

REPUBLIC OF THE PHILIPPINES

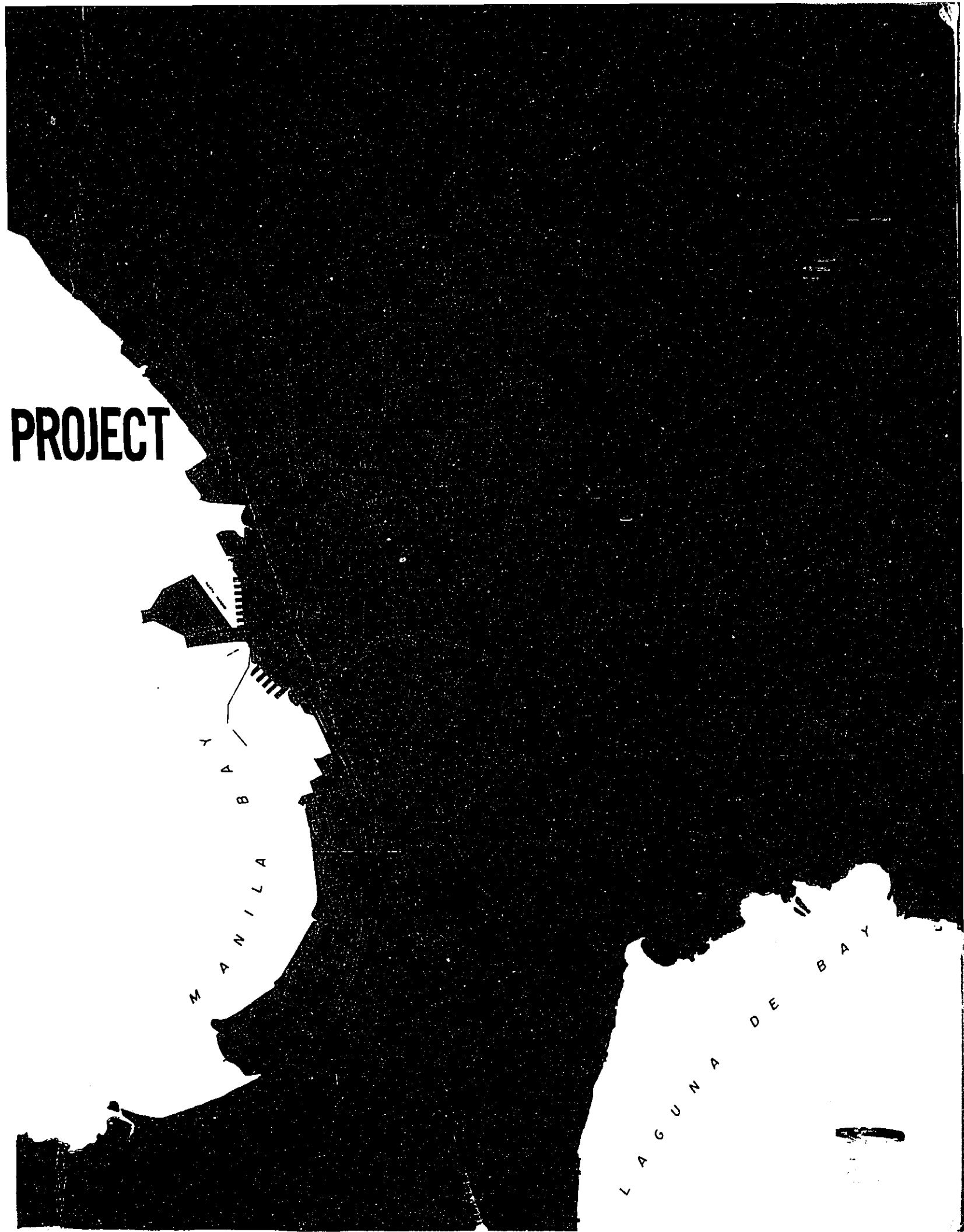
**FEASIBILITY STUDY**  
on  
**C-3 AND R-4 AND RELATED ROADS PROJECT**

FINAL REPORT

**DRAWINGS**

MARCH, 1978

JAPAN INTERNATIONAL COOPERATION AGENCY  
DEPARTMENT OF PUBLIC HIGHWAYS



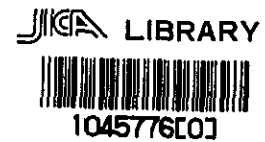
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**REPUBLIC OF THE PHILIPPINES**

**FEASIBILITY STUDY**  
**on**  
**C-3 AND R-4 AND RELATED ROADS PROJECT**

**FINAL REPORT**

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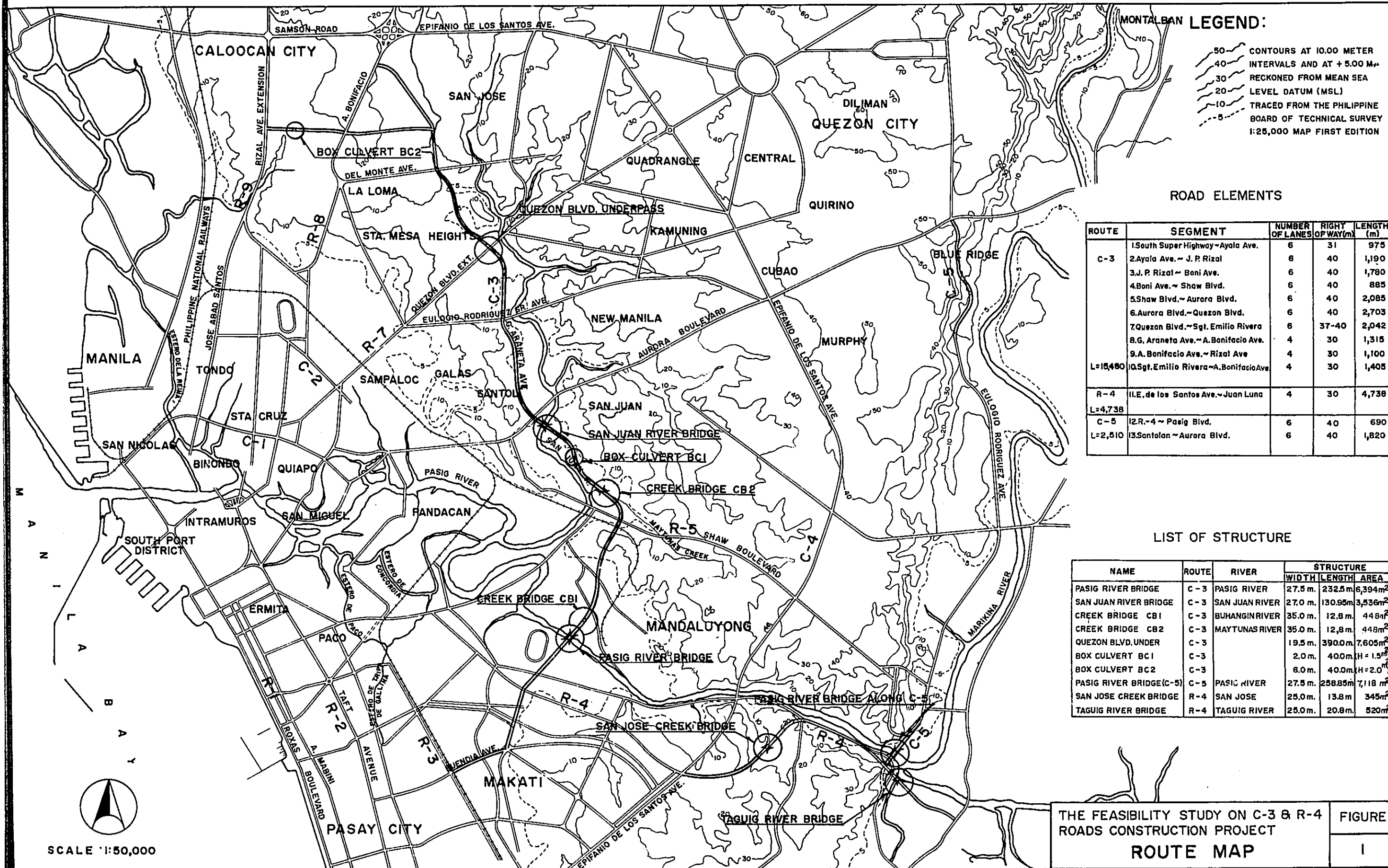
**MARCH, 1978**

**JAPAN INTERNATIONAL COOPERATION AGENCY**  
**DEPARTMENT OF PUBLIC HIGHWAYS**

国際協力事業団	
受入 月日 84.39.27	1418
登録No. 609272	614 SD

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**MONTALBAN LEGEND:**

- 50 --- CONTOURS AT 10.00 METER INTERVALS AND AT +5.00 M RECKONED FROM MEAN SEA
- 40 ---
- 30 ---
- 20 --- LEVEL DATUM (MSL)
- 10 ---
- 5 --- TRACED FROM THE PHILIPPINE BOARD OF TECHNICAL SURVEY I:25,000 MAP FIRST EDITION

**ROAD ELEMENTS**

ROUTE	SEGMENT	NUMBER OF LANES	RIGHT OF WAY (m)	LENGTH (m)
C-3	1. South Super Highway ~ Ayala Ave.	6	31	975
	2. Ayala Ave. ~ J. P. Rizal	6	40	1,190
	3. J. P. Rizal ~ Boni Ave.	6	40	1,780
	4. Boni Ave. ~ Shaw Blvd.	6	40	885
	5. Shaw Blvd. ~ Aurora Blvd.	6	40	2,085
	6. Aurora Blvd. ~ Quezon Blvd.	6	40	2,703
	7. Quezon Blvd. ~ Sgt. Emilio Rivera	6	37-40	2,042
	8. G. Araneta Ave. ~ A. Bonifacio Ave.	4	30	1,315
	9. A. Bonifacio Ave. ~ Rizal Ave	4	30	1,100
	10. Sgt. Emilio Rivera ~ A. Bonifacio Ave	4	30	1,405
<b>L=15,480</b>				
R-4	11. E. de los Santos Ave. ~ Juan Luna	4	30	4,738
<b>L=4,738</b>				
C-5	12. R-4 ~ Pasig Blvd.	6	40	690
	13. Santolan ~ Aurora Blvd.	6	40	1,820
<b>L=2,510</b>				

**LIST OF STRUCTURE**

NAME	ROUTE	RIVER	STRUCTURE		
			WIDTH	LENGTH	AREA
PASIG RIVER BRIDGE	C-3	PASIG RIVER	27.5 m.	232.5 m.	6,394 m <sup>2</sup>
SAN JUAN RIVER BRIDGE	C-3	SAN JUAN RIVER	27.0 m.	130.95 m.	3,536 m <sup>2</sup>
CREEK BRIDGE CBI	C-3	BUHANGIN RIVER	35.0 m.	12.8 m.	448 m <sup>2</sup>
CREEK BRIDGE CB2	C-3	MAYTUNAS RIVER	35.0 m.	12.8 m.	448 m <sup>2</sup>
QUEZON BLVD. UNDER	C-3		19.5 m.	390.0 m.	7,605 m <sup>2</sup>
BOX CULVERT BC1	C-3		2.0 m.	40.0 m.	1.5 m <sup>2</sup>
BOX CULVERT BC2	C-3		8.0 m.	40.0 m.	2.0 m <sup>2</sup>
PASIG RIVER BRIDGE (C-5)	C-5	PASIG RIVER	27.5 m.	258.85 m.	7,118 m <sup>2</sup>
SAN JOSE CREEK BRIDGE	R-4	SAN JOSE	25.0 m.	13.8 m.	345 m <sup>2</sup>
TAGUIG RIVER BRIDGE	R-4	TAGUIG RIVER	25.0 m.	20.8 m.	520 m <sup>2</sup>

SCALE 1:50,000

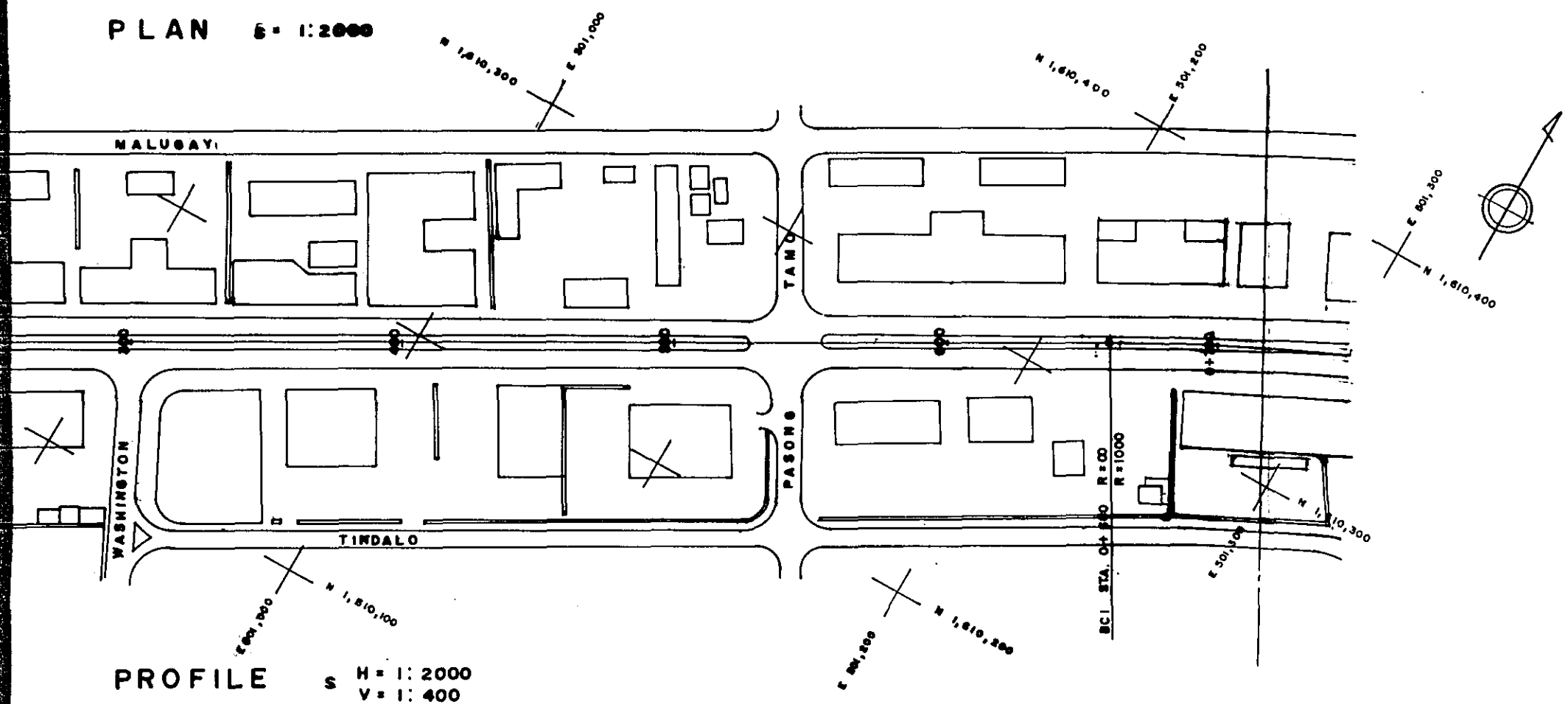
THE FEASIBILITY STUDY ON C-3 & R-4  
ROADS CONSTRUCTION PROJECT  
**ROUTE MAP**

FIGURE  
1

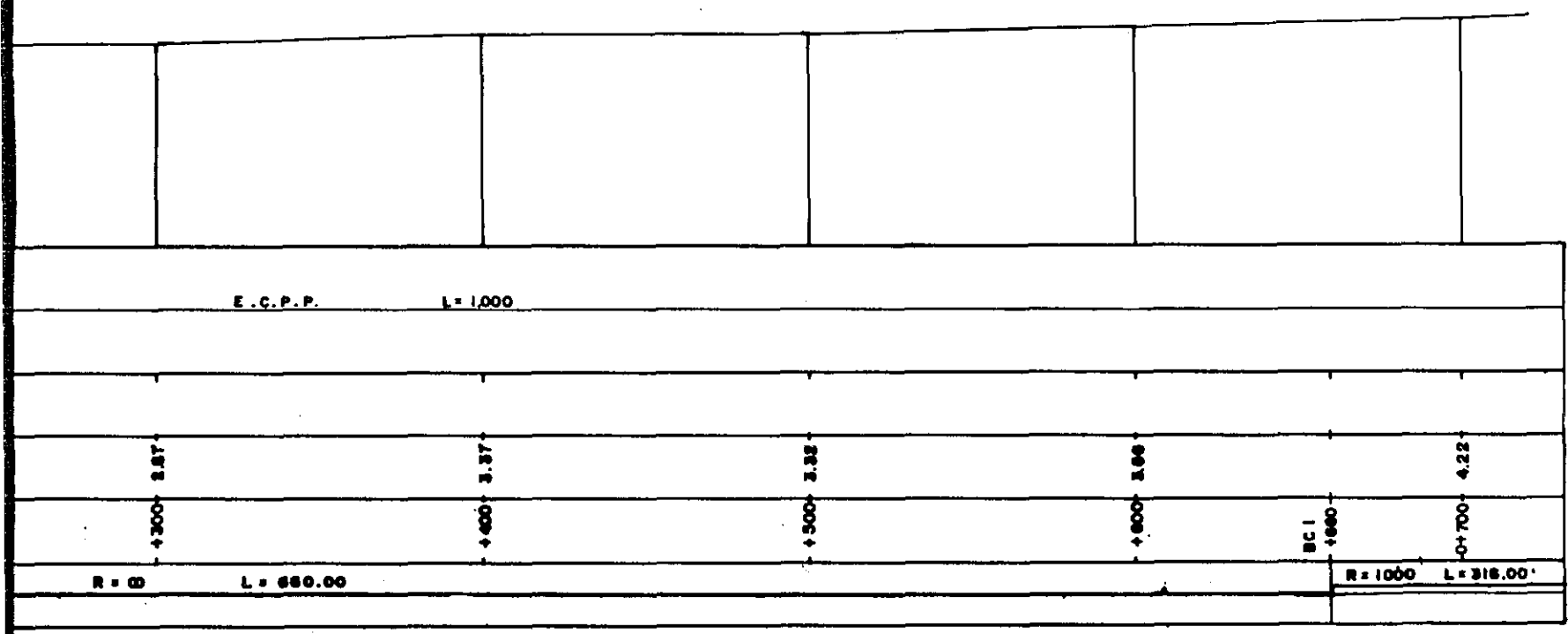


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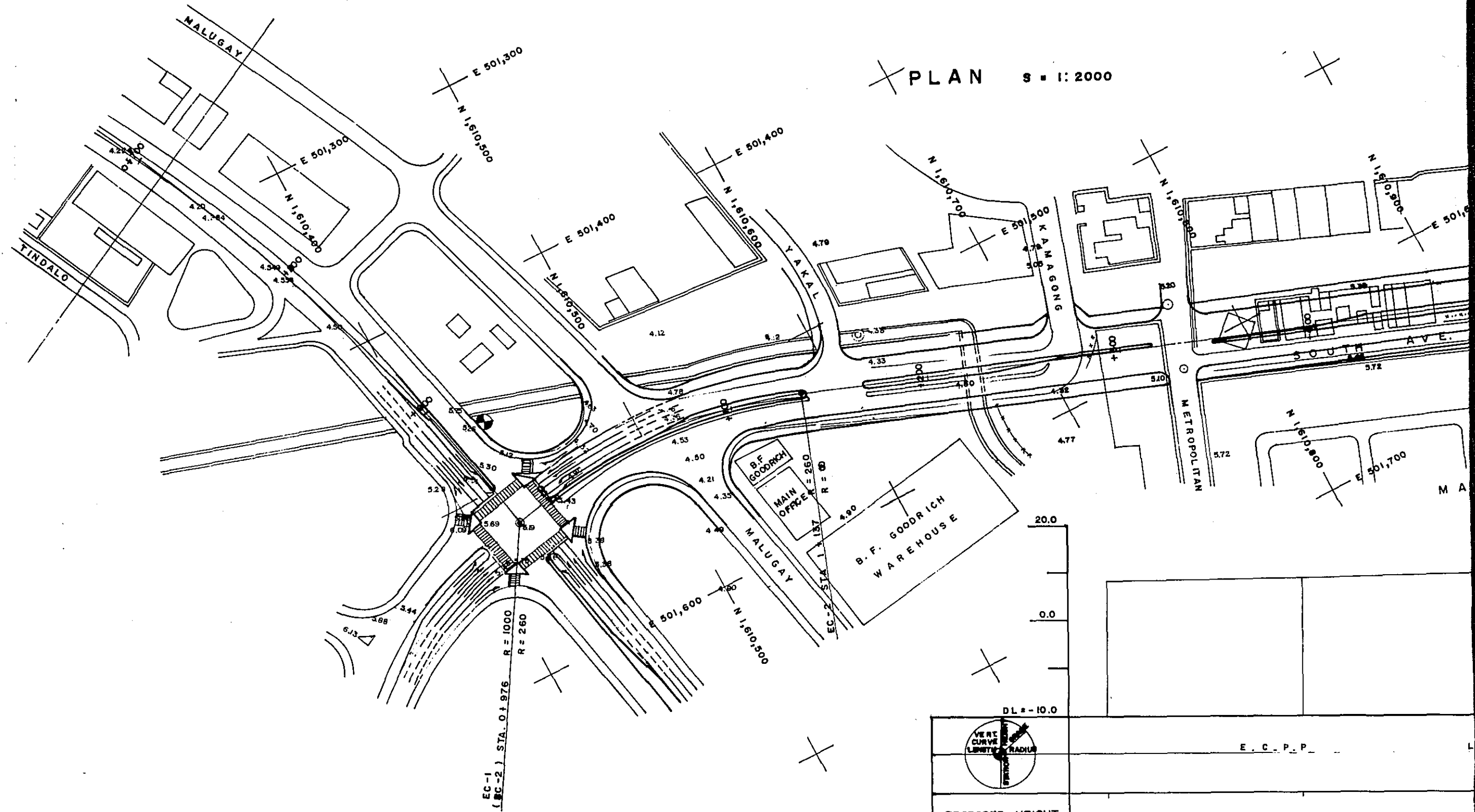
C-3



PROFILE S H = 1:2000  
V = 1:400



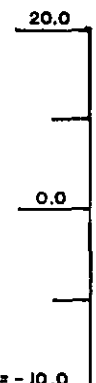
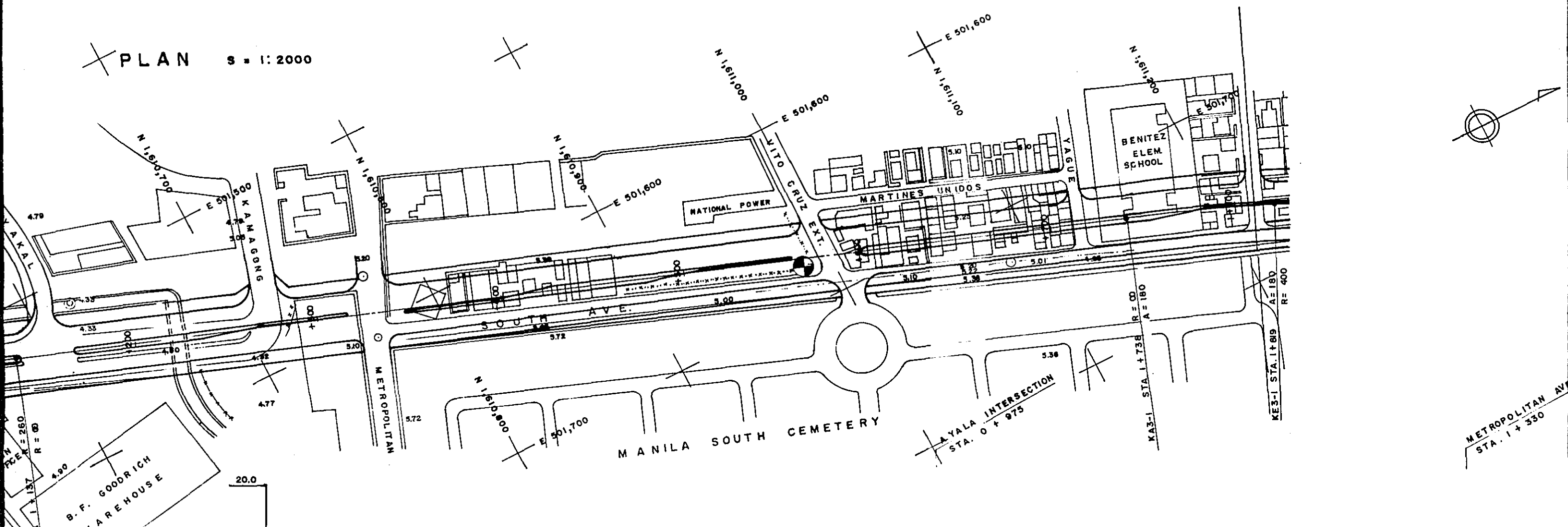
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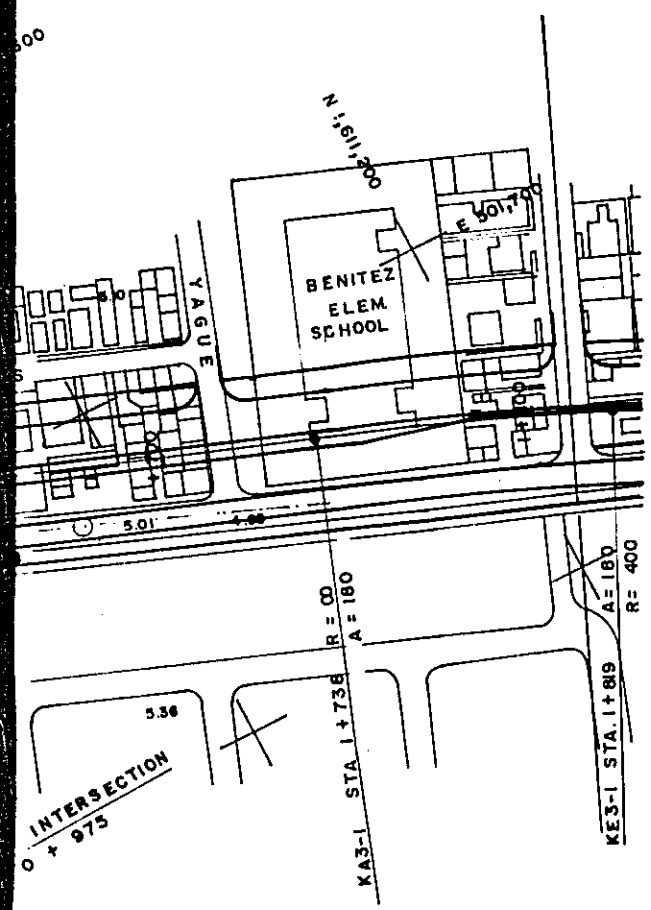
		E. C. P. P.	
PROPOSED HEIGHT			
GROUND HEIGHT	4.220	4.35	
STATION	0+700	+800	
CURVE BAND			R = 1,000 L =



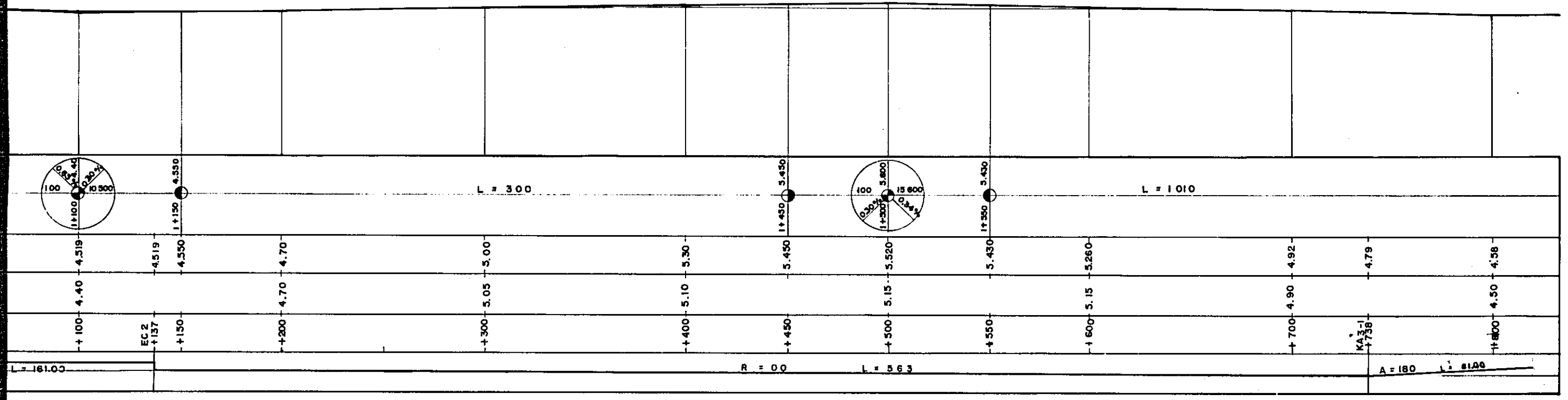
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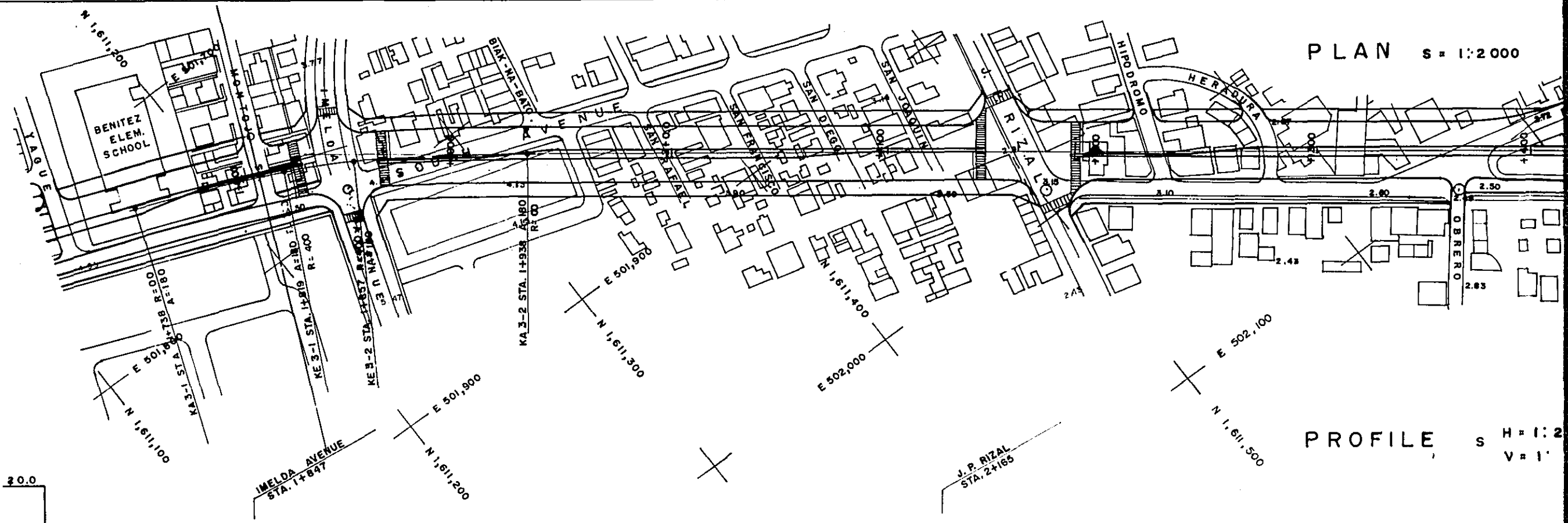
	E. C. P. P. L = 1,000		L = 50		L = 300		
	0+700	+800	+900	EC1 +976	+100	EC2 +137	+300
PROPOSED HEIGHT				5.03	4.725	4.519	4.550
GROUND HEIGHT	4.220	4.33	5.10	5.03	4.725	4.40	4.70
STATION	0+700	+800	+900	EC1 +976	+100	EC2 +137	+300
CURVE BAND	R = 1,000 L = 316.00			R = 250 L = 161.00			



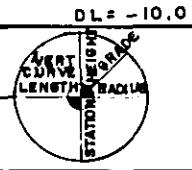
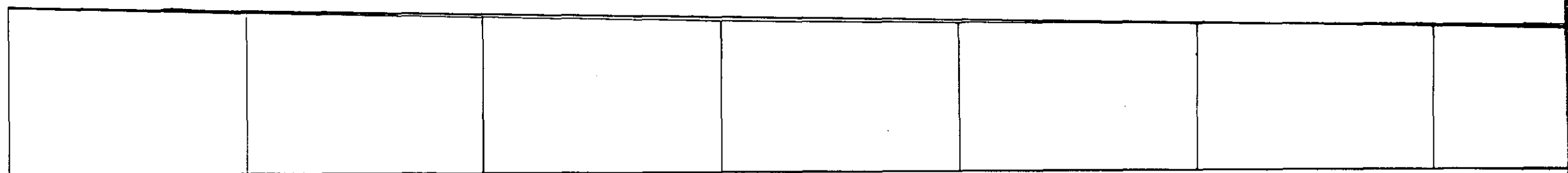
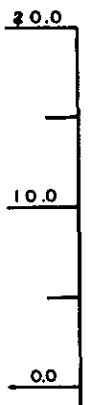
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PLAN S = 1:2000



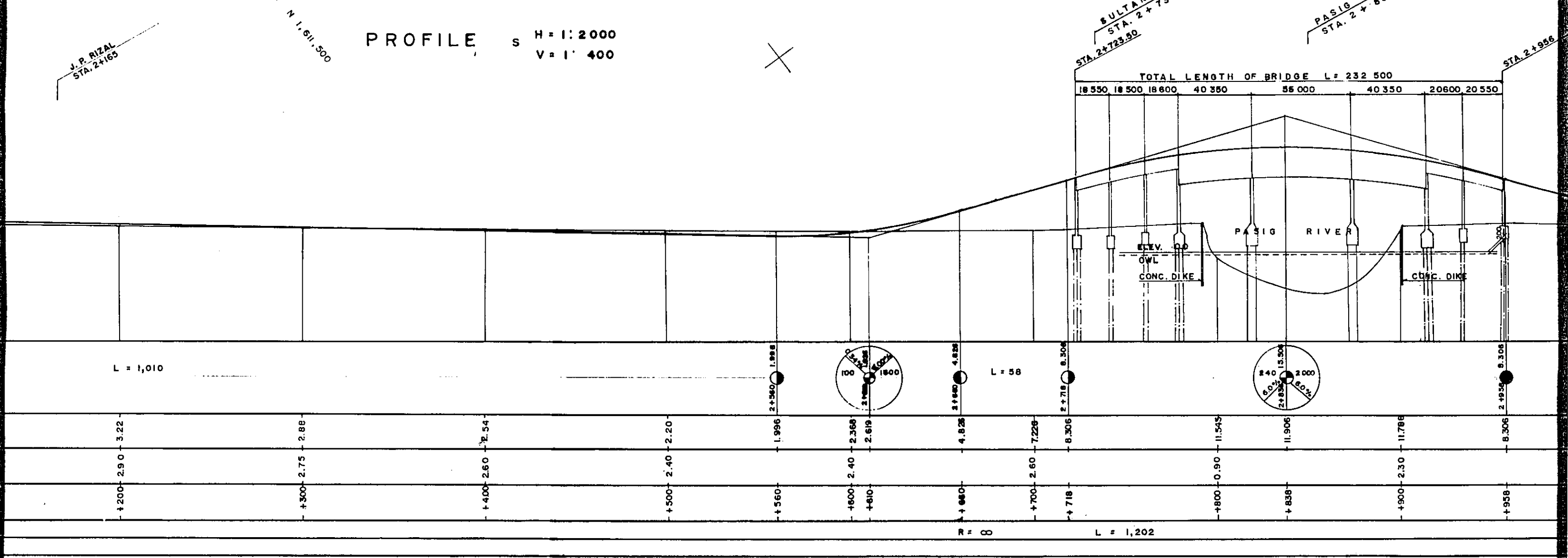
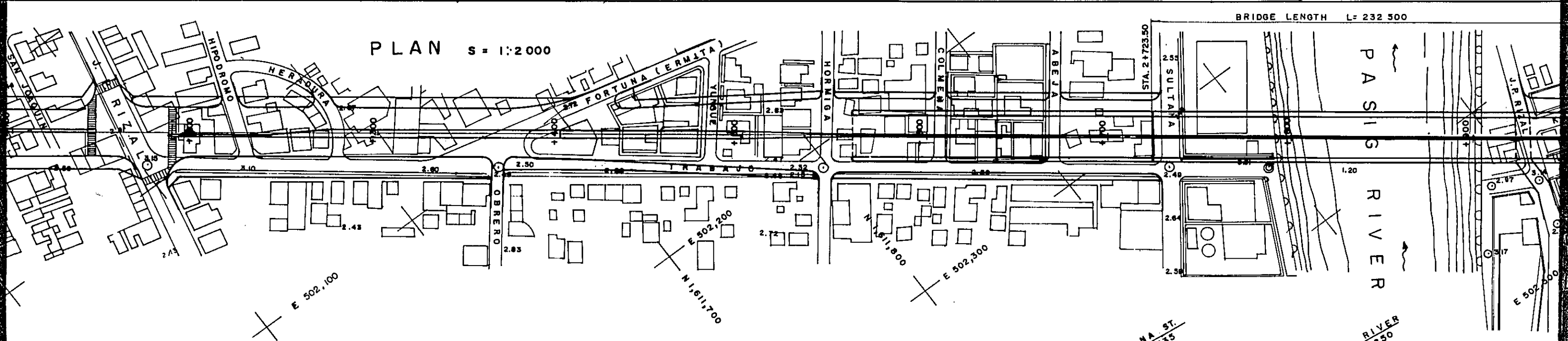
PROFILE S H = 1:2 V = 1'



DL = -10.0

L = 1,010

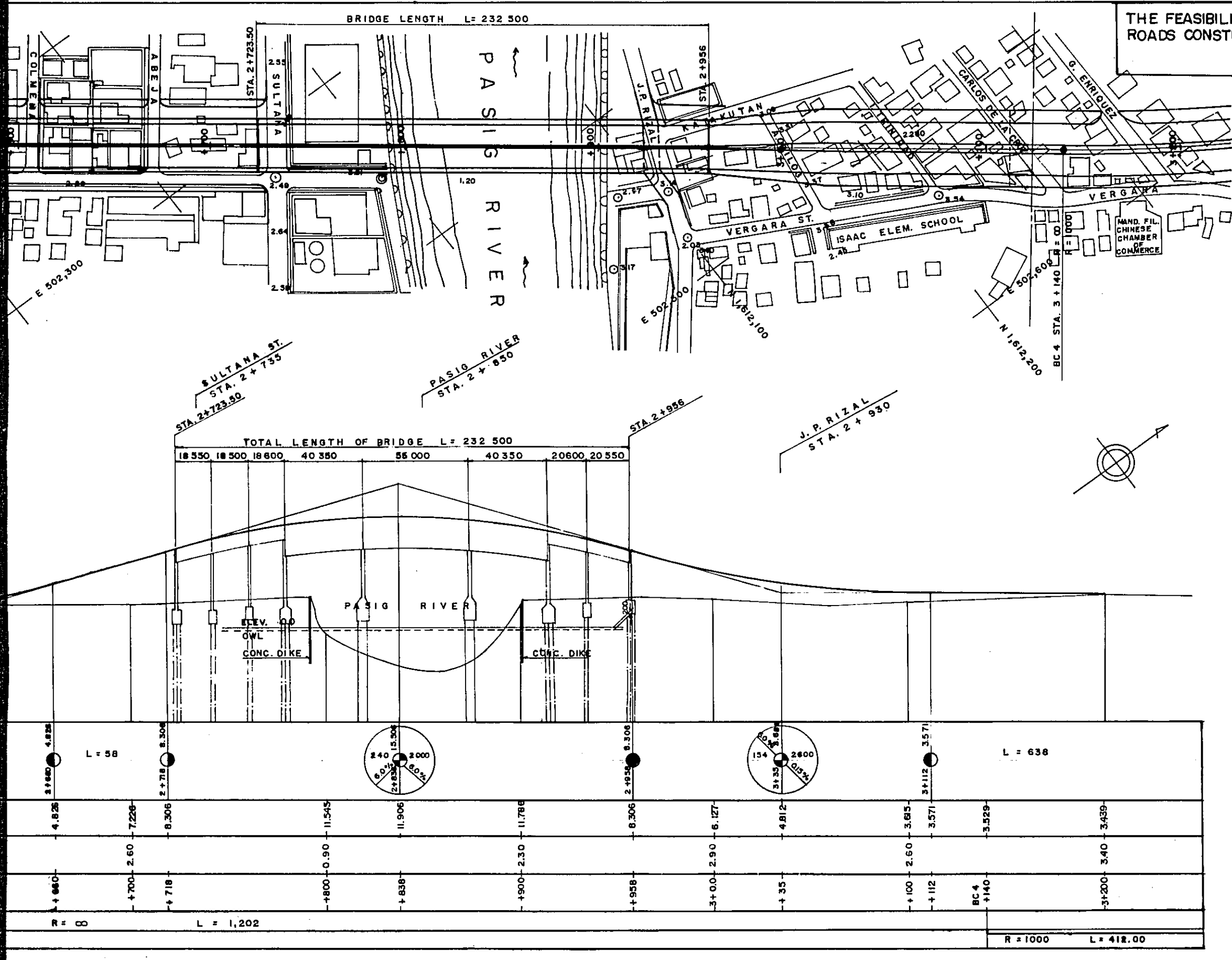
PROPOSED HEIGHT	4.58	4.52	4.39	4.24	4.11	3.99	3.56	3.22	2.88	2.54
GROUND HEIGHT	4.50			4.05		3.65	3.20	2.90	2.75	2.60
STATION	1+800	KE 3-1 + 819	KE 3-2 + 827	+ 900	KA 3-2 + 938	+ 2+00	+ 1+00	+ 2+00	+ 3+00	+ 4+00
CURVE BAND	L = 81.00		R = 400 L = 88.00		A = 180 L = 81.00					

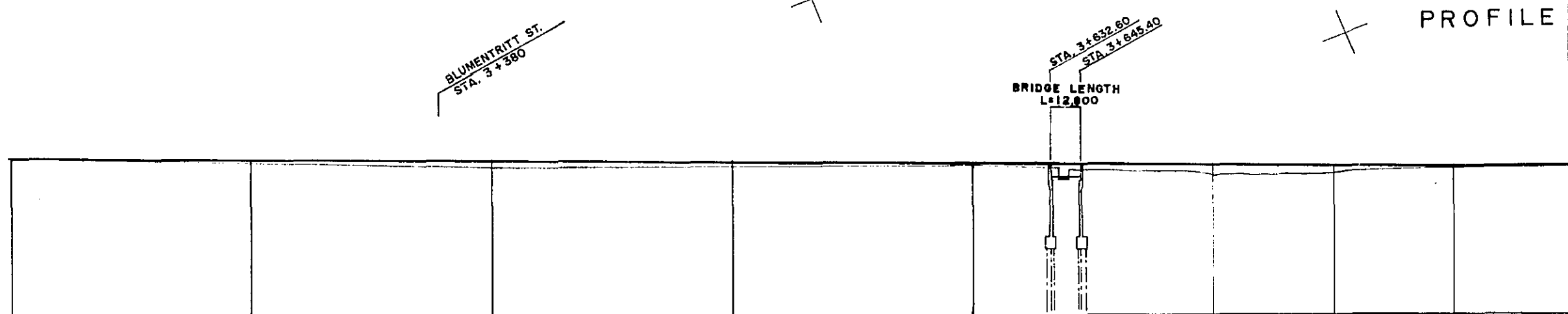
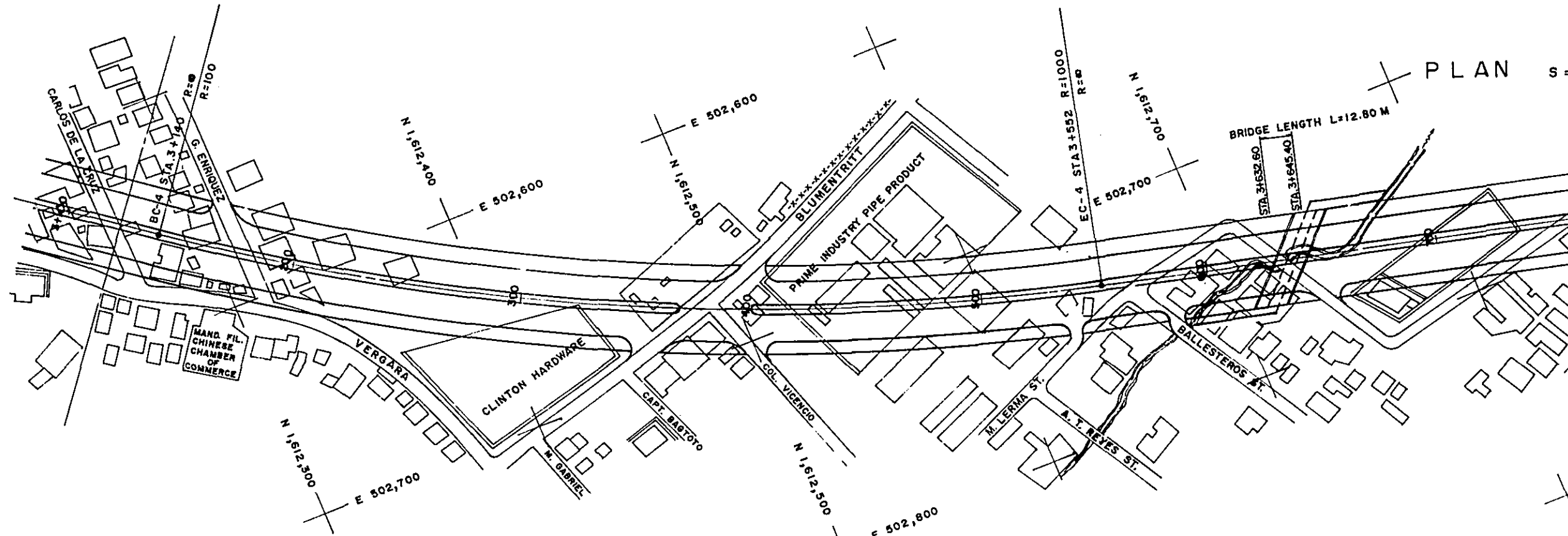


THE FEASIBILITY STUDY ON C-3 & R-4  
ROADS CONSTRUCTION PROJECT

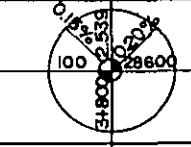
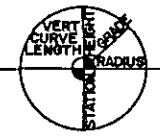
FIGURE  
4

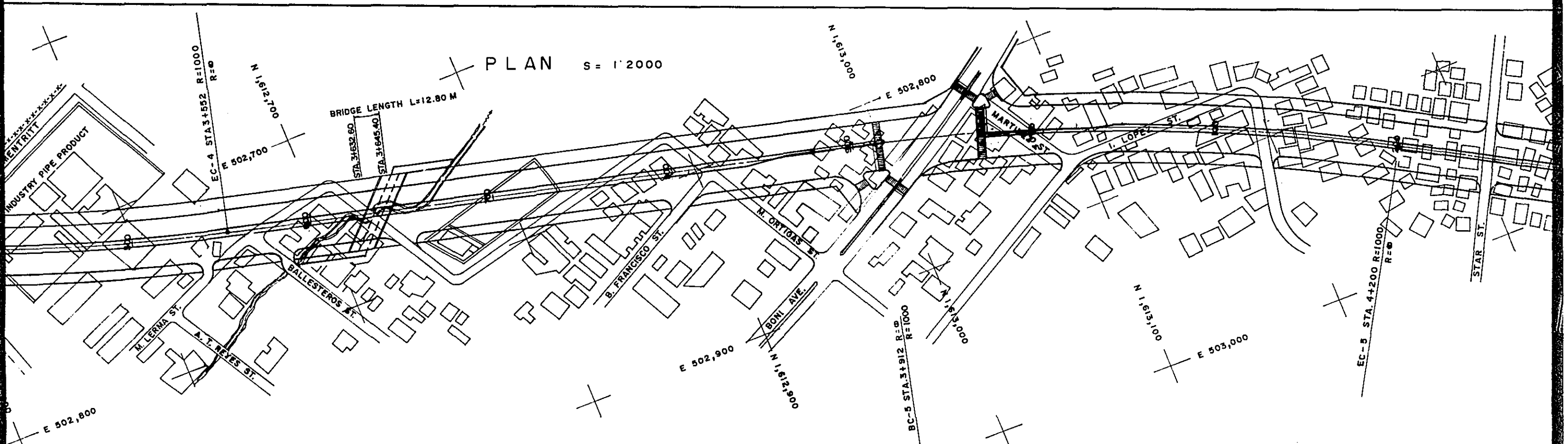
C-3



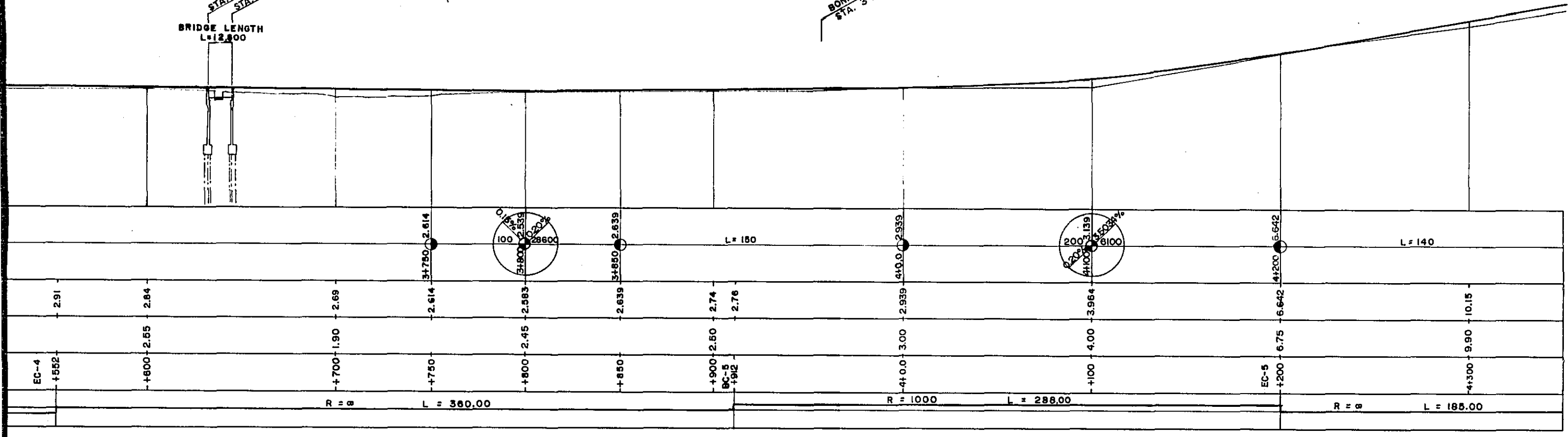


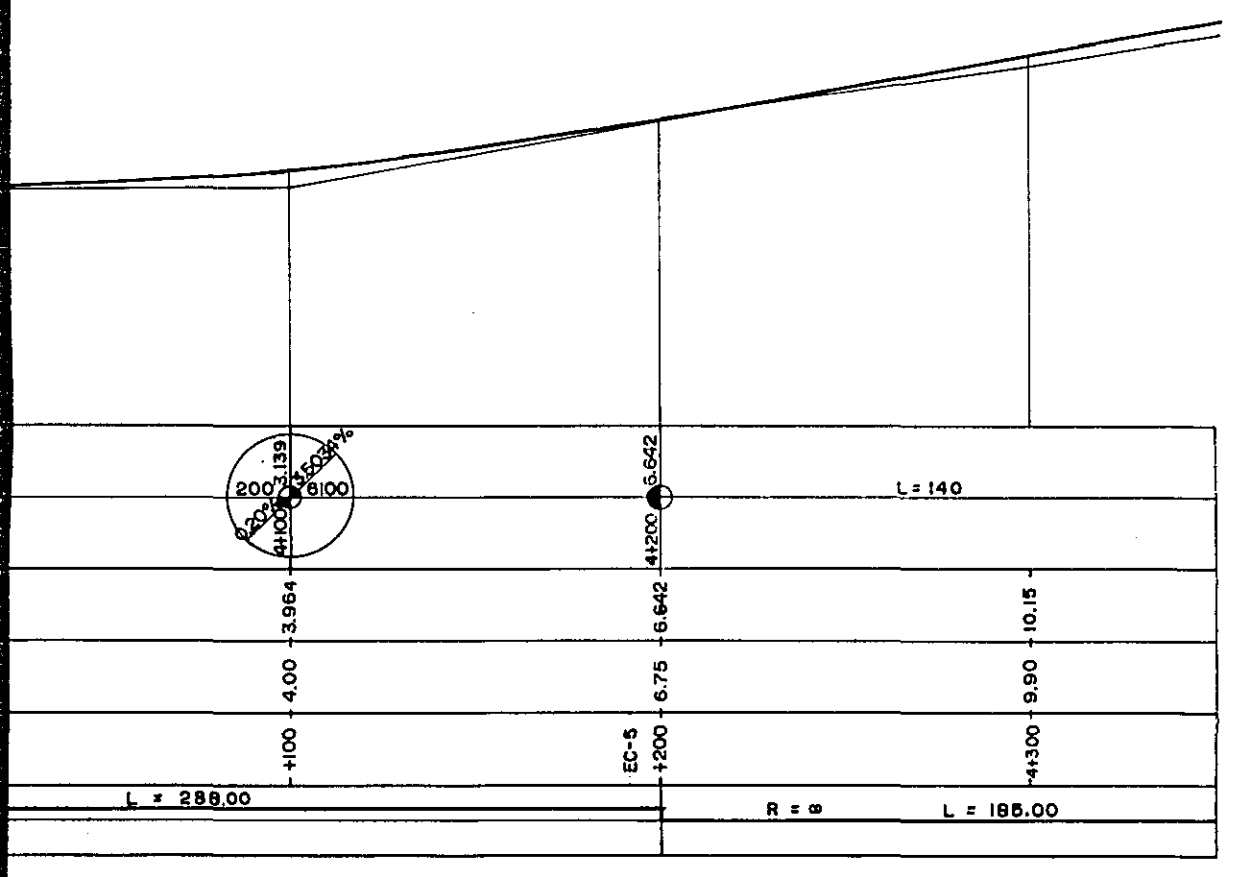
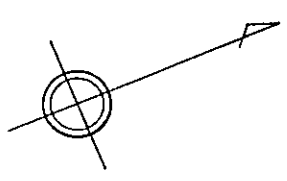
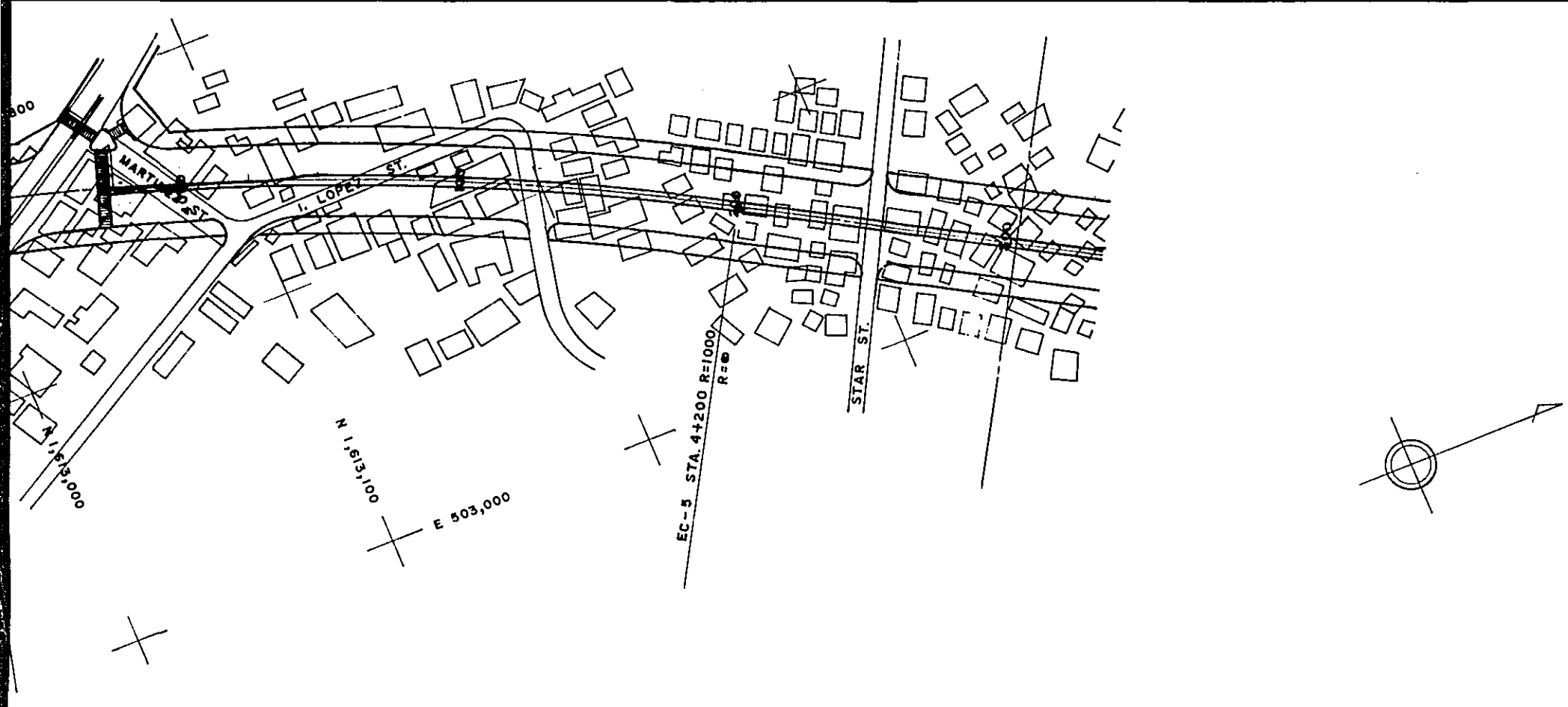
	3+200	3+300	3+400	3+500	3+600	3+700	3+750	3+800	3+850
PROPOSED HEIGHT	3.44	3.29	3.14	2.99	2.91	2.84	2.69	2.614	2.583
GROUND HEIGHT	3.40	3.00	2.65	2.75	2.91	2.55	1.90	2.45	2.45
STATION	3+200	3+300	3+400	3+500	3+600	3+700	3+750	3+800	3+850
CURVE BAND	R = 1000 L = 412.00				R = 8 L = 360.00				



