REPUBLIC OF THE PHILIPPINES MINISTRY OF PUBLIC WORKS & HIGHWAYS

THE FEASIBILITY STUDY OF PHILIPPINE ROAD DISASTER PREVENTION PROJECT

FINAL REPORT

DRAWINGS

(VOLUME IV)

JUNE, 1984

JAPAN INTERNATIONAL COOPERATION AGENCY







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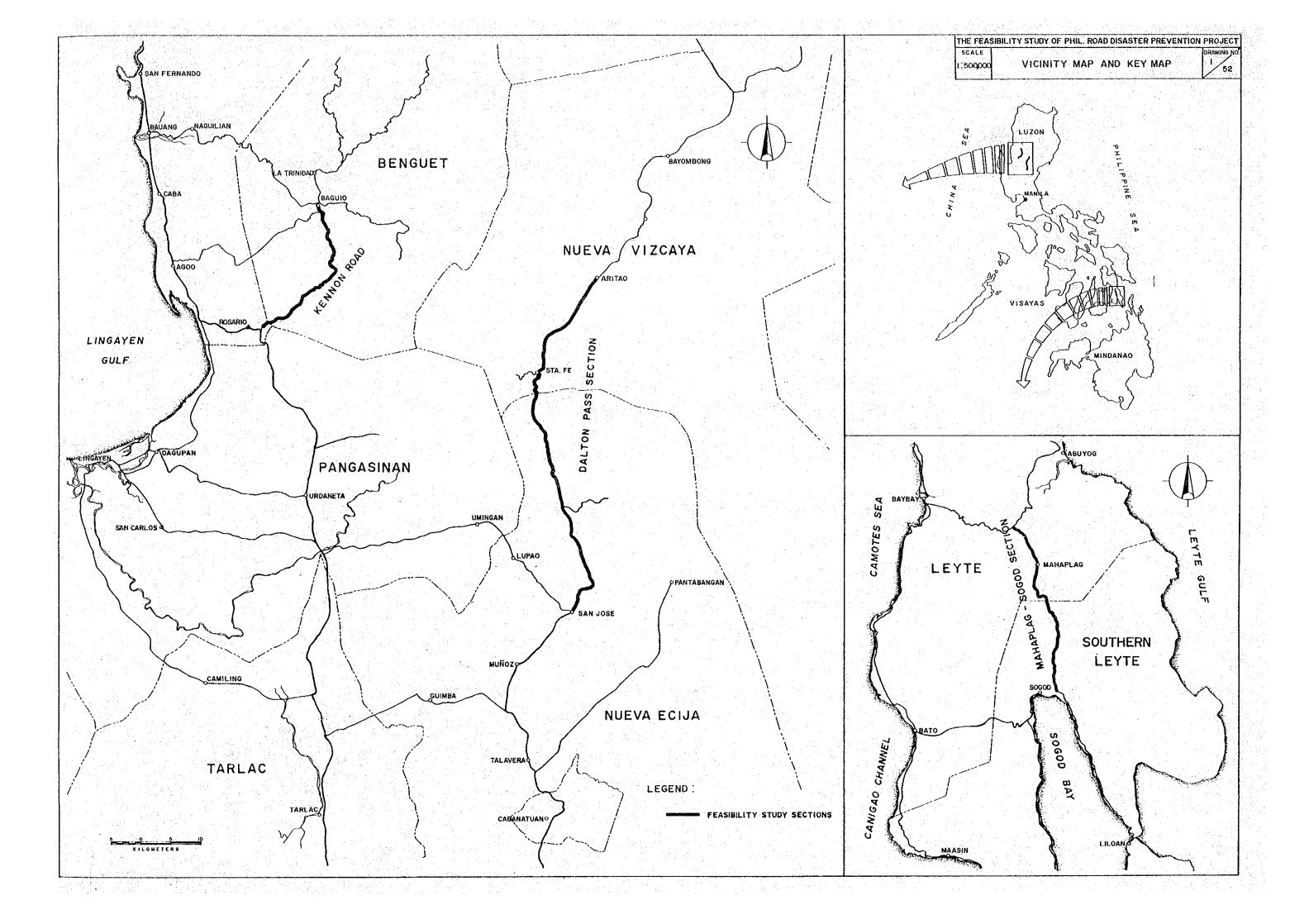
(VOLUME IV)

