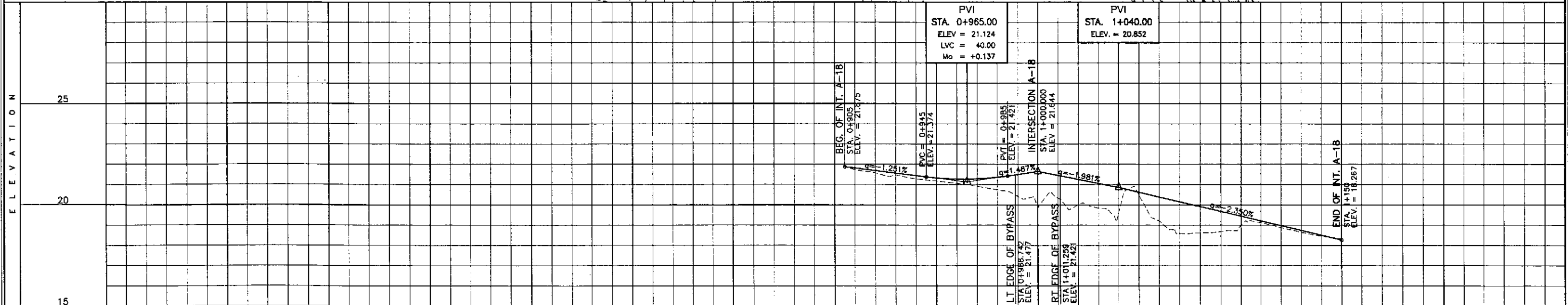
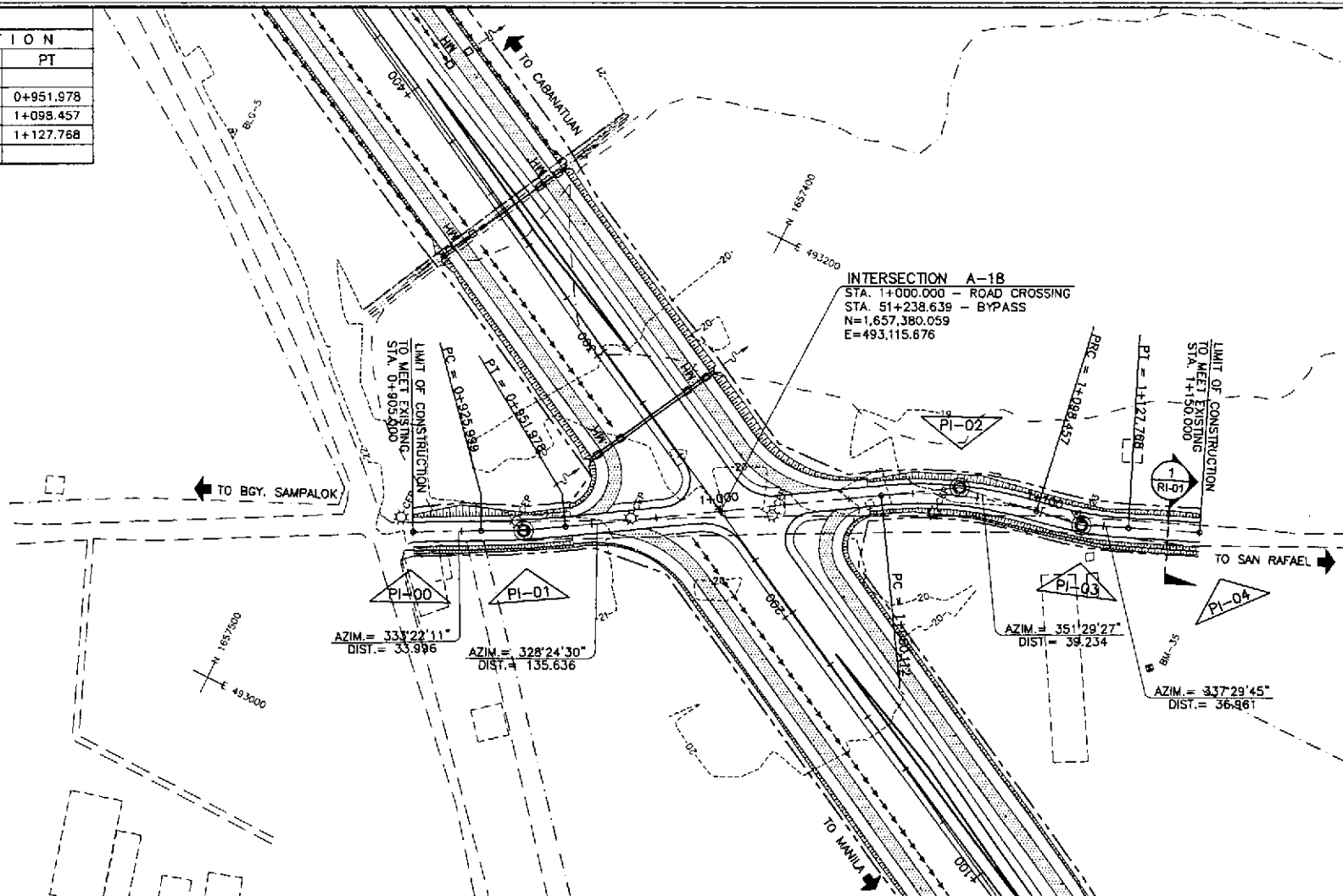
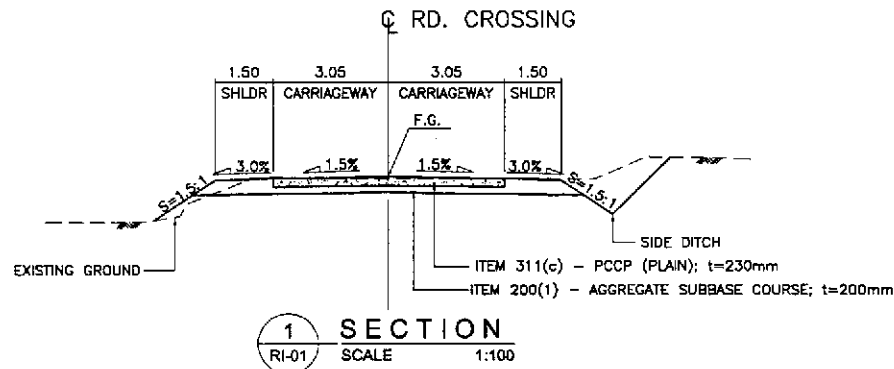
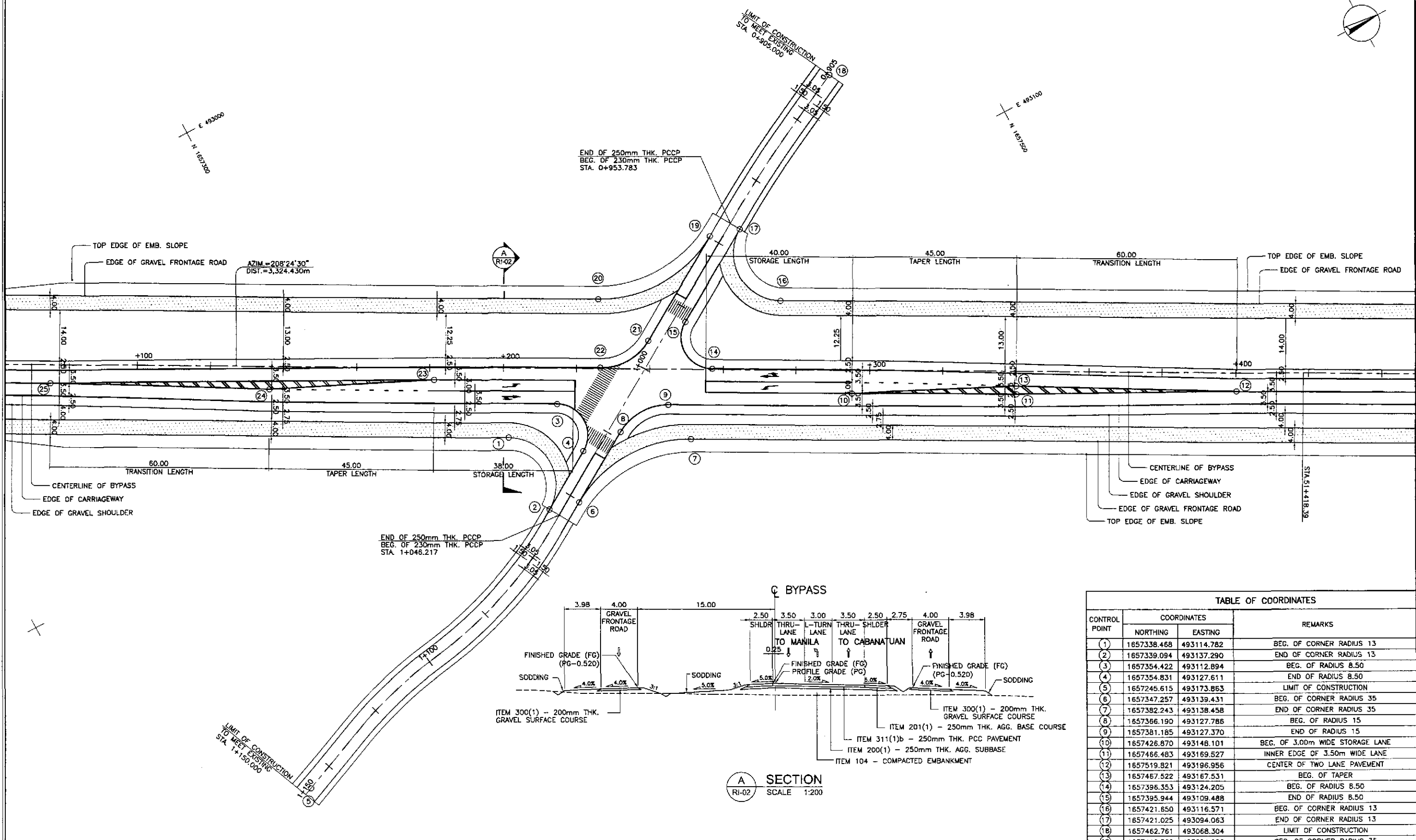
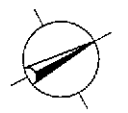


ELEMENTS OF CURVE												
PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION	
		NORTHING	EASTING								PC	PT
PI-00	0+905.000	1,657,462.427	493,068.472								BEG. OF INTERSECTION A-18	
PI-01	0+938.996	1,657,432.037	493,083.710	0°57'41"	300	12.997	25.978	0.281	-	-	0+925.999	0+951.978
PI-02	1+074.617	1,657,316.501	493,154.765	23°04'58"	120	24.504	48.344	2.476	-	-	1+050.112	1+098.457
PI-03	1+113.186	1,657,277.700	493,160.570	13°59'43"	120	14.729	29.311	0.901	-	-	1+098.457	1+127.768
PI-04	1+150.000	1,657,243.553	493,174.717								END OF INTERSECTION A-18	



STATION	PROFILE GRADE BYPASS	EXISTING GROUND BYPASS	HORIZONTAL CURVATURE	VERTICAL CURVATURE	SUPERELEVATION
900	21.875	21.875	R=300	g=-1.251%	NC
910	21.686	21.576	R=300	g=-1.251%	NC
920	21.436	21.277	R=300	g=-1.251%	NC
930	21.263	21.048	R=300	g=-1.251%	NC
940	21.355	20.742	R=300	g=-1.251%	NC
950	21.644	20.988	R=300	g=-1.251%	NC
960	21.248	20.987	R=300	g=-1.251%	NC
970	20.852	20.614	R=300	g=-1.251%	NC
980	20.382	20.205	R=300	g=-1.251%	NC
990	19.912	19.617	R=300	g=-1.251%	NC
1000	19.442	18.990	R=300	g=-1.251%	NC
1010	18.972	18.880	R=300	g=-1.251%	NC
1020	18.502	18.459	R=300	g=-1.251%	NC
1030	18.032	18.267	R=300	g=-1.251%	NC
1040			R=300	g=-1.251%	NC
1050			R=300	g=-1.251%	NC

	DESIGNED: 9/24/02	DATE: 9/24/02	SIGNATURE: [Signature]		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION : <b>THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)</b>	SCALE : HORIZONTAL 1:1000 VERTICAL 1:100 FULL SIZE A1	SHEET CONTENTS : <b>PLAN, CROSS-SECTION AND PROFILE INTERSECTION A-18</b> STA. 0+905 - STA. 1+150 (INITIAL STAGE)	SHEET NO. : <b>RI-01</b>
	CHECKED: 9/27/02	DATE: 9/27/02	SIGNATURE: [Signature]		PJHL - PMO Submitted By: DANILLO C. TRAJANO Project Director	BUREAU OF DESIGN Reviewed By: JOSEFINA M. ALAGAR Chief, Highway Division	OFFICE OF THE SECRETARY Recommended By: GILBERTO S. REYES Director IV (DIC)				



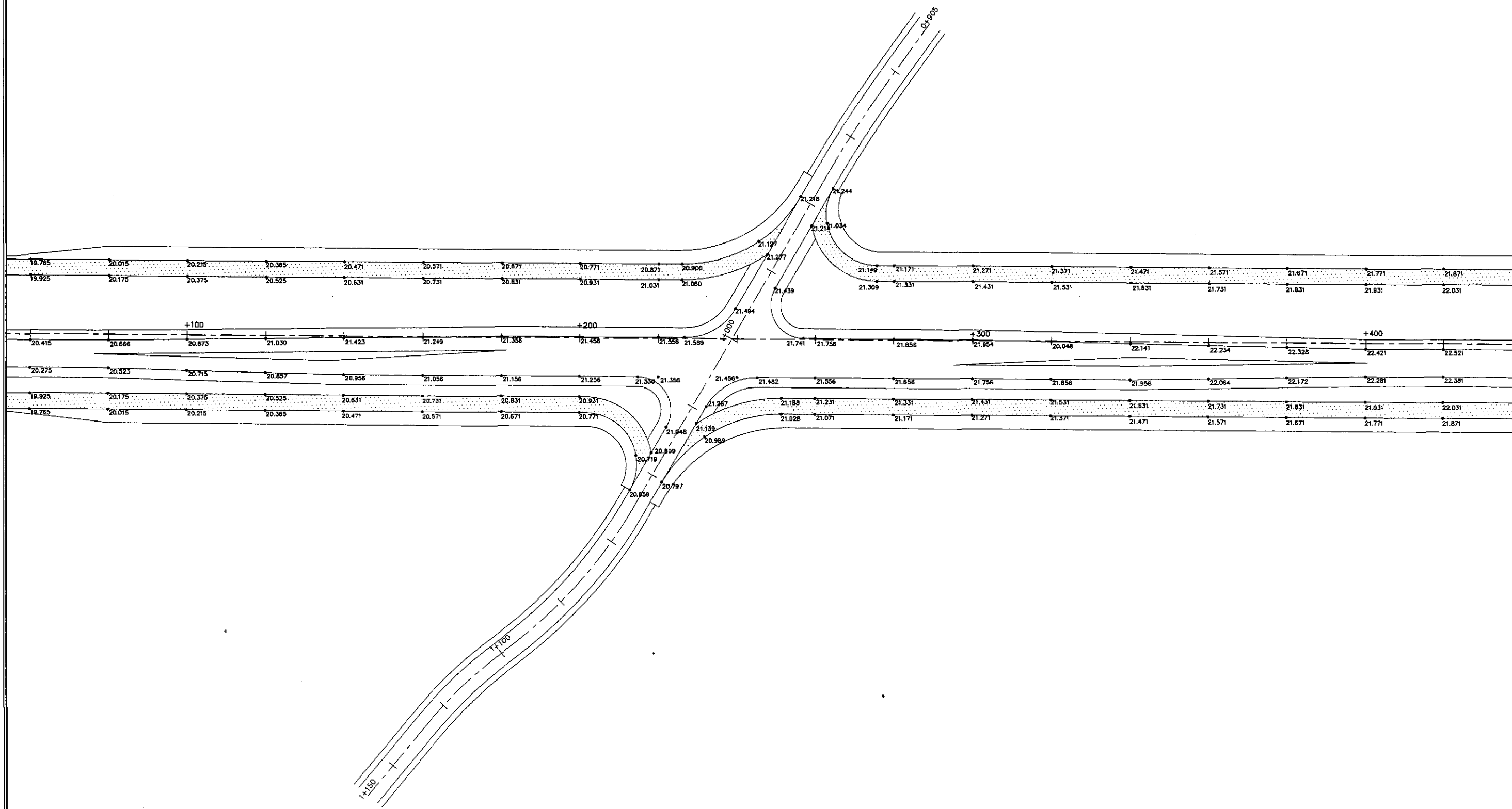
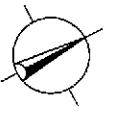
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RI-02

**GEOMETRIC DESIGN LAYOUT  
INTERSECTION A-18 (STA. 51+238.639) - INITIAL STAGE**

SCALE 1:500

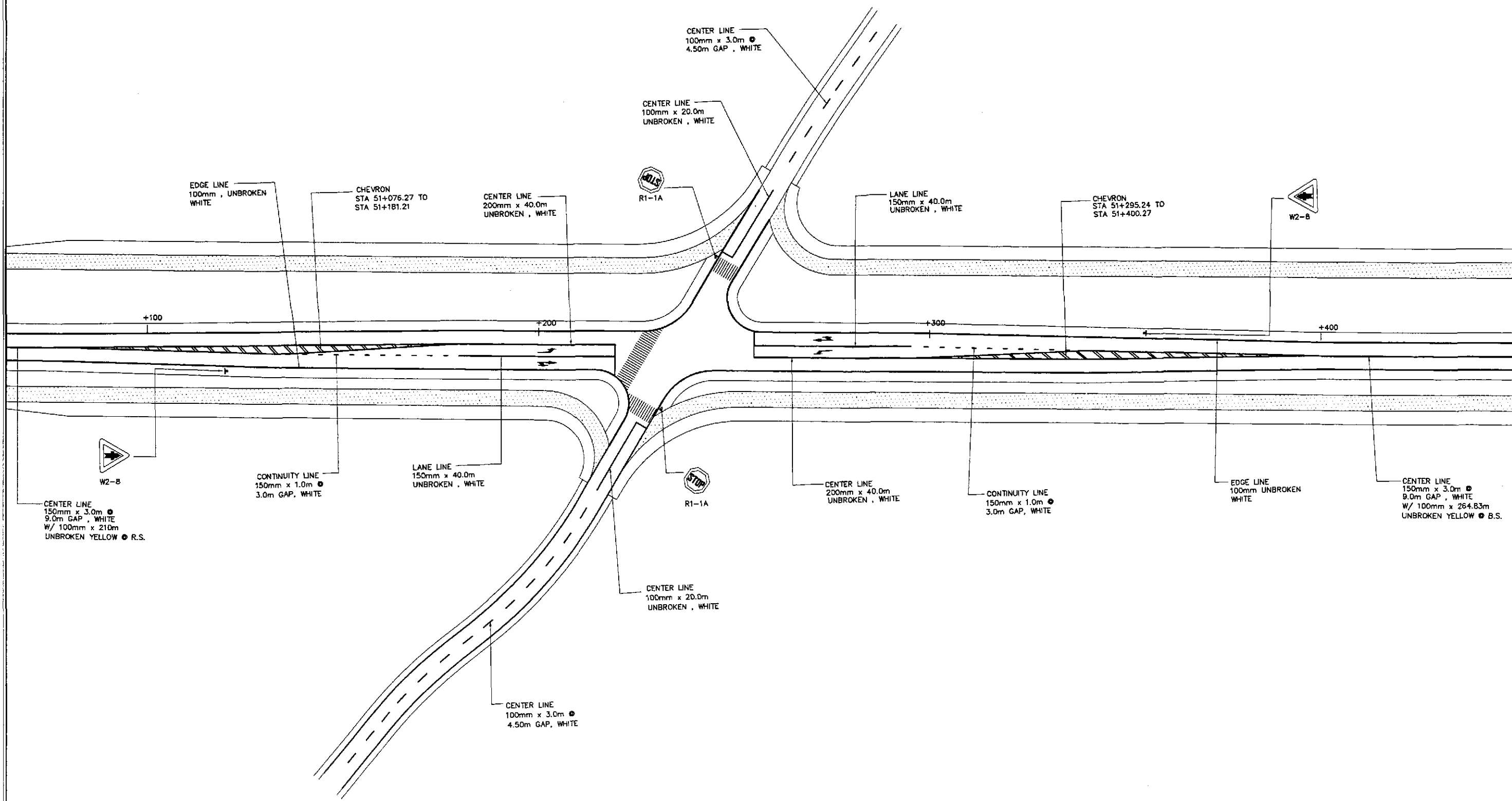
TABLE OF COORDINATES			
CONTROL POINT	COORDINATES		REMARKS
	NORTHING	EASTING	
(1)	1657338.468	493114.782	BEG. OF CORNER RADIUS 13
(2)	1657339.094	493137.290	END OF CORNER RADIUS 13
(3)	1657354.422	493112.894	BEG. OF RADIUS 8.50
(4)	1657354.831	493127.611	END OF RADIUS 8.50
(5)	1657245.615	493173.863	LIMIT OF CONSTRUCTION
(6)	1657347.257	493139.431	BEG. OF CORNER RADIUS 35
(7)	1657382.243	493138.458	END OF CORNER RADIUS 35
(8)	1657366.190	493127.788	BEG. OF RADIUS 15
(9)	1657381.185	493127.370	END OF RADIUS 15
(10)	1657428.870	493148.101	BEG. OF 3.00m WIDE STORAGE LANE
(11)	1657466.483	493169.527	INNER EDGE OF 3.50m WIDE LANE
(12)	1657519.821	493196.956	CENTER OF TWO LANE PAVEMENT
(13)	1657467.522	493167.531	BEG. OF TAPER
(14)	1657396.353	493124.205	BEG. OF RADIUS 8.50
(15)	1657395.944	493109.488	END OF RADIUS 8.50
(16)	1657421.650	493116.571	BEG. OF CORNER RADIUS 13
(17)	1657421.025	493094.063	END OF CORNER RADIUS 13
(18)	1657462.761	493068.304	LIMIT OF CONSTRUCTION
(19)	1657412.862	493091.922	BEG. OF CORNER RADIUS 35
(20)	1657377.876	493092.894	END OF CORNER RADIUS 35
(21)	1657384.534	493109.301	BEG. OF RADIUS 15
(22)	1657369.553	493109.710	END OF RADIUS 15
(23)	1657328.030	493091.229	END OF 3.00m WIDE STORAGE LANE
(24)	1657286.996	493072.445	BEG. OF TAPER
(25)	1657234.816	493042.801	CENTER OF TWO LANE PAVEMENT

	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS					PROJECT AND LOCATION : <b>THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)</b>	SCALE : 1:500 FULL SIZE A1	SHEET CONTENTS : <b>INTERSECTION DETAIL GEOMETRIC DESIGN LAYOUT INTERSECTION A-18 (INITIAL STAGE)</b>	SHEET NO. : <b>RI-02</b>
	CHECKED	DATE	SIGNATURE		BUREAU OF DESIGN		OFFICE OF THE SECRETARY						
	SUBMITTED	DATE	SIGNATURE		Submitted By:	Reviewed By:	Recommended By:	Approved By:	Approved By:				
					DANILDO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES DIC, Director IV	MANUEL M. BONDAN Undersecretary	SIMEON A. DATUMANONG Secretary				



1
**PAVING AND GRADING PLAN**  
**INTERSECTION A-18 (STA. 51+238.639) - INITIAL STAGE**  
 SCALE 1:500

		DATE	SIGNATURE	 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	PROJECT AND LOCATION : <b>THE DETAILED DESIGN STUDY ON          UPGRADING INTER-URBAN HIGHWAY SYSTEM          ALONG THE PAN-PHILIPPINE HIGHWAY          (Plaridel, Cabanatuan and San Jose Bypasses)</b> <b>PLARIDEL BYPASS - CONTRACT PACKAGE IV</b>	SCALE :	SHEET CONTENTS :	SHEET NO. :	
	DESIGNED	9/24/02	<i>[Signature]</i>			BUREAU OF DESIGN OFFICE OF THE SECRETARY	1:500	<b>INTERSECTION DETAIL</b> PAVING AND GRADING PLAN INTERSECTION A-18 (INITIAL STAGE)	<b>RI-03</b>
	CHECKED	9/27/02	<i>[Signature]</i>			SUBMITTED BY: DANILLO C. TRAJANO Project Director	REVIEWED BY: JOSEFINA M. ALAGAR Chief, Highways Division	FULL SIZE A1	



**TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN  
INTERSECTION A-18 (STA. 51+238.639) - INITIAL STAGE**

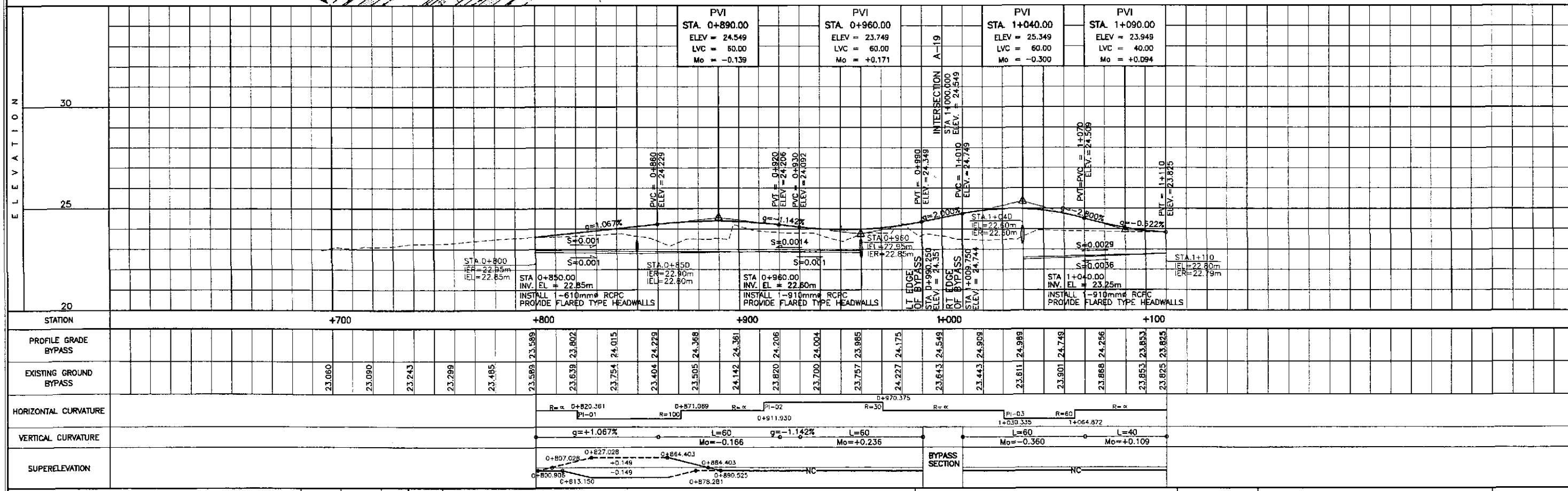
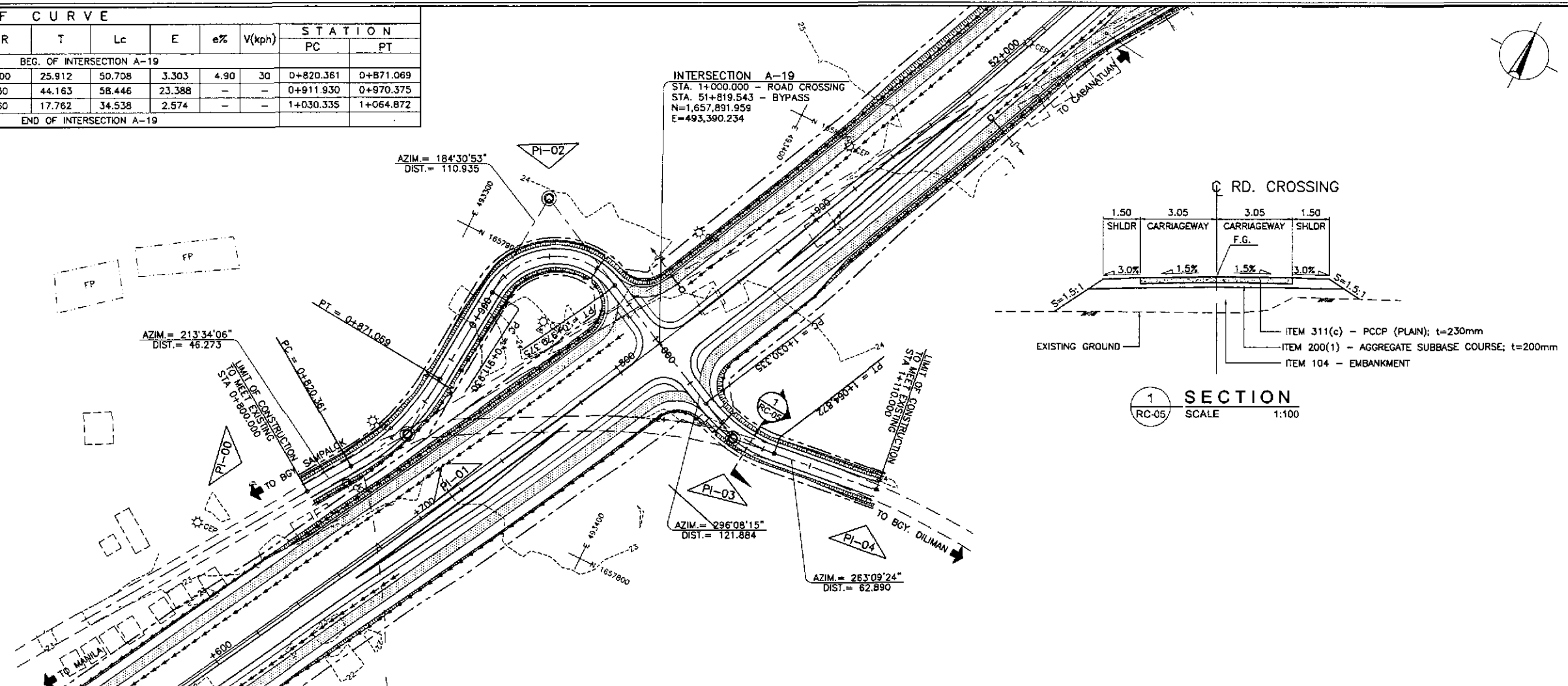
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RI-04

SCALE

1:500

	DESIGNED	DATE	SIGNATURE	<p align="center">REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS</p>	PROJECT AND LOCATION :			SCALE :	SHEET CONTENTS :	SHEET NO. :			
	CHECKED	9/27/02	S. LUNA		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)			1:500	TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN INTERSECTION A-18 (INITIAL STAGE)	RI-04			
	SUBMITTED	10/16/02	M. KRUCH		PLARIDEL BYPASS - CONTRACT PACKAGE IV			FULL SIZE A1					
Submitted By: DANILO C. TRAJANO, Project Director				Reviewed By: JOSEFINA M. ALAGAR, Chief, Highways Division			Recommended By: GILBERTO S. REYES, Dir. Director IV			Recommended By: MANUEL M. BONDAN, Undersecretary		Approved By: SIMEON A. DATUMANONG, Secretary	

