

APPENDIX 16
CEBU CIRCUMFERENTIAL ROAD

16.1 DRAWING



Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

JICA-ASSISTED STUDY OF MASTER PLAN ON HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2

PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1

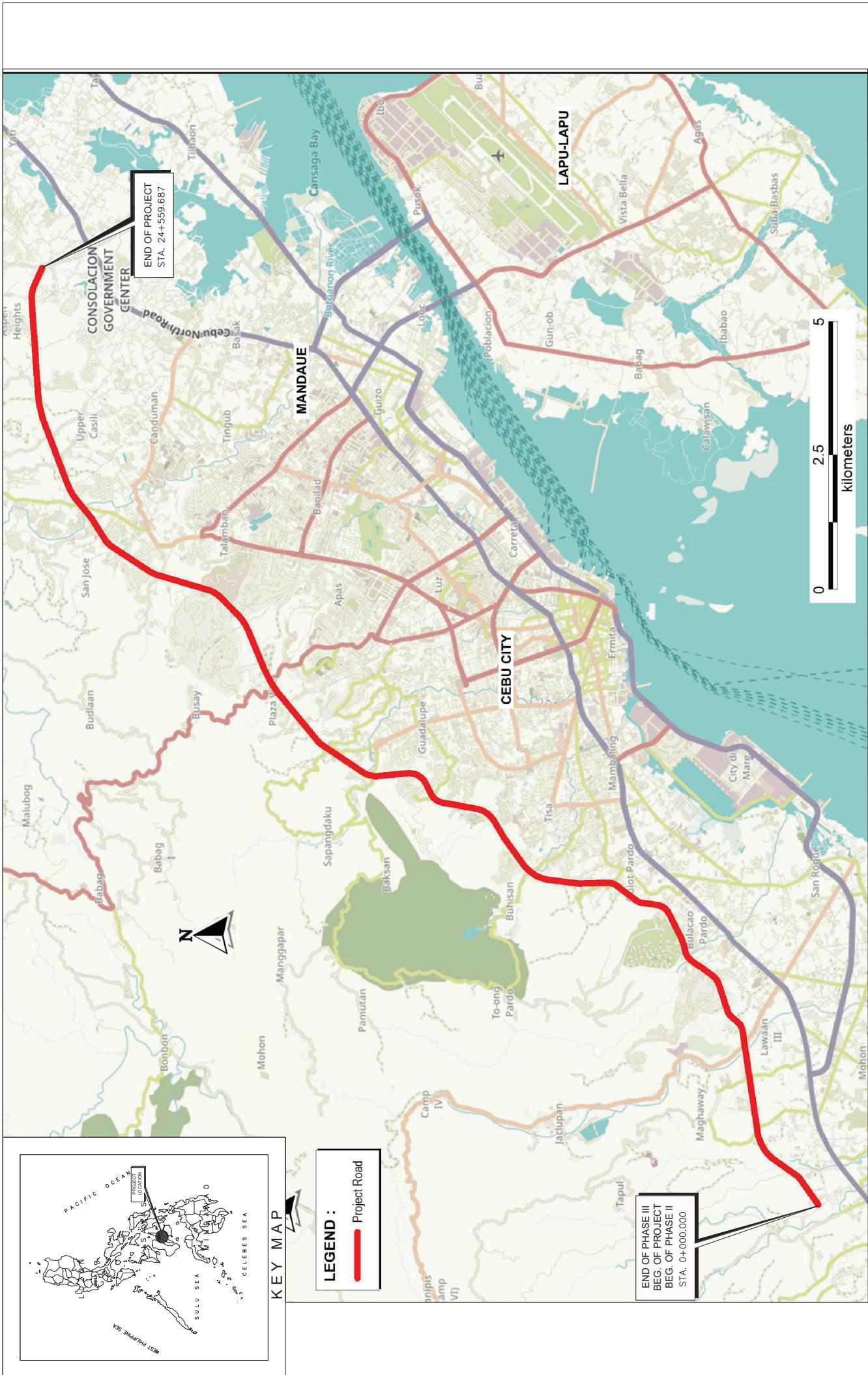
FINAL DRAWINGS



JAPAN INTERNATIONAL
COOPERATION AGENCY
(JICA)

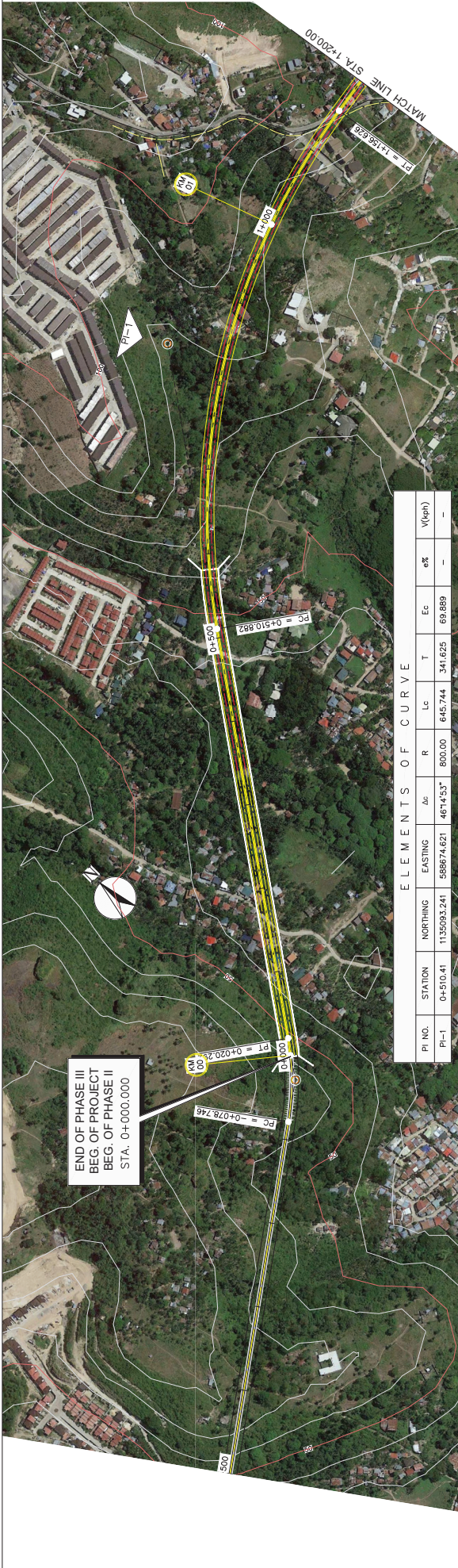
INDEX OF DRAWINGS 1

DRAWING NO.	TITLE OF DRAWING	SHEET NO.	DRAWING NO.	TITLE OF DRAWING	SHEET NO.	DRAWING NO.	TITLE OF DRAWING	SHEET NO.
GE-01 GE-02	A. GENERAL INDEX OF DRAWINGS 1 OF 2 LOCATION MAP AND KEY MAP	1 OF 2 2 OF 2	PP-01 PP-02 PP-03 PP-04	D. INTERCHANGES INTERCHANGE 1 LAYOUT PLAN INTERCHANGE 1 PLAN AND PROFILE, MAIN RAMP AND RAMP A INTERCHANGE 1 PLAN AND PROFILE, RAMPS B, C AND D INTERCHANGE 1 ELEMENTS OF CURVES	1 OF 24 2 OF 24 3 OF 24 4 OF 24			
PP-01 PP-02 PP-03 PP-04 PP-05 PP-06 PP-07 PP-08 PP-09 PP-10 PP-11 PP-12 PP-13 PP-14 PP-15 PP-16 PP-17 PP-18 PP-19 PP-20	B. PLAN AND PROFILE MAIN ALIGNMENT PLAN AND PROFILE STA. -0+500 TO STA. 1+200 PLAN AND PROFILE STA. 1+200 TO STA. 2+900 PLAN AND PROFILE STA. 2+900 TO STA. 4+600 PLAN AND PROFILE STA. 4+600 TO STA. 6+300 PLAN AND PROFILE STA. 6+300 TO STA. 8+000 PLAN AND PROFILE STA. 8+000 TO STA. 9+700 PLAN AND PROFILE STA. 9+700 TO STA. 11+400 PLAN AND PROFILE STA. 11+400 TO STA. 13+100 PLAN AND PROFILE STA. 13+100 TO STA. 14+800 PLAN AND PROFILE STA. 14+800 TO STA. 16+500 PLAN AND PROFILE STA. 16+500 TO STA. 18+200 PLAN AND PROFILE STA. 18+200 TO STA. 19+900 PLAN AND PROFILE STA. 19+900 TO STA. 21+600 PLAN AND PROFILE STA. 21+600 TO STA. 23+300 PLAN AND PROFILE STA. 23+300 TO STA. 25+000	1 OF 40 2 OF 40 3 OF 40 4 OF 40 5 OF 40 6 OF 40 7 OF 40 8 OF 40 9 OF 40 10 OF 40 11 OF 40 12 OF 40 13 OF 40 14 OF 40 15 OF 40	PP-01 PP-02 PP-03 PP-04 PP-05 PP-06 PP-07 PP-08 PP-09 PP-10 PP-11 PP-12 PP-13 PP-14 PP-15 PP-16 PP-17 PP-18 PP-19 PP-20	INTERCHANGE 2 LAYOUT PLAN INTERCHANGE 2 PLAN AND PROFILE, MAIN RAMP AND RAMP A INTERCHANGE 2 PLAN AND PROFILE, RAMPS B AND C INTERCHANGE 2 PLAN AND PROFILE, RAMP D INTERCHANGE 2 ELEMENTS OF CURVES INTERCHANGE 3 LAYOUT PLAN INTERCHANGE 3 PLAN AND PROFILE, RAMP A INTERCHANGE 3 PLAN AND PROFILE, RAMP B INTERCHANGE 3 PLAN AND PROFILE, RAMP C INTERCHANGE 3 PLAN AND PROFILE, RAMP D INTERCHANGE 4 EXIT LAYOUT PLAN INTERCHANGE 4 EXIT PLAN AND PROFILE, MAIN RAMP INTERCHANGE 4 EXIT PLAN AND PROFILE, RAMPS A AND B INTERCHANGE 4 ENTRY LAYOUT PLAN INTERCHANGE 4 ENTRY PLAN AND PROFILE, MAIN RAMP INTERCHANGE 4 ENTRY PLAN AND PROFILE, RAMPS C AND D	5 OF 24 6 OF 24 7 OF 24 8 OF 24 10 OF 24 11 OF 24 12 OF 24 13 OF 24 14 OF 24 15 OF 24 16 OF 24 17 OF 24 18 OF 24 19 OF 24 20 OF 24			
TS-01 TS-02 TS-03	C. TYPICAL SECTIONS TYPICAL ROADWAY SECTIONS TYPICAL BRIDGE SECTIONS TYPICAL TUNNEL SECTIONS	1 OF 3 2 OF 3 3 OF 3	PP-21 PP-22 PP-23 PP-24	INTERCHANGE 5 LAYOUT PLAN INTERCHANGE 5 PLAN AND PROFILE, MAIN RAMP, RAMPS A AND B INTERCHANGE 5 PLAN AND PROFILE, RAMPS C AND D INTERCHANGE 5 ELEMENTS OF CURVES	21 OF 24 22 OF 24 23 OF 24 24 OF 24			
GP-01 GP-02 GP-03 GP-04 GP-05	D. GEOLOGICAL PROFILE GEOLOGICAL PROFILE GEOLOGICAL PROFILE GEOLOGICAL PROFILE GEOLOGICAL PROFILE GEOLOGICAL PROFILE	1 OF 5 2 OF 5 3 OF 5 4 OF 5 5 OF 5						
STUDY NAME			PROJECT TITLE			SHEET CONTENTS		
JICA-ASSISTED STUDY OF MASTER PLAN ON HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2			PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1			INDEX OF DRAWINGS		
			SCALE			DRAWING NO.		
			N.T.S.			GE-01		
						SHEET NO.		
						1 OF 2		



