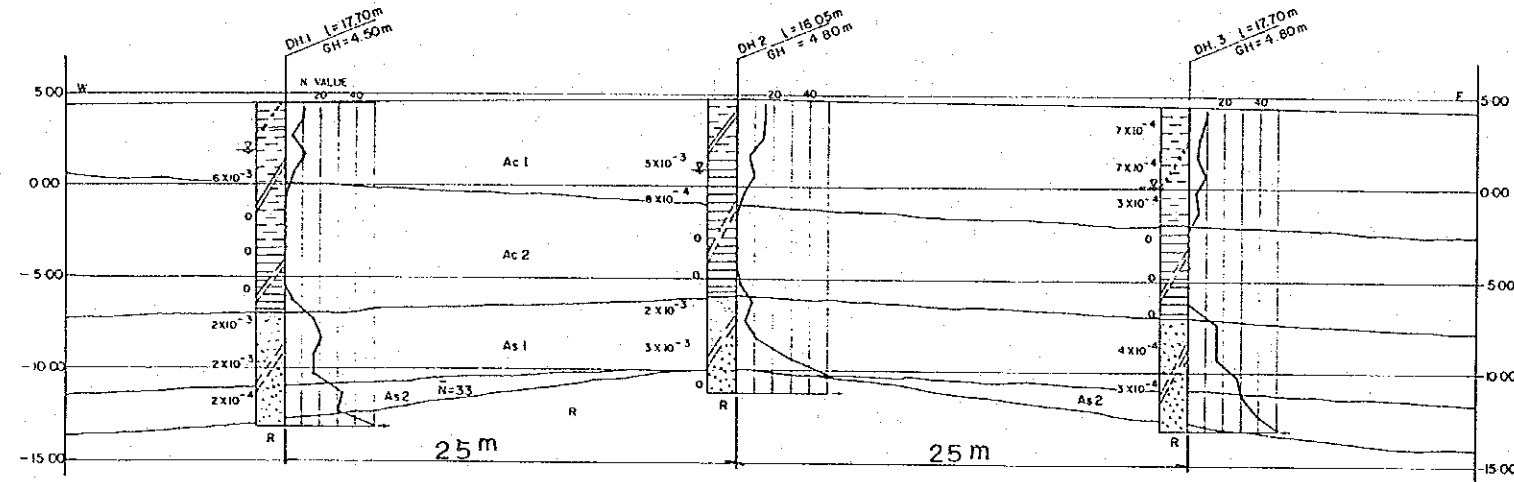


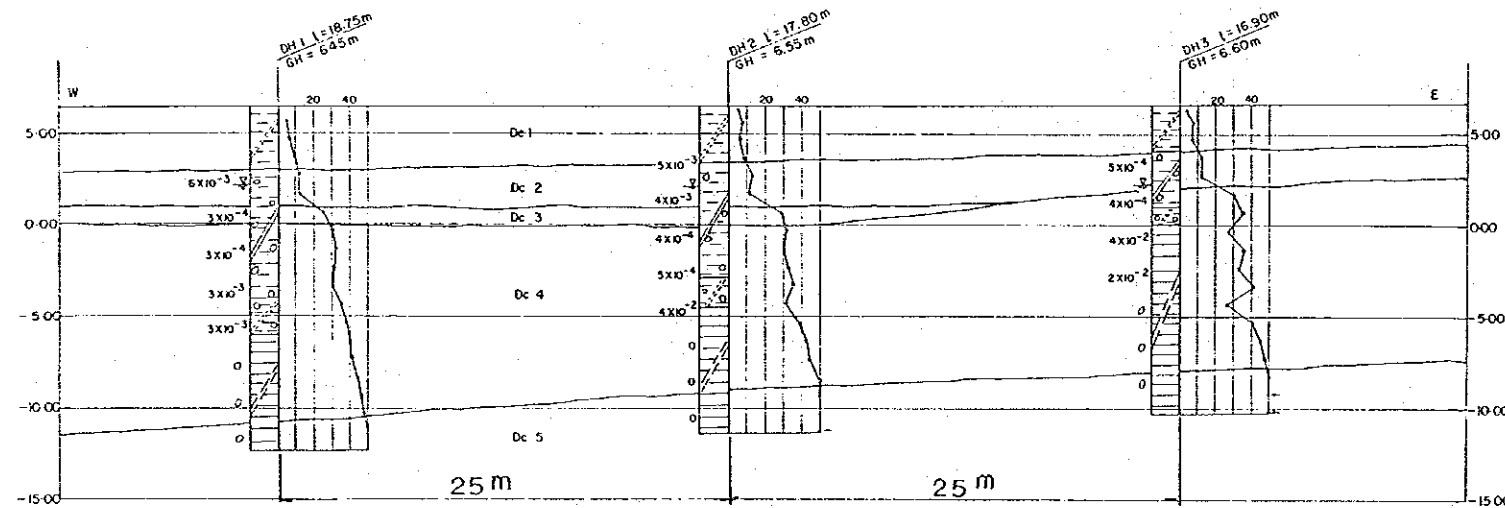
GEOLOGICAL CROSS SECTION AT SITE 1 (S=1:200)



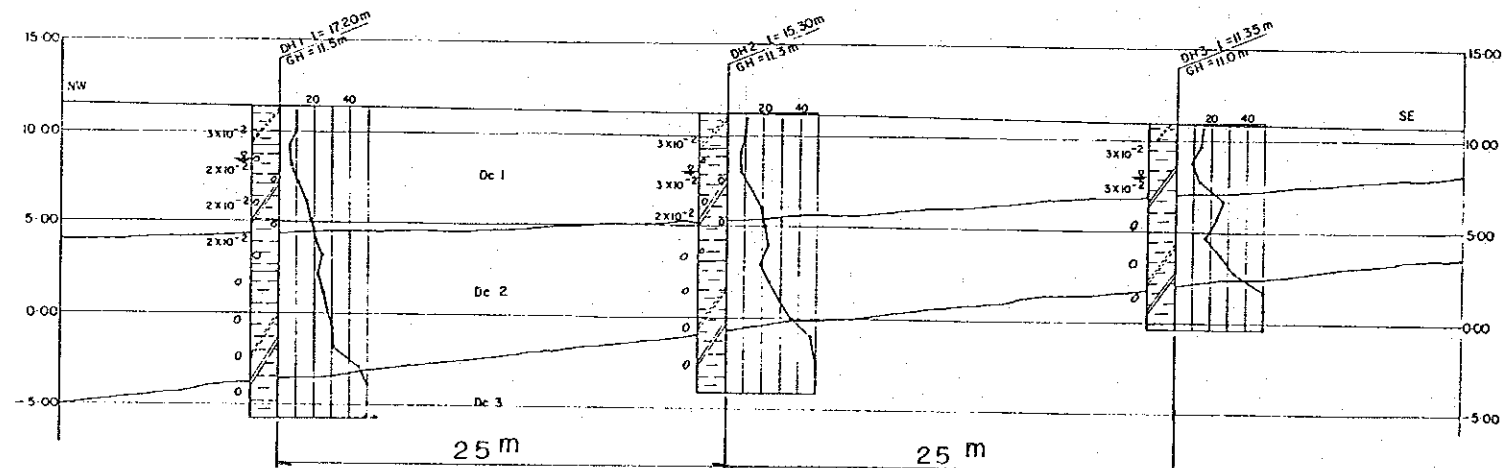
LEGEND

- | | | | |
|--|-------------|--|--------|
| | clay | | clayey |
| | silt | | silty |
| | sand | | sandy |
| | some gravel | | |

GEOLOGICAL CROSS SECTION AT SITE 2 (S=1:200)



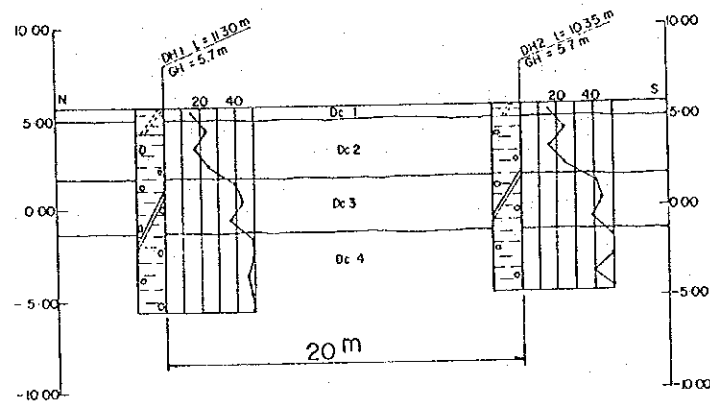
GEOLOGICAL CROSS SECTION AT SITE 3 (S=1:200)



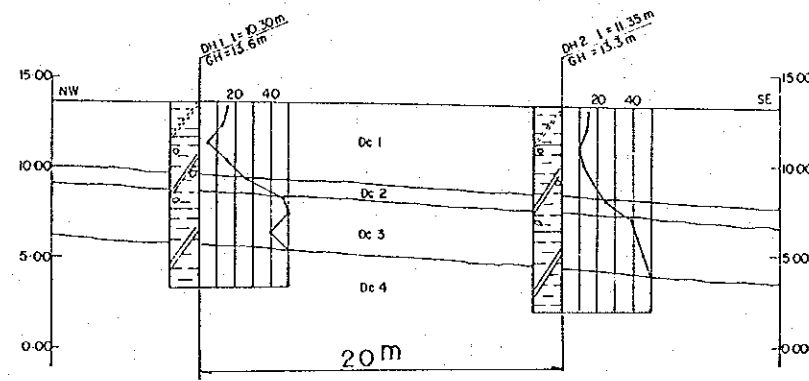
THE FEASIBILITY STUDY
ON
THE INTEGRATED AGRICULTURE
AND WATER RESOURCES DEVELOPMENT PROJECT
OF
THE MENAM CHUMPHON

GEOLOGICAL CROSS SECTION
AT SITE 1,2,3

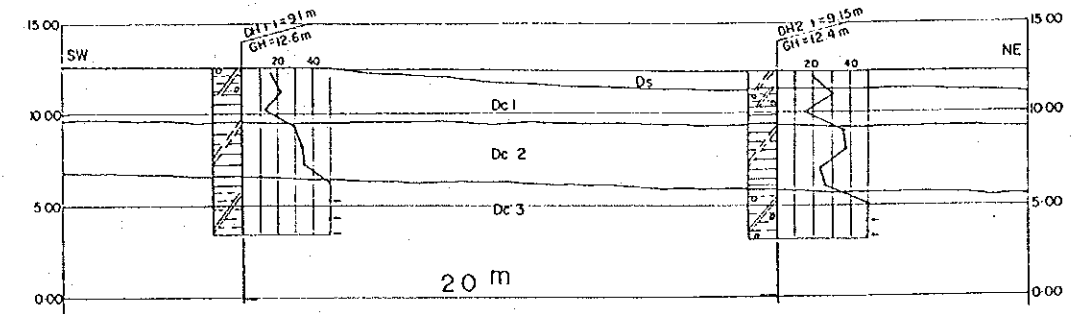
GEOLOGICAL CROSS SECTION AT SITE 4 (S=1:200)



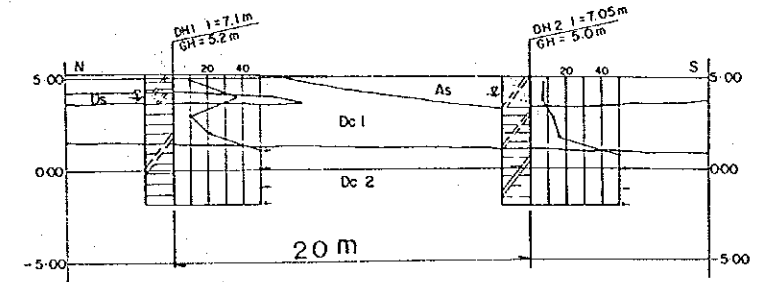
GEOLOGICAL CROSS SECTION AT SITE 5 (S=1:200)



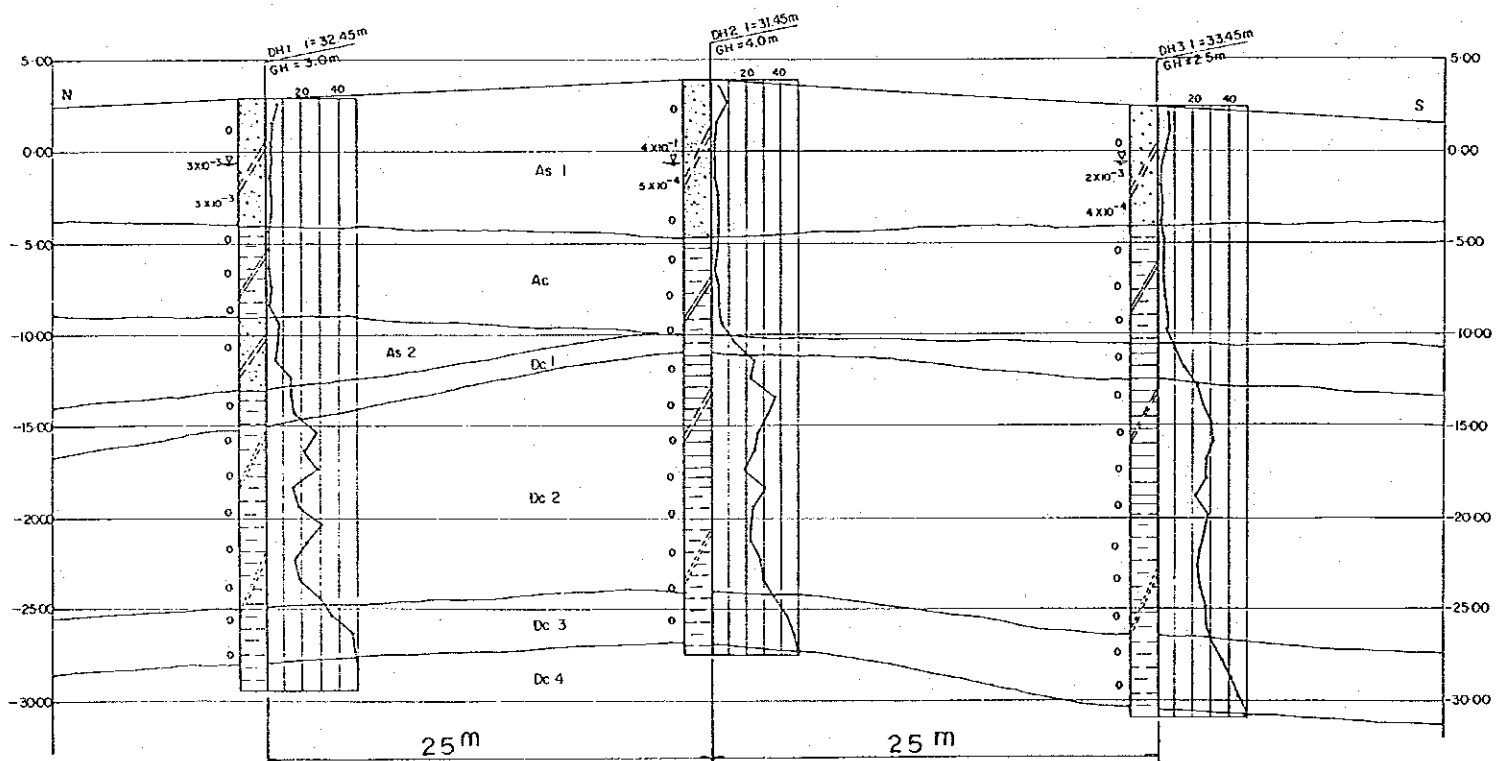
GEOLOGICAL CROSS SECTION AT SITE 6 (S=1:200)



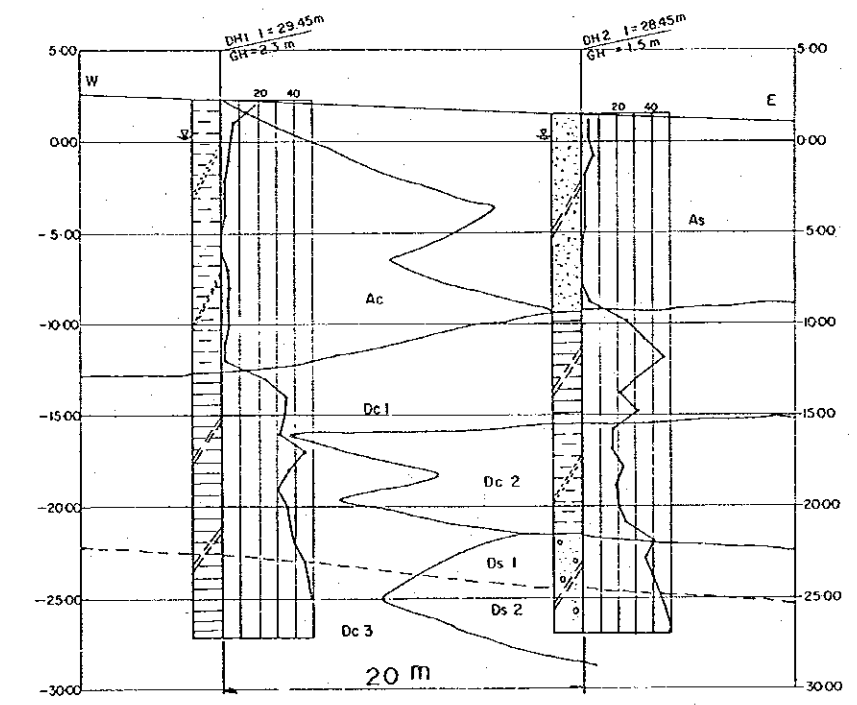
GEOLOGICAL CROSS SECTION AT SITE 7 (S=1:200)



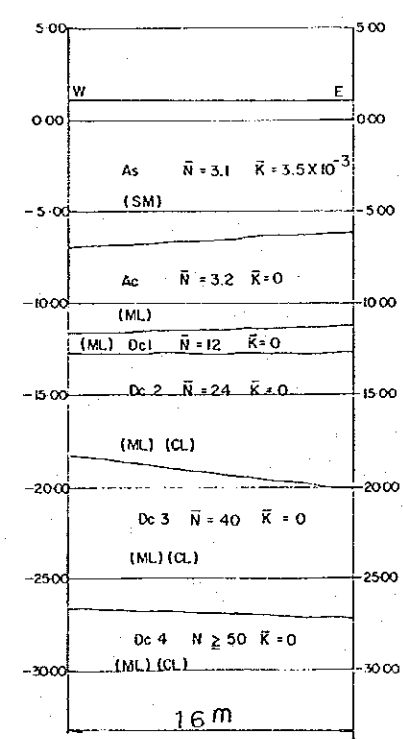
GEOLOGICAL CROSS SECTION AT SITE 9 (S=1:200)



