

approved  
D.R.

revisions  
B 30/8/85 Bedroom wardrobe shown in  
C 31/8/85 Insetion AA deleted  
C 31/8/85 ZONE 3/4 /STRL ENG-ADDED

**SPECIFICATION CONTINUED**

**CUPBOARDS:**  
HANG ALL DOORS ON ONE PAIR 70MM BRASS BUTTS.  
TURNER H500 OR SIMILAR 70x10 'D' PULLS 'R B DAVIES' NO 345 OR SIMILAR. ADJUSTABLE BRASS BALL CATCHES.

**FITTINGS:**  
12mm DIA CP SHOWER AND WARD / ROBE RAILS WITH FLANGED ENDS METAL CRAFT - VAN 2 OR SIMILAR SOAP HOLDER TO SHOWER RECESS 750x15 mm DIA CP BRASS TOWEL RAIL WITH END BRACKETS TO SHOWER ROOM.  
'EFCO' NO 843/1 OR SIMILAR CP BRASS TOILET PAPER HOLDER 'MALLEY' OR SIMILAR RECESSED 750x300 PRESSED METAL SHAVING CABINET WITH MIRROR DOOR.

**PLUMBER:**  
CONNECT TO RETICULATED WATER. CONNECT TO SEWER RETICULATION WHEN AVAILABLE.

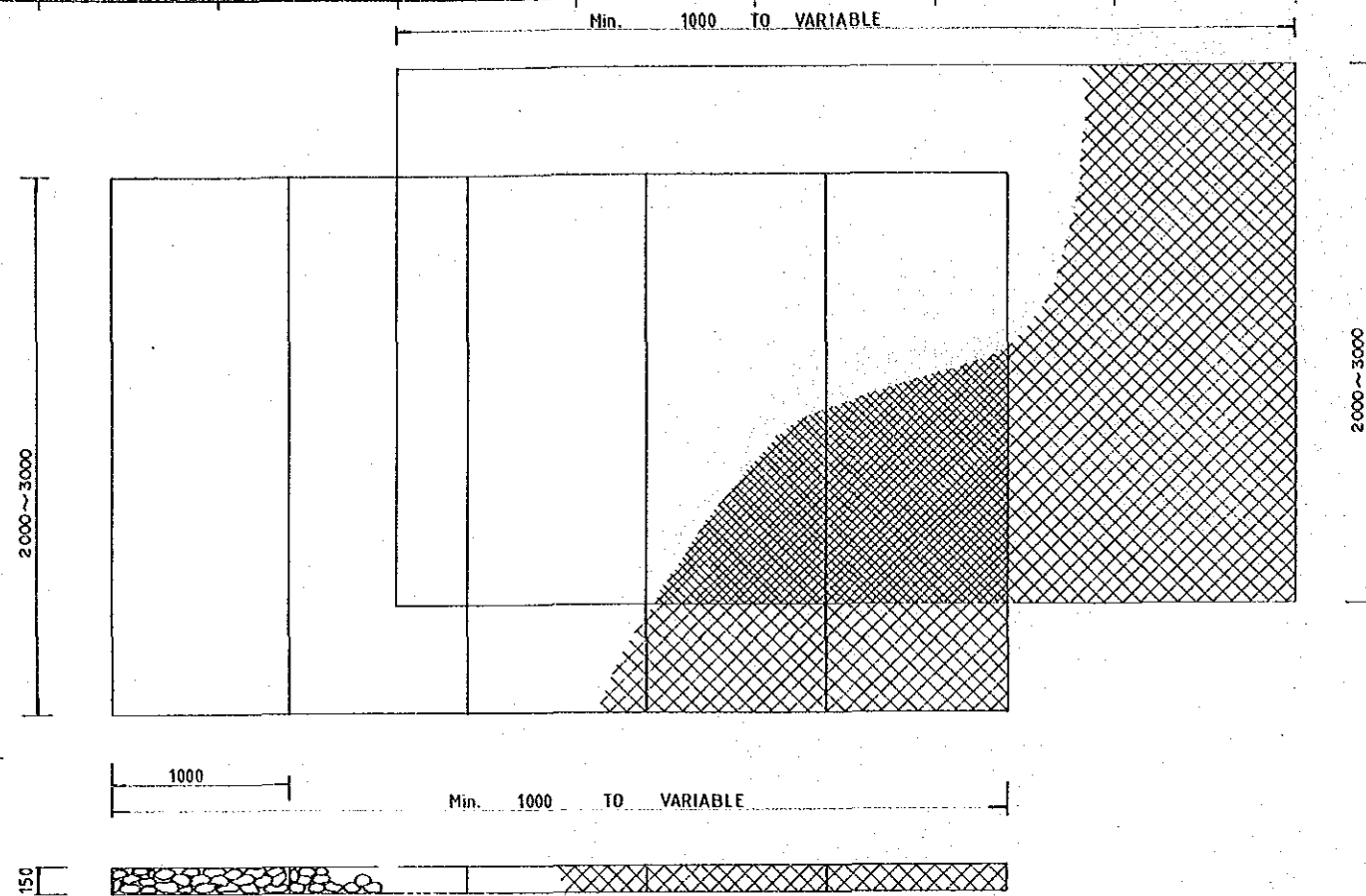
**FITTINGS**  
W.C. PAN & CISTERN APPROVED TYPE WHITE VITREOUS CHINA COMPLETE WITH BLACK SEAT & FLAP. INTERNAL OVERFLOW MECHANISM AND SUITABLE FOR RETICULATED SYSTEM.  
BASIN: ROYAL DOUTLON 'V' 562 'CURVENE' OR SIMILAR APPROVED VITREOUS CHINA WALL BASIN SHOWER BATH.  
T1501 ARMITAGE SHANKS 'WARICK' SHOWER TRAY OR SIMILAR APPROVED SINK: 1200x480 STAINLESS STEEL RADIANT HEAT OR SIMILAR APPROVED HOT WATER: SOLAR HEATER TO H65 RESIDENCE USE 'RHEEM' HLINE 300 LITRES OR SIMILAR APPROVED RETICULATE HOT WATER TO SINK AND SHOWER, basin & laundry tub. ALL HOT WATER UNIT SHALL BE LOW OR HIGH PRESSURE TYPE TO SUIT WATER RETICULATION SCHEDULE OF COCKS.  
\* SINK RECESSED HOT / COLD CP & 'SWIVEL'  
\* LAUNDRY MIXER TYPE  
\* BASIN CP PILLAR COCKS H8.C.  
\* SHOWER CP FLANGE SHR LOCK & 100mm DIA SHR ROSE, SWIVEL TYPE  
\* CISTERN C.P. STOP COCK  
\* STANDPIPE BRASS HOSE COCK WHEN RETICULATED WATER AVAILABLE.  
ALL LOCKS SHALL BE 12mm DIA.

**ROOF PLUMBER:**  
RIDGE CAPPING AND BARGE MOULD SHALL BE BENT OUT OF 500 WIDE & 400 WIDE GALV.S SHEETS RESPECTIVELY. LAP JOINTS 150 BEND IN NON SETTING MASTIC AND POP RIVET AT 70 CRS AND SCRIBE INTO CORRUGATIONS 0.62mm GALV.S END CAPPING TO JACK RAFTER & BEARERS RETURN EDGES 25 TO ALL FACES (EXCEPT BOTTOM). SOLDER CORNERS AND FIX WITH 25x2mm GALV.FLAT HEAD (EDGE PRIME BACKS PRIOR TO FIXING).

**INSECT SCREENING & SANDING**  
INSECT SCREENING TO ALL WINDOWS AND ABOVE WINDOW HEADS AND UNDERSIDE OF CEILING.  
CLEAN OFF & MACHINE SAND FINISH FLOORS BALCONY & STAIR. TREADS TO RECIEVE FINISH.

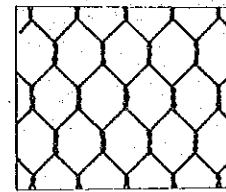
**CCA treated Pine framing, alternative**  
THE USE OF F8 STRESS GRADE STRUCTURAL TIMBER MAY BE PERMITTED ONLY UNDER THE FOLLOWING CONDITIONS.  
1 Initial moisture content to be below 20%  
2 Only CCA treated timber to be used for framing  
3 rafters to be ex 150x75 mm  
4 ridge beam ex 200x75 mm  
5 nailplates to all rafters at ridge both sides to be 'PRYDA GN'

SURVEY <b>JICA</b>		DESIGN <b>JAPAN INTERNATIONAL CO-OPERATION AGENCY</b>		DRAWN <b>K.E.</b>		RECOMMENDED <b>Principal Engineer</b>		SCALES <b>AS SHOWN</b>		CENTRAL / GULF PROVINCES	
VERTICAL DATUM MEAN SEA LEVEL		DATE 25 Sep. 1989		CHECKED <b>CRA</b>		PROJECT ENGINEER <b>W. Kula</b>		APPROVED <b>J. Sanni</b>		TRANS-ISLAND HIGHWAY BERINA-MALALAU SECTION	
HORIZONTAL DATUM		DATE		DESIGNED <b>A. Magano</b>		EXECUTIVE ENGINEER <b>W. Kula</b>		SECRETARY <b>FAS (S)</b>		SECTIONS DETAILS	
SURVEY BOOK NO. 8		BY		CHECKED <b>Z. Kouskani</b>		PROJECT NO. S.C. 120-33-814/A		SHEET 37 OF 281		PAPUA NEW GUINEA DEPARTMENT OF WORKS	
AMENDMENTS		APP'D DATE		DATE		DRAWING NO. A1/ 87796		PROJECT NO. S.C. 120-33-814/A		DRAWING NO. A1/ 87796	