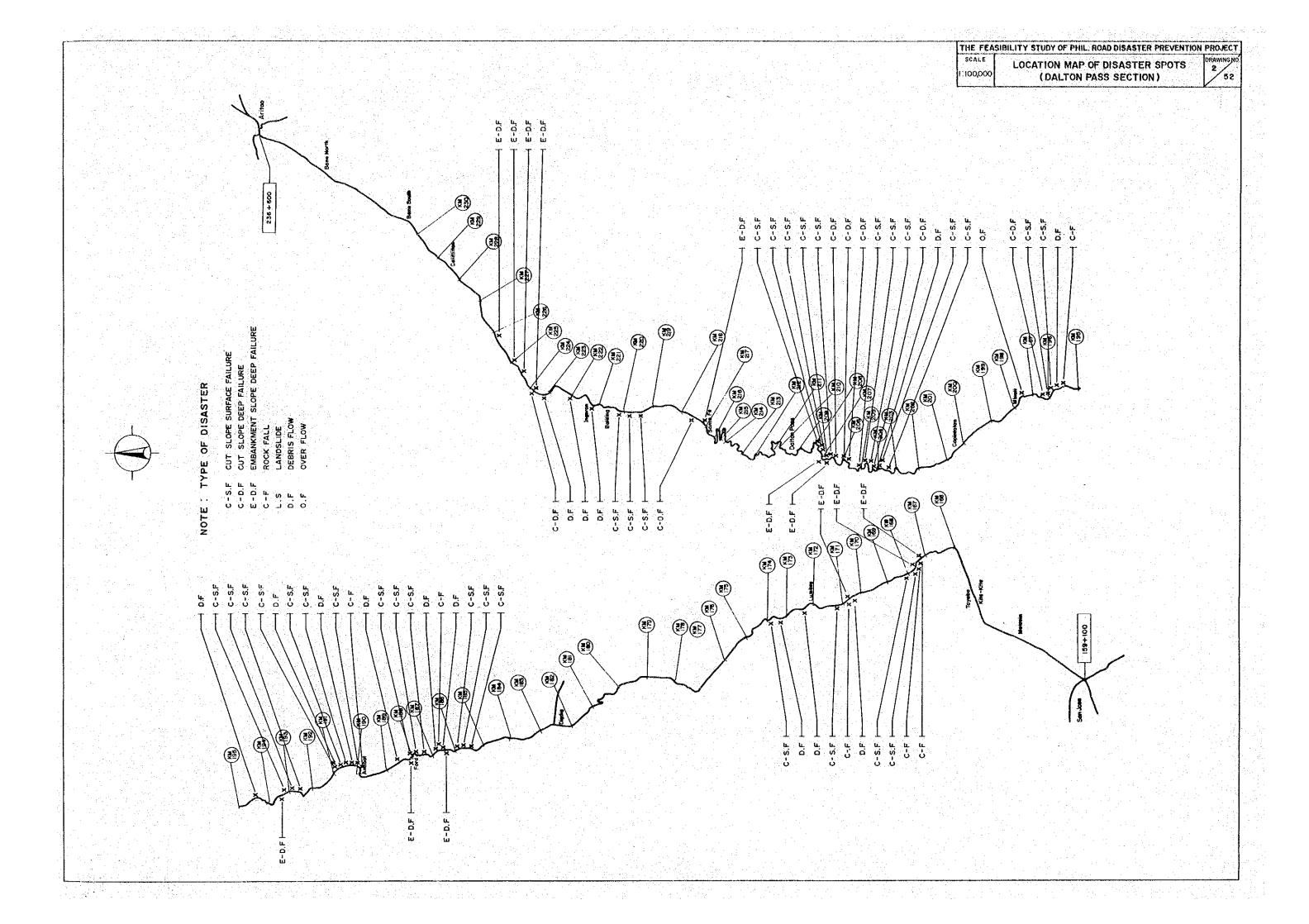
JUNE, 1984

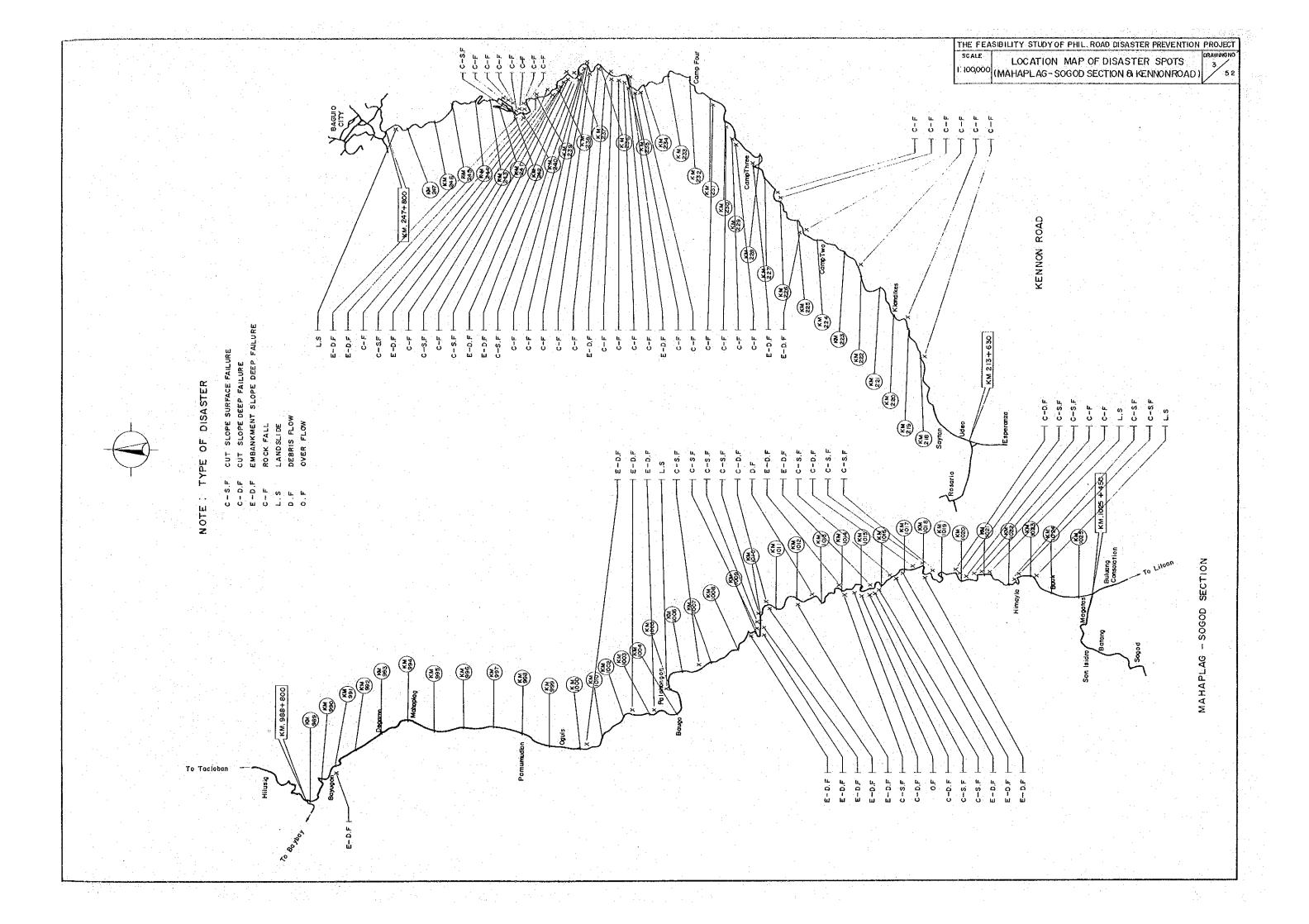
JAPAN INTERNATIONAL COOPERATION AGENCY

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E FEAS	IBILITY STUDY OF PHIL ROAD DISASTER PREVENTION	PROJECT
SCALE.	TABLE OF COUNTERMEASURES APPLIED	DRAWING NO.
	TO EACH DISASTER SPOT (1)	52

TABLE OF COUNTERMEASURES APPLIED TO EACH DISASTER SPOT (1)

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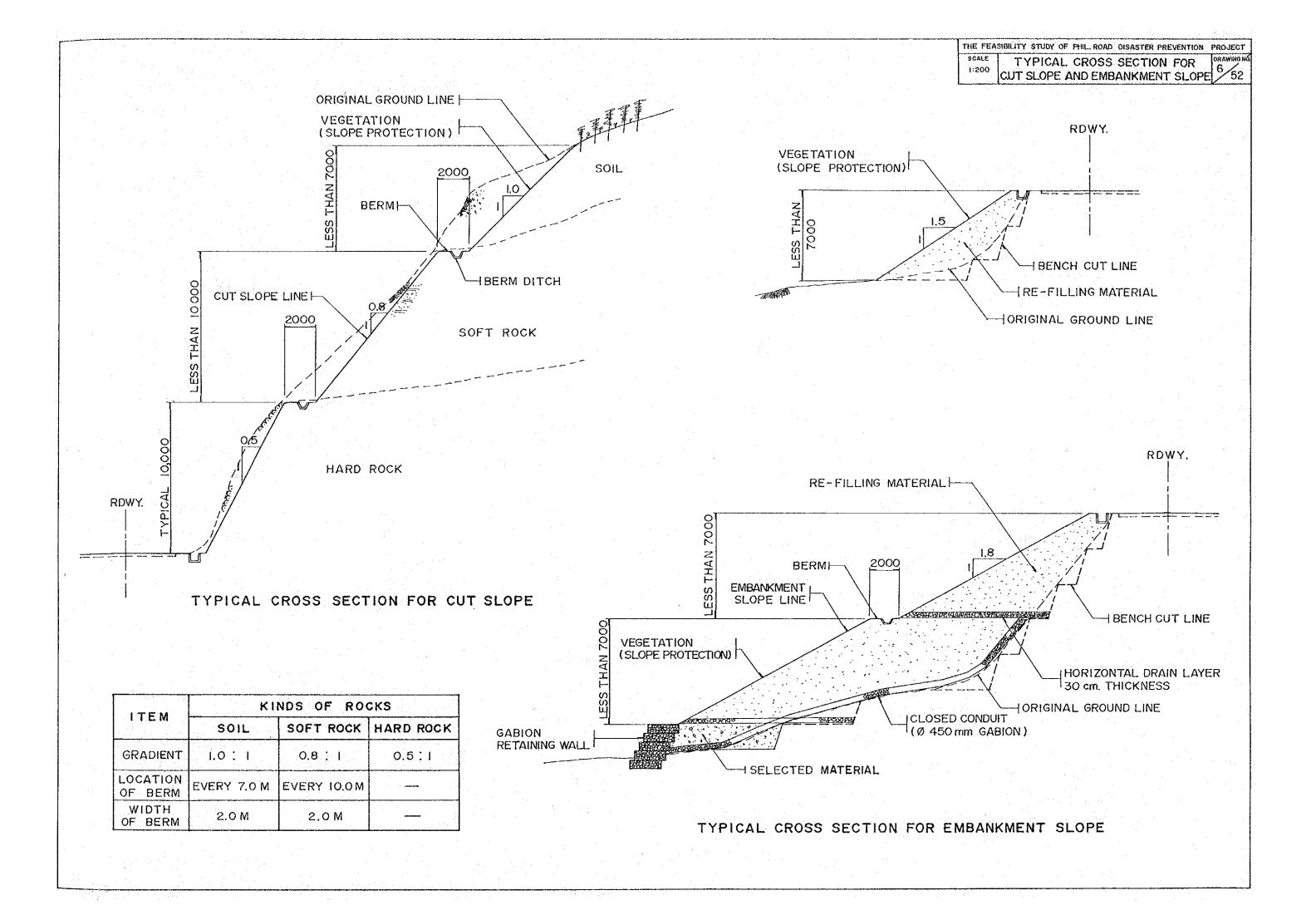
E FEAS	IBILITY STUDY OF PHIL. ROAD DISASTER PREVENTION	PROJECT
CALE	TABLE OF COUNTERMEASURES APPLIED	DRAWING NO.
	TO EACH DISASTER SPOT (2)	52