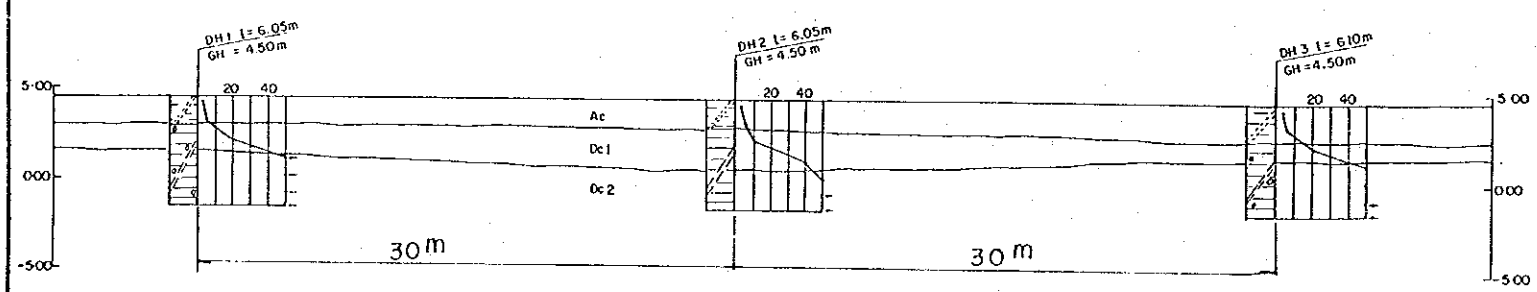
GEOLOGICAL CROSS SECTION AT SITE 8 (S=1:200)



GEOLOGICAL CROSS SECTION AT SITE 11



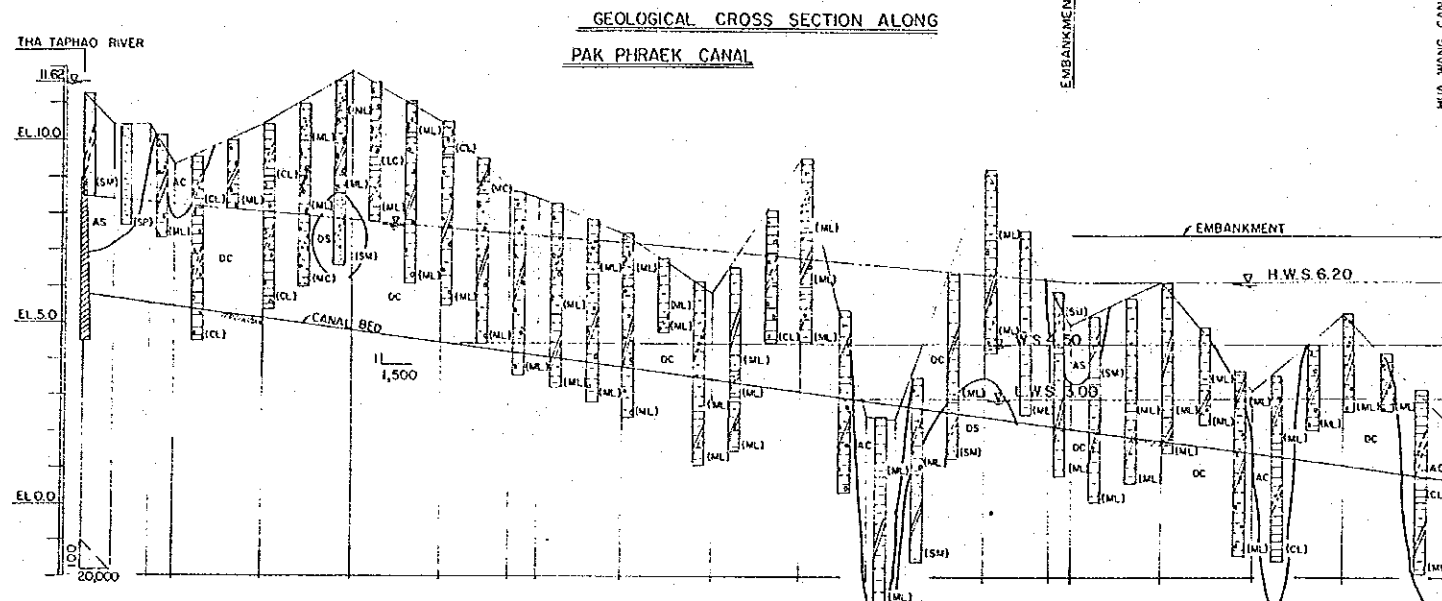
GEOLOGICAL CROSS SECTION AT SITE 10 (S=1:200)



- LEGEND
- clay
 - silt
 - sand
 - some gravel
 - clayey
 - silty
 - sandy

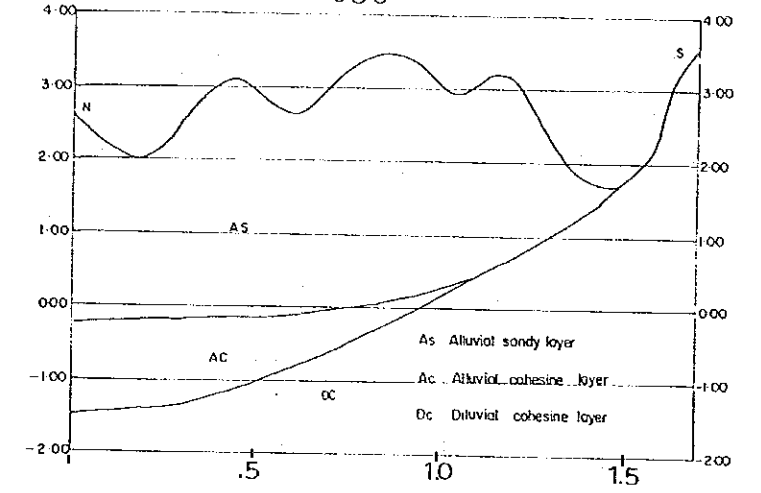
THE FEASIBILITY STUDY
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OF
THE MENAM CHUMPHON

GEOLOGICAL CROSS SECTION
AT SITE 4~11



STATION NO.	DISTANCE (m)	ELEVATION EL (m)	CANAL BED ELEVATION EL (m)	EMBANKMENT ELEVATION EL (m)	CURVE DATA	
					IP	Curve Data
0+000	0	11.3	5.80	5.80	IP 1	IA+40-00-00 R+3000 TL+109.191 CL+209.440 SL+19.253
0+158	158.0	10.5	5.69	5.69		
0+387	209.4	10.5	5.56	5.56		
0+500	133.0	9.4	5.47	5.47		
1+000	500.0	10.5	5.13	5.13		
1+500	500.0	12.0	4.80	4.80		
2+000	500.0	10.6	4.47	4.47		
2+377	377.0	9.7	4.22	4.22		
2+534	157.0	8.5	4.11	4.11		
3+000	466.0	7.5	3.80	3.80		
3+500	500.0	5.9	3.47	3.47		
4+000	500.0	9.6	3.13	3.13		
4+368	368.0	2.5	2.89	2.89		
4+525	157.0	2.4	2.78	2.78		
5+000	464.0	9.3	2.46	2.46		
5+376	367.0	6.2	2.22	2.22		
5+500	133.0	5.0	2.13	2.13		
6+000	500.0	6.2	1.80	1.80		
6+500	500.0	3.2	1.47	1.47		
7+000	500.0	5.3	1.13	1.13		
7+575	575.0	2.4	0.79	0.79		

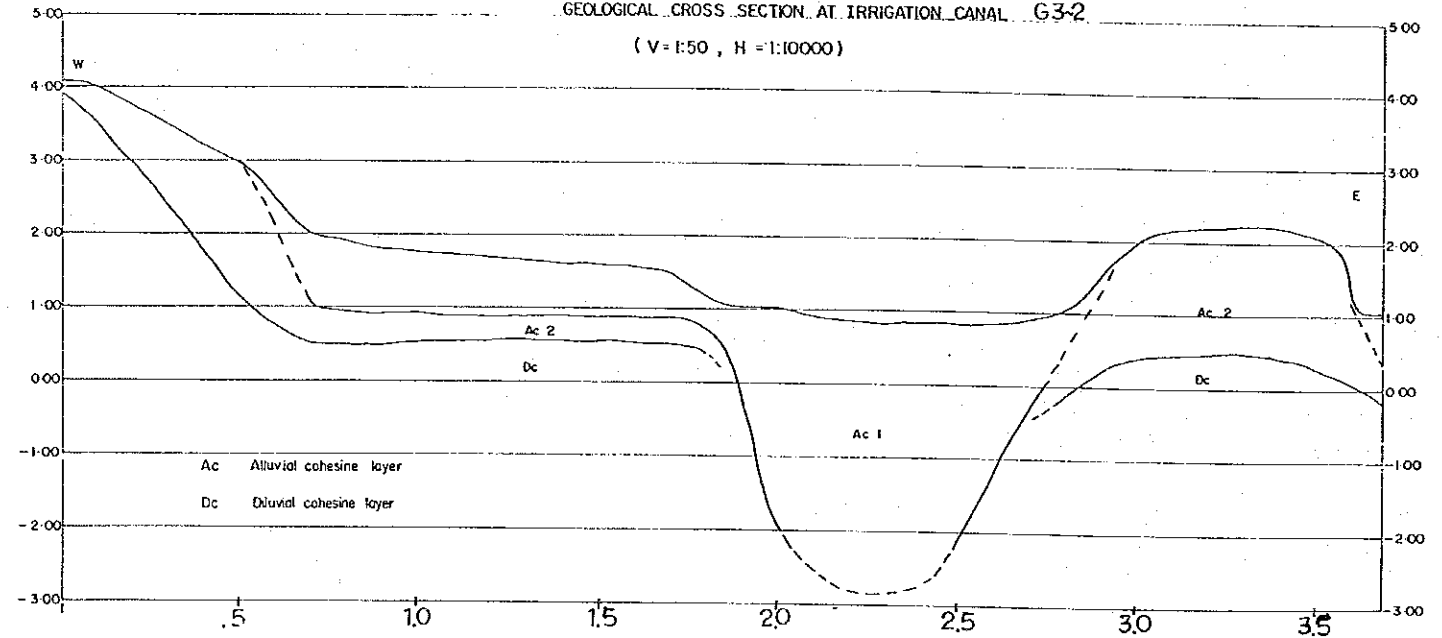
**GEOLOGICAL CROSS SECTION AT IRRIGATION
CANAL (V=1:50, H=1:10000)
G5-6**

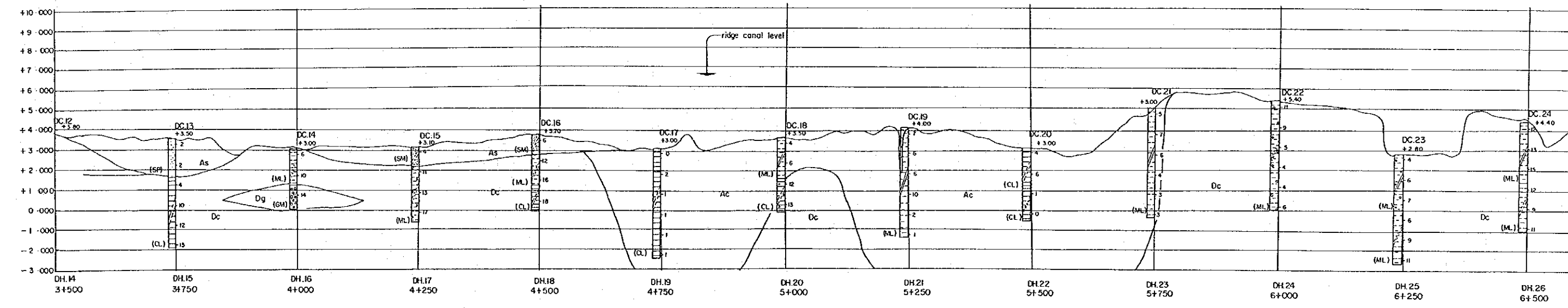
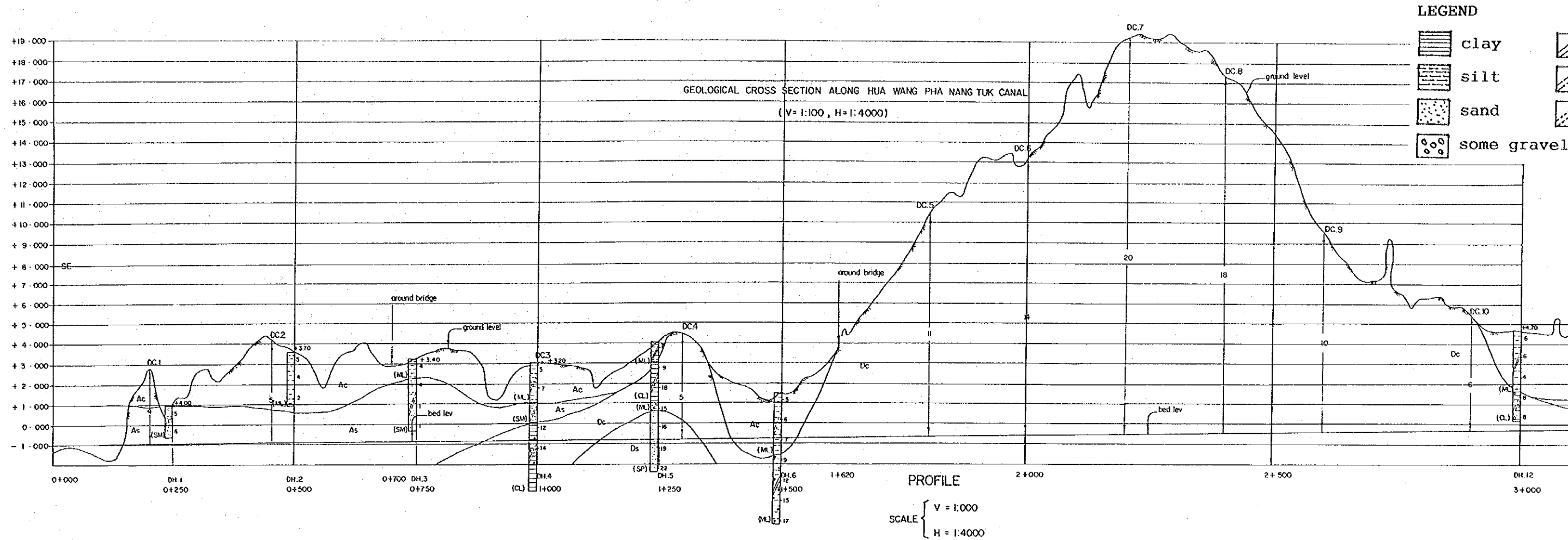


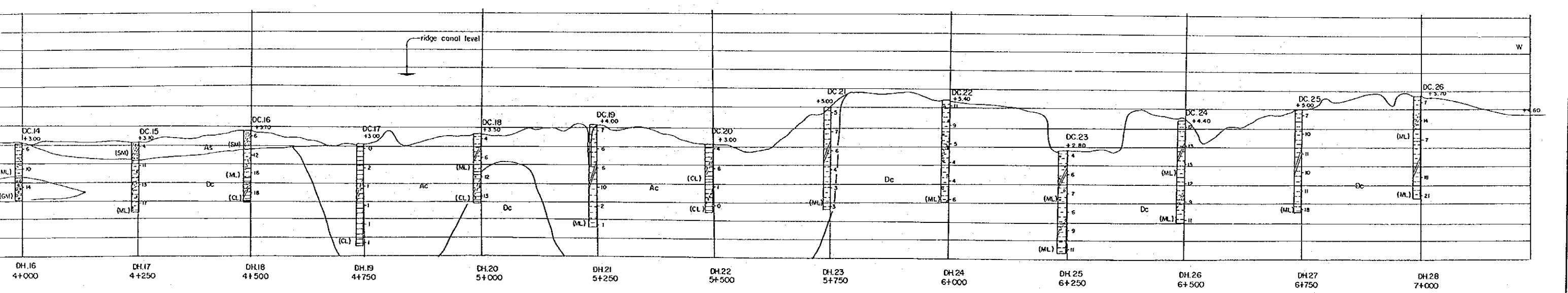
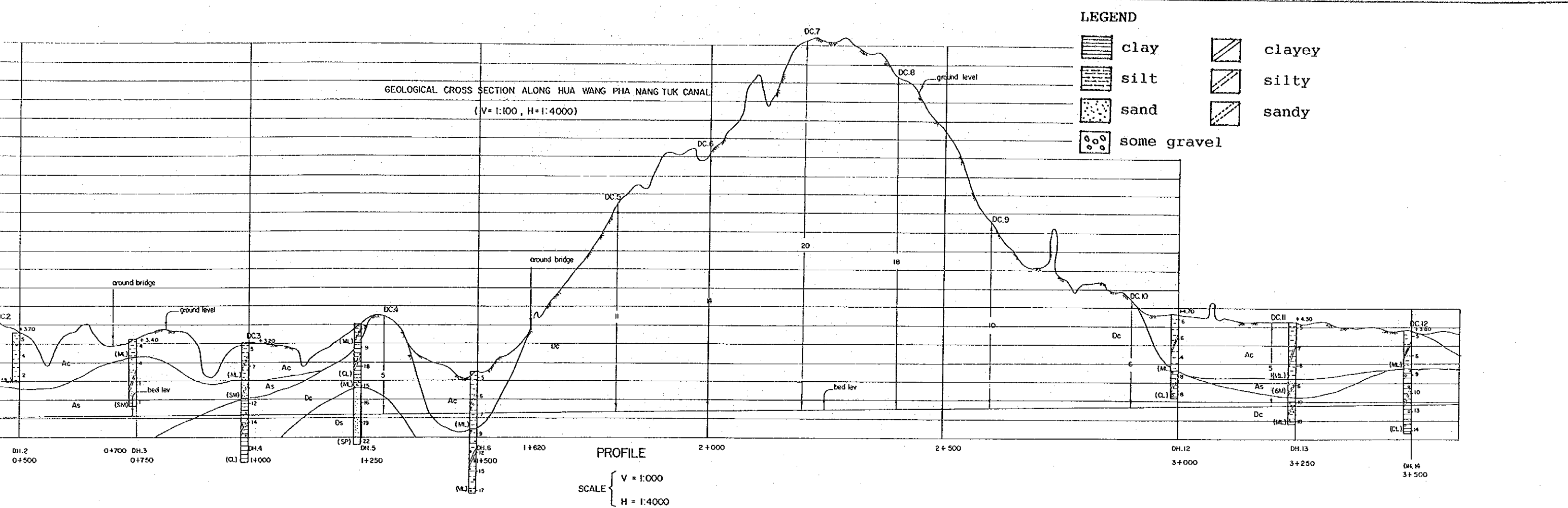
LEGEND