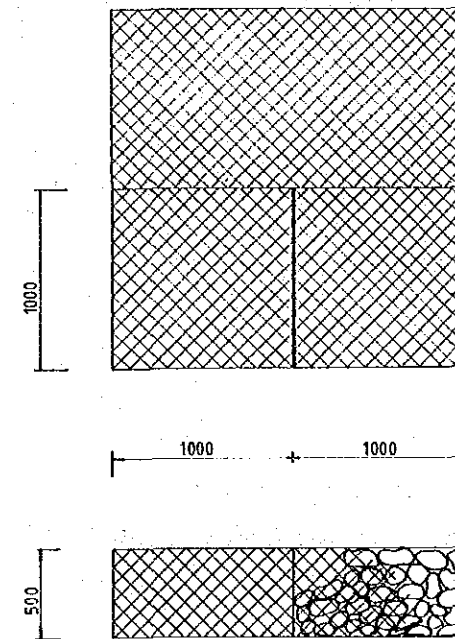
**RENO MATTRESS TYPE (A)**

NOTE: TYPE (B) THICKNESS 230mm



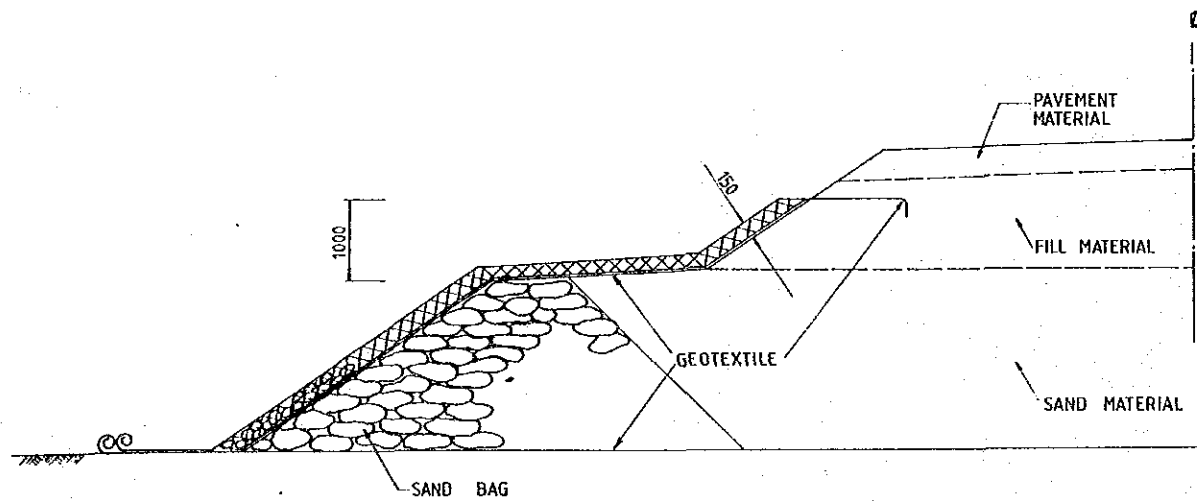
**MESH**

SIZE : 50x70  
 WIRE :  $\phi$  2.0mm  
 DOUBLE TWISTED HEXAGONAL MESH  
 ZINC COATED

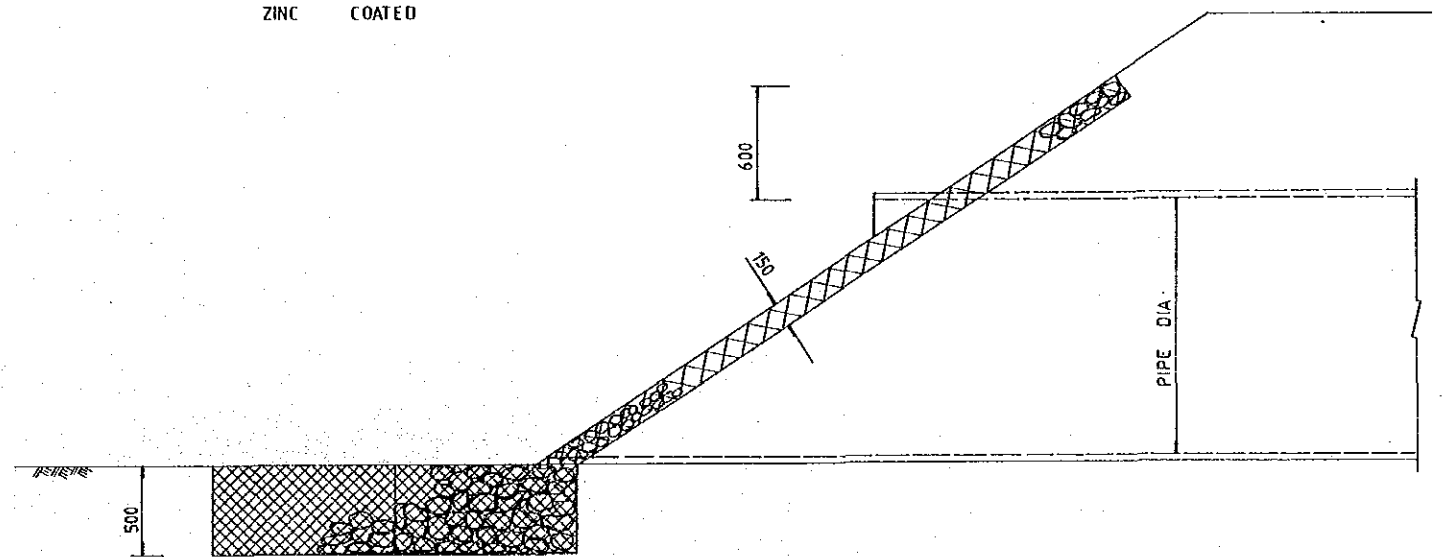


**GABION**

NOTE: ALL DIMENSIONS ARE IN MILLIMETRE UNLESS OTHERWISE STATED



**RENO MATTRESS FOR ALIKA SWAMP**

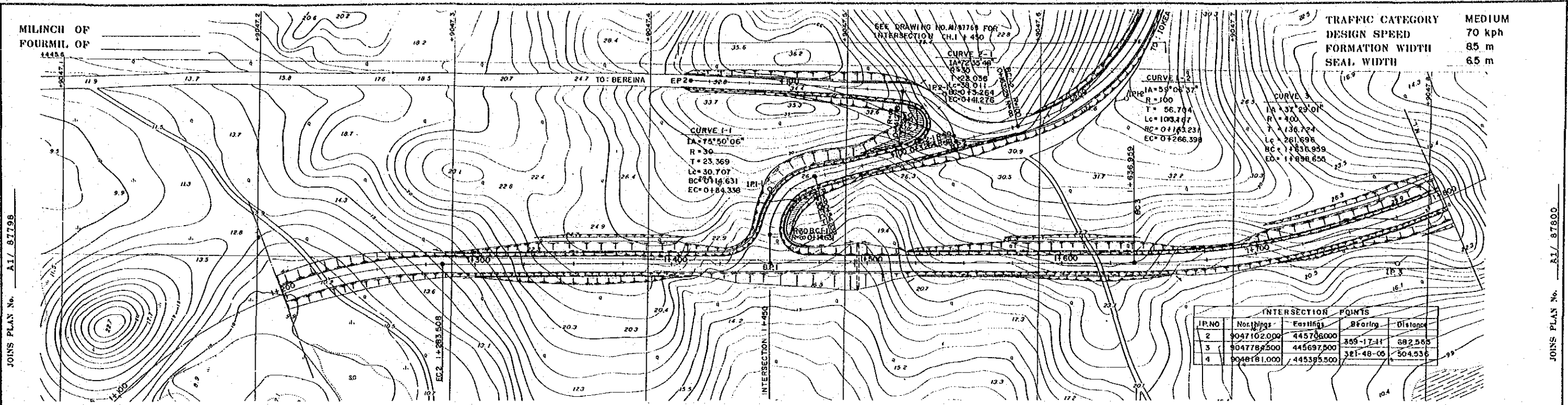


**GABION AND RENO MATTRESS FOR OUTLET AND INLET PIPE CULVERT**

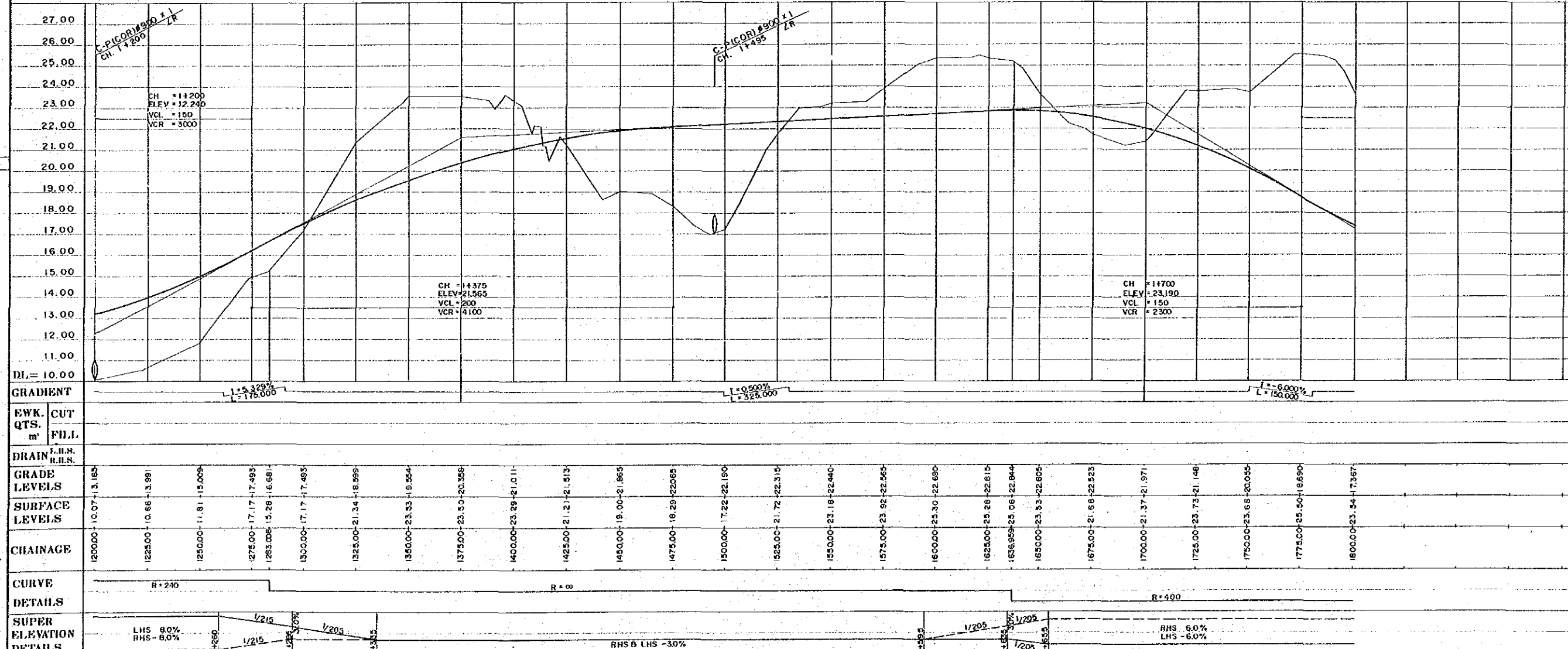
SURVEY		DESIGN		DRAWN		RECOMMENDED		SCALES		CENTRAL GULF PROVINCES	
JICA		JAPAN INTERNATIONAL CO-OPERATION AGENCY		K.E.		Principal Engineer		AS SHOWN		TRANS-ISLAND HIGHWAY BEREINA-MALALAU SECTION	
Date		Date		Project Engineer		Principal Engineer		PROJECT No.		DRAWING No.	
VERTICAL DATUM		Principal		Executive Engineer		Approved		S.C. 120-33-814/A		PAPUA NEW GUINEA	
MEAN SEA LEVEL		Date		Date		FAS(1)		SHEET 38 OF 281		DEPARTMENT OF WORKS	
HORIZONTAL DATUM		25 Sep. 1989		Date		Secretary		PROJECT No.		DRAWING No.	
SURVEY BOOK No. 8		Date		Date		Date		S.C. 120-33-814/A		A1 88072	
REV.	AMENDMENTS	BY	APP'D	DATE							







IP NO	Northings	Eastings	Bearing	Distance
2	9047102.000	445706000	309-17-11	682.565
3	9047782.500	445697500	321-48-06	504.536
4	9048161.000	445595500		



NOTES:  
 1. Co-ordinates shown are A.M.G. (Australian Mapping Grid)  
 2. Scale factor of 0.9996 at central meridian 147° East Longitude applies

OFFSET PEGS  
 DIST OFFSET R.I.

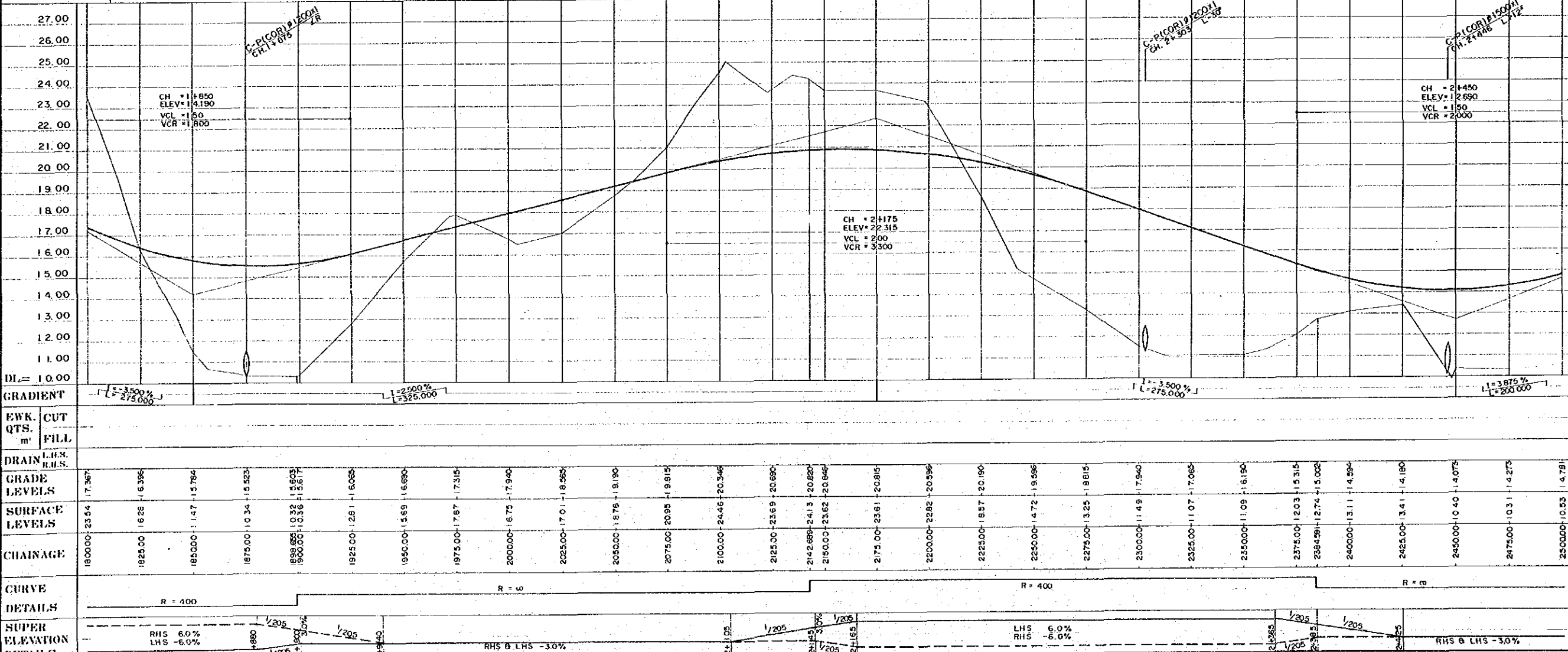
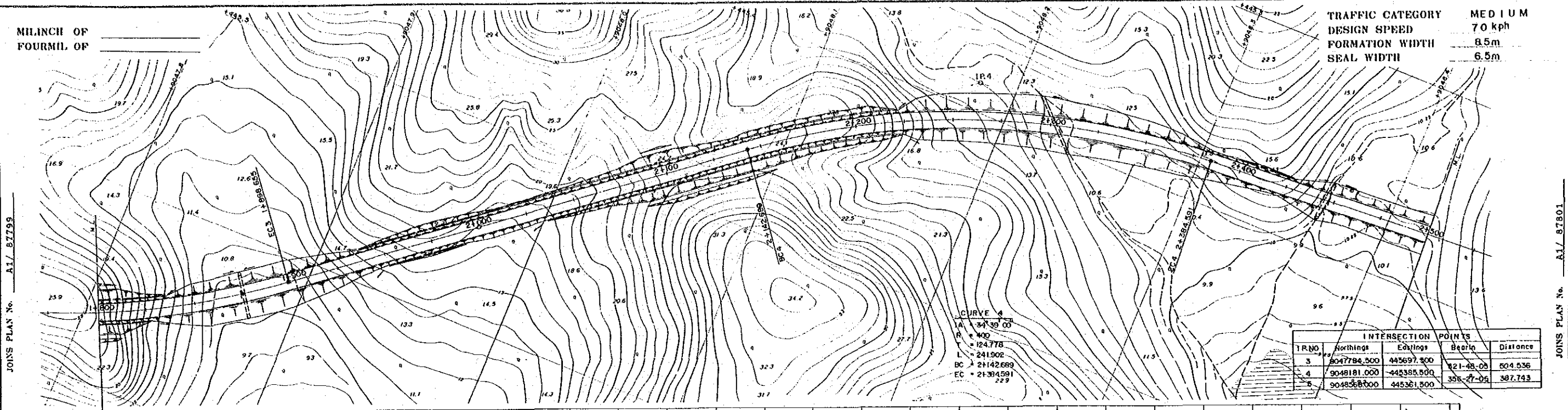
<b>REV</b> AMENDMENTS BY APP'D DATE		<b>SURVEY</b> JICA Date VERTICAL DATUM ORIGIN MEAN SEA LEVEL TOKYO TIDE G. HORIZONTAL DATUM ORIGIN AZIMUTH DATA A.M.G. AA009 SURVEY BOOK No. 9		<b>DESIGN</b> JAPAN INTERNATIONAL CO-OPERATION AGENCY J. Yoshida 25 Sep. 1989 Date		<b>DRAWN</b> K.E. CHECKED C. S. F. DESIGNED A. Magaly CHECKED T. Kam... PROJECT ENGINEER EXECUTIVE ENGINEER		<b>RECOMMENDED</b> APPROVED 24. 10. 89 FAS (S) SECRETARY		<b>SCALES</b> 0 10 20 30 40 50 60 70 80 90 100 (m) HORIZ SECTION 1:1,000 0 1 2 3 4 5 6 7 8 9 10 (m) VERTICAL SECTION 1:100		<b>CENTRAL / GULF PROVINCES</b> <b>TRANS-ISLAND HIGHWAY (BEREINA-MALALUA) SECTION</b> <b>PLAN &amp; LONGITUDINAL SECTION</b> CH. 1 + 200 — CH. 1 + 800 PAPER NEW GUINEA DEPARTMENT OF WORKS PROJECT No. S.C. 120-33-814/A DRAWING No. A1/ 87799	
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MILINCH OF  
FOURMIL OF

TRAFFIC CATEGORY MEDIUM  
DESIGN SPEED 70 kph  
FORMATION WIDTH 8.5m  
SEAL WIDTH 6.5m

JOINS PLAN No. A1/ 87799

JOINS PLAN No. A1/ 87801



NOTES:  
 1. Co-ordinates shown are A.M.G. (Australian Mapping Grid)  
 2. Scale factor of 0.9996 at central meridian 147° East Longitude applies

OFFSET PEGS  
 DIST OFFSET R.I.

