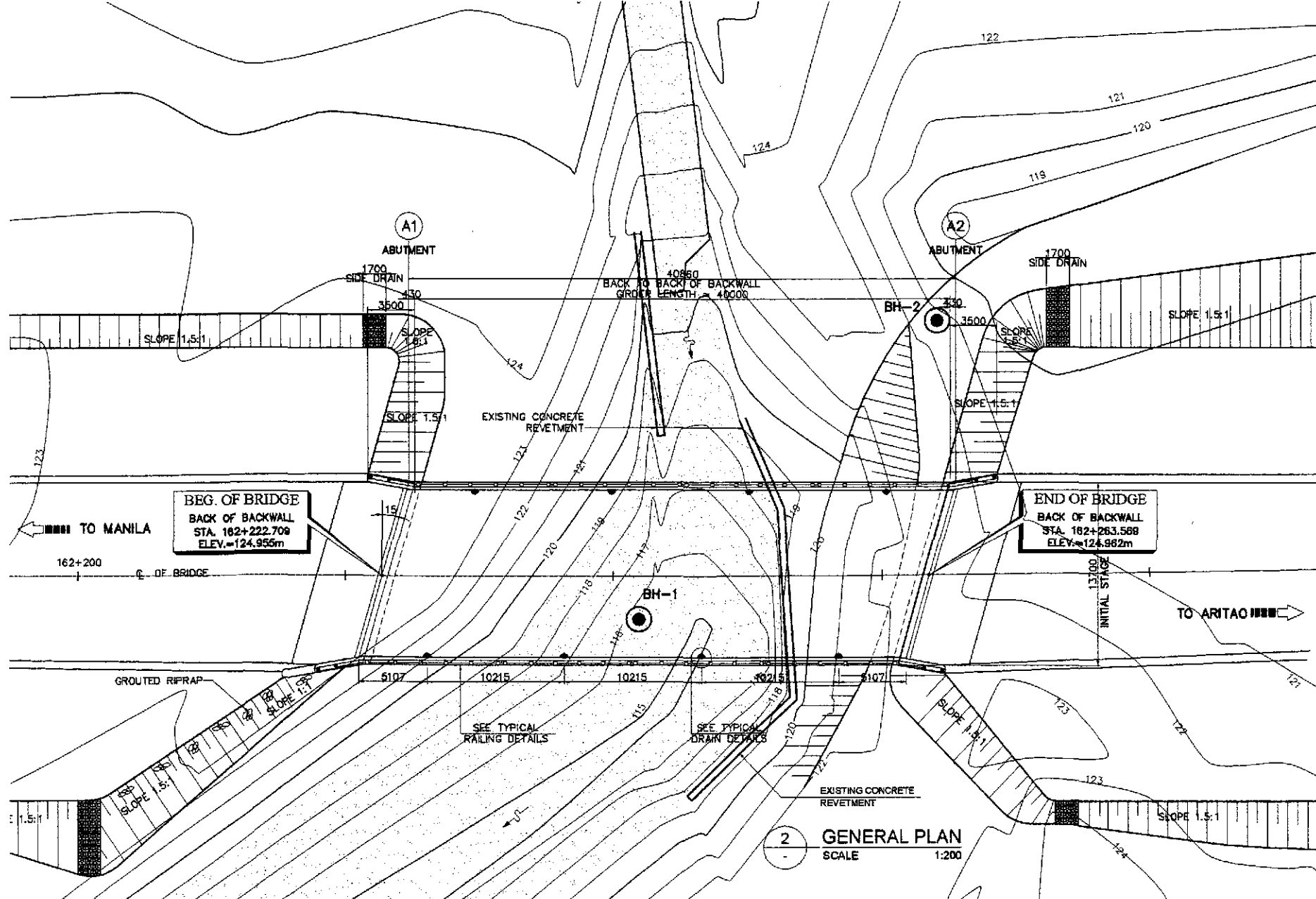
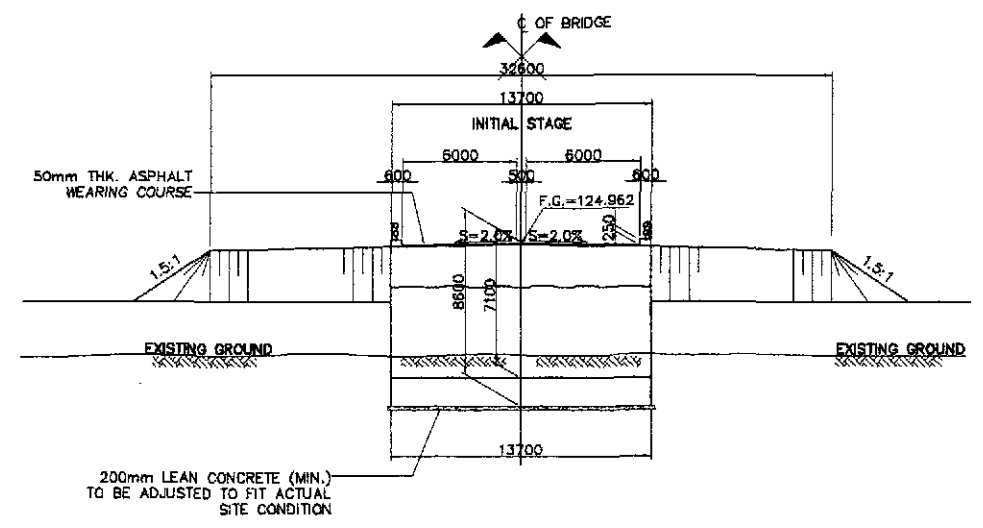


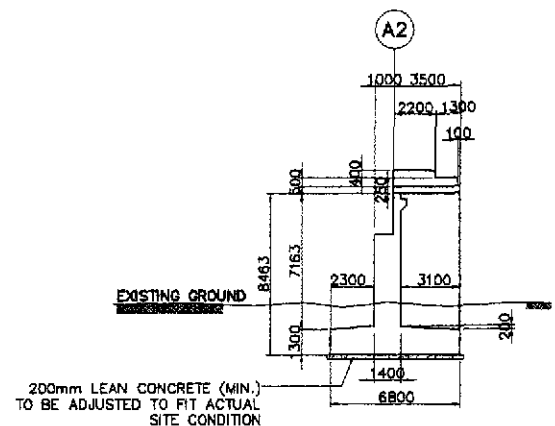
1 GENERAL ELEVATION
SCALE 1:200



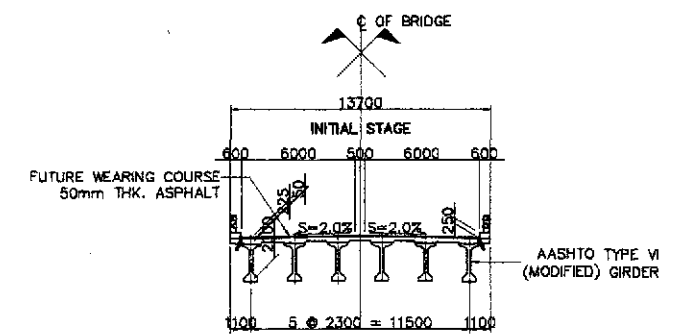
2 GENERAL PLAN
SCALE 1:200



3A SECTION @ ABUTMENT A2
SCALE 1:200



3B SIDE ELEVATION
SCALE 1:200



4 SECTION @ MID-SPAN
SCALE 1:200

HYDRAULIC DATA	
WITHIN IRRIGATION CANAL	-

NOTE:
PRIOR TO CONSTRUCTION SOIL INVESTIGATION AT ABUTMENT A1 SHALL BE CONDUCTED FOR CONFIRMATION OF ASSUMED BEARING CAPACITY AND FOOTING ELEVATION.

A SAN JOSE BYPASS BRIDGE NO. 3 (STA. 162+222.709)
SCALE AS SHOWN

PERFECTO L. ZAPLAN JR.
OIC Chief, Hydraulics Division, BOD

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

DESIGNED	DATE	SIGNATURE
9/2/02	9/2/02	<i>[Signature]</i>
CHECKED	9/4/02	<i>[Signature]</i>
SUBMITTED	9/6/02	<i>[Signature]</i>

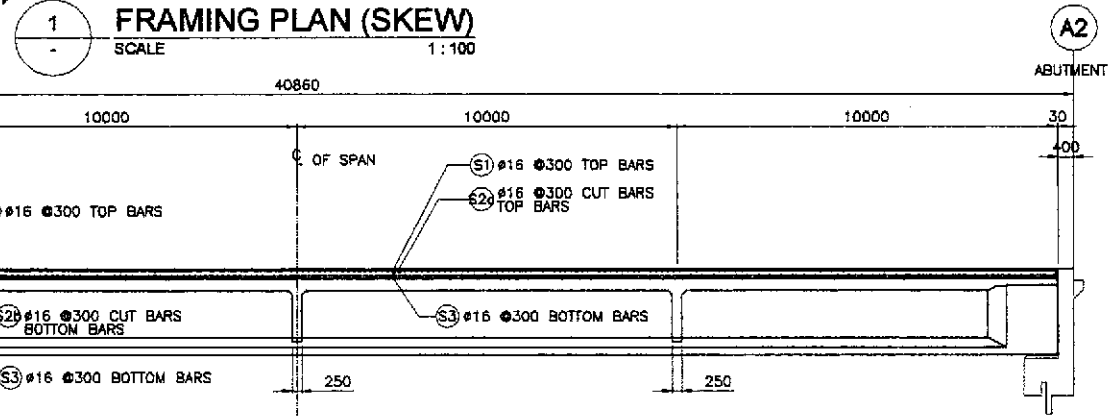
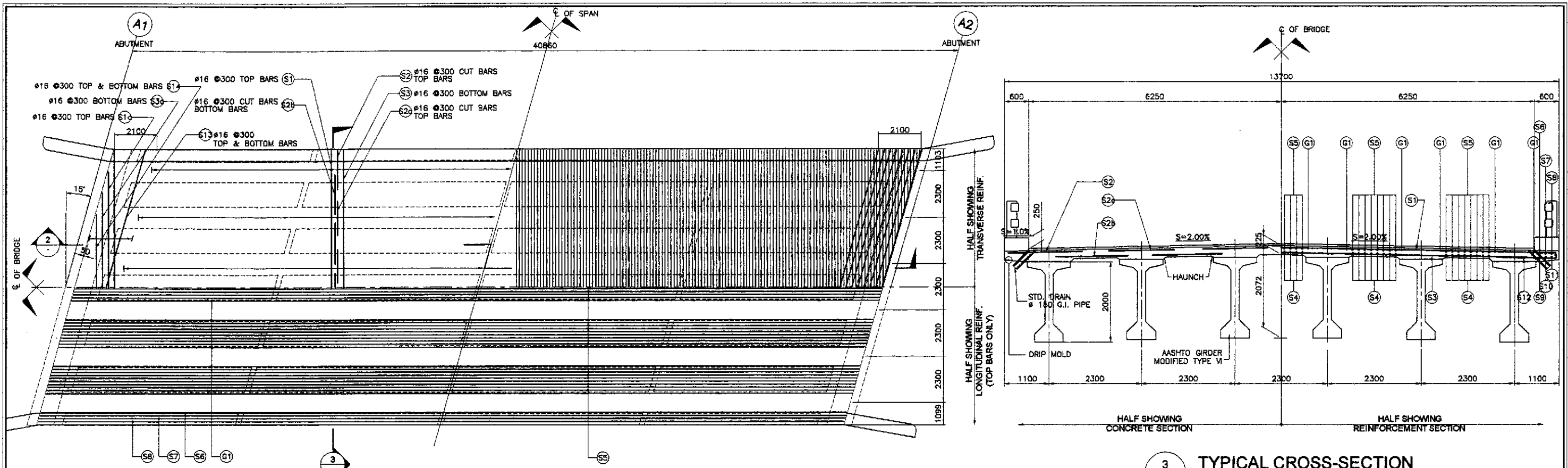
REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	
BUREAU OF DESIGN	
OFFICE OF THE SECRETARY	
Submitted By: DANILLO C. TRAJANO Project Director	Reviewed By: ADRIANO M. DOROY Chief, Bridges Division
Recommended By: GILBERTO S. REYES Director IV (IC)	Recommended By: MANUEL M. BONDAN Undersecretary
Approved By: SIMON A. DATUMANONG Secretary	

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

SCALE :
1:200
FULL SIZE A1

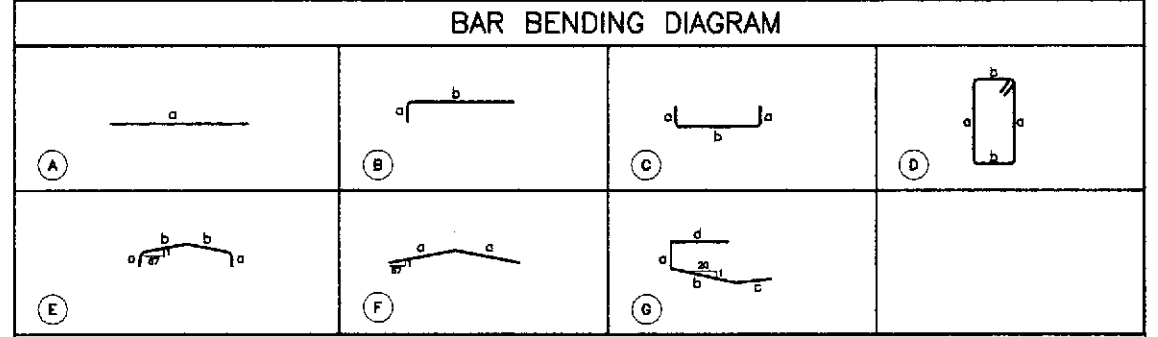
SHEET CONTENTS :
BRIDGE NO. 3
GENERAL PLAN,
ELEVATION AND SECTIONS
(INITIAL STAGE)

SHEET NO. :
B3-01



2 LONGITUDINAL SECTION
SCALE 1:100

3 TYPICAL CROSS-SECTION
SCALE 1:50

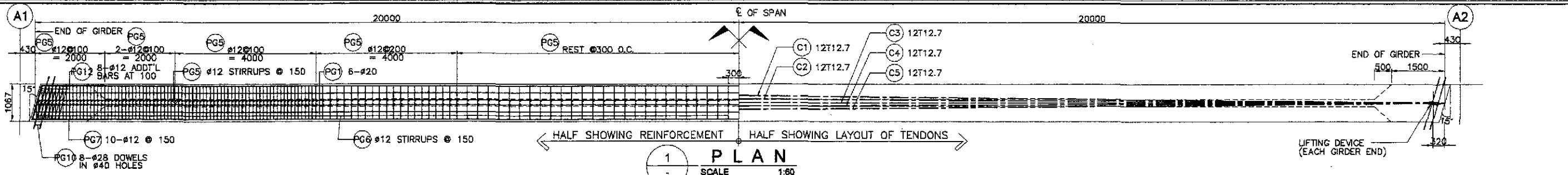


SCHEDULE OF REINFORCEMENT

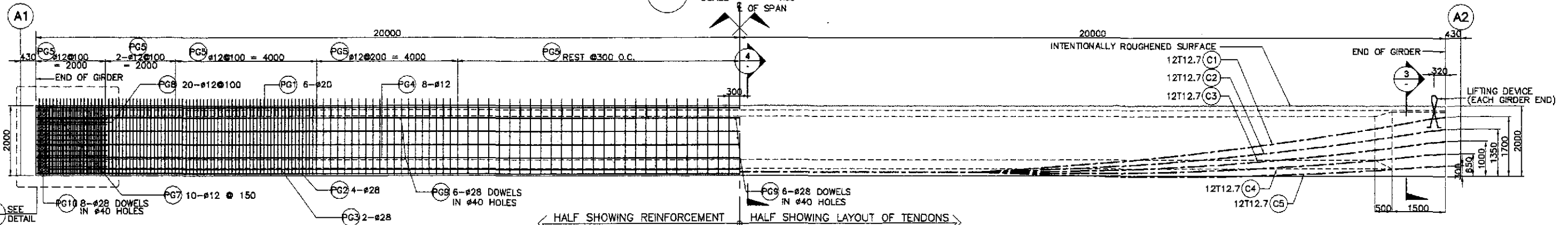
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT				LENGTH EACH BAR (mm)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	WEIGHT IN (kg)	REBAR RATIO (kg/m ³)
							a	b	c	d					
DECK SLAB	144.61	G1	16	24	AS SHOWN	(A)	39920	-	-	-	39920	958.08	1.579	1513	123.98
		S1	18	121	300	(E)	145	6810	-	-	13910	1683.11	1.579	2658	
		S1a	18	26	300	(E)	145	3685	-	-	7660	191.16	1.579	315	
		S2	18	242	300	(A)	1850	-	-	-	1850	447.70	1.579	707	
		S2a	16	484	300	(A)	1600	-	-	-	1600	774.40	1.579	1223	
		S2b	16	605	300	(A)	1200	-	-	-	1200	726.00	1.579	1147	
		S3	18	121	300	(F)	6810	-	-	-	13620	1648.02	1.579	2603	
		S3a	16	26	300	(F)	3685	-	-	-	7370	191.62	1.579	303	
		S4	18	40	150	(A)	39920	-	-	-	39920	1596.80	1.579	2522	
		S5	18	40	150	(A)	39920	-	-	-	39920	1596.80	1.579	2522	
		S6	18	2	AS SHOWN	(A)	39920	-	-	-	39920	79.84	1.579	127	
		S7	18	2	AS SHOWN	(A)	39920	-	-	-	39920	79.84	1.579	127	
		S8	18	2	AS SHOWN	(A)	39920	-	-	-	39920	79.84	1.579	127	
		S9	18	2	AS SHOWN	(A)	39920	-	-	-	39920	79.84	1.579	127	
S10	18	2	AS SHOWN	(A)	39920	-	-	-	39920	79.84	1.579	127			
S11	18	2	AS SHOWN	(A)	39920	-	-	-	39920	79.84	1.579	127			
S12	12	203	AS SHOWN	(G)	145	500	900	300	1845	376.69	0.888	331			
S13	16	32	300	(F)	7080	-	-	-	1460	453.12	1.579	716			
S14	18	52	300	(F)	3685	-	-	-	7370	383.24	1.579	606			
TOTAL	144.61														GRADE 40 TOTAL = 17,928.00

ESTIMATED QUANTITIES OF SUPERSTRUCTURE			
ITEM NO.	DESCRIPTION	UNIT	TOTAL
404(1)a	REINFORCING STEEL GRADE 40	kg.	42128
	DECK SLAB	17828	
	DIAPHRAGM	735	
	GIRDER	18594	
	SIDEWALK, RAILING, POST	3296	
	APPROACH SLAB	1618	
404(1)b	REINFORCING STEEL GRADE 80	kg.	19331
	DECK SLAB	0	
	DIAPHRAGM	2093	
	GIRDER	11370	
	SIDEWALK, RAILING, POST	708	
	APPROACH SLAB	5160	
405(1)	STRUCTURAL CONCRETE	cu. m.	427.00
	DECK SLAB	144.61	
	DIAPHRAGM	24.24	
	GIRDER	192.42	
	SIDEWALK, RAILING, POST	21.10	
	APPROACH SLAB	43.64	

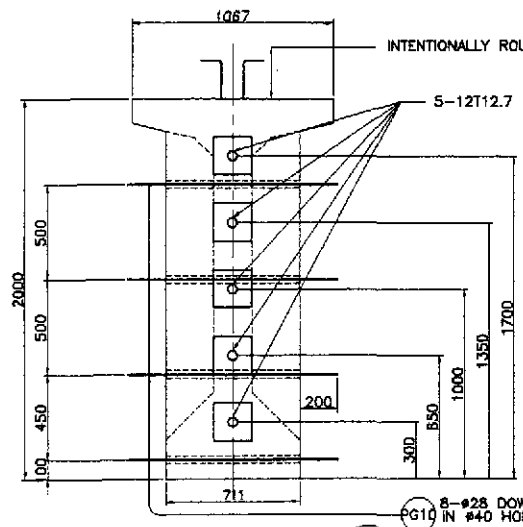
	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS					PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	9/2/02	E. M. SALLAN		BUREAU OF DESIGN					THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	AS SHOWN	BRIDGE NO. 3 DECK FRAMING PLAN AND SECTION (INITIAL STAGE)	B3-02
	SUBMITTED	7/6/02	M. K. KIM		OFFICE OF THE SECRETARY					SAN JOSE BYPASS	FULL SIZE A1		



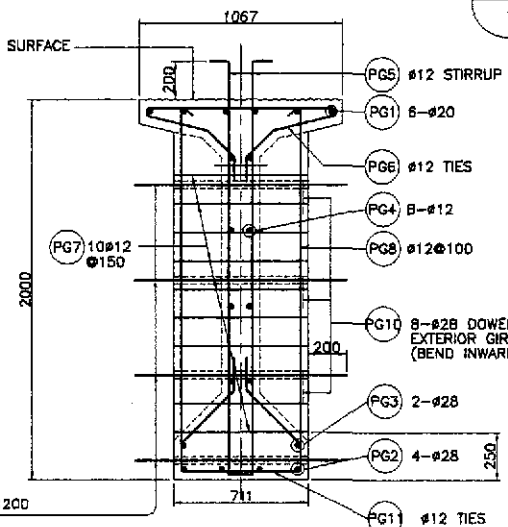
1 PLAN
SCALE 1:60



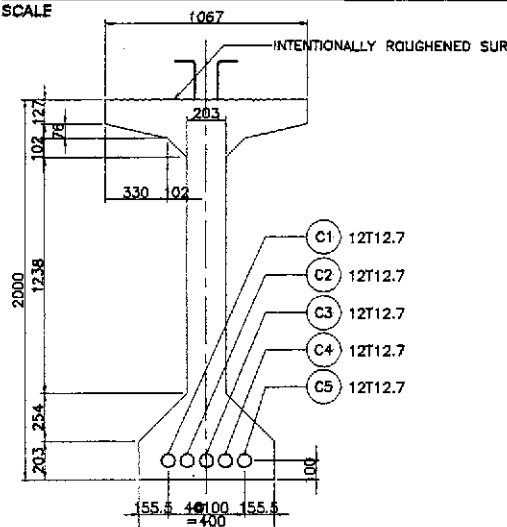
2 PRESTRESSED GIRDER ELEVATION
SCALE 1:60



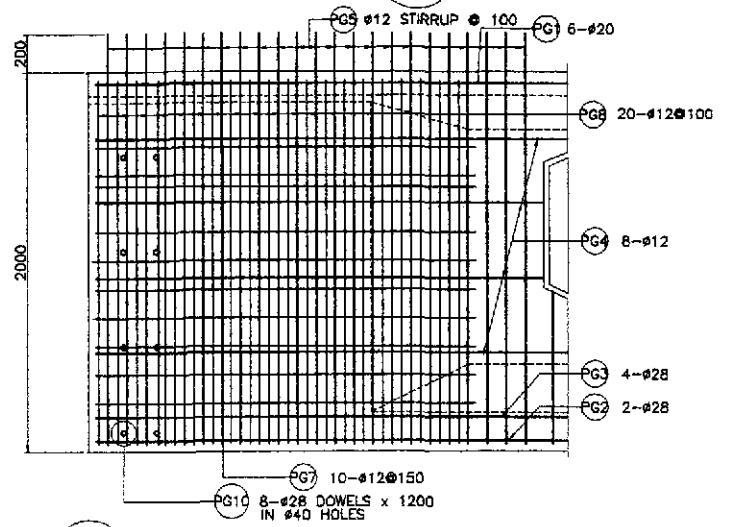
3 SECTION AT END
SCALE 1:20



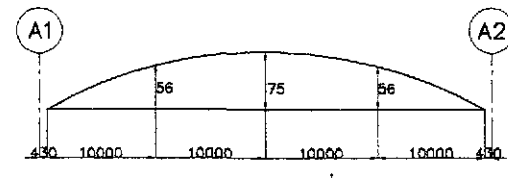
4 SECTION AT MIDSPAN
SCALE 1:20



5 DOWELS AT END BLOCK
SCALE 1:20



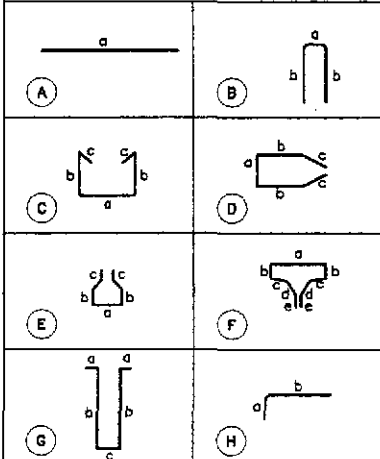
6 END BLOCK REINF. DETAIL
SCALE 1:20



7 CAMBER DIAGRAM
NOT TO SCALE

- NOTES:
- SEE GENERAL NOTES, -2, FOR GIRDER DESIGN GUIDE.
 - JACKING FORCE PER GIRDER, $P_j = 8261$ KN.
 - JACKING WILL BE DONE AT BOTH ENDS.
 - FINAL PRESTRESSING FORCE @ MIDSPAN, $F_{NET} = 6122$ KN.

BAR BENDING DIAGRAM



SCHEDULE OF REINFORCEMENT

LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSION (mm) OUT TO OUT					LENGTH EA. BAR (mm)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	WEIGHT (kg)	REBAR RATIO (kg/m ³)
							a	b	c	d	e					
GIRDER	32.07	PG1	20	6	AS SHOWN	(A)	39920	-	-	-	-	39920	239.52	2.466	591	155.73
		PG2	28	4	AS SHOWN	(A)	39920	-	-	-	-	39920	159.88	4.833	772	
		PG3	28	2	AS SHOWN	(A)	39920	-	-	-	-	39920	79.84	4.833	386	
		PG4	12	8	AS SHOWN	(A)	39920	-	-	-	-	39920	319.36	0.888	284	
		PG5	12	294	150	(G)	210	2150	103	-	-	4823	1417.96	0.888	1260	
		PG6	12	294	150	(F)	1000	50	340	200	150	2480	729.12	0.888	648	
		PG7	12	20	150	(D)	635	1450	550	-	-	4635	92.70	0.888	83	
		PG8	12	40	100	(C)	635	1950	150	-	-	4835	193.40	0.888	172	
		PG9	28	18	AS SHOWN	(A)	603	-	-	-	-	603	10.85	4.833	53	
		PG10	28	16	AS SHOWN	(A)	1200	-	-	-	-	1200	19.20	4.833	93	
		PG11	12	294	150	(E)	635	160	550	150	-	2355	692.37	0.888	615	
		PG12	12	16	100	(B)	635	1900	-	-	-	2535	40.56	0.888	37	
TOTAL	32.07															

GRADE 40 TOTAL = 3,089 Kgs
GRADE 60 TOTAL = 1,895 Kgs
THE REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

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

REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BUREAU OF DESIGN OFFICE OF THE SECRETARY

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

SCALE: AS SHOWN FULL SIZE A1

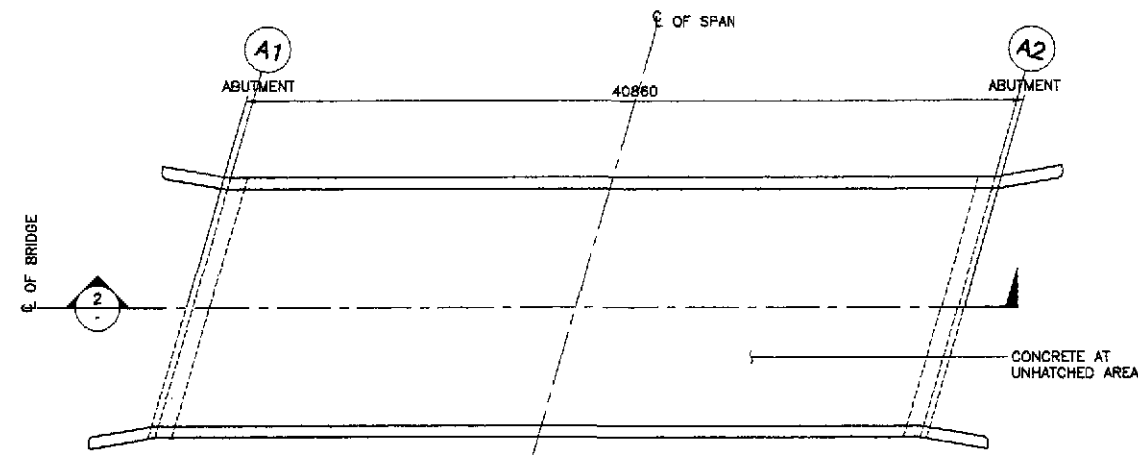
SHEET CONTENTS: BRIDGE NO.3 AASHTO GIRDER TYPE-IV MODIFIED (INITIAL STAGE)

SHEET NO.: B3-03

DESIGNED: 9/2/02 E. N. SALLAN
CHECKED: 9/4/02
SUBMITTED: 9/10/02

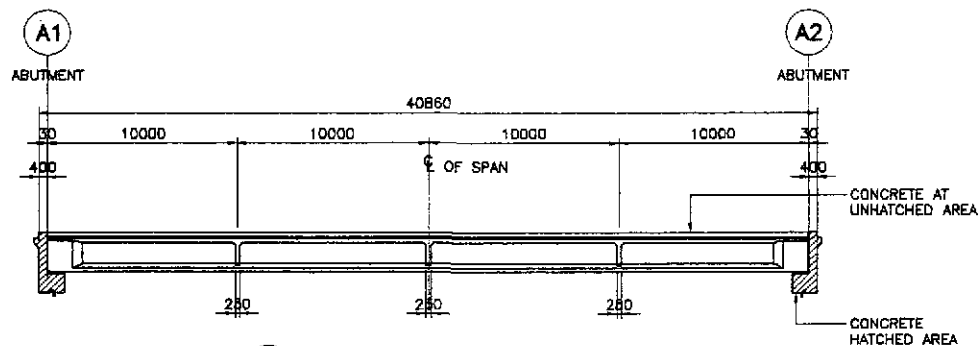
Submitted By: DANILLO C. TRAJANO Project Director
Reviewed By: ADRIANO M. DORCY Chief, Bridges Division
Recommended By: GILBERTO S. REYES Director IV (D/C)

Recommended By: MANUEL M. BONOAN Undersecretary
Approved By: SIMON A. DATUMANONG Secretary



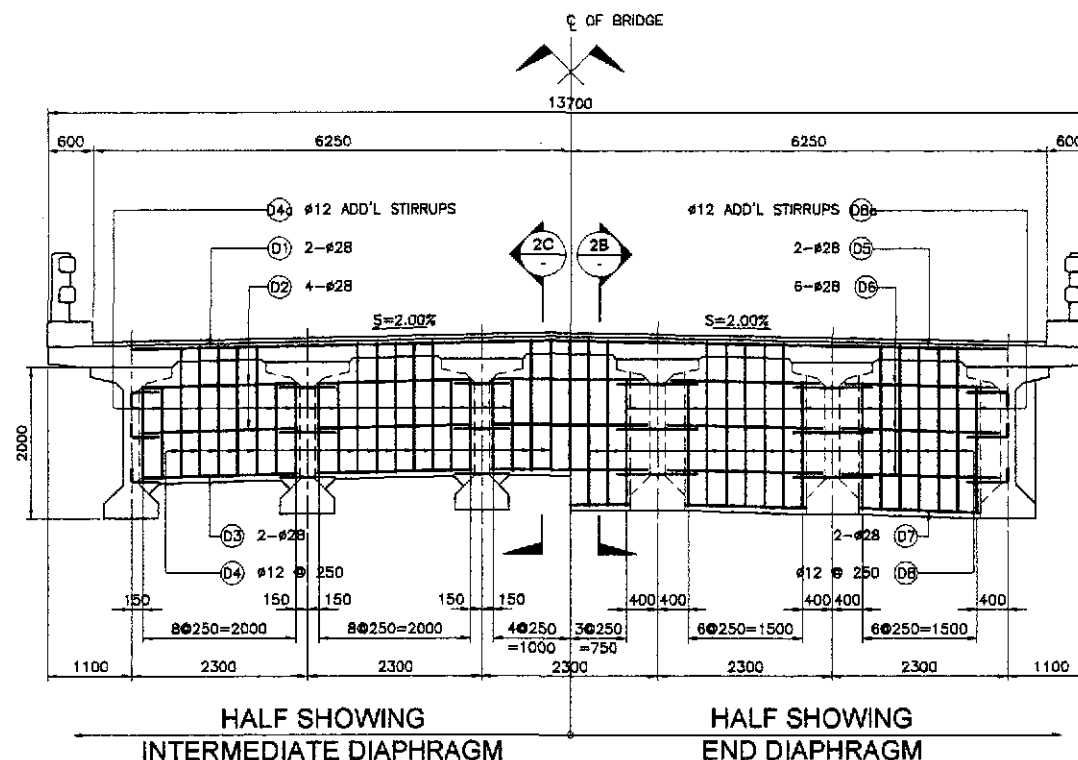
1A PLAN (SKEW)
SCALE 1:200

- NOTES:
- CONCRETE AT HATCHED AREAS SHALL BE PLACED AT LEAST TWENTY ONE (21) DAYS AHEAD OF CONCRETE AT UNHATCHED AREAS.
 - REINFORCEMENT SHALL BE CONTINUOUS AT CONSTRUCTION JOINTS.