- clay
- silt
- sand
- some gravel
- clayey
- silty
- sandy

**GEOLOGICAL CROSS SECTION AT IRRIGATION CANAL G3-2
(V=1:50, H=1:10000)**





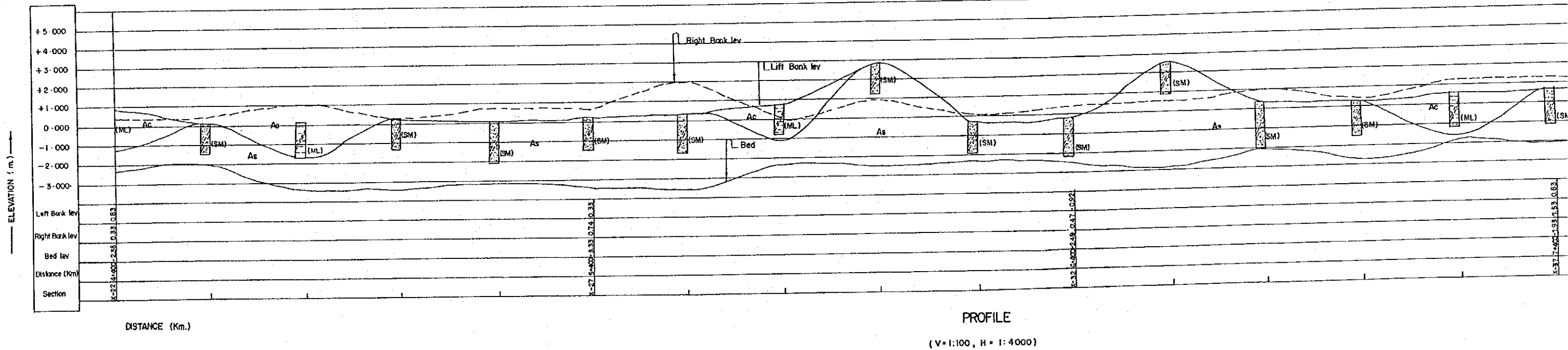
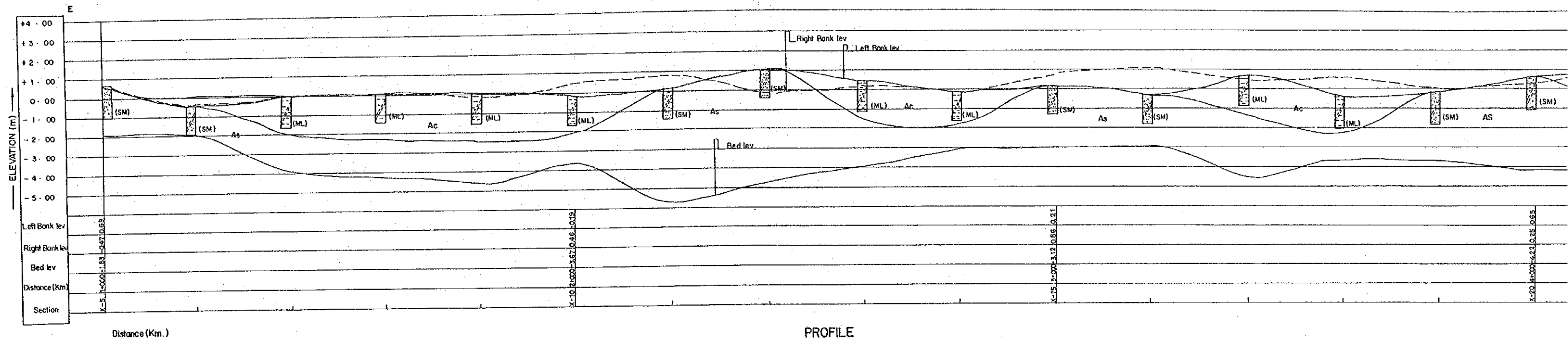


THE FEASIBILITY STUDY
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AND WATER RESOURCES DEVELOPMENT PROJECT
OF
THE MENAM CHUMPHON

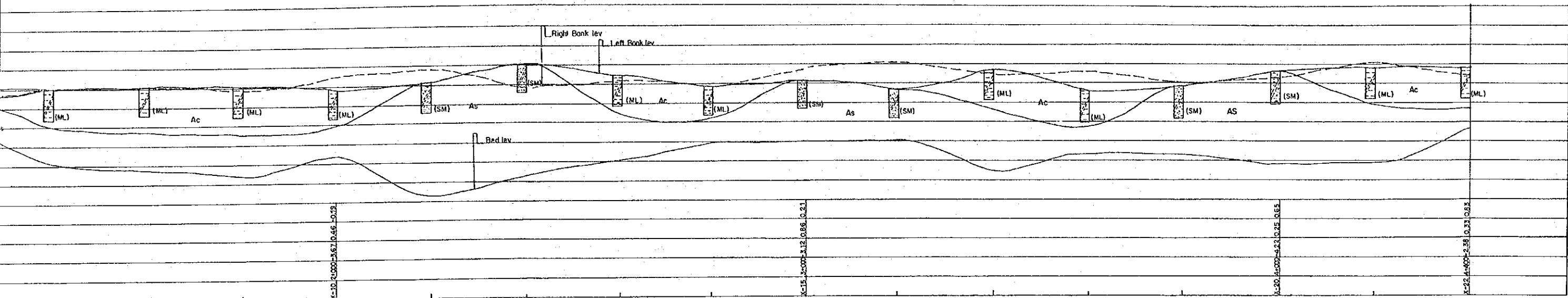
GEOLOGICAL CROSS SECTION ALONG
HUA WANG PHANANG TUK CANAL

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GEOLOGICAL CROSS SECTION AT SAM KAEO CANAL



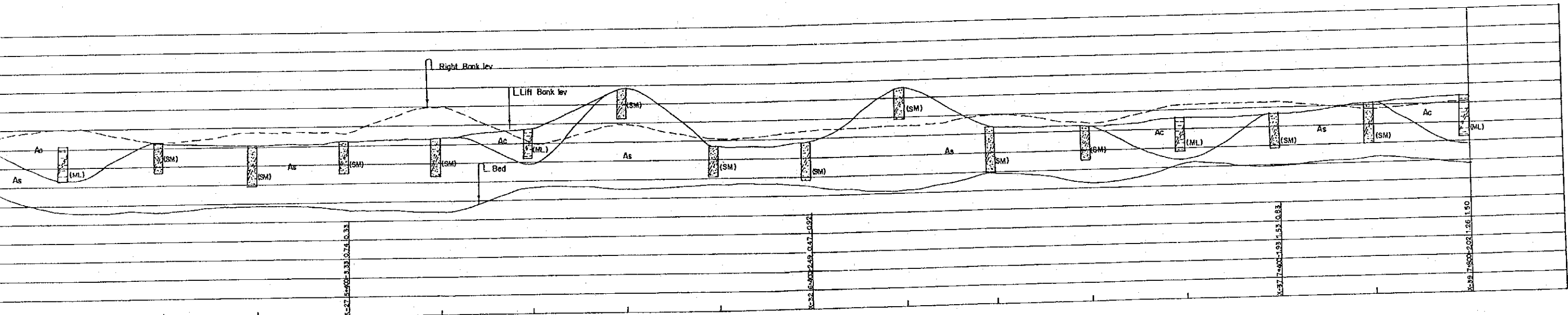
GEOLOGICAL CROSS SECTION AT SAM KAE0 CANAL



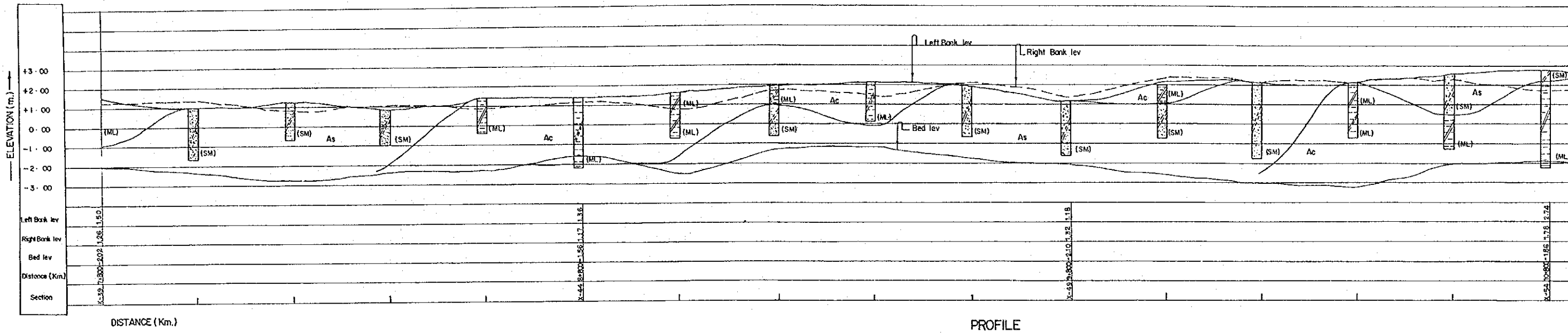
PROFILE
(V=1:100, H=1:4000)

LEGEND

- | | | | |
|--|-------------|--|--------|
| | clay | | clayey |
| | silt | | silty |
| | sand | | sandy |
| | some gravel | | |

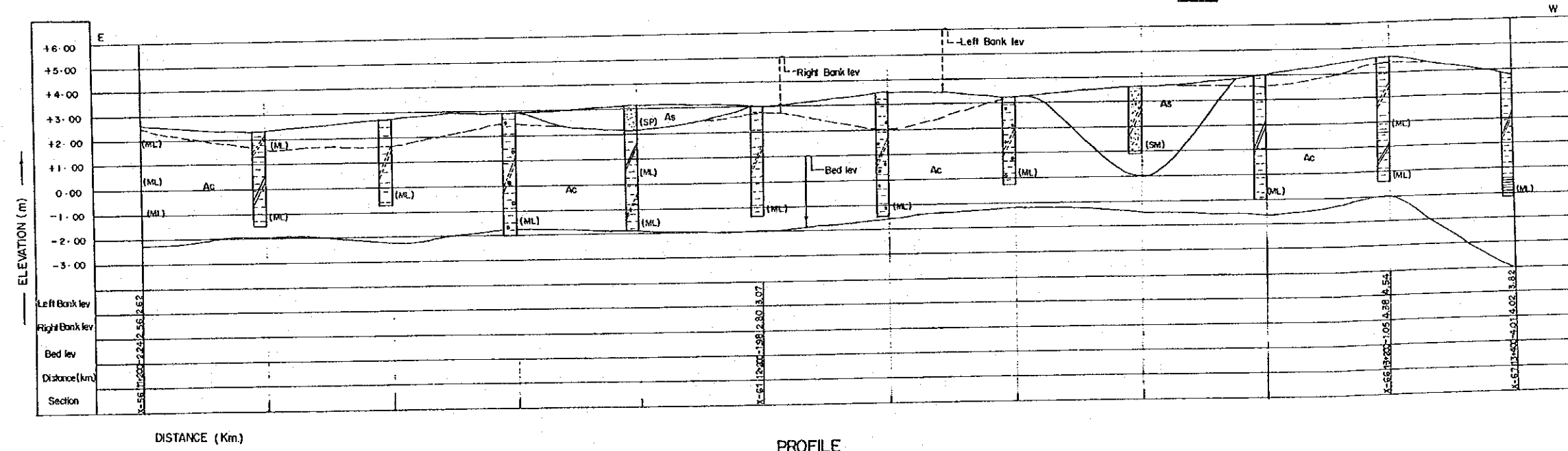


PROFILE
(V=1:100, H=1:4000)

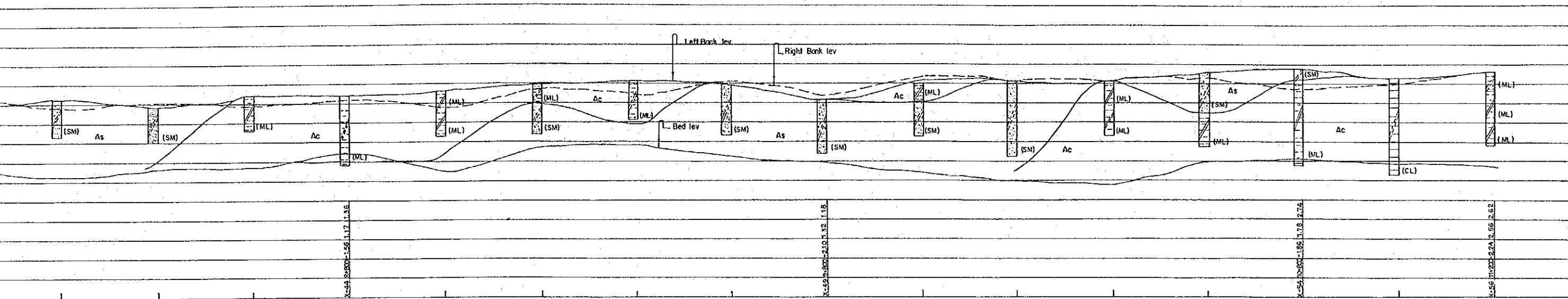


PROFILE
(V=1:100, H=1:4000)

- LEGEND
- clay
 - silt
 - sand
 - some gravel
 - clayey
 - silty
 - sandy

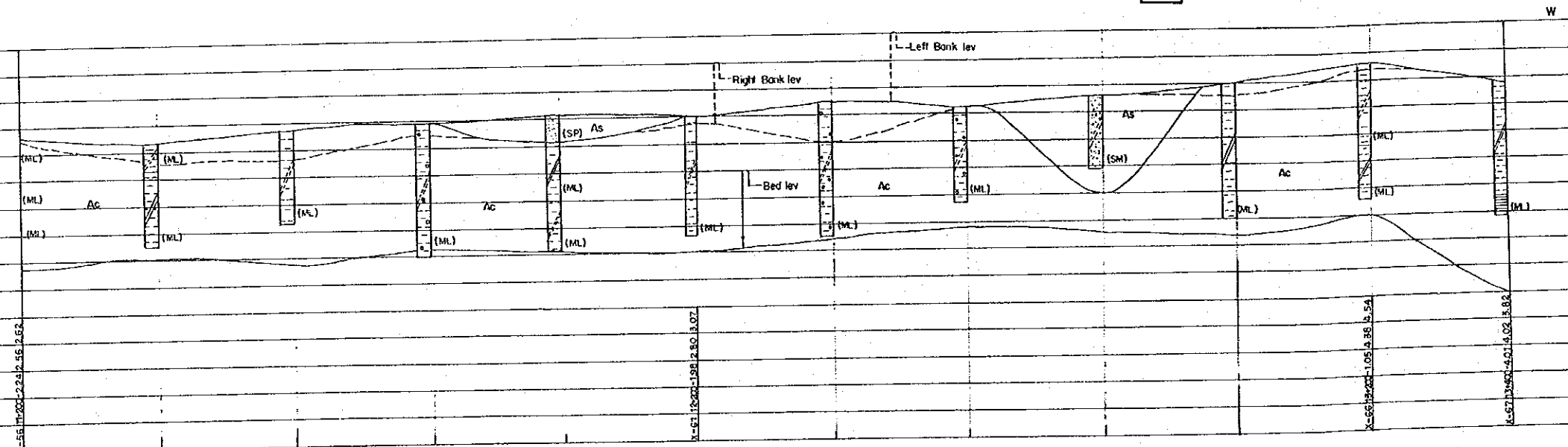


PROFILE
(V=1:100, H=1:4000)



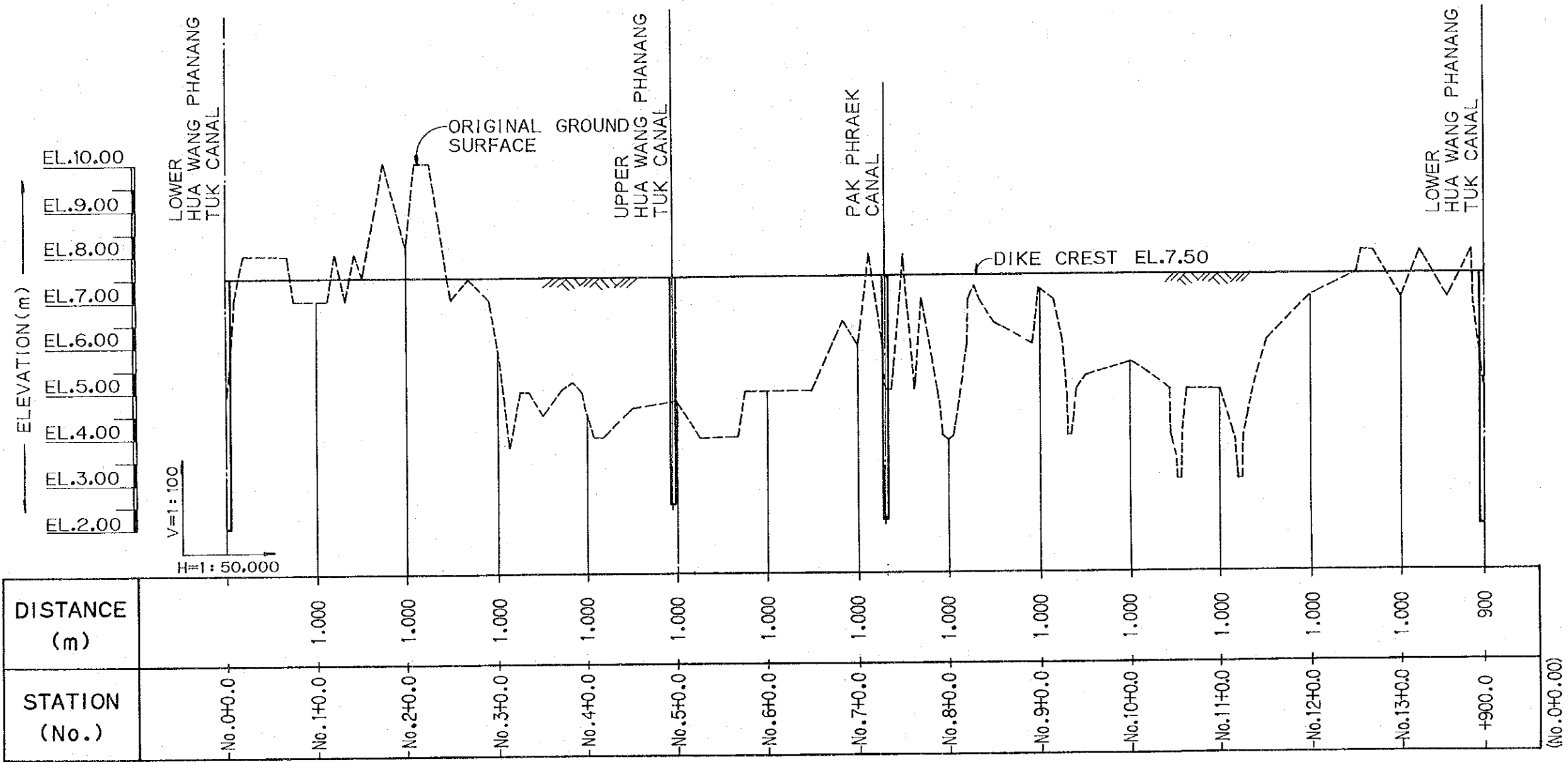
PROFILE
(V = 1:100, H = 1:4000)

- LEGEND
- | | | | |
|--|-------------|--|--------|
| | clay | | clayey |
| | silt | | silty |
| | sand | | sandy |
| | some gravel | | |



DISTANCE (Km)

