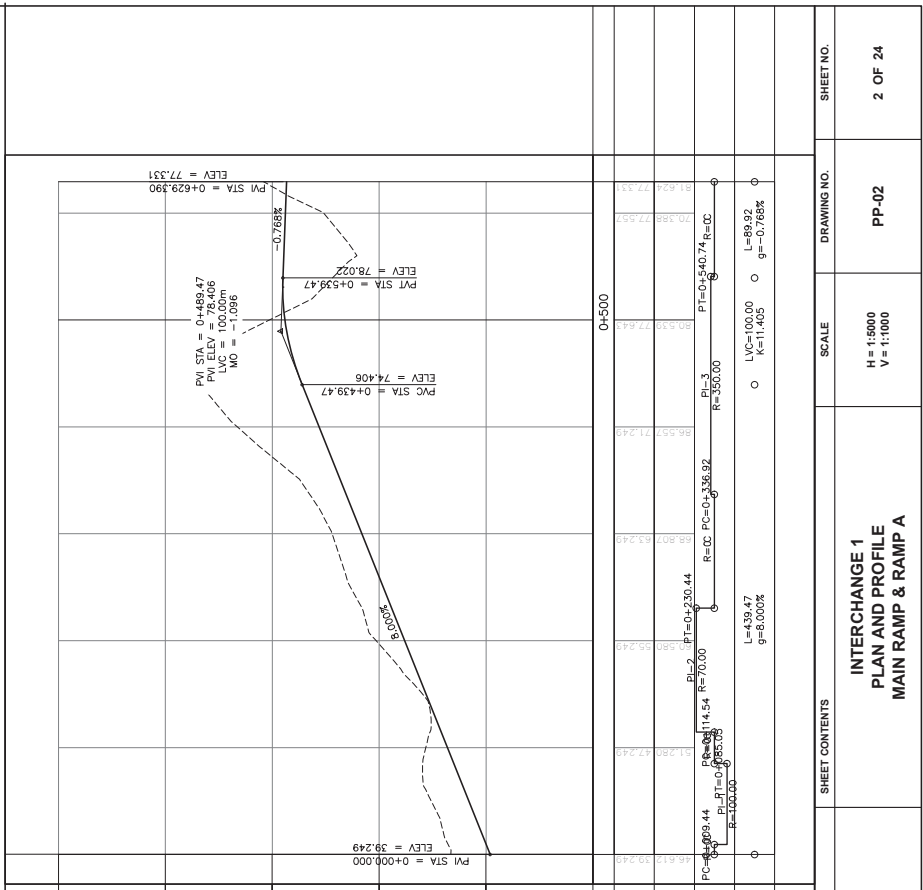
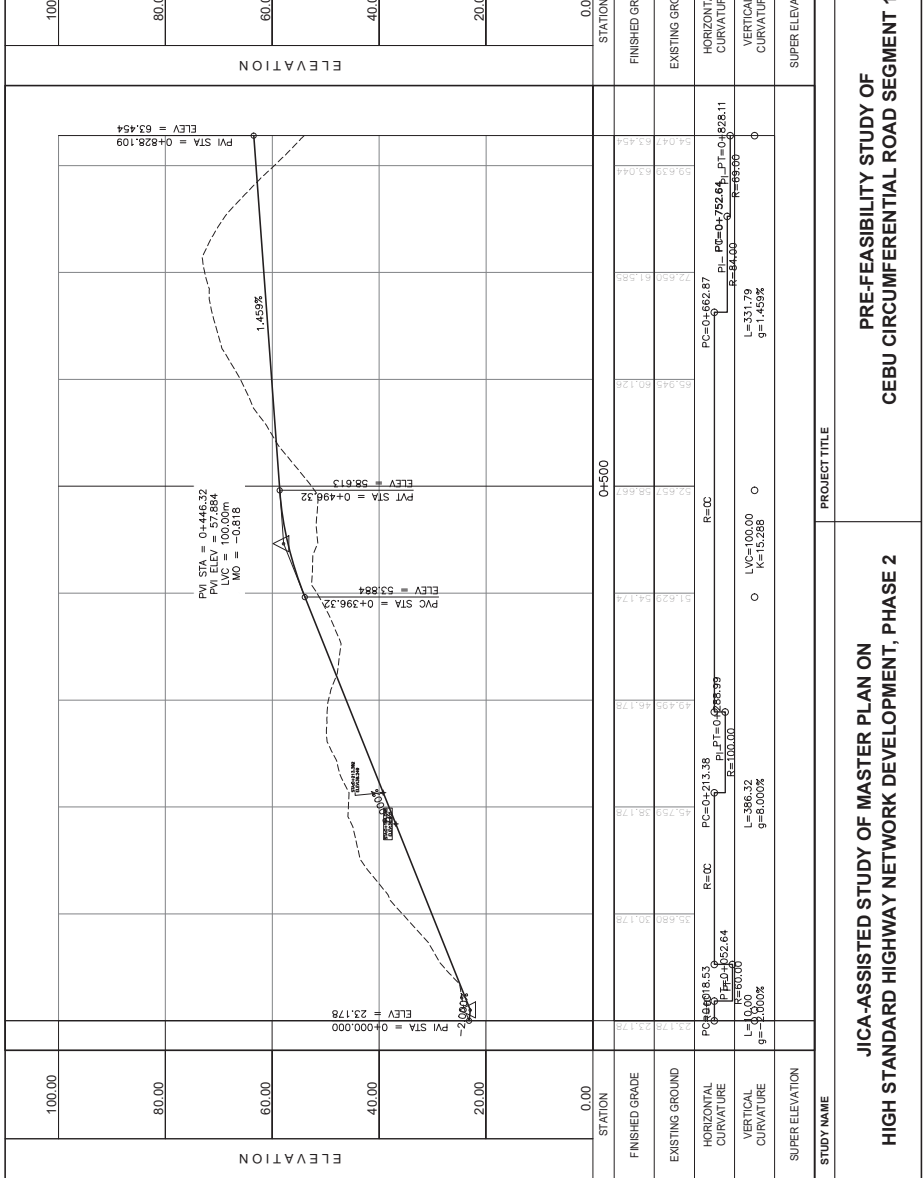
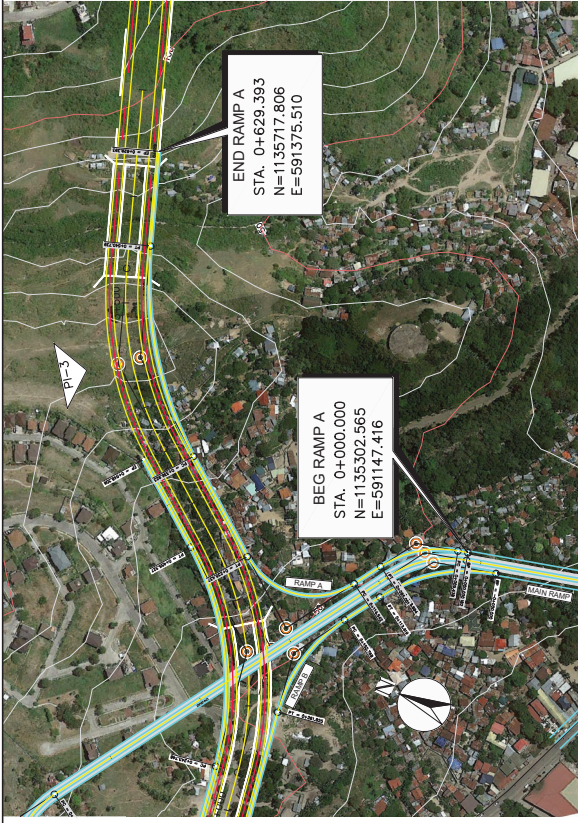
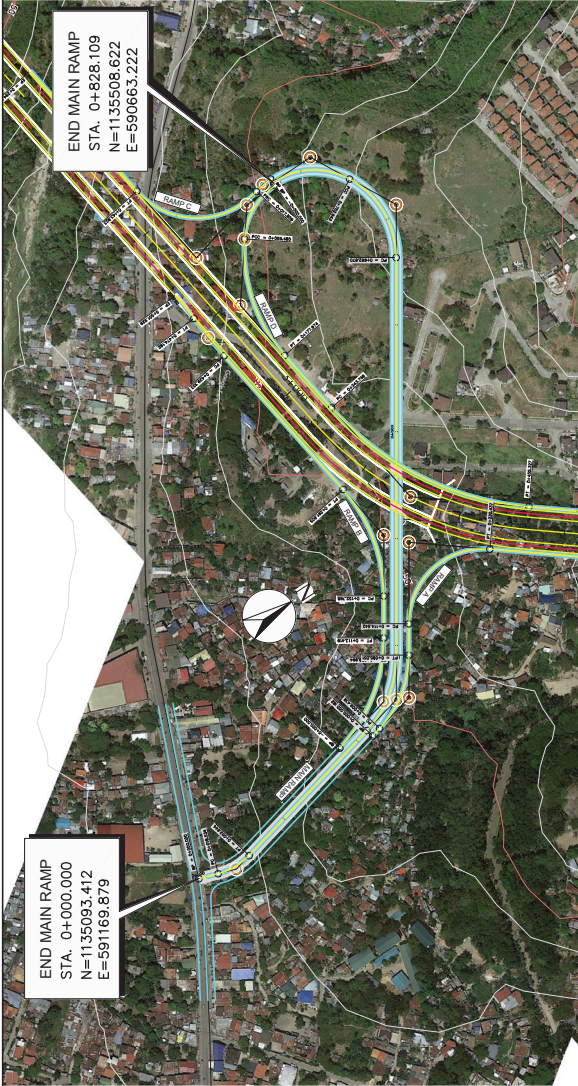




STUDY NAME	<p>JICA-ASSISTED STUDY OF MASTER PLAN ON HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2</p>
PROJECT TITLE	<p>PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1</p>
SHEET CONTENTS	<p>INTERCHANGE 4 EXIT LAYOUT PLAN STA. 1+4+432.717</p>
SCALE	<p>1 : 2,500</p>
DRAWING NO.	<p>PP-15</p>
SHEET NO.	<p>15 OF 24</p>



<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>INTERCHANGE 6 LAYOUT PLAN STA. 19+823.629</p>	<p>SCALE</p> <p>1 : 2500</p>	<p>DRAWING NO.</p> <p>PP-21</p>	<p>SHEET NO.</p> <p>21 OF 24</p>
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STUDY NAME: JICA-ASSISTED STUDY OF MASTER PLAN ON HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2