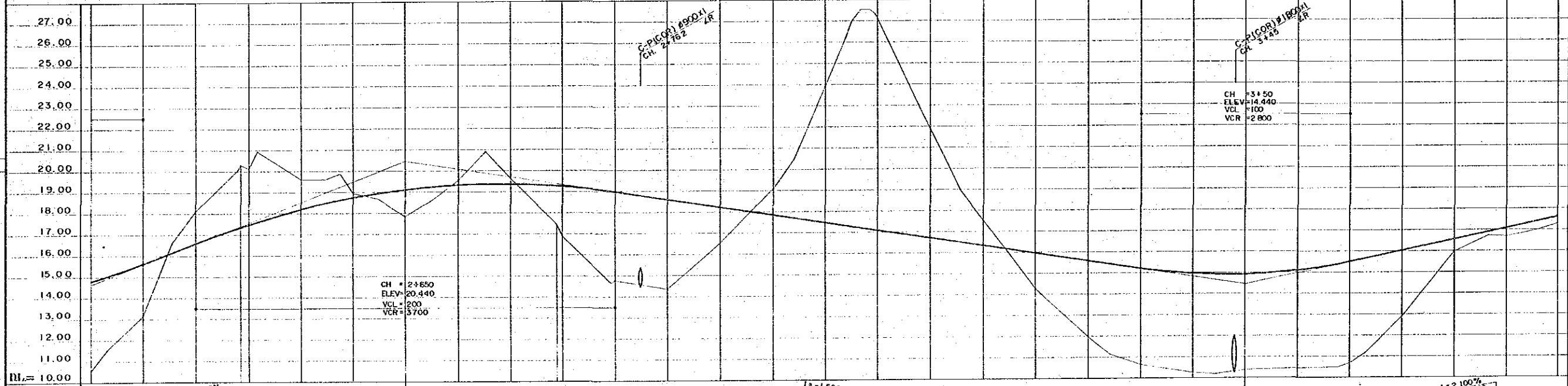
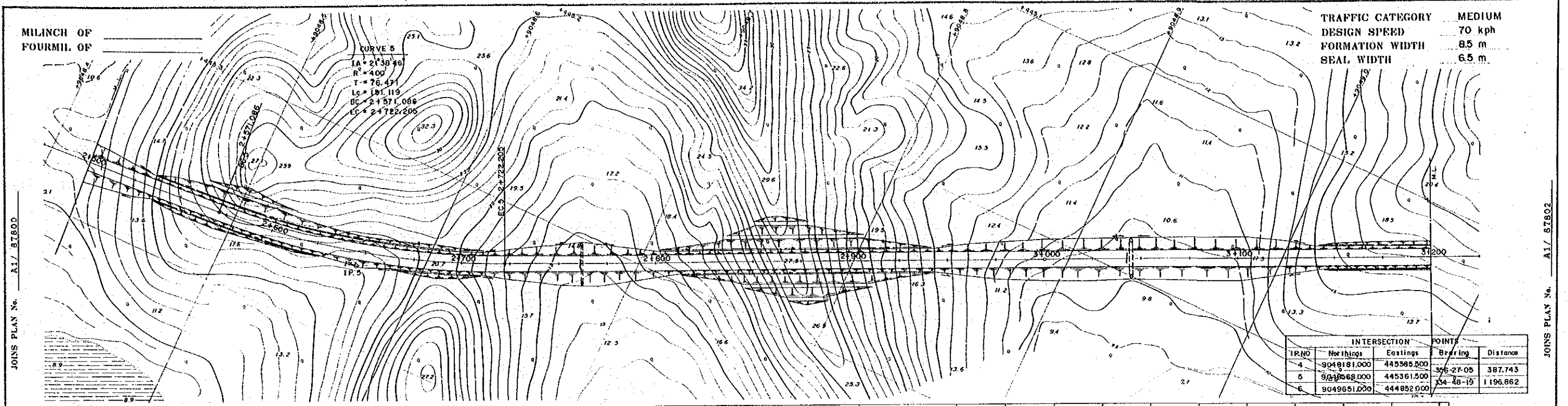
REV	AMENDMENTS	BY	APP'D	DATE	SURVEY JICA Date VERTICAL DATUM ORIGIN MEAN SEA LEVEL TOKYO TIDE G. HORIZONTAL DATUM AZIMUTH DATA A.M.G. AA009 SURVEY BOOK N/S	DESIGN JAPAN INTERNATIONAL CO-OPERATION AGENCY J. J. J. 25 Sep. 1989 Date	DRAWN K.E. CHECKED DESIGNED CHECKED	RECOMMENDED PROJECT ENGINEER APPROVED PRINCIPAL ENGINEER 24. 10. 89 SECRETARY	SCALES 0 10 20 30 40 50 60 70 80 90 100m HORIZ. SECTION 1: 1,000 0 1 2 3 4 5 6 7 8 9 10m VERTICAL SECTION 1: 100	CENTRAL / GULF PROVINCES TRANS-ISLAND HIGHWAY (BEREINA-MALALUA SECTION) PLAN & LONGITUDINAL SECTION CH. 1 + 800 — CH. 2 + 500	PAPUA NEW GUINEA DEPARTMENT OF WORKS	DRAWING No. A1/ 87800
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MILINCH OF  
FOURTH. OF

TRAFFIC CATEGORY MEDIUM  
DESIGN SPEED 70 kph  
FORMATION WIDTH 8.5 m  
SEAL WIDTH 6.5 m

JOINS PLAN No. A1/ 8780

JOINS PLAN No. A1/ 8780



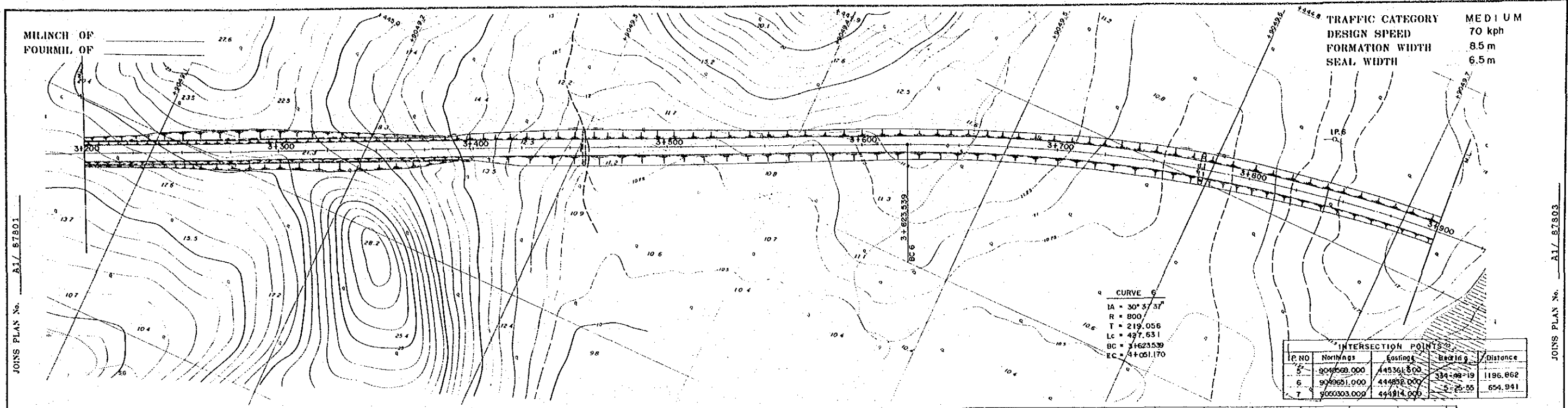
NOTES:  
1. Co-ordinates shown are A.M.G. (Australian Mapping Grid)  
2. Scale factor of 0.9996 at central meridian 147° East Longitude applies

CH	25000	25250	25500	25750	26000	26250	26500	26750	27000	27250	27500	27750	28000	28250	28500	28750	29000	29250	29500	29750	30000	30250	30500	30750	31000	31250	31500	31750	32000
GRADE LEVELS	14.731	13.14	15.96	18.08	16.65	17.322	17.450	18.167	18.715	19.096	19.309	19.354	19.55	18.53	18.190	17.615	17.440	17.065	16.690	16.315	15.940	15.565	15.190	14.815	14.440	14.065	13.690	13.315	12.940
SURFACE LEVELS	10.53	13.14	15.96	18.08	16.65	17.322	17.450	18.167	18.715	19.096	19.309	19.354	19.55	18.53	18.190	17.615	17.440	17.065	16.690	16.315	15.940	15.565	15.190	14.815	14.440	14.065	13.690	13.315	12.940

OFFSET PEGS

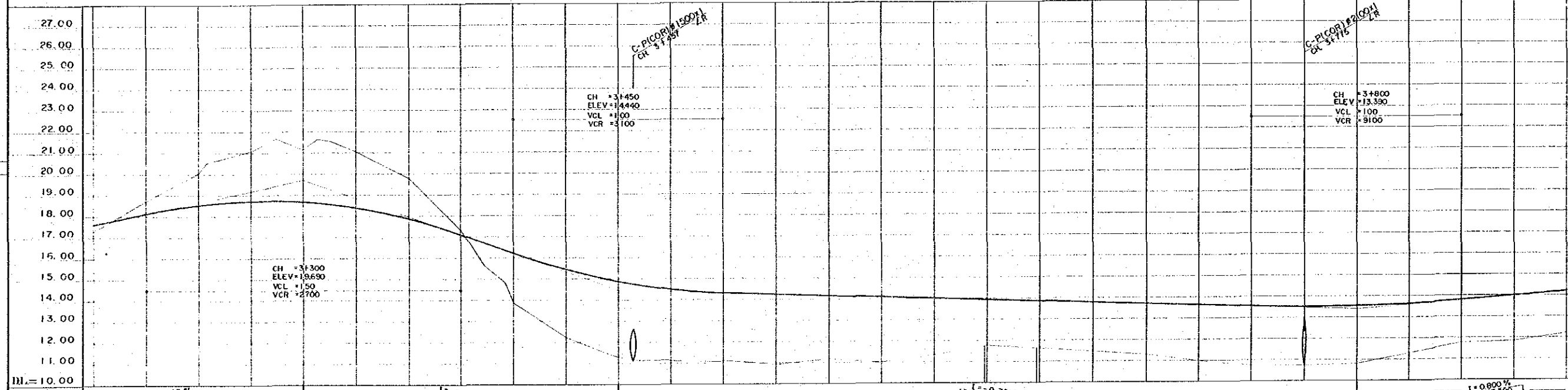
DIST	OFFSET	R.L.

<p>AMENDMENTS</p>		<p>BY APP'D DATE</p>		<p>SURVEY JICA Date VERTICAL DATUM MEAN SEA LEVEL BOKEA TIDE G. HORIZONTAL DATUM AZIMUTH DATA A.M.G. A.A809 SURVEY BOOK NO. 8</p>		<p>DESIGN JAPAN INTERNATIONAL CO-OPERATION AGENCY J. Jindai 25 Sep. 1989</p>		<p>DRAWN K.E. CHECKED C. S. S. DESIGNED A. M. S. CHECKED T. K. S.</p>		<p>RECOMMENDED PROJECT ENGINEER APPROVED 24.10.89 EXECUTIVE ENGINEER SECRETARY</p>		<p>SCALES 0 10 20 30 40 50 60 70 80 90 100(m) HORIZ SECTION 1:1,000 0 2 4 6 8 10(m) VERTICAL SECTION 1:100</p>		<p>CENTRAL / GULF PROVINCES TRANS-ISLAND HIGHWAY (BEREINA-MALALUA SECTION) PLAN &amp; LONGITUDINAL SECTION CH. 2 + 500 — CH. 3 + 200 PAPUA NEW GUINEA DEPARTMENT OF WORKS PROJECT No. S.C. 120-33-814/A DRAWING No. A1/ 87801</p>			
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TRAFFIC CATEGORY MEDIUM  
 DESIGN SPEED 70 kph  
 FORMATION WIDTH 8.5 m  
 SEAL WIDTH 6.5 m

I.P. NO	Northing	Easting	Bearing	Distance
5	904959.000	445361.500	34°-48'-19"	1196.862
6	904951.000	444852.000	5°-25'-55"	654.941
7	905033.000	444814.000		



NOTES:  
 1. Co-ordinates shown are A.M.G. (Australian Mapping Grid)  
 2. Scale factor of 0.9996 at central meridian 147° East Longitude applies

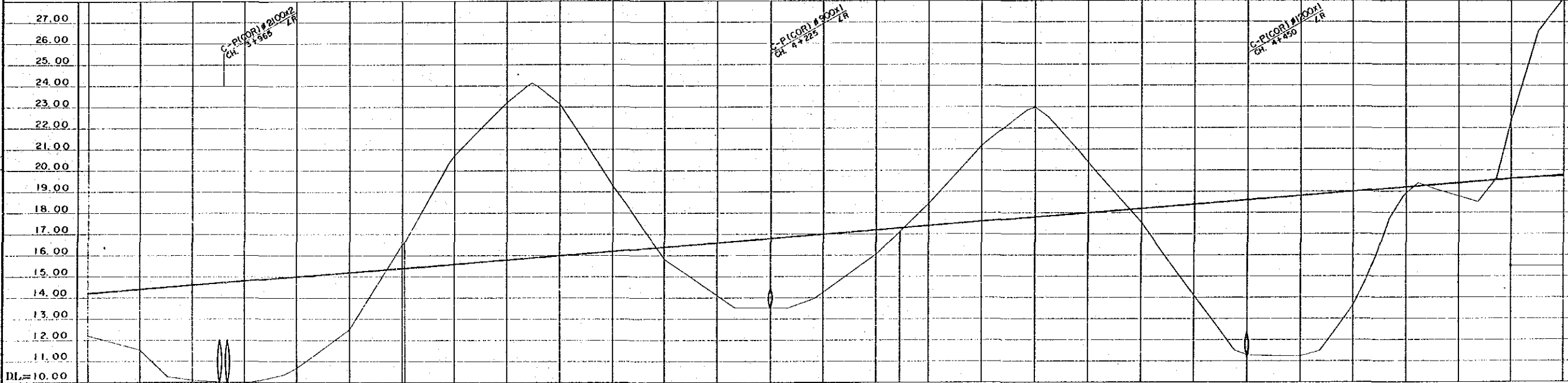
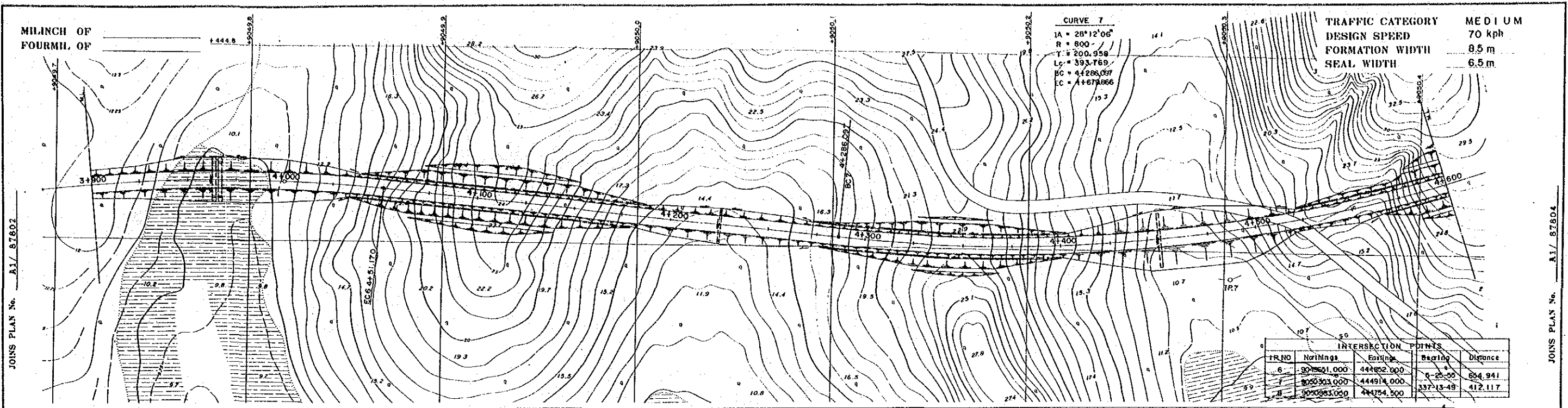
CH	3200.00	3225.00	3250.00	3275.00	3300.00	3325.00	3350.00	3375.00	3400.00	3425.00	3450.00	3475.00	3500.00	3525.00	3550.00	3575.00	3600.00	3625.00	3650.00	3675.00	3700.00	3725.00	3750.00	3775.00	3800.00	3825.00	3850.00	3875.00	3900.00	
GRADE LEVELS	17.890	18.115	18.323	18.656	18.640	18.246	17.823	17.055	16.190	15.415	14.840	14.485	14.290	14.215	14.140	14.065	13.990	13.915	13.840	13.765	13.690	13.615	13.540	13.465	13.390	13.315	13.240	13.165	13.090	
SURFACE LEVELS	17.27	18.70	20.02	21.03	21.09	21.01	20.75	20.25	19.64	18.94	18.17	17.30	16.43	15.56	14.69	13.82	12.95	12.08	11.21	10.34	9.47	8.60	7.73	6.86	5.99	5.12	4.25	3.38	2.51	1.64
CHAINAGE	3200.00	3225.00	3250.00	3275.00	3300.00	3325.00	3350.00	3375.00	3400.00	3425.00	3450.00	3475.00	3500.00	3525.00	3550.00	3575.00	3600.00	3625.00	3650.00	3675.00	3700.00	3725.00	3750.00	3775.00	3800.00	3825.00	3850.00	3875.00	3900.00	

OFFSET PEGS

DIST	OFFSET	R.L.

