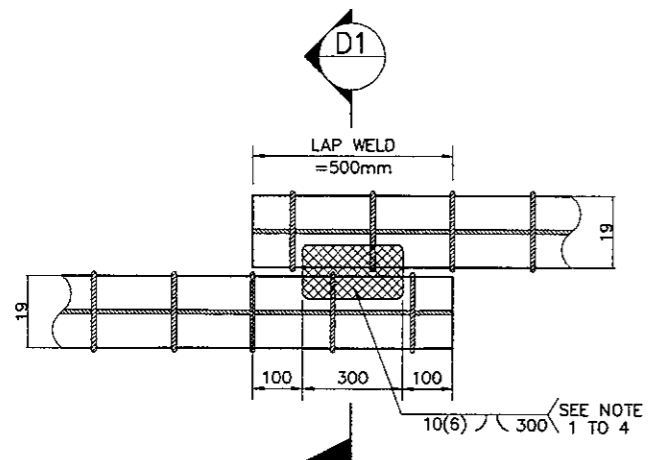
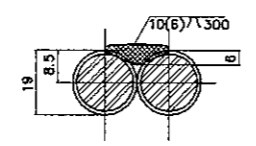


C DETAIL
 SCALE 1:20



DIRECT LAP JOINT WITH BARS IN CONTACT

D DETAIL OF SPIRAL REINF. FULL LAP-WELD CONNECTION
 NOT TO SCALE



D1 DETAIL
 NOT TO SCALE

- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS
 2. ELEVATION ARE IN METERS
 3. CONCRETE ABUTMENT AND FOOTING $f_c' = 30 \text{ MPa}$
 4. REINFORCING STEEL: YIELD STRENGTH = 390 N/mm²

- NOTES ON LAP-WELD CONNECTION:
1. SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 2. WELDING SHOULD CONFORM TO AWS (D1.4)
 STRUCTURAL WELDING CODE REINFORCED STEEL
 3. USE ELECTRODE E90XX.
 4. CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.

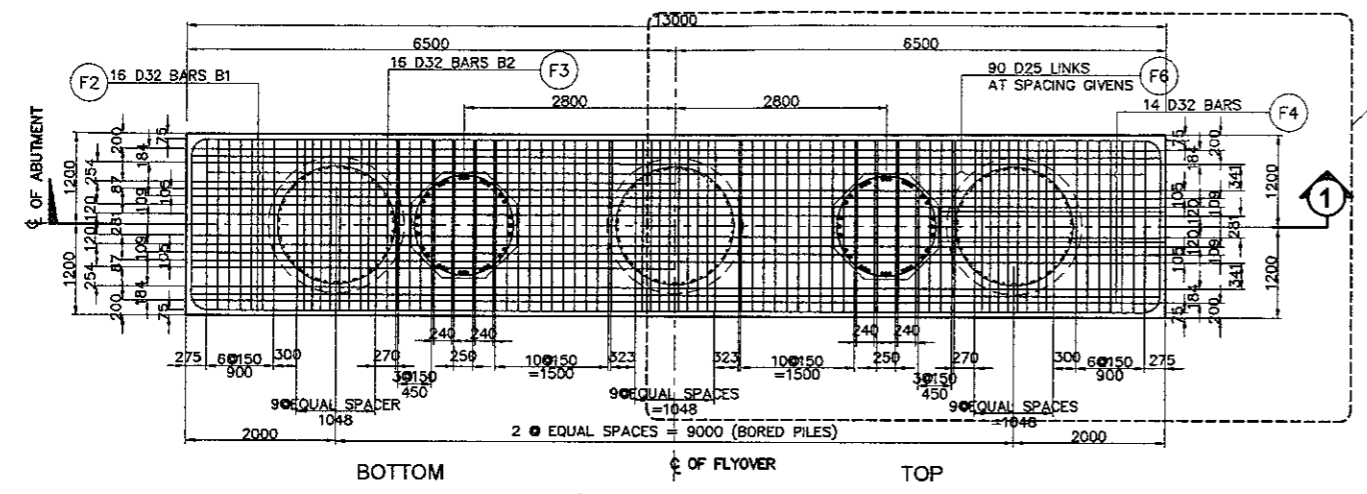
BAR BENDING DIAGRAM											
1		2		3							
4		5		6							

SCHEDULE OF REINFORCEMENT															
LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION (mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	VOLUME OF CONC. (M ³)	
				a	b	c	d	e	f						
ABUTMENT (A2)	COLUMN												A2-L		
	C1L	32	1	8130	550						8680	32	6.31	1753	8.650
	C1R	32	1	8070	550					8820	32	6.31	1740		
	C2L	32	2	4950						4960	4	6.31	125		
	C2R	32	2	4850						4850	4	6.31	122		
	C3L	32	2	4960						4960	26	6.31	814	8.389	
	C3R	32	2	4850						4850	26	6.31	796		
	C4a	19	3	75	1320	500				145929	2	2.23	655	A2-R	
	C4b-L	19	3	90	1320	500				95071	1	2.23	212	8.389	
	C4b-R	19	3	90	1320	500				86929	1	2.23	194		
C4c-L	19	3	75	1320	500				164214	1	2.23	368			
C4c-R	19	3	75	1320	500				168536	1	2.23	378			
C5	32	4	1275	500					4506	6	6.31	170			
TOTAL WEIGHT ABUTMENT A2 (A) = 7,323 kg.												17.048			
WALL															
C6	19	5	300	6500					7200	68	2.23	1092	8.171		
C7	19	1	7510	500					8010	64	2.23	1143			
C8	13	6	110	320	160				590	85	1.04	52			
TOTAL WEIGHT ABUTMENT A2 (B) = 2,287 kg.															
TOTAL WEIGHT (A + B) = 9,610 kg.												25.219			

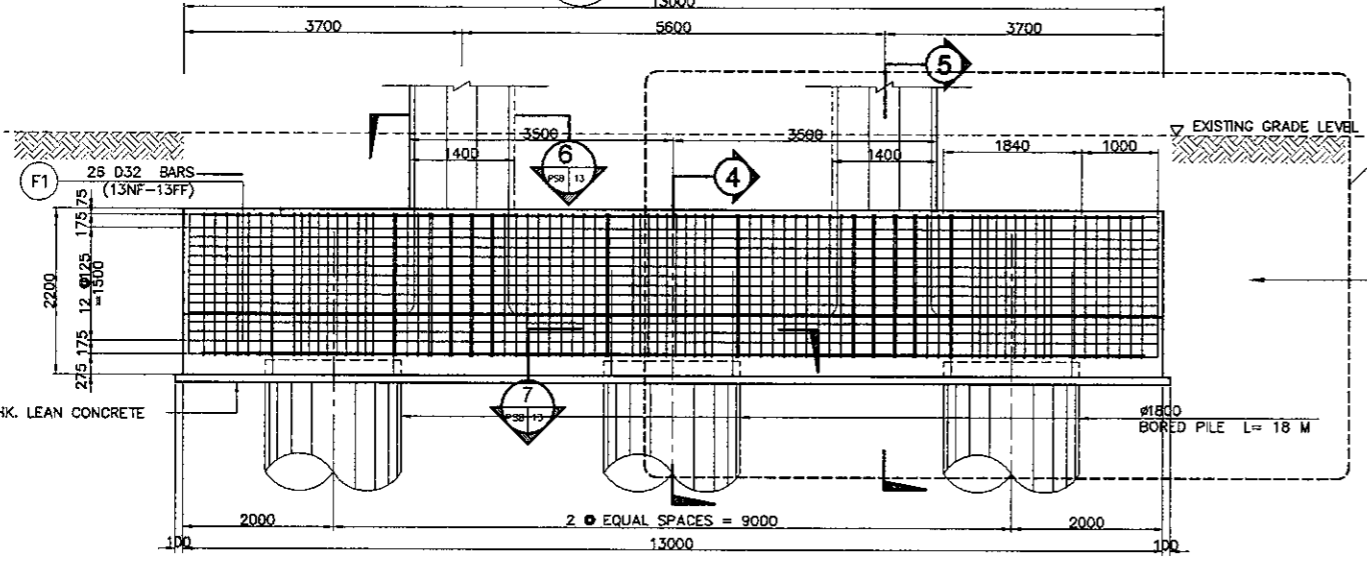
THE REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY; THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