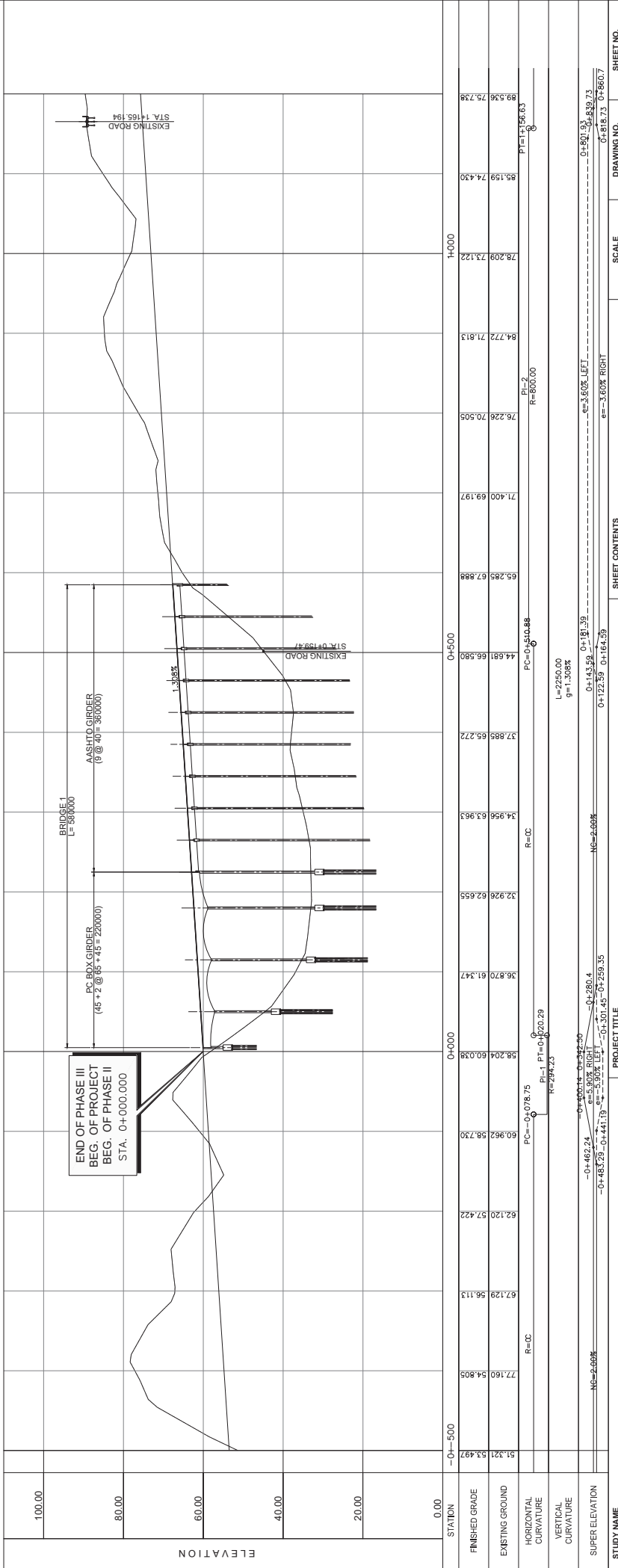
CEBU CIRCUMFERENTIAL ROAD SEGMENT 1

<p>STUDY NAME</p> <p>JICA-ASSISTED STUDY OF MASTER PLAN ON HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2</p>	<p>PROJECT TITLE</p> <p>PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1</p>	<p>SHEET CONTENTS</p> <p>LOCATION MAP AND KEY MAP</p>	<p>SCALE</p> <p>1:66000</p>	<p>DRAWING NO.</p> <p>GE-02</p>	<p>SHEET NO.</p> <p>2 OF 2</p>
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ELEMENTS OF CURVE

PI NO.	STATION	NORTHING	EASTING	Δ_c	R	Lc	T	Ec	e%	V(eph)
PI-1	0+510.41	1135093.241	598874.621	46°14'53"	800.00	645.744	341.625	69.889	-	-
PI-2	0+778.746	1135093.241	598874.621	46°14'53"	800.00	645.744	341.625	69.889	-	-



STATION	0+000	0+100	0+200	0+300	0+400	0+500	0+600	0+700	0+800	0+900	1+000	1+100	1+200
FINISHED GRADE	51.321	53.497	56.113	62.120	67.730	72.805	77.160	80.982	84.222	86.036	87.230	87.805	88.205
EXISTING GROUND	52.024	54.036	56.113	62.120	67.730	72.805	77.160	80.982	84.222	86.036	87.230	87.805	88.205
HORIZONTAL CURVATURE	R=CC	R=CC	R=CC	R=CC	R=CC	R=CC	R=CC	R=CC	R=CC	R=CC	R=CC	R=CC	R=CC
VERTICAL CURVATURE	PC=0+078.75	PT=0+200.29	PI=1	PI-1=0+200.29	PI-2=0+200.29	PI=2	PC=0+510.488	PT=1	PI=1	PI-1=0+510.41	PI-2=0+778.746	PI=2	PC=0+778.746
SUPER ELEVATION	-0+462.24	-0+462.24	-0+462.24	-0+462.24	-0+462.24	-0+462.24	-0+462.24	-0+462.24	-0+462.24	-0+462.24	-0+462.24	-0+462.24	-0+462.24

STUDY NAME: JICA-ASSISTED STUDY OF MASTER PLAN ON HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2

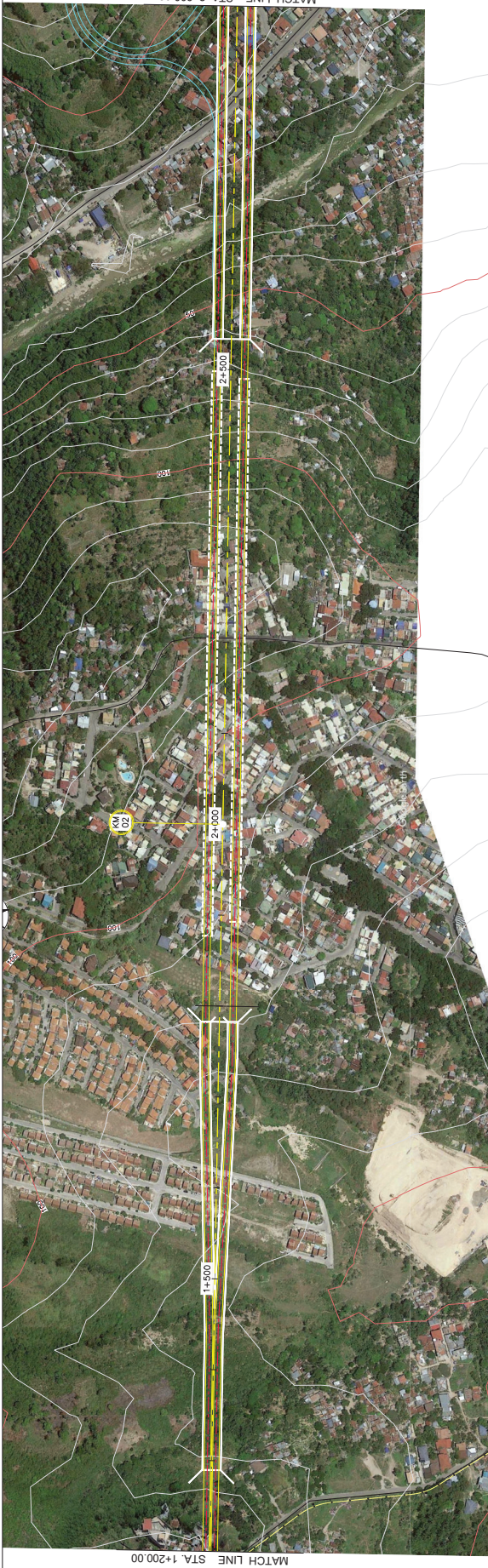
PROJECT TITLE: PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1