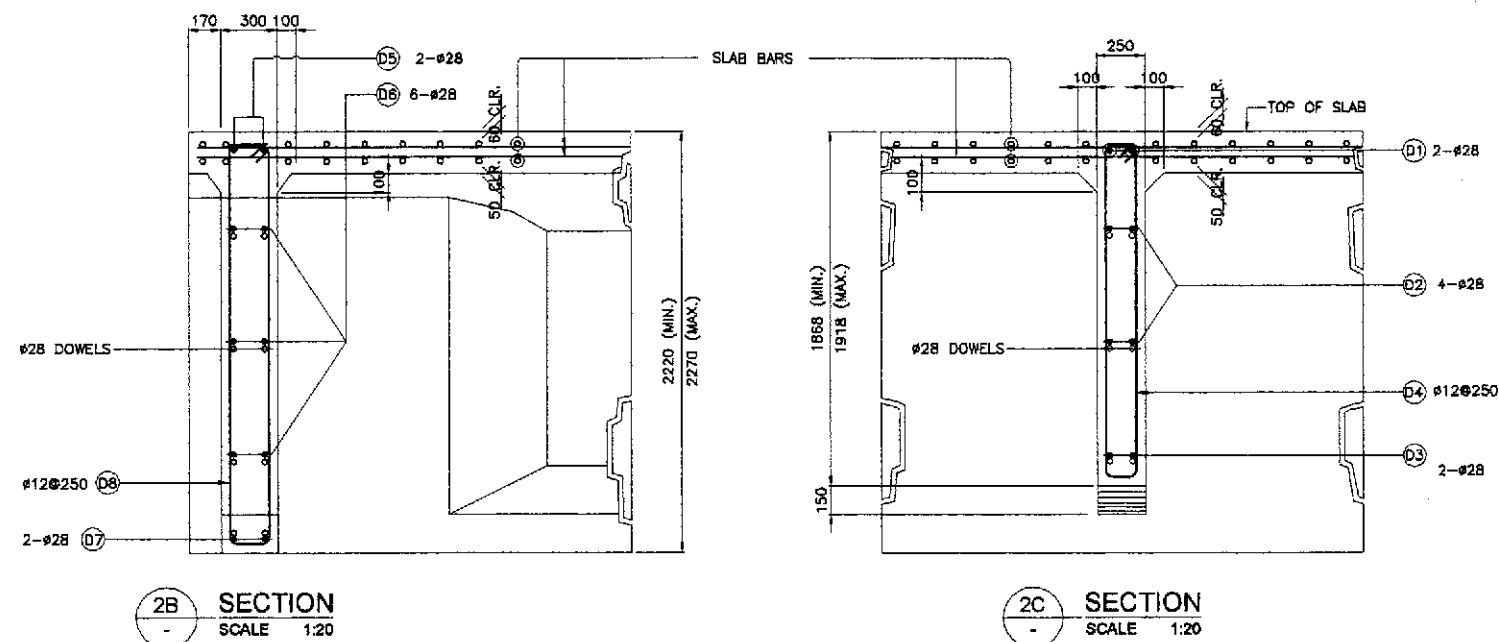


1B LONGITUDINAL SECTION
SCALE 1:200

1 CONCRETE POURING SEQUENCE
SCALE 1:200



2A ELEVATION
SCALE 1:50



2B SECTION
SCALE 1:20

2C SECTION
SCALE 1:20

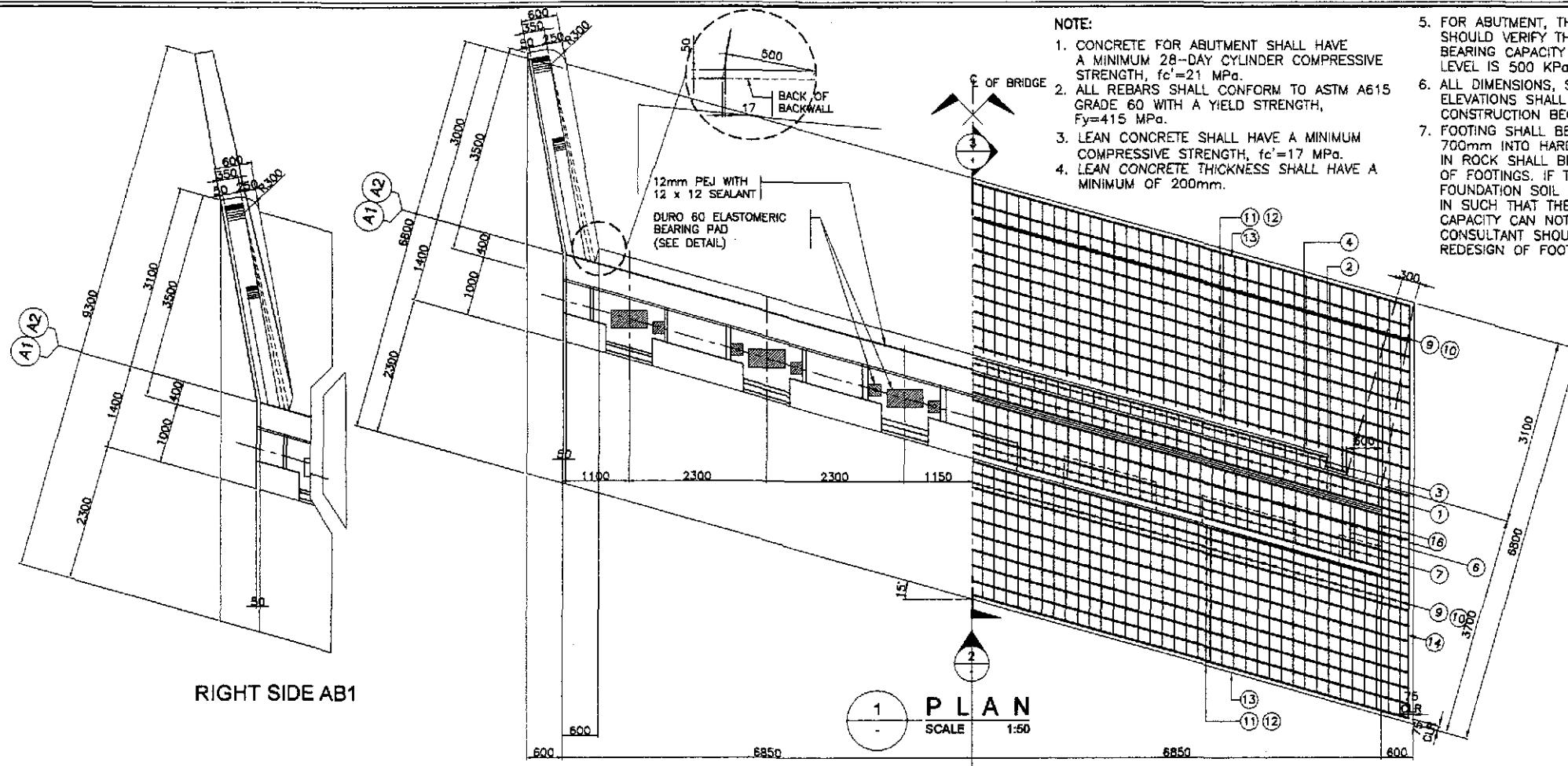
2 DETAIL OF END AND INTERMEDIATE DIAPHRAGM
SCALE AS SHOWN

BAR BENDING DIAGRAM																					
SCHEDULE OF REINFORCEMENT																					
STRUCTURE COMPONENT	LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT				LENGTH EACH BAR (mm)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	WEIGHT IN (kg)	REBAR RATIO (kg/m ³)	REMARKS				
DIAPHRAGM	INTERMEDIATE DIAPHRAGM	14.49	D1	28	6	AS SHOWN	(A)	5750	5750	-	-	11500	69.00	4.833	334	118.02	TOP BARS				
			D2	28	60	AS SHOWN	(B)	2150	-	-	-	2150	129.00	4.833	624		DIST. BARS				
			D3	28	30	AS SHOWN	(B)	2150	-	-	-	2150	64.50	4.833	312		BOTT. BARS				
			D4	12	75	250	(C)	150	1795 (AVE.)	150	-	4190	314.25	0.888	280		STIRRUPS				
	D4a	12	60	AS SHOWN	(C)	150	1200	150	-	3000	180.00	0.888	160	ADD'L STIRRUPS							
	END DIAPHRAGM	12.87	D5	28	4	AS SHOWN	(A)	5750	5750	-	-	11500	46.00	4.833	223		TOP BARS				
			D6	28	60	AS SHOWN	(B)	1550	-	-	-	1550	93.00	4.833	450		DIST. BARS				
			D7	28	20	AS SHOWN	(B)	1550	-	-	-	1550	31.00	4.833	150		BOTT. BARS				
D8			12	50	250	(C)	200	2145 (AVE.)	150	-	4980	249.50	0.888	222	STIRRUPS						
D8a	12	20	AS SHOWN	(C)	200	1700	150	-	4100	82.00	0.888	73	ADD'L STIRRUPS								
TOTAL		27.36																			
														GRADE 40 TOTAL = 735 kg.							
														GRADE 60 TOTAL = 2,083 kgs.							

	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES				PROJECT AND LOCATION :				SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	7/4/02	E. N. SALLAN		DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS				THE DETAILED DESIGN STUDY ON				AS SHOWN	BRIDGE NO. 3 CONCRETE POURING SEQUENCE AND DIAPHRAGM DEATILS (INITIAL STAGE)	B3-04
	SUBMITTED	9/6/02	MANUEL M. BONDAN		BUREAU OF DESIGN				UPGRADING INTER-URBAN HIGHWAY SYSTEM				FULL SIZE A1		
				OFFICE OF THE SECRETARY				ALONG THE PAN-PHILIPPINE HIGHWAY							
				MANUEL M. BONDAN				PLARIDEL, CABANATUAN AND SAN JOSE BYPASSES							
				SIMEON A. DATUMANG				SAN JOSE BYPASS							

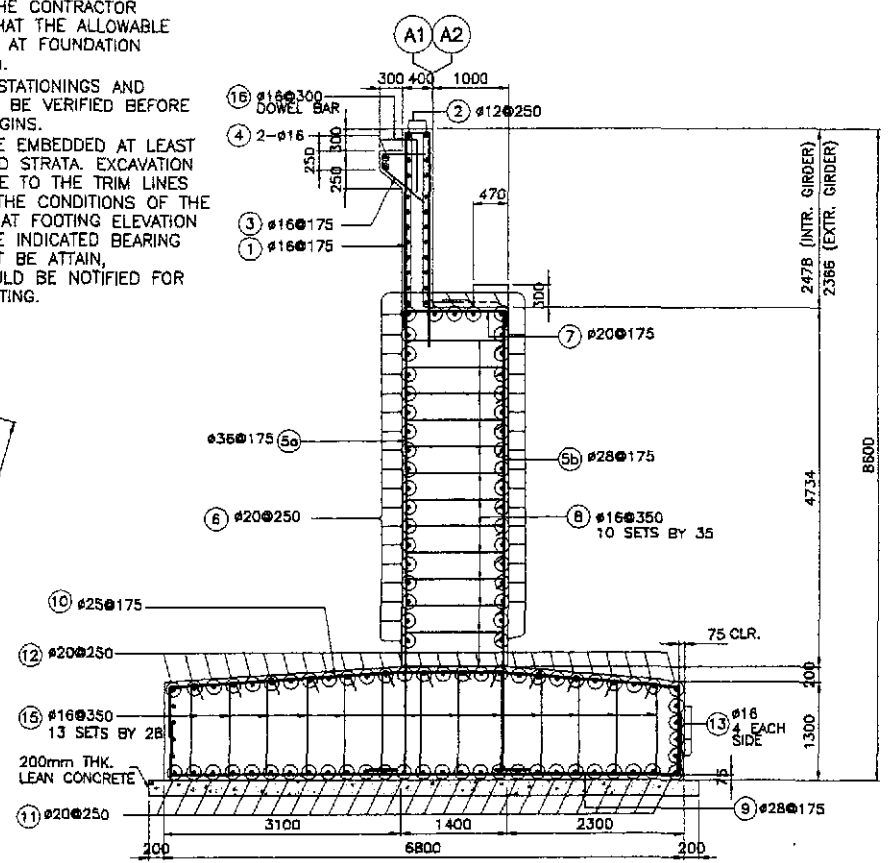
NOTE:

1. CONCRETE FOR ABUTMENT SHALL HAVE A MINIMUM 28-DAY CYLINDER COMPRESSIVE STRENGTH, $f_c' = 21$ MPa.
2. ALL REBARS SHALL CONFORM TO ASTM A615 GRADE 60 WITH A YIELD STRENGTH, $F_y = 415$ MPa.
3. LEAN CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH, $f_c' = 17$ MPa.
4. LEAN CONCRETE THICKNESS SHALL HAVE A MINIMUM OF 200mm.
5. FOR ABUTMENT, THE CONTRACTOR SHOULD VERIFY THAT THE ALLOWABLE BEARING CAPACITY AT FOUNDATION LEVEL IS 500 KPa.
6. ALL DIMENSIONS, STATIONINGS AND ELEVATIONS SHALL BE VERIFIED BEFORE CONSTRUCTION BEGINS.
7. FOOTING SHALL BE EMBEDDED AT LEAST 700mm INTO HARD STRATA. EXCAVATION IN ROCK SHALL BE TO THE TRIM LINES OF FOOTINGS. IF THE CONDITIONS OF THE FOUNDATION SOIL AT FOOTING ELEVATION IN SUCH THAT THE INDICATED BEARING CAPACITY CAN NOT BE ATTAIN, CONSULTANT SHOULD BE NOTIFIED FOR REDESIGN OF FOOTING.



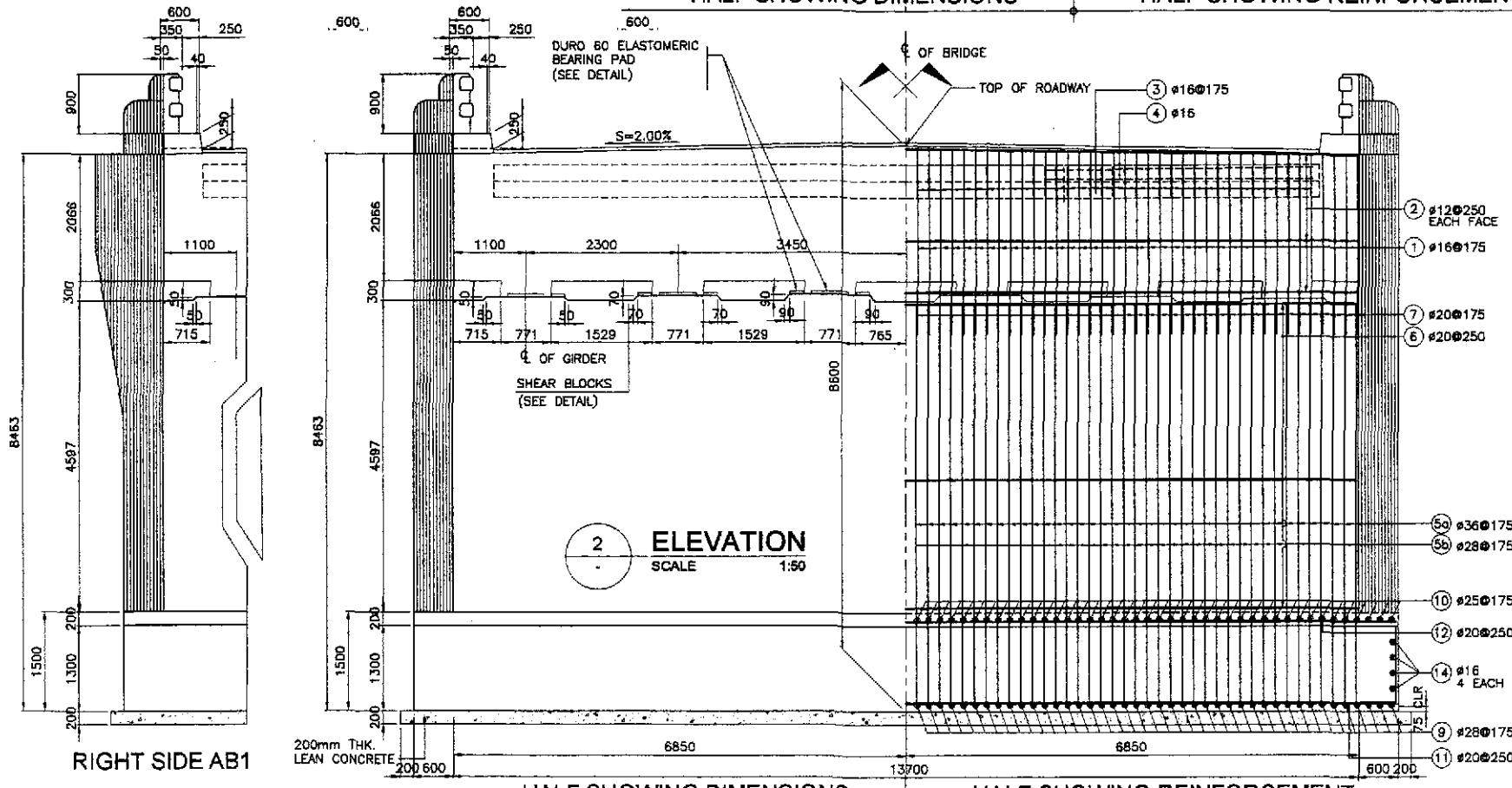
RIGHT SIDE AB1

1 PLAN
SCALE 1:50



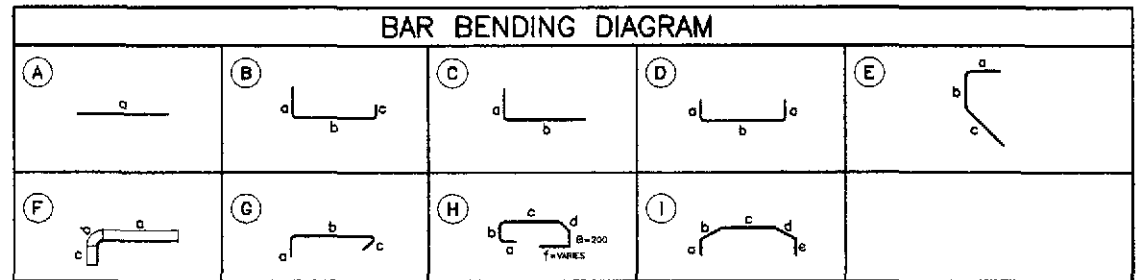
3 SECTION
SCALE 1:50

HALF SHOWING DIMENSIONS HALF SHOWING REINFORCEMENT



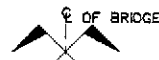
2 ELEVATION
SCALE 1:50

HALF SHOWING DIMENSIONS HALF SHOWING REINFORCEMENT

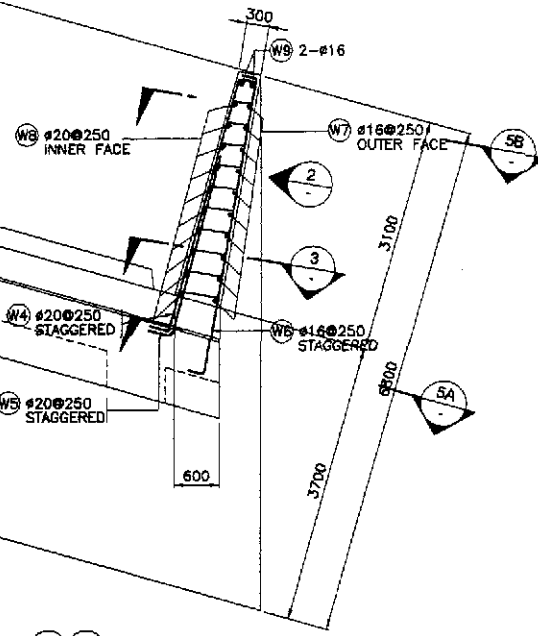


SCHEDULE OF REINFORCEMENT PER ABUTMENT																	
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm)					LENGTH EA. BAR (m)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	WEIGHT (kg)	REBAR RATIO (kg/m ³)	
							a	b	c	d	e						
BACKWALL	14.89	1	16	79	175	D	2800	300	2800	-	-	5900	466.10	1.579	736	80.19	
		2	12	22	250	A	14100	-	-	-	-	14100	310	0.888	276		
		3	16	72	175	E	550	150	700	-	-	1400	100.80	1.579	160		
		4	16	2	AS SHOWN	A	12850	-	-	-	-	12850	25.70	1.579	41.00		
MAINWALL	90.80	5a	36	79	175	C	400	6000	-	-	-	6400	505.60	7.991	4041	100.65	
		5b	28	79	175	C	400	6000	-	-	-	6400	505.60	4.833	2444		
		6	20	39	250	A	14100	-	-	-	-	14100	549.90	2.466	1357		
		7	20	79	175	D	250	1300	250	-	-	1800	142.20	2.466	351		
FOOTING	143.93	8	16	350	350	G	250	1300 (AVE)	250	-	-	1800	630.00	1.579	995	65.25	
		9	28	85	175	D	700	6650	700	-	-	8050	684.25	4.833	3307		
		10	25	85	175	I	700	3100	1300	2300	700	8100	688.50	3.864	2654		
		11	20	27	250	D	700	15300	700	-	-	16700	450.90	2.466	1112		
		12	20	27	250	D	700	15300	700	-	-	16700	450.90	2.466	1112		
		13	16	8	AS SHOWN	A	15300	-	-	-	-	15300	122.40	1.579	194		
DOWEL		14	16	8	AS SHOWN	A	6650	-	-	-	6650	53.20	1.579	85			
		15	16	364	350	G	250	1250 (ave)	250	-	-	1750	637.00	1.579		1006	
16	16	38	300	C	650	500	-	-	-	1150	43.70	1.579	70				
TOTAL	249.72																GRADE 40 TOTAL = 3,563 kg GRADE 60 TOTAL = 16,378 kg

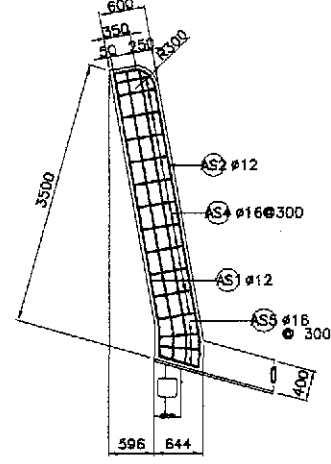
	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	9/2/02	A. F. GONZALES		BUREAU OF DESIGN	OFFICE OF THE SECRETARY	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	AS SHOWN	BRIDGE NO. 3 ABUTMENT MAINWALL REINFORCEMENT DETAIL (INITIAL STAGE)	B3-05	
	SUBMITTED	9/4/02	Team Leader		DANILO C. TRAJANO Project Director	ADRIANO M. DOROY Chief, Bridges Division	GILBERTO S. REYES Director IV (DC)	MANUEL M. BONDAN Undersecretary	SIMEON A. DATUMANONG Secretary	FULL SIZE A1	



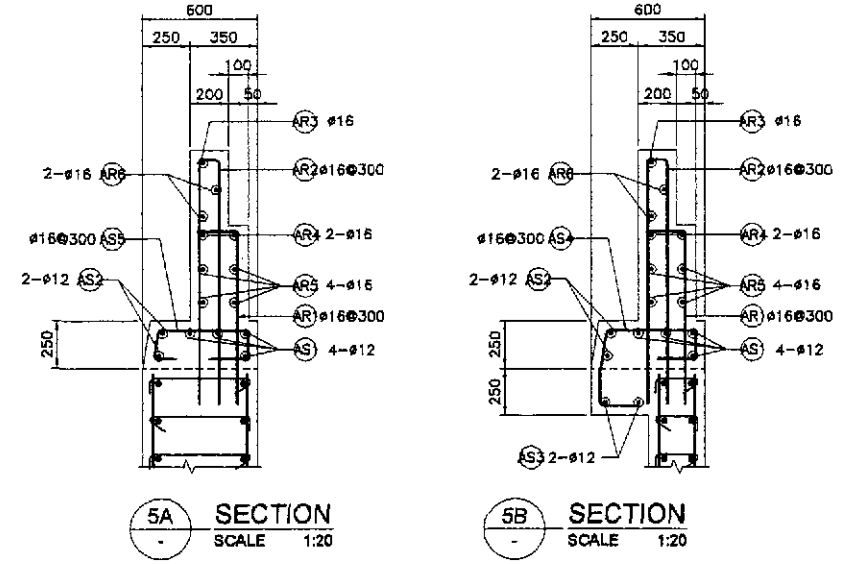
1 PLAN
SCALE 1:50



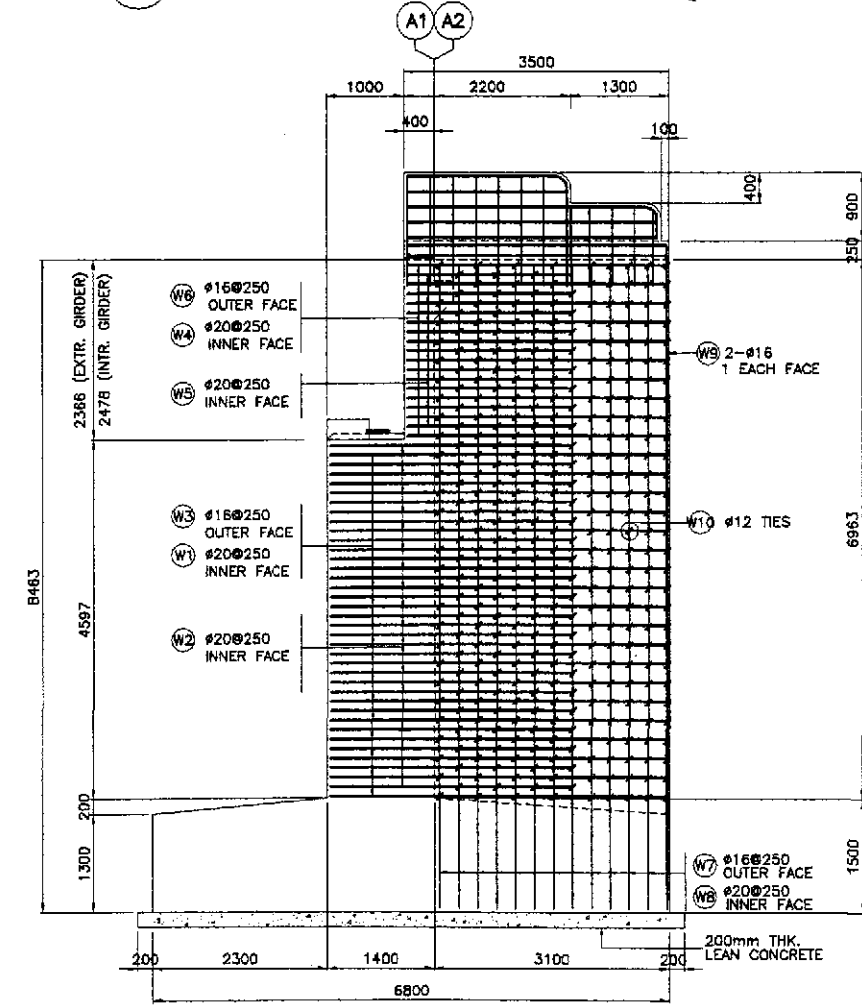
4 SIDEWALK DETAIL
SCALE 1:50



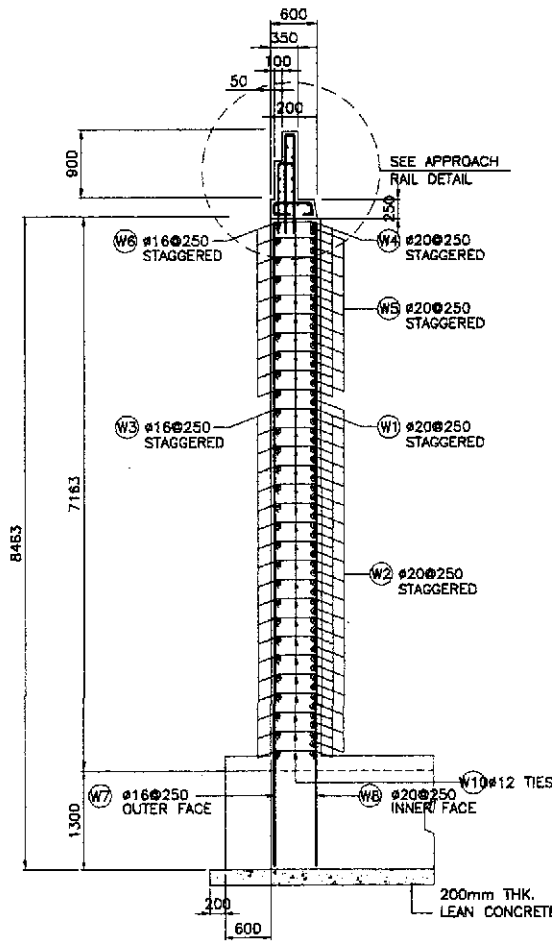
- NOTE:**
1. CONCRETE FOR ABUTMENT SHALL HAVE A MINIMUM 28-DAY CYLINDER COMPRESSIVE STRENGTH, $f_c' = 21$ MPa.
 2. ALL REBARS SHALL CONFORM TO ASTM A615 GRADE 60 WITH A YIELD STRENGTH, $F_y = 415$ MPa.
 3. LEAN CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH, $f_c' = 17$ MPa.
 4. LEAN CONCRETE THICKNESS SHALL HAVE A MINIMUM OF 200mm.
 5. FOR ABUTMENT, THE CONTRACTOR SHOULD VERIFY THAT THE ALLOWABLE BEARING CAPACITY AT FOUNDATION LEVEL IS 500 KPa.
 6. ALL DIMENSIONS, STATIONINGS AND ELEVATIONS SHALL BE VERIFIED BEFORE CONSTRUCTION BEGINS.
 7. FOOTING SHALL BE EMBEDDED AT LEAST 700mm INTO HARD STRATA. EXCAVATION IN ROCK SHALL BE TO THE TRIM LINES OF FOOTINGS. IF THE CONDITIONS OF THE FOUNDATION SOIL AT FOOTING ELEVATION IN SUCH THAT THE INDICATED BEARING CAPACITY CAN NOT BE ATTAIN, CONSULTANT SHOULD BE NOTIFIED FOR REDESIGN OF FOOTING.