SCHEDULE OF COLUMN							
No. OF COLUMN	HEIGHT (mm)	A (mm)	B (mm)	C (mm)	n1	n2	n3
A2 (L)	5333	2550	1980	2850	34	22	38
A2 (R)	5166	2550	1800	2925	34	20	39

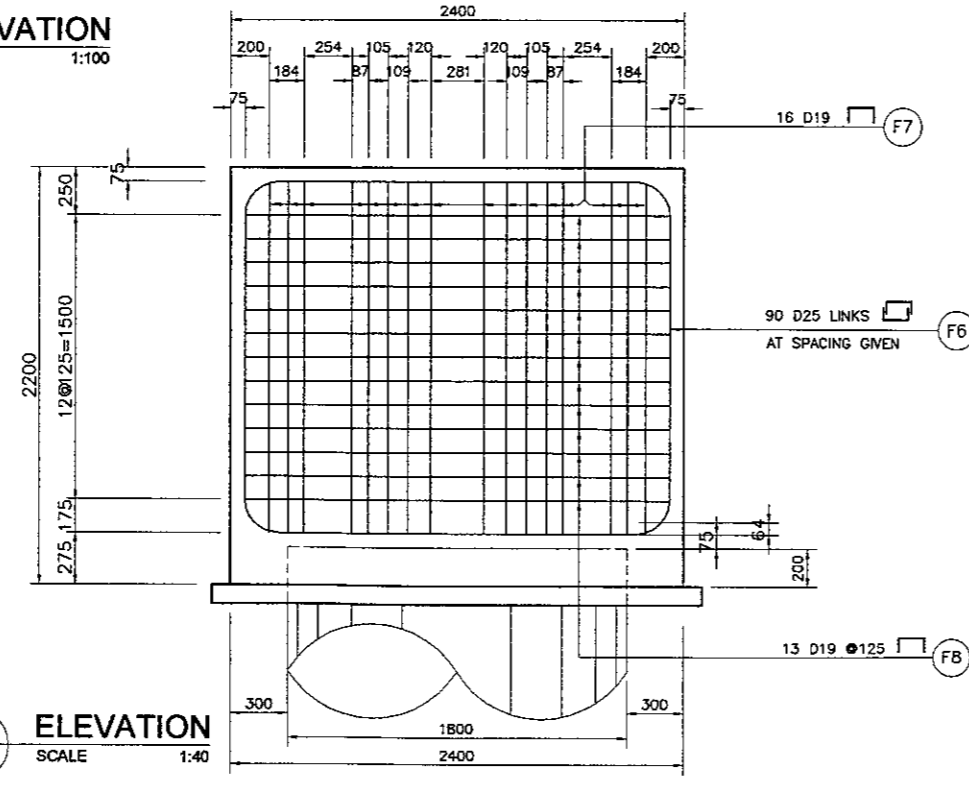
DESIGNED BY	CHECKED BY	SUBMITTED BY
Name A. GOURLEY	Name T. OKUMURA	Name M. KIUCHI
Sign	Sign	Sign
Date	Date	Date