SURVEY <b>JICA</b> Date: _____ VERTICAL DATUM: ORIGIN MEAN SEA LEVEL TOKYO TIME G. HORIZONTAL DATUM: ORIGIN AZIMUTH DATA A.M.G. AA009 SURVEY BOOK NO. 5		DESIGN JAPAN INTERNATIONAL CO-OPERATION AGENCY Date: 25 Sep. 1989		DRAWN <b>K.E.</b> CHECKED: <i>[Signature]</i> DESIGNED: <i>[Signature]</i> CHECKED: <i>[Signature]</i>		RECOMMENDED <i>[Signature]</i> PROJECT ENGINEER APPROVED: <i>[Signature]</i> 24.10.91 PRINCIPAL ENGINEER SECRETARY		SCALES 0 10 20 30 40 50 60 70 80 90 100m HORIZ. SECTION 1:1,000 0 1 2 3 4 5 6 7 8 9 10m VERTICAL SECTION 1:100		CENTRAL / GULF PROVINCES TRANS-ISLAND HIGHWAY (BUREINA-MALALUCA SECTION) PLAN & LONGITUDINAL SECTION CH. 3+200 — CH. 3+900 P.A.P.U.A. NEW GUINEA DEPARTMENT OF WORKS DRAWING No. A1/ 87802			
REV.	AMENDMENTS	BY	APP'D	DATE								SHEET 41 OF 281	PROJECT No. S.C.120-33-814/A





NOTES:  
 1. Co-ordinates shown are A.M.G. (Australian Mapping Grid)  
 2. Scale factor of 0.9996 at central meridian 147° East Longitude applies

CHAINAGE	GRADE LEVELS	SURFACE LEVELS
3900.00-12.21	14.190	12.21
3925.00-11.53	14.300	11.53
3950.00-10.09	14.590	10.09
3975.00-9.92	14.790	9.92
4000.00-10.68	14.990	10.68
4025.00-2.51	15.190	2.51
4050.00-16.49	15.390	16.49
4075.00-16.63	15.590	16.63
4100.00-20.67	15.790	20.67
4125.00-23.17	15.990	23.17
4150.00-23.12	16.190	23.12
4175.00-19.28	16.390	19.28
4200.00-15.84	16.590	15.84
4225.00-14.09	16.790	14.09
4250.00-3.52	16.990	3.52
4275.00-4.26	17.190	4.26
4300.00-16.04	17.390	16.04
4325.00-17.08	17.590	17.08
4350.00-18.44	17.790	18.44
4375.00-21.17	17.990	21.17
4400.00-25.97	18.190	25.97
4425.00-20.34	18.390	20.34
4450.00-17.48	18.590	17.48
4475.00-11.22	18.790	11.22
4500.00-13.62	18.990	13.62
4525.00-18.90	19.190	18.90
4550.00-18.77	19.390	18.77
4575.00-22.30	19.590	22.30
4600.00-26.09	19.790	26.09

OFFSET PEGS		
DIST	OFFSET	R.L.

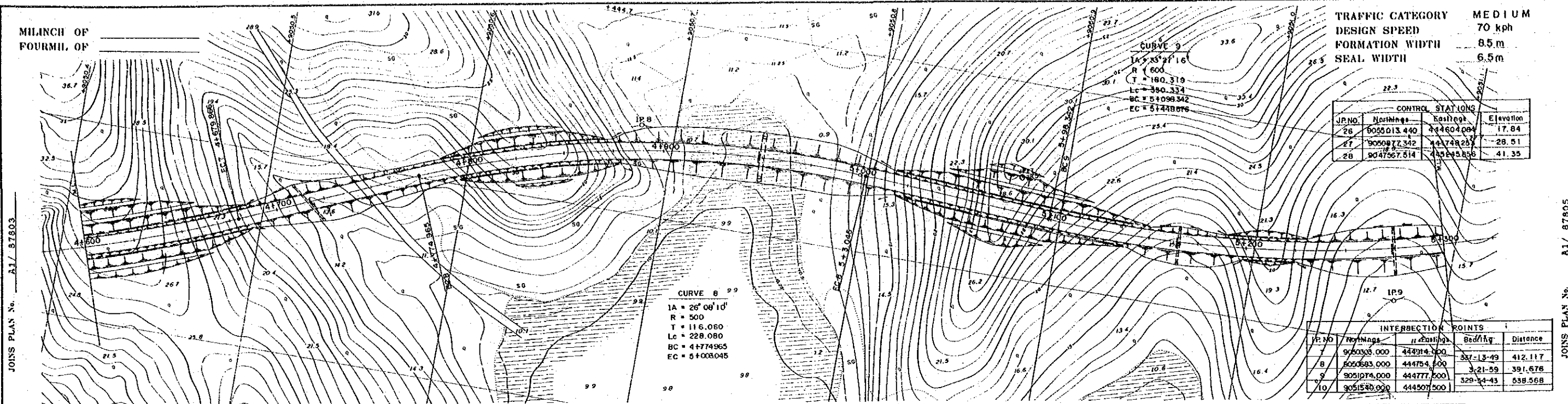
REV	AMENDMENTS	BY	APP'D	DATE	SURVEY <b>JICA</b> Date VERTICAL DATUM ORIGIN MEAN SEA LEVEL TOKYO TIDE G. HORIZONTAL DATUM ORIGIN AZIMUTH DATA A.M.G. AA089 SURVEY BOOK NO. 8	DESIGN <b>JAPAN INTERNATIONAL CO-OPERATION AGENCY</b> J. Yamada 25 Sep. 1989 Date	DRAWN <b>K.E.</b> CHECKED a. M. Magel DESIGNED a. M. Magel CHECKED T. Kambhampati	RECOMMENDED PROJECT ENGINEER APPROVED 24. 10. 89 EXECUTIVE ENGINEER SECRETARY	SCALES 0 10 20 30 40 50 60 70 80 90 100(m) HORIZ SECTION 1:1,000 0 2 3 4 5 6 7 8 9 10(m) VERTICAL SECTION 1:100	CENTRAL / GULF PROVINCES <b>TRANS-ISLAND HIGHWAY (BEREINA-MALALAU SECTION)</b> PLAN & LONGITUDINAL SECTION CH. 3 + 900 — CH. 4 + 600 PAPUA NEW GUINEA <b>DEPARTMENT OF WORKS</b>	PROJECT No. <b>S.C. 120-33-814/A</b> DRAWING No. <b>A1/ 87803</b>

MILNCH OF FOURTH, OF

TRAFFIC CATEGORY MEDIUM  
 DESIGN SPEED 70 kph  
 FORMATION WIDTH 8.5 m  
 SEAL WIDTH 6.5 m

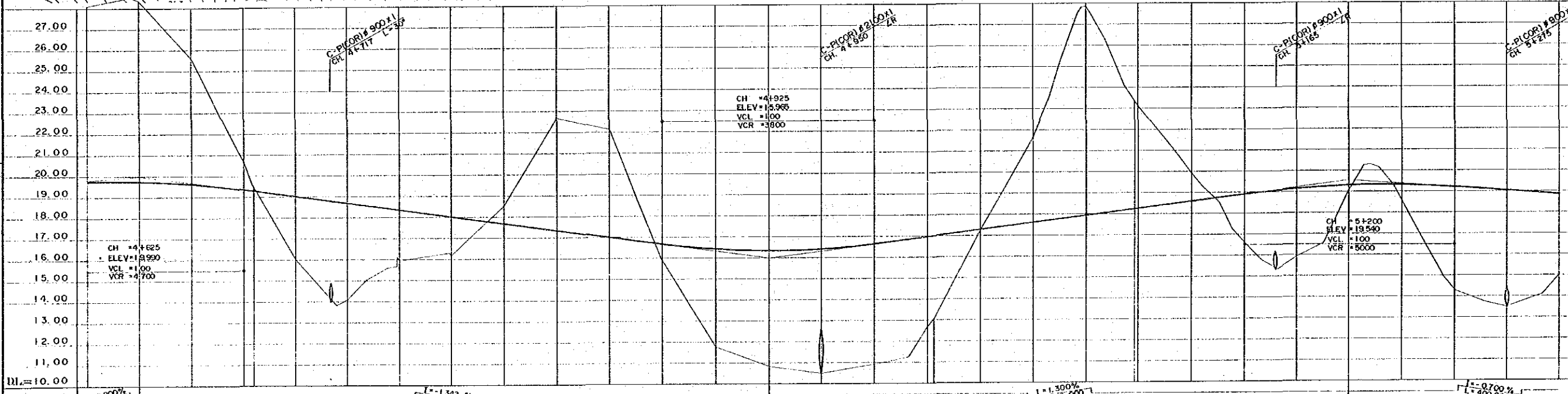
JOINS PLAN No. A1/ 87803

JOINS PLAN No. A1/ 87805



CONTROL STATIONS			
JR. NO.	NORTHING	EASTING	ELEVATION
26	9055013.440	444604004	17.84
27	9056877.342	444748267	28.51
28	9047567.514	445845856	41.35

INTERSECTION POINTS				
JR. NO.	NORTHING	EASTING	Bearing	Distance
9	9050303.000	444914.000	337-13-49	412.117
8	905683.000	444754.500	3-21-59	391.676
9	9051074.000	444777.500	329-34-43	538.568
10	9051540.000	444507.500		



NOTES:  
 1. Co-ordinates shown are A.M.G. (Australian Mapping Grid)  
 2. Scale factor of 0.9996 at central meridian 147° East Longitude applies

OFFSET PEGS

DIST	OFFSET	R.I.

GRADIENT	1:0.800% L=625.000		1:1.342% L=300.000		1:1.300% L=275.000		1:0.700% L=400.000	
EWK CUT								
QTS. m' FILL								
DRAIN I.L.S. R.U.S.								
GRADE LEVELS	19.723	19.722	19.589	19.319	19.254	18.964	18.648	18.313
SURFACE LEVELS	23.09	28.33	25.60	20.63	19.47	15.03	14.08	12.978
CHAINAGE	4600.00	4625.00	4650.00	4675.00	4700.00	4725.00	4750.00	4775.00
CURVE DETAILS	R=800, R=∞, R=500, R=∞, R=600							
SUPER ELEVATION DETAILS	RHS 4.0%, LHS -4.0%, LHS 5.0%, RHS -5.0%, RHS 4.0%, LHS -4.0%							

REV	AMENDMENTS			BY	APP'D	DATE	SURVEY JICA VERTICAL DATUM ORIGIN MEAN SEA LEVEL, TOKEA TIDE G. HORIZONTAL DATUM ORIGIN AZIMUTH DATA A.M.G. A4889 SURVEY BOOK NOS.	DESIGN JAPAN INTERNATIONAL CO-OPERATION AGENCY Principal 25 Sep. 1989 Date	DRAWN K.E. CHECKED A. Magata DESIGNED A. Magata CHECKED 7. K. K. K.	RECOMMENDED PROJECT ENGINEER PRINCIPAL ENGINEER APPROVED 21.10.89 SECRETARY	SCALES HORIZ. SECTION 1:1,000 VERTICAL SECTION 1:100	CENTRAL / GULF PROVINCES TRANS-ISLAND HIGHWAY (BEREINA-MALALUA SECTION) PLAN & LONGITUDINAL SECTION CH. 4 + 600 — CH. 5 + 300	
	PROJECT No. S.C. 120-33-814/A		DRAWING No. A1/ 87804										