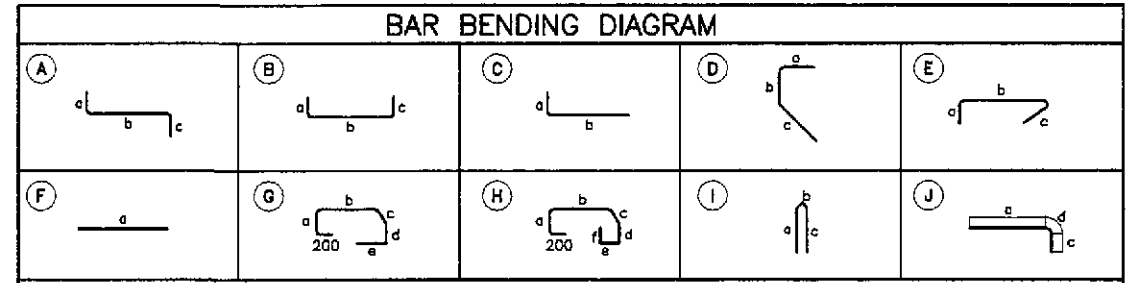
5 APPROACH RAIL DETAILS
SCALE 1:20



2 WINGWALL ELEVATION
SCALE 1:50

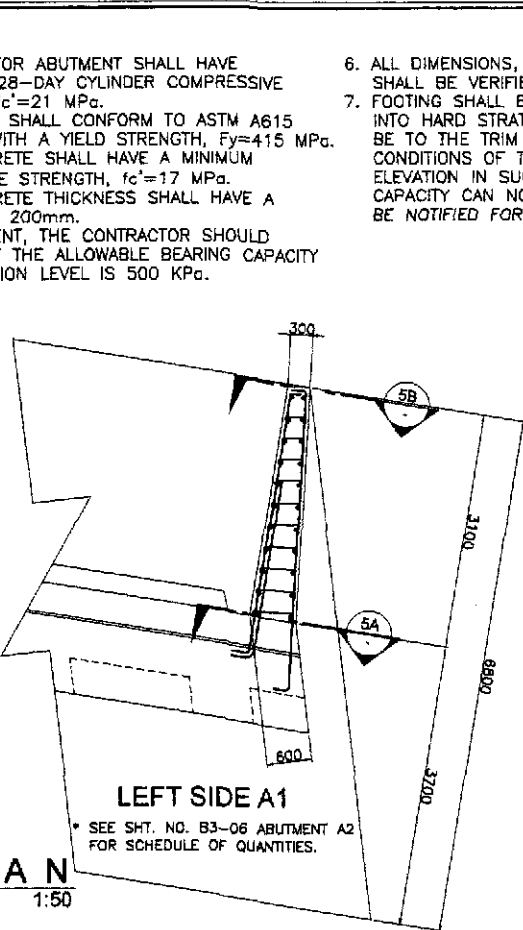
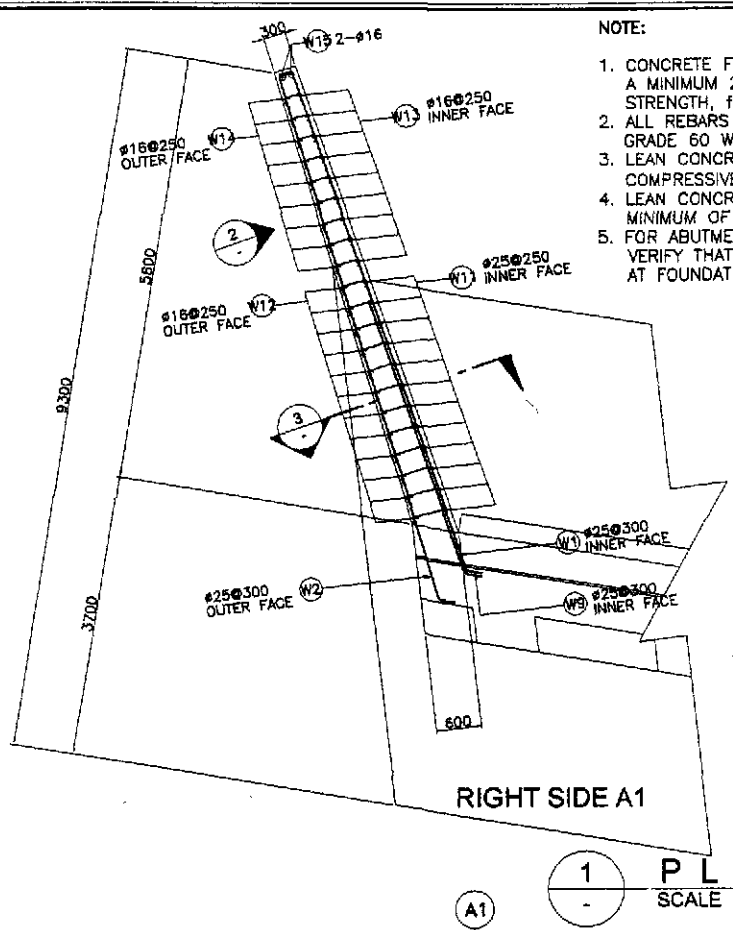


3 SECTION
SCALE 1:50



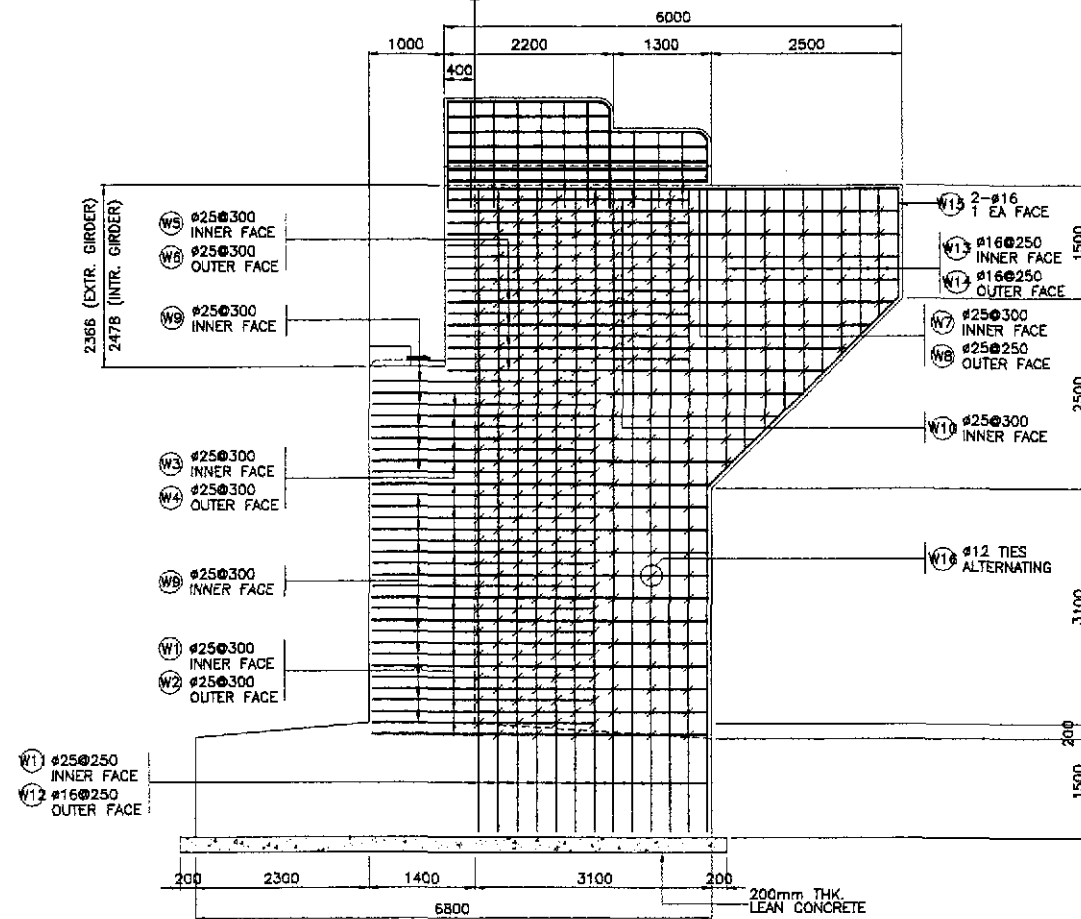
SCHEDULE OF REINFORCEMENT PER ABUTMENT																		
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT					LENGTH EA. BAR (mm)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	WEIGHT (kg)	REBAR RATIO (kg/m ³)		
WINGWALL LEFT & RIGHT	10.60	W1	20	20	250	(B)	400	4400	150	-	-	-	4950	99.00	2.466	245	158.00	
		W2	20	19	250	(C)	400	3200	-	-	-	-	3600	68.40	2.466	168		
		W3	16	20	250	(B)	400	4400	150	-	-	-	4950	99.00	1.579	157		
		W4	20	11	250	(B)	400	3400	150	-	-	-	3950	43.45	2.466	108		
		W5	20	10	250	(C)	400	2200	-	-	-	-	2600	26.00	2.466	65		
		W6	16	11	250	(B)	400	3400	150	-	-	-	3950	43.45	1.579	69		
		W7	15	13	250	(C)	250	8475	-	-	-	-	8725	113.43	1.578	180		
		W8	20	13	250	(C)	250	8475	-	-	-	-	8725	113.43	2.466	280		
		W9	16	2	AS SHOWN	(C)	500	8475	-	-	-	-	8975	17.15	1.579	28		
		W10	12	373	AS SHOWN	(G)	170	450	170	-	-	-	790	294.67	0.888	262		
												GRADE 60 TOTAL	867					
												GRADE 40 TOTAL	697					
APPROACH SIDEWALK	1.54	AS1	12	8	AS SHOWN	(F)	3500	-	-	-	-	3500	28.00	0.888	25	75.98		
		AS2	12	4	AS SHOWN	(F)	3500	-	-	-	-	3500	14.00	0.888	13			
		AS3	12	4	AS SHOWN	(F)	3500	-	-	-	-	3500	14.00	0.888	13			
		AS4	16	24	300	(H)	170	460	200	170	200	-	1400	33.60	1.579		54	
		AS5	16	6	300	(G)	170	460	200	200	-	-	1230	7.38	1.578		12	
												GRADE 40 TOTAL	117					
APPROACH RAILING	1.41	AR1	16	10	300	(C)	200	900	-	-	-	-	1100	11.00	1.579	18	123.41	
		AR2	16	14	300	(I)	1300	120	1300	-	-	-	2720	38.08	1.579	61		
		AR3	16	2	AS SHOWN	(J)	2100	236	900	-	-	-	3236	6.47	1.579	11		
		AR4	16	2	AS SHOWN	(J)	3300	236	1300	-	-	-	4836	9.67	1.579	16		
		AR5	16	10	AS SHOWN	(J)	3400	-	-	-	-	-	3400	34.00	1.579	54		
		AR6	16	4	AS SHOWN	(F)	2100	-	-	-	-	-	2100	8.40	1.579	14		
												GRADE 40 TOTAL	174					
TOTAL	23.07													GRADE 60 TOTAL = 1,731 kgs.	GRADE 40 TOTAL = 1,739 kgs.			

	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS				PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :		SHEET NO. :		
	CHECKED	7/2/02	F. GONZALES		BUREAU OF DESIGN	OFFICE OF THE SECRETARY				THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)			AS SHOWN	BRIDGE NO. 3 ABUTMENT WINGWALL REINFORCEMENT DETAILS (INITIAL STAGE)	B3-06
	SUBMITTED	9/6/02	M. R. RIVERA		Submitted By:	Reviewed By:	Recommended By:	Approved By:	SAN JOSE BYPASS			FULL SIZE A1			

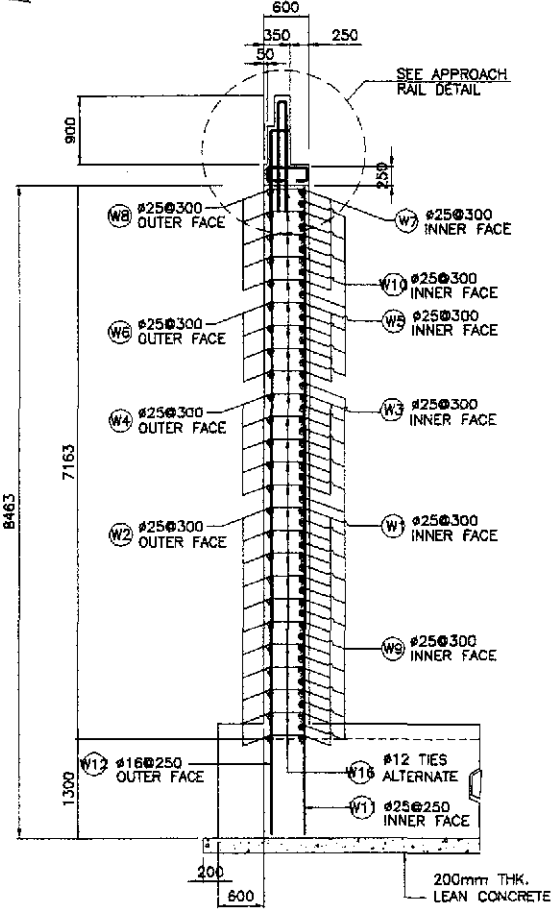


1 PLAN SCALE 1:50

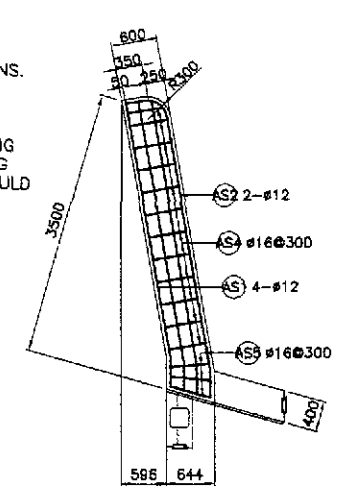
- NOTE:
1. CONCRETE FOR ABUTMENT SHALL HAVE A MINIMUM 28-DAY CYLINDER COMPRESSIVE STRENGTH, $f'_c=21$ MPa.
 2. ALL REBARS SHALL CONFORM TO ASTM A615 GRADE 60 WITH A YIELD STRENGTH, $F_y=415$ MPa.
 3. LEAN CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH, $f'_c=17$ MPa.
 4. LEAN CONCRETE THICKNESS SHALL HAVE A MINIMUM OF 200mm.
 5. FOR ABUTMENT, THE CONTRACTOR SHOULD VERIFY THAT THE ALLOWABLE BEARING CAPACITY AT FOUNDATION LEVEL IS 500 KPa.
 6. ALL DIMENSIONS, STATIONINGS AND ELEVATIONS SHALL BE VERIFIED BEFORE CONSTRUCTION BEGINS.
 7. FOOTING SHALL BE EMBEDDED AT LEAST 700mm INTO HARD STRATA. EXCAVATION IN ROCK SHALL BE TO THE TRIM LINES OF FOOTINGS. IF THE CONDITIONS OF THE FOUNDATION SOIL AT FOOTING ELEVATION IN SUCH THAT THE INDICATED BEARING CAPACITY CAN NOT BE ATTAIN, CONSULTANT SHOULD BE NOTIFIED FOR REDESIGN OF FOOTING.



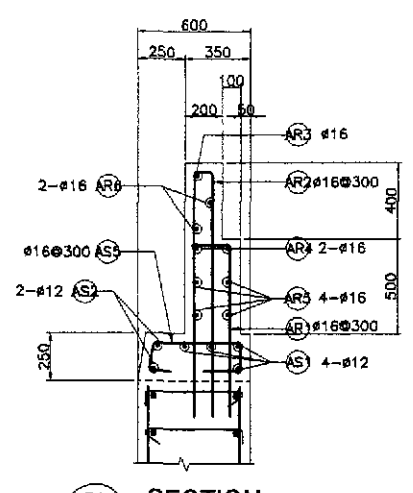
2 WINGWALL ELEVATION SCALE 1:50



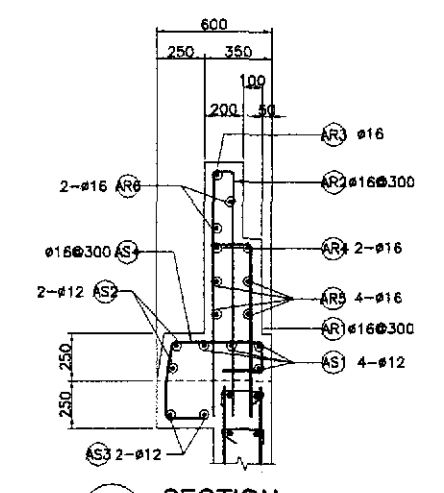
3 SECTION SCALE 1:50



4 SIDEWALK DETAIL SCALE 1:50

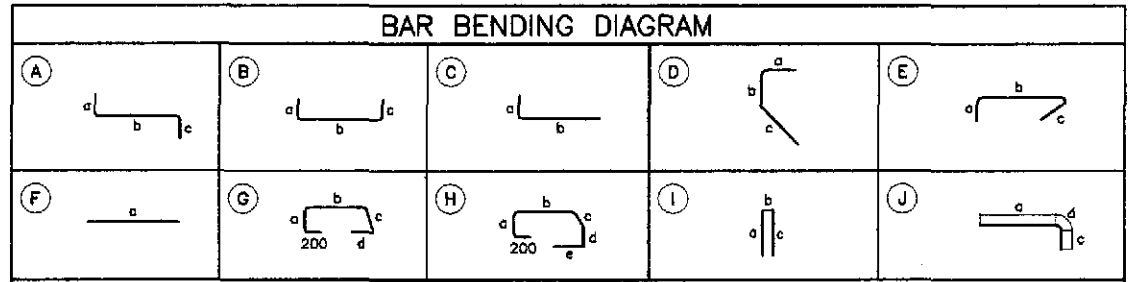


5A SECTION SCALE 1:20



5B SECTION SCALE 1:20

5 APPROACH RAIL DETAILS SCALE 1:20



SCHEDULE OF REINFORCEMENT PER WINGWALL																	
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE (DIA.)	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT					LENGTH EA. BAR (mm)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	WEIGHT (kg)	REBAR RATIO (kg/cu.m)	
							a	b	c	d	e	f					
WINGWALL (RIGHT SIDE)	13.20	W1	25	11	300	J	250	4400	400	-	-	-	5050	55.55	3.854	215	
		W2	25	11	300	D	250	4400	400	-	-	-	5050	55.55	3.854	215	
		W3	25	5	300	J	250	5000	400	-	-	-	5650	28.25	3.854	109	
		W4	25	5	300	D	250	5000	400	-	-	-	5650	28.25	3.854	109	
		W5	25	4	300	J	250	5500	400	-	-	-	6150	24.60	3.854	95	
		W6	25	4	300	D	250	5500	400	-	-	-	6150	24.60	3.854	95	
		W7	25	5	300	J	250	5900	400	-	-	-	6550	32.75	3.854	127	
		W8	25	5	300	D	250	5900	400	-	-	-	6550	32.75	3.854	127	
		W9	25	16	300	C	400	2900	-	-	-	-	3300	52.80	3.854	204	
		W10	25	8	300	C	400	3200	-	-	-	-	3600	28.80	3.854	111	
		W11	25	13	250	C	400	8500	-	-	-	-	8900	115.70	3.854	446	
		W12	16	13	250	C	400	8500	-	-	-	-	8900	115.70	1.579	183	
		W13	16	9	250	D	250	2650	250	-	-	-	3150	28.35	1.579	45	
		W14	16	9	250	D	250	2650	250	-	-	-	3150	28.35	1.579	45	
		W15	16	2	AS SHOWN	E	200	1400	3700	-	-	-	5300	10.60	1.579	17	
		W16	12	299	AS SHOWN	G	170	450	170	-	-	-	790	236.21	0.888	210	
															GRADE 40 TOTAL = 500 kgs		
															GRADE 60 TOTAL = 1853 kgs		
APPROACH SIDEWALK	1.50	AS1	12	8	AS SHOWN	F	3500	-	-	-	-	-	3500	28.00	0.888	25	
		AS2	12	4	AS SHOWN	F	3500	-	-	-	-	-	3500	14.00	0.888	13	
		AS3	12	4	AS SHOWN	F	3500	-	-	-	-	-	3500	14.00	0.888	13	
		AS4	16	24	300	H	170	460	200	170	200	-	1400	33.60	1.579	54	
		AS5	16	6	300	G	170	460	200	200	-	-	1230	7.38	1.579	12	
													GRADE 60 TOTAL = 117 kgs				
APPROACH RAILING	1.41	AR1	16	10	300	C	200	900	-	-	-	-	1100	11.00	1.579	18	
		AR2	16	14	300	J	1300	120	1300	-	-	-	2720	38.09	1.579	61	
		AR3	16	2	AS SHOWN	J	2100	236	900	-	-	-	3236	6.47	1.579	11	
		AR4	16	2	AS SHOWN	J	3300	236	1300	-	-	-	4836	9.67	1.579	18	
		AR5	16	10	AS SHOWN	F	3400	-	-	-	-	-	3400	34.00	1.579	54	
AR6	16	4	AS SHOWN	F	2100	-	-	-	-	-	2100	8.40	1.579	14			
													GRADE 60 TOTAL = 174 kgs				
													GRADE 40 TOTAL = 791 kgs				
													GRADE 60 TOTAL = 1853 kgs				
TOTAL	16.11																

NOTE : SCHEDULE ABUT. A1 LEFT SIDE, SEE ABUT. A2 (QUANTITIES SHOULD BE HALF ONLY).

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY

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

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

BUREAU OF DESIGN OFFICE OF THE SECRETARY

DESIGNED: 9/2/02 P. PONZALES
CHECKED: 9/19/02
SUBMITTED: 9/6/02

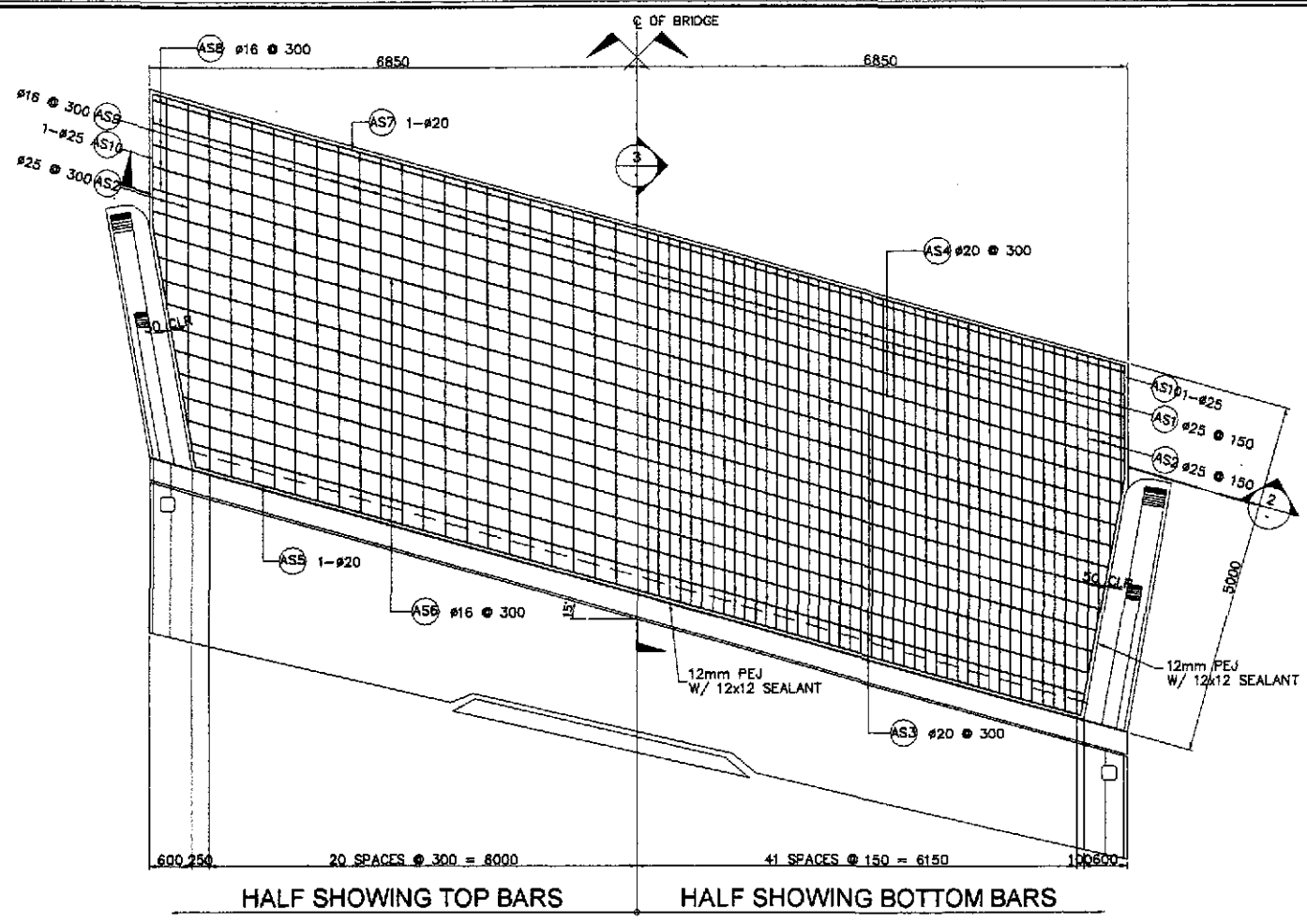
Submitted By: DANILLO C. TRAJANO
Reviewed By: ADRIANO M. DOROY
Recommended By: GILBERTO S. REYES
Approved By: MANUEL M. BONDAN
SIMEON A. DATUMANONG

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

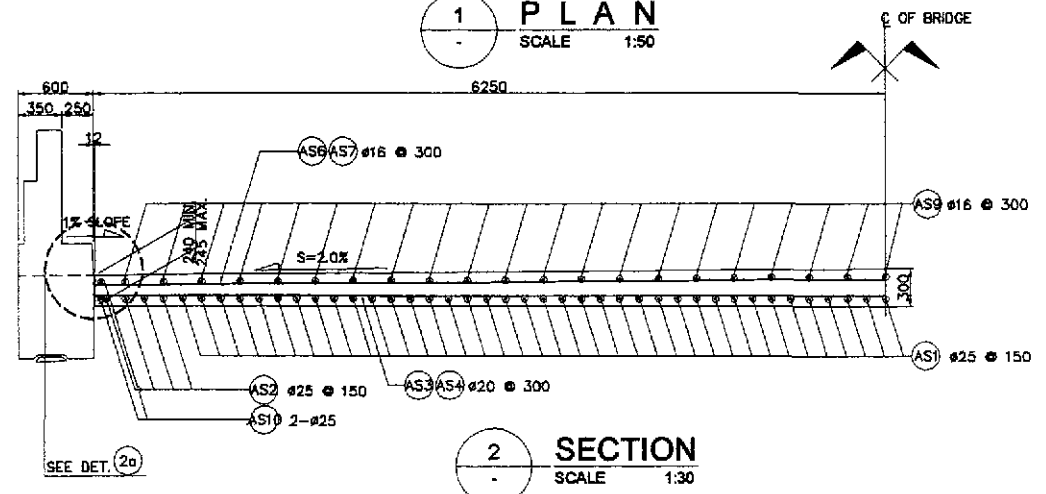
SCALE : AS SHOWN
FULL SIZE A1

SHEET CONTENTS :
BRIDGE NO. 3
ABUTMENT WINGWALL
REINFORCEMENT DETAILS
(ABUT. A1- RIGHT SIDE)

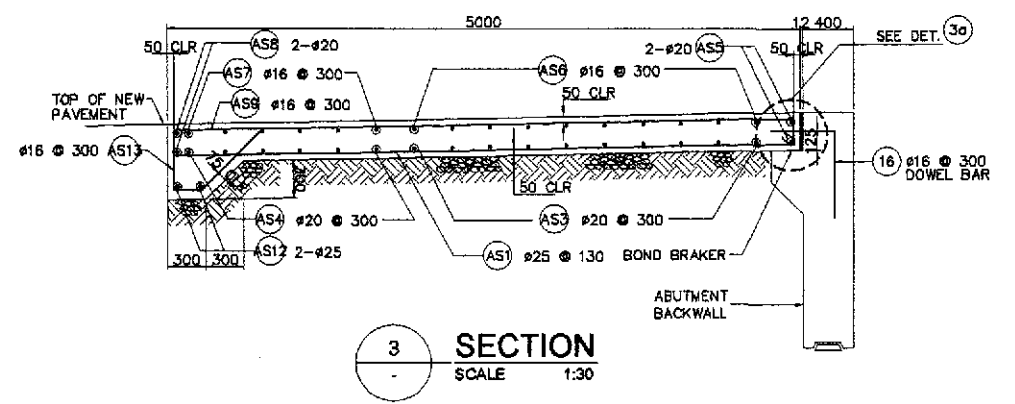
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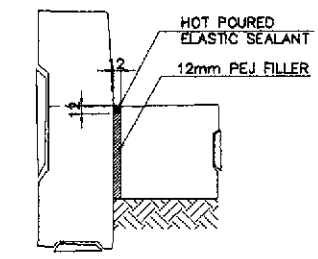
1 PLAN
SCALE 1:50



