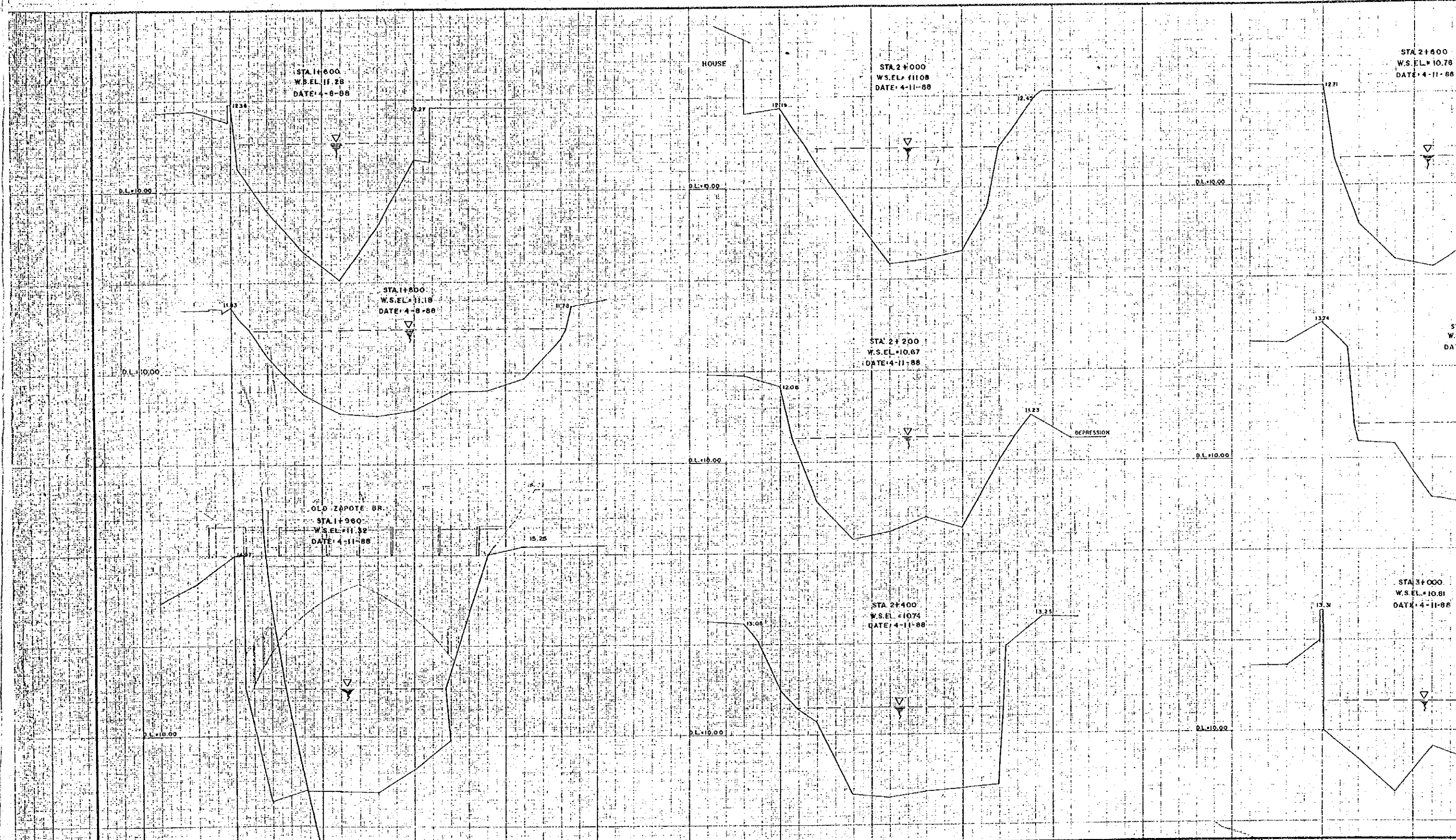



CONSULTANTS		REPUBLIC OF THE PHILIPPINES		DATE		SIGNATURE		SCALE		DRWG. NO.	
DATE	SIGNATURE	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS		PROJECT ENGINEER	NONITO B. PANDO, P.E.		PROJECT MANAGER		EUGENIO M. MANALO		CROSS SECTION
8/12/88	[Signature]	1:250		1:50		1/3		ZAPOTE RIVER		STA. 0+000 - STA. 1+400	