PLAN AND PROFILE: STA. 0+500.000-STA. 1+200.000

SCALE: H = 1:5000, V = 1:1000

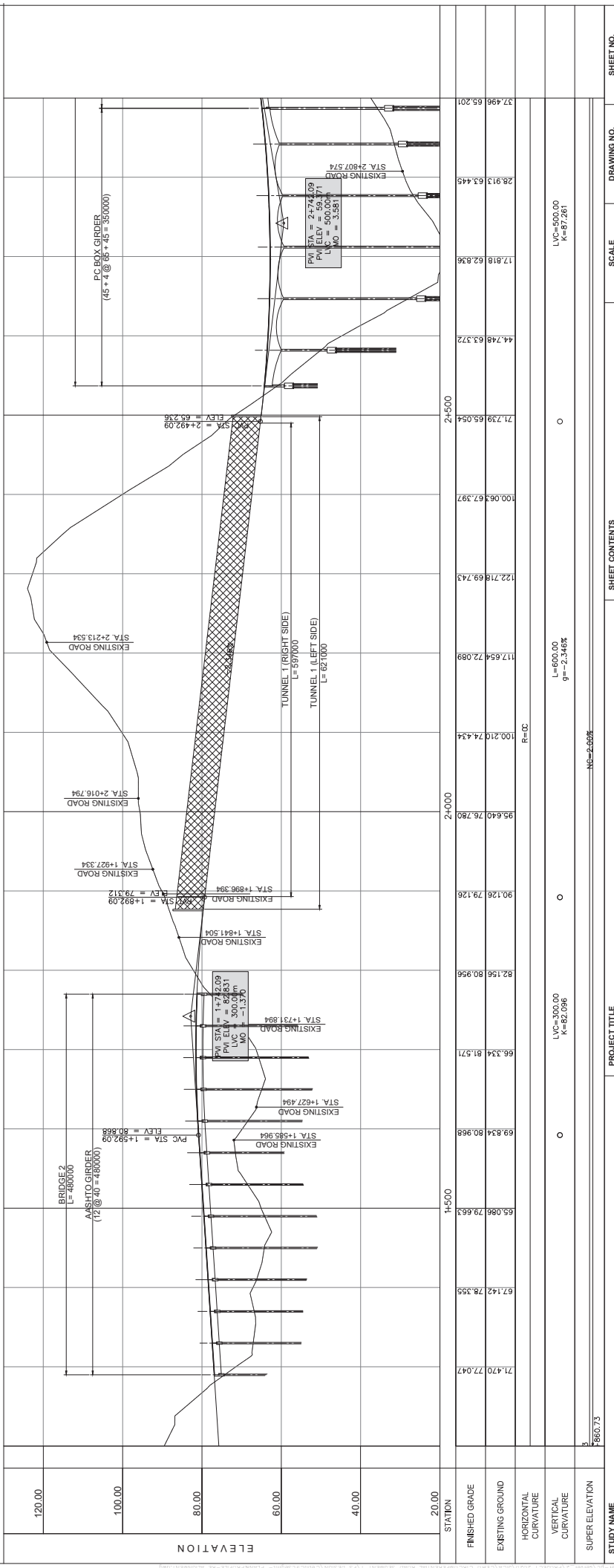
DRAWING NO.: PP-01

SHEET NO.: 1 OF 15



MATCH LINE STA. 1+200.00

MATCH LINE STA. 2+900.00



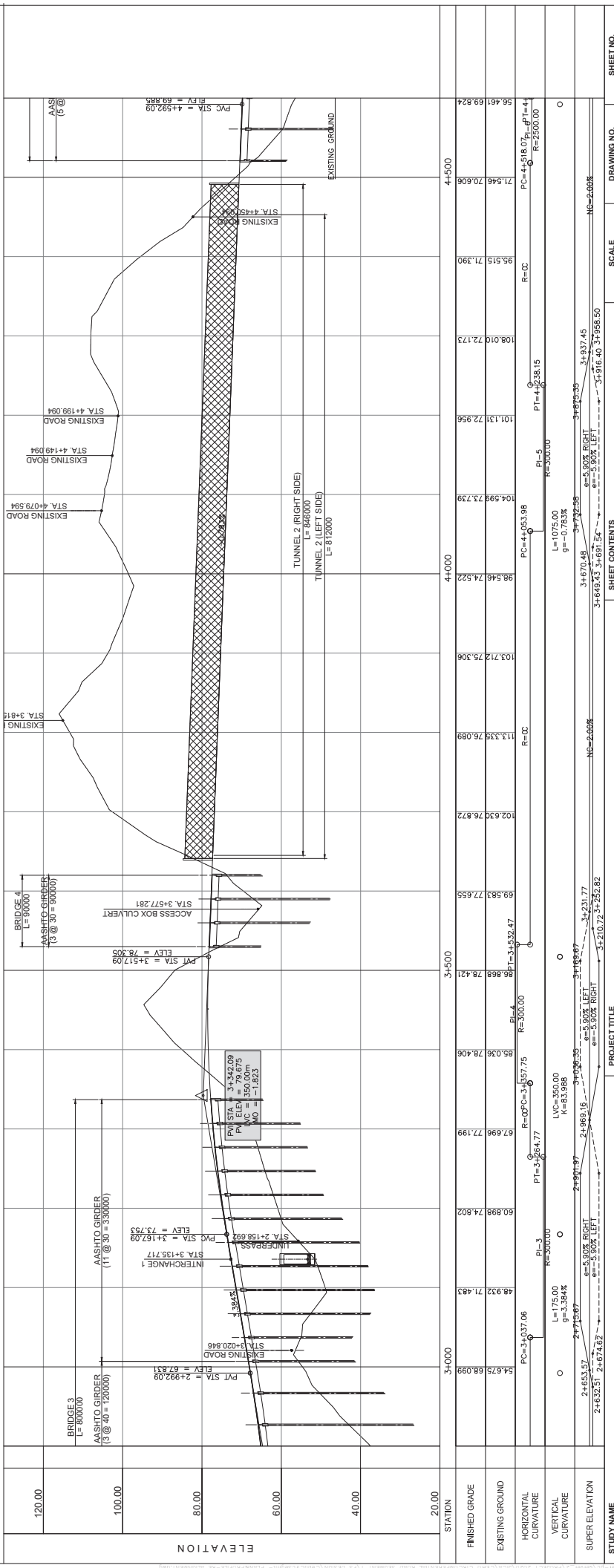
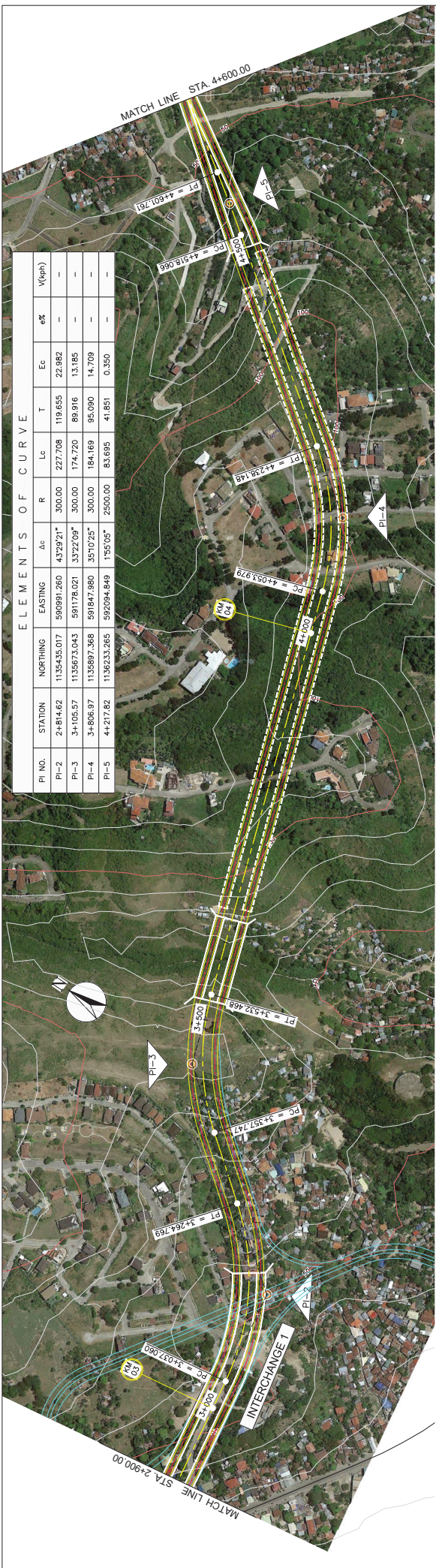
ELEVATION

STATION	1+500	2+000	2+500
FINISHED GRADE	71.470	72.047	72.047
EXISTING GROUND	67.142	78.355	78.355
HORIZONTAL CURVATURE	0	0	0
VERTICAL CURVATURE	0	0	0
SUPER ELEVATION	0	0	0

STUDY NAME	PROJECT TITLE	SHEET CONTENTS	SCALE	DRAWING NO.	SHEET NO.
JICA-ASSISTED STUDY OF MASTER PLAN ON HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2	PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1	PLAN AND PROFILE STA. 1+200.000--STA. 2+900.000	H = 1:5000 V = 1:1000	PP-02	2 OF 15

ELEMENTS OF CURVE

PI NO.	STATION	NORTHING	EASTING	ΔC	R	Lc	T	Ec	6%	V(veh)
PI-2	2+814.62	1135455.017	590991.260	432921.1°	300.00	227.708	119.655	22.982	-	-
PI-3	3+105.57	1135673.043	59178.021	3322209°	300.00	174.720	89.916	13.185	-	-
PI-4	3+808.97	1135897.368	591847.980	351025°	300.00	184.169	95.990	14.709	-	-
PI-5	4+217.82	1136233.265	592094.849	155°05'	2500.00	83.695	41.851	0.350	-	-



STATION	2+900.00	3+000.00	3+100.00	3+200.00	3+300.00	3+400.00	3+500.00	3+600.00	3+700.00	3+800.00	3+900.00	4+000.00	4+100.00	4+200.00	4+300.00	4+400.00	4+500.00	4+600.00																		
FINISHED GRADE	54.675	68.099	48.932	71.483	60.999	74.902	67.696	77.199	65.036	78.406	78.421	86.868	78.421	69.583	77.655	102.630	76.872	103.712	75.306	98.546	74.522	104.599	73.739	101.131	72.956	108.010	72.173	95.519	71.390	71.546	70.606	69.824				
EXISTING GROUND	54.675	68.099	48.932	71.483	60.999	74.902	67.696	77.199	65.036	78.406	78.421	86.868	78.421	69.583	77.655	102.630	76.872	103.712	75.306	98.546	74.522	104.599	73.739	101.131	72.956	108.010	72.173	95.519	71.390	71.546	70.606	69.824				
HORIZONTAL CURVATURE	PC=3+037.06	PT=3+164.77	PC=3+037.06	PT=3+164.77	PC=3+037.06	PT=3+164.77	PC=3+037.06	PT=3+164.77	PC=3+037.06	PT=3+164.77	PC=3+037.06	PT=3+164.77	PC=3+037.06	PT=3+164.77	PC=3+037.06	PT=3+164.77	PC=3+037.06	PT=3+164.77	PC=3+037.06	PT=3+164.77	PC=3+037.06	PT=3+164.77	PC=3+037.06	PT=3+164.77	PC=3+037.06	PT=3+164.77	PC=3+037.06	PT=3+164.77	PC=3+037.06	PT=3+164.77	PC=3+037.06	PT=3+164.77	PC=3+037.06	PT=3+164.77	PC=3+037.06	PT=3+164.77
VERTICAL CURVATURE	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%	L=175.00 g=3.364%		
SUPER ELEVATION	2+632.51	2+674.82	2+632.51	2+674.82	2+632.51	2+674.82	2+632.51	2+674.82	2+632.51	2+674.82	2+632.51	2+674.82	2+632.51	2+674.82	2+632.51	2+674.82	2+632.51	2+674.82	2+632.51	2+674.82	2+632.51	2+674.82	2+632.51	2+674.82	2+632.51	2+674.82	2+632.51	2+674.82	2+632.51	2+674.82	2+632.51	2+674.82	2+632.51	2+674.82	2+632.51	2+674.82

STUDY NAME: JICA-ASSISTED STUDY OF MASTER PLAN ON HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2

PROJECT TITLE: PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1

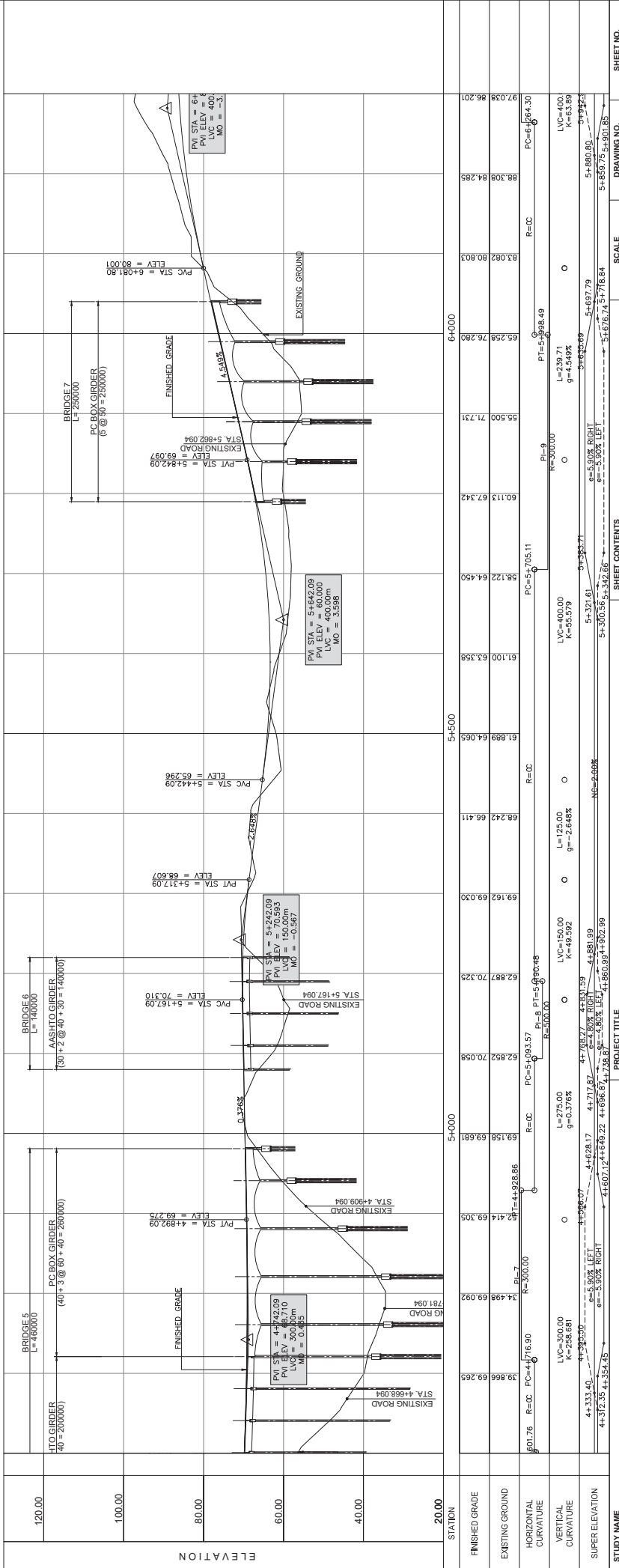
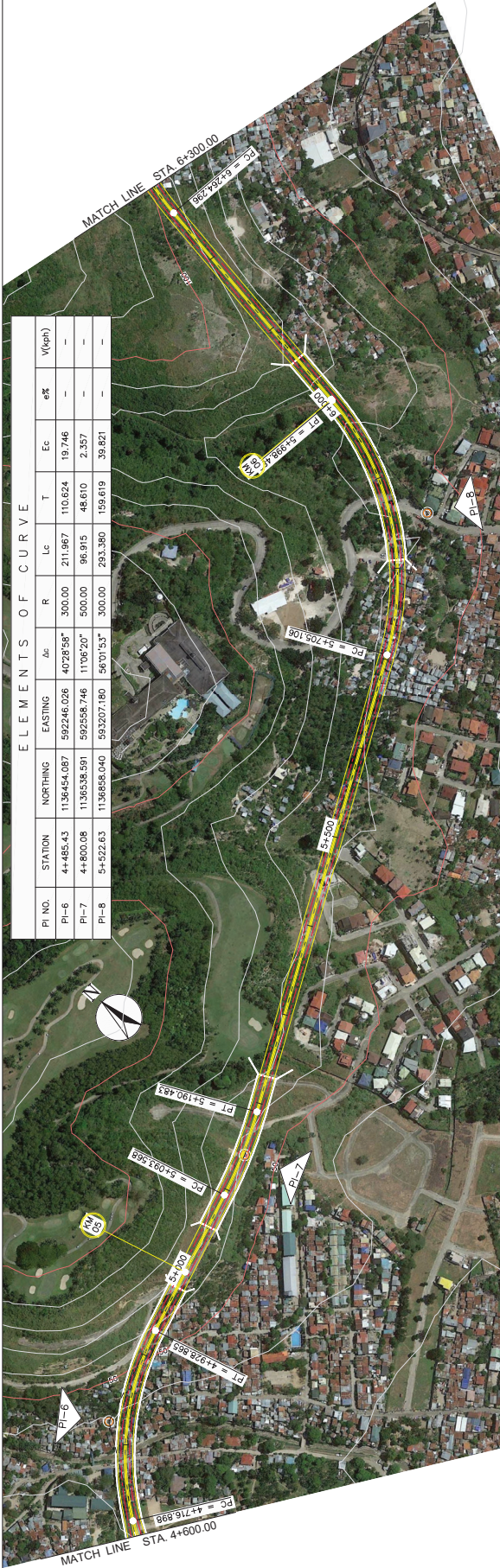
SHEET CONTENTS: PLAN AND PROFILE