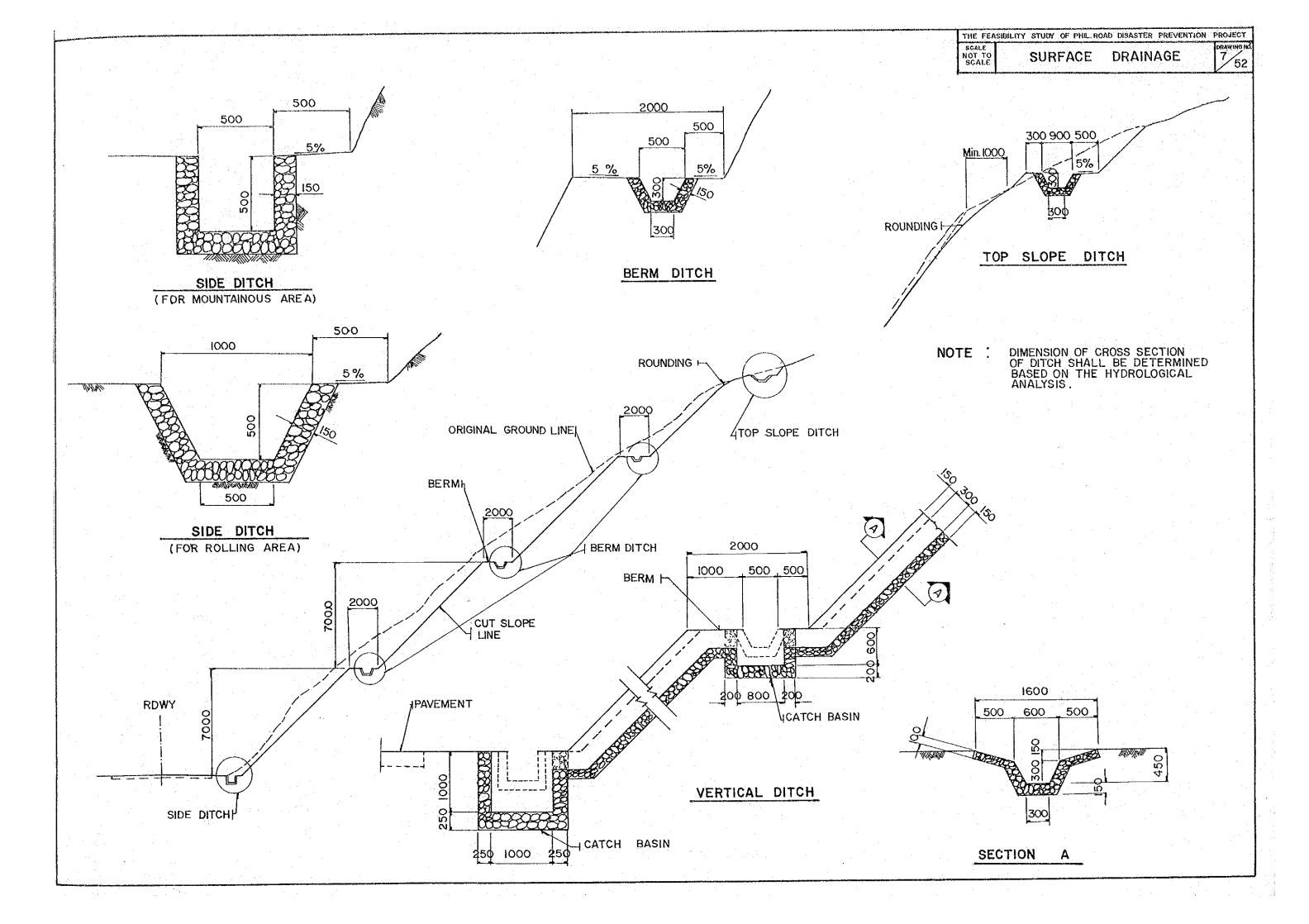
TABLE OF COUNTERMEASURES APPLIED TO EACH DISASTER SPOT (2)

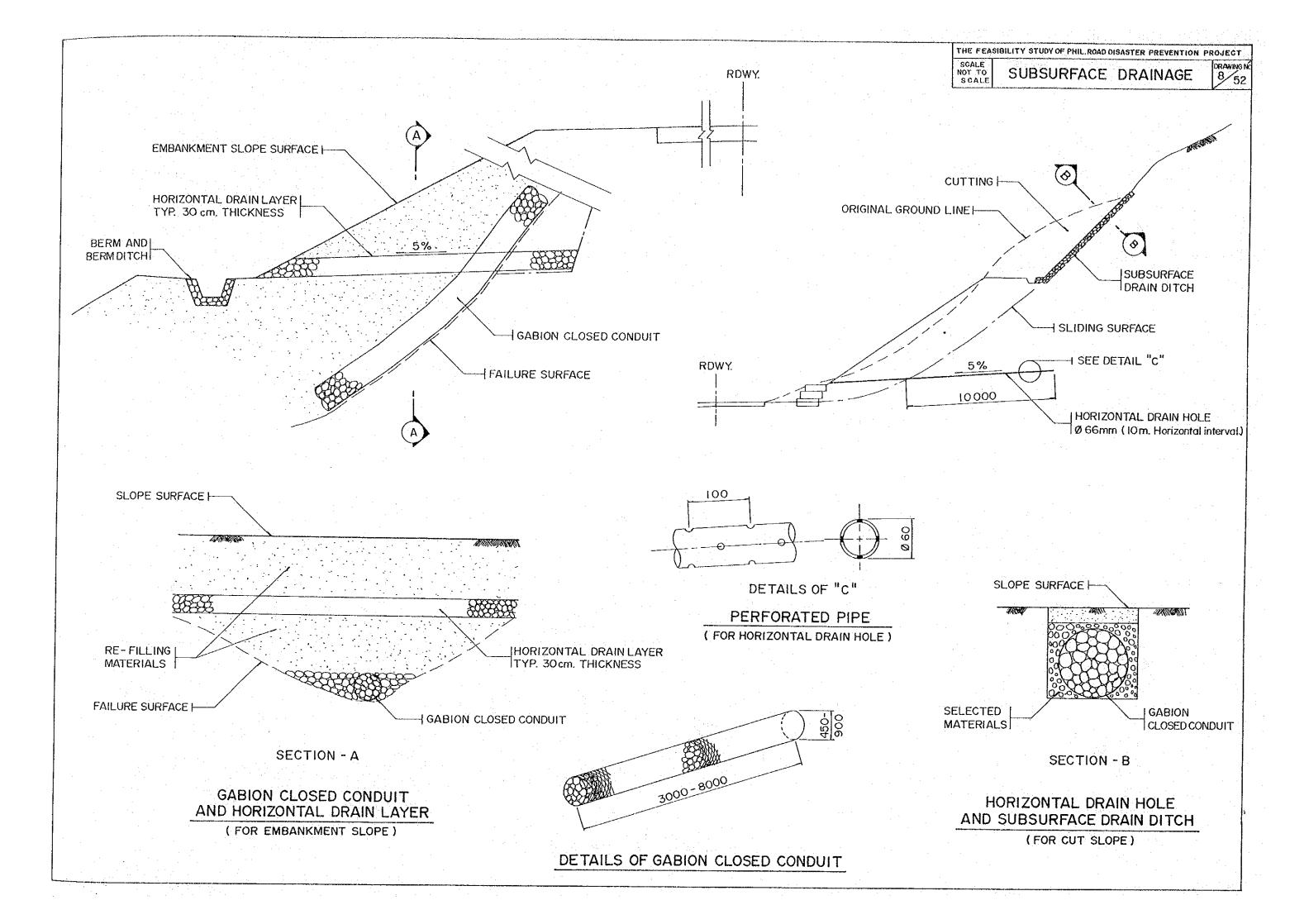
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TYPICAL COUNTERMEASURES