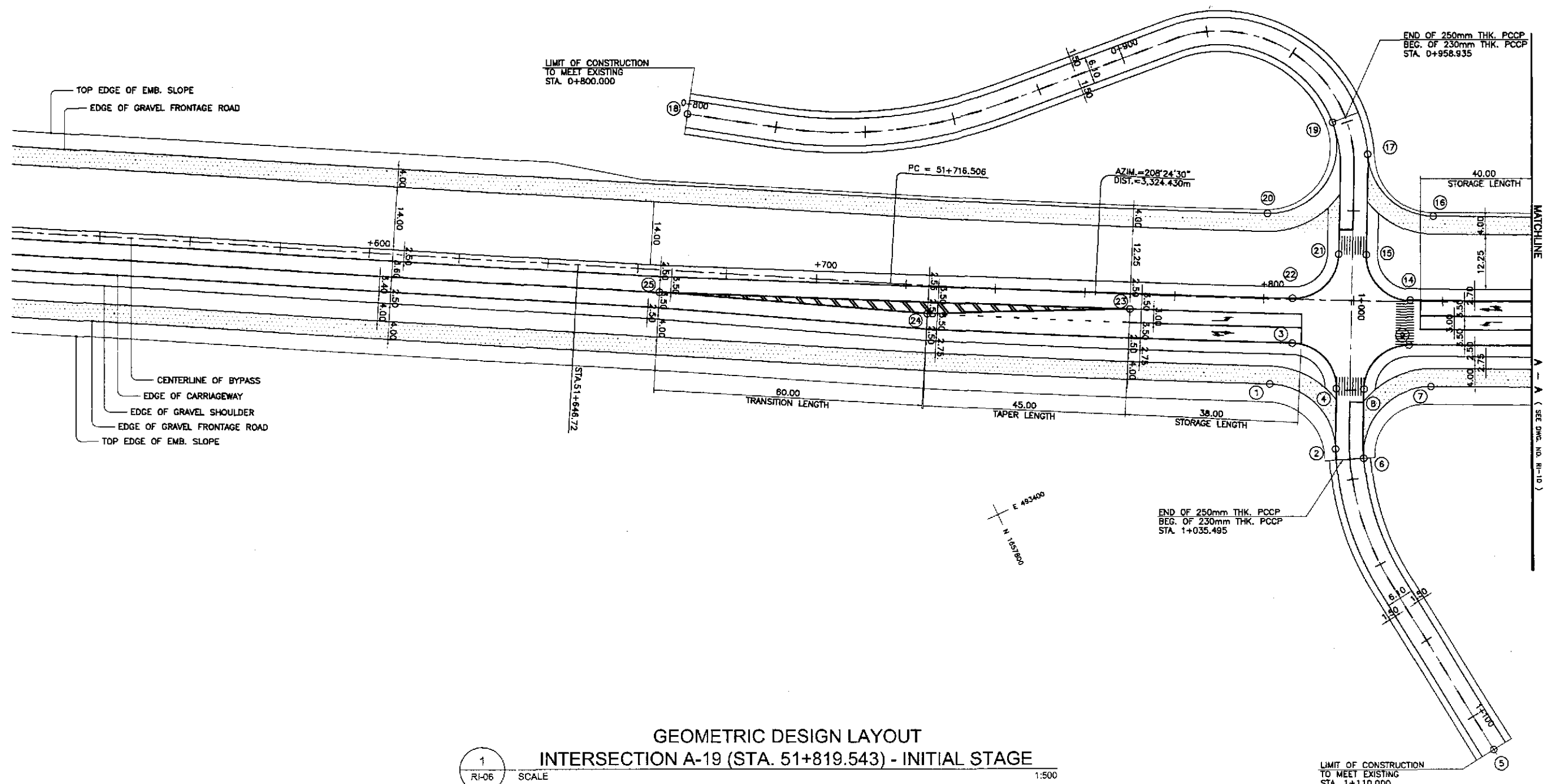
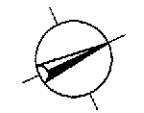
ELEMENTS OF CURVE												
PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION	
		NORTHING	EASTING								PC	PT
PI-00	D+800.000	1,657,775.317	493,289.676								BEG. OF INTERSECTION A-19	
PI-01	D+846.273	1,657,813.873	493,315.262	29°03'13"	100	25.912	50.708	3.303	4.90	30	D+820.361	D+871.069
PI-02	D+956.092	1,657,924.483	493,323.994	111°37'22"	30	44.163	58.446	23.388	-	-	D+911.930	D+970.375
PI-03	1+048.097	1,657,870.770	493,433.414	32°58'52"	60	17.762	34.538	2.574	-	-	1+030.335	1+064.872
PI-04	1+110.000	1,657,878.264	493,495.856								END OF INTERSECTION A-19	



	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES				PROJECT AND LOCATION : <b>THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)</b> <b>PLARIDEL BYPASS - CONTRACT PACKAGE IV</b>	SCALE :	SHEET CONTENTS : <b>PLAN, CROSS-SECTION AND PROFILE INTERSECTION A-19</b> STA. 0+800 - STA. 1+110 (INITIAL STAGE)	SHEET NO. : <b>RI-05</b>
	CHECKED	DATE	SIGNATURE		DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS					HORIZONTAL		
	SUBMITTED	DATE	SIGNATURE		BUREAU OF DESIGN DANILLO C. TRILIANO (Project Director) JOSEFINA M. ALAGAR (Chief, Highway Division) GILBERTO S. REYES (Director IV (DC)) EDMUNDO V. MIR (Undersecretary)					VERTICAL		
					OFFICE OF THE SECRETARY Approved By: SIMEON A. DATUMANONG (Secretary)					FULL SIZE A1		

TABLE OF COORDINATES

CONTROL POINT	COORDINATES		REMARKS
	NORTHING	EASTING	
1	1657867.578	493399.366	BEG. OF CORNER RADIUS 15
2	1657874.635	493418.766	END OF CORNER RADIUS 15
3	1657876.005	493393.229	BEG. OF RADIUS 10
4	1657880.532	493406.590	END OF RADIUS 10
5	1657878.113	493494.598	LIMIT OF CONSTRUCTION
6	1657879.368	493423.292	BEG. OF CORNER RADIUS 15
7	1657899.867	493415.209	END OF CORNER RADIUS 15
8	1657886.014	493409.280	BEG. OF RADIUS 10
9	1657899.352	493404.686	END OF RADIUS 10
10	1657903.847	493395.752	BEG. OF RADIUS 10
11	1657899.230	493382.347	END OF RADIUS 10
12	1657916.470	493381.027	BEG. OF CORNER RADIUS 15
13	1657908.965	493362.180	END OF CORNER RADIUS 15
14	1657775.317	493289.676	LIMIT OF CONSTRUCTION
15	1657904.951	493352.440	BEG. OF CORNER RADIUS 15
16	1657883.286	493364.735	END OF CORNER RADIUS 15
17	1657893.751	493379.659	BEG. OF RADIUS 10
18	1657880.323	493384.208	END OF RADIUS 10
19	1657846.280	493370.914	BEG. OF 3.00m WIDE STORAGE LANE
20	1657804.979	493352.598	BEG. OF TAPER
21	1657752.789	493322.964	CENTER OF TWO LANE PAVEMENT



GEOMETRIC DESIGN LAYOUT  
INTERSECTION A-19 (STA. 51+819.543) - INITIAL STAGE

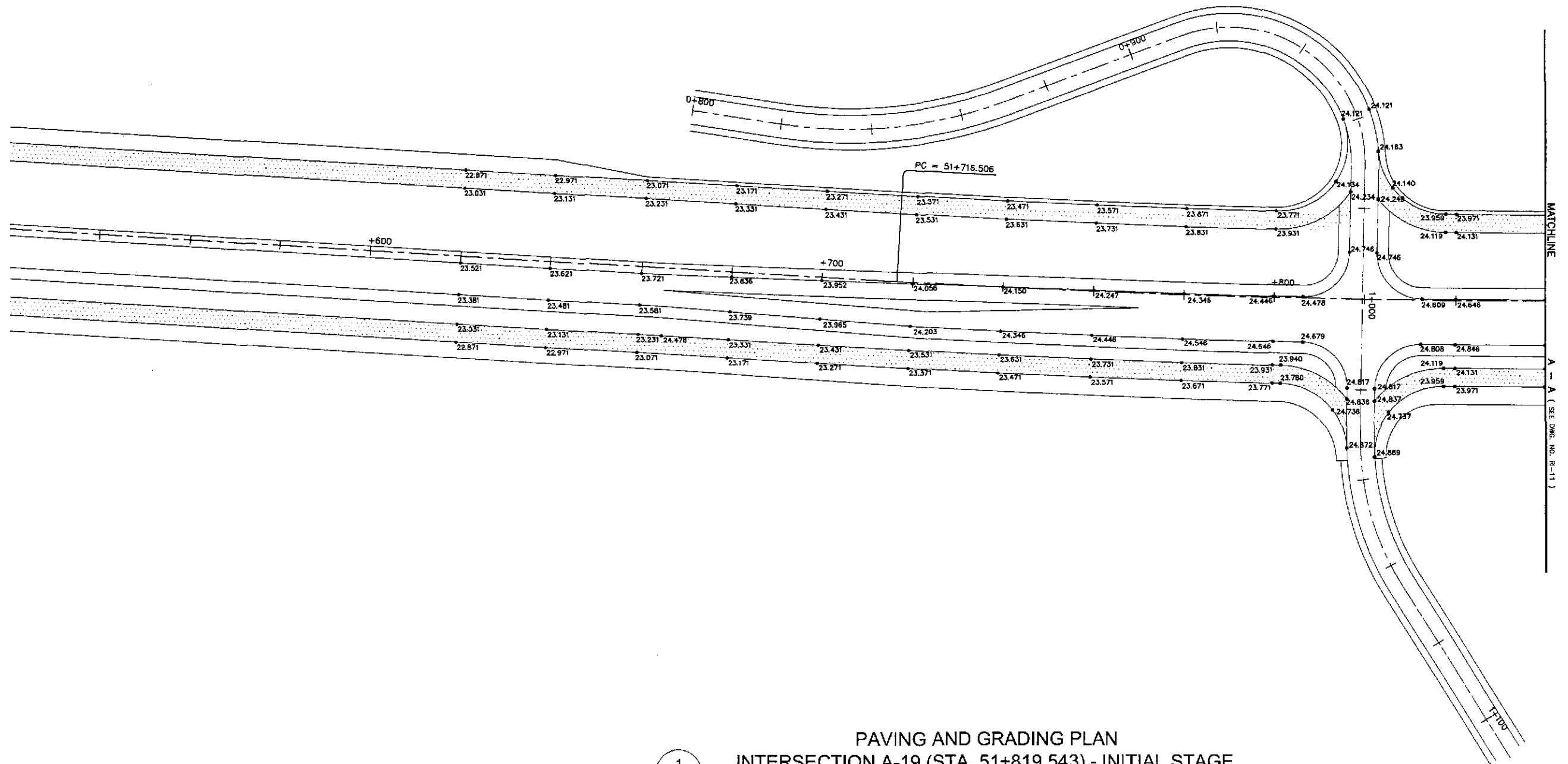
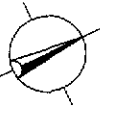
1  
RI-06

SCALE

1:500

LIMIT OF CONSTRUCTION  
TO MEET EXISTING  
STA. 1+110.000

	DESIGNED	DATE	SIGNATURE		PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) PLARIDEL BYPASS - CONTRACT PACKAGE IV					SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	9/27/02	S. ROSE		BUREAU OF DESIGN Submitted By: DANILO C. TRAJAND Project Director	OFFICE OF THE SECRETARY Recommended By: JOSEFINA M. ALAGAR Chief, Highways Division	Recommended By: GILBERTO S. REYES OIC, Director IV	Recommended By: MANUEL M. BONDAN Undersecretary	Approved By: SIMEON A. DATUMANONG Secretary	1:500	INTERSECTION DETAIL GEOMETRIC DESIGN LAYOUT INTERSECTION A-19 (INITIAL STAGE)	RI-06
	SUBMITTED	10/10/02	Mr. R. R. R.		TEAM LEADER						FULL SIZE A1	



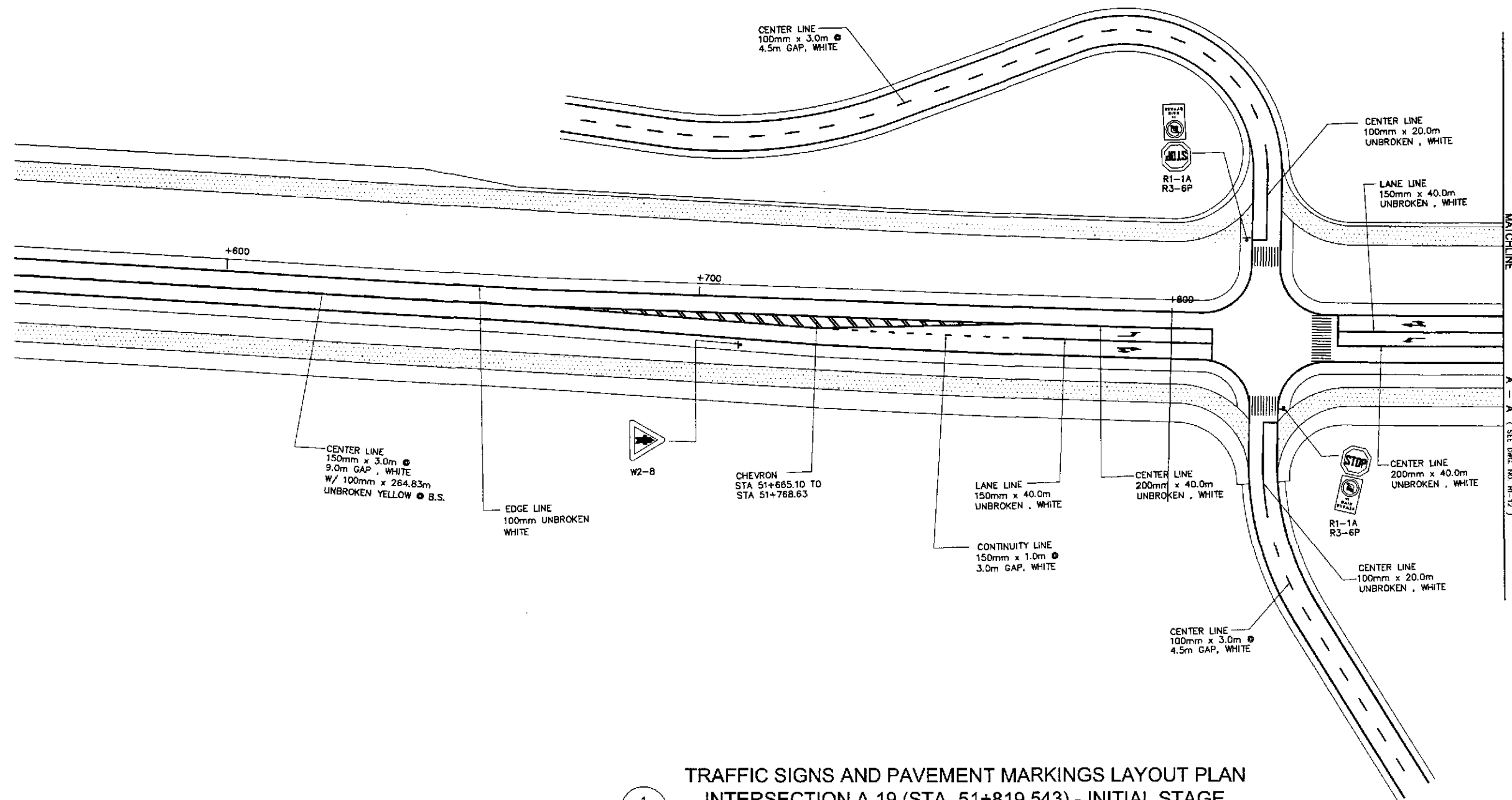
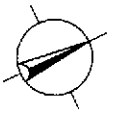
PAVING AND GRADING PLAN  
INTERSECTION A-19 (STA. 51+819.543) - INITIAL STAGE

1  
RI-07

SCALE

1:500

	DESIGNED	DATE	SIGNATURE		PROJECT AND LOCATION :			SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	7/27/02	S. MOSE		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)			1:500	INTERSECTION DETAIL PAVING AND GRADING PLAN INTERSECTION A-19 (INITIAL STAGE)	RI-07
	SUBMITTED	10/10/02	M. RIZAL		PLARIDEL BYPASS - CONTRACT PACKAGE IV			FULL SIZE A1		
	SUBMITTED BY: DANILLO C. TRAJANO, Project Director REVIEWED BY: JOSEFINA M. ALAGAR, Chief, Highways Division RECOMMENDED BY: GILBERTO S. REYES, OIC, Director IV OFFICE OF THE SECRETARY: MANUEL M. BONDAN, Undersecretary; SIMEON A. DATUMANONG, Secretary									



1  
 RI-08

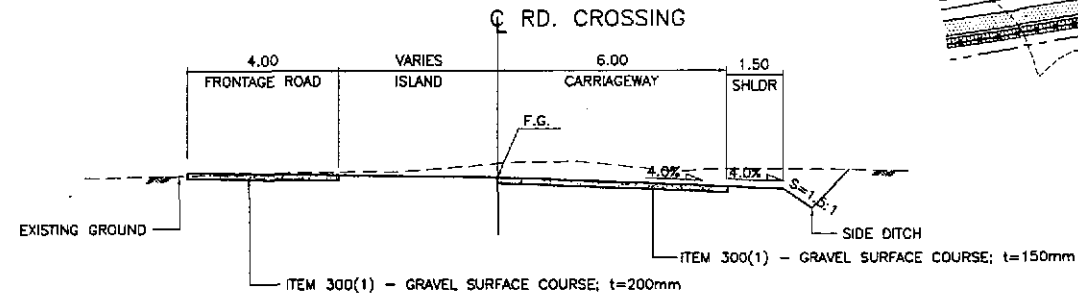
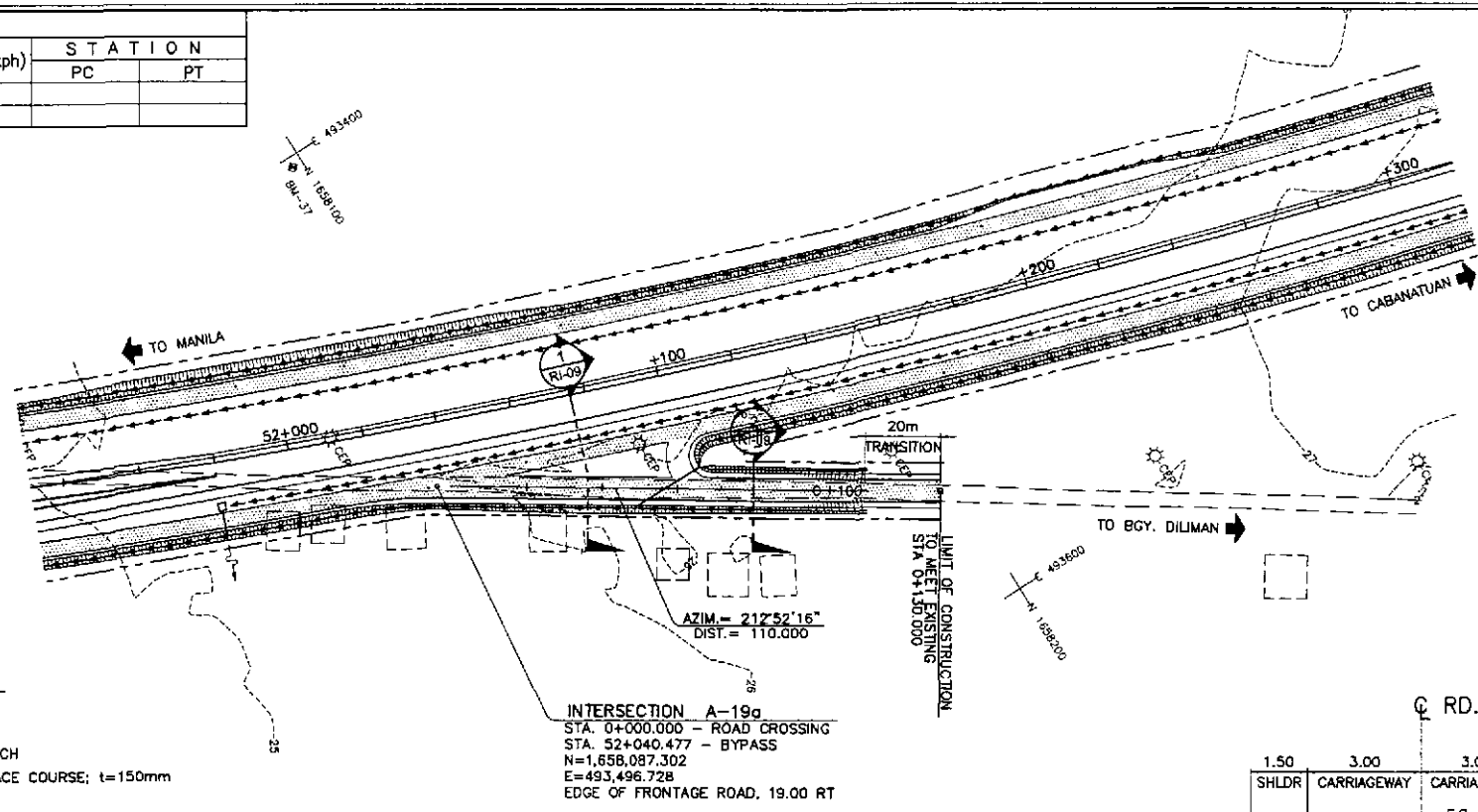
SCALE

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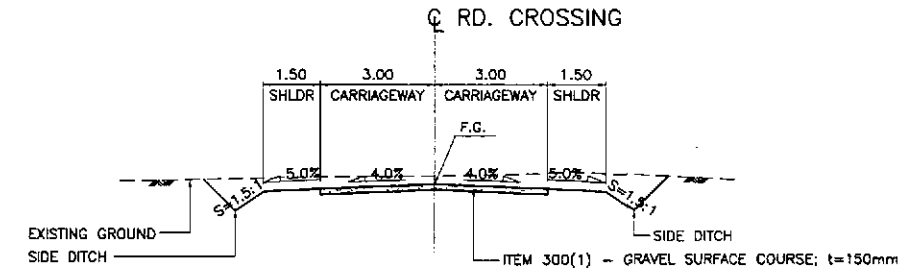
	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	9/27/02	<i>[Signature]</i>		Submitted By:	BUREAU OF DESIGN	OFFICE OF THE SECRETARY	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	1:500	TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN INTERSECTION A-19 (INITIAL STAGE)	RI-08
	SUBMITTED	10/16/02	<i>[Signature]</i>		DANILLO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES Dir., Director IV	PLARIDEL BYPASS - CONTRACT PACKAGE IV	FULL SIZE A1		



ELEMENTS OF CURVE												
PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION	
		NORTHING	EASTING								PC	PT
PI-00	0+000.000	1,658,087.302	493,496.728								BEG. OF INTERSECTION A-19a	
PI-01	0+110.000	1,658,179.690	493,556.431								END OF INTERSECTION A-19a	



1 SECTION  
RI-09 SCALE 1:100

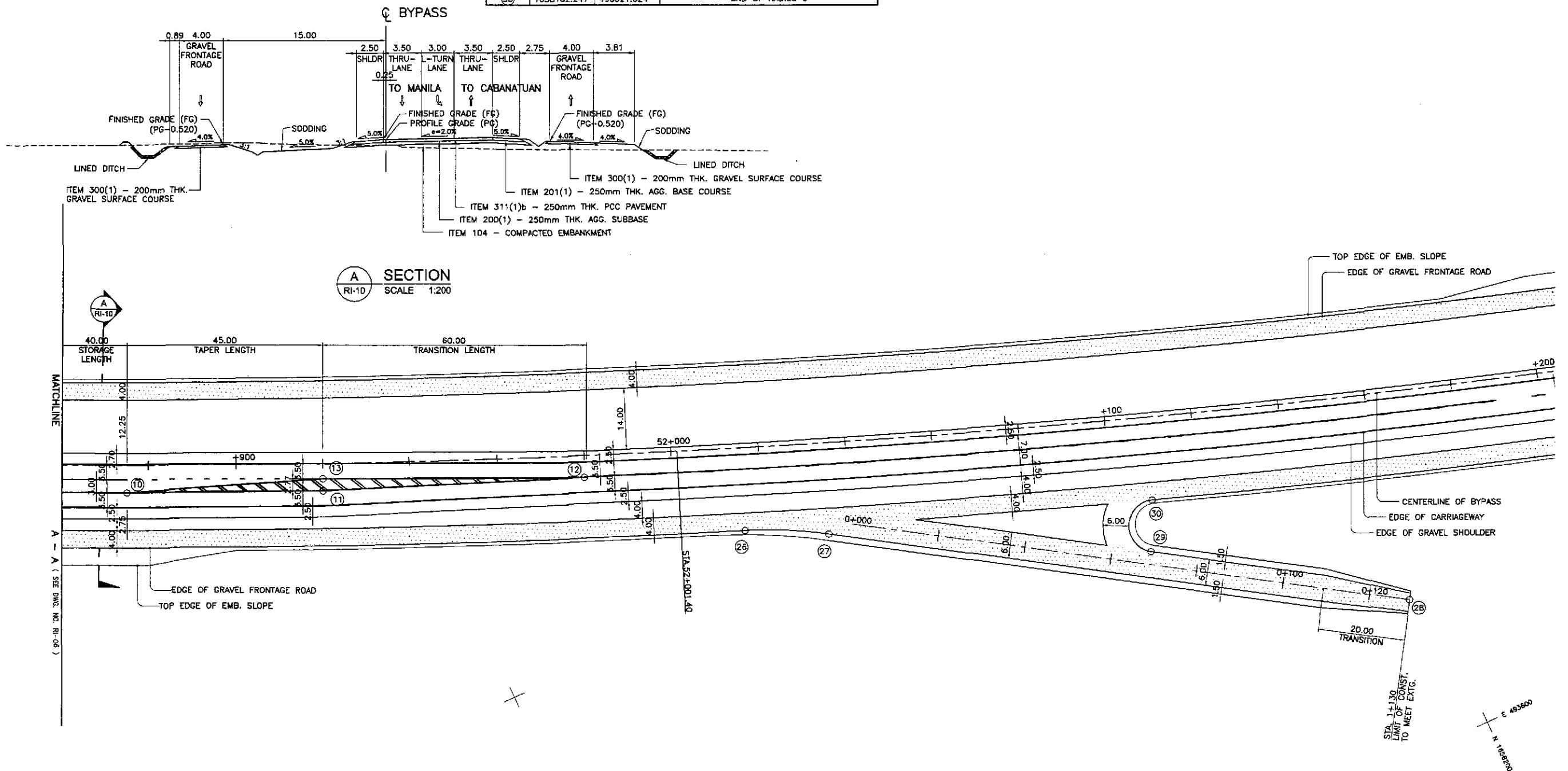


2 SECTION  
RI-09 SCALE 1:100

ELEVATION	STATION														
	0+000	0+010	0+020	0+030	0+040	0+050	0+060	0+070	0+080	0+090	0+100	0+110	0+120	0+130	0+140
30															
25															
20															
PROFILE GRADE BYPASS															
EXISTING GROUND BYPASS															
HORIZONTAL CURVATURE															
VERTICAL CURVATURE															
SUPERELEVATION															

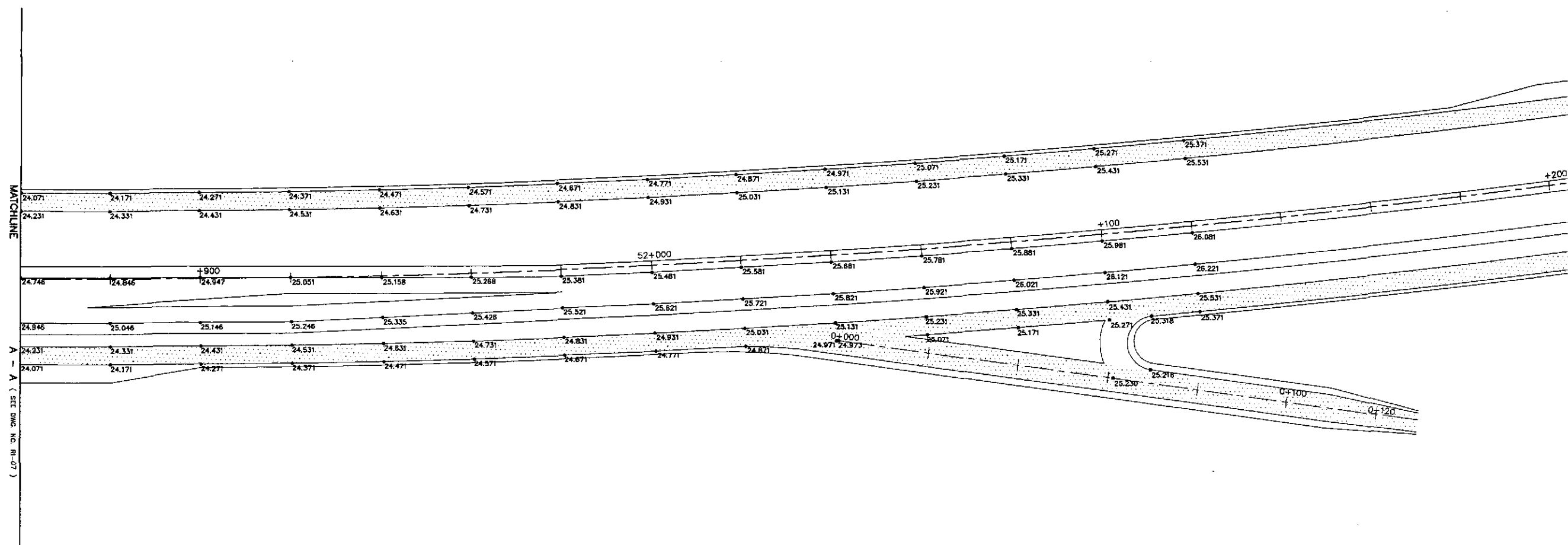
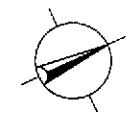
	DESIGNED	DATE	SIGNATURE	 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS				PROJECT AND LOCATION :		SCALE :	SHEET CONTENTS :	SHEET NO. :	
	CHECKED	7/27/02	S. JOSE	Submitted By: <b>FJHL - PMO</b> Bureau of Design		Reviewed By: <b>JOSEFINA M. ALAGAR</b> Chief, Highway Division		Recommended By: <b>GILBERTO S. REYES</b> Director IV (OIC)		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) <b>PLARIDEL BYPASS - CONTRACT PACKAGE IV</b>	HORIZONTAL 1:1000 VERTICAL 1:100 FULL SIZE A1	<b>PLAN, CROSS-SECTION AND PROFILE          INTERSECTION A-19a</b> STA. 0+000 - STA. 0+130 (INITIAL STAGE)	<b>RI-09</b>
	SUBMITTED	10/16/02	C. K. K...	Project Director: <b>DANILO C. TRAJANO</b>		Chief, Highway Division: <b>JOSEFINA M. ALAGAR</b>		Director IV (OIC): <b>GILBERTO S. REYES</b>					

CONTROL POINT	COORDINATES		REMARKS
	NORTHING	EASTING	
(10)	1657939.366	493419.798	END OF TAPER
(11)	1657980.438	493438.447	INNER EDGE OF 3.50m WIDE LANE
(12)	1658036.065	493461.003	CENTER OF TWO LANE PAVEMENT
(13)	1657981.561	493435.915	END OF TRANSITION
(26)	1658064.305	493487.651	BEG. OF DIVERGING LANE W/ RADIUS 100
(27)	1658081.428	493496.504	END OF RADIUS 100
(28)	1658195.908	493566.911	LIMIT OF CONSTRUCTION
(29)	1658146.962	493531.710	BEG. OF RADIUS 6
(30)	1658152.247	493521.024	END OF RADIUS 6



1 GEOMETRIC DESIGN LAYOUT  
 RI-10 INTERSECTION A-19a (STA. 52+040.477) - INITIAL STAGE  
 SCALE 1:500

JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL YACHIYO ENGINEERING CO., LTD.	DESIGNED	DATE	SIGNATURE	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	PROJECT AND LOCATION :			SCALE :	SHEET CONTENTS :	SHEET NO. :		
	CHECKED	9/24/02	A. ORONCE		BUREAU OF DESIGN Submitted By: PUHL - PMO DANILLO C. TRAJANO Project Director	OFFICE OF THE SECRETARY Reviewed By: JOSEFINA M. ALAGAR Chief, Highways Division	Recommended By: GILBERTO S. REYES OIC, Director IV	Approved By: MANUEL M. BONDAN Undersecretary	Approved By: SIMEON A. DATUMANONG Secretary	1:500	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) PLARIDEL BYPASS - CONTRACT PACKAGE IV	FULL SIZE A1



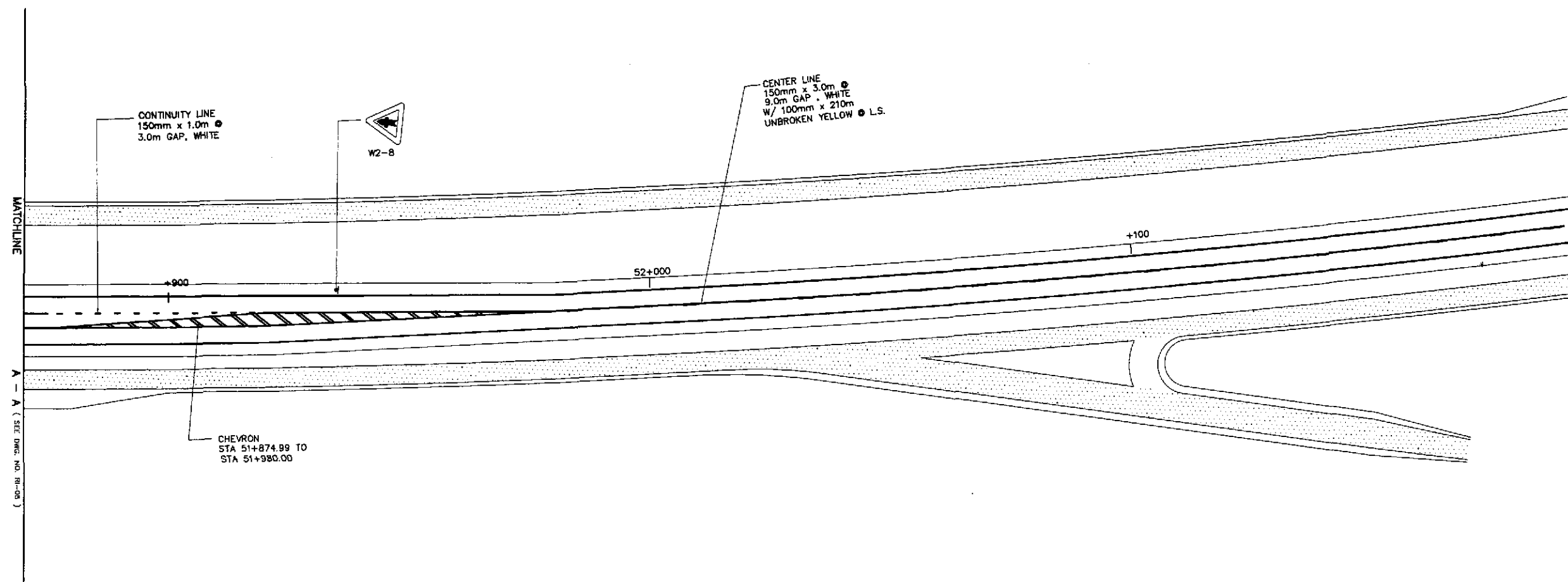
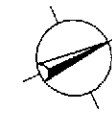
**PAVING AND GRADING PLAN**  
**INTERSECTION A-19a (STA. 52+040.477) - INITIAL STAGE**