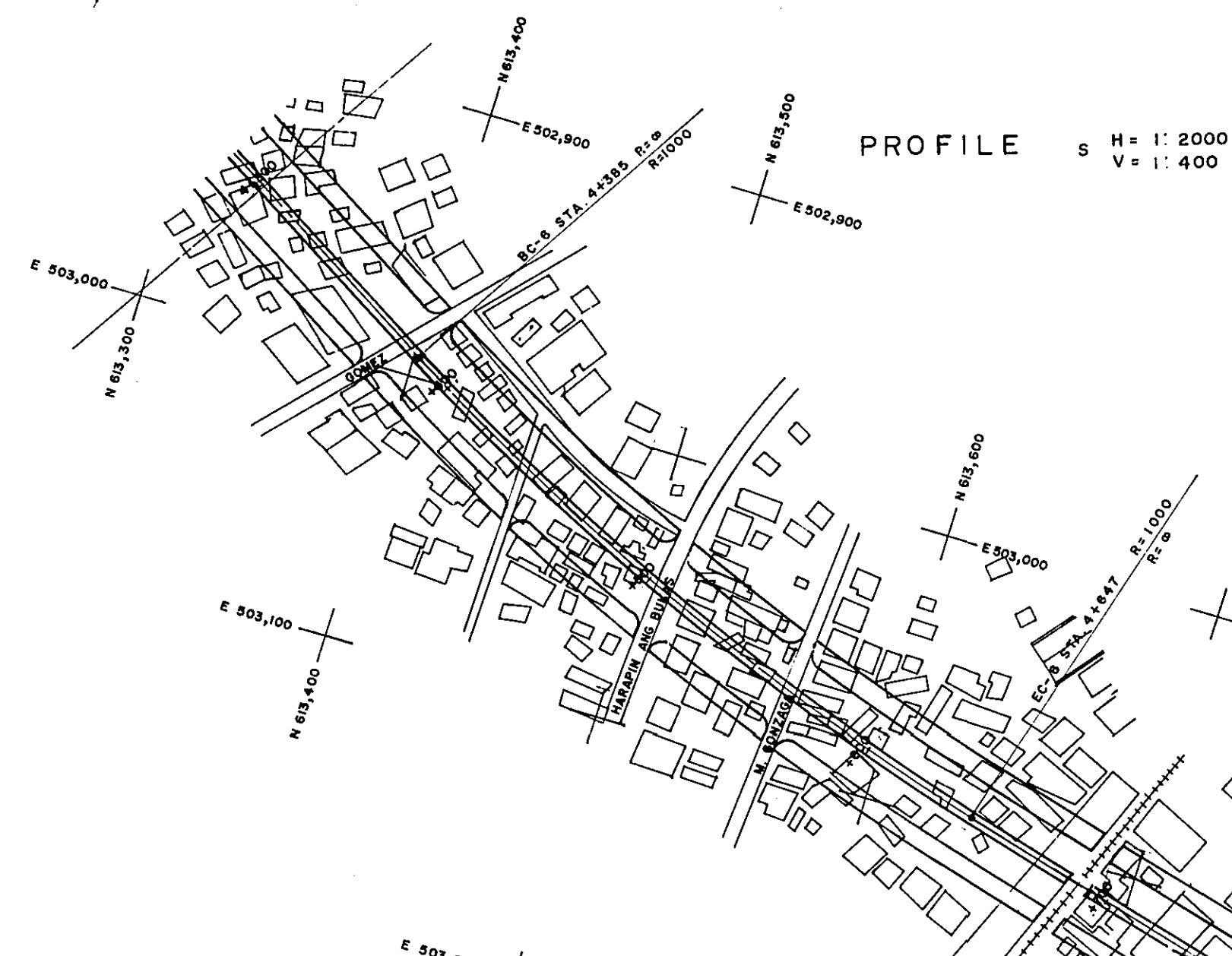


PROFILE S H = 1 : 2000  
V = 1 : 400

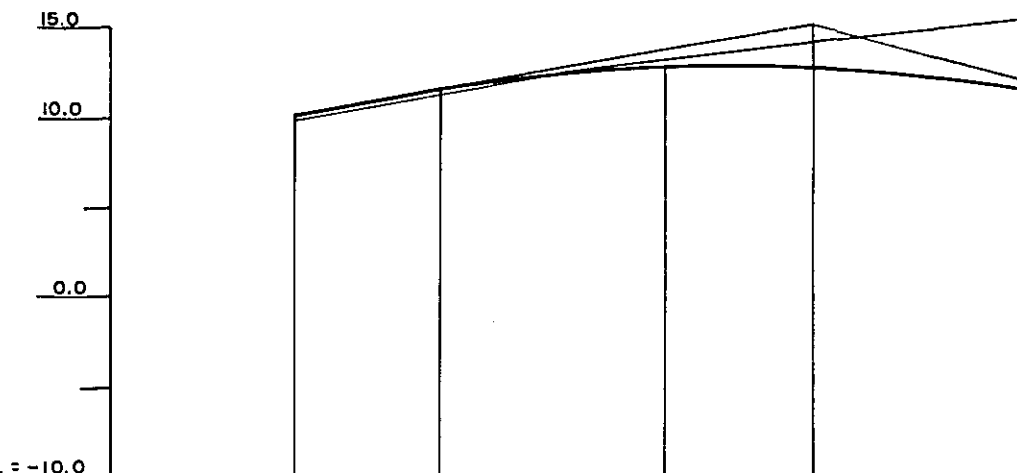






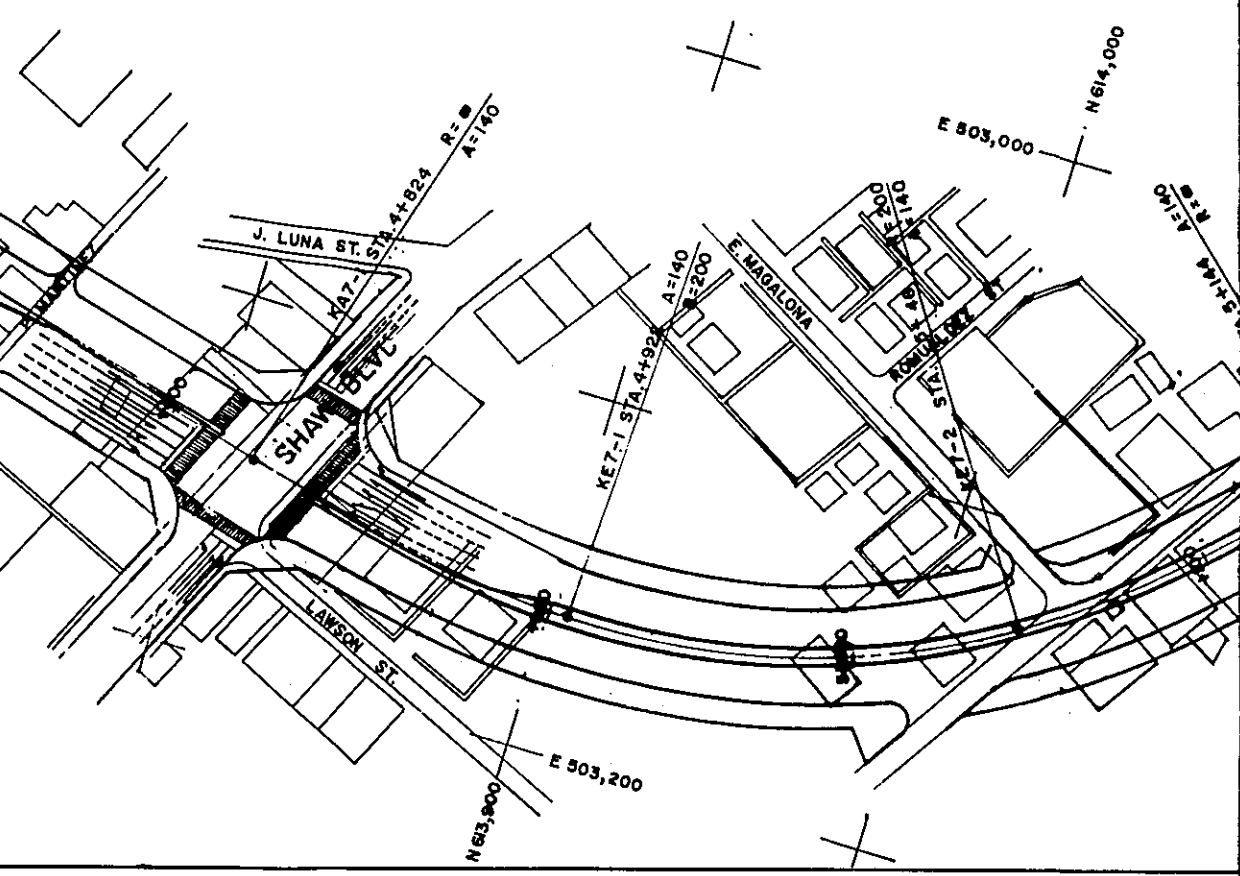


PROFILE S H = 1:2000  
V = 1:400

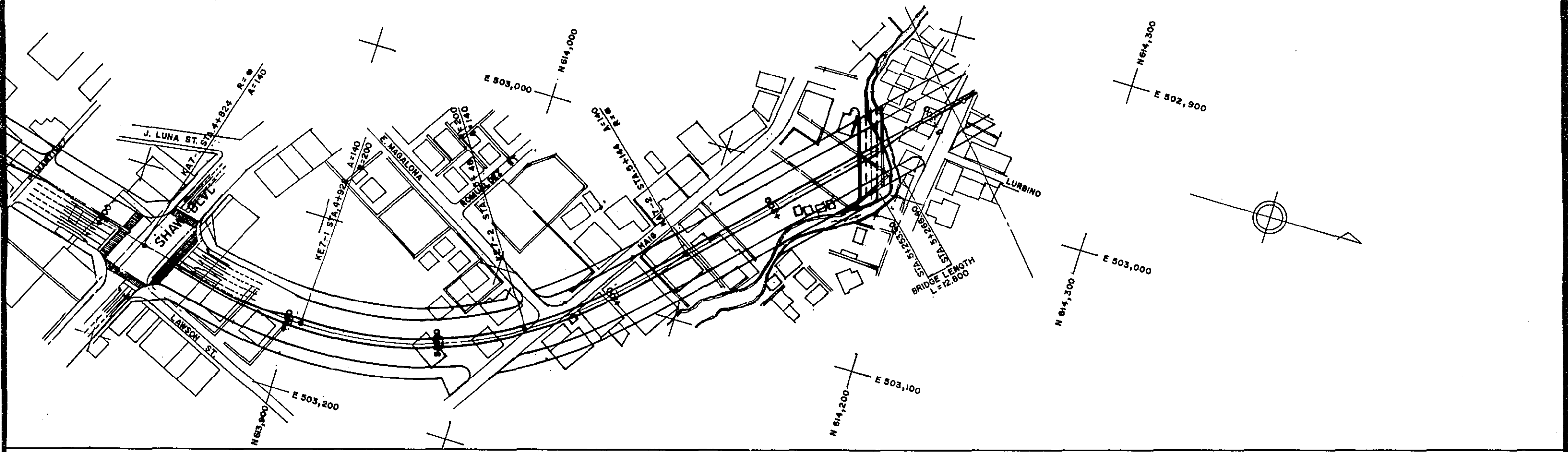
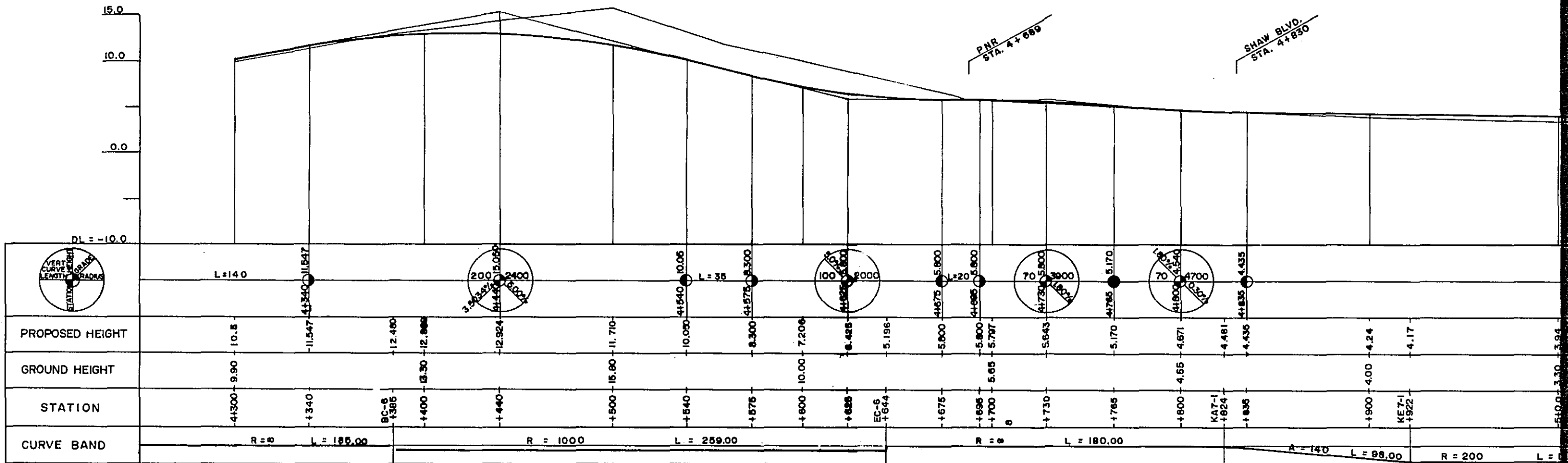


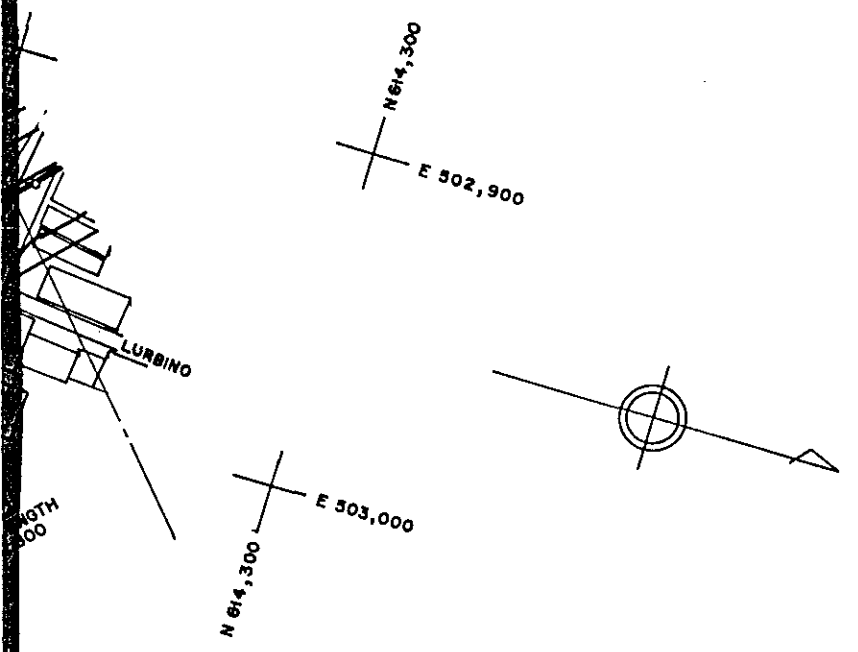
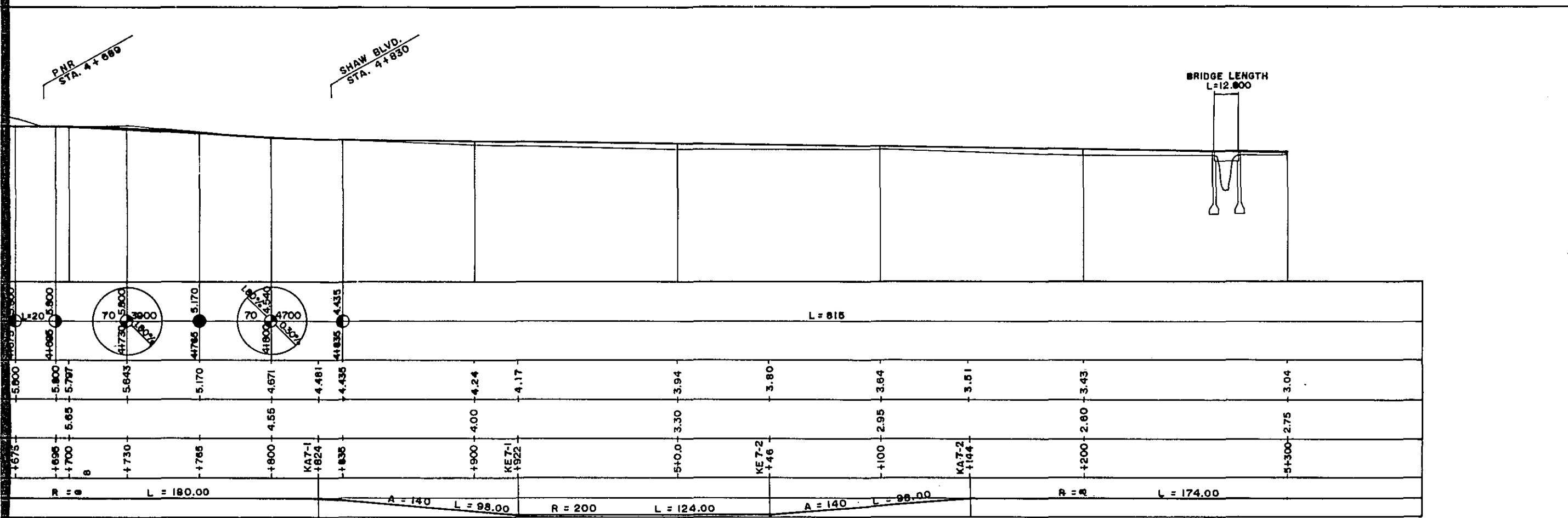
	4+300	4+340	BC-6 1395	4+400	4+440
VERT. CURVE LENGTH RADIUS	L=140			L=185.00	
PROPOSED HEIGHT	10.5	11.547	12.480	12.806	12.924
GROUND HEIGHT	9.90	11.547	13.30	13.30	12.924
STATION	4+300	4+340	BC-6 1395	4+400	4+440
CURVE BAND	R = ∞			R = 1000	

PLAN S = 1:2000

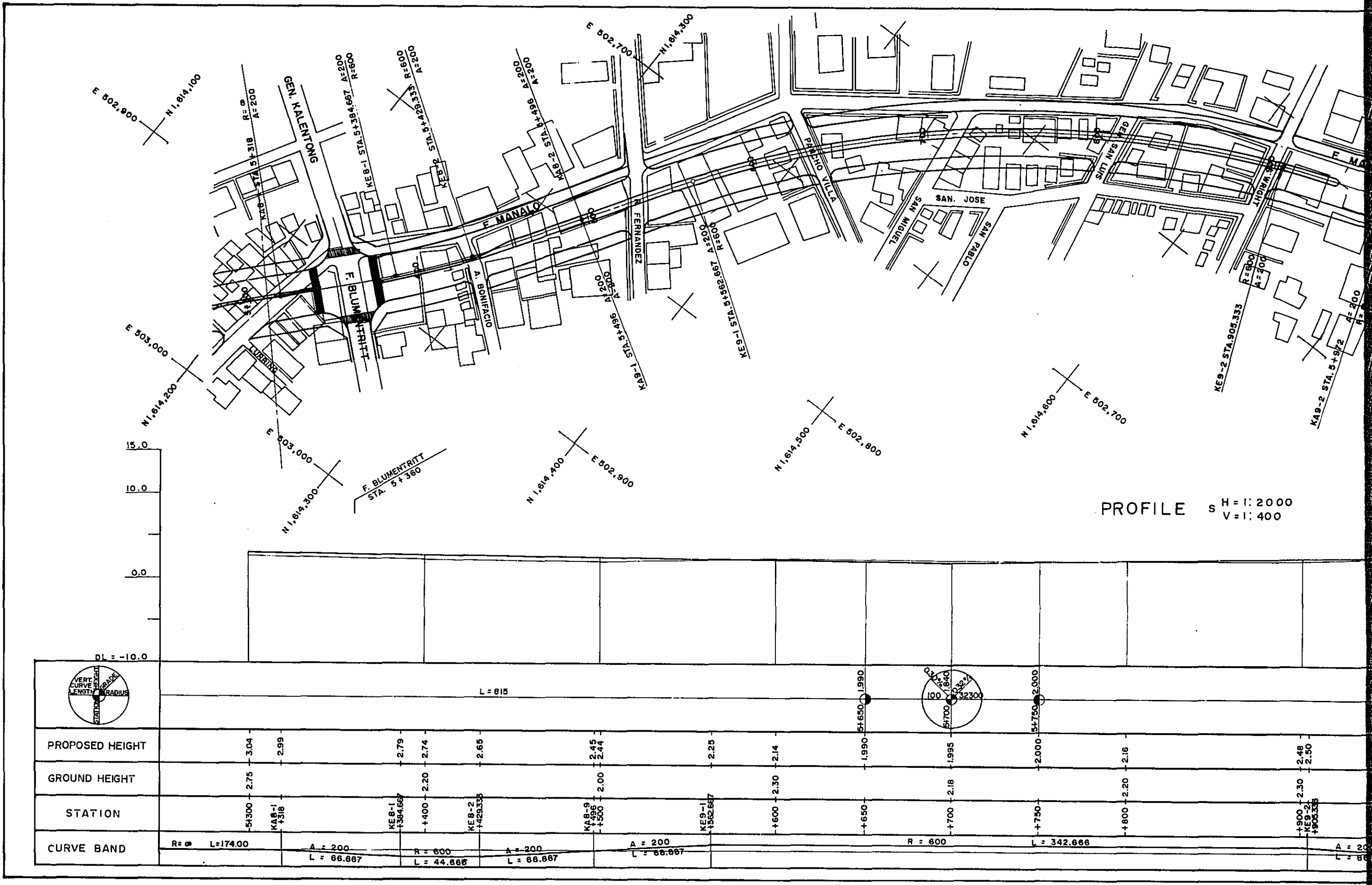


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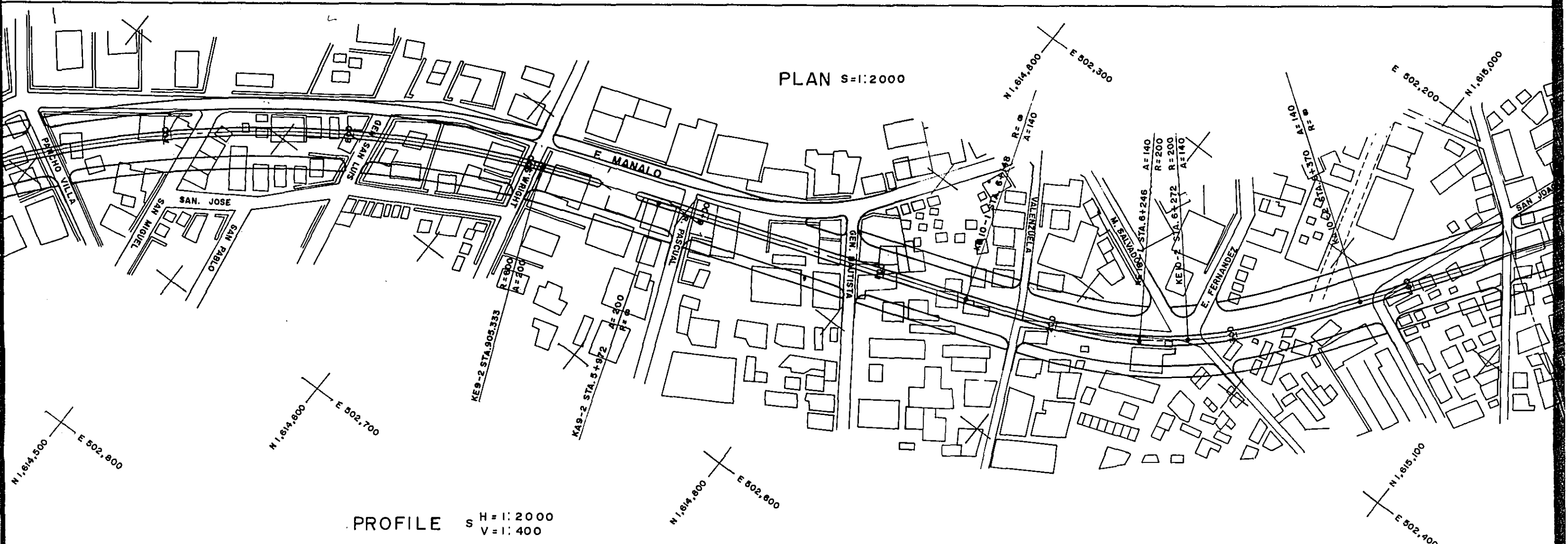




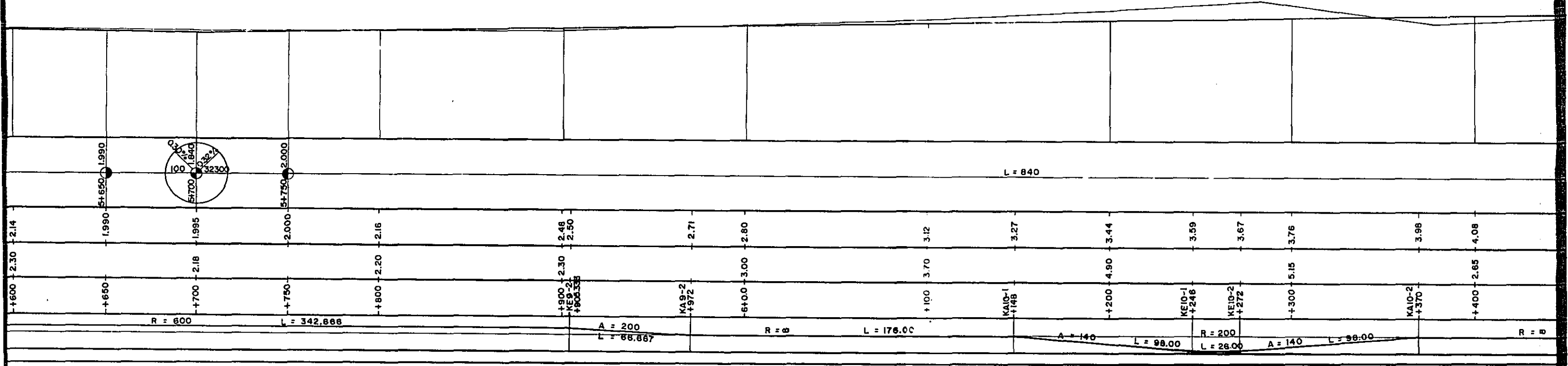
THE FEASIBILITY STUDY ON C-3 & R-4  
 ROADS CONSTRUCTION PROJECT  
 C-3  
 FIGURE  
 6



PLAN S=1:2000

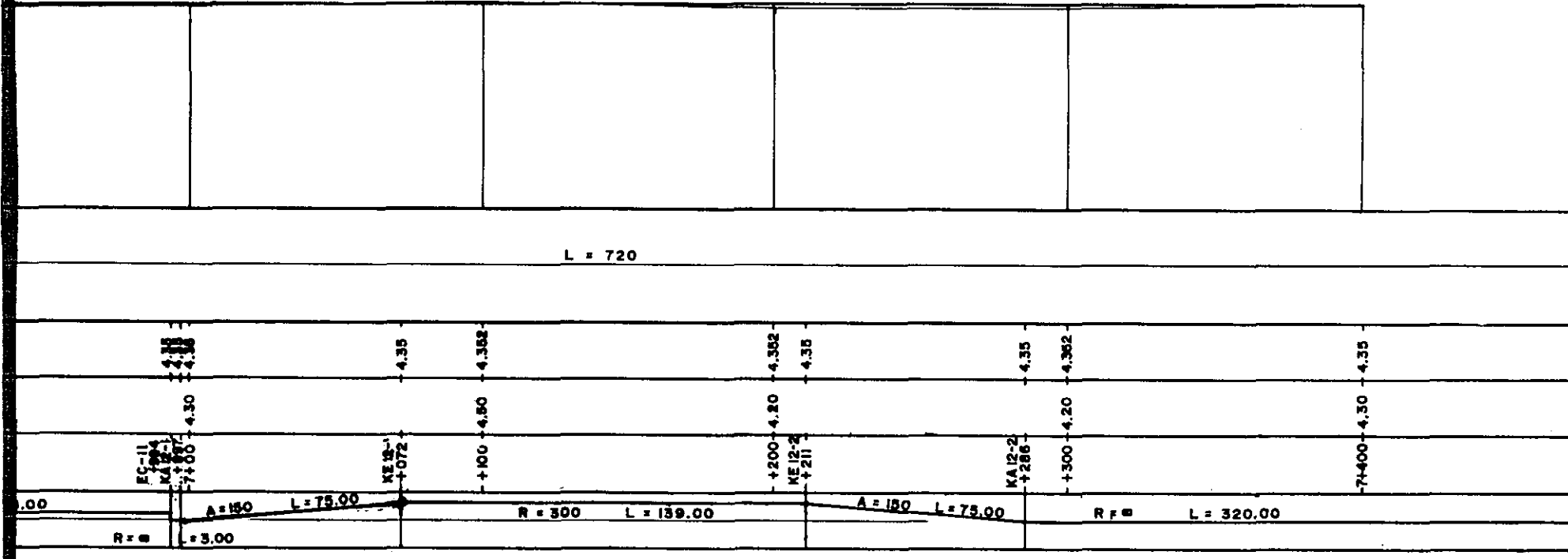
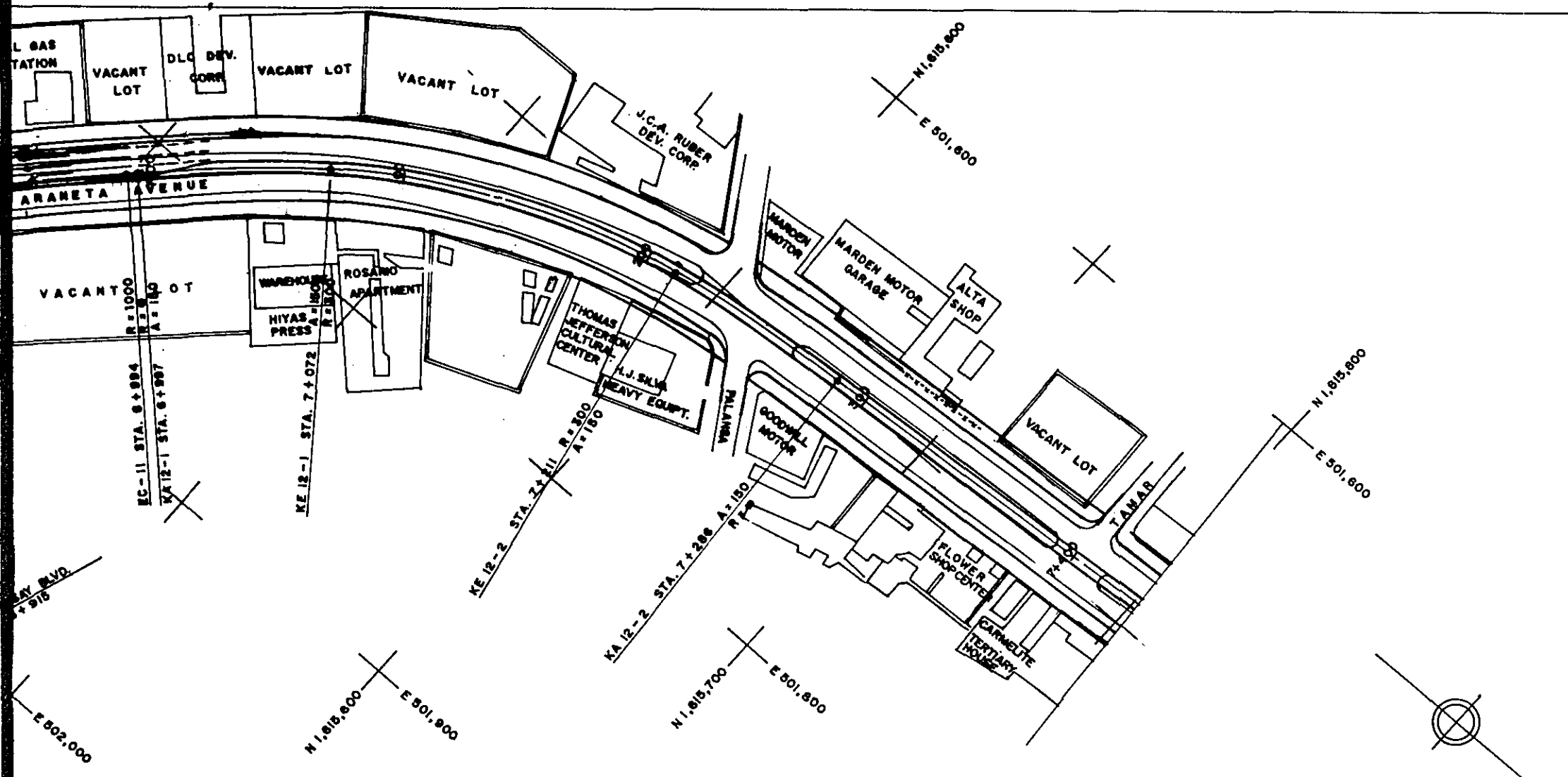


PROFILE S H=1:2000  
V=1:400





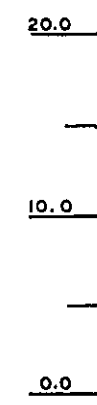
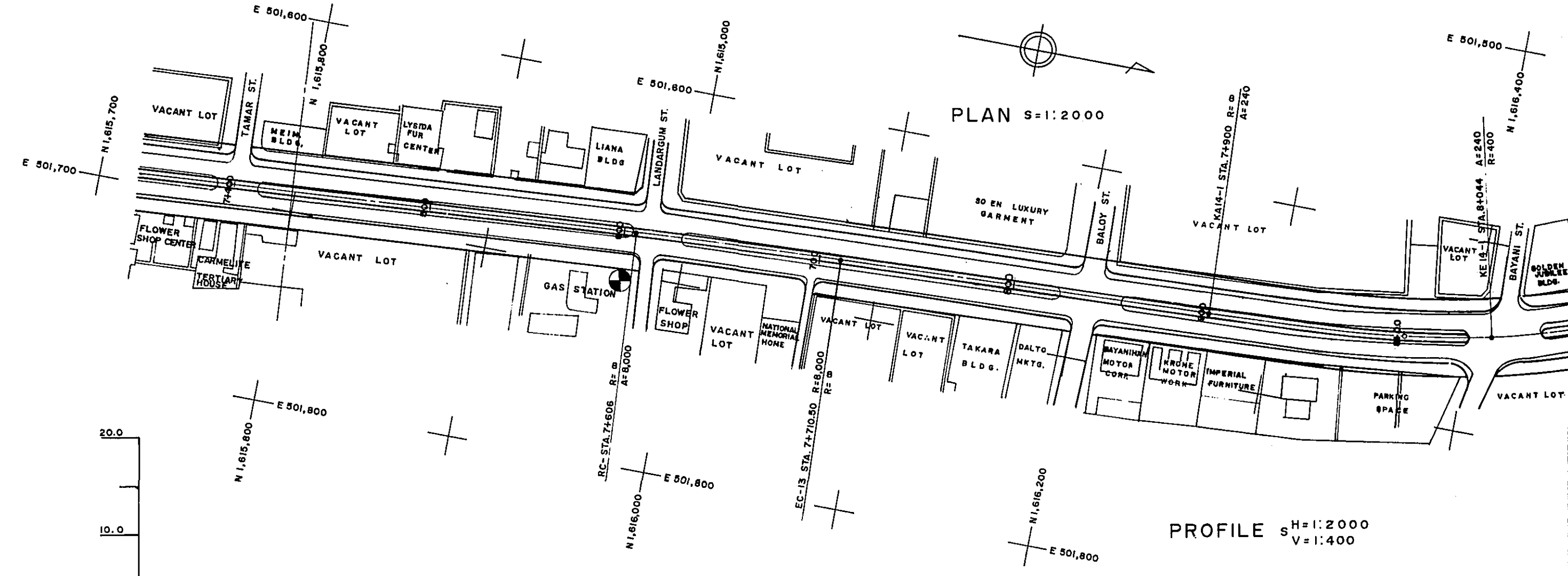






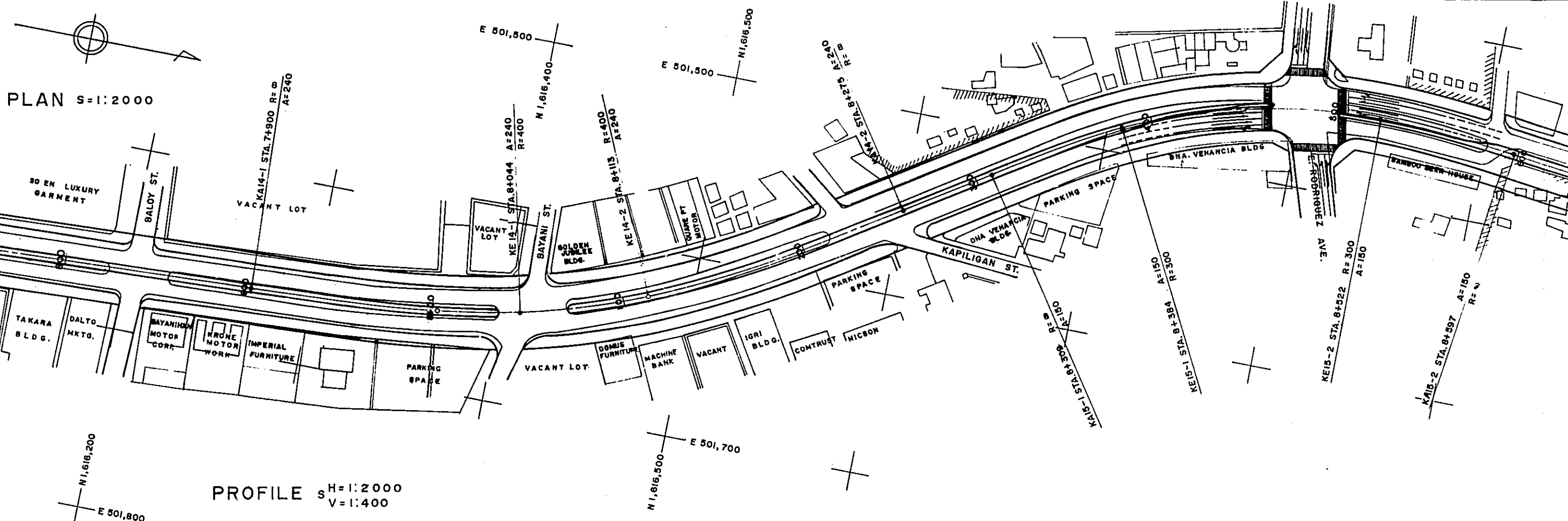
PLAN S=1:2000

PROFILE S<sup>H</sup>=1:2000  
V=1:400

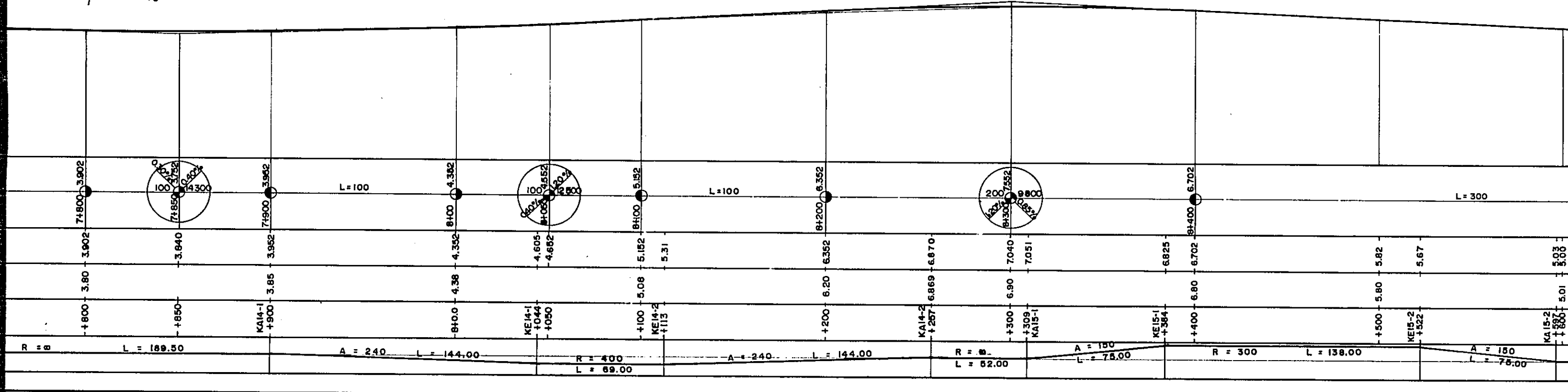


	DL = -10.0											
PROPOSED HEIGHT	4.35	4.35	4.352	4.351	4.315	4.202	3.902	3.840	3.952	4.352	4.605	4.652
GROUND HEIGHT	4.30	4.28	4.380	4.351	4.315	4.00	3.80	3.840	3.95	4.36	4.605	4.652
STATION	71400	1500	1600 BC13	1606 BC13	1650	1700	1705 EC13	1800	1850	KA14-1 1900	8100	KE14-1 1044 1050
CURVE BAND	R = ∞ L = 320.00		R = 8000 L = 104.50			R = ∞ L = 189.50			A = 240 L = 144.00			R = ∞ L = ∞

PLAN S=1:2000

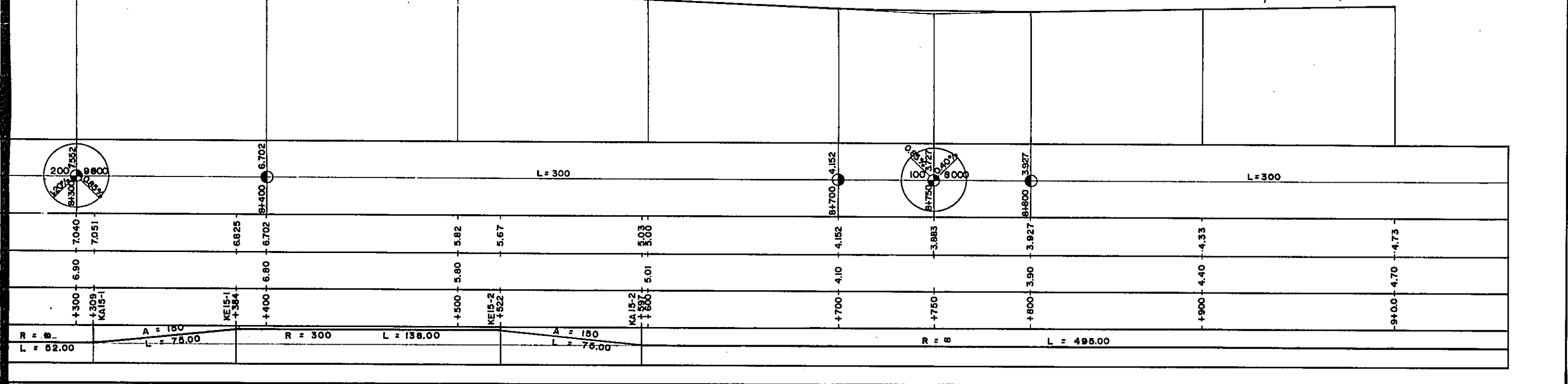
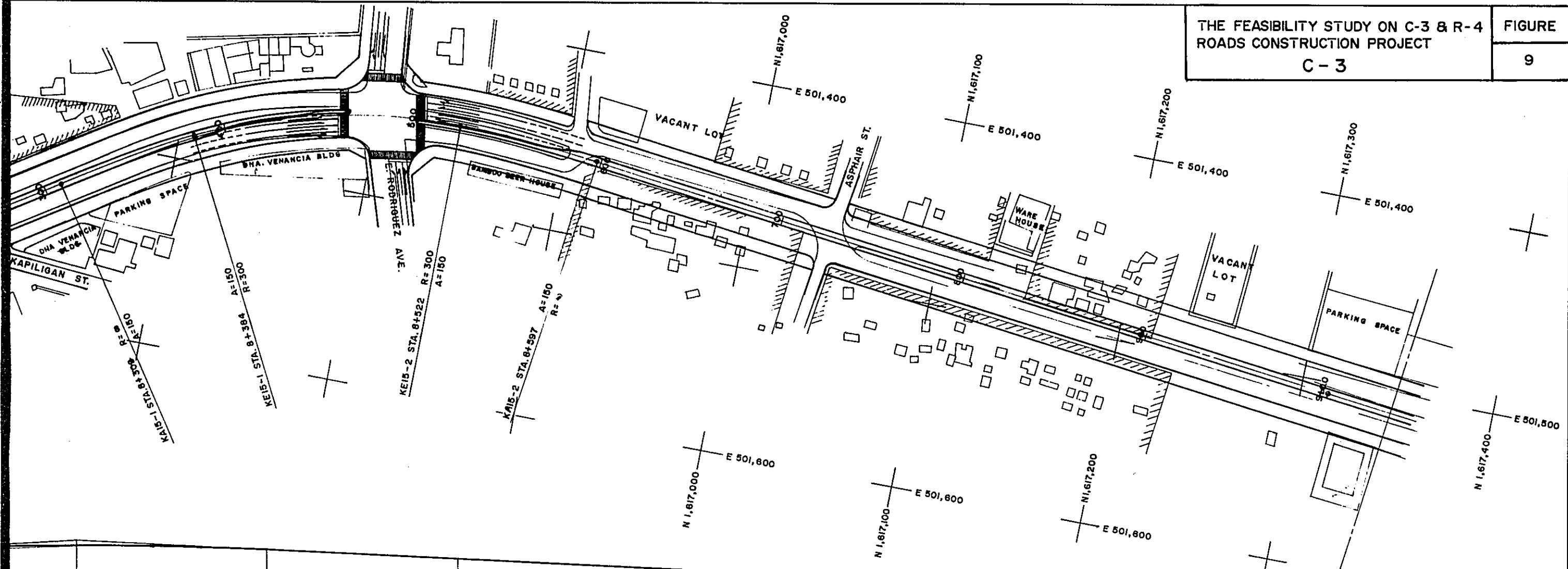


PROFILE S<sub>H</sub>=1:2000  
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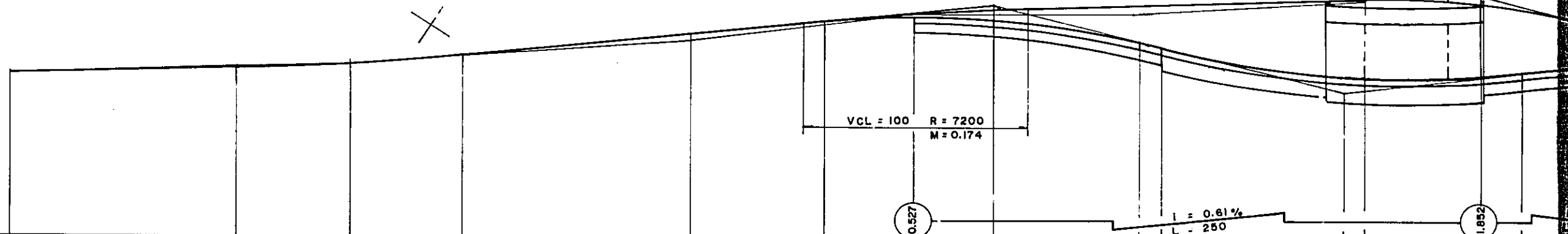
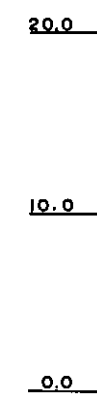
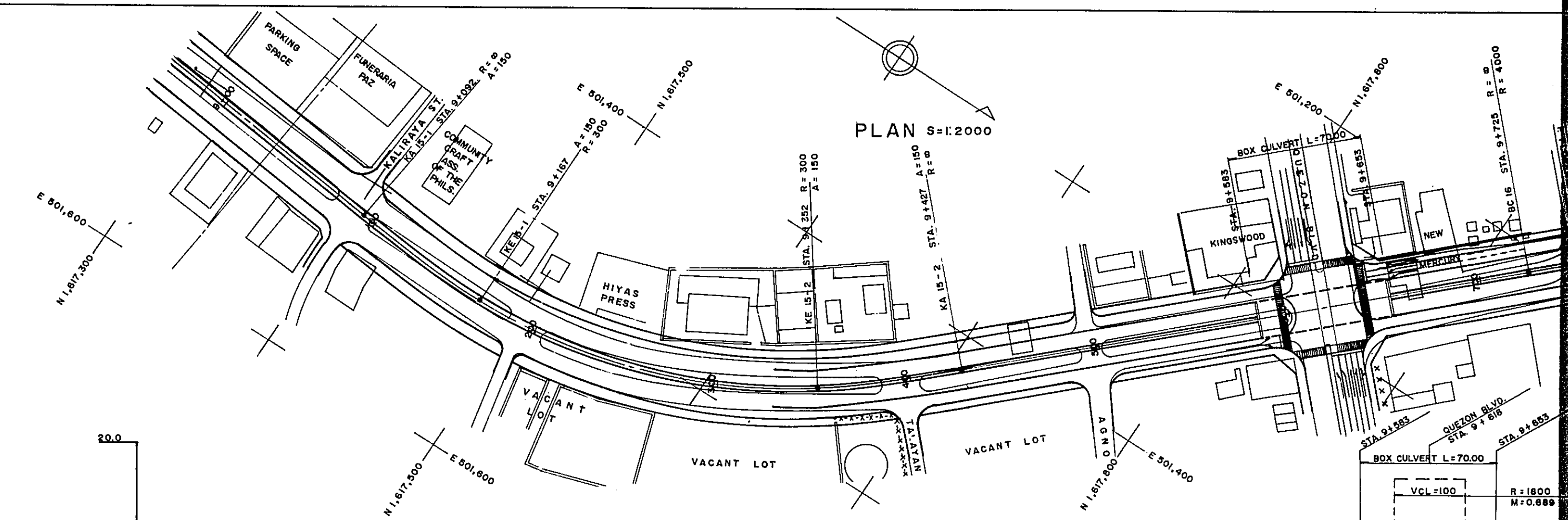