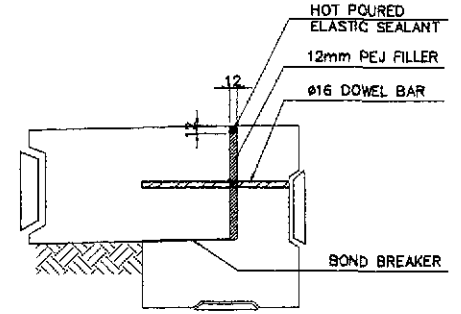
2 SECTION
SCALE 1:30



3 SECTION
SCALE 1:30

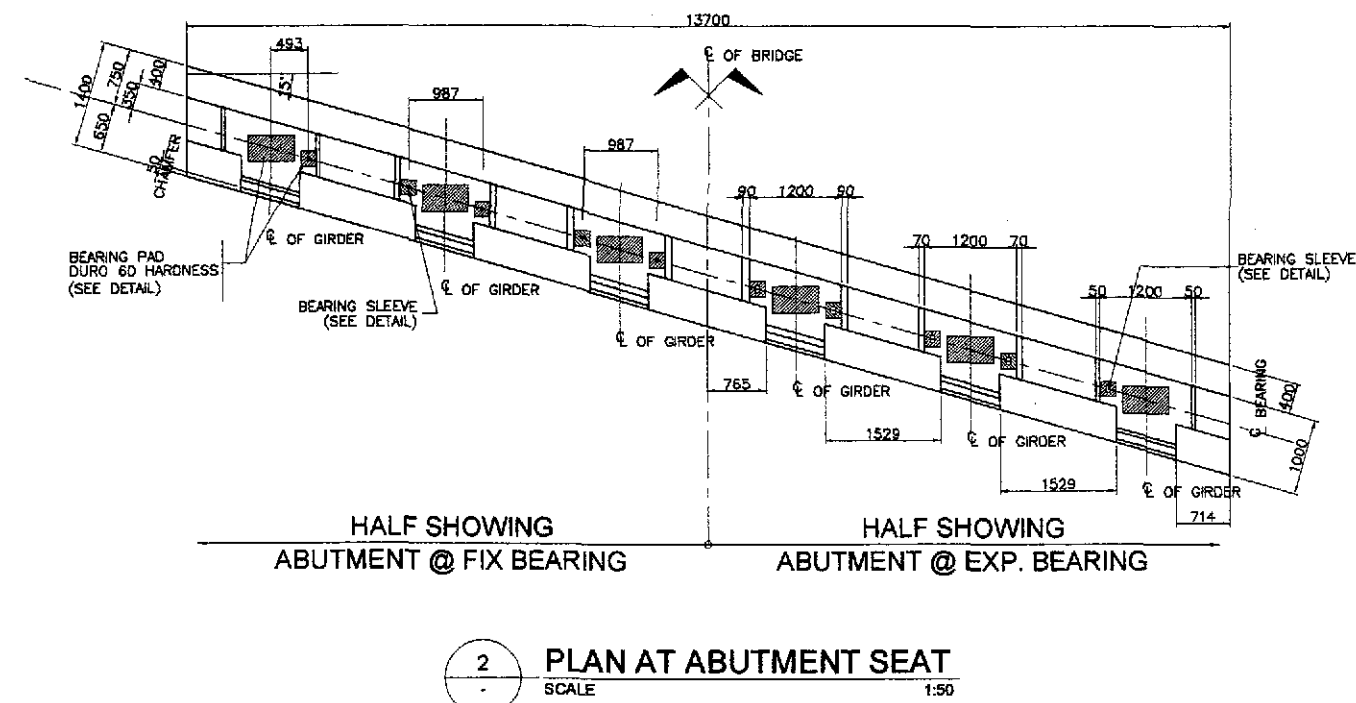
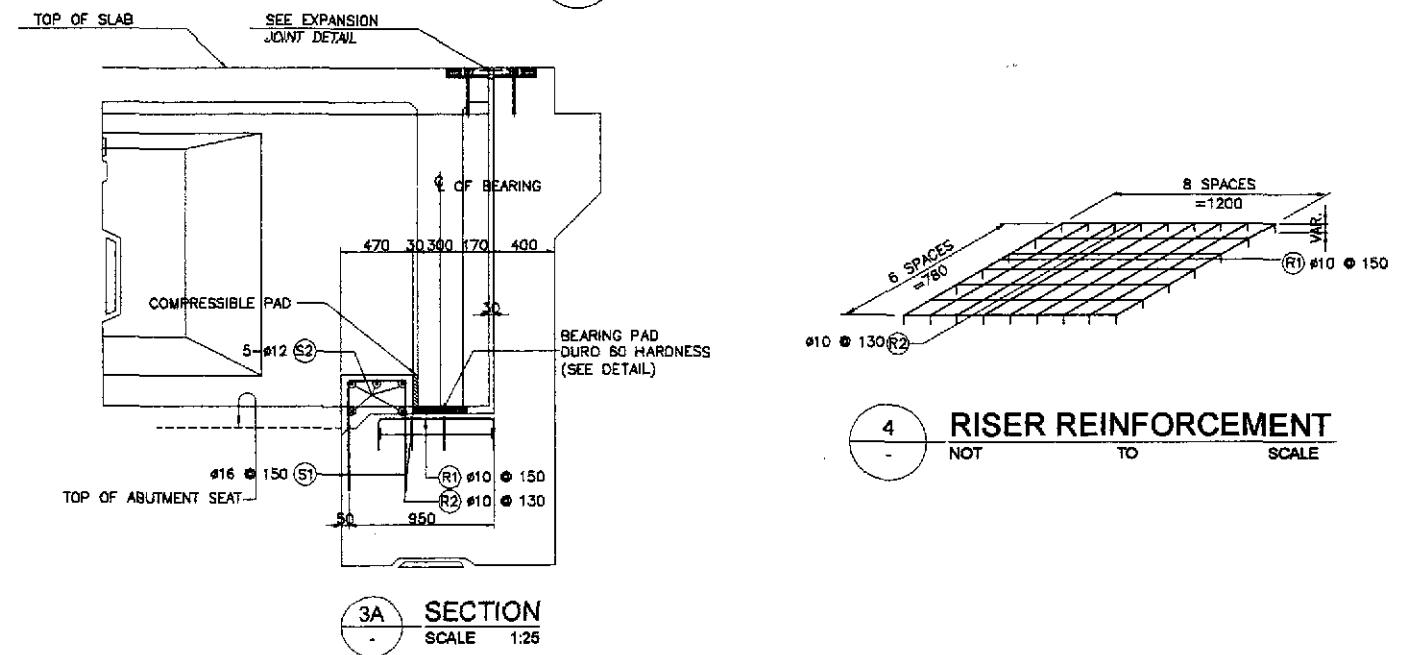
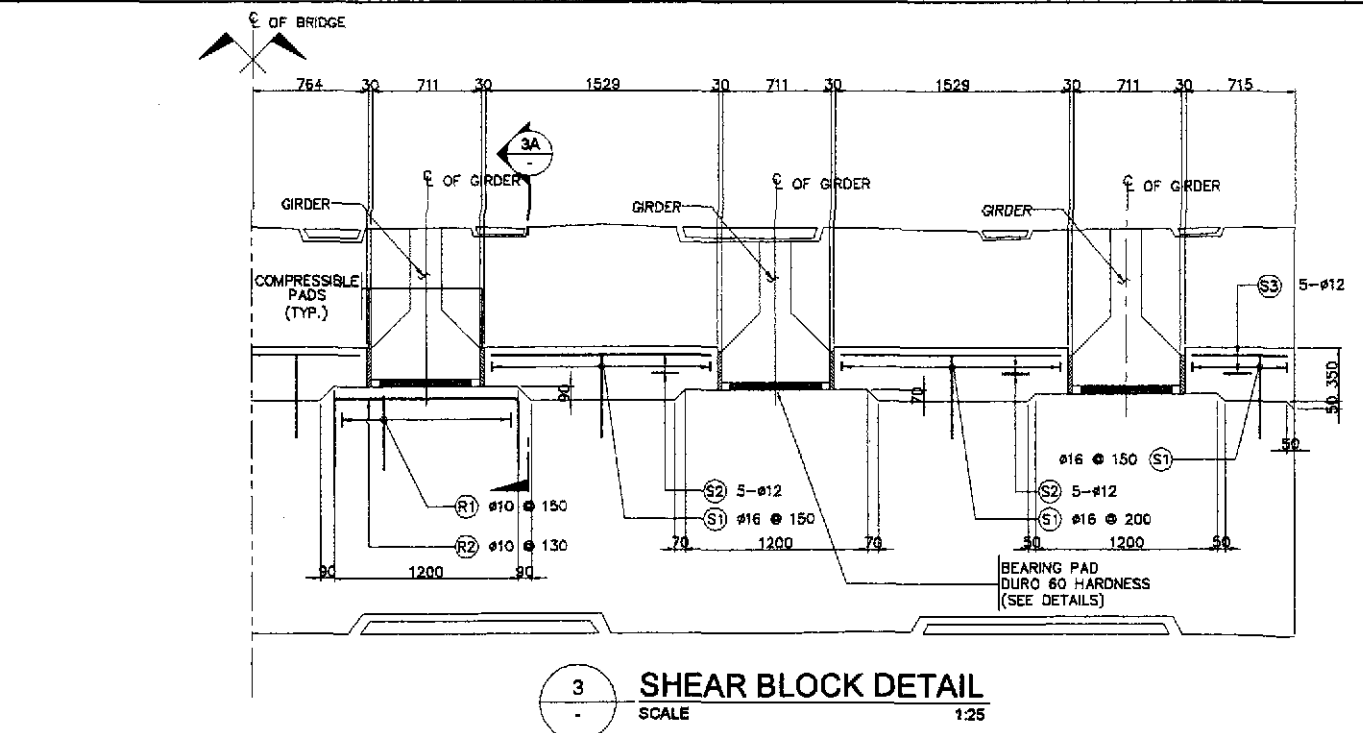
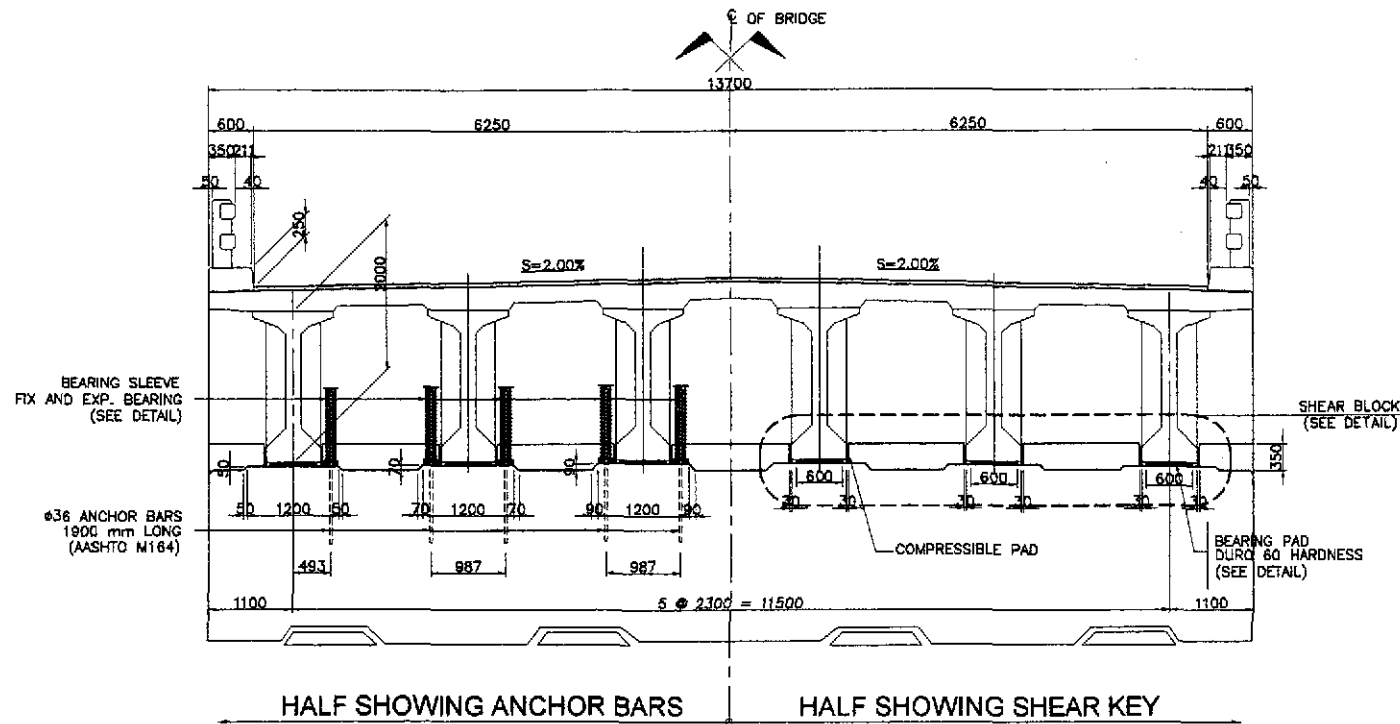


2a DETAIL
SCALE 1:10



3a DETAIL
SCALE 1:10

BAR BENDING DIAGRAM																		
		A		B		C		D										
SCHEDULE OF REINFORCEMENT PER APPROACH SLAB																		
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT					LENGTH EA. BAR (mm)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	WEIGHT (kg)	REBAR RATIO (kg/cu.m)		
APPROACH SLAB	21.82	AS1	25	81	150	B	4800	200	-	-	-	-	5100	413.10	3.854	1593	155.32	
		AS2	25	8	150	B	3700	200	-	-	-	-	3900	31.20	3.854	121		
		AS3	20	12	300	A	13600	-	-	-	-	-	-	13600	163.2	2.466		403
		AS4	20	6	300	A	14100	-	-	-	-	-	-	14100	84.60	2.466		209
		AS5	20	1	AS SHOWN	A	12850	-	-	-	-	-	-	12850	12.85	2.466		32
		AS6	16	11	300	A	13600	-	-	-	-	-	-	13600	149.60	1.579		237
		AS7	16	5	300	A	14100	-	-	-	-	-	-	14100	70.50	1.579		112
		AS8	20	1	AS SHOWN	A	14100	-	-	-	-	-	-	14100	14.10	2.466		35
		AS9	16	41	300	B	4900	200	-	-	-	-	-	5100	209.10	1.579		331
		AS10	25	4	AS SHOWN	C	1800	3200	-	-	-	-	-	5000	20.00	3.854		78
		AS11	16	4	300	D	400	500	200	700	-	-	-	1800	7.20	1.579		12
		AS12	25	2	AS SHOWN	A	14100	-	-	-	-	-	-	13600	27.20	3.854		105
		AS13	16	41	300	D	400	500	200	700	-	-	-	1800	73.80	1.579		117
TOTAL	21.82											GRADE 40 TOTAL = 809 kgs.		GRADE 60 TOTAL = 2,580 kgs.				



BAR BENDING DIAGRAM

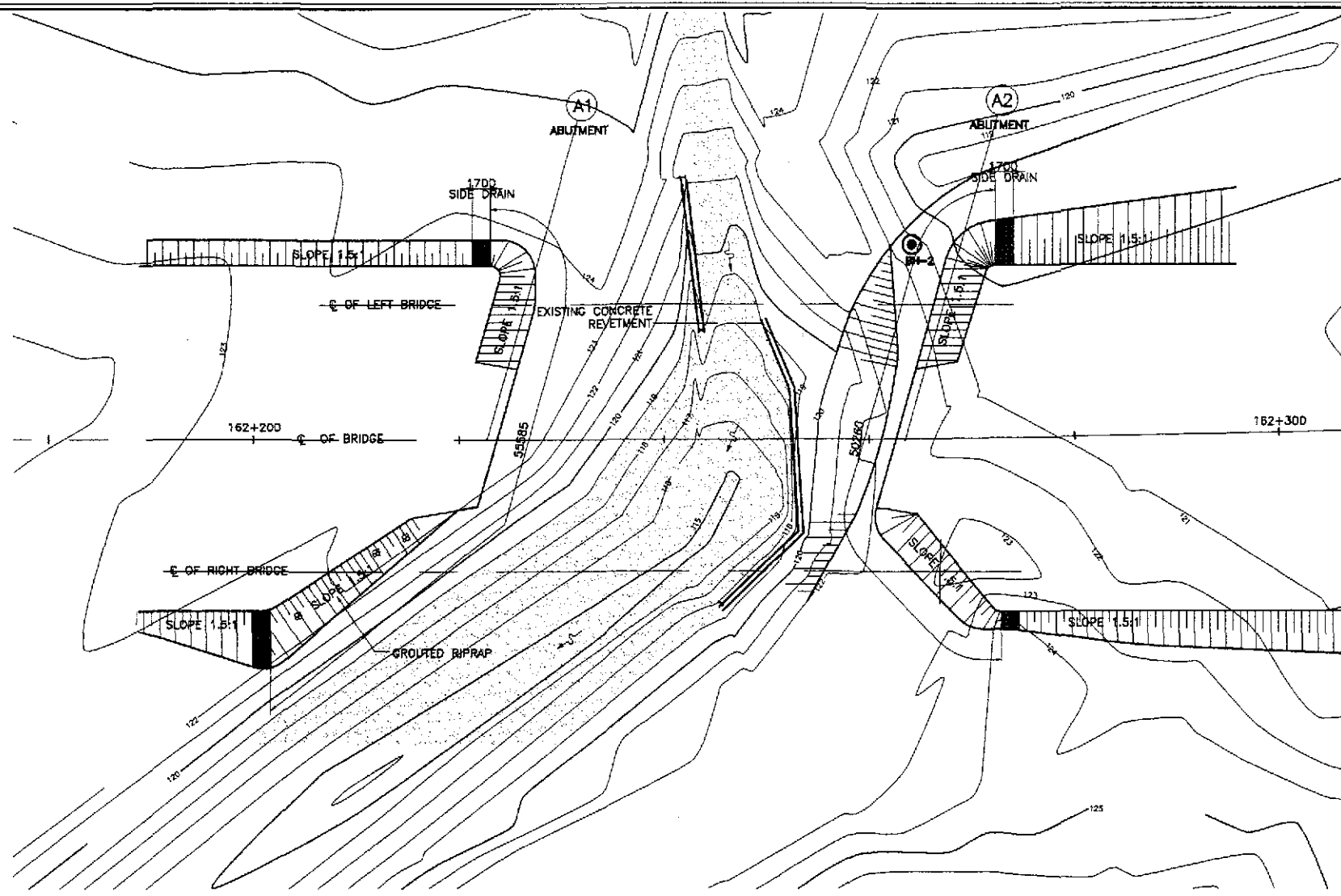
(A) (B)

SCHEDULE OF REINFORCEMENT

LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSION(mm) OUT TO OUT					LENGTH EACH BAR (m)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	WEIGHT (kg)	REBAR RATIO (kg/m ³)
							a	b	c	d	e					
SHEAR KEY & RISER	1.97	S1	16	65	150	(B)	560	390	560			1510	84.56	1.579	155	147.21
		S2	12	25	AS SHOWN	(A)	1500					1500	37.50	0.888	34	
		S3	12	10	AS SHOWN	(A)	660					660	6.60	0.888	6	
		R1	10	54	150	(B)	500	810	500			1810	97.74	0.616	61	
		R2	10	42	130	(B)	500	1250	500			2250	94.50	0.616	59	
TOTAL	1.97															GRADE 40 TOTAL = 315 kgs.

THE REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

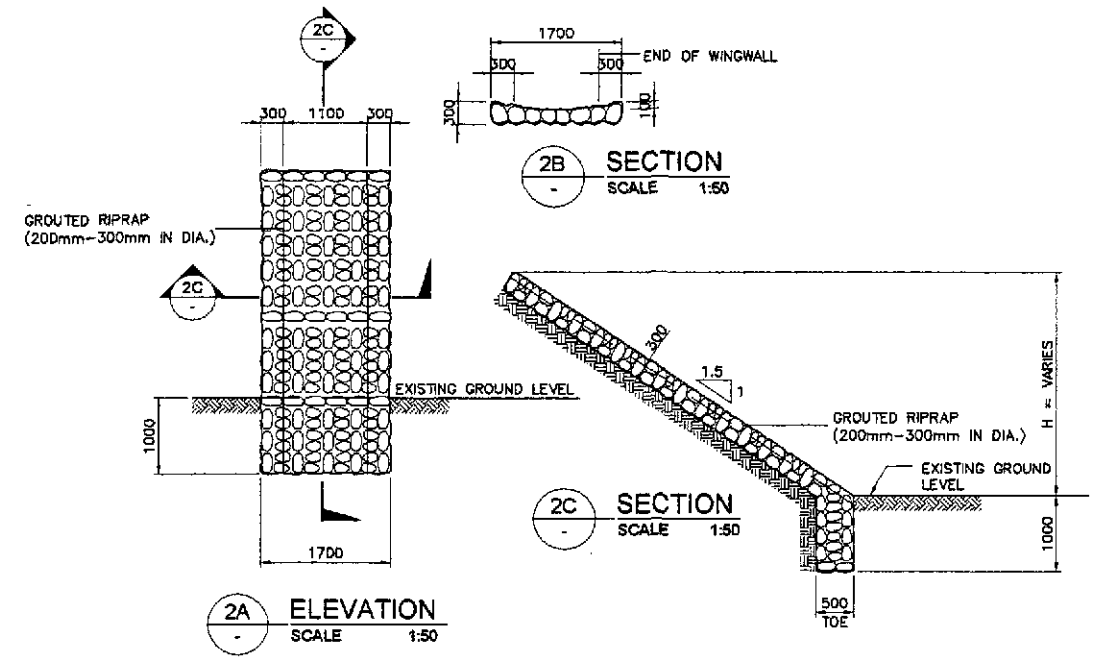
	DATE: 9/2/02 DESIGNED: E. N. SALLAN CHECKED: 9/4/02 SUBMITTED: 9/6/02	SIGNATURE: E. N. SALLAN TEAM LEADER	 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) SAN JOSE BYPASS	SCALE : AS SHOWN FULL SIZE A1	SHEET CONTENTS : BRIDGE NO. 3 SHEAR KEY AND RISER DETAILS AT ABUTMENT (INITIAL STAGE)	SHEET NO. : B3-09
	BUREAU OF DESIGN DANILLO C. TRAJANO Project Director	OFFICE OF THE SECRETARY MANUEL M. BONGAN Undersecretary	PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) SAN JOSE BYPASS	SCALE : AS SHOWN FULL SIZE A1	SHEET CONTENTS : BRIDGE NO. 3 SHEAR KEY AND RISER DETAILS AT ABUTMENT (INITIAL STAGE)	SHEET NO. : B3-09	
	BUREAU OF DESIGN GILBERTO S. REYES Director IV (OIC)	OFFICE OF THE SECRETARY SIMSON A. DATUMANONG Secretary	PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) SAN JOSE BYPASS	SCALE : AS SHOWN FULL SIZE A1	SHEET CONTENTS : BRIDGE NO. 3 SHEAR KEY AND RISER DETAILS AT ABUTMENT (INITIAL STAGE)	SHEET NO. : B3-09	



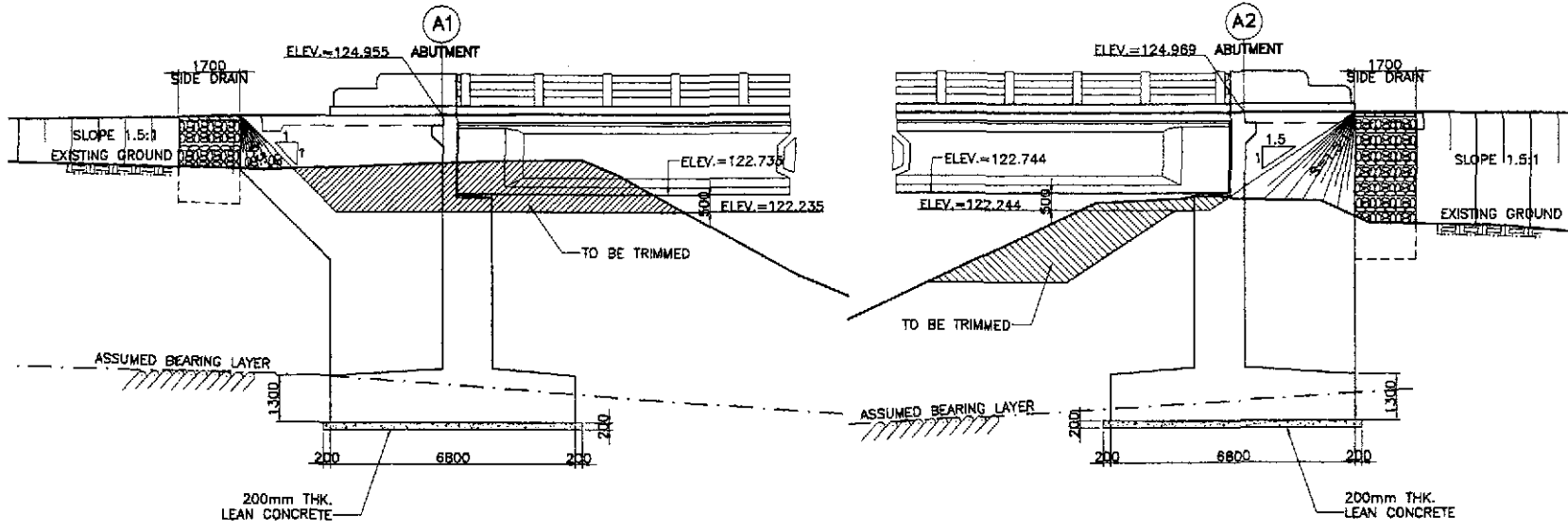
1B PLAN SCALE 1:300

GENERAL NOTES:

- GROUTED RIPRAP (250mm-300mm DIA.) SHALL BE USED FOR THE FACING AND SHALL BE CAREFULLY HANDLAID WITH THE LONGEST DIMENSIONS PERPENDICULAR TO THE SLOPE AND FIRMLY BEDDED INTO THE SLOPE AND ADJACENT TO THE ADJOINING BOULDERS SPACED BETWEEN THE BOULDERS. THE SPACE BETWEEN THE BOULDERS SHALL BE COMPLETELY FILLED WITH MORTAR. THE OUTSIDE SURFACE OF THE BOULDERS SHALL BE LEFT EXPOSED AND THE SURFACE OF THE MORTAR SHALL BE SWEEPED WITH A STIFF BRUSH.
- GRAVEL FILTER SHALL BE COARSE AGGREGATES MATERIALS WHICH SATISFY THE REQUIREMENTS FOR ITEM 405, STRUCTURAL CONCRETE, GRADING B OF TABLE 405.1 AS REVISED.



2 TYPICAL SIDE DRAIN DETAIL SCALE AS SHOWN



1C ELEVATION @ LEFT SIDE BRIDGE SCALE 1:100

1D ELEVATION @ RIGHT SIDE BRIDGE SCALE 1:100

1 ABUTMENT SLOPE PROTECTION DETAIL SCALE AS SHOWN

VELOCITY (m/sec)	ROCK SIZE (mm)	
	VERY TURBULENT FLOW	SMOOTH FLOW
1.00	40	-
1.50	135	-
2.00	170	-
2.50	255	137
3.00	370	197
3.50	515	270
4.00	590	350
4.50	825	425
5.00	>900	590

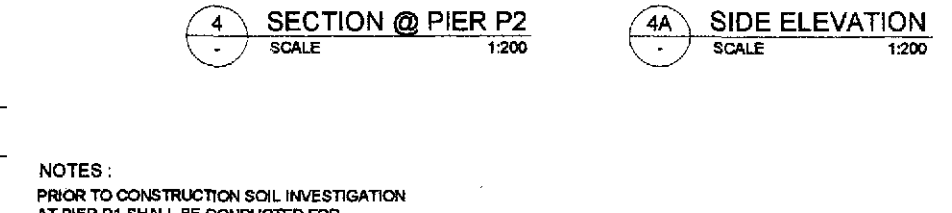
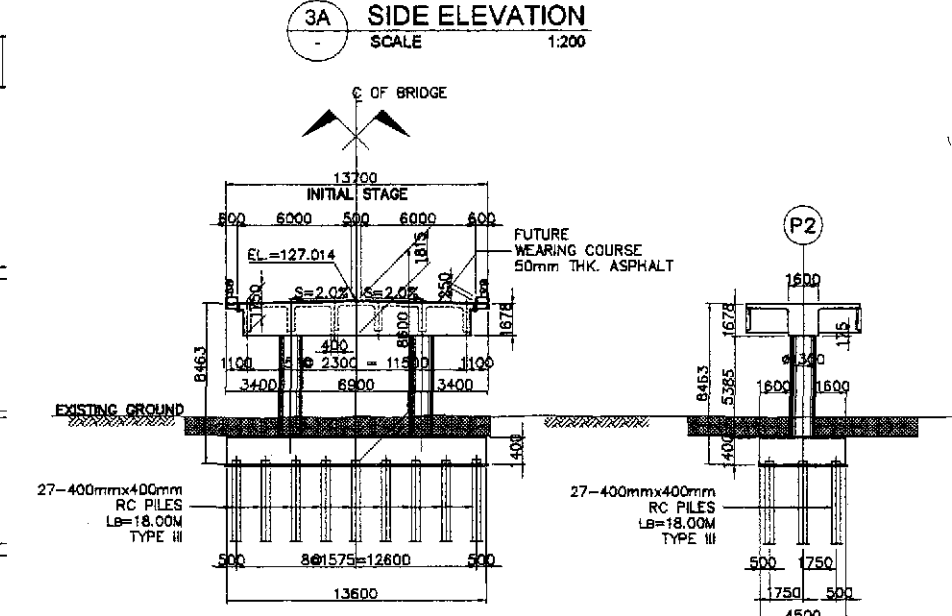
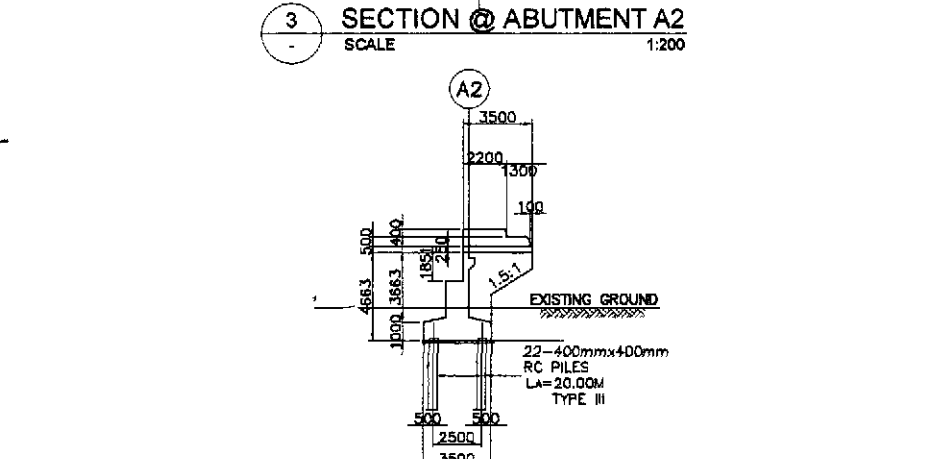
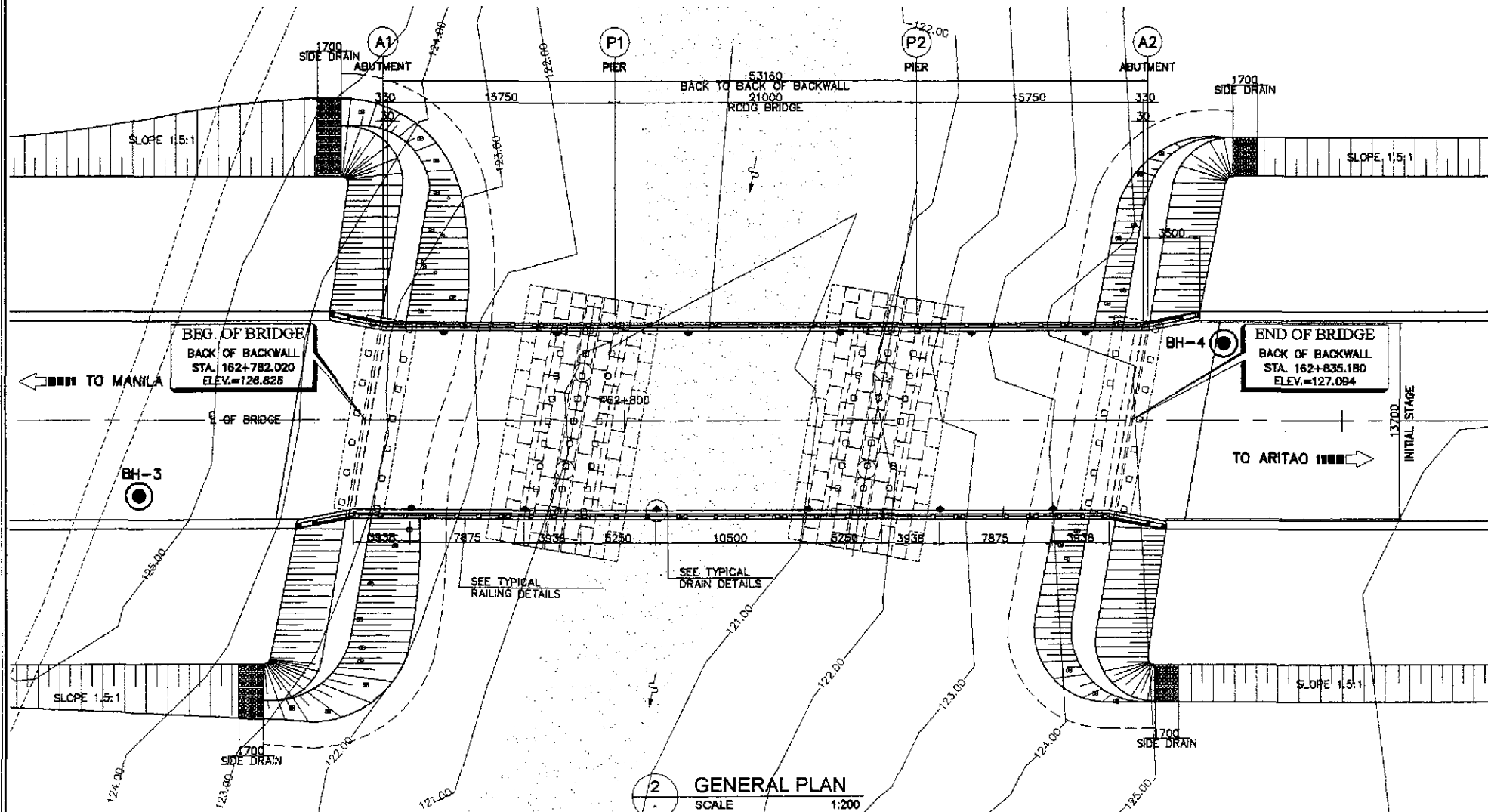
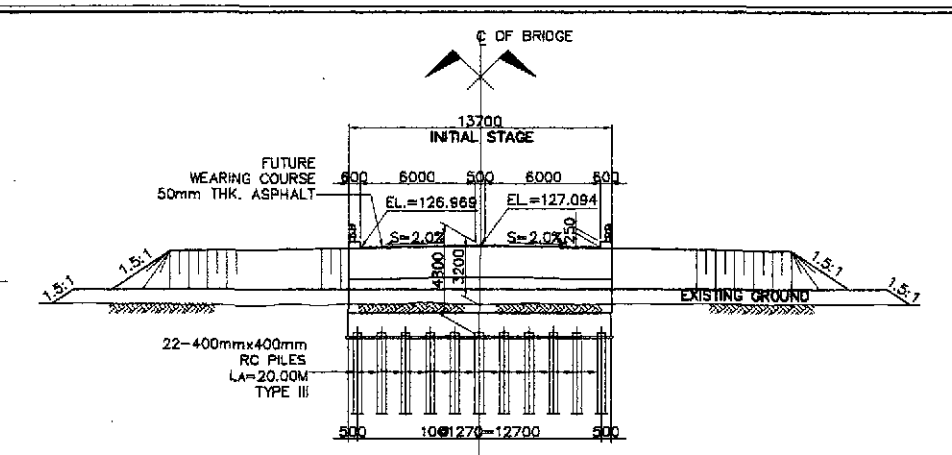
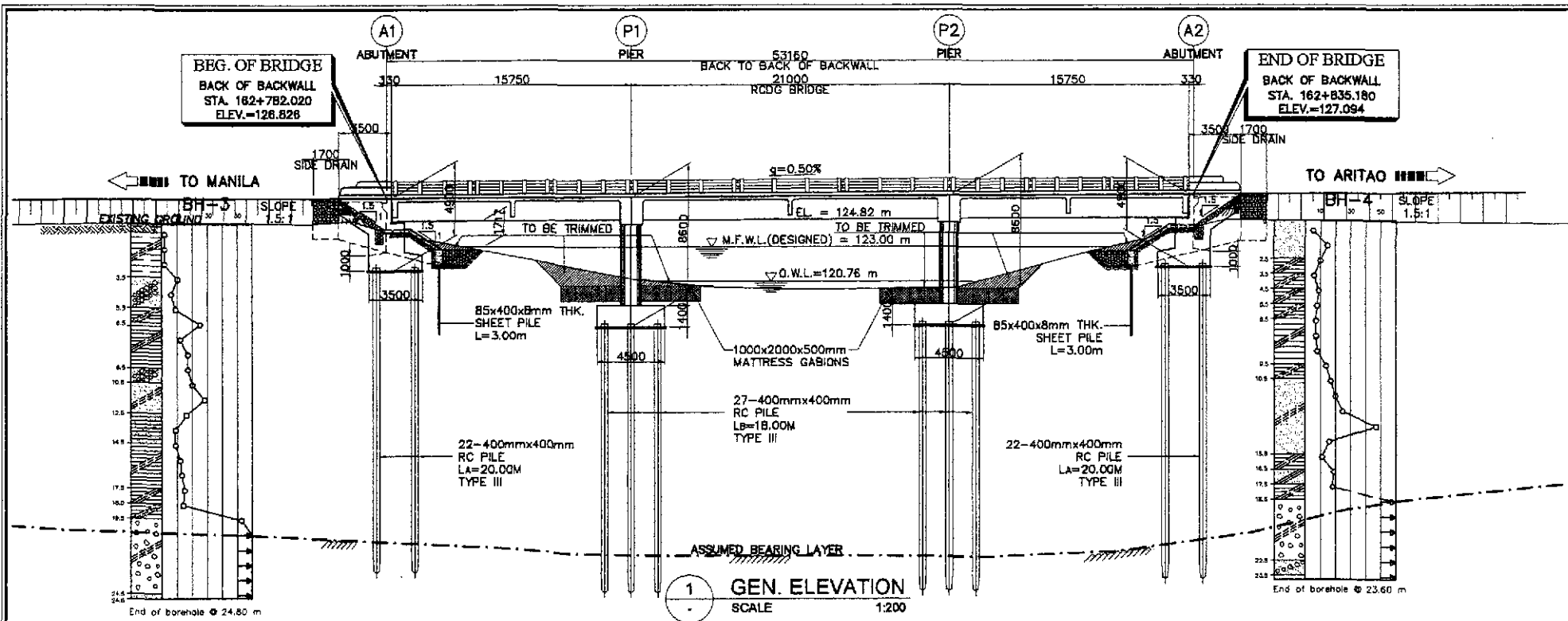
LOCATION	SIZES	PER ABUTMENT QUANTITY	
		ABUT. A1	ABUT. A2
SIDE DRAIN	200m -300mm IN DIA.	6.54 cu. m.	4.67 cu. m.
GROUTED RIPRAP	250m -300mm IN DIA.	48.94 cu. m.	-
SODDING		60.95 cu. m.	79.24 cu. m.

