JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES

THE DETAILED DESIGN STUDY
ON
UPGRADING INTER-URBAN HIGHWAY SYSTEM
ALONG THE PAN-PHILIPPINE HIGHWAY
(PLARIDEL, CABANATUAN AND SAN JOSE BYPASSES)

FINAL REPORT

SAN JOSE BYPASS (INITIAL STAGE)



December 2002

KATAHIRA & ENGINEERS INTERNATIONAL YACHIYO ENGINEERING CO., LTD

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GENERAL

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SAN JOSE BYPASS (INITIAL STAGE)

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Approved By:
(See cover sheet for Signature/Approval)
SIMEON A. DATUMANONG Secretary

KATAHIRA & ENGINEERS YEO YACHIYO ENGINEERING CO., LTD.

FULL SIZE A1

SAN JOSE BYPASS

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THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY

SAN JOSE BYPASS (INITIAL STAGE)

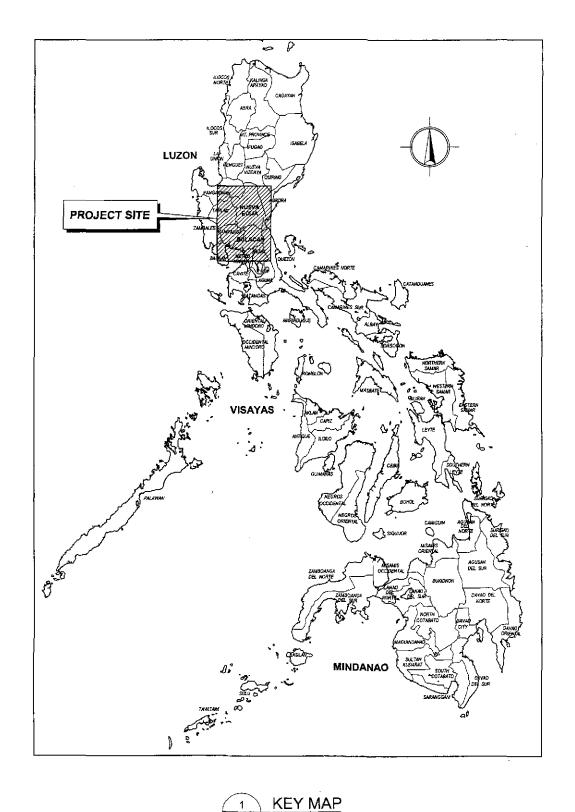
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B1-03	AASHTO TYPE VI GIRDER (MODIFIED) DETAILS	ES-02	·	OE-02	1
B1-04	, ,		SERVICE POLE, DETAILS, INTERSECTION A-1, A-4 & A-9	1	LAYOUT PLAN, STA. 157 + 100.00 TO STA. 158 + 500.00
	CONCRETE POURING SEQUENCE & DIAPHRAGM DETAILS	ES-03	STREET LIGHT POLE DETAILS, INTERSECTION A-1, A-4 & A-9	OE-03	LAYOUT PLAN, STA. 158 + 500.00 TO STA. 159 + 900.00
31-05	ABUTMENT MAINWALL REINFORCEMENT DETAILS		ROADWAY LIGHTING LAYOUT FOR INTERSECTION	OE-04	LAYOUT PLAN, STA. 159 + 900.00 TO STA. 161 + 300.00
B1-06	ABUTMENT WINGWALL REINFORCEMENT DETAILS	El-01	ROADWAY LIGHTING PLAN, INTERSECTION A-1	OE-05	LAYOUT PLAN, STA. 161 + 300.00 TO STA. 162 + 700.00
B1-07	APPROACH SLAB PLAN, SECTIONS AND DETAILS	EI-02	ROADWAY LIGHTING PLAN, INTERSECTION A-4	OE-06	LAYOUT PLAN, STA. 162 + 700.00 TO STA. 163 + 808.10
B1-08	ABUTMENT SHEAR KEY AND RISER DETAILS	EI-03	ROADWAY LIGHTING PLAN, INTERSECTION A-3		CONE PENETRATION TEST (CPT)
B1-09	ABUTMENT PROTECTION AND SIDE DRAIN DETAILS		repetition and the major the second HORITS	OC-01	PROFILE, STA. 156 + 000.00 TO STA. 160 + 500.0
B1-10	RIVER RE-ALIGNMENT DETAILS	<u>11</u>		OC-02	PROFILE, STA. 160 + 700.00 TO STA. 163 + 500.0
	DATE SIGNATURE		REPUBLIC OF THE PHILIPPINES PROJECT AND LOCATION :		SCALE: SHEET CONTENTS: SHEE
	DESIGNED 9/2/02 AMERICA	DEPARTM	ENT OF PUBLIC WORKS AND HIGHWAYS THE DETAILED DE UPGRADING INTER-URB		
	TERNATIONAL COOPERATION AGENCY		AU OF DESIGN OFFICE OF THE SECRETARY UPGRADING INTER-URB		INDEX OF DRAWINGS

Recommended By:
(See cover sheet for Signature)
MANUEL M. BONOAN

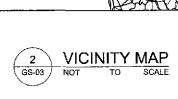
KATAHIRA & ENGINEERS YEO YACHIYO ENGINEERING CO., LTD.

FULL SIZE A1

SAN JOSE BYPASS



NOT TO SCALE



PROJECT ROAD SAN JOSE BYPASS (L=7.98 KM.)

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

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS CHECKED 9/4/02 5.005 S.COSE
SUBMITTED 9/4/02 TEAM LEADER Recommended By:

(See cover sheet for Signoture/Approve)

MNUEL M. BONDAN
Undersecretory

Secretory

SCALE : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) NOT TO SCALE SAN JOSE BYPASS FULL SIZE A1

PROJECT AND LOCATION :

KEY AND VICINITY MAP

SHEET CONTENTS :

GS-03

LEGEND AND SYMBOLS

EXISTING FEATURES									
ROAD	BARANGAY ROAD								
CONTOUR									
ORIGINAL GROUND									
CONCRETE FENCE	<u>i</u> <u>i</u> <u>i</u>								
BARBED WIRE FENCE	- * * * -								
HOUSE	[-] L _ J								
TREES	88 88 88								
BRIDGE	PLAN PROFILE								
SINGLE PIPE CULVERT									
DOUBLE PIPE CULVERT	——————————————————————————————————————								
BOX CULVERT	PIAN PROFILE								
DITCH LINE/ IRRIGATION LINE									
IRRIGATION LINE									
RIVER/CREEK									
ELECTRIC POST	∰ CEP WEP								
KILOMETER POST	[KM] 156]								
TRAVERSE STATION POINT	Δ								
BENCHMARK	•								
FISH POND									
NATIONAL POWER CORP. TRANSMISSION LINE	T KPC 1 TOWER								

		N FEATURES	
ROJECT ROAD		SECTION IN GRAVEL	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
ERVICE OR RONTAGE ROAD LONG BYPASS		SECTION IN STRUCTURAL STEEL	
ONTOUR	5 5 5 7 8 5	SOFT BED MATERIALS TO BE EXCAVATED	
IGHT-OF-WAY LIMIT		STONE MASONRY RETAINING WALL / REVETMENT / REINF. CONCRETE RETAINING WALL	בכבבבככב
OINT OF INTERSECTION		NORTH SIGN	-
OINT OF INTERSECTION NO.	ÞI-00	GRID COORDINATES	908
OF PROJECT ROAD		AGGREGATE SOURCE	
FINISHED GRADE ON PROFILE	9=2.500%	LINE SYMMETRY	/
BRIDGE	PLAN PROFILE	SECTION TARGET	1B 0-63
SINGLE RC PIPE CULVERT	PLAN PROFILE	ELEVATION TARGET	1A 0-04
OUBLE RC PIPE CULVERT	PLAN PROFILE	TITLE TARGET	2 RS-02
BOX CULVERT	PIAN PROFILE	SUB-TITLE TARGET	RS-DZ
EARTH DITCH FLOW		DETAIL REF TARGET	(2b) (RI-05)
DIRECTION OF FLOW	-	BOREHOLE	•
MANHOLE	👉	STREET LIGHTING POLE	oo +
GUARDRAIL ON PLAN		KILOMETER POST	(Km)
GUARDRAIL ON PROFILE	LEFT RIGHT	STATION GRID	162+000
GROUTED RIPRAP ON SLOPE		LINED IRRIG. CANAL	==:
EMBANKMENT	<u> </u>	CHAIN LINK FENCE	- * - *
EXCAVATION		SODDING ON PLAN	
ECTION IN WATER	The state of the s	LOW TREES	
ECTION IN EARTH	TOTOTOTOTOTO	MIDDLE TREE	0
SECTION IN CONCRETE		HIGH TREE	<u></u>

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

	DATE	SIGNATURE			REPUBLIC OF THE PHIL	.iPPINES	_	PF
ESIGNED	9/2/02	Jim V	•	DEPARTMEN	T OF PUBLIC WOR	KS AND HIGHWAYS		
	+	CAPTA PARACIO	PJHL PMD	BUREAU (OFFICE OF TH	IE SECRETARY		
HECKED	9/4/2	2.7	Submitted By:	Reviewed By:	Recommended By:	Recommended By:	Approved By:	
	11 11 1	S. GOSE			i	(See cover sheet for Signoture)	(See cover sheet for	
UBMITTED	9/4/2	h kituai	DANILO C. TRAJANO	JOSEFINA M. ALAGAR	CILBERTO S. REYES	MANUEL M. BONOAN	Signoture/Approval) SIMEON A. DATUMANONG	
	110100	TEAM LEADER	Project Director	Chief, Highways Division	OIC, Director N	Undersecretory	Secretory	
								_

	PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO.
for voi)	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	NOT TO SCALE	LEGEND AND SYMBOLS	GS-04
IANONG	SAN JOSE BYPASS	EU 1 517E 44		l

ABBREVIATIONS

A	PARAMETER (CLOTHOID)	DIST.	DISTANCE	. ما	SUPERELEVATION RUN-OFF	NIC		NOT INCLUDED IN CONTRACT	!
ABAN	ABANDON	DIV.	DIVISION	LG	LONG	MP		MEGA PASCAL	ı
ABT	ABOUT	DRWG./DWG.	DRAWING	ЩУ	LONG LEG VERTICAL	МС		MANHOLE COVER	, '
ABUT	ABUTMENT	DWY.	DRIVEWAY	1.M	LINEAR METER	RP		REFERENCE POINT	
AC	ASPHALT CONCRETE	e%	DESIGN SUPERELEVATION	LONGIT.	LONGITUDINAL	RSI	,	ROCK SLOPE PROTECTION	
AGG	AGGREGATE	E	EASTING	LP	LIGHT POLE	RT.		RIGHT	
AH	AHEAD	EA	EACH	LS	LUMP SUM ; LEFT SIDE	S		SOUTH	
APP	APPROACH	ECC/CS/PF	END OF CIRCULAR CURVE	LT	LEFT	SEC	чт	SECTION	
ASPH	ASPHALT	E	EXTERNAL DISTANCE	m	METER	SDV		SIDEWALK	
ASTM	AMERICAN STANDARD FOR TESTING & MATERIALS	EF	EACH FACE	mm	MILLIMETER	SH		SHEET	
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY	EG	EDGE OF GUTTER	MAX	MAXIMUM			SLOPE	
AASI 10		ELEV./EL.	ELEVATION	MFL	MAXIMUM FLOOD LEVEL	SL	M./m ²	==	
A) or	& TRANSPORTATION OFFICIALS	•					•	SQUARE METER	
AVE	AVENUE	EMB.	EMBANKMENT	MFWL	MAXIMUM FLOOD WATER LEVEL	SMI		SEWER MANHOLE	
AZIM.	AZIMUTH	ENGR.	ENGINEER	MH	MANHOLE	SP		SPIRAL	
BCC/SC/PC	BEGINNING OF CIRCULAR CURVE	EP	EDGE OF PAVEMENT	MIN.	MINIMUM	SPC		SPACED	ļ
BDRY LN	BOUNDARY LINE	EQ	EQUAL ; EQUATION	MISC.	MISCELLANEOUS	SPO		SPACES	ļ
BEG.	BEGINNING	EQN.	EQUATION	MO	MIDDLE ORDINATE	SPI	-	SPECIAL	ļ
BET.	BETWEEN	ESMT	EASMENT	MPa	MEGA PASCAL	SPE	CS.	SPECIFICATIONS	
BGY./BRGY.	BARANGAY	ETC/ST	END OF TRANSITION CURVE	MSL	MEAN SEA LEVEL	SQ.		SQUARE	
BH	BOREHOLE	EW	EACH WAY	MT	METRIC TON	ST.		STREET	1
BK	BACK	EXC.	EXCAVATION	DPWH	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	STA	4	STATION	!
BLDG.	BUILDING	EXIST./EXTG.	EXISTING	MWSS	METROPOLITAN WATERWORKS & SEWERAGE SYSTEM	SIE		STANDARD	
BLVD.	BOULEVARD	EXP.	EXPANSION BEARING	N	NORTH / NEWTON	STI	Ŧ.	STIFFENERS	ı
ВМ	BENCH MARK	EXT.	EXTERIOR .	N/A	NOT APPLICABLE	STI	RR./STIR	STIRRUP(S)	ļ
BMSL	BELOW MEAN SEA LEVEL	EXTN.	EXTENSION	NC	NORMAL, CROWN	STR		STRAIGHT	ļ
BOT./BOTT	BOTTOM	FF	FAR FILL/FAR FACE	NF	NEAR FACE			STRUCTURAL	ļ
BR.	BRIDGE	FG	FINISHED GRADE	NO./No.	NUMBER		₹ ∀ Y.	SURVEY	ļ
BRG	BEARING	FIN.	FINISHED	0C/0.C.	ON CENTER	SYN		SYMMETRY	!
BS	BACK STATION ; BOTH SIDES	FPL	FINISHED PAVEMENT LEVEL	OD	OUTSIDE DIAMETER	т.		TANGENT	
BST	BITUMINOUS SURFACE TREATMENT	FTG.	FOOTING	OGL	ORIGINAL GROUND LEVEL	TBN	1	TEMPORARY BENCHMARK	ļ
BTC/TS	BEGINING OF TRANSITION CURVE	FH	FIRE HYDRANT	OUT INV.	OUTLET INVERT	TEN		TEMPORARY	!
BW	BOTHWAYS	FWL	FLOOD WATER LEVEL		ORDINARY WATER LEVEL			·-	ļ
	CURVE			OWL		THE		THICK	ļ
C		9	GRADIENT IN PERCENT	PCC	PORTLAND CEMENT CONCRETE	Tk		SHORT TANGENT OF SPIRAL	ļ
CAB	CRUSHED AGGREGATE BASE	GALV.	GALVANIZED	PEJ	PREMOULDED EXPANSION JOINT	π.		LONG TANGENT OF SPIRAL	ļ
CALC.	CALCULATED	GEN.	GENERAL	PHIL.	PHILIPPINE(S)		NS.	TRANSVERSE	ļ
CB	CATCH BASIN	GIP	GALVANIZED IRON PIPE	PI	POINT OF INTERSECTION	Ts		TOTAL TANGENT DISTANCE	ļ
c / c	CENTER TO CENTER	GPS	GLOBAL POSITIONING SYSTEM	PJHL	PHILIPPINE-JAPAN HIGHWAY LOAN	TYP	١,	TYPICAL OR TYPE	ļ
CEM	CEMENT	GL	GROUND LEVEL	PL	PROPERTY LINE/ PLATE	V		DESIGN SPEED	l
CEP	CONCRETE ELECTRIC POST	GRD.	GRADE	PLDT	PHILIPPINE LONG DISTANCE TELEPHONE COMPANY	VAR	.	VARIABLE/VARIES	,
cm.	CENTIMETER	HDWL.	HEADWALL	PMO	PROJECT MANAGEMENT OFFICE	VC	-	VERTICAL CURVE	J
Cu M/m ³	CUBIC METER	HFL.	HIGH FLOOD LEVEL	POC	POINT ON CURVE	VER	Ł.	VERIFIED	
СНВ	CONCRETE HOLLOW BLOCK	HOR.	HORIZONTAL	POT	POINT OF TANGENT	VER	и.	VERTICAL	
CIM	CURB INLET MANHOLE	HSE	HOUSE	PP	POWER POLE	VOL	-	VOLUME	ļ
CI	CURB INLET	HT.	HEIGHT	PR	PROJECT ROAD	w		WIDENING	ļ
CL	CENTERLINE	H∏L	HIGH TIDE LEVEL	PRC	POINT OF REVERSE CURVE	w		WIDTH	
CLR	CLEAR	HWL/HW	HIGH WATER LEVEL/HIGH WATER	PROJ.	PROJECT	W/		WITH	
COL(S)	COLUMN(S)	HWY.	HIGHWAY	PROP.	PROPOSED	W/:	9	WITHOUT	
COMB. CONC.	COMBINE CONCRETE	1	INTERSECTION ANGLE	PVC	POLYVINYL CHLORIDE	WEI		WOODEN ELECTRIC POST	
CONC.	CONCRETE	ID .	INSIDE DIAMETER	PVI	POINT OF VERTICAL INTERSECTION	wk		WALK	
CONC. MON.	CONCRETE MONUMENT	IN.	INCHES	PVMT.	PAVEMENT	WT		WATER TANK	
CONST.	CONSTRUCTION	INC.	INCORPORATED	QTY	QUANTITY	x, y		COORDINATE OF BCC AND ECC WITH	H
CONST. JT.	CONSTRUCTION JOINT	IN. INV.	INLET INVERT	R	RADIUS	^,,		RESPECT TO TANGENT	•
CONT.	CONTINUOUS	INT.	INTERIOR	RC	REINFORCED CONCRETE	2-		AND	•
CORP.	CORPORATION	INTERM.	INTERMEDIATE	RCBC	REINFORCED CONCRETE BOX CULVER			AT	
CP	CROSS PIPE	IRRIG.	IRRIGATION	RCBG	REINFORCED CONCRETE BOX GIRDER	9		BASELINE	
C & G	CURB AND GUTTER		JOINT		•	T .		•	'
		JТ.		RCDG	REINFORCED CONCRETE DECK GIRDER	¥.		CENTERLINE	
CULV.	CULVERT	kg.	KILOGRAM	RCPC	REINFORCED CONCRETE PIPE CULVERT	oc		INFINITY	ı
C/WAY	CARRIAGEWAY	KN	KILO NEWTON	RD	ROAD	* .		PERCENT	
CYL	CYLINDRICAL.	KPa	KILO PASCAL	RDWY.	ROADWAY	+/		PLUS / MINUS	
CTR	CENTER	FIX	FIX BEARING	REINF.	REINFORCED	ø		DIAMETER	
DEPT.	DEPARTMENT	KM	KILOMETER	REP	RELOCATED ELECTRIC POST	Ø		SQUARE	
DET.	DETAIL	KPH	KILOMETER PER HOUR	RET. WALL	RETAINING WALL	CP		CONTROL POINT	
DIA./DIAM	DIAMETER	L	LENGTH	ROW	RIGHT-DF-WAY	L		ANGLE SHAPE	•
DIAPH.	DIAPHRAGM	Lc	LENGTH OF CIRCULAR ARC	RS	RIGHT SIDE				
1012	DATE SHOWTURE	穆	REPUBLIC OF THE PHILIPPINES		PROJECT AND LOCATION :	SCALE :	SHEET CONTE	rrs :	SHEET NO. :
11110	CIA WILL	314	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	0	THE DETAILED DESIGN STUDY ON	1			

JAPAN INTERNATIONAL COOPERATION AGENCY

KATAHIRA & ENGINEERS

YEO YACHIYO ENGINEERING CO., LTD.

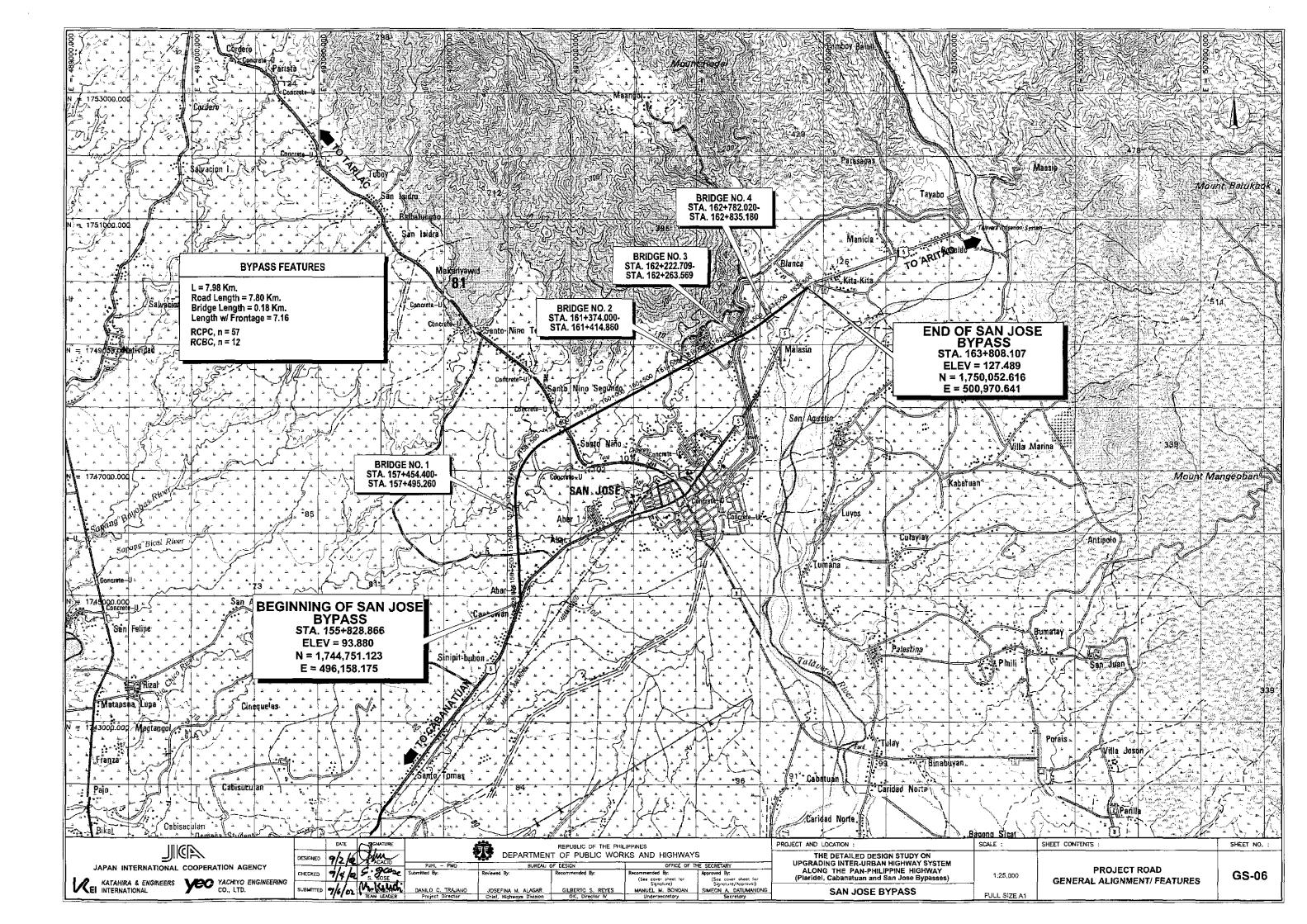
	UATE	SIERWIUNE	4		REPUBLIC OF THE PHIL	LIPPINES	1	7
DESIGNED	9/2/02	AGAGIO	9			KS AND HIGHWAYS		
	 	_	PJHL - PMC	BUREAU	OF DESIGN	OFFICE OF TH	E SECRETARY	ı
CHECKED	9/4/2	5 Scose	Submitted By:	Reviewed By:	Recommended By:	Recommended By: (See cover sheet for	Approved By: (See cover sheet for	ĺ
SUBMITTED	9/4/0	M: KLUCK	DANILO C. TRAJANO	JOSEFINA M. ALAGAR	GILBERTO S. REYES	Signature) MANUEL M. BONDAN	Signature/Approval) SIMEON A. DATUMANDNG	
l	11706	TEAN LEADER	Project Director	Chief, Highways Division	OIC, Director IV	Undersocretary	Secretary	
					<u></u>			=