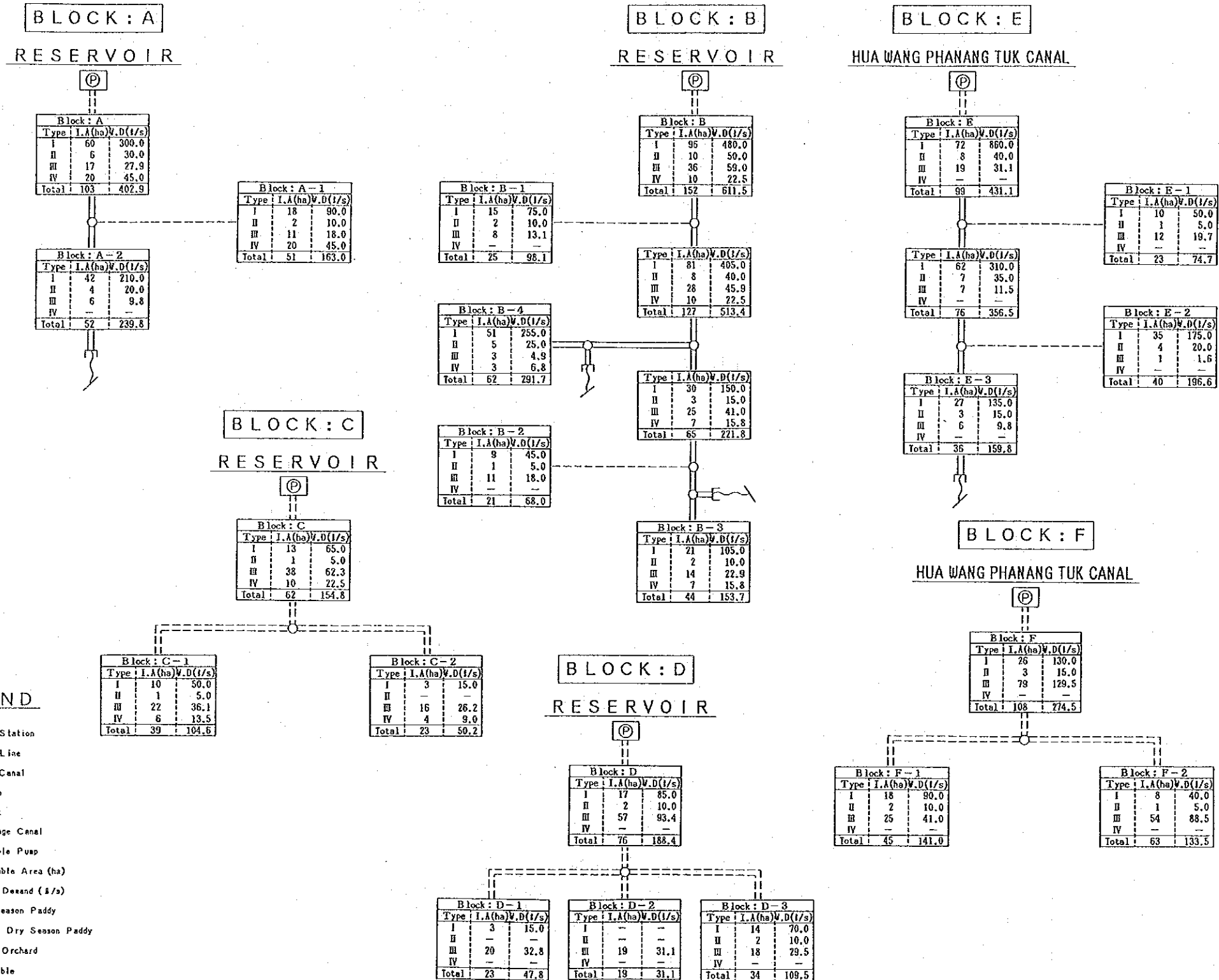
PROFILE
(V = 1:100, H = 1:4000)



PROFILE OF DIKE AND ROAD OF NONG YAI RESERVOIR

(V=1:100, H=1:50,000)

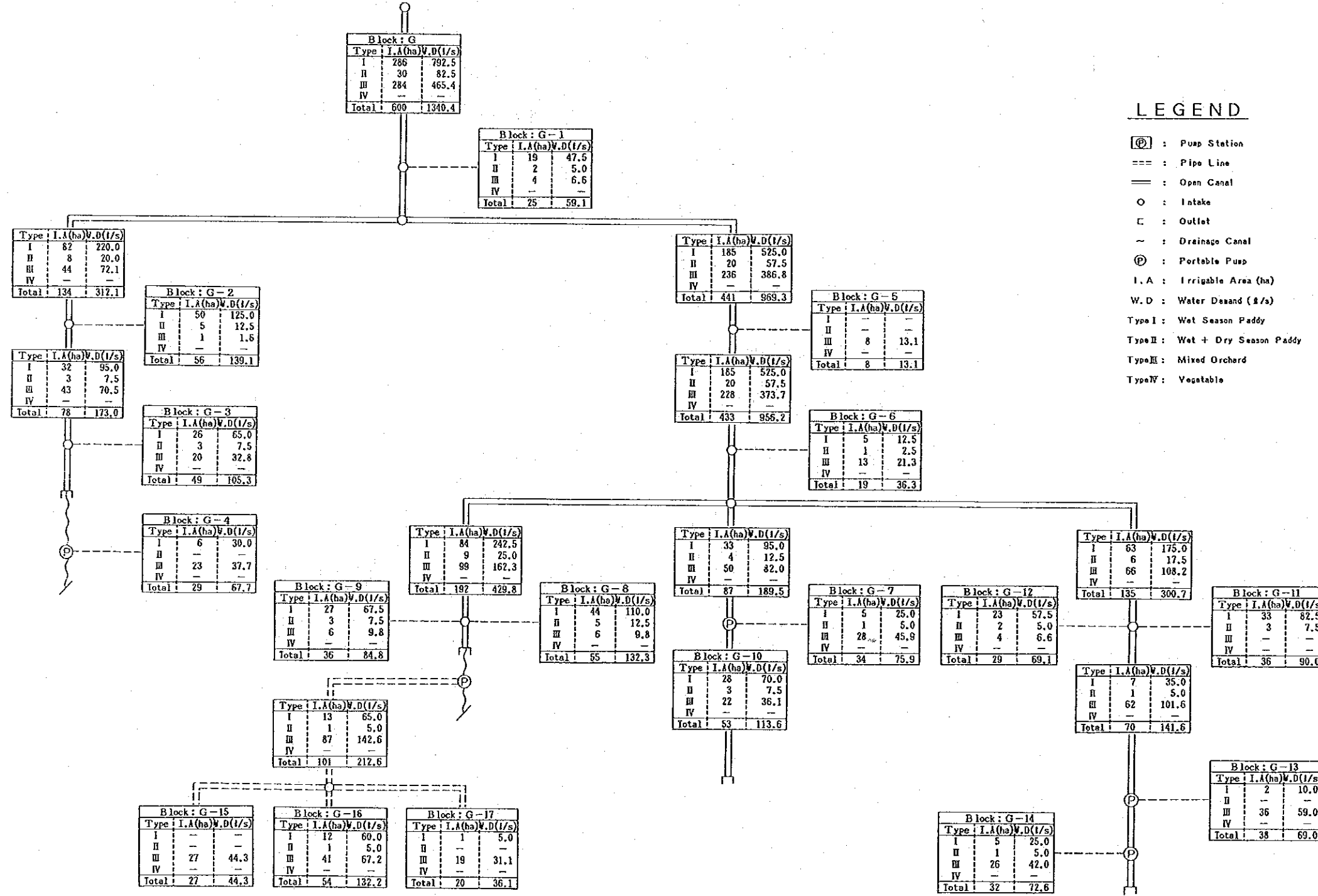
NONG YAI PROJECT IRRIGATION DIAGRAM (1/2)



NONG YAI PROJECT IRRIGATION DIAGRAM (2/2)

BLOCK : G

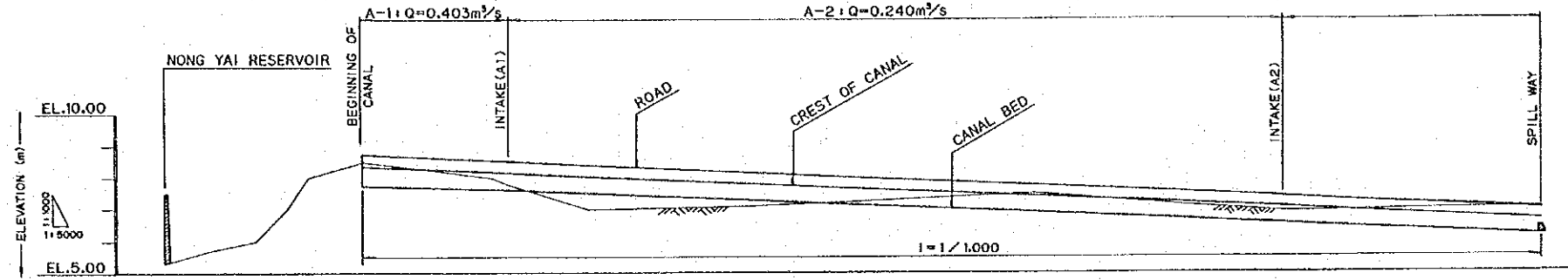
HUA WANG PHANANG TUK CANAL



LEGEND

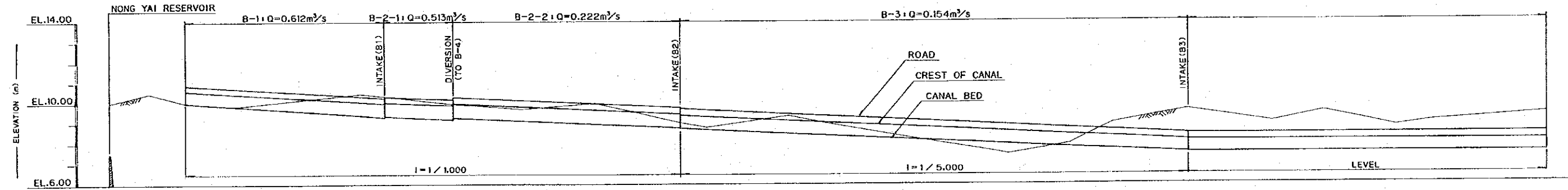
- ⊕ : Pump Station
- === : Pipe Line
- : Open Canal
- : Intake
- : Outlet
- ~ : Drainage Canal
- ⊕ : Portable Pump
- I.A : Irrigable Area (ha)
- W.D : Water Demand (l/s)
- Type I : Wet Season Paddy
- Type II : Wet + Dry Season Paddy
- Type III : Mixed Orchard
- Type IV : Vegetable

MAIN CANAL OF BLOCK-A



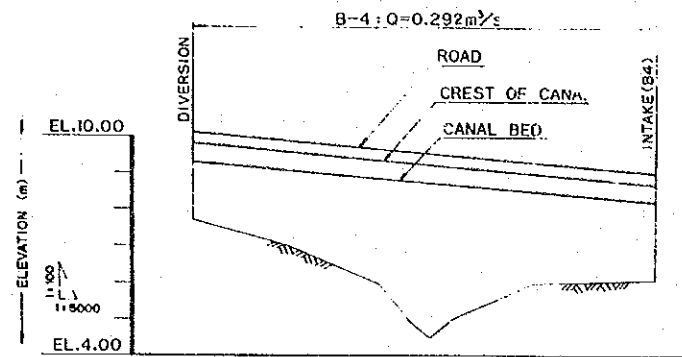
ROAD EL. (m)			8.75		8.55		8.07		7.57		7.30		6.90
CREST OF CANAL EL. (m)			8.45		8.25		7.77		7.27		7.00		6.60
CANAL BED EL. (m)			7.85		7.66		7.27		6.77		6.50		6.10
ELEVATION EL. (m)	5.3		6.5		7.8		7.2		7.3		6.9		6.9
DISTANCE (m)	0.0	310.0		230.0		460.0		500.0		270.0		400.0	
STATION (No.)	No.0+000	+310		+540		No.1+000		+500		+770		No.2+170	

MAIN CANAL OF BLOCK-B



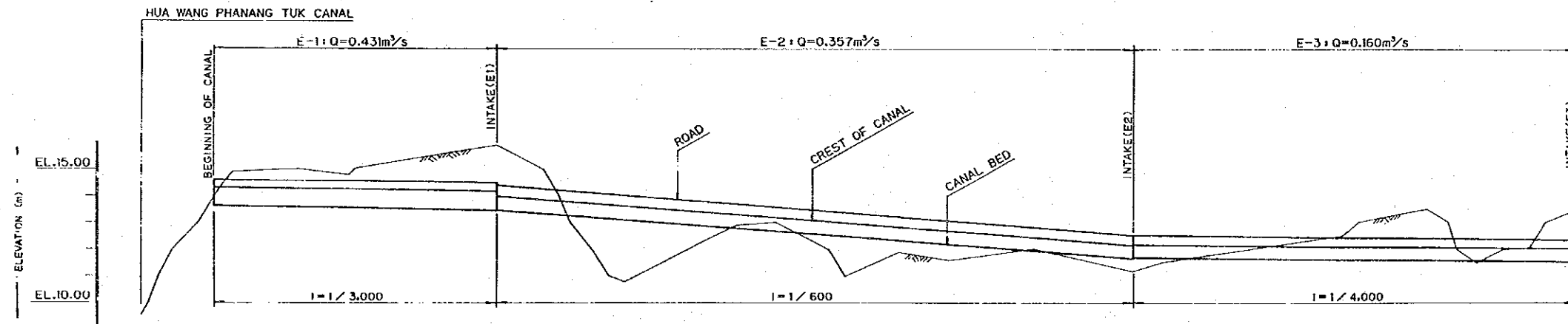
ROAD EL. (m)			10.90		10.22		10.09		9.64		9.07		8.41		8.41
CREST OF CANAL EL. (m)			10.80		10.10		10.20		9.34		8.77		8.11		8.11
CANAL BED EL. (m)			10.00		9.36		9.90		8.74		8.17		7.51		7.51
ELEVATION EL. (m)	10.0		10.2		10.4		10.0		9.0		8.2		9.6		9.4
DISTANCE (m)	0.0	190.0		310.0		180.0		170.0		410.0		580.0		200.0	
STATION (No.)	No.0+000	+190		+500		+680		+850		No.1+000		+410		+200	

MAIN CANAL OF BLOCK-B



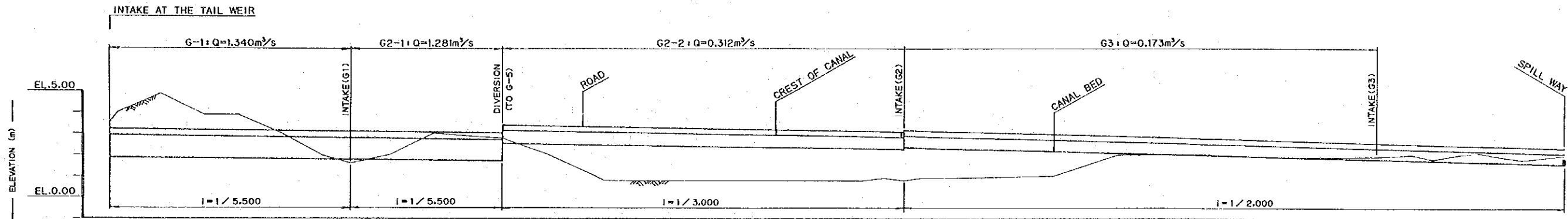
ROAD EL. (m)	10.08	10.05
CREST OF CANAL EL. (m)	9.78	8.73
CANAL BED EL. (m)	9.28	8.23
ELEVATION EL. (m)	7.7	6.1
DISTANCE (m)	0.0	630.0
STATION (No.)	+600	+630

MAIN CANAL OF BLOCK-E

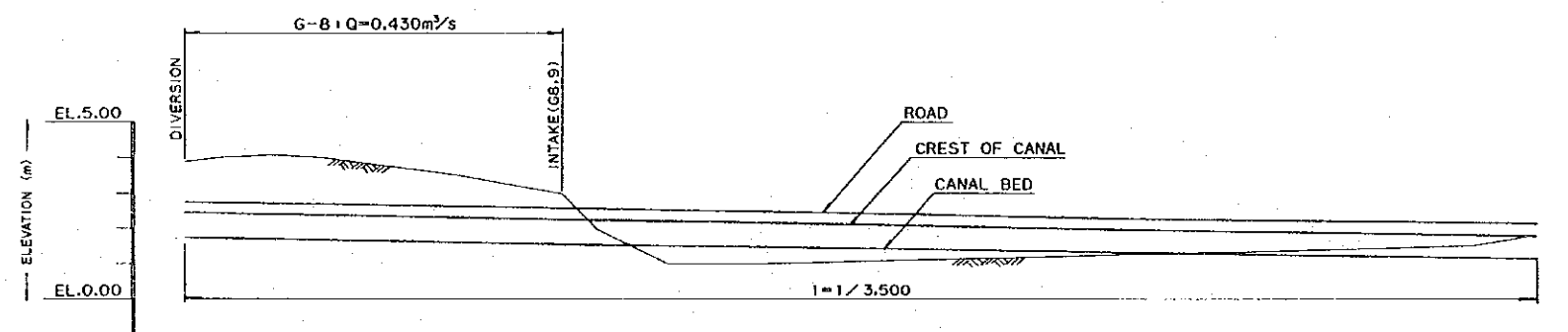


ROAD EL. (m)	14.60	14.48	13.84	13.00	12.42	12.47	12.37	12.30
CREST OF CANAL EL. (m)	14.30	14.18	13.54	12.70	12.12	12.17	12.07	12.00
CANAL BED EL. (m)	13.50	13.48	13.04	12.20	11.62	11.67	11.57	11.50
ELEVATION EL. (m)	9.5	15.3	11.8	11.5	11.2	11.8	13.5	13.5
DISTANCE (m)	0.0	190.0	340.0	500.0	650.0	800.0	900.0	980.0
STATION (No.)	+000	+190	+340	+500	+650	+800	+900	+980

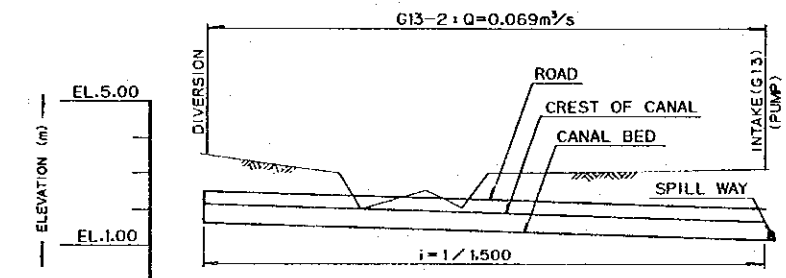
MAIN CANAL OF BLOCK-G



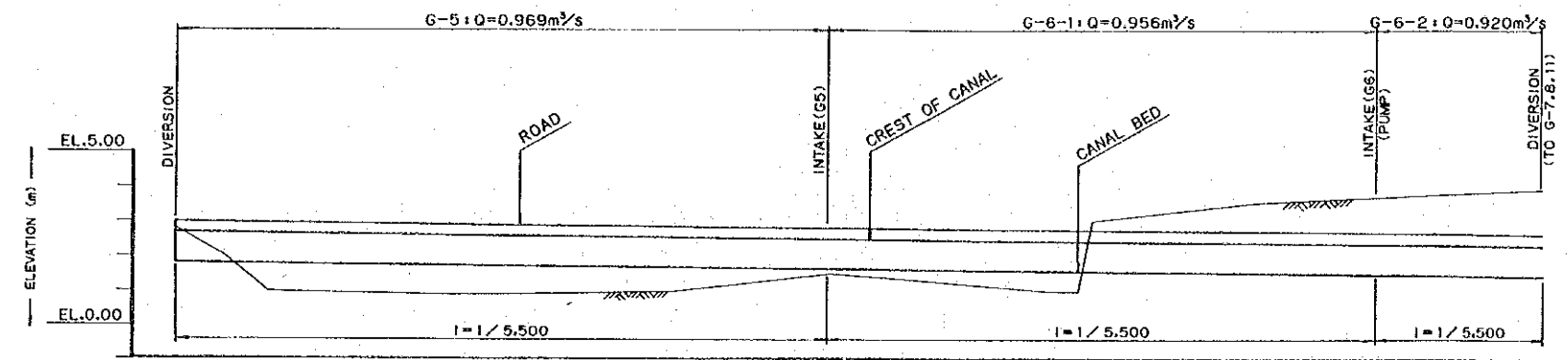
ROAD EL. (m)	3.19	3.10	3.08	3.43	3.27	3.15	3.09	2.83	2.80
CREST OF CANAL EL. (m)	2.89	2.80	2.78	3.13	2.97	2.85	2.78	2.53	2.30
CANAL BED EL. (m)	1.89	1.80	1.78	2.53	2.37	2.25	2.28	2.03	1.80
ELEVATION EL. (m)	3.5	1.9	1.6	2.1	0.8	0.8	0.9	2.0	1.9
DISTANCE (m)	0.0	500.0	600.0	90.0	500.0	350.0	150.0	600.0	460.0
STATION (No.)	No.0+000	+500	+600	No.1+000	+600	+650	No.2+000	+600	+660