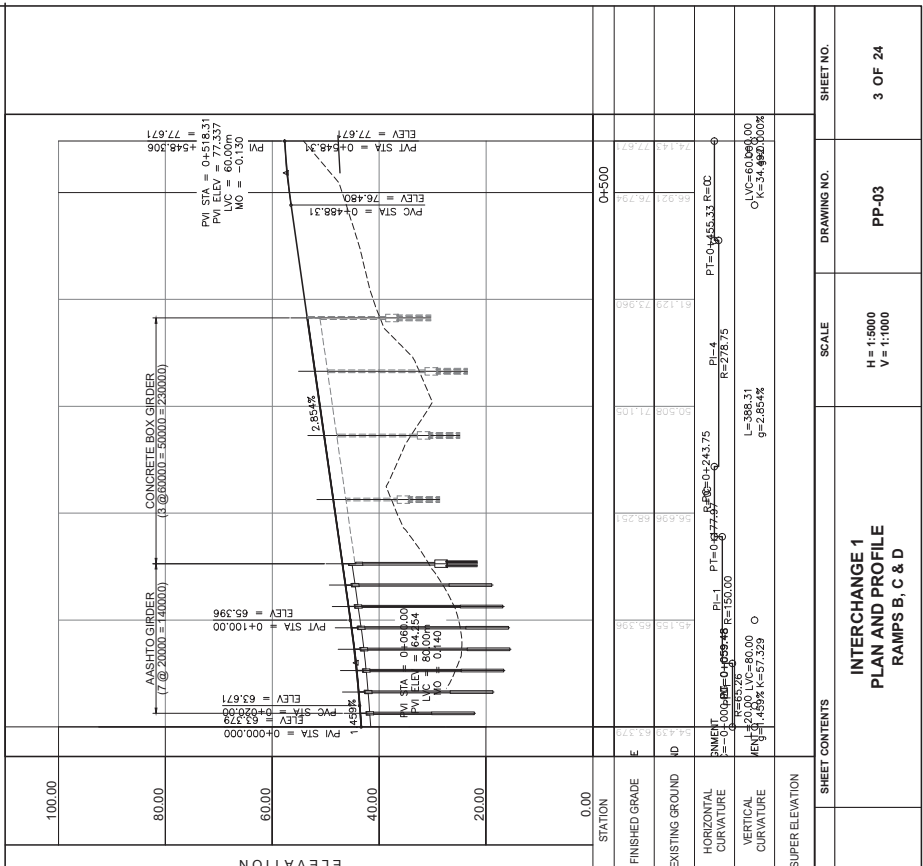
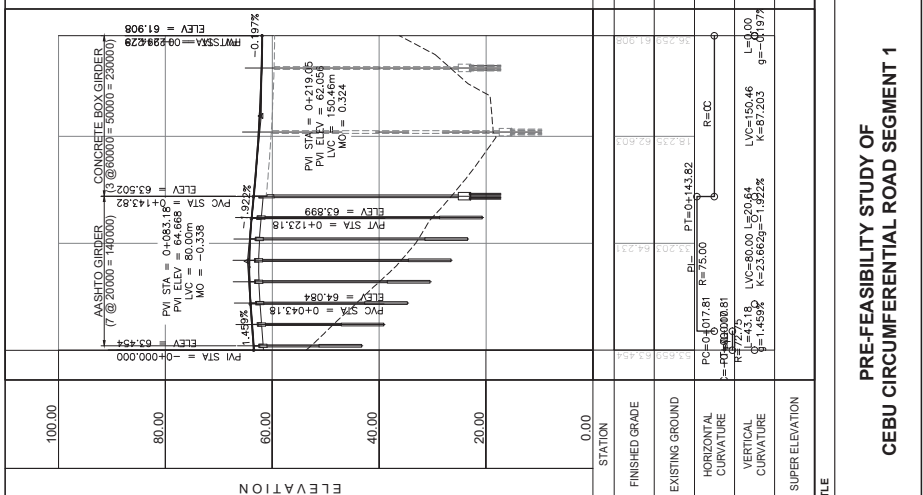
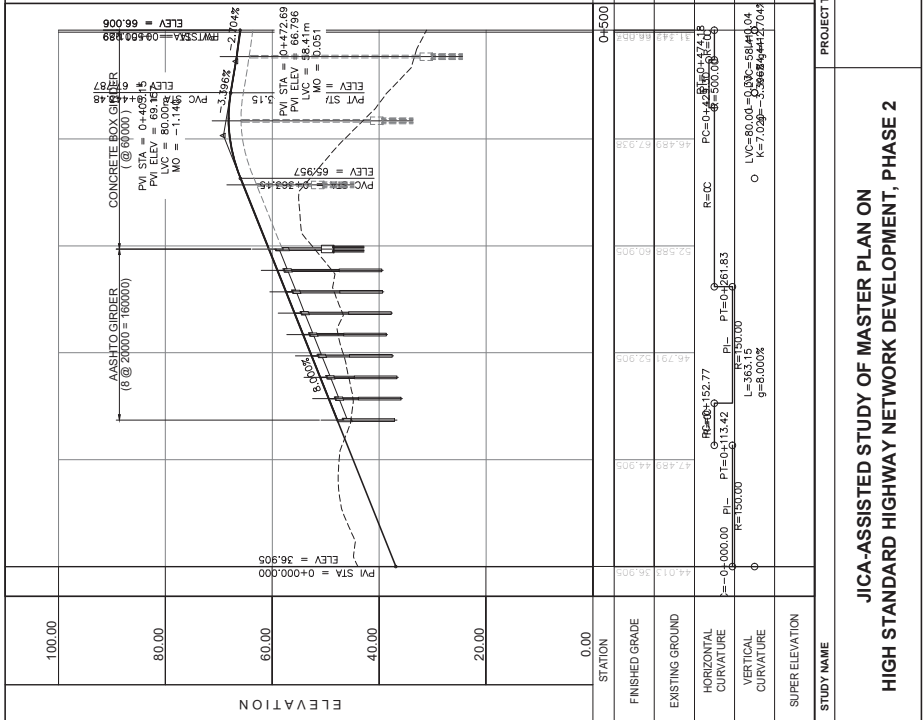
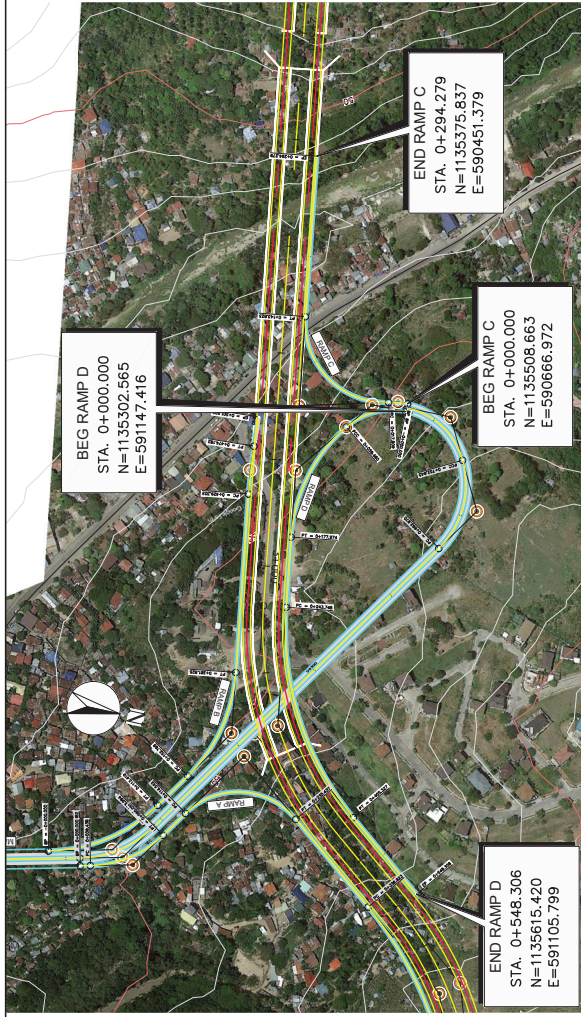
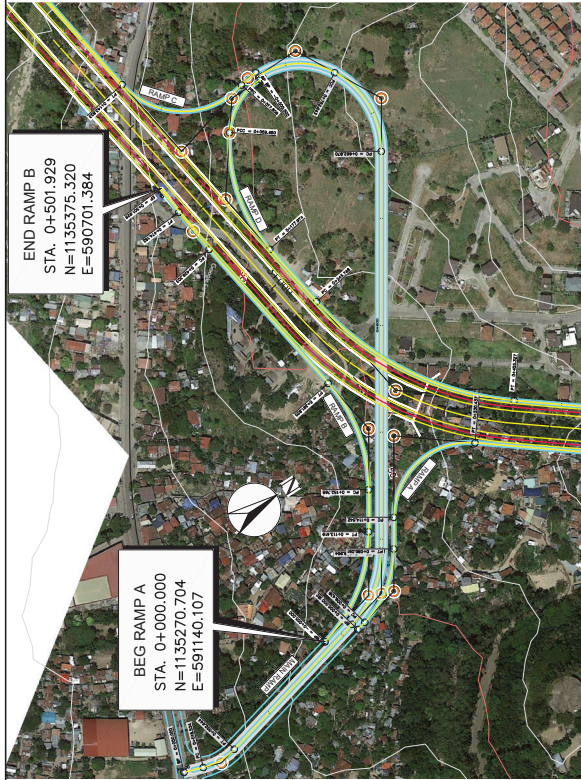
PROJECT TITLE: PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1