THE FEASIBILITY STUDY ON C-3 & R-4  
ROADS CONSTRUCTION PROJECT  
C-3

FIGURE  
9

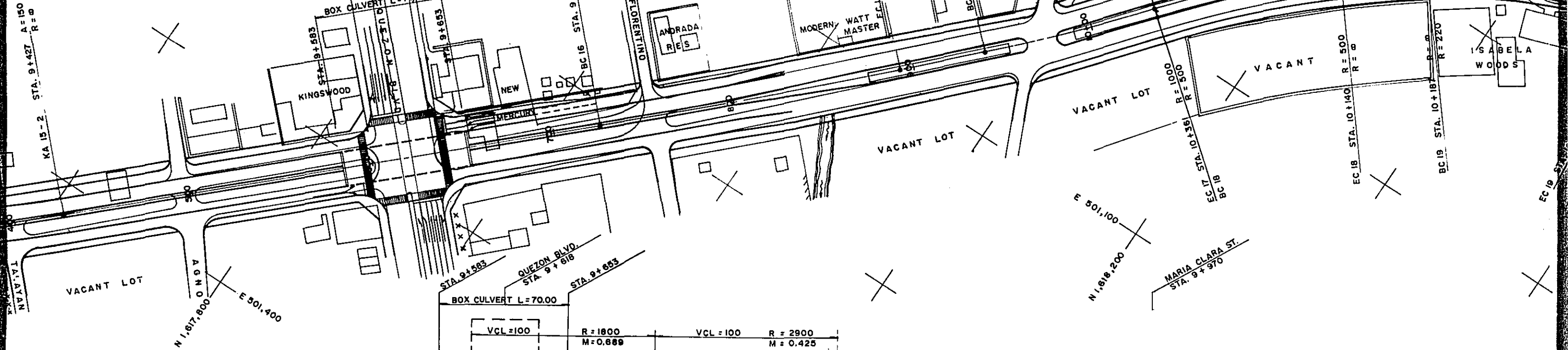


PLAN S=1:2000

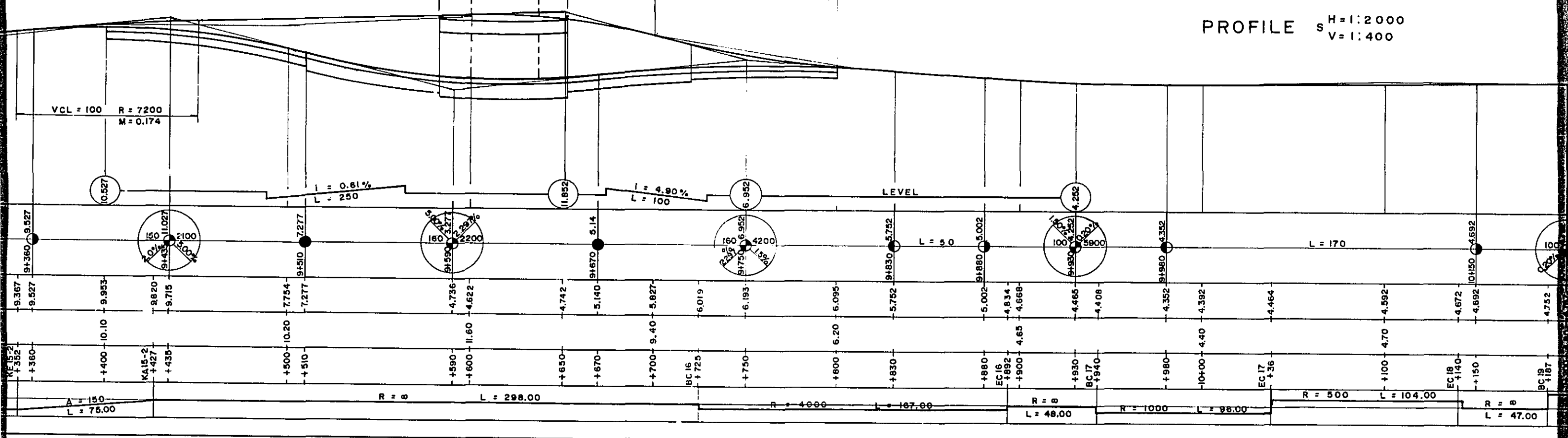


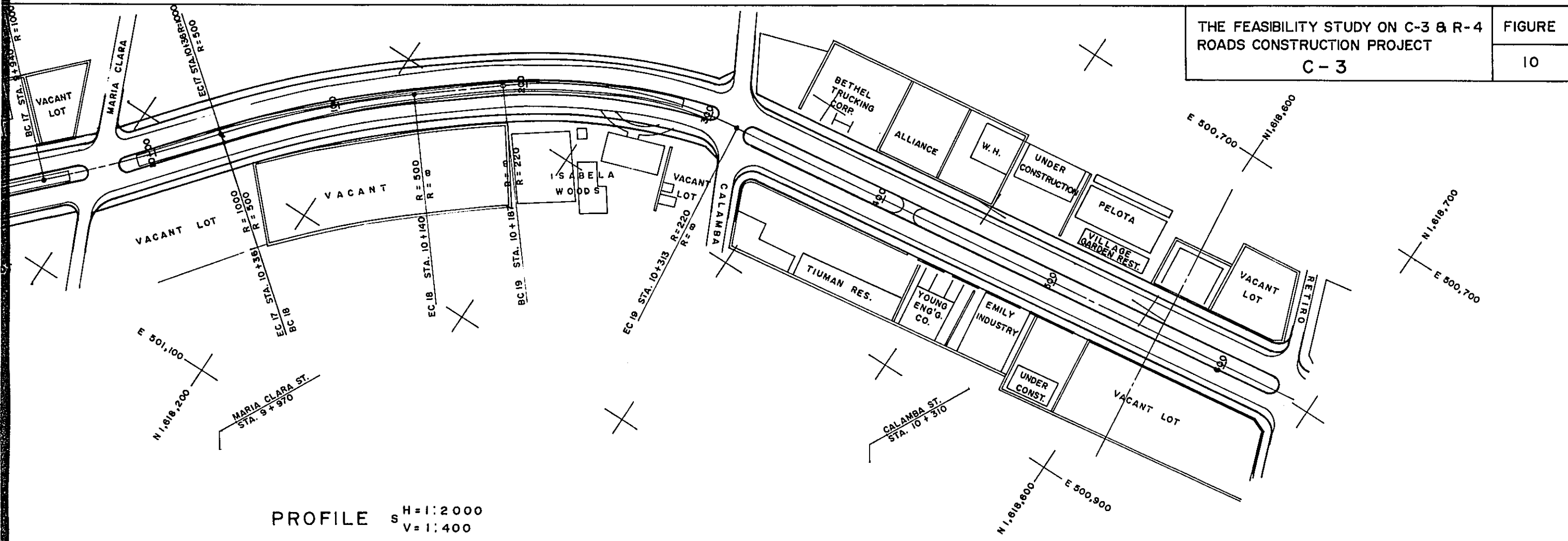
VERT. CURVE LENGTH STATION RADIUS	STATION	PROPOSED HEIGHT	GROUND HEIGHT	STATION	CURVE BAND
	9+00	4.70	4.727	9+00	R = L = 495.00
	KA 15-1 +1092	5.095	5.00	9+100	
	9+100	5.127	5.00	9+100	A = 150 L = 75.00
	+150	5.527	6.026	9+150	
	9+150	6.026	6.30	9+167	R = 300 L = 185
	KE 15-1 +167	6.327	6.30	9+200	
	9+200	6.327	7.80	9+352	A = 150 L = 75.00
	+200	6.327	8.327	9+360	
	9+360	8.327	9.367	9+427	R = 0 L = 298.00
	KE 15-2 +352	9.527	9.527	9+510	
	9+427	9.527	9.953	9+510	L = 250
	+360	9.953	9.953	9+510	
	9+510	9.953	9.820	9+590	L = 250
	+435	9.715	4.736	9+600	
	9+590	4.736	4.622	9+650	L = 250
	KA 15-2 +427	4.622	4.742	9+670	
	9+650	4.742	5.140	9+670	L = 250
	+435	5.140	5.140	9+670	

N S=1:2000

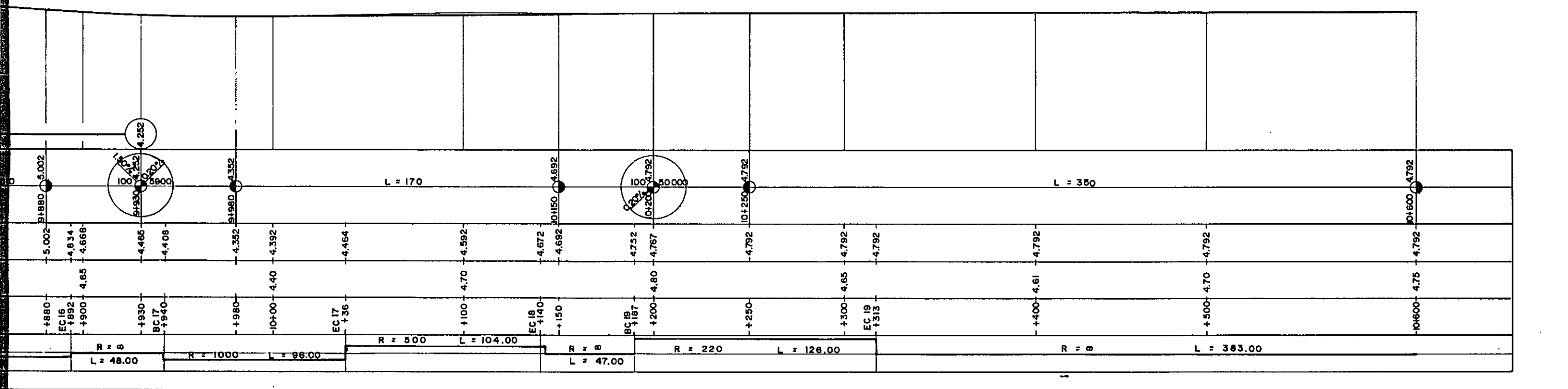


PROFILE S H=1:2000  
V=1:400

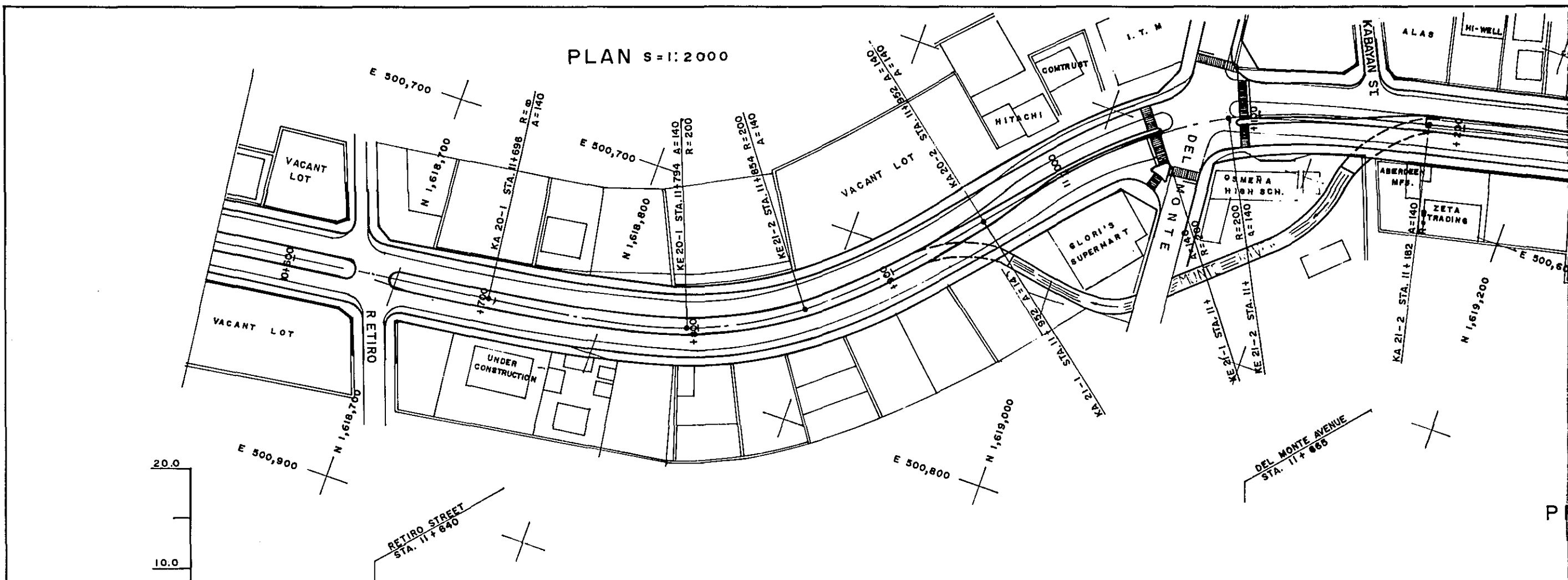




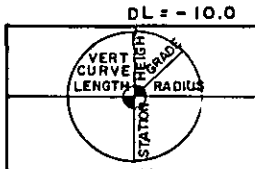
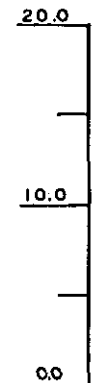
PROFILE S  
H=1:2000  
V=1:400



PLAN s=1:2000

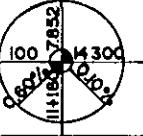


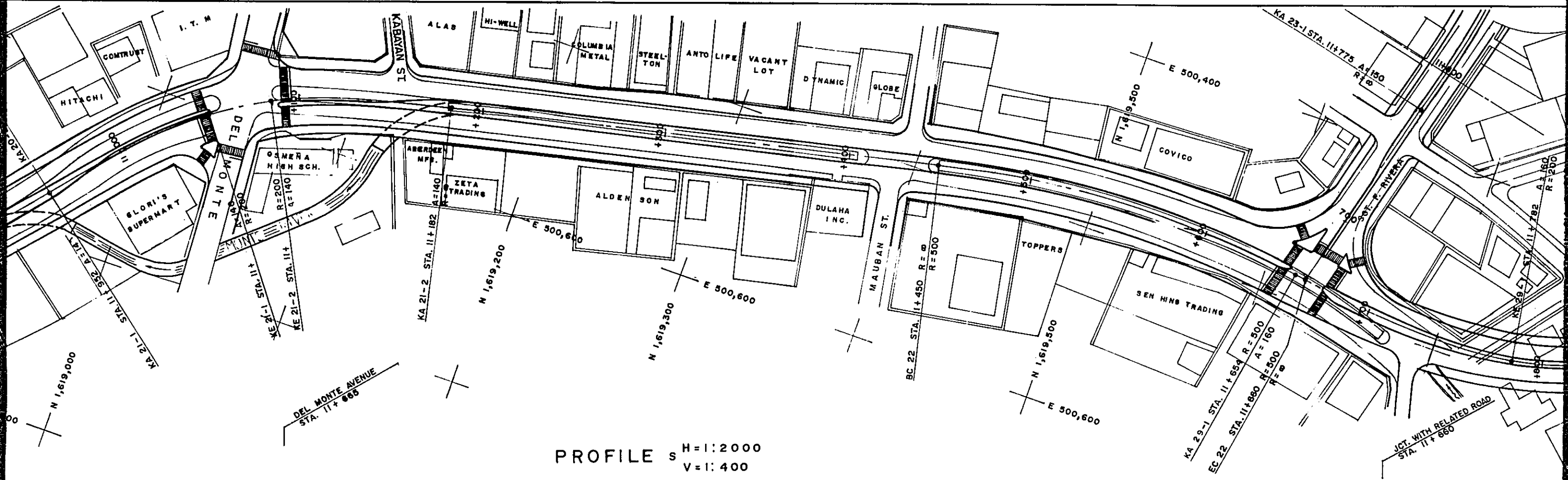
	0+600	0+650	KA 20-1 +696 +700	KE 20-1 +794 +800	KE 20-1 +854	+900	KA 20-2 +952	11+00	KE 21-1 +050	KE 21-2 +084	+100	+110	+160	KA 21-2 +182	+200	+210
PROPOSED HEIGHT	4.782	4.867	5.069 5.092	5.656 5.892	6.016	6.292	6.804	6.99	7.192	7.396	7.492	7.552	7.765	7.803	7.809	7.802
GROUND HEIGHT	4.75		5.00	5.60		6.20		6.80	7.80	7.55	7.80	7.55	7.765	7.803	7.41	7.802
STATION	0+600	+650	KA 20-1 +696 +700	KE 20-1 +794 +800	KE 20-1 +854	+900	KA 20-2 +952	11+00	KE 21-1 +050	KE 21-2 +084	+100	+110	+160	KA 21-2 +182	+200	+210
CURVE BAND	R = 8 L = 383.00		A = 140 L = 98.00		R = 200 L = 60		A = 140 L = 98.00		A = 140 L = 98.00		R = 200 L = 34.0		A = 140 L = 98.00			



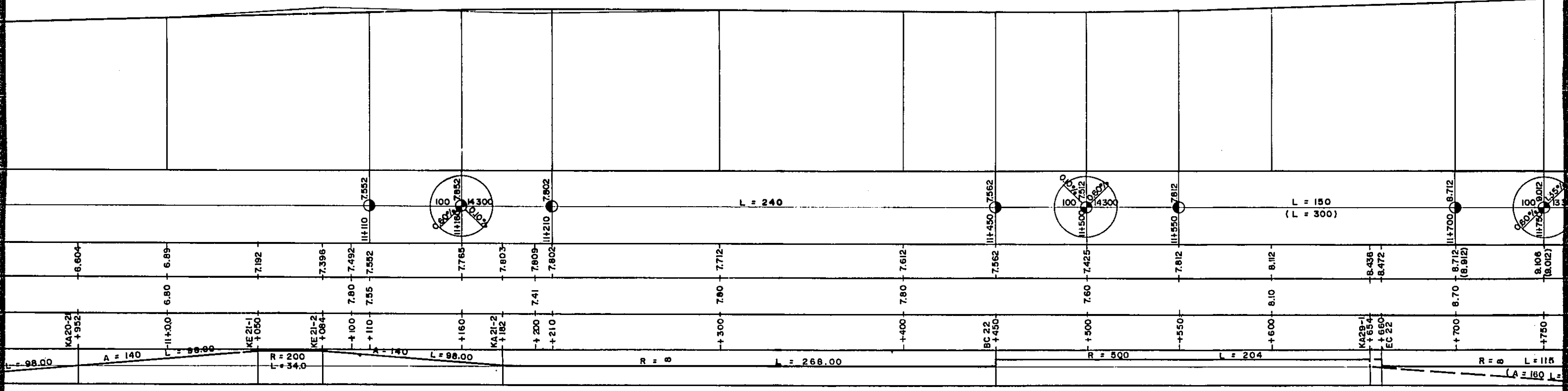
DL = -10.0

L = 460





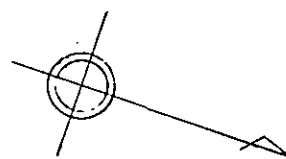
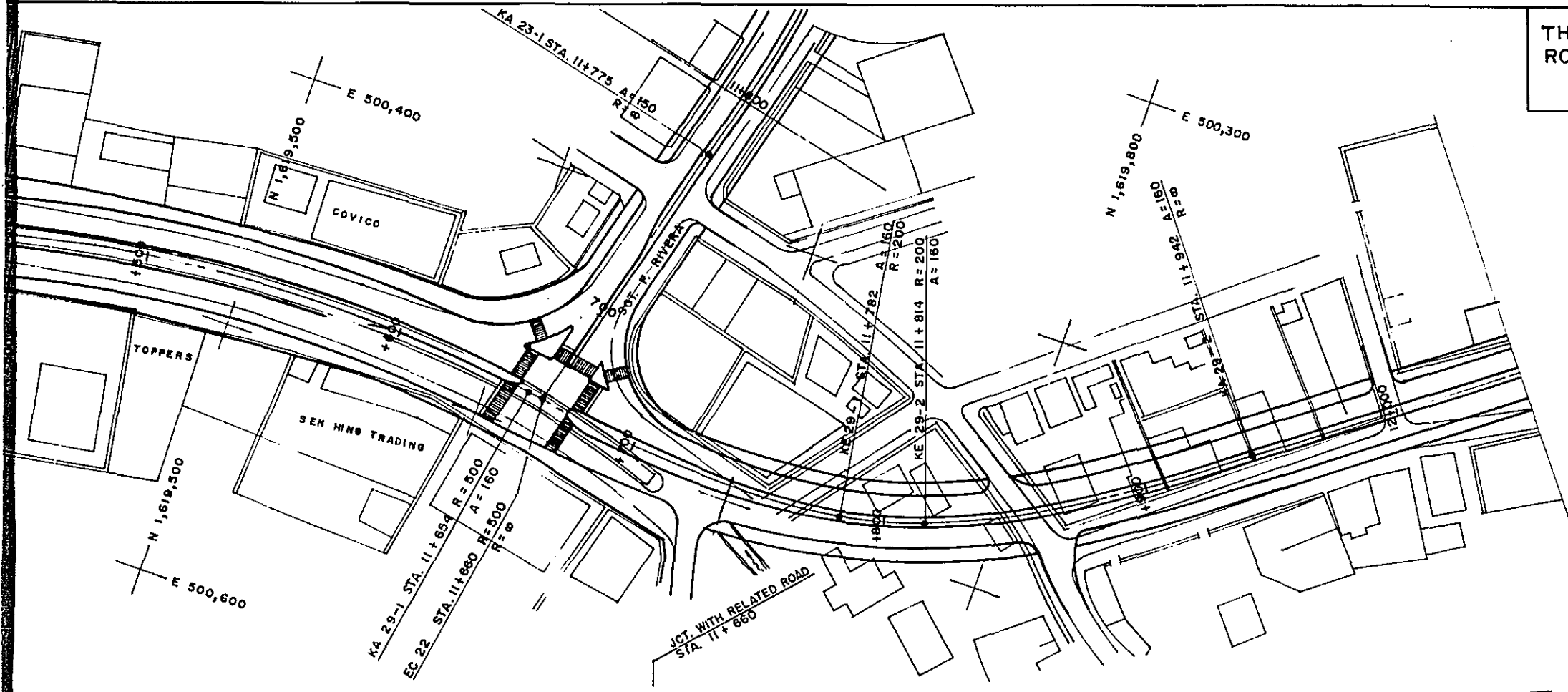
PROFILE S H=1:2000  
V=1:400



Station	Elevation	Notes
KA20-2 +952	6.604	
+11+00	6.80	A = 140
+11+10	6.89	L = 98.00
KE21-1 +080	7.192	R = 200
+11+110	7.396	L = 34.0
+11+100	7.492	A = 140
+11+110	7.552	L = 98.00
+11+160	7.765	L = 240
KA21-2 +182	7.803	
+11+210	7.802	L = 150 (L = 300)
+11+200	7.809	
+11+210	7.802	
+300	7.712	L = 268.00
+400	7.612	
BC 22 +450	7.562	R = 500
+500	7.425	L = 204
+550	7.812	
+600	8.112	
KA29-1 +654	8.438	
+650	8.472	
EC 22	8.712	
+700	8.712 (8.912)	R = 8
+750	8.106 (8.012)	L = 115
		A = 160



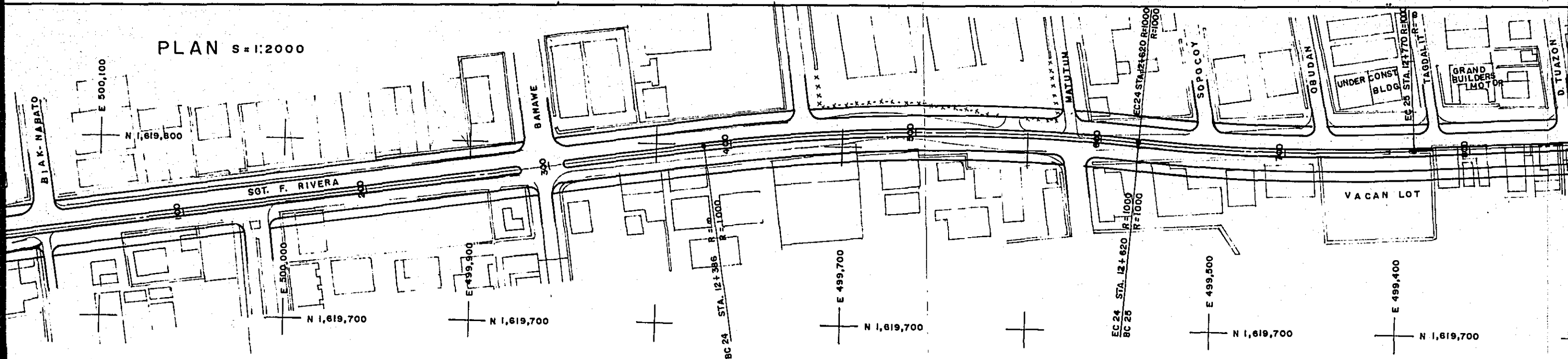
C-3



11+450	11+500	11+550	11+600	11+650	11+700	11+750	11+800	11+850	11+900	11+950	12+000	
7.562	7.425	7.812	8.112	8.436	8.712	9.106	9.55	9.612	10.943	10.269	12.387	
7.60	7.60	7.60	8.10	8.472	8.70	9.106	9.55	9.612	11.00	10.362	12.50	
BC 22 +450	11+500	11+550	11+600	KA 29-1 +854 EC 22 +860	11+700	KA 23-1 +775 KE 29-1 +782	11+800	KE 23-1 +850	KE 23-2 +893 +900	KA 29-2 +942 +950	KA 23-2 +968	12+000
R = 500			L = 204		R = 8		L = 115		R = 150		L = 418.00	
					(A = 160 L = 128)		(R = 200 L = 300)		(A = 160 L = 128)		(R = 00 L = 641.00)	

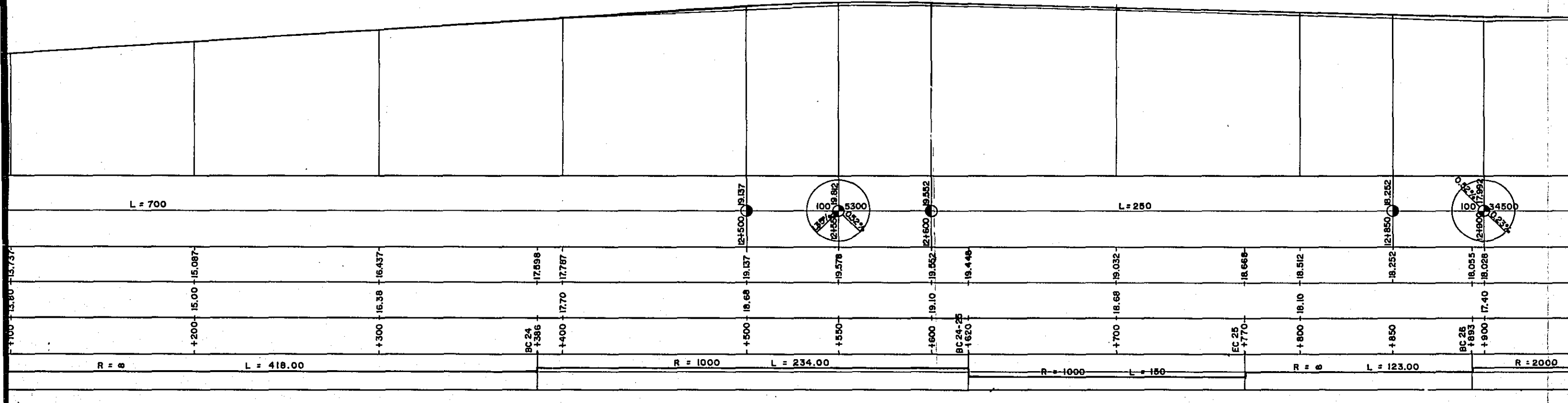


PLAN S=1:2000



BANAWA  
STA. 12+295

PROFILE S H=1:2000  
V=1:400

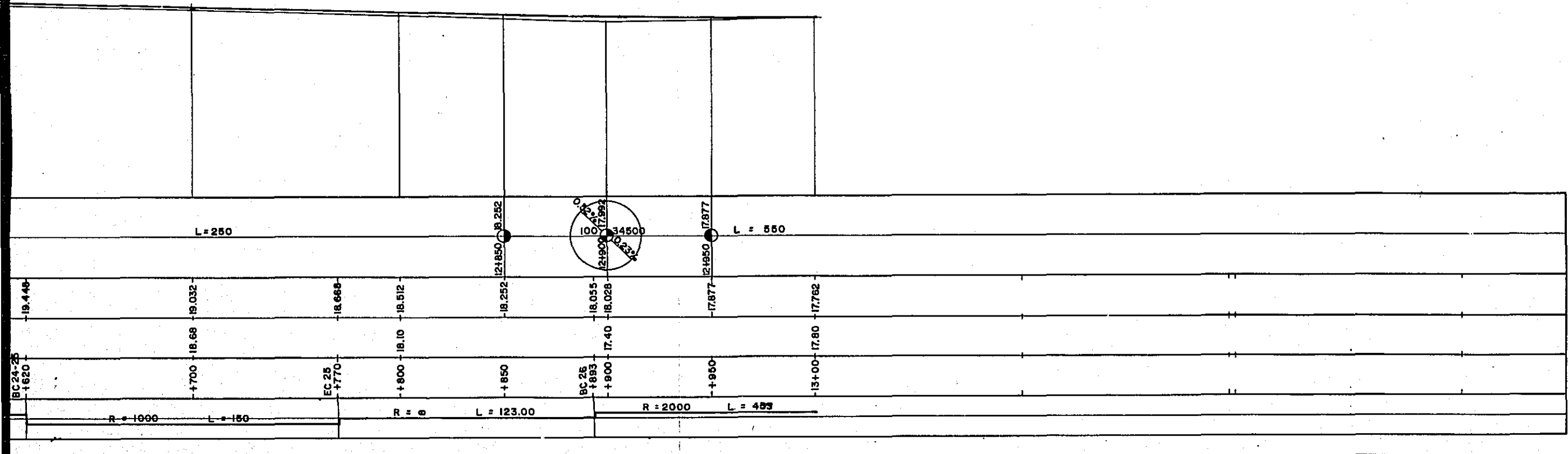
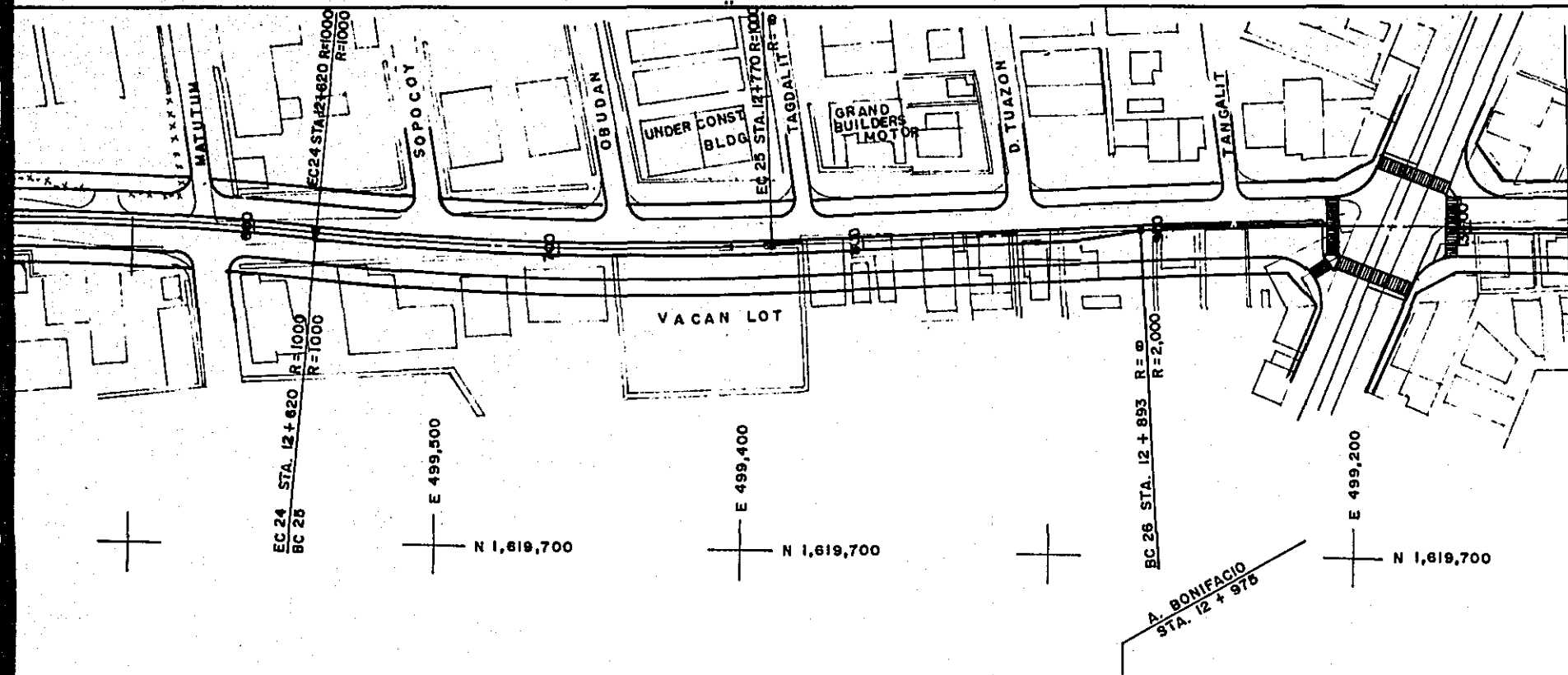


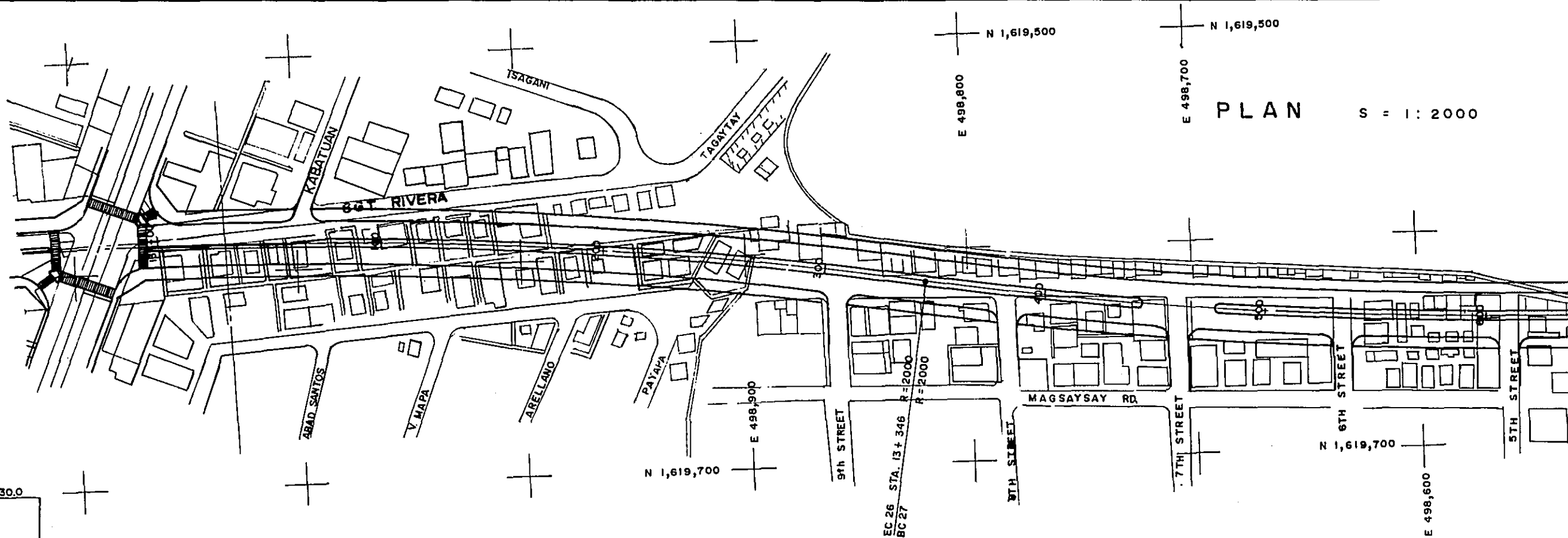
THE FEASIBILITY STUDY ON C-3 & R-4  
ROADS CONSTRUCTION PROJECT

FIGURE

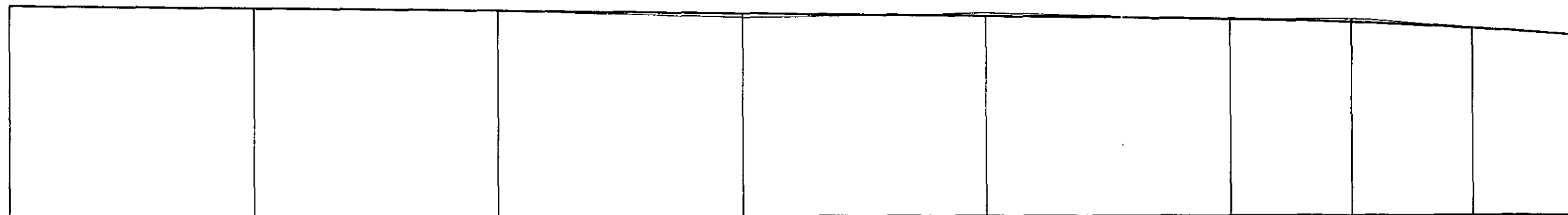
C-3

12





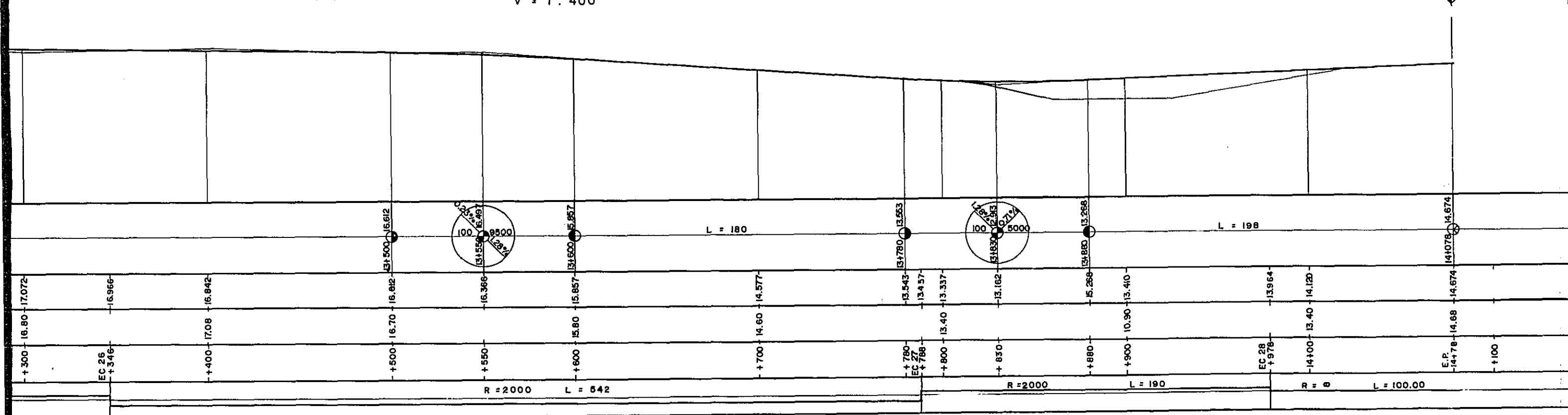
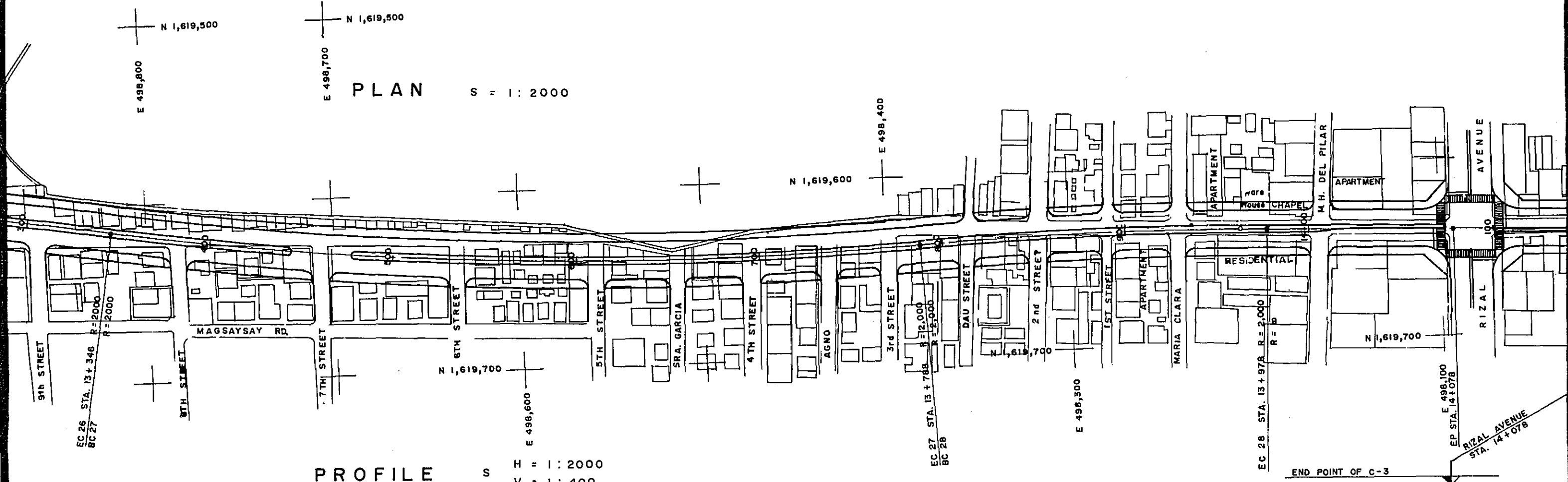
PROFILE S H = 1 : 2000 V = 1 : 400

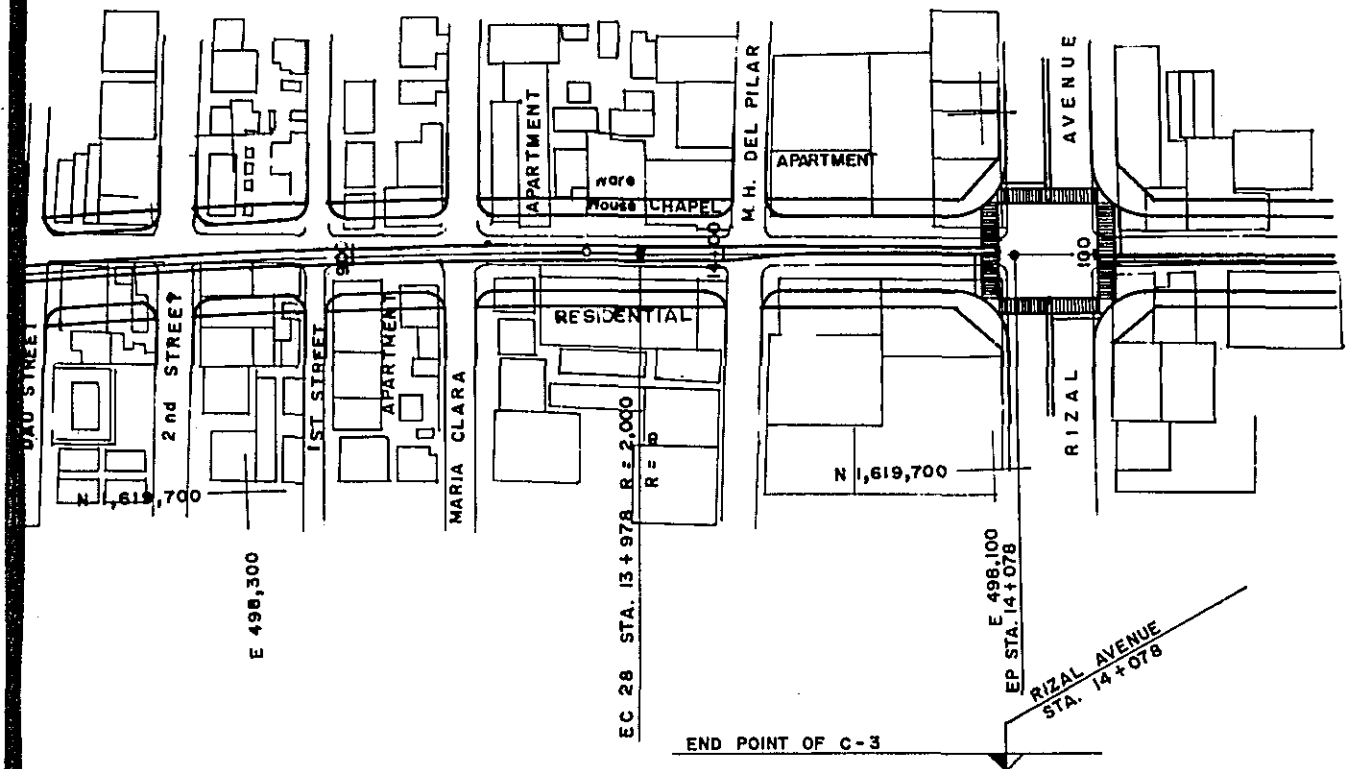


	D.L. = 0.0										
	PROPOSED HEIGHT	17.762	15.532	17.302	17.072	16.965	16.842	16.812	16.366	15.857	15.957
GROUND HEIGHT	17.80	17.50	17.20	16.80	16.80	17.08	16.70	16.366	15.80	15.857	
STATION	+13+00	+100	+200	+300	EC 26 +346	+400	+500	+550	+600		
CURVE BAND	R = 2000		L = 483.00				R = 2000		L = 542		

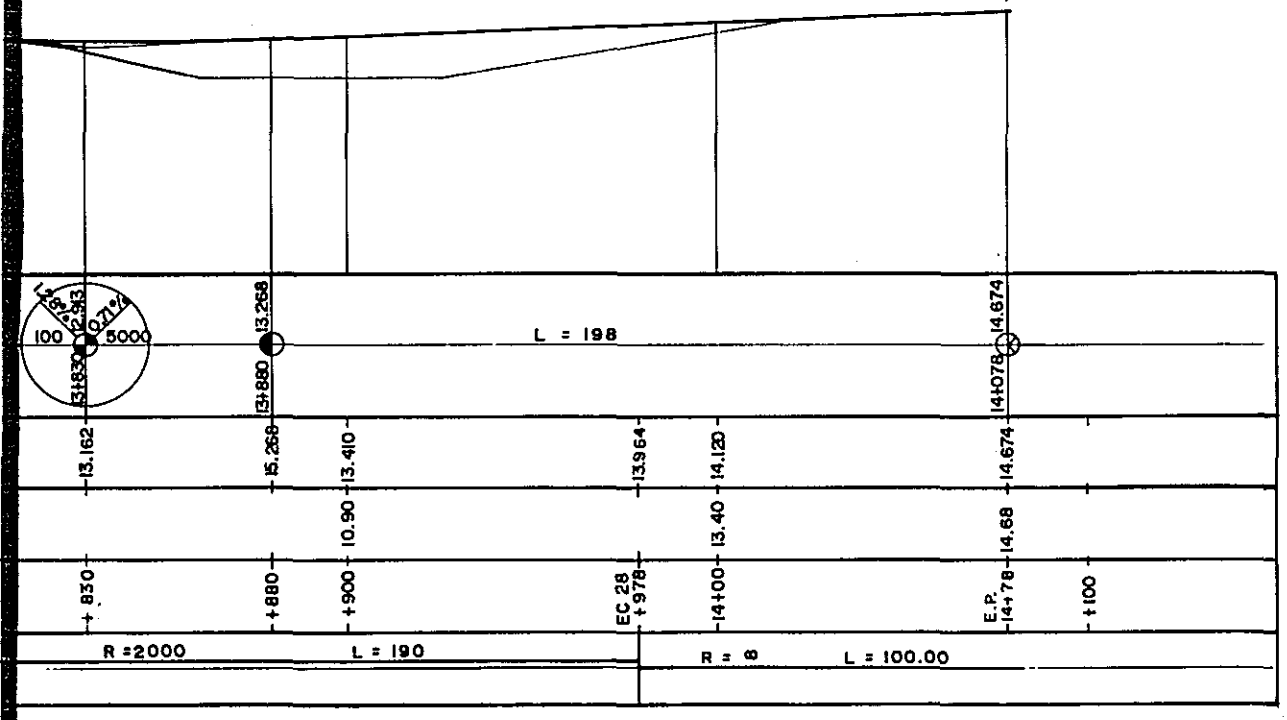
PLAN S = 1:2000

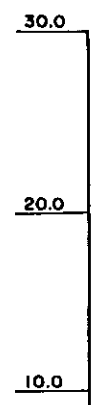
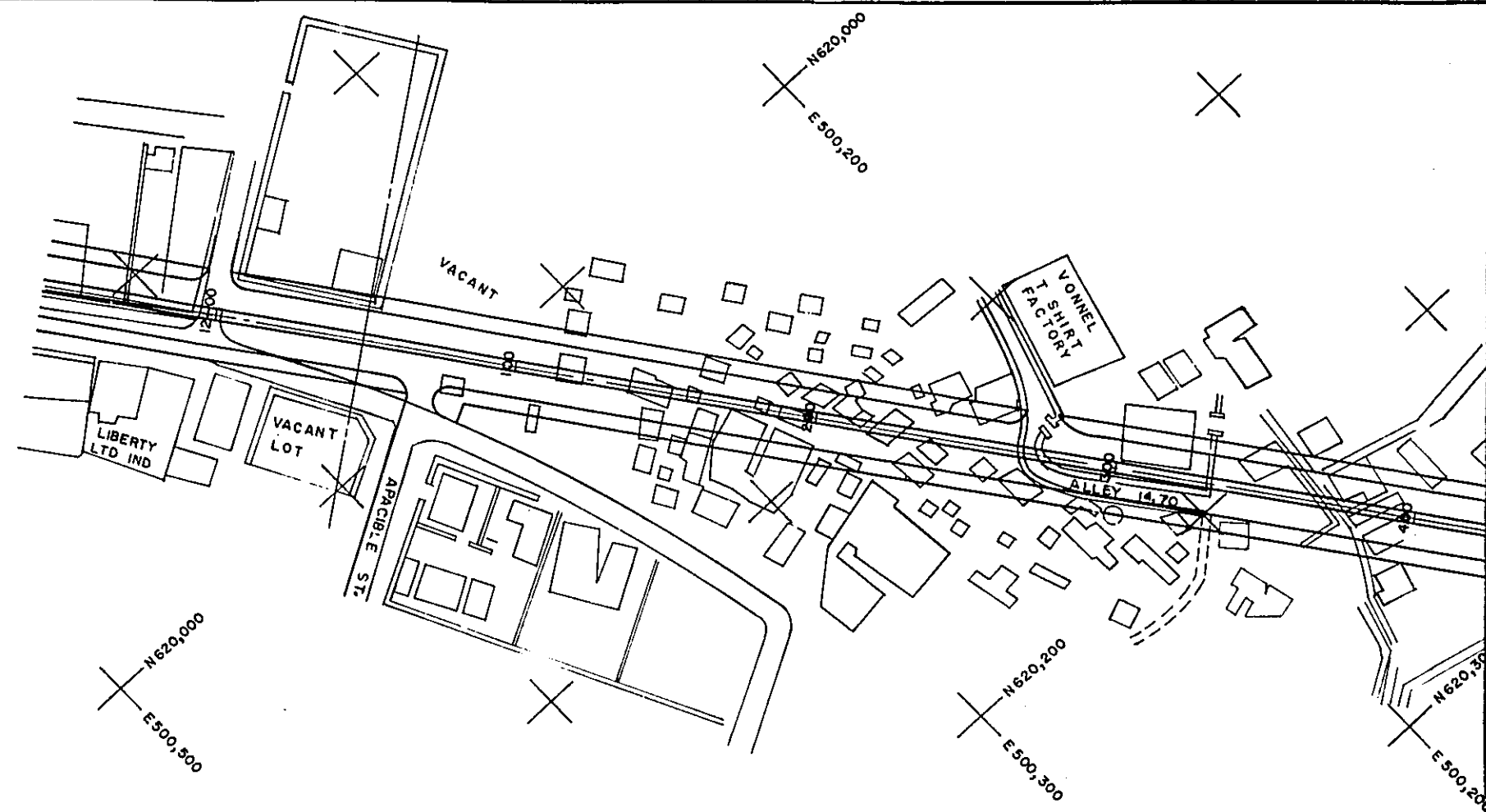
PROFILE S H = 1:2000 V = 1:400