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

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BUREAU OF DESIGN
OFFICE OF THE SECRETARY
Submitted By: P.J.H. - PMO
Reviewed By: DANILO C. TRAJANO, PERFECTO L. ZAPLAN JR., GILBERTO S. REYES
Recommended By: MANUEL M. BONDAN
Approved By: SIMEON A. DATUMANONG

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

SCALE : AS SHOWN
SHEET CONTENTS : BRIDGE NO. 3
ABUTMENT PROTECTION
AND SIDE DRAIN DETAILS
(INITIAL STAGE)
SHEET NO. : B3-10



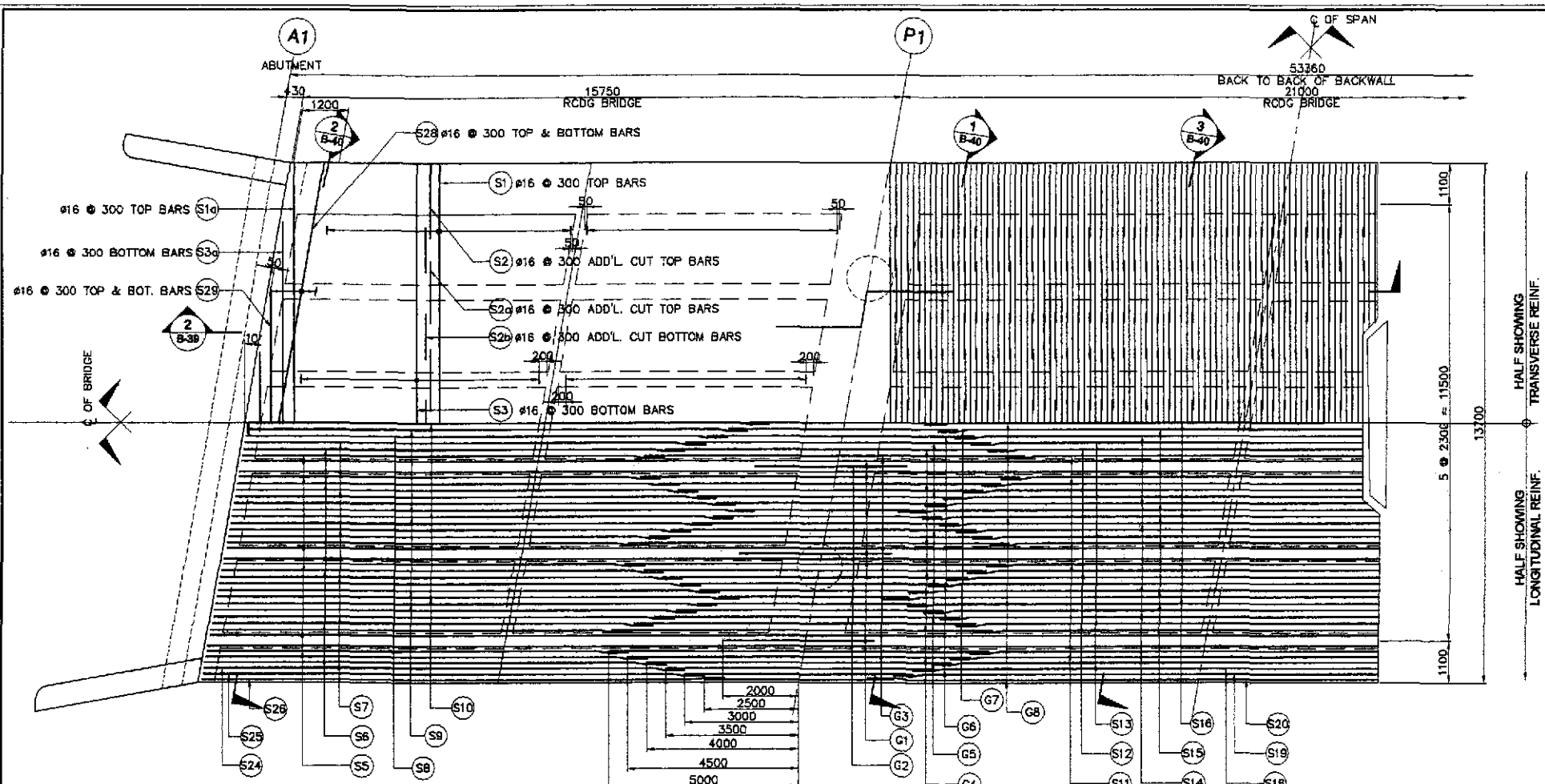
NOTES:
PRIOR TO CONSTRUCTION SOIL INVESTIGATION AT PIER P1 SHALL BE CONDUCTED FOR CONFIRMATION OF ASSUMED BEARING CAPACITY AND FOOTING ELEVATION.
THE PILE LENGTH RECOMMENDED ARE MINIMUM. SHOULD THE SOIL AT THE RECOMMENDED LENGTH IS NOT ADEQUATE BEARING MATERIAL, LENGTH SHALL BE INCREASED. THE MINIMUM EMBEDMENT LENGTH INTO ADEQUATE SOIL FOR 400 x 400 RC PILE IS 1000 mm.

HYDRAULIC DATA	
VELOCITY @ 50 YEARS, V ₅₀	3.448 m/sec
DISCHARGE @ 50 YEARS, Q ₅₀	165,000 cu.m/sec
CATCHMENT AREA, CA	14,250 sq. km

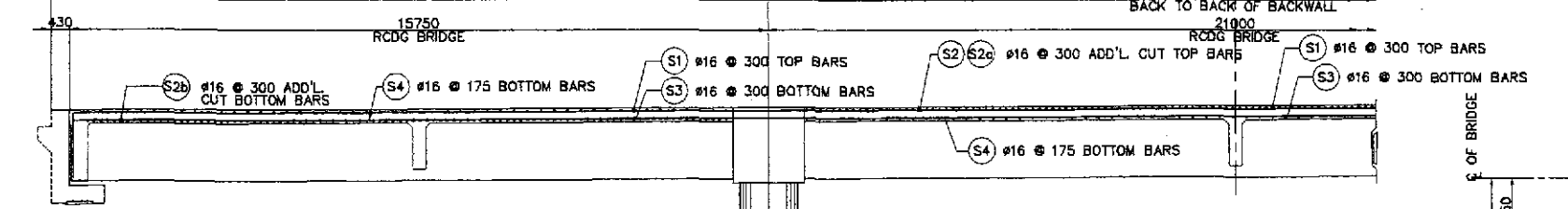
PERFECTO L. ZAPLAN JR.
D/C Chief, Hydraulics Division, B00

SAN JOSE BYPASS BRIDGE NO.4 (STA.162+782.020)
SCALE AS SHOWN

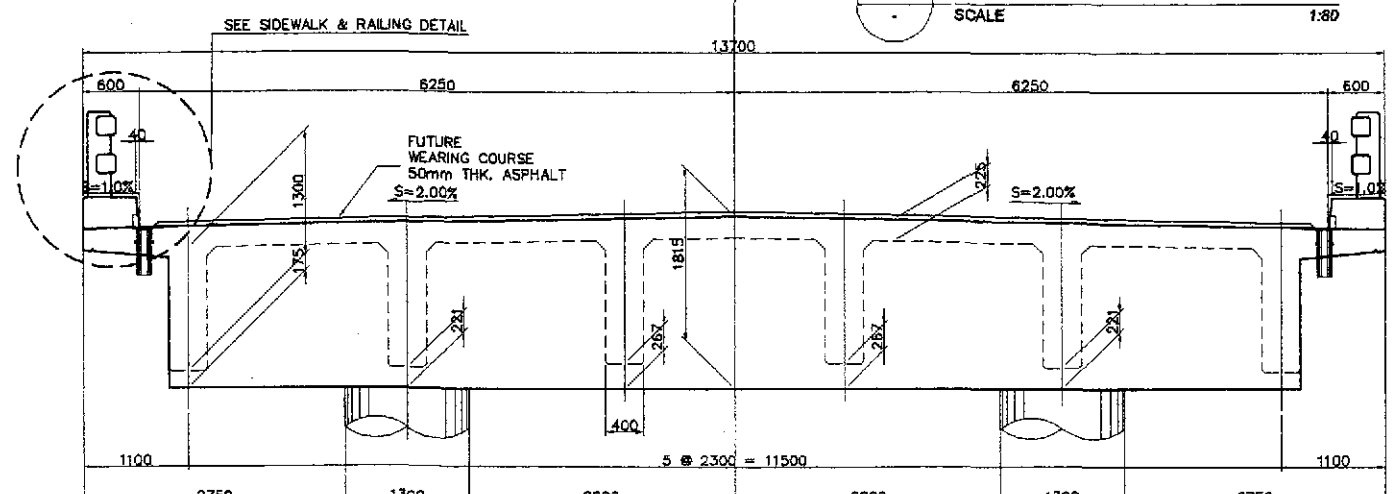
	DESIGNED: 7/1/02 CHECKED: 9/1/02 SUBMITTED: 7/1/02	DATE: 7/1/02 SIGNATURE: [Signature] E. N. SALLAN FUHL - PMO Submitted By:	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN OFFICE OF THE SECRETARY	PROJECT AND LOCATION: THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) SAN JOSE BYPASS	SCALE: 1:200 FULL SIZE A1	SHEET CONTENTS: BRIDGE NO. 4 GENERAL PLAN, ELEVATION AND SECTIONS (INITIAL STAGE)	SHEET NO.: B4-01
	DANILLO C. TRAJANO Project Director	ADRIANO M. DORCY Chief, Bridge Division	GILBERTO S. REYES Director IV (D/C)	MANUEL M. BIGNAN Undersecretary	SIMEDN A. SATUMANONG Secretary		
	APPROVED: [Signature] (See cover sheet for Signature/Approval)						



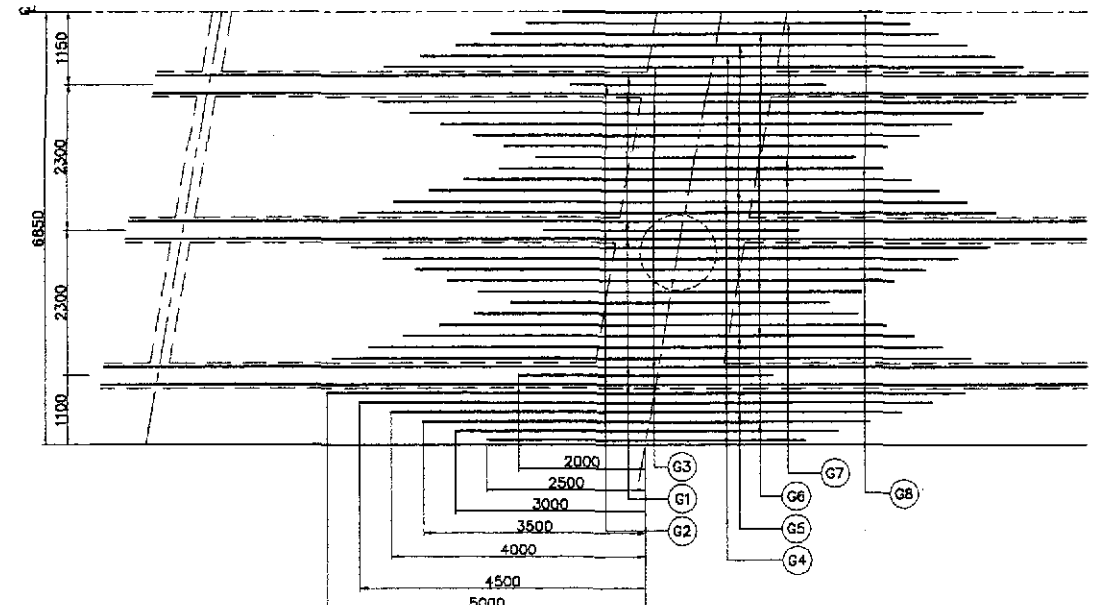
1 FRAMING PLAN
SCALE 1:80



1 LONGITUDINAL SECTION
SCALE 1:80



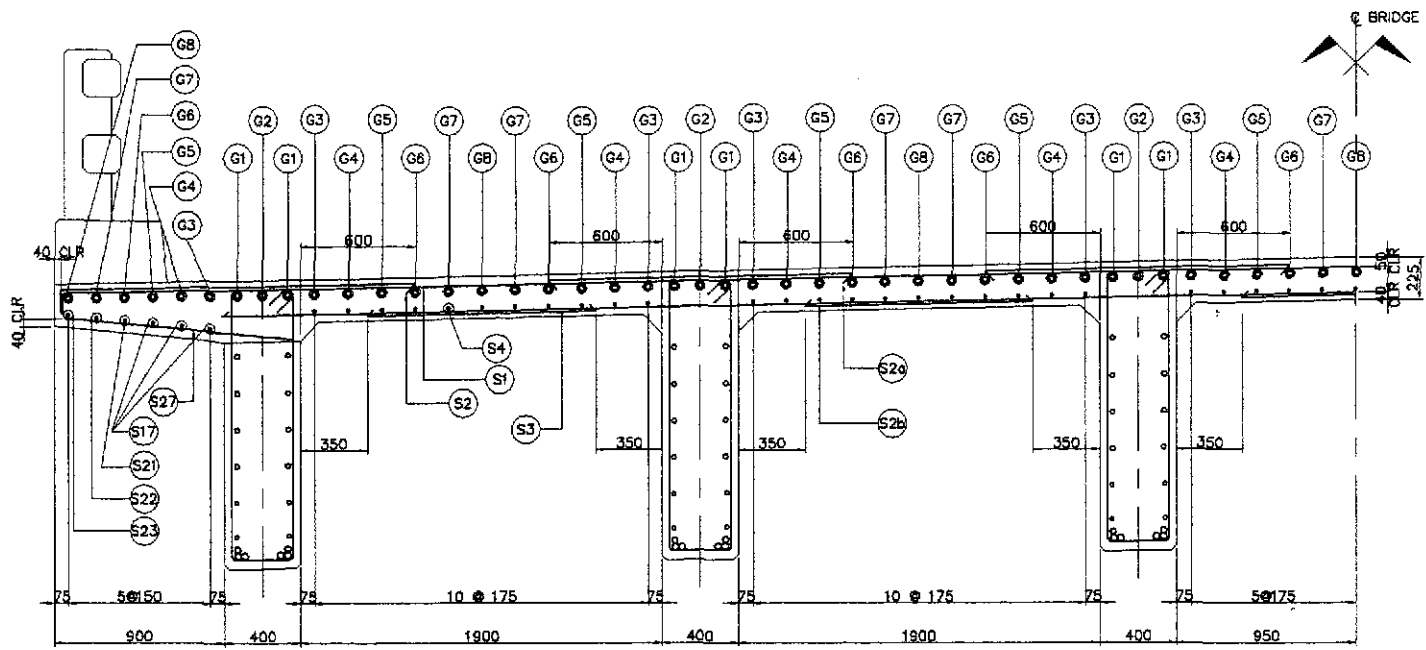
3 TYPICAL CROSS SECTION
SCALE 1:40



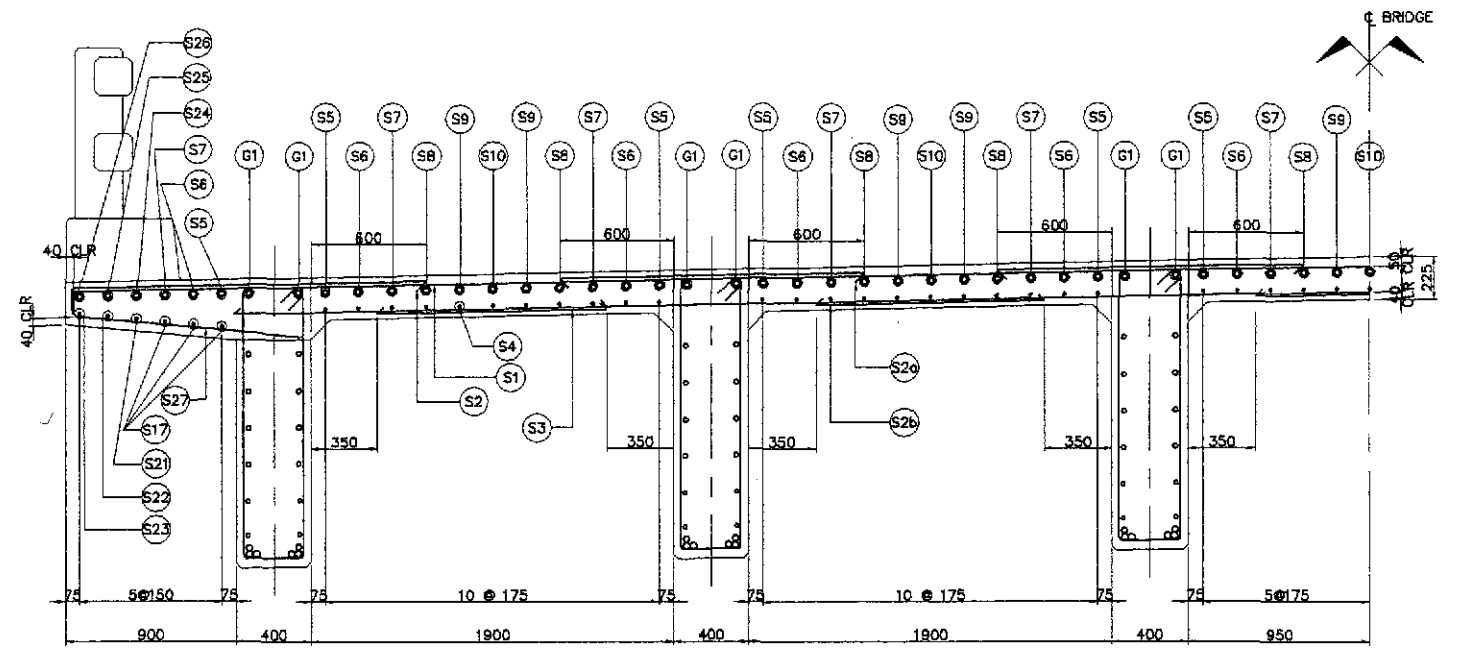
4 REINF. OVER PIER
SCALE 1:60

ESTIMATED QUANTITIES OF SUPERSTRUCTURE			
ITEM NO.	DESCRIPTION	UNIT	TOTAL
404(1)a	REINFORCING STEEL GRADE 40	kgs.	36431
	DECK SLAB		21623
	DIAPHRAGM		1693
	GIRDER		6864
	SIDEWALK, RAILING, POST		4359
	APPROACH SLAB		1592
404(1)b	REINFORCING STEEL GRADE 60	kgs.	39472
	DECK SLAB		0
	DIAPHRAGM		1214
	GIRDER		32092
	SIDEWALK, RAILING, POST		1062
	APPROACH SLAB		5104
405(1)	STRUCTURAL CONCRETE	cu. m.	392.88
	DECK SLAB		176.62
	DIAPHRAGM		14.89
	GIRDER		141.98
	SIDEWALK, RAILING, POST		15.75
	APPROACH SLAB		43.64

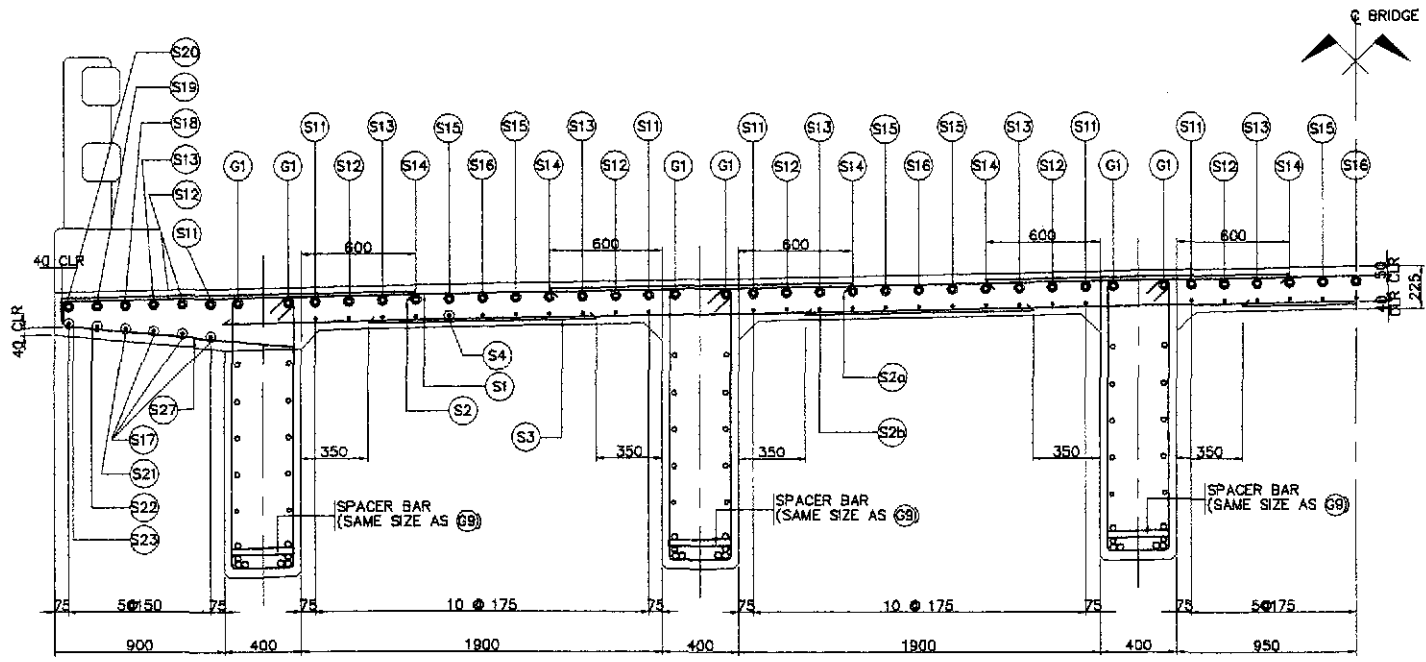
	DATE: 9/2/02 DESIGNED: E. N. SALLAN CHECKED: 9/1/02 SUBMITTED: 7/6/02	SIGNATURE: <i>[Signature]</i> E. N. SALLAN TEAM LEADER	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN	PROJECT AND LOCATION: THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) SAN JOSE BYPASS	SCALE: AS SHOWN FULL SIZE A1	SHEET CONTENTS: BRIDGE NO. 4 SLAB REINFORCEMENT DETAILS (LONGITUDINAL SECTION) (INITIAL STAGE)	SHEET NO. : B4-02
	SUBMITTED BY: DANILLO C. TRAJANO Project Director	REVIEWED BY: ADRIANO M. DORCOY Chief, Bridge Division	RECOMMENDED BY: GILBERTO S. REYES Director IV (G/C)	OFFICE OF THE SECRETARY Recommended By: MANUEL M. BONDAN Undersecretary Approved By: SIMEDON A. DATUMANONG Secretary	SCALE: AS SHOWN FULL SIZE A1	SHEET CONTENTS: BRIDGE NO. 4 SLAB REINFORCEMENT DETAILS (LONGITUDINAL SECTION) (INITIAL STAGE)	SHEET NO. : B4-02
	JICA JAPAN INTERNATIONAL COOPERATION AGENCY		KATAHIRA & ENGINEERS INTERNATIONAL YEO YACHIYO ENGINEERING CO., LTD.		PROJECT AND LOCATION: THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) SAN JOSE BYPASS		SHEET NO. : B4-02



1 TRANSVERSE SECTION NEAR PIER SUPPORT
SCALE 1:20

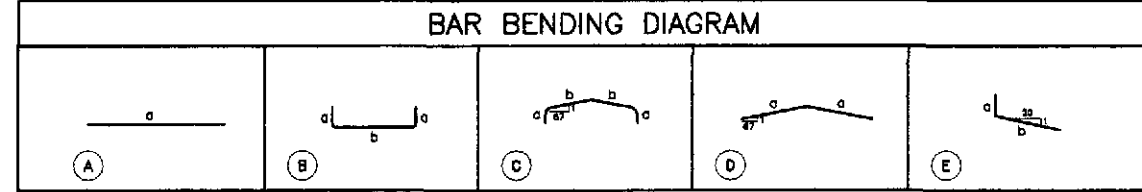


2 TRANSVERSE SECTION NEAR ABUTMENT
SCALE 1:20



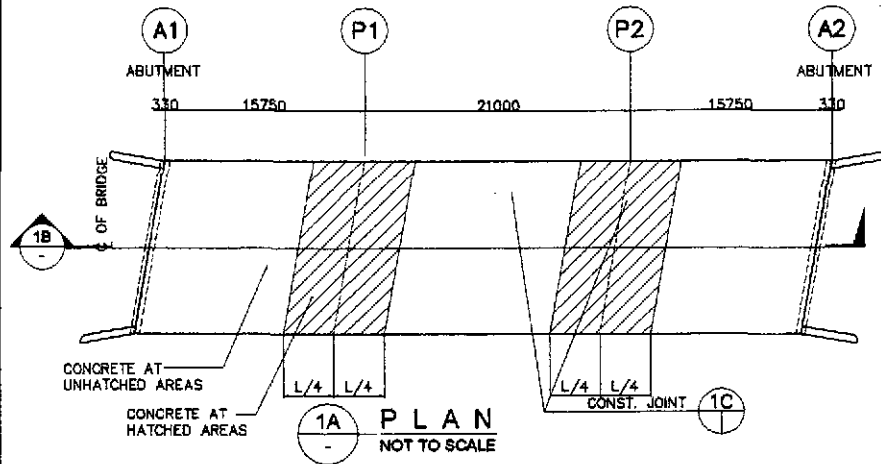
3 TRANSVERSE SECTION AT MIDSPAN OF SPAN 2
SCALE 1:20

A 3-SPAN RCDG SUPERSTRUCTURE DETAILS
SCALE AS SHOWN

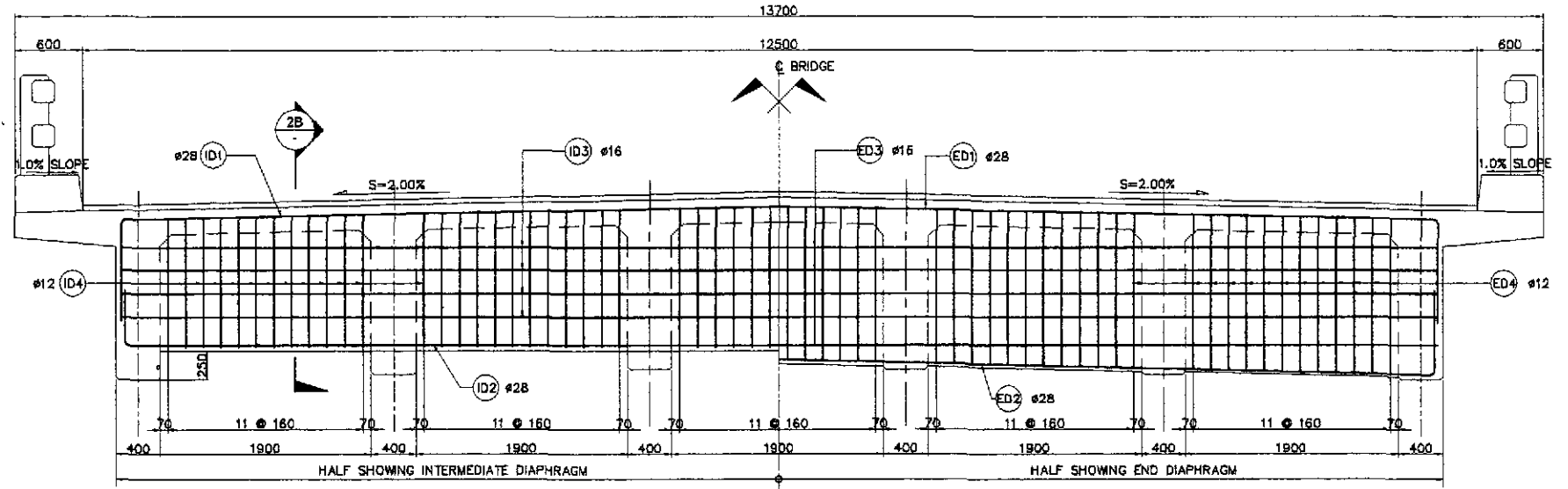


SCHEDULE OF REINFORCEMENT																
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT				L _c (mm)	LENGTH EACH BAR (mm)	TOTAL LENGTH (m)	UNIT WT. (Kg/m)	WEIGHT IN (Kg)	REBAR RATIO (kg/m ³)
							a	b	c	d						
DECK SLAB	176.62	S1	16	168	300	(C)	145	6810	-	-	-	13910	2336.88	1.579	3690	124.13
		S1a	16	18	300	(C)	145	7700	-	-	-	7790	143.82	1.579	228	
		S2	16	336	300	(A)	1775	-	-	-	-	1775	596.40	1.579	942	
		S2a	16	504	300	(A)	1350	-	-	-	-	1350	680.40	1.579	1075	
		S2b	16	672	300	(A)	950	-	-	-	-	950	638.40	1.579	1009	
		S3	16	168	300	(D)	5910	-	-	-	-	13620	2288.16	1.579	3614	
		S3a	16	18	300	(A)	7700	-	-	-	-	7700	138.60	1.579	219	
		S4	16	55	AS SHOWN	(A)	53080	-	-	-	-	53080	2919.40	1.579	4610	
		S5	16	24	AS SHOWN	(A)	11500	-	-	-	-	11500	276.00	1.579	436	
		S6	16	24	AS SHOWN	(A)	12000	-	-	-	-	12000	288.00	1.579	455	
		S7	16	24	AS SHOWN	(A)	12500	-	-	-	-	12500	300.00	1.579	474	
		S8	16	20	AS SHOWN	(A)	13000	-	-	-	-	13000	260.00	1.579	411	
		S9	16	20	AS SHOWN	(A)	13500	-	-	-	-	13500	270.00	1.579	427	
		S10	16	10	AS SHOWN	(A)	14000	-	-	-	-	14000	140.00	1.579	222	
		S11	16	12	AS SHOWN	(A)	12500	-	-	-	-	12500	150.00	1.579	237	
		S12	16	12	AS SHOWN	(A)	13500	-	-	-	-	13500	162.00	1.579	256	
		S13	16	12	AS SHOWN	(A)	14500	-	-	-	-	14500	174.00	1.579	275	
		S14	16	10	AS SHOWN	(A)	15500	-	-	-	-	15500	155.00	1.579	245	
		S15	16	10	AS SHOWN	(A)	16500	-	-	-	-	16500	165.00	1.579	261	
		S16	16	5	AS SHOWN	(A)	17500	-	-	-	-	17500	87.50	1.579	139	
		S17	16	6	AS SHOWN	(A)	53080	-	-	-	-	53080	318.48	1.579	503	
		S18	16	2	AS SHOWN	(A)	15500	-	-	-	3500	15500	31.00	1.579	49	
		S19	16	2	AS SHOWN	(A)	16500	-	-	-	3000	16500	33.00	1.579	53	
		S20	16	2	AS SHOWN	(A)	17500	-	-	-	2500	17500	35.00	1.579	56	
		S21	16	2	AS SHOWN	(A)	53080	-	-	-	-	53080	106.16	1.579	168	
		S22	16	2	AS SHOWN	(A)	53080	-	-	-	-	53080	106.16	1.579	168	
		S23	16	2	AS SHOWN	(A)	53080	-	-	-	-	53080	106.16	1.579	168	
		S24	16	4	AS SHOWN	(A)	13000	-	-	-	3500	13000	52.00	1.579	83	
		S25	16	4	AS SHOWN	(A)	12000	-	-	-	3000	12000	48.00	1.579	76	
S26	16	4	AS SHOWN	(A)	11000	-	-	-	2500	11000	44.00	1.579	70			
S27	12	171	300	(E)	145	1220	-	-	-	1385	233.42	0.888	208			
S28	16	20	300	(A)	13840	-	-	-	-	13840	276.80	1.579	438			
S29	16	36	300	(A)	7700	-	-	-	-	7700	277.20	1.579	438			
TOTAL	176.62														GRADE 40 TOTAL = 21,923 kgs.	