	DRAWING NO.
TYPICAL CROSS SECTION FOR CUT SLOPE AND EMBANKMENT SLOPE	6/52
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CONCRETE SABO-DAM	18/52
CONCRETE PIPE CULVERT/CONCRETE BOX CULVERT	19/52
NOTEO	
NOTES: (I) ALL DIMENSIONS ARE IN (3) ABBREVIATIONS	
	EIGHT
	.ENGTH
	DIAMETER
(2.) SLOPE GRADIENT	HICKNESS
TVD TVDICAL m	METER
VER. = 2	ENTIMETER
	MILLIMETER







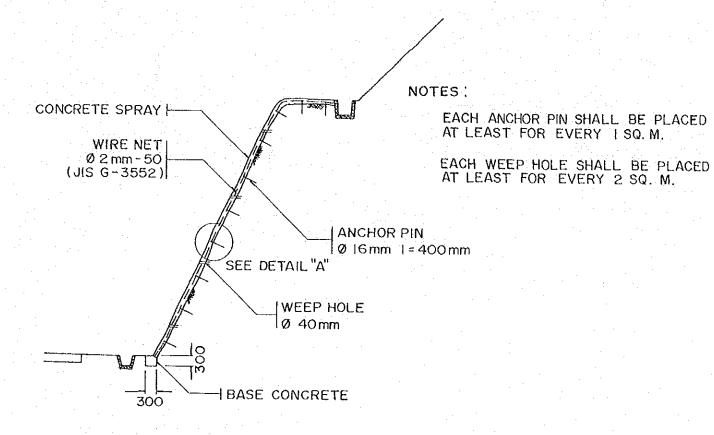
THE FEASIBILITY STUDY OF PHIL, ROAD DISASTER PREVENTION PROJECT

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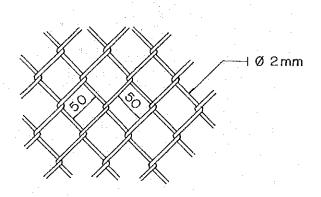
NOT TO SCALE

CONCRETE SPRAYING

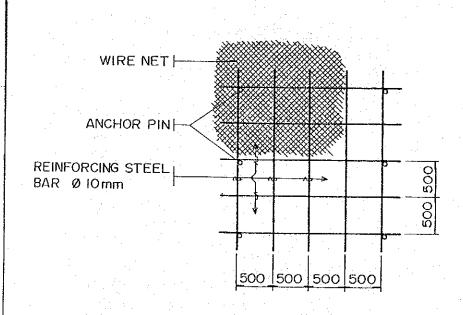
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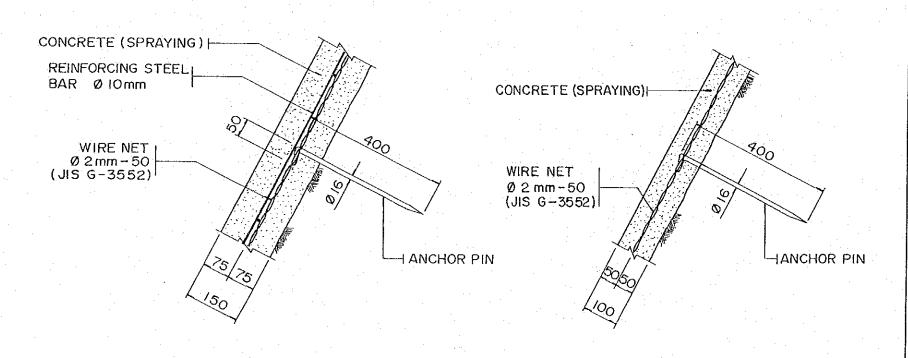
CONCRETE SPRAYING



DETAILS OF WIRE NET
(02mm-50) (JIS G-3552)