**ACRE SURVEYING
& DEVELOPMENT**

CONSULTANTS		DATE	SIGNATURE
SURVEYED BY:	Jul 20 88		<i>[Signature]</i>
CHECKED BY:	8-12-88		<i>[Signature]</i>
PROJECT MANAGER:	8-17-88		<i>[Signature]</i>

REPUBLIC OF THE PHILIPPINES

**DEPARTMENT OF
PUBLIC WORKS AND HIGHWAYS**

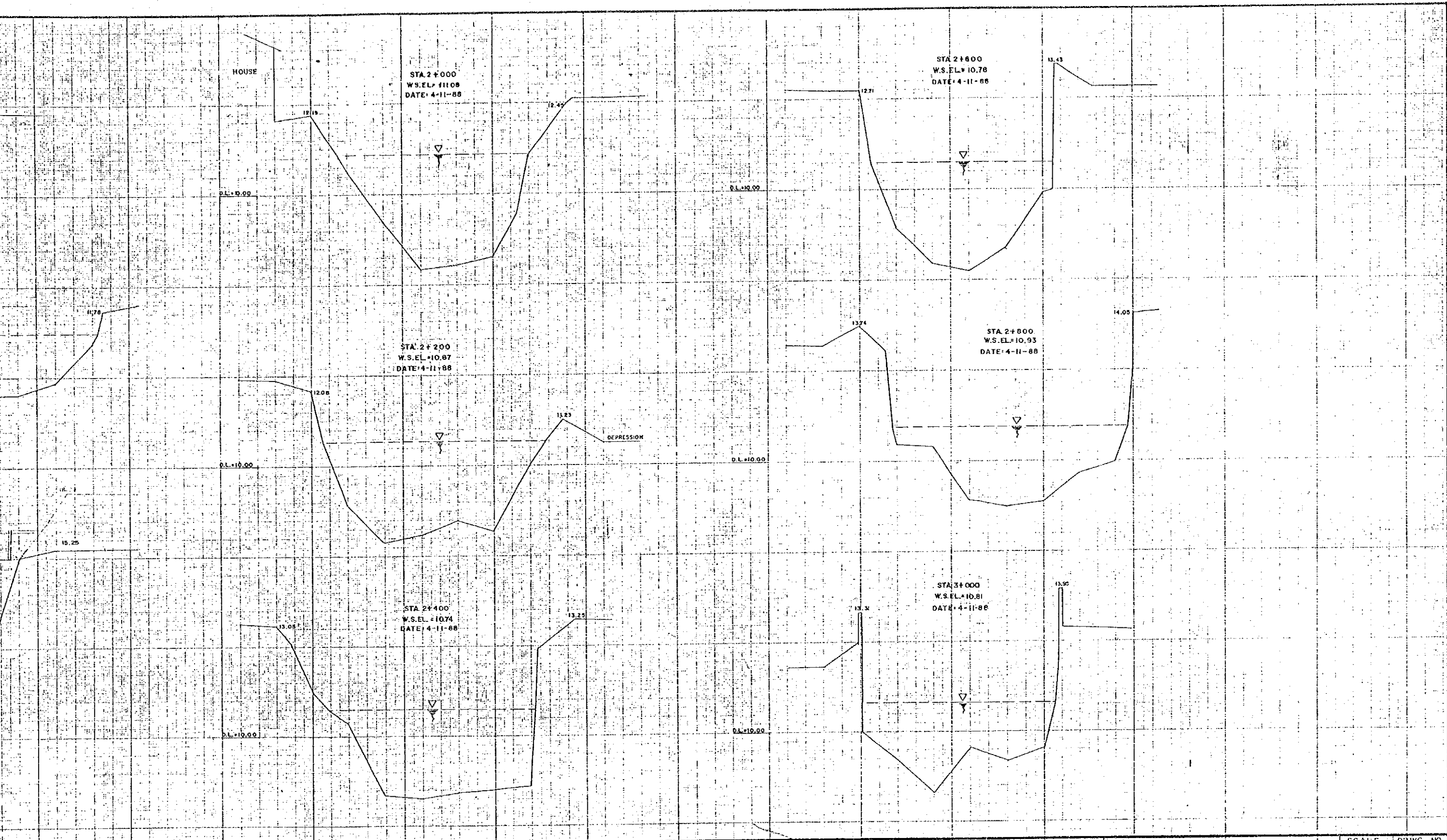
PROJECT ENGINEER	DATE	SIGNATURE
PROJECT MANAGER		<i>[Signature]</i>