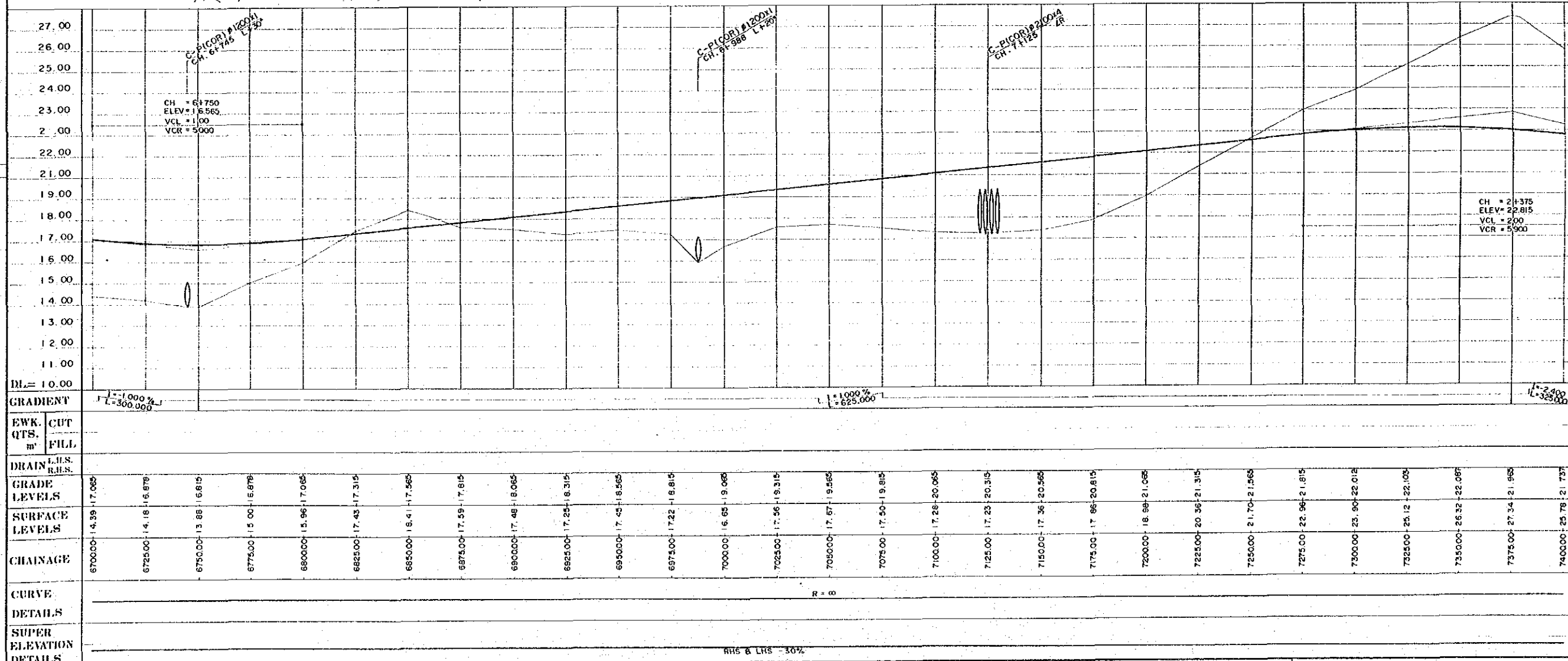
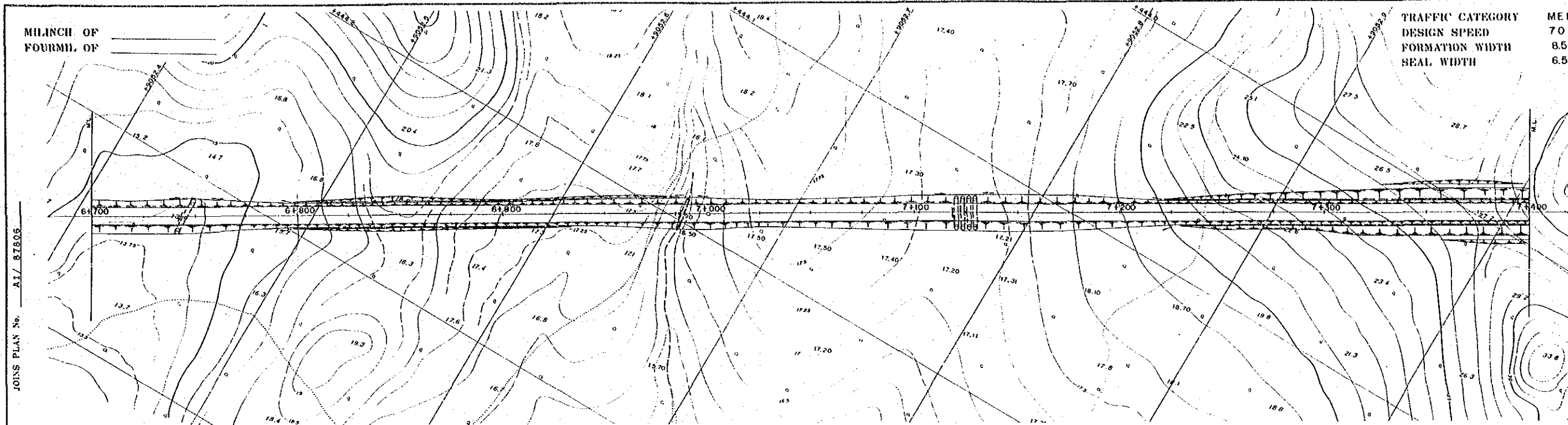


MUNICIPALITY OF  
FOURMIL OF

TRAFFIC CATEGORY MEDIUM  
DESIGN SPEED 70 kph  
FORMATION WIDTH 8.5m  
SEAL WIDTH 6.5m

JOINS PLAN No. A1/ 87806

JOINS PLAN No. A1/ 87808



NOTES:  
1. Co-ordinates shown are A.M.G. (Australian Mapping Grid)  
2. Scale factor of 0.9906 at central meridian 147° East Longitude applies

OFFSET PEGS  
DIST OFFSET R.L.

REV		AMENDMENTS		BY	APP'D	DATE	SURVEY JICA Date		DESIGN JAPAN INTERNATIONAL CO-OPERATION AGENCY Principal		DRAWN K.E. CHECKED DESIGNED CHECKED		RECOMMENDED PROJECT ENGINEER APPROVED PRINCIPAL ENGINEER SECRETARY		SCALES HORIZ SECTION 1:1,000 VERTICAL SECTION 1:100		CENTRAL / GULF PROVINCES TRANS-ISLAND HIGHWAY (BEREINA-MALALUA SECTION) PLAN & LONGITUDINAL SECTION CH. 6 + 700 — CH. 7 + 400		PAPUA NEW GUINEA DEPARTMENT OF WORKS DRAWING No. A1/ 87807	
							VERTICAL DATUM ORIGIN MEAN SEA LEVEL IONEA TIDE G. HORIZONTAL DATUM ORIGIN AZIMUTH DATA A.M.G. AAD09 SURVEY BOOK No. 9		Date 25 Sep. 1989		PROJECT No. S.C. 120-33-814/A		SHEET 49 OF 281							



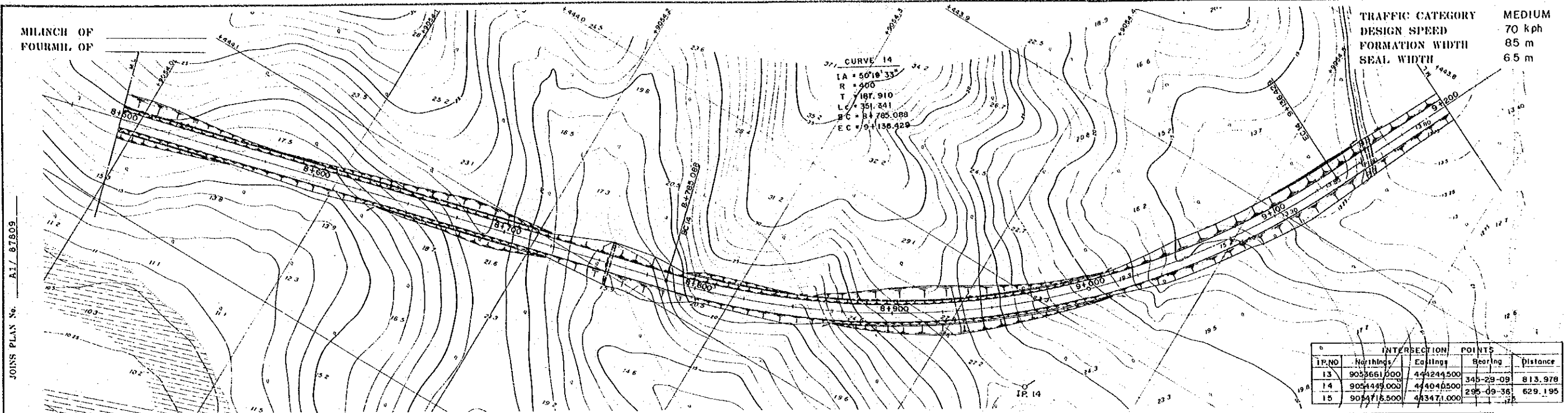


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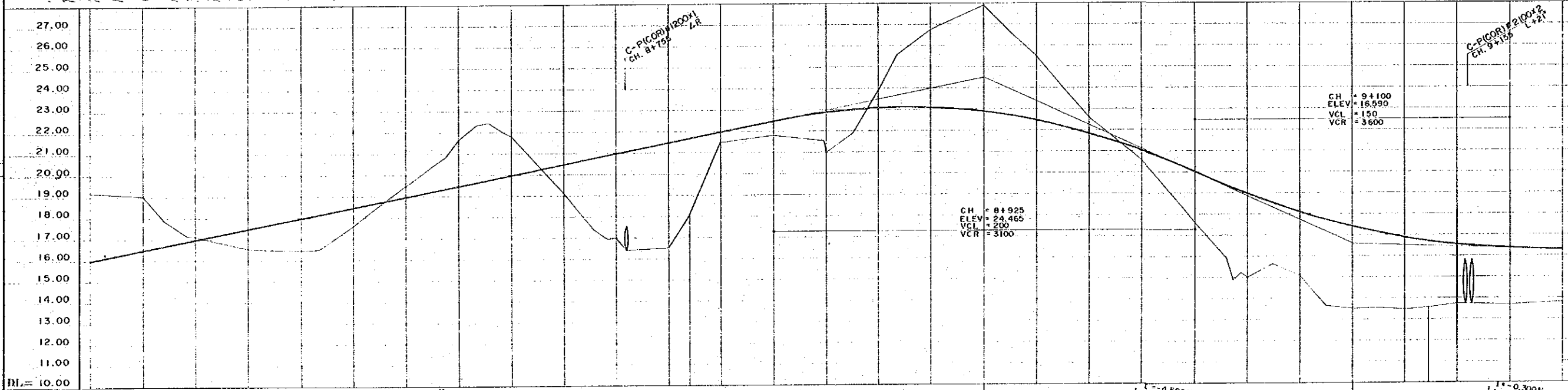
TRAFFIC CATEGORY MEDIUM  
DESIGN SPEED 70 kph  
FORMATION WIDTH 85 m  
SEAL WIDTH 6.5 m

JOINS PLAN No. A1/ 87809

JOINS PLAN No. A1/ 87811



INTERSECTION POINTS				
IP NO	Northing	Easting	Bearing	Distance
13	9052661.000	444244.500	345-29-09	813.978
14	9054493.000	444040.500	295-09-38	629.195
15	9054715.000	443471.000		



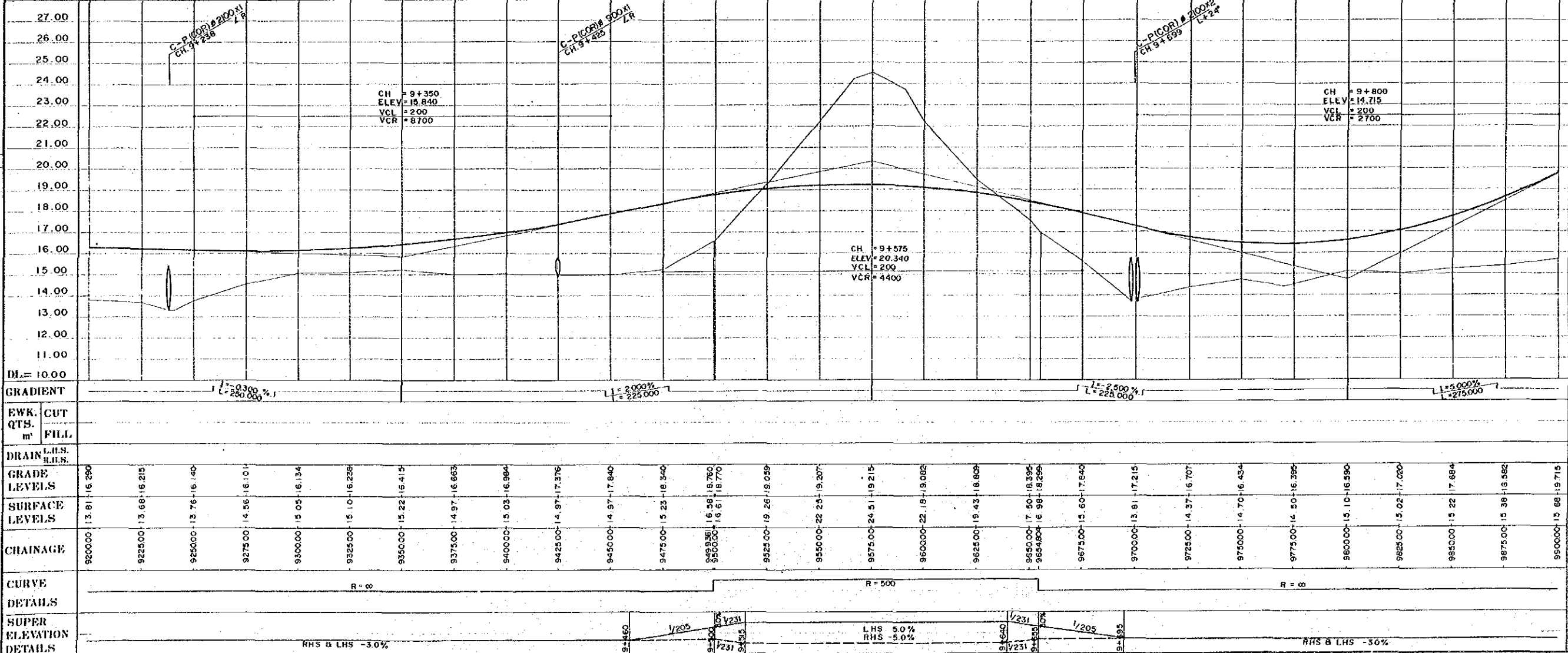
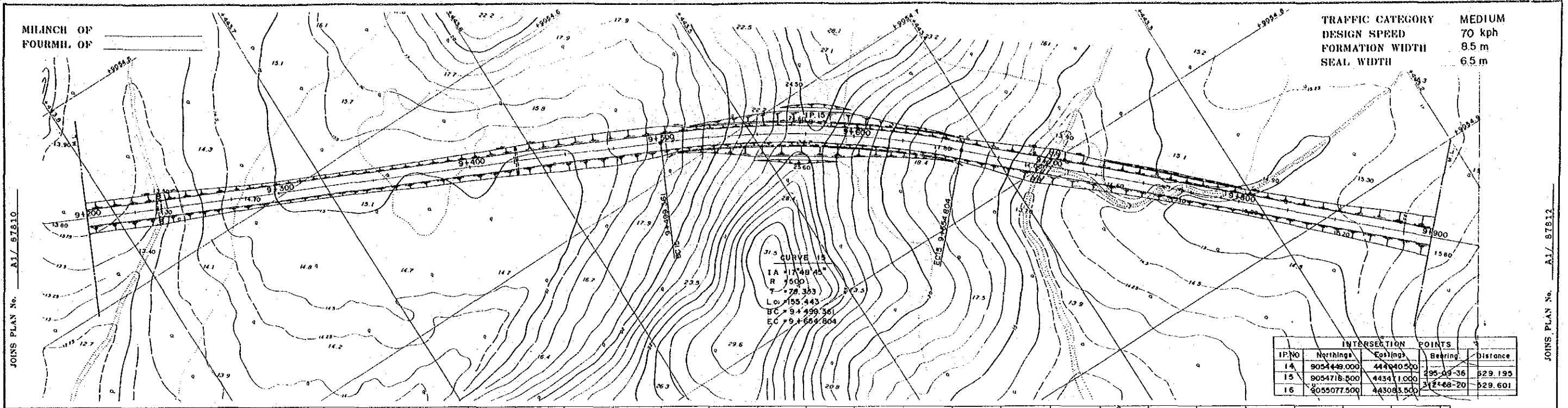
NOTES:  
1. Co-ordinates shown are A.M.G. (Australian Mapping Grid)  
2. Scale factor of 0.9996 at central meridian 147° East Longitude applies

OFFSET PEGS  
DIST OFFSET R.L.