SHEET CONTENTS: INTERCHANGE 1 PLAN AND PROFILE MAIN RAMP & RAMP A

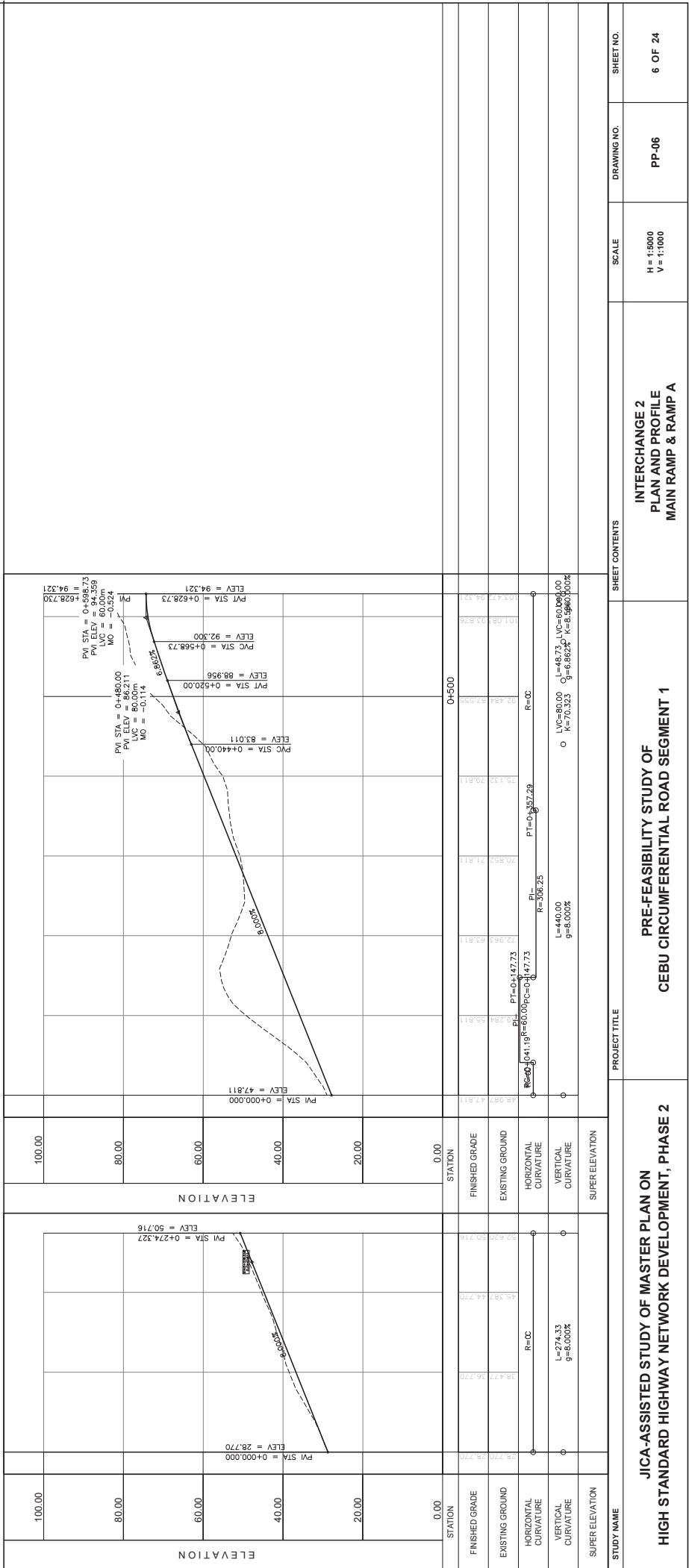
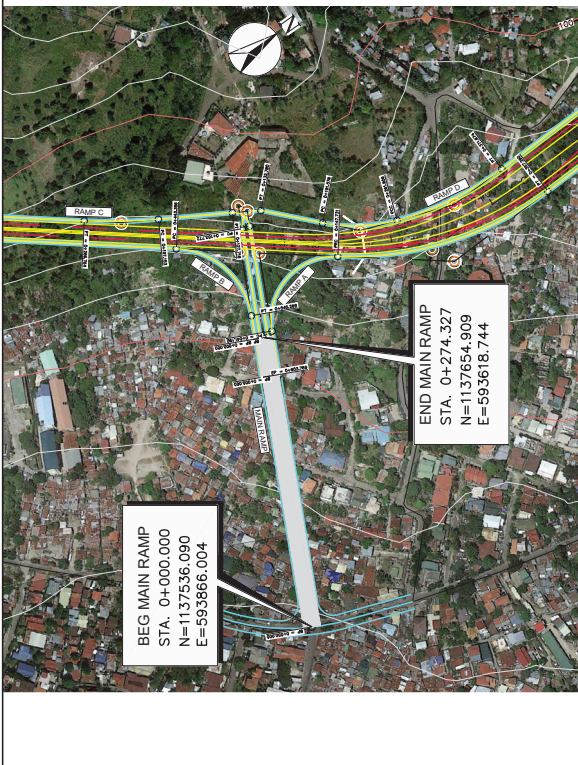
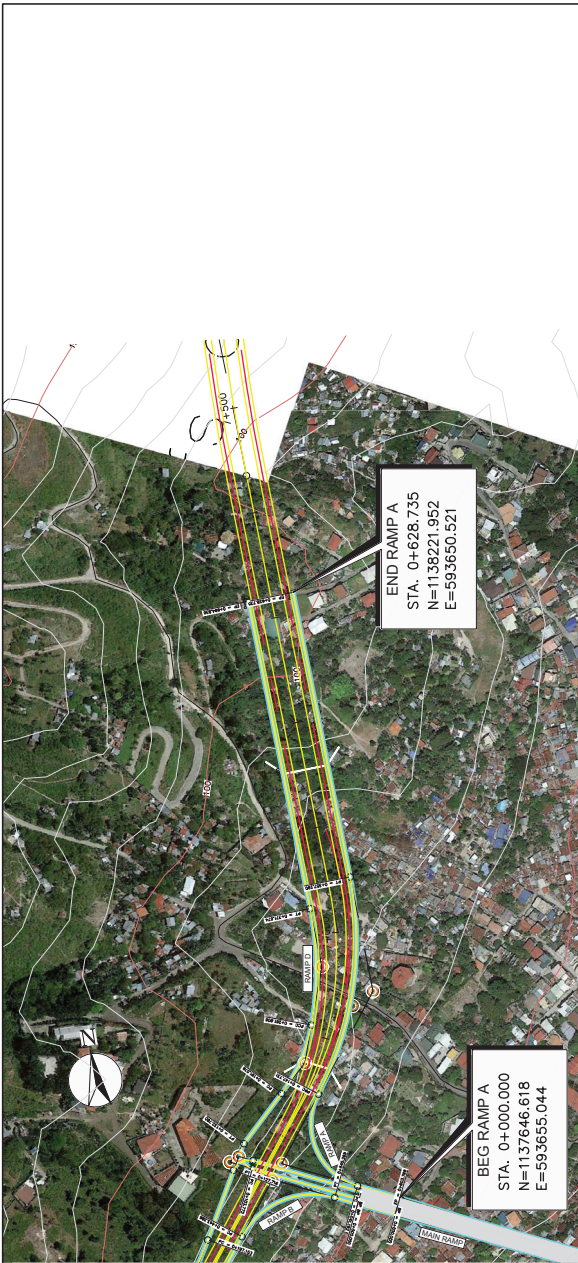
SCALE: H = 1:5000, V = 1:1000

DRAWING NO.: PP-02

SHEET NO.: 2 OF 24



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	INTERCHANGE 1 PLAN AND PROFILE RAMPS B, C & D	H = 1:5000 V = 1:1000	PP-03	3 OF 24



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

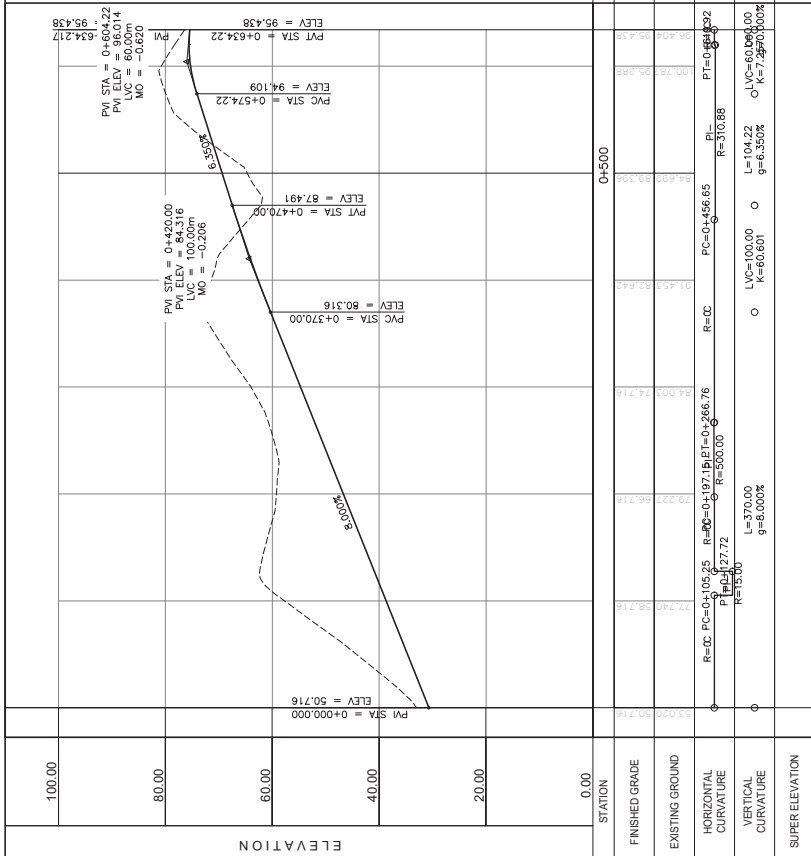
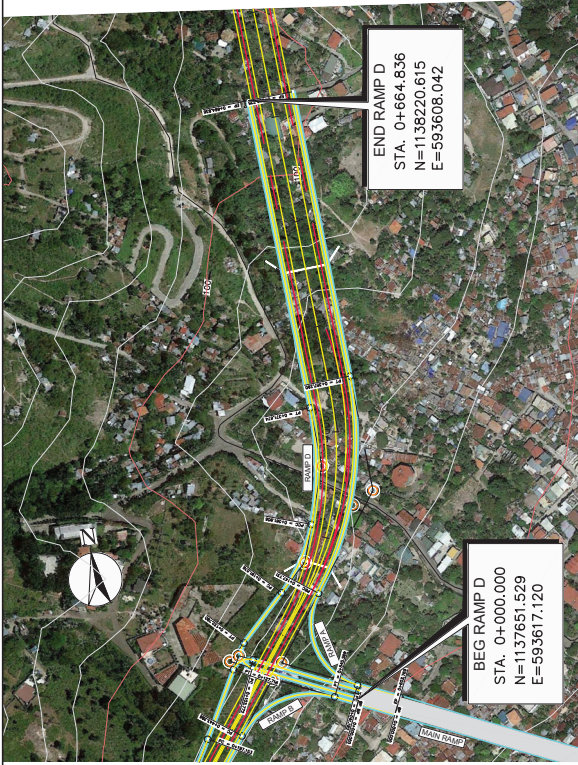
PROJECT TITLE: PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1

SHEET CONTENTS: INTERCHANGE 2 PLAN AND PROFILE MAIN RAMP & RAMP A

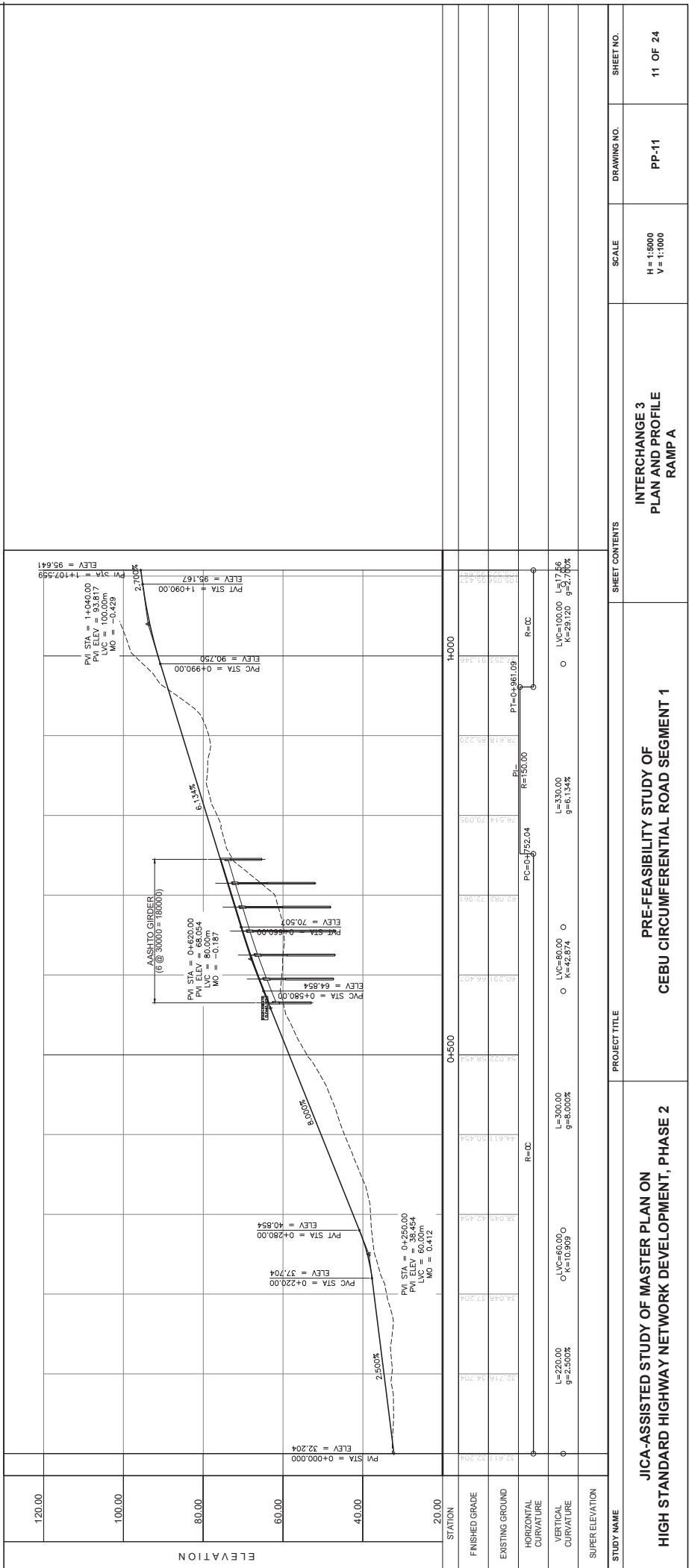
SCALE: H = 1:5000 V = 1:1000

DRAWING NO.: PP-06

SHEET NO.: 6 OF 24



STUDY NAME		PROJECT TITLE	
JICA-ASSISTED STUDY OF MASTER PLAN ON HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2		PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1	
SHEET ELEVATION		INTERCHANGE 2 PLAN AND PROFILE RAMP D	
SUPER ELEVATION		SCALE	
VERTICAL CURVATURE		H = 1:5000 V = 1:1000	
HORIZONTAL CURVATURE		DRAWING NO.	
EXISTING GROUND		PP-08	
FINISHED GRADE		SHEET NO.	
STATION		8 OF 24	