2 PLAN
 SCALE 1:100

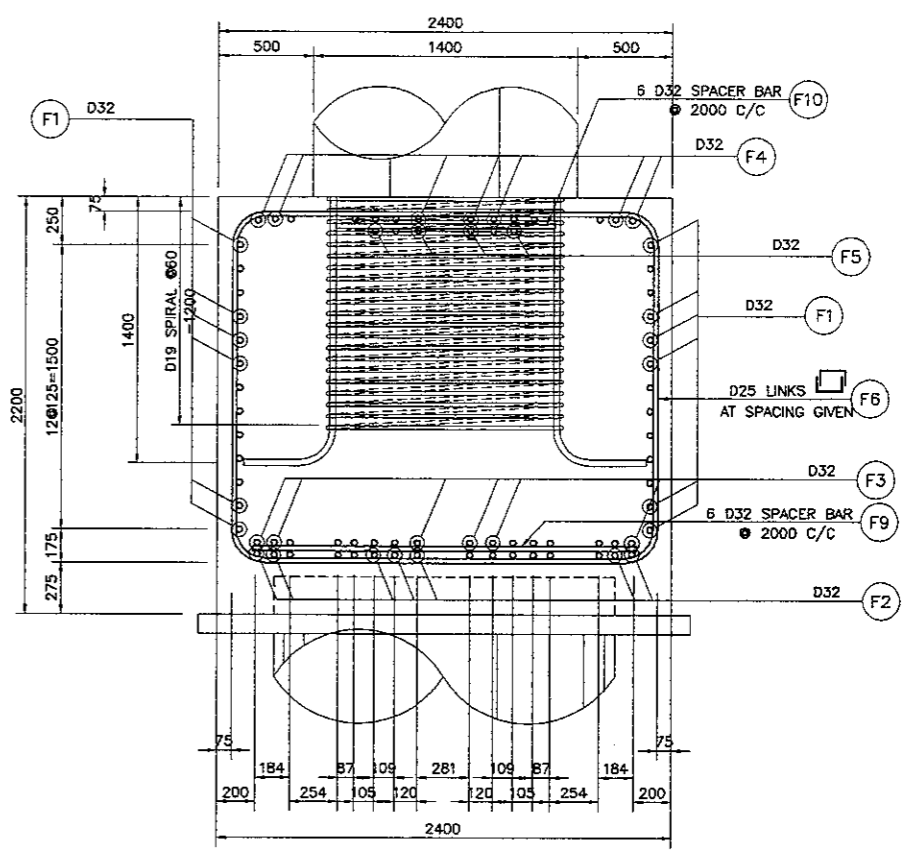


1 ELEVATION
 SCALE 1:100



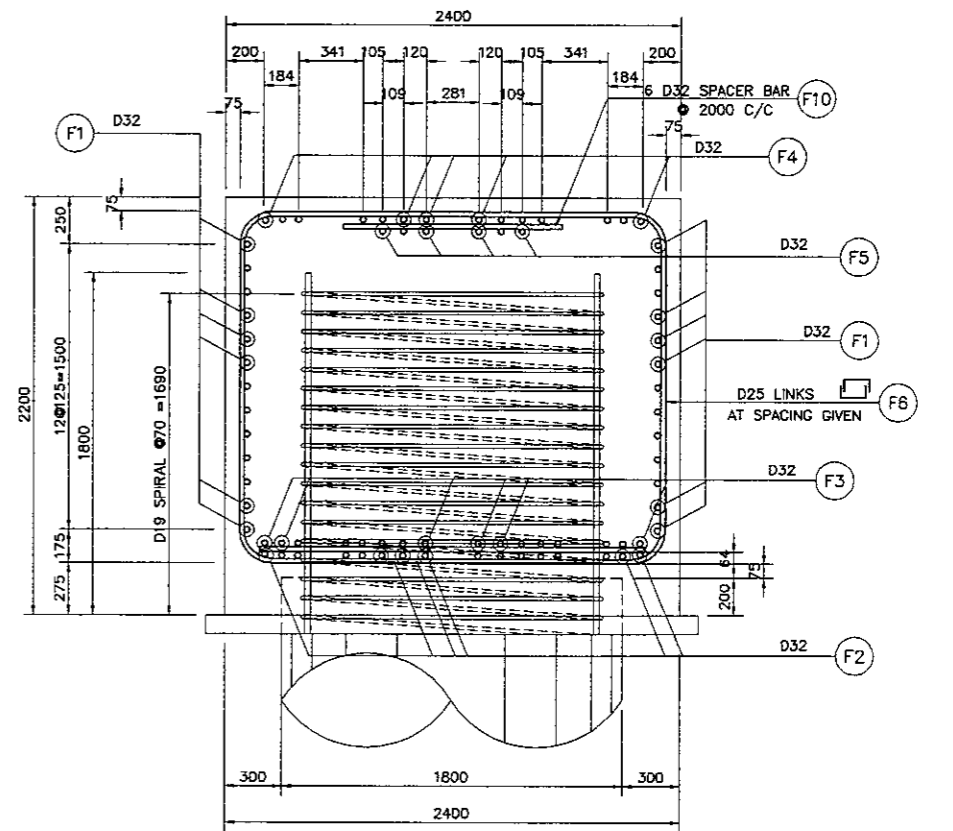
3 ELEVATION
 SCALE 1:40

DETAIL A
 SEE DRAWING NO. PSB-000



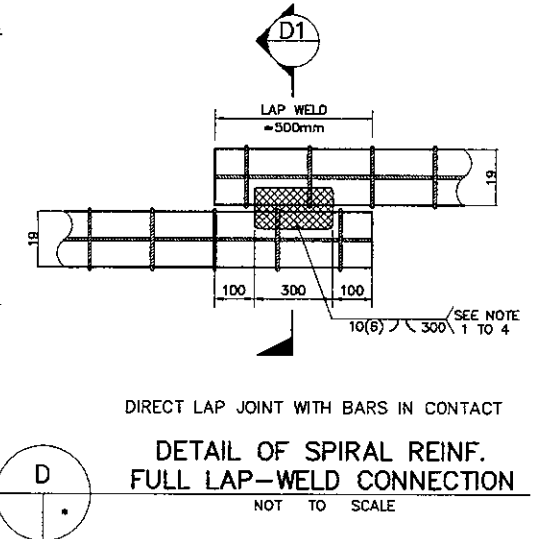
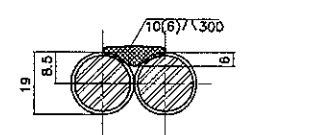
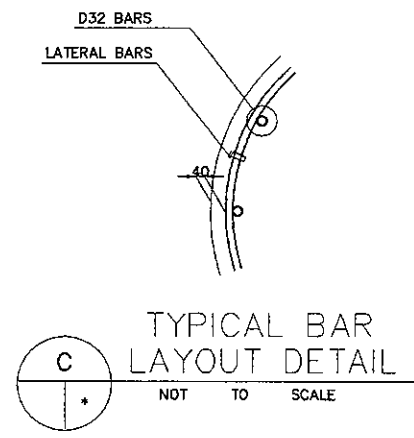
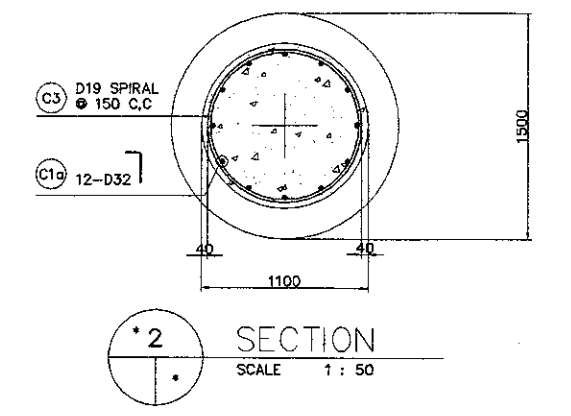
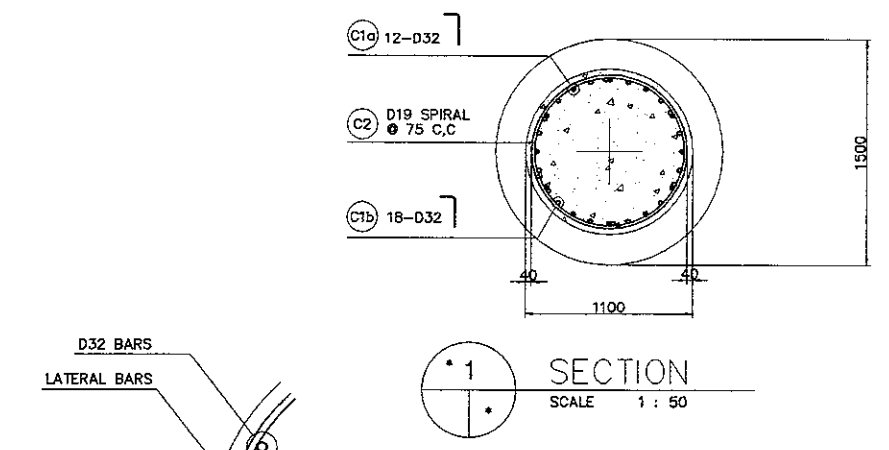
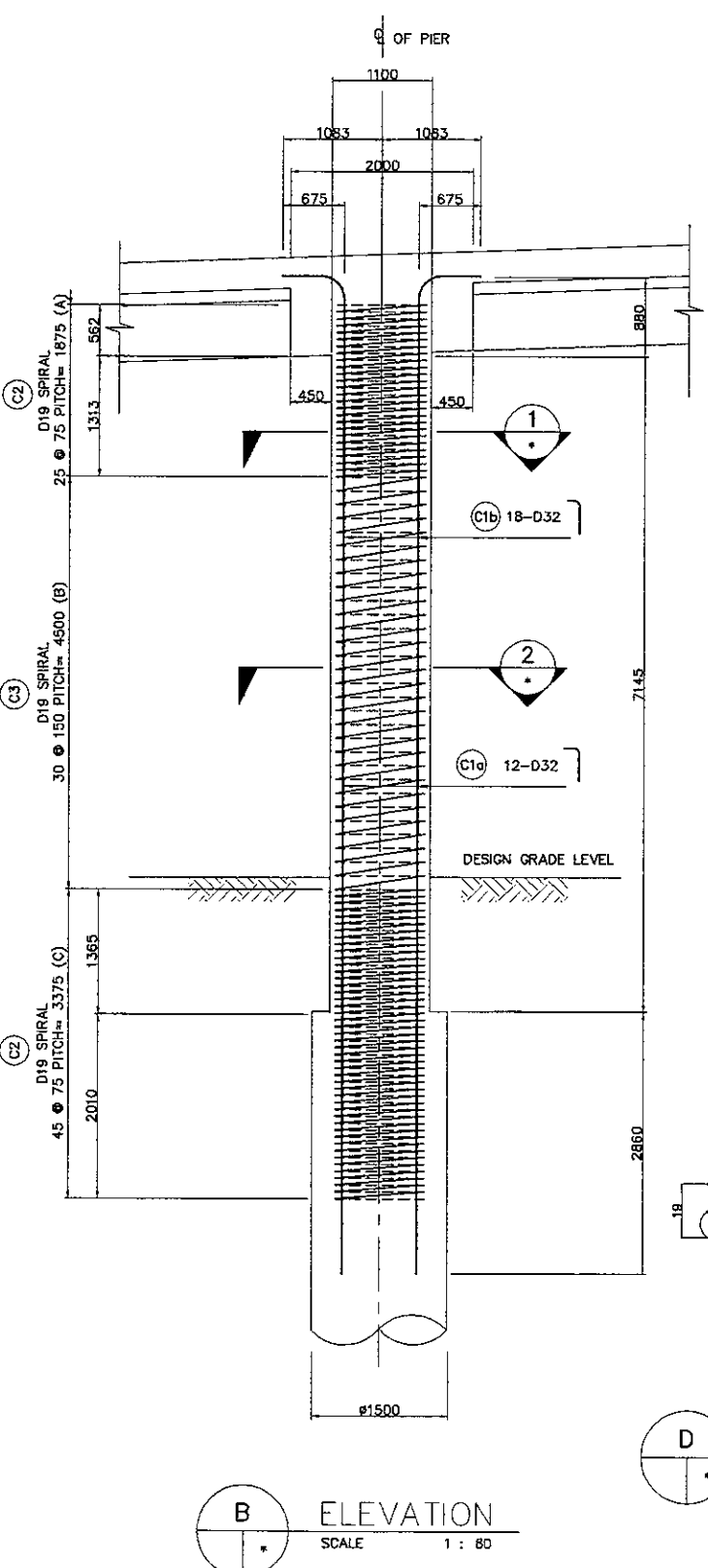
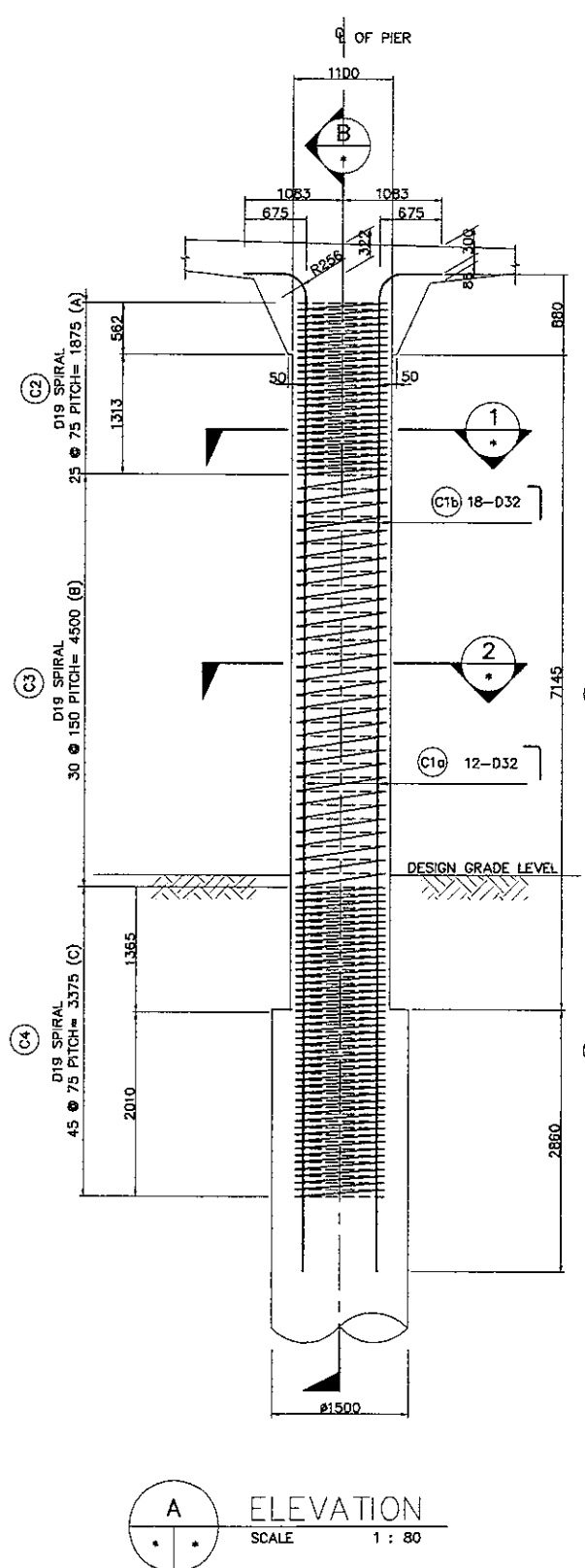
5 SECTION
 SCALE 1:40