CH	GRADE	GRADIENT	EWK CUT	CUT	FILL	DRAIN	GRADE LEVELS	SURFACE LEVELS	CHAINAGE	CURVE DETAILS	SUPER ELEVATION DETAILS
850000	19.16	2.000%					15.965	19.16	850000	R = ∞	
852500	18.99						15.465	18.99	852500		
855000	17.08						16.965	17.08	855000		
857500	16.51						17.465	16.51	857500		
860000	16.42						17.965	16.42	860000		
862500	17.58						16.465	17.58	862500		
865000	19.47						16.965	19.47	865000		
867500	21.64						9.465	21.64	867500		
870000	21.77						19.965	21.77	870000		
872500	19.11						20.465	19.11	872500		
875000	16.99						20.965	16.99	875000		
877500	16.32						21.465	16.32	877500		
878500	18.08						21.867	18.08	878500		
880000	21.48						21.965	21.48	880000		
882500	21.79						22.465	21.79	882500		
884000	20.97						22.863	20.97	884000		
887500	23.84						23.039	23.84	887500		
890000	26.72						23.051	26.72	890000		
892500	27.84						22.840	27.84	892500		
895000	25.44						22.425	25.44	895000		
897500	22.55						21.809	22.55	897500		
900000	20.32						20.966	20.32	900000		
902500	17.57						19.965	17.57	902500		
905000	15.00						18.968	15.00	905000		
907500	13.05						18.065	13.05	907500		
910000	13.5						17.376	13.5	910000		
912500	13.47						16.865	13.47	912500		
9136425	13.57						16.689	13.57	9136425		
915000	13.75						16.528	13.75	915000		
917500	13.70						16.365	13.70	917500		
920000	13.6						16.290	13.6	920000		

<p>REV AMENDMENTS BY APP'D DATE</p>		<p>SURVEY JICA Date VERTICAL DATUM MEAN SEA LEVEL JORJA TIME C. HORIZONTAL DATUM AZIMUTH DATA A.M.G. 44889 SURVEY BOOK NOS</p>	<p>DESIGN JAPAN INTERNATIONAL CO-OPERATION AGENCY Date Principal</p>	<p>DRAWN K.E. CHECKED DESIGNED CHECKED</p>	<p>RECOMMENDED PROJECT ENGINEER APPROVED EXECUTIVE ENGINEER</p>	<p>SCALES HORIZ SECTION 1:1000 VERTICAL SECTION 1:100</p>	<p>CENTRAL / GULF PROVINCES TRANS-ISLAND HIGHWAY OBEREINA-MALALACA SECTION PLAN &amp; LONGITUDINAL SECTION CH. 8 + 500 — CH. 9 + 200</p>
						<p>SHEET 52 OF 281 PROJECT No. S.C.120-33-814/A</p>	<p>PAPUA NEW GUINEA DEPARTMENT OF WORKS DRAWING No. A1/ 87810</p>





NOTES:  
1. Co-ordinates shown are A.M.G. (Australian Mapping Grid)  
2. Scale factor of 0.9996 at central meridian 147° East Longitude applies

OFFSET PEGS		
DIST	OFFSET	R.L.

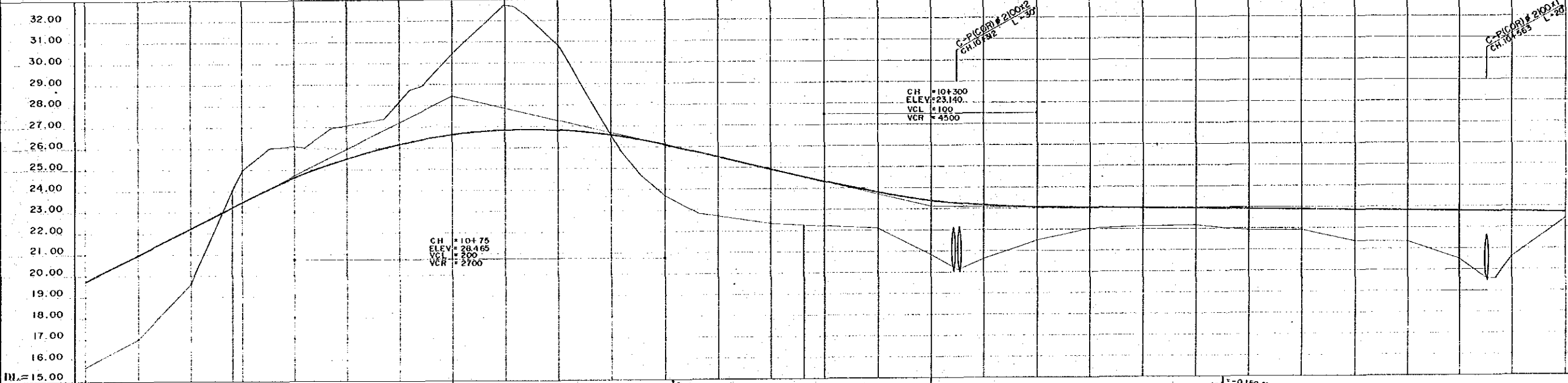
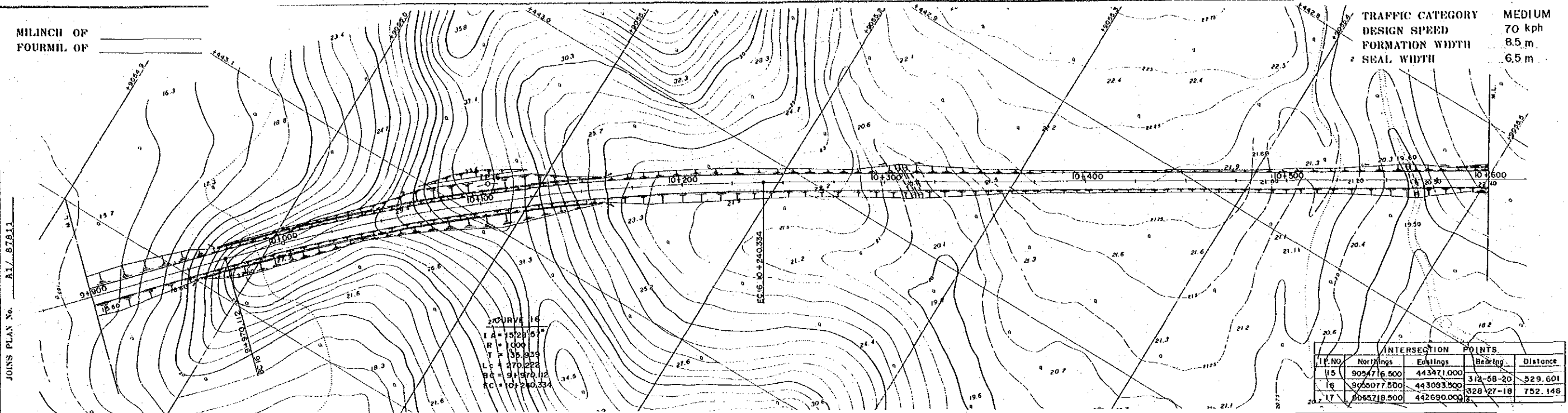
<p>REV. AMENDMENTS</p>		<p>BY APP'D DATE</p>		<p>SURVEY JICA Date</p>		<p>DESIGN JAPAN INTERNATIONAL CO-OPERATION AGENCY Date 25 Sep. 1989</p>		<p>DRAWN K.E. CHECKED DESIGNED CHECKED</p>		<p>RECOMMENDED PROJECT ENGINEER APPROVED PRINCIPAL ENGINEER EXECUTIVE ENGINEER</p>		<p>SCALES HORIZ SECTION 1:1,000 VERTICAL SECTION 1:100</p>		<p>CENTRAL / GULF PROVINCES TRANS-ISLAND HIGHWAY (BEREINA-MALALAUVA SECTION) PLAN &amp; LONGTUDINAL SECTION CH. 9 + 200 — CH. 9 + 900</p>	
<p>PAPUA NEW GUINEA DEPARTMENT OF WORKS</p>				<p>PROJECT No. S.C.120-33-814/A</p>				<p>SHEET 53 OF 281</p>				<p>DRAWING No. A1/ 87811</p>			

MILNCH OF  
FOURMIL OF

TRAFFIC CATEGORY MEDIUM  
DESIGN SPEED 70 kph  
FORMATION WIDTH 8.5 m  
SEAL WIDTH 6.5 m

JOINS PLAN No. A1/ 87811

JOINS PLAN No. A1/ 87813



NOTES:  
1. Co-ordinates shown are A.M.G. (Australian Mapping Grid)  
2. Scale factor of 0.0006 at central meridian 147° East. Longitude applies

OFFSET PEGS  
DIST OFFSET R.L.

GRADIENT	L = 5.000% L = 275.000		L = -2.367% L = 255.000		L = -0.150% L = 550.000	
EWK. CUT						
QTS. m						
FILL						
DRAIN L.S. R.L.S.						
GRADE LEVELS						
SURFACE LEVELS						
CHAINAGE	9900.00	9925.00	9950.00	9975.00	10000.00	10025.00
CURVE DETAILS	R = ∞		R = 1000		R = ∞	
SUPER ELEVATION DETAILS	RHS & LHS - 30%					

<p>REV AMENDMENTS</p>		<p>BY APP'D DATE</p>		<p>SURVEY JICA Date</p> <p>VERTICAL DATUM ORIGIN MEAN SEA LEVEL TOKEA TIDE G. HORIZONTAL DATUM ORIGIN AZIMUTH DATA A.M.G. AA009 SURVEY BOOK NO. 8</p>	<p>DESIGN JAPAN INTERNATIONAL CO-OPERATION AGENCY Date 25 Sep. 1989</p>	<p>DRAWN K.E. CHECKED DESIGNED CHECKED</p>	<p>RECOMMENDED PROJECT ENGINEER APPROVED PRINCIPAL ENGINEER SECRETARY</p>	<p>SCALES HORIZ SECTION 1:1,000 VERTICAL SECTION 1:100</p>	<p>CENTRAL / GULF PROVINCES TRANS-ISLAND HIGHWAY (BERGINA-MALALUA SECTION) PLAN &amp; LONGTUDINAL SECTION CH. 9 + 900 — CH. 10 + 600</p>
<p>DEPARTMENT OF WORKS</p>				<p>PAPUA NEW GUINEA</p>		<p>PROJECT No. S.C.120-33-814/A</p>		<p>DRAWING No. A1/ 87812</p>	





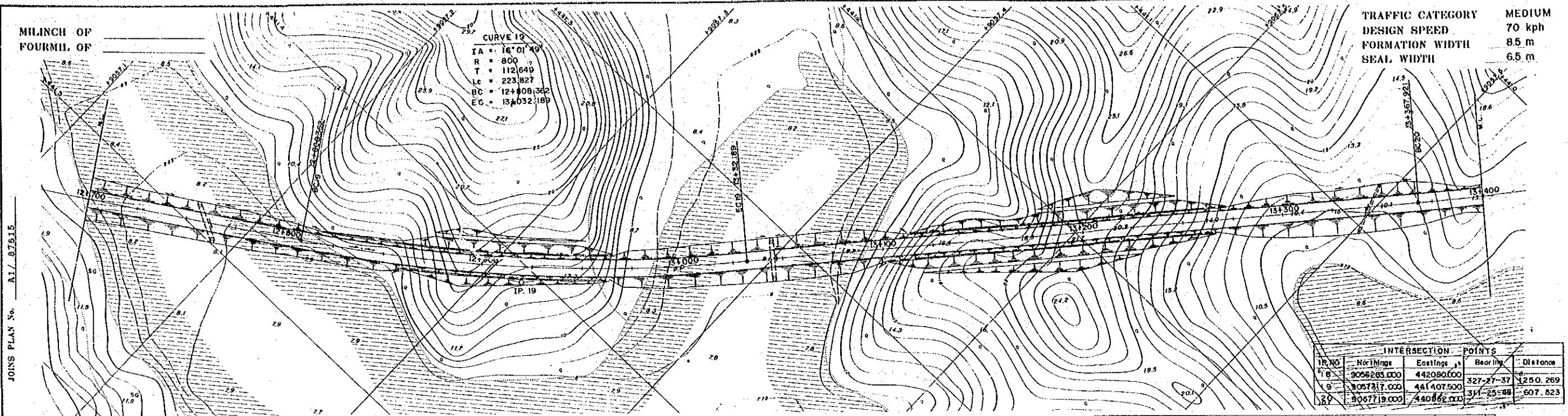


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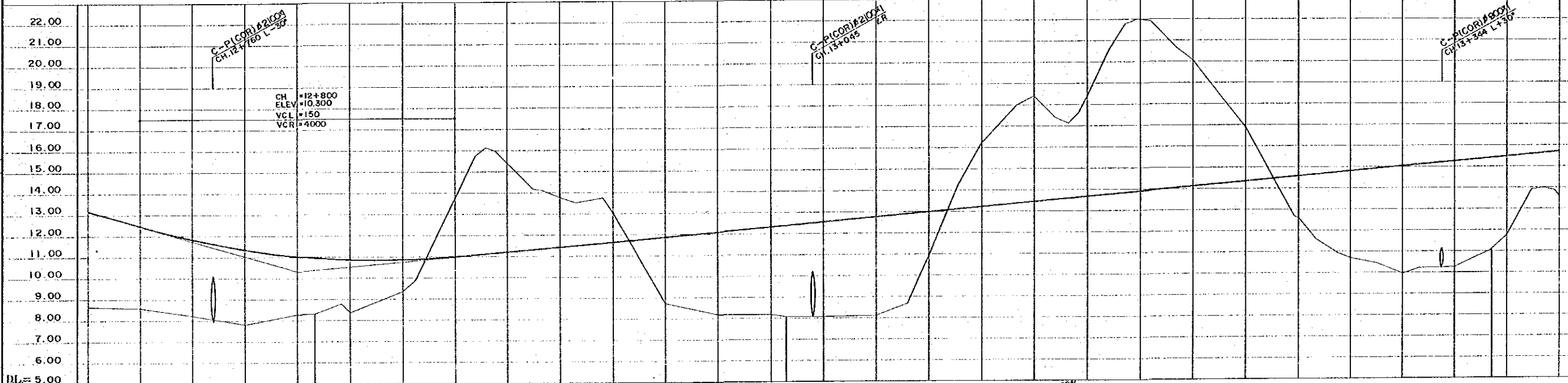
TRAFFIC CATEGORY MEDIUM  
DESIGN SPEED 70 kph  
FORMATION WIDTH 8.5 m  
SEAL WIDTH 6.5 m

JOINS PLAN No. A1/ 87815

JOINS PLAN No. A1/ 87817



TR NO	Northing	Eastings	Bearing	Distance
18	9056283.000	442080.600	327-27-37	1250.269
19	9057317.000	441407.500	311-25-48	607.823
20	9057719.000	440862.000		



NOTES:  
1. Co-ordinates shown are A.M.G. (Australian Mapping Grid)  
2. Scale factor of 0.9996 at central meridian 147° East Longitude applies

GRADIENT	L = 2860 M L = 250.000		L = 0.9000% L = 1250.000																														
EWK CUT	QTS. PHL																																
m³																																	
DRAIN	L.S.S. R.L.S.																																
GRADE LEVELS	8.65 13.160	8.58 12.445	8.20 11.808	7.81 11.328	6.28 11.005	6.32 10.932	8.35 10.839	9.36 10.828	13.72 10.975	15.39 11.200	13.76 11.425	13.04 11.650	8.74 11.875	8.19 12.100	8.19 12.325	6.08 12.390	8.07 12.550	8.12 12.775	10.90 13.000	6.25 13.225	18.41 13.450	16.35 13.675	22.00 13.900	20.06 14.125	16.92 14.350	12.86 14.575	10.69 14.800	9.94 15.025	10.24 15.250	11.11 15.411	11.75 15.475	13.59 15.700	
SURFACE LEVELS																																	
CHAINAGE	12700.00	12750.00	12800.00	12850.00	12900.00	12950.00	13000.00	13050.00	13100.00	13150.00	13200.00	13250.00	13300.00	13350.00	13400.00																		
CURVE DETAILS	R=∞		R=800														R=∞		R=2000														
SUPER ELEVATION DETAILS	RHS & LHS -3.0%		V205		V308		LHS +4.0% RHS -4.0%		V205		V308		RHS & LHS -3.0%																				

OFFSET PEGS	DIST	OFFSET	R.L.