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

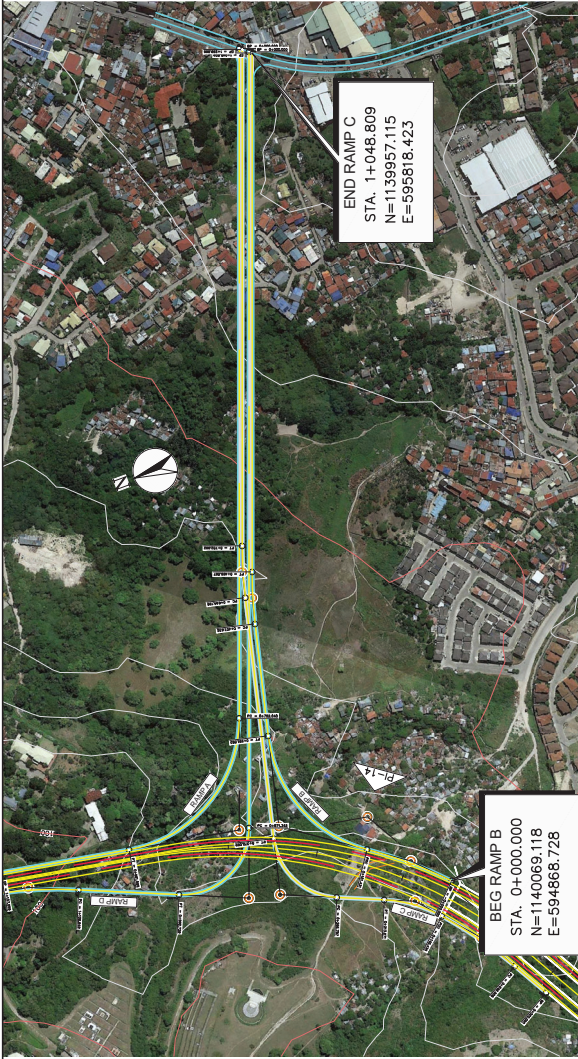
PROJECT TITLE: PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1

SHEET CONTENTS: INTERCHANGE 3 PLAN AND PROFILE RAMP A

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

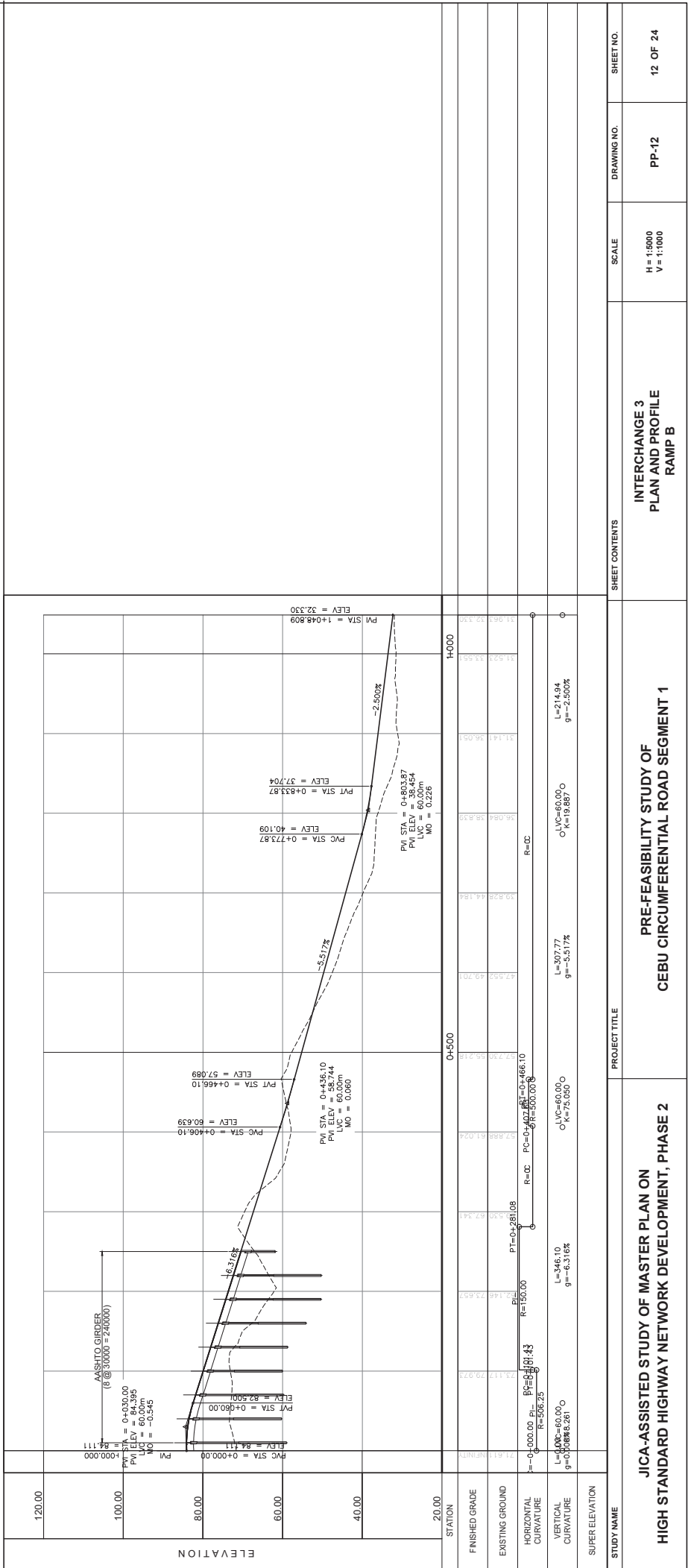
DRAWING NO.: PP-11

SHEET NO.: 11 OF 24



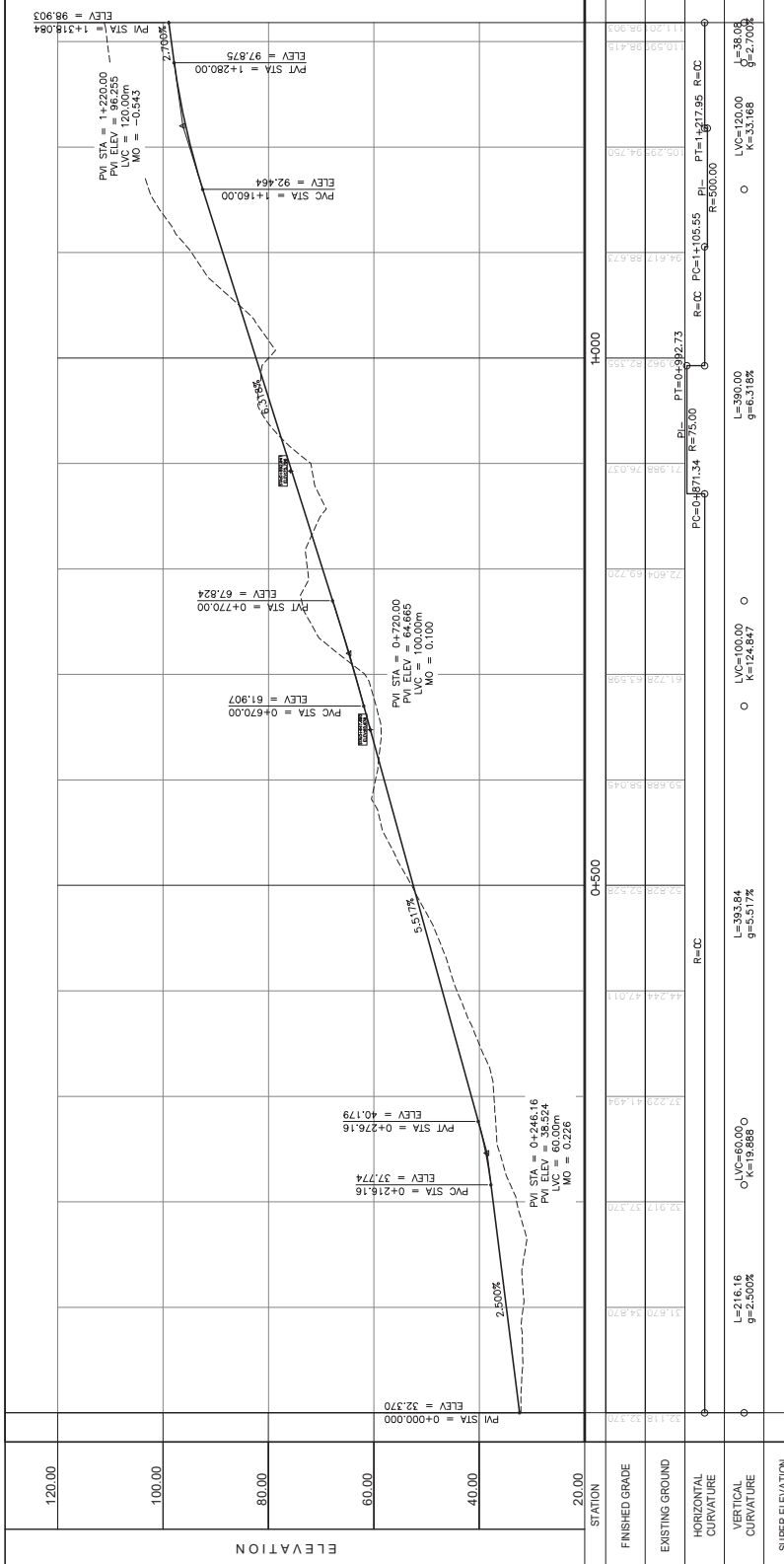
END RAMP C
 STA. 1+048.809
 N=1139957.115
 E=595818.423