DETAIL B
 SEE DRAWING NO. PSB-000



4 SECTION
 SCALE 1:40

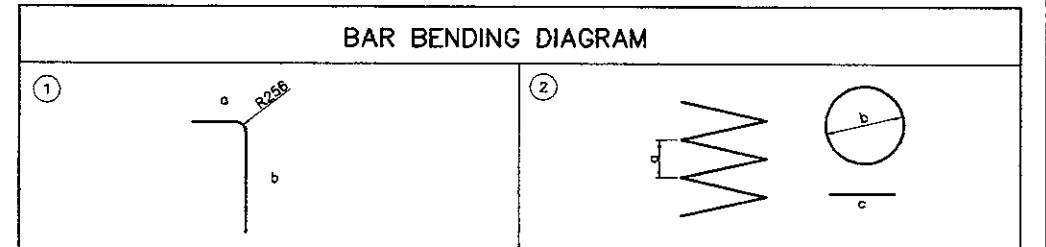
- NOTES :**
1. ALL DIMENSIONS ARE IN MILLIMETERS
 2. ELEVATION ARE IN METERS
 3. CONCRETE ABUTMENT AND FOOTING $f_c' = 30 \text{ MPa}$
 4. REINFORCING STEEL : YIELD STRENGTH = 390 N/mm²



- NOTES ON LAP-WELD CONNECTION :**
1. SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 2. WELDING SHOULD CONFORM TO AWS (D1.4)
 STRUCTURAL WELDING CODE REINFORCED STEEL
 3. USE ELECTRODE E90XX.
 4. CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.

COLUMN TYPE	CL-PF02	
SIZE (mm)	1100 ø	
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	1
	NO. OF PCS (a)	12
	NO. OF PCS (b)	18
SPIRAL	SIZE (mm)	19

SCHEDULE OF PIER							
PIER NO.	HEIGHT H (mm)	A (mm)	B (mm)	C (mm)	n1	n2	n3
P1L	7145	1875	4500	3375	25	30	45
P1R	7145	1875	4500	3375	25	30	45

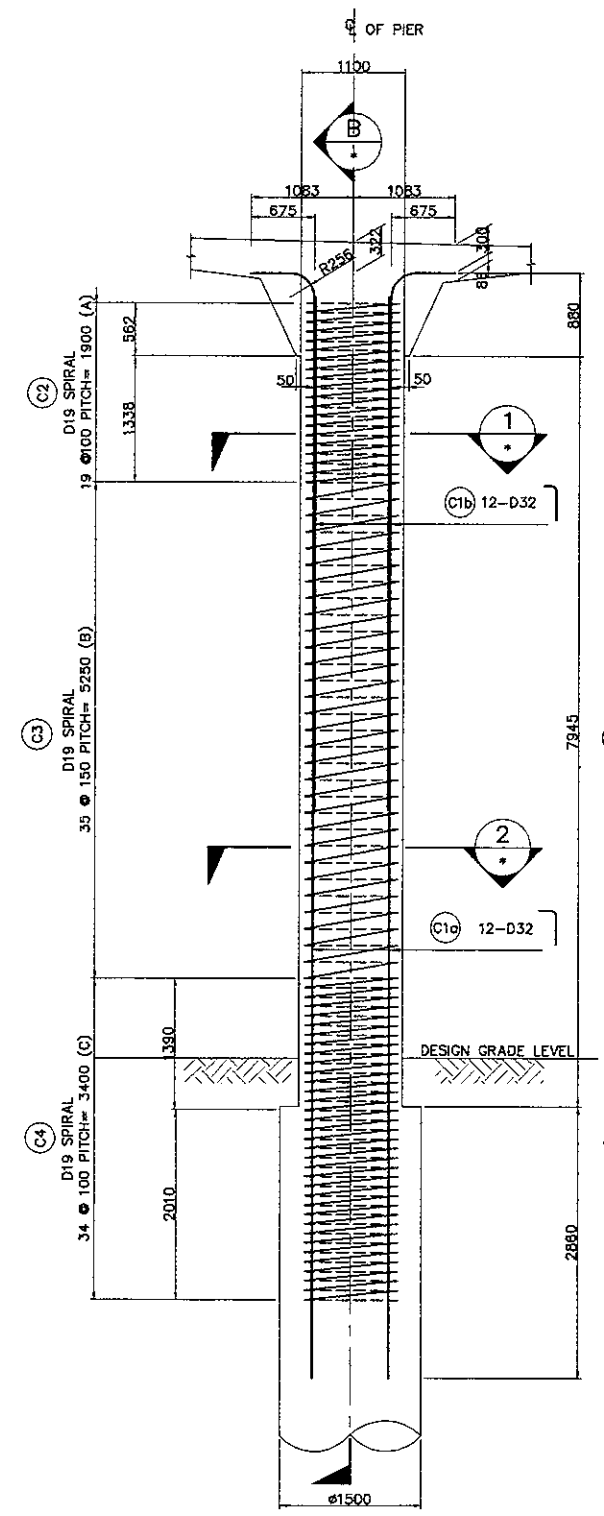


SCHEDULE OF REINFORCEMENT													
LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT					LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	VOLUME OF CONG. (M³)
				a	b	c	d	e					
P1	C1a	32	1	675	10885				11560	12	6.31	875	6.790
	C1b	32	1	675	6270				6945	18	6.31	789	
	C2	19	2	75	1020	500			83482	1	2.23	186	
	C3	19	2	150	1020	500			100179	1	2.23	223	
	C4	19	2	75	1020	500			150268	1	2.23	335	
SUB TOTAL = 2,408 Kgs													
TOTAL 2 PIER = 4,816 Kgs													13.580