SCALE: H = 1:5000, V = 1:1000

DRAWING NO.: PP-03

SHEET NO.: 3 OF 15

ELEMENTS OF CURVE										
PI NO.	STATION	NORTHING	EASTING	ΔC	R	Lc	T	Ec	e%	V(eph)
PI-6	4+485.43	1136454.087	592246.026	4028'58"	300.00	211.967	110.624	19.746	-	-
PI-7	4+800.06	1136536.591	592556.746	11'06"20"	500.00	96.915	48.610	2.357	-	-
PI-8	5+322.63	1136859.040	593207.180	5'01"53"	300.00	293.380	159.619	39.821	-	-



STATION	FINISHED GRADE	EXISTING GROUND	HORIZONTAL CURVATURE	VERTICAL CURVATURE	SUPER ELEVATION
601.76	69.265	69.265	R=300.00	LVC=400.00 K=258.681	4+372.25 to 4+354.25
691.56	69.681	69.681	R=300.00	L=275.00 g=0.376%	4+354.25 to 4+342.25
692.82	70.056	70.056	R=300.00	L=150.00 g=2.648%	4+342.25 to 4+302.99
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+302.99 to 4+260.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+260.00 to 4+200.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+200.00 to 4+160.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+160.00 to 4+100.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+100.00 to 4+60.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+60.00 to 4+20.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+20.00 to 4+0.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+0.00 to 4+60.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+60.00 to 4+100.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+100.00 to 4+160.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+160.00 to 4+200.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+200.00 to 4+260.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+260.00 to 4+302.99
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+302.99 to 4+342.25
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+342.25 to 4+354.25
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+354.25 to 4+372.25
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+372.25 to 4+384.25
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+384.25 to 4+400.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+400.00 to 4+420.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+420.00 to 4+440.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+440.00 to 4+460.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+460.00 to 4+480.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+480.00 to 4+500.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+500.00 to 4+520.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+520.00 to 4+540.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+540.00 to 4+560.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+560.00 to 4+580.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+580.00 to 4+600.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+600.00 to 4+620.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+620.00 to 4+640.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+640.00 to 4+660.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+660.00 to 4+680.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+680.00 to 4+700.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+700.00 to 4+720.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+720.00 to 4+740.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+740.00 to 4+760.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+760.00 to 4+780.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+780.00 to 4+800.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+800.00 to 4+820.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+820.00 to 4+840.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+840.00 to 4+860.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+860.00 to 4+880.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+880.00 to 4+900.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+900.00 to 4+920.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+920.00 to 4+940.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+940.00 to 4+960.00
692.82	70.325	70.325	R=300.00	L=125.00 g=-2.648%	4+960.00 to 4+980.00
692.82	70.325	70.325	R=300.00	L=150.00 g=2.648%	4+980.00 to 4+1000.00

JICA-ASSISTED STUDY OF MASTER PLAN ON HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2

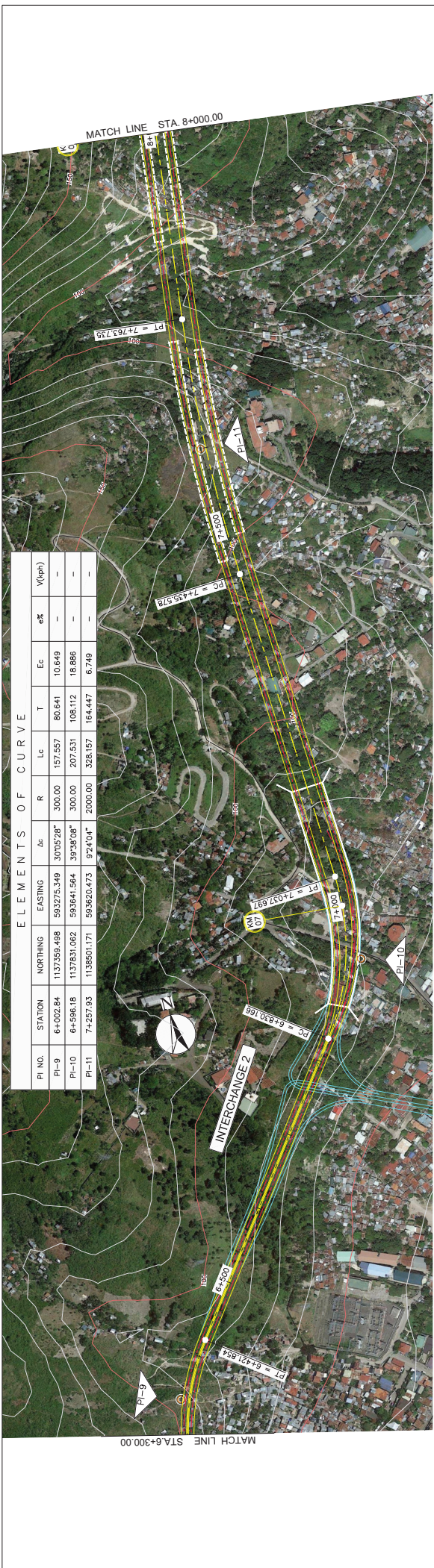
PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1

PLAN AND PROFILE
STA. 4+600.00-STA. 6+300.00

SCALE: H=1:5000, V=1:1000

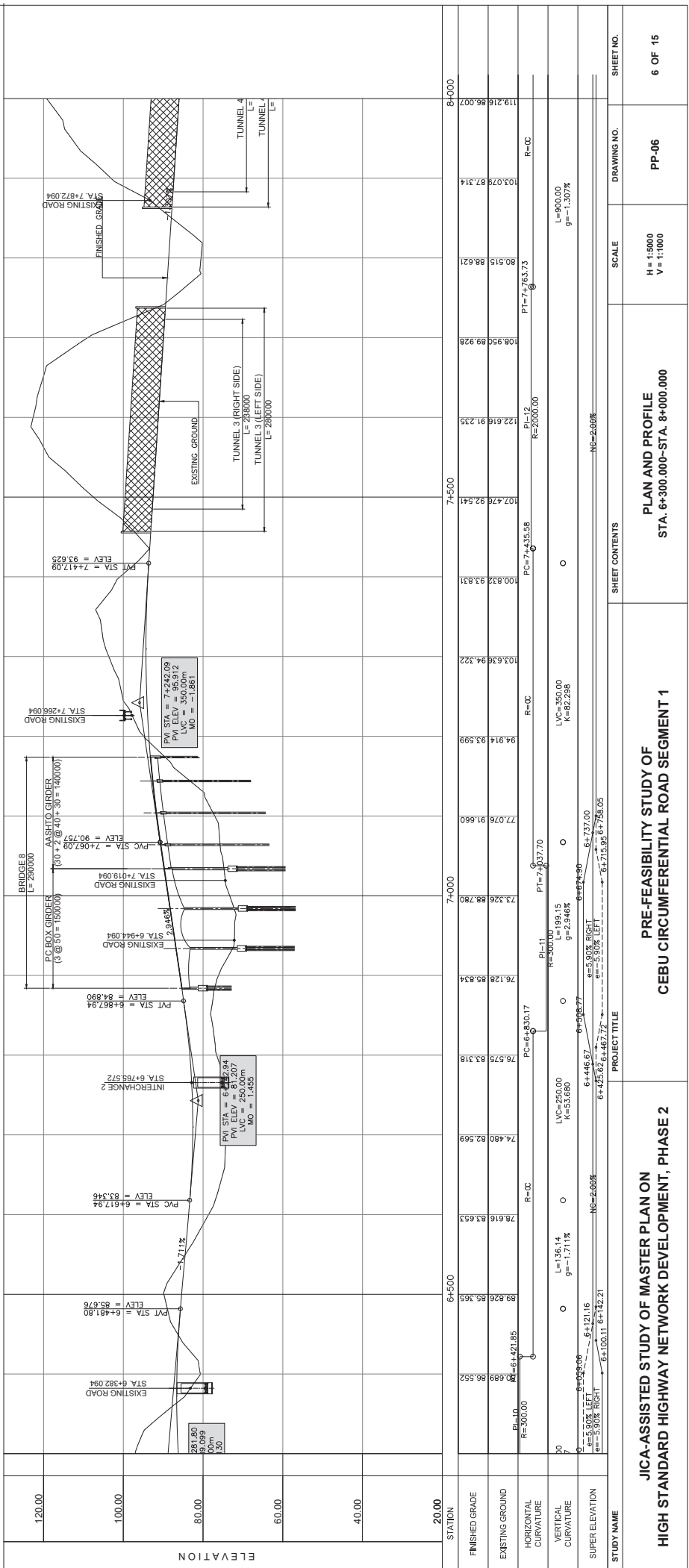
SHEET NO. PP-04

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ELEMENTS OF CURVE

PI NO.	STATION	NORTHING	EASTING	$\Delta\alpha$	R	Lc	T	Ec	$e\%$	$V(\text{km/h})$
PI-9	6+002.84	1137359.488	593275.349	30°05'28"	300.00	157.557	80.641	10.649	-	-
PI-10	6+586.18	1137831.062	593641.564	39°38'08"	300.00	207.531	108.112	18.886	-	-
PI-11	7+257.93	1138501.171	593620.473	92°4'04"	2000.00	328.157	164.447	6.749	-	-