BEG RAMP B
 STA. 0+000.000
 N=1140069.118
 E=594868.728

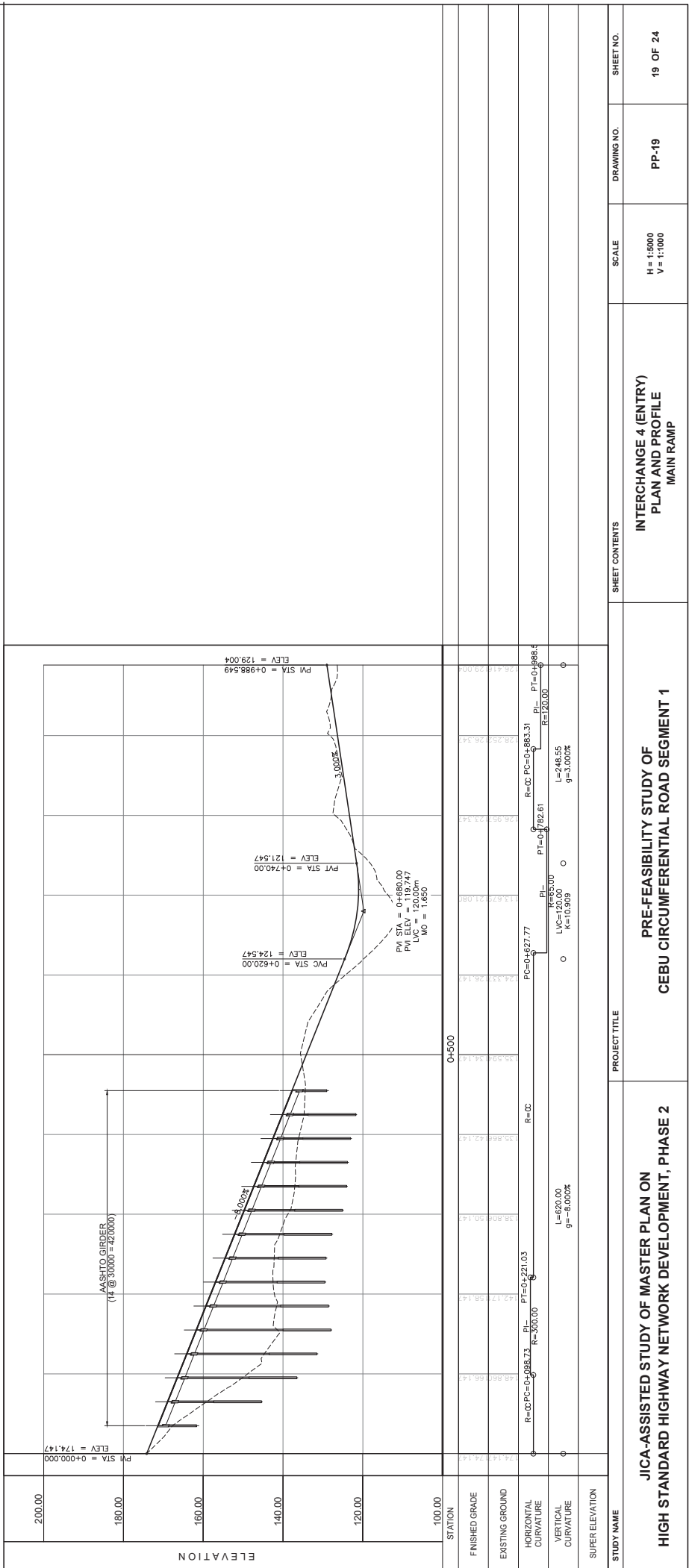




STATION		0+500		1+000		1+500			
FINISHED GRADE		70.102	71.161	71.161	71.161	71.161	71.161		
EXISTING GROUND		70.102	71.161	71.161	71.161	71.161	71.161		
HORIZONTAL CURVATURE		R=150.00	R=150.00	R=150.00	R=150.00	R=150.00	R=150.00		
VERTICAL CURVATURE		L=220.00 g=-2.515%	L=220.00 g=-2.515%	L=220.00 g=-2.515%	L=220.00 g=-2.515%	L=220.00 g=-2.515%	L=220.00 g=-2.515%		
SUPER ELEVATION									
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		INTERCHANGE 3 PLAN AND PROFILE RAMP C				SCALE		H = 1:5000 V = 1:1000	
DRAWING NO.		PP-13				SHEET NO.		13 OF 24	

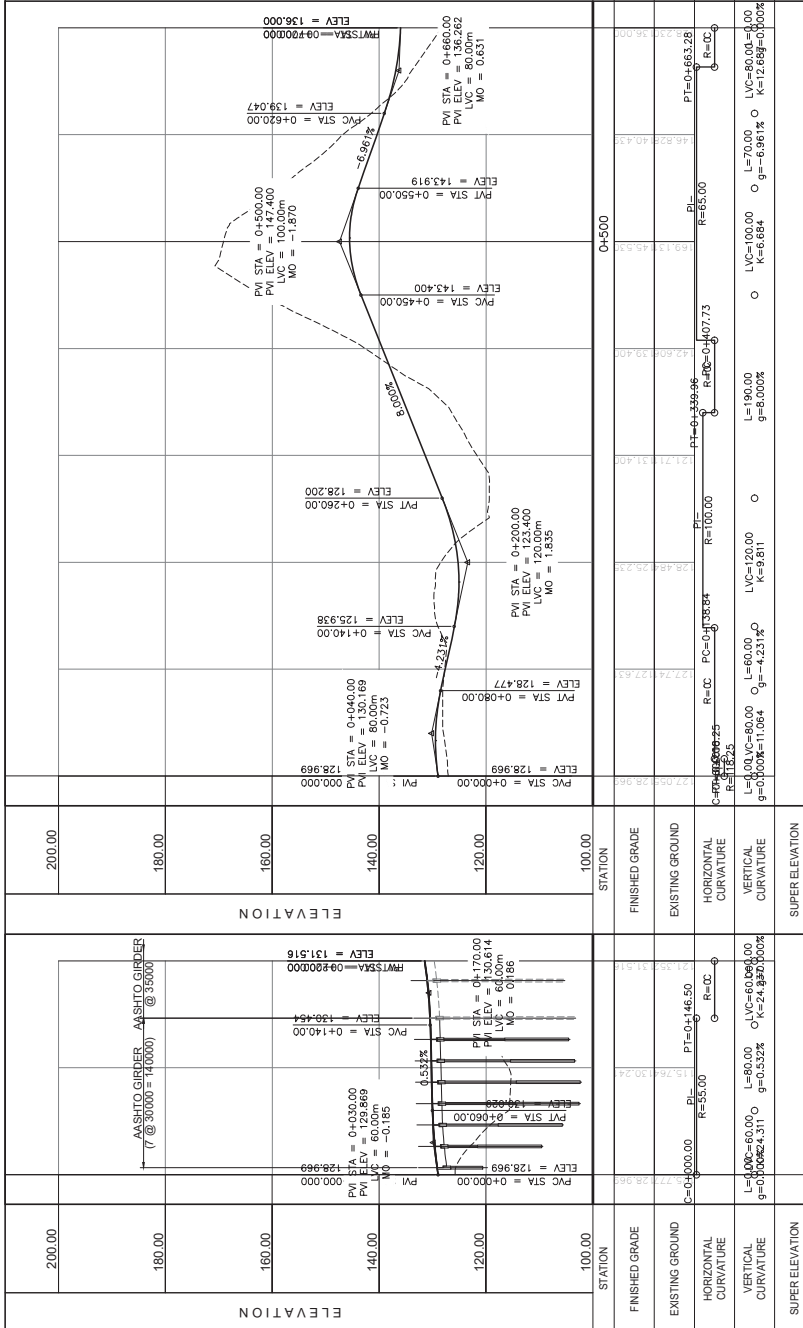
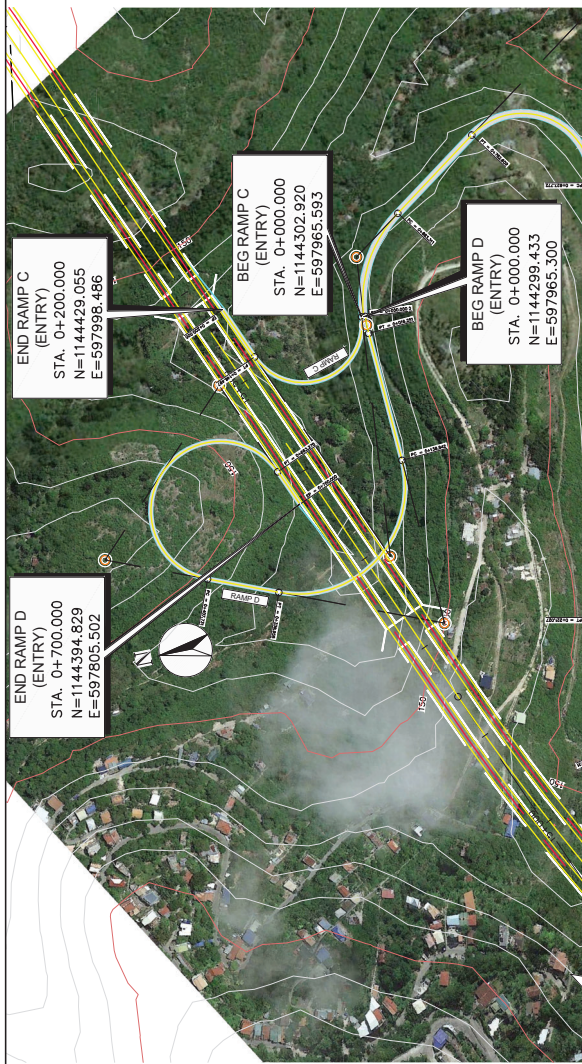


STUDY NAME		PROJECT TITLE		SHEET CONTENTS		SCALE	DRAWING NO.	SHEET NO.
JICA-ASSISTED STUDY OF MASTER PLAN ON HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2		PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1		INTERCHANGE 3 PLAN AND PROFILE RAMP D		H = 1:5000 V = 1:1000	PP-14	14 OF 24



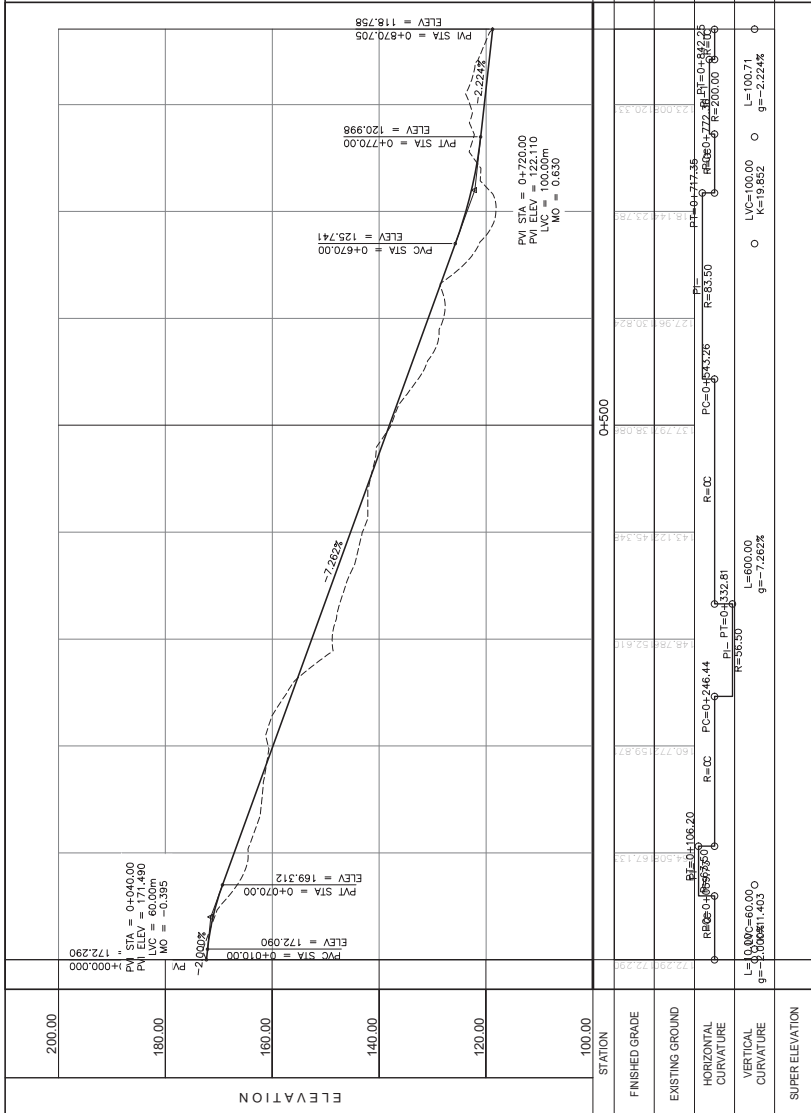
STATION	FINISHED GRADE	EXISTING GROUND	HORIZONTAL CURVATURE	VERTICAL CURVATURE	SUPERELEVATION
0+000.000	174.147	174.147	R=300.00	g=-6.000%	
0+098.73	142.17	142.17	R=300.00		
0+125.000	139.247	139.247	R=300.00		
0+221.03	121.547	121.547	R=300.00		
0+250.000	121.547	121.547	R=300.00		
0+300.000	121.547	121.547	R=300.00		
0+400.000	121.547	121.547	R=300.00		
0+500.000	121.547	121.547	R=300.00		