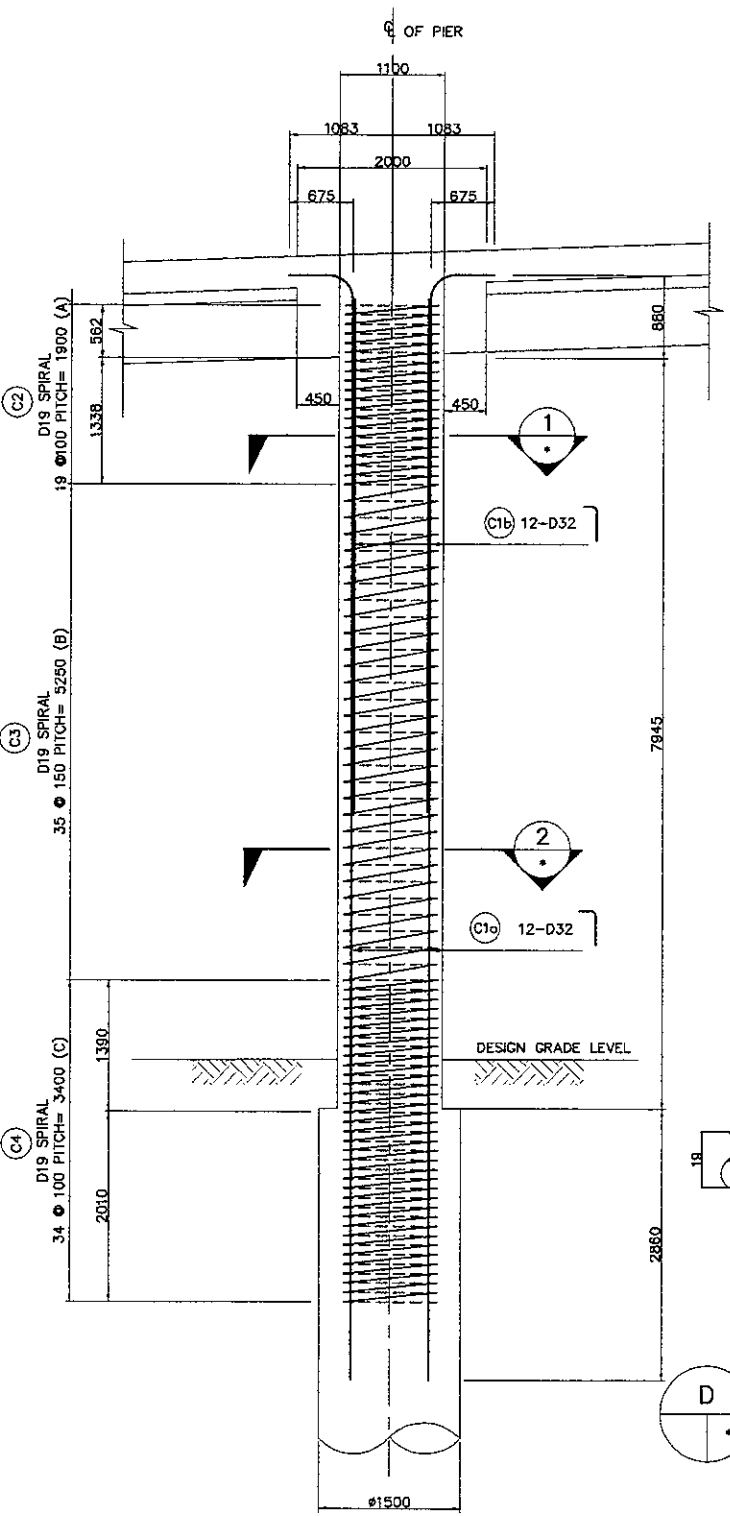
- NOTES :**
1. ALL DIMENSIONS ARE IN MILLIMETERS
 2. CONCRETE : $f_c' = 30 \text{ MPa}$
 3. REINFORCING STEEL : YIELD STRENGTH = 390 N/mm²

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

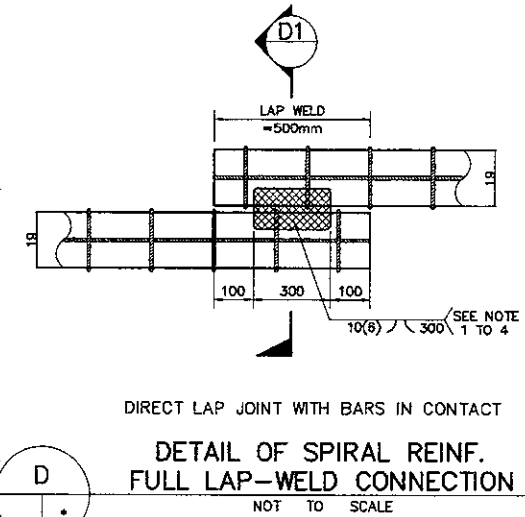
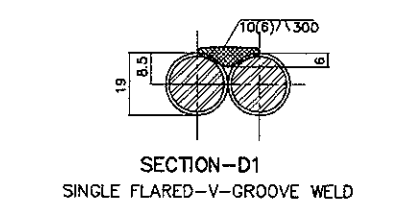
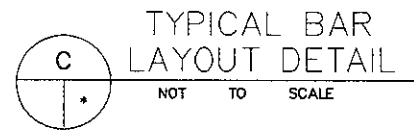
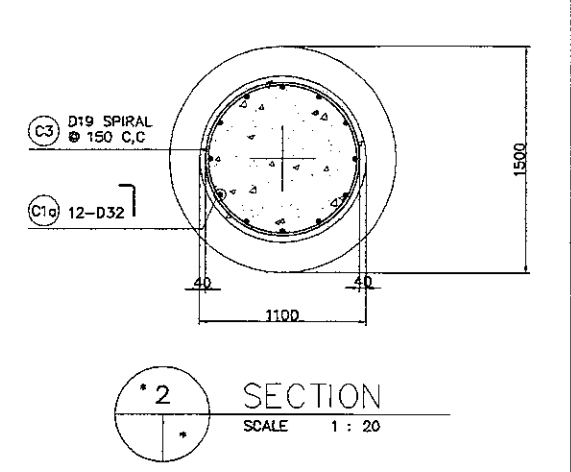
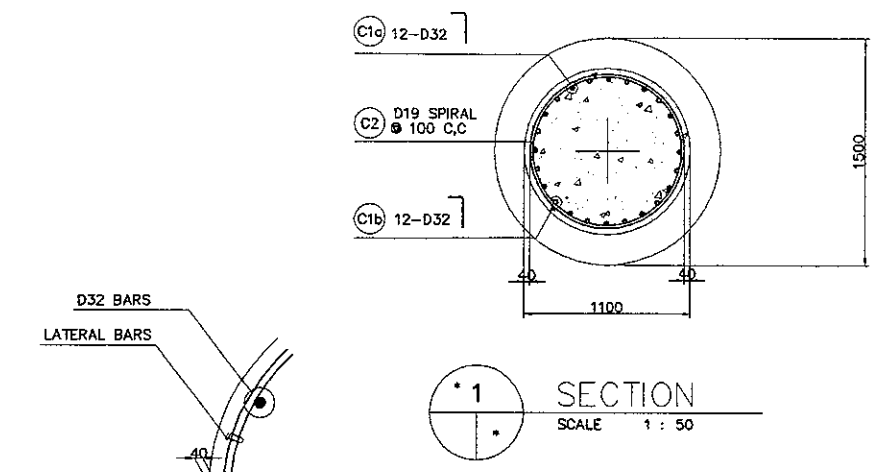
DESIGNED BY	CHECKED BY	SUBMITTED BY
Name A. GOURLEY	Name T. OKUMURA	Name M. KIUCHI
Sign	Sign	Sign
Date	Date	Date