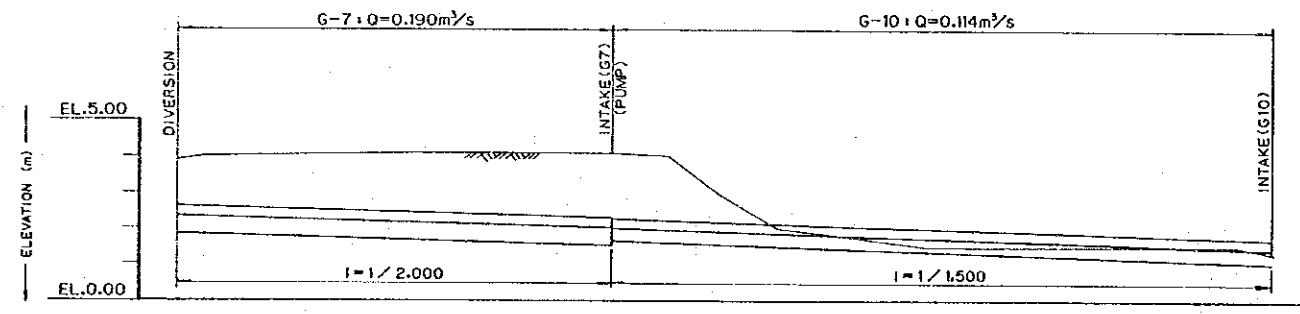
ROAD EL. (m)	2.71	2.56	2.42
CREST OF CANAL EL. (m)	2.41	2.26	2.12
CANAL BED EL. (m)	1.71	1.56	1.42
ELEVATION EL. (m)	3.5	3.0	1.1
DISTANCE (m)	0.0	520.0	460.0
STATION (No.)	No.0+000	+620	No.1+000



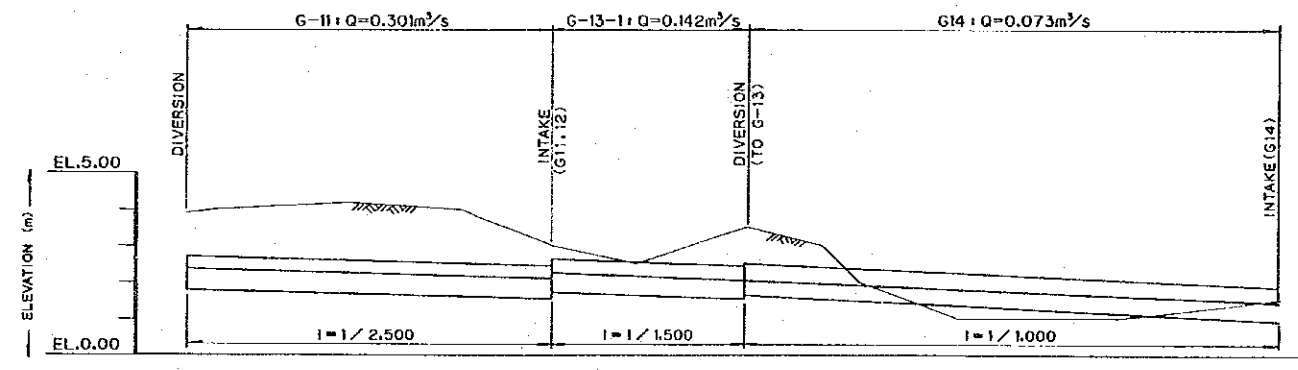
ROAD EL. (m)	2.44	1.93
CREST OF CANAL EL. (m)	2.14	1.63
CANAL BED EL. (m)	1.64	1.13
ELEVATION EL. (m)	3.5	3.1
DISTANCE (m)	0.0	760.0
STATION (No.)	No.0+000	+760



ROAD EL. (m)	CREST OF CANAL EL. (m)	CANAL BED EL. (m)	ELEVATION EL. (m)	DISTANCE (m)	STATION (No.)
3.02	2.72	1.82	2.8	0.0	No.0+000
				500.0	+500
				430.0	+530
				70.0	No.1+000
				500.0	+500
				220.0	+770
				480.0	+960



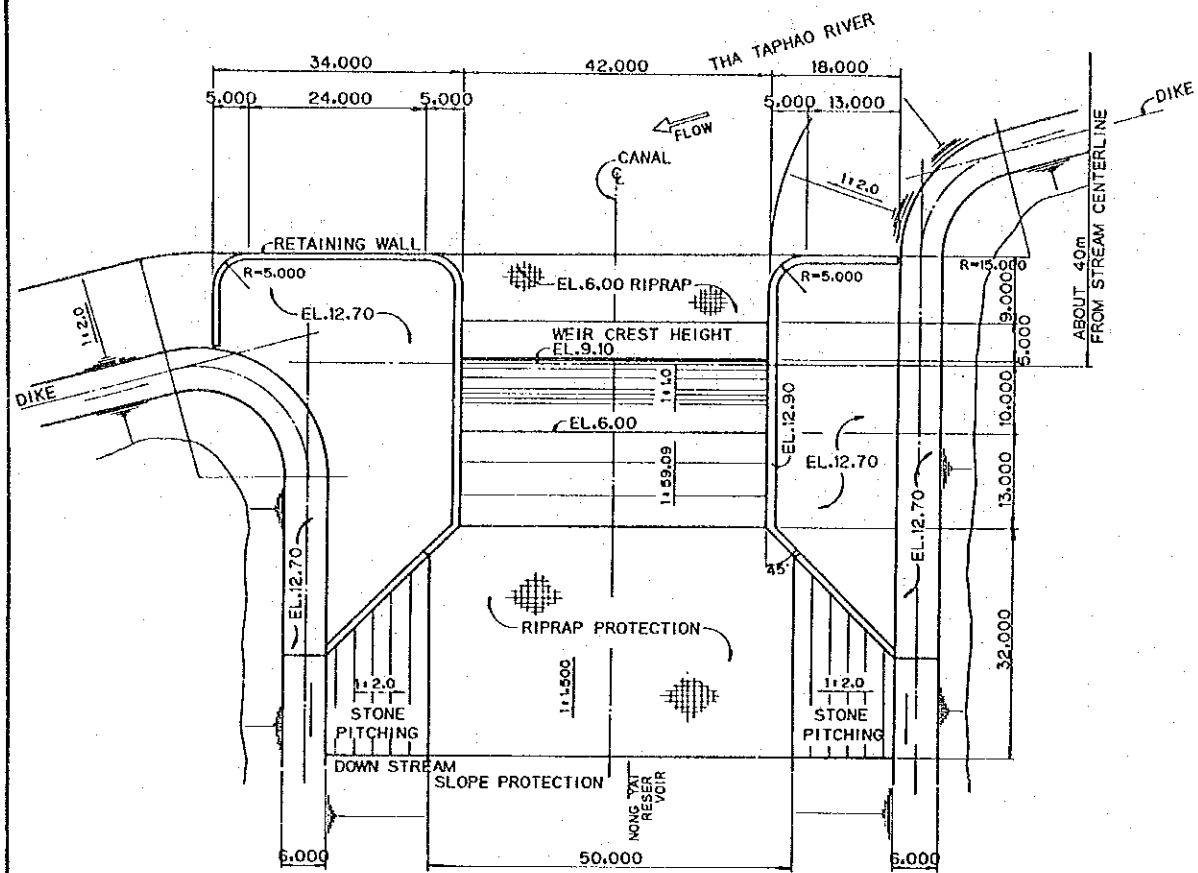
ROAD EL. (m)	CREST OF CANAL EL. (m)	CANAL BED EL. (m)	ELEVATION EL. (m)	DISTANCE (m)	STATION (No.)
2.66	2.36	1.86	3.9	0.0	No.0+000
				500.0	+500
				100.0	+600
				400.0	No.1+000
				510.0	+510



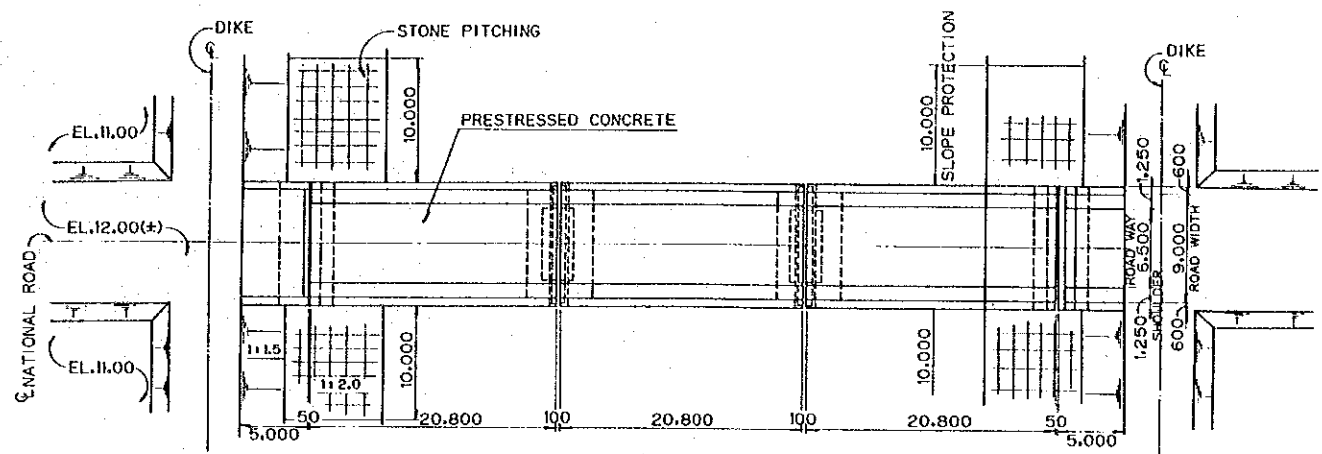
ROAD EL. (m)	CREST OF CANAL EL. (m)	CANAL BED EL. (m)	ELEVATION EL. (m)	DISTANCE (m)	STATION (No.)
2.69	2.39	1.79	3.9	0.0	No.0+000
				500.0	+500
				275.0	+775
				225.0	No.1+000
				510.0	+510

THE FEASIBILITY STUDY
 ON
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 AND WATER RESOURCES DEVELOPMENT PROJECT
 OF
 THE MENAM CHUMPHON

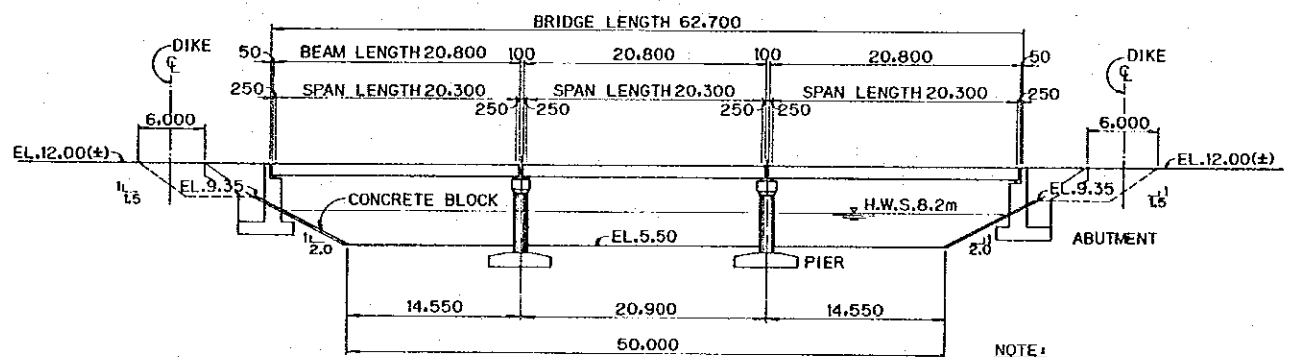
 PROFILE OF MAIN IRRIGATION CANAL
 BLOCK - G (2/2)



PLAN
SCALE 1:500

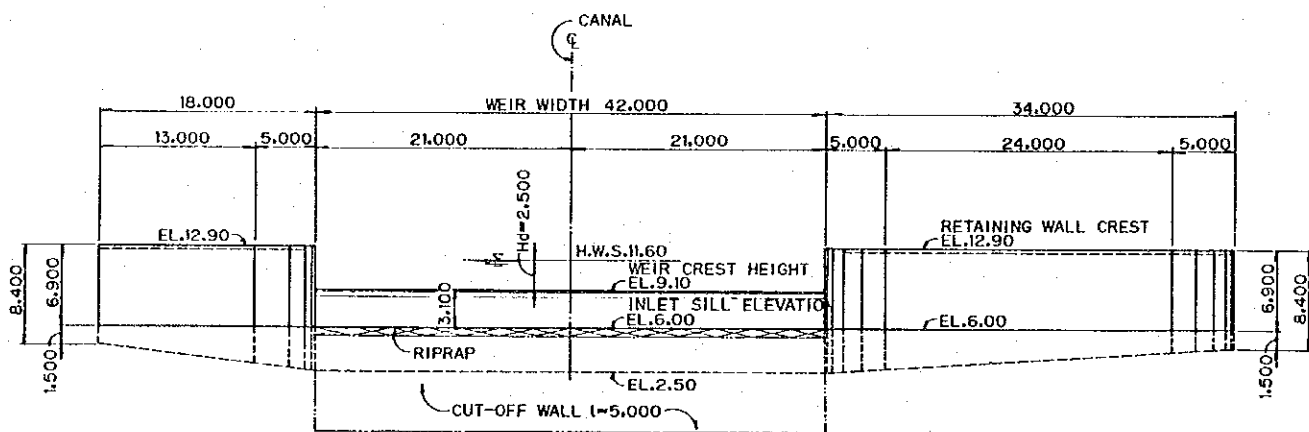


PLAN
SCALE 1:300



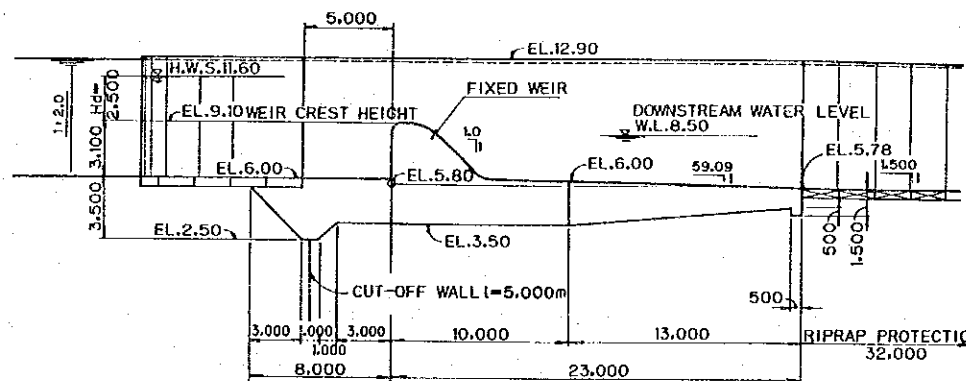
PROFILE
SCALE 1:300

NOTE:
GEOLOGICAL SURVEY SHALL BE CARRIED OUT FOR DETAIL DESIGN OF STRUCTURES.

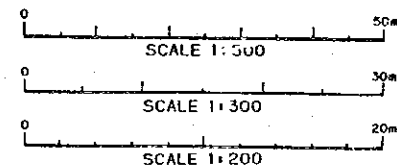


FRONT VIEW
SCALE 1:300

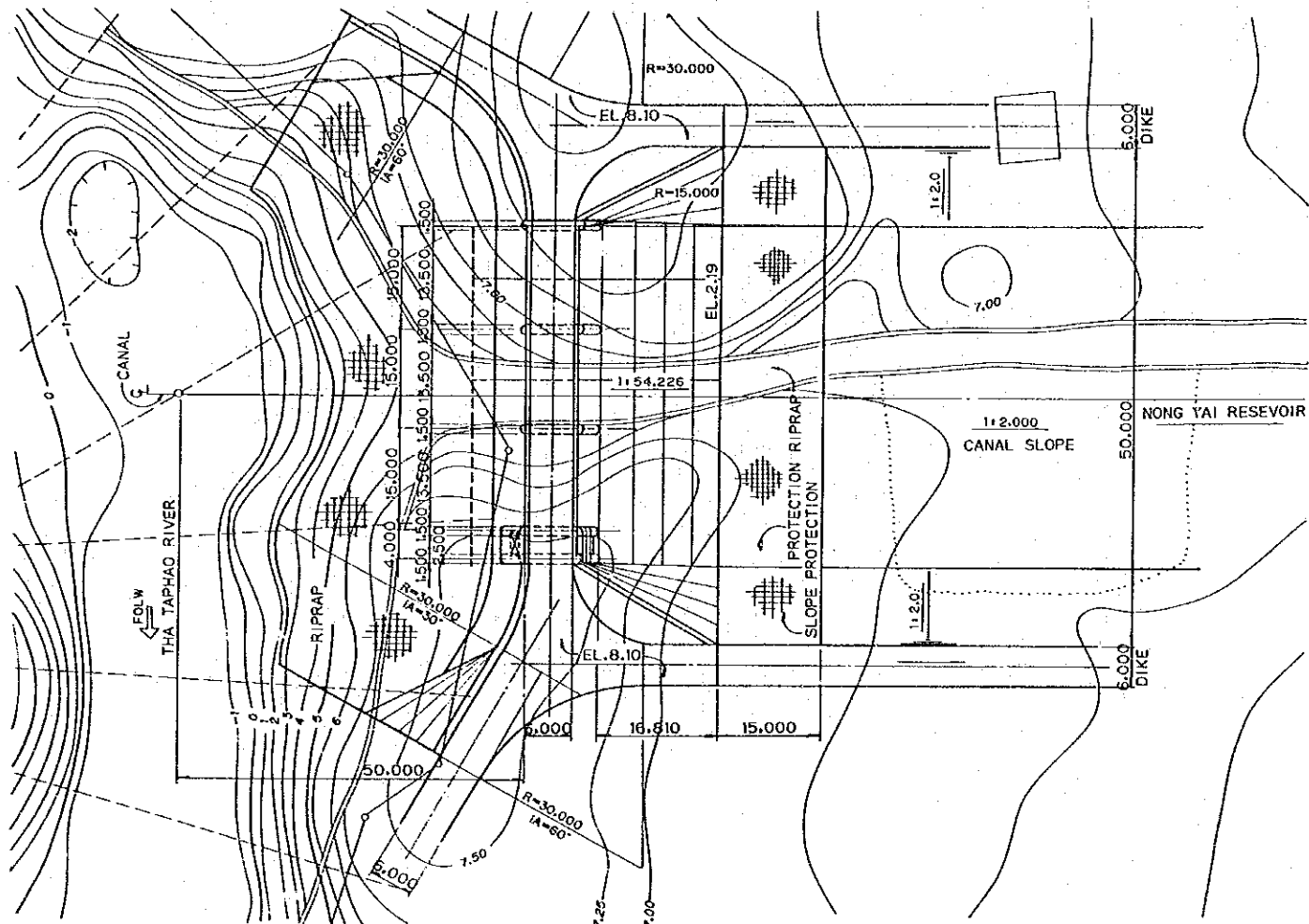
NOTE:
GEOLOGICAL SURVEY SHALL BE CARRIED OUT FOR DETAIL DESIGN OF STRUCTURES.