1  
RI-11

SCALE

1:500

<b>JICA</b> JAPAN INTERNATIONAL COOPERATION AGENCY	<b>KATAHIRA &amp; ENGINEERS INTERNATIONAL</b>	<b>YACHIYO ENGINEERING CO., LTD.</b>	DATE	SIGNATURE	<b>REPUBLIC OF THE PHILIPPINES</b> <b>DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS</b>	PROJECT AND LOCATION :				SCALE :	SHEET CONTENTS :	SHEET NO. :		
			DESIGNED	9/24/02			BUREAU OF DESIGN				THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	1:500	<b>INTERSECTION DETAIL</b> PAVING AND GRADING PLAN INTERSECTION A-19a (INITIAL STAGE)	<b>RI-11</b>
			CHECKED	9/23/02			Submitted By:	Reviewed By:	Recommended By:	Approved By:				
SUBMITTED	10/16/02		DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES OIC, Director IV	MANUEL M. BONDAN Undersecretary	SIMEON A. DATUMANONG Secretary	FULL SIZE A1						



**TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN**  
**INTERSECTION A-19a (STA. 52+040.477) - INITIAL STAGE**

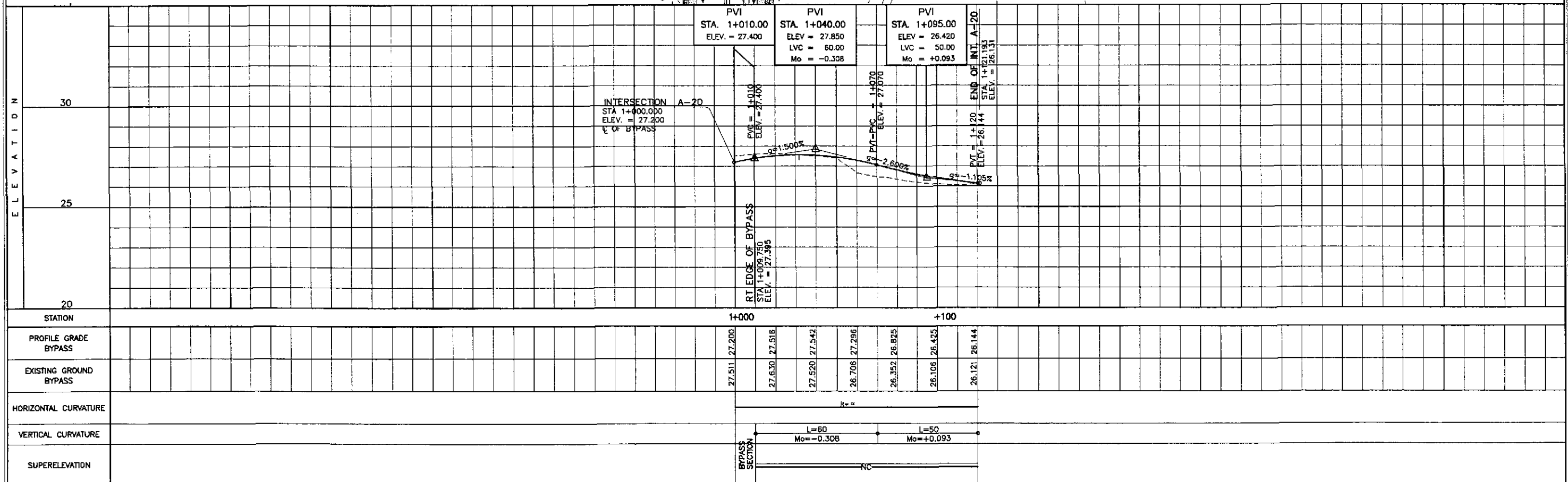
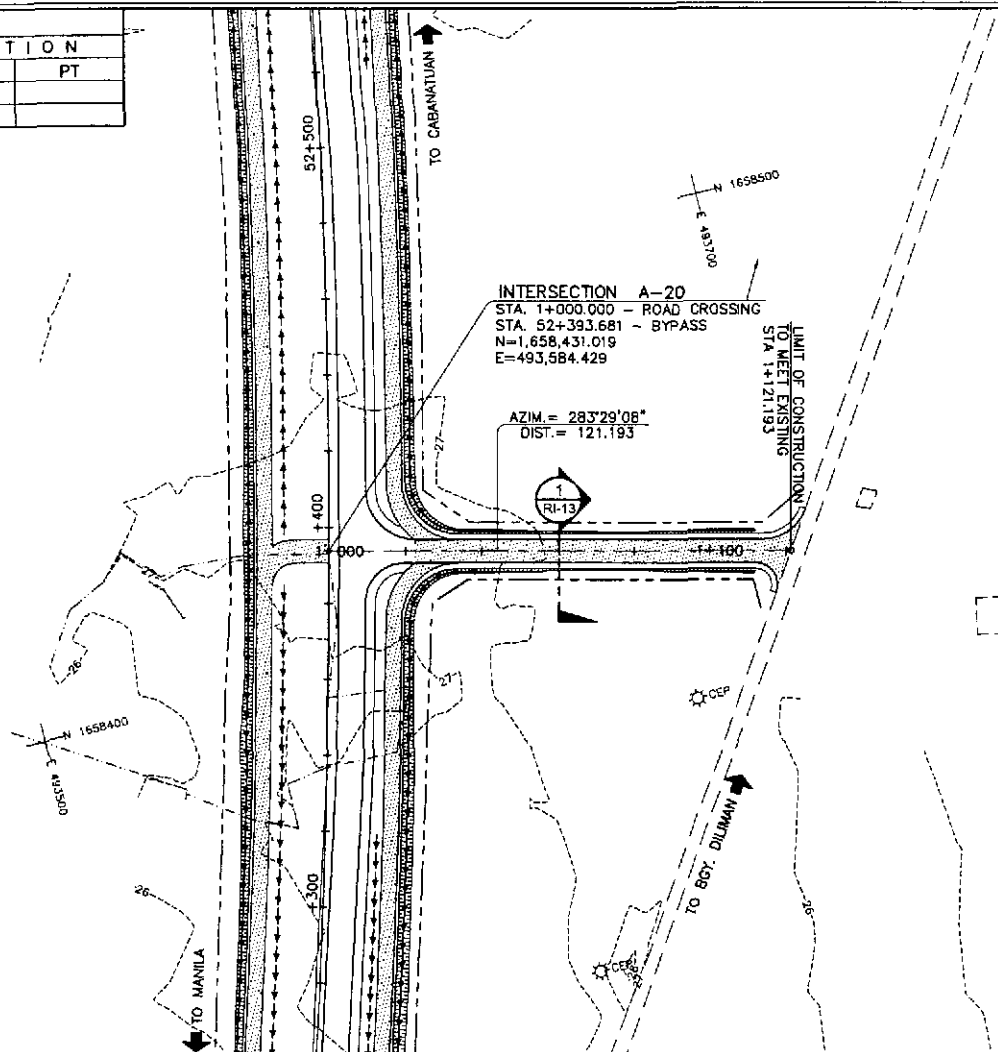
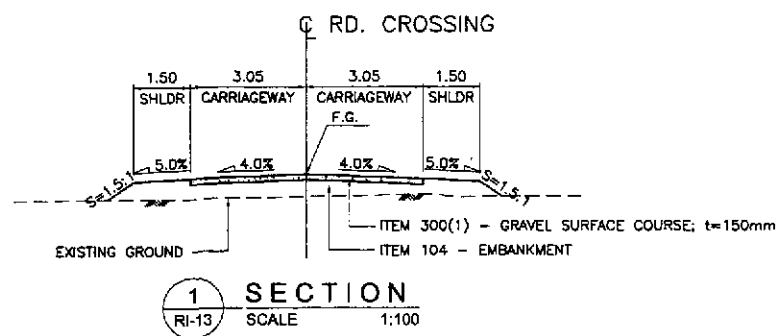
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RI-12

SCALE

1:500

	DESIGNED	9/24/02	<i>[Signature]</i> S. LUNA		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS				PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	9/23/02	<i>[Signature]</i> S. ROSE		Submitted By:	Reviewed By:	Recommended By:	Recommended By:	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	1:500	<b>TRAFFIC SIGNS AND PAVEMENT          MARKINGS LAYOUT PLAN</b> INTERSECTION A-19a (INITIAL STAGE)	<b>RI-12</b>
	SUBMITTED	10/16/02	<i>[Signature]</i> M. RAUCH		DANILO C. TRAJANG Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES OIC, Director IV	MANUEL M. BONDAN Undersecretary	SIMEON A. DATUMANONG Secretary	PLARIDEL BYPASS - CONTRACT PACKAGE IV		

ELEMENTS OF CURVE												
PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION	
		NORTHING	EASTING								PC	PT
PI-00	1+000.000	1,658,431.019	493,584.429								BEG. OF INTERSECTION A-20 / C OF BYPASS	
PI-01	1+121.193	1,658,402.757	493,702.281								END OF INTERSECTION A-20	



	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION : <b>THE DETAILED DESIGN STUDY ON          UPGRADING INTER-URBAN HIGHWAY SYSTEM          ALONG THE PAN-PHILIPPINE HIGHWAY          (PLARDEL, Cabanatuan and San Jose Bypasses)</b> <b>PLARDEL BYPASS - CONTRACT PACKAGE IV</b>	SCALE : HORIZONTAL 1:1000 VERTICAL 1:100 FULL SIZE A1	SHEET CONTENTS : <b>PLAN, CROSS-SECTION AND PROFILE          INTERSECTION A-20</b> STA. 1+000 - STA. 1+121.193 (INITIAL STAGE)	SHEET NO. : <b>RI-13</b>		
	CHECKED	9/27/02	S. G. G. COSE		Submitted By:	Reviewed By:	Recommended By:					Approved By:	
	SUBMITTED	10/16/02	Ch. Kim		DANILDO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highway Division	GILBERTO S. REYES Director IV (DC)					EDMUNDO V. MIR Undersecretary	SIMEON A. DATUMANONG Secretary
					OFFICE OF THE SECRETARY (See cover sheet for Signature/Approvals)								

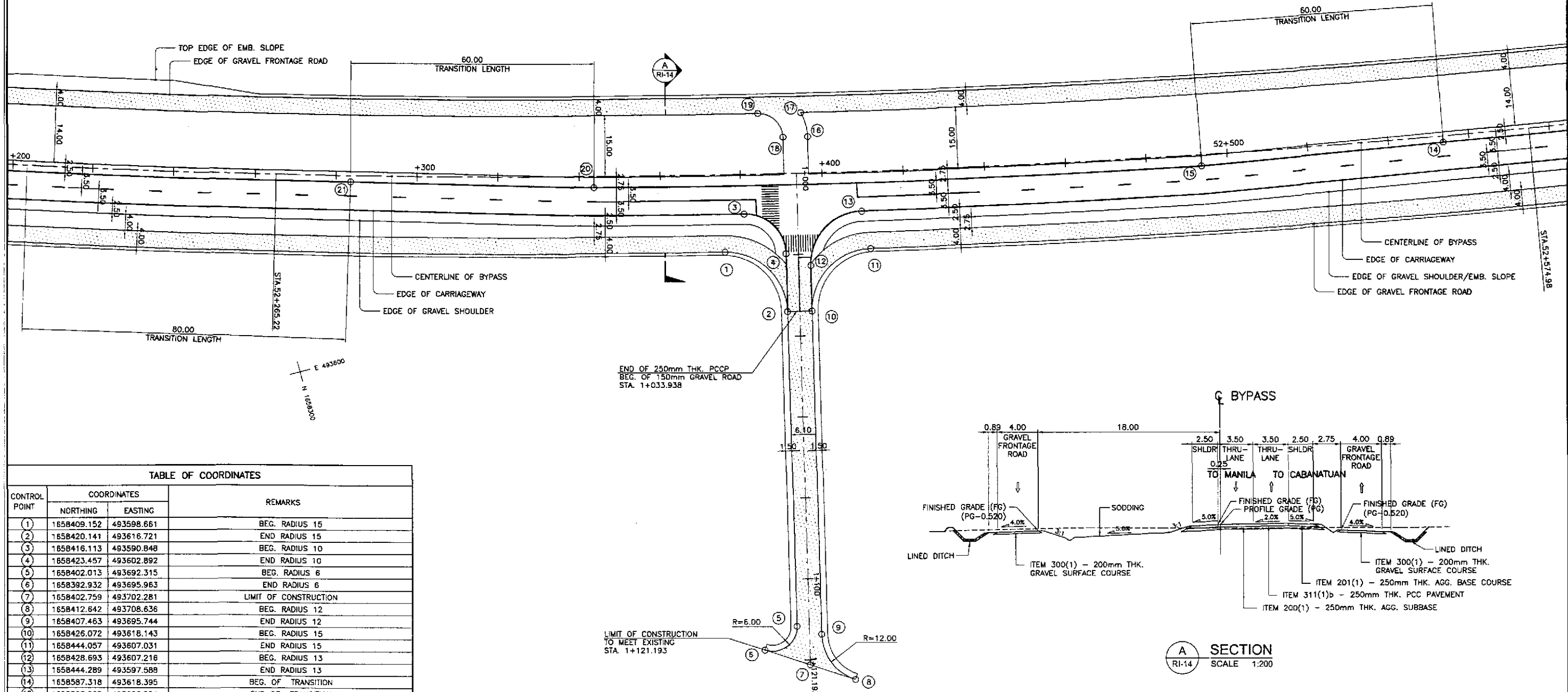
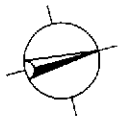


TABLE OF COORDINATES			
CONTROL POINT	COORDINATES		REMARKS
	NORTHING	EASTING	
(1)	1658409.152	493598.661	BEG. RADIUS 15
(2)	1658420.141	493616.721	END RADIUS 15
(3)	1658416.113	493590.848	BEG. RADIUS 10
(4)	1658423.457	493602.892	END RADIUS 10
(5)	1658402.013	493692.315	BEG. RADIUS 6
(6)	1658392.932	493695.963	END RADIUS 6
(7)	1658402.759	493702.281	LIMIT OF CONSTRUCTION
(8)	1658412.642	493708.636	BEG. RADIUS 12
(9)	1658407.463	493695.744	END RADIUS 12
(10)	1658426.072	493618.143	BEG. RADIUS 15
(11)	1658444.057	493607.031	END RADIUS 15
(12)	1658428.693	493607.216	BEG. RADIUS 13
(13)	1658444.289	493597.589	END RADIUS 13
(14)	1658587.318	493618.395	BEG. OF TRANSITION
(15)	1658528.068	493608.554	END OF TRANSITION
(16)	1658436.089	493576.374	BEG. RADIUS 12.1
(17)	1658435.945	493570.185	END RADIUS 12.1
(18)	1658430.157	493574.951	BEG. RADIUS 6.0
(19)	1658425.742	493567.722	END RADIUS 6.0
(20)	1658381.767	493574.950	BEG. OF TRANSITION
(21)	1658324.144	493557.945	END OF TRANSITION

**GEOMETRIC DESIGN LAYOUT  
INTERSECTION A-20 (STA. 52+393.681) - INITIAL STAGE**

1  
RI-14  
SCALE

A  
RI-14  
SECTION  
SCALE 1:200

**JICA**  
JAPAN INTERNATIONAL COOPERATION AGENCY

**KATAHIRA & ENGINEERS INTERNATIONAL**  
**YEO YACHYO ENGINEERING CO., LTD.**

REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

DESIGNED: 9/24/02	SIGNATURE: [Signature]	DATE: 9/24/02
CHECKED: 9/23/02	SIGNATURE: [Signature]	DATE: 9/23/02
SUBMITTED: 10/16/02	SIGNATURE: [Signature]	DATE: 10/16/02

Submitted By: DANILO C. TRAJANG, Project Director

Reviewed By: JOSEFINA M. ALAGAR, Chief, Highways Division

Recommended By: GILBERTO S. REYES, O.C. Director IV

Recommended By: MANUEL M. BONGON, Undersecretary

Approved By: SIMON A. DATUMANONG, Secretary

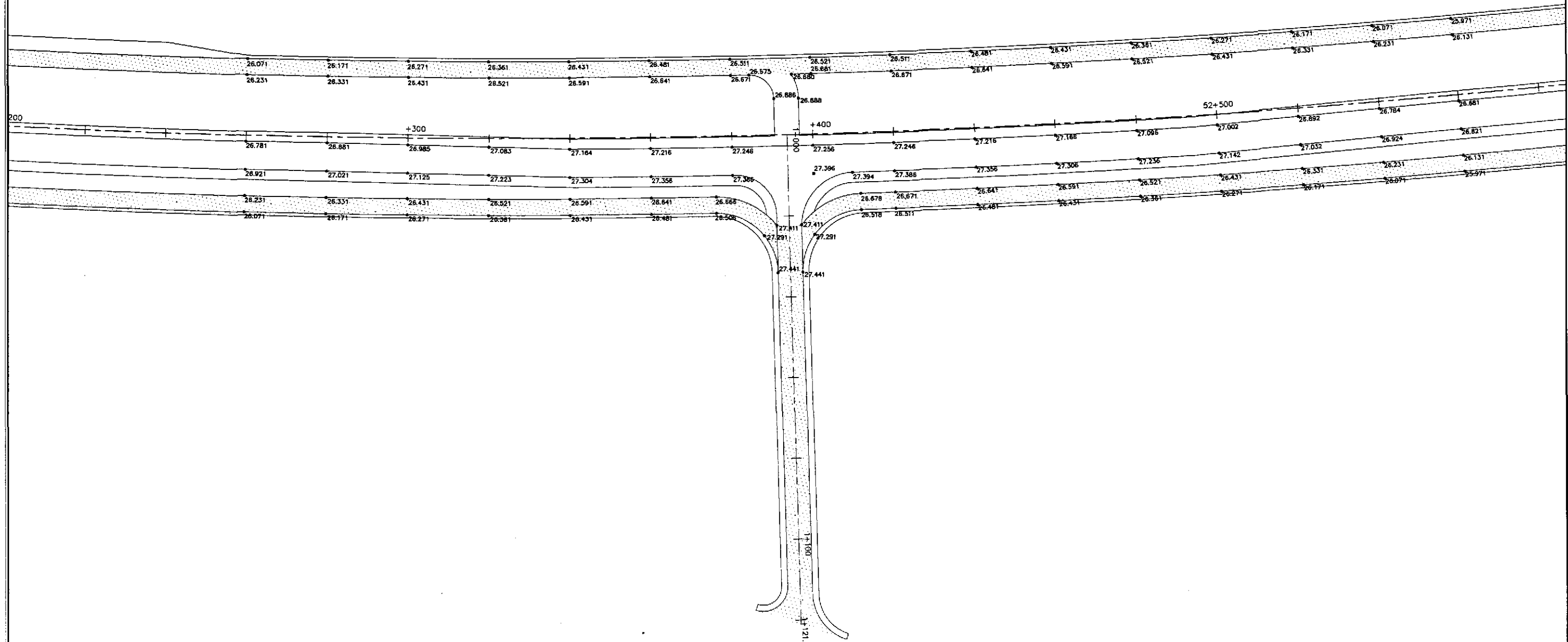
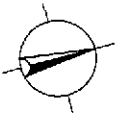
PROJECT AND LOCATION :  
**THE DETAILED DESIGN STUDY ON  
UPGRADING INTER-URBAN HIGHWAY SYSTEM  
ALONG THE PAN-PHILIPPINE HIGHWAY  
(Plaridel, Cabanatuan and San Jose Bypasses)**

**PLARIDEL BYPASS - CONTRACT PACKAGE IV**

SCALE :  
1:500  
FULL SIZE A1

SHEET CONTENTS :  
**INTERSECTION DETAIL  
GEOMETRIC DESIGN LAYOUT  
INTERSECTION A-20 (INITIAL STAGE)**

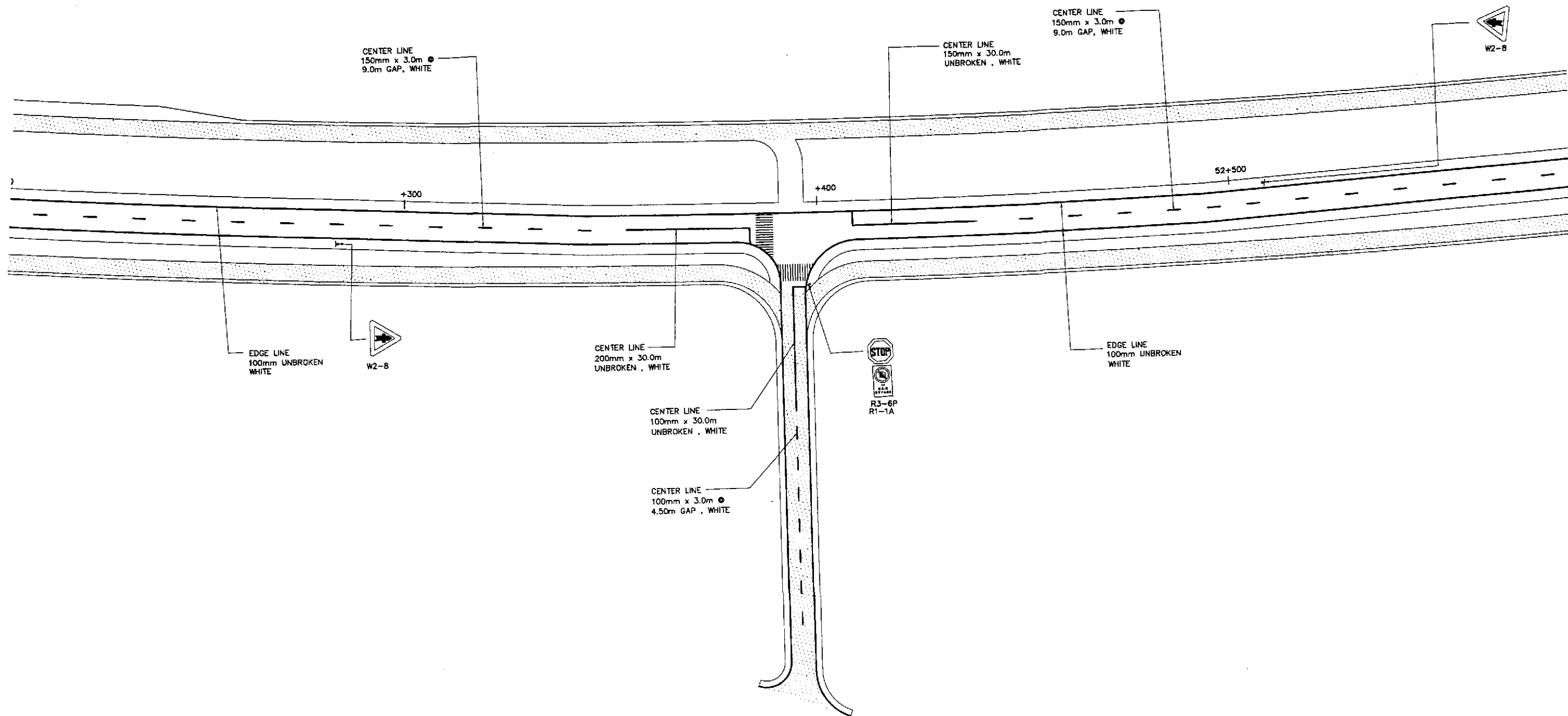
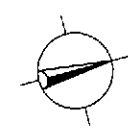
SHEET NO. :  
**RI-14**



1  
RI-15

PAVING AND GRADING PLAN  
 INTERSECTION A-20 (STA. 52+393.681) - INITIAL STAGE  
 SCALE 1:500

	DESIGNED	9/24/02	<i>R. GO</i>		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) PLARIDEL BYPASS - CONTRACT PACKAGE IV	SCALE :	SHEET CONTENTS :  INTERSECTION DETAIL PAVING AND GRADING PLAN INTERSECTION A-20 (INITIAL STAGE)	SHEET NO. :
	CHECKED	9/27/02	<i>S. GONZALES</i>		BUREAU OF DESIGN				1:500		RI-15
	SUBMITTED	10/16/02	<i>M. BONDAN</i>		Submitted By:	Reviewed By:	Recommended By:		Approved By:		
			DANILDO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES Dir., Director IV	MANUEL M. BONDAN Undersecretary	SIMEON A. DATUMANONG Secretary				



**TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN  
INTERSECTION A-20 (STA. 52+393.681) - INITIAL STAGE**

1  
RI-16

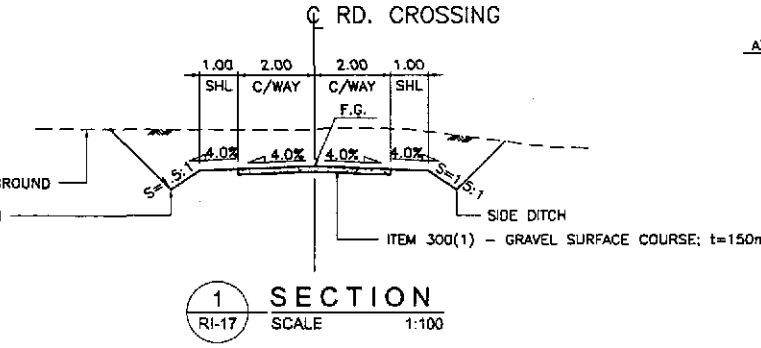
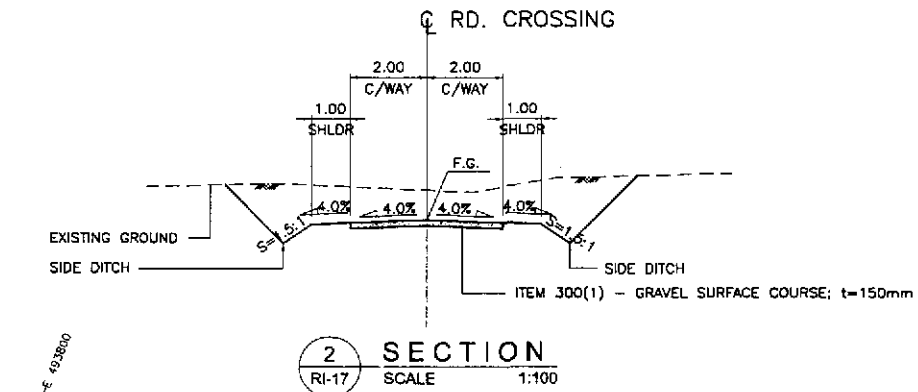
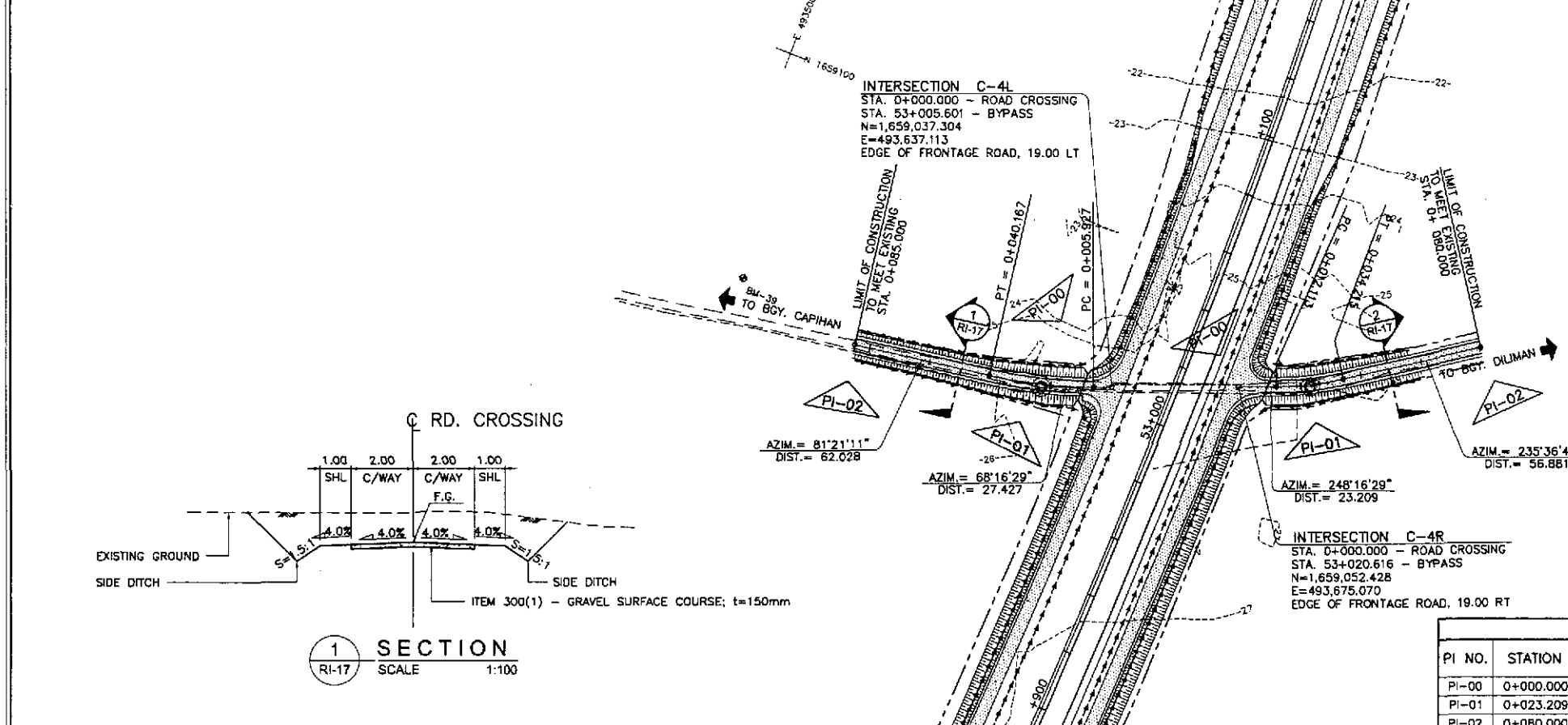
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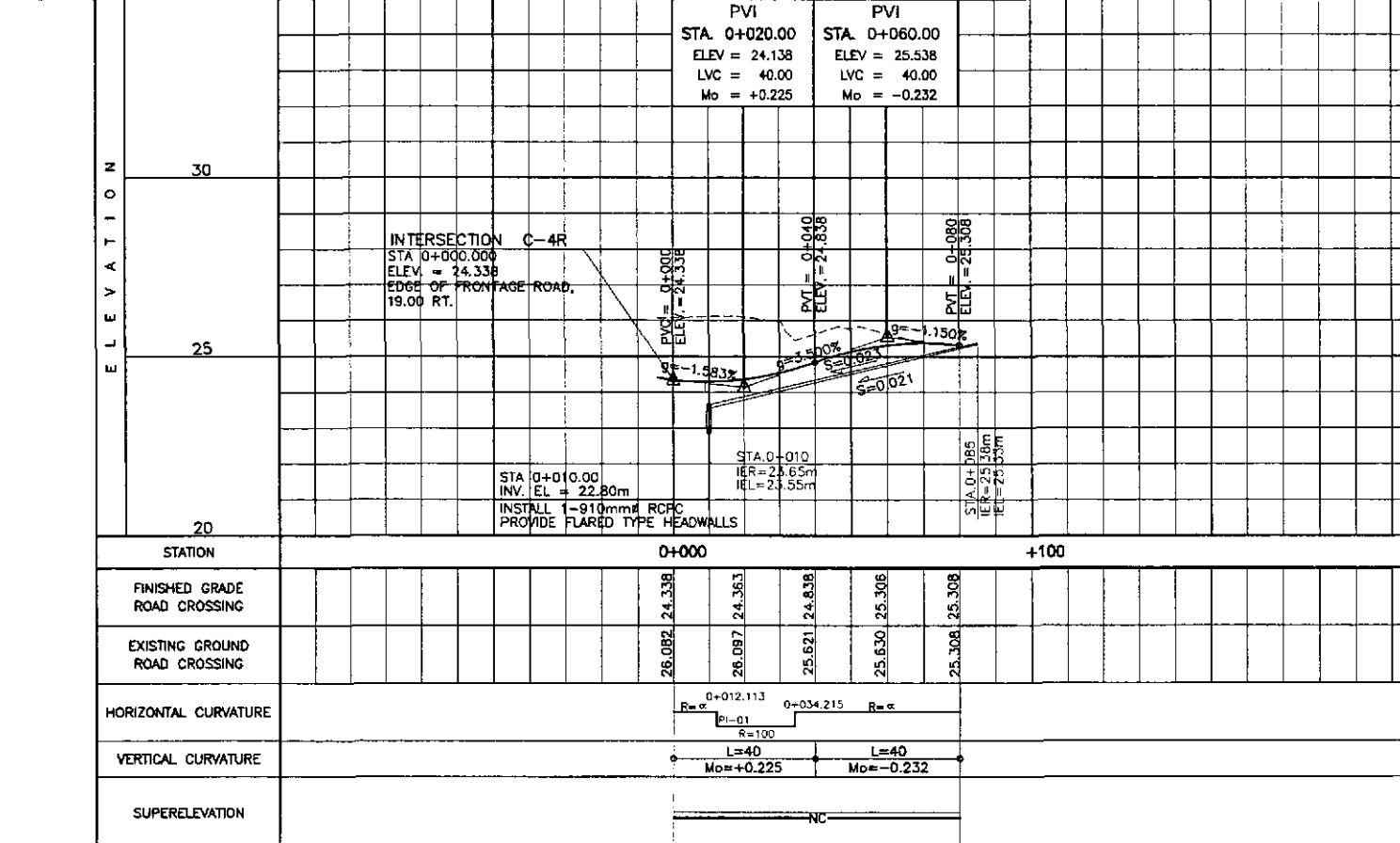
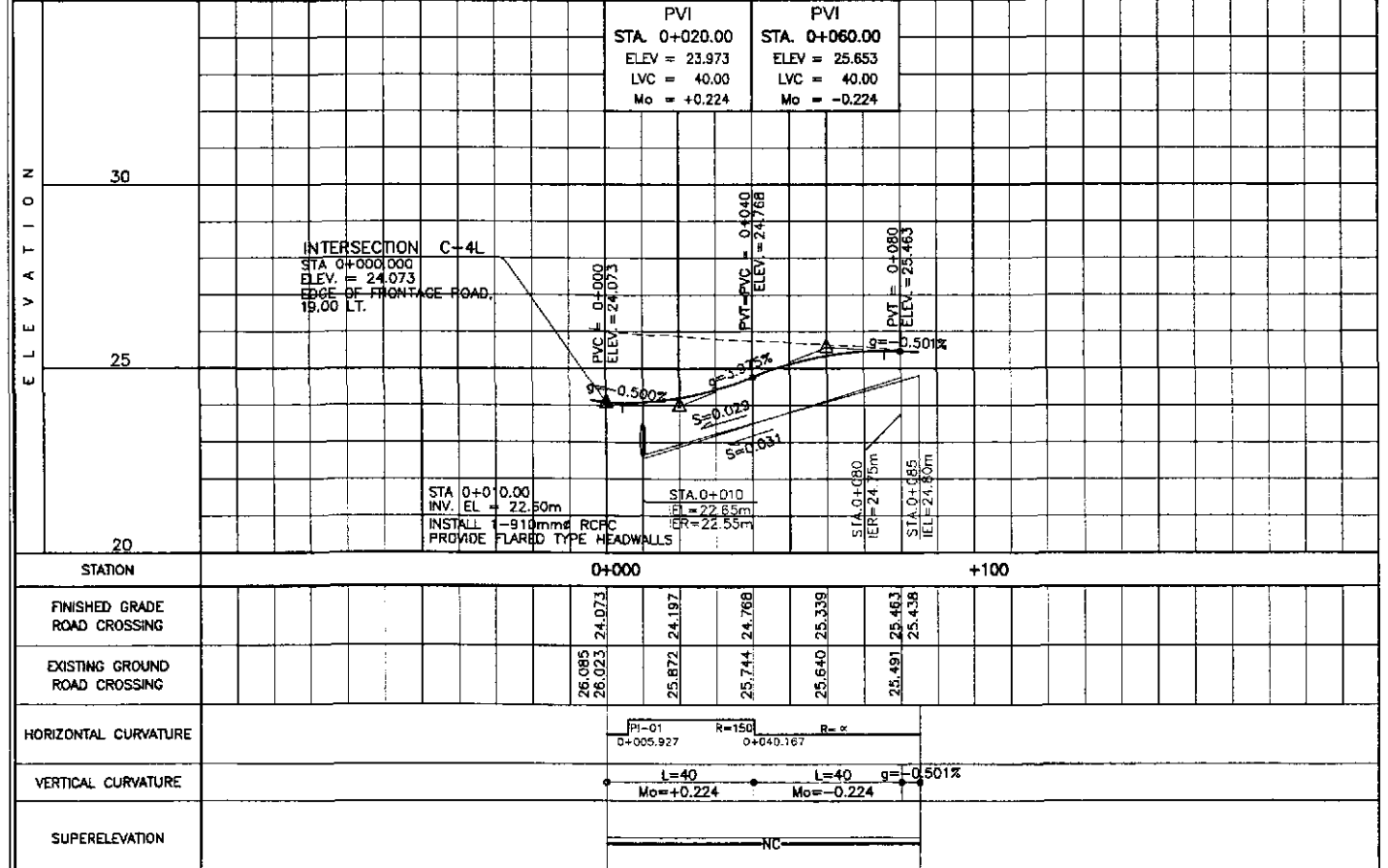
	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) PLARIDEL BYPASS - CONTRACT PACKAGE IV	SCALE : 1:500 FULL SIZE A1	SHEET CONTENTS : TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN INTERSECTION A-20 (INITIAL STAGE)	SHEET NO. : RI-16
	CHECKED	9/27/02	S. ROSE		BUREAU OF DESIGN						
	SUBMITTED	10/14/02	M. RIVERA		Submitted By: DANILO C. TRAJANO Project Director	Reviewed By: JOSEFINA M. ALAGAR Chief, Highways Division	Recommended By: GILBERTO S. REYES OIC, Director IV				



PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION	
		NORTHING	EASTING								PC	PT
PI-00	0+000.000	1,659,037.304	493,637.113								BEG. OF INT. C-4L / EDGE OF FRONTAGE ROAD	
PI-01	0+023.122	1,659,028.746	493,615.635	13°04'43"	150	17.194	34.239	0.982	-	-	0+005.927	0+040.167
PI-02	0+085.000	1,659,019.420	493,554.312								END OF INTERSECTION C-4L	

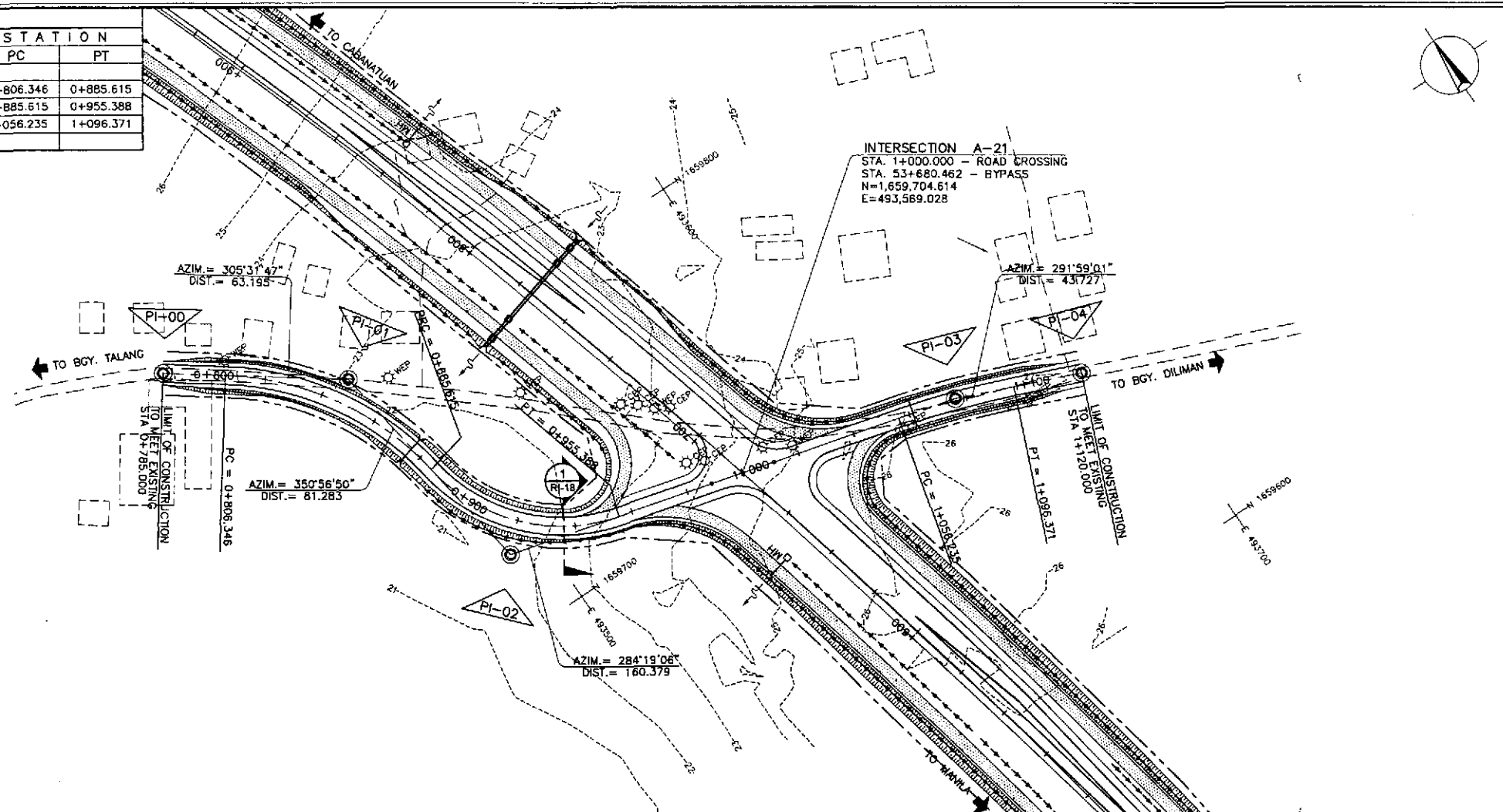
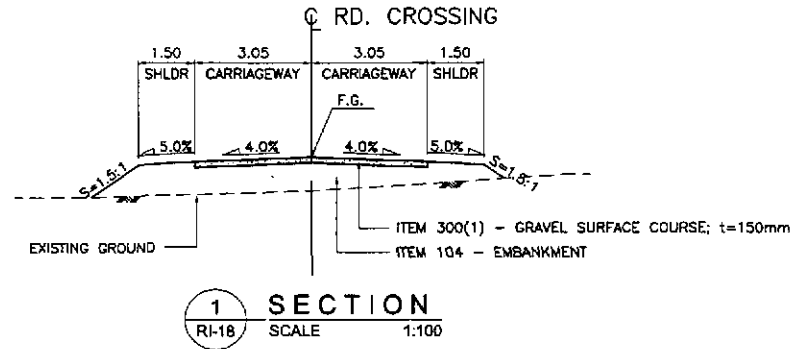


PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION	
		NORTHING	EASTING								PC	PT
PI-00	0+000.000	1,659,020.428	493,675.070								BEG. OF INT. C-4R / EDGE OF FRONTAGE ROAD	
PI-01	0+023.209	1,659,061.020	493,696.631	12°39'49"	100	11.096	22.102	0.614	-	-	0+012.113	0+034.215
PI-02	0+080.000	1,659,093.146	493,743.571								END OF INTERSECTION C-4R	



	DESIGNED	DATE	SIGNATURE		PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :	
	CHECKED	9/23/02	S. G. ROSE		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) PLARIDEL BYPASS - CONTRACT PACKAGE IV	HORIZONTAL 1:1000 VERTICAL 1:100 FULL SIZE A1	PLAN, CROSS-SECTION AND PROFILE INT. C-4L AND INT. C-4R STA. 0+000 - STA. 0+085 AND STA. 0+000 - STA. 0+080 (INITIAL STAGE)	RI-17	
	SUBMITTED	10/16/02	M. K. RIVERA		DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN OFFICE OF THE SECRETARY	PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) PLARIDEL BYPASS - CONTRACT PACKAGE IV	HORIZONTAL 1:1000 VERTICAL 1:100 FULL SIZE A1	PLAN, CROSS-SECTION AND PROFILE INT. C-4L AND INT. C-4R STA. 0+000 - STA. 0+085 AND STA. 0+000 - STA. 0+080 (INITIAL STAGE)	RI-17
					MANUEL M. BONDAN Undersecretary				

ELEMENTS OF CURVE												
PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION	
		NORTHING	EASTING								PC	PT
PI-00	0+785.000	1,659,842.394	493,423.374								BEG. OF INTERSECTION A-21	
PI-01	0+848.195	1,659,805.669	493,474.803	45°25'03"	100	41.849	79.269	8.404	-	30	0+806.346	0+885.615
PI-02	0+925.049	1,659,725.399	493,487.592	66°37'44"	60	39.434	69.774	11.799	-	-	0+885.615	0+955.388
PI-03	1+076.333	1,659,685.736	493,642.990	07°39'55"	300	20.098	40.136	0.672	-	-	1+056.235	1+096.371
PI-04	1+120.000	1,659,669.367	493,683.537								END OF INTERSECTION A-21	



ELEVATION	PVI																																																											
	STA. 0+880.00					STA. 1+040.00					STA. 1+080.00																																																	
	ELEV = 21.954					ELEV = 25.145					ELEV = 26.500																																																	
	LVC = 120.00					LVC = 40.00					LVC = 40.00																																																	
	Mo = +0.807					Mo = +0.070					Mo = -0.092																																																	
30	[Profile line graph showing elevation vs station]																																																											
25	[Profile line graph showing elevation vs station]																																																											
20	[Profile line graph showing elevation vs station]																																																											
STATION	+800										+900										+1000										+1100																													
PROFILE GRADE BYPASS	[Elevation values]										[Elevation values]										[Elevation values]										[Elevation values]																													
EXISTING GROUND BYPASS	[Elevation values]										[Elevation values]										[Elevation values]										[Elevation values]																													
HORIZONTAL CURVATURE	R=100										R=60										R=300										R=300																													
VERTICAL CURVATURE	g=-3.387%										L=120 Mo=+0.807										g=+1.998%										L=40 Mo=+0.070										L=40 Mo=-0.092										g=+1.547%									
SUPERELEVATION	NC										NC										BYPASS SECTION										NC																													

	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES				PROJECT AND LOCATION :		SCALE :	SHEET CONTENTS :		SHEET NO. :
	CHECKED	7/29/02	[Signature]		DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS				THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)		HORIZONTAL 1:1000	PLAN, CROSS-SECTION AND PROFILE INTERSECTION A-21		RI-18
	SUBMITTED	10/16/02	[Signature]		BUREAU OF DESIGN				PLARIDEL BYPASS - CONTRACT PACKAGE IV		VERTICAL 1:100	STA. 0+785 - STA. 1+120 (INITIAL STAGE)		
					OFFICE OF THE SECRETARY						FULL SIZE A1			

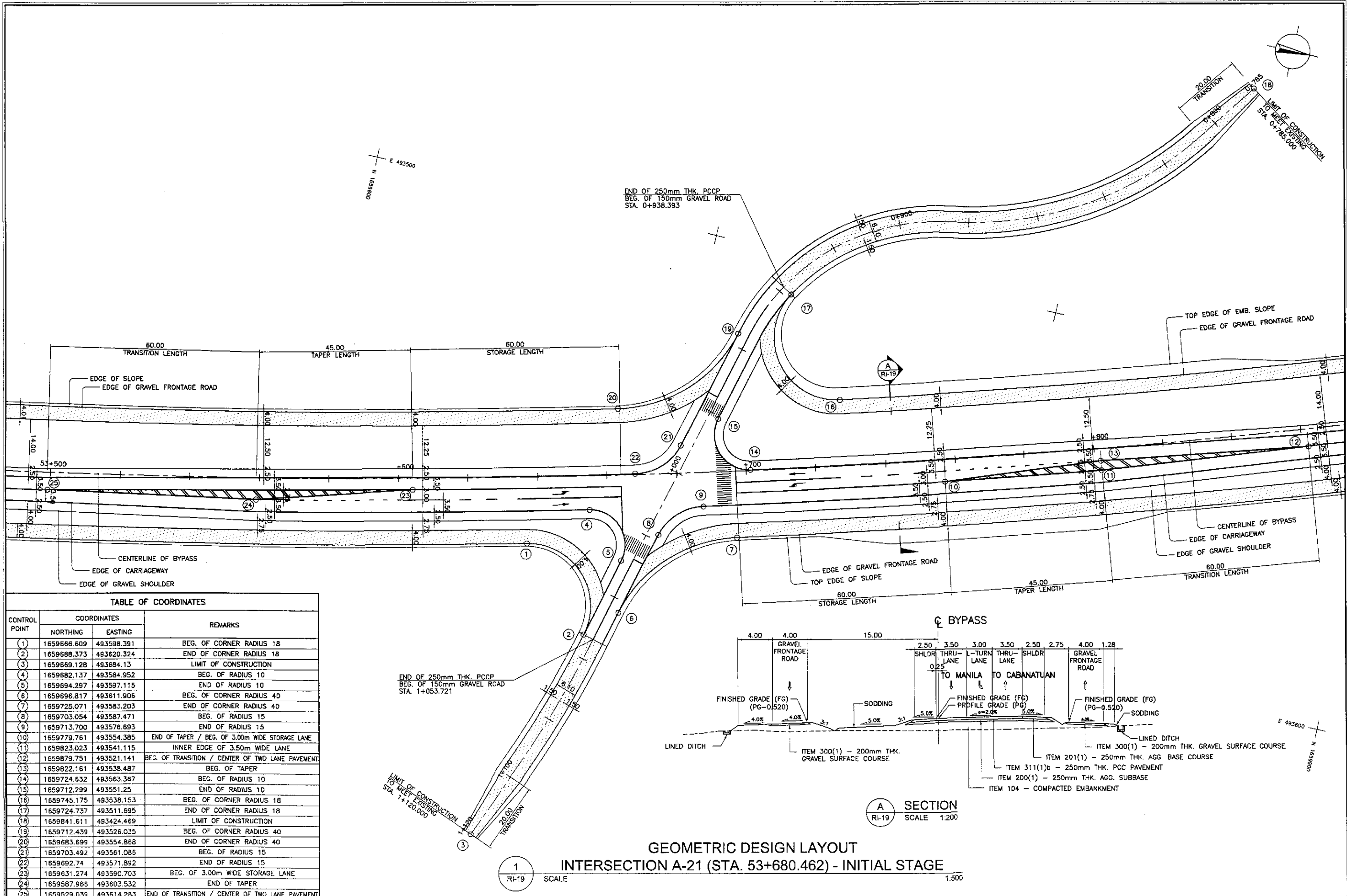


TABLE OF COORDINATES			
CONTROL POINT	COORDINATES		REMARKS
	NORTHING	EASTING	
1	1659666.609	493598.391	BEG. OF CORNER RADIUS 18
2	1659688.373	493620.324	END OF CORNER RADIUS 18
3	1659669.128	493684.13	LIMIT OF CONSTRUCTION
4	1659682.137	493584.952	BEG. OF RADIUS 10
5	1659694.297	493597.115	END OF RADIUS 10
6	1659696.817	493611.906	BEG. OF CORNER RADIUS 40
7	1659725.071	493583.203	END OF CORNER RADIUS 40
8	1659703.054	493587.471	BEG. OF RADIUS 15
9	1659713.700	493576.693	END OF RADIUS 15
10	1659779.761	493554.385	END OF TAPER / BEG. OF 3.00m WIDE STORAGE LANE
11	1659823.023	493541.115	INNER EDGE OF 3.50m WIDE LANE
12	1659879.751	493521.141	BEG. OF TRANSITION / CENTER OF TWO LANE PAVEMENT
13	1659822.161	493538.487	BEG. OF TAPER
14	1659724.632	493563.367	BEG. OF RADIUS 10
15	1659712.299	493551.25	END OF RADIUS 10
16	1659745.175	493538.153	BEG. OF CORNER RADIUS 18
17	1659724.737	493511.895	END OF CORNER RADIUS 18
18	1659841.611	493424.469	LIMIT OF CONSTRUCTION
19	1659712.439	493528.035	BEG. OF CORNER RADIUS 40
20	1659683.699	493554.868	END OF CORNER RADIUS 40
21	1659703.492	493561.086	BEG. OF RADIUS 15
22	1659692.74	493571.892	END OF RADIUS 15
23	1659631.274	493590.703	BEG. OF 3.00m WIDE STORAGE LANE
24	1659587.968	493603.532	END OF TAPER
25	1659529.039	493614.283	END OF TRANSITION / CENTER OF TWO LANE PAVEMENT

**JICA**  
JAPAN INTERNATIONAL COOPERATION AGENCY

**KAI** KATAHIRA & ENGINEERS INTERNATIONAL  
**YEO** YACHIYO ENGINEERING CO., LTD.

REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

BUREAU OF DESIGN  
OFFICE OF THE SECRETARY

DESIGNED: 9/24/02  
CHECKED: 9/29/02  
SUBMITTED: 10/16/02

DATE: 9/24/02  
SIGNATURE: A. ORONCE  
SIGNATURE: S. GARCIA  
SIGNATURE: [Signature]

Submitted By: DANILLO C. TRAJAND (Project Director)  
Reviewed By: JOSEFINA M. ALAGAR (Chief, Highways Division)  
Recommended By: GILBERTO S. REYES (OIC, Director IV)  
Recommended By: MANUEL M. BONDAN (Undersecretary)  
Approved By: SIMON A. DATUMANONG (Secretary)

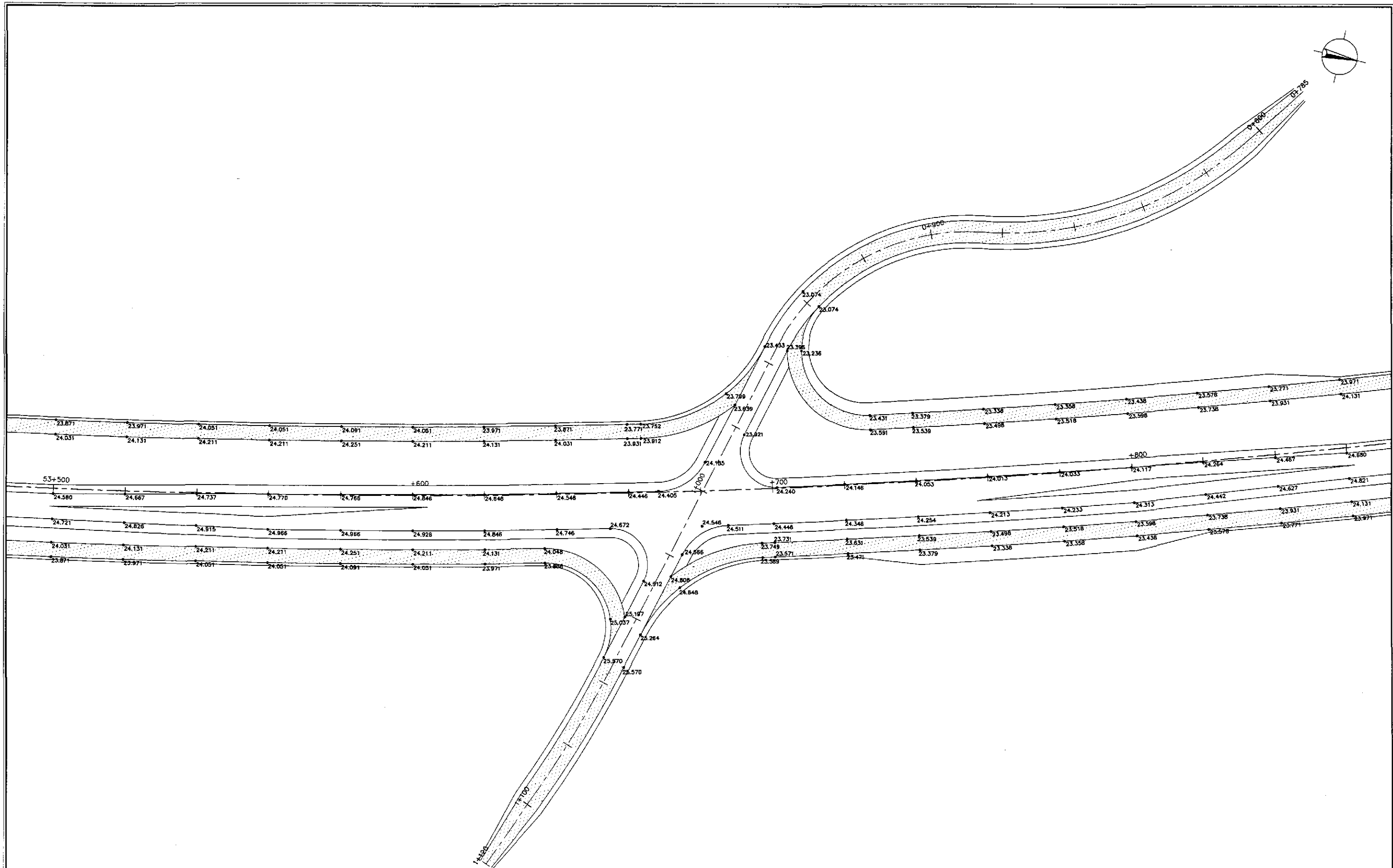
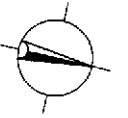
PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Paridel, Cabanatuan and San Jose Bypasses)

SCALE : 1:500

SHEET CONTENTS : INTERSECTION DETAIL GEOMETRIC DESIGN LAYOUT INTERSECTION A-21 (INITIAL STAGE)

SHEET NO. : RI-19

GEOMETRIC DESIGN LAYOUT  
INTERSECTION A-21 (STA. 53+680.462) - INITIAL STAGE



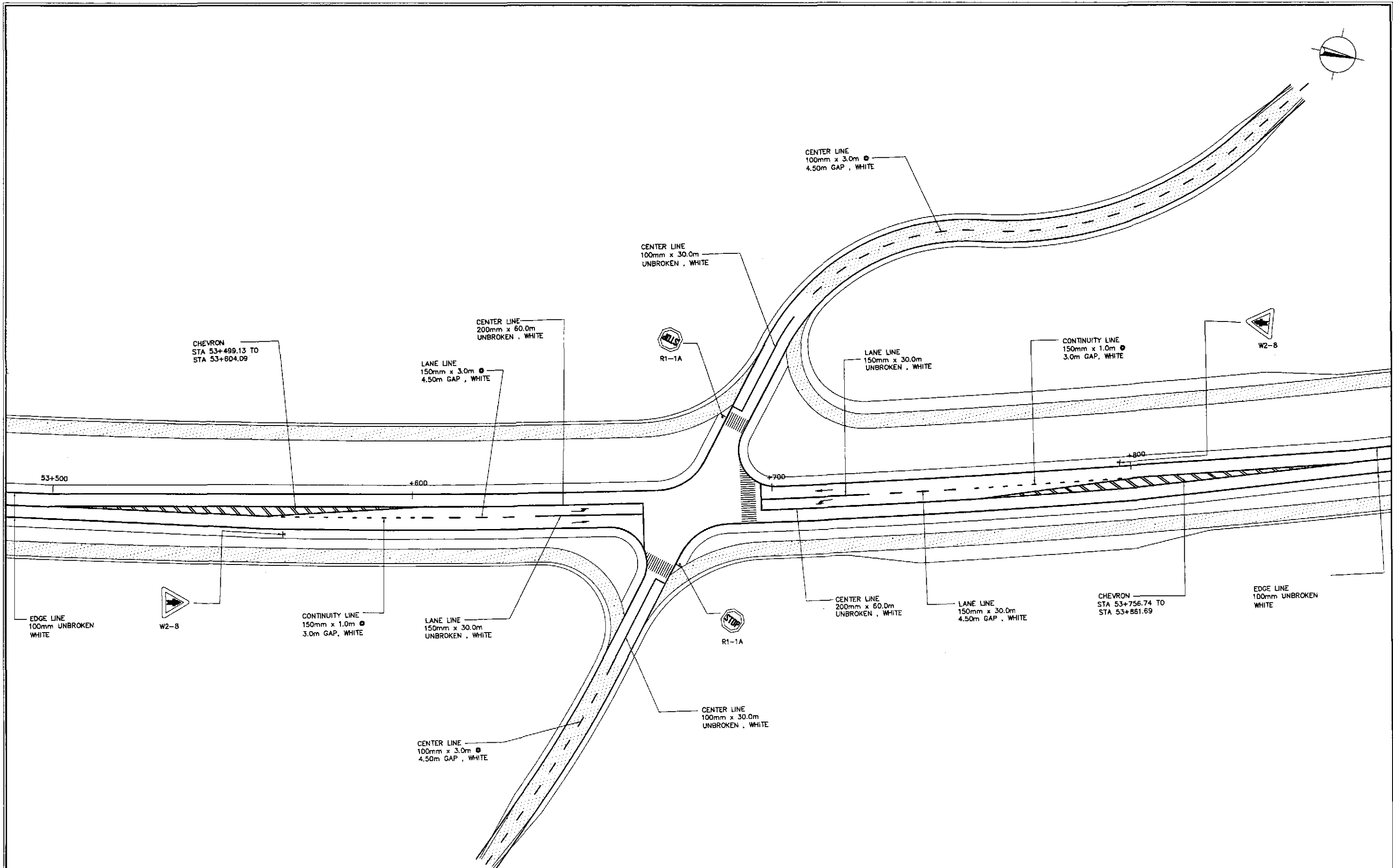
PAVING AND GRADING PLAN  
INTERSECTION A-21 (STA. 53+680.462) - INITIAL STAGE

1  
RI-20

SCALE

1:500

	DESIGNED	9/24/02	<i>[Signature]</i>		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	9/27/02	<i>[Signature]</i>		Submitted By:	Reviewed By:	Recommended By:	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	1:500	INTERSECTION DETAIL PAVING AND GRADING PLAN INTERSECTION A-21 (INITIAL STAGE)	RI-20
	SUBMITTED	10/16/02	<i>[Signature]</i>		DANILO C. TRAJANO Project Director	JOSEFINA M. KLAGAR Chief, Highways Division	GILBERTO S. REYES CIC, Director IV	MANUEL M. BONDAN Undersecretary	SIMEON A. DATUMANONG Secretary		
PLARIDEL BYPASS - CONTRACT PACKAGE IV											