END POINT OF C-3



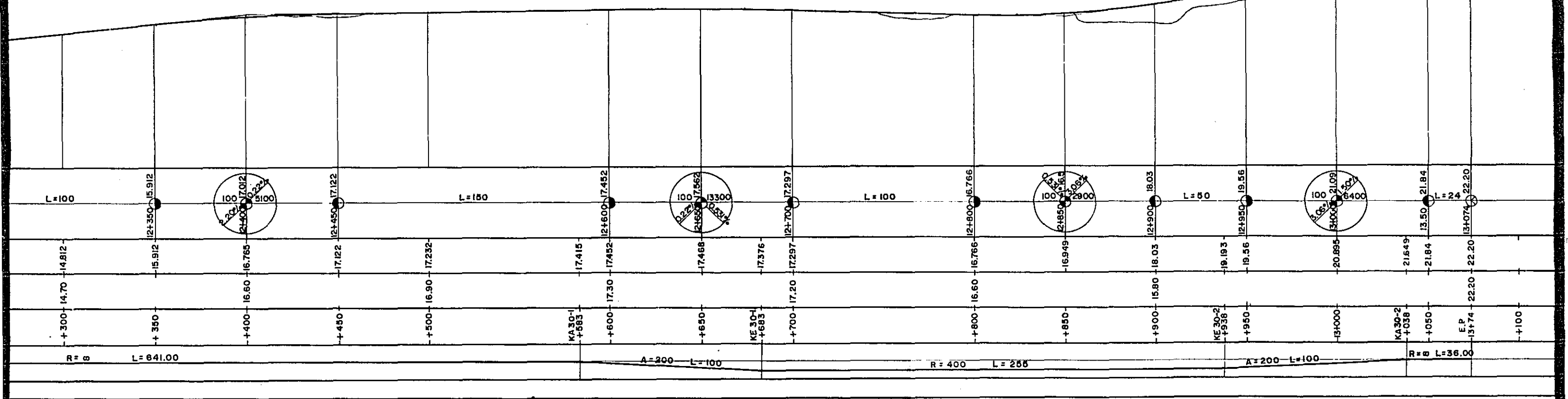
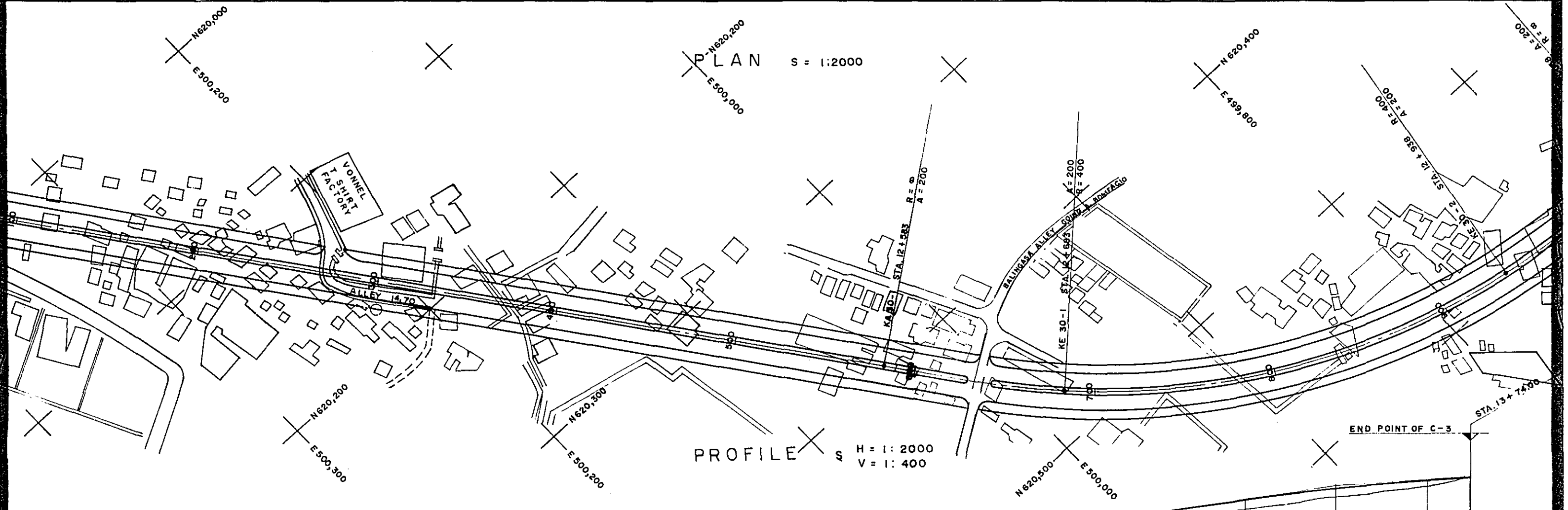


DL = 0.0										
	L = 200					L = 100				L = 150
PROPOSED HEIGHT			12+162	12+200	12+250		12+350	12+400	12+450	
GROUND HEIGHT	10.60	11.712	12.162	12.775	13.712	14.812	15.912	16.765	17.122	17.415
STATION	12+0.0	110	12+150	1200	1250	300	350	400	450	KA 30+ +583
CURVE BAND	R = ∞      L = 641.00									

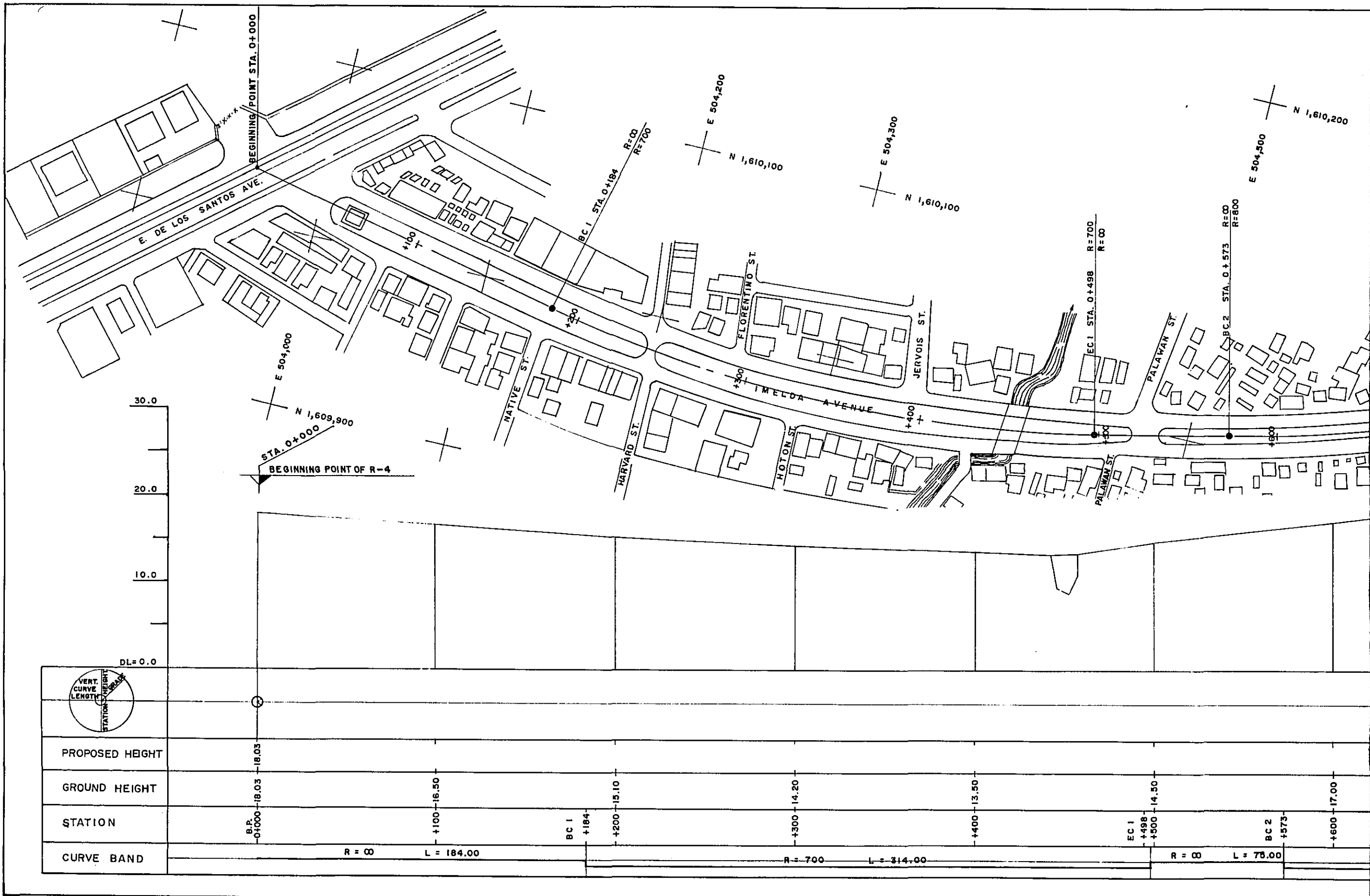


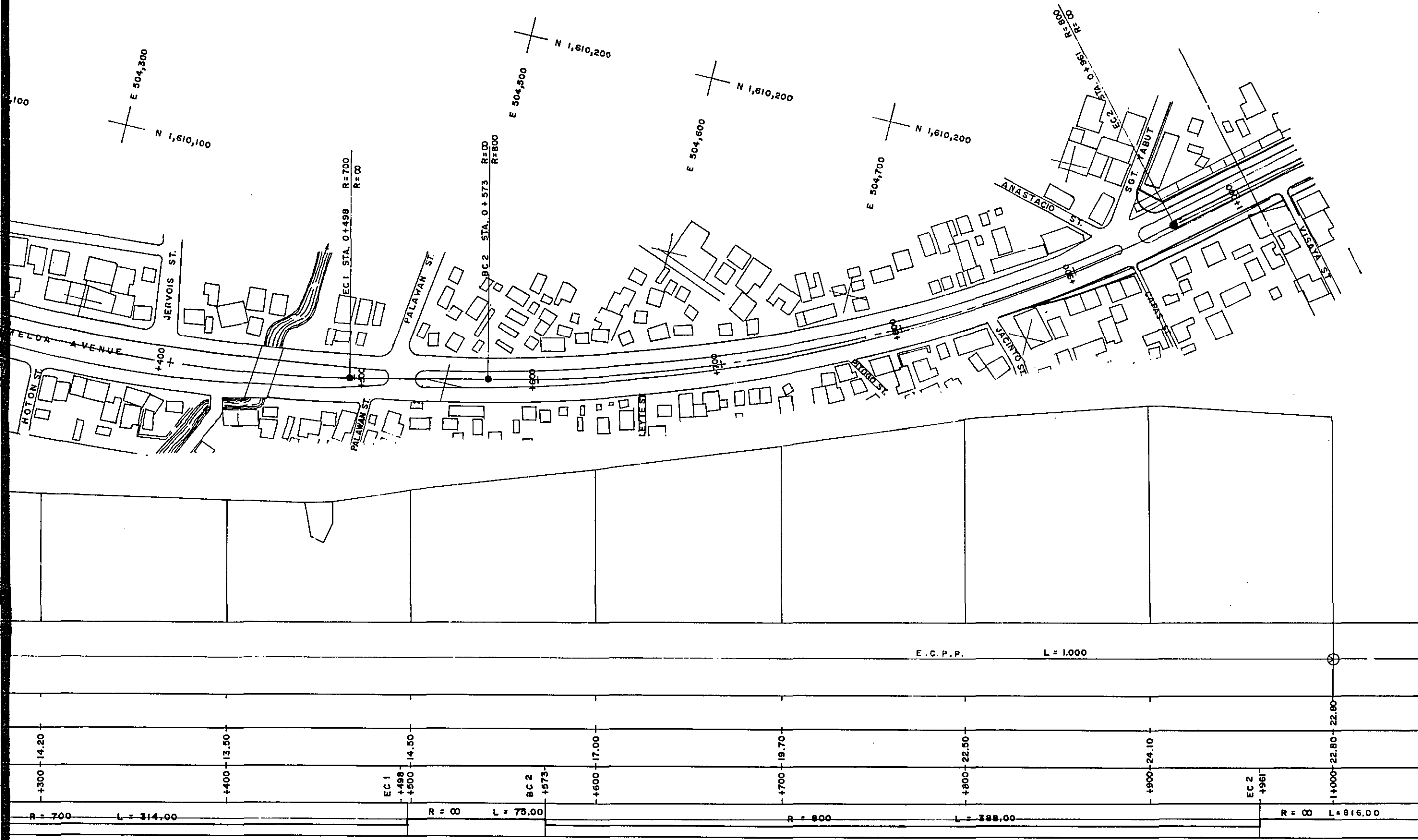
PLAN S = 1:2000

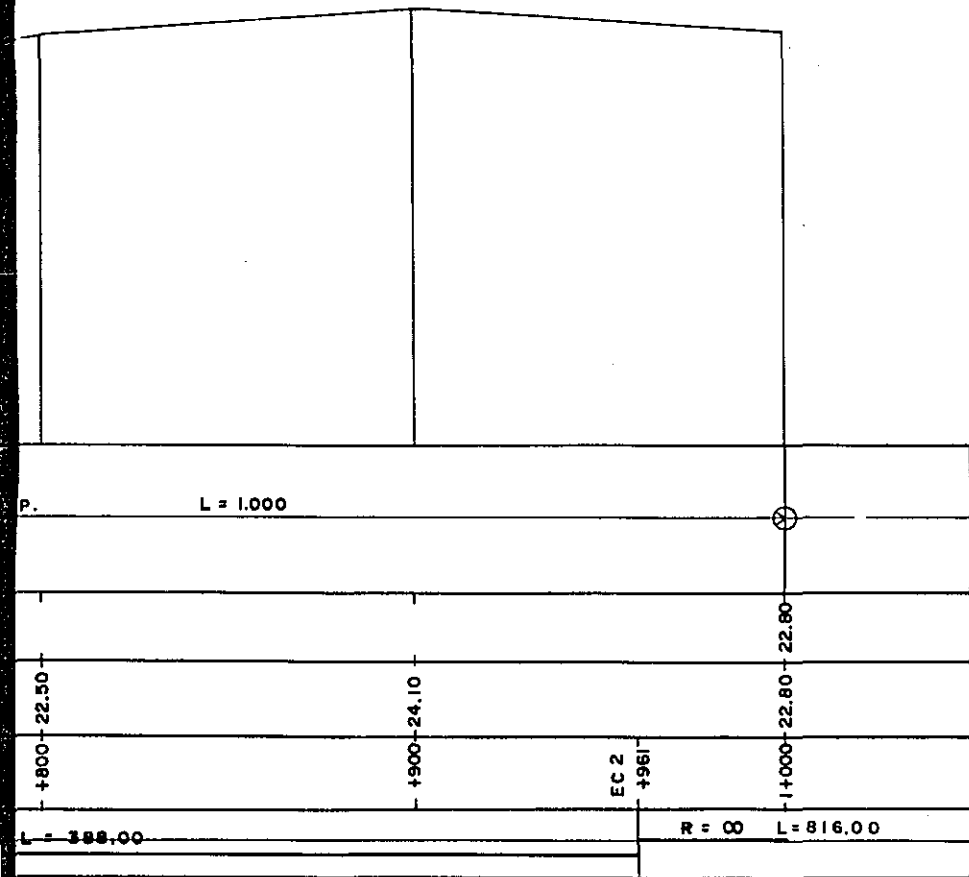
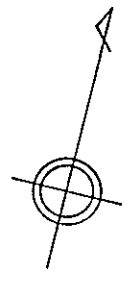
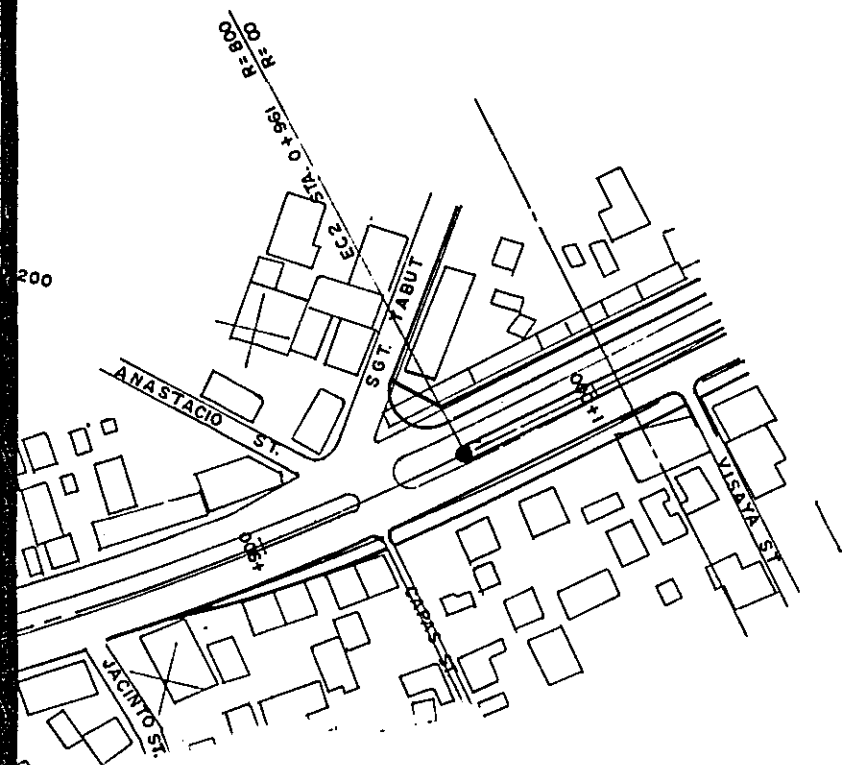
PROFILE S H = 1:2000  
V = 1:400



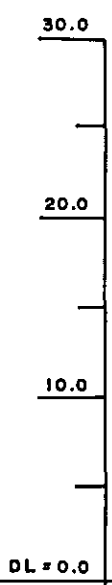
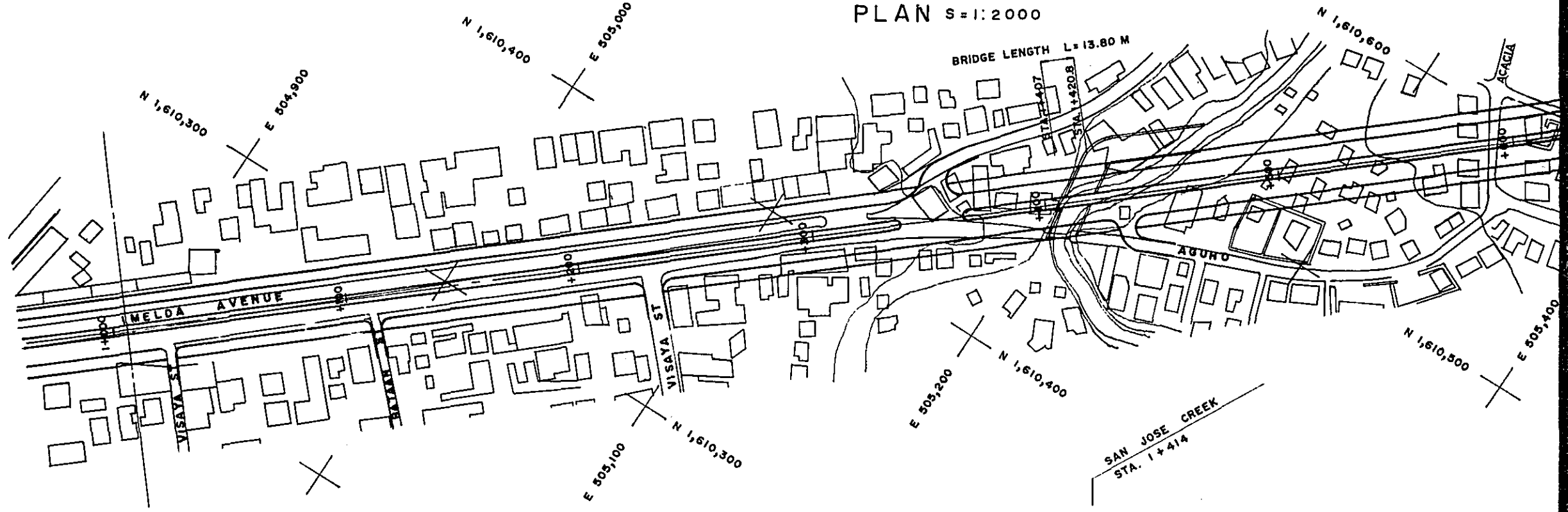








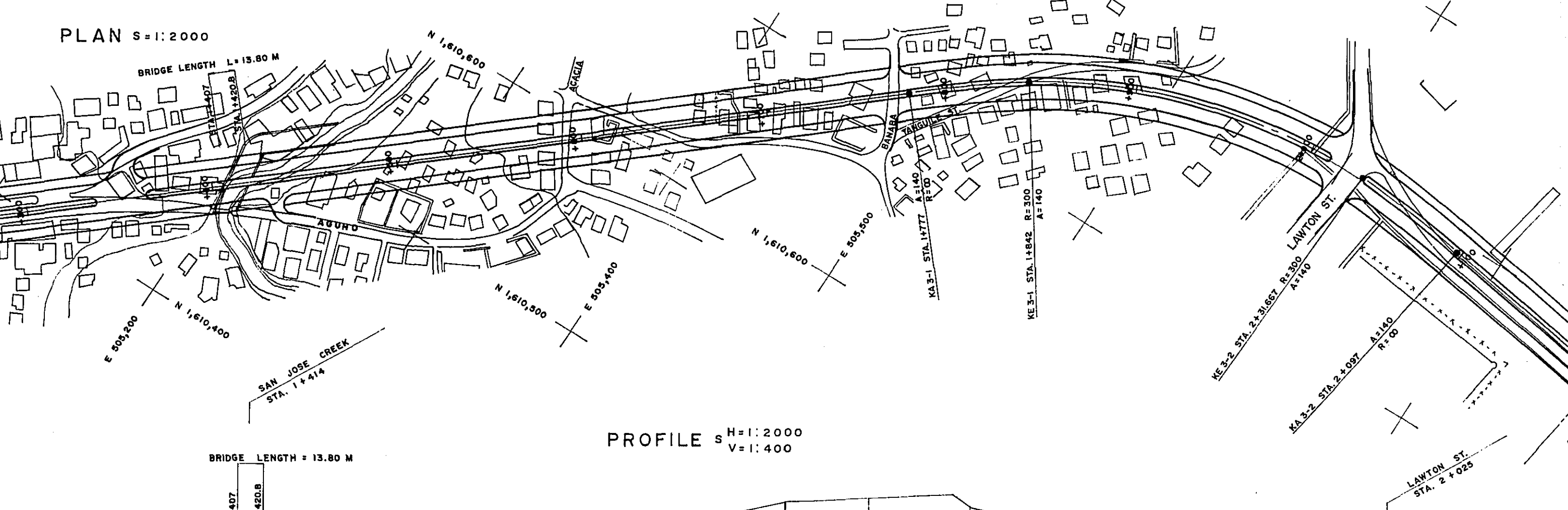
PLAN S=1:2000



<p>VERT. CURVE LENGTH STATION RADIUS</p>	1+000	1+100	1+200	1+300	1+330	1+400	1+430	1+500	1+530	1+600	
	22.80	20.70	17.54	14.81	14.12	12.859	12.674	13.067	13.591	15.61	
PROPOSED HEIGHT	22.80	20.70	17.54	14.81	14.12	12.859	12.674	13.067	13.591	15.61	
GROUND HEIGHT	22.80	20.20	17.40	14.90	14.12	12.40	12.674	13.20	13.591	15.20	
STATION	1+000	1+100	1+200	1+300	1+330	1+400	1+430	1+500	1+530	1+600	
CURVE BAND	L=330					R=∞					L=115
	L = 816.00										

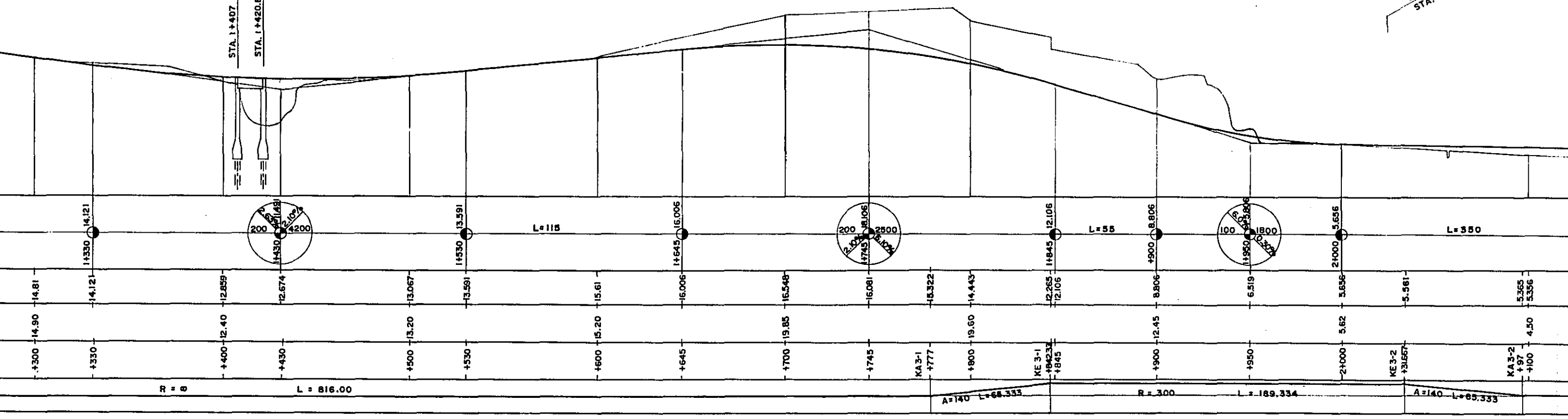
PLAN S=1:2000

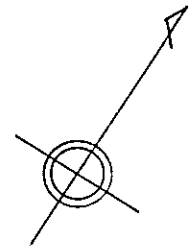
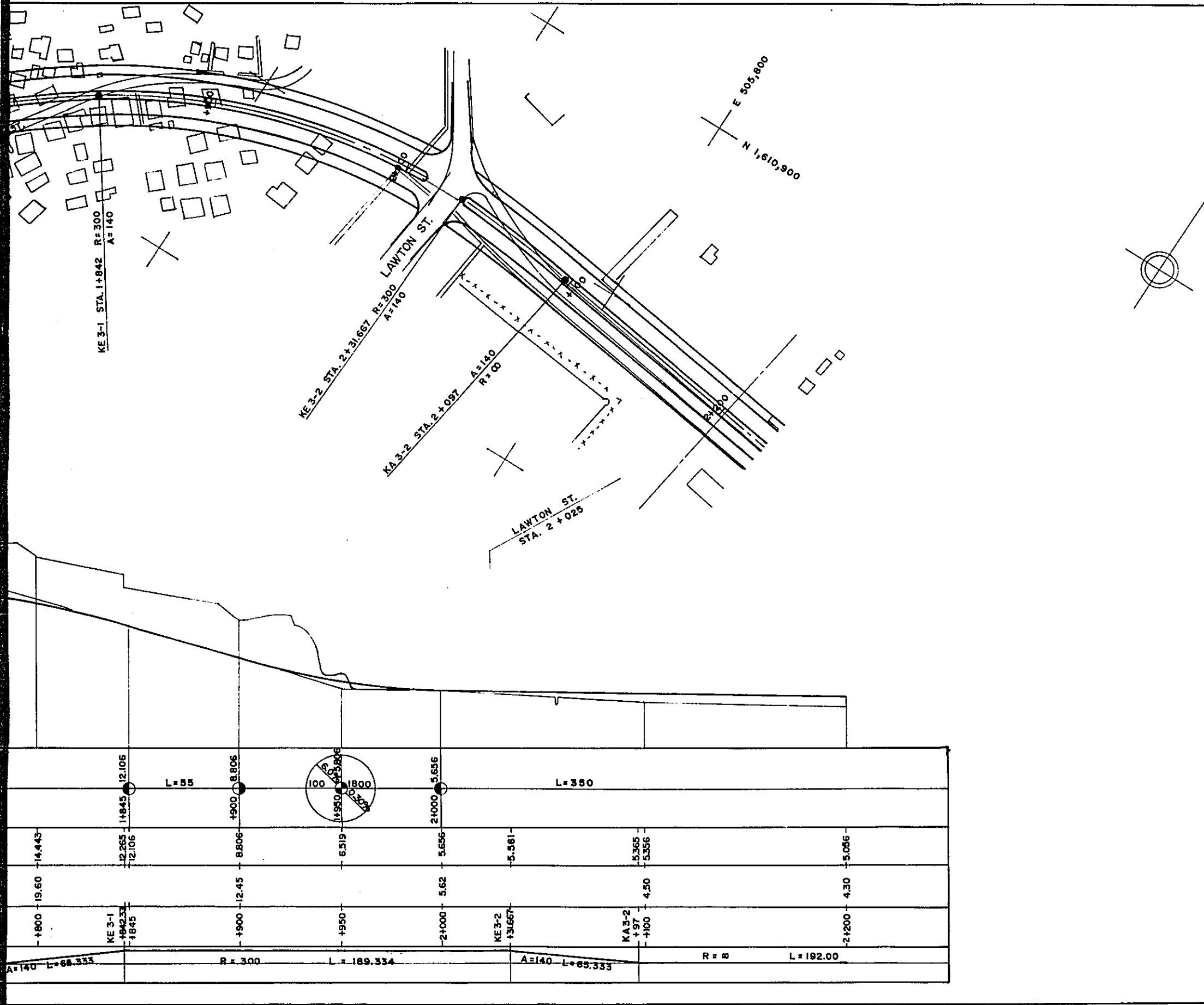
BRIDGE LENGTH L=13.80 M



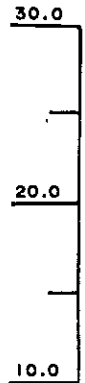
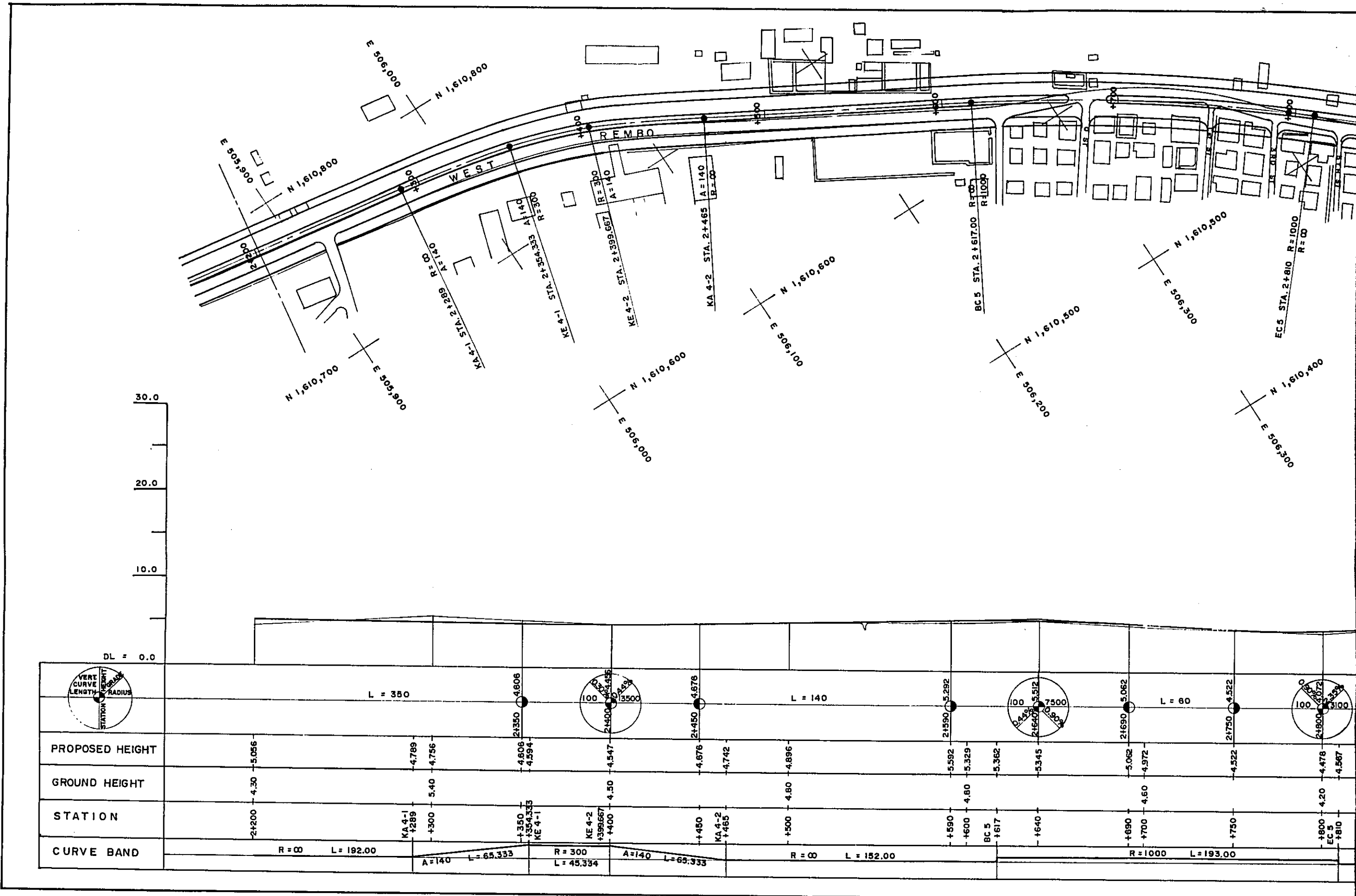
PROFILE S H=1:2000  
V=1:400

BRIDGE LENGTH = 13.80 M



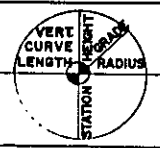


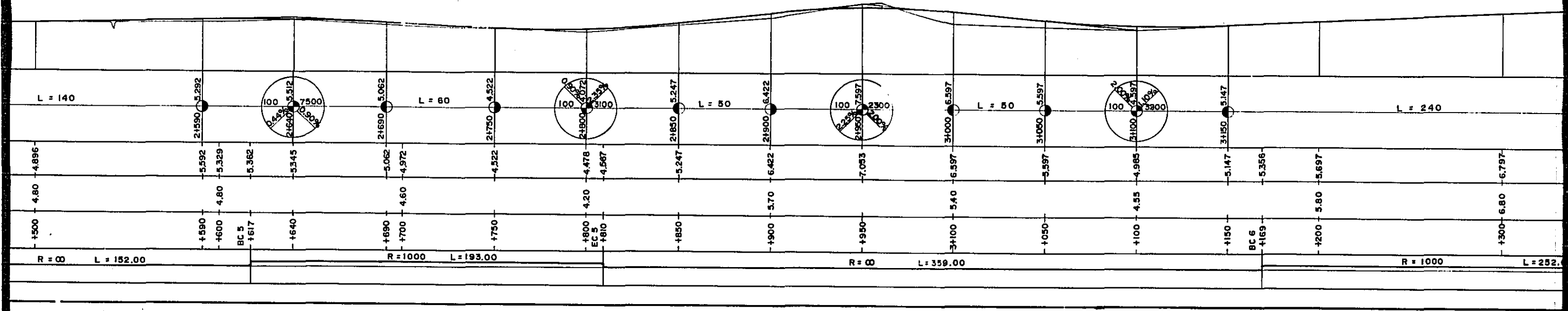
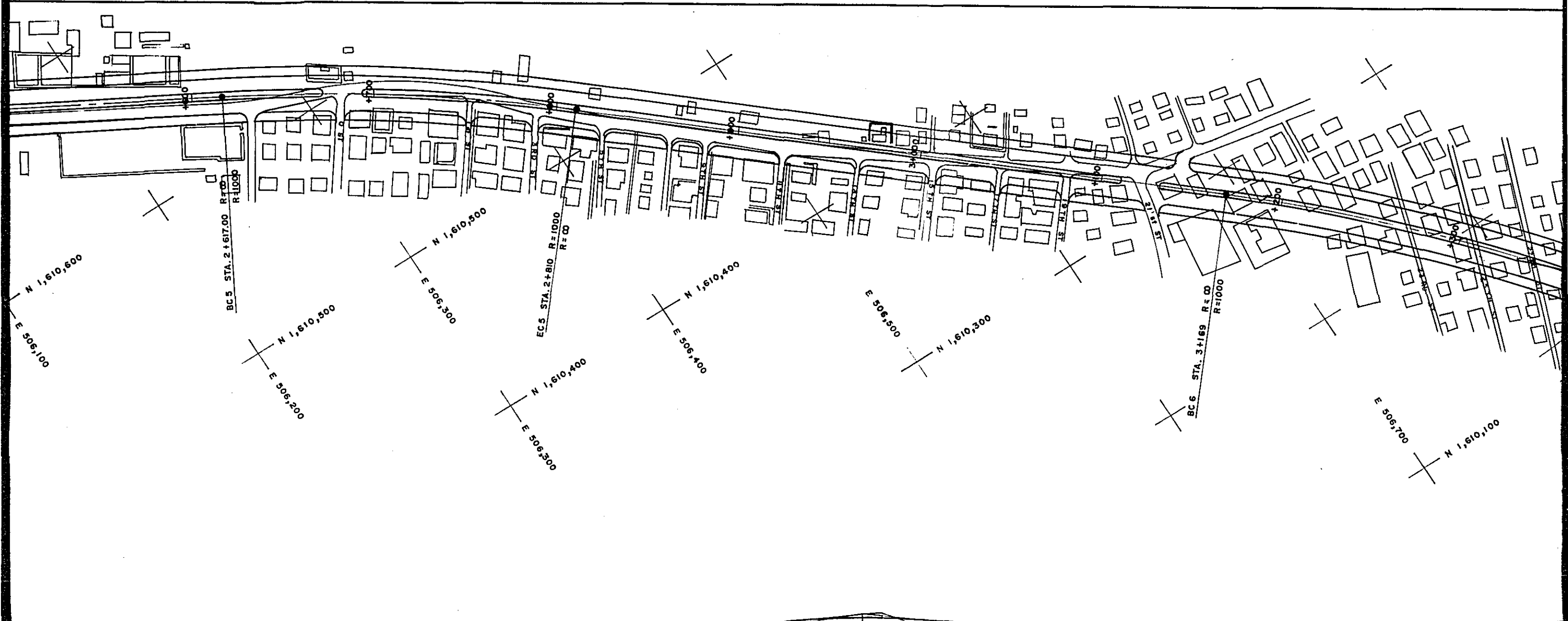




DL = 0.0

	2+200	2+289	2+300	2+350	2+400	2+450	2+500	2+550	2+600	2+617	2+640	2+690	2+700	2+750	2+800	2+810
PROPOSED HEIGHT		4.789	4.756	4.806	4.547	4.676	4.896	5.592	5.329	5.362	5.345	5.062	4.972	4.522	4.478	4.567
GROUND HEIGHT	4.30	5.40	4.594	4.50	4.742	4.80	5.592	5.329	5.362	5.345	5.062	4.972	4.522	4.478	4.567	
STATION		KA 4-1 +289	+300	+350 KE 4-1	KE 4-2 +399.667 +400	KA 4-2 +465	+500	+550	+600	BC 5 +617	+640	+690	+700	+750	+800 EC 5	+810
CURVE BAND	R = ∞ L = 192.00		A = 140 L = 65.333		R = 300 L = 45.334 A = 140 L = 65.333		R = ∞ L = 152.00			R = 1000 L = 193.00						



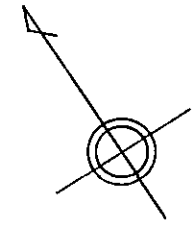
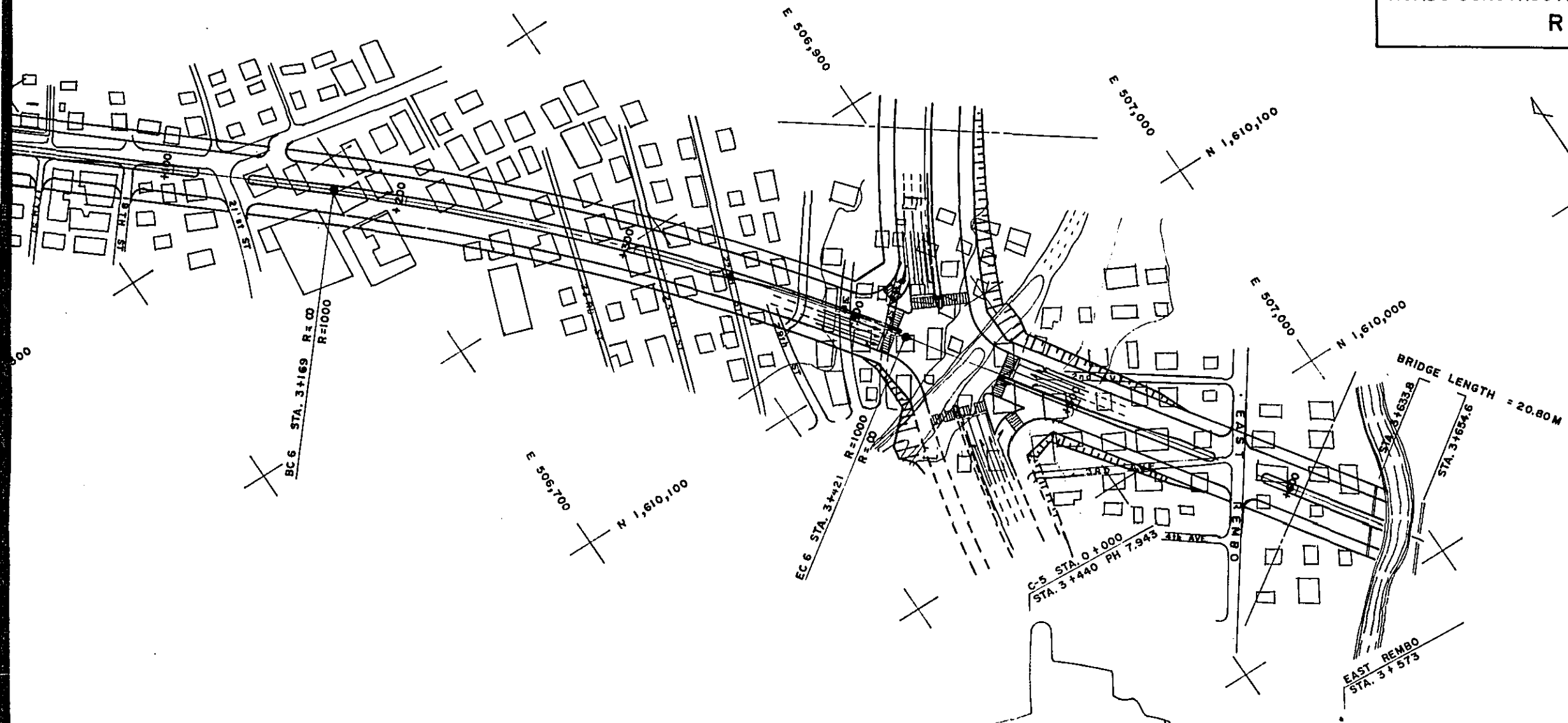


THE FEASIBILITY STUDY ON C-3 & R-4  
ROADS CONSTRUCTION PROJECT

FIGURE

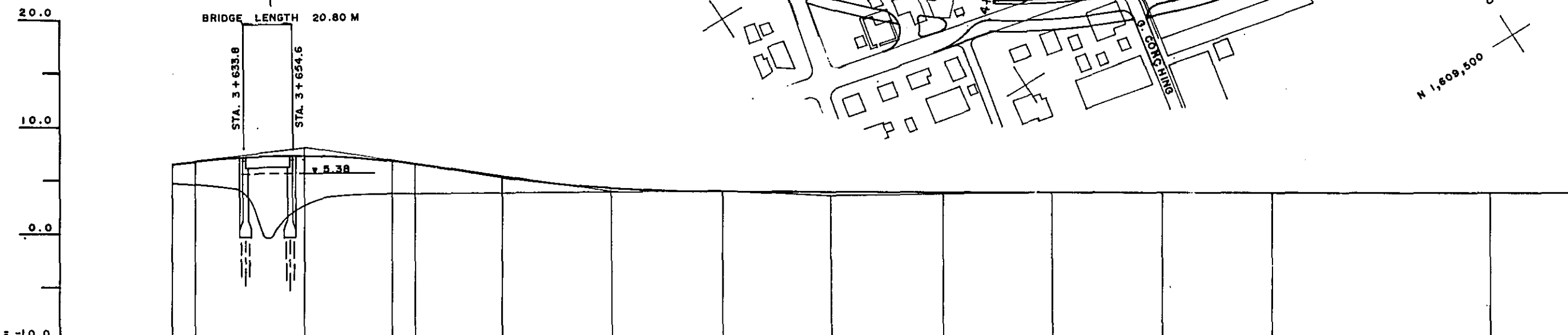
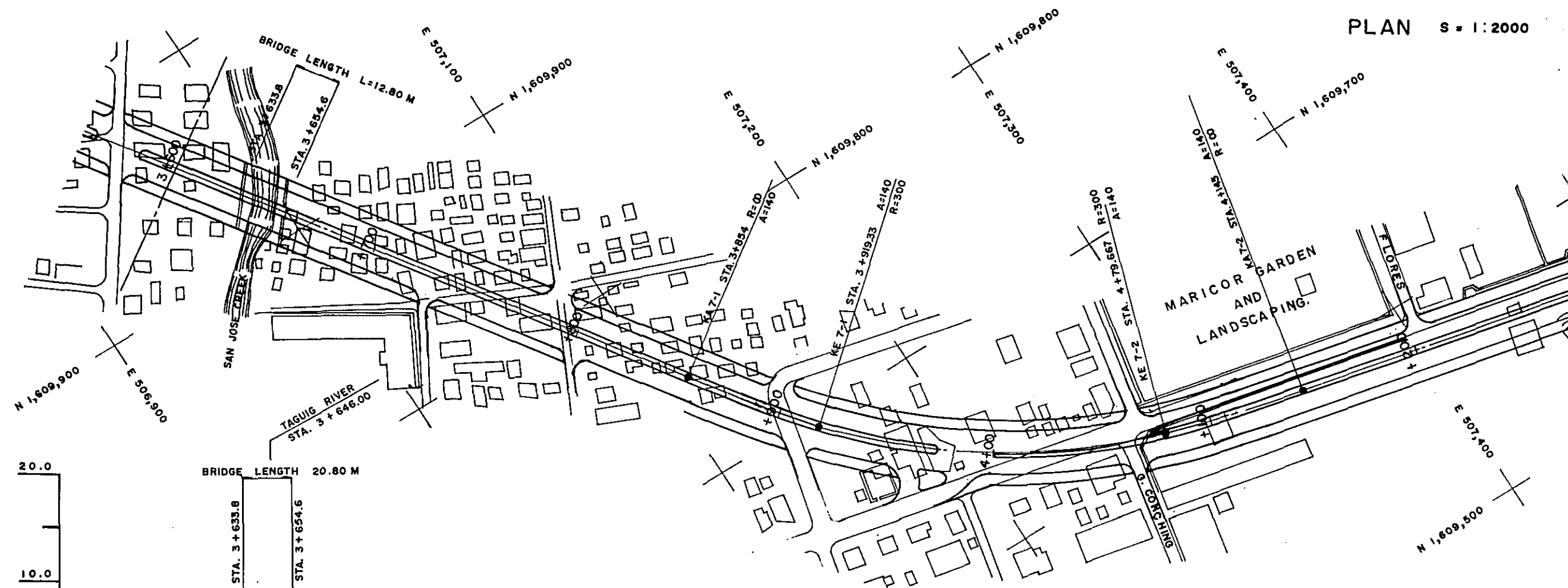
R-4

17



3+050	3+100	3+150	3+200	3+300	3+390	3+450	3+500	3+550	3+600	3+610
5.597	4.985	5.147	5.697	6.797	7.787	7.880	7.091	6.839	6.525	6.749
1050	1100	1150	1200	1300	1390	1450	1500	1510	1600	1610
R = 1000			L = 252.00			R = ∞		L = 433.00		

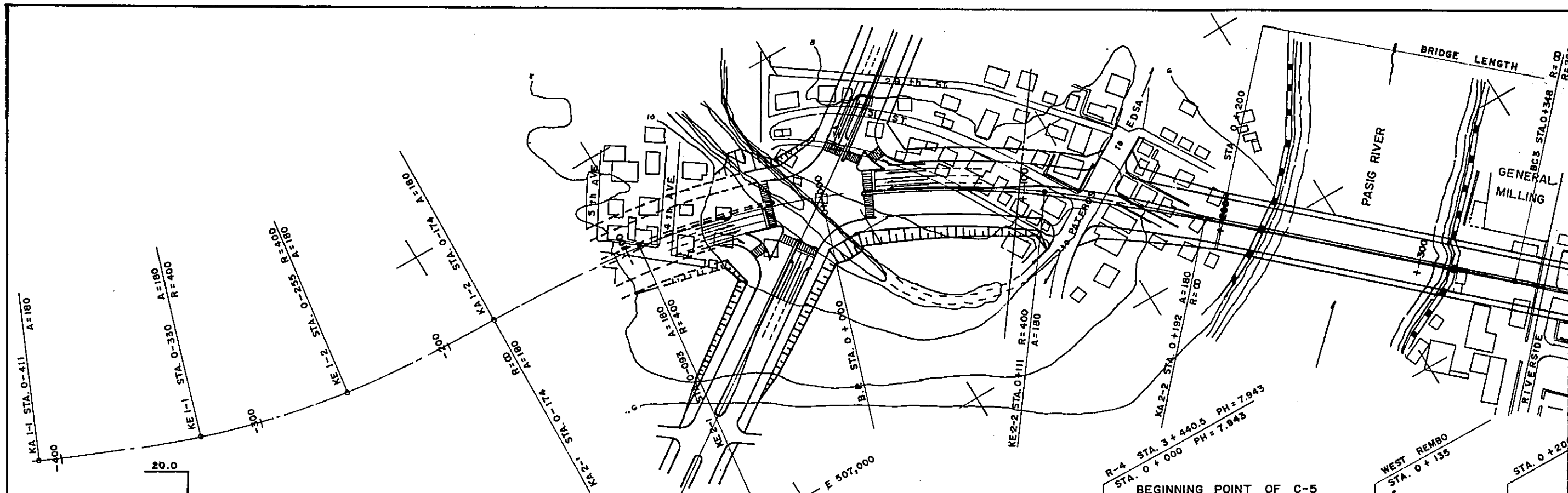
PLAN S = 1:2000



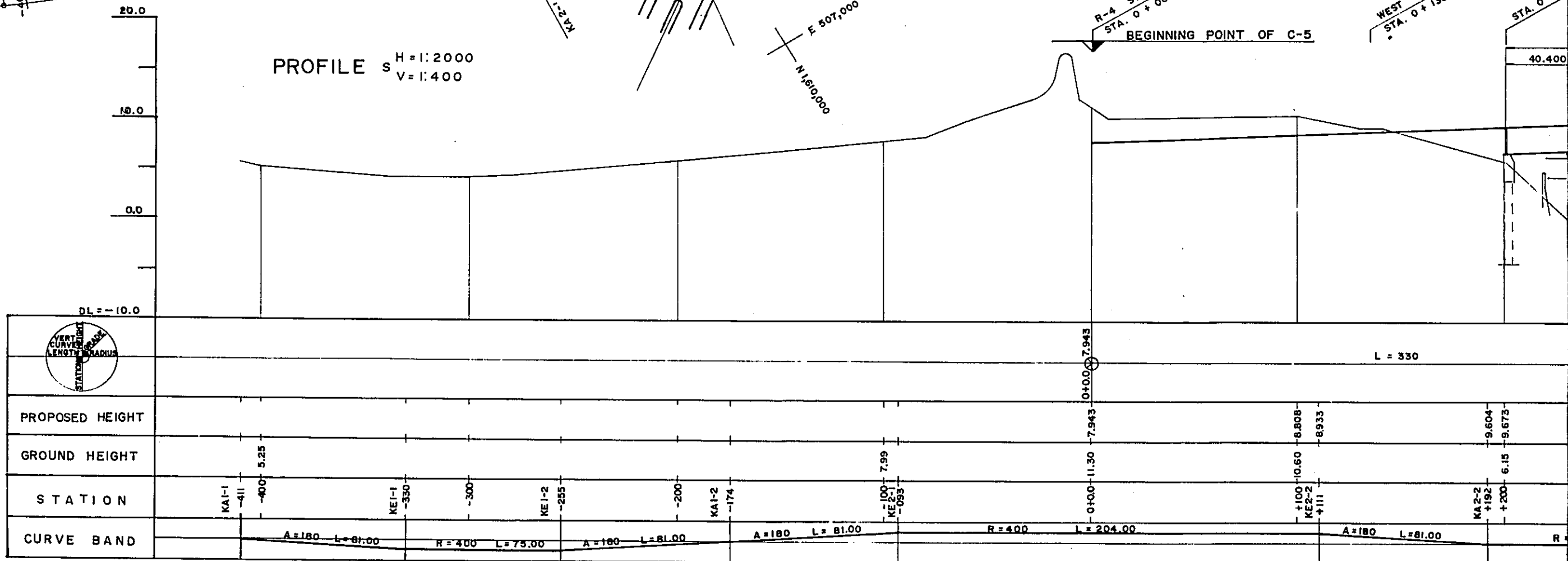
STATION	PROPOSED HEIGHT	GROUND HEIGHT	CURVE BAND
3+600	6.525	4.50	R = ∞
3+610	6.749	4.50	
3+660	7.330	4.50	L = 433.00
3+700	6.832	3.70	
3+710	6.575	3.70	A = 140 L = 65.333
3+750	5.436	3.50	
3+800	4.348	4.00	R = 300 L = 160.334
3+850	3.933	3.50	
3+900	3.856	3.50	A = 140 L = 65.333
3+950	3.778	3.70	
4+000	3.681	3.70	R = ∞
4+050	3.700	3.70	
4+100	3.700	3.70	
4+200	3.700	3.70	