EUGENIO D. MARALO

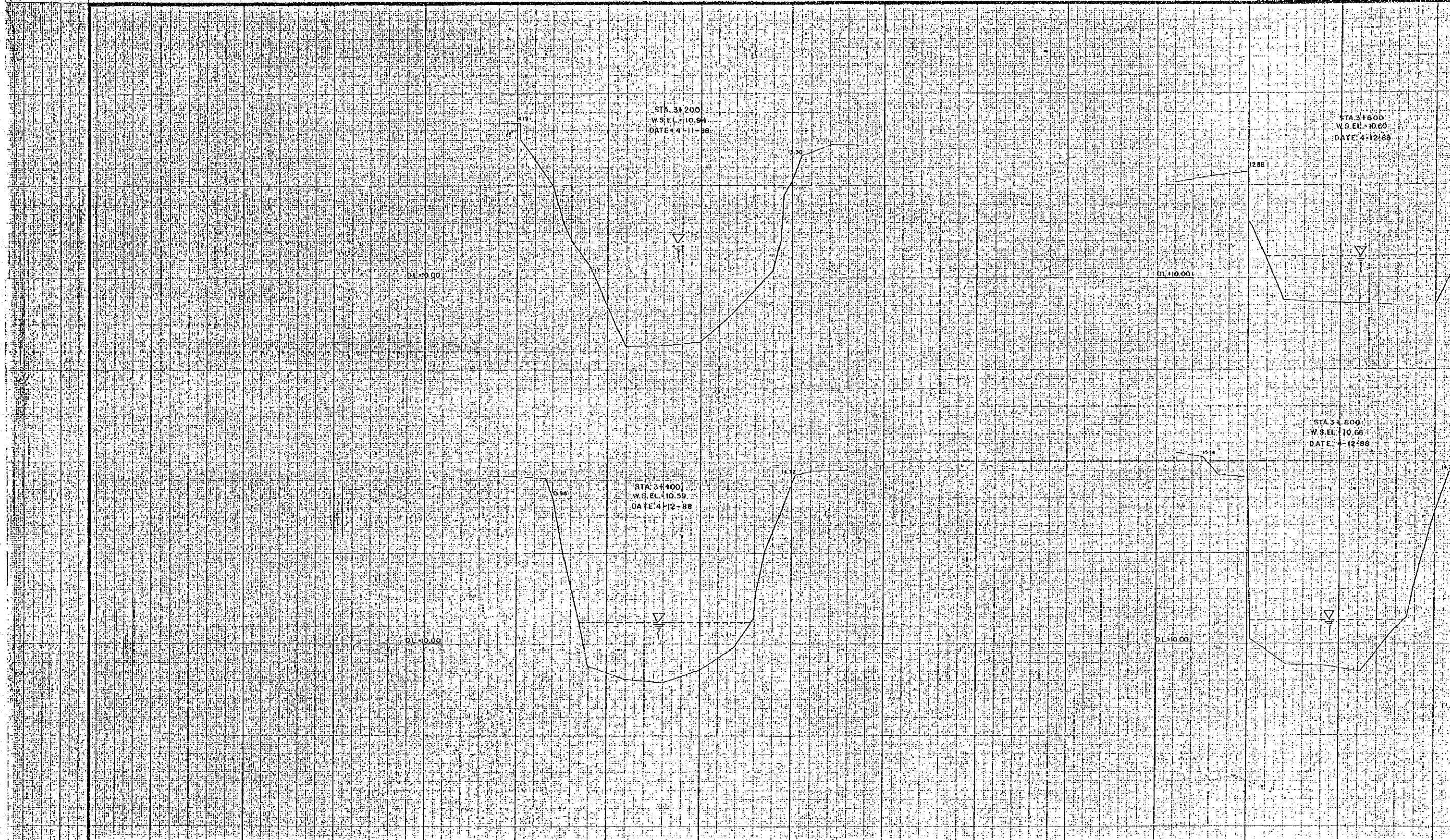
Masterpiece
 Printed in Japan

Masterpiece
 Printed in Japan

Masterpiece
 Printed in Japan



CONSULTANTS		REPUBLIC OF THE PHILIPPINES		DATE		SIGNATURE		SCALE		DRWG. NO.	
 DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS		PROJECT ENGINEER PROJECT MANAGER		DATE SIGNATURE NONITO P. FANJO EUGENIO D. MANALO		CROSS SECTION ZAPOTE RIVER STA. 1+600 - STA. 3+000		HORIZONTAL 1:250 VERTICAL 1:50		2/3	