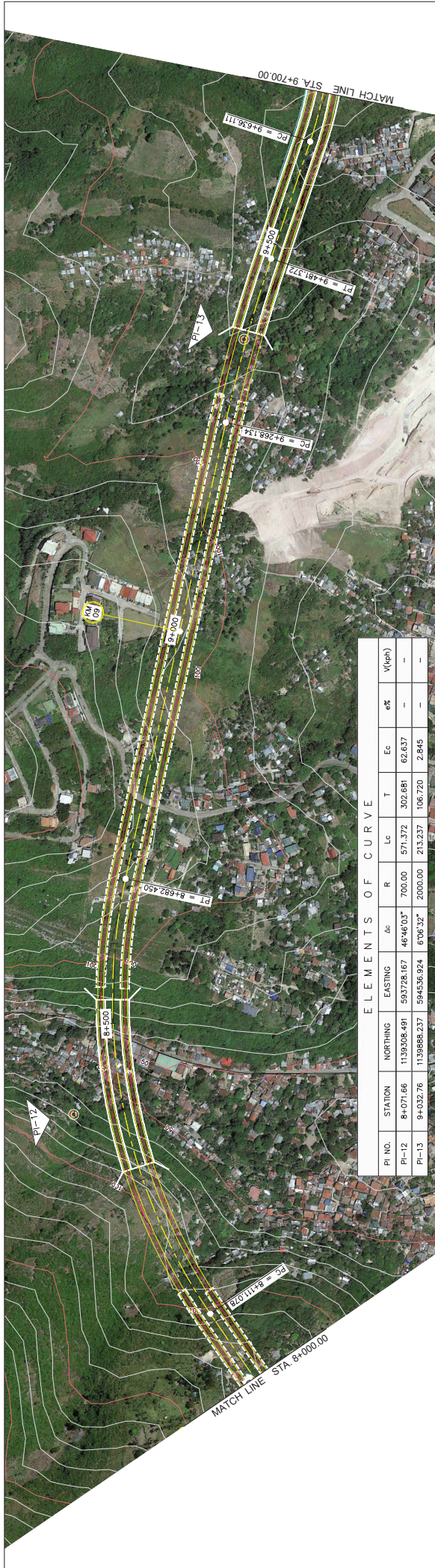


JICA-ASSISTED STUDY OF MASTER PLAN ON HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2

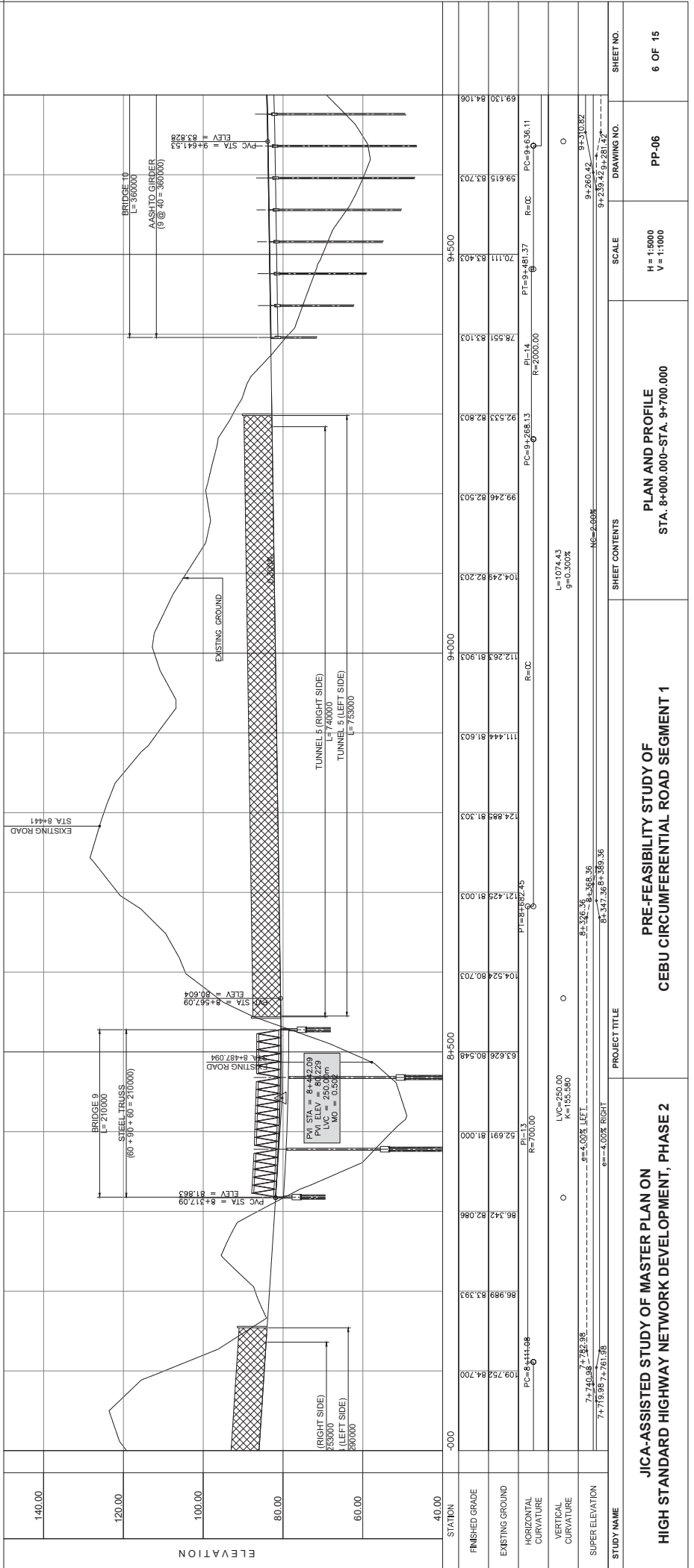
PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1

PLAN AND PROFILE STA. 6+300.000-STA. 8+000.000

DRAWING NO. PP-06
SCALE: H = 1:5000, V = 1:1000
SHEET CONTENTS: PLAN AND PROFILE
PROJECT TITLE: JICA-ASSISTED STUDY OF MASTER PLAN ON HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2
SHEET NO. 6 OF 15



PI NO.	STATION	NORTHING	EASTING	A_c	R	L_c	T	E_c	$e\%$	$V(\text{m})$
PI-12	8+0771.66	1139308.491	592728.167	46°46'03"	700.00	571.372	302.681	62.637	-	-
PI-13	8+032.76	1139888.237	594536.924	6°06'32"	2000.00	213.237	106.720	2.845	-	-



STATION	FINISHED GRADE	EXISTING GROUND	HORIZONTAL CURVATURE	VERTICAL CURVATURE	SUPER ELEVATION
8+000.00	109.752	84.700	PC=8+411.08		
8+500.00	96.342	82.096			
8+500.00	6.3826	80.548			
8+500.00	52.691	81.000	PT=8+527.45		
8+500.00	104.524	80.703			
8+500.00	121.425	81.003			
8+500.00	124.885	81.303			
8+500.00	111.444	81.603			
8+500.00	112.263	81.903			
8+500.00	104.248	82.203			
8+500.00	99.246	82.503			
8+500.00	92.533	82.803			
8+500.00	76.551	83.103			
8+500.00	70.111	83.403			
8+500.00	59.615	83.703			
8+500.00	69.130	84.106			

STUDY NAME
 PROJECT TITLE
 SHEET CONTENTS
 SCALE
 DRAWING NO.
 SHEET NO.

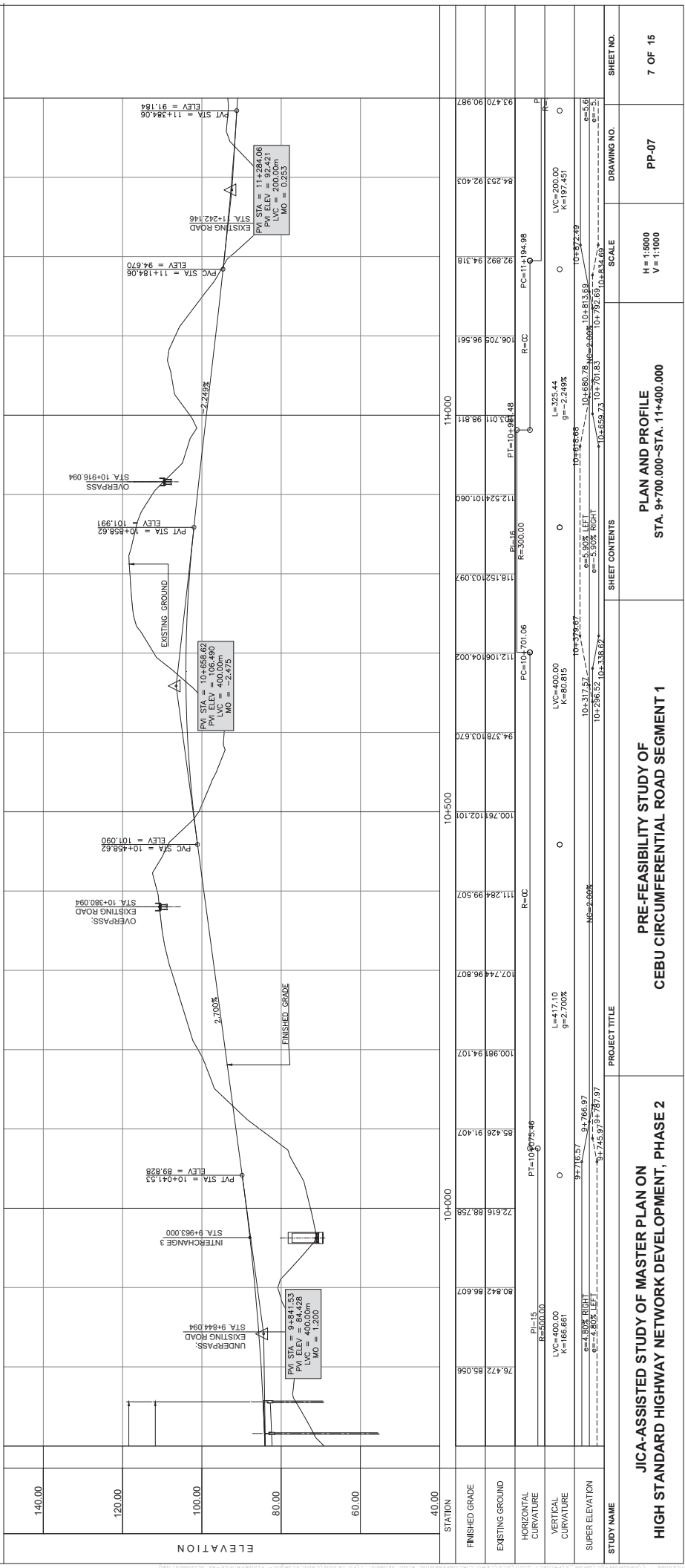
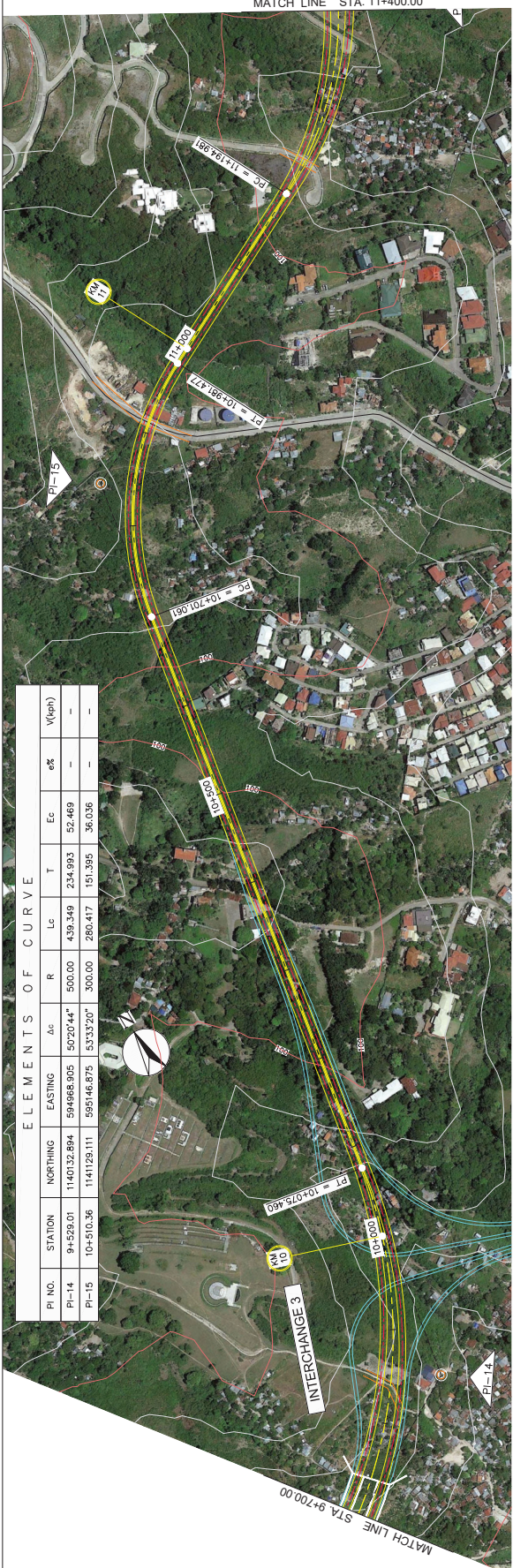
JICA-ASSISTED STUDY OF MASTER PLAN ON
 HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2