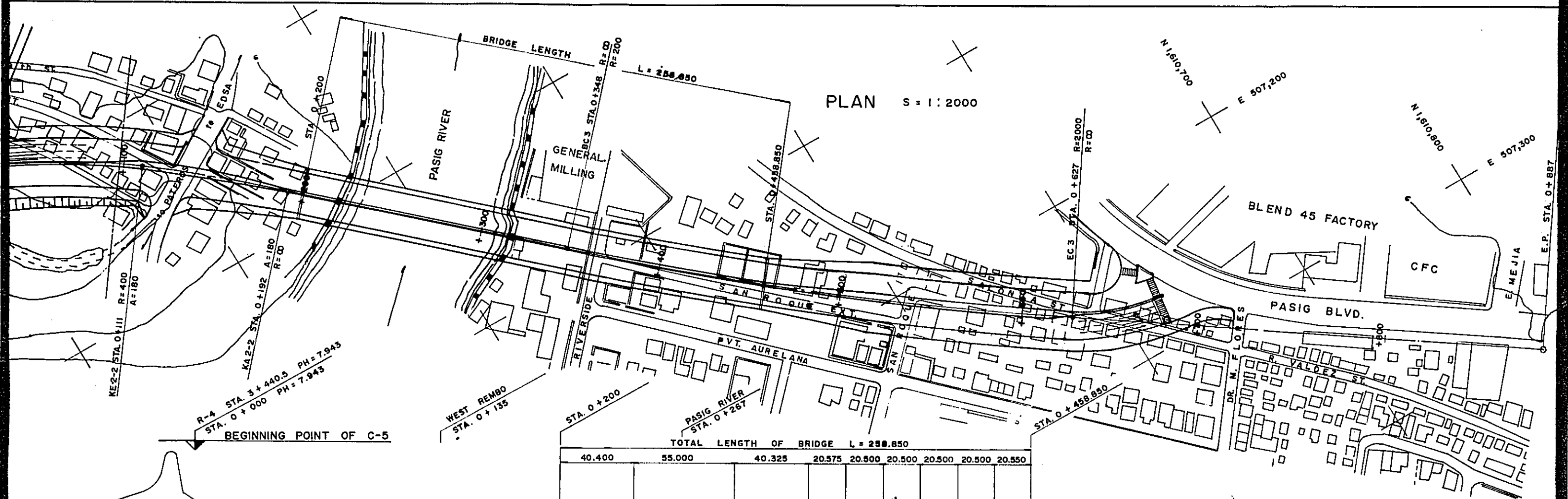




PROFILE S H=1:2000  
V=1:400

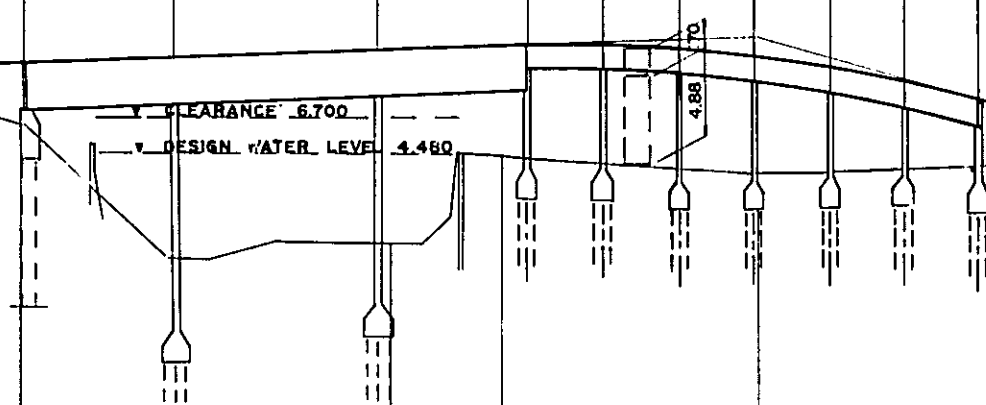


PLAN S = 1 : 2000



TOTAL LENGTH OF BRIDGE L = 258.850

40.400	55.000	40.325	20.575	20.600	20.500	20.500	20.550
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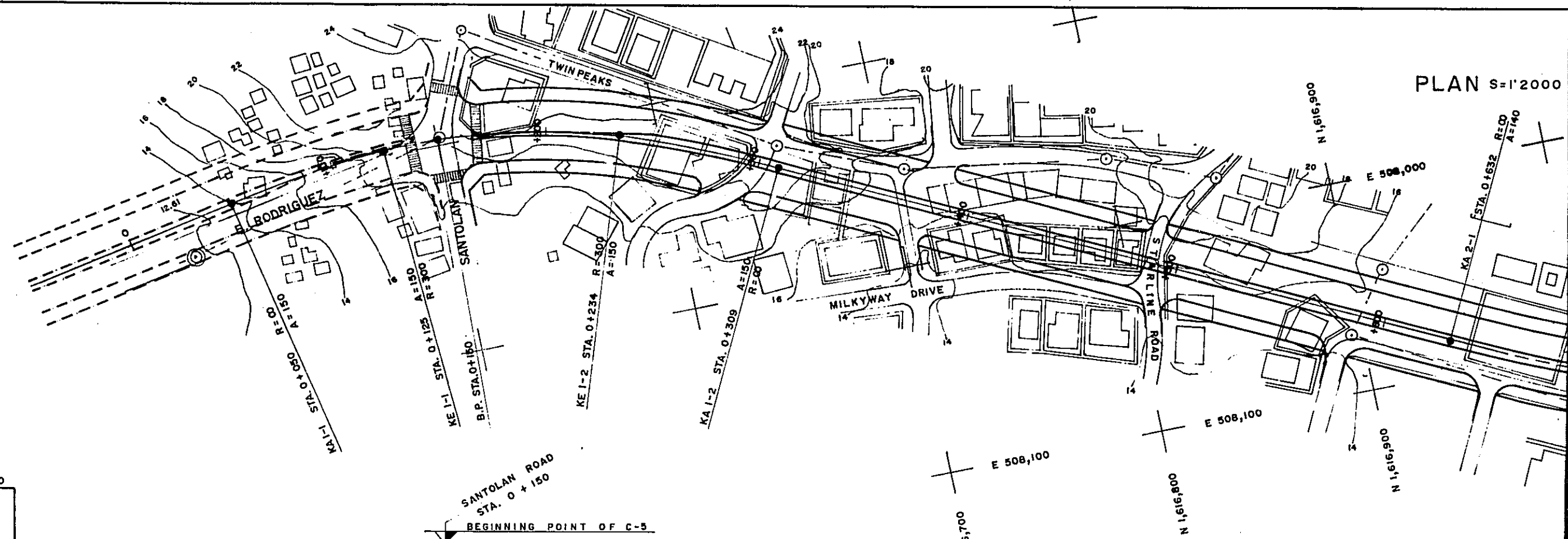


0+000	0+100	0+200	0+300	0+330	0+400	0+470	0+500	0+525	0+580	0+600	0+627	0+700	0+887
7.943	8.808	9.604	10.538	10.798	10.874	10.202	7.203	5.658	4.760	4.033	4.080	4.144	4.316
R=400	L=204.00	A=180	L=81.00	R=∞	L=156.00	R=2000	L=279.00	R=∞					



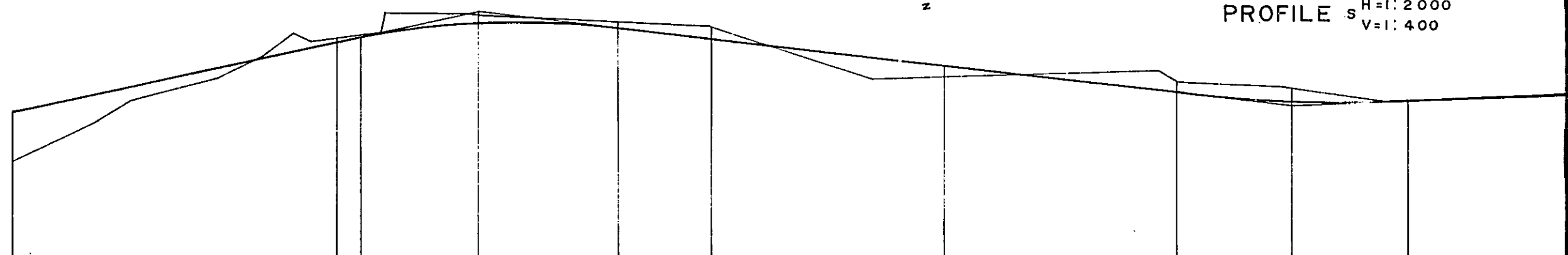


PLAN S=1"2000

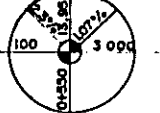
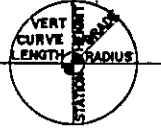


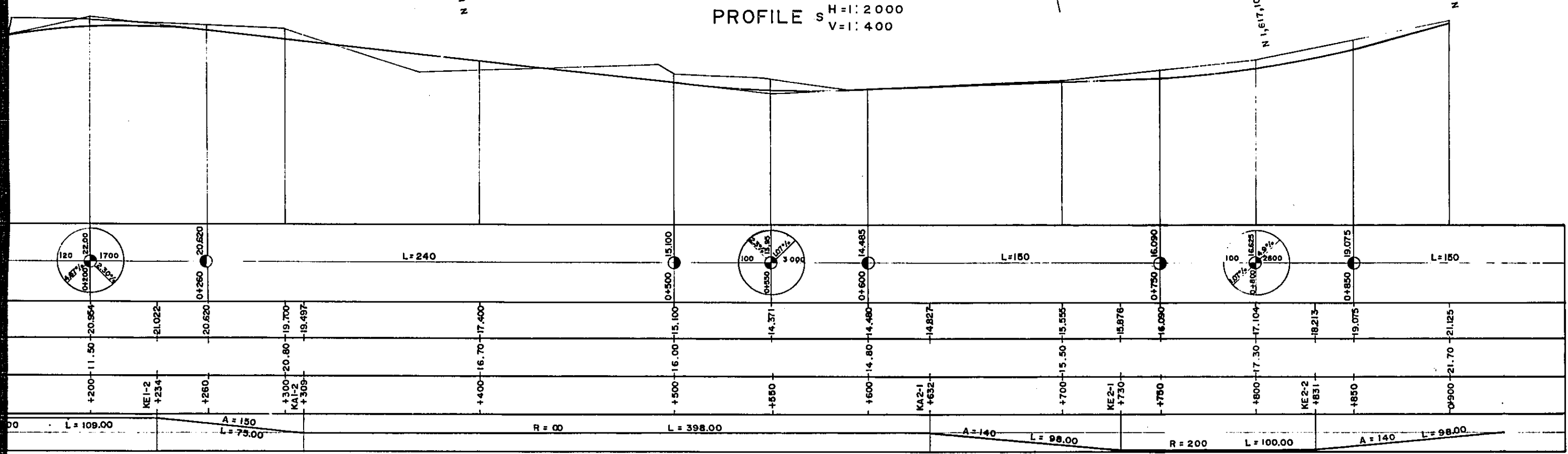
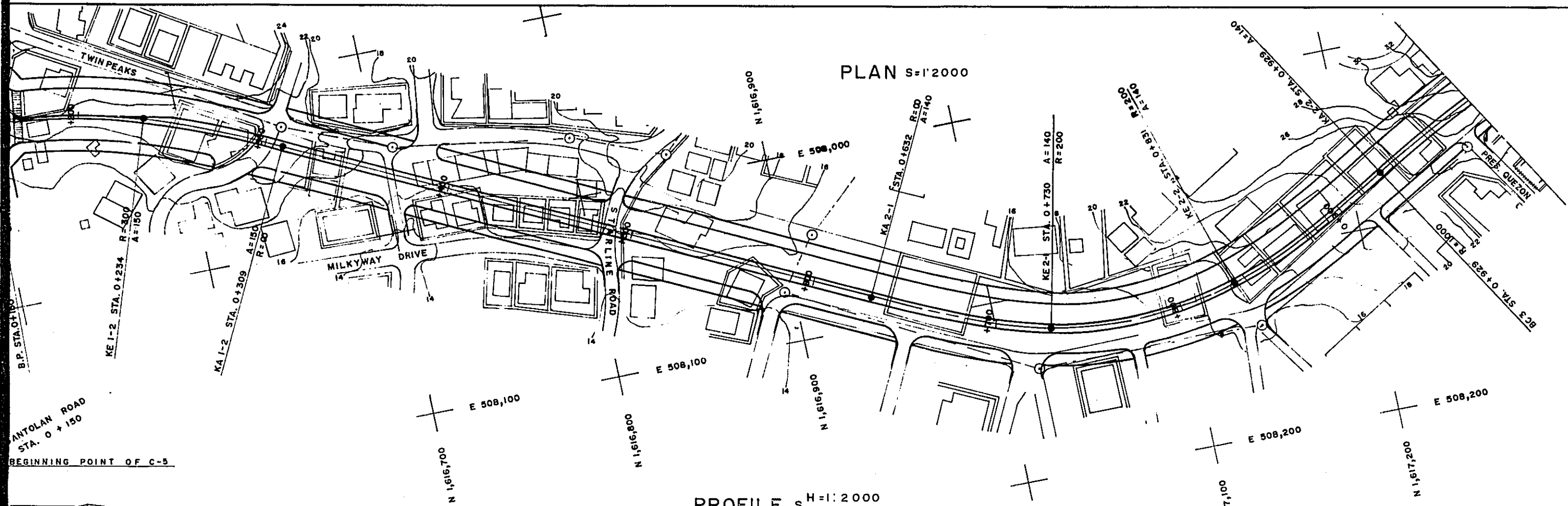
SANTOLAN ROAD  
STA. 0 + 150  
BEGINNING POINT OF C-5

PROFILE S H=1:2000  
V=1:400

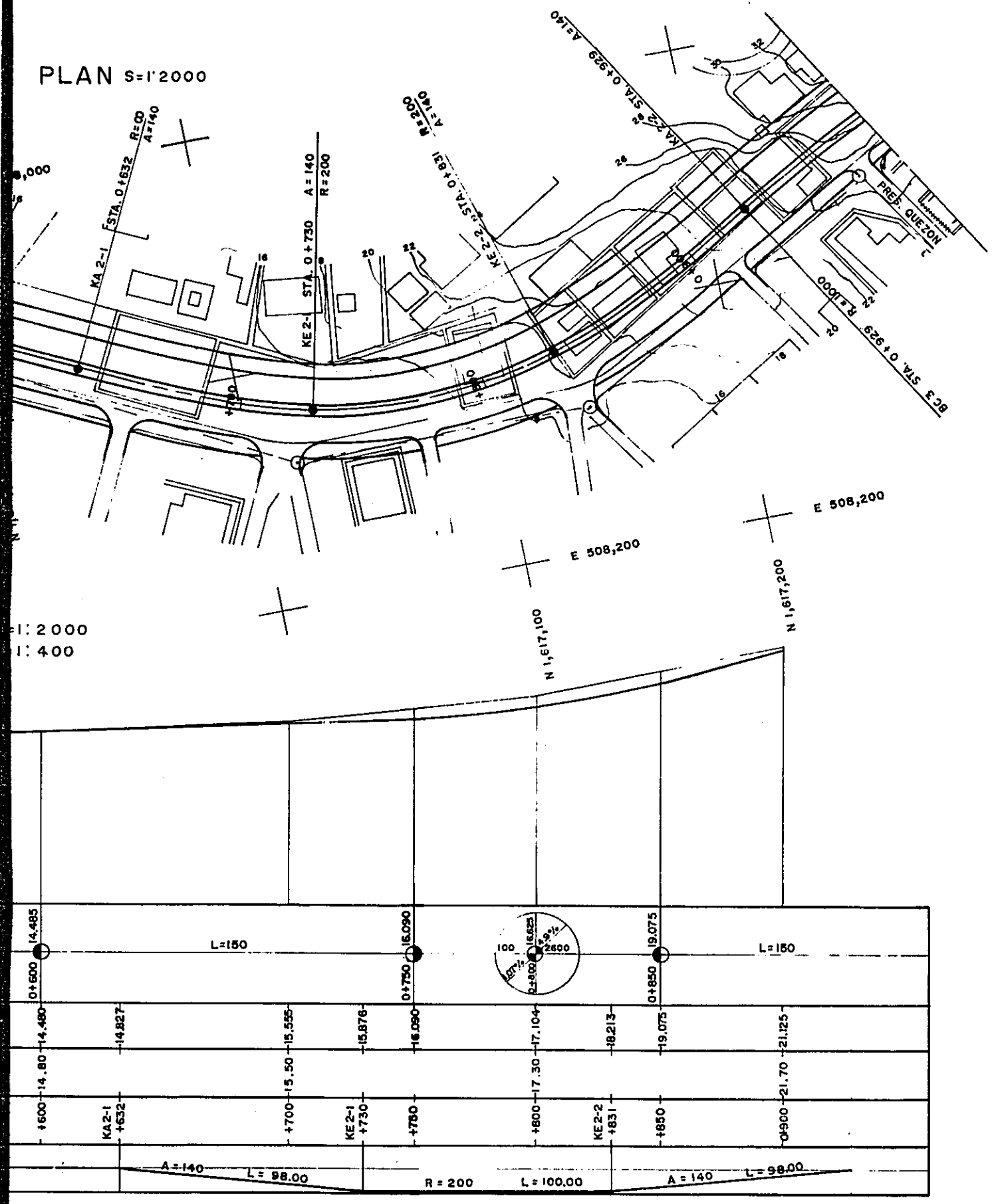


VERT. CURVE LENGTH	VERT. CURVE RADIUS	STATION	PROPOSED HEIGHT	GROUND HEIGHT	CURVE BAND
		0+000	8.50	12.660	R = ∞ L = 50.00
		KA1-1 +050			
		+100	17.20	17.330	A = 150 L = 75.00
		KE1-1 +125			
		+140	19.156	19.198	R = 300
		B.P. 0+150	19.636	19.636	
		+200	11.50	20.954	L = 109.00
		KE1-2 +234		21.022	
		+260	20.620	20.620	A = 150 L = 75.00
		+300	20.80	19.700	
		KA1-2 +309		19.497	
		+400	16.70	17.400	R = ∞
		+500	15.100	15.100	L = 398.00
		+550	14.371	14.371	
		+600	14.480	14.480	
		KA2-1 +652		14.827	A = 140



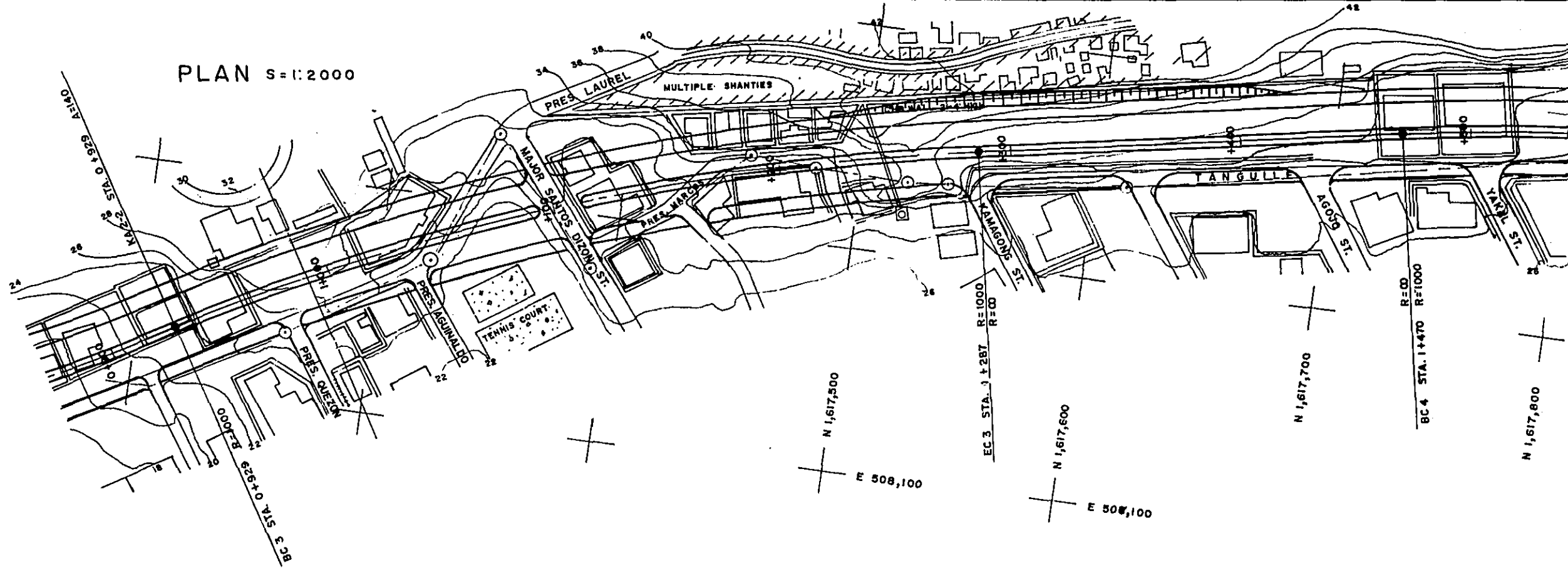


PLAN S=1'2000

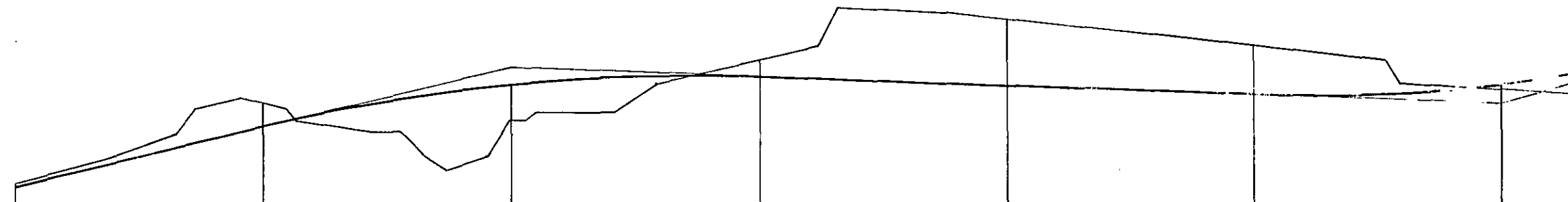


S=1'2000  
S=1'400

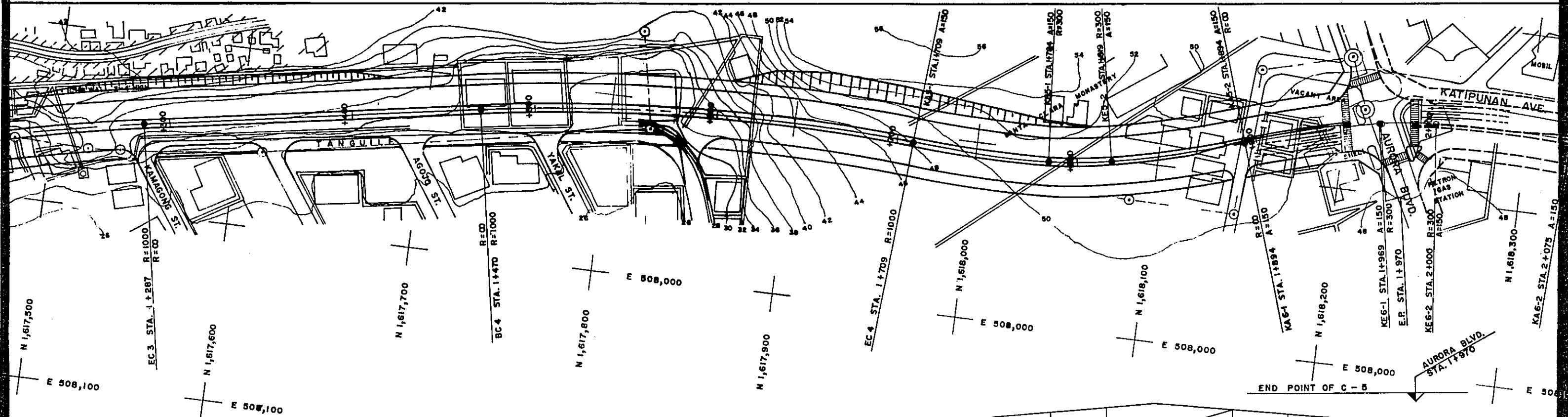
PLAN S=1:2000



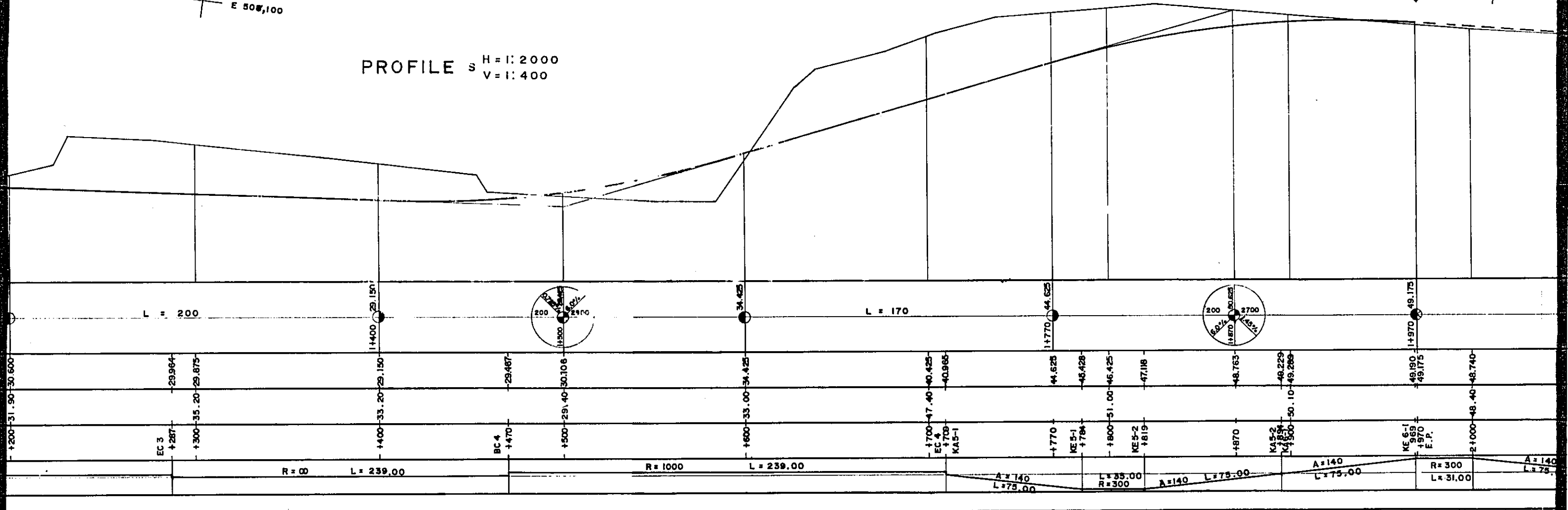
PROFILE S H=1:2000  
V=1:400

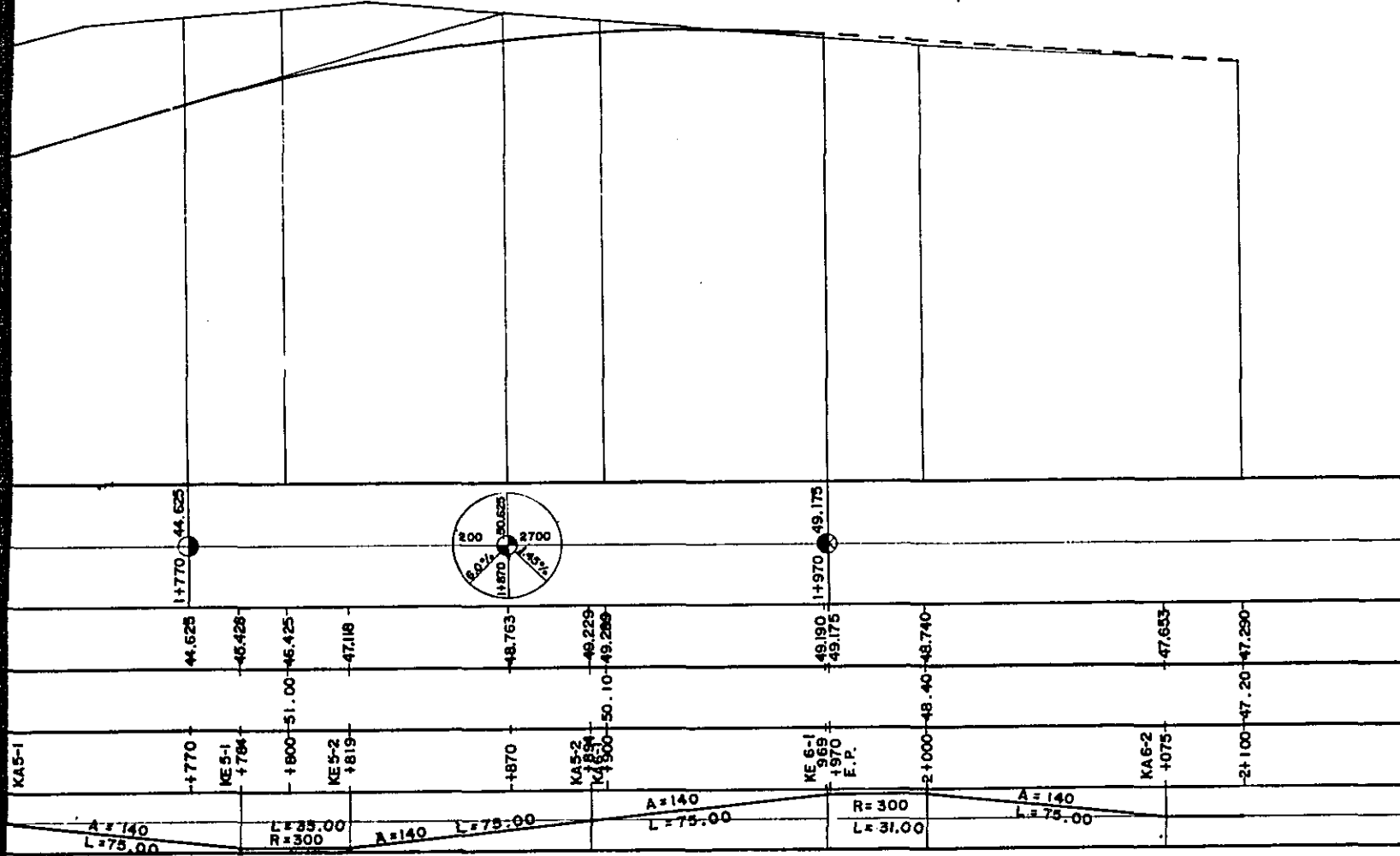
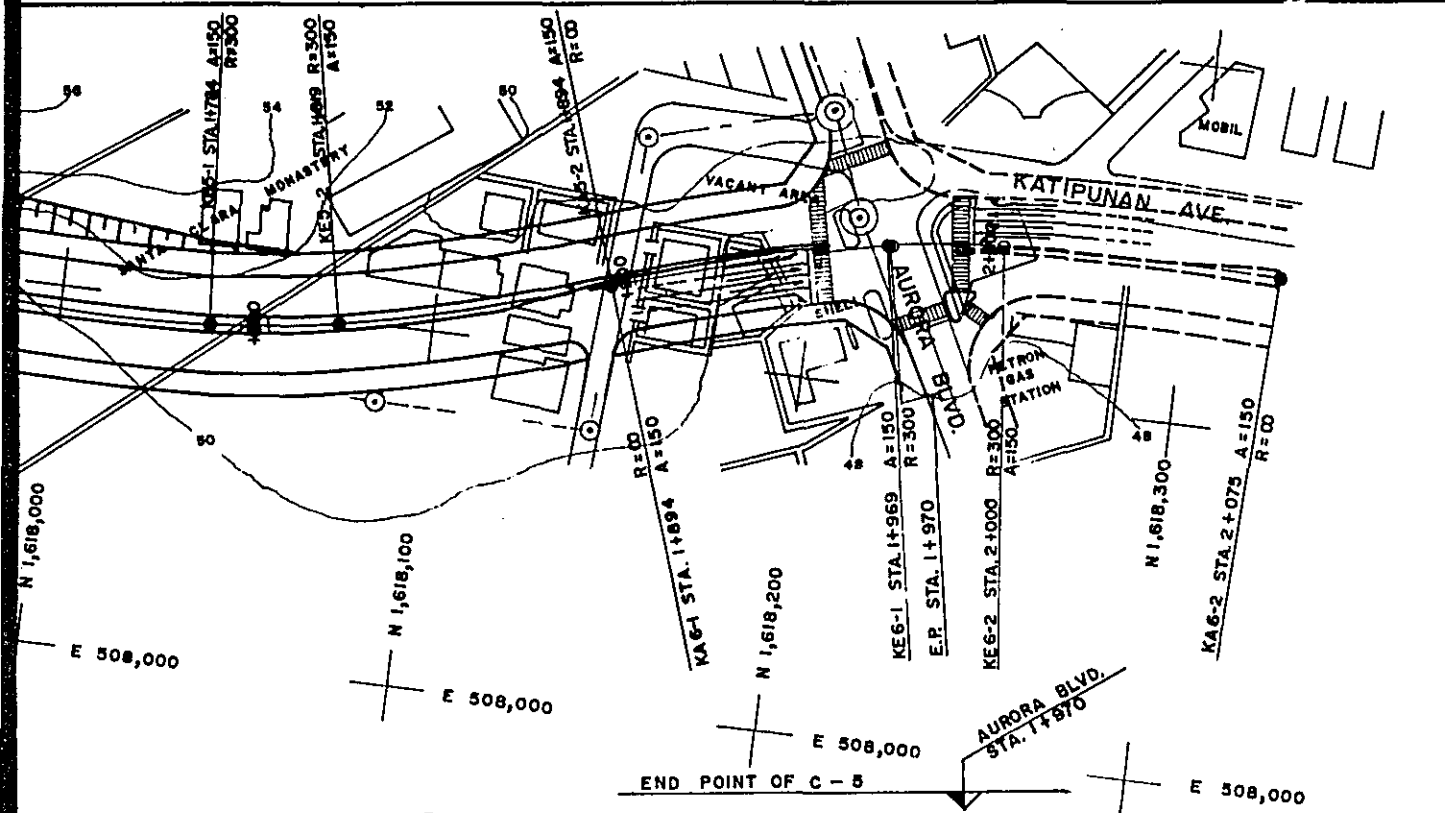


	0+900	BC 3 +929	1+000	1+100	1+200	EC 3 +287	1+300	1+400	BC 4 +470	1+500
VERT. CURVE LENGTH	L = 150			L = 200			L = 200			
PROPOSED HEIGHT	21.525	22.946	26.425	29.919	30.600	29.964	29.875	29.150	29.487	30.106
GROUND HEIGHT	21.70		28.30	27.00	31.90		35.20	33.20		29.40
STATION										
CURVE BAND	A=140 L=98.00		R=1000 L=359.00		R=1000 L=359.00		R=1000 L=239.00		R=1000 L=239.00	



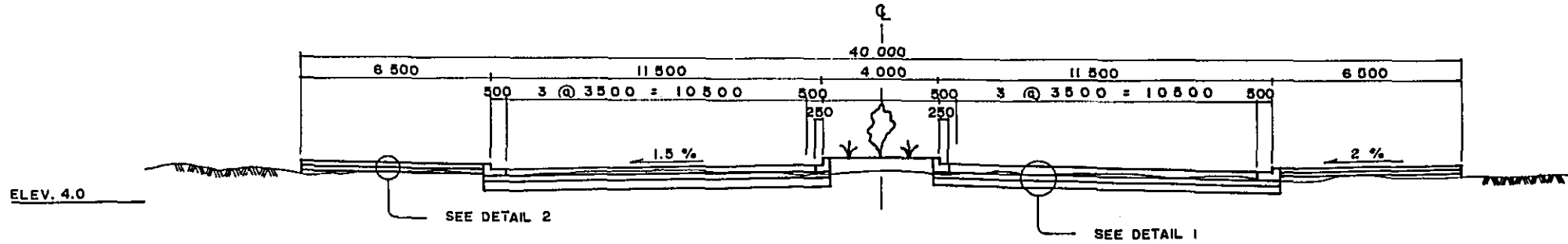
PROFILE S H = 1:2000  
V = 1:400



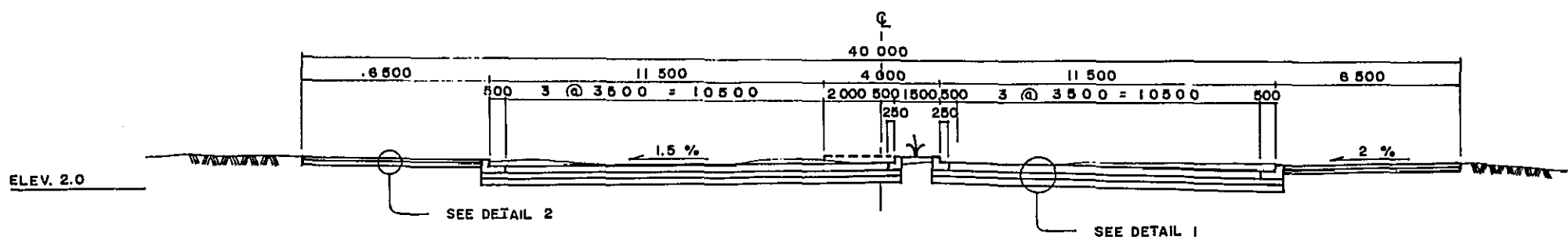


### TYPICAL CROSS SECTION OF C-3

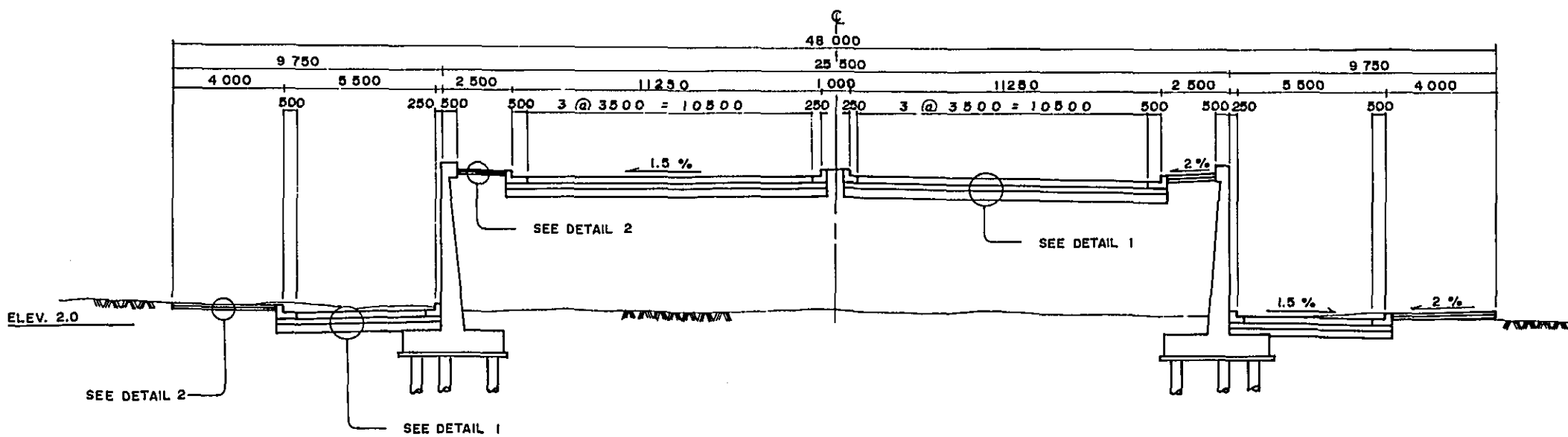
SCALE (HOR. & VERT.) S = 1:200  
STA. 1 + 500



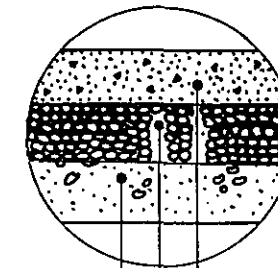
STA. 2 + 200



STA. 2 + 700

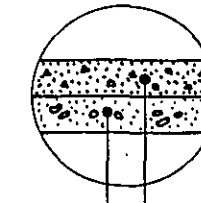


DETAIL 1



- 0.23 M. PORTLAND CEMENT CONCRETE PAVEMENT
- 0.20 M. AGGREGATE BASE COURSE (GRAVEL, CRUSHED GRAVEL OR CRUSHED STONE BASE COURSE, GRADING "B")
- 0.20 M. AGGREGATE SUB-BASE

DETAIL 2

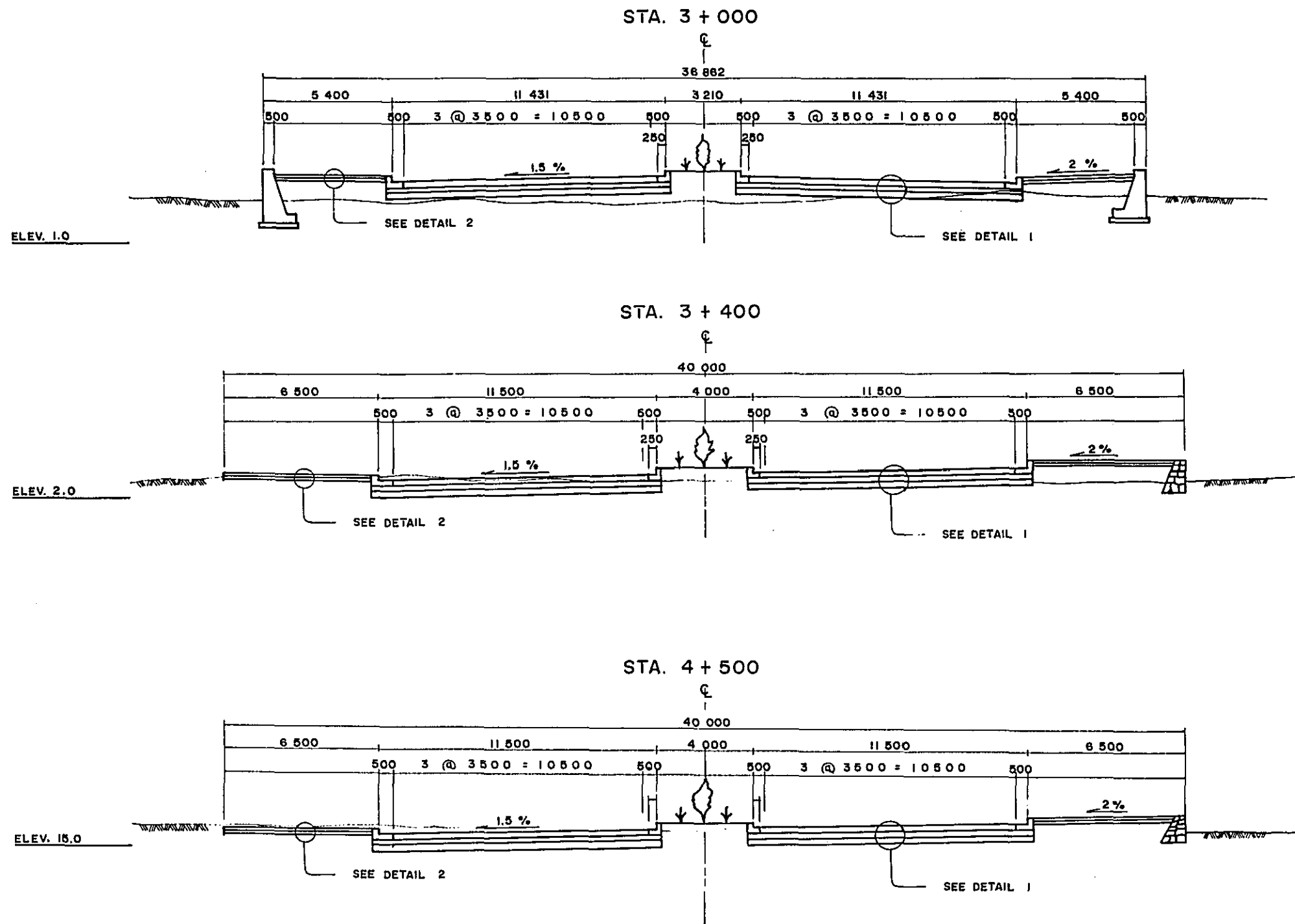


- 0.10 M. CONCRETE SIDEWALK
- 0.10 M. AGGREGATE SUB-BASE

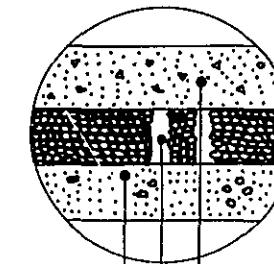


# TYPICAL CROSS SECTION OF C-3

SCALE (HOR. & VERT.) S = 1:200

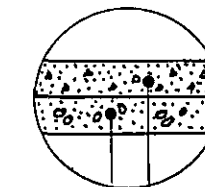


DETAIL 1



- 0.23 M. PORTLAND CEMENT CONCRETE PAVEMENT
- 0.20 M. AGGREGATE BASE COURSE (GRAVEL, CRUSHED GRAVEL OR CRUSHED STONE BASE COURSE, GRADING "B")
- 0.20 M. AGGREGATE SUB-BASE

DETAIL 2



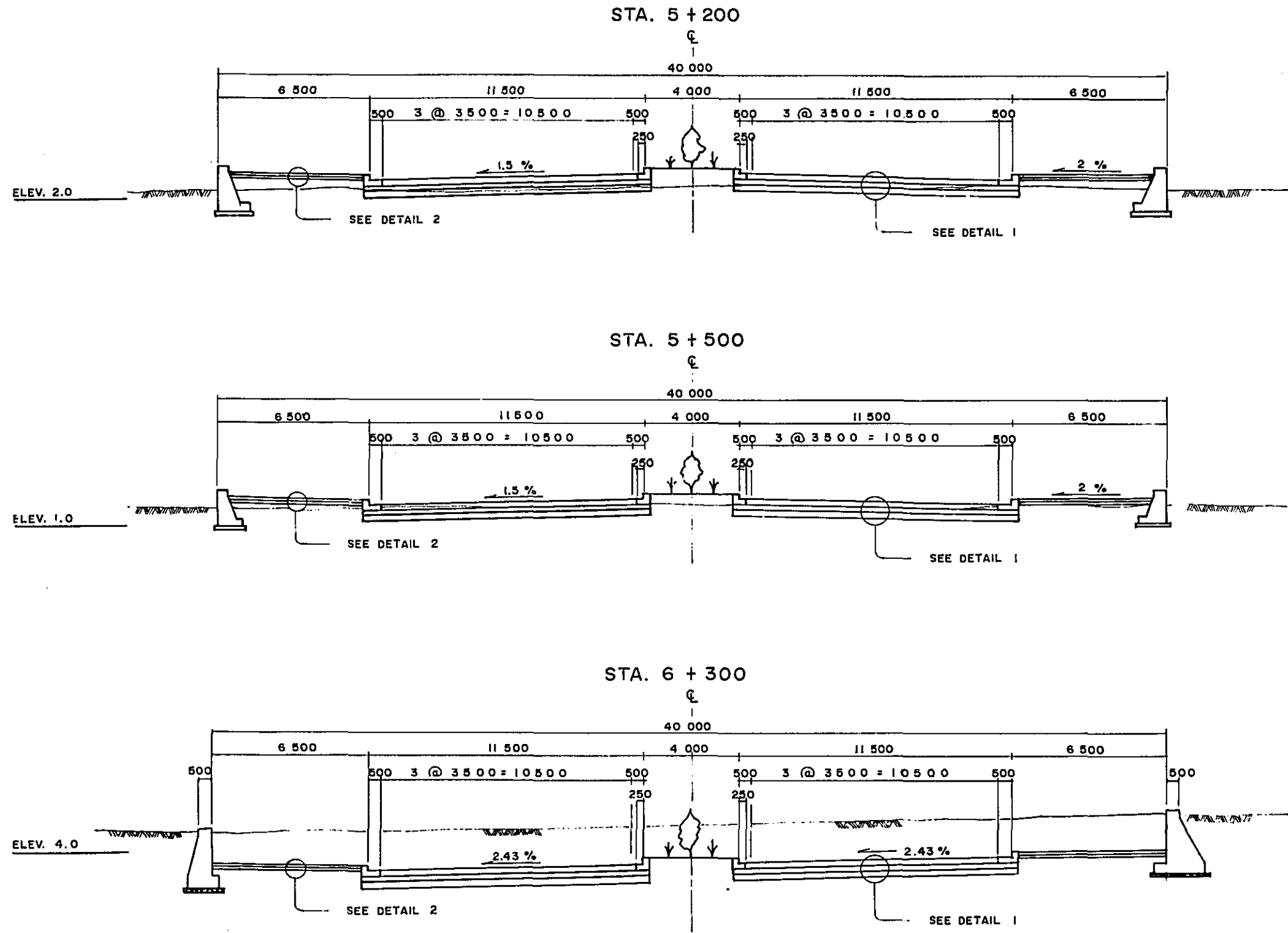
- 0.10 M. CONCRETE SIDEWALK
- 0.10 M. AGGREGATE SUB-BASE

THE FEASIBILITY STUDY ON C-3 & R-4  
ROADS CONSTRUCTION PROJECT  
TYPICAL CROSS SECTION

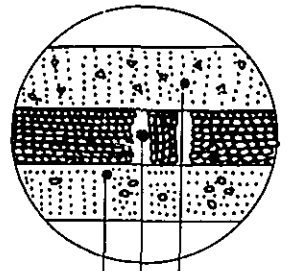
FIGURE  
23

TYPICAL CROSS SECTION OF C-3

SCALE (HOR. & VERT.) S = 1:200

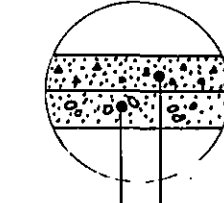


DETAIL 1



- 0.23 M. PORTLAND CEMENT CONCRETE PAVEMENT
- 0.20 M. AGGREGATE BASE COURSE (GRAVEL, CRUSHED GRAVEL OR CRUSHED STONE BASE COURSE, GRADING "B")
- 0.20 M. AGGREGATE SUB-BASE

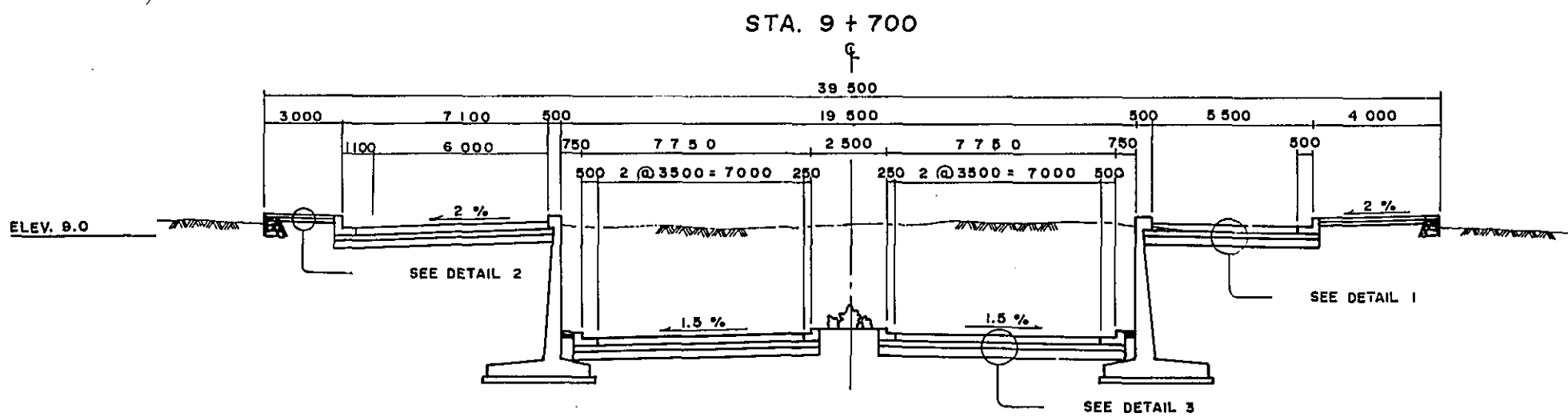
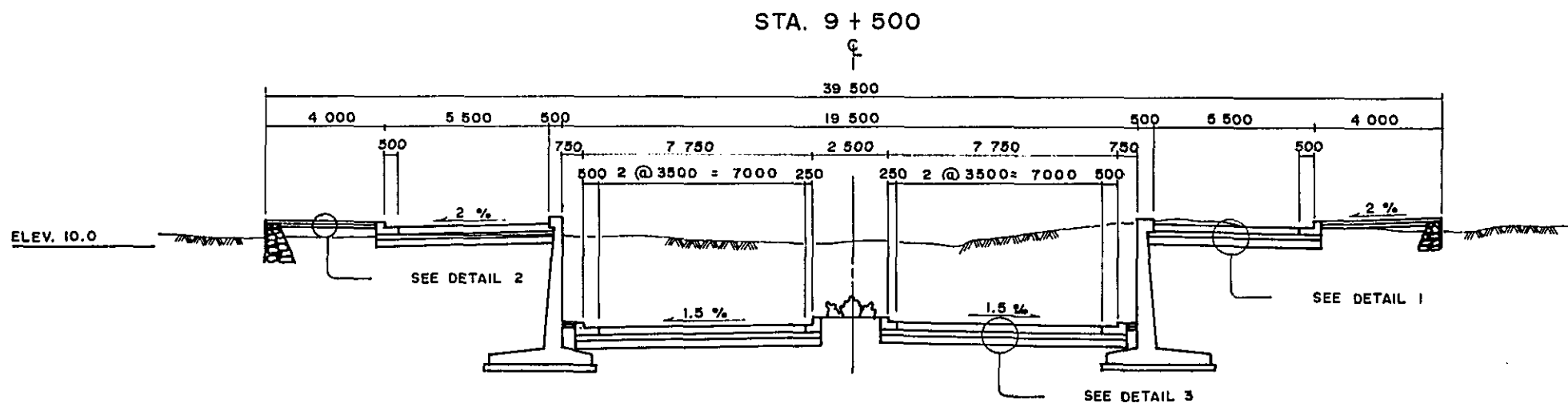
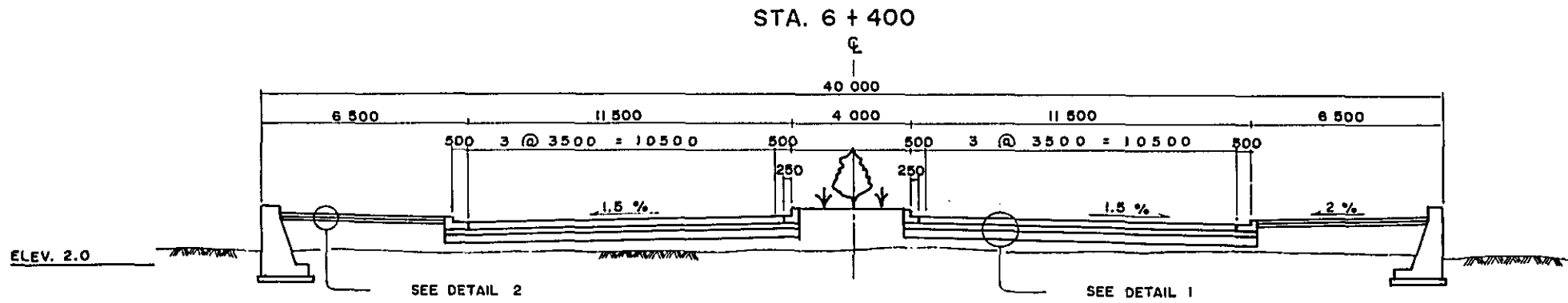
DETAIL 2