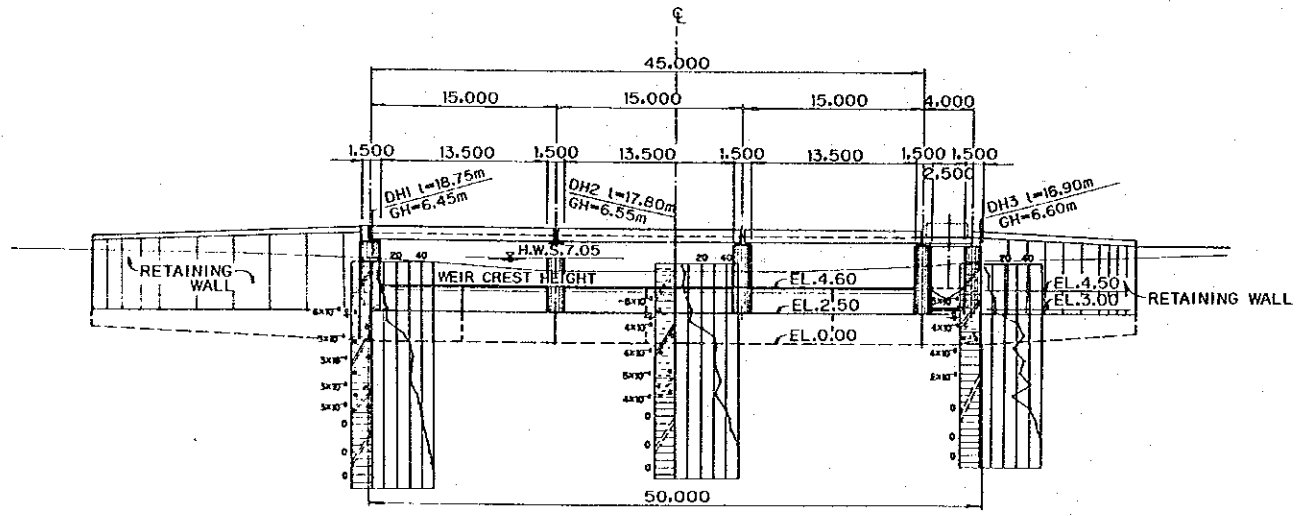
CROSS SECTION
SCALE 1:200



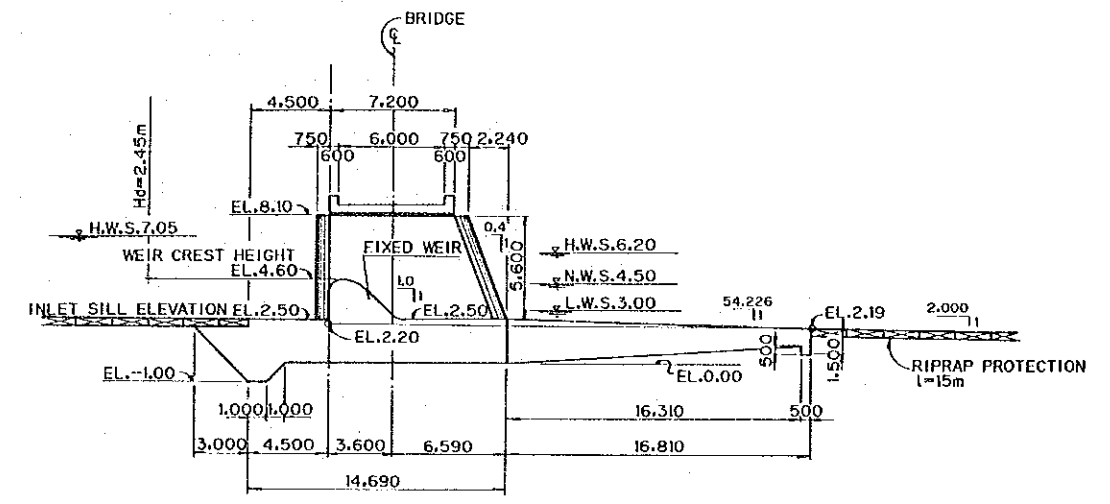
THE FEASIBILITY STUDY
ON
THE INTEGRATED AGRICULTURE
AND WATER RESOURCES DEVELOPMENT PROJECT
OF
THE MENAM CHUMPHON
DESIGN OF PAK PHRAEK CANAL WEIR
AND
BRIDGE AT NATIONAL ROAD ROUTE - 4
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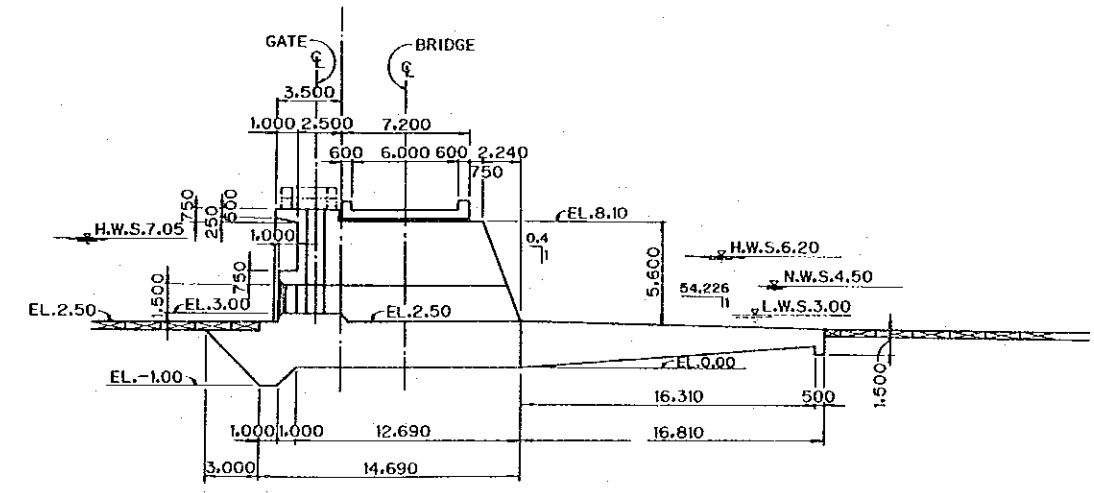
PLAN
SCALE 1:500



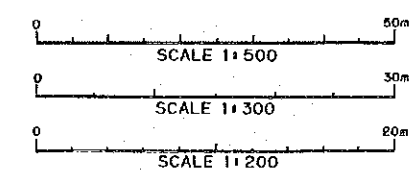
FRONT VIEW
SCALE 1:300



CROSS SECTION OF FIXED WEIR
SCALE 1:200



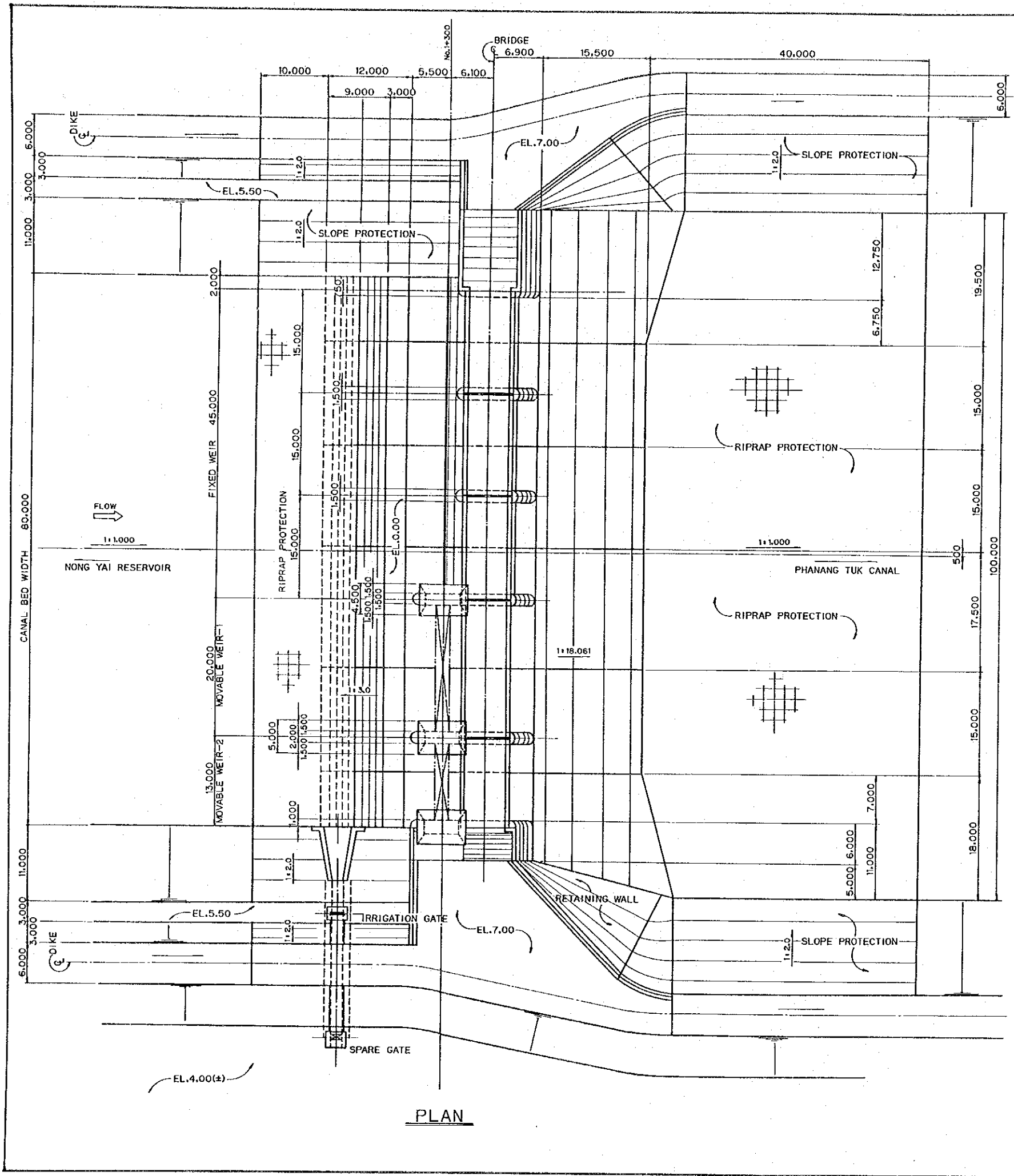
CROSS SECTION OF IRRIGATION GATE
SCALE 1:200



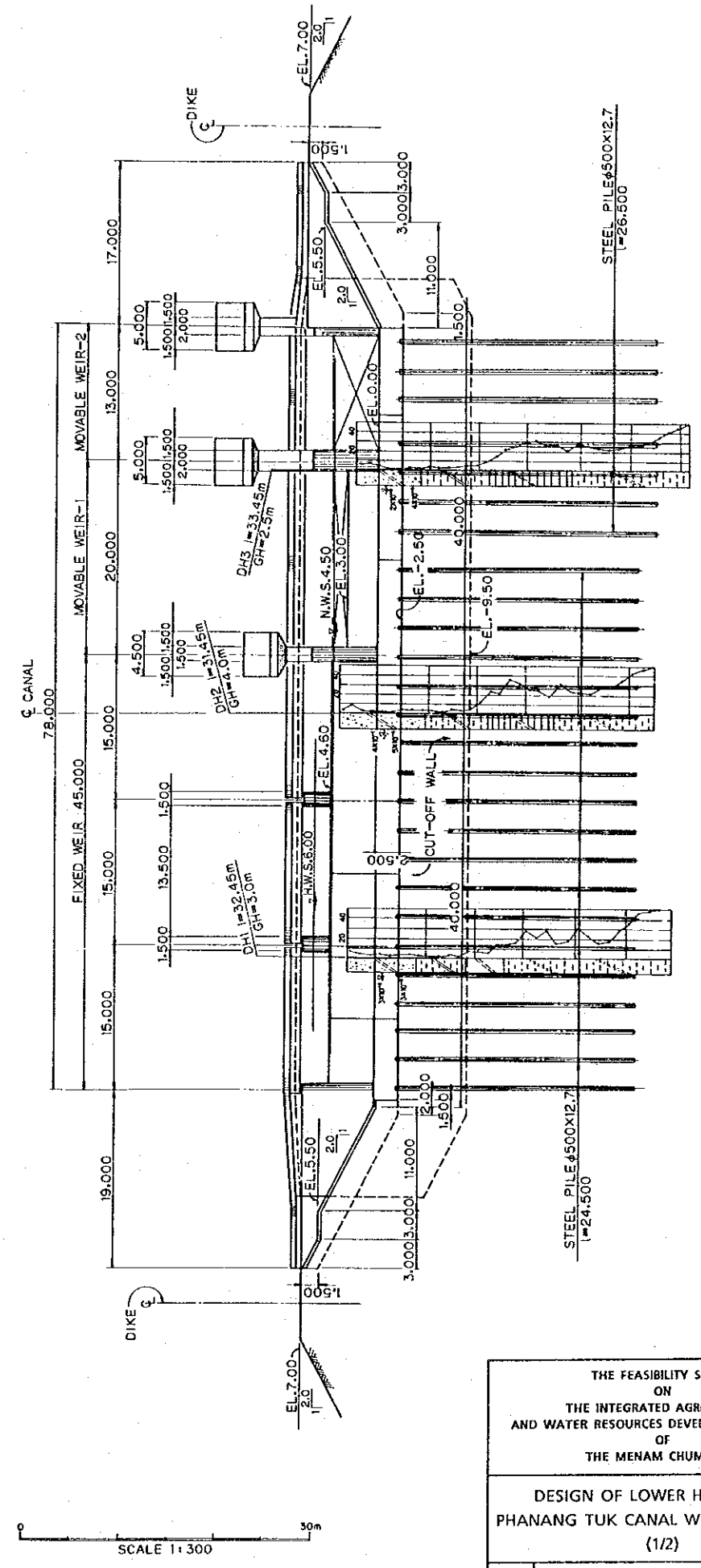
THE FEASIBILITY STUDY
ON
THE INTEGRATED AGRICULTURE
AND WATER RESOURCES DEVELOPMENT PROJECT
OF
THE MENAM CHUMPHON