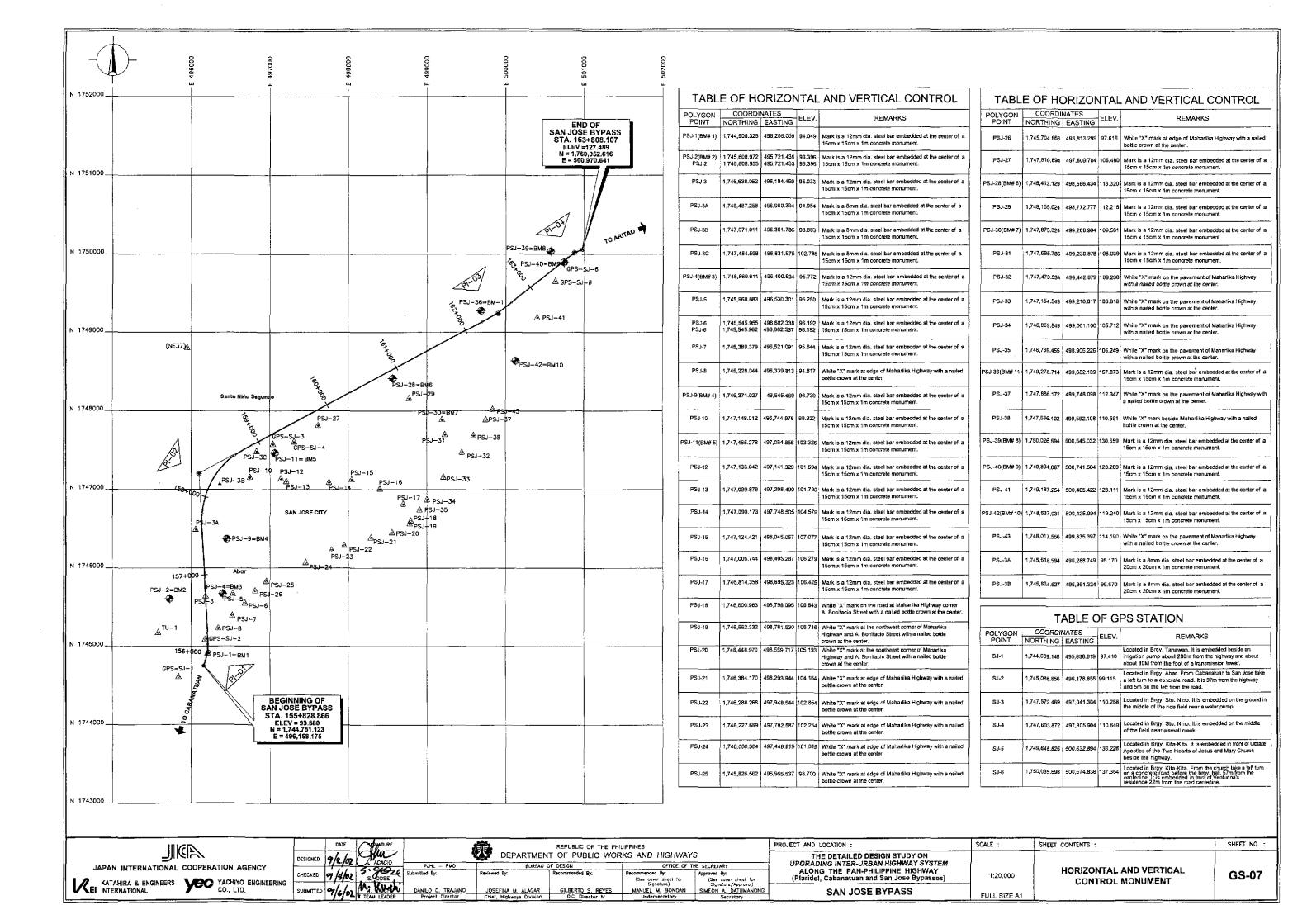
UPGRADING INTER-URBAN HIGHWAY SYSTEM
ALONG THE PAN-PHILIPPINE HIGHWAY
(Plaridel, Cabanatuan and San Jose Bypasses)

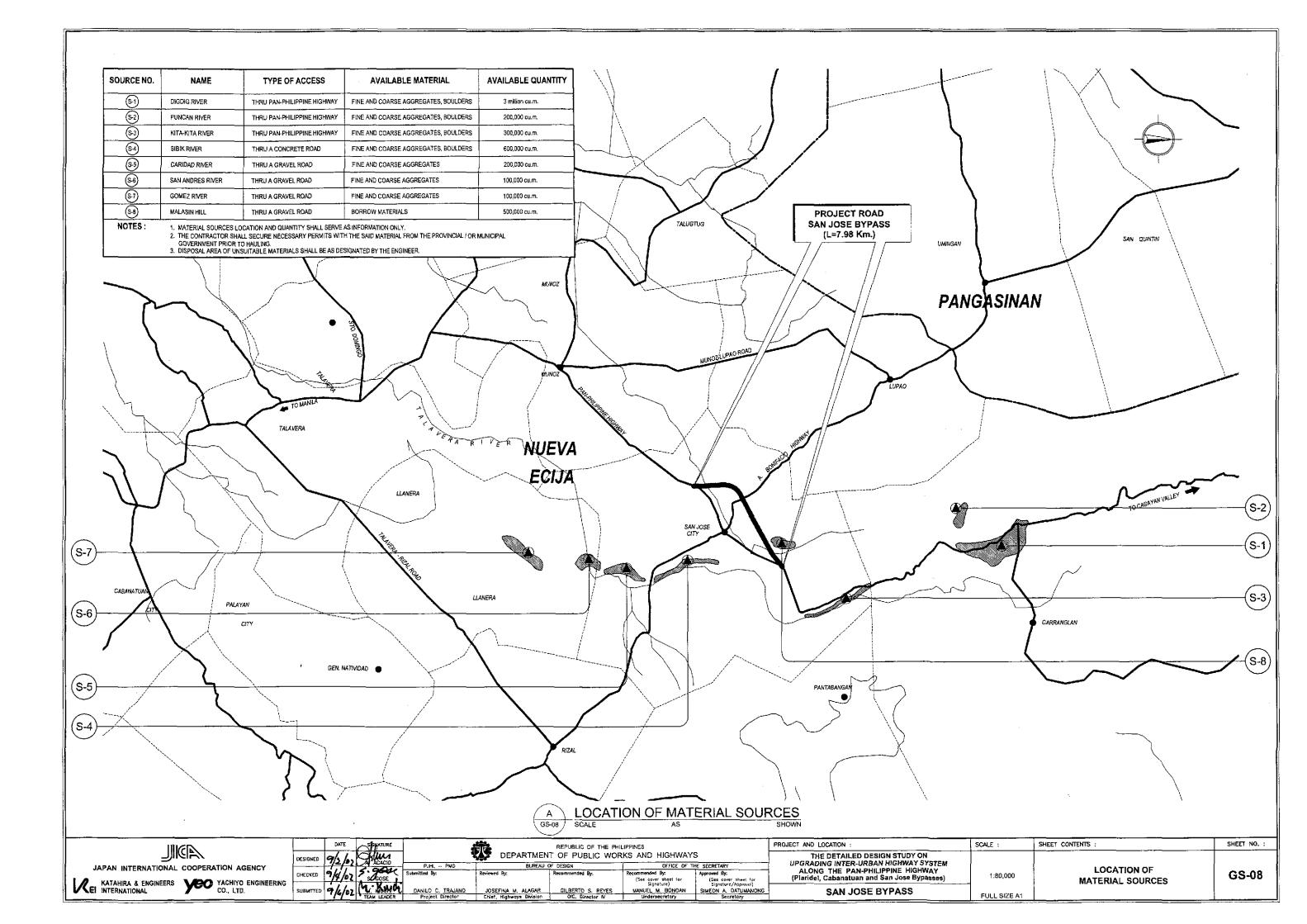
SAN JOSE BYPASS

FULL SIZE A1

GS-05







SUMMARY OF QUANTITIES (INITIAL STAGE)

ITEM														UANTITY (DE	TAILED DES	IGN)									
NO.	DESCRIPTION	UNIT	MAIN BYPASS	RCBC	A -1	T	A-1-2	A-2	A-3	A-3a	A-4		CROSSI	NG A-7	4.0	1 40 1	A 0- 1	C-1		NO 4		DGES	T 110.4	GRAND TOTAL	REMARKS
rt C	Earthworks				A-1	A-1a	A-1-2	A-2	A-3	A-3a	A-4	A-5	A-5	A-/	A-8	A-9	A-9a	Ç-1	C-2	NO.1	NO. 2	NO. 3	NO. 4	TOTAL	
D(1)	Clearing and Grubbing	ha	34.74	_	0.11	T -	0.13	0.14	0.08	0.05	0.17	0.15	0.15	0.43	0.24	0.23	-	0.07	0.07	-	-		-	37.00	
0(3)	Individual removal of trees, Small (150mm ≤ ø <900mm)	each	90.00	-		-	-	_		- 1		-			-	-	-		_	-	_	~	-	90,00	
0(4)	Individual removal of trees, Large (\$\psi \geq 900mm)	each	10.0D	-		-	<u> </u>	_		-	-	-	~	-	-	_		-	-	_		-	-	10,00	· · · · · · · · · · · · · · · · · · ·
01(1)	Removal of Structures and Obstructions	i.s.	1,00	-	_		-	-		- 1	-	-	-	-	-	<u> </u>	-	_	_		_	-	-	1.00	
01(2)	Removal of Existing Pedestrian Bridge (at Bridge No.2)	each	_			-	-	-	_	-	-	-	-	-	-	_		+-		-	1.00	-	_	1.00	
01(3)	Removal of Existing PCC Pavement	m ²	2,547.27	-	218.39	1,286.88	115.43	452.00	415.53	180.00	1,220.00	-	1,098.00		-	785.68	240.00	_	66.00		_		_	8,526.00	
01(4)	Removal of extg. fence (Net Fence w/Barbed Wire & Canc. Posts)	m	70,00	-		-	<u> </u>	-	_	-		-	~		-			_	_	1		-	-	70,00	
31(4)	Removal of existing fence (Concrete Hollow Block)	ш	180.00	-	-	-	~	-		-	-	-	-	-	_	- 1		_	_	-	_	T -	_	180,00	
2(1)	Unsultable Excavation	m ³	106,789.05									_	-	-	-	_		-	-	_	-	-	-	106,790.00	
03(1)	Structure Excavation	m ³	108.04	2222.94	-	+	-	-	-	-	-	-		-	-	_	_			_	_	-	-	2,331.00	
3(2)	Bridge Excavation, Common, Above (Commom Soil)	m ³	_	í]	1		-	_	-	-	-	-	_	_	-	-	268.00	445.00	1,217.00	159.00	2,089.00	
3(2)	Bridge Excavation, Common, Below (Commom Soil)	m ³	-	5	_	-	-	-		_	-	- ,	-	_		- 1	-	_	_	511.00	946.DD	-	579.00	2,036.00	
3(3)	Gravel Foundation Fill	m ³	52.35	149.15			<u> - </u>		-	-		-				_		-		-		-	-	202.00	
3(5)	Pipe Culverts And Drain Excavation	m ³	9,543.85		33.82		26.58		26.58	-		-	26.58	55.57	-	48.32	24.16					-		9,886.00	
3(7)	Granular Backfill for Pipe Culvert	m ³	3,535.23		19.45		15.28	-	15.28			l. <u>-</u>	15.28	31.95	-	27.78	13.89			_		_		3,675.00	
4(1)		m ³	6,000.31		133.01	634.63	128.43	159.28	115.44	54.98	1,011.30		342.32	2,959.23	41.39	529.72	127.66	19.09	229.64					12,540,00	
4 (3)	Embankment from Borrow Pit	m ³	494,029.92		240.01	245.43	321.97	343.54	53.55	90.61		1,169.93	256,36	759.42	538.01	2,599.67	6.23	147.37	541.93	2,101.00	1,718.00	134.00	262.00	505,559.00	
(4)	Embankment from Borrow (Selected Granular Material) for Bridge		ļ		<u> - </u>		-		-		-						-			620.00	610.00	131.00	185.00	1,546.00	
5(1)		m ²	4,225.85							-		- 1		1,037.00	63.25						-		-	5,327.00	
5(2)		m²	<u> </u>	L	_	<u> </u>						640.50		391.42	225.00	<u> </u>	-	120.00	<u> </u>		-	<u> </u>	<u> </u>	1,377.00	
	SUBBASE AND BASE COURSE		1			, ~			T				1			,							Т	,	
<u></u>	Aggregata Subbase Course	m ³	37,467.52		218.32	544.79	381.96	264.85	157.11	77.94	326.71	-	275.70	683.75		929.47	74.19		83.29	35.00	35.00	35.00	35.00	41,726,00	<u></u>
	SURFACE COURSES	1 3	,				,			,,												····	· · · · · · · · · · · · · · · · · · ·	,	
0(1)	Grovel Surface Course	m ³	8,456.53				-			-	_	160.27			140.09	- 		29.69					-	8,787.00	
1(1)I			71,361.96				-		410.00	-	-	 -	-	-	-								-	71,362.00	
	PCC Pavement (Plain), t=230mm	m ²		<u> </u>	517.78	980.42	573.33	643.15	416.08	229.24	954,44		661.21	1,755.28	-	1,862.05	195.59	<u>-</u>	201.56	-		- -	_	8,992.00	
	PCC Pavement (Plain), t=180mm	m ²		-	_ _		ļ <i>-</i> ļ					<u> </u>				- 1						 		27,148.00	Paved Shoulder
(2)	PCC Pavement (Reinforced), t=300mm, Including Dowel Bars	m ²			L <u> </u>							<u> </u>			-					146.00	146.00	146.00	146.00	584.00	Approach Slab
	BRIDGE CONSTRUCTION															,									
• •	Precast Concrete Piles (400 mm x 400 mm), Furnished	m.	ļ <u>-</u>		_		<u> </u>		~											-			1,896.00	1,896.00	
	a Precast Concrete Piles (400 mm × 400 mm), Driven	m.				-																	1,776.0D	1,776.00	
	a Test Piles (400 mm x 400 mm), furnished & driven	m.												_									89.00	89.00	
•	a Pile Shoes For 400mm x 400m, Piles	each					- 1				_	-	<u> </u>				- 1		_	-		-	98.00	98.00	
1(1)	Concrete Railing Type A (Concrete Post & Precast Beams)	m.	-			-						-					-			80.00	80.00	80.00	105.00	345.00	
)4(1)	Reinforcing Steel, Grade 40	kg	7,148.64	137,739.37									-	-	-					30,675.00	33,061.00	31,350.00	48,060.00	288,035.00	
04(2)	Reinforcing Steel, Grade 60	kg					-	<u> </u>			-	-								37,770.00	51,280.00	39,301.00	88,828.00	217,179.00	
	Structural Concrete, Class 'A' (fc'=21MPa) For Heavily Reinf. Struc.		151.42	1,358.18			<u> - </u>				-										-		-	1.520.00	
5(1)	Structural Concrete, Class 'A' (fc'=21MPa, Max. Aggregate 38mm)	m ³	-	_			_	_		_	_	_	_	_	_	_ [_	~	_	540.00	715.00	547.00	478.00	2,280.00	
	for Small & Medium Bridges Substructures					<u> </u>	ļ <u>.</u>		 																
5(1):	Structural Concrete, Class 'A1' (fc'=21MPa, Max. Aggregate 20mm)	m ³	_	_	_	-	- [_	!	- [_	- 1	-	_	-	{	- }	-	-	- 1	_	_	334.00	334.00	
	for Small & Medium Bridges RCDG Superstructures						ļ		ļ			ļ				i									
)5(1)c	Structural Concrete, Class 'A1' (fc'=21MPa, Max. Aggregate 20mm)	m ³		_	_	-	-	-	_	- [-	-	-	-	-	-	-	_	-	169.00	169.00	169.00	_	507.00	
	for Small & Medium Bridges PCDG Supertsructures													 .		 						!			
15(2)	Structural Concrete, Class 'B' (fc'=17MPa, Max. Aggregate 50mm)	m ³	1,304.33	_	6,16	-	4.B4	-	4.84	-	_	-	4.84	10.12	-	8.80	4.40		-	-	-	-	-	1,349.00	
	Plain or Lightly Reinforced Structures																		_						
5(3)	Structural Concrete, Class 'C' (fc'=21MPa) For Thin Reinf, Members						-												1	18.00	18.00	18.00	22.00	76.00	
5(6)	Lean Concrete (fc'=17 MPa, Max. Aggregate 38 mm)	m3	L	97.22			-					-					-			46.00	108.00	46.00	87.00	385.00	
	Prestressed Structural Concrete, Type VI Modified L=40.00m	eoch			-		-			-		-								6.00	6.00	6.00	_	18.00	
	Elostomeric Bearing Pad, Duro 60 (400 x 300 x 50mm)	each					-					- 1		-						-			12.00	12.00	
7(1)		each			-		-									-				12.00	12.00	12.00	-	36.00	
7(2)		m				<u> </u>	-													25.00	25.00	25.00	25.00	100.00	
7(2)	·	m	-									-							-	2,40	2.40	2.40	3.00	11.00	
7(4)	G.I. Drain Pipe #150mm for Bridge Drainage	m	ļ -		_					-		l l						-	_	6.00	6.00	6.00	9.00	27.00	
<u> </u>	d Realignment of River / Stream	L.S.		_	-			_				-	-				- 1			1.00				1.00	
	DRAINAGE AND SLOPE PROTECTION STRUCTURES																								
(1)ь4	RCPC Standard Strength (32Mpa), 610 mm dia. (24")	m	124,00	-			-			-	-	-]	- 1		_	1	_	-	-	124.00	
1)c4		m	_		14.00		11.00		11.00	-		-	11.00	23.00		20.00	10.00			-			-	100.00	
	RCPC Extra Strength (32 Mpa), 910mm dia. (36")	m	1,433.00	Í		_	-			-				_	-		-		1	-		_	-	1,433.00	
1)c7	RCPC Extra Strength (32 Mpa), 1070 mm dia. (42")	m	196.00				-			-	-			_		-	-		ı				-	196.00	
1)c9	RCPC Extra Strength (32 Mpa), 1520 mm dia. (60°)	m	32.00			_	-			-	-	-	-	_	-	- 1			_	-			-	32.00	
	4 Special Junction Box Manhole for RCPC 1-910 x 1-610mm dia.	each	76.00		-		-		_			_		_	-		-	_						75.00	
2)b1	5 Special Junction Box Manhole for RCPC 1-1070 x 1-610mm dia.	each	2.00					-		-		1	-	-	-			_			-			2.00	
(2)b3	4 Special Junction Box Manhole for RCPC 2-910 x 1-610mm dia.	each	6.00		-	-	T - 1		-	-		- "	_	-			-			- 1	-		_	6.00	<u> </u>
(2)bJ	5 Special Junction Box Manhole for RCPC 2-1070 x 1-610mm dia.	each	2.00	-	-	_	1 - 1	-		-	-	-		_			_	-		-	-			2.00	
(2)bJ	7 Special Junction Box Manhole for RCPC 2-1520 x 1-610mm dia.	each	2.00	-	-	-	-			-	-	-	_		-	_		_	_	_	-	-		2.00	
(6)	V-Shaped Lined Ditch	m	4,524.00	~		-	-		_	-	-	_			-					_			_	4,524.00	
	Trapezoidal Lined Ditch B=450mm, H=500mm	m	2,309.00				-	_	-	-		- "		~	_	 -	_	_	-		-			2,309.00	
(7)o	Trapezoidal Lined Ditch B=1000mm, H=500mm	m	123.00	-	_		1 - 1		_	- 1		_		-							_	_		123.00	
			DATE SIGNATI	URE					REPUBLIC	OF THE 5'			·		PROJE	CT AND LOCAT	10N :		<u> </u>	SCALE :		HEET CONTEN	TS :	·	SHEET N
(7)a (7)b	101 ==	- 1													, noot					,	1 5	OVITILIY			OTHER IN
			1		_		יאפטאי					Ю НІСНИ	VAYS			TUE DE	TAILED DES	GN STIPLY	ON						
(7)ь	DESIGNE		1	37	P.III - 514		DEPA	RTMENT	OF PUB			D HIGHW		PRETARY		THE DE	TAILED DES					OHE	IMABY OF	OHANTITIES	
7)ь	APAN INTERNATIONAL COOPERATION AGENCY	ED 9,	12/02	33 10	PJHL - PM Itted By:	0	DEPA	RTMENT BUREAU OF	OF PUB	LIC WO	RKS AN		OF THE SEC	CRETARY		JPGRADING I ALONG TH	NTER-URBA	N HIGHWAY IPPINE HIGH	SYSTEM HWAY	NOTTO	SCALE	SUN		QUANTITIES	
')b		D 9	1	Submi		O Revi		RTMENT BUREAU OF	OF PUB	LIC WO	RKS AN	OFFICE	OF THE SEC		- L	JPGRADING 1	NTER-URBA	N HIGHWAY IPPINE HIGH	SYSTEM HWAY	NOT TO	SCALE	SUN	IMARY OF (INITIAL	STAGE)	GS-

SUMMARY OF QUANTITIES (INITIAL STAGE)