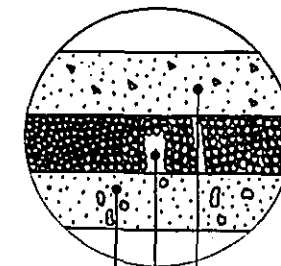
- 0.10 M. CONCRETE SIDEWALK
- 0.10 M. AGGREGATE SUB-BASE

# TYPICAL CROSS SECTION OF C-3

SCALE (HOR. & VERT.) 5 = 1:200

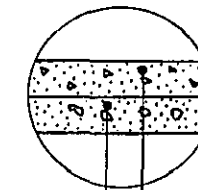


DETAIL 1



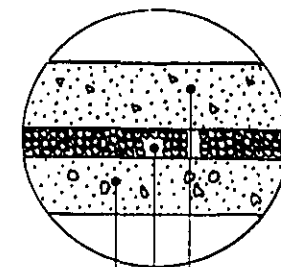
- 0.23 M. PORTLAND CEMENT CONCRETE PAVEMENT
- 0.20 M. AGGREGATE BASE COURSE (GRAVEL, CRUSHED GRAVEL OR CRUSHED STONE BASE COURSE, GRADING "B")
- 0.20 M. AGGREGATE SUB-BASE

DETAIL 2



- 0.10 M. CONCRETE SIDEWALK
- 0.10 M. AGGREGATE SUB-BASE

DETAIL 3

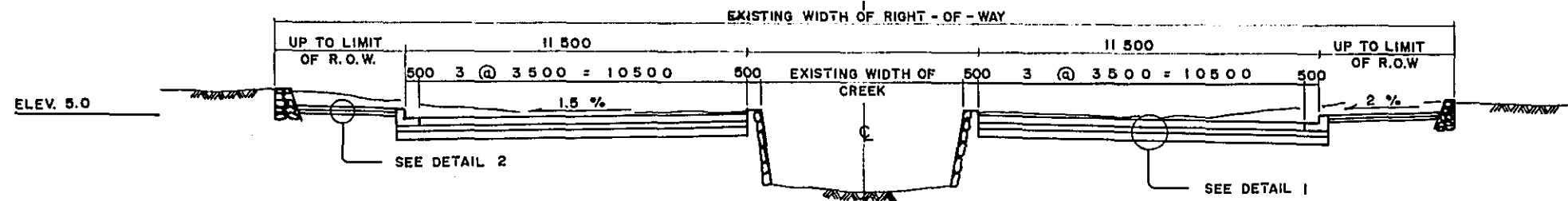


- 0.23 M. PORTLAND CEMENT CONCRETE PAVEMENT
- 0.10 M. AGGREGATE BASE COURSE (GRAVEL, CRUSHED GRAVEL OR CRUSHED STONE BASE COURSE, GRADING "B")
- 0.20 M. AGGREGATE SUB-BASE

### TYPICAL CROSS SECTION OF C-3

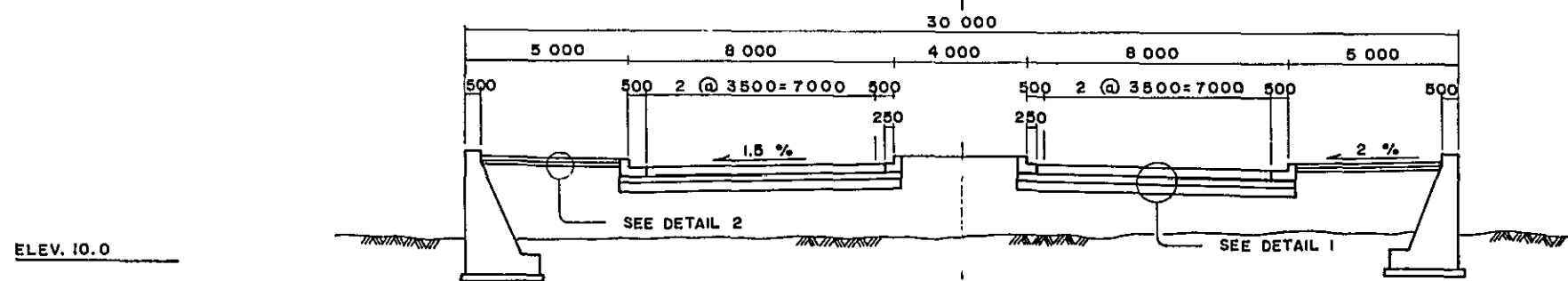
SCALE (HOR. & VERT.) S = 1:200

STA. 10 + 700



ELEV. 5.0

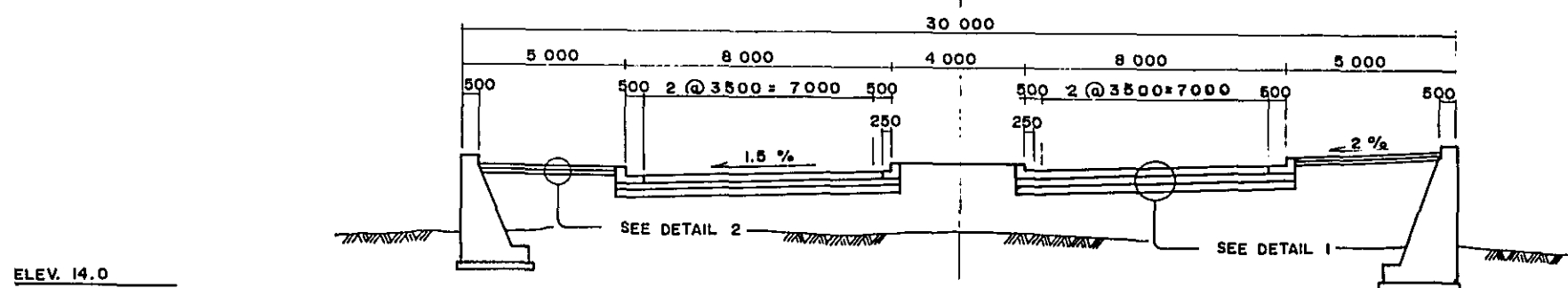
STA. 13 + 900



ELEV. 10.0

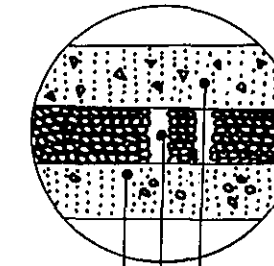
### CROSS SECTION OF RELATED ROAD OF C-3

STA. 12 + 900



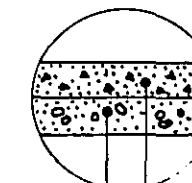
ELEV. 14.0

#### DETAIL 1



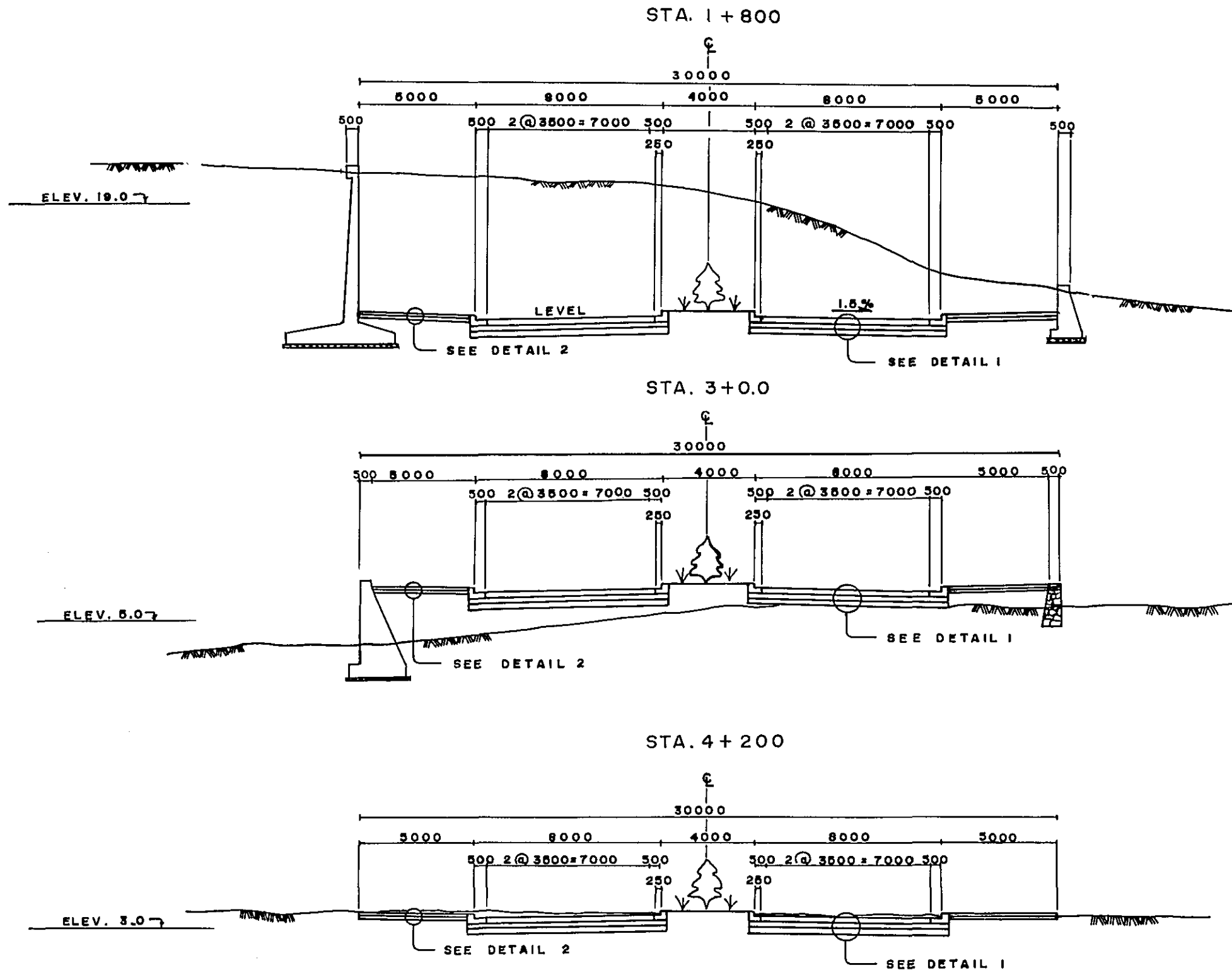
- 0.23 M. PORTLAND CEMENT CONCRETE PAVEMENT
- 0.20 M. AGGREGATE BASE COURSE (GRAVEL, CRUSHED GRAVEL OR CRUSHED STONE BASE COURSE, GRADING "B")
- 0.20 M. AGGREGATE SUB-BASE

#### DETAIL 2

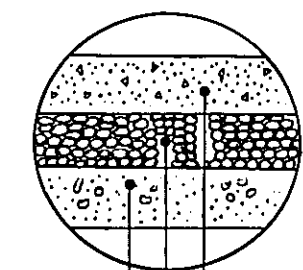


- 0.10 M. CONCRETE SIDEWALK
- 0.10 M. AGGREGATE SUB-BASE

# TYPICAL CROSS SECTION OF R-4

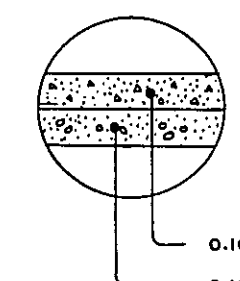


DETAIL 1



- 0.20 M. PORTLAND CEMENT CONCRETE PAVEMENT
- 0.20 M. AGGREGATE BASE COURSE (GRAVEL, CRUSHED GRAVEL OR CRUSHED STONE BASE COURSE, GRADING "B")
- 0.20 M. AGGREGATE SUB-BASE

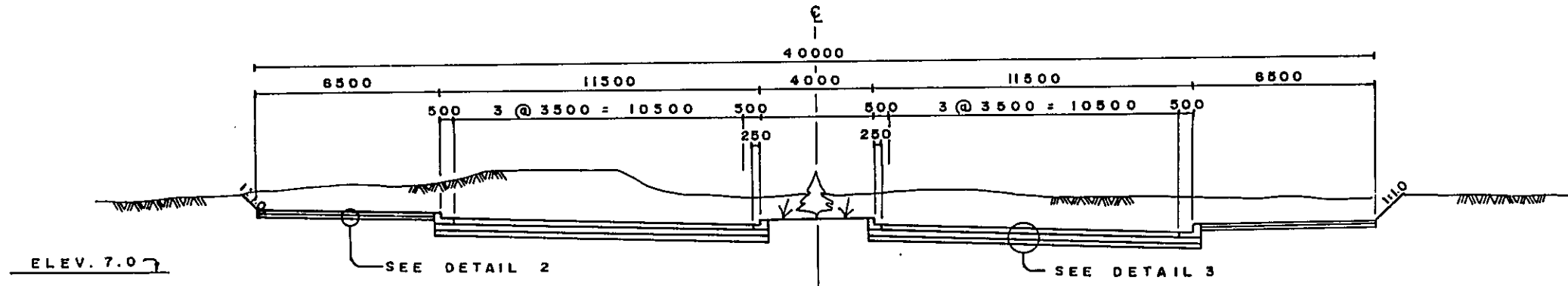
DETAIL 2



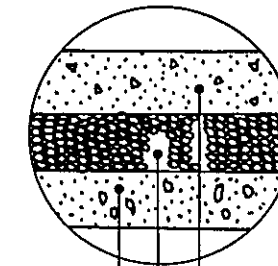
- 0.10 M. CONCRETE SIDEWALK
- 0.10 M. AGGREGATE SUB-BASE

CROSS - SECTION OF C-5 ( PASIG SIDE )

STA.0+100

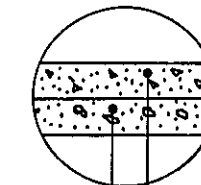


DETAIL 1



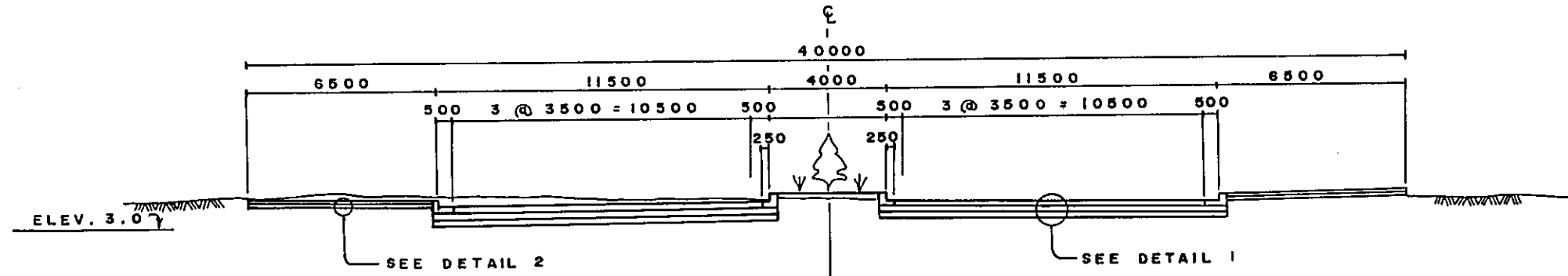
- 0.23 M. PORTLAND CEMENT CONCRETE PAVEMENT
- 0.20 M. AGGREGATE BASE COURSE (GRAVEL, CRUSHED GRAVEL OR CRUSHED STONE BASE COURSE, GRADING "B")
- 0.20 M. AGGREGATE SUB-BASE

DETAIL 2

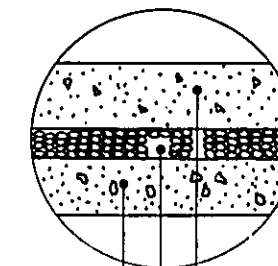


- 0.10 M. CONCRETE SIDEWALK
- 0.10 M. AGGREGATE SUB-BASE

STA.0+600



DETAIL 3



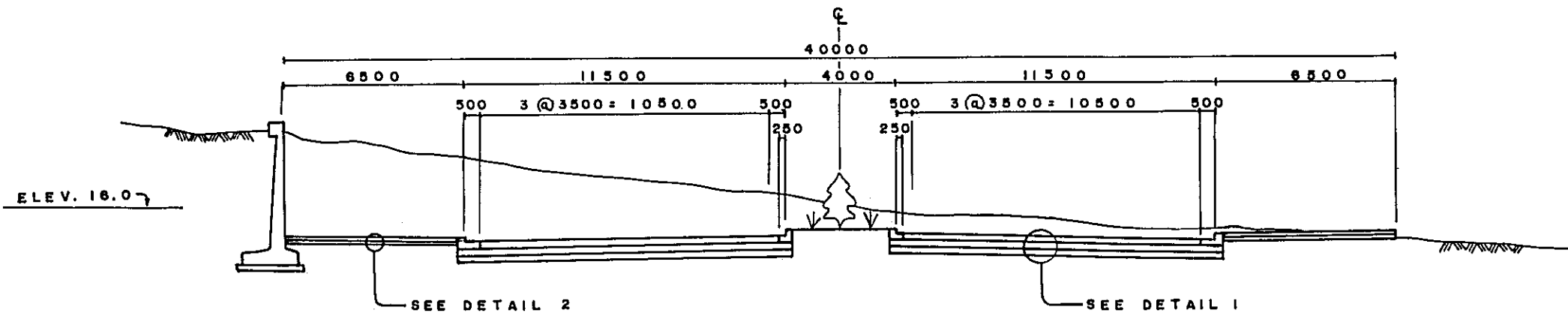
- 0.23 M. PORTLAND CEMENT CONCRETE PAVEMENT
- 0.10 M. AGGREGATE BASE COURSE (GRAVEL, CRUSHED GRAVEL OR CRUSHED STONE BASE COURSE, GRADING "B")
- 0.20 M. AGGREGATE SUB-BASE

THE FEASIBILITY STUDY ON C-3 & R-4  
ROADS CONSTRUCTION PROJECT  
TYPICAL CROSS SECTION

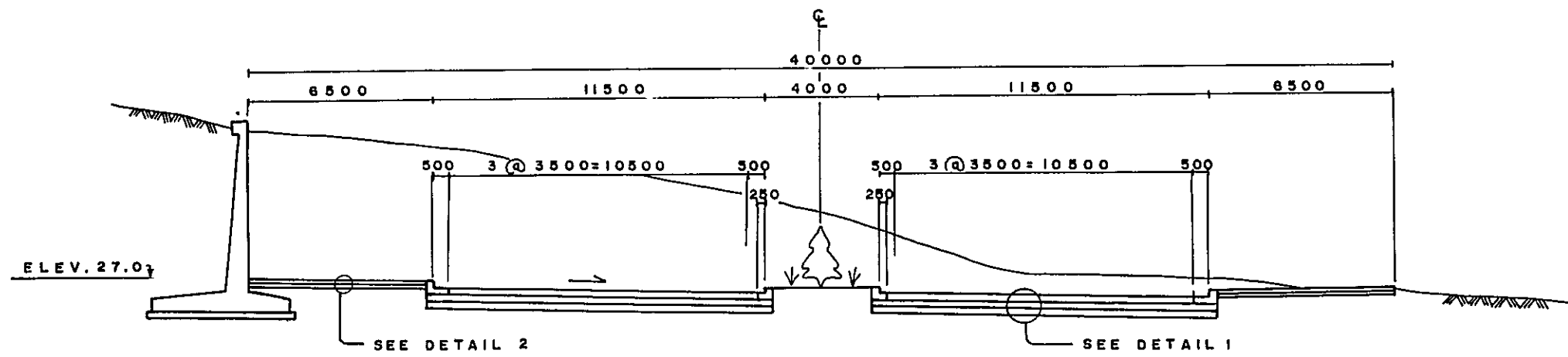
FIGURE  
28

# TYPICAL TYPICAL CROSS SECTION OF C-5 (QUEZON CITY SIDE)

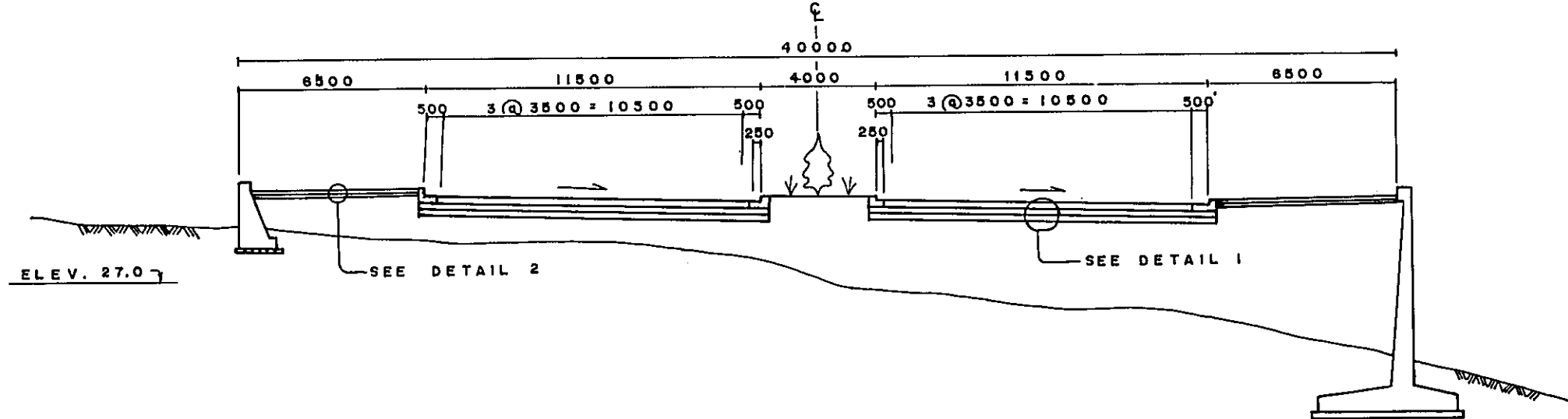
STA. 0+500



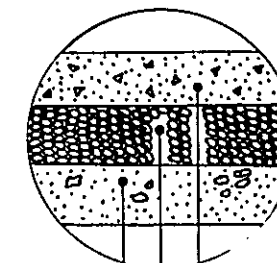
STA. 1+0.0



STA. 1+100

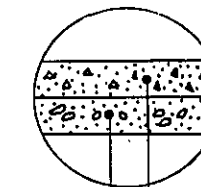


DETAIL 1



- 0.23 M. PORTLAND CEMENT CONCRETE PAVEMENT
- 0.20 M. AGGREGATE BASE COURSE (GRAVEL, CRUSHED GRAVEL OR CRUSHED STONE BASE COURSE, GRADING "B")
- 0.20 M. AGGREGATE SUB-BASE

DETAIL 2



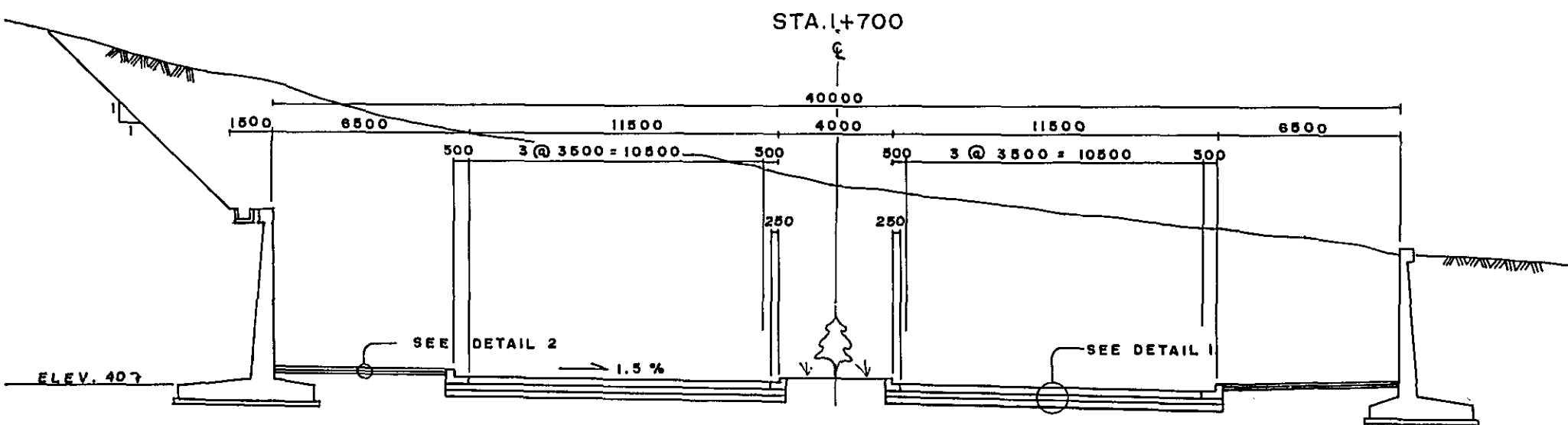
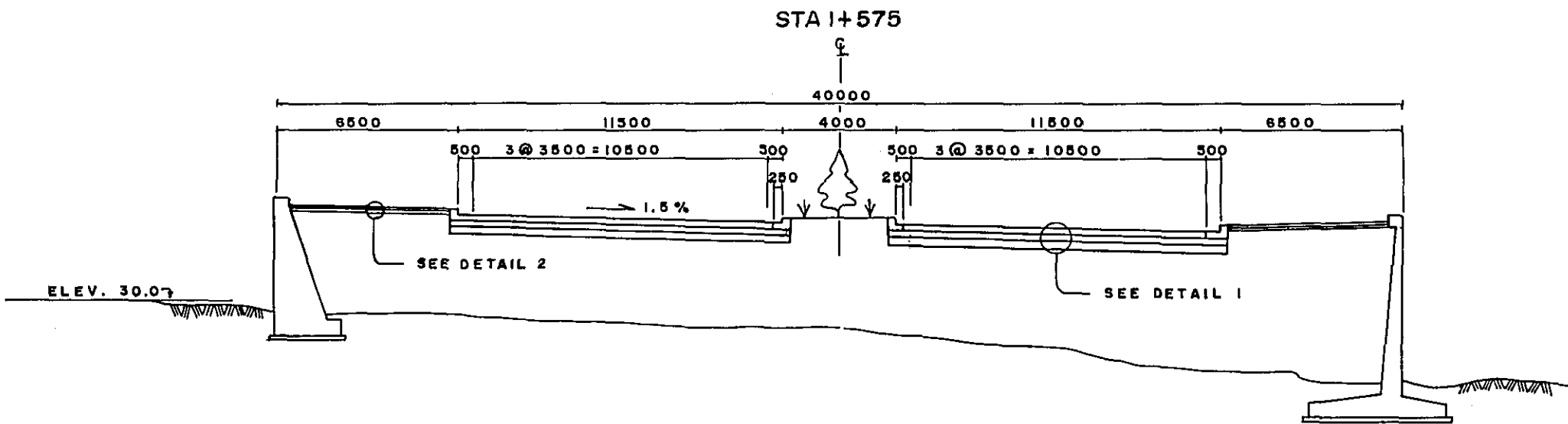
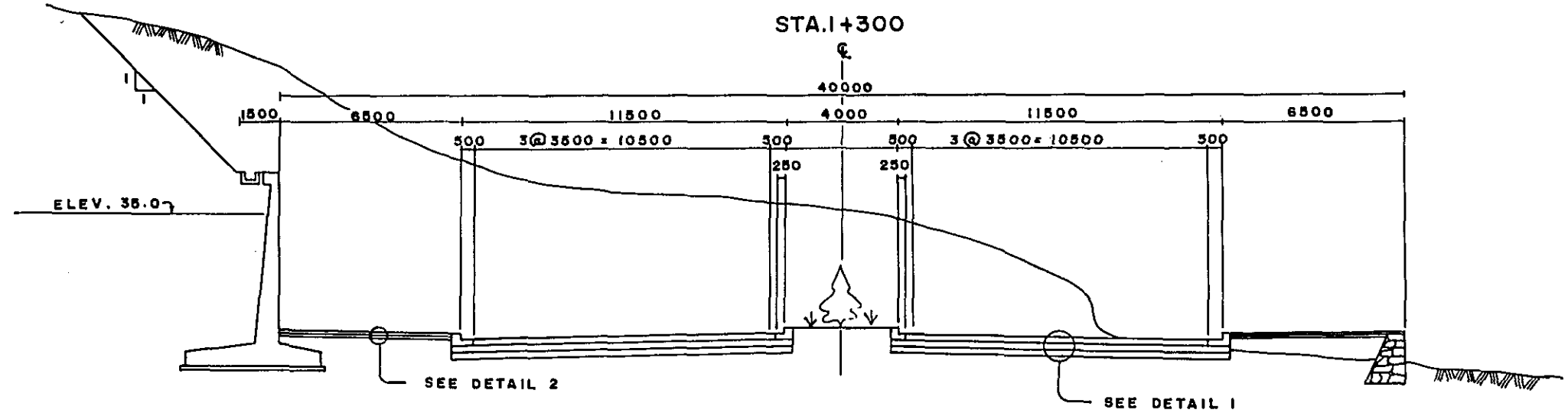
- 0.10 M. CONCRETE SIDEWALK
- 0.10 M. AGGREGATE SUB-BASE

THE FEASIBILITY STUDY ON C-3 & R-4  
ROADS CONSTRUCTION PROJECT  
TYPICAL CROSS SECTION

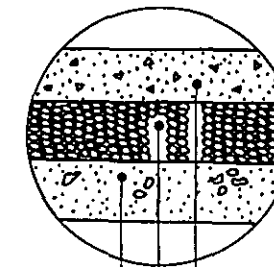
FIGURE

29

TYPICAL CROSS SECTION OF C-5 (QUEZON CITY SIDE)

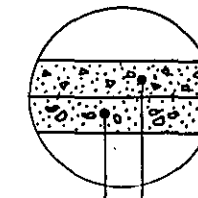


DETAIL 1



- 0.23 M. PORTLAND CEMENT CONCRETE PAVEMENT
- 0.20 M. AGGREGATE BASE COURSE (GRAVEL, CRUSHED GRAVEL OR CRUSHED STONE BASE COURSE, GRADING "B")
- 0.20 M. AGGREGATE SUB-BASE

DETAIL 2



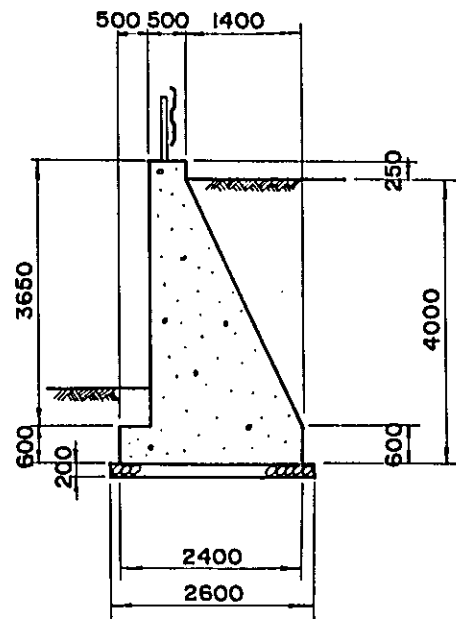
- 0.10 M. CONCRETE SIDEWALK
- 0.10 M. AGGREGATE SUB-BASE



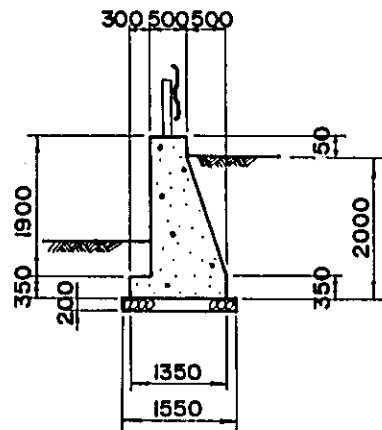
**GRAVITY - TYPE RETAINING WALL**

H = 4000

S = 1:100

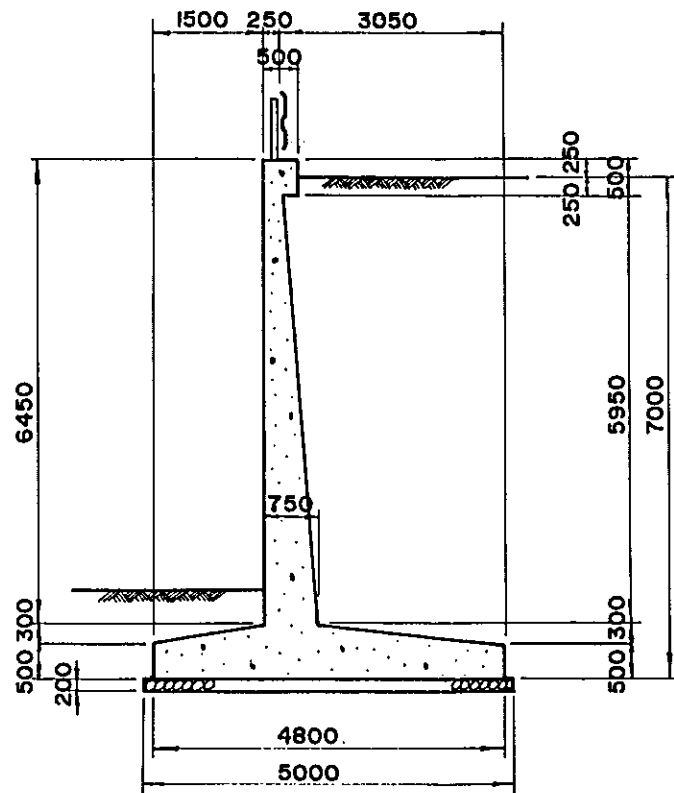


H = 2000

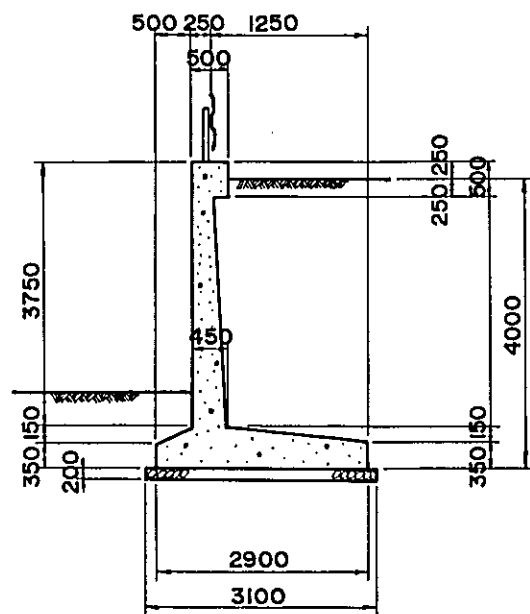


**REINFORCED CONCRETE RETAINING WALL**

H = 7000



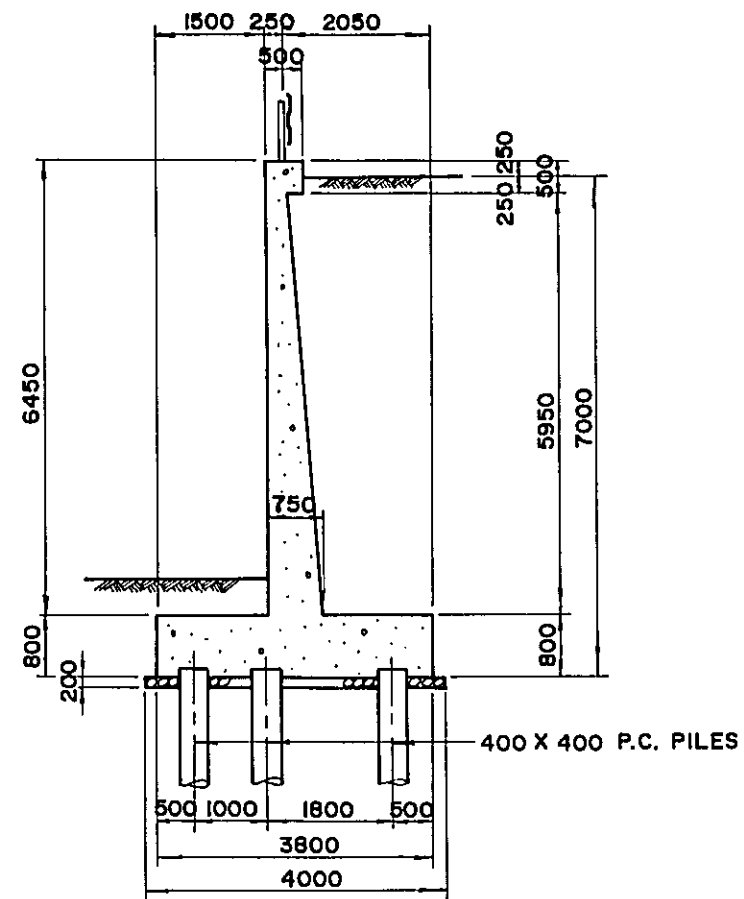
H = 4000



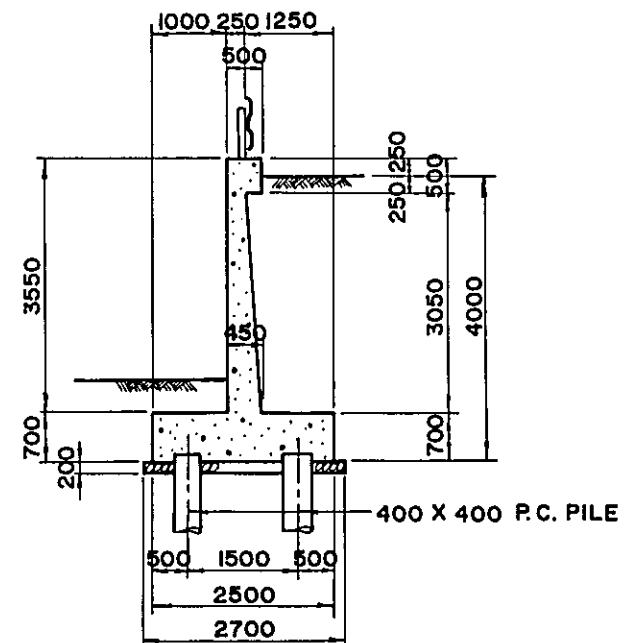
**REINFORCED CONCRETE RETAINING WALL WITH PILE**

H = 7000

S = 1:100



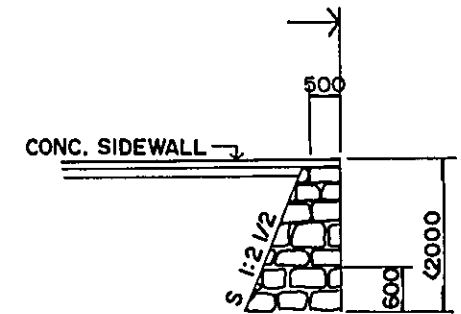
H = 4000



**ADOBE RETAINING WALL**

H = <2000

S = 1:100



**GENERAL NOTES**

ALL DIMENSIONS ARE IN MILLIMETERS.  
SCALE EACH NOTED.

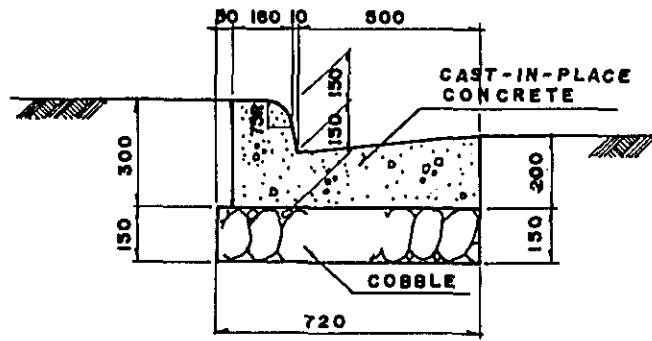
MISCELLANEOUS WORK  
(RETAINING WALL)

FIGURE

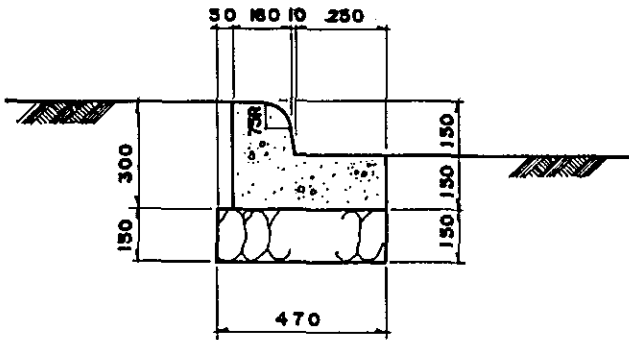
31



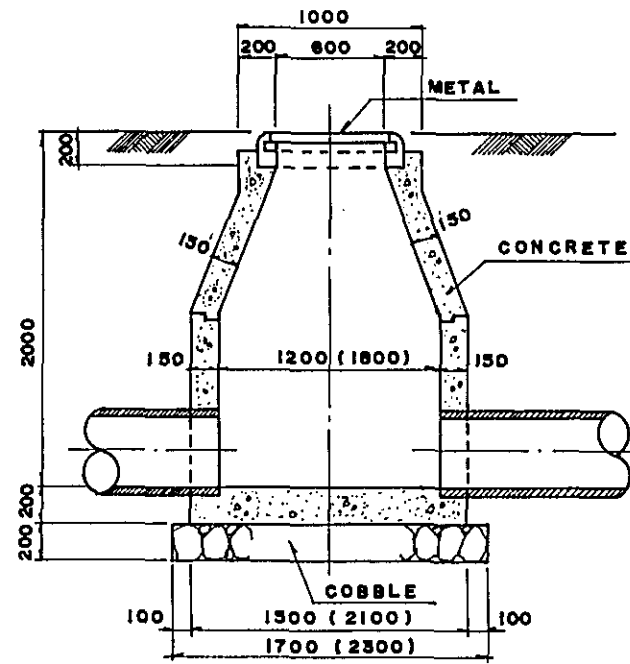
L-TYPE GUTTER B=500 SCALE 1:20



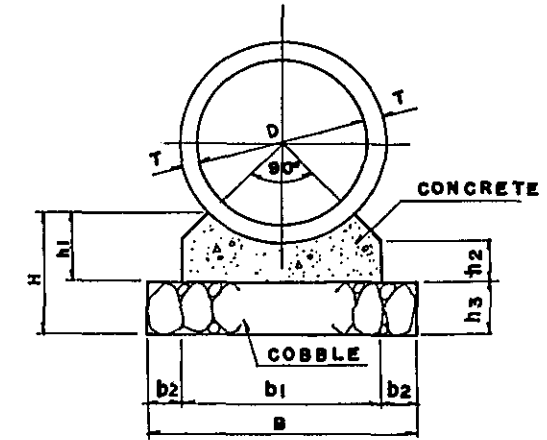
CONCRETE CURB B=250



CONCRETE MANHOLE SCALE 1:40

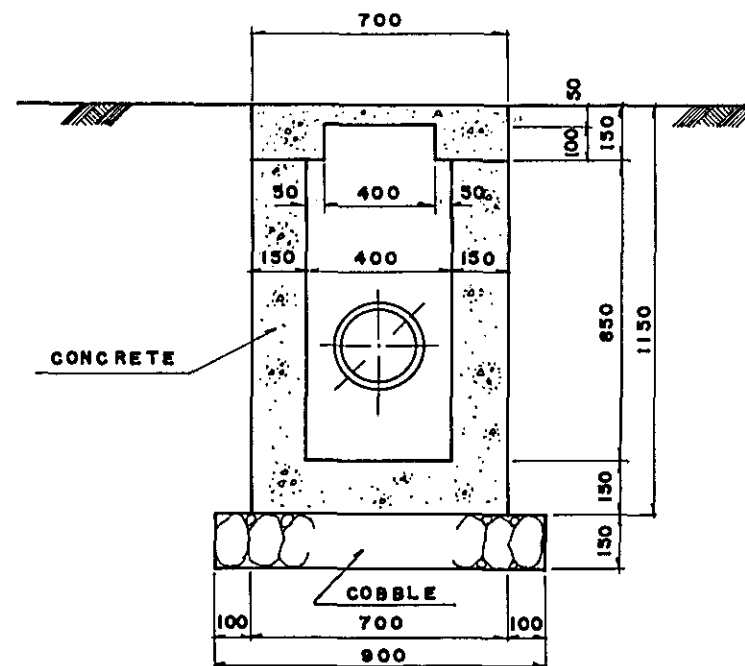
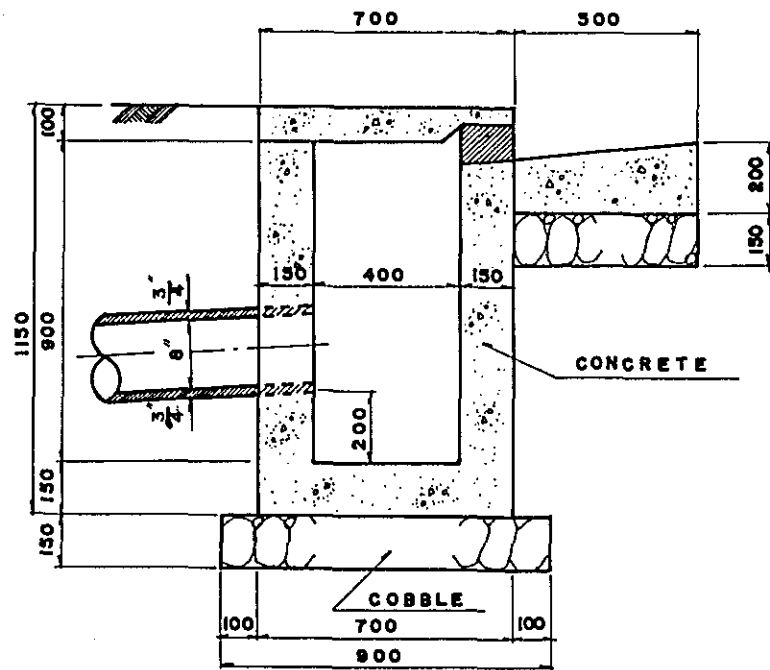


DRAIN PIPE SCALE 1:20



D <sup>in</sup>	T	H	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	B	b <sub>1</sub>	b <sub>2</sub>
12 <sup>in</sup>	1 <sup>in</sup>	260 <sup>mm</sup>	110 <sup>mm</sup>	80 <sup>mm</sup>	150 <sup>mm</sup>	560 <sup>mm</sup>	360 <sup>mm</sup>	100 <sup>mm</sup>
18	2½	298	148	110	150	760	540	110
20	3	360	210	160	150	950	730	110
36	4	435	285	210	150	1300	1070	115
48	5	505	355	260	150	1600	1410	120

CATCH BASIN SCALE 1:20

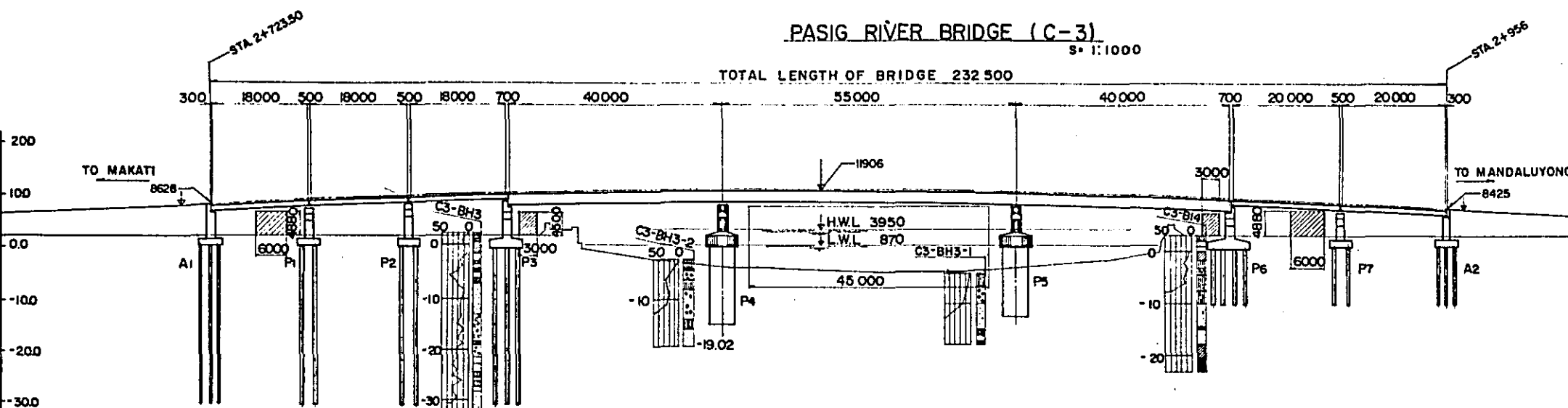




PASIG RIVER BRIDGE (C-3)

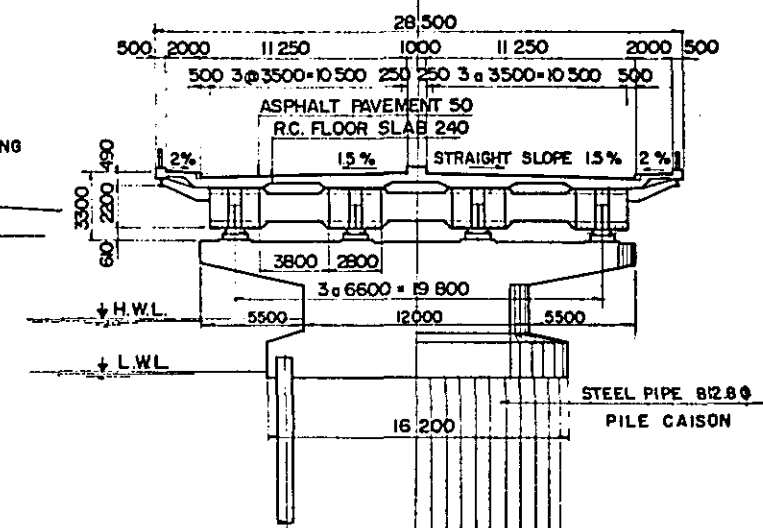
S = 1:1000

TOTAL LENGTH OF BRIDGE 232 500



CROSS SECTION AT PIER P4 P5

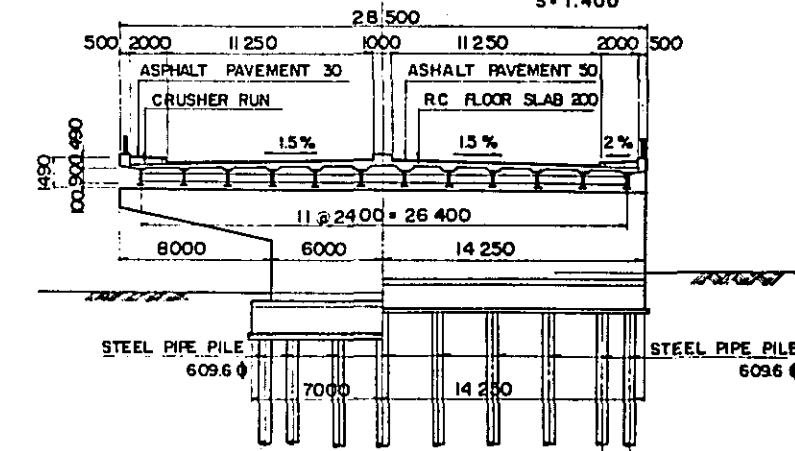
S = 1:400



CROSS SECTION

PIER P1 ABUTMENT A1

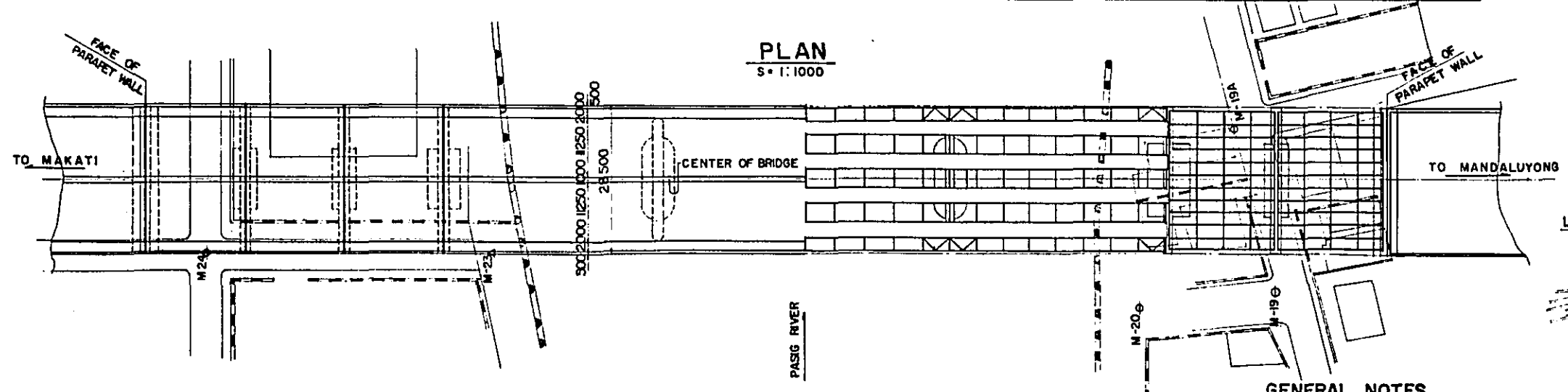
S = 1:400



VERT. CURVE LENGTH STATION GRADE	8.306	2+718	8.306	2+723.5	11.040	2+800	0.90	2+819.5	11.820	2+838	11.906	2+874.5	11.573	2+900	10.450	2+956	8.425	2+956	8.306
PROPOSED HEIGHT	8.306	8.628			11.040			11.820	11.906			11.573		10.450			8.425	8.306	
GROUND HEIGHT							0.90												
STATION	2+718	2+723.5			2+735		2+800	2+819.5	2+838		2+874.5	2+900	2+940.5			2+956	2+956		
CURVE BANDE																			