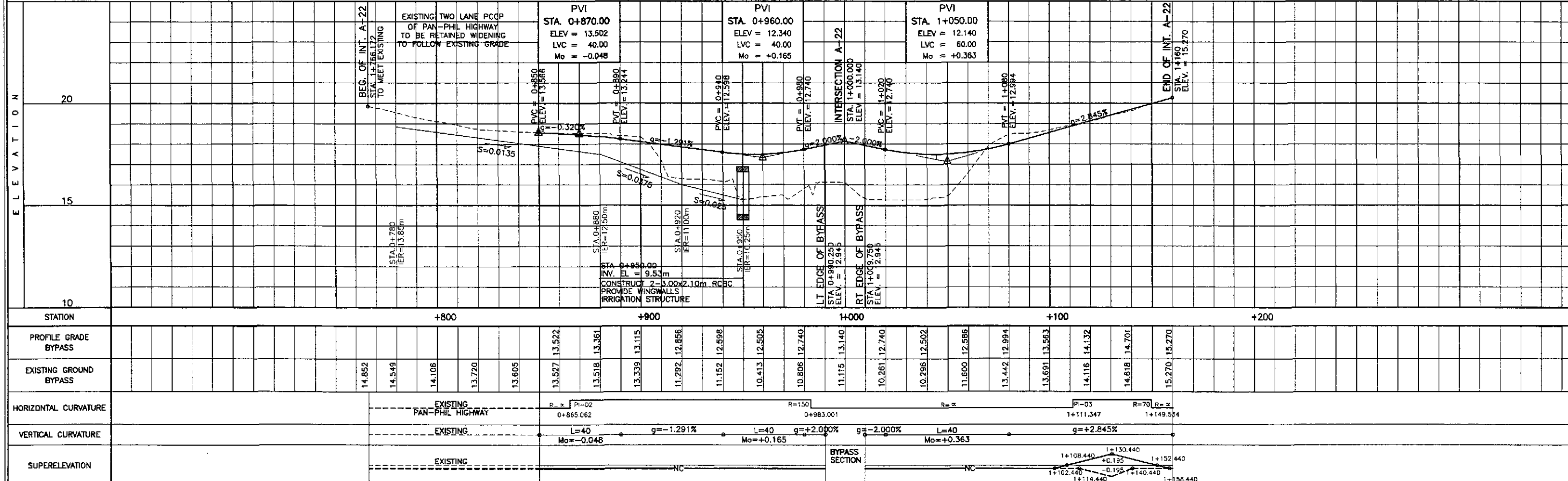
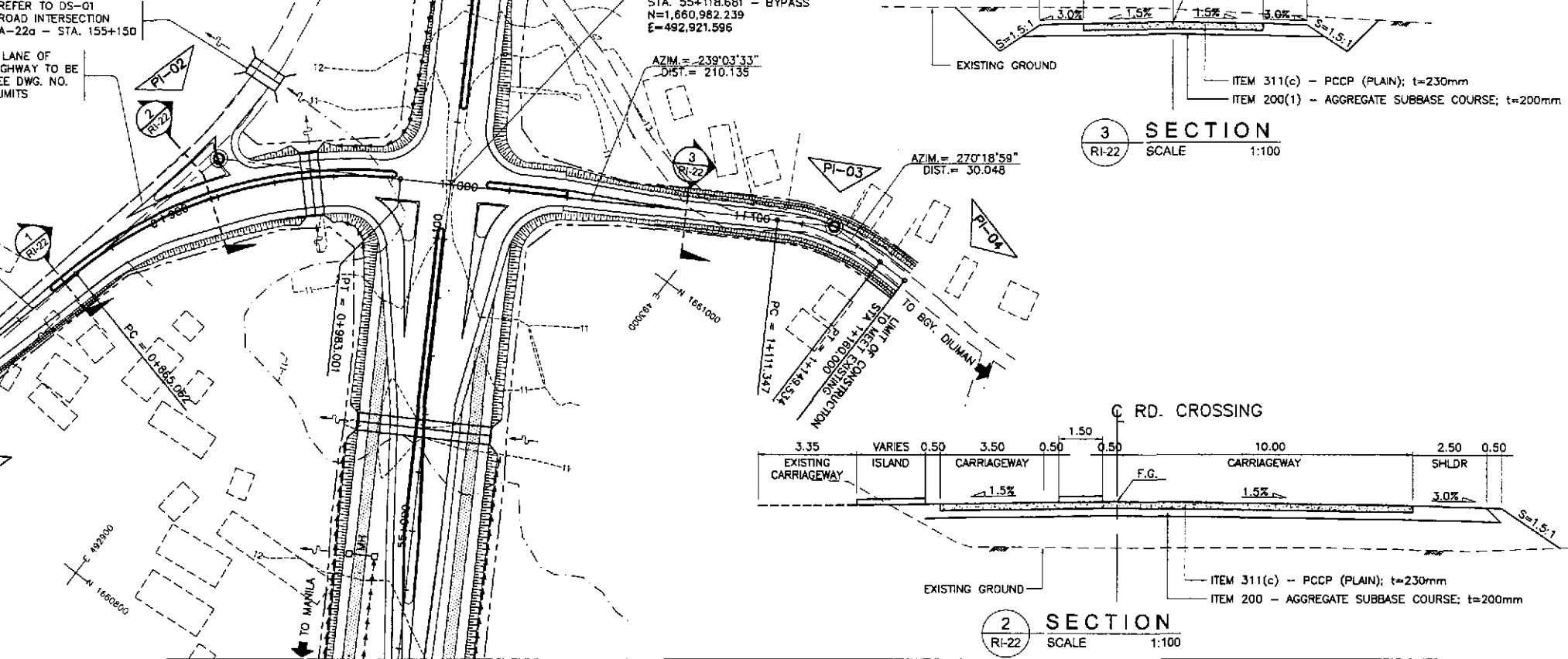
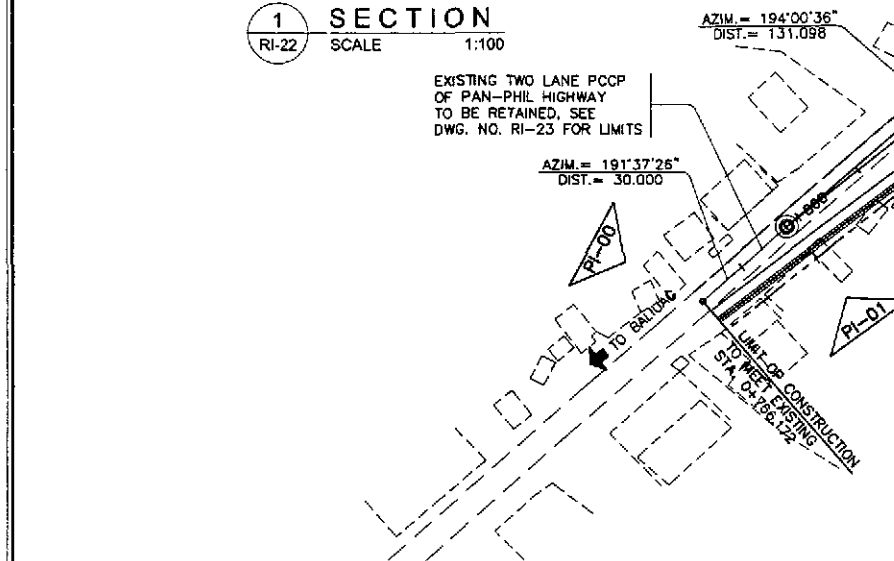
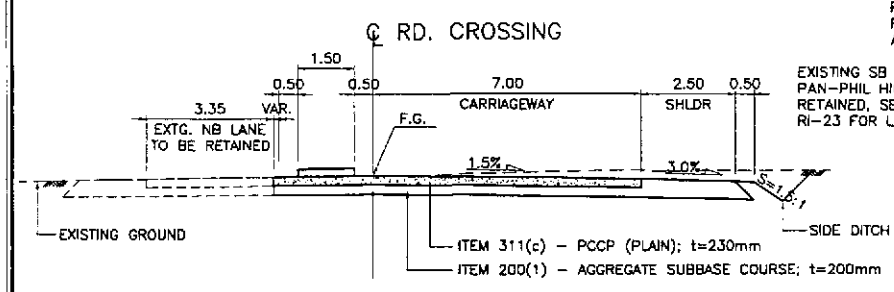
**TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN  
INTERSECTION A-21 (STA. 53+680.462) - INITIAL STAGE**

1  
RI-21

SCALE 1:500

	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	7/27/02	<i>[Signature]</i>		BUREAU OF DESIGN			THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	1:500	TRAFFIC SIGN AND PAVEMENT MARKINGS LAYOUT PLAN INTERSECTION A-21 (INITIAL STAGE)	RI-21
	SUBMITTED	10/16/02	<i>[Signature]</i>		OFFICE OF THE SECRETARY			PLARIDEL BYPASS - CONTRACT PACKAGE IV	FULL SIZE A1		
				Submitted By: DANILLO C. TRAJANO Project Director			Reviewed By: JOSEFINA M. ALAGAR Chief, Highways Division	Recommended By: GILBERTO S. REYES OIC, Director IV	Recommended By: MANUEL M. BONDAN Undersecretary	Approved By: SIMEON A. DATUMANONG Secretary	

ELEMENTS OF CURVE												
PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION	
		NORTHING	EASTING								PC	PT
PI-00	0+766.172	1,660,784.932	492,815.878								BEG. OF INTERSECTION A-22	
PI-01	0+796.172	1,660,814.316	492,821.922								/EXISTING ALIGNMENT	
PI-02	0+927.270	1,660,941.514	492,853.660	45°02'57"	150	62.208	117.938	12.388	-	-	0+865.062	0+983.001
PI-03	1+130.928	1,661,049.556	493,033.883	31°15'26"	70	19.582	38.188	2.687	5.50	30	1+111.347	1+149.534
PI-04	1+160.000	1,661,049.390	493,063.940								END OF INTERSECTION A-22	



	DESIGNED	9/24/02	 DANILO C. TRAJANO Project Director	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Pilaridel, Cabanatuan and San Jose Bypasses)			SCALE :	SHEET CONTENTS : <b>PLAN, CROSS-SECTION AND PROFILE</b> INTERSECTION A-22 STA. 0+766.172 - STA. 1+160 (INITIAL STAGE)	SHEET NO. : <b>RI-22</b>
	CHECKED	7/27/02		BUREAU OF DESIGN OFFICE OF THE SECRETARY			HORIZONTAL 1:1000 VERTICAL 1:100 FULL SIZE A1					
	SUBMITTED	10/16/02		DANILLO C. TRAJANO Project Director			PLARIDEL BYPASS - CONTRACT PACKAGE IV					

TABLE OF COORDINATES			
CONTROL POINT	COORDINATES		REMARKS
	NORTHING	EASTING	
1	1660814.938	493031.795	BEG. OF TRANSITION, PAVEMENT WIDTH 7.00m
2	1660832.042	493021.542	EDGE OF PAVEMENT
3	1660884.203	492991.732	END OF TRANSITION
4	1660880.597	492985.731	BEG. OF TAPER 2.75m FROM THE CENTERLINE
5	1660917.851	492960.021	END OF TAPER 0.25m FROM THE CENTERLINE
6	1660922.793	492968.598	EDGE OF 10.00m WIDE PAVEMENT
7	1660966.970	492927.542	END OF ISLAND RADIUS 1.25m ( 2.75m FROM THE CENTERLINE)
8	1660968.256	492929.686	END OF RADIUS 1.25 ( 0.25m FROM THE CENTERLINE)
9	1660942.999	492956.486	INTERSECTION OF DIVERGING LANE
10	1660982.953	492932.529	PAVEMENT INTERSECTION AT ISLAND LOCATION
11	1660972.158	492943.052	END OF ISLAND RADIUS 26
12	1660988.381	492941.566	PAVEMENT INTERSECTION AT ISLAND LOCATION W/ RADIUS 26
13	1660974.445	492948.600	BEG. OF RADIUS 20
14	1660999.675	492956.614	END OF RADIUS 20 / LIMIT OF 2.50m GRAVEL SHOULDER
15	1661049.390	493063.940	LIMIT OF CONSTRUCTION
16	1661022.710	492989.108	BEG. OF TAPER, PAVEMENT WIDTH 3.05m
17	1661004.288	492953.515	END OF TAPER, PAVEMENT WIDTH 3.50m
18	1660990.105	492932.286	CENTER OF MEDIAN RADIUS 1.25
19	1661003.216	492954.157	CENTER OF MEDIAN RADIUS 1.25
20	1661025.325	492987.540	EDGE OF 3.05m WIDE PAVEMENT
21	1661007.282	492951.700	LIMIT OF 2.50m WIDE CONCRETE SHOULDER / END OF TAPER, LANE WIDTH 3.50m
22	1661000.110	492939.739	BEG. OF RADIUS 15
23	1661005.263	492919.161	END OF RADIUS 15
24	1661005.479	492907.684	BEG. OF MEDIAN RADIUS 1.25
25	1661006.893	492910.022	END OF MEDIAN RADIUS 1.25
26	1661076.970	492861.602	BEG. OF TAPER 2.75m FROM THE CENTERLINE
27	1661039.916	492887.312	END OF TAPER 0.25m FROM THE CENTERLINE
28	1660995.087	492902.526	BEG. OF RADIUS 15
29	1660974.872	492897.948	END OF RADIUS 15
30	1660966.493	492886.478	LIMIT OF 2.50m WIDE SHOULDER
31	1660947.832	492866.966	BEG. OF RADIUS 8.50

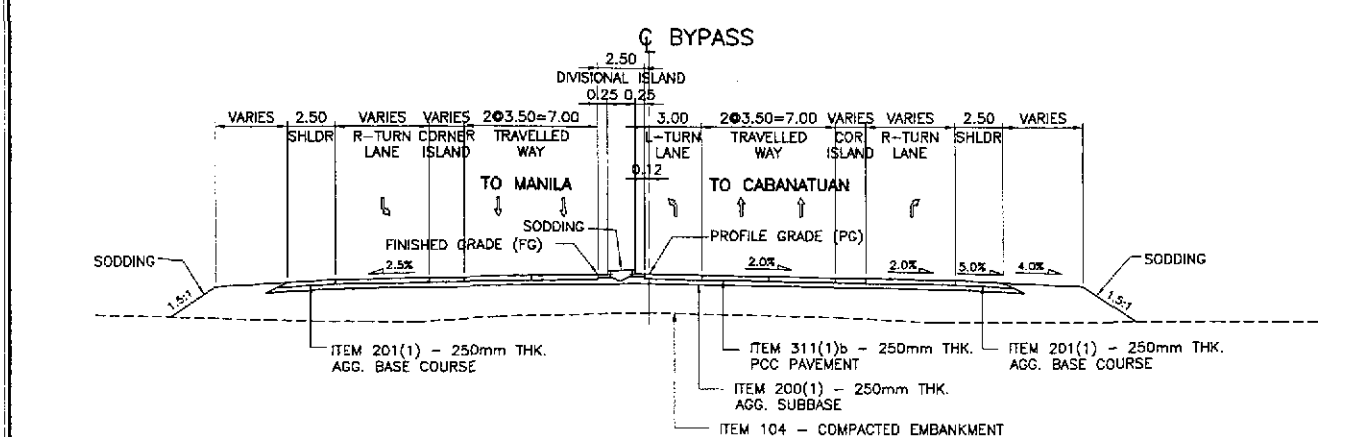
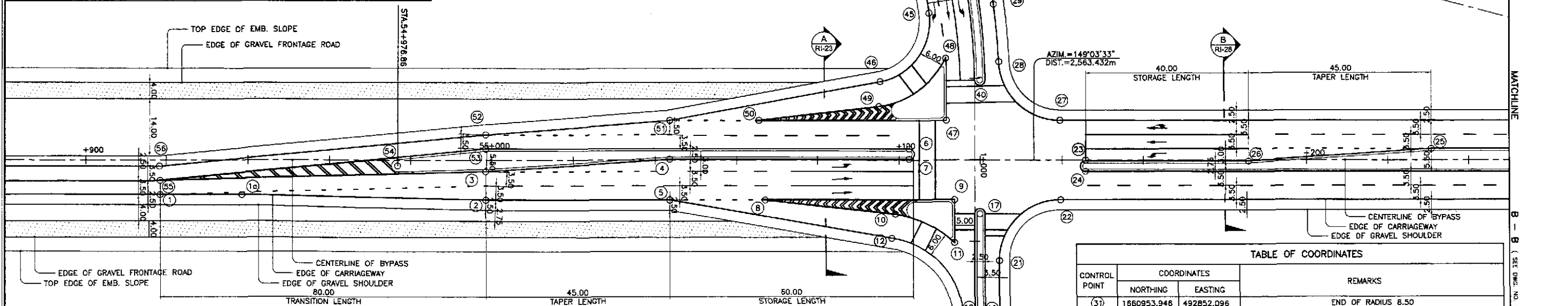
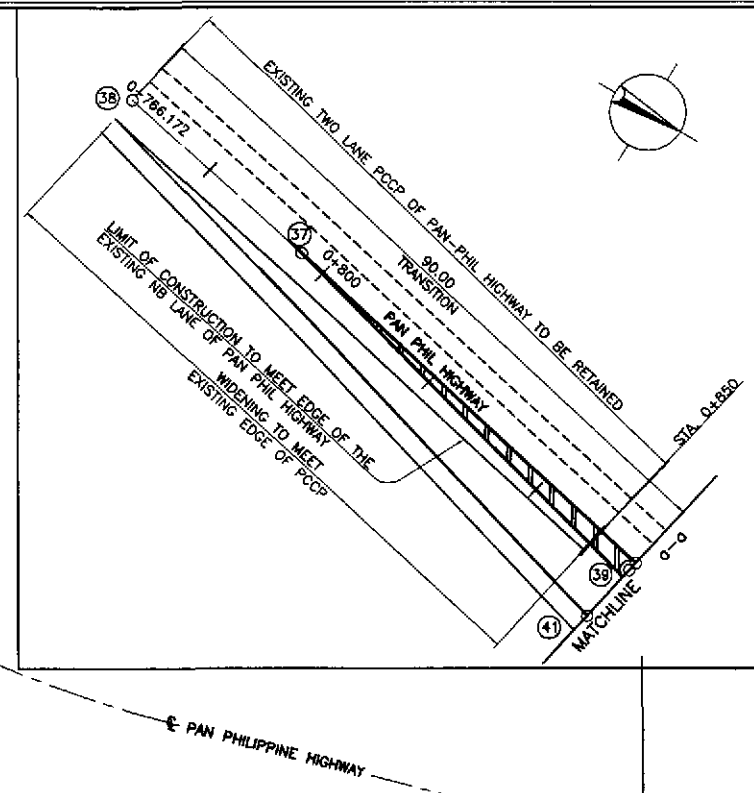
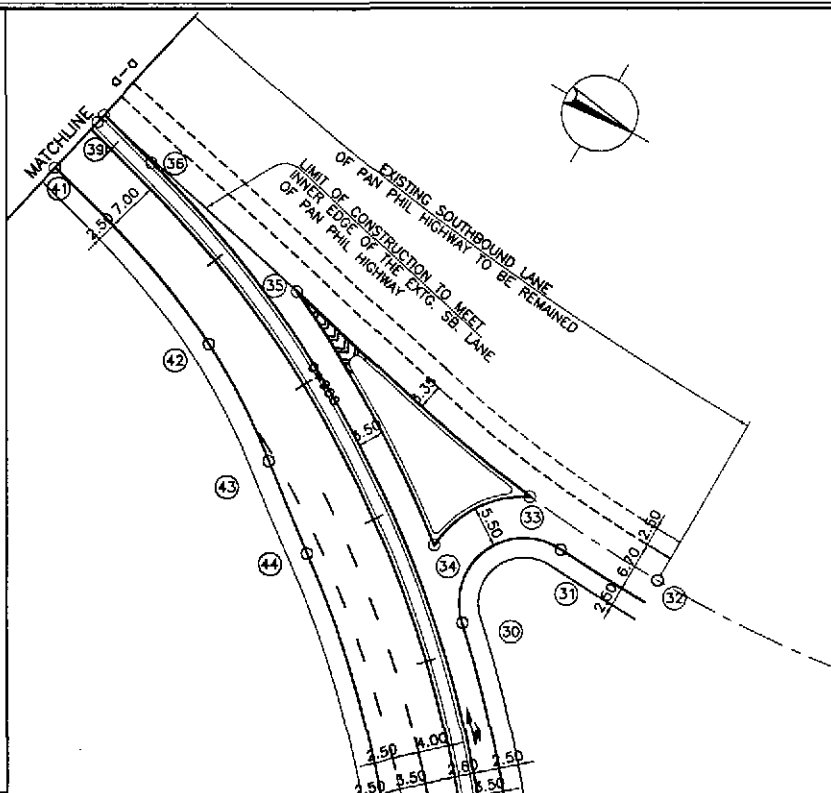
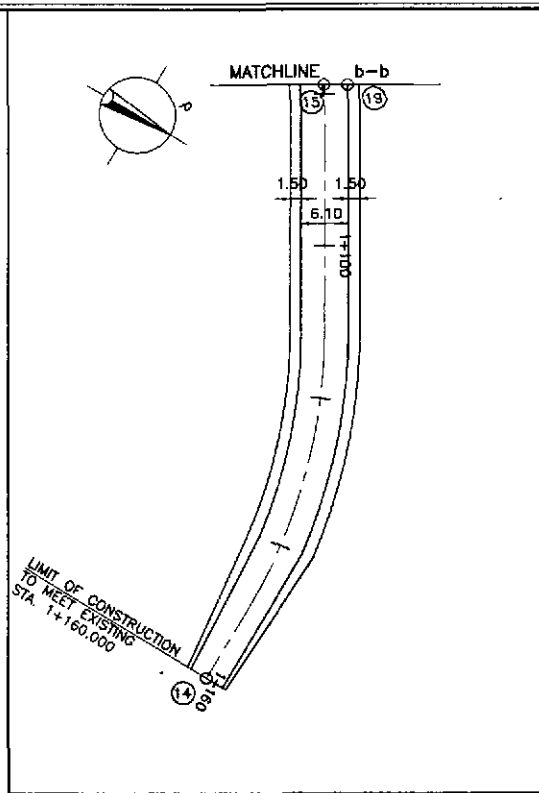


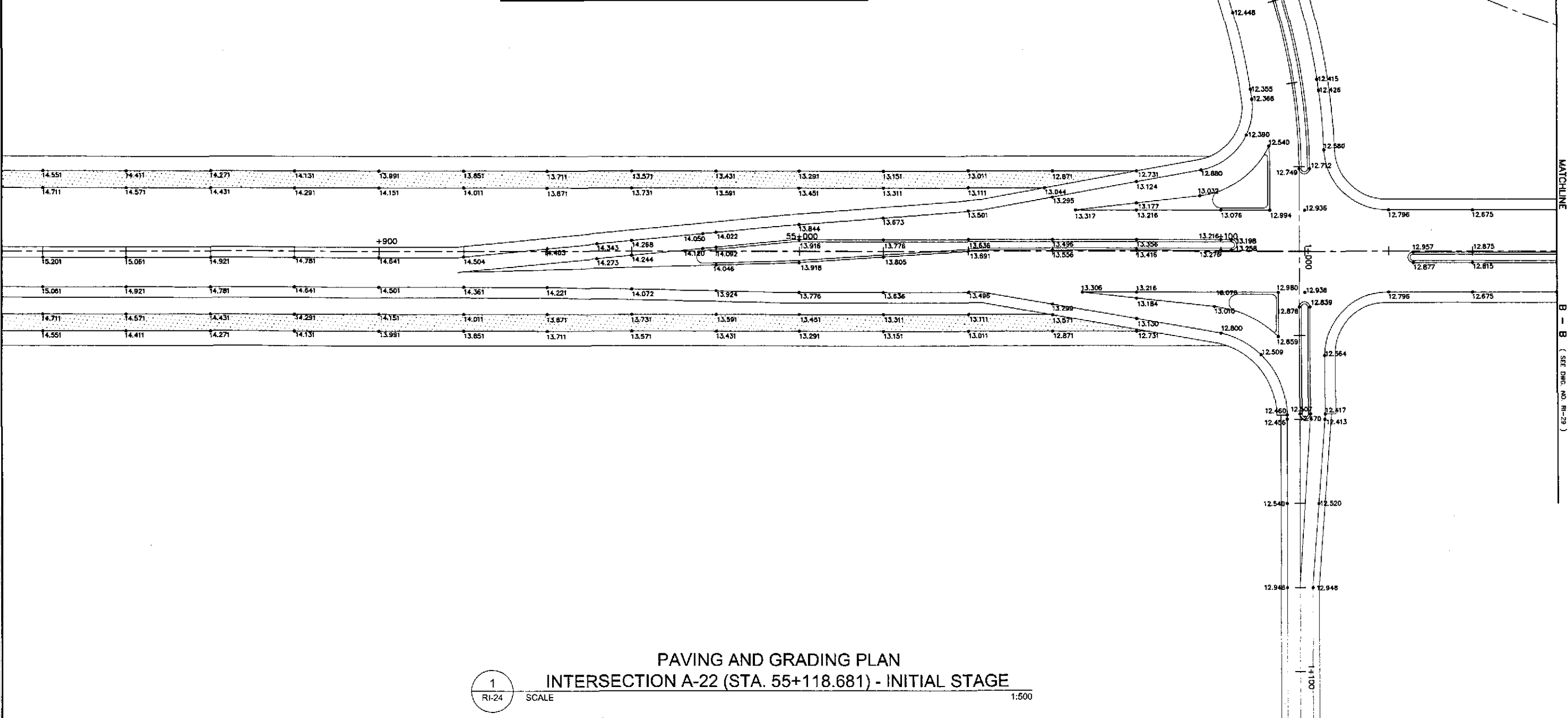
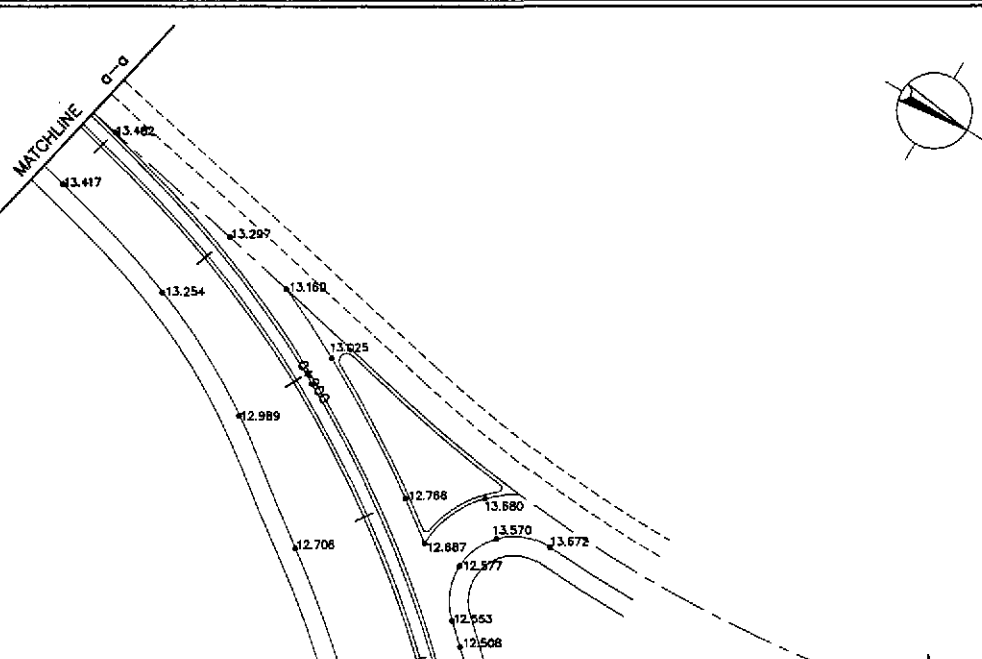
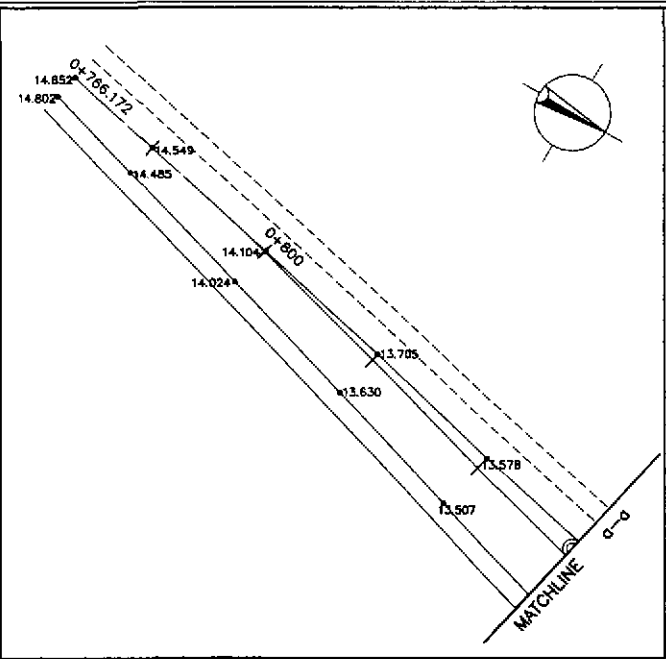
TABLE OF COORDINATES			
CONTROL POINT	COORDINATES		REMARKS
	NORTHING	EASTING	
31	1660953.946	492852.096	END OF RADIUS 8.50
32	1660966.911	492849.081	LIMIT OF CONSTRUCTION TO MEET OF EXTG. PCRP/LIMIT OF CONC. SHOULDER
33	1660946.940	492848.184	PAVEMENT INTERSECTION AT ISLAND LOCATION TO MEET EDGE OF EXTG. PCRP
34	1660939.452	492860.101	PAVEMENT INTERSECTION AT ISLAND LOCATION
35	1660906.702	492840.926	INTERSECTION OF MERGING LANE TO MEET EDGE OF EXTG. PCRP
36	1660881.763	492836.174	END OF RADIUS 152.50
37	1660814.316	492821.922	CENTERLINE INTERSECTION OF EXTG. TWO LANE PAVEMENT
38	1660784.964	492815.884	LIMIT OF CONSTRUCTION & BEG. OF TAPER TO MEET EDGE OF EXTG. PCRP
39	1660872.829	492835.234	CENTERLINE INTERSECTION OF EXTG. TWO LANE PAVEMENT
40	1660973.230	492904.179	CENTER OF MEDIAN RADIUS 1.25
41	1660871.170	492843.323	BEG. OF TAPER W/ RADIUS 80, PAVEMENT WIDTH 7.00m
42	1660888.981	492848.120	INTERSECTION OF RADIUS 143.00 & 85.00
43	1660914.965	492861.902	END OF TAPER & INTERSECTION OF RADIUS 85.00 & 273.95
44	1660925.479	492869.892	INTERSECTION OF RADIUS 273.95 & 140.00
45	1660954.016	492896.494	INTERSECTION OF RADIUS 140.00 & 15.00
46	1660952.219	492917.154	END OF RADIUS 15
47	1660971.222	492916.832	PAVEMENT INTERSECTION AT ISLAND LOCATION
48	1660963.227	492903.924	PAVEMENT INTERSECTION AT ISLAND LOCATION W/ RADIUS 21
49	1660955.107	492922.542	END OF ISLAND RADIUS 21
50	1660931.626	492940.568	INTERSECTION OF MERGING LANE
51	1660912.767	492951.873	EDGE OF 7.00m WIDE PAVEMENT
52	1660875.970	492978.012	EDGE OF 3.50m WIDE PAVEMENT
53	1660877.759	492981.014	EDGE OF PAVEMENT 2.75m FROM THE CENTERLINE
54	1660861.295	492995.680	CENTER OF ISLAND RADIUS 1.50
55	1660813.138	493028.794	CENTER OF 7.00m WIDE PAVEMENT
56	1660811.194	493025.879	END OF TRANSITION

GEOMETRIC DESIGN LAYOUT  
INTERSECTION A-22 (STA. 55+118.681) - INITIAL STAGE

A SECTION  
RI-23  
SCALE 1:200

1  
RI-23  
SCALE 1:500

	DATE	SIGNATURE	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :	
	DESIGNED	9/24/02	<i>[Signature]</i>	BUREAU OF DESIGN			THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)  PLARIDEL BYPASS - CONTRACT PACKAGE IV	1:500	INTERSECTION DETAIL GEOMETRIC DESIGN LAYOUT INTERSECTION A-22 (INITIAL STAGE)	RI-23
	CHECKED	9/23/02	<i>[Signature]</i>	OFFICE OF THE SECRETARY						
	SUBMITTED	10/16/02	<i>[Signature]</i>	Recommended By: MANUEL M. BONGAN Recommended By: GILBERTO S. REYES Recommended By: SIMON A. DATUMANONG						
Submitted By: DANILO C. TRAJANO Project Director		Reviewed By: JOSEFINA M. ALAGAR Chief, Highways Division		Approved By: SIMON A. DATUMANONG Secretary						



**PAVING AND GRADING PLAN**  
**INTERSECTION A-22 (STA. 55+118.681) - INITIAL STAGE**

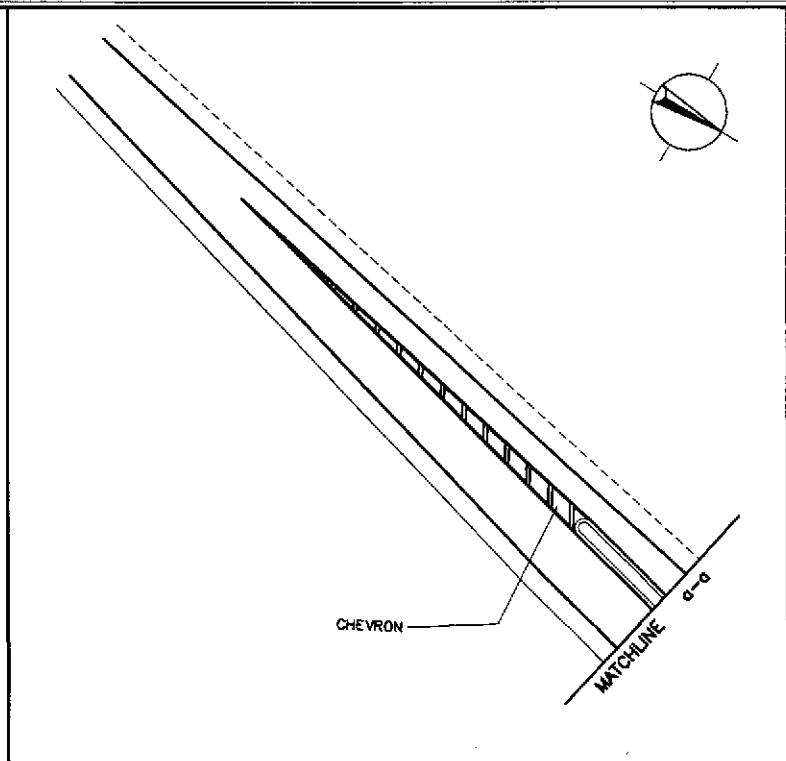
1  
RI-24

SCALE

1:500

	DESIGNED	DATE	SIGNATURE	 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	PROJECT AND LOCATION :			SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	7/27/02	<i>[Signature]</i>		BUREAU OF DESIGN			1:500	INTERSECTION DETAIL PAVING AND GRADING PLAN INTERSECTION A-22 (INITIAL STAGE)	RI-24
	SUBMITTED	10/16/02	<i>[Signature]</i>		Submitted By:	Reviewed By:	Recommended By:			
				PJHL - PWD	OFFICE OF THE SECRETARY			THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) PLARIDEL BYPASS - CONTRACT PACKAGE IV		
				DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES OIC, Director IV	MANUEL M. BONGAN Undersecretary	SIMEON A. DATUMANONG Secretary		





EDGE LINE  
100mm UNBROKEN  
WHITE

+900

CENTER LINE  
150mm x 3.0m @  
9.0m GAP, WHITE  
W/ 100mm x 210m  
UNBROKEN YELLOW @ R.S.