	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :	
	CHECKED	9/2/01	E. N. SALLAN		BUREAU OF DESIGN	OFFICE OF THE SECRETARY			THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	AS SHOWN	BRIDGE NO. 4 SLAB REINFORCEMENT DETAILS (TRANSVERSE SECTIONS) (INITIAL STAGE)	B4-03
	SUBMITTED	9/6/01	TEAM LEADER		Submitted By:	Reviewed By:	Recommended By:	Approved By:				
				DANILO C. TRAJANO Project Director	ADRIANO M. DOROY Chief, Bridges Division	GILBERTO S. REYES Director IV (IC)	MAHUEL M. BONJAN Undersecretary	SIMEON A. DATUMANONG Secretary				

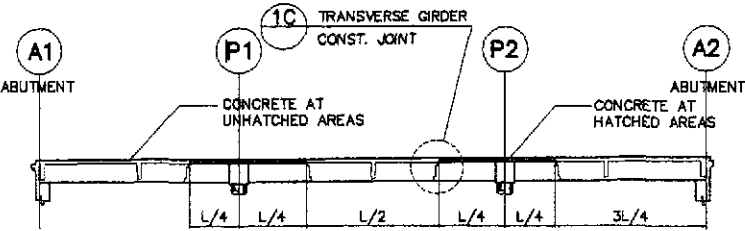


NOTE :
 1. CONCRETE AT UNHATCHED AREAS SHALL BE PLACED AT LEAST ONE DAY AHEAD OF CONCRETE AT HATCHED AREAS.
 2. REINFORCEMENT SHALL BE CONTINUOUS AT CONSTRUCTION JOINTS.

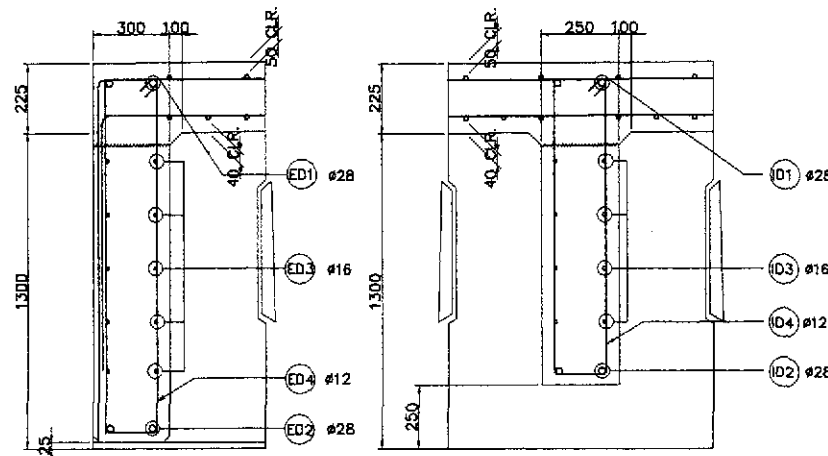


2A ELEVATION
 SCALE 1:30

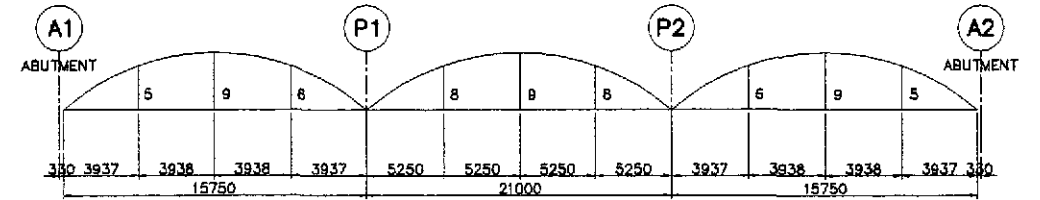
2 INTERMEDIATE AND END DIAPHRAGM DETAIL
 SCALE AS SHOWN



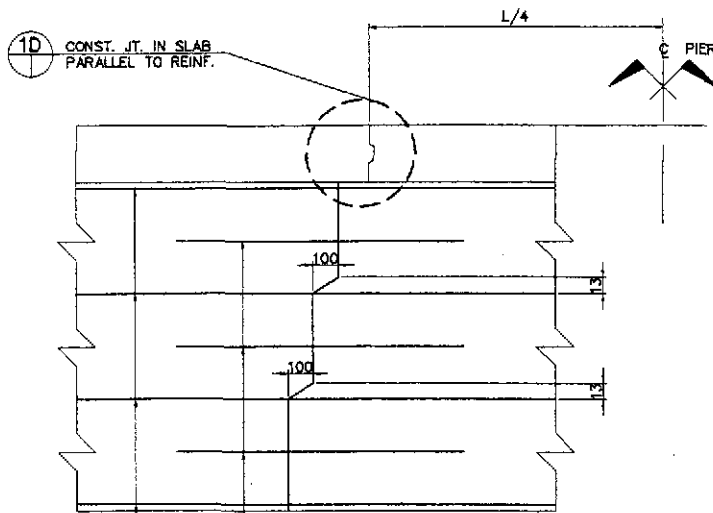
1B SECTION
 NOT TO SCALE



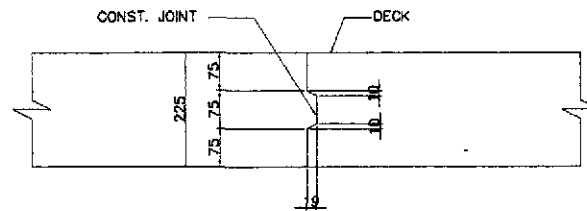
2B SECTION
 SCALE 1:15



3 CAMBER DIAGRAM
 NOT TO SCALE



1C TRANSVERSE GIRDER CONST. JOINT
 SCALE 1:30



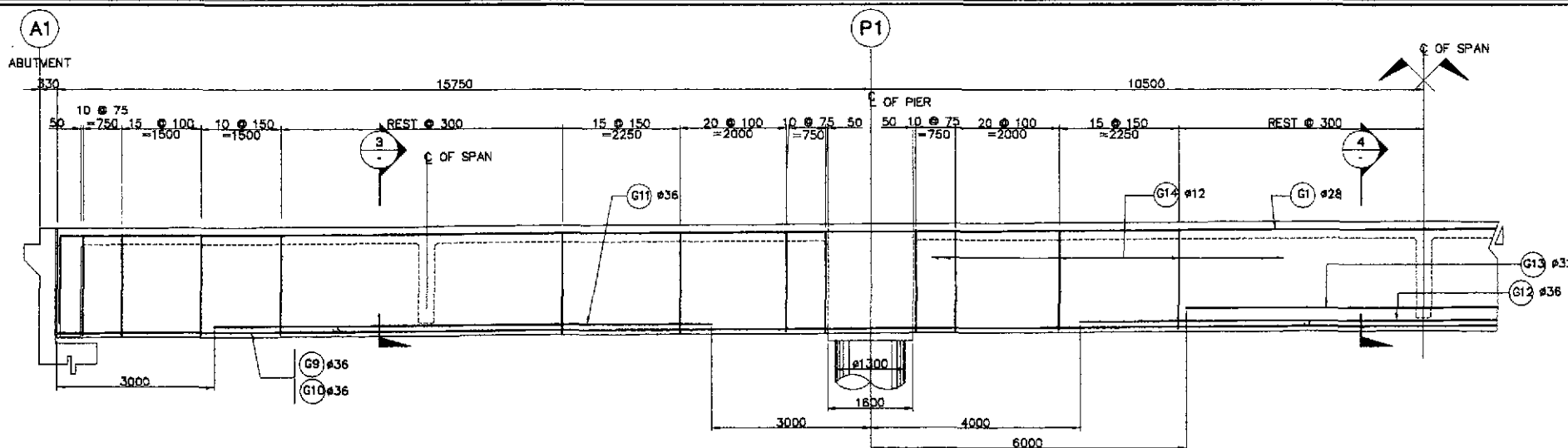
1D DETAIL
 SCALE 1:20

A CONC. POURING SEQUENCE
 SCALE AS SHOWN

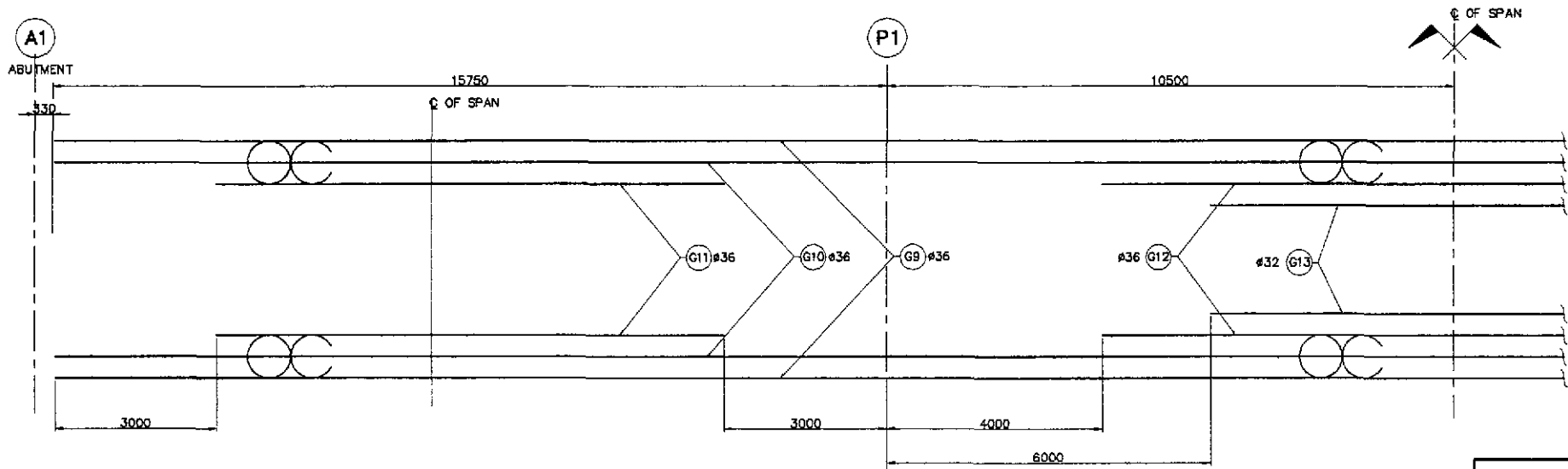
BAR BENDING DIAGRAM																
SCHEDULE OF REINFORCEMENT																
LOCATION	CONC. VOL. (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT				Le (mm)	LENGTH EACH BAR (mm)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	TOTAL WEIGHT (kg)	REBAR RATIO (kg/m ³)
							a	b	c	d						
END DIAPHRAGM	7.41	ED1	28	4	AS SHOWN	(B)	350	5910	-	-	-	12520	50.08	4.833	243	168.43
		ED2	28	4	AS SHOWN	(E)	350	5910	-	-	-	12520	50.08	4.833	243	
		ED3	16	20	AS SHOWN	(A)	11820	-	-	-	-	11820	236.40	1.579	374	
		ED4	12	120	AS SHOWN	(D)	220	1450	150	-	-	3640	436.80	0.888	388	
INTERMEDIATE DIAPHRAGM	7.48	ID1	28	6	AS SHOWN	(B)	350	5910	-	-	-	12520	75.12	4.833	364	221.80
		ID2	28	6	AS SHOWN	(C)	350	11820	-	-	-	12520	75.12	4.833	364	
		ID3	16	24	AS SHOWN	(A)	11820	-	-	-	-	11820	283.68	1.579	448	
		ID4	12	180	AS SHOWN	(D)	170	1190	150	-	-	3020	543.60	0.888	483	
TOTAL	14.89															

GRADE 40 TOTAL = 1,893 kgs.
 GRADE 80 TOTAL = 1,214 kgs.

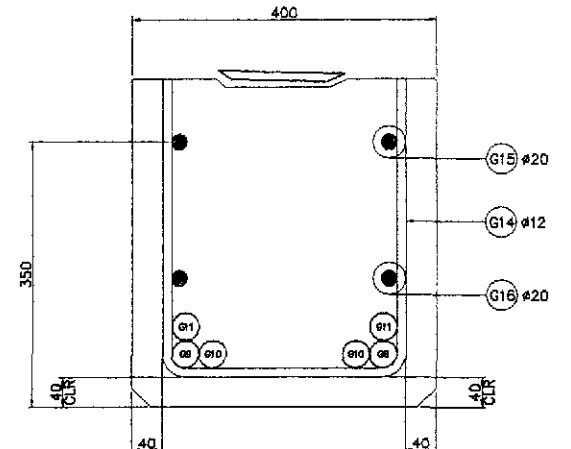
	DESIGNED: 9/2/02 CHECKED: 9/11/02 SUBMITTED: 9/10/02	DATE: 9/2/02 SIGNATURE: [Signature] E. N. SALLAN N. KAWAYASHI TEAM LEADER		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	SCALE : AS SHOWN FULL SIZE A1	SHEET CONTENTS : BRIDGE NO. 4 CONCRETE POURING SEQUENCE AND DIAPHRAGM DETAILS (INITIAL STAGE)	SHEET NO. : B4-04		
	BUREAU OF DESIGN DANILLO C. TRAJANO - Project Director ADRIANO M. DORCOY - Chief, Bridges Division GILBERTO S. REYES - Director IV (D/C)				OFFICE OF THE SECRETARY MANUEL M. BONDAN - Undersecretary SIMEON A. DATUMANONG - Secretary					
	JICA JAPAN INTERNATIONAL COOPERATION AGENCY				SAN JOSE BYPASS					



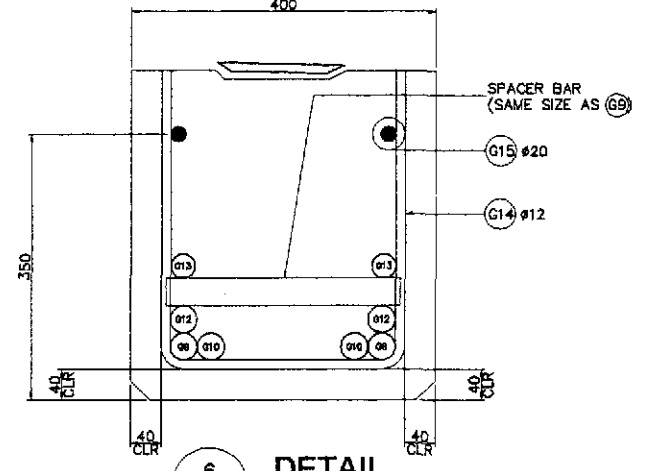
1 GIRDER ELEVATION
SCALE NTS



2 BOTTOM BAR SCHEMATIC LAYOUT
SCALE NTS

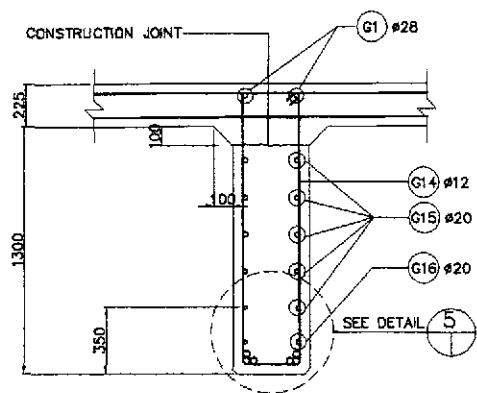


5 DETAIL
SCALE NTS

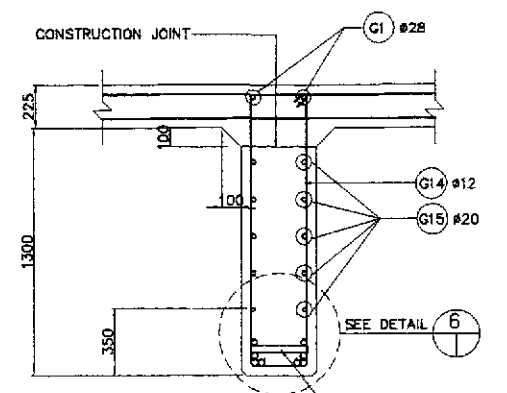


6 DETAIL
SCALE NTS

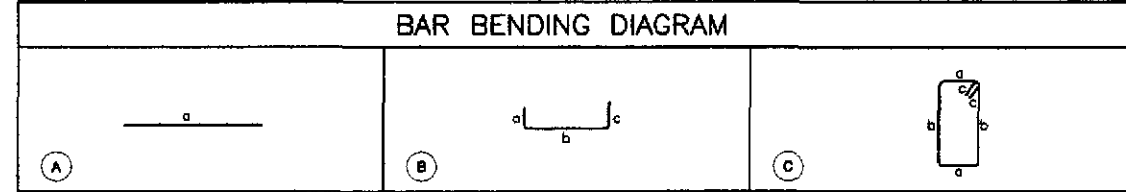
NOTE: CONCRETE CHAMFER AT BOTTOM OF GIRDER IS 25mm.



3 SECTION AT MIDSPAN (SPAN 1 & 3)
SCALE 1:20



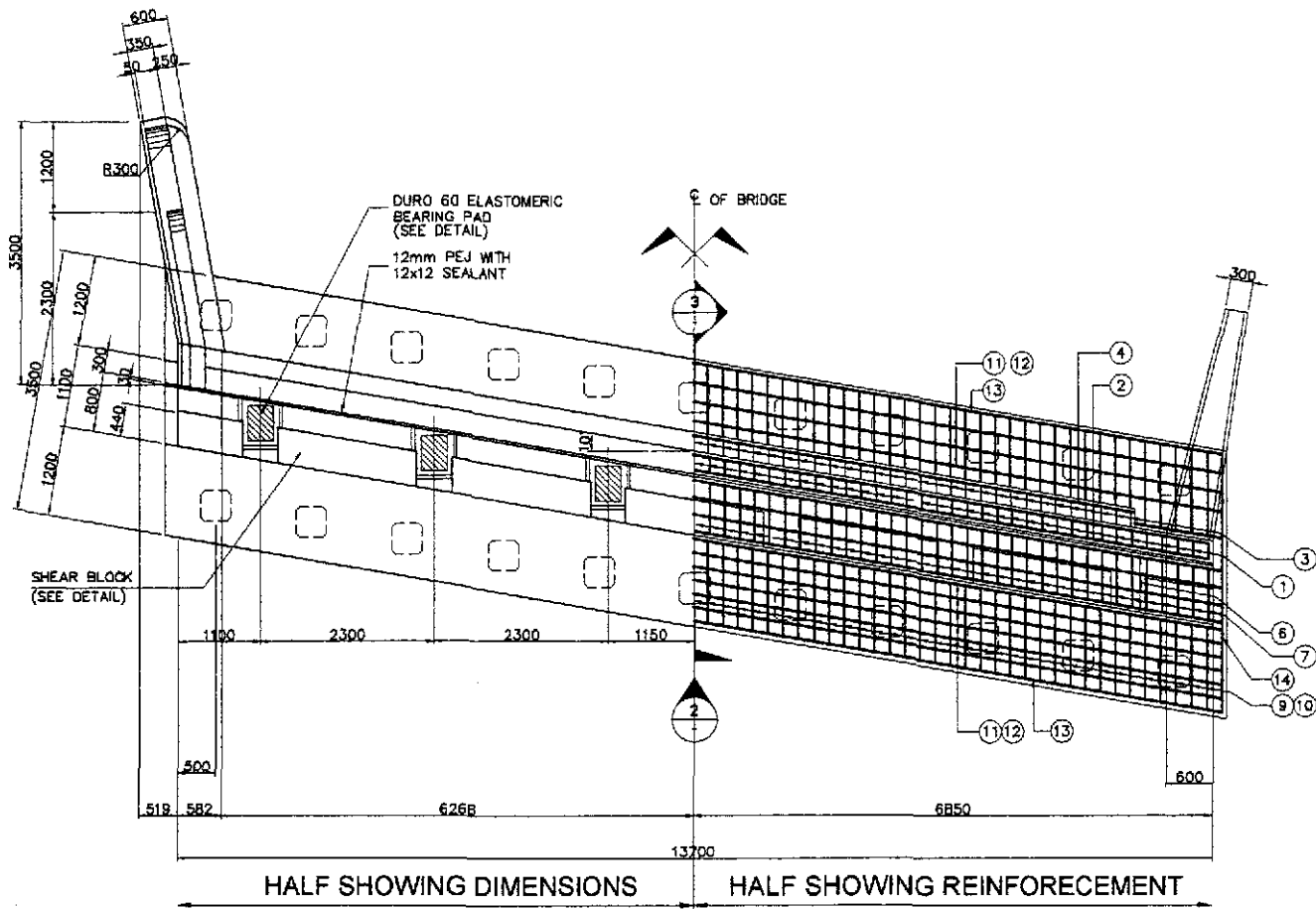
4 SECTION AT MIDSPAN (SPAN 2)
SCALE 1:20



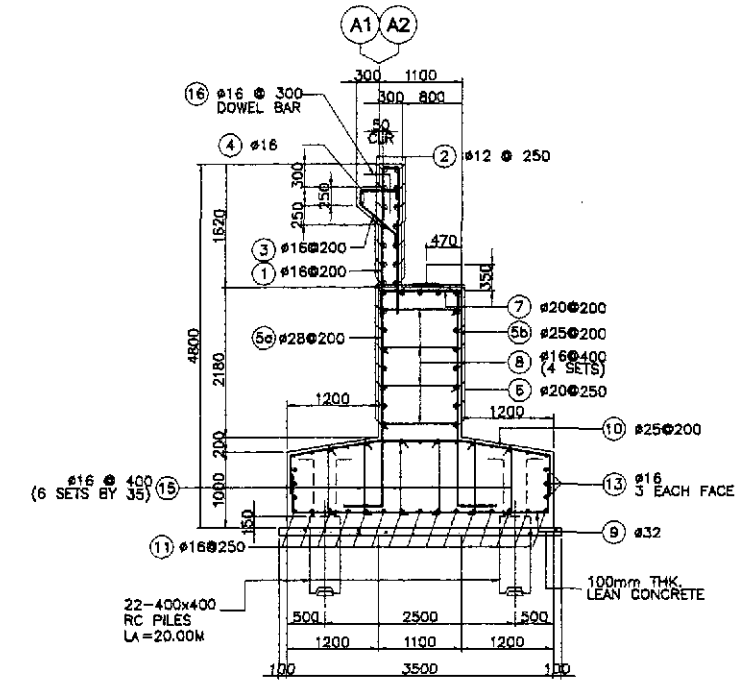
SCHEDULE OF REINFORCEMENT FOR SIX GIRDERS																
LOCATION	CONC. VOL. (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT				Lc (mm)	LENGTH EACH BAR (mm)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	TOTAL WEIGHT (kg)	REBAR RATIO (kg/m ³)
							a	b	c	d						
GIRDER (W/ FILLET)	138.10	G1	28	12	AS SHOWN	(B)	1300	53080	1300	-	-	55680	668.16	4.833	3230	282.09
		G2	28	12	AS SHOWN	(A)	4000	-	-	-	2000	4000	48.00	4.833	232	
		G3	28	24	AS SHOWN	(A)	10000	-	-	-	5000	10000	240.00	4.833	1160	
		G4	28	24	AS SHOWN	(A)	8000	-	-	-	4500	9000	216.00	4.833	1044	
		G5	28	24	AS SHOWN	(A)	8000	-	-	-	4000	8000	192.00	4.833	928	
		G6	28	24	AS SHOWN	(A)	7000	-	-	-	3500	7000	168.00	4.833	812	
		G7	28	24	AS SHOWN	(A)	6000	-	-	-	3000	6000	144.00	4.833	696	
		G8	28	14	AS SHOWN	(B)	5000	-	-	-	2500	5000	70.00	4.833	339	
		G9	36	12	AS SHOWN	(B)	1300	53080	1300	-	-	55680	668.16	7.991	5340	
		G10	36	12	AS SHOWN	(B)	1300	53080	1300	-	-	55680	668.16	7.991	5340	
		G11	36	24	AS SHOWN	(A)	9750	-	-	-	3000	9750	234.00	7.991	1870	
		G12	36	12	AS SHOWN	(A)	13000	-	-	-	4000	13000	156.00	7.991	1247	
		G13	32	12	AS SHOWN	(A)	8000	-	-	-	6000	9000	108.00	6.313	662	
		G14	12	2100	AS SHOWN	(C)	320	1370	150	-	-	3680	7728.00	0.888	6863	
		G15	20	60	AS SHOWN	(A)	53080	-	-	-	-	53080	3184.80	2.466	7854	
		G16	20	24	AS SHOWN	(A)	22250	-	-	-	-	22250	534.00	2.466	1317	
TOTAL	138.10															

GRADE 40 TOTAL = 6,864 kgs.
GRADE 60 TOTAL = 32,092 kgs.

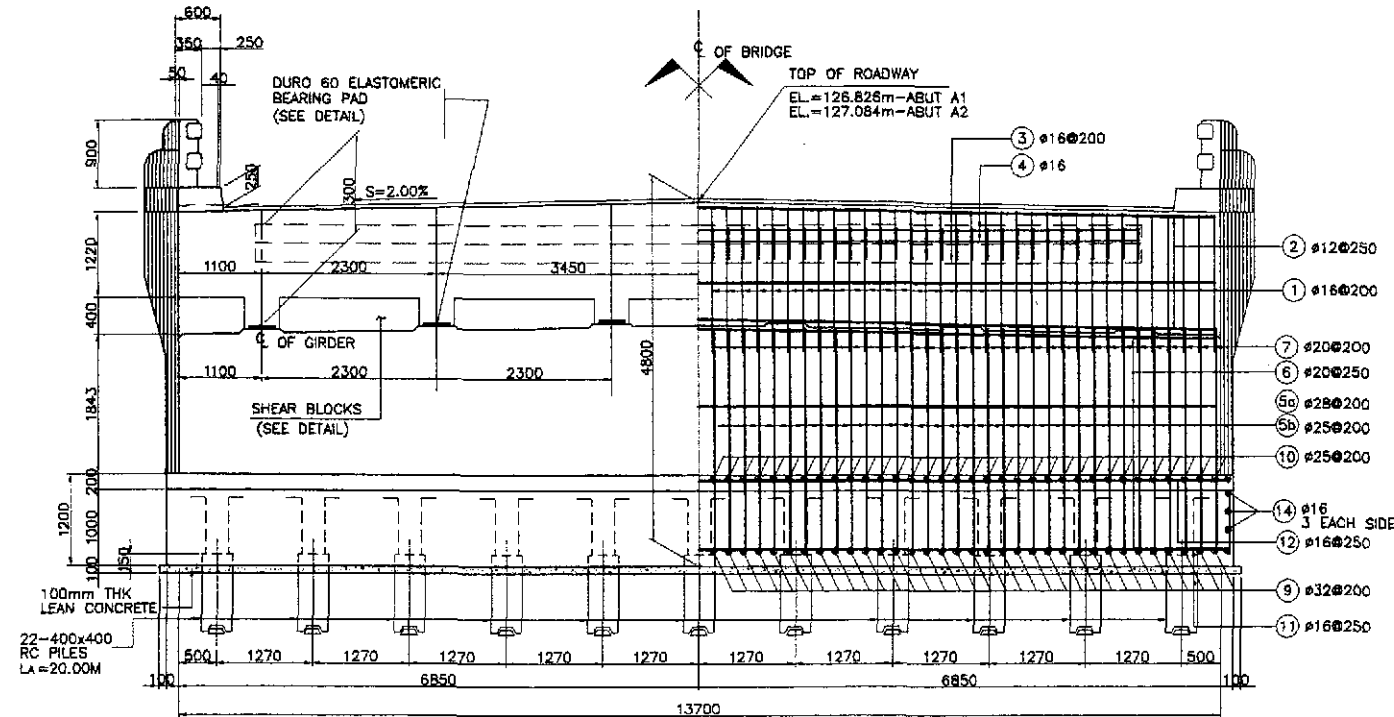
	DESIGNED: 9/2/02 CHECKED: 9/4/02 SUBMITTED: 9/6/02	SIGNATURE: [Signature] E. N. SALLAN TEAM LEADER	SUBMITTED BY: [Signature] DANILLO C. TRAJANO Project Director	REVIEWED BY: [Signature] ADRIANO M. DOROY Chief, Bridge Division	RECOMMENDED BY: [Signature] GILBERTO S. REYES Director IV (GIC)	RECOMMENDED BY: [Signature] MANUEL M. BONDAN Undersecretary	APPROVED BY: [Signature] SIMEON A. DATUMANONG Secretary	PROJECT AND LOCATION: THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Planidel, Cabanatuan and San Jose Bypasses) SAN JOSE BYPASS	SCALE: AS SHOWN FULL SIZE A1	SHEET CONTENTS: BRIDGE NO. 4 GIRDER ELEVATION, REBAR BOTTOM LAYOUT AND SECTIONS (INITIAL STAGE)	SHEET NO.: B4-05
	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS							OFFICE OF THE SECRETARY	BUREAU OF DESIGN	DIVISION OF BRIDGE	
	JICA JAPAN INTERNATIONAL COOPERATION AGENCY							OFFICE OF THE SECRETARY (See cover sheet for Signature/Approval)	BUREAU OF DESIGN (See cover sheet for Signature/Approval)	DIVISION OF BRIDGE (See cover sheet for Signature/Approval)	



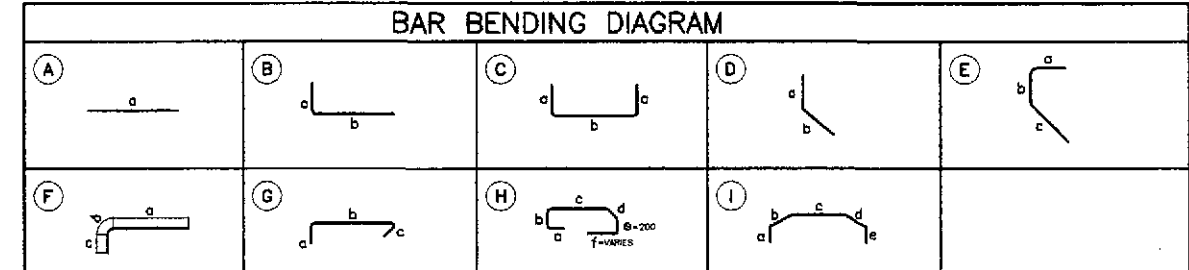
1 PLAN
SCALE 1:50



3 SECTION
SCALE 1:50



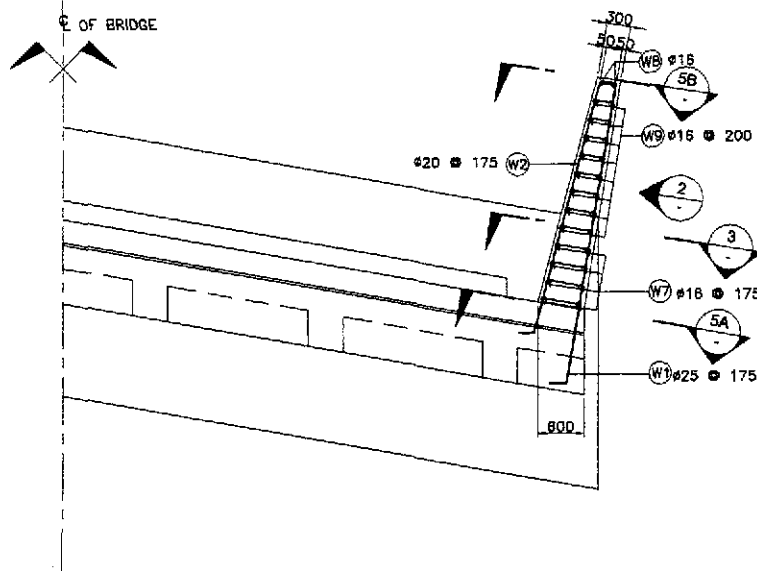
2 ELEVATION
SCALE 1:50



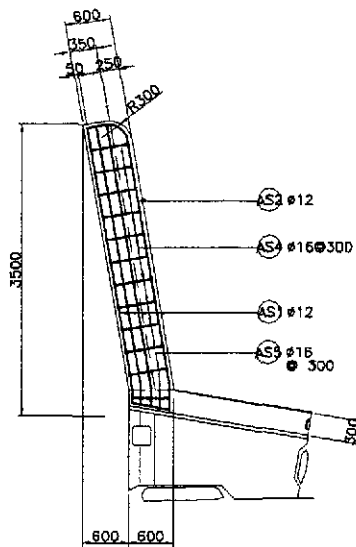
SCHEDULE OF REINFORCEMENT PER ABUTMENT																		
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm)					OUT TO OUT	LENGTH EA. BAR (mm)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	WEIGHT (kg)	REBAR RATIO (kg/m ³)	
							a	b	c	d	e	f						
BACKWALL	8.02	1	16	69	200	C	1810	200	1810					3820	263.58	1.579	417	
		2	12	18	250	A	13600							13600	244.80	0.888	218	
		3	16	64	200	E	450	150	700					1300	83.20	1.579	132	
		4	16	2	AS SHOWN	A	12400							12400	24.80	1.579	40	
MAINWALL	32.78	5a	28	69	200	B	500	3050					3550	244.95	4.833	1184		
		5b	25	69	200	B	500	3050					3550	244.85	3.854	945		
		6	20	21	250	A	13600							13600	285.60	2.466	705	
		7	20	69	200	C	255	1000						1510	104.19	2.466	257	
		8	16	140	400	G	250	1000 (AVE.)	170					1420	198.80	1.579	314	
		9	32	70	200	C	575	3380						4530	317.10	6.313	2002	
FOOTING	55.84	10	25	70	200	I	575	1200	1000	1200	575		4550	318.50	3.854	1228		
		11	16	14	250	C	575	14000					15150	212.10	1.579	335		
		12	16	14	250	C	575	14000					15150	212.10	1.579	335		
		13	18	6	AS SHOWN	A	14000						14000	84.00	1.579	133		
		14	16	6	AS SHOWN	A	3350						3350	20.10	1.579	32		
DOWEL		15	16	210	AS SHOWN	G	250	885 (AVE.)	170				1405	295.05	1.579	466		
TOTAL	96.64																	

GRADE 40 TOTAL = 2,489 kgs.
GRADE 60 TOTAL = 6,321 kgs.

