AXIS ALTERNATIVE-A

Scale 0 100 m

Figure 6.5 Section and Profile for Dam Axis Alternative-A

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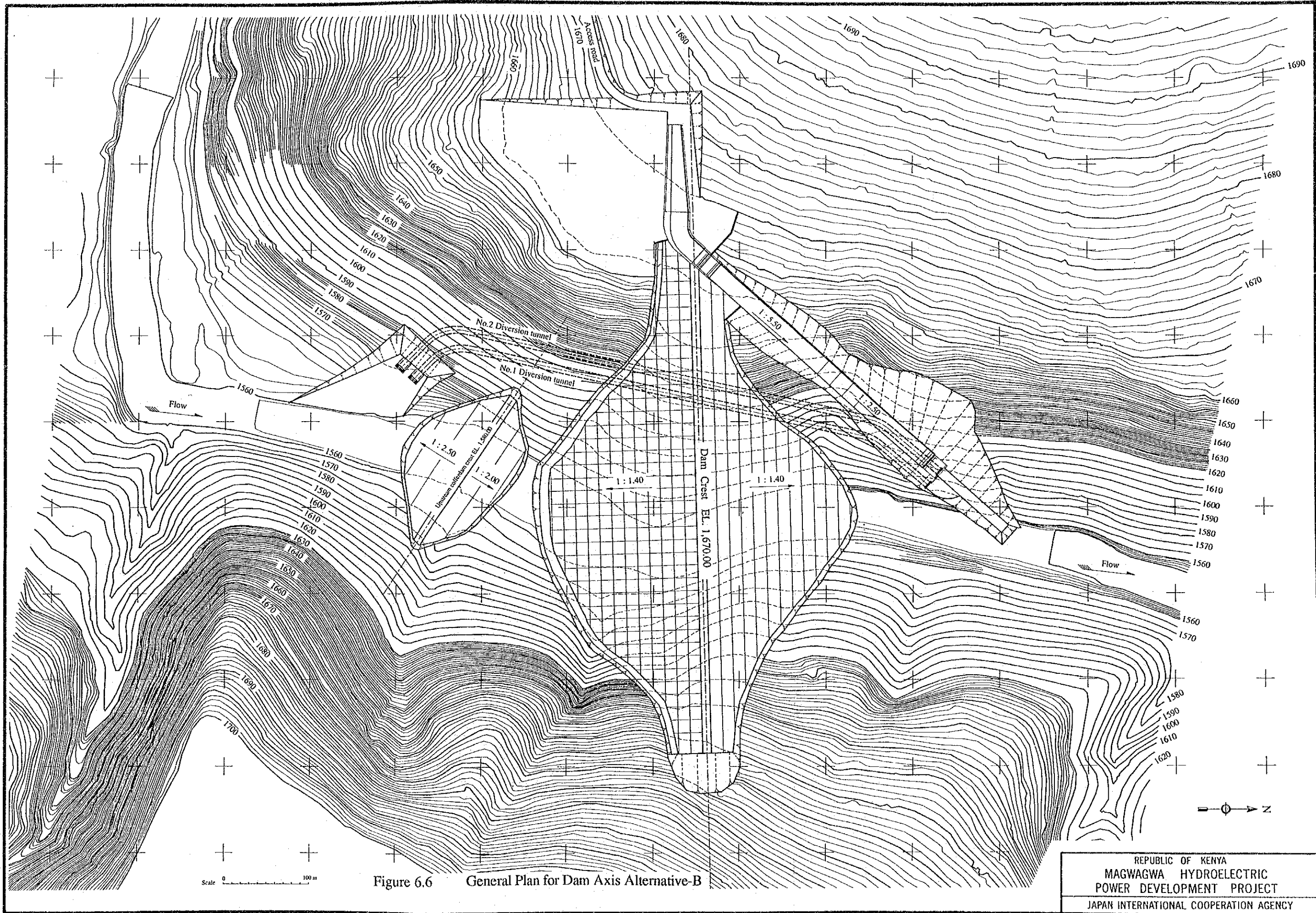
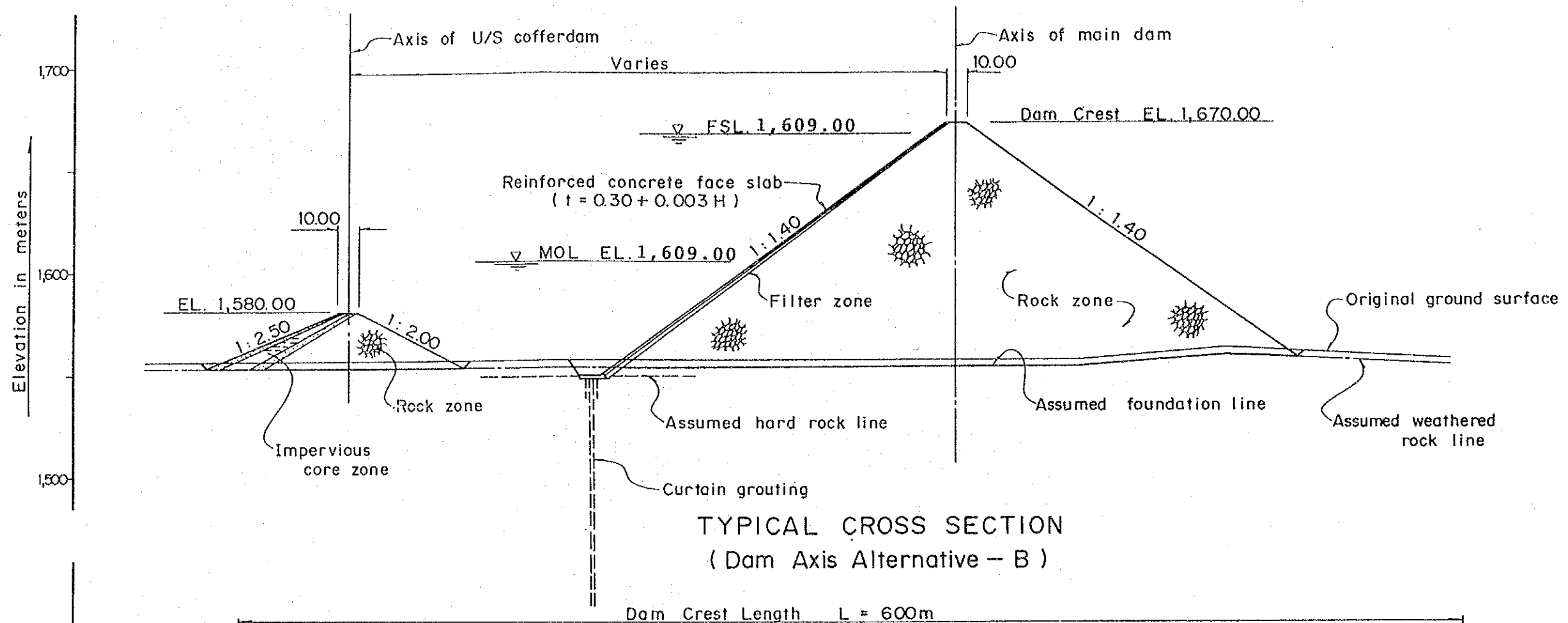
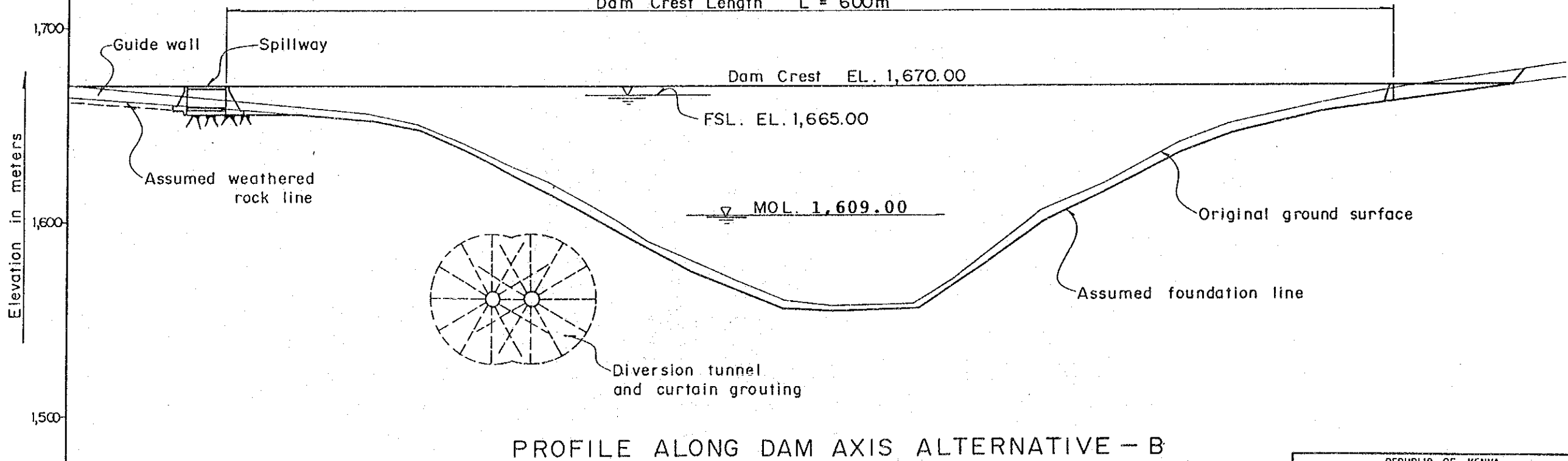