ACRE SURVEYING & DEVELOPMENT

CONSULTANT	
DATE	SIGNATURE
SURVEYED BY: 8-24-88	[Signature]
CHECKED BY: 8-28-88	[Signature]
PROJECT MANAGER: 1-14-88	[Signature]



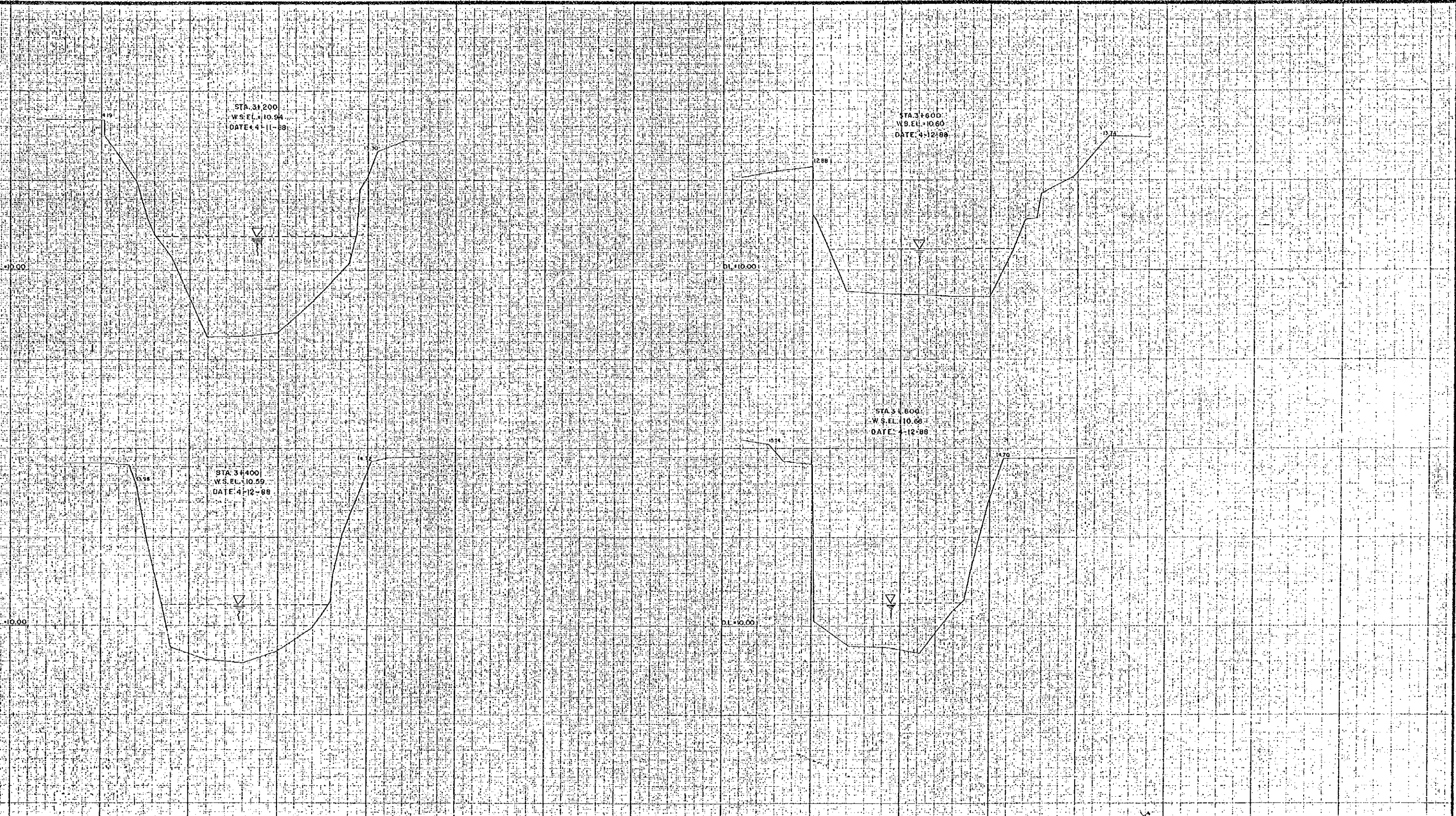
REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

REPUBLIC OF THE PHILIPPINES	
DATE	SIGNATURE
PROJECT ENGINEER	[Signature]
PROJECT MANAGER	[Signature]