CHEVRON

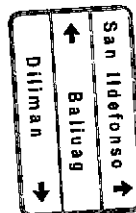


LANE LINE  
150mm x 3.0m @  
4.50m GAP, WHITE

LANE LINE  
150mm x 30.0m  
UNBROKEN, WHITE



R1-2



GS-13

CONTINUITY LINE  
150mm x 1.0m @  
3.0m GAP, WHITE

LANE LINE  
150mm x 3.0m @  
4.50m GAP, WHITE



MATCHLINE

B - B (SEE DWG. NO. RI-30)

TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN  
INTERSECTION A-22 (STA. 55+118.681) - INITIAL STAGE

1  
RI-25

SCALE

1:500

**JICA**  
JAPAN INTERNATIONAL COOPERATION AGENCY

**KATAHIRA & ENGINEERS INTERNATIONAL**  
**YEO YACHIYO ENGINEERING CO., LTD.**

DESIGNED	DATE	SIGNATURE
9/29/02	9/29/02	S. LUNA
CHECKED	9/27/02	S. JOSE
SUBMITTED	10/16/02	M. KUNDAP

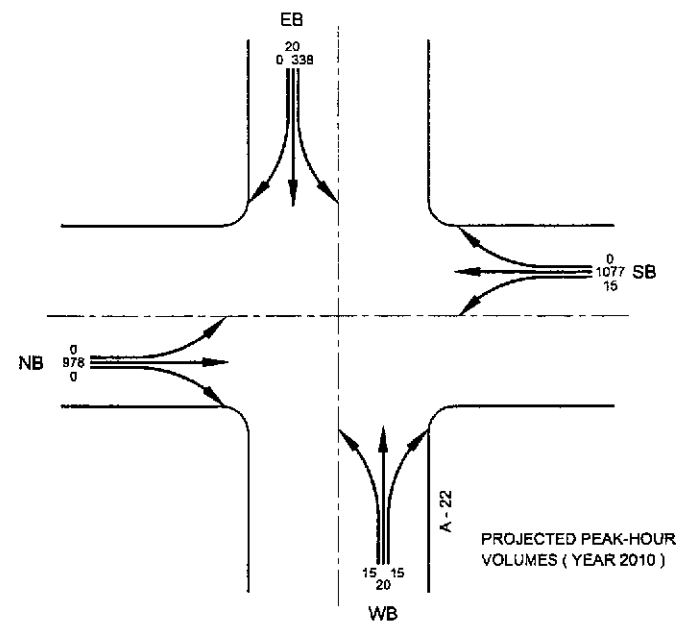
REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	
BUREAU OF DESIGN	
OFFICE OF THE SECRETARY	
Submitted By:	Reviewed By:
DANILO C. TRAJANO Project Director	JOSEFINA M. ALACAR Chief, Highways Division
Recommended By:	Approved By:
GILBERTO S. REYES DIC, Director IV	MANUEL M. BONDAN Undersecretary
Recommended By:	Approved By:
MANUEL M. BONDAN Undersecretary	SIMEON A. DATUMANONG Secretary

PROJECT AND LOCATION :  
THE DETAILED DESIGN STUDY ON  
UPGRADING INTER-URBAN HIGHWAY SYSTEM  
ALONG THE PAN-PHILIPPINE HIGHWAY  
(Plaridel, Cabanatuan and San Jose Bypasses)  
PLARIDEL BYPASS - CONTRACT PACKAGE IV

SCALE :  
1:500  
FULL SIZE A1

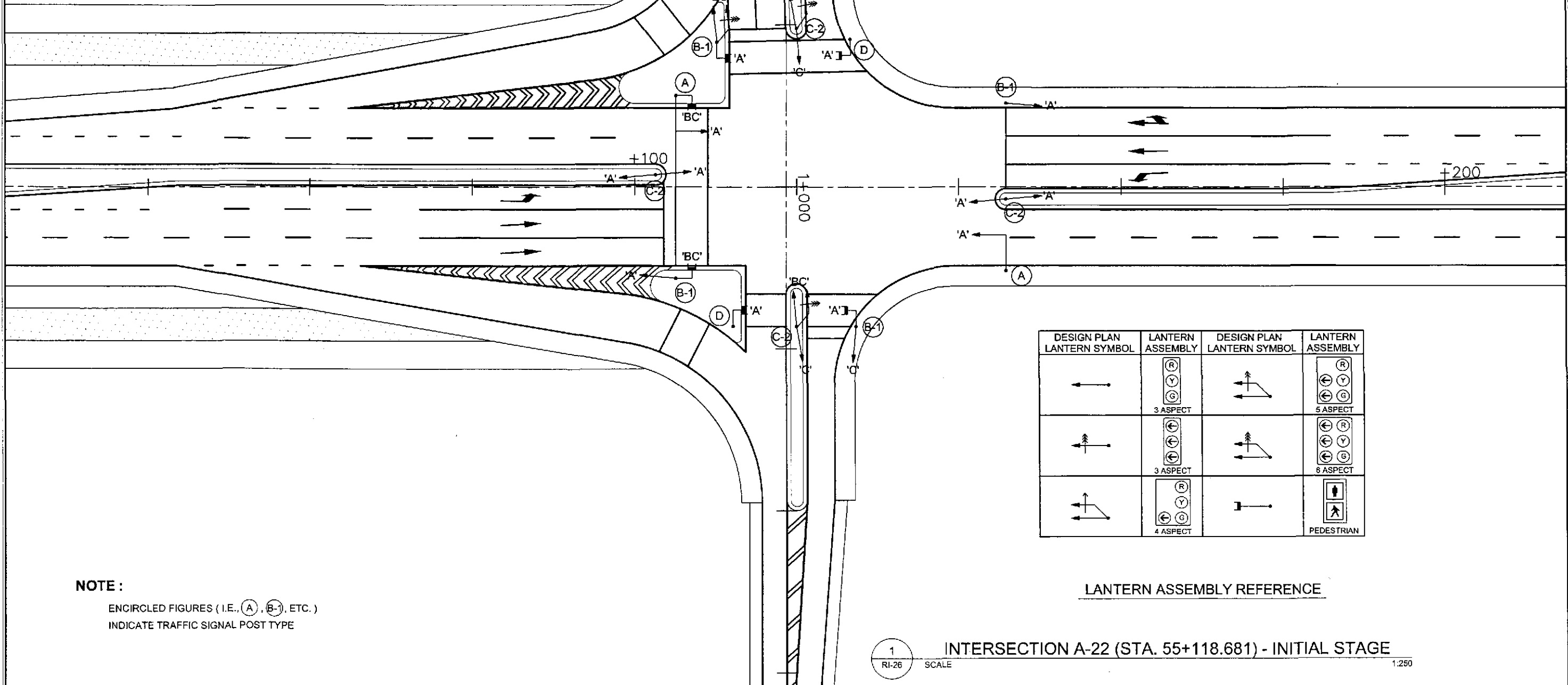
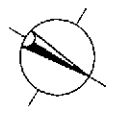
SHEET CONTENTS :  
TRAFFIC SIGNS AND PAVEMENT  
MARKINGS LAYOUT PLAN  
INTERSECTION A-22 (INITIAL STAGE)

SHEET NO. :  
RI-25



**SIGNAL PHASING**

	(A)	(B)	(C)
G:	27.6	16.4	4.0
Y:	2.0	2.0	2.0
R:	2.0	2.0	2.0
C = 60.0 secs.			



**LANTERN ASSEMBLY REFERENCE**

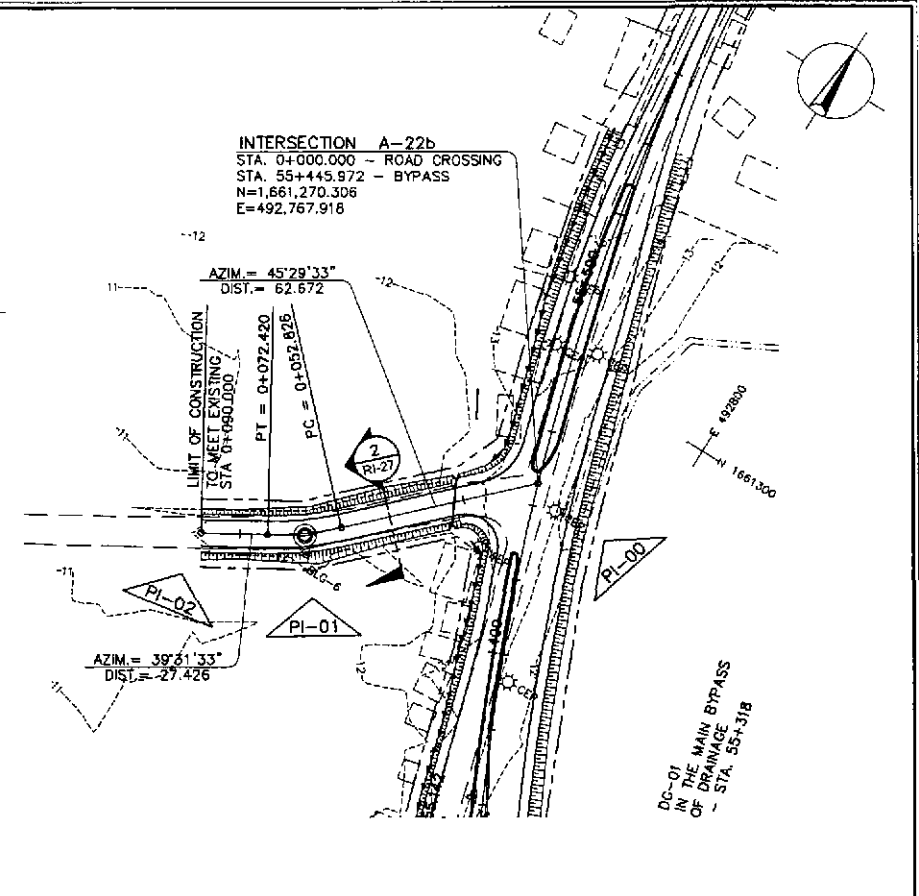
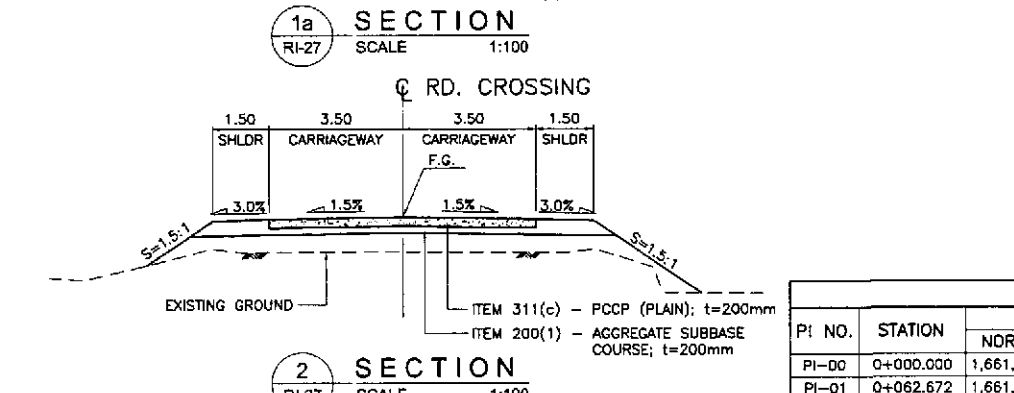
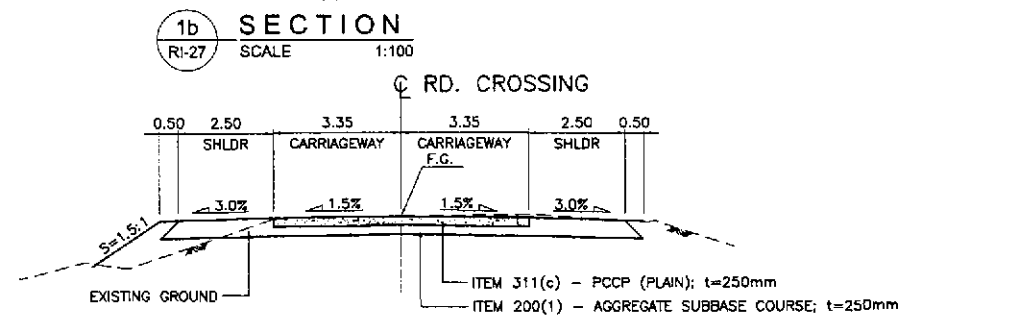
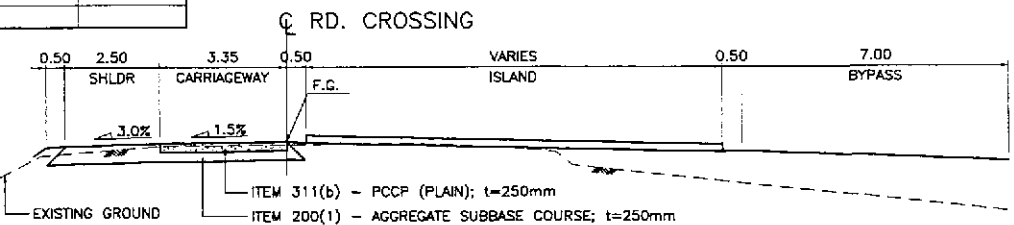
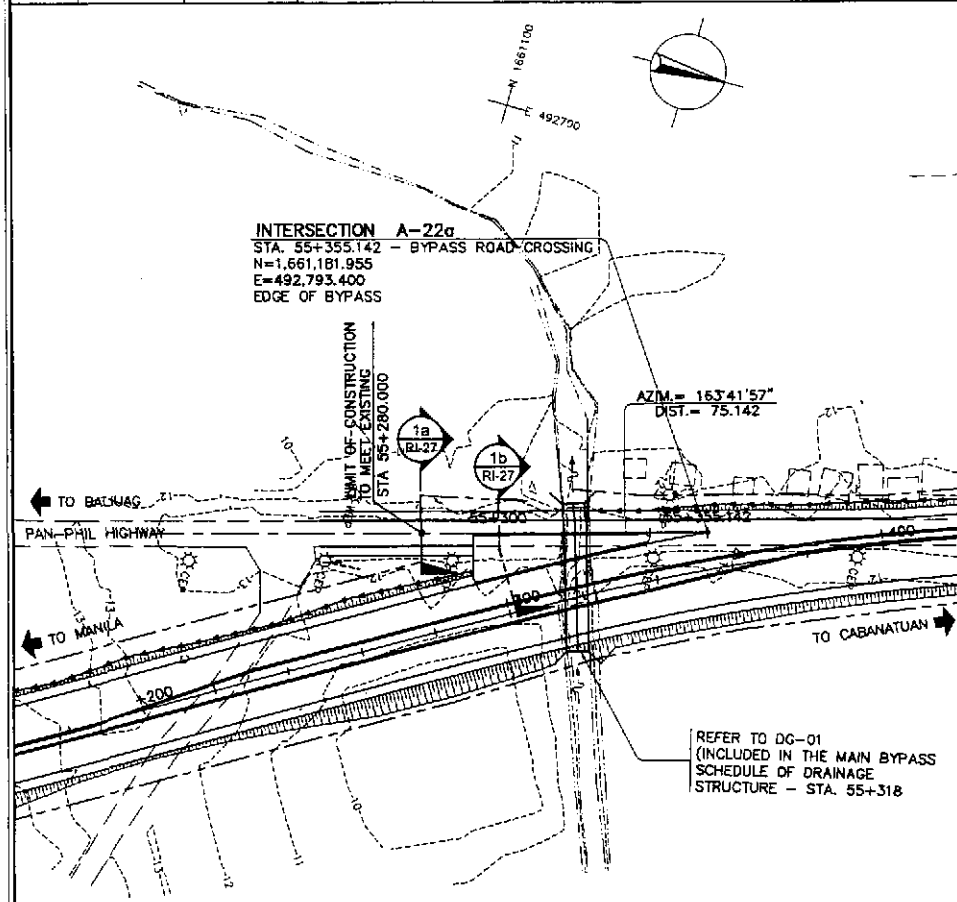
DESIGN PLAN LANTERN SYMBOL	LANTERN ASSEMBLY	DESIGN PLAN LANTERN SYMBOL	LANTERN ASSEMBLY
	 3 ASPECT		 5 ASPECT
	 3 ASPECT		 6 ASPECT
	 4 ASPECT		 PEDESTRIAN

**NOTE :**  
ENCIRCLED FIGURES (I.E., (A), (B-1), ETC.)  
INDICATE TRAFFIC SIGNAL POST TYPE

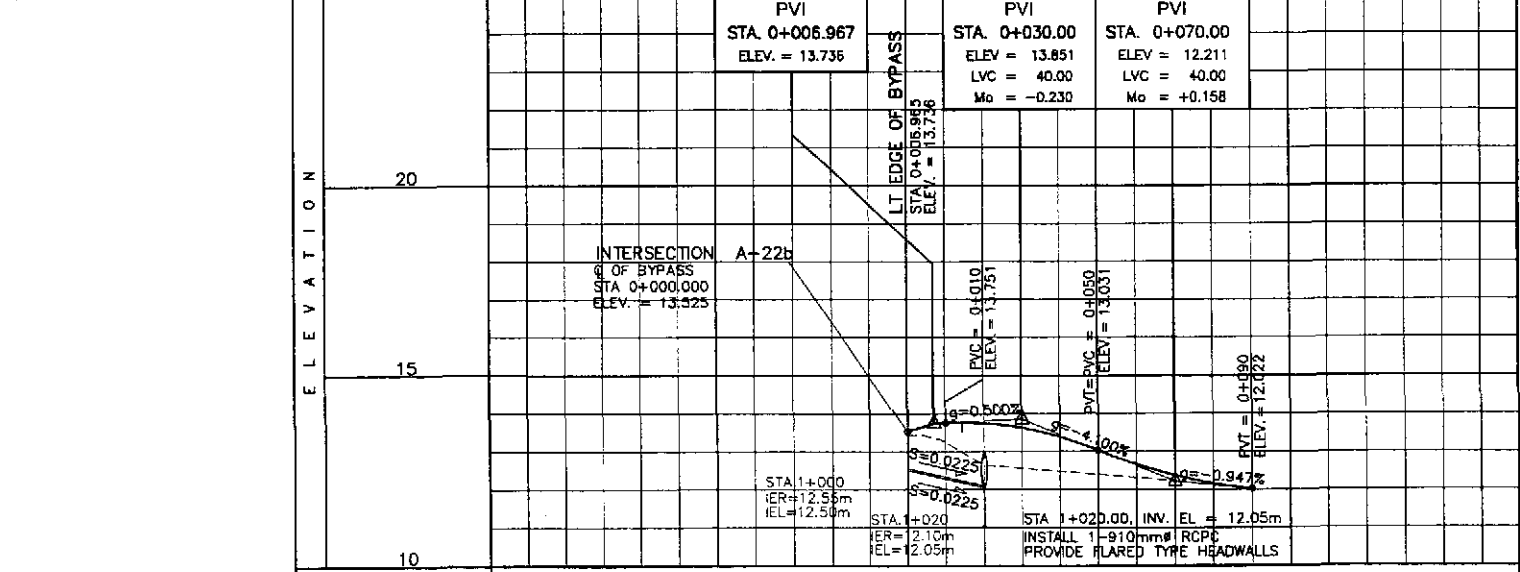
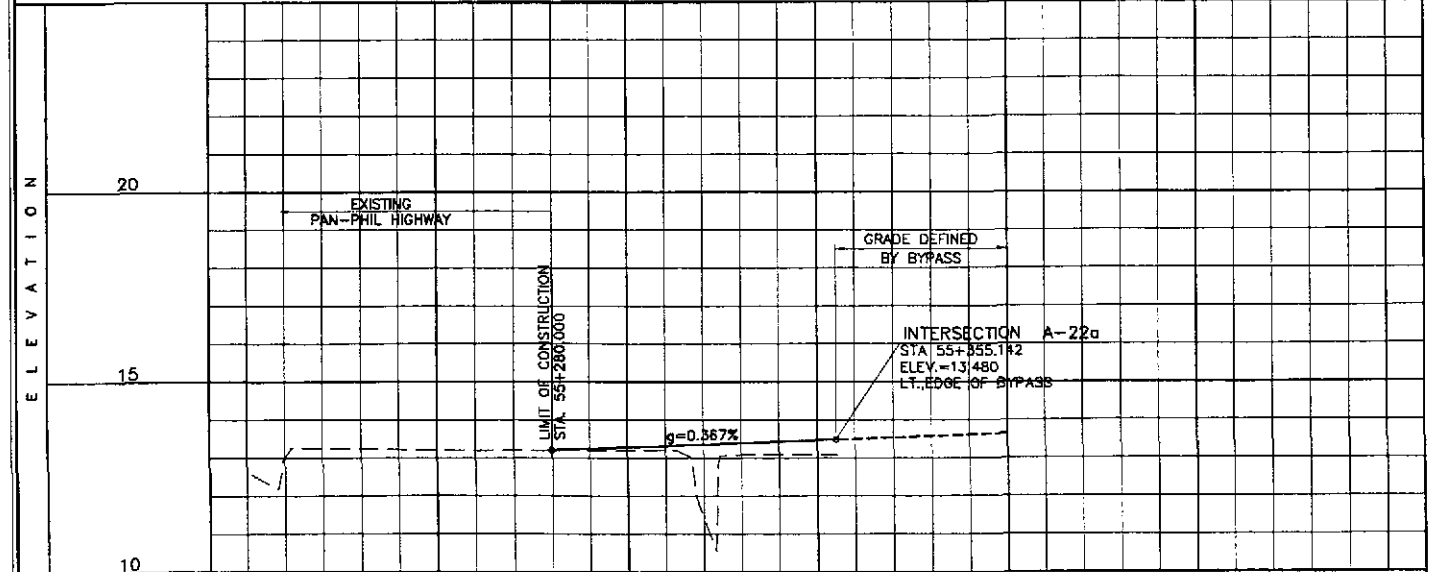
1 INTERSECTION A-22 (STA. 55+118.681) - INITIAL STAGE  
RI-26 SCALE 1:250

		PROJECT AND LOCATION : <b>THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)</b>	SCALE : 1:250 FULL SIZE A1	SHEET CONTENTS : <b>TRAFFIC SIGNAL LIGHT LAYOUT INTERSECTION A-22 (INITIAL STAGE)</b>	SHEET NO. : <b>RI-26</b>	
	DESIGNED: 9/24/02 CHECKED: 9/27/02 SUBMITTED: 10/16/02	SIGNATURE: [Signatures] P.J.H.L. - P.W.D. Submitted By: DANILLO C. TRAJANO, Project Director Reviewed By: JOSEFINA M. ALAGAR, Chief, Highways Division Recommended By: GILBERTO S. REYES, OIC, Director IV Recommended By: MANUEL M. BONGAN, Undersecretary Approved By: SIMEON A. DATUMANONG, Secretary	BUREAU OF DESIGN OFFICE OF THE SECRETARY			
	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL YEO YACHIYO ENGINEERING CO., LTD.					

ELEMENTS OF CURVE												
PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION	
		NORTHING	EASTING								PC	PT
PI-00	55+280.000	1,661,109.834	492,814.491								BEG. OF INTERSECTION A-22a	
PI-01	55+355.142	1,661,181.955	492,793.400								END OF INTERSECTION A-22a	



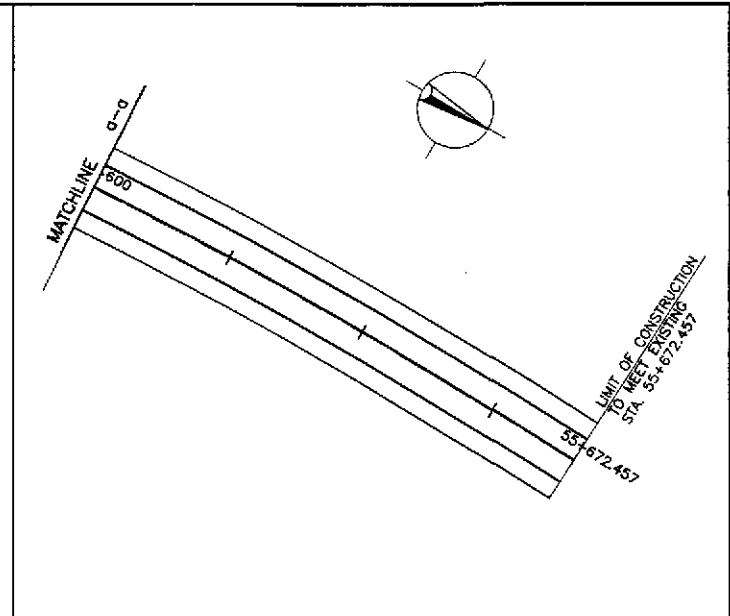
ELEMENTS OF CURVE												
PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION	
		NORTHING	EASTING								PC	PT
PI-00	0+000.000	1,661,270.306	492,767.918								BEG. OF INTERSECTION A-22b	
PI-01	0+062.672	1,661,226.373	492,723.223	14°02'00"	80	9.846	19.594	0.604	-	-	0+052.826	0+072.420
PI-02	0+090.000	1,661,212.464	492,699.586								END OF INTERSECTION A-22b	



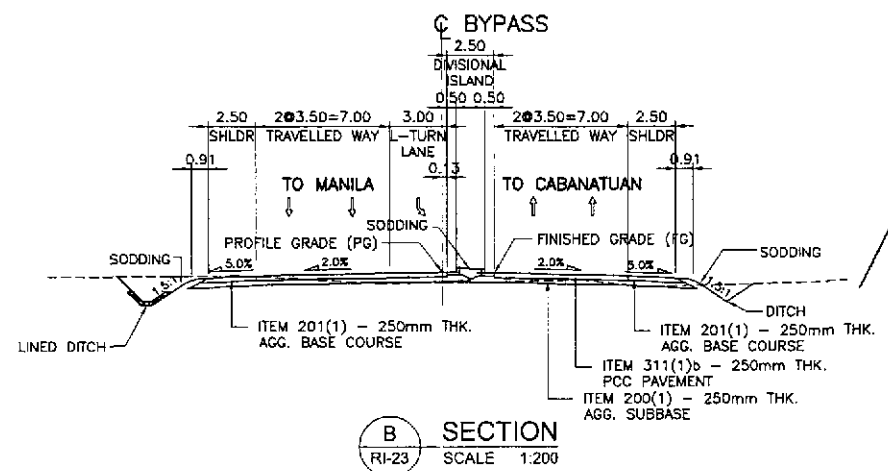
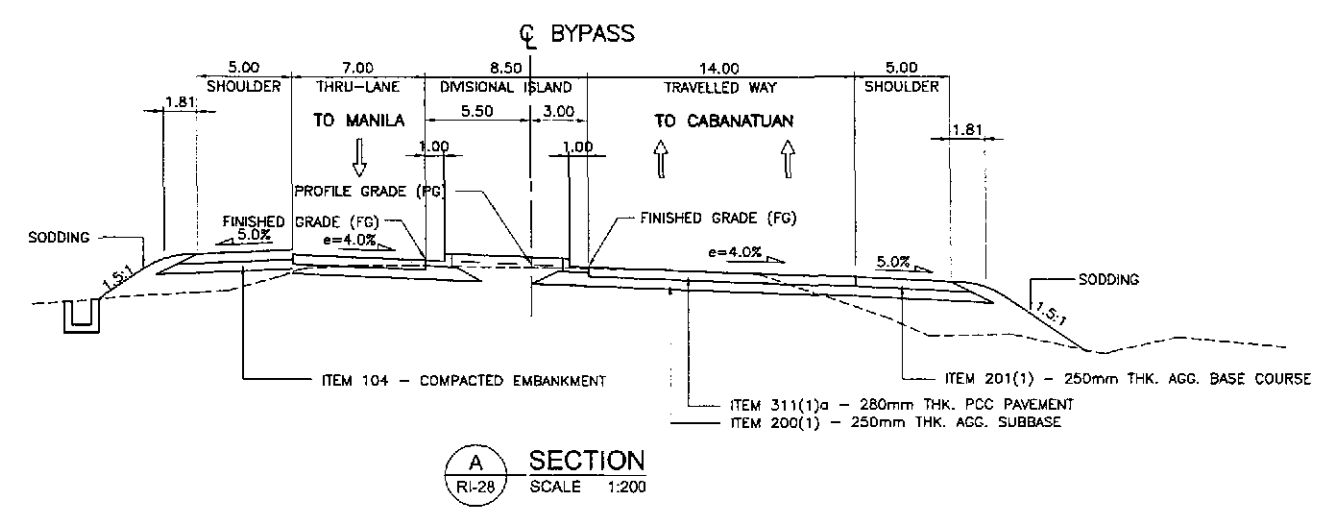
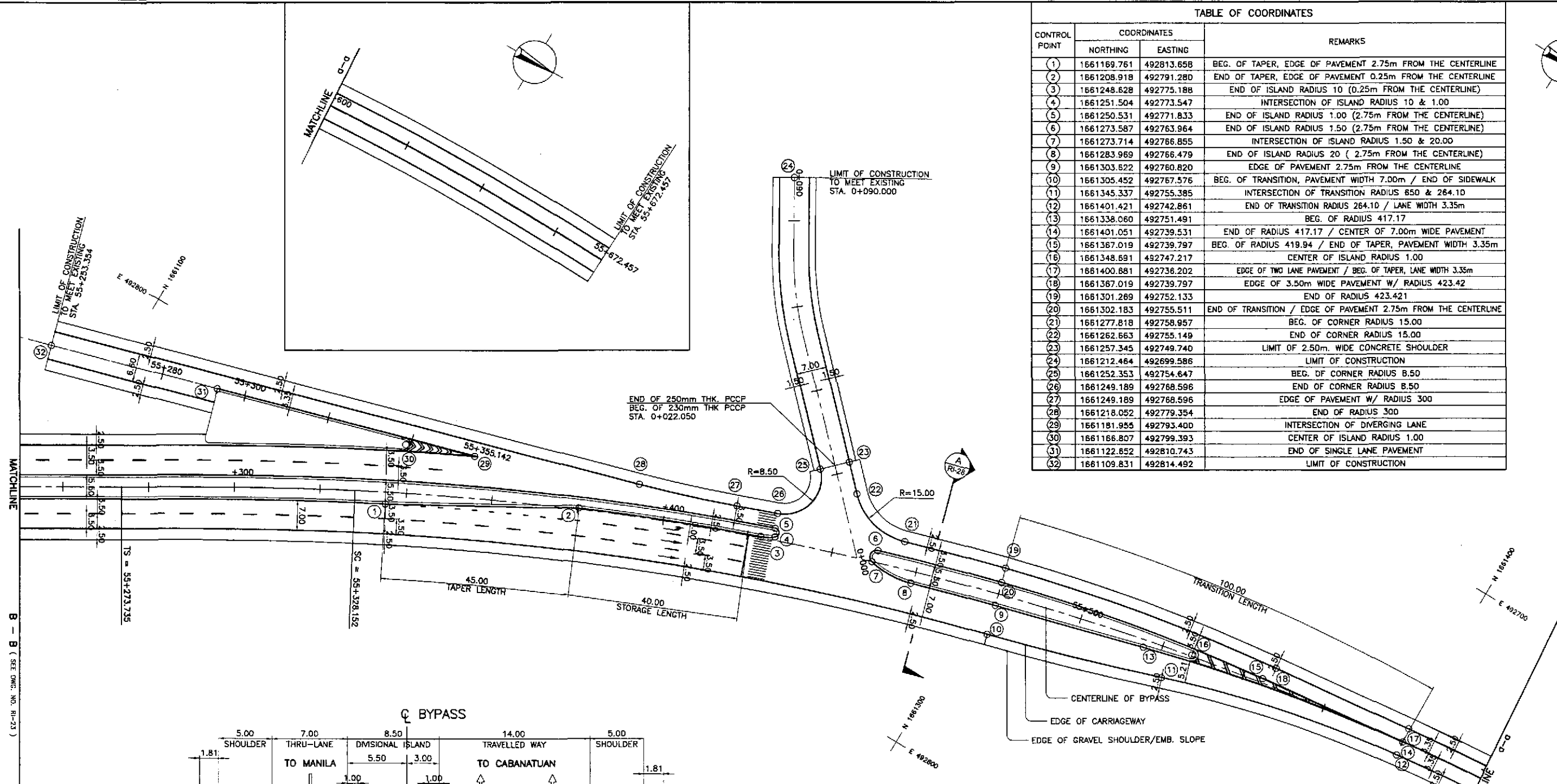
STATION	55+200	55+300	55+400
FINISHED GRADE ROAD CROSSING			
EXISTING GROUND ROAD CROSSING	12.618	13.205	13.480
HORIZONTAL CURVATURE	EXISTING PAN-PHIL HIGHWAY		BYPASS
VERTICAL CURVATURE	EXISTING		BYPASS
SUPERELEVATION	EXISTING		BYPASS