A ELEVATION
 SCALE 1 : 80

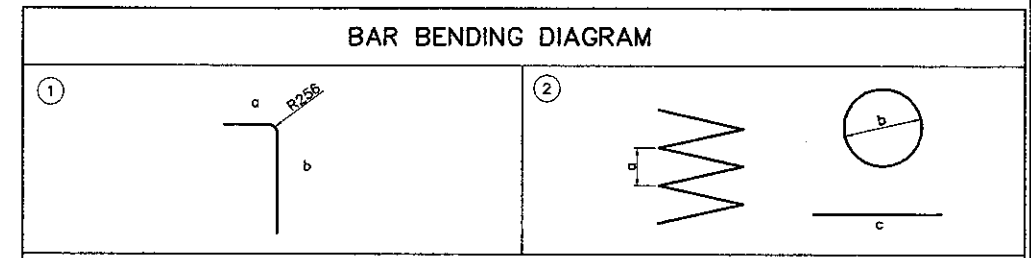


B ELEVATION
 SCALE 1 : 80



COLUMN TYPE	CL-PFD2
SIZE (mm)	1100 Ø
SIZE (mm)	32
ND. LAYERS	1
NO. OF PCS (a)	12
NO. OF PCS (b)	12
SPIRAL SIZE (mm)	19

- NOTES ON LAP-WELD CONNECTION :
1. SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 2. WELDING SHOULD CONFORM TO AWS (D1.4)
 STRUCTURAL WELDING CODE REINFORCED STEEL.
 3. USE ELECTRODE E90XX.
 4. CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.



SCHEDULE OF REINFORCEMENT

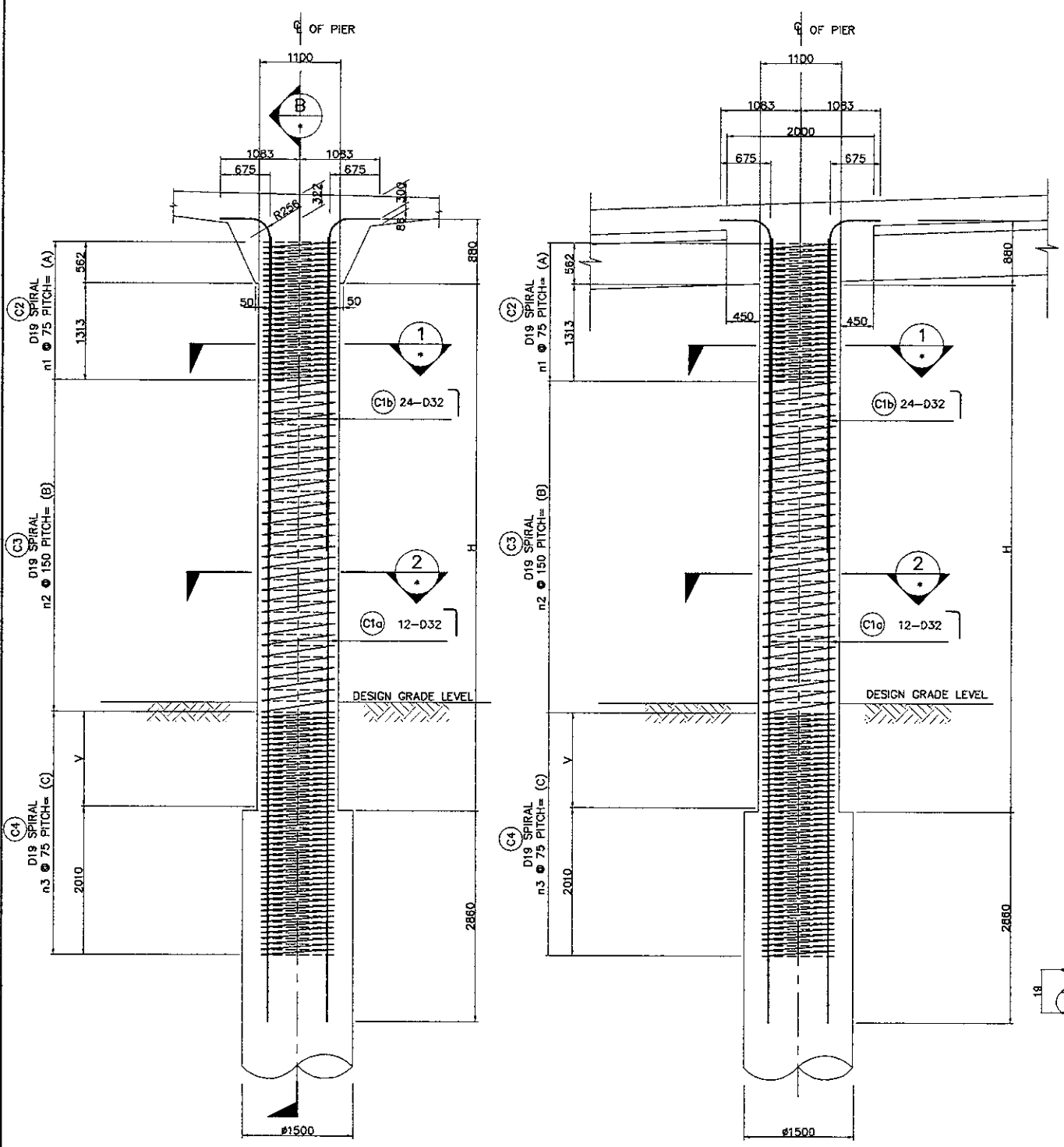
LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	VOLUME OF CONC. (M ³)	
				a	b	c	d	e	f						
P2	C1a	32	1	675	11685						12360	12	6.31	936	7.550
	C1b	32	1	675	5960						8635	12	6.31	502	
	C2	19	2	100	1020	500					63446	1	2.23	141	
	C3	19	2	150	1020	500					116875	1	2.23	261	
	C4	19	2	100	1020	500					113536	1	2.23	253	
SUB TOTAL = 2,094 Kgs															
TOTAL 2 PIER = 4,188 Kgs															15.100

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

SCHEDULE OF PIER

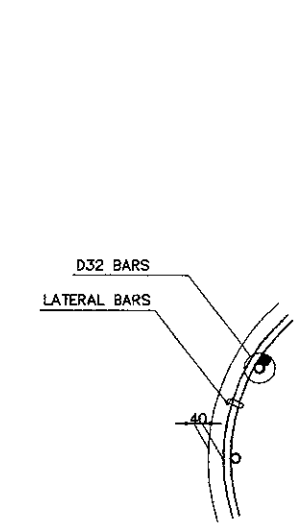
PIER NO.	HEIGHT H (mm)	A (mm)	B (mm)	C (mm)	n1	n2	n3
P2L	7945	1900	5250	3400	19	35	34
P2R	7945	1900	5250	3400	19	35	34

- NOTES :
1. ALL DIMENSIONS ARE IN MILLIMETERS
 2. CONCRETE : $f_c' = 30 \text{ MPa}$
 3. REINFORCING STEEL : YIELD STRENGTH = 390 N/mm²

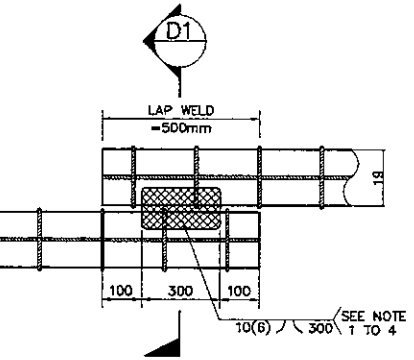
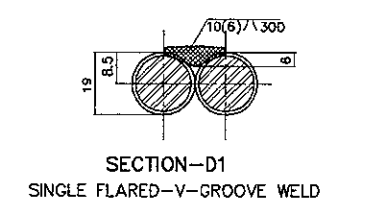