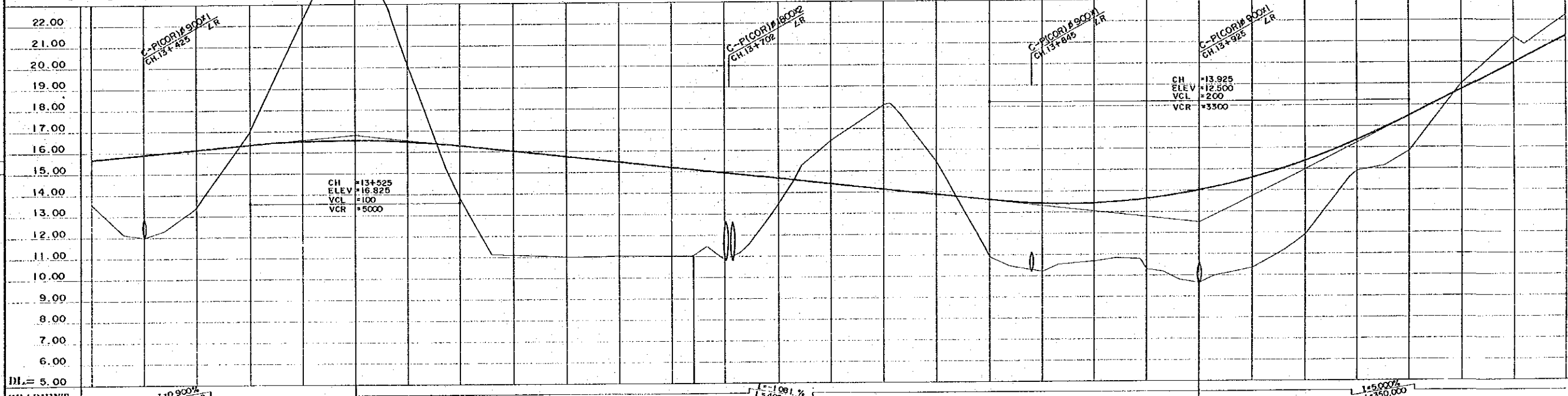
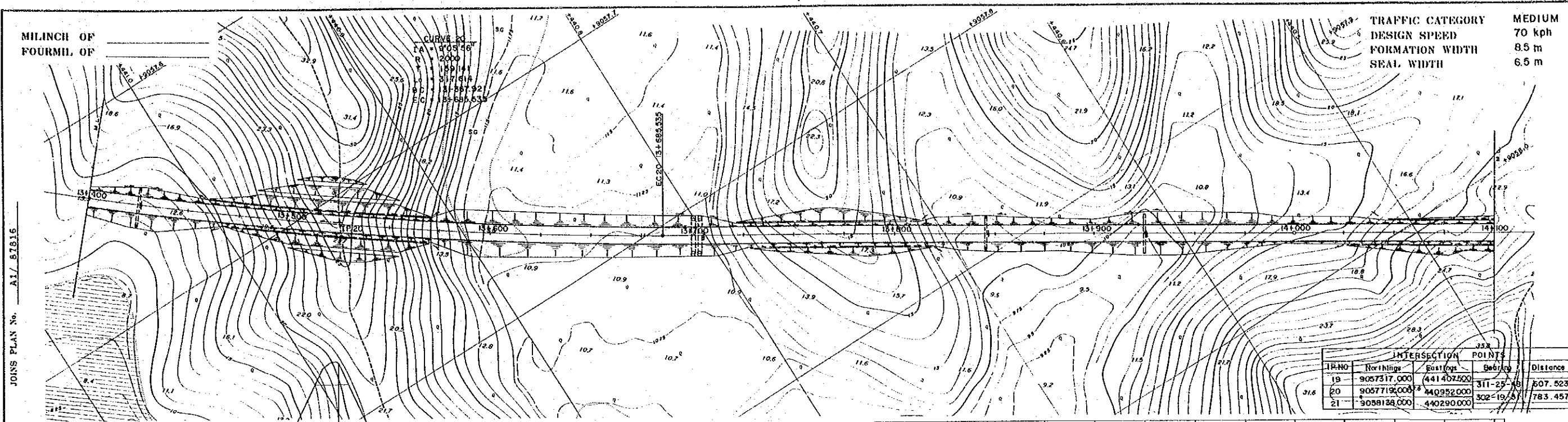
<p>DESIGN: JICA JAPAN INTERNATIONAL CO-OPERATION AGENCY</p> <p>DESIGNED: <i>A. Magala</i> CHECKED: <i>P. Barboni</i></p> <p>DATE: 25 Sep. 1989</p>		<p>DRAWN: K.E. CHECKED: <i>K. K. K.</i> DESIGNED: <i>A. Magala</i> CHECKED: <i>P. Barboni</i></p> <p>PROJECT ENGINEER: <i>K. K. K.</i> EXECUTIVE ENGINEER: <i>P. Barboni</i></p>		<p>RECOMMENDED: <i>A. Magala</i> APPROVED: <i>J. L.</i> PRINCIPAL ENGINEER: <i>J. L.</i> FACTORY SECRETARY: <i>J. L.</i></p>		<p>SCALES: HORIZ. SECTION 1:1,000 VERTICAL SECTION 1:100</p>		<p>CENTRAL / GULF PROVINCES TRANS-ISLAND HIGHWAY (BEREINA-MALALUA SECTION) PLAN &amp; LONGITUDINAL SECTION CH. 12 + 700 — CH. 13 + 400</p> <p>PAPUA NEW GUINEA DEPARTMENT OF WORKS</p> <p>PROJECT No. S.C.120-33-814/A DRAWING No. A1/ 87816</p>								
REV	AMENDMENTS	BY	APP'D	DATE												

MILINCH OF  
FOURMIL OF

TRAFFIC CATEGORY MEDIUM  
DESIGN SPEED 70 kph  
FORMATION WIDTH 8.5 m  
SEAL WIDTH 6.5 m

JOINS PLAN No. A1/ 87816

JOINS PLAN No. A1/ 87816



NOTES:  
1. Co-ordinates shown are A.M.G. (Australian Mapping Grid)  
2. Scale factor of 0.9996 at central meridian 147° East. Longitude applies

DIST	OFFSET PEGS	
	OFFSET	R.I.
13400.00	13.59	15.700
13425.00	11.99	15.925
13450.00	13.39	16.150
13475.00	17.00	16.375
13500.00	22.23	16.598
13525.00	28.06	16.825
13550.00	20.11	17.050
13575.00	13.84	17.275
13600.00	11.11	17.500
13625.00	11.02	17.725
13650.00	11.06	17.950
13675.00	11.03	18.175
13695.00	11.07	18.400
13700.00	10.87	18.625
13725.00	13.47	18.850
13750.00	16.45	19.075
13775.00	18.10	19.300
13800.00	15.40	19.525
13825.00	10.90	19.750
13850.00	10.21	19.975
13875.00	10.70	20.200
13900.00	10.32	20.425
13925.00	9.65	20.650
13950.00	10.35	20.875
13975.00	11.91	21.100
14000.00	14.91	21.325
14025.00	15.84	21.550
14050.00	19.02	21.775
14075.00	21.22	22.000
14100.00	22.24	22.225

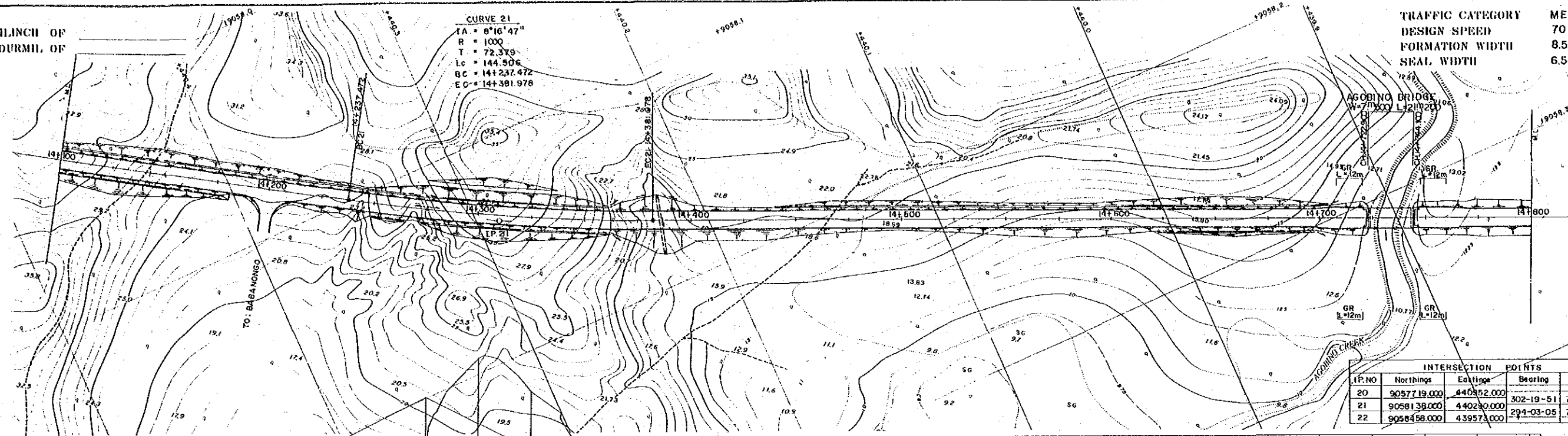
<p>AMENDMENTS</p>		<p>BY</p>	<p>APP'D</p>	<p>DATE</p>	<p>SURVEY</p> <p>JICA</p> <p>VERTICAL DATUM ORIGIN MEAN SEA LEVEL TOKYO TIDE G.</p> <p>HORIZONTAL DATUM ORIGIN AZIMUTH DATA A.M.G. AA009</p> <p>SURVEY BOOK NOS</p>	<p>DESIGN</p> <p>JAPAN INTERNATIONAL CO-OPERATION AGENCY</p> <p>J. Yamada Principal</p> <p>25 Sep. 1989 Date</p>	<p>DRAWN</p> <p>K.E.</p> <p>CHECKED</p> <p>DESIGNED</p> <p>CHECKED</p>	<p>RECOMMENDED</p> <p>PROJECT ENGINEER</p> <p>APPROVED</p> <p>PRINCIPAL ENGINEER</p> <p>EXECUTIVE ENGINEER</p>	<p>SCALES</p> <p>HORIZ. SECTION 1:1,000</p> <p>VERTICAL SECTION 1:100</p>	<p>CENTRAL / GULF PROVINCES</p> <p>TRANS-ISLAND HIGHWAY (BEREINA-MALALAUVA SECTION)</p> <p>PLAN &amp; LONGITUDINAL SECTION</p> <p>CH. 13 + 400 — CH. 14 + 100</p>	<p>PAPUA NEW GUINEA</p> <p>DEPARTMENT OF WORKS</p> <p>DRAWING No. A1/ 87817</p>
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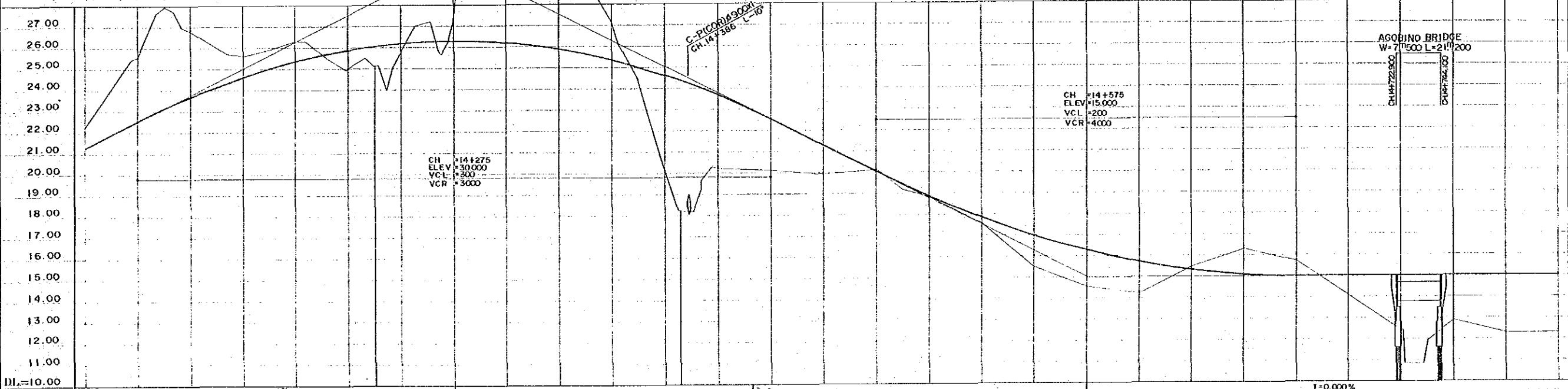
JOINS PLAN No. A1/ 87817

CURVE 21  
 TA = 6°16'47"  
 R = 1000  
 T = 72.379  
 Lc = 144.506  
 BC = 141.237.472  
 EC = 141.381.978

TRAFFIC CATEGORY MEDIUM  
 DESIGN SPEED 70 kph  
 FORMATION WIDTH 8.5 m  
 SEAL WIDTH 6.5 m



IP. NO	Northings	Eastings	Bearing	Distance
20	90577.19.000	440352.000	302-19-51	783.457
21	90581.38.000	440230.000	294-03-05	785.168
22	90584.58.000	439573.000		



NOTES:  
 1. Co-ordinates shown are A.M.G. (Australian Mapping Grid)  
 2. Scale factor of 0.9906 at central meridian 147° East Longitude applies

DI=10.00	GRADIENT	EWK. CUT QTS. m	FILL	DRAIN L.S. R.L.S.	GRADE LEVELS	SURFACE LEVELS	CHAINAGE	CURVE DETAILS	SUPER ELEVATION DETAILS
	I = 5.000% L = 350.000							R = ∞	
	I = 5.000% L = 300.000							R = 1000	
	I = 0.000% L = 325.000							R = ∞	
									RHS & LHS -3.0%

OFFSET PEGS  
 DIST OFFSET R.L.