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	INTERCHANGE 4 (ENTRY) PLAN AND PROFILE MAIN RAMP	H = 1:5000 V = 1:1000	PP-19	19 OF 24



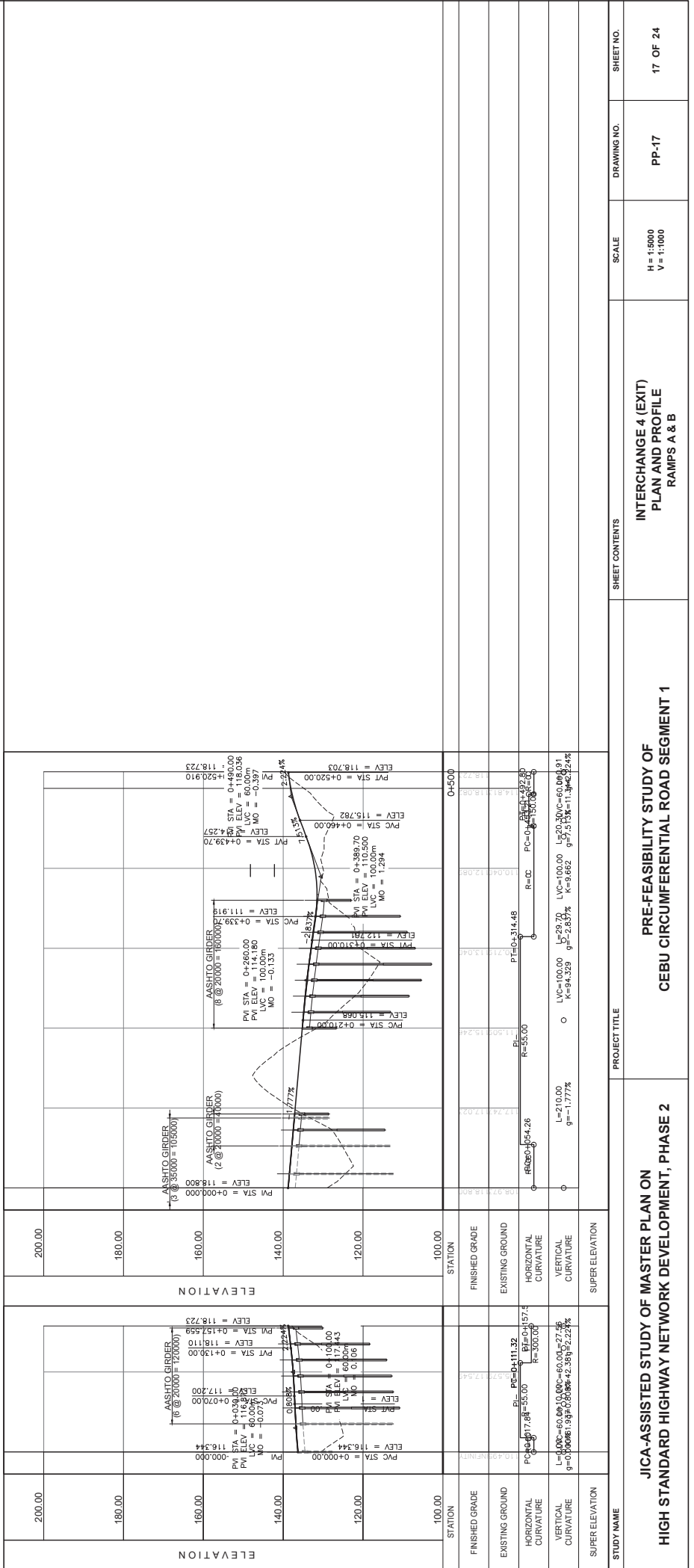
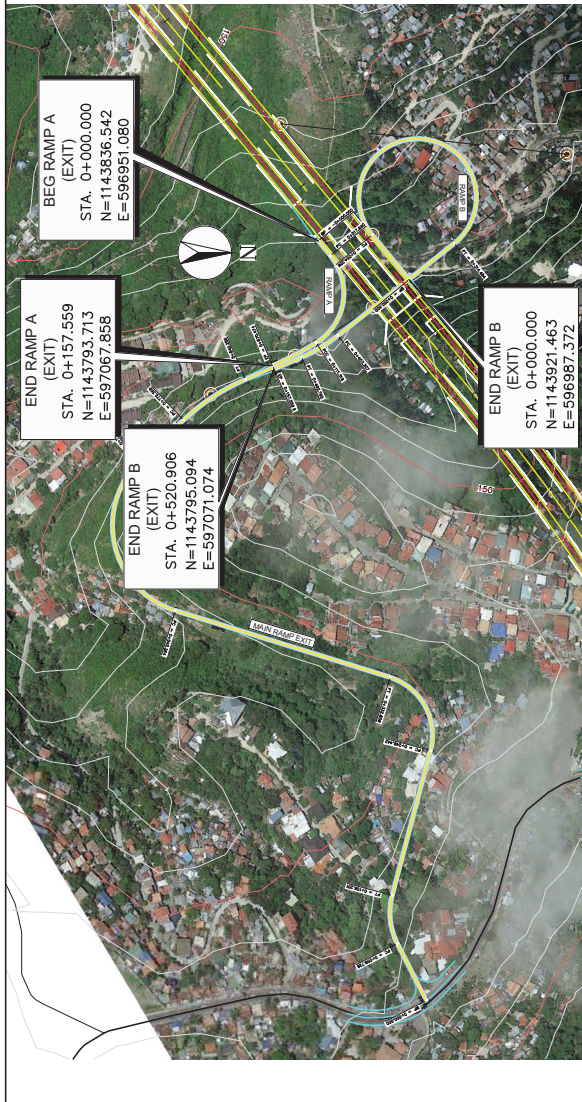
STATION	ELEVATION	DESCRIPTION
0+000.00	128.969	PVC STA = 0+000.000
0+030.00	129.869	PVI STA = 0+030.000
0+060.00	130.451	PVT STA = 0+060.000
0+140.00	128.969	PVC STA = 0+140.000
0+200.00	123.400	PVI STA = 0+200.000
0+260.00	128.200	PVT STA = 0+260.000
0+450.00	143.400	PVC STA = 0+450.000
0+500.00	136.262	PVI STA = 0+500.000
0+620.00	139.047	PVT STA = 0+620.000
0+660.00	136.262	PVI STA = 0+660.000
0+700.00	136.000	FHWTSKRA = 0+700.000

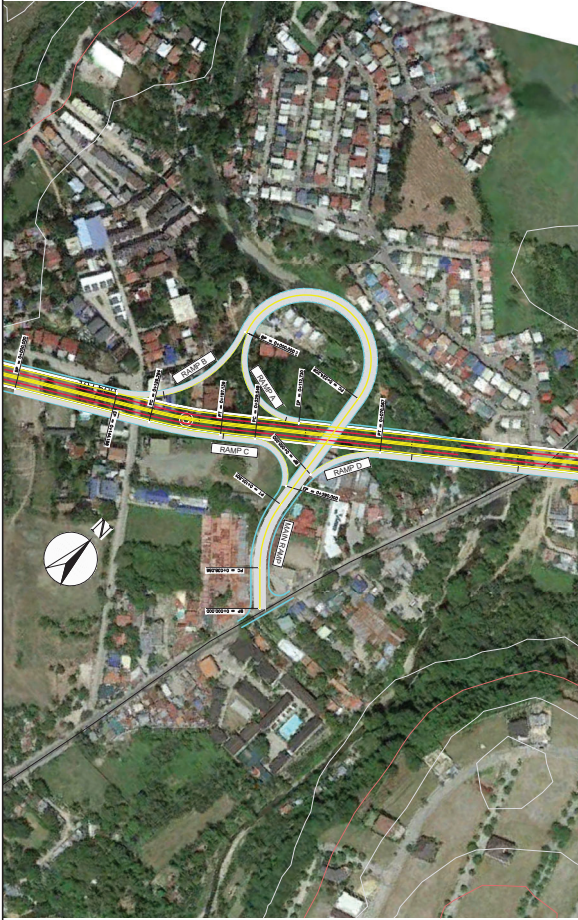
STUDY NAME	PROJECT TITLE	SHEET CONTENTS	SCALE	DRAWING NO.	SHEET NO.
JICA-ASSISTED STUDY OF MASTER PLAN ON HIGH STANDARD HIGHWAY NETWORK DEVELOPMENT, PHASE 2	PRE-FEASIBILITY STUDY OF CEBU CIRCUMFERENTIAL ROAD SEGMENT 1	INTERCHANGE 4 (ENTRY) PLAN AND PROFILE RAMP C & D	H = 1:5000 V = 1:1000	PP-20	20 OF 24



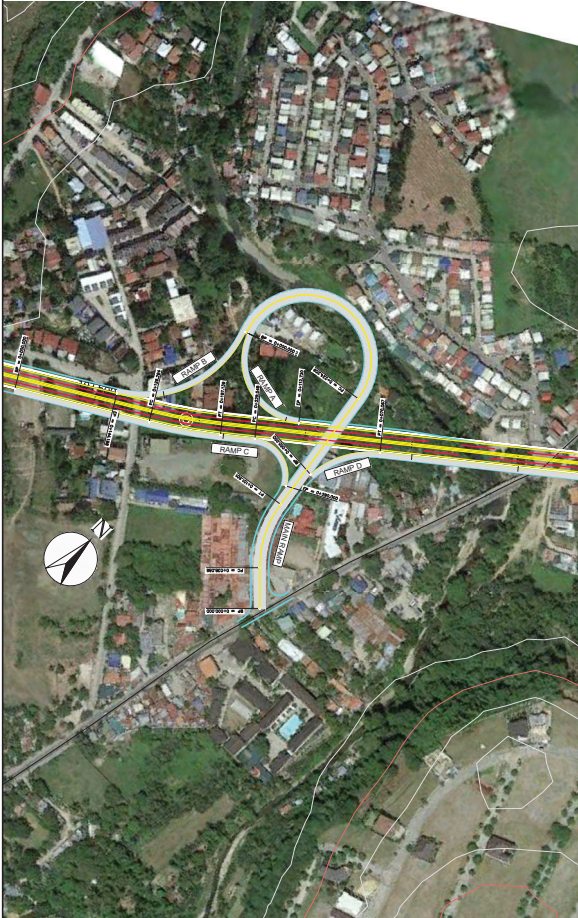
STATION	FINISHED GRADE	EXISTING GROUND	HORIZONTAL CURVATURE	VERTICAL CURVATURE	SUPERELEVATION
0+000.00	172.290	172.290	R=0	L=600.00 g=-7.262%	
0+100.00	172.090	172.090	R=0	L=600.00 g=-7.262%	
0+200.00	172.090	172.090	R=0	L=600.00 g=-7.262%	
0+270.00	120.998	120.998	R=0	L=600.00 g=-7.262%	
0+470.00	118.758	118.758	R=0	L=600.00 g=-7.262%	