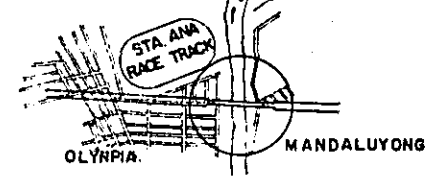
PLAN

S = 1:1000



LOCATION MAP

S = 1:4000



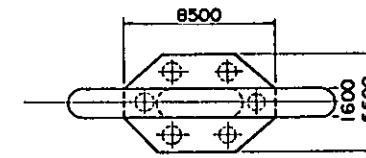
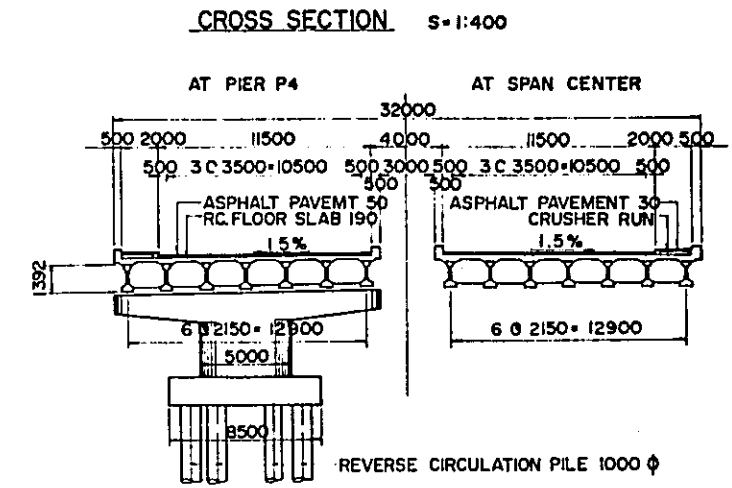
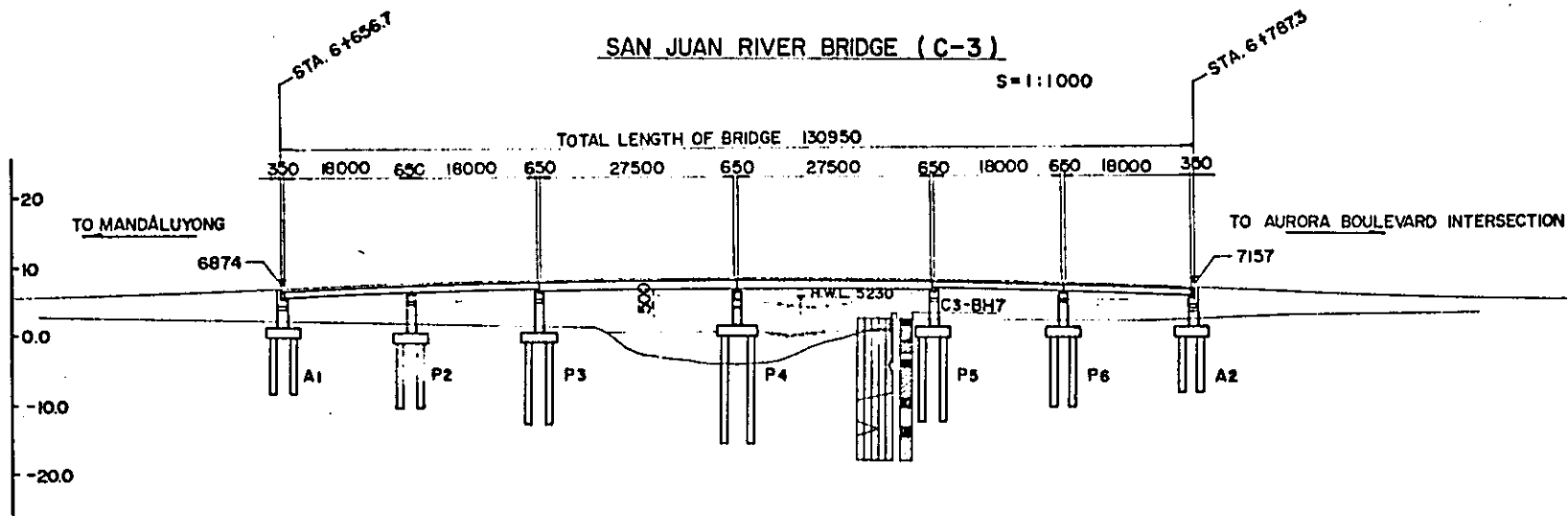
GENERAL NOTES

ALL DIMENSIONS ARE IN MILLIMETERS.  
ELEVATIONS ARE SHOWN IN DL. OF DPM.  
SCALE EACH NOTED

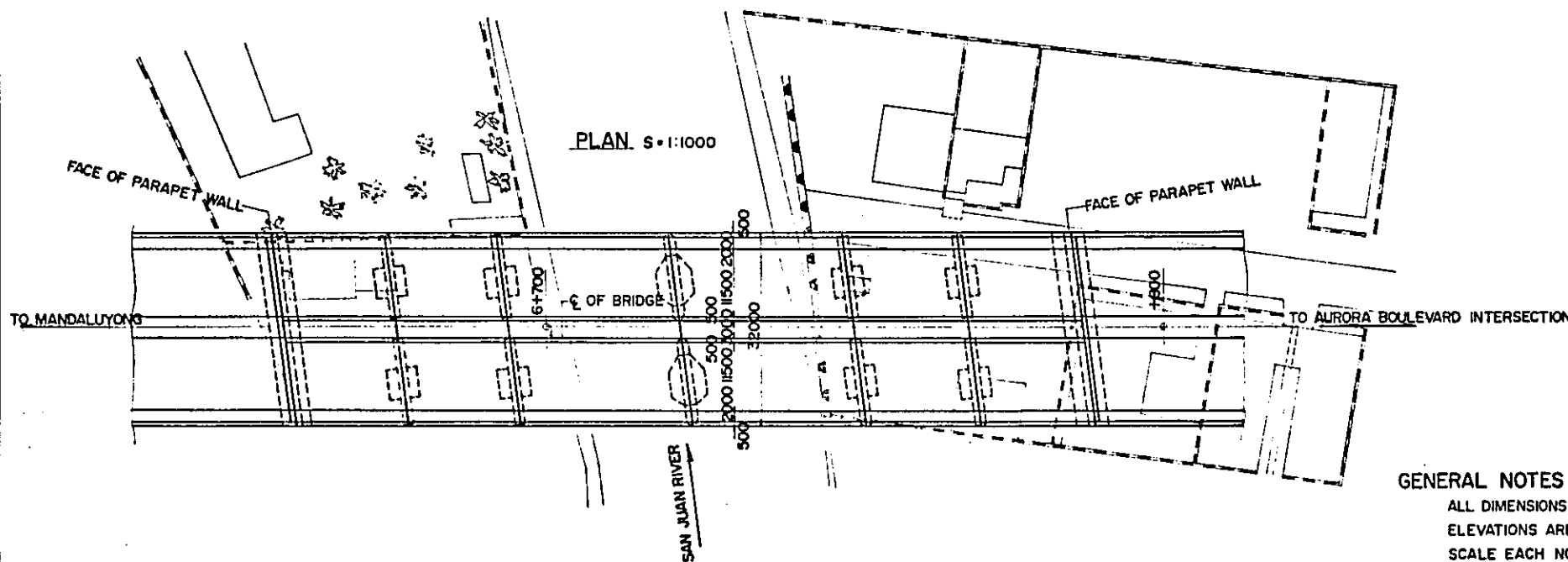
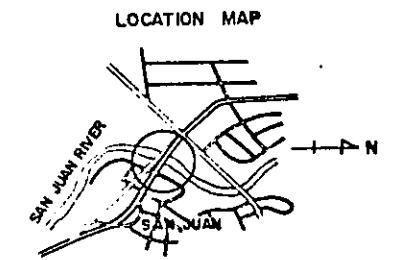
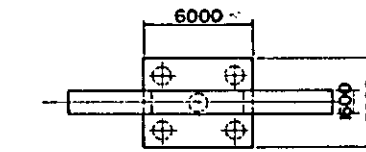
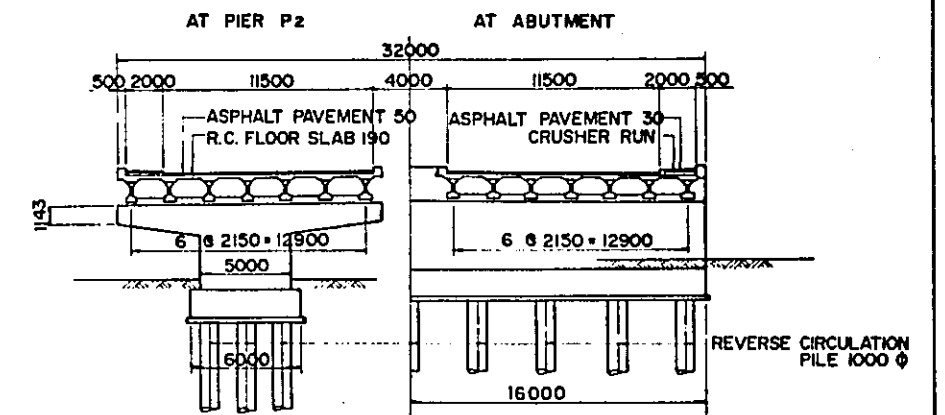
PASIG RIVER BRIDGE (C-3)

FIGURE

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VERT. CURVE LENGTH GRADE RADIUS	61650	61650	61725	61800	61800	61856
PROPOSED HEIGHT	6544	6874		7154	6598	
GROUND HEIGHT			100		300	
STATION	6+650	6+667	6+700	6+725	6+765	6+806
CURVE BAND	R=∞ L=466000					R=1000 L=1588.000

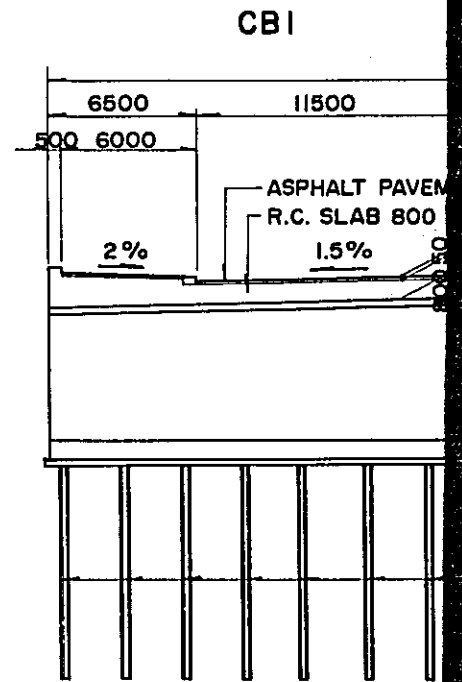
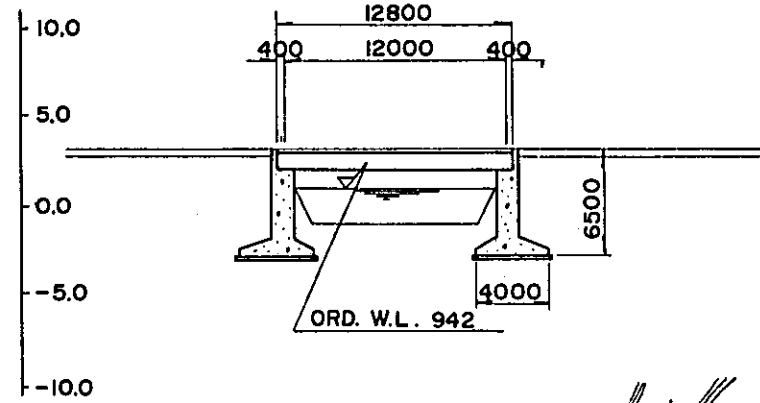
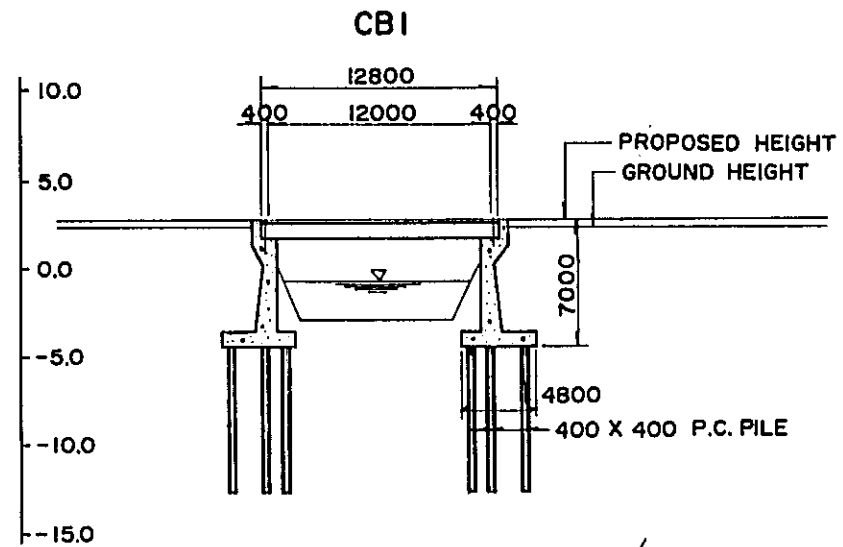


**GENERAL NOTES**  
 ALL DIMENSIONS ARE IN MILLIMETERS  
 ELEVATIONS ARE SHOWN IN D.L. OF D.P.H.  
 SCALE EACH NOTED.

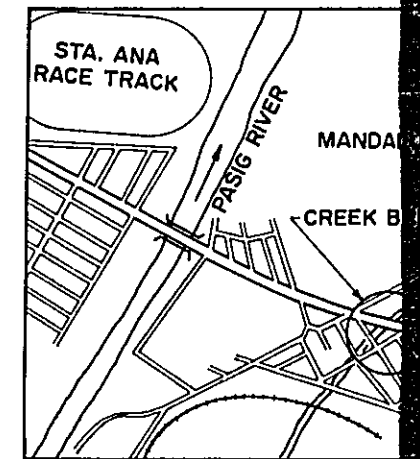
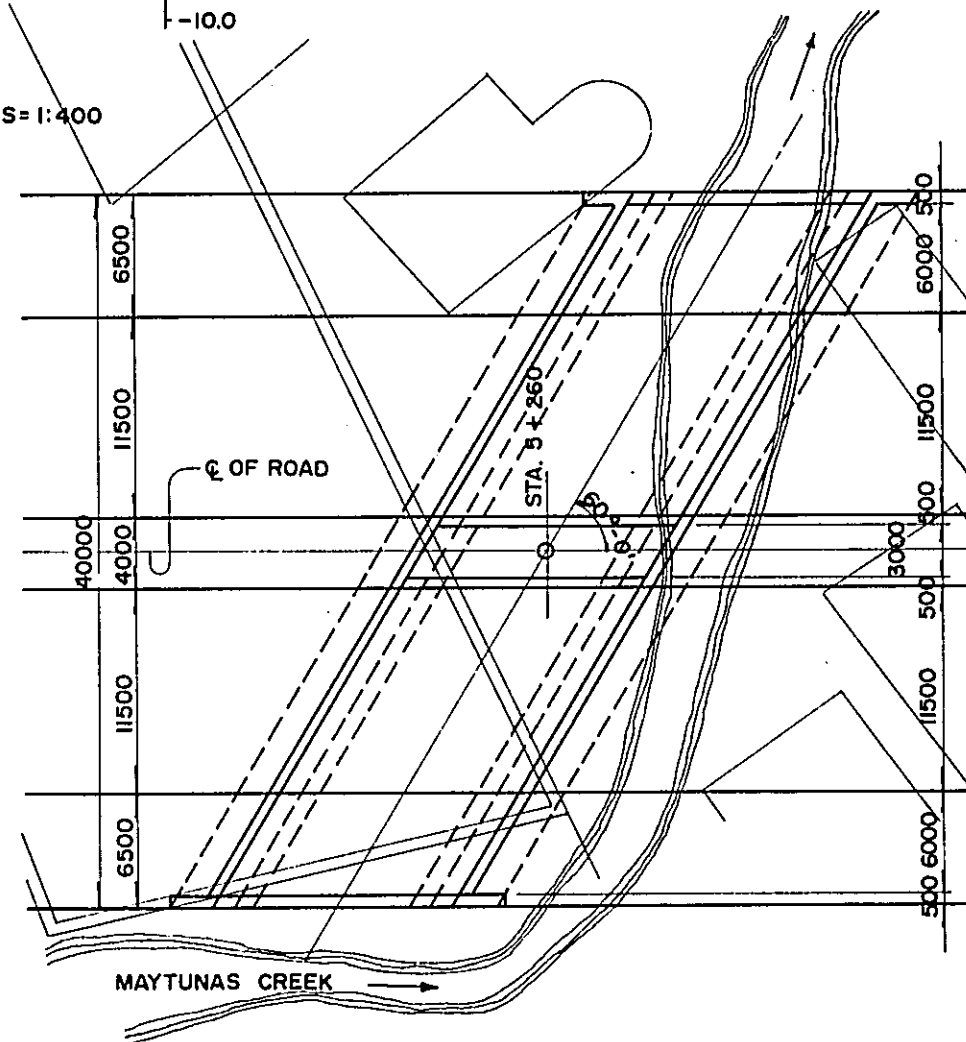
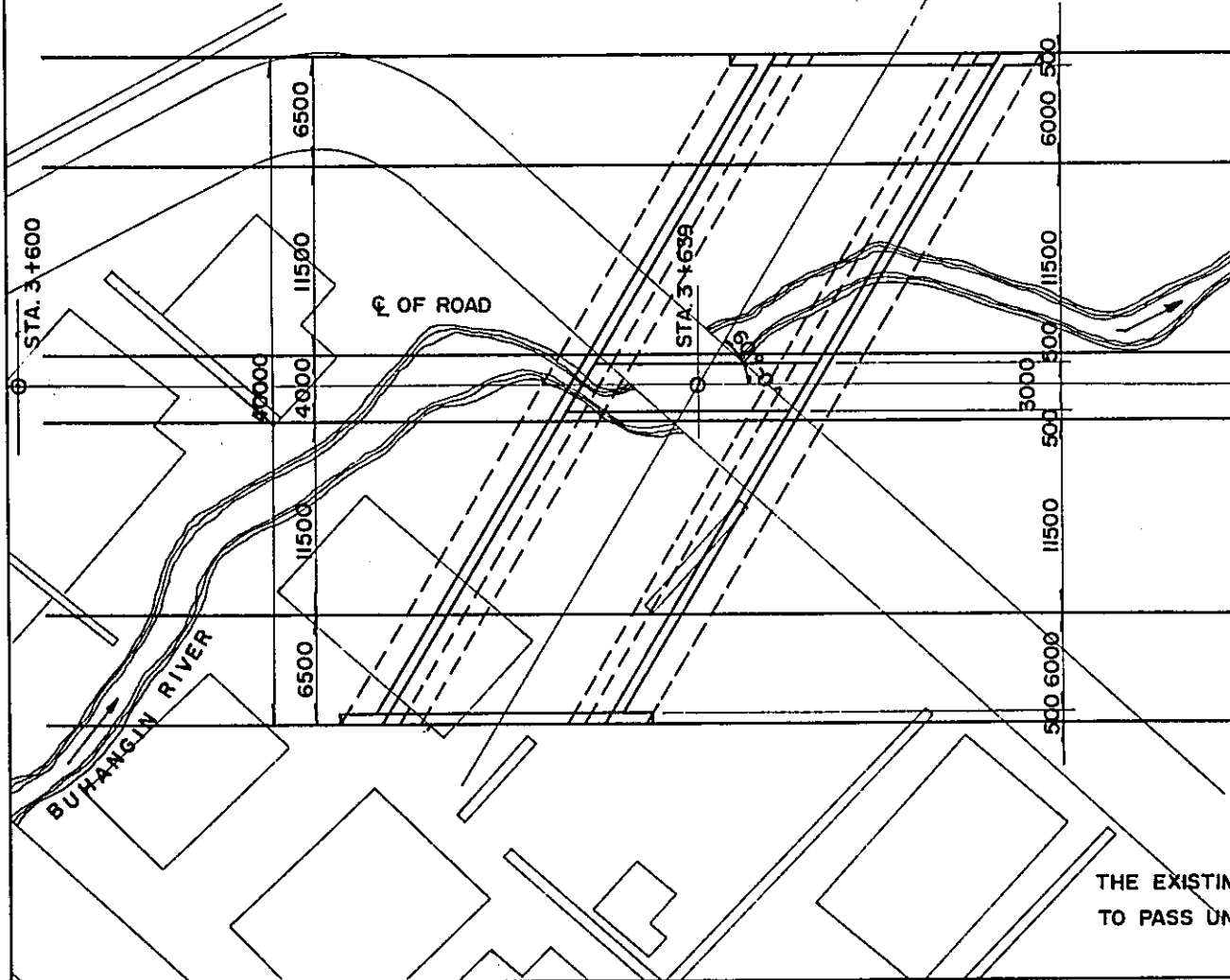
**SAN JUAN RIVER BRIDGE (C-3)**  
**FIGURE 35**

**CREEK BRIDGE (C-3)**  
(R. C. SLAB BRIDGE)

S = 1 : 400



**PLAN** S = 1 : 400

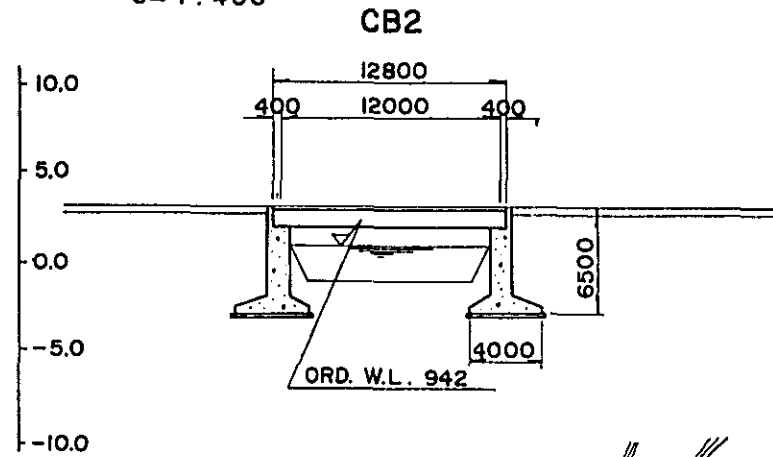


THE EXISTING CREEK SHOULD BE RELOCATED  
TO PASS UNDER THE PROPOSED BRIDGE

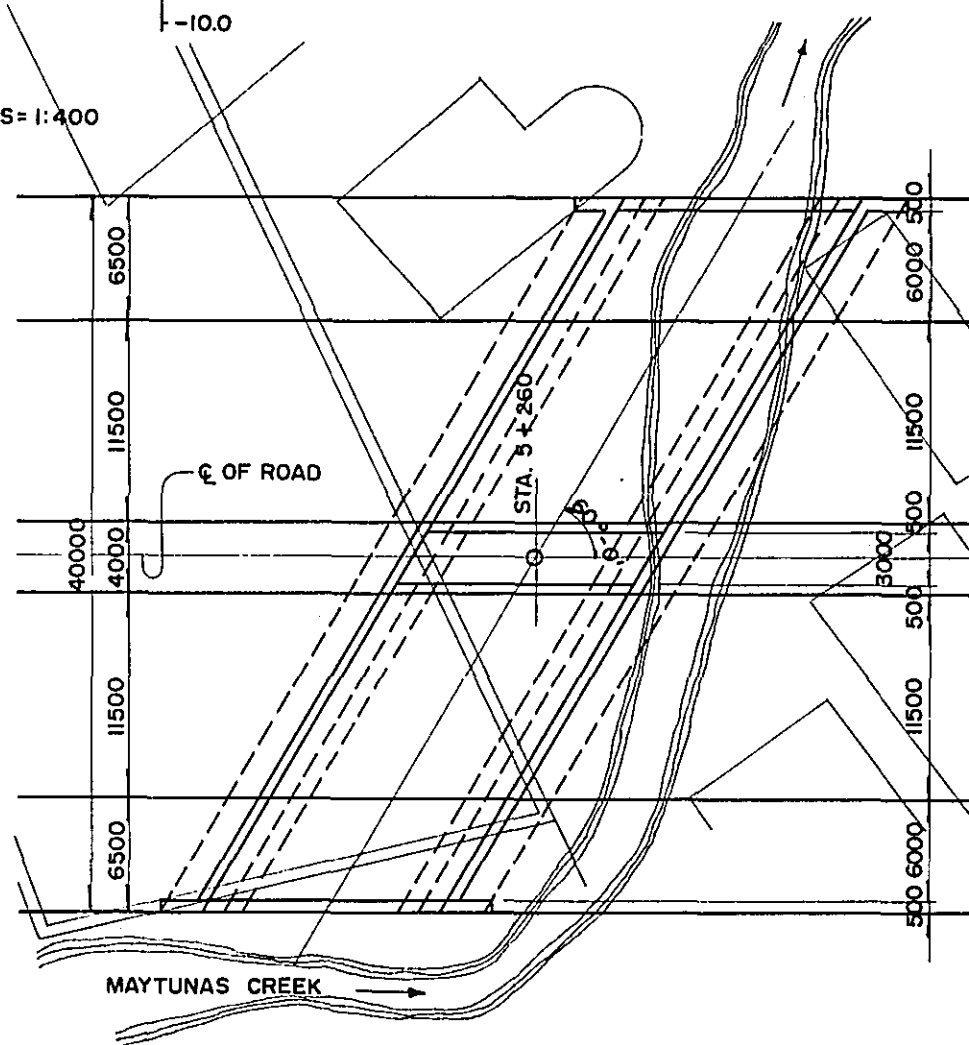
ALL DIMENSIONS ARE IN MILLIMETERS  
ELEVATIONS ARE SHOWN IN D.L. OF D.  
SCALE EACH NOTED.

**CREEK BRIDGE (C-3)**  
(R. C. SLAB BRIDGE)

S = 1:400

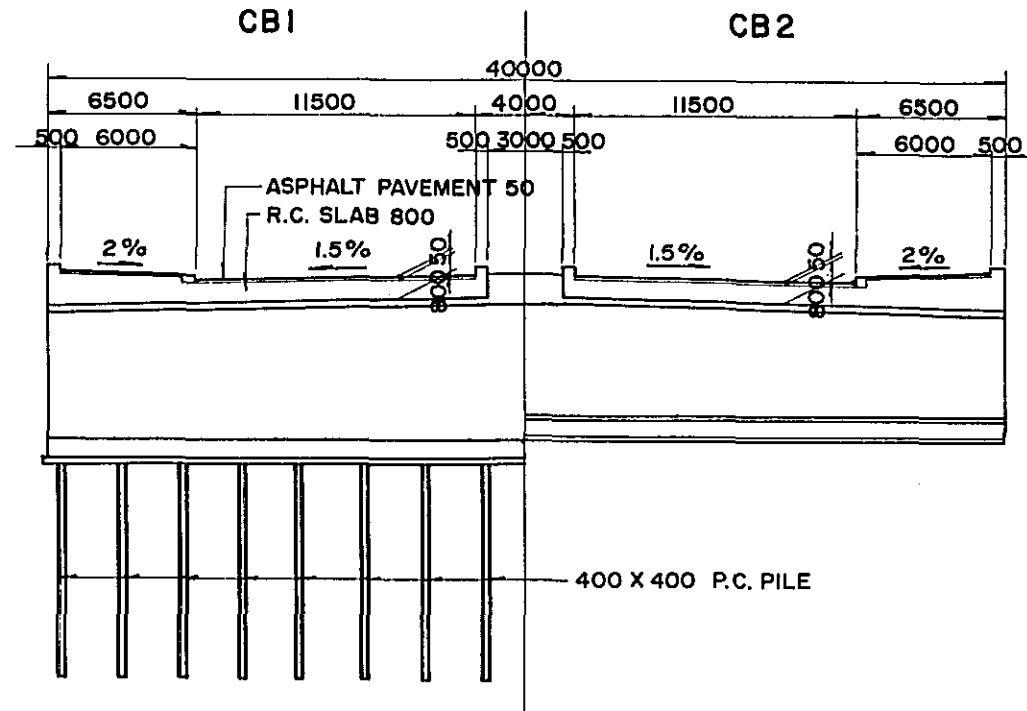


**PLAN** S = 1:400

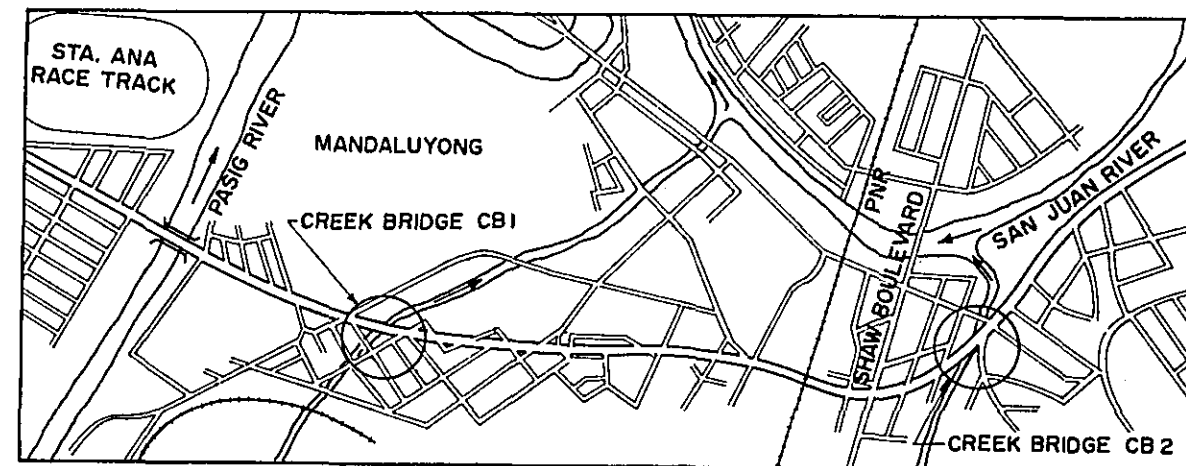


THE EXISTING CREEK SHOULD BE RELOCATED  
TO PASS UNDER THE PROPOSED BRIDGE

**CROSS SECTION** S = 1:300



**LOCATION MAP** S = 1:20000



ALL DIMENSIONS ARE IN MILLIMETERS  
ELEVATIONS ARE SHOWN IN D.L. OF D.P.H.  
SCALE EACH NOTED.

CREEK BRIDGE (C-3)

FIGURE

36



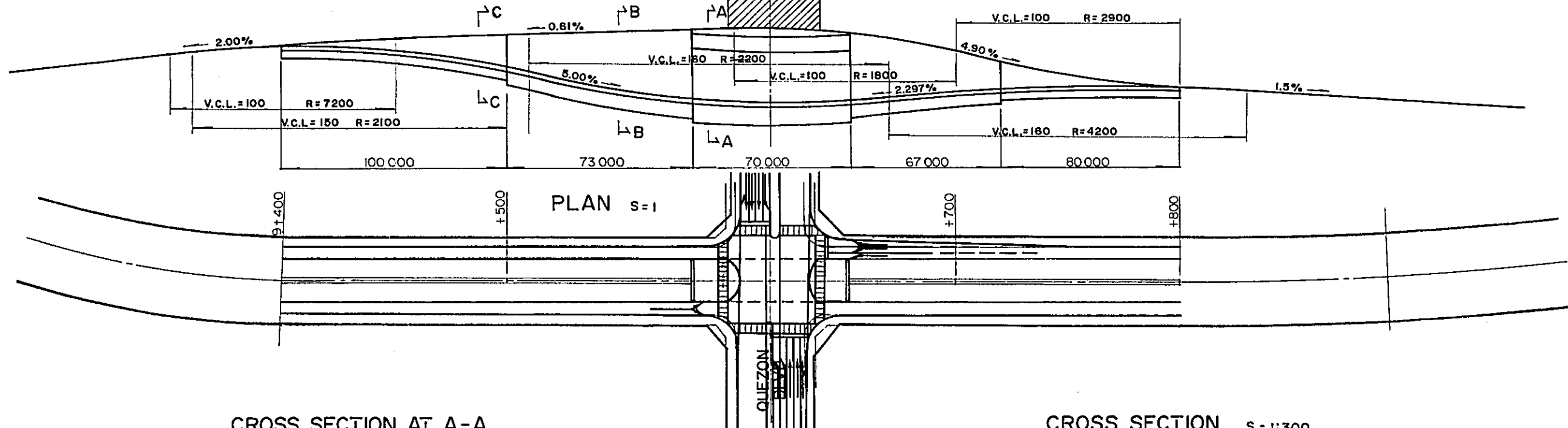
PROFILE OF UNDERPASS AT QUEZON BLVD INTERSECTION

SCALE V = 1:400  
H = 1:2000

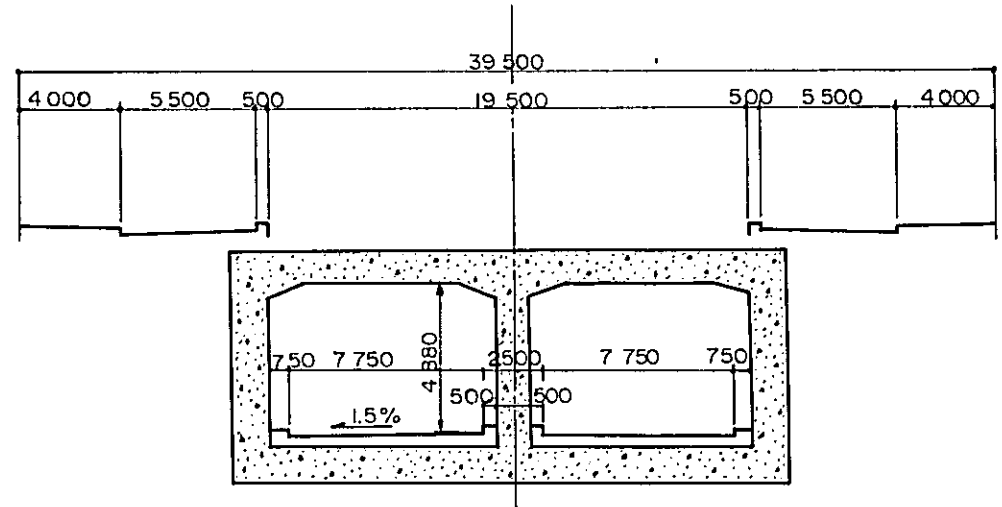
TO EULOGIO RODRIGUEZ ST.

TO DEL MONTE AVENUE

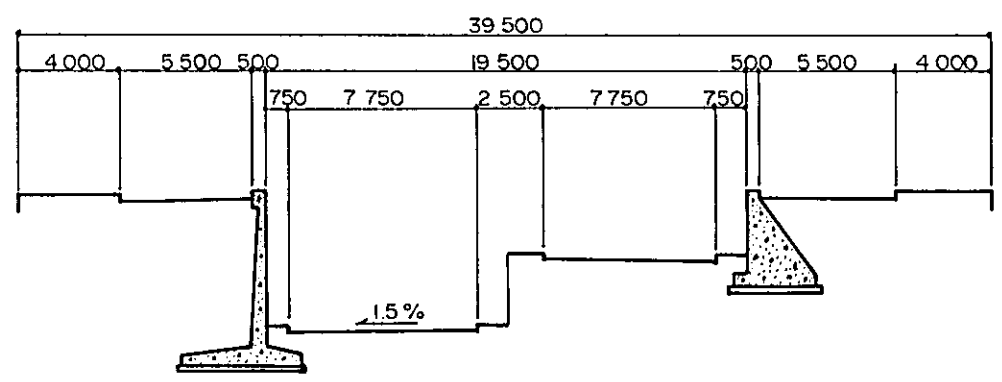
QUEZON BLVD INTERSECTION



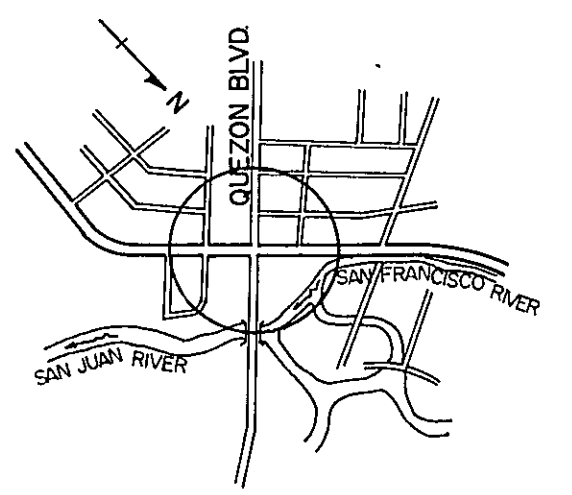
CROSS SECTION AT A-A  
S=300



CROSS SECTION AT B-B AT C-C  
S=1:300



LOCATION MAP



GENERAL NOTES

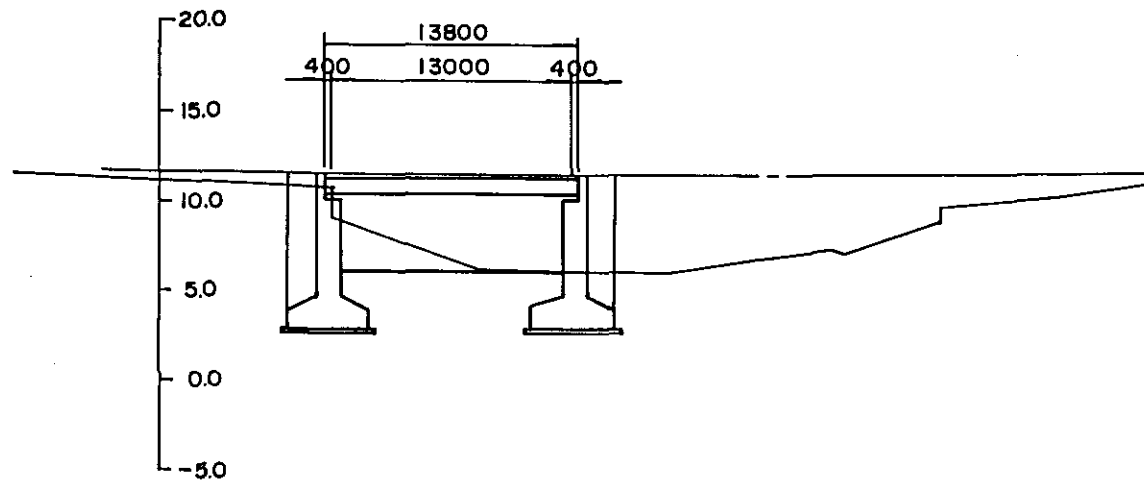
ALL DIMENSIONS ARE IN MILLIMETERS  
ELEVATIONS ARE SHOWN IN D.L. OF D.P.H.  
SCALE EACH NOTED.

PROFILE OF UNDERPASS  
AT QUEZON BLVD. INTERSECTION

FIGURE  
37

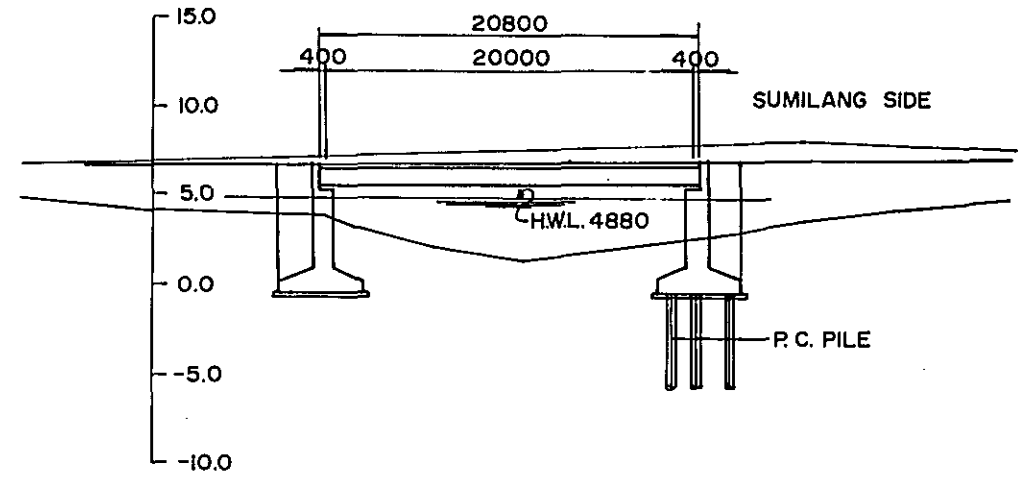
**SAN JOSE CREEK BRIDGE ( R-4 )**

S = 1:400

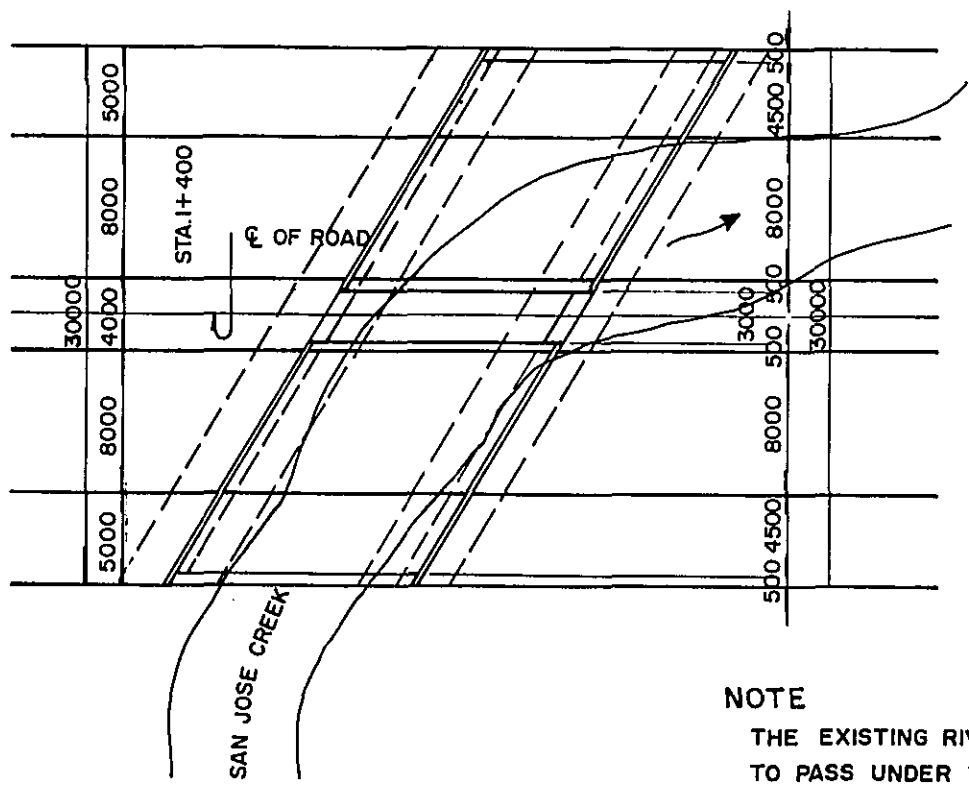


**TAGUIG RIVER BRIDGE ( R-4 )**

S = 1:400

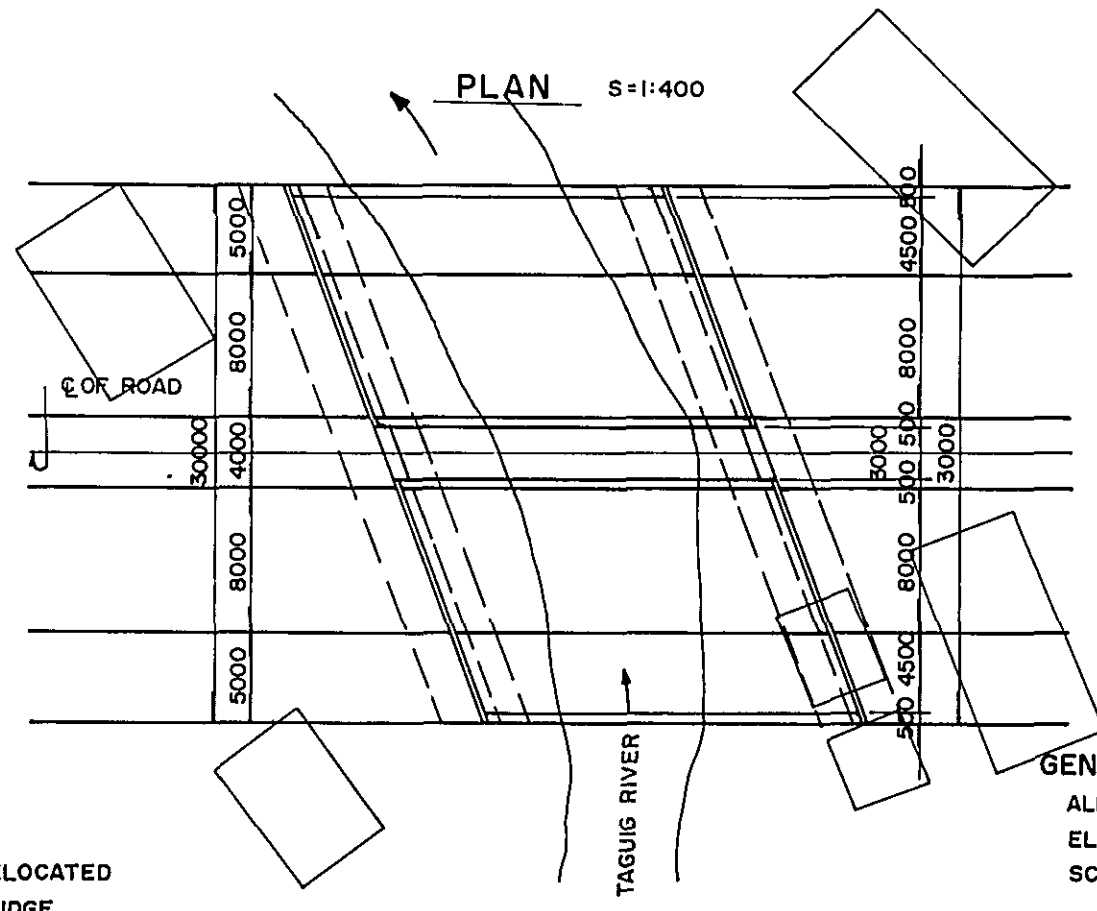


**PLAN S=1:400**



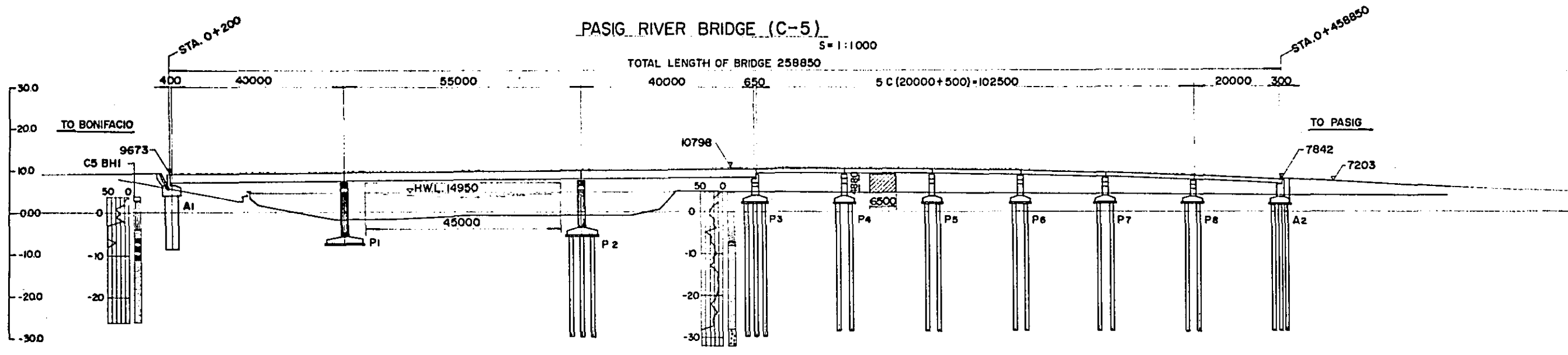
**NOTE**  
THE EXISTING RIVER SHOULD BE RELOCATED TO PASS UNDER THE PROPOSED BRIDGE.