STATION	0+000	0+100
FINISHED GRADE ROAD CROSSING		
EXISTING GROUND ROAD CROSSING	13.417	12.022
HORIZONTAL CURVATURE	BYPASS	
VERTICAL CURVATURE	BYPASS	
SUPERELEVATION	BYPASS	

	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES				PROJECT AND LOCATION : <b>THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)</b> PLARIDEL BYPASS - CONTRACT PACKAGE IV	SCALE : HORIZONTAL 1:1000 VERTICAL 1:100 FULL SIZE A1	SHEET CONTENTS : <b>PLAN, CROSS-SECTION AND PROFILE INT. A-22a AND INT. A-22b</b> STA. 55+280 - STA. 55+355.142 AND STA. 0+000 - STA. 0+090 (INITIAL STAGE)	SHEET NO. : <b>RI-27</b>
	CHECKED	9/27/02	S. ROSE		DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS							
	SUBMITTED	10/6/02	MANUEL M. BONJAN		BUREAU OF DESIGN							
			Submitted By:	Reviewed By:	Recommended By:	Recommended By:	Approved By:					
			DANILO C. TRAJANO	JOSEFINA M. ALAGAR	GILBERTO S. REYES	MANUEL M. BONJAN	SIMEON A. DATUMANONG					
			Project Director	Chief, Highways Division	Chief, Director IV	Undersecretary	Secretary					



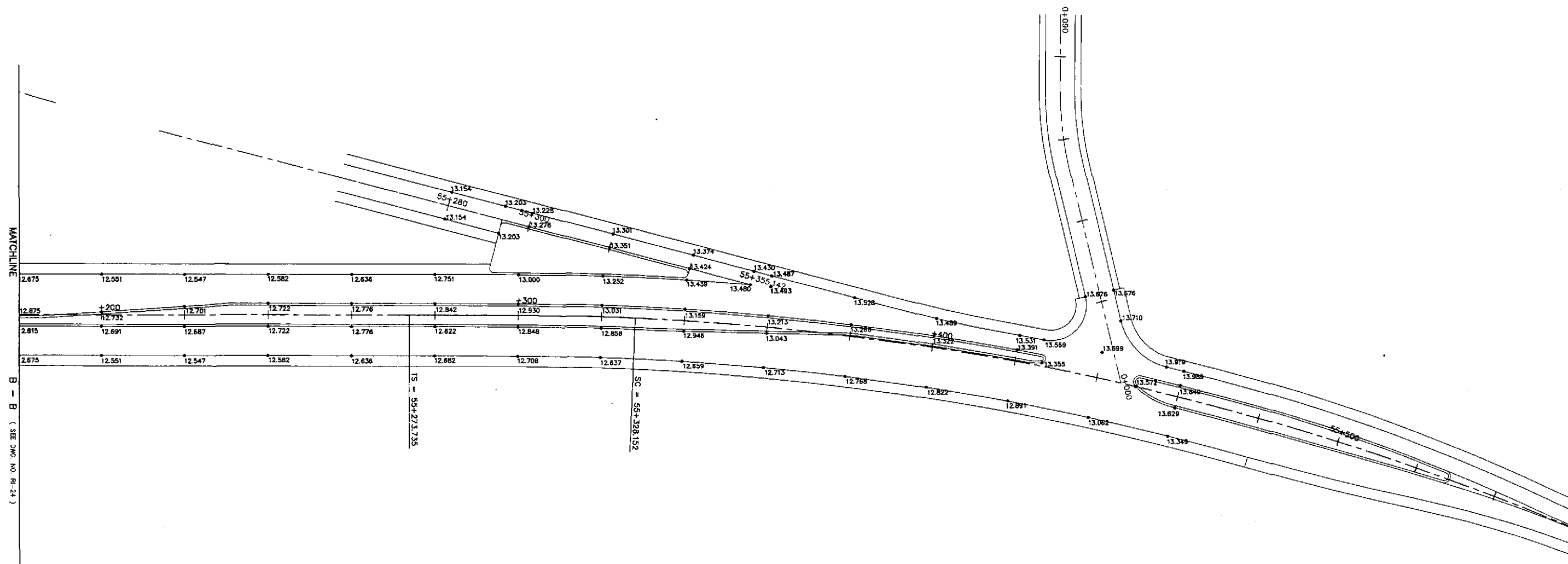
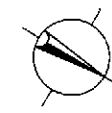
CONTROL POINT	COORDINATES		REMARKS
	NORTHING	EASTING	
1	1661169.761	492813.658	BEG. OF TAPER, EDGE OF PAVEMENT 2.75m FROM THE CENTERLINE
2	1661208.918	492791.280	END OF TAPER, EDGE OF PAVEMENT 0.25m FROM THE CENTERLINE
3	1661248.628	492775.188	END OF ISLAND RADIUS 10 (0.25m FROM THE CENTERLINE)
4	1661251.504	492773.547	INTERSECTION OF ISLAND RADIUS 10 & 1.00
5	1661250.531	492771.833	END OF ISLAND RADIUS 1.00 (2.75m FROM THE CENTERLINE)
6	1661273.587	492763.964	END OF ISLAND RADIUS 1.50 (2.75m FROM THE CENTERLINE)
7	1661273.714	492766.855	INTERSECTION OF ISLAND RADIUS 1.50 & 20.00
8	1661283.969	492766.479	END OF ISLAND RADIUS 20 ( 2.75m FROM THE CENTERLINE)
9	1661303.522	492760.820	EDGE OF PAVEMENT 2.75m FROM THE CENTERLINE
10	1661305.452	492767.576	BEG. OF TRANSITION, PAVEMENT WIDTH 7.00m / END OF SIDEWALK
11	1661345.337	492755.385	INTERSECTION OF TRANSITION RADIUS 650 & 264.10
12	1661401.421	492742.861	END OF TRANSITION RADIUS 264.10 / LANE WIDTH 3.35m
13	1661338.060	492751.491	BEG. OF RADIUS 417.17
14	1661401.051	492739.531	END OF RADIUS 417.17 / CENTER OF 7.00m WIDE PAVEMENT
15	1661367.019	492739.797	BEG. OF RADIUS 419.94 / END OF TAPER, PAVEMENT WIDTH 3.35m
16	1661348.691	492747.217	CENTER OF ISLAND RADIUS 1.00
17	1661400.881	492736.202	EDGE OF TWO LANE PAVEMENT / BEG. OF TAPER, LANE WIDTH 3.35m
18	1661367.019	492739.797	EDGE OF 3.50m WIDE PAVEMENT W/ RADIUS 423.42
19	1661301.289	492752.133	END OF RADIUS 423.421
20	1661302.183	492755.511	END OF TRANSITION / EDGE OF PAVEMENT 2.75m FROM THE CENTERLINE
21	1661277.818	492758.957	BEG. OF CORNER RADIUS 15.00
22	1661262.663	492755.149	END OF CORNER RADIUS 15.00
23	1661257.345	492749.740	LIMIT OF 2.50m. WIDE CONCRETE SHOULDER
24	1661212.464	492699.586	LIMIT OF CONSTRUCTION
25	1661252.353	492754.647	BEG. OF CORNER RADIUS 8.50
26	1661249.189	492768.596	END OF CORNER RADIUS 8.50
27	1661249.189	492768.596	EDGE OF PAVEMENT W/ RADIUS 300
28	1661218.052	492779.354	END OF RADIUS 300
29	1661181.955	492793.400	INTERSECTION OF DIVERGING LANE
30	1661166.807	492799.393	CENTER OF ISLAND RADIUS 1.00
31	1661122.852	492810.743	END OF SINGLE LANE PAVEMENT
32	1661109.831	492814.492	LIMIT OF CONSTRUCTION



**GEOMETRIC DESIGN LAYOUT**  
INTERSECTION A-22b (STA. 55+445.972) - INITIAL STAGE  
INTERSECTION A-22a (STA. 55+355.142)

1 RI-28 SCALE 1:500

	DESIGNED	DATE	SIGNATURE		PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	9/27/02	S. JOSE		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) PLARIDEL BYPASS - CONTRACT PACKAGE IV	1:500	INTERSECTION DETAIL GEOMETRIC DESIGN LAYOUT INTERSECTION A-22a & b (INITIAL STAGE)	RI-28
	SUBMITTED	10/10/02	M. RIVERA		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN OFFICE OF THE SECRETARY	FULL SIZE A1		



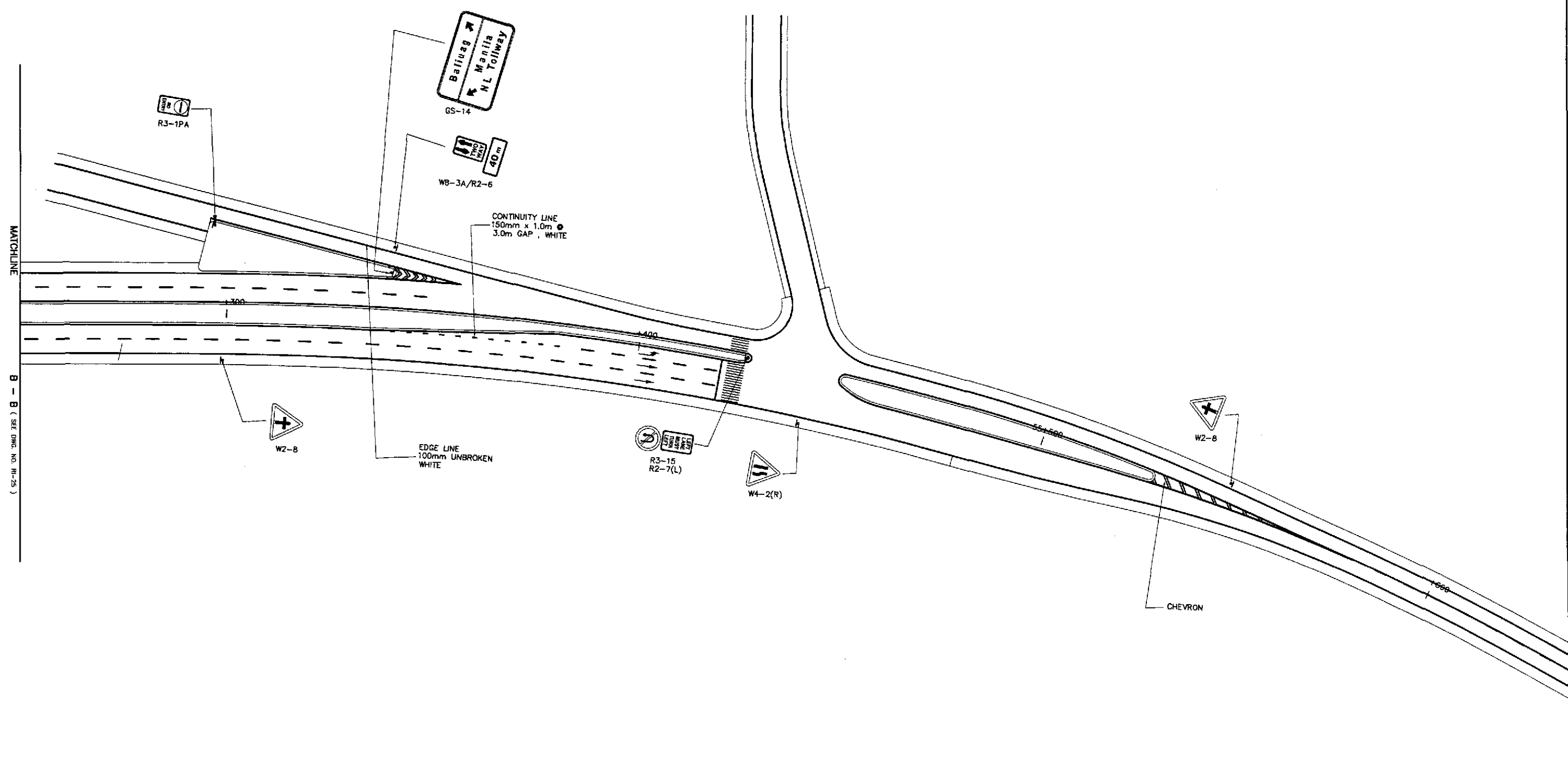
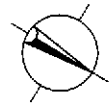
**PAVING AND GRADING PLAN**  
**INTERSECTION A-22b (STA. 55+445.972) - INITIAL STAGE**

1  
RI-29

SCALE

1:500

		DATE	SIGNATURE	 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	PROJECT AND LOCATION :				SCALE :	SHEET CONTENTS :	SHEET NO. :	
	DESIGNED	9/24/02			P.W.H. - P.W.O.	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)				1:500	INTERSECTION DETAIL PAVING AND GRADING PLAN INTERSECTION A-22a & b (INITIAL STAGE)	RI-29
	CHECKED	9/27/02			BUREAU OF DESIGN	PLARIDEL BYPASS - CONTRACT PACKAGE IV						
SUBMITTED	10/16/02		OFFICE OF THE SECRETARY	Reviewed By:	Recommended By:	Recommended By:	Approved By:					
				DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES DIC, Director IV	MANUEL M. BONOAN Undersecretary	SIMEON A. DATUMANONG Secretary				



MATCHLINE  
B - B (SEE DWG. NO. RI-25)

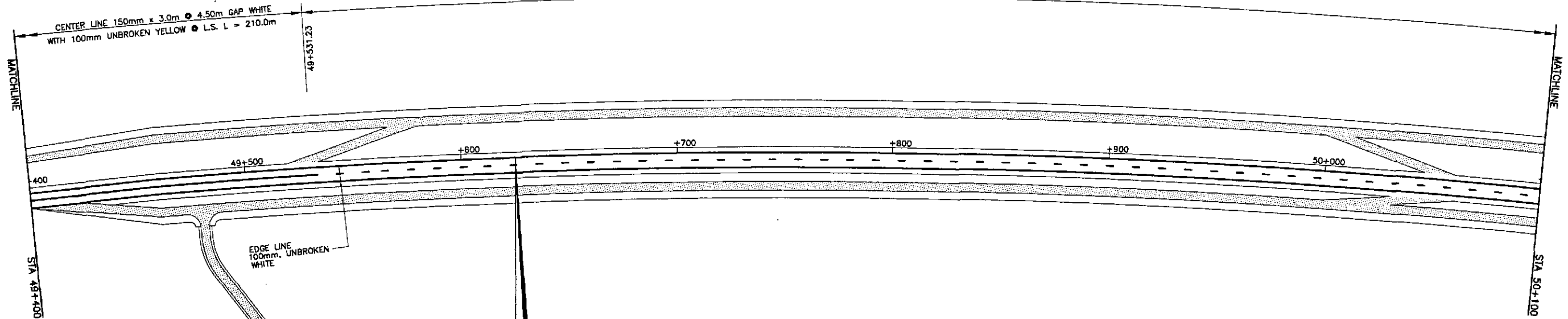
**TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN**  
**INTERSECTION A-22ab (STA. 55+445.972) - INITIAL STAGE**

1  
RI-30

SCALE 1:500

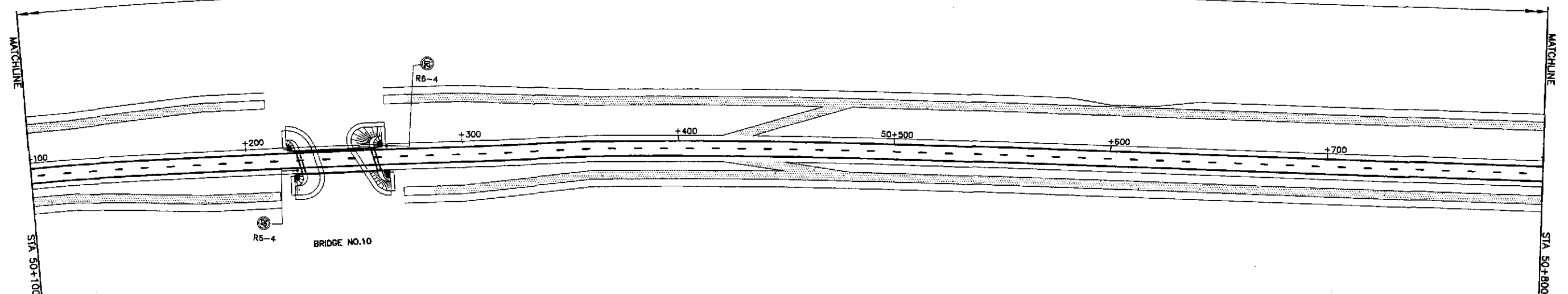
		DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS				PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	DESIGNED	9/29/02	<i>[Signature]</i>		P.H.L. - P.M.D.	BUREAU OF DESIGN	OFFICE OF THE SECRETARY	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	1:500	TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN INTERSECTION A-22ab	RI-30	
	CHECKED	9/27/02	<i>[Signature]</i>		Submitted By:	Reviewed By:	Recommended By:					Approved By:
SUBMITTED	10/16/02	<i>[Signature]</i>	TEAM LEADER	DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES OK, Director IV	MANUEL M. BONDAN Undersecretary	SIMEON A. DATUMANONG Secretary	PLARIDEL BYPASS - CONTRACT PACKAGE IV			

CENTER LINE 150mm x 3.0m @ 9.0m GAP , WHITE L = 1335.04m

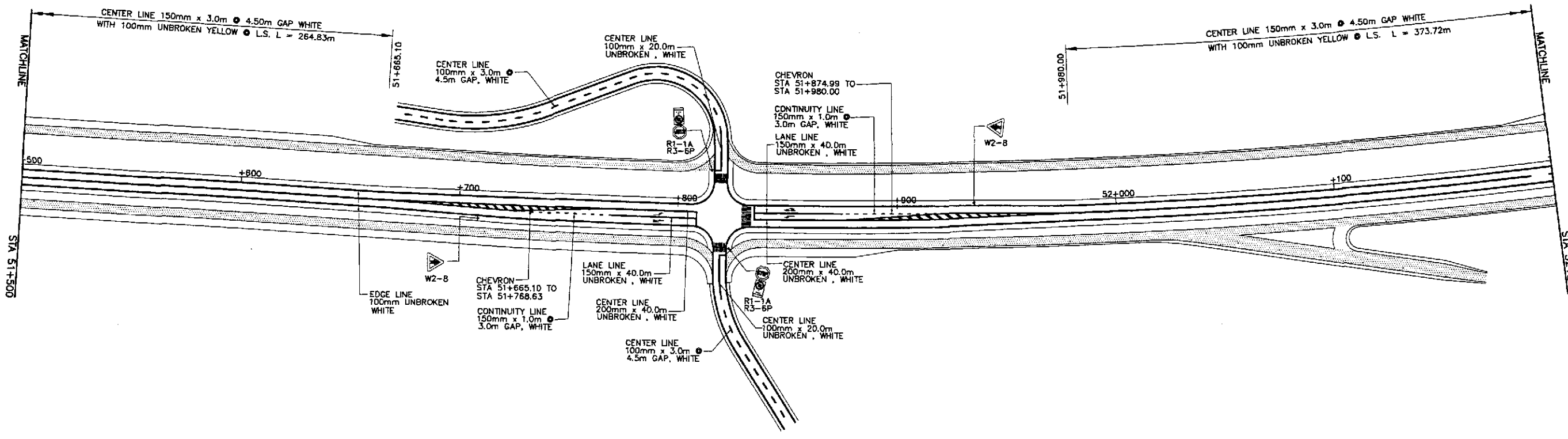
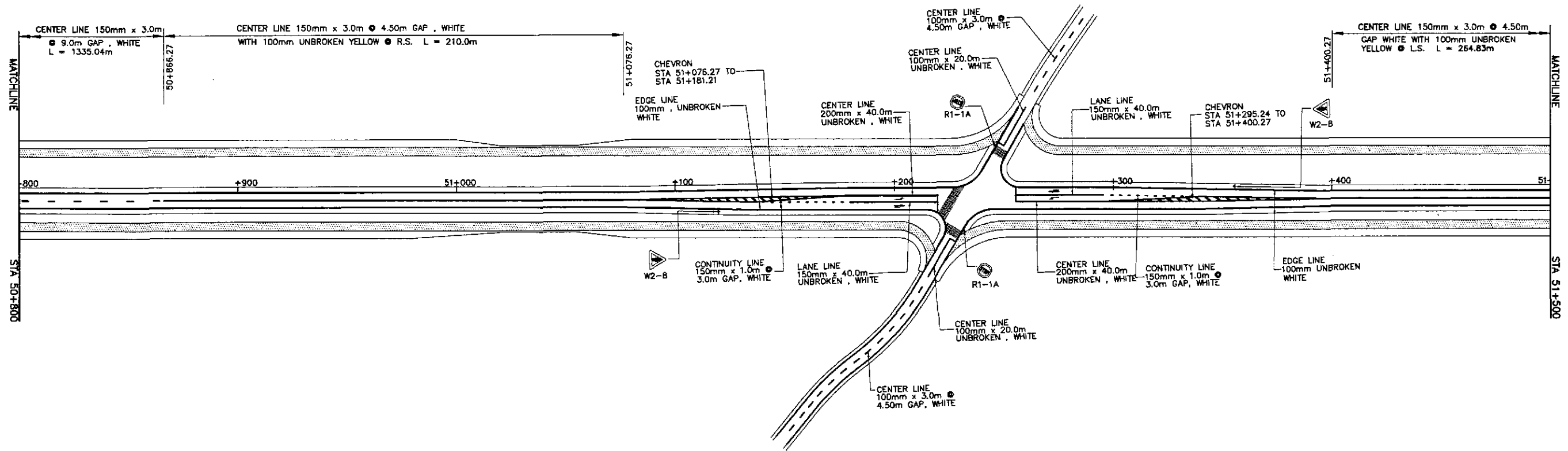
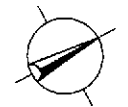


**PLARIDEL BYPASS  
BEGINNING OF  
CONTRACT PACKAGE IV  
END OF CONTRACT PACKAGE III**  
STA. 49+625.00  
ELEV. = 18.127  
N = 1,655,914.515  
E = 492,454.342

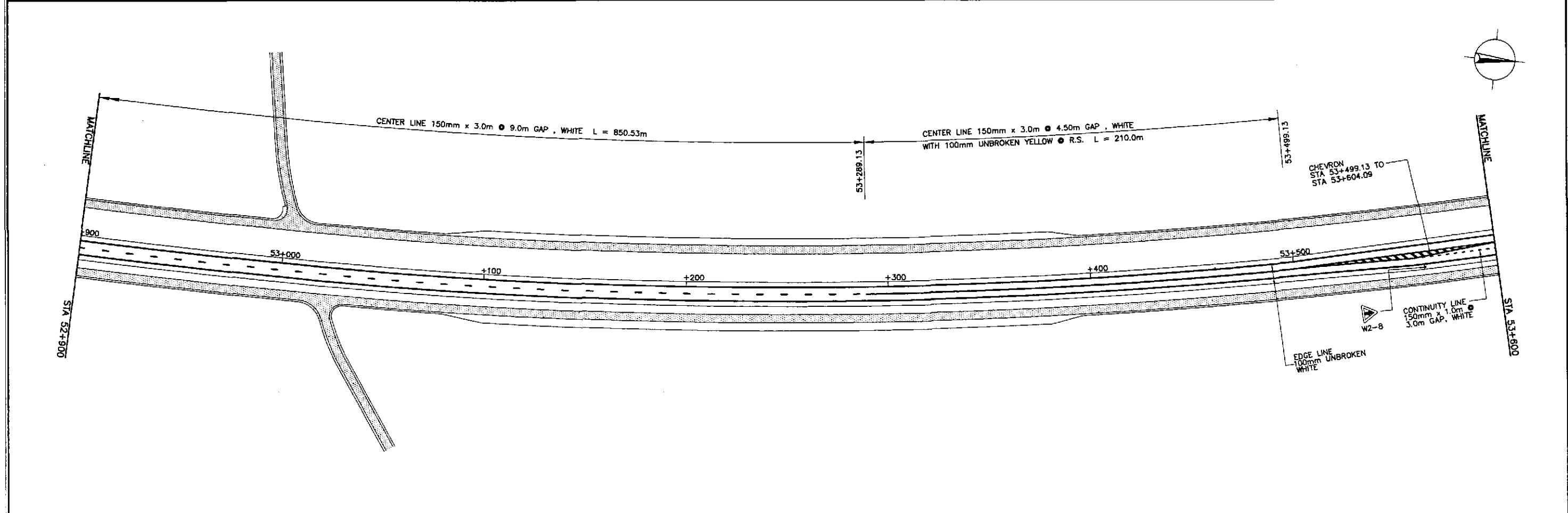
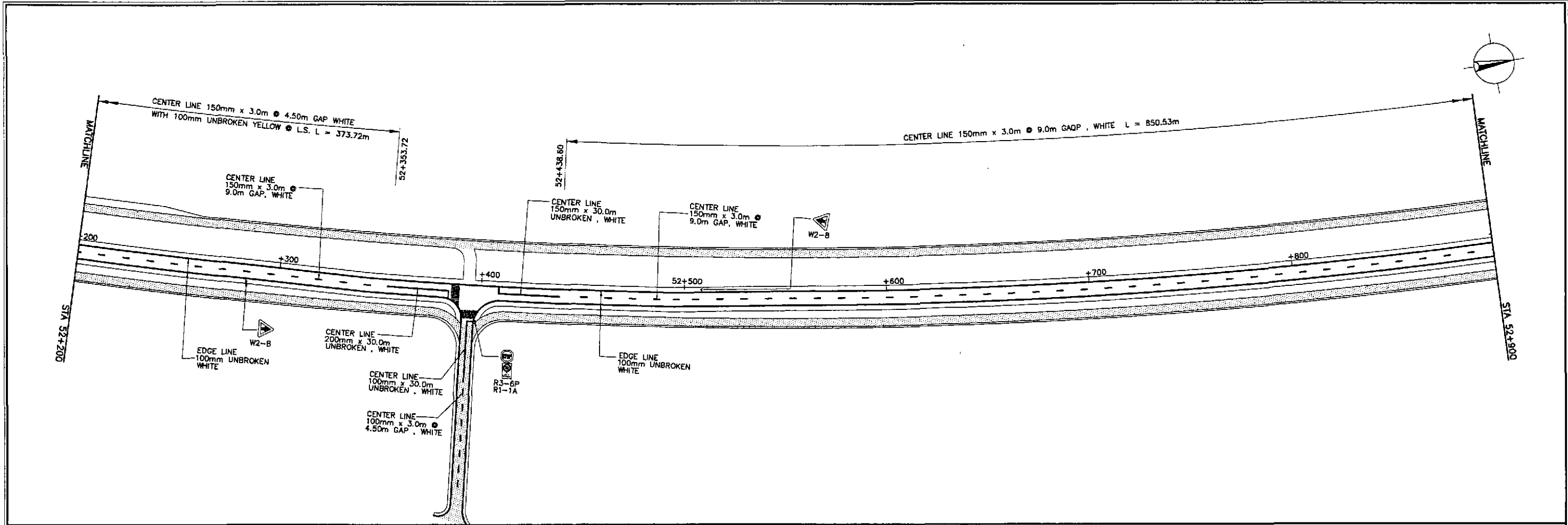
CENTER LINE 150mm x 3.0m @ 9.0m GAP , WHITE L = 1335.04m



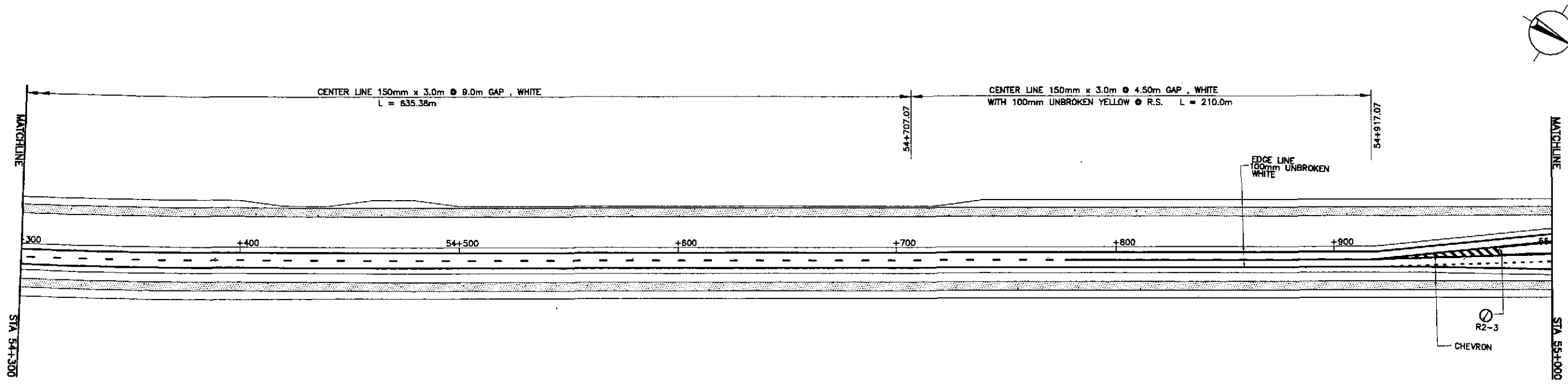
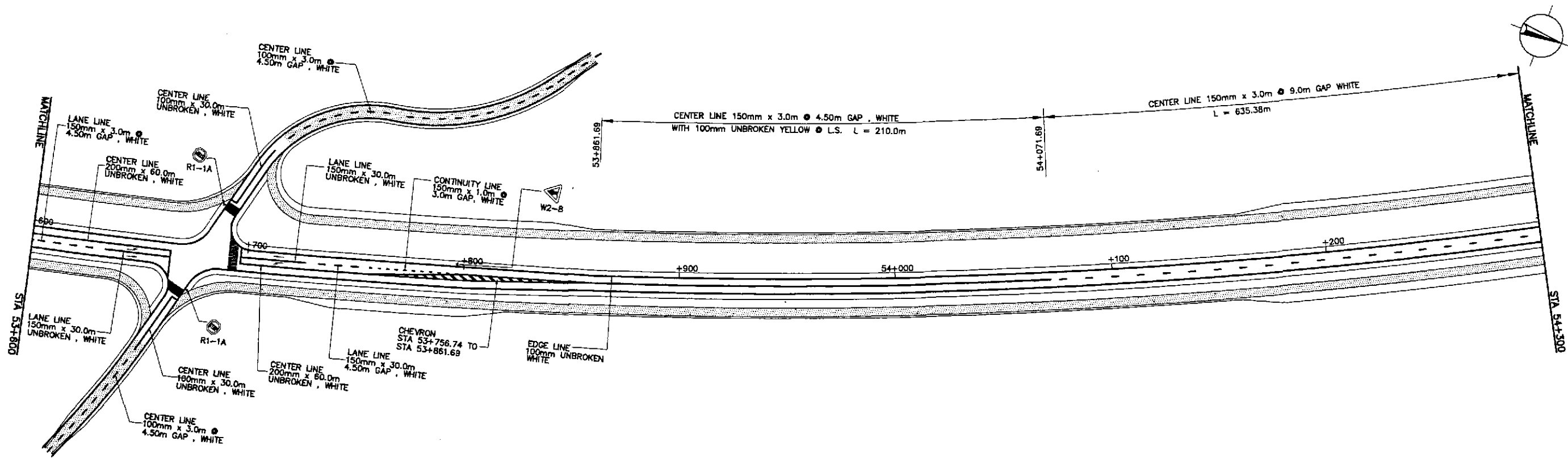
	DESIGNED	DATE	SIGNATURE	<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS</p>	PROJECT AND LOCATION :			SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	9/27/02	S. LUNA		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)			1:1000	TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT PLAN ALONG BYPASS (INITIAL STAGE) STA. 49+625 - STA. 50+800	RM-01
	SUBMITTED	10/16/02	S. ROSE		PLARIDEL BYPASS - CONTRACT PACKAGE IV			FULL SIZE A1		
Submitted By: DANILLO C. TRAJANO, Project Director				Reviewed By: JOSEFINA M. ALAGAR, Chief, Highways Division		Recommended By: GILBERTO S. REYES, Dir., Director IV		Recommended By: MANUEL M. BONOAN, Undersecretary		Approved By: SIMEON A. DATUMANONG, Secretary







	DATE	SIGNATURE	 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS				PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :			
	DESIGNED	9/24/02	<i>[Signature]</i>	PJHL - PMO		BUREAU OF DESIGN		OFFICE OF THE SECRETARY		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)  PLARIDEL BYPASS - CONTRACT PACKAGE IV	1:1000  FULL SIZE A1	<b>TRAFFIC SIGNS AND PAVEMENT          MARKINGS LAYOUT PLAN</b> ALONG BYPASS (INITIAL STAGE) STA. 52+200 - STA. 53+600	<b>RM-03</b>
	CHECKED	9/27/02	<i>[Signature]</i>	Submitted By:	Reviewed By:	Recommended By:	Approved By:						
	SUBMITTED	10/16/02	<i>[Signature]</i>	DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES OIC, Director IV	MANUEL M. BONGAN Undersecretary	SIMEON A. DATUMANONG Secretary					
		TEAM LEADER											



**JICA**  
 JAPAN INTERNATIONAL COOPERATION AGENCY  
**KAI** KATAHIRA & ENGINEERS INTERNATIONAL  
**YEO** YACHIYO ENGINEERING CO., LTD.