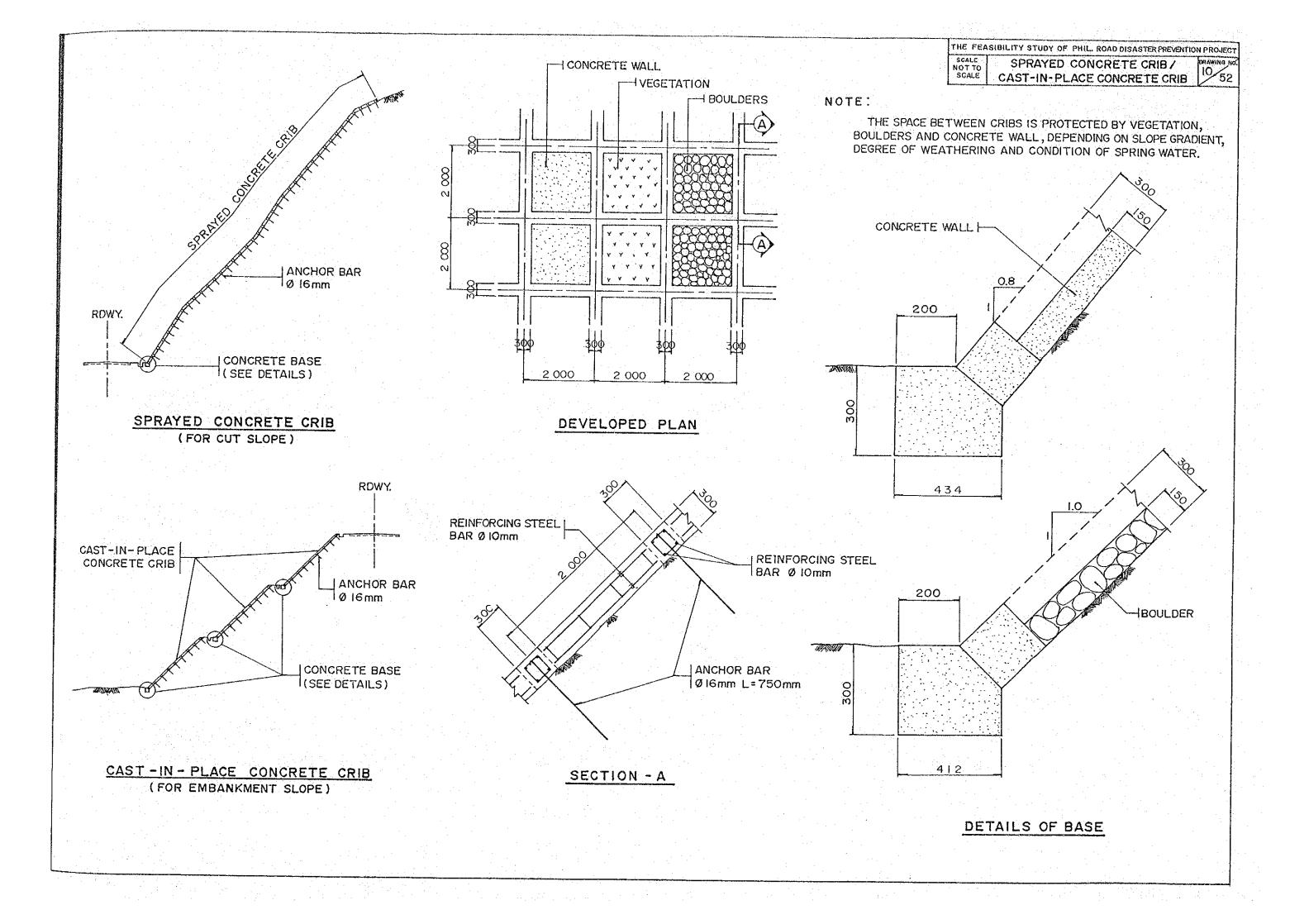


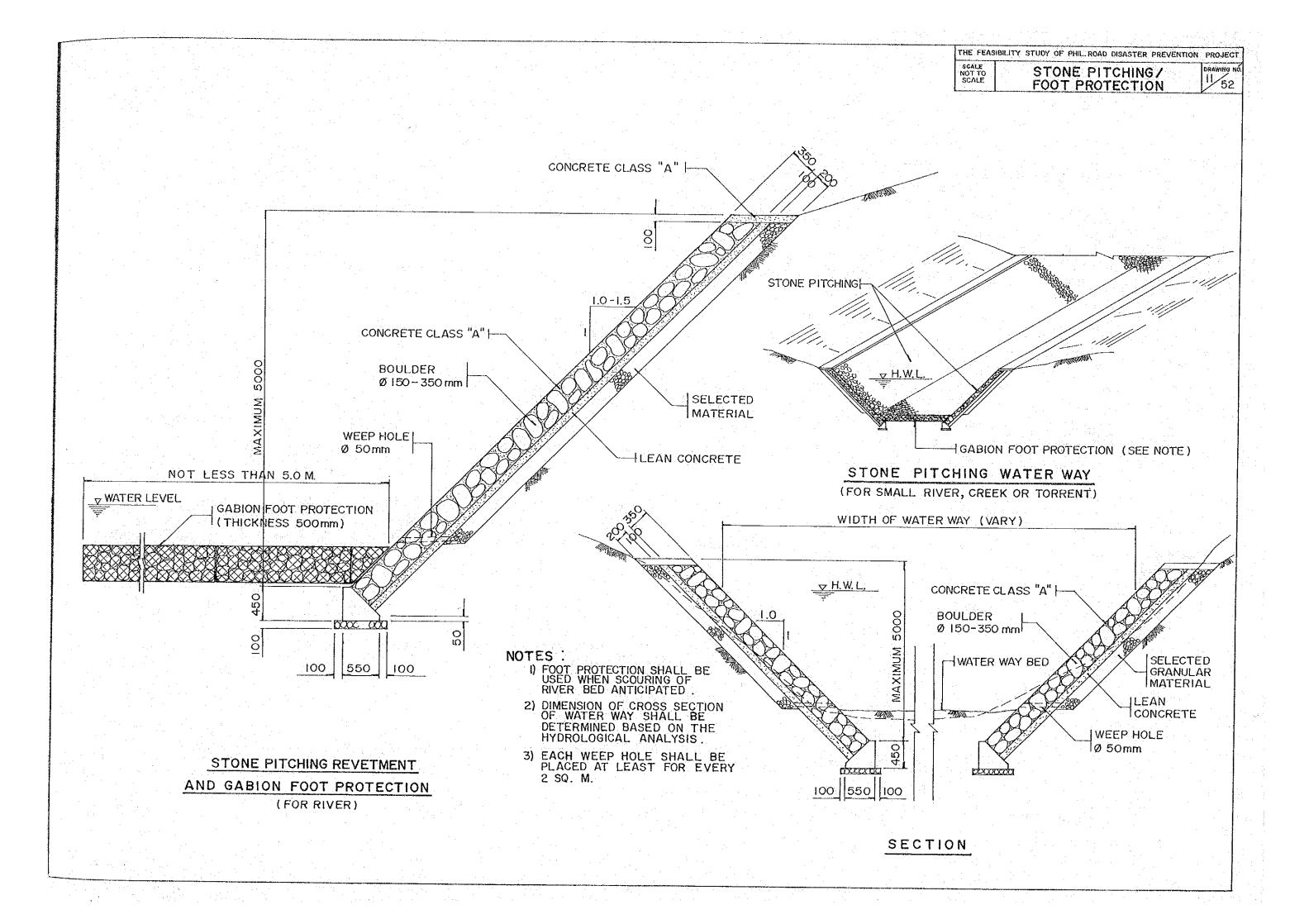


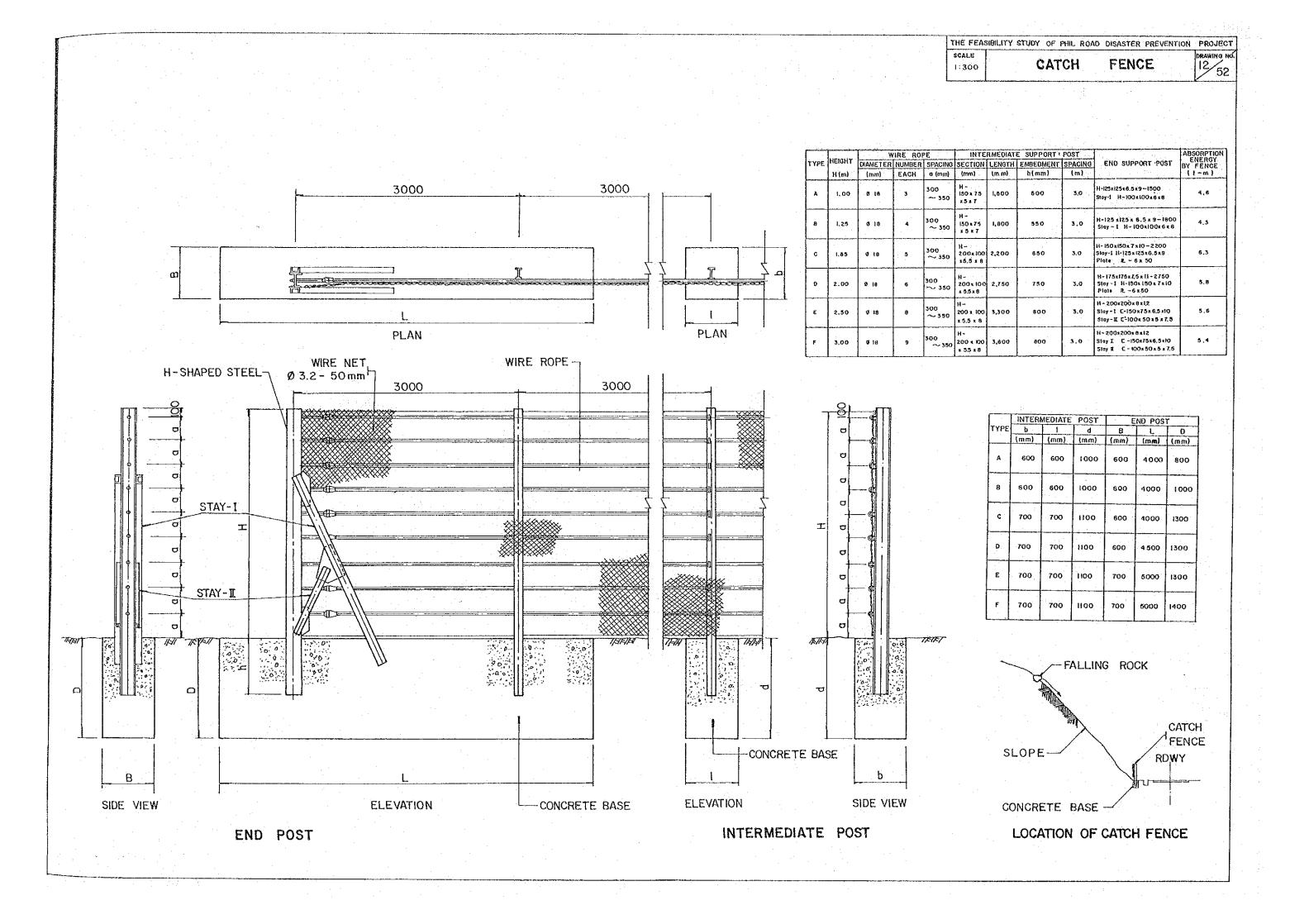


DETAILS OF "A"
THICKNESS 15 cm.

DETAILS OF "A"
THICKNESS IO cm.







THE FEASIBILITY STUDY OF PHIL, ROAD DISASTER PREVENTION PROJECT

CROSS CLIP

WIRE CONNECTION CLIP

CONNECTION COIL

ANCHOR WIRE NET

DRAWING NO.

DIMENSION TABLE OF ROCK NET

K					····		
ITEM	WIRE NET	WIRE	ROPE*	CONDITION	OF SLOPE	AND ROCK	ANCHOR
TYPE	GALVANIZED WIRE NET	MAIN ROPE	SUB ROPE	MAXIMUM SLOPE LENGTH	MAXIMUM SLOPE GRADIENT	ALLOWABLE *2 WEIGHT OF ROCK	ROCK ANCHOR
1500	Ø 4.0mm x 50 x 50	Ø 16	Ø 12	50 m	0.5:1	1500 kg	Ø 25
1000	Ø 3.2mm x 50 x 50	Ø 16	Ø 12	70 m	0.5:1	1000 kg	Ø 25
500	Ø 2.6 mm x 50 x 50	Ø 15	Ø 12	70 m	0.511	500 kg	Ø 22

* 1 JIS-G 3525 3x7 G/O TYPE

ULTIMALE TENSILE STRENGTH MORE THAN 7000 kg FOR \emptyset 12 mm MORE THAN 12000 kg FOR \emptyset 16 mm

*2 UNIT; PER 40 SQUARE METER (4m x 10m)



WIRE NET JIS 6-3552