ITEM	DESCRIPTION	UNIT			QUANTITY (DETAILED DESIGN) ROAD CROSSING										BRID	REMARKS									
NO.	DESCRIPTION	DIVIE	MAIN BYPASS	RCBC	A-1	A-1a	A-1-2	A-2	A-3	A-3a	A-4	A-5	A-6	A-7	A-8	A-9	A-9a	C-1	C-2	NO. 1	NO. 2	NO.3	NO. 4	GRAND TOTAL	REMARKS
3/3\a	Cleaning Culvert in place, 910mm dia. or less	m	25.00			T _	T	T -	-	T _ 1		T		~	1 -		Γ -	 		_			- 1	25.00	
	Cleaning Culvert in place, 910mm dia. or less	m	38.00		 		-	 	 -	 - 		 - -	 _		 -	 - -		 	<u> </u>					38.00	·
	Grouted Riprap, Class A	m ³	2,690.51			 _	<u>-</u> -	 	 	+		 _				-		_		366.00	129.00	61.00	105.00	3,353.00	
	Stone Mosonry	m ³	503.78	alter .		 -	 		 	+ - 1	<u> </u>			 		<u> </u>		_		-	~		-	504.0D	
	Hand Laid Rock Apron (Laose Baulder Apron)	m3	358.50			- -		-			-					· <u>-</u> -		-		_	169.00		154.00	682.00	
	Sheet Piles (400 x 85 x 8mm) Furnished & Driven	l.m.	913.50					- "		-	_	_	_						_		1,225.49		1,121.00	3,260.00	
509(1)	Gabions	_m 3		_	~		_	- "	-	 -		_	_				_			276.00	_		152.00	430.00	
510(1)	Rubble Concrete Slope Protection	m ³		_				_		+	_	_	_		_		_		_	_	141.00		119.00	260.00	
Part H -	MISCELLANEOUS STRUCTURES	-			·	·		•			-	1		<u> </u>	·										
o(2)a	Combination Concrete Curb and Gutter	T	4 004 77		11.75	100.10			Τ _	7	21251			T T		700.00						·		4.704.00	
	Type A (675 x 364mm)	l m	4,021.73	_	11.35	122.10	80.50	_	l -	-	218.54	-	[-	[-	[-	325,08	-	- 1	-	_	-	_		4,781.00	I
502(1)	Right-of-way of Concrete Monuments	each	407.00		5.00	4.00	5.00	9.00	15.00	- !	8.00	11.00	12-00	18.00	12.00	3.00	3.00	_	6.00	1	-	_	_	518.00	
802(2)	Maintenance Marker Posts for Drainage	each	112.00		2.00	_	2.00		2.00	-	-	_	2.00	4.00	-	2.00	2.00	-		-	_	-	_	128.00	
503(3)	Kilometer Posts	each	8.00	-	~	_	<u>_</u>		-		-		_	_	-		_			-	~	_ `		8.00	
i03(3)a	Metal Guardrails (Metal Beam), Type A (Embedded in Soil)	m	2,148.00					-		T		-	_	76,00	88.00		-		40.00	-		-		2,352.00	
	Fencing (Chain Link Fence Fabric)	m	185.00		-		70.00	-		-	_	-	-	-				<u> </u>			-		-	255.00	
505 <u>(1)</u> a	Warning Signs (Triangular 900mm)	each				1.00	-		_	<u> </u>	_	-		-	_	2,00		_		-	-	-		23.D0	
	Regulatory Signs (Triangular 1039mm)	each			1.00					-	-	-		-	-			-		1		-		17.00	
605(2)b	+ · · · · · · · · · · · · · · · · · · ·	each				-		2.00	2.00	-		2.00	2.00	2.00	2.00	-	1.00			-				13.00	<u> </u>
605(2)c		each	41.00		1.00	1.00	1.00	-		<u> - </u>	2.00	-			4.00	4.00					-		-	54.00	<u>, </u>
	Regulatory Signs (Rectangular 450 x 750mm)	eoch	16.00		3.00	<u> </u>	1.00	2.00	2.00	 	2.00	2.00	2.00	2,00	2.00								-	34.00	
	Informatory Signs (Type B, Double Post)	each		1.00			_	-		ļ <u>.</u>	_	-								-				1.05	ļ
	Informatory Signs (Type C, Double Post)	each	5.00	1.00			-			2.00	-	-		-		2.00	-							10.00	
	Special Signs (750 x 600mm)	each	-			1.00		ļ -	ļ <u> </u>	2.00	<u> </u>	ļ <u>-</u>			-			-						3.00	
605(4)b		each	 						ļ. <u>-</u> _	 - 					-			-						1.00	<u> </u>
	Special Signs (900 x 550mm)	each					_ _	-		-					1,0D				-				-	1.00	
107(2)a	Reflectorized Pavement Studs (Raised Profile Type, one face reflective)	each	10.00	-	-	5.00	_	–	-	-	_	_	-	-	-	_	-	- {	-	-	-	-	-	15.00	
D7(2)b	Reflectorized Pavement Studs	each	70.00	_	_	_		_	_		10.00	-			_	5.00		_					-	85.00	
	(Raised Profile Type, two faces reflective)		76.00						<u> </u>		10,00	-				J.50								05.00	
07(3)	Chatter Bars (One Face Reflective)	each	324.00	-		38.00		<u> </u>			32.00	_				30.00				-				424.00	
308(1)	Furnishing and Placing of Topsoil	m ³	5,991.01	-	18.05	19.50	9.19	28.02	10.41	8.65	27.54	35.22	24.46	115,63	24.66	4B,62	4.34	8.93	28.14					6,403.00	
310(1)	Sodding	m ²	52,843.92		180,61	195.00	91.89	280.21	104.08	86.47	275.39	352,19	244.61	1,156.33	246.56	486.18	43.37	B9.27	281.36			141.00		57,099.00	
	Trees (Furnishing and Transplanting) Low Tree H ≤ 1.50m	each				<u> </u>	-	-	<u> </u>	├			<u>-</u>	-	-	-		-		-				17,710.00	
	Trees (Furnishing and Transplanting) Medium Tree 1.50m <k<3.00m< td=""><td></td><td>337.00</td><td></td><td></td><td><u> </u></td><td><u> </u></td><td></td><td>ļ<u>.</u></td><td>_</td><td></td><td></td><td>__</td><td></td><td>_</td><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td><td>337.00</td><td></td></k<3.00m<>		337.00			<u> </u>	<u> </u>		ļ <u>.</u>	_			_ _		_			-						337.00	
611(1)c	Trees (Furnishing and Transplanting) High Tree	each	731.00	-	-	-	-	_	_	-	-	-		-	-	-	-	-		-	-	_	-	731.00	1
	(Young Tree) 1,50m <h<3.00m< td=""><td>ļ</td><td><u> </u></td><td></td><td></td><td></td><td>ļ</td><td>ļ</td><td>ļ</td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>ļ</td><td></td><td></td><td></td><td></td></h<3.00m<>	ļ	<u> </u>				ļ	ļ	ļ												ļ				
	Planter Box of CHB (1.00m x 1.00m) for Road Side Plantation	each	 					-	- -			<u> </u>		-	-	-				_				1,033.00	r
	Planter Box of CHB (3.00m x 1.00m) for Road Side Plantation	each	965.25							├		-				-								966.QD	
	Reflectorized Thermoplastic Povement Markings (White)	m ²	3,381.51		38,19	64.33	28.47	105.02	54.55		147.36	t	96.20	51.DO		83.68	25.48	1.80			-			4,162.0p	
512(1)b		m ²	291.87				_	-				- '	- -		_	٦								292.00	
.615(3)	Dustproof Concrete Paving for Median		95.60				-		ļ - - -						-						-			97.00	
.620(1)0	Traffic Signal Pole Type A (Mast Arm Post H=6.7m)	each							├		-						_							6.00	
	Troffic Signal Pole Type A (Mast Arm Post H=5.0m)	each	+					<u> </u>	 - -	-		-	-=-							-				1.00	
	Traffic Signal Pole Type B (#114.3mm x 4.2m)	each each						<u> </u>	 -						-	-		. _		-			-	6.00	
	Traffic Signal Pole Type C (#114.3mm x 3.4m)	each each		_				-		-		-				-								15.00	
	Traffic Signal Pole Type D (#114.3mm x 3.0m) Traffic Signal Lamps Type B (3 Vehicle Lamps)	each					-			 -	_	-	-	-	-									5.00	
		_						- -	 -	-				-			<u>-</u>							37.00 16.00	
	Troffic Signol Lamps Type C (2 Pedestrion Lamps) Street Lighting Poles (Single Lamp)	each			7.00	<u> </u>	_			- 1		-				1,00		-							
	<u> </u>	each each			7.00					-	4.00		<u> </u>	<u> </u>	-	3,00			-		-			8.00 44.00	
	Street Lighting Poles (Dual Lamp) Street Lighting Service pole with Ponel	each			1.00		- -	<u>-</u> -	-	 . <u>-</u> −	1.00					1,00									
.020(4)0	Street Lighting Service pole with Fune	eccn	 		1.00	<u> </u>	- 	-	 -		1.00					1.00								3.00	
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ADDII JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS YACHIYO ENGINEERING CO., LTD.

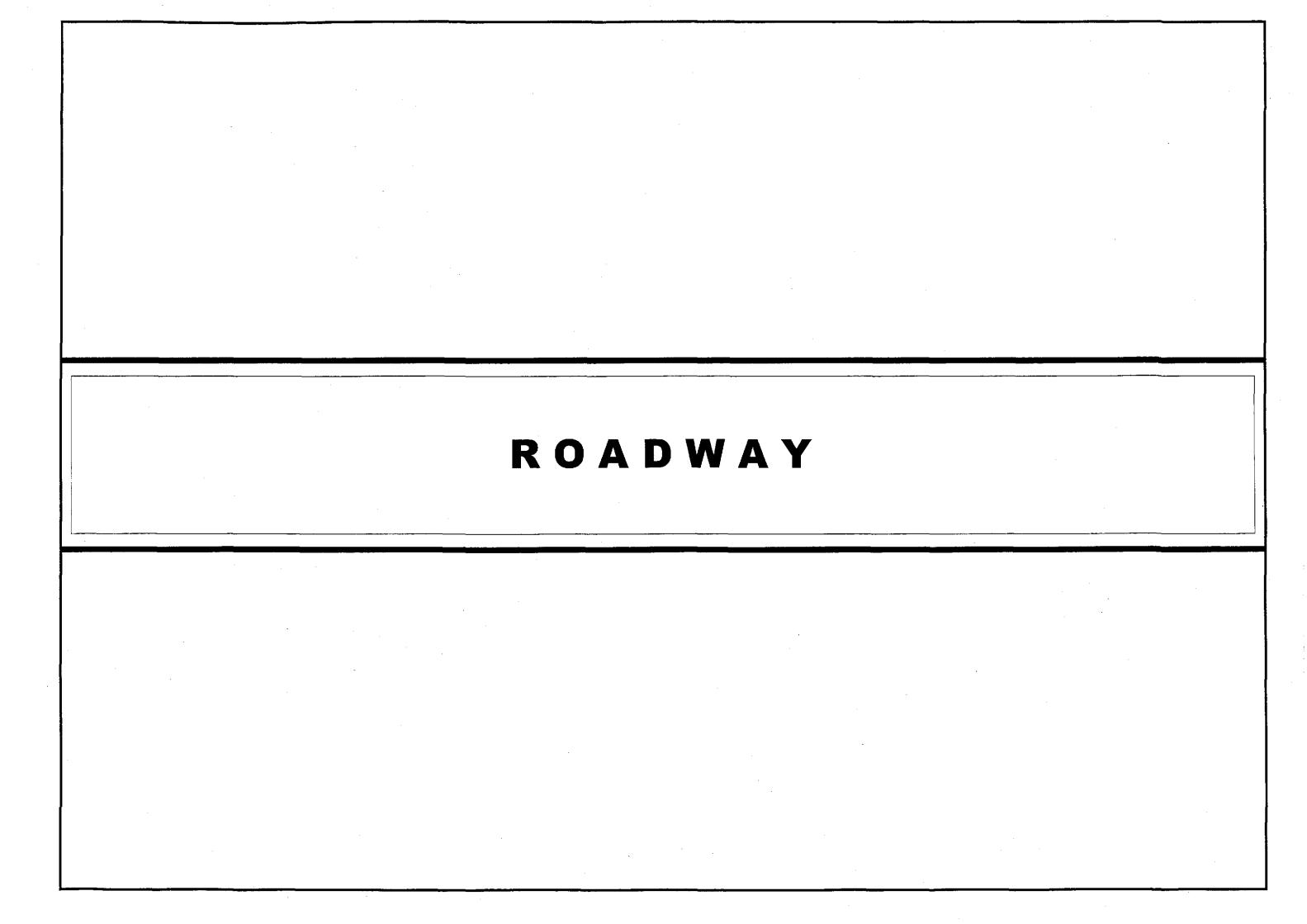
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DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) SAN JOSE BYPASS

SUMMARY OF QUANTITIES NOT TO SCALE (INITIAL STAGE) (2 of 2) FULL SIZE A1

GS-10



GENERAL NOTES HIGHWAY / CIVIL AND DRAINAGE NOTES

1.0 DESIGN STANDARDS / SPECIFICATIONS

- 1.1 ALL GEOMETRIC DESIGN STANDARDS SHALL COMPLY WITH THE VALUES PRESCRIBED IN "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS", 1994 EDITION OF THE AMERICAL ASSOCIATION OF STATE HIGHWAYS AND TRANSPORTATION OFFICIALS (AASHTO), AND "DESIGN GUIDELINES CRITERIA AND STANDARDS" ISSUED BY THE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH).
- 1.2 ALL WORKS SHALL COMPLY WITH THE DPWH STANDARD SPEICIFICATIONS, 1995 EDITION, VOLUME II, HIGHWAYS, BRIDGES, AND AIRPORTS. AND THE SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS FOR THIS PROJECT.

2.0 SURVEY CONTROLS AND REFERENCES

2.1 HORIZONTAL CONTROL IS BASED THROUGH GLOBAL POSITIONING SYSTEM (GPS) ESTABLISHED BY THE GEODESY SERVICES, INC. CORRESPONDING GPS STATIONS ARE AS FOLLOWS:

GPS STA.	NORTHING	EASTING	ELEVATIONS	DESCRIPTION
SJ–1	1744609.148	495838.819	97.410	LOCATED IN BGY. TANAWAN. IT IS EMBEDDED BESIDE AN IRRIGATION PUMP ABOUT 200m. FROM THE HIGHWAY AND ABOUT 80m. FROM THE FOOT OF A TRANSMISSION TOWER.
SJ-2	1745086.656	496178.856	99.115	LOCATED IN BGY. ABAR. FROM CABANATUAN TO SAN JOSE TAKE A LEFT TURN TO A CONCRETE ROAD. IT IS 97m. FROM THE HIGHWAY AND 5m. ON THE LEFT FROM THE ROAD.
SJ-3	1747572.469	497041.304	110.268	LOCATED IN BGY, STO. NIÑO. IT IS EMBEDDED ON THE GROUND IN THE MIDDLE OF THE RICEFIELD NEAR A WATER PUMP.
SJ-4	1747603.872	497305.904	110.649	LOCATED IN BGY, STO. NIÑO. IT IS EMBEDDED ON THE MIDDLE OF THE FIELD NEAR A SMALL CREEK.
SJ-5	1749648.826	500632.894	133.226	LOCATED IN BGY. KITA-KITA. IT IS EMBEDDED IN FRONT OF OBLATE APOSTLES OF THE TWO HEARTS OF JESUS AND MARY CHURCH BESIDE THE HIGHWAY.
SJ-6	1750035.698	500574.838	137.364	LOCATED IN BGY. KITA-KITA. FROM THE CHURCH TAKE A LEFT TURN ON A CONCRETE ROAD BEFORE THE BARANGAY HALL, 57m. FROM THE CENTERLINE. IT IS EMBEDDED IN FRONT OF VENTURINA'S RESIDENCE 22m. FROM THE ROAD CENTERLINE.

2.2 VERTICAL CONTROL IS REFERRED TO BM NJ-92 ESTABLISHED BY THE SJ'S WITH ELEVATION 105.688m. ABOVE MEAN SEA LEVEL LOCATED IN THE PROVINCE OF NUEVA ECIJA, TOWN OF SAN JOSE, ALONG THE NATIONAL HIGHWAY NO. 5, AND AT THE TOWN PLAZA. IT IS EMBEDDED IN A HOLE DRILLED ON TOP OF THE BASE OF RIZAL MONUMENT, ABOUT 45m. N OF CENTERLINE OF THE HIGHWAY, ABOUT 45m. W OF THE CATHOLIC CHURCH, ABOUT 50m. S OF THE ST. JOSEPH'S COLLEGE, 0.1m S OF THE N EDGE OF THE CONCRETE BASE, AND 0.72m. ABOVE THE GROUND. MARK IS PC; GS NJ 92 1952

3.0 ALIGNMENT CONTROLS AND REFERENCES

- 3.1 PROJECT IMPLEMENTATION OF ALL BYPASSES SHALL BE DONE IN STAGE CONSTRUCTION. INITIAL STAGE CONSISTS OF CONSTRUCTING TWO LANE—TWO WAY HIGHWAY AS SHOWN IN THE TYPICAL SECTIONS, SERVICE FRONTAGE ROADS PROVIDED AT EACH SIDE OF THE HIGHWAY SHALL BE CONSTRUCTED WITH GRAVEL SURFACE ONLY. ULTIMATE STAGE SHALL BE THE CONCRETING OF TRICYCLE/BIKE FRONTAGE ROADS WITH OTHER ROADSIDE FACILITIES NOT YET INCLUDED DURING THE INITIAL STAGE.
- 3.2 THE FOLLOWING MAJOR POINTS CONTROLLED THE DESIGN OF HORIZONTAL AND VERTICAL ALIGNMENT:
 - 3.2.1 ALONG SAN JOSE BYPASS
 - SWAMPY AREA/IRRIGATION RESERVOIR (LEFT SIDE OF STA. 157+000.00 CENTERLINE)
 - PANLASIAN CREEK (LEFT SIDE OF STA. 157+900.00 CENTERLINE)
 - NATIONAL POWER CORPORATION TRANSMISSION TOWER (LEFT SIDE OF STA. 161+040.00)
 - SWAMPY AREA (RIGHT SIDE OF STA. 161+700.00 CENTERLINE)
 - IRRIGATION SLUICE GATE (LEFT SIDE OF STA. 162+250.00 CENTERLINE)
- 3.3 SIMPLE CIRCULAR CURVES, THREE-CENTERED CIRCULAR CURVES AND CLOTHOID CURVES WERE USED FOR HORIZONTAL CURVATURES, AND PARABOLIC CURVES WERE USED TO SMOOTHEN GRADE BREAKS.
- 3.4 DESIGN OF VERTICAL ALIGNMENT WAS CONTROLLED BY THE DESIGN MAXIMUM FLOOD LEVEL, 25-YEAR RETURN PERIOD FOR EMBANKMENT. 50-YEAR RETURN PERIOD FOR BRIDGE AND DRAINAGE STRUCTURES MINIMUM COVERING AS INDICATED IN THE PROFILES.
- 3.5 EXISTING PAVEMENT GRADES OF PAN-PHILIPPINE HIGHWAY.

4.0 DIMENSIONS

4.1 DISTANCES AND ELEVATIONS SHOWN ON THE PLANS ARE IN METERS (m) AND IN MILLIMETERS (mm) UNLESS OTHERWISE SPECIFIED. OTHER UNITS OF MEASUREMENT ARE EXPRESSED IN THE MORE APPROPRIATE UNITS OF THE S.I. SYSTEM AS ADOPTED IN THE DPWH STANDARD SPECIFICATIONS, 1995 (VOLUME II).

5.0 STATIONINGS

- 5.1 CENTERLINE STATIONINGS OF THE PROJECT WERE BASED FROM THE NEAREST KILOMETER STATION ALONG THE PAN-PHILIPPINE HIGHWAY WHICH IS KM.156 NEAR THE START OF BYPASS.
- 5.2 ROAD STATIONS AND ELEMENTS OF CURVE, BOTH HORIZONTAL AND VERTICAL ALIGNMENTS, ARE RELATIVE TO THE ROAD CENTERLINE/BASELINE UNLESS OTHERWISE INDICATED ON PLANS.

6.0 ELEVATIONS AND GRADES

6.1 ELEVATIONS AND GRADES AS DESCRIBED IN THE ROAD PROFILES ARE TOP OF FINISHED PAVEMENT ALONG THE CENTERLINE AND/OR REFERENCE LINE INDICATED IN THE TYPICAL ROADWAY SECTIONS.

7.0 HORIZONTAL TRANSITIONS

7.1 HORIZONTAL TRANSITIONS FOR ROADWAY TAPERINGS/WIDENINGS ARE DESIGNED TO BE STAKED OUT BY THE OFFSETS FROM THE BASELINE INCREASING OR DECREASING ALONG THE DIRECTION OF TRAFFIC.

8.0 UTILIZATION OF GRAVEL MATERIALS ALONG TRICYCLE AND GRAVEL CROSS ROADS

B.1 GRAVEL MATERIALS ALONG THE TRICYCLE AND GRAVEL CROSS ROAD IN THE INITIAL STAGE SHALL BE EXCAVATED AND RECONSTRUCTED AS SUBBASE MATERIALS TO THICKNESS AS SHOWN AND INDICATED ON THE TYPICAL SECTIONS FOR THE ULTIMATE STAGE, RECONSTRUCTION OF THE SUBBASE MENTIONED SHALL BE DONE, FOLLOWING THE NORMAL REQUIREMENT IN SUBGRADE PREPARATION.

9.0 REMOVAL OF EXISTING STRUCTURES AND OBSTRUCTIONS

9.1 ARTICLE 4.7 OF THE "GENERAL REQUIREMENTS AND COVENANTS" IS HEREBY AMENDED AS FOLLOWS:

THE REMOVAL OF BUILDINGS, HOUSES, FENCES, UTILITY POLES AND OTHER PUBLIC UTILITIES WILL NOT BE THE RESPONSIBILITY OF THE CONTRACTOR BUT WILL BE REMOVED BY THE RESPECTIVE OWNERS, OR THE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS PRIOR TO CONSTRUCTION.

10.0 ROAD CONNECTIONS AND PRIVATE ENTRANCES

- 10.1 OPENINGS FOR DRIVEWAYS OR PRIVATE ENTRANCES SHALL BE CONSTRUCTED ONLY ALONG SECTIONS OF THE PROJECT ROAD WHERE FRONTAGE ROADS AND/OR TURNOUTS ARE TO BE PROVIDED. SUCH CONNECTIONS SHALL BE DETERMINED BY THE ENGINEER AND SHALL. BE CONSTRUCTED IN SUCH A MANNER AS TO INSURE PROPER CONNECTION AND RIDING QUALITY.
- 10.2 ROAD CONNECTIONS SHALL BE CONSTRUCTED AS SHOWN ON PLANS. THE ROAD STRUCTURE OF EACH CONNECTION SHALL BE AS RECOMMENDED IN THE DRAWING.
- 10.3 THE INTERSECTIONS NOT SHOWN ON THE DRAWINGS SHALL REQUIRE PLANS SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTIONS
- 10.4 THE LIMIT OF CONSTRUCTION FOR ROAD CONNECTIONS AND PRIVATE ENTRANCES SHALL BE AS SHOWN IN THE DRAWING OR AS DETERMINED BY THE ENGINEER.

11.0 DRAINAGE STRUCTURES

- 11.1 EXACT LOCATIONS, SLOPES, OUTFALLS, AND INVERT ELEVATIONS OF DRAINAGE STRUCTURES SHALL BE CHECKED IN THE FIELD BY THE ENGINEER. MINOR ADJUSTMENTS MAY BE MADE TO SUIT ACTUAL FIELD CONDITIONS UPON APPROVAL OF THE ENGINEER.
- 11.2 EXISTING DRAINAGE STRUCTURES THAT ARE FAULTY, BROKEN DOWN, OR NOT IN GOOD WORKING CONDITION SHALL BE DETERMINED IN THE FIELD. RECONSTRUCTION, REPAIR AND/OR REPLACEMENT OF SAME SHALL BE DIRECTED BY THE ENGINEER, AND SHALL CONFORM TO THE STANDARDS AS SHOWN IN THE DRAWINGS.
- 11.3 EXISTING DRAINAGE STRUCTURES OR PARTS THEREOF REMOVED BY THE CONTRACTOR THAT ARE STILL SERVICEABLE SHALL BE TURNED OVER TO THE GOVERNMENT AND SHALL BE DEPOSITED AT A PLACE DESIGNATED BY THE ENGINEER WITHOUT ANY COMPENSATION. EXTREME PRECAUTIONS SHALL BE EXERCISED BY THE CONTRACTOR NOT TO DAMAGE THESE MATERIALS DURING THE REMOVAL AND HANDLING OPERATION.
- 11.4 THE CLEANING, UNCLOGGING AND / RELAYING OF REINFORCED CONCRETE PIPES, CONSTRUCTION OF CHANNELS AND DITCHES
 AS DIRECTED BY THE ENGINEER TO ENSURE AN OPERATIONAL TEMPORARY DRAINAGE SYSTEM DURING THE CONSTRUCTION PERIOD
 SHALL BE UNDERTAKEN BY THE CONTRACTOR WITHOUT ANY COMPENSATION.