PRE-FEASIBILITY STUDY OF
 CEBU CIRCUMFERENTIAL ROAD SEGMENT 1

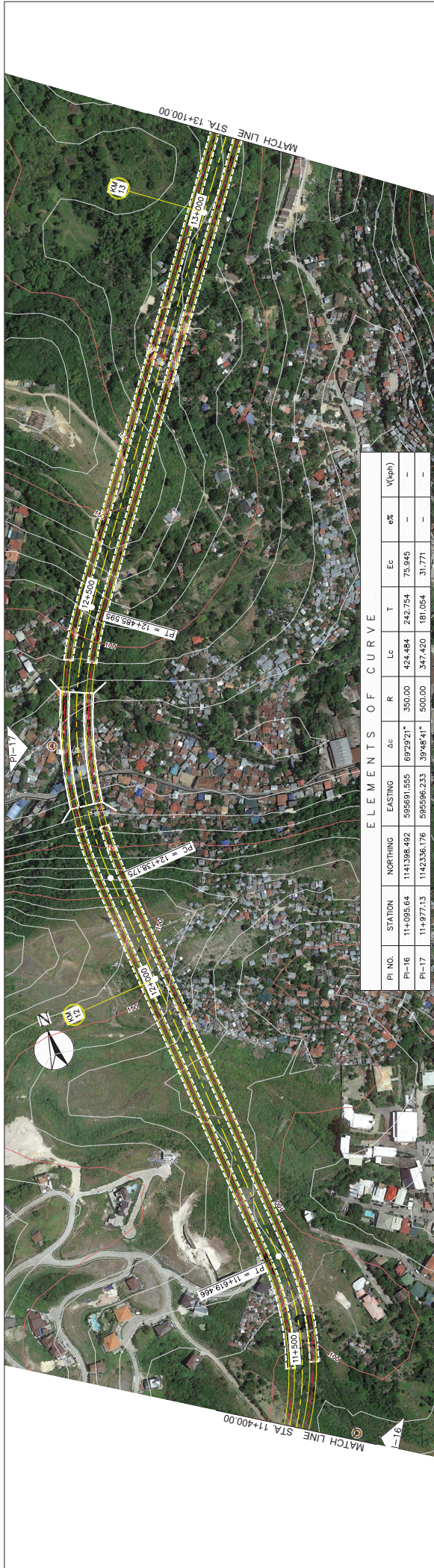
PLAN AND PROFILE
 STA. 8+000.000-STA. 9+700.000
 H = 1:5000
 V = 1:1000
 PP-06
 6 OF 15

ELEMENTS OF CURVE

PI NO.	STATION	NORTHING	EASTING	Δc	R	Lc	T	Ec	e%	V(mph)
PI-14	9+529.01	1140132.894	594968.905	50°20'44"	500.00	439.349	234.993	52.469	-	-
PI-15	10+510.36	1141129.111	595146.875	53°33'20"	300.00	280.417	151.395	36.036	-	-

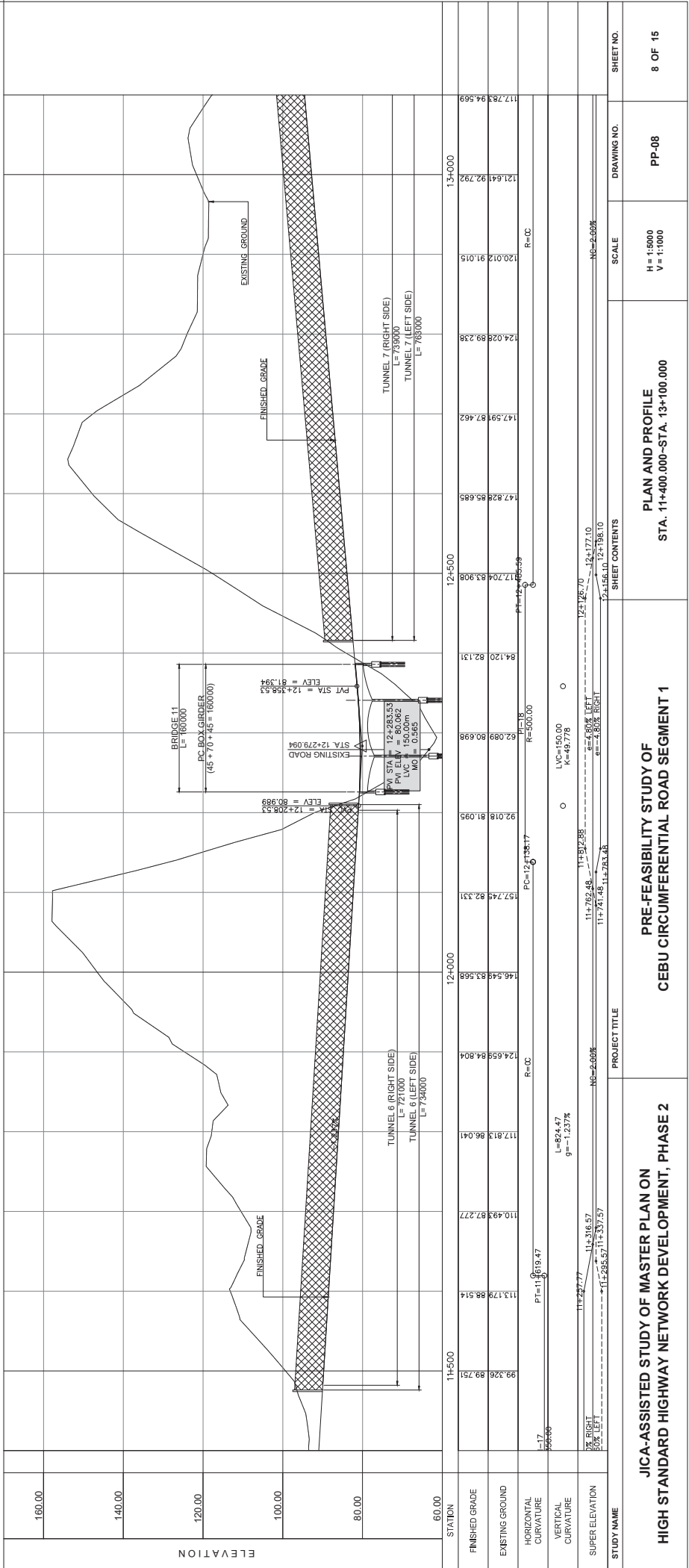


STUDY NAME		PROJECT TITLE		SHEET CONTENTS		SCALE		DRAWING NO.		SHEET NO.	
JICA-ASSISTED STUDY OF MASTER PLAN ON HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2		PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1		PLAN AND PROFILE STA. 9+700.000-STA. 11+400.000		H = 1:5000 V = 1:1000		PP-07		7 OF 15	



ELEMENTS OF CURVE

PI NO.	STATION	NORTHING	EASTING	Δc	R	Lc	T	Ec	Δ%	V(kph)
PI-16	11+095.64	1141398.492	595991.555	89°29'21"	350.00	424.464	242.754	75.945	-	-
PI-17	11+877.13	1142336.176	595596.233	39°48'41"	500.00	347.420	181.054	31.771	-	-



JICA-ASSISTED STUDY OF MASTER PLAN ON HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2

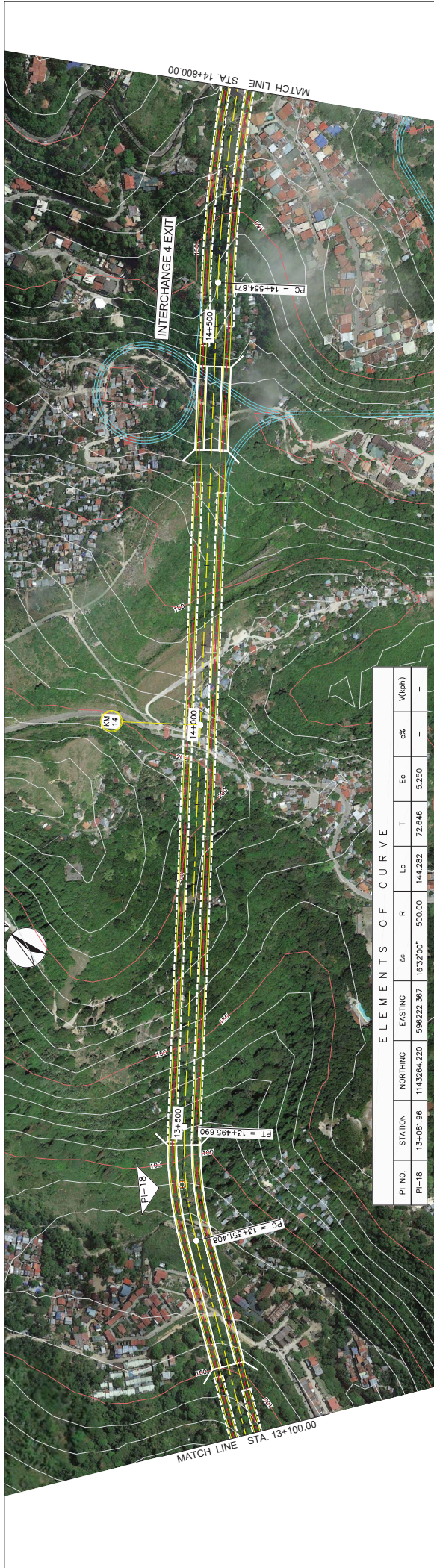
PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1