CROSS SECTION OF WIRE ROPE

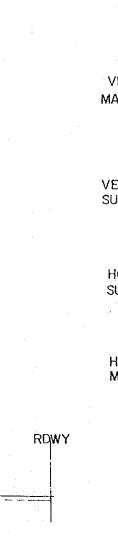
WIRE DIAMETER Ø 2.6 ~ Ø 4.0mm JIS G- 3525

DIAMETER D Ø 12mm

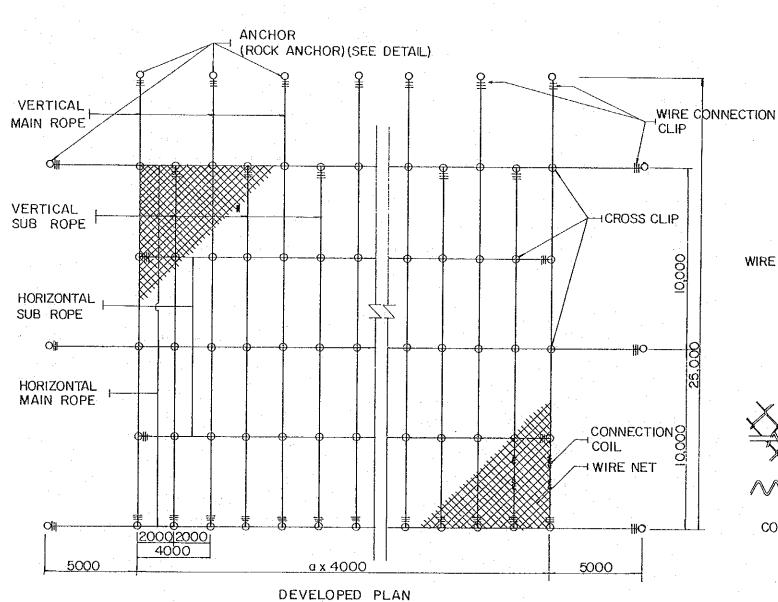
WIRE CONNECTION CLIP

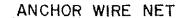


ROCK ANCHOR (SEE DETAILS)



CROSS SECTION





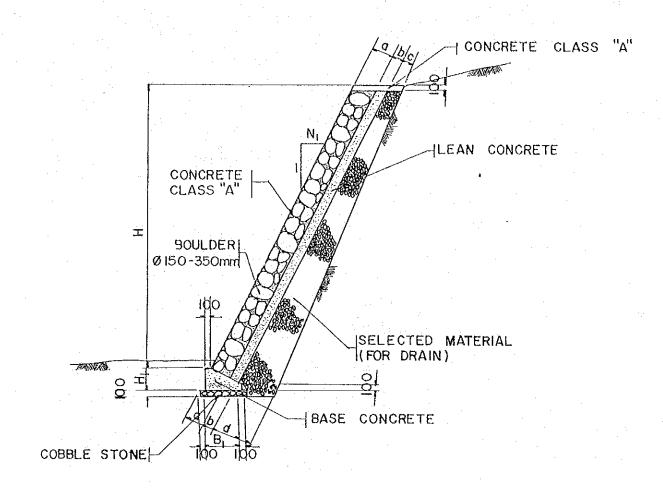
THE FEASIBILITY STUDY OF PHIL. ROAD DISASTER PREVENTION PROJECT

SCALE

NOT TO SCALE

STONE MASONRY

ORAWING NO. 14
52

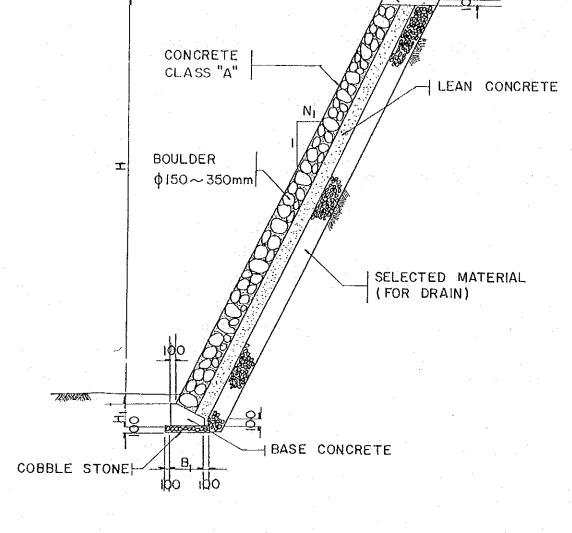


FOR EMBANKMENT SLOPE

				<u> </u>			
Н	N ₁	a	b	С	d	B _l	н
1000	0.3	350	100	200	300	5 2 0	300
1500	0.3	350	100	200	340	520	300
2000	0.4	350	100	200	380	520	300
2500	0.4	350	100	200	420	520	300
3000	0.4	350	100	200	460	520	300
3500	0.5	350	150	200	500	550	350
4000	0.5	350	150	200	540	550	350
4500	0.5	300	150	200	580	550	350
5000	0,5	350	150	200	620	550	350



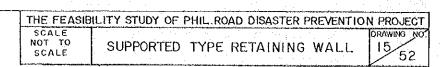
EACH WEEP HOLE SHALL BE PLACED AT LEAST FOR EVERY 2 SQ. M.