DATE	SIGNATURE
DESIGNED 9/24/02	[Signature]
CHECKED 9/27/02	[Signature]
SUBMITTED 10/16/02	[Signature]

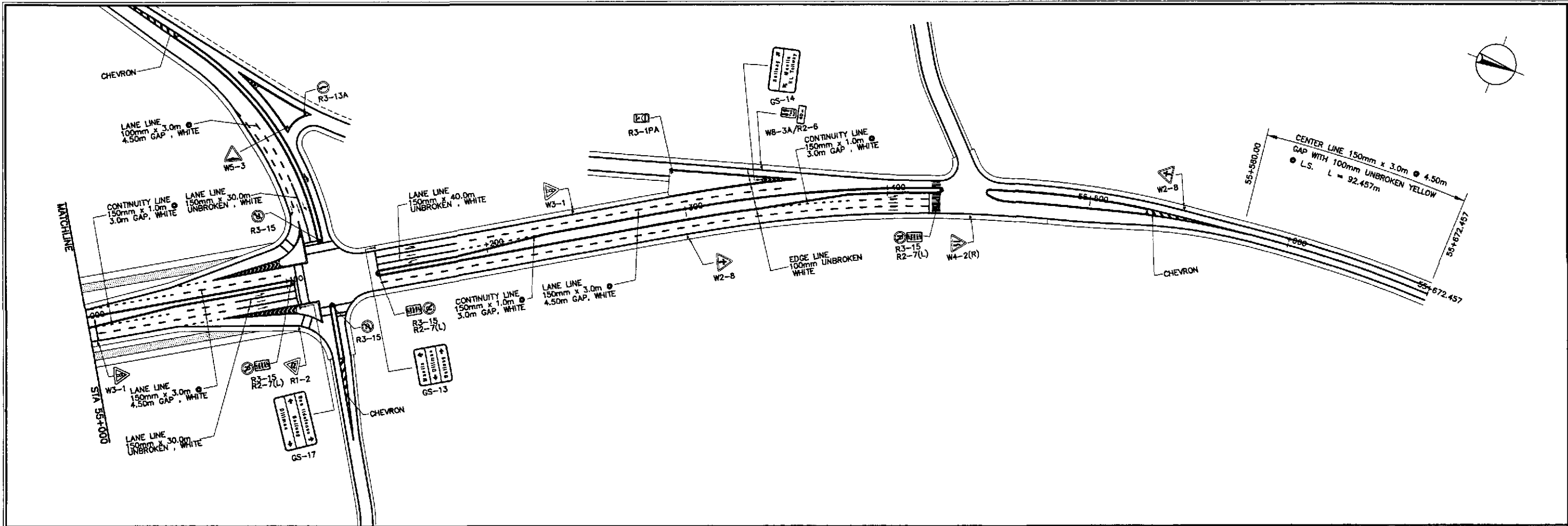
REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	
P.H.L. - PMO Submitted By: DANILO C. TRAJANO Project Director	BUREAU OF DESIGN Reviewed By: JOSEFINA M. ALAGAR Chief, Highways Division
OFFICE OF THE SECRETARY Recommended By: GILBERTO S. REYES OIC, Director IV	Approved By: (See cover sheet for Signature/Approve) MANUEL M. BONDAN Undersecretary SIMEDN A. DATUMANONG Secretary

PROJECT AND LOCATION :  
 THE DETAILED DESIGN STUDY ON  
 UPGRADING INTER-URBAN HIGHWAY SYSTEM  
 ALONG THE PAN-PHILIPPINE HIGHWAY  
 (Plaridel, Cabanatuan and San Jose Bypasses)  
 PLARIDEL BYPASS - CONTRACT PACKAGE IV

SCALE :  
 1:1000  
 FULL SIZE A1

SHEET CONTENTS :  
 TRAFFIC SIGNS AND PAVEMENT  
 MARKINGS LAYOUT PLAN  
 ALONG BYPASS (INITIAL STAGE)  
 STA. 53+800 - STA. 55+000

SHEET NO. :  
**RM-04**



  
 JAPAN INTERNATIONAL COOPERATION AGENCY  
 KATAHIRA & ENGINEERS  
 YACHIYO ENGINEERING CO., LTD.

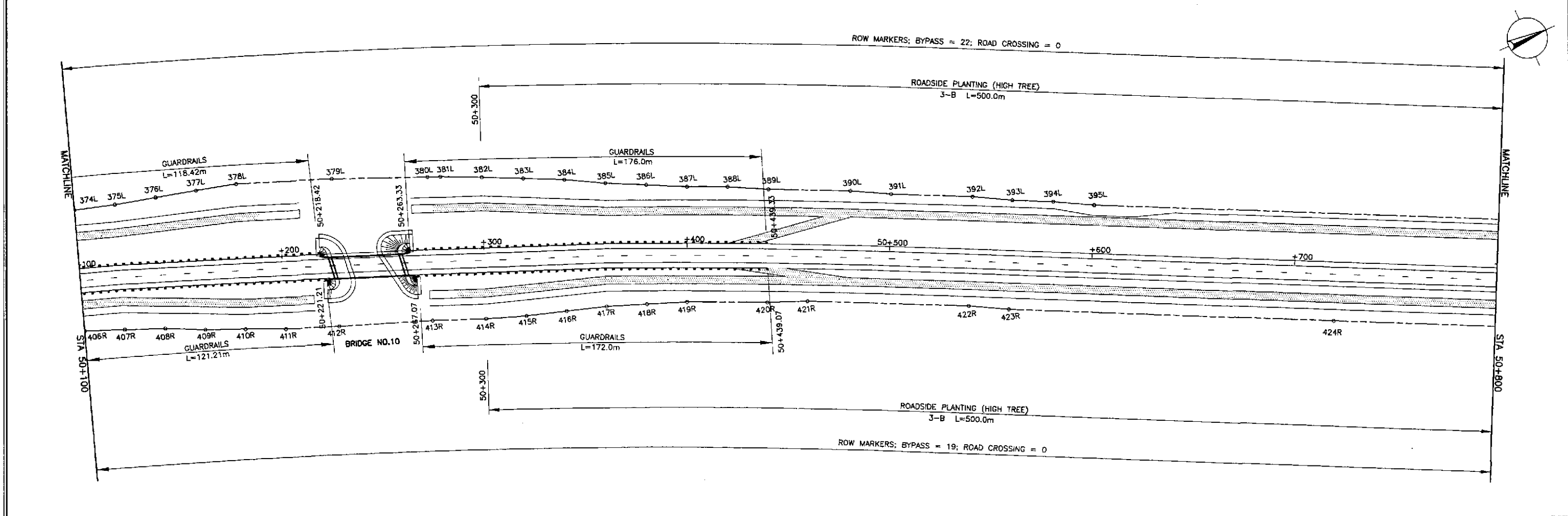
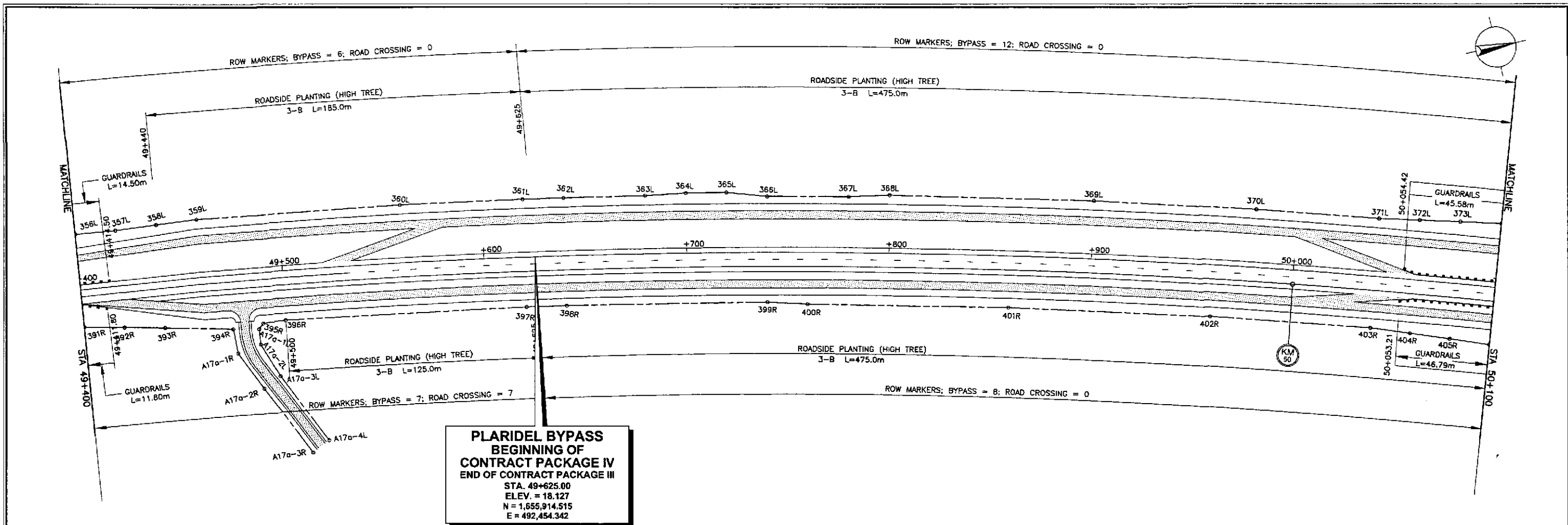
DATE	SIGNATURE	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			
DESIGNED 9/24/02	<i>[Signature]</i>	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
CHECKED 9/27/02	<i>[Signature]</i>	Submitted By: DANILLO C. TRAJANO Project Director	Reviewed By: JOSEFINA M. ALAGAR Chief, Highways Division	Recommended By: GILBERTO S. REYES Dir. Director IV	Approved By: MANUEL M. BONDAN Undersecretary
SUBMITTED 10/16/02	<i>[Signature]</i>	Approved By: SIMEON A. DATUMANONG Secretary			

PROJECT AND LOCATION :  
 THE DETAILED DESIGN STUDY ON  
 UPGRADING INTER-URBAN HIGHWAY SYSTEM  
 ALONG THE PAN-PHILIPPINE HIGHWAY  
 (Plaridel, Cabanatuan and San Jose Bypasses)  
 PLARIDEL BYPASS - CONTRACT PACKAGE IV

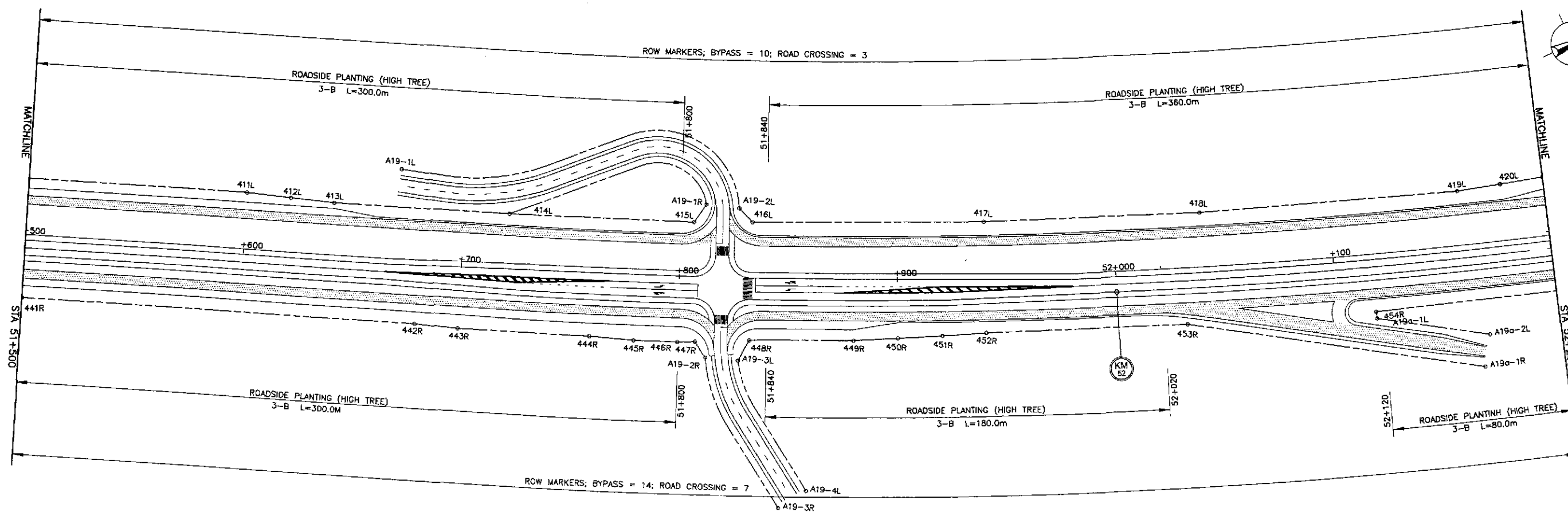
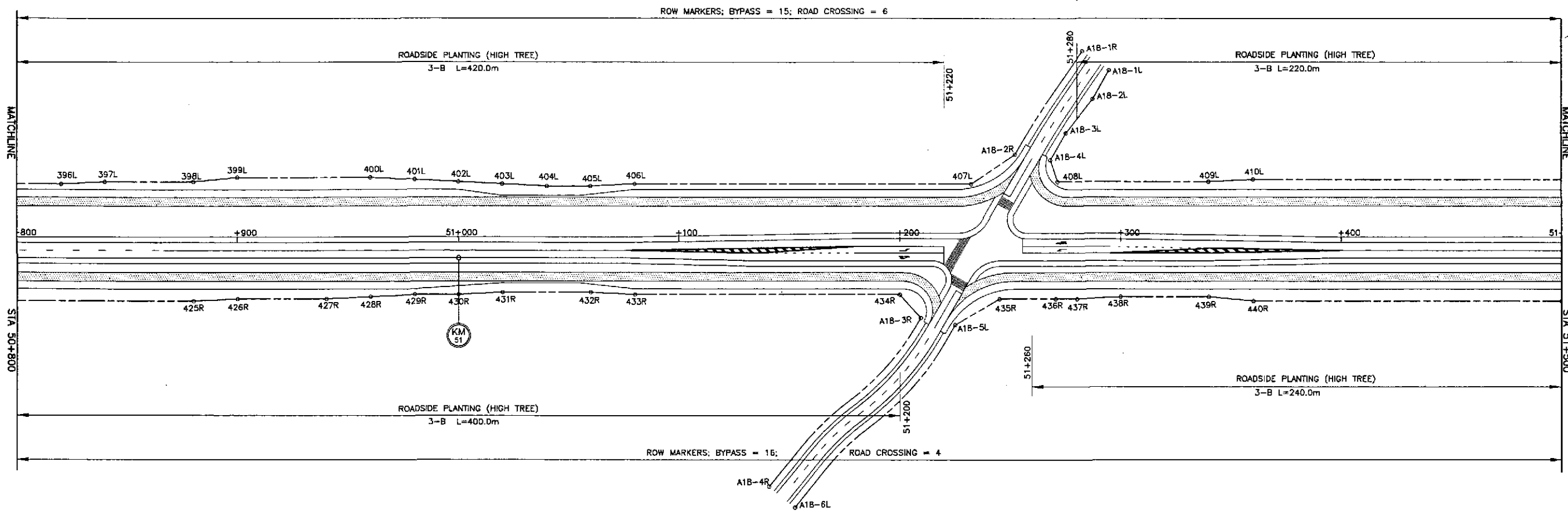
SCALE :  
 1:1000  
 FULL SIZE A1

SHEET CONTENTS :  
 TRAFFIC SIGNS AND PAVEMENT  
 MARKINGS LAYOUT PLAN  
 ALONG BYPASS (INITIAL STAGE)  
 STA. 55+000 - STA. 55+672.457

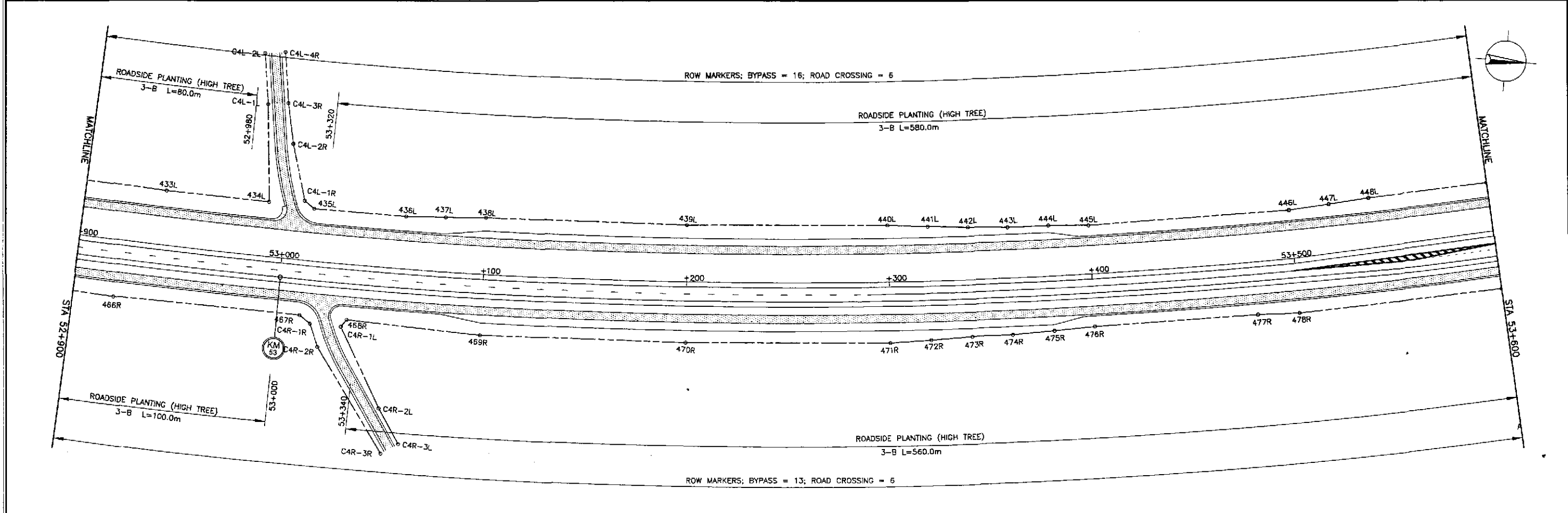
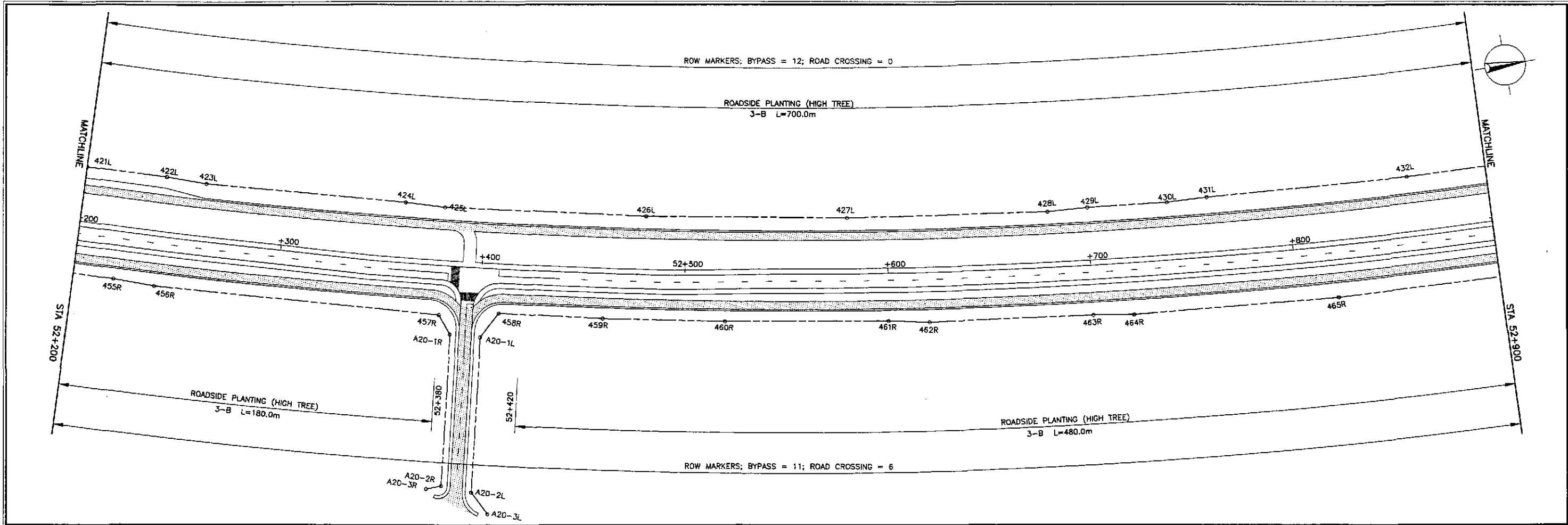
SHEET NO. :  
 RM-05



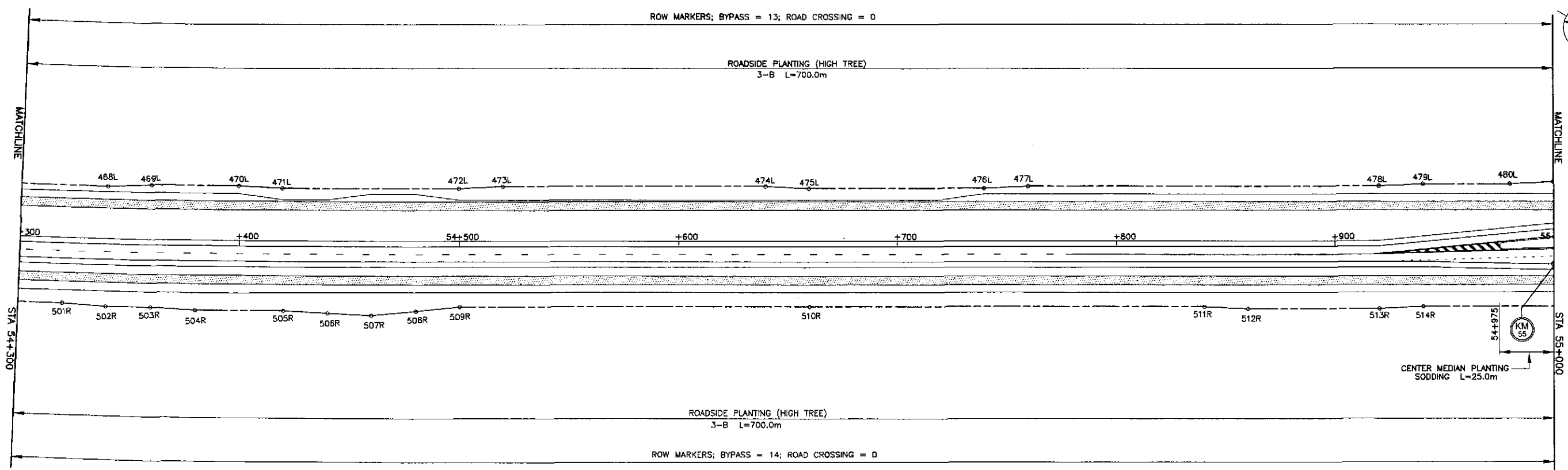
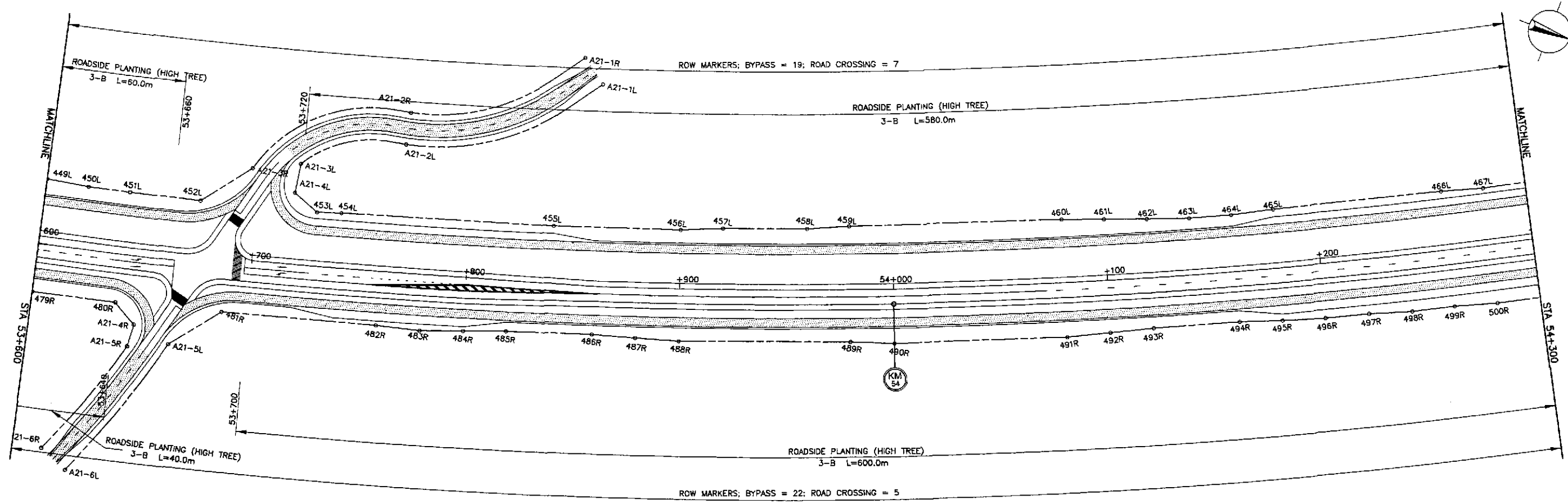
<p><b>JICA</b> JAPAN INTERNATIONAL COOPERATION AGENCY</p> <p><b>KATAHIRA &amp; ENGINEERS</b> INTERNATIONAL</p> <p><b>yeo</b> YACHYO ENGINEERING CO., LTD.</p>	DATE	SIGNATURE	<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS</p>	PROJECT AND LOCATION :			SCALE :	SHEET CONTENTS :	SHEET NO. :	
	DESIGNED	<i>9/24/02</i>		<i>[Signature]</i>	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)			1:1000	<b>PLANTING, GUARDRAIL AND RIGHT-OF-WAY LAYOUT</b> (INITIAL STAGE) STA. 49+625 - STA. 50+800	<b>RM-06</b>
	CHECKED	<i>9/27/02</i>		<i>[Signature]</i>	<b>PLARIDEL BYPASS - CONTRACT PACKAGE IV</b>			FULL SIZE A1		
SUBMITTED	<i>10/16/02</i>	<i>[Signature]</i>	PUHL - PMO Submitted By:	Reviewed By:	Recommended By:	Recommended By:	Approved By:			
		TEAM LEADER DANILO C. TRAJANO Project Director	Chief, Highways Division JOSEFINA M. ALAGAR	OIC, Director IV GILBERTO S. REYES	Undersecretary MANUEL M. BONGON	Secretary SIMEON A. DATUMANONG				




	DATE	SIGNATURE				PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	DESIGNED	<i>[Signature]</i>	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) <b>PLARIDEL BYPASS - CONTRACT PACKAGE IV</b>	1:1000 FULL SIZE A1	<b>PLANTING, GUARDRAIL AND          RIGHT-OF-WAY LAYOUT</b> (INITIAL STAGE) STA. 50+800 - STA. 52+200	<b>RM-07</b>
	CHECKED	<i>[Signature]</i>	BUREAU OF DESIGN						
	SUBMITTED	<i>[Signature]</i>	OFFICE OF THE SECRETARY						
		Submitted By: DANLO C. TRAJANO Project Director	Reviewed By: JOSEFINA M. ALAGAR Chief, Highways Division	Recommended By: GILBERTO S. REYES OIC, Director IV	Recommended By: MANUEL M. BONDAN Undersecretary				



	DATE	SIGNATURE	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :	
	DESIGNED	9/24/02	LUNA	BUREAU OF DESIGN			THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)  PLARIDEL BYPASS - CONTRACT PACKAGE IV	1:1000	PLANTING, GUARDRAIL AND RIGHT-OF-WAY LAYOUT (INITIAL STAGE) STA. 52+200 - STA. 53+600	RM-08
	CHECKED	9/23/02	S. JOSE	Submitted By:	Reviewed By:	Recommended By:				
SUBMITTED	10/10/02	S. JOSE	DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES OIC, Director IV	MANUEL M. BONOAN Undersecretary				



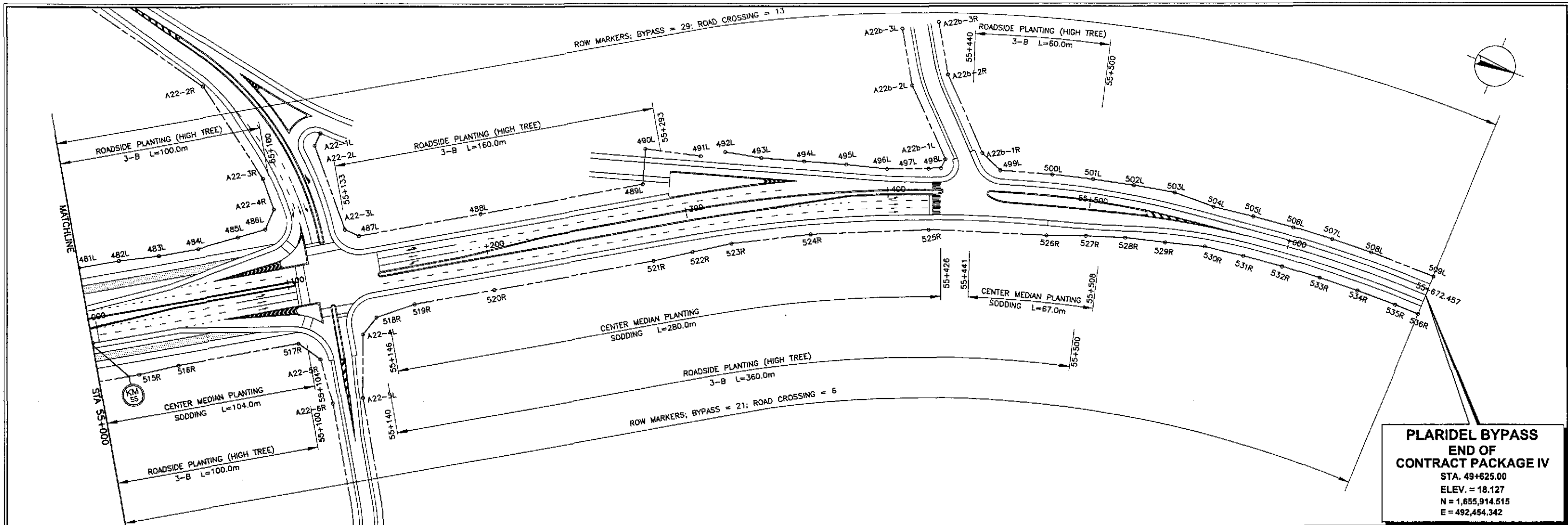
  
 JAPAN INTERNATIONAL COOPERATION AGENCY  
 KATAHIRA & ENGINEERS  
 YACHIYO ENGINEERING CO., LTD.

DATE	SIGNATURE	REPUBLIC OF THE PHILIPPINES	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			
DESIGNED 9/24/02	S. LUNA	 BUREAU OF DESIGN Submitted By: DANILLO C. TRAJANO, Project Director Reviewed By: JOSEFINA M. ALAGAR, Chief, Highway Division Recommended By: GILBERTO S. REYES, OIC, Director IV Recommended By: MANUEL M. BONDAN, Undersecretary Approved By: SIMEON A. DATUMANONG, Secretary	PROJECT AND LOCATION :			
CHECKED 9/27/02	S. ROSE		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)			
SUBMITTED 10/16/02	M. KUNDU, TEAM LEADER		PLARIDEL BYPASS - CONTRACT PACKAGE IV			

SCALE : 1:1000  
 FULL SIZE A1

SHEET CONTENTS :  
**PLANTING, GUARDRAIL AND RIGHT-OF-WAY LAYOUT**  
 (INITIAL STAGE)  
 STA. 53+600 - STA. 55+000

SHEET NO. :  
**RM-09**



**PLARIDEL BYPASS**  
**END OF**  
**CONTRACT PACKAGE IV**  
 STA. 49+625.00  
 ELEV. = 18.127  
 N = 1,655,914.515  
 E = 492,454.342

**JICA**  
 JAPAN INTERNATIONAL COOPERATION AGENCY

**KATAHIRA & ENGINEERS**  
 INTERNATIONAL

**yeo** YACHYO ENGINEERING CO., LTD.

DATE	SIGNATURE	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			
DESIGNED 9/14/02	S. LUNA	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
CHECKED 9/27/02	S. ROSE	Submitted By:	Reviewed By:	Recommended By:	Approved By:
SUBMITTED 10/16/02	M. RIVERA	DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES OIC, Director IV	MANUEL M. BONDAN Undersecretary

PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	1:1000 FULL SIZE A1	PLANTING, GUARDRAIL AND RIGHT-OF-WAY LAYOUT (INITIAL STAGE) STA. 55+000 - STA. 55+672.457	RM-10