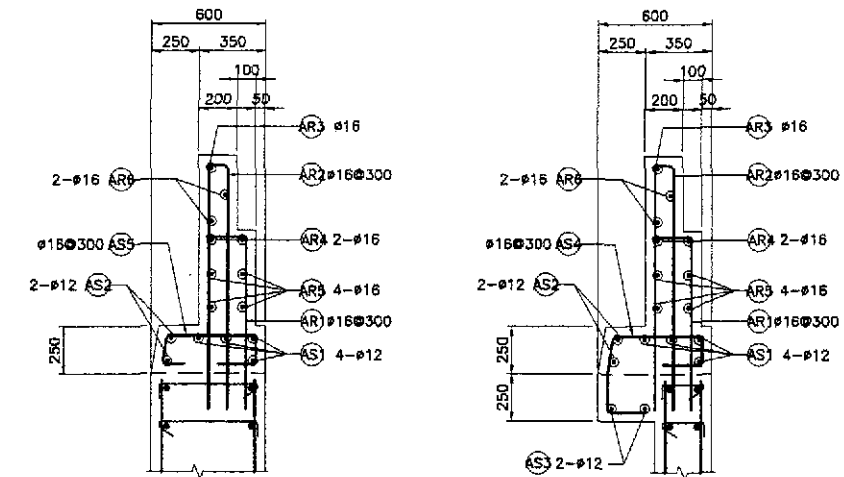
	DATE: 9/2/02 DESIGNED: A.P. GONZALES CHECKED: 9/10/02 SUBMITTED: 9/10/02	SIGNATURE: [Signature] TEAM LEADER		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN	PROJECT AND LOCATION: THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) SAN JOSE BYPASS	SCALE: AS SHOWN FULL SIZE A1	SHEET CONTENTS: BRIDGE NO. 4 ABUTMENT MAINWALL REINFORCEMENT DETAIL (INITIAL STAGE)	SHEET NO.: B4-06
	Submitted By: DANILLO C. TRAJANO, Project Director Reviewed By: ADRIANO M. DORGY, Chief, Bridge Division Recommended By: GILBERTO S. REYES, Director IV (CIC) Recommended By: MANUEL M. BONOAN, Undersecretary Approved By: SIMON A. DATUMANONG, Secretary				OFFICE OF THE SECRETARY (See cover sheet for Signature/Approval)			
	JICA JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL YACHIO ENGINEERING CO., LTD.				PROJECT AND LOCATION: THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)			



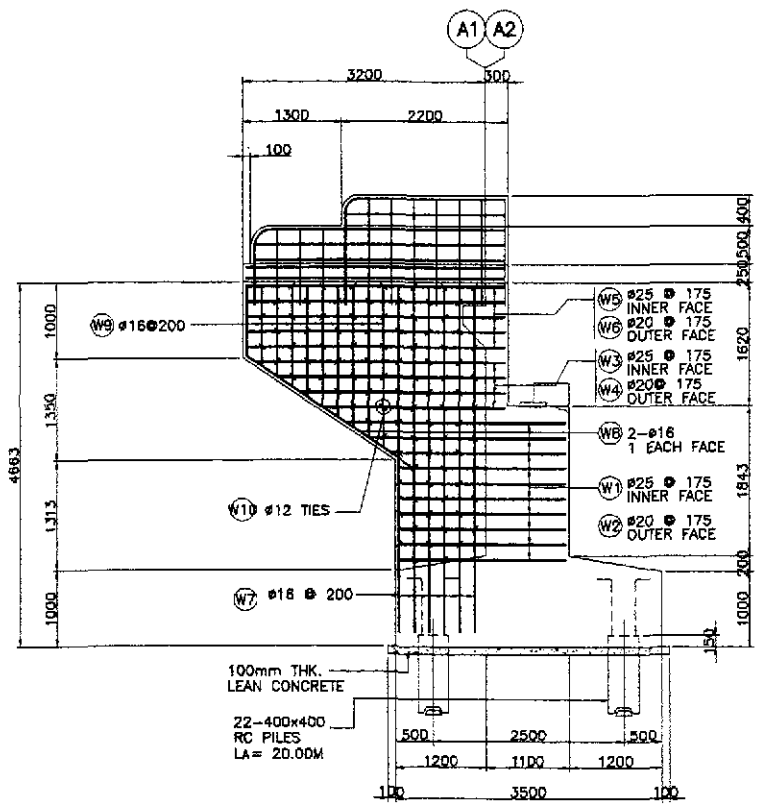
1 WINGWALL PLAN
SCALE 1:50



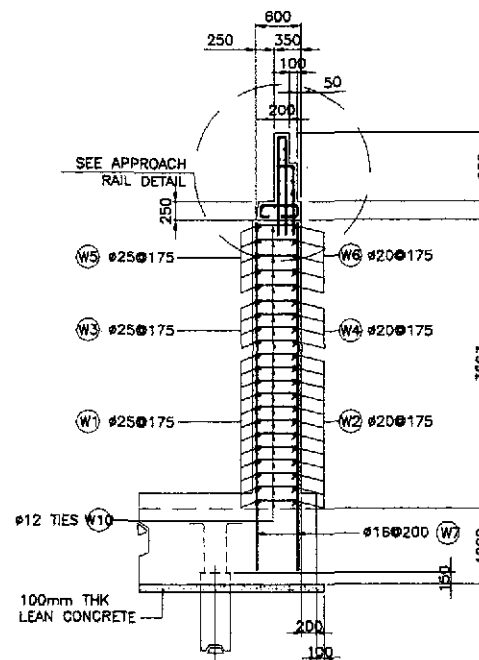
4 SIDEWALK DETAIL
SCALE 1:50



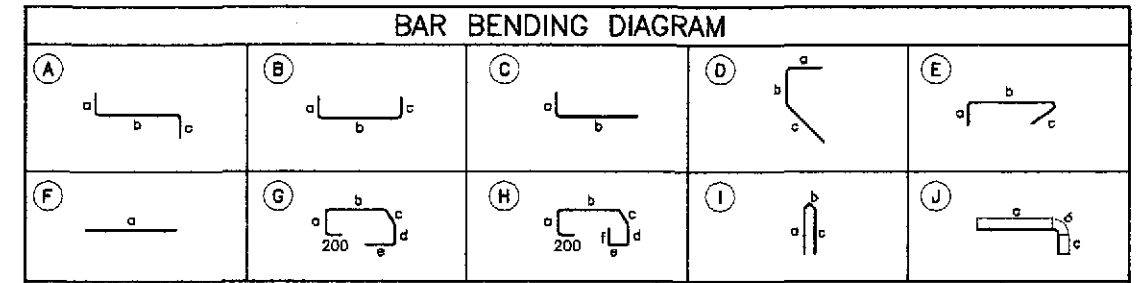
5A SECTION SCALE 1:20
5B SECTION SCALE 1:20
5 APPROACH RAIL DETAILS SCALE 1:20



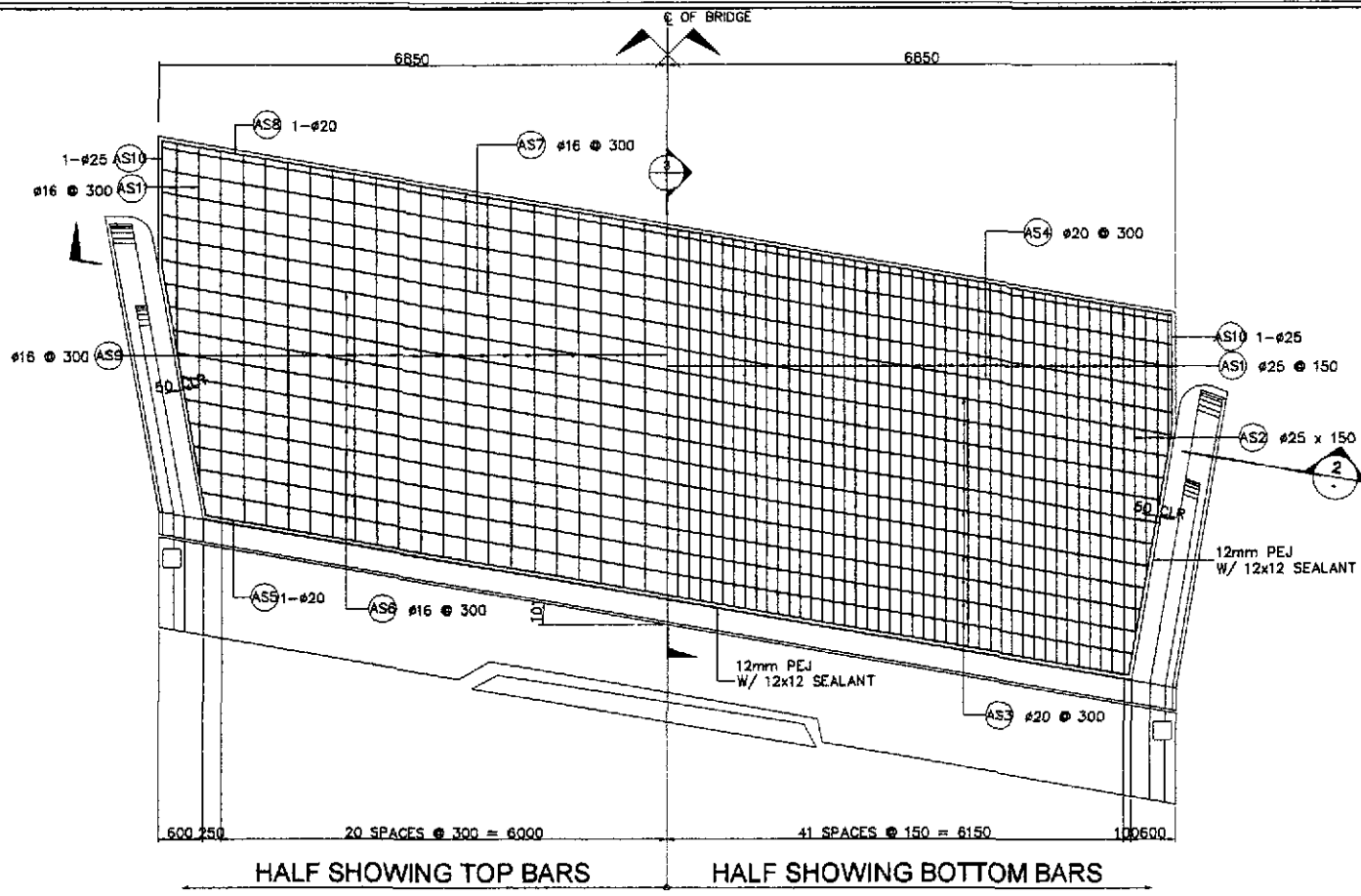
2 WINGWALL ELEVATION
SCALE 1:50



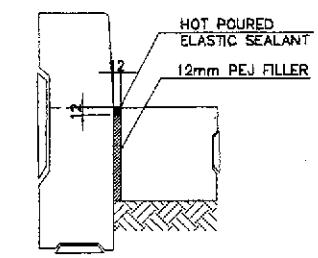
3 SECTION
SCALE 1:50



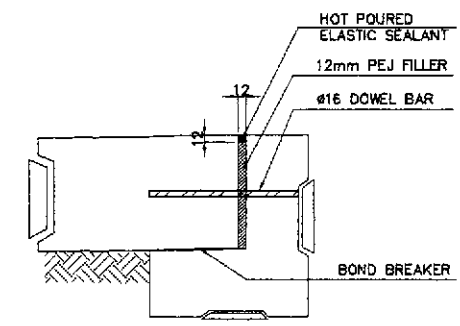
SCHEDULE OF REINFORCEMENT PER ABUTMENT																	
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT					LENGTH EA. BAR (mm)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	WEIGHT (kg)	REBAR RATIO (kg/m ³)	
							a	b	c	d	e						f
WINGWALL	7.04	W1	25	24	175	C	400	2300	-	-	-	2700	54.80	3.854	250	210.37	
		W2	20	24	175	C	400	2300	-	-	-	2700	54.80	2.466	160		
		W3	25	8	175	C	300	2615	-	-	-	2915	23.32	3.854	90		
		W4	20	8	175	C	300	2615	-	-	-	2915	23.32	2.466	58		
		W5	25	12	175	C	300	3400	-	-	-	3700	44.40	3.854	172		
		W6	20	12	175	C	300	3400	-	-	-	3700	44.40	2.466	110		
		W7	16	28	200	C	250	4550	-	-	-	4800	134.40	1.579	213		
		W8	16	4	AS SHOWN	D	950	2650	2650	-	-	-	3500	14.40	1.579		23
		W9	18	36	200	B	1500	250	-	-	-	-	3250	117.00	1.579		185
		W10	12	340	AS SHOWN	E	170	450	100	-	-	-	720	244.00	0.888		218
												GRADE 60 TOTAL =	841				
												GRADE 40 TOTAL =	640				
APPROACH SIDEWALK	1.54	AS1	12	8	AS SHOWN	F	3500	-	-	-	-	3500	28.00	0.888	25	75.97	
		AS2	12	4	AS SHOWN	F	3500	-	-	-	-	3500	14.00	0.888	13		
		AS3	12	4	AS SHOWN	F	3500	-	-	-	-	3500	14.00	0.888	13		
		AS4	18	24	300	H	170	460	200	170	200	-	1400	33.80	1.579		54
		AS5	18	6	300	G	170	460	200	200	-	-	1230	7.38	1.579		12
												GRADE 40 TOTAL =	117				
APPROACH RAILING	1.41	AR1	16	10	300	C	200	900	-	-	-	1100	11.00	1.579	18	123.40	
		AR2	16	14	300	I	1300	120	1300	-	-	-	2720	38.09	1.579		61
		AR3	18	2	AS SHOWN	J	2100	236	900	-	-	-	3236	6.47	1.579		11
		AR4	16	2	AS SHOWN	J	3300	236	1300	-	-	-	4836	9.67	1.579		16
		AR5	16	10	AS SHOWN	F	3400	-	-	-	-	-	3400	34.00	1.579		54
		AR6	16	4	AS SHOWN	F	2100	-	-	-	-	-	2100	8.40	1.579		14
												GRADE 40 TOTAL =	174				
TOTAL	9.99													GRADE 60 TOTAL =	840 kgs.		
												GRADE 40 TOTAL =	929 kgs.				



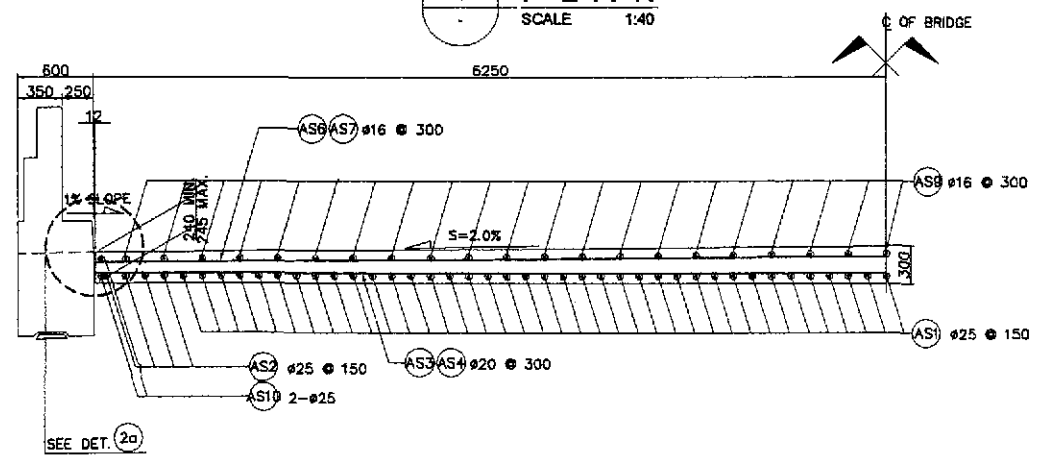
1 PLAN
SCALE 1:40



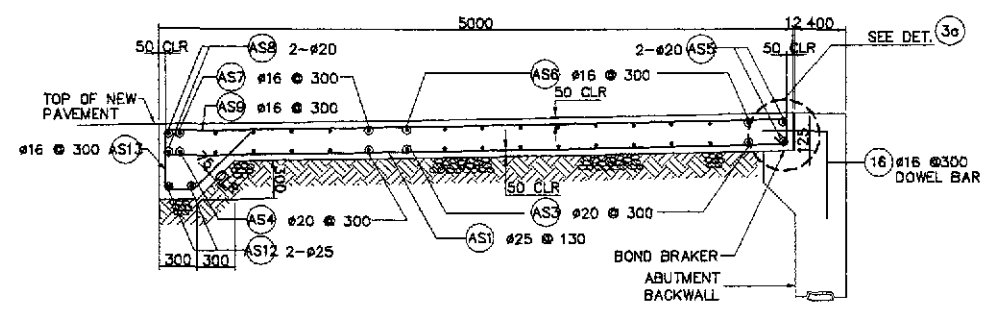
2a DETAIL
SCALE 1:10



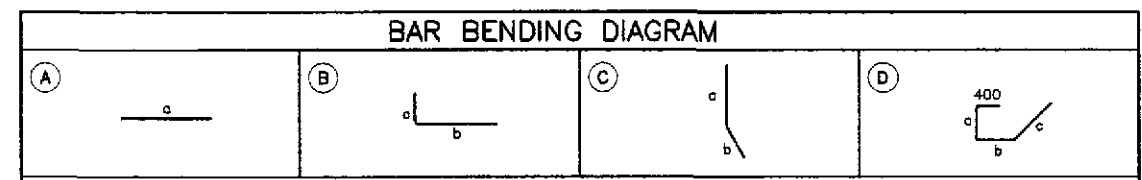
3a DETAIL
SCALE 1:10



2 SECTION
SCALE 1:20



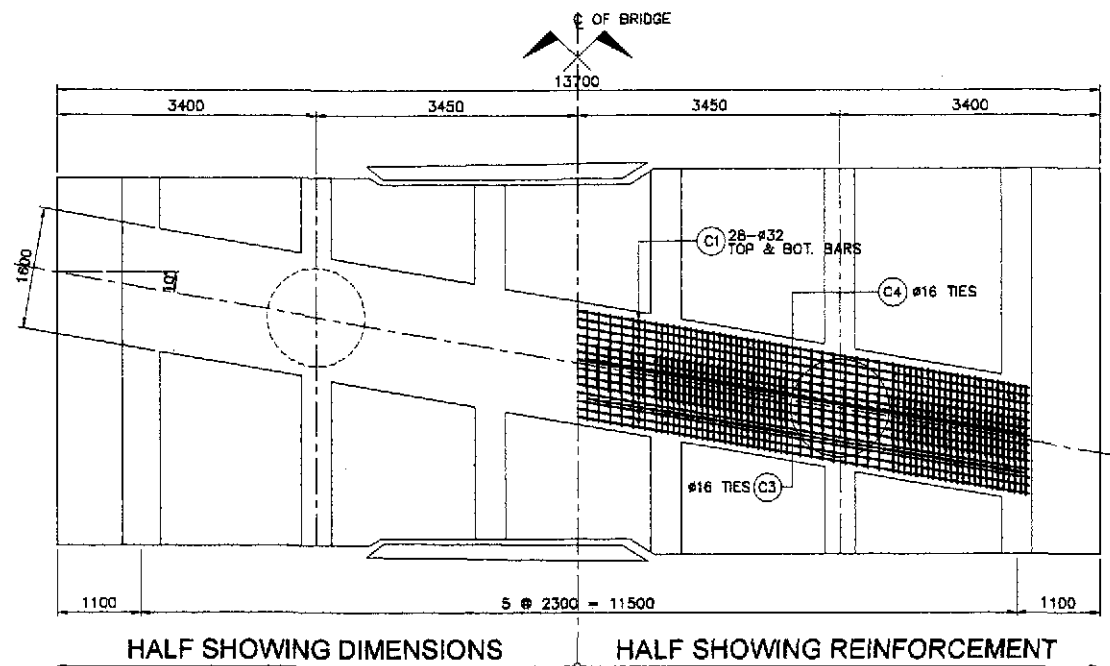
3 SECTION
SCALE 1:20



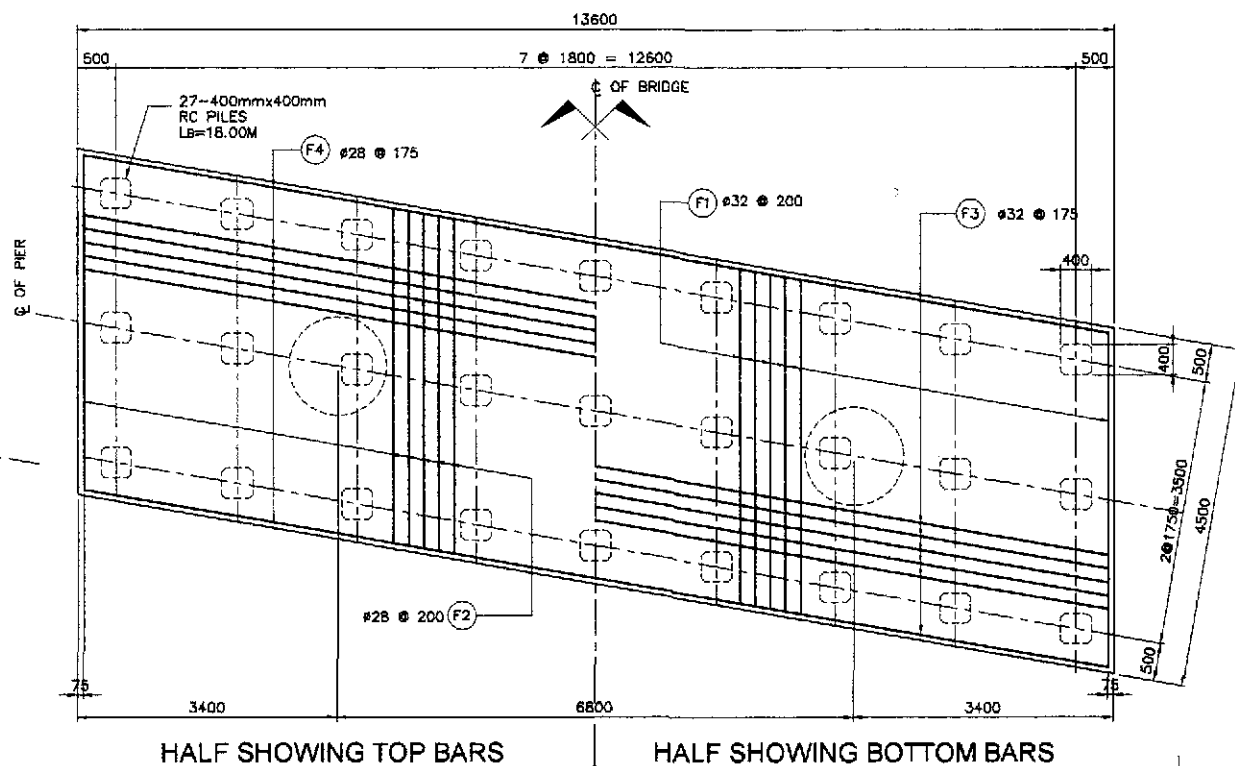
SCHEDULE OF REINFORCEMENT PER APPROACH SLAB																	
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT				LENGTH EA. BAR (mm)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	WEIGHT (kg)	REBAR RATIO (kg/cu.m)		
							a	b	c	d						e	f
APPROACH SLAB	21.82	AS5	25	81	150	(B)	4900	200	-	-	-	5100	413.10	3.854	1593	153.44	
		AS7	25	8	150	(B)	3700	200	-	-	-	3900	31.20	3.854	121		
		AS3	20	12	300	(A)	13100	-	-	-	-	-	13100	157.20	2.466		368
		AS4	20	6	300	(A)	13600	-	-	-	-	-	13600	81.60	2.466		202
		AS3	20	1	AS SHOWN	(A)	12400	-	-	-	-	-	12400	12.40	2.466		31
		AS8	16	11	300	(A)	13000	-	-	-	-	-	13100	144.10	1.579		228
		AS7	16	5	300	(A)	13600	-	-	-	-	-	13600	58.00	1.579		108
		AS9	20	1	AS SHOWN	(A)	13800	-	-	-	-	-	13600	13.60	2.466		34
		AS9	16	41	300	(B)	4900	200	-	-	-	-	5100	209.10	1.579		331
		AS10	25	4	AS SHOWN	(C)	1800	3200	-	-	-	-	5000	20.00	3.854		78
		AS11	16	4	300	(D)	500	200	700	-	-	-	1800	7.20	1.579		12
		AS12	25	2	AS SHOWN	(A)	13600	-	-	-	-	-	13600	27.20	3.854		105
		AS13	16	41	300	(D)	500	200	700	-	-	-	1800	73.80	1.579		117
TOTAL	21.82																

GRADE 40 TOTAL = 796 kgs.
GRADE 60 TOTAL = 2,552 kgs.