CONCRETE CLASS "A" |

FOR CUT SLOPE

Н	N _t	a	b	С	B _t	H ₁
1000	0.3	250	50	300	520	300
2000	0.3	250	100	300	520	300
3000	0.3	250	100	300	520	300
4000	0.4	350	150	300	550	350
5000	0.4	350	150	300	550	350
6000	0.5	350	200	300	550	350
7000	0.5	350	200	300	550	350



CONCRETE CLASS"A" CONSTRUCTION JOINT CONCRETE CLASS "A" N2 SHEAR BAR Ø 13 mm WEEP HOLE P.V.C PIPE Ø 50 mm

FOR EMBANKMENT SLOPE

SELECTED MATERIAL

COBBLE STONE

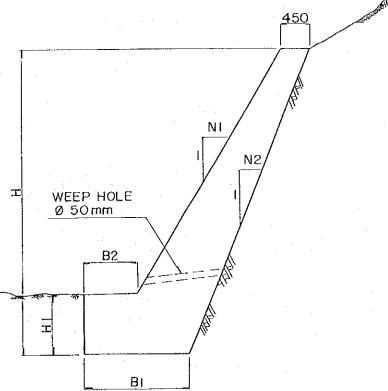
DIMENSION TABLE

MENTS

Н	NI	N2	ні	81	B2
3000	0.40	0.35	600	1100	530
4000	0.40	0.30	700	1400	620
5000	0.45	0.35	800	1600	730
6000	0.45	0.30	900	2050	840
7000	0.50	0,35	1000	2250	900
8000	0.50	0.30	1100	2850	1020

NOTES:

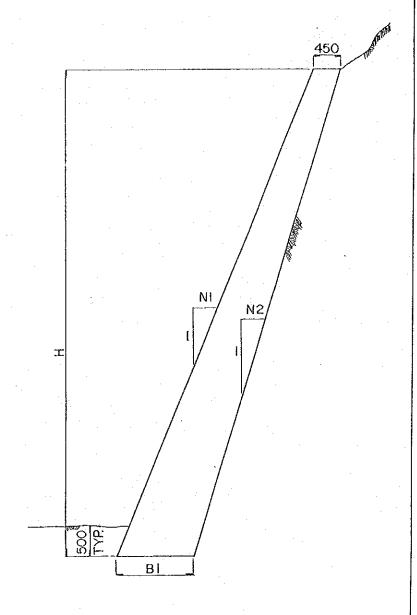
- (1) EACH WEEP HOLES SHALL BE PROVIDED AT LEAST FOR EVERY 2.0 Sq.M.
- (2) SHEAR BARS
 SHALL BE PROVIDED AT EVERY CONSTRUCTION
 JOINT.



FOR CUT SLOPE (SOFT ROCK)

DIMENSION TABLE

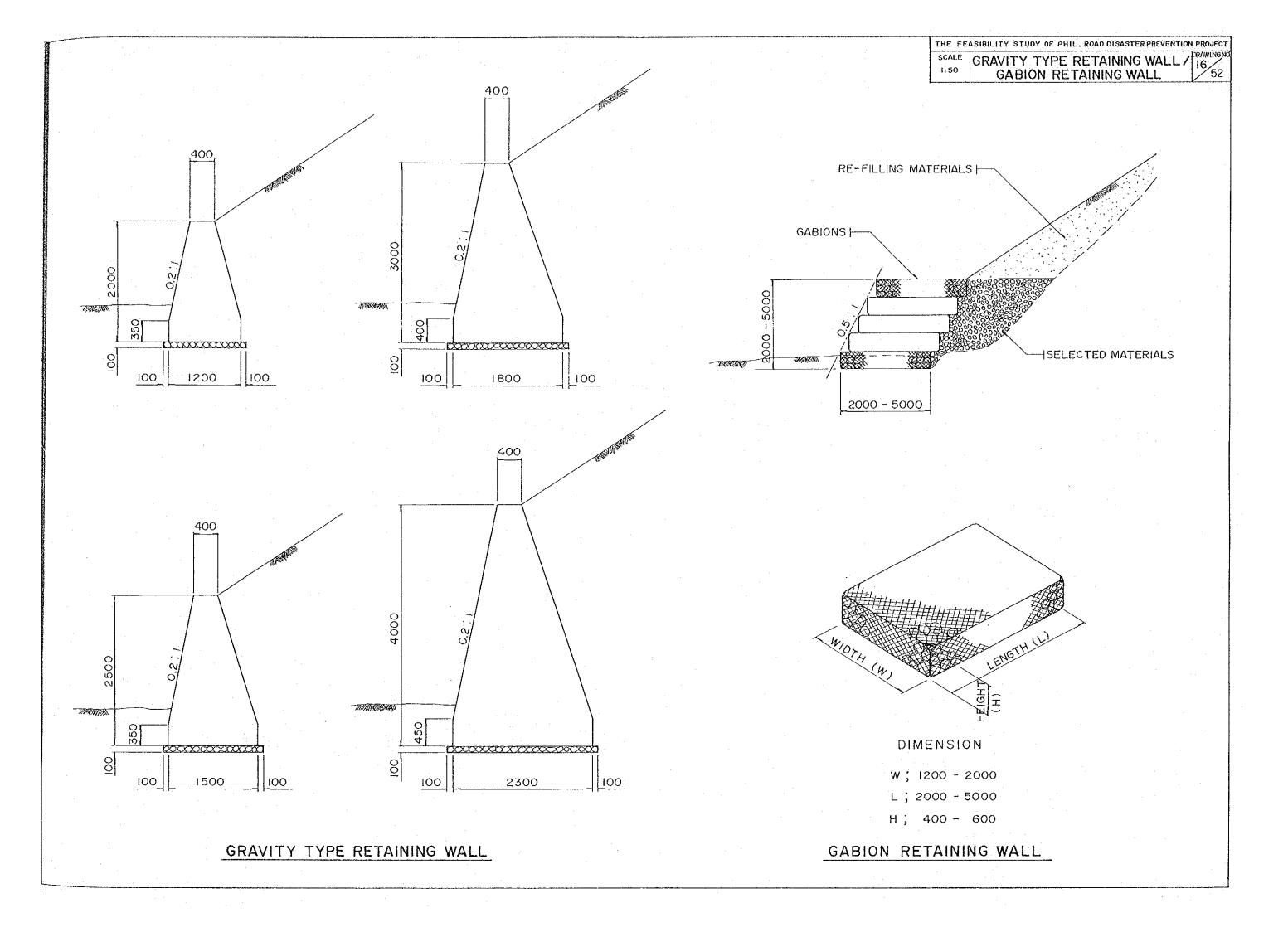
Н	NI	N2	НІ	ВΙ	B2
3000	0.6	0.4	800	1620	950
 5000	0.6	0.4	1000	1750	900