A ELEVATION
 SCALE 1 : 80

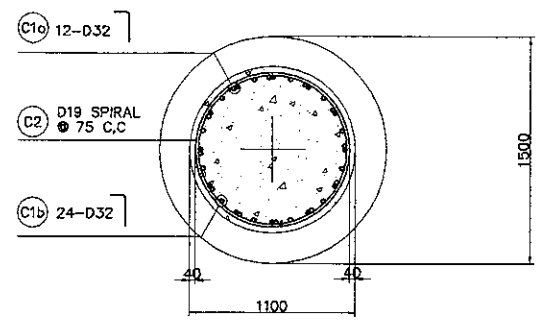
B ELEVATION
 SCALE 1 : 80



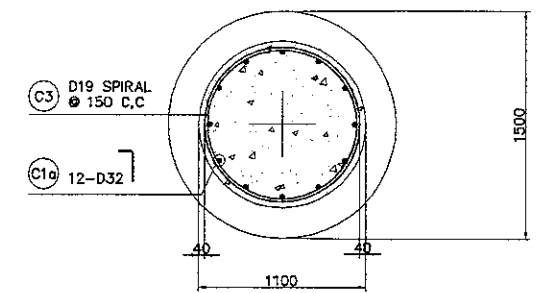
C TYPICAL BAR LAYOUT DETAIL
 NOT TO SCALE



D DIRECT LAP JOINT WITH BARS IN CONTACT
 DETAIL OF SPIRAL REIN.
 FULL LAP-WELD CONNECTION
 NOT TO SCALE



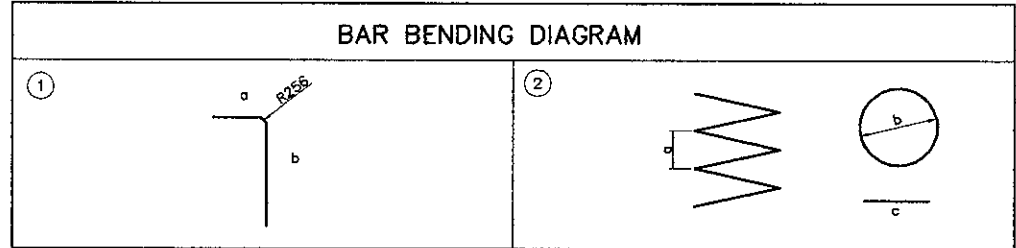
1 SECTION
 SCALE 1 : 50



2 SECTION
 SCALE 1 : 50

COLUMN TYPE	CL-PF01	
SIZE (mm)	1100 #	
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	1
	NO. OF PCS (a)	12
SPIRAL	NO. OF PCS (b)	24
	SIZE (mm)	19

- NOTES ON LAP-WELD CONNECTION :
- SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 - WELDING SHOULD CONFORM TO AWS (D1.4)
 STRUCTURAL WELDING CODE REINFORCED STEEL.
 - USE ELECTRODE E90XX.
 - CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.

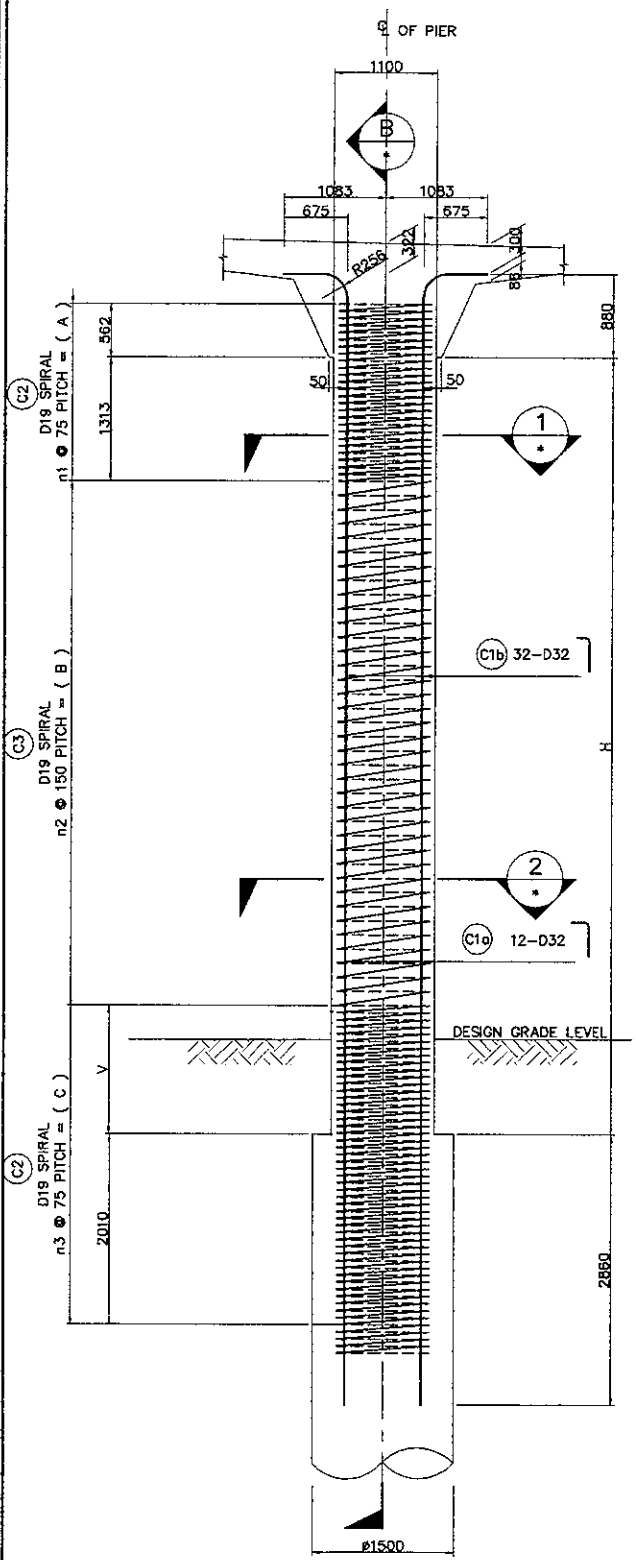


LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	VOLUME OF CONC. (M ³)
				a	b	c	d	e	f					
P3L	C1a	32	1	675	11685					12360	12	6.31	936	7.550
	C1b	32	1	675	7280					7955	24	6.31	1205	
	C2	19	2	75	1020	500				83482	1	2.23	186	
	C3	19	2	150	1020	500				116875	1	2.23	261	
	C4	19	2	75	1020	500				150268	1	2.23	335	
SUB TOTAL = 2,922 Kgs														
P3R	C1a	32	1	675	11685					12360	12	6.31	936	7.550
	C1b	32	1	675	7280					7955	24	6.31	1205	
	C2	19	2	75	1020	500				83482	1	2.23	186	
	C3	19	2	150	1020	500				116875	1	2.23	261	
	C4	19	2	75	1020	500				150268	1	2.23	335	
SUB TOTAL = 2,922 Kgs														
TOTAL = 5,845 Kgs													15.100	
P11L	C1a	32	1	675	11392					12067	12	6.31	914	7.272
	C1b	32	1	675	7090					7765	24	6.31	1176	
	C2	19	2	75	1020	500				83482	1	2.23	186	
	C3	19	2	150	1020	500				110196	1	2.23	246	
	C4	19	2	75	1020	500				150268	1	2.23	335	
SUB TOTAL = 2,857 Kgs														
P11R	C1a	32	1	675	11244					11919	12	6.31	903	7.131
	C1b	32	1	675	6990					7665	24	6.31	1161	
	C2	19	2	75	1020	500				83482	1	2.23	186	
	C3	19	2	150	1020	500				106857	1	2.23	238	
	C4	19	2	75	1020	500				150268	1	2.23	335	
SUB TOTAL = 2,823 Kgs														
TOTAL = 5,679 Kgs													14.403	