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	INTERCHANGE 4 (EXIT) PLAN AND PROFILE MAIN RAMP	H = 1:5000 V = 1:1000	PP-16	16 OF 24





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		INTERCHANGE 5 PLAN AND PROFILE MAIN RAMP, RAMPS A & B		H = 1:5000 V = 1:1000	PP-22	22 OF 24
ELEVATION		ELEVATION		ELEVATION				
100.00		100.00		100.00				
80.00		80.00		80.00				
60.00		60.00		60.00				
40.00		40.00		40.00				
20.00		20.00		20.00				
0.00		0.00		0.00				
STATION		STATION		STATION				
FINISHED GRADE		FINISHED GRADE		FINISHED GRADE				
EXISTING GROUND		EXISTING GROUND		EXISTING GROUND				
HORIZONTAL CURVATURE		HORIZONTAL CURVATURE		HORIZONTAL CURVATURE				
VERTICAL CURVATURE		VERTICAL CURVATURE		VERTICAL CURVATURE				
SUPER ELEVATION		SUPER ELEVATION		SUPER ELEVATION				
PVI STA = 0+074.17 PVI ELEV = 56.814 LVC = 60.00m MO = 0.188 R=100.00 PC=0+000.00 PTA=0+104.17 ELEV = 57.187 PVI STA = 0+104.17 ELEV = 57.187 PVT STA = 0+194.17 ELEV = 58.137 PT=0+104.50 R=100.00 PC=0+224.21 PVI STA = 0+224.21 ELEV = 58.137 LVC=60.00 MO=0.188 R=100.00 PT=0+428.03 L=323.86 g=4.500% K=24.000		PVI STA = 0+074.17 PVI ELEV = 57.009 LVC = 60.00m MO = -0.315 R=100.00 PC=0+000.00 PTA=0+103.94 ELEV = 57.099 PVI STA = 0+103.94 ELEV = 57.099 PVT STA = 0+112.730 ELEV = 57.125 PT=0+103.94 R=100.00 PC=0+000.00 PTA=0+043.94 ELEV = 55.559 PVI STA = 0+043.94 ELEV = 55.559 PVT STA = 0+098.94 ELEV = 56.904 PT=0+098.94 R=100.00 PC=0+000.00 PTA=0+038.94 ELEV = 55.464 PVI STA = 0+038.94 ELEV = 55.464 PVT STA = 0+114.188 ELEV = 57.040		PVI STA = 0+068.94 PVI ELEV = 56.814 LVC = 60.00m MO = -0.315 R=100.00 PC=0+000.00 PTA=0+098.94 ELEV = 56.904 PVI STA = 0+098.94 ELEV = 56.904 PVT STA = 0+114.188 ELEV = 57.040				



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		INTERCHANGE 5 PLAN AND PROFILE RAMPS C & D		H = 1:5000 V = 1:1000	PP-23	23 OF 24
ELEVATION		ELEVATION		ELEVATION				
100.00	100.00	100.00	100.00	100.00	100.00			
80.00	80.00	80.00	80.00	80.00	80.00			
60.00	60.00	60.00	60.00	60.00	60.00			
40.00	40.00	40.00	40.00	40.00	40.00			
20.00	20.00	20.00	20.00	20.00	20.00			
0.00	0.00	0.00	0.00	0.00	0.00			
STATION	STATION	STATION	STATION	STATION	STATION			
FINISHED GRADE	FINISHED GRADE	FINISHED GRADE	FINISHED GRADE	FINISHED GRADE	FINISHED GRADE			
EXISTING GROUND	EXISTING GROUND	EXISTING GROUND	EXISTING GROUND	EXISTING GROUND	EXISTING GROUND			
HORIZONTAL CURVATURE	HORIZONTAL CURVATURE	HORIZONTAL CURVATURE	HORIZONTAL CURVATURE	HORIZONTAL CURVATURE	HORIZONTAL CURVATURE			
VERTICAL CURVATURE	VERTICAL CURVATURE	VERTICAL CURVATURE	VERTICAL CURVATURE	VERTICAL CURVATURE	VERTICAL CURVATURE			
SUPER ELEVATION	SUPER ELEVATION	SUPER ELEVATION	SUPER ELEVATION	SUPER ELEVATION	SUPER ELEVATION			
PVI STA = 0+040.00 PVI ELEV = 57.285 L = 10.84 g = -0.300% MO = -0.578		PVI STA = 0+040.00 PVI ELEV = 57.285 L = 10.84 g = -0.300% MO = -0.578		PVI STA = 0+250.00 PVI ELEV = 58.153 L = 15.91 g = 0.300% MO = -0.578		PVI STA = 0+250.00 PVI ELEV = 58.153 L = 15.91 g = 0.300% MO = -0.578		
PVI STA = 0+010.00 PVI ELEV = 57.375 L = 10.84 g = -0.300% MO = -0.578		PVI STA = 0+219.16 PVI ELEV = 42.952 L = 10.84 g = -0.300% MO = -0.578		PVI STA = 0+220.00 PVI ELEV = 55.753 L = 10.84 g = -0.300% MO = -0.578		PVI STA = 0+220.00 PVI ELEV = 55.753 L = 10.84 g = -0.300% MO = -0.578		
PVI STA = 0+070.00 PVI ELEV = 54.889 L = 10.84 g = -0.300% MO = -0.578		PVI STA = 0+279.16 PVI ELEV = 38.352 L = 10.84 g = -0.300% MO = -0.578		PVI STA = 0+280.00 PVI ELEV = 58.273 L = 10.84 g = -0.300% MO = -0.578		PVI STA = 0+280.00 PVI ELEV = 58.273 L = 10.84 g = -0.300% MO = -0.578		
PVI STA = 0+129.29 PVI ELEV = 54.562 L = 10.84 g = -0.300% MO = -0.578		PVI STA = 0+187.14 PVI ELEV = 54.562 L = 10.84 g = -0.300% MO = -0.578		PVI STA = 0+038.09 PVI ELEV = 60.000 L = 15.91 g = 8.000% MO = 0.300		PVI STA = 0+038.09 PVI ELEV = 60.000 L = 15.91 g = 8.000% MO = 0.300		
PC=0+129.29 PT=0+197.14 R=34.50 PI=0+158.215		PC=0+129.29 PT=0+197.14 R=34.50 PI=0+158.215		PC=0+000.00 PT=0+070.07 R=0.00		PC=0+000.00 PT=0+070.07 R=0.00		
L=10.84 LVC=60.00 g=-0.300% K=7.792		L=10.84 LVC=60.00 g=-0.300% K=7.792		L=15.91 LVC=60.00 g=8.000% K=7.792		L=15.91 LVC=60.00 g=8.000% K=7.792		
SUPER ELEVATION		SUPER ELEVATION		SUPER ELEVATION		SUPER ELEVATION		

16.2 CONSTRUCTION UNIT PRICE

Appendix 16-2 Construction Unit Price for Cebu Circumferential Road

1. Earthwork - Embankment Section

No.	Description	Unit	Quantities	Unit Price (Pesos)	Cost (Pesos)
1	Embankment Section (4 Lanes, Asphalt Pavement, W=21.25m, H=7m) Section (L=1.0 km)				
1.1	Clearing and Grubbing	ha	5.5	299,263.60	1,653,431.00
1.2	Embankment from Roadway Excavation	m3	206,150.0	248.39	51,205,599.00
1.3	Subgrade Preparation	m2	21,250.0	30.81	654,713.00
1.4	Aggregate Base Course (t=20cm)	m3	4,250.0	1,809.64	7,690,970.00
1.5	Aggregate Sub Base Course (t=30cm)	m3	9,375.0	1,568.53	14,704,969.00
1.6	Cement Treated Base Course (t=20cm)	m3	4,250.0	2,870.45	12,199,413.00
1.7	Bituminous Tack Coat	m2	21,250.0	33.90	720,375.00
1.8	Bituminous Prime Coat	m2	21,250.0	37.29	792,413.00
1.9	Anti Rutting Bituminous Concrete Binder Course, Hot Laid (t=5 cm)	m2	21,250.0	1,035.57	22,005,863.00
1.10	Anti Rutting Bituminous Wearing Concrete Course, Hot Laid (t=5 cm)	m2	21,250.0	1,114.64	23,686,100.00
1.11	Concrete Barrier (New Jersey Type)	l.m.	1,000.0	5,732.48	5,732,480.00
1.12	Slope Net with Seeding for Common Soil on Fill	m2	31,284.0	317.75	9,940,491.00
1.13	Drainage (Grouted Riprap Class A Slide Ditch)	l.m.	2,000.0	4,854.33	9,708,660.00
1.14	RCPC, 1220 mm dia	l.m.	540.0	8,616.84	4,653,094.00
1.15	Traffic Sign and Safety Facilities	l.m.	1,000.0	10,382.99	10,382,990.00
1.16	Lighting	each	34.0	195,166.47	6,635,660.00
1.17	ROW Fence	l.m.	2,000.0	1,723.02	3,446,040.00
1.18	General Requirement (22.5% of Civil Work)	LS	1		41,807,983.73
	Total				227,621,244.73
	Unit Cost (Item 1 - Million Peso / km)				227.62
	Unit Cost (Item 1 - Peso /sq.m)				10,711.59

2. Earthwork - High Cut Section

No.	Description	Unit	Quantities	Unit Price	Cost (Pesos)
2	Cut Section (4 Lanes, Asphalt Pavement, W=21.25m, H=15m) Section (L=1.0 km)				
2.1	Clearing and Grubbing	ha	6.0	299,263.60	1,795,582.00
2.2	Roadway Excavation (Common Soil)	m3	461,125.0	658.16	303,494,030.00
2.3	Roadway Excavation (Soft Rock)	m3	197,625.0	987.24	195,103,305.00
2.4	Subgrade Preparation	m2	21,250.0	30.81	654,713.00
2.5	Aggregate Base Course (t=20cm)	m3	4,250.0	1,809.64	7,690,970.00
2.6	Aggregate Sub Base Course (t=30cm)	m3	6,375.0	1,568.53	9,999,379.00
2.7	Cement Treated Base Course (t=20cm)	m3	4,250.0	2,870.45	12,199,413.00
2.8	Bituminous Tack Coat	m2	21,250.0	33.90	720,375.00
2.9	Bituminous Prime Coat	m2	21,250.0	37.29	792,413.00
2.10	Anti Rutting Bituminous Concrete Binder Course, Hot Laid (t=5 cm)	m2	21,250.0	1,035.57	22,005,863.00
2.11	Anti Rutting Bituminous Wearing Concrete Course, Hot Laid (t=5 cm)	m2	21,250.0	1,114.64	23,686,100.00
2.12	Concrete Barrier (New Jersey Type)	l.m.	1,000.0	5,732.48	5,732,480.00
2.13	Slope Net with Seeding for Common Soil on Cut	m2	29,694.0	522.75	15,522,539.00
2.14	Slope Net with Seeding for Soft Rock	l.m.	12,726.0	645.75	8,217,815.00
2.15	Drainage (Grouted Riprap Class A Slide Ditch,)	l.m.	2,000.0	4,666.88	9,333,760.00
2.16	RCPC, 1220 mm dia	l.m.	130.0	8,616.84	1,120,189.00
2.17	Traffic Sign and Safety Facilities	l.m.	1,000.0	10,382.99	10,382,990.00
2.18	Lighting	each	34.0	195,166.47	6,635,660.00
2.19	ROW Fence	l.m.	2,000.0	1,723.02	3,446,040.00
2.20	General Requirement (22.5% of Civil Work)	LS	1		143,670,063.60
	Total				782,203,679.60
	Unit Cost (Item 2 -Million Peso / km)				782.20
	Unit Cost (Item 2 -Peso /sq.m)				36,809.58