12.0 ACCESSIBILITY LAW:

12.1 STRICT COMPLIANCE WITH BATAS PAMBANSA BILANG 344 AND ITS IMPLEMENTING RULES AND REGULATIONS SHALL BE IMPOSED.

13.0 TREE PLANTING ALONG NATIONAL ROADS

13.1 DPWH DEPARTMENT ORDER NO. 15, SERIES OF 2000 AND ITS REQUIREMENTS SHALL BE IMPOSED.

THE PLANTING OF TREES ALONG NATIONAL ROADS SHALL BE MADE A STANDARD COMPONENT OF ALL ROAD CONSTRUCTION AND IMPROVEMENT PROJECTS TO ENHANCE QUALITY OF ENVIRONMENT.

14.0 DESIGN DATA / REFERENCES

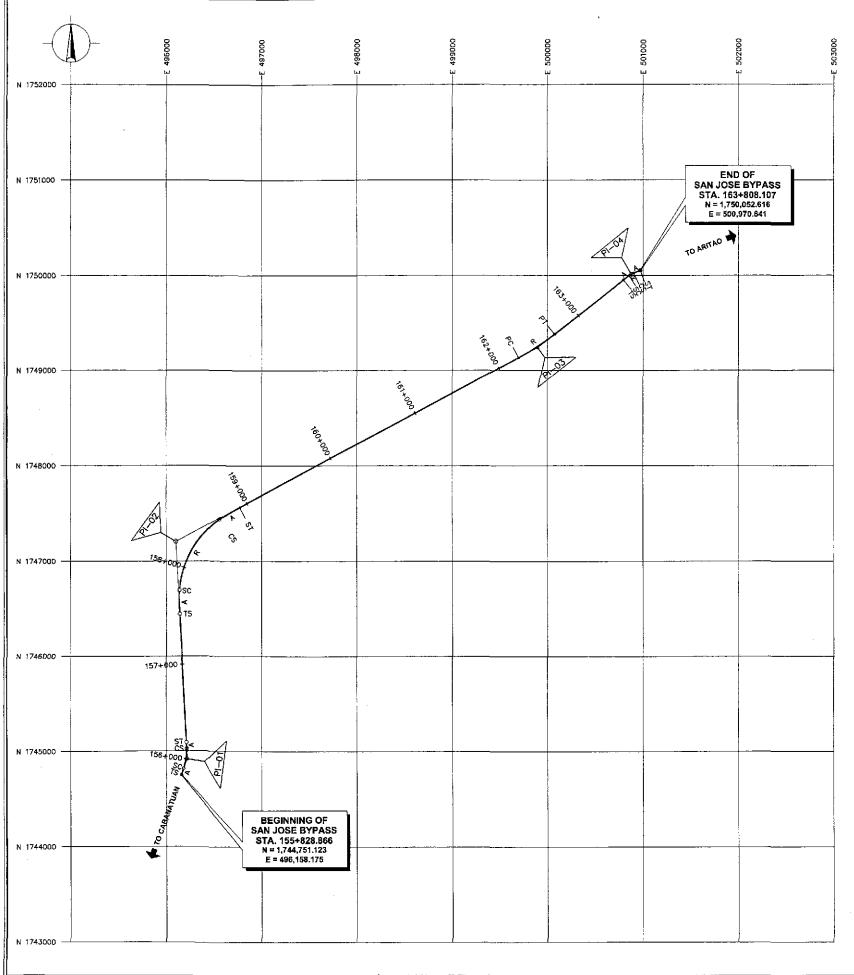
14.1 REPORTS

- FEASIBILITY STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHIL HIGHWAY (PLARIDEL, CABANATUAN AND SAN JOSE BYPASSES), FINAL REPORT, NOVEMBER 1999.
- DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY, BASIC DESIGN REPORT, SEPTEMBER 2001.

14.2 DRAWING

- FEASIBILITY STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHIL. HIGHWAY (PLARIDEL, CABANATUAN AND SAN JOSE BYPASSES).
- DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY, BASIC DESIGN DRAWINGS, SEPTEMBER 2001.

INICID		DATE	SINGATURE			REPUBLIC OF THE PHI	LIPPINES		PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	DESIGNED	1/2/02	ACACIO			IT OF PUBLIC WOR			THE DETAILED DESIGN STUDY ON			
JAPAN INTERNATIONAL COOPERATION AGENCY	 	1 1 1 1	Lass.	PJHL - PMO	BUREAU	OF DESIGN	OFFICE OF	HE SECRETARY	UPGRADING INTER-URBAN HIGHWAY SYSTEM	ĺ	GENERAL NOTES	ĺ
SALAN INTERNATIONAL BOOK ENGINEER AGENCY	CHECKED	3/1/62	2.200	Submitted By:	Reviewed By:	Recommended By:	Recommended By:	Approved By:	ALONG THE PAN-PHILIPPINE HIGHWAY	NOT TO SCALE	GENERAL NOTES	RG-01
KATAHIRA & ENGINEERS VACHIYO ENGINEERING		7/4/02	5. 480SE -	1		1	(See cover sheet for	(See cover shoot for	(Plaridel, Cabanatuan and San Jose Bypasses)	11011000722	HIGHWAY/ CIVIL AND DRAINAGE	17.0-01
	CHIPHOTEC I	-1. L-1	As While	DANILO G. TRAJANO	JOSEFINA M. ALAGAR	GILBERTO S. REYES	Signature) MANUEL M. BONOAN	Signature/Approval) SIMEON A. DATUMANONG	CAN LOGE DYDAGO	1		i
VEI INTERNATIONAL CO., LTD.	2000ILLED L	7 <i>161</i> 024	TEAM LEADER	Project Director				VIII.	SAN JOSE BYPASS	FULL SIZE A1	1	
		,	IEAM LEADER _	Project Director	Chief, Highwaye Division	OIC, Director N	Undersecretory	Secretory	<u> </u>	I FULL SIZE AT	L	



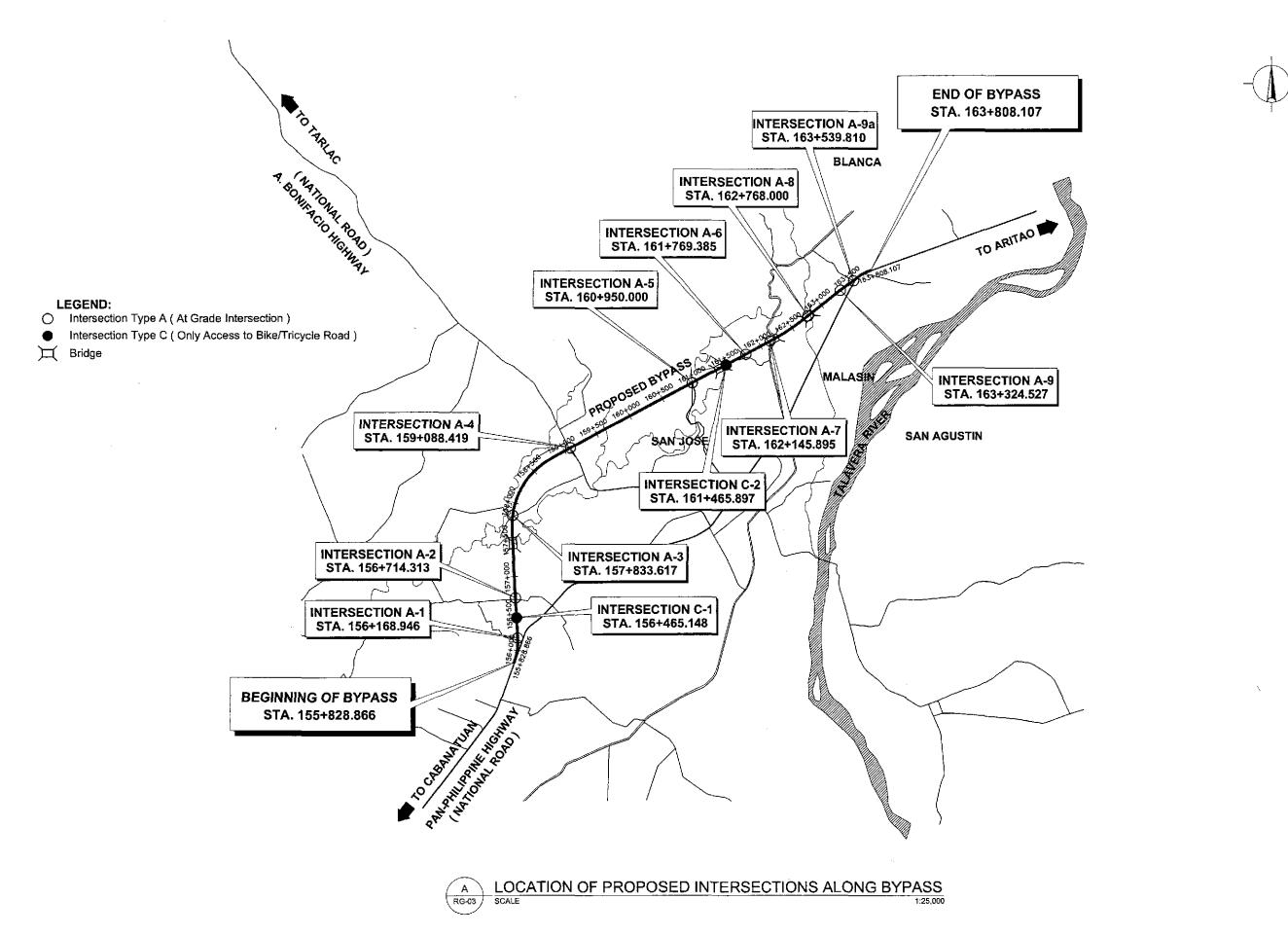
	TAE	BLE OF CO	ORD	INATES	
P.I. No.	NORTHING	EASTING		NORTHING	EASTING
01			TS	1,744,751.123	496,158.175
	1 744 017 334	496,218,670	SC	1,744,816.470	496,180,748
	1,744,917.334	490,216.070	CS	1,745,024.881	496,211.943
			ST	1,745,093.972	496,209.493
		•	TS	1,746,444.965	496,139.302
02	1,747,204.691	496,099.830	2C	1,746,694.780	496,136.742
	1,747,204.091	450,055.000	cs	1,747,437.151	496,555.170
,		· -	ST	1,747,564.316	496,770.210
03	1,749,242,645	499,898.792	PC	1,749,136.385	499,700.712
	77. 12.12.10.10	100,000	PT	1,749,382.535	500,074.739
			TS.	1,749,953.293	500,792.617
04	1 750 047 577	EAO 077 171	SC	1,749,998.094	500,852,729
04	1,750,017.577	500,873.471	CS	1,750,024.994	500,900.944
			ST	1,750,052.616	500,970.641

			ELEM	ENTS OF (CURVES			;
P.I. No.	STATION	DISTANCE	A 71141 ITL	TANGENT	DEFLECTION	Α	Ls	STATION
P.I. NO.	STATION	DISTANCE	AZIMUTH	⊖s	ANGLE	R	Lc	STATION
		176.877	199"59'59"	176.877		220.000	69.143	TS=155+828.866
01	156+005.743	170.077	135 35 35	170.077	0015 01 05 0	220.000	09.143	SC=155+898.009
VI	130+003.743			02'49'47"	22'58'26"	700,000	211.537	CS=156+109.545
		2,290,443	177'01'33"	02 43 47		700.000	211.007	ST=156+178.688
		·	177 01 33	760,749	64'45'46"	500,000	750 000	TS=157+531.504
02	159, 202 254			750.749		500.000	250.000	SC=157+781.504
02	158+292.254		241'47'19"	07*09*43*	07 75 70	1,000.000	880.324	CS=158+661.828
		4,311.075				1,000.000	000.024	ST=158+911.828
		4,511.075		001.701	10MG,140m	_	-	_
03	162+462.154			224.781				PC=162+237.372
05	1027402.104	,			1016'32"	2,500,000	448,357	PT=162+685.729
		1,245.198	231*30'47"	_		2,500.000		_
		1,243.190	231 30 47	103.295		177 005	75 000	TS=163+602.852
04	163+706.146			140.250	18*39'28"	173.205	75.000	SC=163+677.852
	103+700.146	103.295	250*10'15"	05'22'17"	1,003,20	400.000	55.255	CS=163+733.107
L		103.295	250 10 15	03 22 17	<u> </u>	400.000	33.233	ST=163+808.107

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

DESIGNED	DATE	STINATURE MILL	4	DEPARTMEN	REPUBLIC OF THE PHIL T OF PUBLIC WOR	IPPINES KS AND HIGHWAYS	}
CHECKED	9/4/02	S. GOSE	PJHL - PMO Submitted By:	BUREAU C Reviewed By:	F DESIGN Recommended By:	OFFICE OF TH Recommended By: (See cover sheet for	E SECRETARY Approved By: (See cover sheet for
SUBMITTED	9/1/02	TEAM LEADER	DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S, REYES OIC, Director N	Signature) MANUEL M. BONOAN Undersecretary	Signature/Approvel) SIMEON A. DATUMANONG Secretary

	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)	1:20,000	ALIGNMENT TECHNICAL DESCRIPTION	RG-02
:	SAN JOSE BYPASS	mul pope sa		



PROJECT AND LOCATION : SCALE : SHEET CONTENTS : SHEET NO. : 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) JAPAN INTERNATIONAL COOPERATION AGENCY **LOCATION OF INTERSECTIONS** 1:25,000 RG-03 (See cover sheet for Signature) MANUEL M. BONDAN Undersecretory ALONG BYPASS KATAHIRA & ENGINEERS YACHIYO ENGINEERING CO., LTD. SAN JOSE BYPASS FULL SIZE A1

SCHEDULE OF TRAFFIC SIGNS

(INITIAL STAGE)

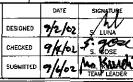
STATION	REFERENCE NO.	REMARKS	STATION	REFERENCE NO.	REMARKS
TEM 605 (1) WARNING SIGNS (TRI	ANGULAR 900mm)		8.0) 0 + 975.00	R3−6P	LEFT SIDE INTERSECTION A-3
1.0) 156 + 058.000	W3-1	RIGHT SIDE OF MAIN BYPASS	9.0) 1 + 035.00	R3-6P	RIGHT SIDE INTERSECTION A-3
2.0) 156 + 005.000	W8-3A	RIGHT SIDE OF PAN-PHIL HIGHWAY	10.0) 0 + 060.00	R3-6P	LEFT SIDE INTERSECTION A-4
3.0) 156 + 063.000	W4-2(R)	LEFT SIDE OF MAIN BYPASS	11.0) 0 + 140.00 12.0) 0 + 056.00	R3~6P R3−6P	RIGHT SIDE INTERSECTION A-4 LEFT SIDE INTERSECTION A-5
4.0) 156 + 290.000	W3-1	LEFT SIDE OF MAIN BYPASS	12.0) 0 + 056.00 13.0) 0 + 132.00	R3~6P	RIGHT SIDE INTERSECTION A-5
5.0) 156 + 596.000	W2-8	RIGHT SIDE OF MAIN BYPASS	14.0) 0 + 955.00	R3-6P	LEFT SIDE INTERSECTION A-6
6.0) 156 + 820.000	W2-B	LEFT SIDE OF MAIN BYPASS	15.0) 1 + 030.00	R3-6P	RIGHT SIDE INTERSECTION A-6
7.0) 157 + 710.000	W2-B	RIGHT SIDE OF MAIN BYPASS	16.0) 0 + 188.00	R3-6P	LEFT SIDE INTERSECTION A-7
8.0) 157 + 965,000	W2-B	LEFT SIDE OF MAIN BYPASS	17.0) 0 + 255.00	R3-6P	RIGHT SIDE INTERSECTION A-7
9.0) 158 + 970.000	W3-1	RIGHT SIDE OF MAIN BYPASS	18.0) 0 + 974.00	R3-6P	LEFT SIDE INTERSECTION A-8
10.0) 159 + 210.000 11.0) 160 + 825.000	W3-1	LEFT SIDE OF MAIN BYPASS RIGHT SIDE OF MAIN BYPASS	19.0) 1 + 025.00	R3-6P	RIGHT SIDE INTERSECTION A-8
12.0) 161 + 075.000	W2-8 W2-B	LEFT SIDE OF MAIN BYPASS	20.0) 163 + 675.00	R3-6P	LEFT SIDE MAIN BYPASS
13.0) 161 + 645.000	W2-8	RIGHT SIDE OF MAIN BYPASS	21,0) 156 + 182.00	R2-7(L)	CENTER ISLAND MAIN BYPASS
14.0) 161 + 892.000	W3-1	LEFT SIDE OF MAIN BYPASS	22.0) 156 + 696.00	R2-7(L)	CENTER ISLAND MAIN BYPASS
15.0) 162 + 010.000	W3-1	RIGHT SIDE OF MAIN BYPASS	23.0) 156 + 735.00	R2-7(L)	CENTER ISLAND MAIN BYPASS
16.0) 162 + 265.000	₩2-8	LEFT SIDE OF MAIN BYPASS	24.0) 157 + 811.00	R2-7(L)	CENTER ISLAND MAIN BYPASS
17.0) 162 + 656.000	W3-1	RIGHT SIDE OF MAIN BYPASS	25.0) 157 + 856.00 26.0) 159 + 072.00	R2-7(L) R2-7(L)	CENTER ISLAND MAIN BYPASS CENTER ISLAND MAIN BYPASS
18.0) 162 + 880.000	W3-1	LEFT SIDE OF MAIN BYPASS	27.0) 159 + 103.00	R27(L)	LEFT SIDE MAIN BYPASS
19.0) 163 + 205.000	W3-1	RIGHT SIDE OF MAIN BYPASS	28.0) 159 + 103.00	R2-7(L)	CENTER ISLAND MAIN BYPASS
20.0) 163 + 550.000	W42	RIGHT SIDE OF MAIN BYPASS	29.0) 160 + 930.00	R2-7(L)	CENTER ISLAND MAIN BYPASS
21.0) 163 + 650.000	W2-8	LEFT SIDE OF MAIN BYPASS	30.0) 160 + 970.00	R2-7(L)	CENTER ISLAND MAIN BYPASS
22.0) 0 + 085.000	W2-10(L)	CENTER ISLAND OF A-9 ROAD CROSSING	31,0) 151 + 747,00	R2-7(L)	CENTER ISLAND MAIN BYPASS
23.0) 0 + 119.617 TOTAL NO. OF WARNING	WB-3B	CROSS ROAD AT INTERSECTION A-9	32,0) 161 + 792.00	R2-7(L)	CENTER ISLAND MAIN BYPASS
			33.0) 162 + 123.00	R2~7(L)	CENTER ISLAND MAIN BYPASS
TEM 605 (2)a REGULATORY SIGN	S (TRIANGULAR 1039mm)		34.0) 163 + 520.00	R2-7(L)	CENTER ISLAND MAIN BYPASS
1.0) 0 + 983.00	R1-2	RIGHT SIDE INTERSECTION OF A-1	TOTAL NO. OF WARNI	ING SIGNS 34.00 pcs	
2.0) 156 + 710.00	R1-2	RIGHT SIDE MAIN BYPASS	ITEM 605 (2)d REGULATORY S	IGNS (CIRCULAR 600mm DIA.)	
3.0) 156 + 723.00	R1-2	LEFT SIDE MAIN BYPASS	1.0) 155 + 900.00	R2-3	CENTER ISLAND MAIN BYPASS
4.0) 157 + 837.00 5.0) 157 + 837.00	R1-2	RIGHT SIDE MAIN BYPASS LEFT SIDE MAIN BYPASS	2.0) 156 + 170.00	R3-14A	RIGHT SIDE MAIN BYPASS
6.D) 159 + 072.00	R1-2	RIGHT SIDE MAIN BYPASS	3.0) 156 + 153.00	R3-13	RIGHT SIDE PAN-PHIL HIGHWAY
7.0) 159 + 097.00	R1-2	LEFT SIDE MAIN BYPASS	4.0) 156 + 155.00	R3-15	CENTER ISLAND MAIN BYPASS
8.0) 160 + 930.00	R12	RIGHT SIDE MAIN BYPASS	5.0) 0 + 983.00	R3-13A	LEFT SIDE INTERSECTION A-1
9.0) 160 + 970.00	R1-2	LEFT SIDE MAIN BYPASS	6.0) 156 + 182.00	R3-15	CENTER ISLAND MAIN BYPASS
10.0) 161 + 755.00	R1-2	RIGHT SIDE MAIN BYPASS	7.0) 156 + 280.00	R2-3	CENTER ISALND PAN-PHIL HIGHWA
11.0) 161 + 755.00	R1-2	LEFT SIDE MAIN BYPASS	8.0) 156 + 292.00 9.0) 156 + 583.00	R2-3 R2-3	CENTER ISLAND MAIN BYPASS
12.0) 162 + 123.00	R1-2	RIGHT SIDE MAIN BYPASS	9.0) 156 + 583.00 10.0) 156 + 696.00	R3-15	CENTER ISLAND MAIN BYPASS CENTER ISLAND MAIN BYPASS
13.0) 162 + 166.00	R1-2	LEFT SIDE MAIN BYPASS	11.0) 156 + 735.00	R3-15	CENTER ISLAND MAIN BYPASS
14.0) 162 + 750.00	R1-2	RIGHT SIDE MAIN BYPASS	12,0) 156 + 846.00	R2-3	CENTER ISLAND MAIN BYPASS
15.0) 163 + 307.00	R1-2	RIGHT SIDE MAIN BYPASS	13.0) 157 + 700.00	R2-3	CENTER ISLAND MAIN BYPASS
16.0) 163 + 720.00	R1-2	RIGHT SIDE MAIN BYPASS	14.0) 157 + 811.00	R3-15	CENTER ISLAND MAIN BYPASS
TOTAL NO. OF REGULATO	 RY SIGNS 16.00 pcs	<u> </u>	15.0) 157 + 856.00	R3-15	CENTER ISLAND MAIN BYPASS
			16.0) 157 + 967.00	R2-3	CENTER ISLAND MAIN BYPASS
TEM 605 (2)6 REGULATORY SIGN	 		17.0) 158 + 943.00	R2-J	CENTER ISLAND MAIN BYPASS
1.0) D + 970,00	R1-1A	LEFT SIDE INTERSECTION A-2	18.0) 159 + 072.00	R3~15	CENTER ISLAND MAIN BYPASS
2.0) 1 + 032.00	R1-1A	RIGHT SIDE INTERSECTION A-2	19.0) 0 + 080.00	R3-15	CENTER ISLAND INTERSECTION A-4
3.0) 0 + 975.00	R1-1A	LEFT SIDE INTERSECTION A-3	20.0) 0 + 120.00	R3~15	CENTER ISLAND MAIN POPAGE
4.0) 1 + 035.00 5.0) 0 + 066.00	R1-1A R1-1A	RIGHT SIDE INTERSECTION A-3 LEFT SIDE INTERSECTION A-5	21.0) 159 + 103.00 22.0) 159 + 233.00	R3-15 R2-3	CENTER ISLAND MAIN BYPASS CENTER ISLAND MAIN BYPASS
6.0) 0 + 066.00	R1-1A	RIGHT SIDE INTERSECTION A-5	22.0) 159 + 233.00 23.0) 160 + 819.00	R2-3	CENTER ISLAND MAIN BYPASS CENTER ISLAND MAIN BYPASS
7.0) 0 + 965.00	R1-1A	LEFT SIDE INTERSECTION A=6	24.0) 160 + 930.00	R3-15	CENTER ISLAND MAIN BYPASS
8.0) 1 + 030.00	R1-1A	RIGHT SIDE INTERSECTION A=6	25.0) 160 + 970.00	R3-15	CENTER ISLAND MAIN BYPASS
9.0) 0 + 188.00	R1-1A	LEFT SIDE INTERSECTION A-7	26.0) 161 + 081.00	R2-3	CENTER ISLAND MAIN BYPASS
10.0) 0 + 255.00	R1-1A	RIGHT SIDE INTERSECTION A-7	27.0) 161 + 370.00	R6-4	RIGHT SIDE MAIN BYPASS
11.0) 0 + 974.00	R1-1A	LEFT SIDE INTERSECTION A-8	28.0) 161 + 440.00	R6-4	LEFT SIDE MAIN BYPASS
12.0) 1 + 025.00	R1-1A	RIGHT SIDE INTERSECTION A-8	29.0) 161 + 635.00	R2-3	CENTER ISLAND MAIN BYPASS
13.0) 0 + 980.00	R1-1A	RIGHT SIDE INTERSECTION A-9a	30.0) 161 + 747.00	R3-15	CENTER ISLAND MAIN BYPASS
TOTAL NO. OF REGULATO	RY SIGNS(Octogonal) 13.00	Des	31.0) 161 + 792.00	R3-15	CENTER ISLAND MAIN BYPASS
TEM 605 (2)c REGULATORY SIGN:	S (RECTANGULAR 450x750m	m)	32.0) 162 + 123.00	R3-15	CENTER ISLAND MAIN BYPASS
1.0) 156 + 043.00	R3-1PA	LEFT SIDE PAN-PHIL HIGHWAY	33.0} 162 + 166.00	R3-15	CENTER ISLAND MAIN BYPASS
2.0) 156 + 006.00	R2-6A	LEFT SIDE PAN-PHIL HIGHWAY	34.0) 162 + 166.00	R3-13A	CENTER ISLAND MAIN BYPASS
	R2-7(L)	CENTER ISLAND MAIN BYPASS	35,0) 162 + 215.00	R5-4	RIGHT SIDE MAIN BYPASS
3.0) 156 + 155.00			36.0) 162 + 255.00	R5-4	LEFT SIDE MAIN BYPASS
	R31PA	RIGHT SIDE INTERSECTION A-1	77.0\ 155	A	SIGNE SIGNE CONTRACTOR
3.0) 156 + 155.00	R3-1PA R3-6P	RIGHT SIDE INTERSECTION A-1 RIGHT SIDE INTERSECTION A-1-2	37.0) 162 + 757.00	R313A	RIGHT SIDE MAIN BYPASS
3.0) 156 + 155.00 4.0) 1 + 000.00			37.0) 162 + 757.00 38.0) 162 + 757.00 39.0) 0 + 993.00	R313A R314A R313A	RIGHT SIDE MAIN BYPASS RIGHT SIDE MAIN BYPASS LEFT SIDE INTERSECTION A-8