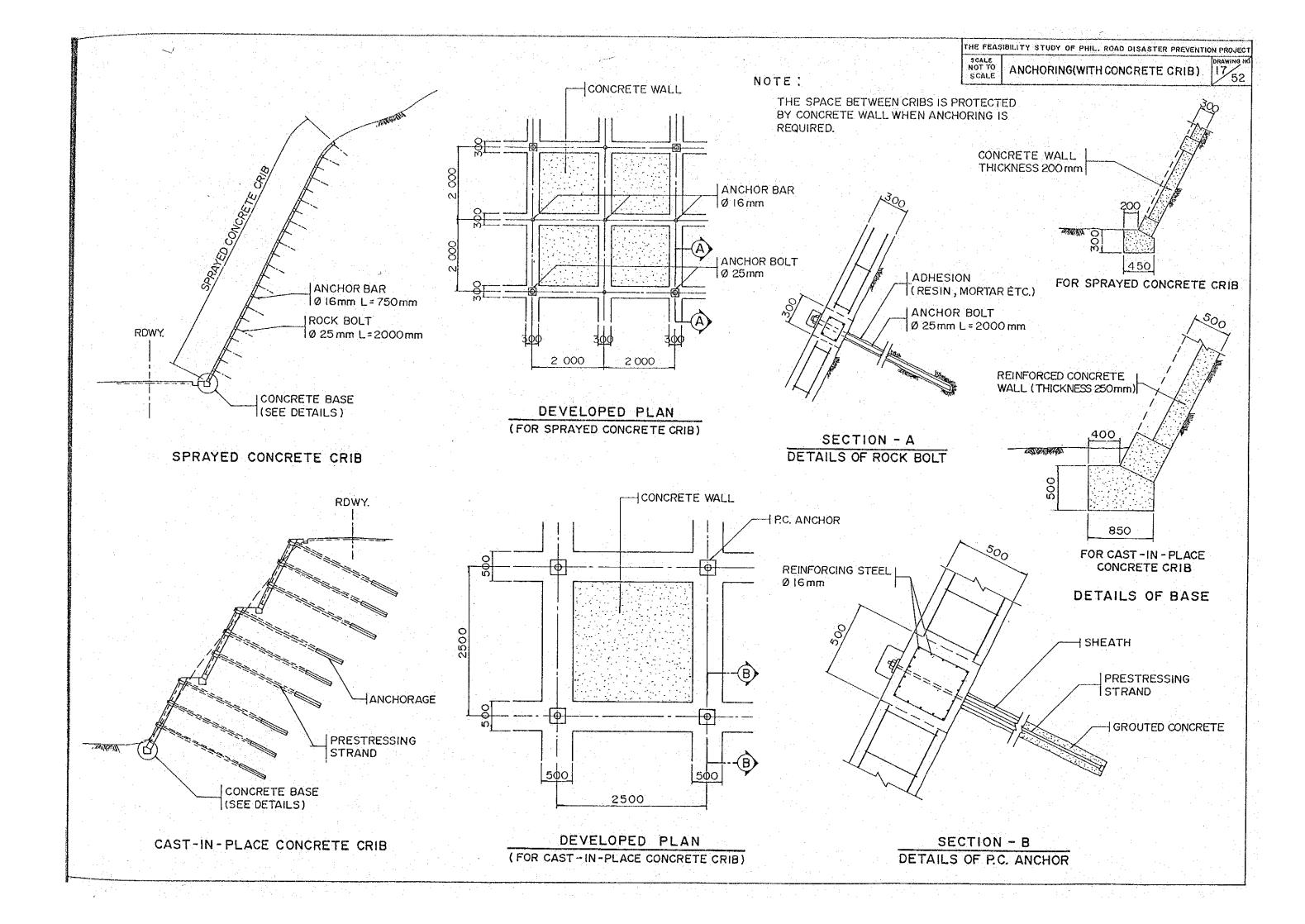


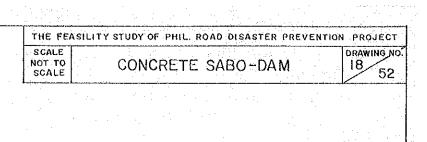
FOR CUT SLOPE (HARD ROCK)

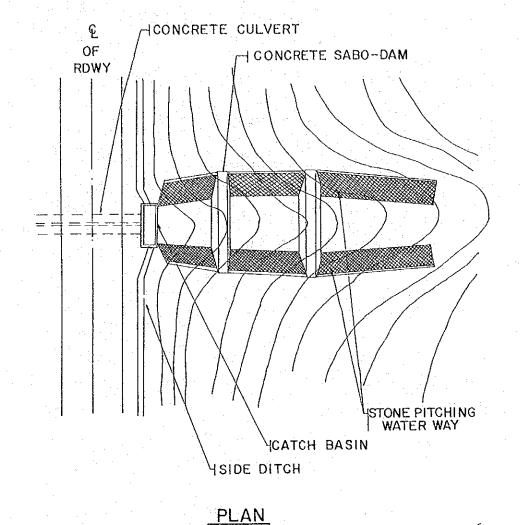
DIMENSION TABLE

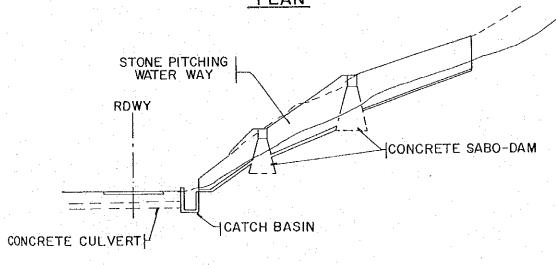
Н	NI	N2	вι
3000	0.4	0.3	750
5000	0.4	0.3	950
8000	0.4	0.3	1250





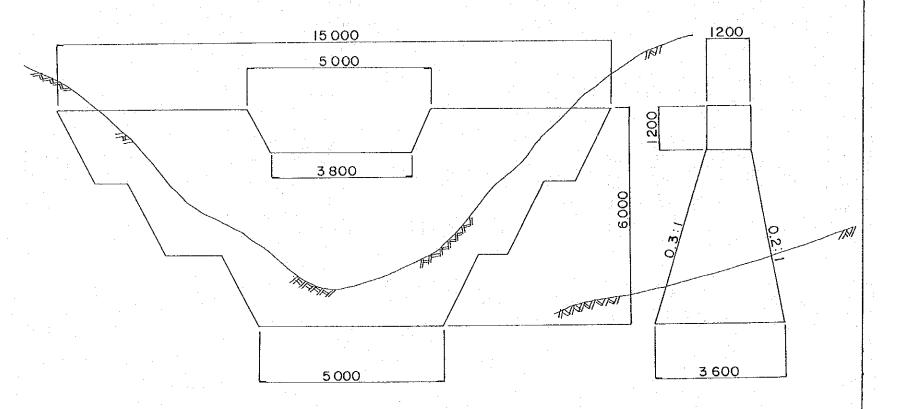






ELEVATION

NOTE: DIMENSION OF CONCRETE SABO-DAM SHALL BE DETERMINED BASED ON THE HYDROLOGICAL ANALYSIS, TOPOGRAPHY AND GEOLOGY.



CONCRETE SABO-DAM