PLAN AND PROFILE
STA. 11+400.000--STA. 13+100.000

H = 1:5000
V = 1:1000

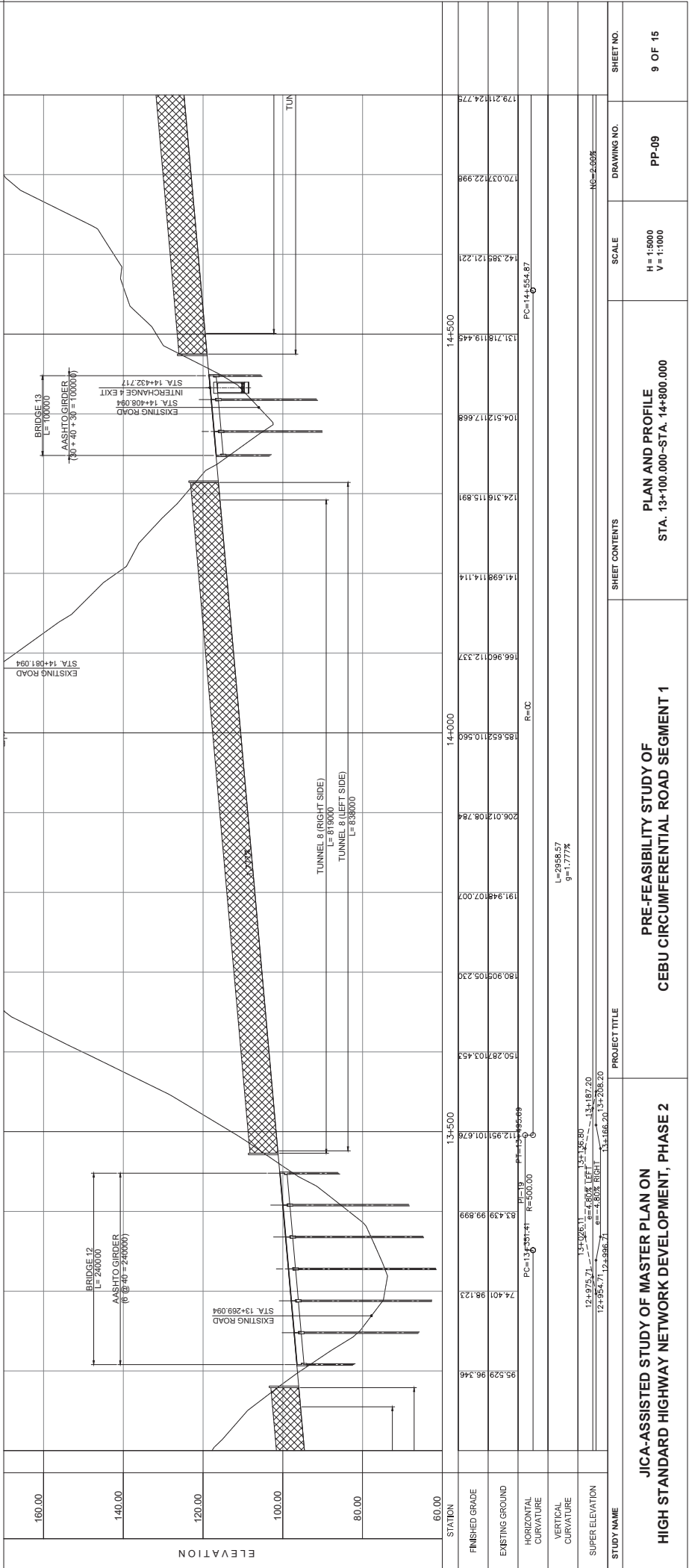
PP-08

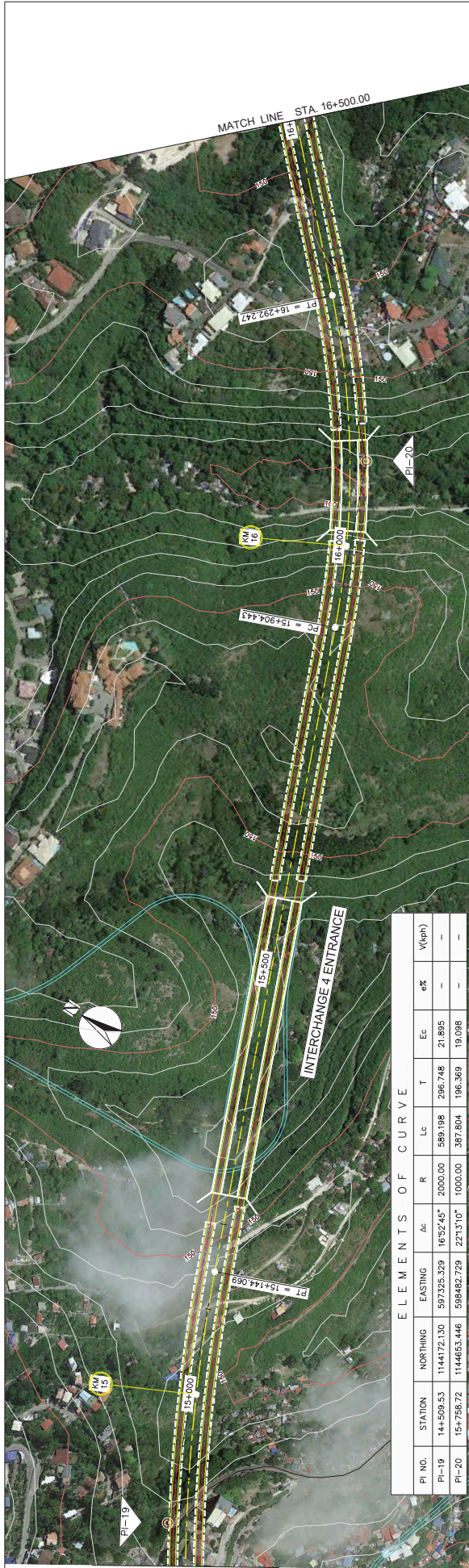
SHEET NO. 8 OF 15



ELEMENTS OF CURVE

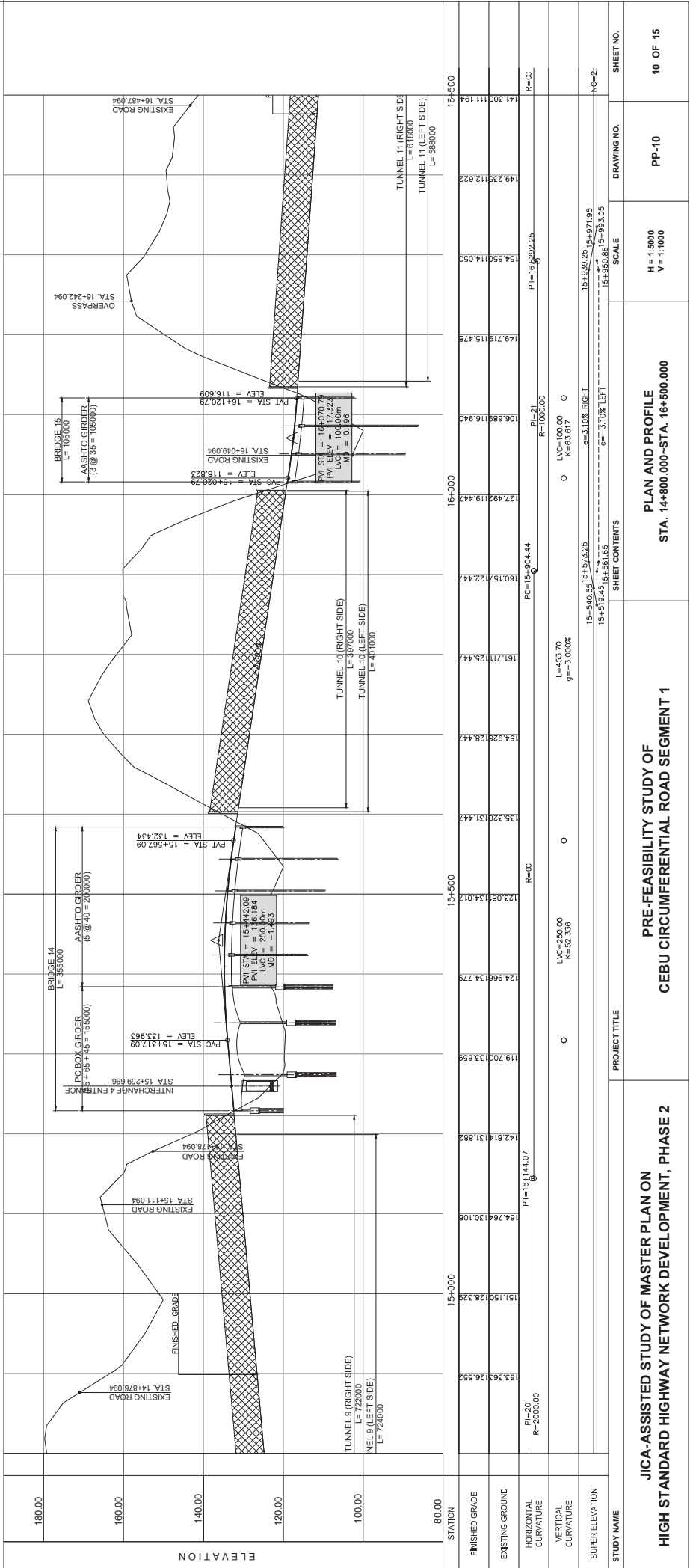
PI NO.	STATION	NORTHING	EASTING	Δα	R	Lc	T	Eg	α%	V(ftph)
PI-18	13+081.96	1143264.220	598222.367	16°32'00"	500.00	144.282	72.646	5.250	-	-