	STATIC	N	REFERENCE	NO.	REMARKS
40.D)	0 +	993.00	R3-14A		LEFT SIDE INTERSECTION A-8
41.0)	1 +	010.00	R3-13A		RIGHT SIDE INTERSECTION A-8
42.0)	1 +	010.00	R3-14A		RIGHT SIDE INTERSECTION A-B
43.D)	162 +	763.00	R3-13A		LEFT SIDE MAIN BYPASS
44.0)	162 +	763.00	R314A		LEFT SIDE MAIN BYPASS
45.0)	162 +	845.00	R6-4		LEFT SIDE MAIN BYPASS
46.0)	163 +	311.00	R3-15		CENTER ISLAND MAIN BYPASS
47.0)	163 +	520.00	R3-15		CENTER ISLAND MAIN BYPASS
48.0)	163 +	546.00	R2-3		CENTER ISLAND MAIN BYPASS
49.0)	163 +	590.00	R2-3		CENTER ISLAND MAIN BYPASS
50.0)	D +	027.00	R3-15		CENTER ISLAND INTERSECTION A-9
51.0)	0 +	185,00	R2-3		CENTER ISLAND INTERSECTION A-9
	TOTAL	NO. OF WARNING S	IGNS 51.00 pcs		
ITEM 605 (3) INFO	RMATORY SIGNS			
a. 2180 x 1380	mm				
1.0}	155 +	840.00	GS-1		RIGHT SIDE OF PAN-PHIL HIGHWAY
2.0)	155 +	985.00	G5-2		RIGHT SIDE OF MAIN BYPASS
	TOTAL	INFORMATORY SIGN	(2180x1380) 2.6	0 pcs.	
b. 2345 x 590n					
1.0		053.00	GS-3		LEFT SIDE OF A-1 ROAD CROSSING
		INFORMATORY SIGN	5 (2345x590mm)	1.00 pc.	
c, 22472 x 111					DOUT ADE AS A SALE SHEET AND AND ADDRESS OF A SALE SHEET A
1.0)		065.00	GS-4		RIGHT SIDE OF A-1 PAN-PHIL HIGHWAY
3.0)		050.00	GS-5		LEFT TURNING ISLAND A-4 RD. CROSSING
4.0)		055.00	GS-4 GS-4		RIGHT TURNING ISLAND A-4 RD. CROSSING
5.0)			GS-4 GS-4		RIGHT SIDE INTERSECTION A-9
5.0)		105.00	S (2472x1110) 5.0	· · · · ·	RIGHT SIDE OF A-9 ROAD CROSSING
d. 2442 x 1345		INFURMATORT SIGN	5 (24) 2X1110) 3.3	o pus.	
1.0)	163 +	515.00	GS-7		LEFT SIDE OF MAIN BYPASS
			S (2442x1345) 1.0	00 pc.	207 302 01 1041 21703
	10172	THE CHARACTER COURT	211221040) 1.1	ро.	T
e. 2190 x 1380	mm.				
e, 2190 x 1380		140.00	GS-5		RIGHT SIDE OF MAIN BYPASS
1.0)	163 +		GS-5 GS-6		RIGHT SIDE OF MAIN BYPASS CENTER ISLAND OF MAIN BYPASS
	163 + 163 +	196.00	GS-5 GS-6 5 (2190x1380) 2.4	10 pcs.	RIGHT SIDE OF MAIN BYPASS CENTER ISLAND OF MAIN BYPASS
1.0)	163 + 163 + TOTAL	196.00	GS-6 5 (2190x1380) 2.4	00 pcs.	
1.0)	163 + 163 + TOTAL 4) SPEC	196.00 INFORMATORY SIGN	GS-6 5 (2190x1380) 2.4	10 pcs.	
1.0) 2.0) ITEM 605 (163 + 163 + TOTAL 4) SPEC	196.00 INFORMATORY SIGN IAL INSTRUCTION	GS-6 5 (2190x1380) 2.4 N SIGNS	00 pcs.	CENTER ISLAND OF MAIN BYFASS
1.0) 2.0) ITEM 605 (- 1.0)	163 + 163 + TOTAL 4) SPEC 0 + 0 +	196.00 INFORMATORY SIGN IAL INSTRUCTION 030.00	GS-5 5 (2190x1380) 2.4 N SIGNS	10 pcs.	CENTER ISLAND OF MAIN BYPASS RIGHT SIDE INTERSECTION A-1-2
1.0) 2.0) ITEM 605 (1.0) 2.0)	163 + 163 + TOTAL 4) SPEC 0 + 0 + 0 +	196.00 INFORMATORY SIGN IAL INSTRUCTION 030.00 060.00	GS-6 5 (2190x1380) 2.6 N SIGNS 52-3 52-3	00 pcs.	CENTER ISLAND OF MAIN BYPASS RIGHT SIDE INTERSECTION A-1-2 LEFT SIDE INTERSECTION A-4
1.0) 2.0) ITEM 605 (1.a) 2.0) 3.0)	163 + 163 + TOTAL 4) SPEC 0 + 0 + 0 + 163 +	196.00 INFORMATORY SIGN IAL INSTRUCTION 030.00 060.00 140.00	GS-6 5 (2190x1380) 2.4 N SIGNS 52-3 52-3 52-3	00 pcs.	CENTER ISLAND OF MAIN BYPASS RIGHT SIDE INTERSECTION A-1-2 LEFT SIDE INTERSECTION A-4 RIGHT SIDE INTERSECTION A-4



JICE JAPAN INTERNATIONAL COOPERATION AGENCY

KATAHIRA & ENGINEERS YEO YACHIYO ENGINEERING CO., LTD.



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PJHL - PMO			BUR
ed By:	Reviewed	By:	

REPUBLIC OF THE PHILIPPINES
TMENT OF PUBLIC WORKS AND HIGHWAYS

| Approved By. | Special State | Special State

THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) SAN JOSE BYPASS

SCHEDULE OF TRAFFIC SIGNS NOT TO SCALE (INITIAL STAGE)

SHEET CONTENTS :

SCALE :

FULL SIZE A1

RG-04

SCHEDULE OF PAVEMENT MARKINGS

(INITIAL STAGE)

		· · · · · · · · · · · · · · · · · · ·			ITI	EM 612(1) - REFLECTORIZED THE	RMOPLASTIC	PAVEMENT	MARKINGS	
STATION FROM TO	LENGTH (m)	REMARKS	STATI FROM	ON TO	LENGTH (m)	REMARKS	STA FROM	TION TO	LENGTH (m)	REMARKS
1.0 CENTERLINE		· · · · · · · · · · · · · · · · · · ·	0+195.74	162+168.40	26.42	LT of A-7 to Main Bypass	156+174.00	156+292.00	118.00	Approach to A-1
155+628.67 155+860.26	31.59	Centerline: 150mm X 3.0m @ 9m gap	162+168.40	162+766.15	597.75	Main Bypass	156+583.00	156+699.00	116.00	Approach to A-2
156+334.09 156+541.35	207.26	Centerline: 150mm X 3.0m @ 4.5m gap	0+973.65	0+997.24	23.59	RT of A-8	156+729.00	156+846.00	117.00	Approach to A-2
156+887.37 157+097.37	210.00	Centerline: 150mm X 3.0m @ 4.5m gap	0+973.65	0+994.96	21.31	LT of A-B	157+701.0D	157+817.00	116.00	Approach to A-3
157+097.37 157+448.92	351.55	Centerline: 150mm X 3.0m @ 9.0m gap	162+772.51	163+51B.28	745.77	Main Bypass	157+841.00	157+967.00	126.00	Approach to A-3
157+448.92 157+658.92		Centerline: 150mm X 3.0m @ 9.0m gap	163+518.28	0+974.05	19.4D	Main Bypass to Rt. of A-9a	158+943.00	159+078.00	135.00	Approach to A-4
158+008.51 158+218.51		Centerline: 150mm X 3.0m @ 4.5m gap	0+870.00	0+974.05	104.05	RT. 0 f 9a	159+097.00	159+233.00	136.00	Approach to A-4
158+218.00 158+690.59		Centerline: 150mm X 3.0m 😂 9.0m gap	0+870.00	0+977.28	107.28	LT: OF 9a	160+819.00	160+936.00	117.00	Approach to A-5
158+690.59 158+900.59		Centerline: 150mm X 3.0m 🗢 9.0m gap	0+977.28	163+553.12	24.04	LT. of A-9a To Main Bypass	160+964.00	161+081.00	117.00	Approach to A-5
159+274.66 159+484.66		Centerline: 150mm X 3.0m 9.0m gap	163+553.12	163+808.11	254.99	Main Bypass	161+635.00	161+753.00	118.00	Approach to A-6
159+484.68 160+567.08		Centerline: 150mm X 3.0m © 9.0m gap	2.2 LEFT SIDE,		1 05+00		161+786.00	162+129.00	343.00	Between A-6 to A-7
160+577.08 160+787.08		Centerline: 150mm X 3.0m @ 9.0m gap	155+890.00	156+154.00	264.00	Approach to A-1	162+160.00	162+224.00 163+313.00	54.00 117.00	Approach to A-7
161+122.92 161+332.92		Centerline: 150mm X 3.0m © 9.0m gap	156+174.00	156+292.00	118.00	Approach to A-1	163+196.00			Approach to A-9
161+332.92 161+595.40 162+233.41 162+443.41		Centerline: 150mm X 3.0m @ 9.0m gap	156+583.00 156+729.00	156+699.00 156+846.00	116.00	Approach to A-2 Approach to A-2	163+342.00 163+545.00	163+526.00 153+577.00	. 184.00 32.00	Between A-9 to C-2 Approach to C-2
162+443.41 162+550.00	 _	Centerline: 150mm X 3.0m @ 9.0m gop Centerline: 150mm X 3.0m @ 9.0m gop	157+701.00	157+817.00	117.00	Approach to A-3	3.0 LANE LINE	_	32.00	Approach to C=2
162+550.00 162+756.00		Centerline: 150mm X 3.0m © 9.0m gap	157+841.00	157+967.00	126.00	Approach to A=3	155+890.00	156+151.00	261.00	(LS) Lane Line:150mmX3.0m@4.5m gap
162+756.00 162+935.43		Centerline: 150mm X 3.0m @ 9.0m gap	158+943.00	159+078.00	135.00	Approach to A=4	156+121.00	156+151.00	30.00	(RS) Lane Line 150mm Unbroken
162+935.43 163+145.43		Centerline: 150mm X 3.0m @ 9.0m gap	159+097.00	159+233.00	136.00	Approach to A-4	156+162.00	156+222.00	40.00	(LS) Lane Line 150mm Unbroken
162+659.50 163+B68.11	1,208.61	Centerline: 150mm X 3.0m @ 9.0m gap	150+819.00	160+936.00	117.00	Approach to A-5	156+736.00	156+776.00	40.00	(LS) Lone Line 150mm Unbroken
156+046.00 156+160.00		A-1a : 150mm X 3.0m @ 4.50m gap	160+964.00	161+081.00	117.00	Approach to A-5	157+770.00	157+810.00	40.00	(RS) Lone Line 150mm Unbroken
0+925.00 0+964.00		A-1 : 150mm X 3.0m @ 4.50m gap	161+635.00	161+753.00	118.00	Approach to A-6	157+860.00	157+900.00	40.00	(LS) Lane Line 150mm Unbroken
D+964.00 0+984.00		A-1 : 150mm x 5.0m 4 4.50m gdp	161+786.00	162+129.00	343.00	Between A-6 to A-7	159+042.00	159+078.00	36.00	(RS) Lone Line 150mm Unbroken
D+905.00		A-2 : 105mm X 3.0m to 4.50m gap	182+160.00	162+224.00	543.00 54.00	Approach to A-7	159+012.00	159+042.00	30.00	(RS) Lane Line:150mmX3.0m@4.5m gap
D+956.00		A=2 : 150mm unbroken line	163+196.00	163+313.00	117.00	Approach to A-9	159+102.00	159+134.00	32.00	(LS) Lane Line 150mm Unbroken
1+021.00 1+060.00		A-2 : 150mm X 3.0m © 4.50m gap	153+342.00	163+526.00	184.00	Between A-9 to C-2	159+134.00	159+164.00	30.00	(LS) Lane Line:150mmX3.0m@4.5m gop
1+060.00 1+080.00		A-2 : 150mm unbroken line	153+545.00	163+577.00	32.00	Approach to C-2	160+882.00	160+922.00	40.00	(RS) Lane Line 150mm Unbroken
1+028.00 1+050.00		A-3 : 150mm X 3.0m @ 4.50m gap		E, OUTER EDGE			160+973.00	161+013.00	40.00	(LS) Lane Line 150mm Unbroken
1+060.00 1+080.00		A-3 : 150mm unbroken line	155+988.54	156+155.6\$	167.11	Main Bypass	161+707.00	161+747.00	40.00	(R\$) Lane Line 150mm Unbroken
0+000.00 0+020.00		A-4 : 150mm X 3.0m @ 4.50m gap	156+155.65	1+015.97	11.09	Main Bypass to RT of A-1	161+792.00	161+832.00	40.00	(LS) Lane Line 150mm Unbroken
1+180.00 0+200.00		A-4 : 150mm x 3.0m @ 4.50m gap	1+015.97	1+050.76	34.79	RT of A-1	162+082.00	162+122.00	40.0g	(RS) Lane Line 150mm Unbroken
0+900.00 0+955.00		A-6 : 150mm X 3.0m @ 4.50m gap	1+050.76	156+152.07	16.97	RT of A-1 to LT of A-1g	163+205.00	163+245.00	40.00	(RS) Lane Line 150mmX3.0m@4.5m gap
0+955.00 0+975.00	20,00	A-6 : 150mm unbroken line	156+175.94	1+053,43	14.61	LT of A-1a to LT of A-1	163+245.00	163+275.00	30.00	(RS) Lane Line 150mm Unbroken
1+025.00 1+080.00	55,00	A-6 ; 150mm X 3.0m @ 4.50m gpp	1+011.02	1+053.43	42.41	LT of A-1	163+349.DD	163+379.00	30.00	(LS) Lane Line 150mm Unbroken
1+080.00 1+100.00	20,00	A-6 : 150mm unbroken line	1+011.02	0+009.82	6.68	LT of A-1 to RT of A-1-2	163+372.00	163+522.00	150.00	(LS) Lane Line 150mmX3.0m@4.5m gap
0+940.00 0+960.00	20.00	A-9a : 150mm X 3.0m @ 4.50m gap	0+009.82	0+144.46	134.64	RT of A-1-2	163+379.00	163+405.00	26.00	(LS) Lane Line 150mmX3.0m@4.5m gap
0+960.00 0+980.00	20.00	A-9a : 150mm unbroken line	0+030.36	0+144.46	114.10	LT of A-1-2	163+349.00	163+489.00	140.00	(RS) Lane Line 150mmX3.0m@4.5m gap
2.0 EDGE LINES			0+030.36	156+200.00	28.80	LT of A-1-2 to Main Bypass	163+489.00	163+519.00	30.00	(RS) 2 - Lane Line 150mm Unbroken
2.1 LEFT SIDE, OUTER EDGE			156+20D.D0	156+694.32	494.32	Main Bypass	163+547.00	163+577.00	30.00	(RS) Lane Line 150mmX3.0m@4.5m gap
155+B28.67 156+157.01	328.34	Main Bypass	156+694.32	1+022.69	24.89	Main Bypass to RT of A-2	163+547.00	163+577,00	30.00	(LS) Lane Line 150mm Unbroken
156+157.01 0+974.27	19.40	Main Bypass to RT of A-1	1+022.69	1+080.00	57.31	RT of A-2	4.0 CONTINUI	TY LINES		
0+925.00 0+974.27	49.27	Right of A-1	1+019.48	1+080.00	60.52	LT of A-2	156+078.00	156+122.00	44.00	(RS) 150mm X 1.0m @ 3m gap
0+925.00 0+992.50	67.50	Left of A-1	1+080.00	156+730.57	22.23	LT of A-2 to Main Bypass	156+222.00	156+267.00	45.00	(LS) 150mm X 1.0m 6 3m gop
156+174.23 156+698.06	523.83	Main Bypass	156+730.57	157+822.04	1091.47	Moin Bypass	156+607.00	156+653.00	46.00	(RS) 150mm X 1.0m @ 3m gap
156+698.06 0+980.52		Main Bypass to RT of A-2	157+B22.04	1+016.59	20.87	Main Bypass to RT of A-3	156+776.00	156+821.00	45.00	(L5) 150mm X 1.0m @ 3m gap
0+905.00 0+980.52		Right of A-2	1+016.59	1+080.00	63.41	RT of A-3	157+725.00	157+770.00	45.00	(RS) 150mm X 1.0m @ 3m gap
0+905.00 0+977.31		Left of A-2	1+026.82	1+080.00	53.18	LT of A-3	157+900.00	157+942.00	42.00	(LS) 150mm X 1.0m @ 3m gap
0+977.31 156+734.30		Left of A-2 to Main Bypass	1+026.82	157+858.99	21.25	LT of A-3 to Main Bypass	158+967.00	159+012.00	45.00	(RS) 150mm X 1.0m @ 3m gap
155+734.30 157+814.94		Main Bypass	157+858.99	159+06B.81	1209.82	Main Bypass	159+164.00	159+233.00	69.0D	(LS) 150mm X 1.0m © 3m gap
157+814.94 0+981.62		Main Bypass to RT of A-3	159+068.81	0+119.14	21.74	Main Bypass to RT of A-4	160+843.00	160+882.00	39.00	(RS) 150mm X 1.0m @ 3m gap
0+973.52 0+981.62		RT of A-3	0+119.14	0+200.00	80.86	RT of A-4	161+013.00	161+057-00	44.00	(LS) 150mm X 1.0m
0+973.52 D+992.17		RT of A-3, RT of A-3a	0+138.85	0+200.00	61.15	LT of A-4	161+661.00	161+707-00	46.00	(RS) 150mm X 1.0m 69 3m gap
0+925.00 0+992.17		RT of A-3a	0+13B.85	159+130.73	48.76	LT of A-4 to Main Bypass	161+832.00	161+877.00	45.00	(LS) 150mm X 1.0m & 3m gap
0+925.00 0+993.54		LT of A-3a	159+130.73	150+924.14	1793.41	Main Bypass	162+035.00	162+082.00	47.00	(RS) 150mm X 1.0m
0+993.54 0+962.78		LT of A-3a to RT of A-3	160+924.14	D+125.48	20.10	Main Bypass to RT of A-5	163+146.00	163+205.00	59.00	(RS) 150mm X 1.0m @ 3m gap
0+925.00 0+962.78		RT of A-3	0+125.48	0+133.22	7.74	RT of A-5	163+405.00	163+450.00	45.00	(LS) 150mm X 1.0m • 3m gap
0+925.00 0+985.56		LT of A-3	0+116.04	0+133.22	17.18	LT of A-5	163+444.00	163+489.00	45.00	(RS) 150mm X 1.0m © 3m gap
0+985.56 157+840.91 157+840.91 159+046.96		LT of A-3 to Main Bypass	0+116.04	0+160.97	22.63	LT of A-5 to Main Bypass	163+577.00	163+660.00	83.00	(LS) 150mm X 1.0m # 3m gop
157+840.91 159+046.96 159+046.96 0+064.83		Main Bypass	160+967.61	161+757.56	789.95	Main Bypass	163+577.00	163+660.00	B3.00	(RS) 150mm X 1.0m ⊕ 3m gap
		Main Bypass to RT of A-4	161+757.56	1+016.87	21.17	Main Bypass to RT of A-6	5.0 CHEVRON 155+860.00		140.00	Left of Main Reman
0+000.00 0+064.83 0+000.00 0+077.71		RT of A-4	1+016.87	1+100.00	83.13	RT of A-6	155+860.00 155+860.26	156+000.00	140.00	Left of Main Bypass
0+077.71 159+107.89		LT of A 4 de Main Russes	1+023.13	1+100.00	76.87	LT of A-6 LT of A-6 to Moin Bypass		155+890.00 155+985.00	29.74 44.05	Center of Main Bypass
159+107.89 160+936.75		LT of A-4 to Main Bypass	1+023.13	161+790.79	17.71	Main Bypass	155+940.95		42.09	Right of Main Bypass Center of Moin Bypass
150+936.75 0+082.11		Main Bypass Main Bypass to RT of A-5	161+790.79 162+122.78	0+247.06	331.21 26.82	Main Bypass to RT of A-7	156+292.00 156+541.35	156+334.09 156+583.00	42.09 41.60	Center of Main Bypass Center of Main Bypass
0+066.75 0+082.10		RT of A~5	0+247.06	0+247.06	7.17	RT of A-7	156+541.35 156+846.00	156+363.00	41.40	Center of Main Bypass Center of Main Bypass
0+068.45 0+075.19		LT of A-5	0+247.08	0+254.23	10.81	LT of A-7	157±658.92	157+701.00	42.10	Center of Main Bypass
0+078.19 150+971.94		LT of A-5 to Main Bypass	0+243.43	162+162.86	26,23	LT of A-7 to Main Bypass	157+967.00	158+008.51	41.50	Center of Moin Byposs
160+971.94 161+747.98		Main Bypass	162+162.86	162+763,50	500.64	Main Bypass	158+900.59	158+943.00	42.40	Center of Moin Byposs
161+747.98 D+976.87		Main Bypass to RT of A-6	1+005.04	1+024.59	19.55	RT of A-8	159+233.00	159+274.66	41.70	Center of Main Byposs
D+900.00 D+976.87		RT of A-6	1+005.04	1+024.59	21,83	LT of A-8	160+787.08	160+819.00	31,90	Center of Main Bypass
0+900.00 0+983.13		LT of A=6	161+769.85	163+304.26	534.41	Moin Bypass	161+081.00	161+122.92	41.90	Center of Main Byposs
0+983.13 161+7B1.21		LT of A-6 to Main Bypass	163+304.26	D+D25.52	24.32	Moin Bypess to RT of A-9	161+595.40	161+635.0D	39.60	Center of Main Bypass
161+781.21 162+128.05		Main Bypass	D+025.52	0+247.30	221.78	RT of A-9	153+145.00	163+196,00	50.00	Center of Main Bypass
162+128.05 0+199.55		Main Bypass to RT of A-7	0+054.24	0+247.30	193.06	LT of A-9	163+311.00	163+345.00	34.00	Left of Main Byposs
0+188.23 0+199.85		RT of A-7	0+054.24	163+3B3.35	79.71	LT of A-9 to Main Bypass	163+345.00	163+372.00	27.00	Left of Main Bypas
D+188.23	_ 	LT of A-7	155+690.00	156+154.00	264.00	Approach to A-1	163+590.00	163+660.00	70.00	Center of Main Bypass
		DATE	SIGNATURE						ROJECT AND LOCA	
I		\$ -		4	阿	REPUBLIC OF THE PHILIPPINES	CHMVA	<u> </u>		
I	Sincile.	DESIGNED 9/2/04			DEPAR	RTMENT OF PUBLIC WORKS AND HI			I HE U	ETAILED DESIGN STUDY ON