3. Tunnel

Items	Cost
Tunnel Construction Cost	20,641,500,000
Tunnel Lighting	1,248,400,000
Tunnel Emergency Facilities	787,700,000
Electric Room	385,500,000
Total	23,063,100,000
Total (include VAT)	24,216,255,000

4. Bridge

Bridge No.	Superstructure mil. Peso	Substructure mil. Peso	Foundation mil. Peso	Total mil. Peso
Bridge-1	737	140	195	1,072
Bridge-2	445	60	156	662
Bridge-3	1,155	210	299	1,665
Bridge-4	83	12	39	134
Bridge-5	644	110	162	916
Bridge-6	130	15	52	197
Bridge-7	390	36	91	517
Bridge-8	364	46	110	520
Bridge-9	760	29	52	841
Bridge-10	334	55	117	506
Bridge-11	304	24	52	379
Bridge-12	223	41	78	341
Bridge-13	93	13	39	144
Bridge-14	469	44	123	636
Bridge-15	97	14	39	150
Bridge-16	111	14	39	164
Bridge-17	241	62	91	394
Bridge-18	2,322	375	691	3,389
Bridge-19	148	15	52	216
Bridge-20	148	17	52	218
Total	9,200	1,332	2,528	13,060

5. Underpass

No.	Description	Unit	Quantities	Unit Price (Pesos)	Cost (Pesos)
1	Cost of Underpass Box Culvert W=8.5m, L=31m				
1.1	Structure Excavation	m3	524.52	772.82	405,360.00
1.2	Embankment from Borrow Excavation	m3	141.05	1,361.67	192,064.00
1.3	Subbase Course	m2	98.40	33.90	3,336.00
1.4	Bituminous Tack Coat	m2	328.00	33.90	11,119.00
1.5	Bituminous Concrete Surface Course (t=5cm)	m2	328.00	1,114.64	365,602.00
1.6	Reinforcing Steel	kg	335,113.8	78.60	26,339,945.00
1.7	Lean Concrete 17Mpa	m3	37.51	5,010.71	187,952.00
1.8	Structural Concrete, Class AA Box Culvert	m3	1,541.78	6,916.29	10,663,398.00
1.9	Structural Concrete, Class AA Approach, Parapet	m3	63.00	10,363.83	652,921.00
1.10	Grouted Riprap, Class "A"	m3	36.00	4,854.33	174,756.00
1.11	Traffic Sign and Safety Facilities	l.m.	31.0	10,382.99	321,873.00
1.12	General Requirement (32.5% of Civil Work)	L.S	1.0		12,778,455.95
	Total				52,096,781.95
	Unit Cost (Item 3 -Million Peso / each)				52.10
	Unit Cost (Item 3 -Peso /sq.m)				336,108.27

6. Overpass

No.	Description	Unit	Quantities	Unit Price (Pesos)	Cost (Pesos)
1	Cost of Steel Overpass (Steel I Girder, 2 Lanes, W=8.50m, Span=40m)				
1.1	Structure Excavation	m3	1,696.8	772.82	1,311,321.00
1.2	Foundation Backfill	m3	565.6	1,361.67	770,161.00
1.3	Subbase Course (t=30cm)	m3	51.0	1,568.53	79,995.00
1.4	Aggregate Base Course (t=20cm)	m3	34.0	1,809.64	61,528.00
1.5	Bituminous Prime Cost,	m2	170.0	37.29	6,339.00
1.6	Bituminous Tack Coat	m2	170.0	33.90	5,763.00

1.7	Anti-Rutting Bituminous Concrete Binder Course, Hot Laid (t=5 cm)	m2	170.0	1,035.57	176,047.00
1.8	Anti-Rutting Bituminous Wearing Concrete Course, Hot Laid (t=5 cm)	m2	510.0	1,114.64	568,466.00
1.9	Concrete Piles Cast in Drilled Holes, 1.0m	m	180.0	20,479.66	3,686,339.00
1.10	Railing	l.m.	80.0	6,158.51	492,681.00
1.11	Reinforcing Steel	kg	102,730.0	78.60	8,074,578.00
1.12	Lean Concrete 17Mpa	m3	10.7	5,010.71	53,675.00
1.13	Structural Concrete, Class A Pile Cap	m3	202.0	6,916.29	1,397,091.00
1.14	Structural Concrete Class AA 28MPa for Abutment	m3	151.5	14,345.79	2,173,387.00
1.15	Structural Concrete, Class AA Deck Slab	m3	92.9	9,401.27	873,566.00
1.16	Structural Concrete, Class A Parapet	m3	44.0	10,363.83	456,009.00
1.17	Structural Steel (Super Structure)	kg	85,000.0	223.69	19,013,650.00
1.18	Metal Decking (8 mm thk)	sq.m	404.0	2,986.75	1,206,647.00
1.19	Elastomeric Bearing Pad (800 x 800 x 60mm)	each	6.0	19,995.35	119,972.00
1.20	Rubber Filler (400 x 150 x 50mm)	each	6.0	1,064.97	6,390.00
1.21	Hard Rubber Filer & Restrainer Bolt dia 30mm	set	6.0	1,935.79	11,615.00
1.22	Expansion Joint (For Steel Girder)	m	17.0	36,184.91	615,143.00
1.23	Cast Iron Deck Drain	each	8.0	24,205.87	193,647.00
1.24	Rainwater Downspout (PVC 150)	l.m.	12.0	973.79	11,685.00
1.25	Rainwater Downspout (PVC 200)	l.m.	60.0	1,418.44	85,106.00
1.26	Road Lighting	each	2.0	195,166.47	390,333.00
1.27	Traffic Sign and Safety Facilities	l.m.	40.0	10,382.99	415,320.00
1.27	General Requirement (32.5% of Civil Work)	L.S	1.0		13,307,168.23
Total					55,563,622.23
Unit Cost (Item 3 -Million Peso / Location)					55.56
Unit Cost (Item 3 -Peso /sq.m)					163,422.42

7. Interchange

No.	Description	Unit	Quantities	Unit Price (Pesos)	Cost (Pesos)
1	Trumpet Type Interchange (1.0m+3.5m+2m) Ramp				
1.1	Clearing and Grubbing	ha	2.9	291,964.48	832,099.00
1.2	Embankment from Roadway Excavation	m3	197,220.0	248.39	48,987,476.00
1.3	Subgrade Preparation	m2	28,185.0	30.81	868,380.00
1.4	Aggregate Base Course (t=20cm)	m3	4,491.0	1,809.64	8,127,093.00
1.5	Aggregate Sub Base Course (t=30cm)	m3	6,736.5	1,568.53	10,566,402.00
1.6	Cement Treated Base Course (t=20cm)	m3	4,011.0	2,870.45	11,513,375.00
1.7	Bituminous Tack Coat	m2	20,300.0	33.90	688,170.00
1.8	Bituminous Prime Coat	m2	20,055.0	37.29	747,851.00
1.9	Anti Rutting Bituminous Concrete Binder Course, Hot Laid (t=5 cm)	m2	20,300.0	1,035.57	21,022,071.00
1.10	Anti Rutting Bituminous Wearing Concrete Course, Hot Laid (t=5 cm)	m2	20,055.0	1,114.64	22,354,105.00
1.11	Portland Cement Concrete Reinforced with Wire Mesh Pavement, 320	m2	2,400.0	2,568.16	6,163,584.00
1.12	Concrete Barrier (New Jersey Type)	l.m.	760.0	5,732.48	4,356,685.00
1.13	Slope Net with Seeding for Common Soil on Fill	m2	37,654.2	317.75	11,964,635.00
1.14	Drainage (Grouted Riprap Class A Slide Ditch)	l.m.	4,210.0	4,854.33	20,436,729.00
1.15	RCPC, 1220 mm dia	l.m.	272.0	8,616.84	2,343,780.00
1.16	Traffic Sign and Safety Facilities	l.m.	2,900.0	10,382.99	30,110,671.00
1.17	Tool Road Lighting	each	26.0	195,166.47	5,074,328.00
1.18	ROW Fence	l.m.	4,300.0	1,723.02	7,408,986.00
1.19	Bridge 35m PC-I Girder	m2	490.0	63,466.45	31,098,561.00
1.20	Portable Weighing Station	set	1.00	4,384,308.22	4,384,308.00
1.21	Toll Island	each	6.00	170,017.65	1,020,106.00
1.22	Crash Attenuators	set	6.00	56,308.53	337,851.00
1.23	Toll Booth (Type 1)	each	4.00	476,261.45	1,905,046.00
1.24	Toll Booth (Maxi Type 2)	each	2.00	1,035,523.93	2,071,048.00
1.25	Toll Plaza	sq.m.	300.00	26,758.65	8,027,595.00
1.26	Toll House	Unit	1.00	5,535,000.00	5,535,000.00
1.27	Toll Plaza Lighting System	each	6.00	378,666.24	2,271,997.00
1.28	General Requirement (22.5% of Civil Work)	LS	1		60,799,034.70
Total					331,016,966.70
Unit Cost (Item 1 - Million Peso / Interchange)					331.02

8. Traffic Control & Toll Collection

No.	Description	Unit	Quantities	Unit Price	Cost (Pesos)
6	Traffic Control System & Toll Correction System (6 Lanes, W=33.5m)				
6.1	Portable Weighing Station	set	6.00	4,384,308.22	26,305,849.00
6.2	Toll Island	each	48.00	170,017.65	8,160,847.00
6.3	Crash Attenuators	set	48.00	56,308.53	2,702,809.00
6.4	Toll Booth (Type 1)	each	42.00	476,261.45	20,002,981.00
6.5	Toll Booth (Maxi Type 2)	each	6.00	1,035,523.93	6,213,144.00
6.6	Toll Plaza	sq.m.	4,000.00	26,758.65	107,034,600.00
6.7	Toll Collection System	l.s.	1.00	49,200,000.00	49,200,000.00
6.8	Traffic Control System	l.s.	1.00	307,500,000.00	307,500,000.00
6.9	Toll Plaza Lighting System	each	48.00	378,666.24	18,175,980.00
6.10	Toll Operation Building	l.s.	1.00	123,000,000.00	123,000,000.00
6.11	Toll House	Unit	6.00	5,535,000.00	33,210,000.00
6.12	General Requirement (22.5% of Civil Work)	LS	1.00		157,838,897.25
Total					859,345,107.25
Unit Cost (Item 6 - Million Peso / set)					859.35