Master piece
Printed in Japan

Sheet 1 of 1 piece
Printed in Japan

154



CONSULTANT		REPUBLIC OF THE PHILIPPINES		DATE		SIGNATURE		SCALE		DRWG. NO.	
BY	DATE	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS		PROJECT ENGINEER	DATE	SIGNATURE		HORIZONTAL	3 / 3		
BY	DATE			PROJECT MANAGER	DATE	SIGNATURE		VERTICAL			
BY	DATE					MONTO F. ERAND		1:250			
BY	DATE					EUGENIO MANALO		1:50			
								CROSS SECTION			
								ZAPOTE RIVER		STA. 3+200 - STA. 3+800	

Master piece
 Printed in Manila

Master piece
 Printed in Manila

Master piece
 Printed in Manila

A-13 ESTEROS AND OUTFALLS

ESTERO DE VITAS, ESTERO DE PACO, ESTERO DE QUIAPO,
ESTERO DE STA CLARA, ESTERO DE BINOND, ESTERO DE PANDACAN,
ESTERO DE SAN MIGUEL, ESTERO DE LA REINA, ESTERO DE GALINA,
BUENDIA OUTFALL AND RIVERA OUTFALL

INDEX MAP	(2 SHEET)
LONGITUDINAL PROFILE	(5 SHEET)
CROSS SECTION	(20 SHEET)







NOTES:
 A. Datum Line (D.L.) = 10.00m. below M.S.L.
 B. X.M.S. = 0.462 m. below H.S.L.
 C. Bench Mark used;

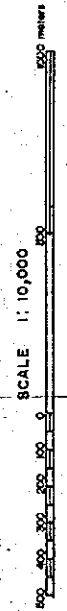
SAN DOMINGO RIVER		LAS PINAS RIVER	
BN	D.L.	BN	D.L.
1. PM - 1	11.700	1. PM - 1	11.280
2. IM - 1	12.138	2. IM - 1	12.942
3. IM - 2	12.563	3. IM - 2	11.764
4. IM - 3	11.694	4. IM - 3	12.077
5. IM - 4	11.539	5. IM - 4	12.770
6. PM - 2	12.078	6. PM - 2	15.114
7. ESTERO DE GALINA		7. IM - 5	15.036
8. PM - 3		8. PM - 3	18.322

ZAPOTE RIVER		DONCALO RIVER	
BN	D.L.	BN	D.L.
1. PM - 1	11.331	1. PM - 1	11.952
2. IM - 1	11.276	2. IM - 1	10.631
3. IM - 2	12.188	3. IM - 2	12.438
4. IM - 3	13.314	4. IM - 3	13.512
5. PM - 2	14.562	5. PM - 2	13.512

PARANAQUE RIVER		ESTERO DE PACO	
BN	D.L.	BN	D.L.
1. PM - 1	11.774	1. PM - 1	11.512
2. IM - 1	12.376	2. IM - 1	11.477
3. IM - 2	12.341	3. IM - 2	14.923
4. IM - 3	12.235	4. IM - 2	11.505
5. IM - 4	12.519	5. PM - 2	11.505

SOUTH PARANAQUE RIVER	
BN	D.L.
1. PM - 1	11.690
2. IM - 1	12.111
3. IM - 2	11.515
4. PM - 2	11.505

D. Bench Mark Description:
 BM CH - 6K : Old BC & CS BM in Pasay City at the junction of Lopez Blvd. and Figueroa St., on the conc. lamp post base in front of de Dios Hospital.
 BM CH - 6L : 3/8" brass rod w/ cement putty & inscription "BCS CR U-4-1977".
 BM CH - 6M : Old BC & CS BM in Pasay City on top of railing of bridge along EDSA. Mark is 1/2" brass rod w/ cement putty & inscription "BCS CR U-4-1977".



ACRE SURVEYING & DEVELOPMENT



CONSULTANT'S SIGNATURE
 SURVEYED BY *L. M. ...*
 CHECKED BY
 PROJECT MANAGER

INDEX MAP
 PARANAQUE RIVER - ESTERO DE GALINA
 SOUTH PARANAQUE RIVER - ESTERO DE PACO
 SAN DOMINGO RIVER - DONCALO CREEK
 ZAPOTE RIVER

DEPARTMENT OF PUBLIC WORKS & HIGHWAYS
 PROJECT ENGINEER
 PROJECT MANAGER
 SHEET NO. 1 / 1



NOTES:
 A. Datum Line = 10.00 m. below MSL
 B. MSL = 0.462 m. below MSL
 C. Bench Mark used:

ESTERO DE SAN MIGUEL		D.L.
1. BM SH-1		11.984
2. BM SH-1		11.784
3. BM SH-2		13.190

ESTERO DE GUAYAMA		D.L.
1. BM Q-1		12.042
2. BM Q-1		12.127

ESTERO DE BARRIO		D.L.
1. BM-1		12.005
2. BM-1		12.798

ESTERO DE LA PERA		D.L.
1. BM-1		12.272
2. BM-1		12.658
3. BM-2		12.658

NAVITAS RIVER		D.L.
1. BM N-1		12.136
2. BM N-1		11.826
3. BM N-2		11.772

D. Bench Mark Description:

- CH-54: - Old BC & GS Bench Mark in Binondo, Manila about 30 meter SW of end of Jones Bridge set on top of an concrete wall along Pasig River. Mark is USC & GS Stonecutte stamped 34/1936.
- CH-55: - Old BC & GS Bench Mark in Tondo, Manila at the junction of Juan Luna Street and B. Lopez Blvd. Mark is a 5/8" brass rod embedded on the oval concrete foundation of a Camp Post protruding about 3 mm from its surface.
- CH-10-PA: Old BC & GS Bench Mark in Tondo, Metro Manila on the West side of a concrete bridge over Estero de Maypajo. Mark is a 1/2" x 3/8" iron rod with cement putty and inscription CH 10 PA 1977.
- CH-14-PA: Old BC & GS Bench Mark in Caloocan City inside the City Hall Compound at the rear of a Rizal Monument. Mark is a 1/2" x 3/8" brass rod with cement putty & inscription CH 14 PA 1977.



NOTES:
 A. Datum Line = 10.00 m. below MLLW
 B. S. M.L.P. = 0.462 m. below M.L.
 C. Bench Mark used:

ESTERO DE VITAS		D.L.
1. BM-1		11.655
2. BM-1		12.858
CK 2CA		
3. CK 2E		12.891
4. CK-12FA		12.448
5. CK-14FA		24.314
MALABON RIVER		D.L.
1. BM-1		12.789
2. BM M-1		11.965
3. BM M-2		11.666
4. BM M-4		12.152
5. BM M-2		12.154
6. BM C-4		25.674

ESTERO DE SAN MIGUEL		D.L.
1. BM SM-1		11.985
2. BM SM-1		11.784
3. BM SM-2		13.190

ESTERO DE QUIAPO		D.L.
1. BM Q-1		14.042
2. BM Q-1		12.127

ESTERO DE BINONDO		D.L.
1. BM-1		12.875
2. BM-1		12.798

ESTERO DE LA REINA		D.L.
1. BM-1		12.272
2. BM-1		12.034
3. BM-2		12.858

NAVITAS RIVER		D.L.
1. BM N-1		12.136
2. BM N-1		11.626
3. BM N-2		11.712

D. Bench Mark Description:
 C05-54: - Old BC & CS Bench Mark in Binondo, Manila about 30 meter SW of Juan Luna Street and H. Lopez Blvd. Mark is a 2 7/8" brass rod embedded on the coral concrete foundation of a Camp Post protruding about 3 mm from its surface.
 CK 2E: - Old BC & CS Bench Mark in Tondo, Manila at the junction of Juan Luna Street and H. Lopez Blvd. Mark is a 2 7/8" brass rod embedded on the coral concrete foundation of a Camp Post protruding about 3 mm from its surface.
 CK 12-FA: Old BC & CS Bench Mark in Tondo, Metro Manila on the West side walk of a concrete bridge over Estero de Maypafo. Mark is a 3/8" iron rod with cement putty and inscription "CK 12 FA 1977".
 CK 14-FA: Old BC & CS Bench Mark in Caloocan City inside the City Hall compound at the side of a Rizal Monument. Mark is a 1 1/2" brass rod with cement putty & inscription CK 14 FA 1977."



**ACRE SURVEYING
& DEVELOPMENT**

CONSULTANTS	
SURVEYED BY:	DATE: 11/1/77
CHECKED BY:	SIGNATURE: <i>[Signature]</i>
PROJECT MANAGER:	

INDEX MAP.
 MALABON RIVER
 NAVOTAS RIVER
 ESTERO DE LA REINA
 ESTERO DE VITAS
 ESTERO DE BINONDO

DEPARTMENT OF PUBLIC WORKS & HIGHWAYS	
PROJECT ENGINEER	PROJECT MANAGER
<i>[Signature]</i>	<i>[Signature]</i>