JOINS PLAN No. A1/ 87819

REV	AMENDMENTS	BY	APP'D	DATE	SURVEY JICA Date	DESIGN JAPAN INTERNATIONAL CO-OPERATION AGENCY Principal	DRAWN K. E. CHECKED DESIGNED CHECKED	RECOMMENDED PROJECT ENGINEER APPROVED PRINCIPAL ENGINEER 21.09.89 SECRETARY	SCALES HORIZ SECTION 1:1,000 VERTICAL SECTION 1:100	CENTRAL / GULF PROVINCES TRANS-ISLAND HIGHWAY (BEREINA-MALALUA SECTION) PLAN & LONGITUDINAL SECTION CH. 14 + 100 — CH. 14 + 800	PAPUA NEW GUINEA DEPARTMENT OF WORKS	DRAWING No. A1/ 87818
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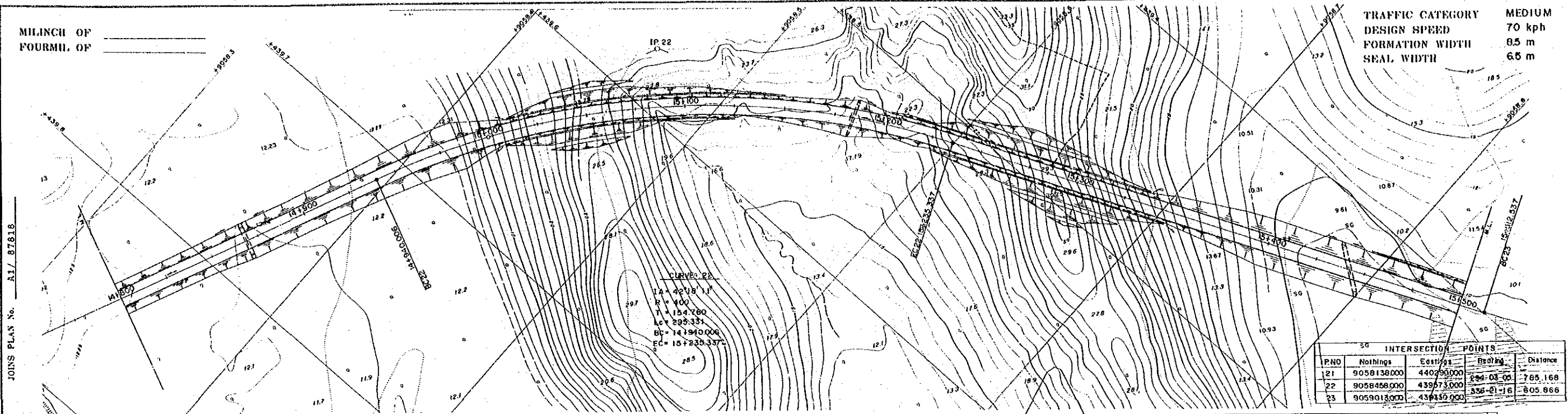


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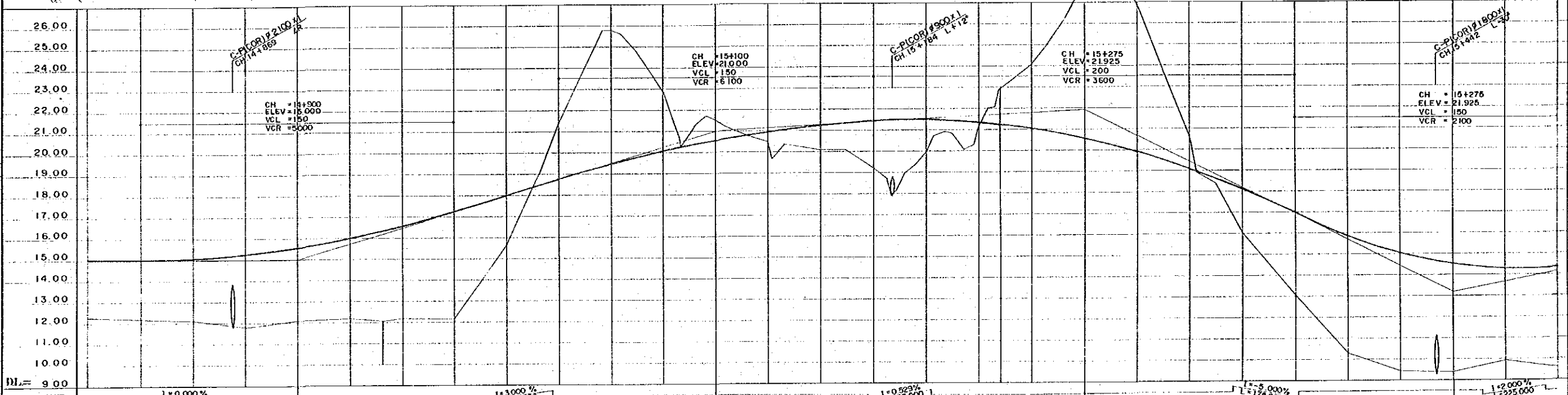
TRAFFIC CATEGORY MEDIUM  
DESIGN SPEED 70 kph  
FORMATION WIDTH 6.5 m  
SEAL WIDTH 6.5 m

JOINS PLAN No. A1/ 87818

JOINS PLAN No. A1/ 87820



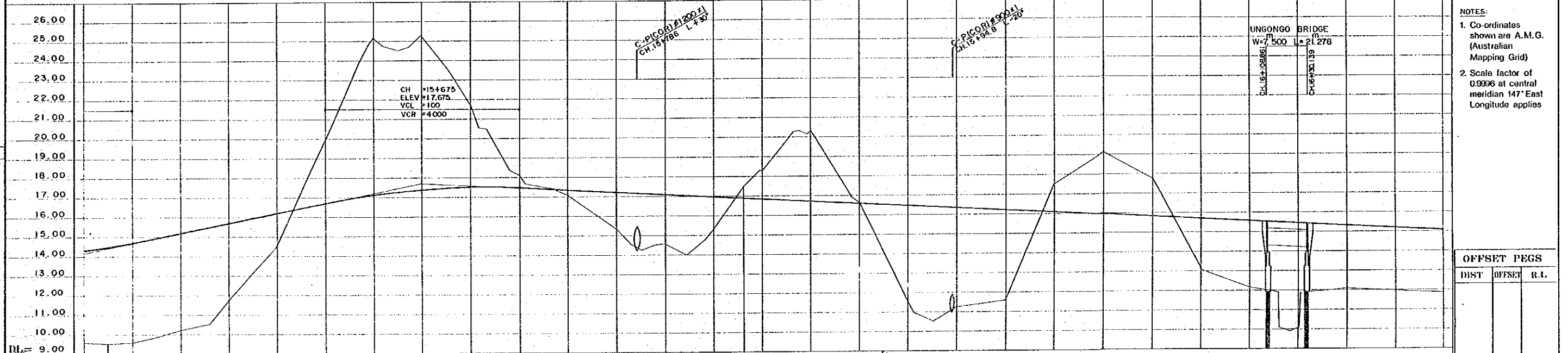
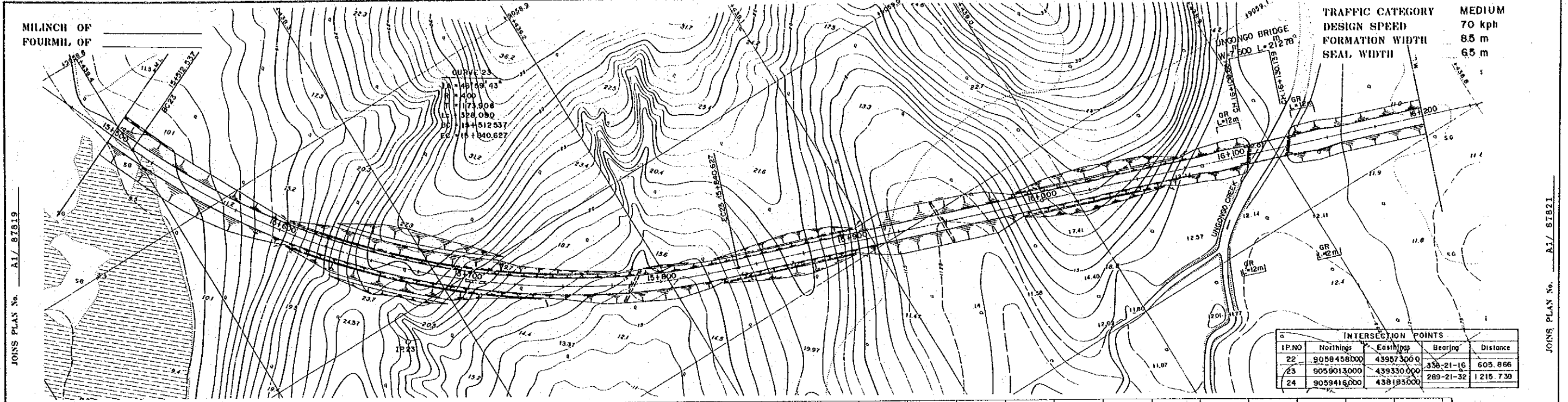
IPNO	Notings	Eastings	Northings	Distance
21		9058138000	440793000	785.168
22		9058458000	439773000	605.866
23		9059013000	438430000	



NOTES:  
 1. Co-ordinates shown are A.M.G. (Australian Mapping Grid)  
 2. Scale factor of 0.9996 at central meridian 147° East Longitude applies

DIST	OFFSET PEGS	
	OFFSET	R.L.
14800.00	12.30	15.000
14825.00	12.20	15.000
14850.00	12.12	15.063
14875.00	11.80	15.280
14900.00	12.12	15.563
14925.00	12.20	16.000
14950.00	12.08	16.323
14975.00	12.21	16.563
15000.00	12.18	17.250
15025.00	15.70	18.000
15050.00	21.36	18.750
15075.00	25.78	19.443
15100.00	22.90	20.044
15125.00	21.51	20.337
15150.00	20.47	20.926
15175.00	20.07	21.213
15200.00	19.18	21.396
15225.00	19.89	21.442
15250.00	21.00	21.315
15275.00	22.90	21.212
15300.00	24.05	21.015
15325.00	27.96	20.543
15350.00	26.90	19.898
15375.00	20.60	19.079
15400.00	16.00	18.089
15425.00	13.05	16.923
15450.00	10.30	15.881
15475.00	9.44	15.008
15500.00	9.36	14.468
15525.00	9.94	14.258
15550.00	9.60	14.321

SURVEY JICA Date		DESIGN JAPAN INTERNATIONAL CO-OPERATION AGENCY Date: 25 Sep. 1989		DRAWN K.E. CHECKED DESIGNED		RECOMMENDED Principal Engineer APPROVED Secretary		SCALES HORIZ SECTION 1:1000 VERTICAL SECTION 1:100		CENTRAL / GULF PROVINCES TRANS-ISLAND HIGHWAY (BEREINA-MALALAVA SECTION) PLAN & LONGITUDINAL SECTION CH. 14 + 800 — CH. 15 + 500	
VERTICAL DATUM ORIGIN MEAN SEA LEVEL TOKYO TIDE G.		HORIZONTAL DATUM ORIGIN AZIMUTH DATA A.M.G. A4089		SURVEY BOOK No. 5		SHEET 61 OF 281		PROJECT No. S.C. 120-33-814/A		PAPUA NEW GUINEA DEPARTMENT OF WORKS DRAWING No. A1/ 87819	



NOTES:  
1. Co-ordinates shown are A.M.G. (Australian Mapping Grid)  
2. Scale factor of 0.9996 at central meridian 147° East Longitude applies

OFFSET PEGS  
DIST OFFSET R.I.

CHAINAGE	GRADE LEVELS		SURFACE LEVELS	
	L.H.S.	R.H.S.	L.H.S.	R.H.S.
15500.00	9.60	14.321	9.60	14.321
15512.337	9.33	14.462	9.33	14.462
15525.00	9.56	14.675	9.56	14.675
15550.00	10.2	15.175	10.2	15.175
15575.00	11.71	15.675	11.71	15.675
15600.00	14.50	16.175	14.50	16.175
15625.00	19.83	16.675	19.83	16.675
15650.00	25.10	17.057	25.10	17.057
15675.00	25.24	17.363	25.24	17.363
15700.00	21.70	17.472	21.70	17.472
15725.00	18.06	17.425	18.06	17.425
15750.00	17.05	17.300	17.05	17.300
15775.00	15.32	17.175	15.32	17.175
15800.00	14.59	17.030	14.59	17.030
15825.00	15.26	16.925	15.26	16.925
15840.627	17.46	16.847	17.46	16.847
15850.00	18.25	16.800	18.25	16.800
15875.00	20.28	16.675	20.28	16.675
15900.00	16.59	16.560	16.59	16.560
15925.00	11.46	16.425	11.46	16.425
15950.00	11.25	16.300	11.25	16.300
15975.00	11.63	16.175	11.63	16.175
16000.00	7.50	16.050	7.50	16.050
16025.00	19.10	15.925	19.10	15.925
16050.00	17.75	15.800	17.75	15.800
16075.00	13.08	15.675	13.08	15.675
16100.00	12.17	15.550	12.17	15.550
16125.00	10.06	15.425	10.06	15.425
16150.00	12.10	15.300	12.10	15.300
16175.00	11.99	15.175	11.99	15.175
16200.00	11.88	15.050	11.88	15.050

<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>REV</th> <th>AMENDMENTS</th> <th>BY</th> <th>APP'D</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		REV	AMENDMENTS	BY	APP'D	DATE						<p>SURVEY</p> <p>JICA</p> <p>VERTICAL DATUM: MEAN SEA LEVEL, IOKEA TIDE G. HORIZONTAL DATUM: AZIMUTH DATA A.M.G. A4009</p> <p>SURVEY BOOK NOS.</p>		<p>DESIGN</p> <p>JAPAN INTERNATIONAL CO-OPERATION AGENCY</p> <p>Principal: <i>[Signature]</i></p> <p>Date: 25 Sep. 1989</p>		<p>DRAWN</p> <p>K.E.</p> <p>PROJECT ENGINEER: <i>[Signature]</i></p> <p>EXECUTIVE ENGINEER: <i>[Signature]</i></p>		<p>RECOMMENDED</p> <p>PRINCIPAL ENGINEER: <i>[Signature]</i></p> <p>APPROVED: 24.10.89</p> <p>SECRETARY: <i>[Signature]</i></p>		<p>SCALES</p> <p>HORIZ. SECTION 1:1,000</p> <p>VERTICAL SECTION 1:100</p>		<p>CENTRAL / GULF PROVINCES</p> <p>TRANS-ISLAND HIGHWAY (BEREINA-MALALAU SECTION)</p> <p>PLAN &amp; LONGITUDINAL SECTION</p> <p>CH. 15 + 500 — CH. 16 + 200</p> <p>PAPUA NEW GUINEA DEPARTMENT OF WORKS</p> <p>DRAWING No. A1/ 87820</p>	
REV	AMENDMENTS	BY	APP'D	DATE																			