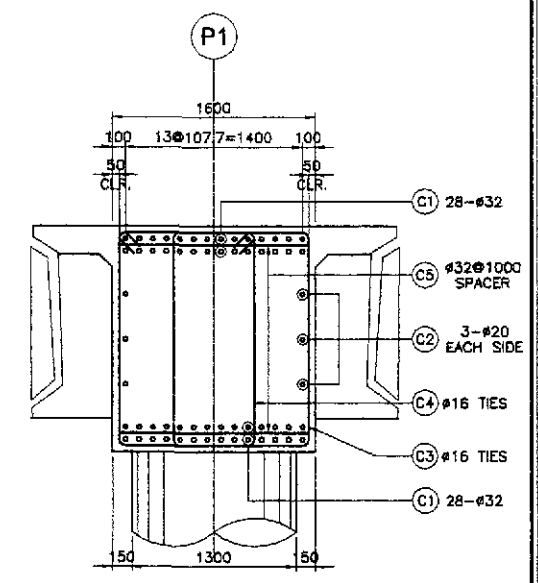
	DESIGNED	DATE	SIGNATURE		PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	9/2/02	E. N. SALLAN		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	AS SHOWN	BRIDGE NO. 4 APPROACH SLAB PLAN, SECTION AND DETAILS (INITIAL STAGE)	B4-08
	SUBMITTED	9/4/02	TEAM LEADER		DANILO C. TRAJANO Project Director	SAN JOSE BYPASS	FULL SIZE A1	



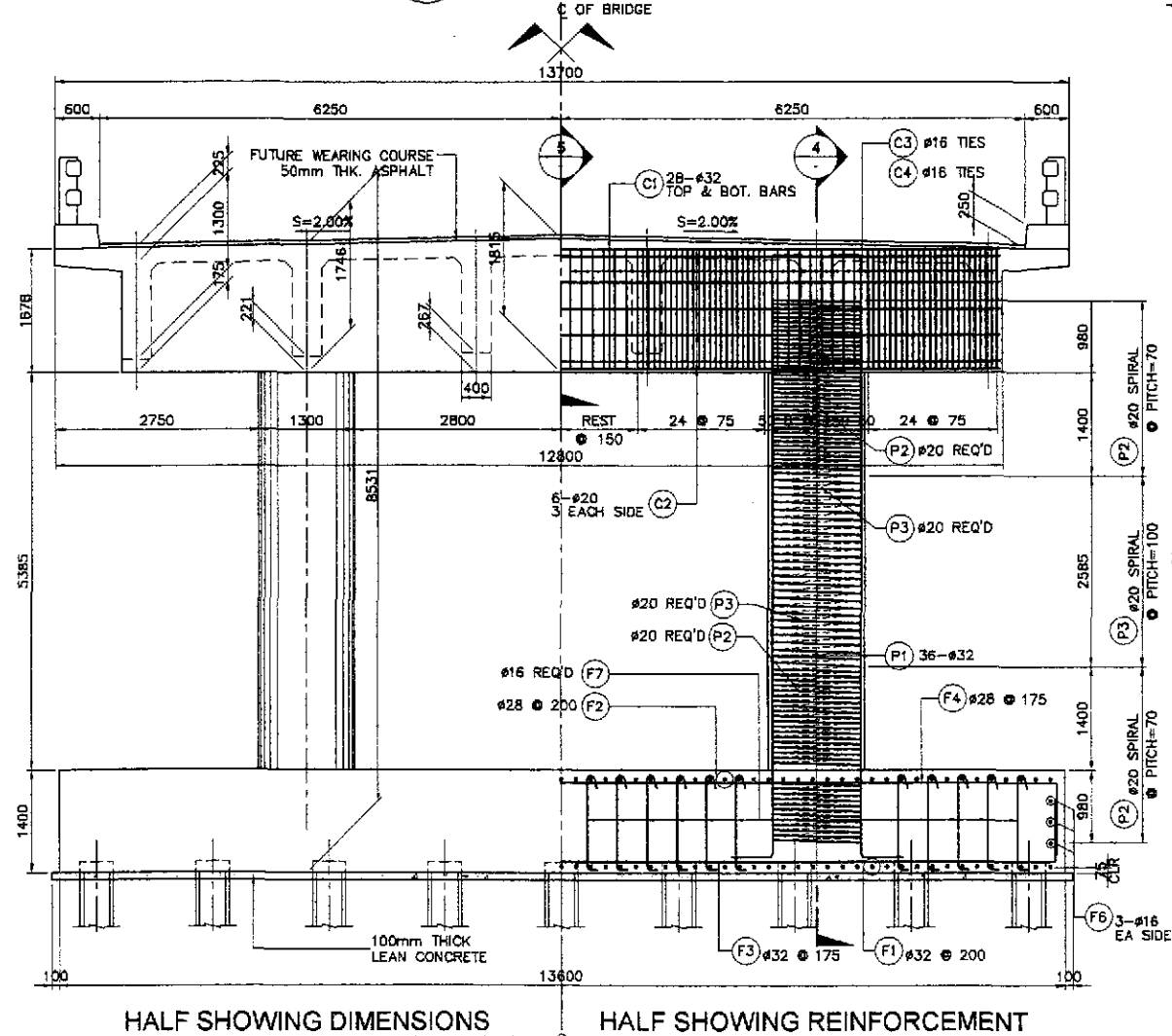
1 COPING PLAN
SCALE 1:50



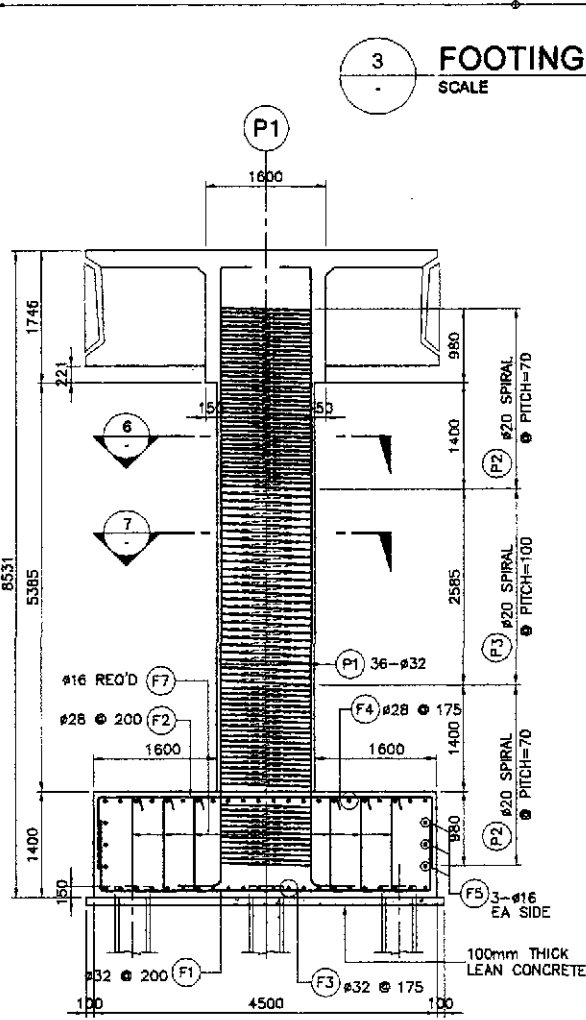
3 FOOTING PLAN
SCALE 1:50



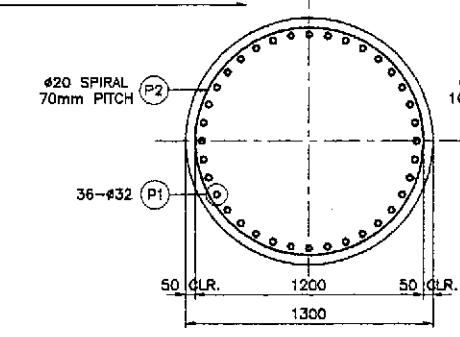
5 SECTION
SCALE 1:30



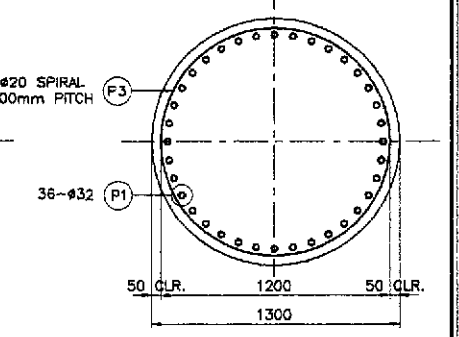
2 SECTIONAL ELEVATION
SCALE 1:50



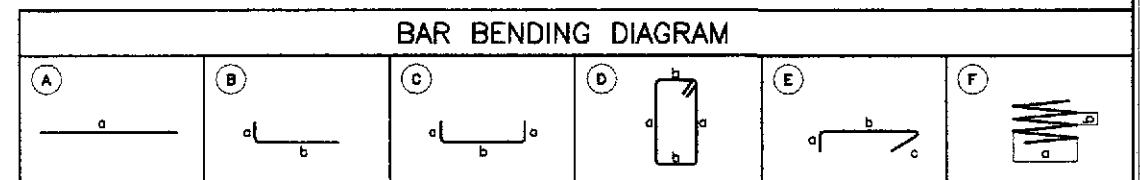
4 SECTION
SCALE 1:50



6 SECTION
SCALE 1:20



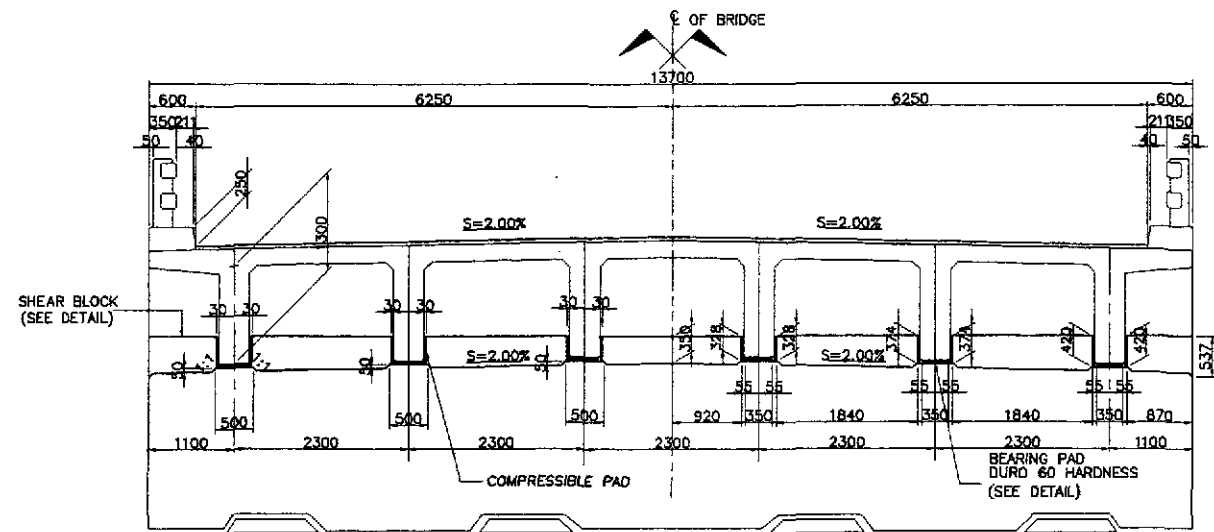
7 SECTION
SCALE 1:20



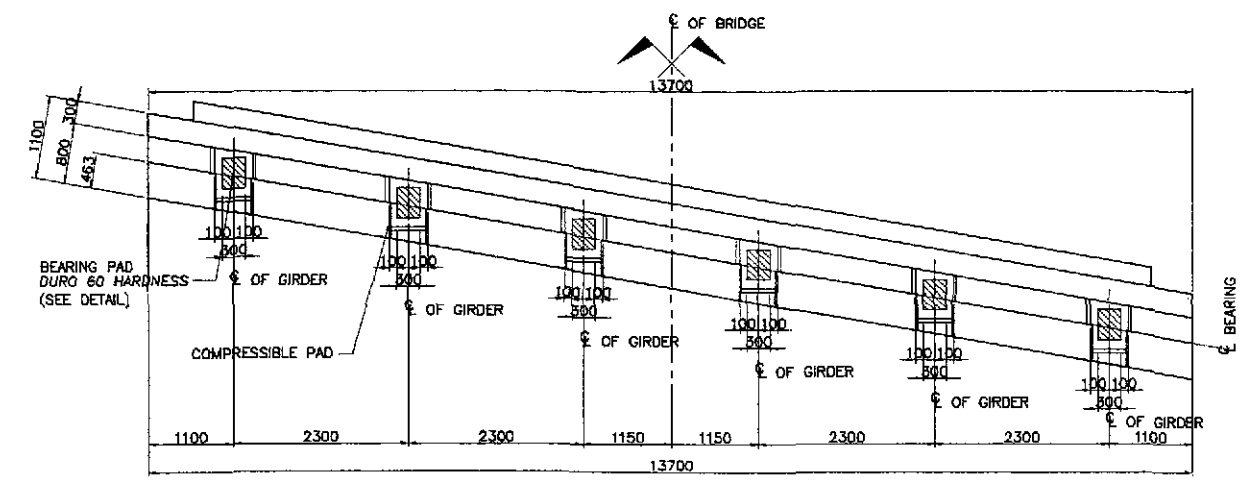
SCHEDULE OF REINFORCEMENT FOR SIX GIRDS															
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT				LENGTH EACH BAR (mm)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	TOTAL WEIGHT (kg)	REBAR RATIO (kg/m ³)
							a	b	c	d					
COPING	33.24	C1	32	56	AS SHOWN	(C)	1350	11800	-	-	14500	812.00	6.313	5127	232.44
		C2	20	6	AS SHOWN	(A)	11800	-	-	-	11800	70.80	2.466	175	
		C3	16	126	AS SHOWN	(D)	1500	1670	-	-	6340	798.84	1.579	1262	
		C4	16	126	AS SHOWN	(D)	580	1670	-	-	4500	567.00	1.579	896	
		C5	32	28	AS SHOWN	(A)	1500	-	-	-	1500	42.00	6.313	266	
COLUMN	14.30	P1	32	72	AS SHOWN	(B)	400	7800	-	-	8200	580.40	6.313	3728	383.00
		P2	20	136	70	(F)	1200	70	-	-	3770	512.71	2.466	1265	
		P3	20	52	100	(F)	1200	100	-	-	3770	196.04	2.466	464	
FOOTING	85.68	F1	32	68	200	(C)	1125	4350	-	-	6600	448.80	6.313	2834	126.49
		F2	28	68	200	(C)	1125	4350	-	-	6600	448.80	4.833	2170	
		F3	32	26	175	(C)	1125	13450	-	-	15700	408.20	6.313	2577	
		F4	28	26	175	(C)	1125	13450	-	-	15700	408.20	4.833	1973	
		F5	16	6	AS SHOWN	(A)	13450	-	-	-	13450	80.70	1.579	128	
		F6	16	6	AS SHOWN	(A)	4350	-	-	-	4350	26.10	1.579	42	
		F7	16	243	AS SHOWN	(E)	200	1100	150	-	2900	704.70	1.579	1113	
TOTAL	133.22														

GRADE 40 TOTAL = 3,441 kgs.
GRADE 60 TOTAL = 20,599 kgs.

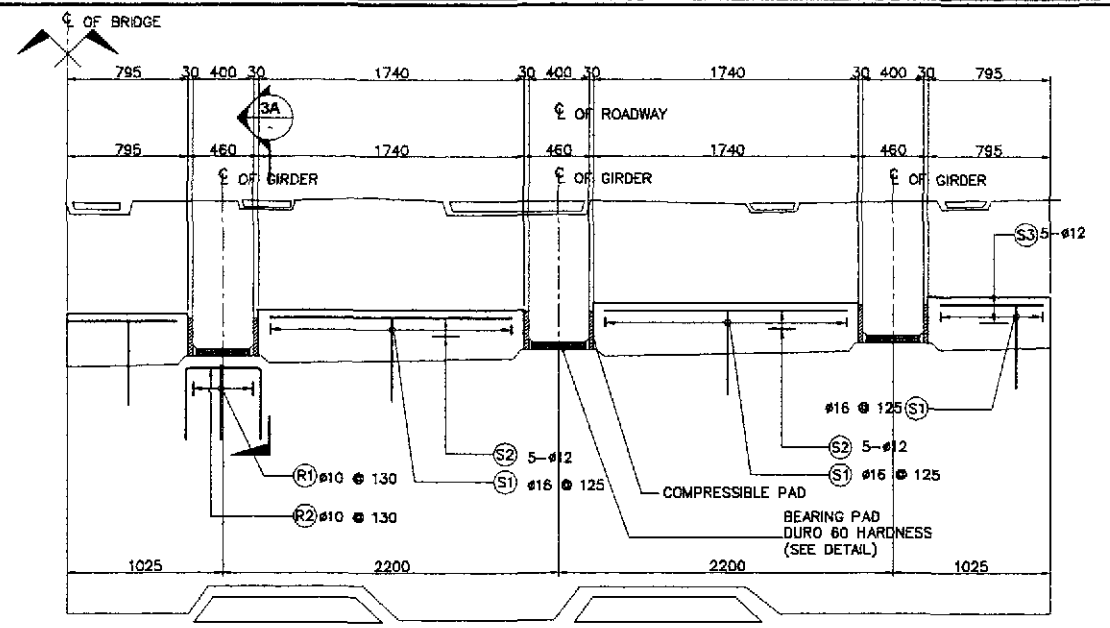
	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS					PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	9/2/02	P. GONZALES		BUREAU OF DESIGN					THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	AS SHOWN	BRIDGE NO. 4 PIER P1 & PIER P2 BAR ARRANGEMENT DETAILS (INITIAL STAGE)	B4-09
	SUBMITTED	9/6/02	M. KASARI		Submitted By:	Reviewed By:	Recommended By:	Approved By:	SAN JOSE BYPASS	FULL SIZE A1			



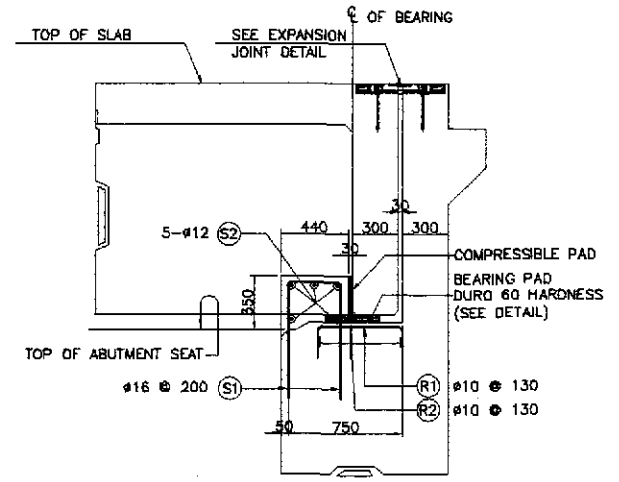
1 SECTION AT ABUTMENT SEAT
SCALE 1:50



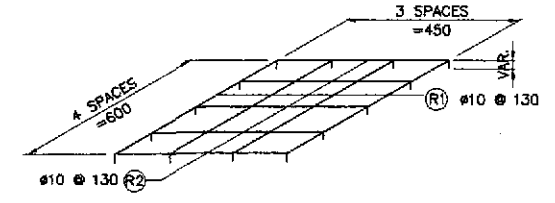
2 PLAN AT ABUTMENT SEAT
SCALE 1:50



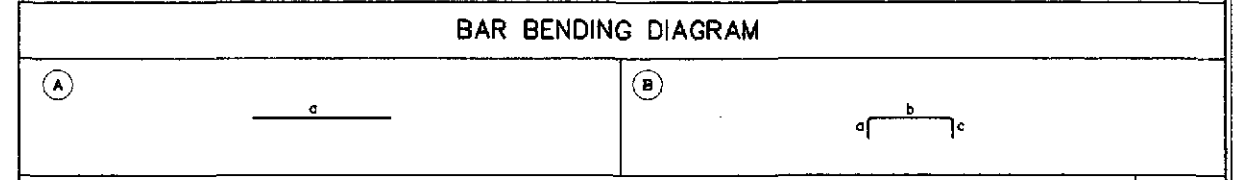
3 SHEAR BLOCK DETAIL
SCALE 1:25



3A SECTION
SCALE 1:25



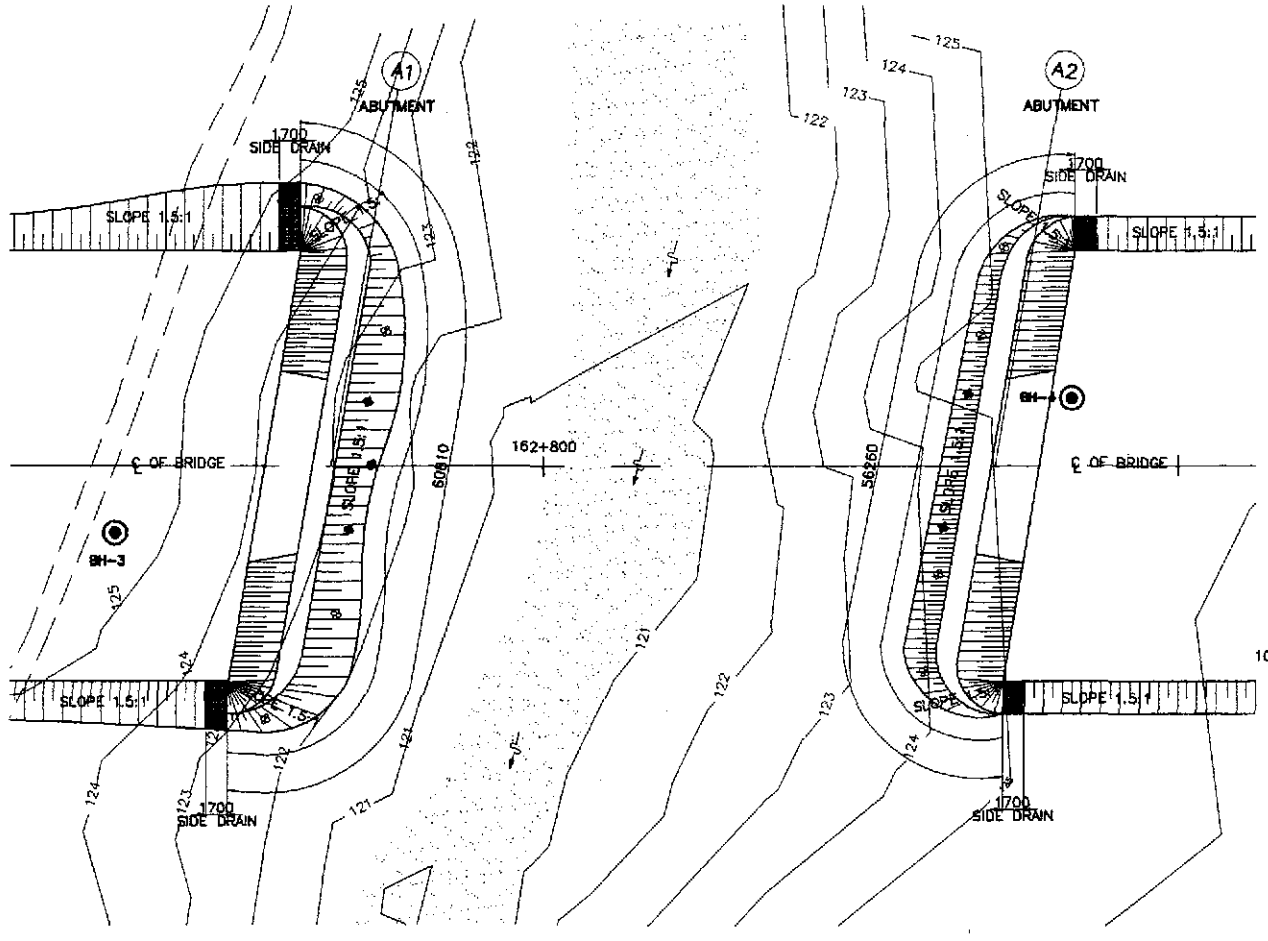
5 RISER REINFORCEMENT
NOT TO SCALE



SCHEDULE OF REINFORCEMENT																
LOCATION	CONCRETE VOLUME (m³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSION(mm) OUT TO OUT					LENGTH EA. BAR (mm)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	WEIGHT (kg)	REBAR RATIO (kg/m³)
							a	b	c	d	e					
SHEAR KEY & RISER	0.83	S1	16	96	125	(C)	560	390	560			1510	144.96	1.579	229	198.80
		S2	12	25	AS SHOWN	(A)	1760					1760	44.00	0.888	40	
		S3	12	10	AS SHOWN	(A)	790					790	7.90	0.888	8	
		R1	10	24	130	(C)	500	450	500			1450	34.80	0.616	22	
		R2	10	30	130	(C)	500	600	500			1600	48.00	0.616	30	
TOTAL	0.83															

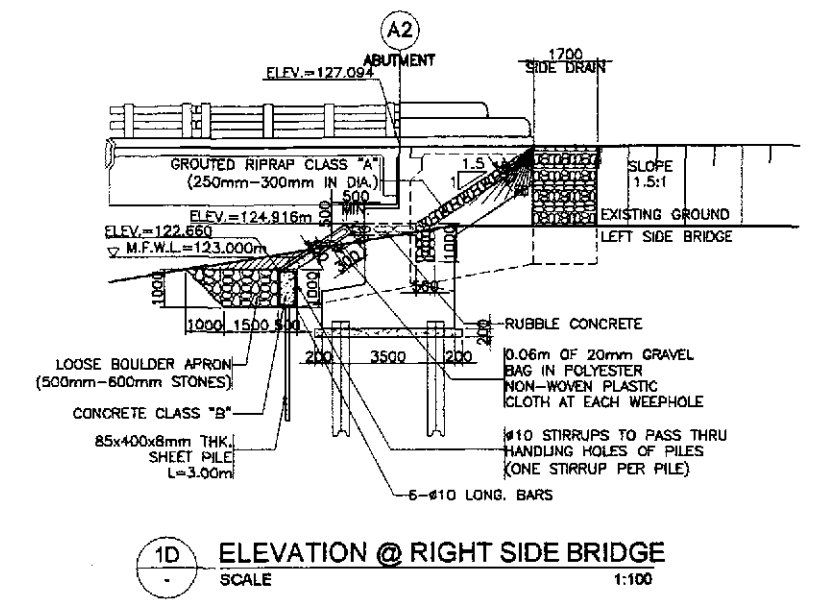
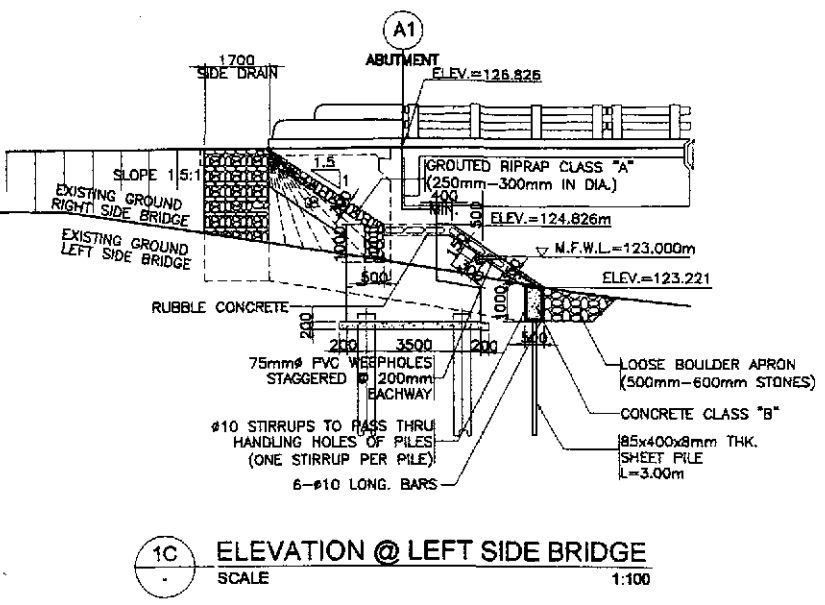
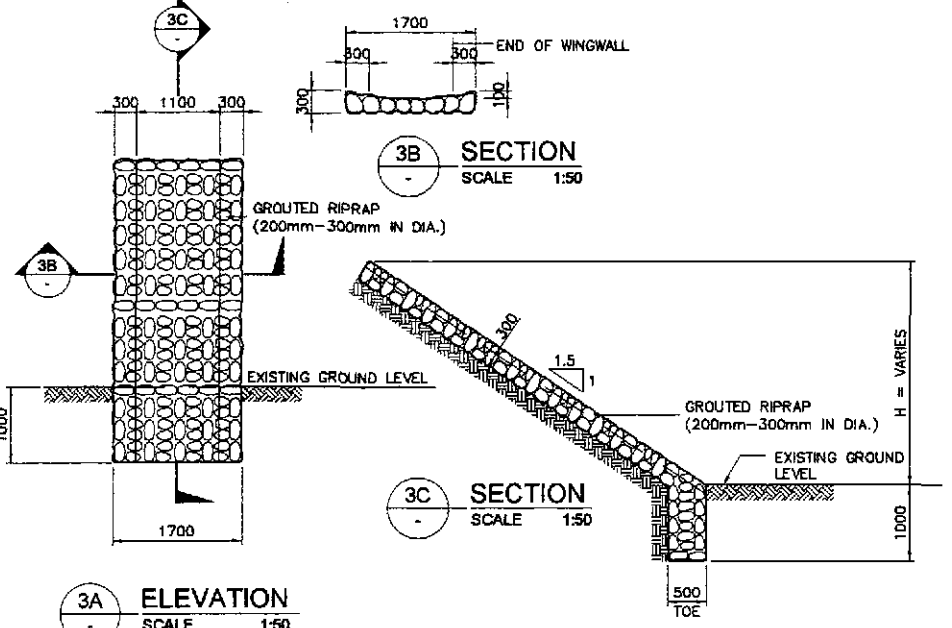
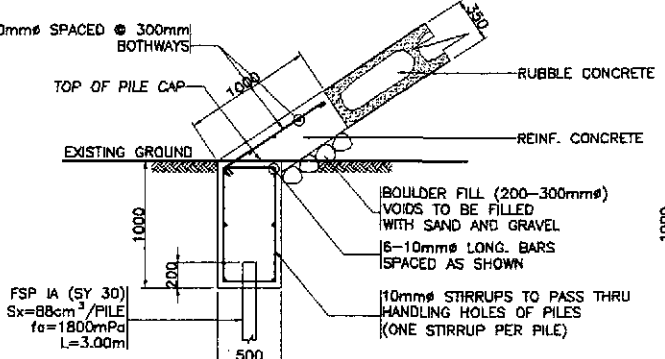
GRADE 40 TOTAL = 329 Kgs
THE REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :	
	DESIGNED	7/2/02		E. N. SALLAN	BUREAU OF DESIGN			THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	AS SHOWN	BRIDGE NO. 4 SHEAR KEY AND RISER DETAILS AT ABUTMENT (INITIAL STAGE)	B4-10
	CHECKED	9/10/02		M. KAWAYASHI	OFFICE OF THE SECRETARY			SAN JOSE BYPASS	FULL SIZE A1		
	SUBMITTED	9/16/02		M. KAWAYASHI	BUREAU OF DESIGN						
Submitted By:		Reviewed By:		Recommended By:		Approved By:					
DANILLO C. TRAJANO Project Director		ADRIANO M. DORCOY Chief, Bridges Division		GILBERTO S. REYES Director IV (C/C)		MANUEL M. BONDAN Undersecretary		SIMEON A. DATUMANONG Secretary			



- NOTES FOR RUBBLE CONCRETE:**
- RUBBLE CONCRETE SHALL BE CLASS "B" (1:2.5:5) MIX CONCRETE WITH BOULDERS EMBEDDED THEREIN. BOULDERS 250-300mm ϕ SHALL BE CAREFULLY HAND-LAID WITHIN THE CONCRETE SECTION. THE BOULDERS SHALL BE THOROUGHLY INCORPORATED INTO THE CONCRETE MASS WITH A COVER OF 30mm AND NOT LESS THAN 30mm APART. THE RUBBLE CONCRETE SHALL BE COMPOSED OF 40% CLASS "B" CONCRETE 60% BOULDERS.
 - FOR THE LOOSE BOULDER APRON, BOULDERS 500-600mm ϕ SHALL BE HAND-LAID, CLOSE TOGETHER AND SHALL BE FIRMLY BEDDED. ALL VOIDS BETWEEN BOULDERS SHALL BE FILLED WITH GRAVEL AND THE JOINTS FILLED WITH TIGHTLY DRIVEN SPALLS.
 - CURTAIN WALLS SHALL BE USED AT BOTH ENDS OF THE LOOSE BOULDER APRON BANK PROTECTION WORKS. BOULDERS SHALL BE CAREFULLY HAND-LAID AND EMBEDDED INTO THE CONCRETE SECTION.
 - NO CONCRETING UNDER WATER SHALL BE PERMITTED.
 - PROVIDE 1.0 m. BERM WHEN HEIGHT (H) IS > 4.0 m.

- GENERAL NOTES:**
- GROUTED RIPRAP (250mm-300mm DIA.) SHALL BE USED FOR THE FACING AND SHALL BE CAREFULLY HANDLAID WITH THE LONGEST DIMENSIONS PERPENDICULAR TO THE SLOPE AND FIRMLY BEDDED INTO THE SLOPE AND ADJACENT TO THE ADJOINING BOULDERS SPACED BETWEEN THE BOULDERS. THE SPACE BETWEEN THE BOULDERS SHALL BE COMPLETELY FILLED WITH MORTAR. THE OUTSIDE SURFACE OF THE BOULDERS SHALL BE LEFT EXPOSED AND THE SURFACE OF THE MORTAR SHALL BE SWEEPED WITH A STIFF BROOM.
 - POLYESTER OR POLYPROPYLENE - 100%
 - MECHANICALLY BONDED/HEAT BONDED
 - NON-WOVEN
 - EFFECTIVE OPENING SIZE - 110 MICRONS (MAX.)
 - THICKNESS UNDER PRESSURE - 0.80mm (MIN.)
 - WEIGHT - 200g/sq. m. (MIN.)
 - CBR PUNCTURE STRENGTH - 400N (MIN.)
 - MULTI-DIRECTIONAL TENSILE STRENGTH - 13kN/m
 - GRAVEL FILTER SHALL BE COARSE AGGREGATES MATERIALS WHICH SATISFY THE REQUIREMENTS FOR ITEM 405, STRUCTURAL CONCRETE, GRADING B OF TABLE 405.1 AS REVISED.
 - HAND-LAID ROCK SHALL BE MORE THAN 0.015cu.m. IN VOLUME AND SHALL CONSISTS OF HARD AND DURABLE STONES. ALL SHALL BE LAID FLAT AND SECURELY PLACED WITH LARGER STONES GENERALLY LOCATED IN THE LOWER PART OF THE STRUCTURE.



1 ABUTMENT SLOPE PROTECTION DETAIL SCALE AS SHOWN

3 TYPICAL SIDE DRAIN DETAIL SCALE AS SHOWN

VELOCITY (m/sec)	ROCK SIZE (mm)	
	VERY TURBULENT FLOW	SMOOTH FLOW
1.00	40	-
1.50	135	-
2.00	170	-
2.50	255	137
3.00	370	197
3.50	515	270
4.00	690	350
4.50	825	425
5.00	>900	590

LOCATION	SIZES	PER ABUTMENT QUANTITY	
		ABUT. A1	ABUT. A2
CONC. CLASS "B"	1000 x 500 x LENGTH	29.33 cu. m.	29.33 cu. m.
REBAR	#10, GRADE 40	445.00 kgs.	445.00 kgs.
BOULDER APRON	500mm - 600mm IN DIA.	87.98 cu. m.	87.98 cu. m.
RUBBLE CONCRETE	250mm - 300mm IN DIA.	67.69 cu. m.	67.69 cu. m.
SHEET PILE	85 x 400 x 8mm THK.	129.00 pcs.	129.00 pcs.
SIDE DRAIN	200mm ~ 300mm IN DIA.	7.82 cu. m.	7.82 cu. m.
GROUTED RIPRAP	250mm ~ 300mm IN DIA.	47.76 cu. m.	47.76 cu. m.

	DATE: 9/2/02 DESIGNED: A.P. GONZALEZ CHECKED: [Signature] SUBMITTED: 9/6/02	SIGNATURE: [Signature] TEAM LEADER	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN OFFICE OF THE SECRETARY	PROJECT AND LOCATION: THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) SAN JOSE BYPASS	SCALE: AS SHOWN FULL SIZE A1	SHEET CONTENTS: BRIDGE NO. 4 ABUTMENT PROTECTION AND SIDE DRAIN DETAILS (INITIAL STAGE)	SHEET NO.: B4-11
	Submitted By: DANILLO C. TRAJANO, Project Director Reviewed By: PERFECTO L. ZAPLAN JR., Chief, Hydraulics Division (OIC) Recommended By: GILBERTO S. REYES, Director IV (OIC) Approved By: MANUEL M. BONDAN, Undersecretary Approved By: SIMONEO A. DATUMANONG, Secretary						
	JICA JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL YEO YACHIMO ENGINEERING CO., LTD.						