DESIGN OF UPPER HUA WANG
PHANANG TUK CANAL WEIR

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PLAN

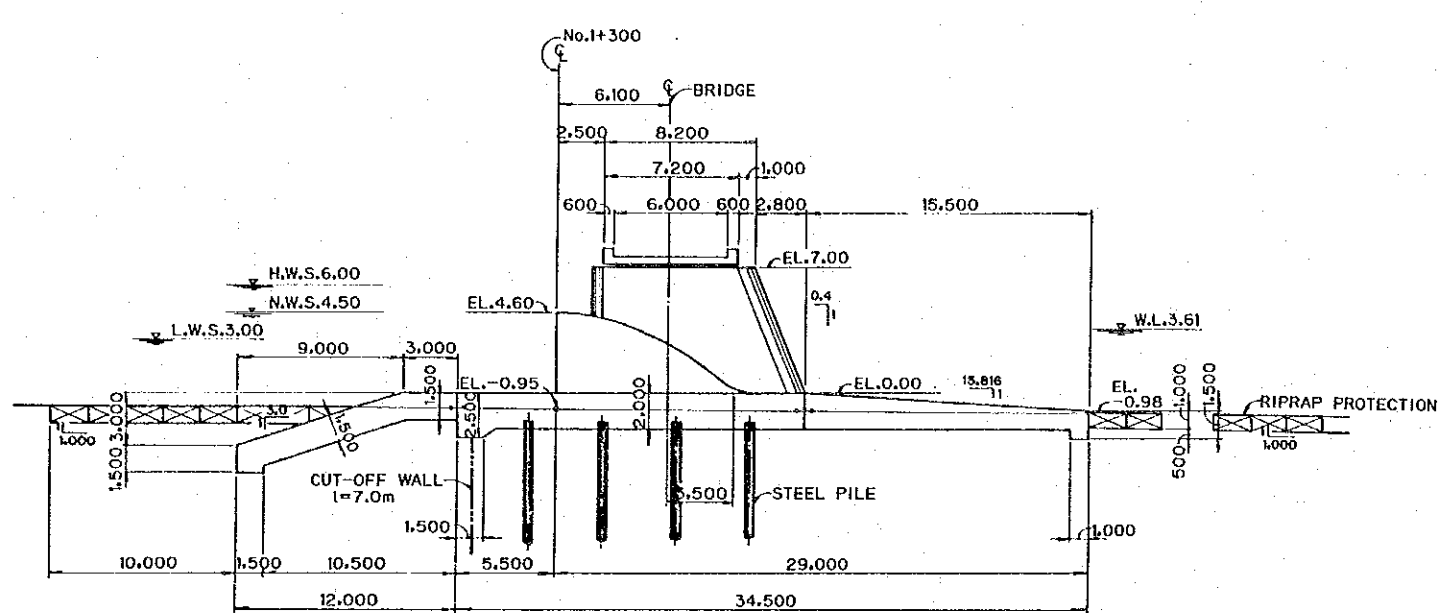


FRONT VIEW

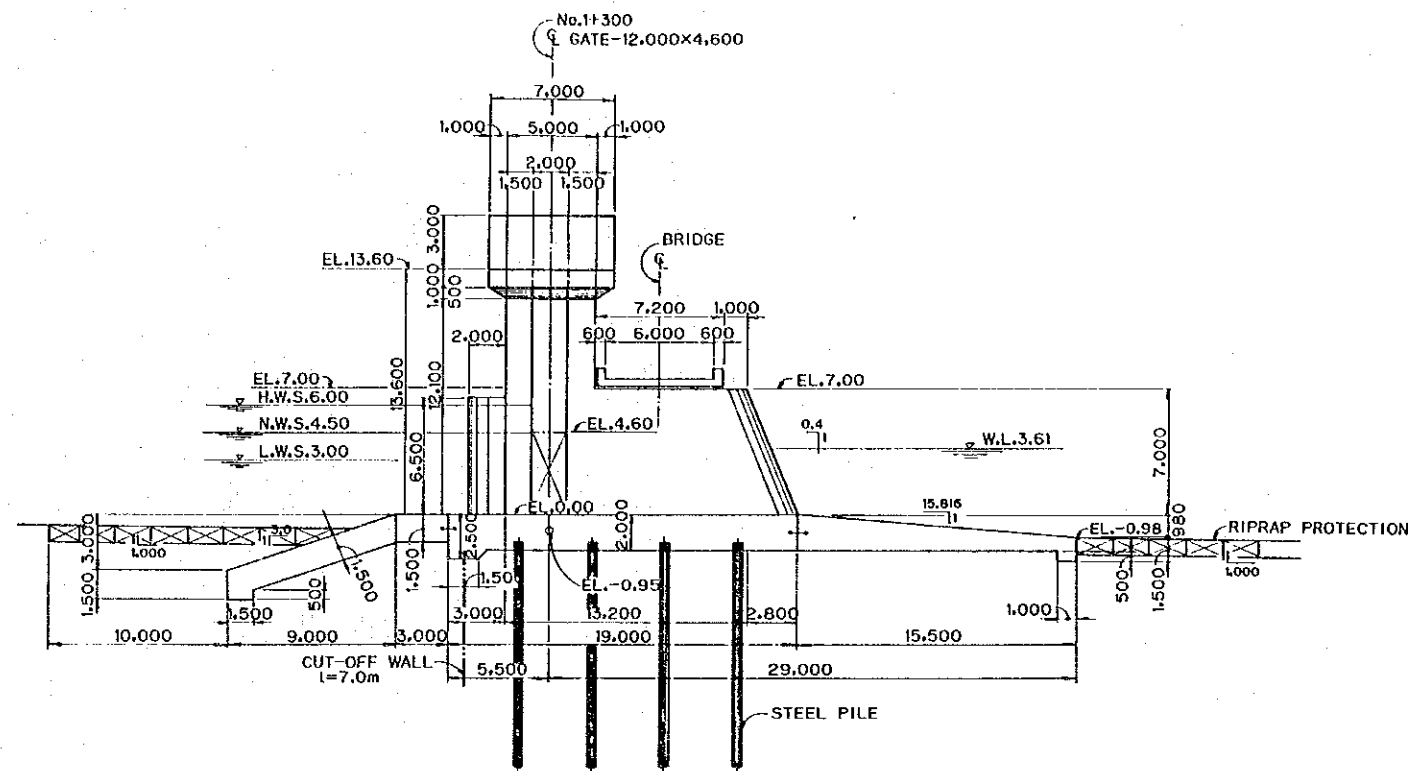
THE FEASIBILITY STUDY
ON
THE INTEGRATED AGRICULTURE
AND WATER RESOURCES DEVELOPMENT PROJECT
OF
THE MENAM CHUMPHON

DESIGN OF LOWER HUA WANG
PHANG TUK CANAL WEIR AND GATES
(1/2)

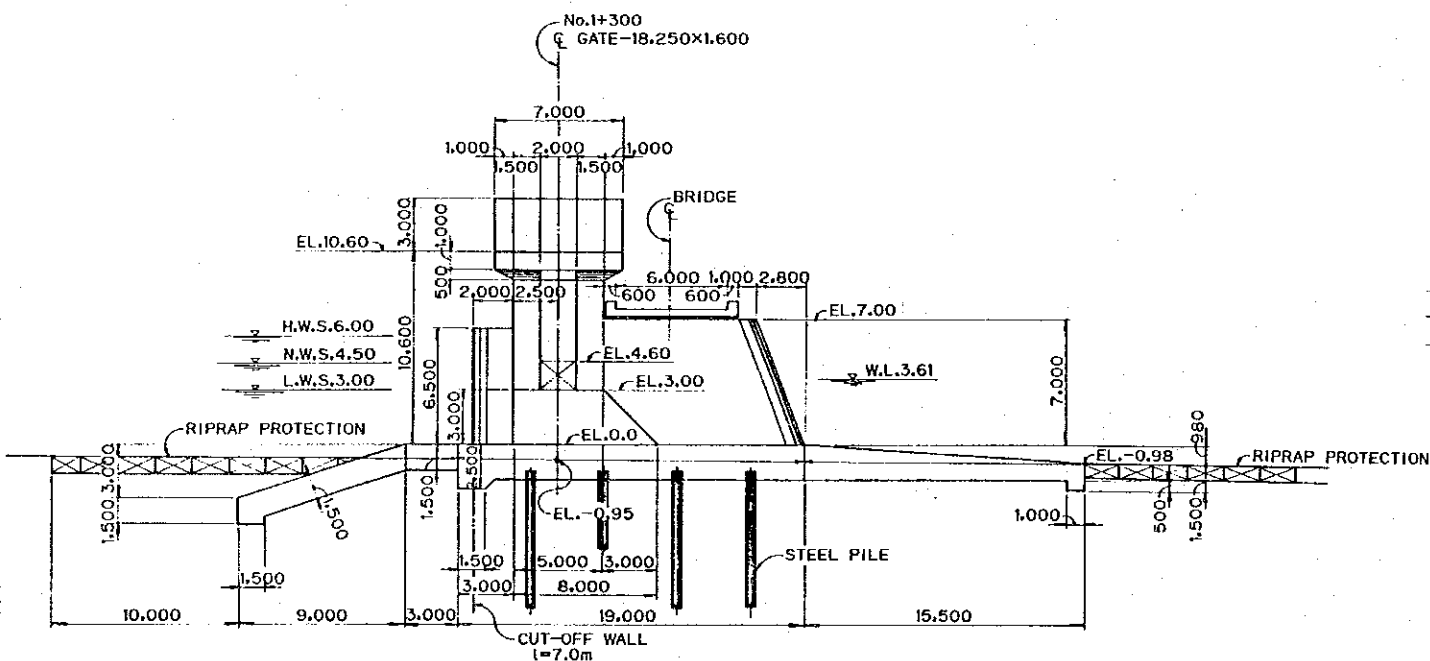
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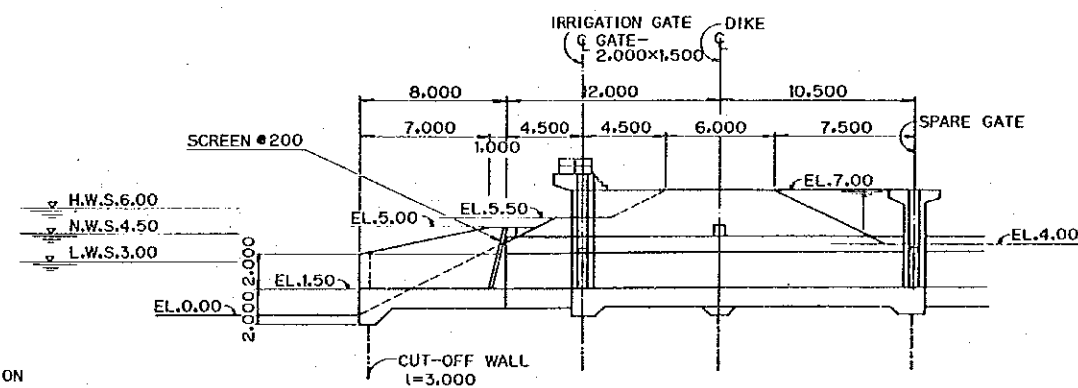
CROSS SECTION OF FIXED WEIR



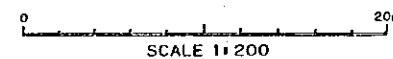
CROSS SECTION OF MOVABLE WEIR-2



CROSS SECTION OF MOVABLE WEIR-1



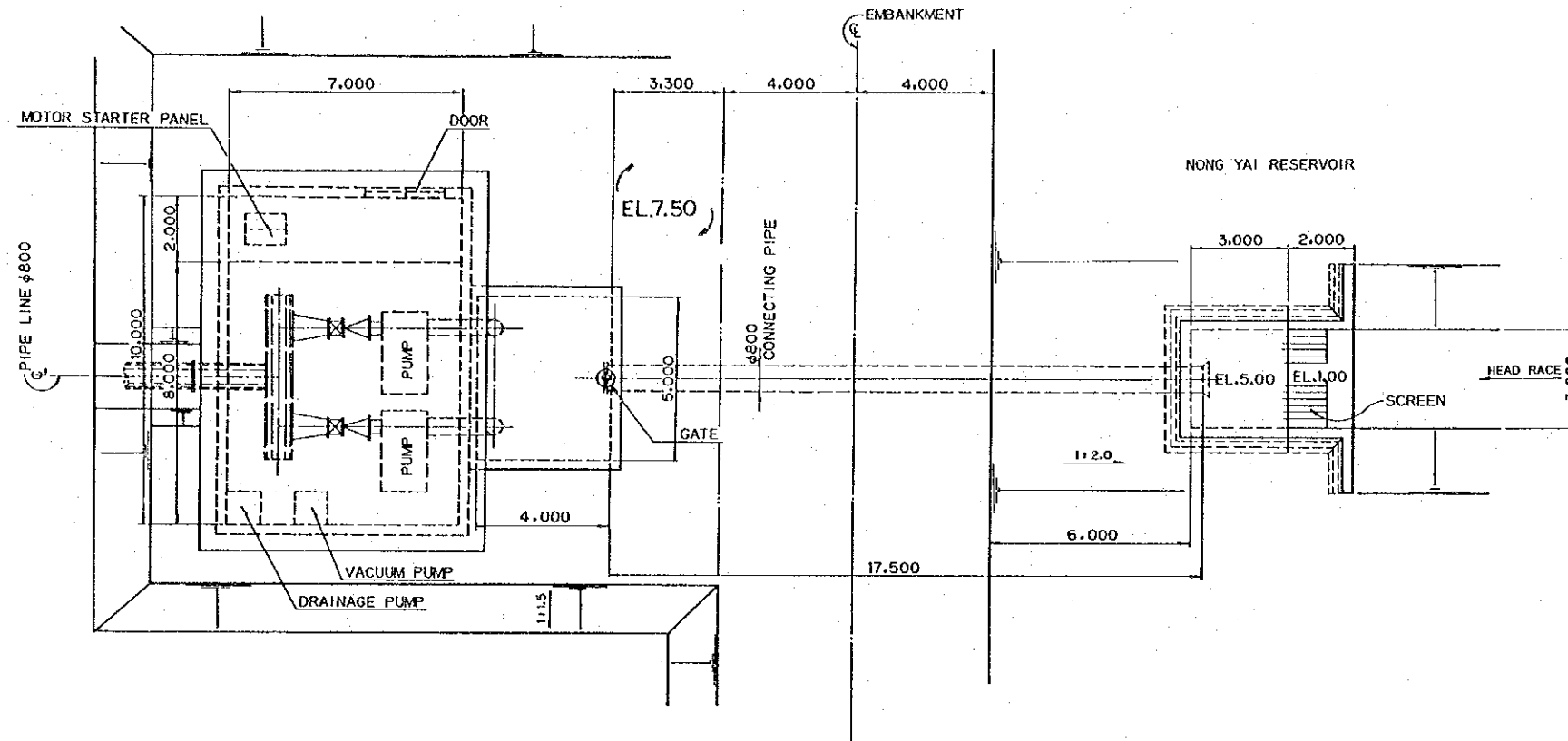
CROSS SECTION OF IRRIGATION GATE



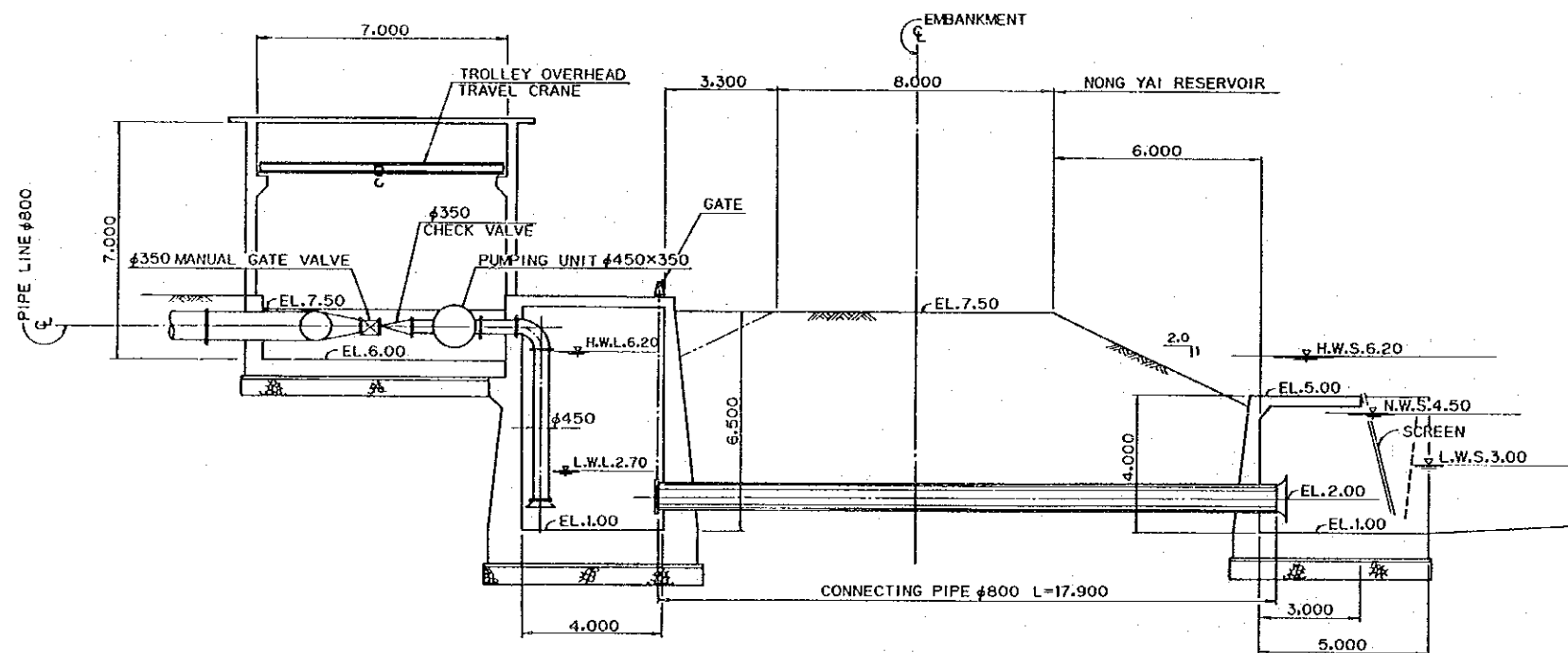
THE FEASIBILITY STUDY
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THE INTEGRATED AGRICULTURE
AND WATER RESOURCES DEVELOPMENT PROJECT
OF
THE MENAM CHUMPHON

DESIGN OF LOWER HUA WANG
PHANANG TUK CANAL WEIR AND GATES
(2/2)

Pump Station - B	
Type	Double Suction Volute
Suc. Bore	450
Disch. Bore	350
Total Head	11 m
Capacity	18.4 cu.m/min
Speed	730 rpm
Q'ty	2 set



PLAN (BLOCK-B)



PROFILE (BLOCK-B)



THE FEASIBILITY STUDY
ON
THE INTEGRATED AGRICULTURE
AND WATER RESOURCES DEVELOPMENT PROJECT
OF
THE MENAM CHUMPHON

DESIGN OF PUMPING STATION AT
NONG YAI RESERVOIR
BLOCK - B

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ร่องน้ำชุมพร

อำเภอเมืองชุมพร จังหวัดชุมพร

สำรวจโดยหน่วยเฉพาะกิจเพื่อตรวจสอบร่องน้ำ กรมเจ้าท่า กระทรวงคมนาคม

ทำเป็นแผนที่ เมื่อวันที่ 18-19 พฤศจิกายน 2532

พิกัดหาระดับน้ำลงต่ำที่สุด

ระดับน้ำทะเลปานกลาง เหนือสิ่งใดก็ได้ 1.56 เมตร

ความสูงนับเป็นเมตรจากระดับน้ำทะเลปานกลาง

CHUMPHON CHANNEL

AMPHOE MUANG CHUMPHON CHANGWAT CHUMPHON

SURVEYED BY SPECIAL TASK UNIT THE HARBOUR DEPARTMENT

MINISTRY OF COMMUNICATIONS

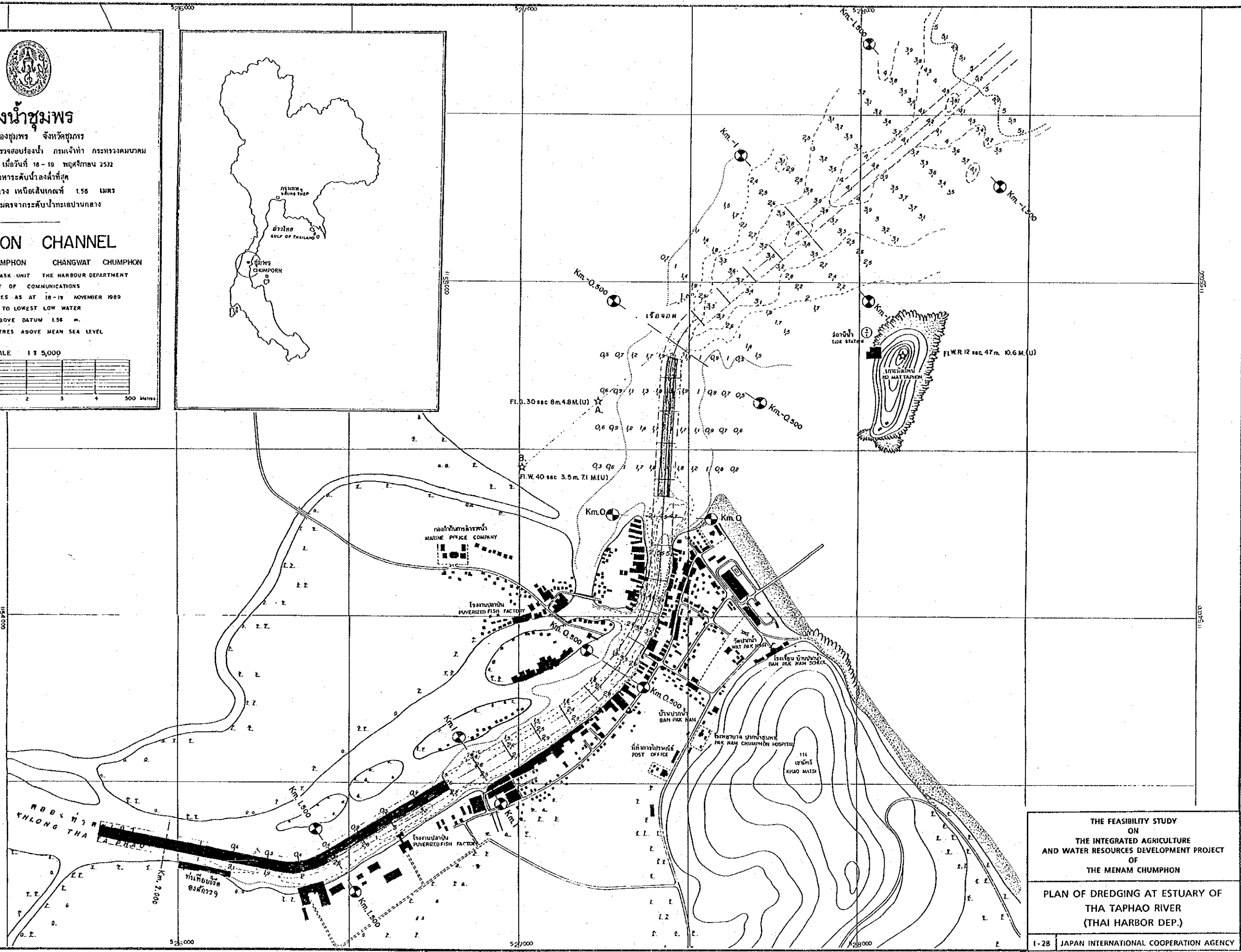
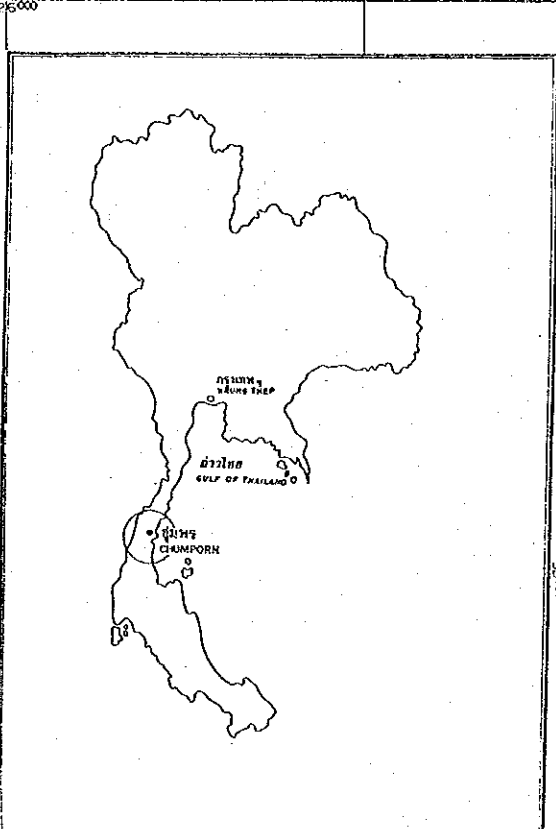
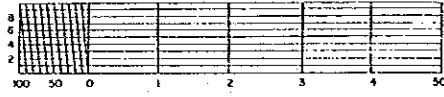
SOUNDINGS IN METRES AS AT 18-19 NOVEMBER 1989