STATION			LENGTH	DEMARKS		
FROM	T-	0	(m)		REMARKS	
156+282.00	156+3	56.00	74.0	Center of A-10	(Pan Phil. Highway)	
0+020.36	0+0	50.36	30.0	Center of A-4	er of A-4	
0+150.00	0+1	B0.00	30.0	Center of A-4		
0+187.00	0+2	47.00	50.0	Center of A-9		
6.0 ARROWS						
ARROW TY	PE	NUMB	ER OF ARROWS		LOCATION	
С			2.00	Beginning of	A1 Pan-Phil Highway	
С			3.00	Approaching in	tersection A-1	
В			1.00	Approaching in	tersection A-1	
Ā			3.00	Approaching in	tersection A-1	
A			2.00	Approaching in	tersection A-2	
В			2.00	Approaching In	tersection A-2	
A			2.00	Approaching In	tersection A-3	
В			2.00	Approaching intersection A-3		
A			5.00	Approaching Intersection A-4		
C			3.00	Approaching Intersection A-4		
В			5.00	Approaching In	tersection A-4	
A			2.00	Approaching Intersection A-5		
В			2.00		tersection A-5	
A			2.00	Approaching In	tersection A-6	
В			2.00	Approaching In	tersection A-6	
A			1.00	Approaching In	tersection A-7	
В			2.00	Approaching In	tersection A-7	
С			2.00	Approaching In	tersection A-B	
A			4.00		tersection A-9	
С			3.00	Approaching In	tersection A-9	
A			1.00	Approaching In	tersection C-2	
В			1.00	Approaching In	tersection C-2	
C			3.00	Approaching In	tersection C-2	
7.0 BARRIER	LINES					
STA	TION			T1. (-)	LOCATION	
FROM	T		LENG	TH (m)	LOCATION	
455 - 555 - 55	355.0					

STA	TION	1 = 1 = 2 = ()	1.00.71011	
FROM	ROM TO LENGTH (m)		LOCATION	
155+828.87	155+860.26	31.39	RT	
156+334.09	156+541.35	207.26	BS	
156+B87.37	157+097.37	210.00	LT	
157+448.92	157+658.92	210.00	RT	
158+008.51	158+218.51	210.00	LT	
158+690.59	15B+900.59	210.00	RT	
159+274.66	159+484.56	210.00	LT	
160+567.08	160+777.08	210.00	RT	
161+122.92	161+332.92	210.00	LŤ	
161+374.00	161+595.40	221.40	RT	
162+233.41	162+443.41	210.00	LT	
162+545.74	162+755.74	210.00	RT	
162+774.50	162+984.50	210.00	LT	
162+935.43	163+145.43	210.00	RT	
163+659.50	163+808.11	148.68	LT	

	CATION	AREA	(m²)	BENNEWS	
LOC	ATION	PEDESTRIAN	STOP LINE	REMARKS	
	MAIN BYPASS	10.80	4.20		
INT. A-1	A-1	5.40	1.20	CIONALIZED	
INI. A-I	A-1a		3.00	SIGNALIZED	
	A-1-2	2.40	1.20		
INT. A-2	MAIN BYPASS	64.80	3.60	UNSIGNALIZED	
	A-2	64.80	1.80	UNS/UNALIZED	
NT. A-3	MAIN BYPASS	64.80	3.60	I WEIGHAN IZED	
MI. A-3	A-3	25.20	1.80	UNSIGNALIZED	
	MAIN BYPASS	9.60	5.40	SIGNALIZED	
INT. A-4	A-4	18.00	3.60		
NT. A-5	MAIN BYPASS	64.80	4.80	UNSIGNALIZED	
MI. A-3	A-5	80.40	3.30	UNSIGNALIZED	
INT. A-6	MAIN BYPASS	73.20	3.60	UNSIGNALIZED	
114). A-G	A-6	49.20	1.80	DNZIGNALIZED	
INT. A-7	MAIN BYPASS	64.8D	3.60	UNSIGNALIZED	
INI. A-7	A-7	49.20	1.80	UNSIGNALIZED	
INT. A-8	MAIN BYPASS	49.20	3.60	UNSIGNALIZED	
INT. A-9	MAIN BYPASS	14.40	3.60	SIGNALIZED	
INT. M-9	A-9	6.00	0.60	JIGNALIZED	
INT. C-1	MAIN BYPASS	88.80	5.40	IINGIONALIZEO	
1141. C-1	C-1	_	1.80	UNSIGNALIZED	

NOTE: A - LEFT/RIGHT ARROW

SHEET CONTENTS :

B — COMBINATION OF STRAIGHT AND LEFT ARROWS OR STRAIGHT AND RIGHT ARROWS

C - STRAIGHT ARROW

JAPAN INTERNATIONAL COOPERATION AGENCY

KATAHIRA & ENGINEERS
INTERNATIONAL

YACHIYO ENGINEERING CO., LTD.

SIGNATURE

SIGNATURE

SIGNATURE

SUBMITTED

SUBMITTED

PANICO C. TRAJANO

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWA'
BUREAU OF DESIGN OFFICE OF

DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

BUREAU OF DESION OFFICE OF THE SECRETARY

Reviewed By: Recommended By: Second sheet for Signature)

JOSEFINA M. ALAGAR GILBERTO S. REYES MANUEL M. BONDAN SIMEON A. DATUMANY

Chial, Highways Division OIC, Director N Undersecretary

THE DETAILED DESIGN STUDY ON UPGRADING INTER-JRBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)

SAN JOSE BYPASS

NOT TO SCALE SCHEDULE OF I

SCALE :

SCHEDULE OF PAVEMENT MARKINGS (INITIAL STAGE)

RG-05

SCHEDULE OF PLANTINGS

FROM			· · · · · · · · · · · · · · · · · · ·		O11		T0
EDOM	TION		ENGTH (m)		OM		то
	то	LEFT	RIGHT	→ ⊢	926.00	158	58+929.2
155+828.00	156+400.00	520.00	300.00	158+	930.75	158	58+969.2
156+400.00	157+100.00	650.00	\$25.00	158+	970.75	159	59+009.2
157+100.00	157+800.00	640.00	640.00	159+	010.75	159	59+039.2
157+800.00	158+500.00	640.00	640.00	159+	040.75	159	59+056.0
158+500.00	159+200.00	640,00	540.00	159+	040,75	159	59+070.0
159+200.00	159+900.00	700.00	700.00	159+	076.00	159	59+082.0
159+900.00	150+500.00	700.00	700.00	159+	110.75	159	59+139.2
160+600.00	161+300.00	640.00	640.00	159+	121.00	159	59+139.2
161+300.00	162+000.00	560.00	\$70.00	····	140.75		59+169.2
162+000.00	162+700.00	580.00	800.00		170.75		59+209.2
162+700.00	163+400.00	610.00	\$25.00		210.75		59+229.2
163+400.00	163+808.11	150.00	180.00	⊣ ⊢ ———	230.75		59+248.C
	163+606.11			—	798.00		50+829.2
		7,030.00	6,760,00	 		 	
ER SEPARATION PLANTING (L	· · · · · · · · · · · · · · · · · · ·			_	330.75		50+B69.2
	TION		NGTH (m)		370,75		60+B99.2
FROM	то	LEFT	RIGHT	 -	900.75		50+929.2
155+828.00	156+400.00	90.00	90.00		300.75		50+933.0
156+400.00	157+100.00	407.00	407.00	160+9	330.75		50+949.D
157+100.00	157+800.00	539.00	539.00	160+	955.00	160	30+967.00
157+800.00	158+500.00	517.00	524.00	160+	963.00	160	0+967.0
158+500,00	159+200.00	426.00	425.0D	160+	973.00	160	50+999.2
159+200,00	159+900.00	652.00	652.00	161+	000.75	161	51+029.23
159+900.00	160+600.00	700.00	700.00	161+	030.75	161	1+059.2
160+600.00	161+300.00	402.00	402.00	161+	060.75	161	31+096.00
161+300.00	162+000.00	272.00	272.00	161+	521.00	161	31+629.2
162+000.00	162+700.00	488.00	498.00	_ +	630.75		31+669.2
162+700.00	163+400.00	372.00	377.00	_	670.75		51+709.2
163+400.00	163+808.11	0.00	0.00	_	710.75		51+749.25
	TAL	4,865.00	4,887.00	_{			
		4,005.00	4,087.00		750.75		51+756.DC
ER SEPARATION PLANTING (2	· · · · · · · · · · · · · · · · · · ·	<u> </u>			750.75		51+77D.D0
	TION	LENGTH (m)	LOCATION		769.00		51+786.DC
FROM	то			_ +	782.00	161	1+786.0
156+190.75	156+229.25	38.50	LEFT SIDE	161+	792.00	161	51+829.25
156+192.00	156+229.25	37.25	RIGHT SIDE	151+	330.75	161	61+869.25
156+230.75	156+269.25	77,00	BOTH SIDES	161+	370.75	161	1+909.2
156+270.75	156+309.25	77,00	BOTH SIDES	161+	910.75	162	32+029.2
156+570.75	156+609.25	77.00	BOTH SIDES	162+	030.75	162	32+059.2
156+610.75	156+649.25	77,ab	BOTH SIDES	162+	060.75	182	52+089.2
156+650.75	156+689.25	77.00	BOTH SIDES		090.75		52+119.2
156+690.75	155+693.00	4.50	BOTH SIDES		290.75		52+120.00
156+699.00	156+705.00	5.00	RIGHT SIDE		120.75		32+122.D
156+699.00	156+708.00	9,00	LEFT SIDE		128.00		32+132.0
156+720,00	156+729.25	9.25		_	128.00		52+139.0
	+ ·	~	RIGHT SIDE				
156+724.00	156+729.25	5.25	LEFT SIDE		165,00		53+189.2
156+730.75	156+769,25	77.00	BOTH SIDES		166.00		53+189.2
156+770.75	156+809.25	77.00	BOTH SIDES	_	190.75		53+219.2
156+810.75	156+849.25	77.00	BOTH SIDES		220.75		63+249.2
156+850.75	156+861.00	20.50	BOTH SIDES		250.75		53+289.2
157+685.00	157+689.25	8.50	BOTH SIDES	163+	290.75	163	3+304.0
157+690.75	157+729.25	77.00	BOTH SIDES	163+	290.75	163	3+320.0
157+730.75	157+759.25	26.50	RIGHT SIDE	D. CENTER MEDI.	AN PLANTINGS (LOC	ATION 1-A)	
157+730.75	157+759.25	38.50	LEFT SIDE		<u> </u>	1	
157+760.75	157+7B9.25	28.50	RIGHT SIDE		ATION	<u> </u>	-,
157+770.75	157+809.25	38.50	LEFT SIDE	FROM	то	TYPE 1	
157+790.75	157+810.00	19.25	RIGHT SIDE	155+828.00	156+400.00	5	
157+816.00	157+823.00	7,00		156+400.00	157+100.00	5	
			LEFT SIDE	157+100.00	157+800.00	0	
157+816.00	157+834.00	18.00	RIGHT SIDE	157+800.00	15B+500.00	5	
157+832.00	157+849.25	17.25	LEFT SIDE	158+500.00	159+200.00	5	1
157+850.75	157+88B.25	37.50	LEFT SIDE	159+200.00	159+900.00	0	
157+852.00	157+859.25	7.25	RIGHT SIDE	159+900.00	160+600.00	0	
157+860.75	157+889.25	28.50	RIGHT SIDE		161+300.00	7	-
157+889.75	157+929.25	39.50	LEFT SIDE	160+600.00			+
157+890.75	157+919.25	28.50	RIGHT SIDE	161+300.00	162+000.00	5	
	157+949.25	28,50	RIGHT SIDE	162+000.00	162+700.00	5	
157+920.75	157+969.25	38.50	LEFT SIDE	162+700.00	163+400.00	5	
157+930.75	 			163+400.00	153+808.11	0	
157+930.75 157+950.75	157+976.00	19.25	RIGHT SIDE		153+808.11 TAL	42	
157+930.75	 					42	

- TKOWI	10		
158+926.00	158+929.25	6,50	BOTH SIDES
158+930.75	158+969.25	77.00	BOTH SIDES
158+970.75	159+009.25	77.00	BOTH SIDES
159+010.75	159+039.25	57.00	BOTH SIDES
159+040.75	159+056.00	15.25	LEFT SIDE
159+040.75	159+070.00	29.25	RIGHT SIDE
159+076.00	159+082.00	6.00	RIGHT SIDE
159+110.75	159+139.25	28.50	LEFT SIDE
159+121.00	159+139.25	18.25	RIGHT SIDE
159+140.75	159+169.25	57.00	BOTH SIDES
159+170.75	159+209.25	77.00	BOTH SIDES
159+210.75	159+229.25	37,00	BOTH SIDES
159+230.75	159+248.00	34.50	BOTH SIDES
160+798.00	160+829.25	52.50	BOTH SIDES
160+830.75	160+869.25	77.00	BOTH SIDES
160+87D.75	160+899.25	57.00	BOTH SIDES
160+900.75	160+929.25	28.50	LEFT SIDE
160+900.75	160+933.00	. 32.25	RIGHT SIDE
160+930.75	160+949.00	18.25	LEFT SIDE
160+955.00	160+967.00	12.00	RIGHT SIDE
160+963.00	160+967.00	4.00	LEFT SIDE
160+973.00	160+999.25	52.50	BOTH SIDES
161+000.75	161+029.25	57.00	BOTH SIDES
161+030.75	161+059.25	57.00	BOTH SIDES
161+060.75	161+096.00	70.50	BOTH SIDES
161+621.00	161+629.25	16.50	BOTH SIDES
161+630.75	161+669.25	77.00	BOTH SIDES
161+670.75	161+709.25	77.00	BOTH SIDES
161+710.75	161+749.25	77.00	BOTH SIDES
161+750.75	161+756,00	5.25	LEFT SIDE
161+750.75	161+770,00	19.25	RIGHT SIDE
161+769.00	161+785.DO	17.00	LEFT SIDE
161+782.00	161+786.00	4.00	RIGHT SIDE
161+792.00	161+829.25	74.50	BOTH SIDES
161+830.75	161+869.25	77.00	BOTH SIDES
161+870.75	161+909.25	77.00	BOTH SIDES
161+910.75	162+029.25	237.00	BOTH SIDES
162+030.75	162+059.25	57.00	BOTH SIDES
162+060.75	182+089,25	57.00	BOTH SIDES
162+090.75	162+119.25	28.50	LEFT SIDE
162+090.75	162+120.00	29.25	RIGHT SIDE
162+120.75	162+122.00	1.25	LEFT SIDE
162+128.00	162+132.00	4.00	RIGHT SIDE
162+128.00	162+139.00	11.00	LEFT SIDE
163+165,00	163+189.25	24.25	LEFT SIDE
163+166.00	163+189.25	23.25	RIGHT SIDE
163+190.75	163+219.25	57.00	BOTH SIDES
163+220.75	163+249.25	57.00	BOTH SIDES
163+250.75	163+289.25	77,00	BOTH SIDES
163+290.75	163+304.00	13.25	LEFT SIDE
163+290.75	163+320.00	29.25	RIGHT SIDE
	-		

LENGTH (m)

STA	TION		LENGTH (m.)					
FROM	TO	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6	
155+828.00	156÷400.00	5	20B	D	9	0	142	
156+400.00	157+100.00	5	95	0	16	0	114	
157+100.00	157+800.00	0	38 .	0	7	D	5B	
157+800.00	15B+500.00	5	59	0	В	D ·	57	
158+500.00	159+200.00	5	136	o o	16	D	77	
159+200.00	159+900.00	0	0	0	0	0	37	
159+900.D0	160+600.00	0	O.	0	0	0	D	
6D+60D.00	161+300.00	7	9,5	0	16	0	116	
161+300.00	· 162+000.00	5	96	0	16	0	210	
162+000.00	162+700.00	5	62	0	8	42	65	
162+700.00	163+400.00	5	52	٥	0	44	70	
163+400.00	153+808.11	0	45	30	45	35	17	
TOT	ral .	42	866	30	141	121	963	
	PROJECT AND LOCAT	ION :		SCALE :	SHEET CONTENTS :		SHEET N	

JAPAN INTERNATIONAL COOPERATION AGENCY

KATAHIRA & ENGINEERS YEO YACHIYO ENGINEERING CO., LTD.

	OATE	SIGNATURE	
DESIGNED	9/2/02	h	
·	11	4 014	PJHL — PMO
CHECKED	7/4/02	5. CDSE	Submitted By:
SUBMITTED	9/4/02	M. KINCK	DANILO C. TRAJANO
<u> </u>	7-7-	TEAM LEADER	Project Director

			REPL	JBLIC OF TI	HE PHILIP	PINES	
4		DEPARTMENT	OF	PUBLIC	WORK	S AND	HIGHWAY
PJHL - PMO	Ι.	BUREAU OF	DESIG	N			OFFICE OF T

GILBERTO S. REYES OIC, Director IV

THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) NOT TO SCALE SAN JOSE BYPASS FULL SIZE A1

SCHEDULE OF PLANTINGS (INITIAL STAGE)

RG-06

LOCATION

SCHEDULE OF PAVEMENT SURFACE AND UNSUITABLE EXCAVATION (INITIAL STAGE)

SCHEDULE OF PAVEMENT SURFACE									
STATIO	ON LIMIT	PCCP 250mm THK	PCCP 180mm THK	GRAVEL SURFACE	REMARKS				
FROM	то	FOOT 250mm THE	PCCF 100mm Trik	GIGGLE SURFACE	KEMAKKS				
155+828.87	156+327.96	5,378.00	1,003.84	106.54	A-1 Intersection				
156+327.96	156+547.49	1,546.55	878.12	163.09	Typical				
156+547.49	156+881.23	3,543.86	1,282.48	331.80	A-2 Intersection				
156+881.23	157+449.53	4,262.25	2,273.00	727.70	Typical				
157+449.53	157+500.13	0.00	0.00	0.00	Bridge				
157+500.13	157+665.05	1,236.90	659.68	199.99	Typical				
157+665.05	158+002.39	3,509.50	1,305.50	419.20	A-3 Intersection				
158+002.39	158+906.73	5,782.55	3,617.36	1,168.41	Турісаі				
158+906,73	159+268.52	4,933.1B	1,075.14	441.46	A-4 Intersection				
59+268.52	160+783.22	11,360.25	6,058.80	1,956.99	Typical				
60+783.22	161÷116.78	3,629.59	1,263,94	421.76	A-5 Intersection				
61+116.7B	161+369.13	1,892.63	1,009.40	319.49	Typical				
161+369,13	161+419.73	0.00	727.24	0.00	Bridge				
61+419.73	161+601.54	1,363.57	1,051.00	221.81	Typical				
61+601.54	162+21B.73	6,329,74	1,292.78	764.03	A-7 & A-8 Intersection				
162+218,73	162+269.37	195.04	0.00	0.00	Bridge				
62+269.37	162+781.23	4,108.36	2,022.24	627.09	Typical				
52+781,23	162+844.55	0.00	0.00	0.00	Bridge				
62+844.55	163+145.13	2,2\$4.35	1,202.32	375.03	Typical				
63+145,13	163+80B.11	B,935.54	425.04	212.15	A-9 Intersection				
TO	TAL	71,361.96	27,147.28	8,456.54					

STA	ATION	THICKNESS	STA	ATION	THICKNESS
FROM	ТО	(m)	FROM	то	(m)
156+000.00	156+200.00	0.20	159+700.00	159+900.00	0.50
156+200.00	156+400.00	0.35	159+900.00	160+100.00	0.50
156+400.00	156+600.00	0.35	160+100.00	160+300.00	0.30
156+600.00	156+800.00	0.25	160+300.00	160+500.00	0.30
156+800,00	157+000.00	0.30	160+500.00	150+700.00	0.35
157+000.00	157+200.00	0.30	160+700.00	160+900.00	0.30
157+200.00	157+400.D0	0.30	160+900.00	761+100.00	0.45
157+400.00	157+500.00	0.25	161+100.00	161+300,00	0.35
157+500.00	157+700.00	0.60	161+300.00	161+500.00	0.20
157+700.00	157+900.00	0.55	161+500.00	161+700.00	0.25
157+900.00	158+100.00	0.40	161+700,00	167+900.0D	0.25
158+100.00	158+300.00	0.30	161+900.00	162+100.00	0.20
158+300.00	158+400.00	0.40	162+100.00	162+300.00	0.20
158+400.00	158+500.00	D.40	162+300.00	162+500.00	0.30
158+500.00	158+700.00	D.70	162+500.00	162+700.00	0.30
158+700,00	158+90D.DO	0.40	162+700.00	162+900.00	0,30
158+900.00	159+100.00	0.40	162+900.00	163+100.00	0.30
159+100.00	159+300.00	0.30	163+100.00	163+300.00	0.30
159+300.00	159+500.00	0.45	163+300.00	163+500.00	0.80
159+500.QD	159+700.00	0.60	163+500.00	163+750.00	0.80