**PLAN S=1:400**

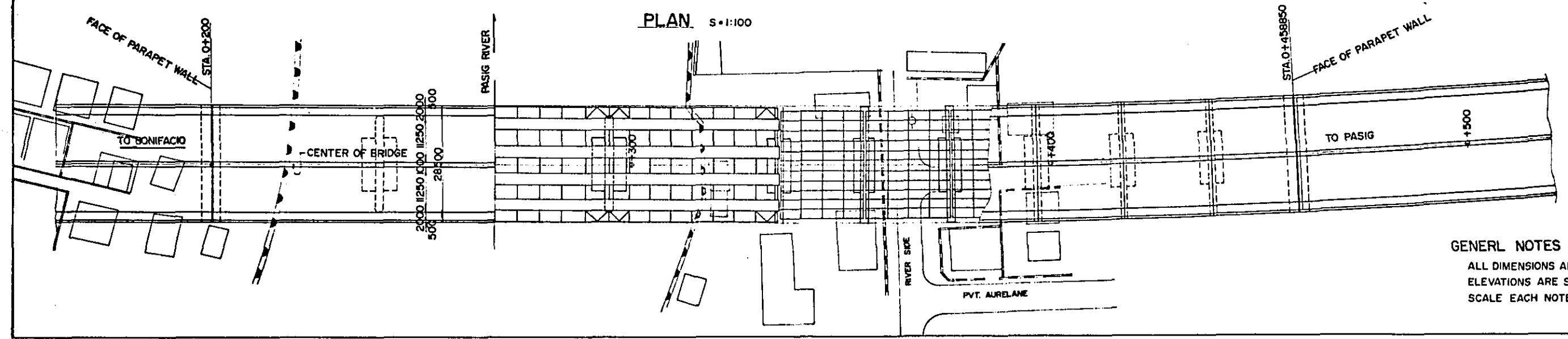


**GENERAL NOTES**  
ALL DIMENSIONS ARE IN M  
ELEVATION ARE SHOWN IN M  
SCALE EACH NOTED.





	VERTICAL CURVE DATA												
PROPOSED HEIGHT		9.604	9.673		10.538	10.798	10.874		10.202		7.203	5.658	4.760
GROUND HEIGHT			6.15									3.95	
STATION		KA2-3 +192	+200		+300	+330	BC3 +348		+400		+470	+500	+525
CURVE BAND		R = ∞ L = 297.000						R = 2000 L = 279.000					



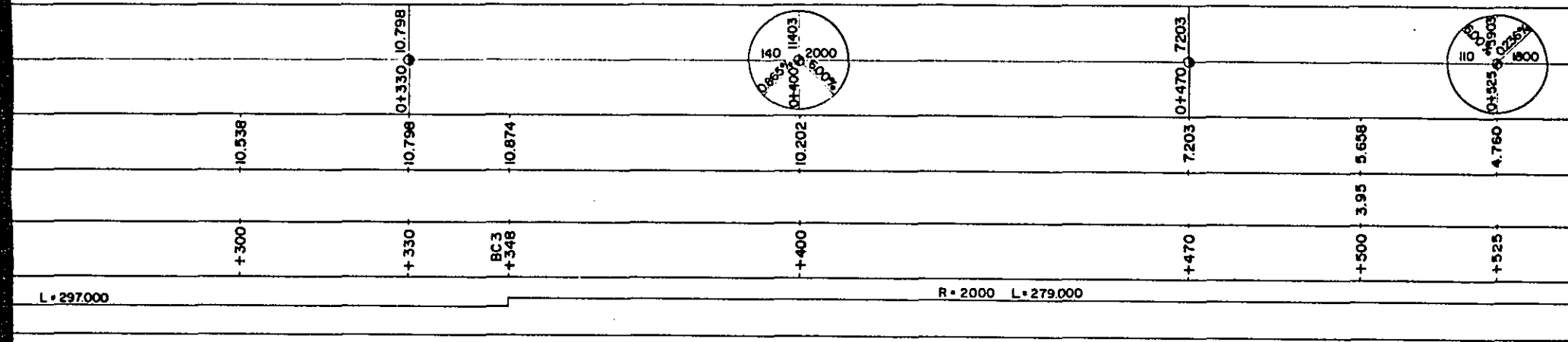
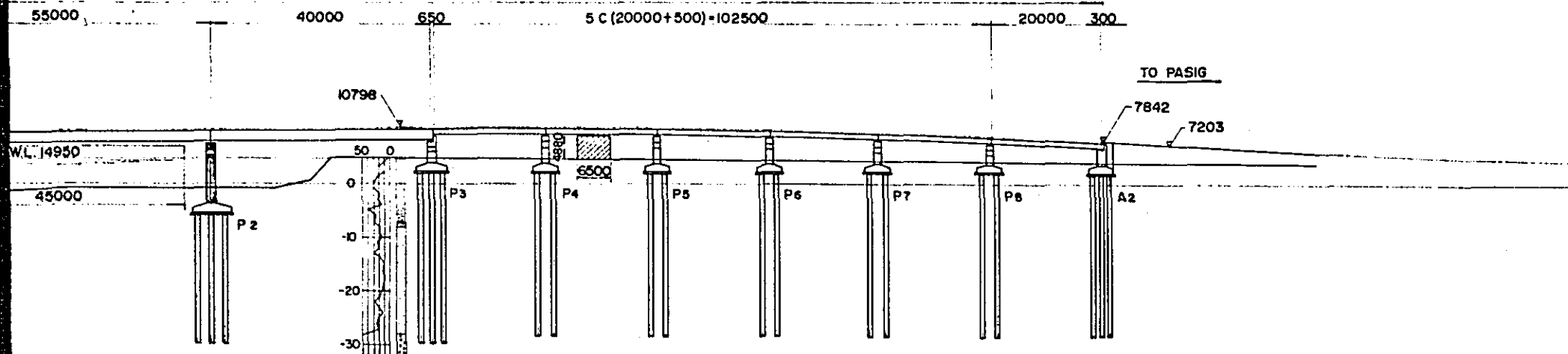
**GENERAL NOTES**  
ALL DIMENSIONS ARE IN METERS  
ELEVATIONS ARE SHOWN IN METERS  
SCALE EACH NOTED

PASIG RIVER BRIDGE (C-5)

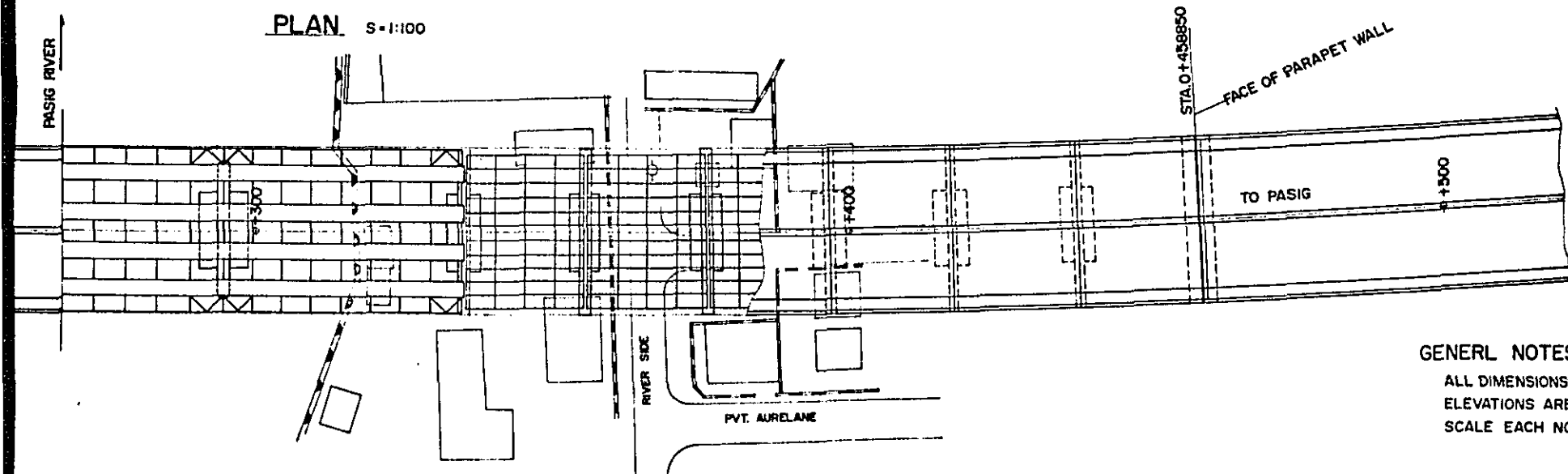
S = 1:1000

TOTAL LENGTH OF BRIDGE 258850

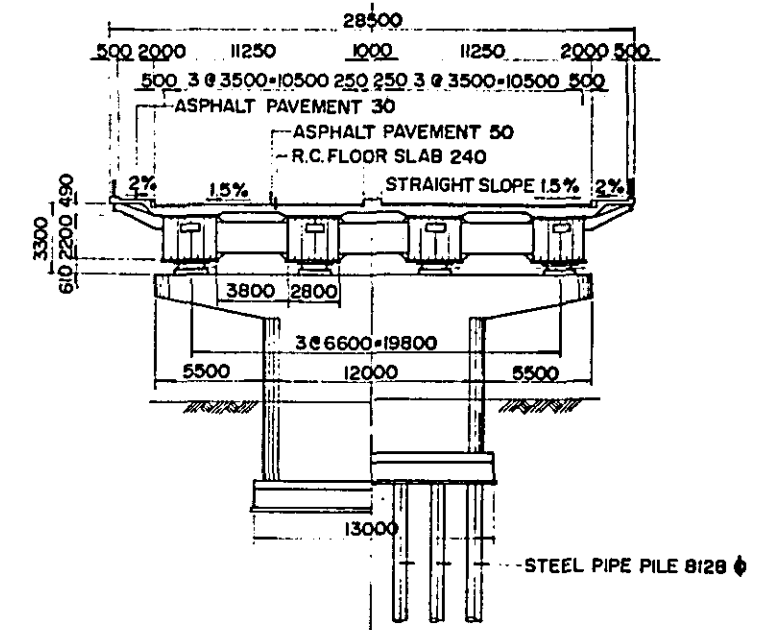
STA. 0+458850



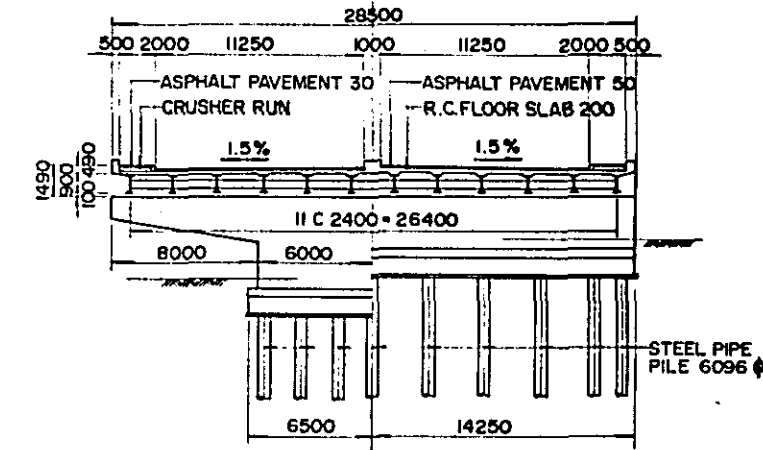
PLAN S = 1:100



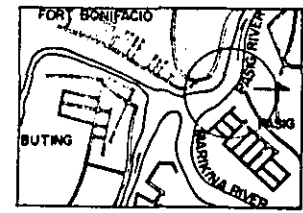
CROSS SECTION S = 1:400  
AT PIER P1 AT PIER P2



CROSS SECTION S = 1:400  
AT PIER P4 AT ABUTMENT A2



LOCATION MAP S = 1:4000



GENERAL NOTES

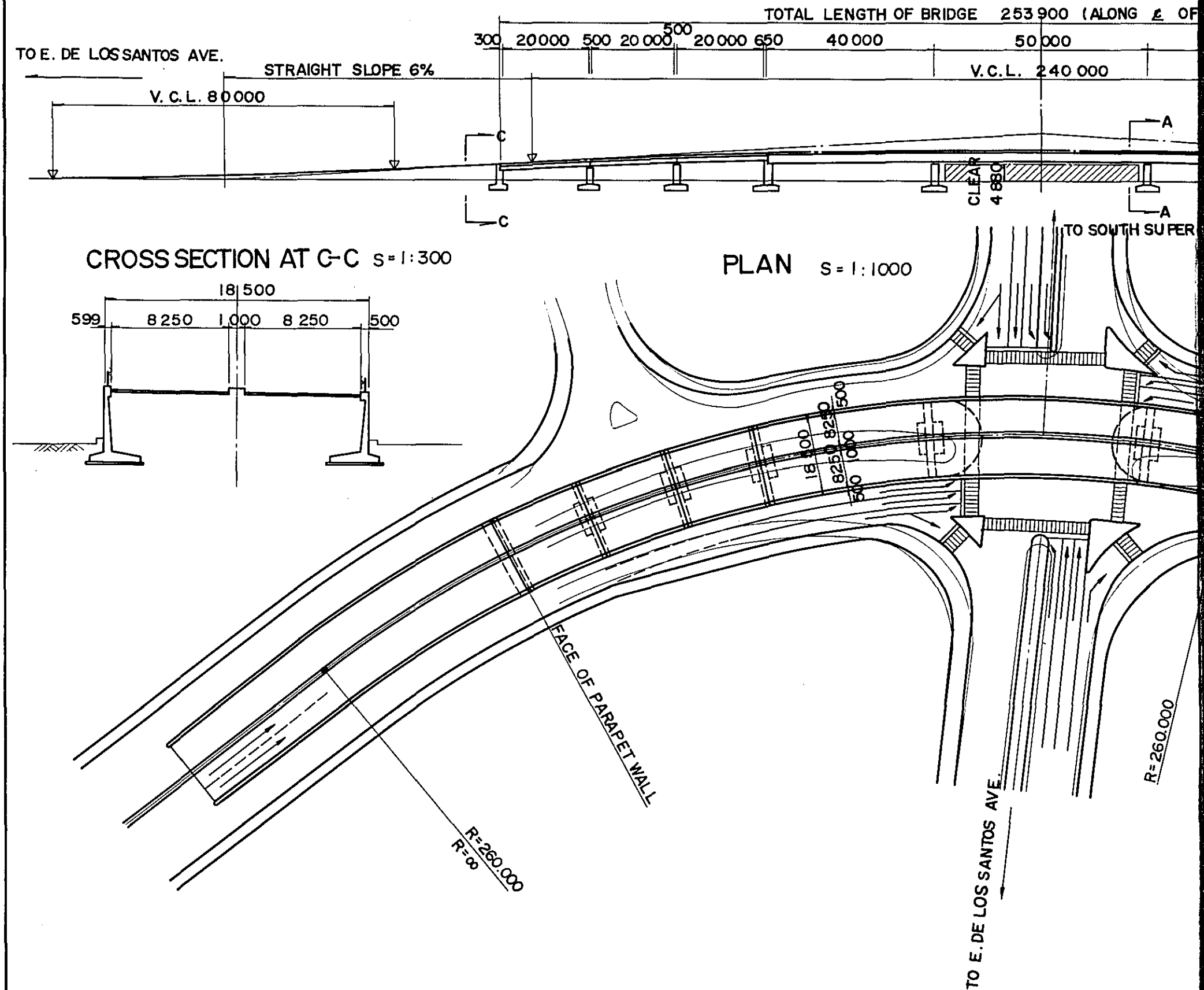
ALL DIMENSIONS ARE IN MILLIMETERS.  
ELEVATIONS ARE SHOWN IN D.L. OF D.P.H.  
SCALE EACH NOTED.

PASIG RIVER BRIDGE (C-5)

FIGURE

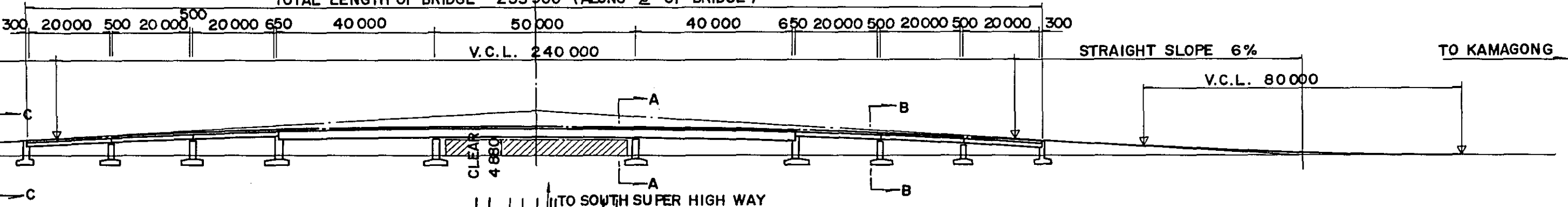
39

# VIADUCT AT AYALA AVE.- BUENDIA A

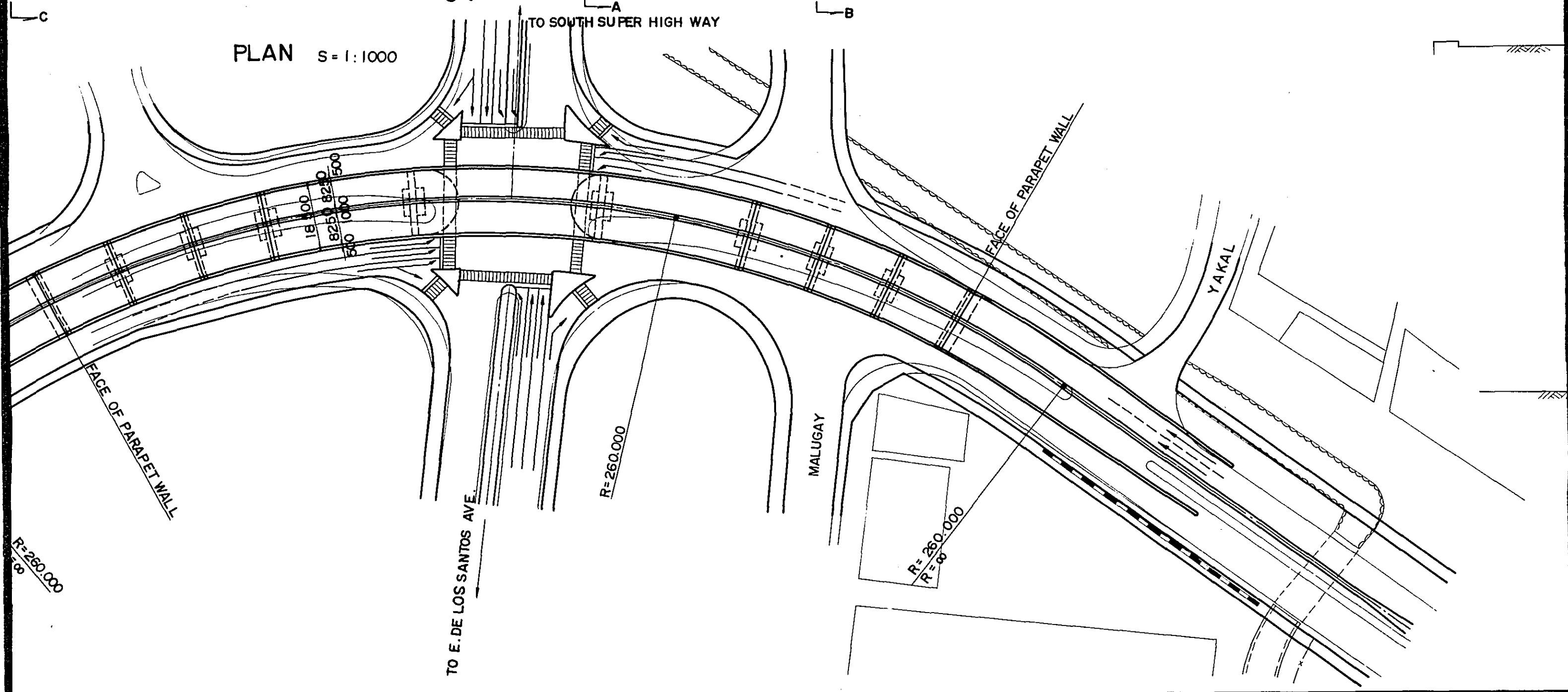


# VIADUCT AT AYALA AVE.-BUENDIA AVE. INTERSECTION (C-3) SCALE 1:1000

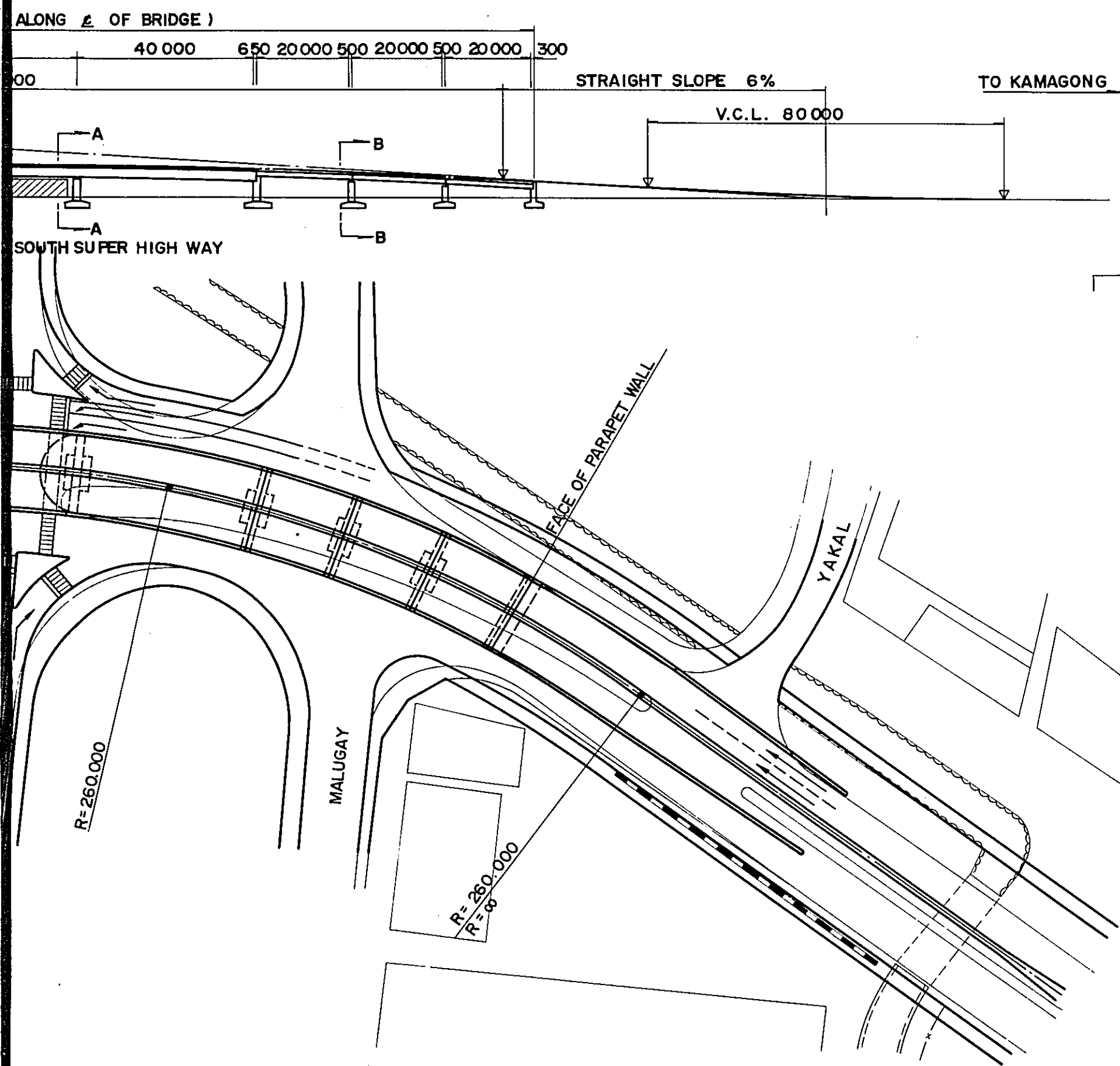
TOTAL LENGTH OF BRIDGE 253 900 (ALONG  $\Delta$  OF BRIDGE)



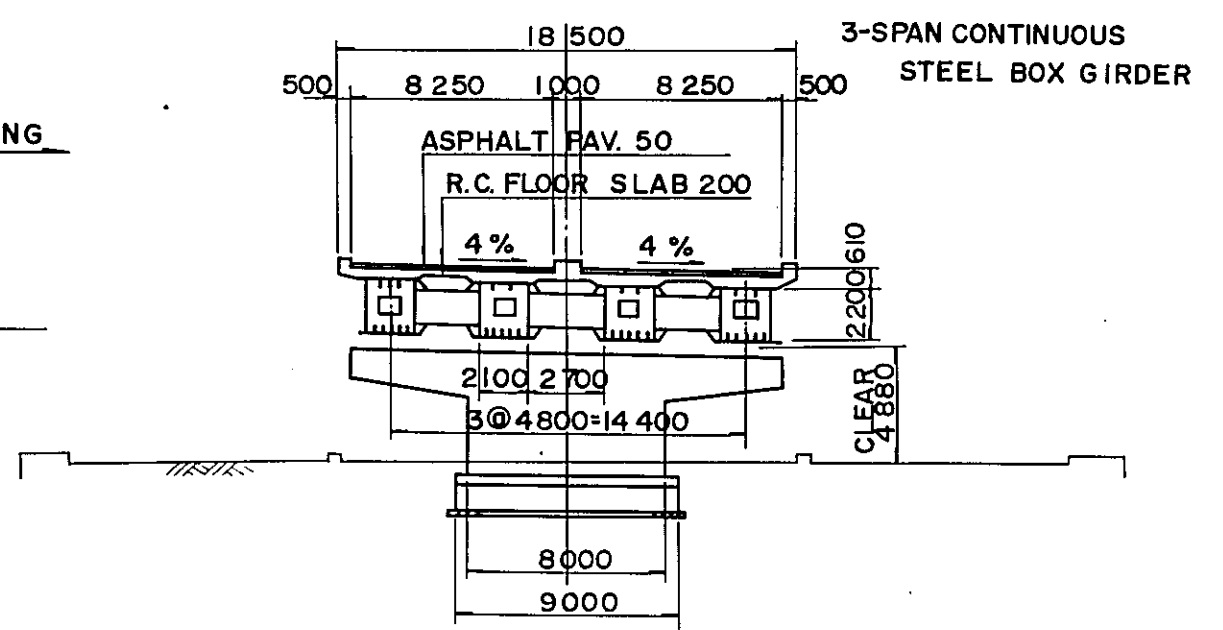
PLAN S = 1:1000



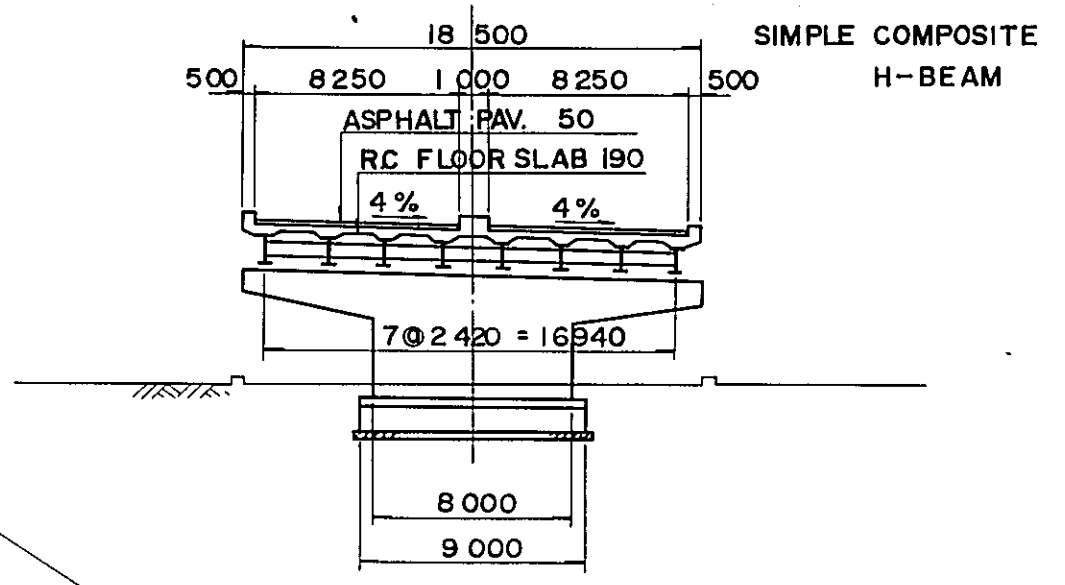
**BUENDIA AVE. INTERSECTION (C-3) SCALE 1:1000**



**CROSS SECTION AT A-A S=1:300**



**CROSS SECTION AT B-B S=1:300**



GENERAL NOTES.  
 ALL DIMENSIONS ARE IN MILLI METERS.  
 SCALE EACH NOTED.

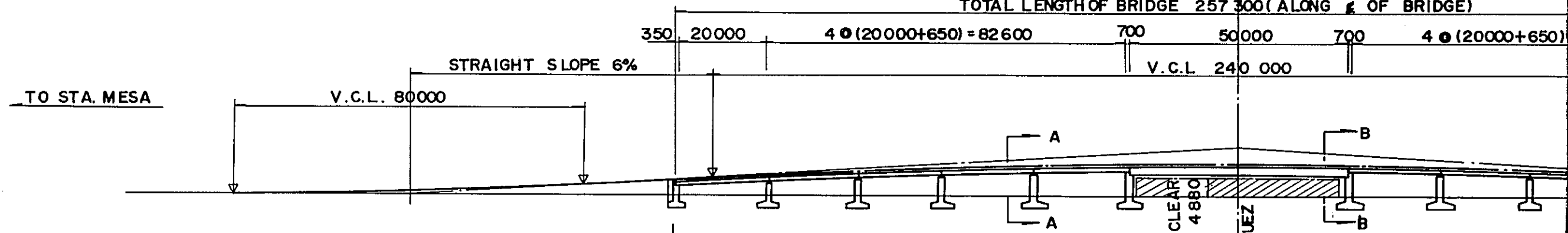
**VIADUCT AT AYALA AVE.—  
 BUENDIA AVE. INTERSECTION  
 (C-3)**

FIGURE  
 40



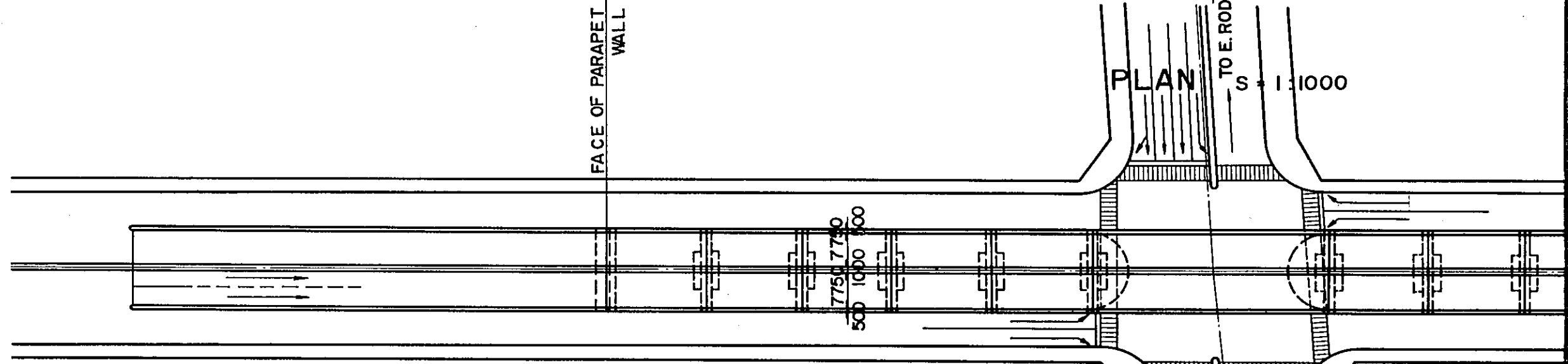
# VIADUCT AT AURORA BLVD. INTERSECTION (C-3) SCALE 1:1000

TOTAL LENGTH OF BRIDGE 257 300 (ALONG  $\epsilon$  OF BRIDGE)

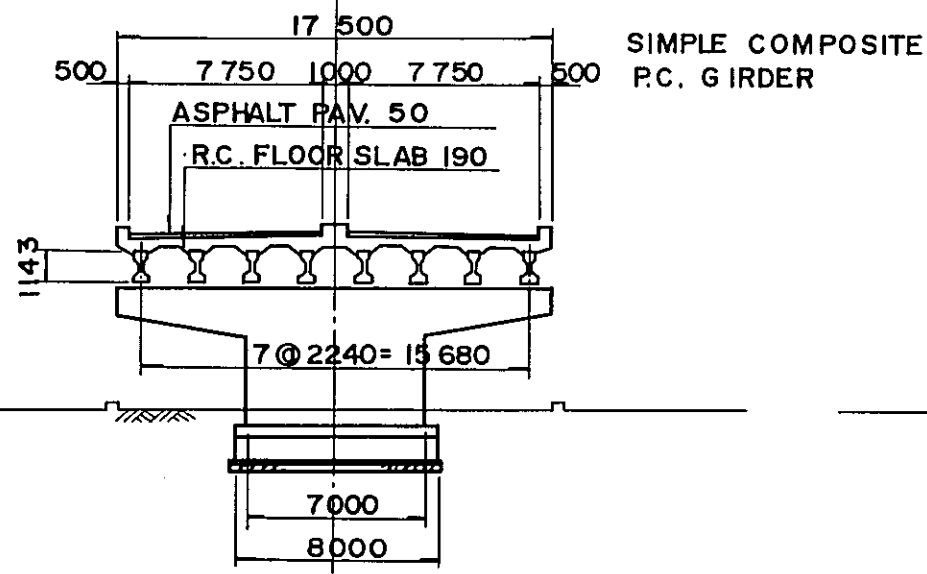


TO STA. MESA

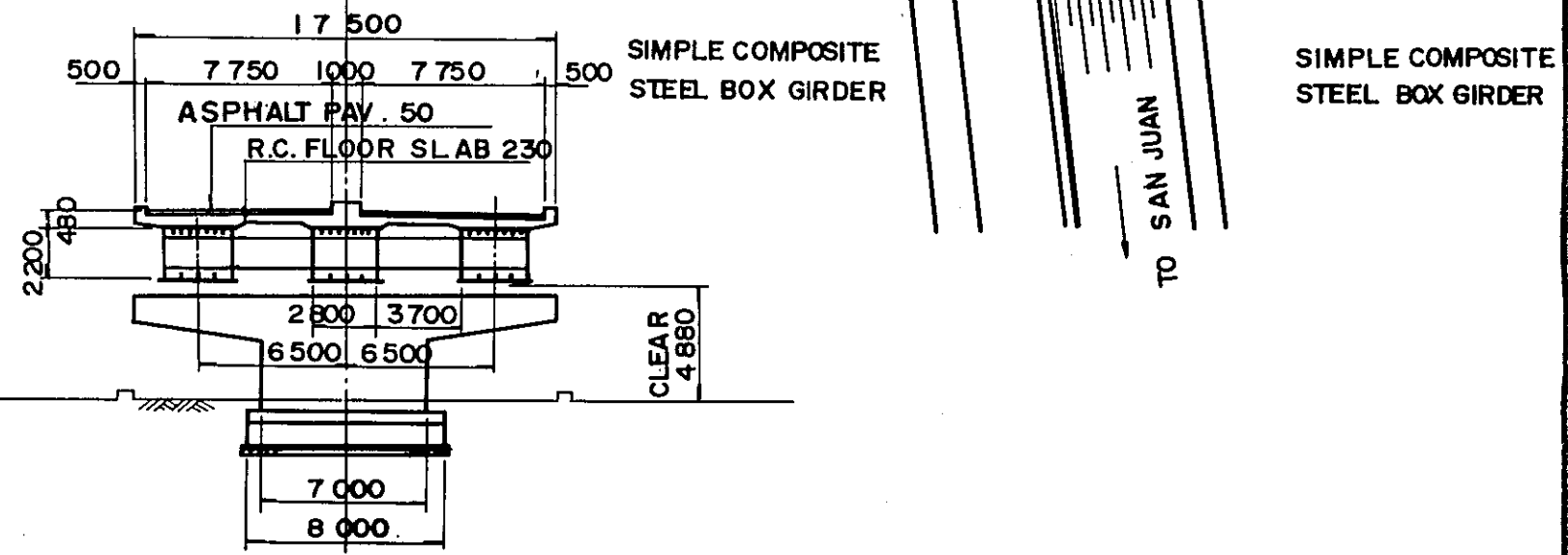
PLAN  
S = 1:1000  
TO E. RODRIGUEZ



CROSS SECTION AT A-A S = 1:300



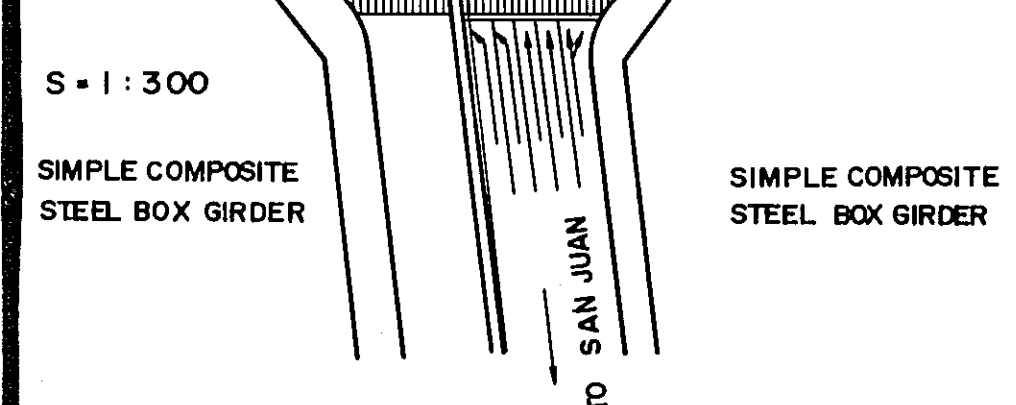
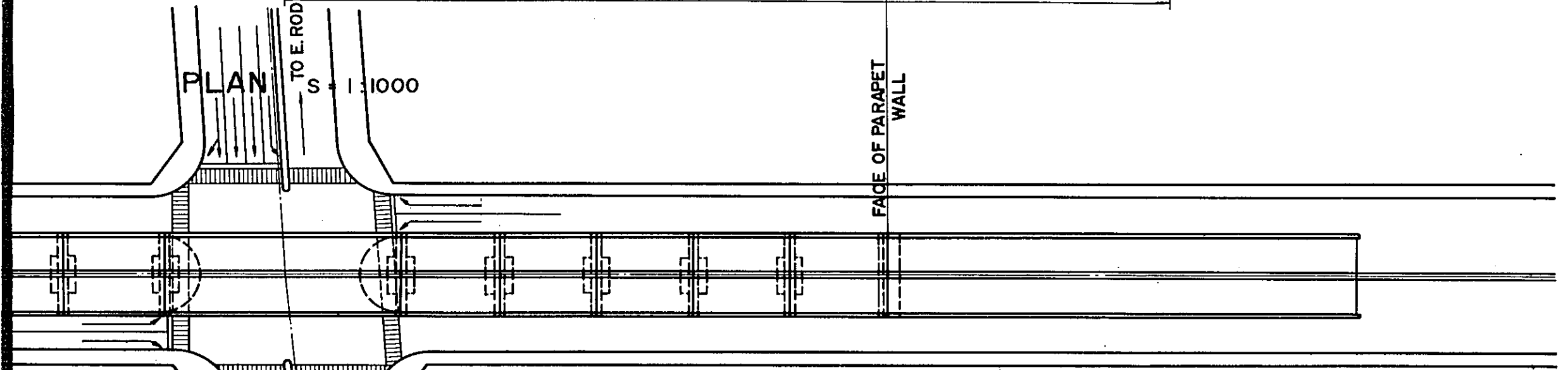
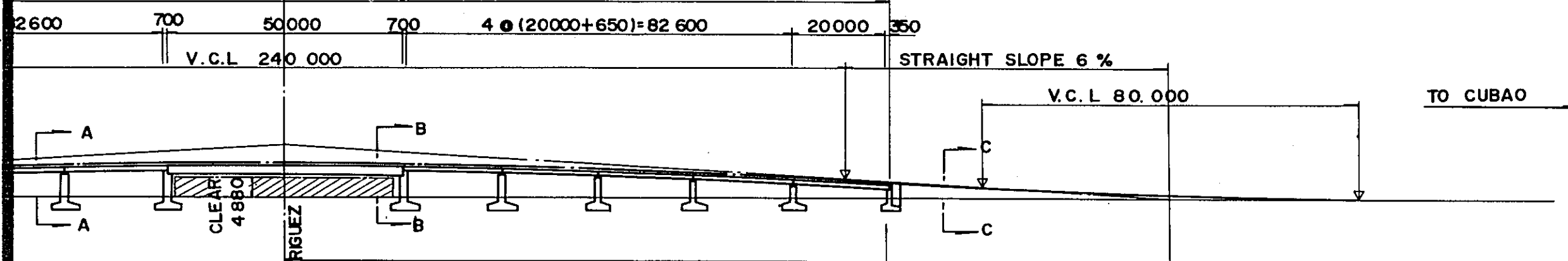
CROSS SECTION AT B-B S = 1:300



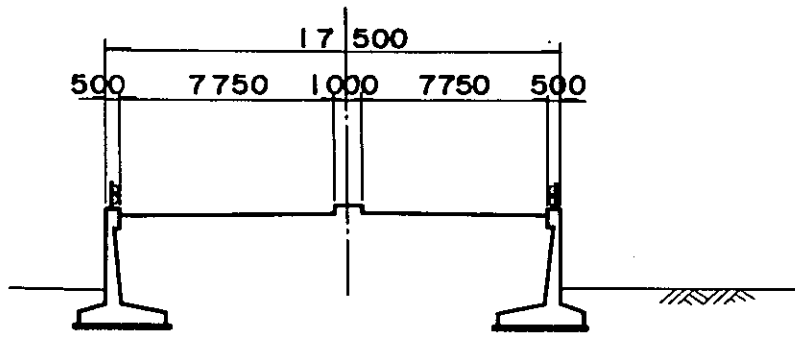
SIMPLE COMPOSITE STEEL BOX GIRDER

VIADUCT INTERSECTION (C-3) SCALE 1:1000

TOTAL LENGTH OF BRIDGE 257 300 (ALONG  $\bar{x}$  OF BRIDGE)



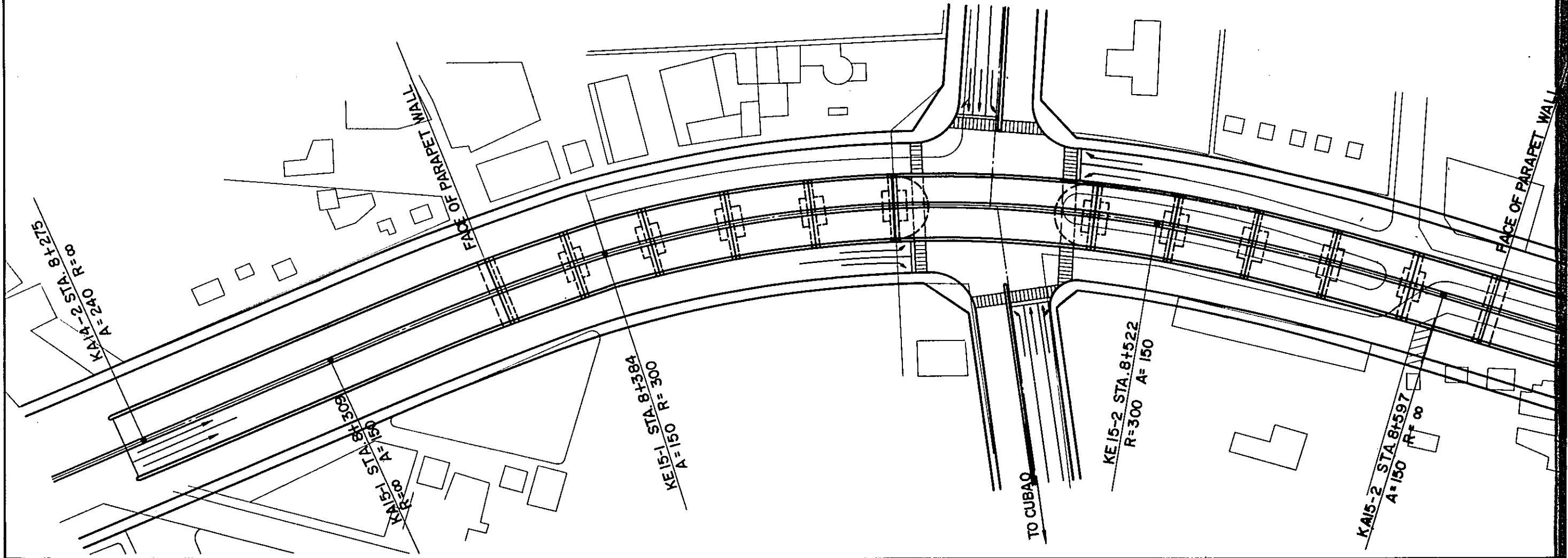
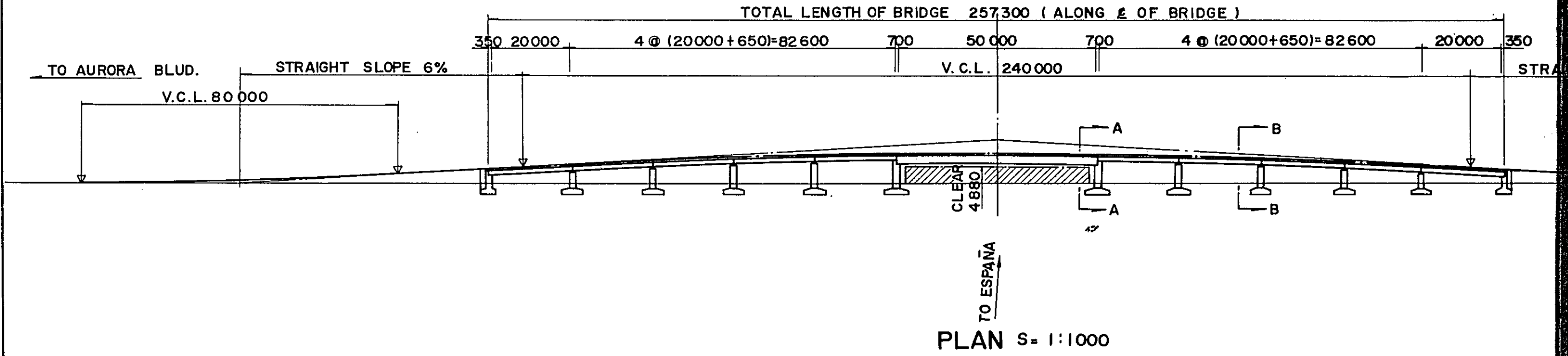
CROSS SECTION AT C-C S=1:300



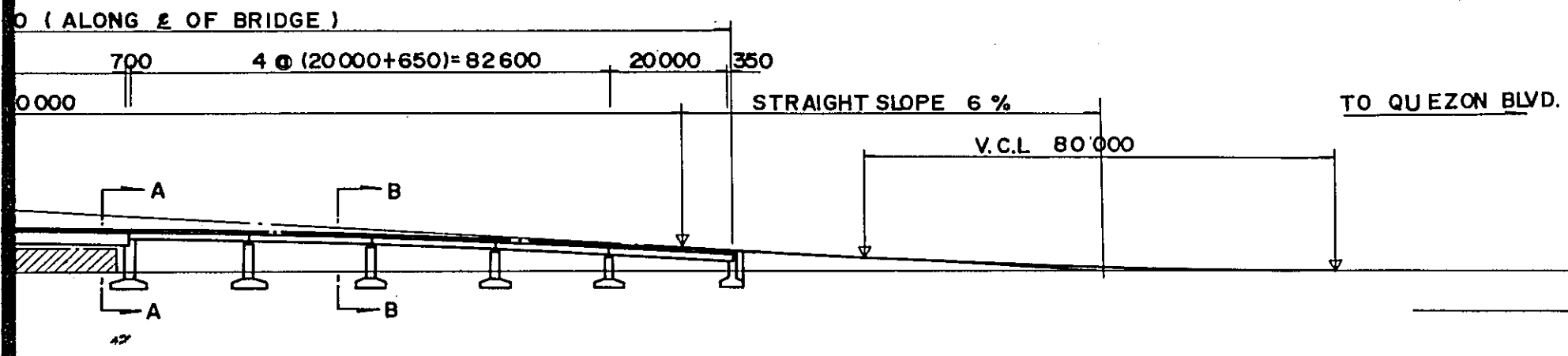
GENERAL NOTES.  
 ALL DIMENSIONS ARE IN MILLIMETERS.  
 SCALE EACH NOTED.  
 THE SAME STRUCTURE IS ADOPTED AT SHAW BLVD. INTERSECTION.

VIADUCT AT AURORA BLVD. INTER SECTION. (C-3)	FIGURE 41
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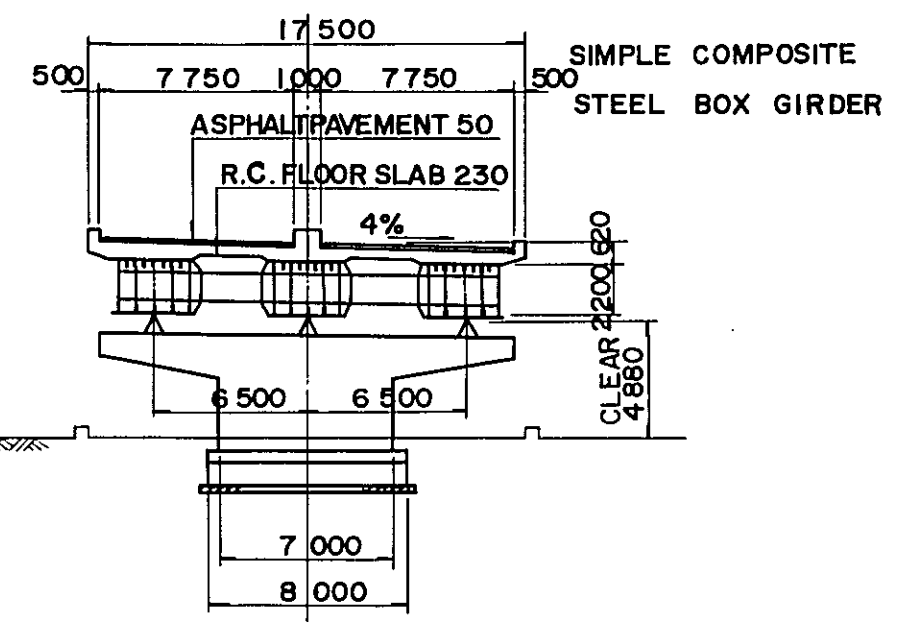
VIADUCT AT E RODRIGUEZ AVE. INTERSECTION (C-3) SCALE 1 : 1000



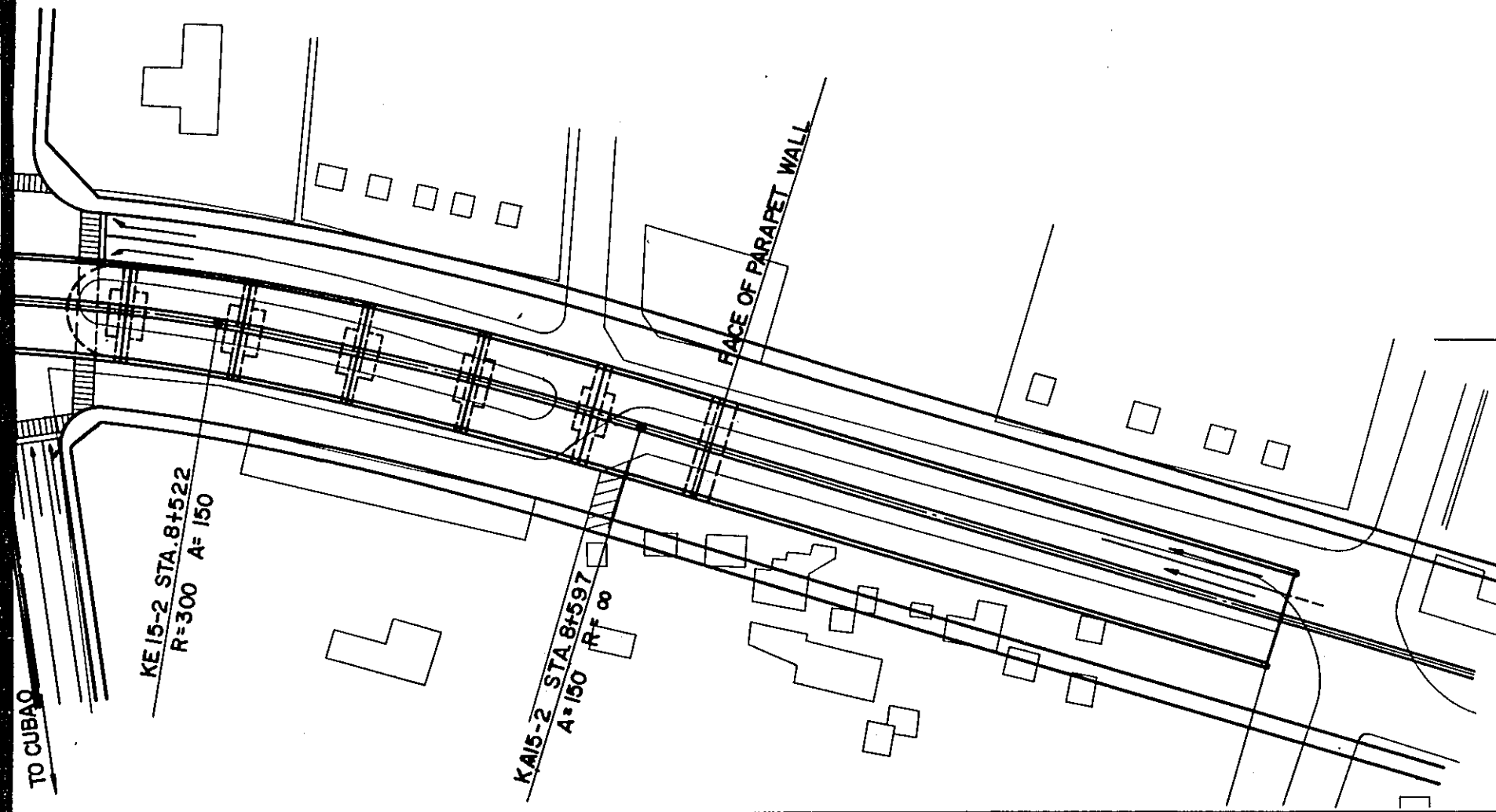
INTERSECTION (C-3) SCALE 1 : 1000



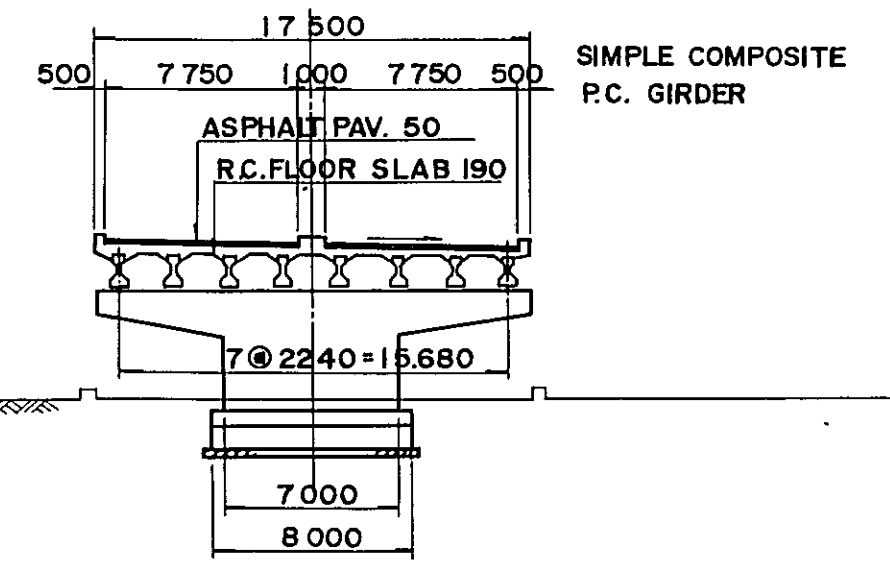
CROSS SECTION AT A-A S = 1 : 300



S = 1 : 1000



CROSS SECTION AT B-B S = 1 : 300



GENERAL NOTES.  
ALL DIMENSIONS ARE IN MILLIMETERS.  
SCALE EACH NOTED

VIADUCT AT E. RODRIGUEZ AVE INTERSECTION (C-3)	FIGURE 42
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