REDUCED TO LOWEST LOW WATER

M.S.L. ABOVE DATUM 1.56 M.

HEIGHTS IN METRES ABOVE MEAN SEA LEVEL

SCALE 1:5,000

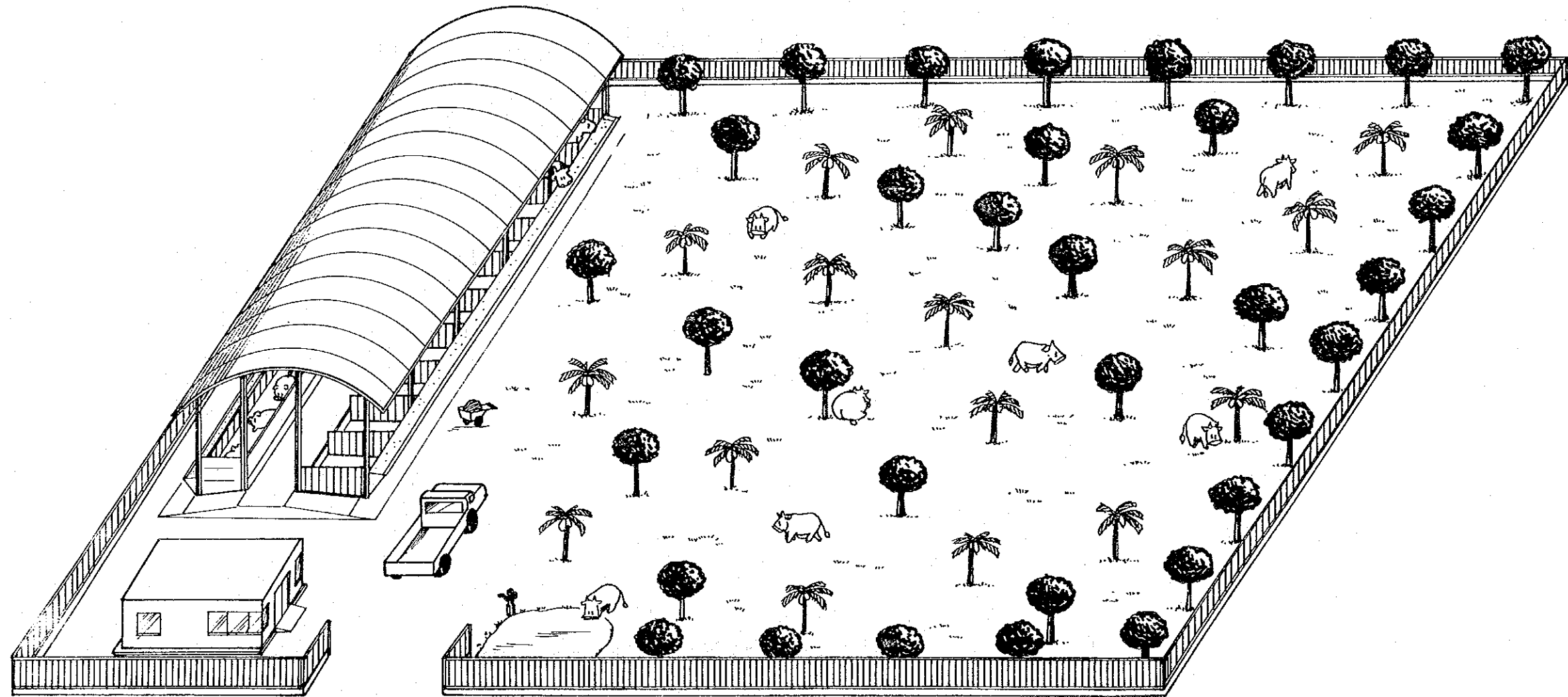


THE FEASIBILITY STUDY
ON
THE INTEGRATED AGRICULTURE
AND WATER RESOURCES DEVELOPMENT PROJECT
OF
THE MENAM CHUMPHON

PLAN OF DREDGING AT ESTUARY OF
THA TAPHAO RIVER
(THAI HARBOR DEP.)

LIVESTOCK MODEL FARM (LOCATION : Tambon Bang Luk)

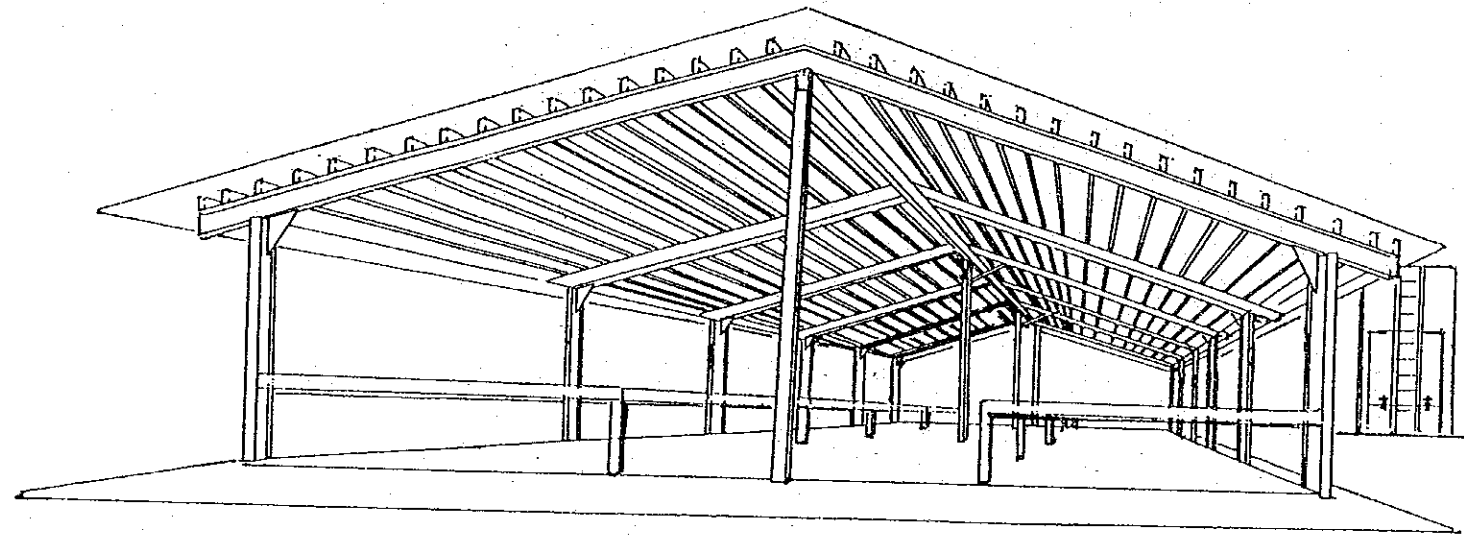
1. Land Area : 50 * 80 m (4000 m²)
2. Fence (Steel or Wood) : 50 * 80 m including Gate
3. Office Facilities : Building (5 * 10 m) Brick Walls, Floor and Roof : Concrete, Office tools for 5 persons
4. Livestock Barn : Steel-Pipe Structure, Concrete Floor, Roof : Pre-fabricated Steel, Block, Walls for Swine Barn only (12 * 30 m) for 8 cattle and 20 swine
5. Farm Appliances : 1 set Lighting including 1 pic-up van



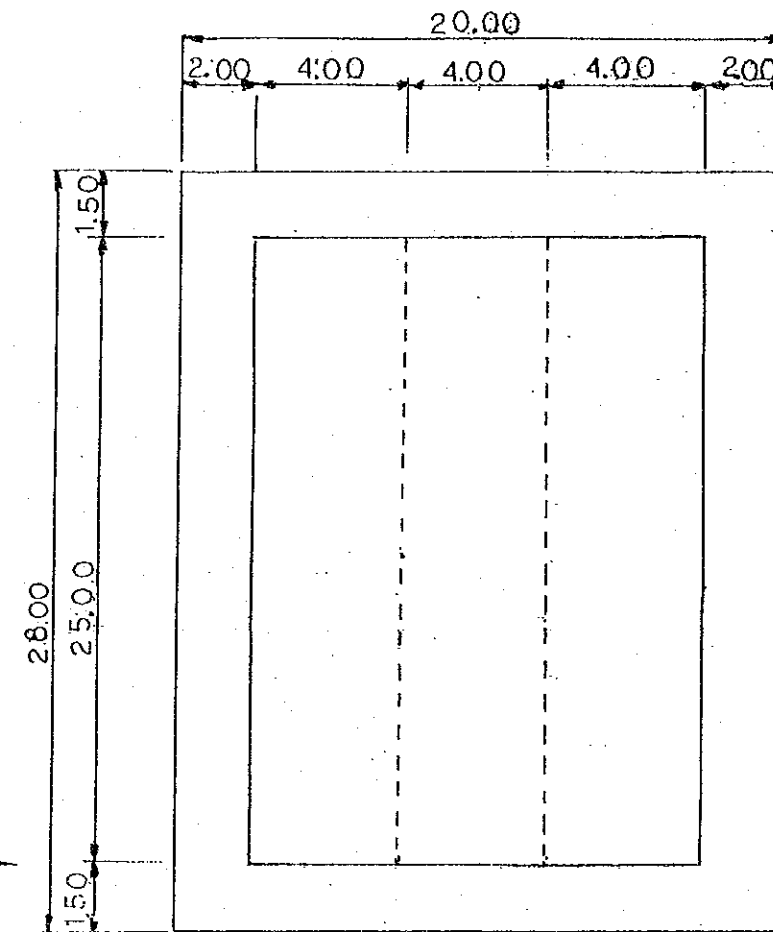
THE FEASIBILITY STUDY
ON
THE INTEGRATED AGRICULTURE
AND WATER RESOURCES DEVELOPMENT PROJECT
OF
THE MENAM CHUMPHON

PLAN OF LIVESTOCK MODEL FARM

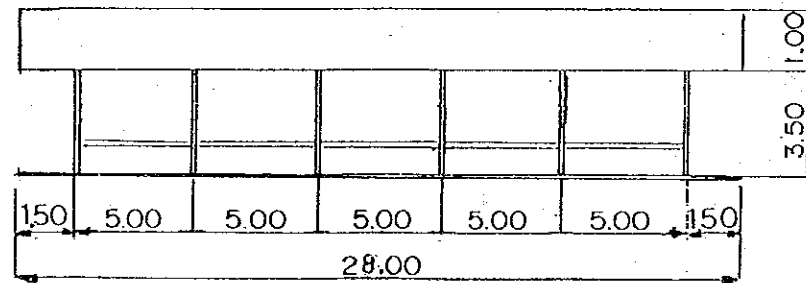
NACHAANG MARKET (LOCATION : Tambon Na Cha Ang)
 Land Area : 40 × 50 m
 Market : 20 × 28 m
 Frame : Wood or Steel
 Floor : Concrete
 Roof : Pre - Fabricated Material
 Other Installations :
 (1) Water Pump and Tank
 (2) Lighting



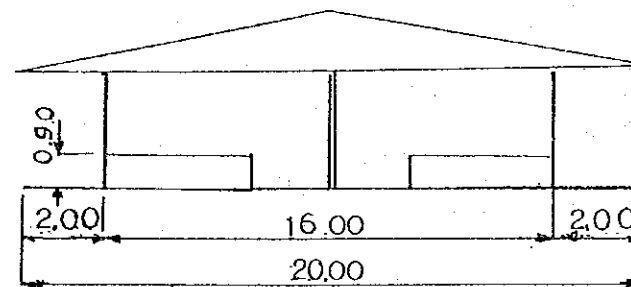
INTERIOR PERSPECTIVE VIEW



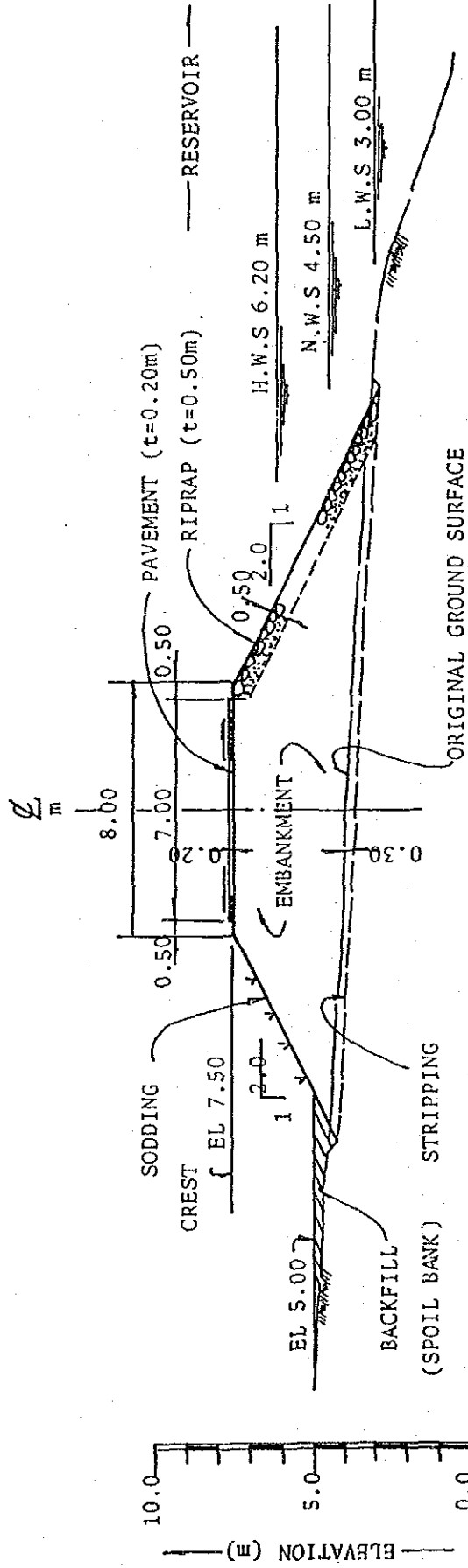
GROUND FLOOR PLAN



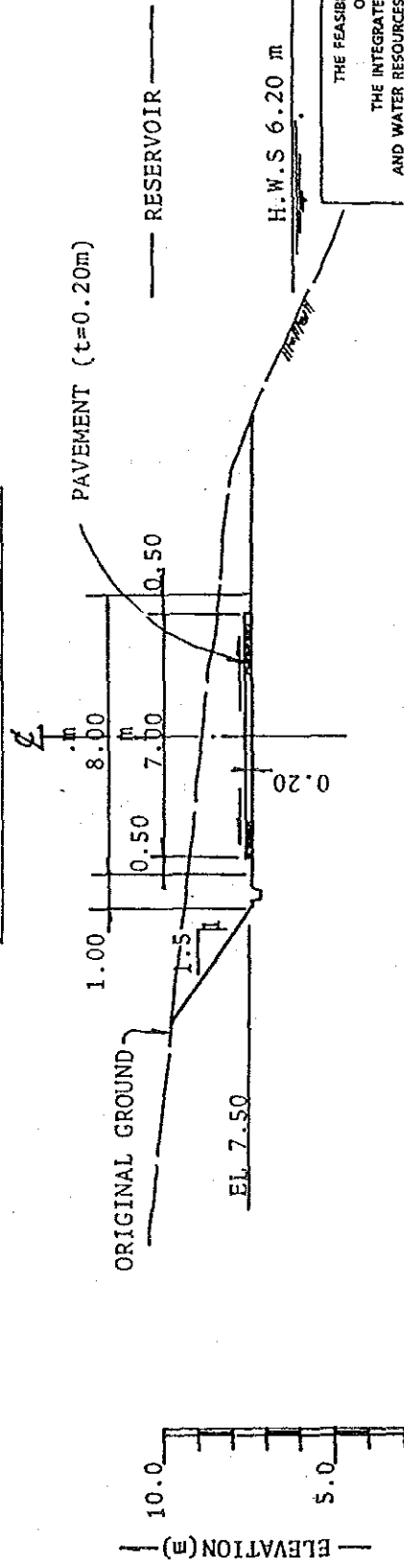
SIDE VIEW



FRONT VIEW



TYPICAL CROSS SECTION OF DIKE



TYPICAL CROSS SECTION OF ROAD

FIGURE F-8 : DIKE AND ROAD OF NONG YAI RESERVOIR

SCALE - 1 : 200

THE FEASIBILITY STUDY ON THE INTEGRATED AGRICULTURE AND WATER RESOURCES DEVELOPMENT PROJECT OF THE MENAM CRUMPHON
Dike and Road of Nong Yai Reservoir
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JICA