DATE SIGNATURE REPUBLIC OF THE PHILIPPINES PROJECT AND LOCATION: SCALE: SHEET CONTENTS: DESIGNED 9/2/2 SLUW DEPORTMENT OF PUBLIC WORKS AND HIGHWAYS THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM UPGRADING INTER-URBAN HIGHWAY SYSTEM SCHEDULE OF PAVEMENT SUPERIOR	SHEET NO. :
JAPAN INTERNATIONAL COOPERATION AGENCY ALONG THE PAN-PHILIPPINE HIGHWAY	
Che cover sheet by (Planide) Cabanatuan and San Jose Bypasses) NOT TO SCALE AND UNSUITABLE EXCAVATION	RG-07
KATAHIRA & ENGINEERS YOU YACHIYO ENGINEERING CO., LTD. Signature/Asproved) Signature/Asproved Sign	

SCHEDULE OF METAL GUARDRAIL (METAL BEAM) (INITIAL STAGE)

STA	TION	Logiziori	. PLIOTI	STA	TION	LOCATION	1 ENGTH
FROM	то	LOCATION	LENGTH (m)	FROM	TO	LOCATION	LENGTH (m)
A. MAIN BYPASS	SECTION	· · · · · · · · · · · · · · · · · · ·		B. ROAD CROSSI	NGS		
157 + 030.00	157 + 070.00	BS	80.00	0 + 000.00	0 + 020.00	LT, A-7	20.00
157 + 309.10	157 + 451.28	BS	288.00*	0 + 298.00	0 + 354.00	LT, A7	56.00
157 + 498.37	157 + 572.56	BS	152.00°	0 + 895.00	0 + 983.00	LT, A-B	88.00
157 + B70,00	157 + 990.00	LT	120.00	0 + 977.00	0 + 997.00	BS, C-2	40.00
158 + 410.00	158 + 470.00	RT	60.00				
158 + 490.00	158 + 510.00	LT	20.00				
158 + 510.00	158 + 650.00	RT	140.00				
159 + 610.00	159 + 650.00	RT	40.00				× ×
159 + 610.00	159 + 670.00	LT	60.00				
159 + 870.00	150 + 042.00	RT	172.00				
159 + 880.00	160 + 040.00	LT	160.00	1			
161 + 289.00	161 + 370.92	LŤ	84.00*				
161 + 329.00	161 + 370.92	RT	44.00*				
161 + 417.92	161 + 455.86	UT .	40.00*				
161 + 474.00	161 + 502.00	LT	28.00				
161 + 417.92	161 + 671.86	RT	256.00*				
161 + 930,00	161 + 950.00	LT	20.00				
161 + 920.00	162 + 000.00	RT	80.00				
162 + 185.24	162 + 214.98	RT	32.00₹				
162 + 191.56	162 + 221.70	LT	32.00*				
162 + 26B.67	162 + 346.76	ιτ	80.00*				
162 + 264.70	162 + 294.73	RT	32.00*				
162 + 840.00	162 + 870.08	LT	32.00*				•••
162 + 837.6B	162 + B67.75	RT	32.00*				
163 + 190.00	163 + 230.00	RT	40.00				

SCHEDULE OF SLOPE PROTECTION AND RUBBLE MASONRY RETAINING WALL

STA	TION	THOUSES	VOLUME	STA	TION	LOCATION	VO: 1127
FROM	то	THICKNESS	VOLUME (m³)	FROM	то	LOCATION	VOLUME (m³)
GROUTED RIPRA	P SLOPE PROTECTI	ON (LEFT)		RUBBLE MASON	RY RETAINING WALL		
155 + 965.00	156 + 090.00	300	126.03	161 + 300.00	161 + 374.00	LEFT	265.97
156 + 990.00	157 + 075.00	300	68.68	161 + 415.00	161 + 460.00	LEFT	110.61
157 + 290.00	157 + 454.00	300	233.67	161 + 330.00	161 + 374.00	RIGHT	127.20
157 + 495.00	157 + 525.00	300	40.80	161 + 415.00	161 + 500.00	RIGHT	227.33
157 + 840.00	158 + 010.00	350	281.12				
158 + 400.00	158 + 580.00	300	205.82				
159 + 585.00	159 + 700.00	300	153.27				
161 + 480.00	161 + 550.00	300	97.46				
161 + 264.00	161 + 390.00	300	167.46				
GROUTED RIPRA	AP SLOPE PROTECTION	ON (RIGHT)					
156 + 050.00	156 + 080.00	300	22.62				
156 + 990.00	157 + 075.00	300	6B.6B				
157 + 290.00	157 + 454.00	300	231.00				
157 + 495.00	157 + 525.00	300	24.24				
158 + 400.00	158 + 580.00	300	273.02				
159 + 580.00	159 + 670.00	300	96.10				
161 + 500.00	161 + 680.00	300	221.41				
152 + 254.DD	162 + 400.00	300	225.14				_



	DATE	SIGNATURE
DESIGNED	9/2/02	s/John
CHECKED	9/4/02	S. 60SE
SUBMITTED	9/402	TEAM LEADER
	CHECKED	DESIGNED 9/2/02 CHECKED 9/4/02

PJHL — PMC Submitted By: REPUBLIC OF THE PHILIPPINES

DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

BUREAU OF DESIGN OFFICE OF THE

OFFICE OF THE SECRETARY

Recommended By: Approved By: (See cover sheet for Signoture) Signoture/Approved)

MANUEL M. BONDAN Undersecretory Secretory

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

SAN JOSE BYPASS

PROJECT AND LOCATION :

SCHEDULE OF METAL GUARDRAIL
NOT TO SCALE
SLOPE PROTECTION & RUBBLE
MASONRY RETAINING WALL

SHEET CONTENTS :

SCALE :

FULL SIZE A1

E RG-08

LENGTH INCLUDES GUARDRAILS TO BE DIAGONALLY CONSTRUCTED ALONG BRIDGE APPROACHES

SCHEDULE OF ROAD RIGHT-OF-WAY MARKERS

										<u>-</u>													
POINT STATION	OFFSET FROM CENTERLINE	NORTHING	EASTING	POINT	SIATION	OFFSET FROM CENTERLINE	NORTHING	EASTING	POINT NO.	STATION	OFFSET FROM CENTERLINE	NORTHING	EASTING	POINT NO.	STATION	OFFSET FROM CENTERLINE	NORTHING	EASTING	POINT NO.	JAHONI	OFFSET FROM CENTERLINE	NORTHING	EASTING
BYPASS - LEFT SID		<u> </u>	<u> 1</u>	54L	157+66D.D00	 	1 746 570 050	400 117 051	108L	* FO . 900 000	i	1 740 040 504	497,613,445	162L	162+144.307	-35.269	1,749,123,470	100 500 000	 	1 1	<u> </u>	L	<u> </u>
	~ 	1	T	-		-21.000	1,746,572.952	496,113.051	<u> </u>	159+880.000	-21.000	1,748,040.501		∤├			 	499,602.029	∤├ ──	ASS - RIGHT SIDI			T
1L 155+B60.000	· 	1,744,783,741	495,159.295 496,163.847	55L	157+74D.DO0	-21.000	1,746,654.073	495,113.536	109L	160+040.000	-21.000	1,748,116.137	497,754.439	163L	162+162.872	-28,618	1,749,126.386	499,621.533	1R	156+058.960	17.500	1,744,973.115	496,227.701
2L 155+B80.000	-12.000	1,744,803.126	496,168.901	56L	157+760.000	-22.000	1,746,674,473	496,113.426	110L	150+060.000	-20.000	1,748,124.710	497,772.536	164L	152+180.000	-22.000	1,749,128.651	499,639.755	2R	156+154.577	17.500	1,745,070,694	496,228.177
3L 155+900.000	+	1,744,822.175		57L	157+780.002	-22.000	1,746,694.855	495,114.689	111L	160+290.000	-20.000	1,748,233.437	497,975.214	165L	162+200.000	-21.000	1,749,137.224	499,657.852	3R	156+169.406	20.005	1,745,085.723	496,229.951
4L 155+920.000	+	1,744,841.025	496,174.374	58L	1\$7+808.115	-24.004	1,746,723.680	496,115.153	112L	150+520.000	-20.000	1,748,342.164	498,177,892	166L	162+223.570	-21.000	1,749,148.366	499,578.622	4R	156+171.101	20.502	1,745,087,447	496,230.360
5L 155+940.000	+	1,744,861.685	496,172,505	59L	157+808.347	-2B.735	1,746,724.388	496,110.469	113L	160+540.000	-19.000	1,748,350,737	498,195.989	167L	162+280.000	-25.000	1,749,179.554	499,725.423	5R	156+182.815	49.005	1,745,100,636	496,258.218
6L 155+960.000	-20.000	1,744,880.621	496,176.847	60L	157+841.091	-29.610	1,746,757.960	496,113.511	114L	160+660.000	-19.000	1,748,407.464	498,301.734	168L	162+300.000	-25.000	1,749,188.406	499,743.157	6R	156+198.951	72.321	1,745,117.960	496,280.565
7L 155+980.000	-15.000	1,744,898.767	496,185.564	61L	157+843.001	-25.000	1,746,759,290	496,118.341	115L	160+680.000	-20,000	1,748,417.80D	498,318.886	159L	162+320.000	-24.000	1,749,197.404	499,760.828	7R	156+200.000	20.000	1,745,116.293	496,228.350
8L 156+070.000	-15.000	1,744,986.163	496,195.947	62L	157+860.000	-22.000	1,745,775.083	496,123.791	116L	160+820.000	~20,000	1,748,483.982	498,442.255	170L	162+340.000	-23.000	1,749,206.547	499,778.432	BR	156+202.314	48.632	1,745,120.090	496,256.833
9L 156+155.000	-15.000	1,745,069.622	496,195.692	53L	157+880.000	-24.000	1,745,795.598	496,125.109	117L	160+840.000	-21.000	1,748,494.317	498,459.406	171L	162+360.000	-22.000	1,749,215.834	499,795.970	9R	156+211.812	64.202	1,745,130.383	496,271.B90
10L 156+168.893	-26.827	1,745,082.825	496,183.205	54L	157+900.000	-26.000	1,746,817.121	496,126.844	118L	160+860.000	-20,000	1,748,502.891	498,477.503	172L	162+400.000	-22.000	1,749,236.538	499,829.782	10R	156+240,612	86,712	1,745,160.312	496,292.875
IIL 156+188.759	-21.50B	1,745,102.914	496,187.491	55L	157+920.000	-24.000	1,746,B36.805	496,132.908	119L	160+900.000	-20.000	1,748,521.800	498,512.752	173L	162+440.000	-20.000	1,749,256.101	499,864.344	11R	156+258.680	99.165	1,745,179.002	496,304.374
12L 156+200,000	-20.000	1,745,114.218	496,188.414	66L	157+960.000	-24.000	1,746,876.659	496,142.309	120L	160+920.000	-21.000	1,748,532.135	498,529.903	174L	162+580.000	-20.000	1,749,334.672	499,978.839	12R	156+463.924	20.000	1,745,379.862	496,214,666
13L 156+220.00D	-21.000	1,745,134.139	496,186.377	67L	157+980.000	-25.000	1,746,B96.720	496,146.642	121L	160+940.000	-19,000	1,748,539.828	498,548.473	175L	162+60D.000	-19.000	1,749,345.612	499,995.425	13R	156+484.844	20.000	1,745,400.753	496,213.581
14L 156+240,000	-22.000	1,745,154.060	496,184,341	68L	158+000.000	-22.000	1,746,915.550	496,155.211	122L	160+958.101	-34.866	1,748,562.366	498,556.923	176L	162+62D.000	19.000	1,749,357.468	500,011.326	14R	156+620.000	20.000	1,745,535.727	496,206.568
15L 156+300.000	-22.000	1,745,213.979	496,181.228	69L	158+020.000	-22.000	1,746,935.067	496,161.283	123L	160+971.676	-28.485	1,748,563.160	498,571.902	177L	162+640,000	-20.000	1,749,370.285	500,026.528	15R	155+640.000	21.000	1,745,555.752	496,206.529
16L 156+320.000	-21.000	1,745,234.004	495,181.189	701.	158+040.000	-21.000	1,746,954.134	496,168.689	124L	160+980.000	~20.000	1,748,559.618	498,583.249	178L	162+660.000	-19.000	1,749,381.619	500,042.847	16R	156+680.000	21.000	1,745,595.698	495,204.454
17L 156+340.000	-20.000	1,745,254.029	496,181.150	71L	158+140.000	-21.000	1,747,048.851	496,206.694	125L	161+100.000	-20.000	1,748,616.345	498,688.994	179L	162+680.000	-20,000	1,749,394.658	500,057.840	17R	156+691.817	22.182	1,745,607.561	496,205.021
18L 156+400.000	-20.000	1,745,313.948	496,17B.037	72L	158+160.000	-20,000	1,747,066,875	496,216.321	126L	161+120,000	-19,000	1,748,624.918	498,707.091	180L	162+700.000	-19.000	1,749,406.288	500,074.085	18R	156+700.017	30.345	1,745,615.173	495,212.748
19L 156+420.000	-21,000	1,745,333.87D	496,176.000	734	158+220.000	-20,000	1,747,121.106	496,244.664	127L	161+180.000	-19.000	1,748,653,282	498,759.963	181L	162+740,000	-19.000	1,749,431.181	500,105.395	19R	156+721.425	31.677	1,745,637.622	496,212.967
20L 156+560.000	-21.000	1,745,473.681	496,16B.737	74L	158+240.000				128L		-20.000	 	498,777.115	╫┷╌	162+760.000	-2D,000		-	∤ ⊢	 	25.000		-
211 156+580.000	-22.000	1,745,493.802	495,166.700	75L	158+280.000	-21.000 -21.000	1,747,139,300	496,253.966 496,275.366	128L 129L	161+200.000	-20.000	1,748,653.617 1,748,673.953	498,777.115	182L 183L	162+760.000	-28.021	1,749,444.411	500,120.428	20R	156+725.000	20.000	1,745,640.845 1,745,655.566	496,206.114 496,200.342
l 	-			┥ ├────										! ───			1,749,455.522	500,121.514	21R	156+740.000			
22L 156+680,000	-22.000	1,745,593.467	496,161,512	76L	158+300.000	-22.000	1,747,191.701	496,285.754	130L	161+300.000	-21.000	1,748,711.771	498,864.763	184L	162+783.663	-2B.454	1,749,465.755	500,133.689	22R	156+960,000	21.000	1,745,875.321	496,189.926
23L 156+700.000	-23.000	1,745,613.389	496,159,475	771	15B+450.000	-22.000	1,747,312.072	496,380.451	131L	161+320.000	-24.000	1.748,723.869	498,880.969	1851	162+792.959	-21.564	1,749,466.147	500,145.253	23R	156+980,000	22.000	1,745,895.346	496,189.887
24L 156+707.162	-31.852	1,745,620.082	496,150.264	78L	158+500,000	-22.000	1,747,416.940	496,492.074	132L	161+340.000	-26.000	1,748,735.086	498,897.648	186L	162+840.000	-21.000	1,749,494.981	500,182.425	24R	157+040.000	22.000	1,745,955.265	496,186.774
25L 156+726.954	-30.599	1,745,639.912	496,150.488	79L	158+660.000	-21.000	1,747,453.192	495,541.492	133L	161+360.000	-28.000	1,748,746.303	498,914.327	187L	162+860.000	-22.000	1,749,508.210	500,197.458	25R	157+060.000	21.000	1,745,975.187	496,184.737
26L 156+730.000	-25,000	1,745,643.244	496,155.921	80L	158+680,000	~20.000	1,747,464,047	496,558.789	134L	161+374.000	-27.000	1,748,752.040	498,927,136	188L	162+880.000	-22.000	1,749,520.657	500,213.113	25R	157+180.000	21.000	1,746,095.025	496,178.511
27L 156+740.000	-21.000	1,745,653.438	496,159.397	81L	158+780,000	-20,000	1,747,517.945	496,644.716	135L	161+420.000	-25,000	1,748,772.023	498,968.617	189L	162+900.000	-21.000	1,749,532.321	500,229.390	27R	157+200.000	20.000	1,746,114.946	496,176.475
28L 156+960,000	-21.000	1,745,873.142	496,147.982	82L	1\$8+880,000	-20.000	1,747,586.856	496,732.682	136L	161+440.000	-25.000	1,748,781.477	498,986.242	190L	162+920.000	-20.000	1,749,543.985	5D0,245.66B	28R	157+260.000	20.000	1,746,174.855	496,173.362
29L 156+980.000	-22.000	1,745,893.063	496,145.946	83L	158+900.000	-21.000	1,747,577.227	496,749.855	137L	161+455.371	-23.000	1,748,786.981	499,000.732	191L	163+140.000	-20,000	1,749,680.899	500,417.873	29R	157+280.000	21.000	1,746,194.890	496,173.323
30L 157+020.000	-22.000	1,745,933.009	496,143.871	84L	158+940.000	-21.000	1,747,595.139	496,785.108	138L	161+474.359	-23.099	1,748,796.045	499,017.418	192L	163+160.000	-21.000	1,749,694.128	500,432,905	30R	157+300.000	22.000	1,746,214.915	495,173.284
31L 157+060.000	-23.000	1,745,972.904	496,140.797	B5L	158+960.000	-22.000	1,747,606.475	496,802.259	139L	161+500.000	-23.000	1,748,808.079	499,040.060	193L	163+280.000	-21.000	1,749,768.808	500,526.835	31R	157+340.000	22.000	1,746,254.861	496,171.208
32L 157+080.000	-22.000	1,745,992.929	496,140.758	B6L	158+980.000	-21.000	1,747,615.048	496,820.356	140L	161+520.000	-22.000	1,748,816.652	499,05B.156	194L	163+300.000	-20.000	1,749,780.472	500,543.113	32R	157+360.000	23.000	1,746,274.886	496,171.169
33L 157+100.000	-21.000	1,746,012.954	496,140.719	B7L	159+020,000	-21.000	1,747,633.957	496,855.605	141L	161+540.000	-21,000	1,748,825.225	499,076.253	195L	163+320.000	-20.000	1,749,792,919	500,558.768	33R	157+380.000	24.000	1,746,294.911	496,171.130
34L 157+180.000	-21.00D	1,746,092.846	496,136.568	BBL	159+059.268	-20.607	1,747,652,174	496,890.394	142L	161+560.000	-21,000	1,748,834,680	499,093.878	196L	163+340.000	-19.000	1,749,804,583	500,575.045	34R	157+400.000	25.000	1,746,314.936	496,171.091
35L 157+200,000	-20,000	1,746,112.871	496,136.529	89L	159+070.999	-40.186	1,747,674.973	496,891.476	143L	161+580.000	-22.000	1,748,845.015	499,111.029	197L	163+360.000	-18.000	1,749,816.247	500,591.322	35R	157+420.000	25,000	1,746,334.961	496,171.052
36L 157+220,000	<u> </u>	1,746,132.844	496,135.491	90L	159+098.761	-41.618	1,747,689.358	496,915.263	144L	161+680.000	-22.000	1,748,892.288	499,199.150	19BL	163+380.00D	-18.000	1,749,828.694	500,606.977	36R	157+500.000	26,000	1,745,414.853	496,166.901
37L 157+240,00D	-	1,746,152.765	496,133.455	91L	159+120.000	-20.000	1,747,680.349	496,944.198	145L	161+700.000	-21.000	1,748,900.861	499,217.247	199L	163+400.00D	-17.000	1,749,840.35B	500,623.255	37R	157+520.000	25.000	1,745,434.775	496,164.865
<u> </u>		1,746,192.711			 -				1	-	· · · · · · · · · · · · · · · · · · ·	 		┤├─── ─	 		-	 		·			
[1,746,192.711	496,131.379	92L	159+140.000	-20.000	1,747,689,803	496,961.822	146L	161+720.000	-20.000	1,748,909.434	499,235.344	200L	163+460.000	-17.000 -16.000	1,749,877.698	500,670.220	38R	157+540.000	23.000	1,746,454.641	496,161.830
39L 157+300.000	-		496,128.344	93L	159+160.000	-21.000	1,747,700.139	496,978.974	147L	161+740.000	-20.000	1,748,918.889	499,252.968	201L	163+480.000	-16.00D	1,749,889.362	500,685.497	39R	157+560.000	22.000	1,746,474.530	496,159.811
40L 157+320.000		1,746,232.605	496,128.305	94L	159+260.000	~21.000	1,747,747.411	497,067.095	148L	161+743.326	-31.627	1,748,930.707	499,250.403	202L	163+520.000	-16.000	1,749,914.255	500,717.807	40R	157+580.000	21.000	1,746,494.391	496,157.838
41L 157+340.000		1,746,252.578	496,127.267	95L	159+280.000	-20.000	1,747,755.985	497,085.192	149L	161+759.486	-32,867	1,748,939.439	499,264.057	203L	163+522.105	-25.000	1,749,922.610	500,713.854	41R	157+600.000	20.000	1,746,514.230	496,155,944
42L 157+360.000		1,746,272.500	496,125.231	96L	159+440.000	-20.000	1,747,831.621	497,226.185	150L	161+781.5B9	-20,000	1,748,938,549	499,289.617	204L	153+540.D00	-21.000	1,749,930.616	500,730.350	42R	157+620.000	20.000	1,746,534.089	496,155.15B
43L 157+380.000		1,746,292,421	496,123.195	971.	159+460.000	-19.000	1,747,B40.194	497,244.282	151L	161+880.000	-21.000	1,748,985.952	499,375.865	205L	163+560.000	-16.000	1,749,939.149	500,749.117	43R	157+640.D00	19.000	1,746,553.893	496,153.515
44L 157+400.000	-25.000	1,746,312.342	496,121.158	981	159+560.000	-19.000	1,747,887.457	497,332.403	152L	161+920.000	-21.000	1,749,004.861	499,411.113	206L	163+600.000	~16.000	1,749,964.042	500,780.427	44R	157+660,000	19.000	1,746,573.707	496,153.044
45L 157+420.000	-25.000	1,746,332.315	496,120.121	991	159+580.000	-21.000	1,747,887,467	497,332.403	153L	161+940.000	-22.000	1,749,015.196	499,428.265	207L	163+620,000	~14,000	1,749,974.944	500,797.398	45R	157+680,000	20.000	1,746,593.502	496,153.777
46L 157+440,000	-26.000	1,746,352.236	496,118.084	1DDL	159+600.000	-22.000	1,747,909.019	497,366.234	154L	161+960.000	-22.000	1,749,024.651	499,445.889	208L	163+640.000	-12.0D0	1,749,985.750	500,814.620	46R	157+720.000	21.000	1,746,632.942	496,154.980
47L 157+520.000	-27.000	1,746,432.077	495,112.935	101L	159+620.000	-23.000	1,747,919,355	497,383.385	155L	161+980.000	-21.000	1,749,033.224	499,463.986	209L	163+660.000	-11.000	1,749,997,006	500,831.614	47R	157+820.000	21.000	1,746,730.770	496,161.160
48L 157+540.000	-25.000	1,745,452,157	495,113.895	102L	159+660.000	-23.000	1,747,938.264	497,418.633	156L	162+000.000	-21.000	1,749,042.679	499,481.610	210L	163+691.826	-10.000	1,750,014.084	500,859.397	4BR	157+826,000	25,000	1,746,736.137	495,165.804
49L 157+560.000	-24.000	1,746,472.21B	496,113.859	103L	159+680.000	-22.000	1,747,946.837	497,436.730	157ኒ	162+040.000	-21.000	1,749,061.588	499,516.858	211L	163+730.851	-10.000	1,750,033.052	500,894.597	49R	157+845.548	33.819	1,746,753.836	496,175.961
50L 157+580.000	-23.000	1,746,492.315	496,113,887	1041.	159+700.000	-21.000	1,747,955.411	497,454.827	158L	162+060.000	-20.000	1,749,070.151	499,534.955	212L	163+738.038	-10.000	1,750,036.165	500,901.268	50R	157+850.000	22.000	1,746,769.438	496,167.287
51L 157+600.000	-22.000	1,746,512.445	496,113.982	105L	159+76D.DOD	-21.000	1,747,983.774	497,507.700	159L	162+1DD.000	-20.000	1,749,089.070	499,570.204	213L	163+743.007	~7.50D	1,750,035.961	500,906.915	51R	157+850.000	25.000	1,746,76B.985	496,170.252
52L 157+620,000	 	1,746,532.567	496,113.186	106L	159+800.000	-19.000	1,748,000.921	497,543.894	160L	162+120.000	-21.000	1,749,099.406	499,587.355	<u>-</u>				1	52R	157+960.000	22.000	1,746,865.218	496,186.860
53L 157+640.000	 	1,746,552.758	496,113,531	107L	159+84D.DOD	-19.000	1,748,019,830	497,579.142	151L	162+135.063	-24.766	1,749,109.845	499,598.848	1]				53R	157+980.000	21.000	1,746,884.380	496,190.956
1			1.2.2,1.101001		DATE SIGNATUR	<u> </u>	·,,o 13,000	.5.,5.5.174				.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		CT AND LO	CATION :		<u> </u>	SCALE :	<u> </u>	CONTENTS :			SHEET NO. :
		4			/2/02 h	\nearrow		DEPARTMEN		C OF THE PHILIPS JBLIC WORKS		WAYS		THE	DETAILED DES								
JAPAN INTER		OPERATION AG	ENCY				- PMO		OF DESIGN	-		OF THE SECRETARY			NG INTER-URBA THE PAN-PHI			ľ	1		DULE OF		B 2 2 2 2
// KATAHIRA &		PO YACHIYO	CH	ecked 9/	14/02 5 GOSE	Submitted By:	Review	red By:	Recommender	na Byr. R	ecommended By: (See cover sheet f Signature)	Approved By: or (See cover Signature/			Cabanatuan and			NOT TO SCALE	RC	DAD RIGHT-O		RKERS	RG-09
I SEL INTERNATION	IAI	COLITO		BUITED -	L L WE KW	MANUAL PARISON	TRAJANO I IO	CCCNIA M. ALACAD	CHEST	N C BEVEC	DANIEL U BONG	TAN CINEON A D	ATHMANONO	· <u></u>	CAN IOSE	DVDACC		ļ		(1	OF 2)		