Figure 6.6 General Plan for Dam Axis Alternative-B

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TYPICAL CROSS SECTION
(Dam Axis Alternative - B)



PROFILE ALONG DAM AXIS ALTERNATIVE - B

Scale 0 100 m

Figure 6.7 Section and Profile for Dam Axis Alternative-B

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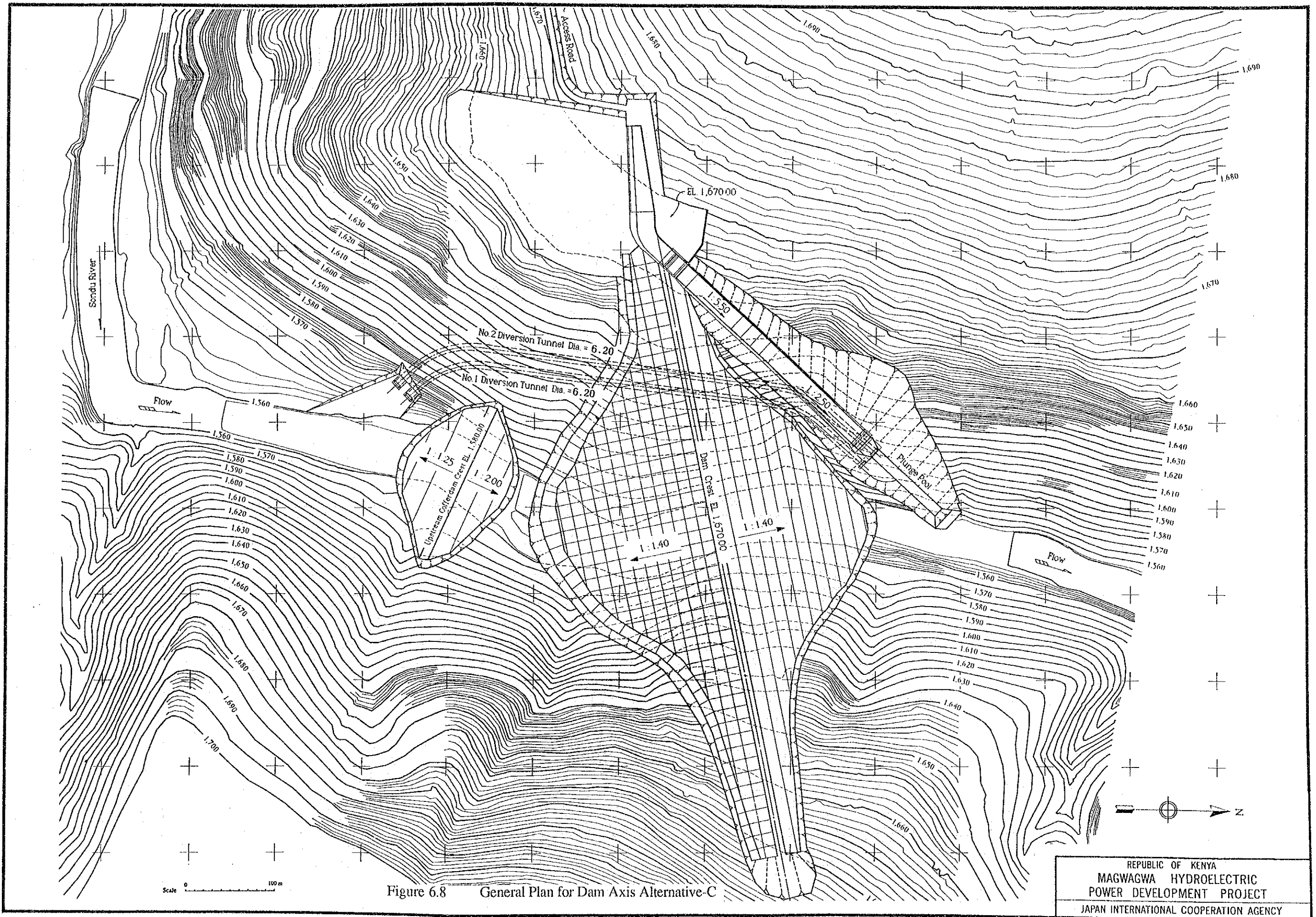
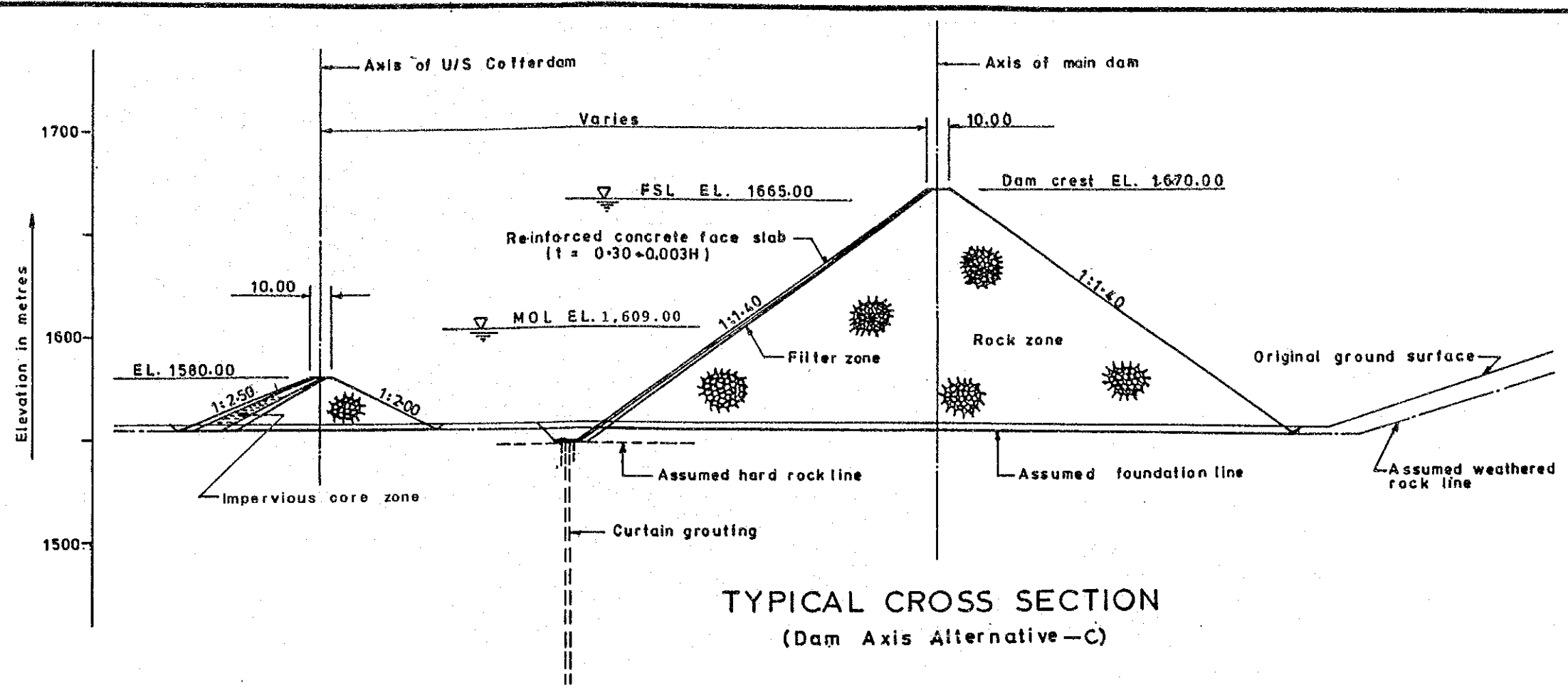
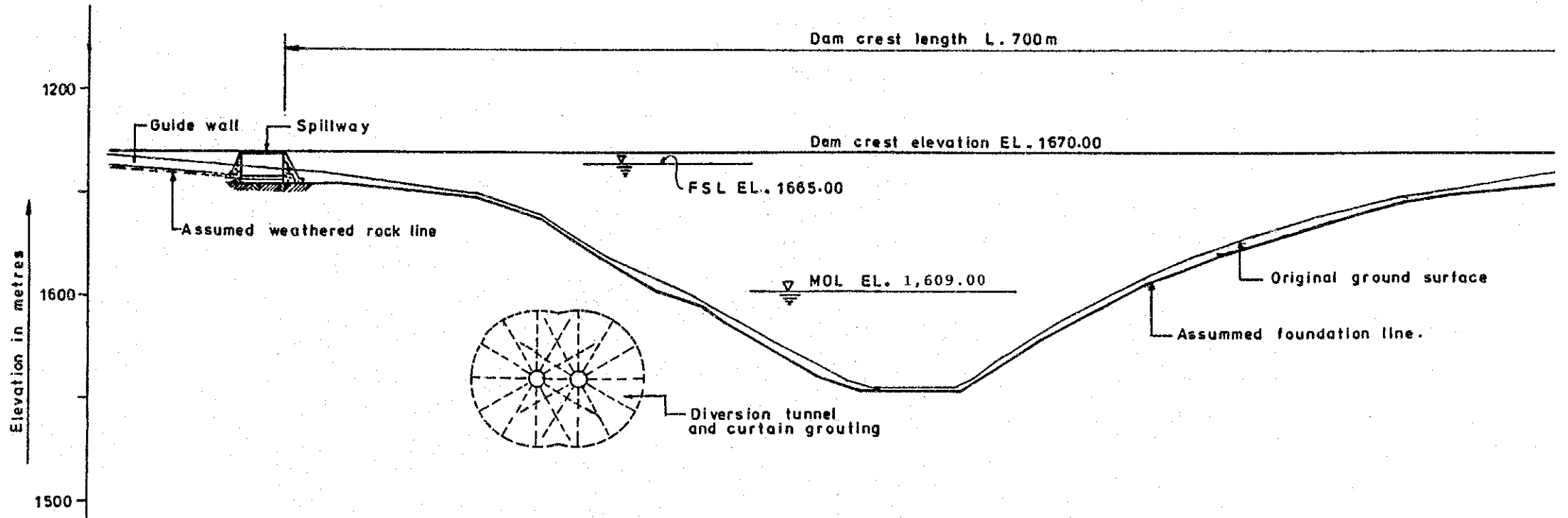


Figure 6.8 General Plan for Dam Axis Alternative-C

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TYPICAL CROSS SECTION
(Dam Axis Alternative-C)



PROFILE ALONG DAM AXIS ALTERNATIVE-C

Scale 0 100m

Figure 6.9 Section and Profile for Dam Axis Alternative-C

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