ELEMENTS OF CURVE

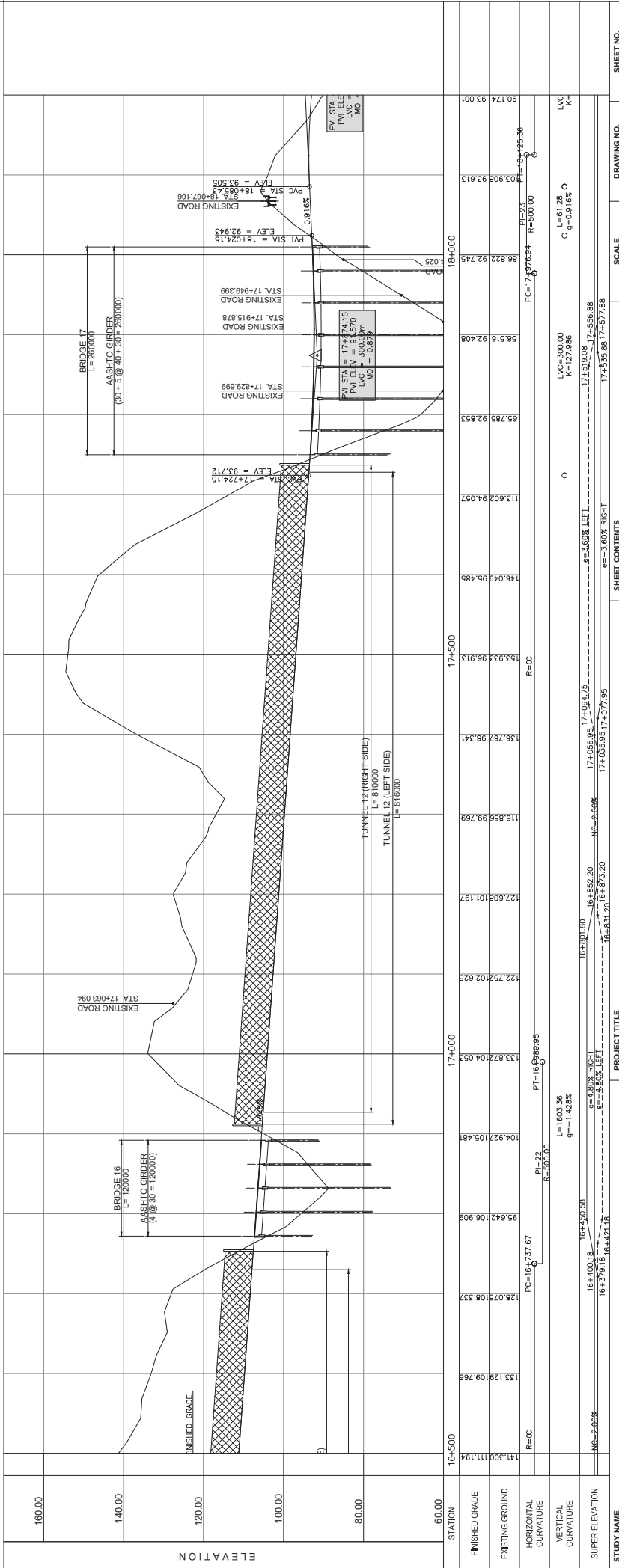
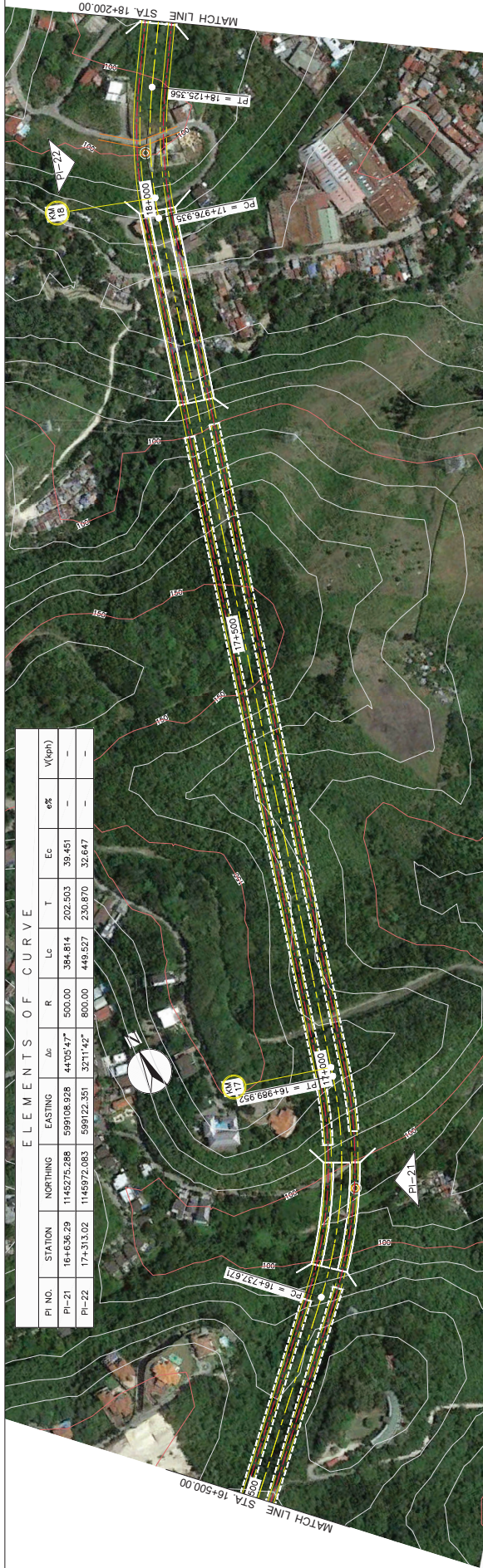
PI NO.	STATION	NORTHING	EASTING	$\Delta\alpha$	R	Lc	T	Ec	e%	V(eph)
PI-19	14+508.53	1144172.130	597525.329	16°32'45"	2000.00	589.198	296.748	21.895	-	-
PI-20	15+758.72	1144853.446	598482.729	22°13'10"	1000.00	387.804	196.369	19.098	-	-



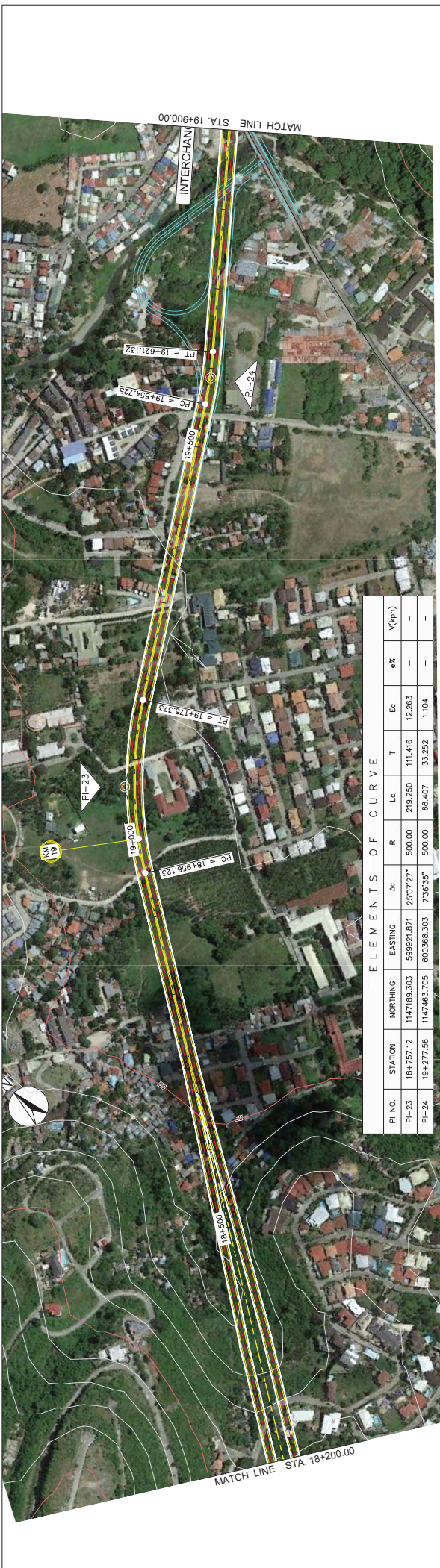
STATION	180.00	160.00	140.00	120.00	100.00	80.00
FINISHED GRADE	154.000	154.000	154.000	154.000	154.000	154.000
EXISTING GROUND	163.367	164.814	119.700	123.081	133.320	141.300
HORIZONTAL CURVATURE	PI-20 R=2000.00	PT=15+144.07				
VERTICAL CURVATURE						
SUPER ELEVATION						

STUDY NAME	PROJECT TITLE	SHEET CONTENTS	SCALE	DRAWING NO.	SHEET NO.
JICA-ASSISTED STUDY OF MASTER PLAN ON HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2	PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1	PLAN AND PROFILE STA. 14+800.000-STA. 16+500.000	H = 1:5000 V = 1:1000	PP-10	10 OF 15

ELEMENTS OF CURVE										
PI NO.	STATION	NORTHING	EASTING	Δα	R	Lc	T	Ec	e%	V(kph)
PI-21	16+636.29	1145275.288	599108.928	44°05'47"	500.00	384.814	202.503	39.451	-	-
PI-22	17+313.02	1145972.083	599122.351	32°11'42"	800.00	449.527	230.870	32.647	-	-

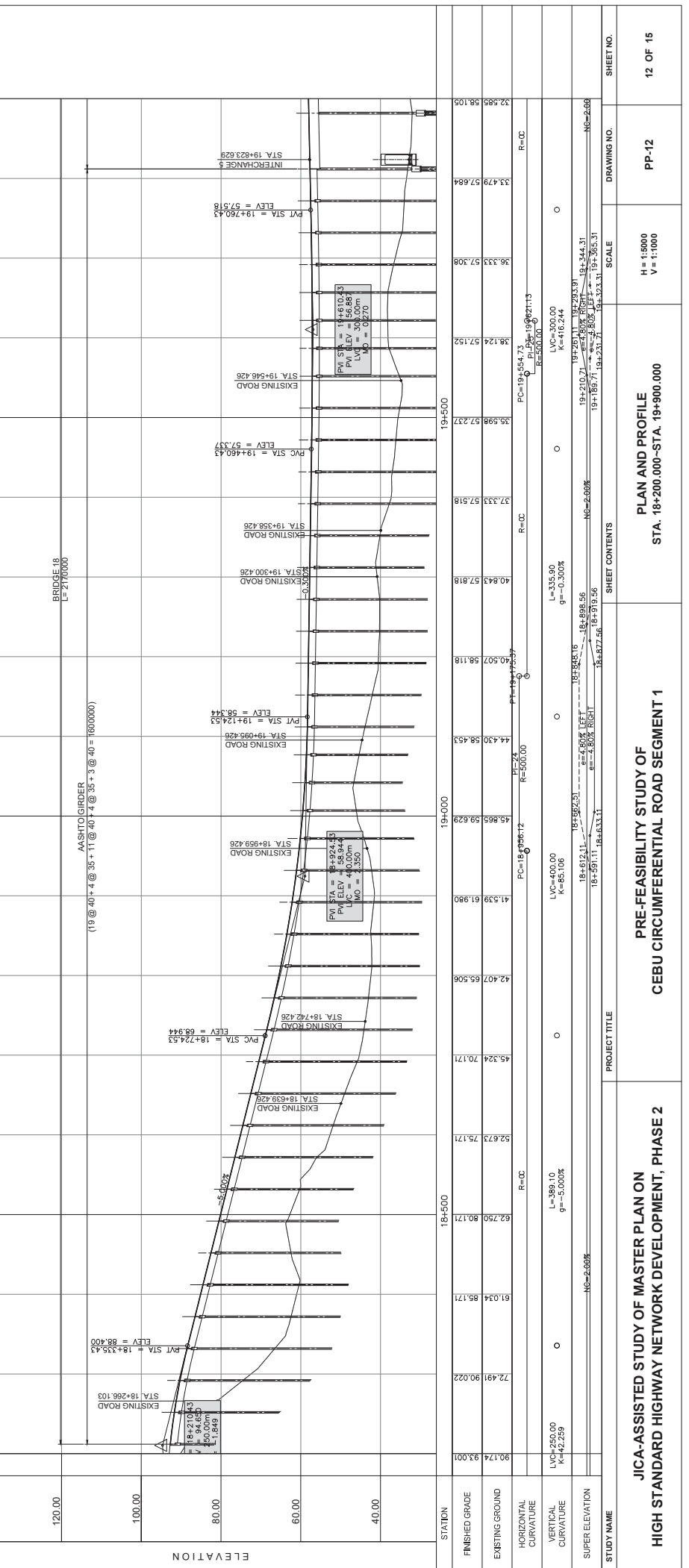


STUDY NAME		PROJECT TITLE		SHEET CONTENTS		SCALE		DRAWING NO.		SHEET NO.	
JICA-ASSISTED STUDY OF MASTER PLAN ON HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2		PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1		PLAN AND PROFILE STA. 16+500.000-STA. 18+200.000		H = 1:5000 V = 1:1000		PP-11		11 OF 15	



ELEMENTS OF CURVE

PI NO.	STATION	NORTHING	EASTING	Δc	R	Lc	T	Ec	e%	V(eph)
PI-23	18+757.12	1147180.303	59921.871	250727*	500.00	219.250	111.416	12.263	--	--
PI-24	19+277.56	1147463.705	600868.303	73635*	500.00	66.407	33.252	1.104	--	--



STATION	FINISHED GRADE	EXISTING GROUND	HORIZONTAL CURVATURE	VERTICAL CURVATURE	SUPER ELEVATION
18+500	62.759	80.171	61.034	72.491	90.022
18+600	62.759	80.171	61.034	72.491	90.022
18+700	62.759	80.171	61.034	72.491	90.022
18+800	62.759	80.171	61.034	72.491	90.022
18+900	62.759	80.171	61.034	72.491	90.022
19+000	62.759	80.171	61.034	72.491	90.022
19+100	62.759	80.171	61.034	72.491	90.022
19+200	62.759	80.171	61.034	72.491	90.022
19+300	62.759	80.171	61.034	72.491	90.022
19+400	62.759	80.171	61.034	72.491	90.022
19+500	62.759	80.171	61.034	72.491	90.022

STUDY NAME
 JICA-ASSISTED STUDY OF MASTER PLAN ON HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2

PROJECT TITLE
 PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1

SHEET CONTENTS
 PLAN AND PROFILE STA. 18+200.000-STA. 19+900.000

SCALE
 H = 1:5000
 V = 1:1000

DRAWING NO.
 PP-12

SHEET NO.
 12 OF 15