FULL SIZE A1

SAN JOSE BYPASS

KATAHIRA & ENGINEERS YEO YACHIYO ENGINEERING CO., LTD.

SCHEDULE OF ROAD RIGHT-OF-WAY MARKERS

POINT		OFFSET		1	POINT		OFFSET			POINT		OFFSET			POINT		OFFSET			POINT		OFFSET		
NO.	STATION	FROM CENTERLINE	NORTHING	EASTING	NO.	STATION	FROM CENTERLINE	NORTHING	EASTING	NO.	STATION	FROM CENTERLINE	NORTHING	EASTING	NO.	STATION	FROM CENTERLINE	NORTHING	EASTING	NO.	STATION	FROM CENTERLINE	NORTHING	EASTING
54R	158+000.000	20.000	1,746,903.476	496,195.439	108R	160+947.919	33.814	1,748,497.031	498,580.418	162R	162+880.000	23.000	1,749,485.433	500,241.118	INTER	SECTION A-2	L		1	C2-1R	0+940.000	5.000	1,748,821.126	498,970.228
55R	158+100.000	20.000	1,746,995.776	496,228.253	109R	160+960.000	22.00D	1,748,513.152	498,585.479	163R	162+900.000	22.000	1,749,498.662	500,256.151	A2~1L	0+905.000	-5.00D	1,745,634.276	496,086.455	C2-2R	0+960.000	10.000	1,748,804.265	498,982.111
56R	15B+120.000	21.000	1,747,013.416	496,236.831	110R	161+060.000	22.000	1,748,560,425	498,573.600	164R	162+920.000	22.000	1,749,511.109	500,271.806	A2~2L	0+930.000	-7.500	1,745,638.460	496,111.429		3133333		1,7 70,00 7.200	100,002.117
57R			 		111R		21.000			 -		21.000		500,286.839	A2~3L	1+060.000	 	 		L	SECTION A-6			
	158+200.000	21.000	1,747,083.866	496,271,000	↓ ├── ─	161+080.000		1,748,570.761	498,690,751	165R	162+940.000	-	1,749,524.339		\vdash		-7.000	1,745,632.997	496,242.421	<u> </u>				
58R	158+400.000	21.000	1,747,183.863	496,332.527	112R	161+100.000	21.000	1,748,580.215	498,708.376	166R	163+140.000	21.000	1,749,548.806	500,443.389	A2~4L	1+080.000	-5.000	1,745,628.719	496,262.061	A6-1L	0+900.000	-5.000	1,748,977.452	499,210.448
59R	158+420.000	24.000	1,747,259.117	496,394.921	113R	161+200.000	21.000	1,748,527.488	498,796.496	167R	153+160.000	22.000	1,749,660.470	500,459.666	A2~1R	0+905.000	5.000	1,745,624.300	496,087.147	A6-2L	0+920.000	-7.500	1,748,966.830	499,227.577
808	158+460.000	24.000	1,747,288.165	496,421.000	114R	161+280.000	21.000	1,748,565,306	498,866.993	168R	163+180.000	23.000	1,749,672.134	500,475.943	A2-2R	0+930.00D	7.500	1,745,623.473	495,112.06D	46-3L	1+080.000	7.500	1,748,880.557	499,360.277
61₹	158+480.000	23.000	1,747,302.990	496,433.753	115R	161+300.000	23,000	1,748,572.998	498,885.563	169R	163+200,000	25.000	1,749,683.015	500,492.843	A2-3R	1+080.000	5.000	1,745,618.785	495,260.915	AB-4L	1+100.000	-5.000	1,748,869.093	499,376.853
62R	158+500.000	22.000	1,747,317.570	495,446.B14	116R	161+320.000	25.000	1,748,680.690	498,904.133	170R	163+241.839	139.519	1,749,619.413	500,595.862	<u> </u>					A6-5L	1+100.000	5.000	1,748,859.093	499,376.853
63R	158+580.000	22.000	1,747,370.267	498,504.618	117R	161+340.000	26.000	1,74B,689.263	498,922.230	171R	163+250,000	25,000	1,749,720.355	500,539.808	INTER	SECTION A-3				A6-1R	0+900.000	5.000	1,748,969.672	499,204.164
64R	158+660,000	22.000	1,747,418.175	496,566.449	118R	161+360.000	27.000	1,748,697,836	498,940.326	172R	163+261.813	126.092	1,749,642.362	500,604.134	A3~1L	0+940.117	5.000	1,746,765.902	496,092.961	A5-2R	0+920.000	7.500	1,748,955,161	499,218.152
65R	158+760.000	22.000	1,747,471.616	496,648.831	119R	161+374.000	25.000	1,748,706.217	498,951.718	173R	163+280.000	24.000	1,749,733.585	500,554.841	A3~2L	0+960.000	-9.000	1,746,756.548	495,10B.383	46-3R	1+080.000	7.500	1,748,867.257	499,353.341
66R	158+780.000	21.000	1,747,482.510	496,665.342	120R	161+420.000	25.000	1,748,727.962	498,992.254	174R	163+288.927	96,861	1,749,682.108	500,607.172	A3~3L	1+060.000	-8.000	1,746,778.079	496,193.620	A5-4R	1+100.000	5.000	1,748,860.226	499,372.229
67R	158+911.828	21,000	1,747,545.811	496,780,137	121R	161+440.000	24.000	1,748,738.298	499,009.405	175R	163+300.000	23,000	1,749,746.814	500,569.873	A3-4L	1+080.000	-5.000	1,746,783.374	496,213.138	-				
6BR	158+960,000	21.000	1,747,568,583	496,B22.586	122R	161+460.000	24.000	1,748,747.753	499,027.029	176R	163+306,632	61.146	1,749,721.083	500,598.804	A3-1R	D+940.117	5.000	1,746,759.203	496,085,536	INTER	SECTION A-7			
69R	158+980,000	22.000	1,747,577.156	496,840,683	123R	151+480.000	22.000	1,748,758,970	499,043.708	177R	163+311.144	107.730	1,749,687.427	500,631.327	A3-2R	0+949.954	7,050	1,746,750.400	496,090.739	A7-1L	0+116.988	-11.597	1,749,200,096	499,615.234
70R	159+000,000	22.000	1,747,586.611	496,858.30B	124R	161+580.000	22.000	1,748,806.242	499,131.829	178R	163+312.024	38.302	1,749,742.320	500,588,808	A3-3R	D+960.184	5.769	1,746,743,918	496,100.725	A7-2L	0+140.029	-9.931	1,749,174,484	499,620.269
71R	159+020.000	21.000	1,747,596.947	496,838.308	125R	161+620.000	22.000	1,748,825.151	499,157.629	179R	163+343.725	34.420	1,749,765.087	500,611.206	A3-4R	0+964.341	9.054	1,746,738.671	496,100.723	A7-3L	0+160.000	-10.000	1,749,152.465	499,620.158
<u> </u>					125R					I		22.000			A3-5R		ļ <u> </u>			A7-3L		-7.50D		
72R	159+063,853	21.000	1,747,617.677	496,914.103	{ 	161+640.000	23.000	1,748,833.724	499,185.174	180R	163+360.000	i	1,749,784.937	500,616.216	I———	1+050.000	8.000	1,746,763.430	496,200.053		0+276.838		1,749,040,841	499,641.990
73R	159+079.206	38.708	1,747,609.330	496,936.003	127R	161+660.000	23.000	1,748,843.179	499,202.798	181R	163+380.000	17.000	1,749,801.298	500,628.759	A3~6R	1+080.000	5,000	1,746,774.218	495,217.159	A7-1R	0+000.000	5.000	1,749,304.873	499,574.374
74R	159+106.654	38.075	1,747,622.863	495,959.891	128R	161+680.000	22.000	1,748,853.515	499,219.950	182R	163+400.000	17.000	1,749,813.744	500,644.414	<u> </u>					A7-2R	D+D11.466	10.000	1,749,295.309	499,566.311
75R	159+117.553	21.000	1,747,643.062	496,961.424	129R	161+700.000	21.000	1,748,863,850	499,237.101	183R	163+420.000	19,000	1,749,824.626	500,661.314	INTER:	SECTION A-3A	·			A7~3R	D+D40.000	10.000	1,749,263.668	499,562.649
76R	159+140.000	21.000	1,747,653.674	496,981.204	130R	161+720.000	20.000	1,748,874.186	499,254.253	184R	163+440.000	18.000	1,749,837.855	500,676.347	A3α~1L	0+925.000	-5.000	1,746,685.074	496,070.120	A7-4R	D+060.000	10.000	1,749,241.549	499,566.671
77R	159+150.000	22.000	1,747,662.247	496,999.301	131R	161+760.000	20.000	1,748,893.095	499,289.501	185R	163+460.000	17.000	1,749,851.084	500,691.379	A30~2L	0+949.483	-4.989	1,746,703.652	496,086.066	A7-5R	0+080.000	10.000	1,749,221.253	499,575.892
78R	159+420.000	22.000	1,747,785.155	497,22B.416	132R	161+775.496	33.313	1,748,886.689	499,309.450	186R	163+480.000	16.000	1,749,864.314	500,706,412	A3a~3L	0+972.781	-5,338	1,746,721.274	496,098.375	A76R	0+120,000	10.000	1,749,189.215	499,596.337
79R	159+440.000	21.000	1,747,795.491	497,245.567	133R	161+793.566	27.704	1,748,902.174	499,322.722	187R	163+500.000	16.000	1,749,876.761	500,722.067	A30~1R	0+925.000	5,000	1,746,678.565	496,077.711	A7-7R	0+140.000	10.000	1,749,172.255	499,600.463
BOR	159+580.000	21.000	1,747,861.673	497,368.937	134R	161+800.000	21.000	1,748,911.123	499,325.222	188R	163+540.000	16.000	1,749,901.654	500,753.377	A3a~2R	0+950.000	5.000	1,746,697.534	496,093.978	A7-8R	0+160.000	10.000	1,749,154.413	499,600.253
81R	159+600.000	23.000	1,747,869.365	497,387.506	135R	161+860.000	22.000	1,748,938.605	499,378.568	189R	163+560.000	14.000	1,749,915.666	500,757.787	A30-3R	0+967.012	4.496	1,746,711.814	496,104.638	A7-9R	0+280.000	8,000	1,749,036.024	499,626.931
82R	159+640.000	23.000	1,747,888.274	497,422.755	136R	161+880.000	23.000	1,748,947,178	499,396.665	190R	163+580.000	15.000	1,749,927.330	500,784.065				·		A7-10R	0+300.000	8.000	1,749,018.832	499,625.484
83R	159+660.000	22.000	1,747,898.610	497,439.906	137R	161+900.000	24.000	1,748,955.752	499,414.762	191R	163+600.000	14.000	1,749,995.908	500,868.947	INTER	SECTION A-4				A7-11R	0+354.167	8.000	1,748,969.062	499,606.657
84R	159+680.000	21,000	1,747,908.945	497,457.058	138R	151+940.000	23.000	1,748,975,542	499,449.537	192R	163+620.000	12.000	1,749,954.514	500,813.479	A4-1L	D+00D.000	-5.000	1,747,736,113	496,879.146	<u> </u>	1			
85R	159+700.000	20.000	1,747,919.281	497,474.209	139R	161+980.000	23.000	1,748,994.451	499,484.786	193R	163+640.000	11.000	1,749,967.422	500,828.516	A4~2L	0+020.000	-10.000	1,747,721.042	496,893,213	INTERS	ECTION A-8			
86R	159+84D.000	20.000	1,747,985.463	497,597.57B	140R	162+000.000	22.000	1,749,004.787	499,501.937	194R	163+66D.D00	9.000	1,749,980.697	500,843.191	A4-3L	D+190.000	-7.500	1,747,578.528	496,983.773	A8-1L	0+B95.000	-5,000	1,749,528.114	500,092.713
l ⊢				· ·	!					├── }					 					-			·	500,092.775
87R	159+860.000	21.000	1,747,994.036	497,615.675	141R	162+060.000	22.000	1,749,033,150	499,554.810	195R	163+675.499	8.850	1,749,989.418	500,855.640	A44L	0+200.000	-7.500	1,747,570.352	496,989.531	A8-2L	0+930.000	-9.000	1,749,501.022	
88R	159+880.000	23,000	1,748,001.728	497,634.245	1	152+080.000	21.000	1,749,043.486	499,571.961	196R	163+590.577	10.494	1,749,995.90B	500,858.947	A4~1R	0+000.000	5.000	1,747,731.266		A8-3L	1+057.735	-7.500	1,749,383.748	500,168.987
89R	159+920.000	23.000	1,748,020.637	497,669.493	143R	162+120.000	21.000	1,749,062.395	499,507.210	197R	163+699.851	13.743	1,749,997.694	500,878.340	A4-2R	0+020.000	10.000	1,747,711,349	496,875.719	A8-4L	1+090.000	-7.500	1,749,347.427	500,172.139
90R	160+020.000	23.000	1,748,067.909	497,757.614	144R	162+130.885	32.956	1,749,057.005	499,622.453	198R	163+720.000	11.000	1,750,009.426	500,894.185	A4~3R	0+190.000	7.500	1,747,569.892	496,971.509	AB-5L	1+110.000	-5.000	1,749,328.562	500,165.046
91R	160+040.000	22.000	1,748,078.245	497,774.766	145R	162+145.594	36.209	1,749,061.092	499,636.953	199R	163+739.998	10.000	1,750,018.759	500,911.312	A4~4R	0+200.000	7.500	1,747,561.716	496,977.267	A8-1R	0+895.000	5.000	1,749,522.637	500,084.345
92R	160+060.000	21.000	1,748,088.581	497,791.917	146R	162+160.000	24.000	1,749,078.660	499,643.876	200R	163+743.547	7.500	1,750,022.460	500,913.472	├ ——					A8~2R	0+915.707	7.702	1,749,503.832	500,093.427
938	160+160.000	21,000	1,748,135.853	497,880.038	147R	162+180.000	23.000	1,749,088.996	499,661.028	L		<u>,</u>			INTER	SECTION A-5				A8-3R	0+945,490	7,400	1,749,479.232	500,109.816
94R	160+260.000	21.000	1,748,183.126	497,968.159	148R	162+218.700	30.000	1,749,101.122	499,698.440	INTERS	SECTION A-1				A5~1L	0+000.000	-5.000	1,748,627.936	498,565.981	A8-4R	1+060.000	7.500	1,749,375.998	500,155.951
95R	160+280.000	22.000	1,748,191.599	497,986.256	149R	152+269.370	23.000	1,749,131.564	499,739.942	A1-11	0+925,000	-7.500	1,745,108.675	496,138.690	A5~2L	0+020.000	-7.500	1,748,608.097	498,569,518	A8-5R	1+090.000	7.500	1,749,350.925	500,157.553
96R	160+300,000	22,000	1,748,201.154	498,003.880	150R	152+280.000	23.000	1,749,136.776	499,749,319	A1-2L	0+966,452	-7.500	1,745,099.208	496,179.047	A5-3L	0+153.000	-12.500	1,748,475.544	498,581.558	AB-6R	1+110.000	5.000	1,749,330.893	500,155.322
97R	160+320.000	20.000	1,748,212.371	498,020.559	151R	162+320.000	23.000	1,749.156.744	499,784.402	A1-3L	1+057.213	-5.893	1,745,076.915	496,267.041	A5~4L	0+193.015	-7.500	1,748,434.993	498,578.034					Ţ
98R	160+420.000	20.000	1,748,259.643	498,108.680	152R	162+360.000	22.000	1,749,178.128	499,818.646	A1-1R	0+925.000	7,500	1,745,094.071	496,135.264	A5~5L	0+220.00D	-7.500	1,748,407.981	498,578.262	INTERS	ECTION A-9			
99R	160+520.000	20,000	1,748,306.916	498,196.801	153R	162+460.000	22.000	1,749,231.832	499,904.035	A1-2R	1+049.114	9.085	1,745,064.182	496,255.736	A5-1R	0+000.000	5.000	1,748,627.407	498,555.975	A9a-1L	0+940.000	-7.500	1,749,950,940	500,695.184
100R	160+540.000	21.000	1,748,315.489	498,214.898	154R	162+480.000	21.000	1,749,243.812	499,920.295	A1-3R	1+054.350	11.831	1,745,060.313	496,260.206	A5-2R	0+020.000	7.500	1,748,607.302	498,554.539	A9a1R	-	7.500	1,749,937.864	500,687.833
101R	160+620.000	21.000	1,748,353.307	498,285.395	155R	162+600.000	21.000	1,749,313,467	500,019.231	1					A5-3R	0+153.000	12.500	1,748,474.224	498,556.593					
102R	160+760.000	21.000	1,748,419.489	498,408.764	156R	162+740.000	21.000	1,749,399.871	500,130.289	INTERE	SECTION C-1		· · · · · · · · · · · · · · · · · · ·		A5-4R	0+192.985	7,500	1,748,434.840	498,563.034	NOTE	ζ·			
 				498,425.861	┤ ├ ────	····				<u> </u>		-7.716	1 745 415 100	406 226 001	-							FORE RECEIVE	INDUCATE LEET CO	NE DISTANCE
103R	160+780.000	22.000	1,748,428.082		157R	152+753.838	21.692	1,749,407.942	500,141.551	C11L	1+040.000		1.745,416.100	496,226.991	A5-5R	0+220.000	7,500	1,748,407.854	498,563,263		GATIVE SIGNS BEI OM CENTERLINE.	ORE OFFSEIS	INDICATE LEFT SIE	DE DISTANCE
104R	160+840.000	22.000	1,748,456.425	498,479,734	158R	162+768.873	25.954	1,749,413.962	500,155.972	C12L	1+060.000	-5.000	1.745,429.537	496,242.051	 _					2. FO	R LAYOUT OF RC	W MARKERS, S	EE SHEET NO. RM	-07 TO RM-12.
105R	160+860.000	21.000	1,748,466.761	498,496,885	159R	162+786.040	25,000	1,749,425.393	500,168.816	C1-1R	1+040.000	7.127	1,745,406.455	496,238.273	l——	SECTION C-2	т	T	· · · · · ·					
106R	160+920.000	21.000	1,748,495.125	498,549.758	160R	152+840.000	22.000	1,749,461.322	500,209.186	C1-2R	1+060.000	5.000	1,745,423.038	496,249.652	C2~1L	0+940.000	-5.000	1,748,828.696	498,976.762					1
107R	160+924,002	25.000	1,748,493.492	498,555.175	151R	152+86D.0D0	23.000	1,749,472.986	500,225.463						C2~2L	0+960.000	-9.937	1,748,819.374	498,995.119	<u>L</u>				
		Illiat			D#	TE SIGNATURI	<u> </u>	徿		REPUBLIC	OF THE PHILIPP	PINES		PROJE	CT AND LO	CATION :			SCALE :	SHEET CO	NTENTS :			SHEET NO. :

JAPAN INTERNATIONAL COOPERATION AGENCY

KATAHIRA & ENGINEERS YOU YACHIYO ENGINEERING CO., LTD.

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DESIGNED	9/2/02	A TUNA	
CHECKED	9/4/02	F. GOSE	S
SUBMITED	9/4/02	W: KUKCU	

REPUBLIC OF THE PHILIPPINES

DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS | Approved By: | (See cover sheet for | Signoture) | Signoture | Signoture | Approved | | MANUEL M. BONDAN | SIMEON A. DATUMANONG | SIGNOTURE | Approved | SIMEON A. DATUMANONG | SIMEO 0 9/6/02 | Mil KUNGU DANILO C. TRAIANO JOSEFINA M. ALAGAR
Project Director Chief, Highways Division

THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) SAN JOSE BYPASS

SCHEDULE OF ROAD RIGHT-OF-WAY MARKERS (2 OF 2)

NOT TO SCALE

FULL SIZE A1

RG-10