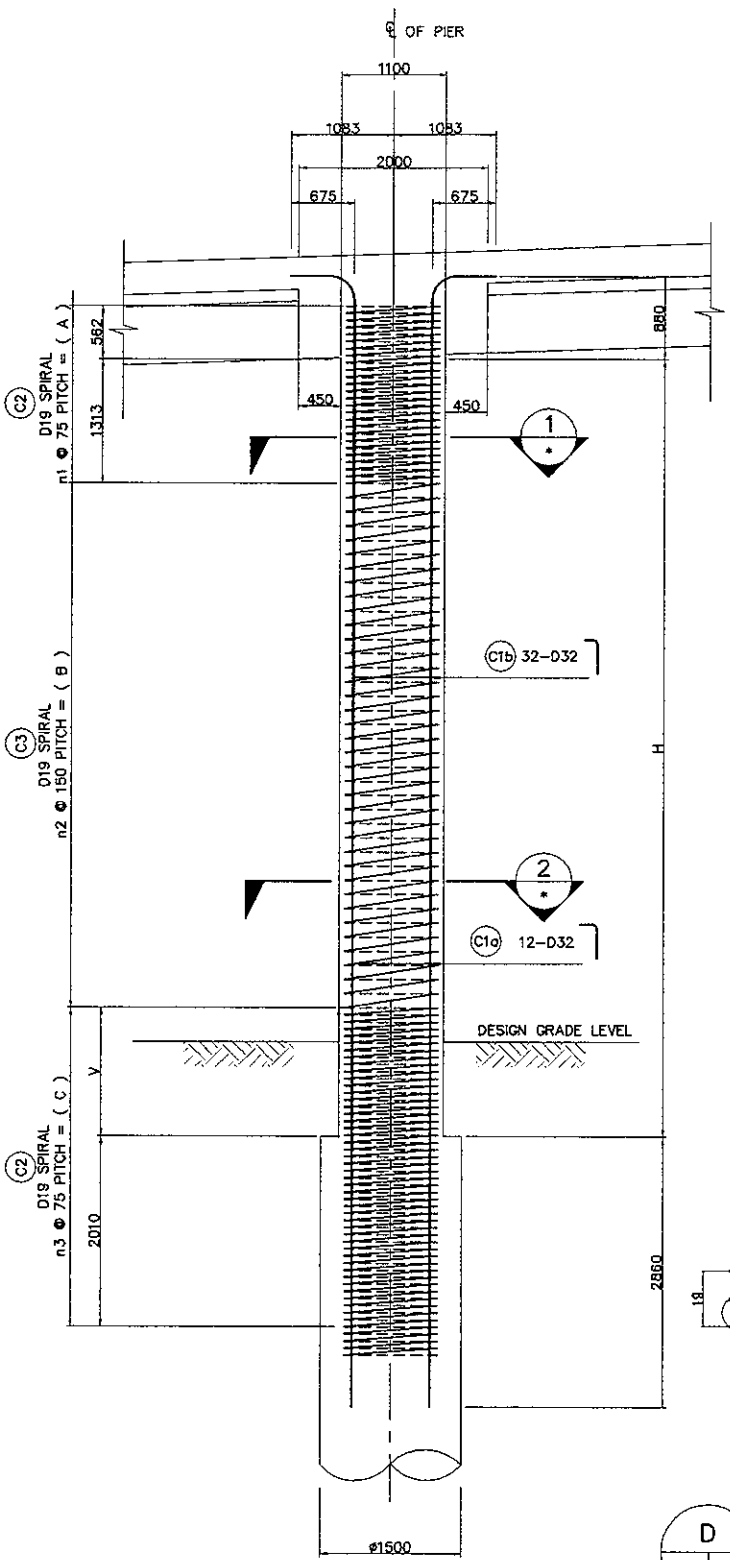
THE SCHEDULE OF REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

PIER NO.	HEIGHT H (mm)	A (mm)	B (mm)	C (mm)	V (mm)	n1	n2	n3
P3L	7945	1875	5250	3375	1365	25	35	45
P3R	7945	1875	5250	3375	1365	25	35	45
P11L	7852	1875	4950	3375	1365	25	33	45
P11R	7504	1875	4800	3375	1365	25	32	45

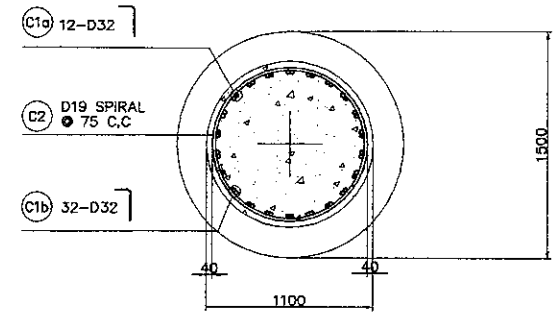
- NOTES :
- ALL DIMENSIONS ARE IN MILLIMETERS
 - CONCRETE : $f_c' = 30 \text{ MPa}$
 - REINFORCING STEEL : YIELD STRENGTH = 390 N/mm^2



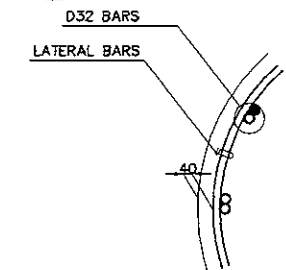
A ELEVATION
 SCALE 1 : 80



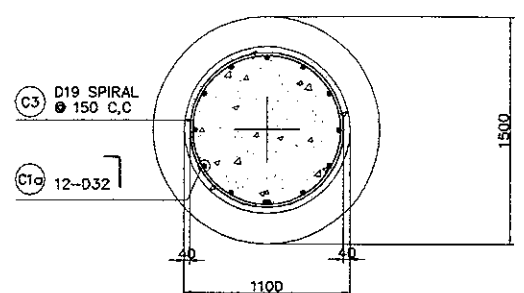
B ELEVATION
 SCALE 1 : 80



1 SECTION
 SCALE 1 : 50

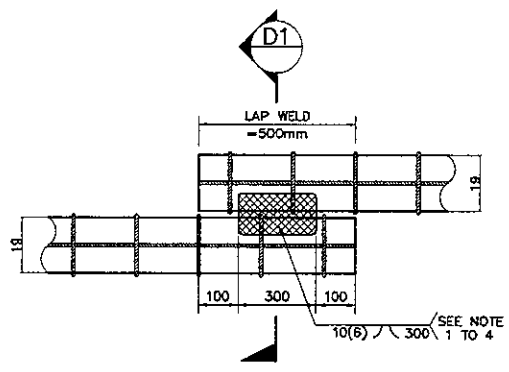
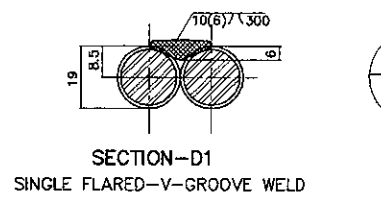


C TYPICAL BAR LAYOUT DETAIL
 NOT TO SCALE

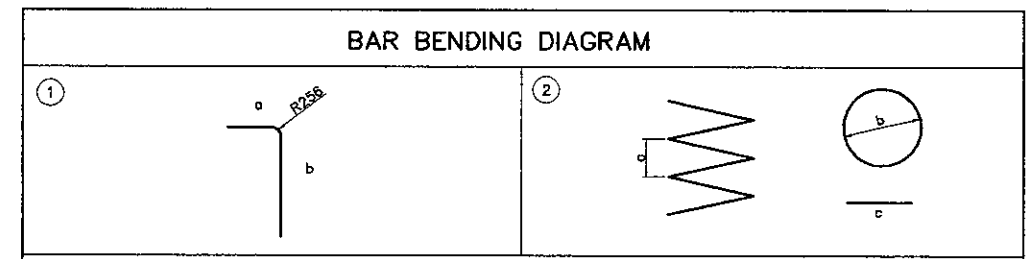


2 SECTION
 SCALE 1 : 80

- NOTES ON LAP-WELD CONNECTION :
1. SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 2. WELDING SHOULD CONFORM TO AWS (D1.4)
 STRUCTURAL WELDING CODE REINFORCED STEEL.
 3. USE ELECTRODE E90XX.
 4. CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.



D DIRECT LAP JOINT WITH BARS IN CONTACT
 DETAIL OF SPIRAL REINF.
 FULL LAP-WELD CONNECTION
 NOT TO SCALE



SCHEDULE OF REINFORCEMENT

LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT				LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	VOLUME OF CONC. (M ³)
				a	b	c	d					
P&L	C1a	32	1	675	12623			13298	12	6.31	1007	8.442
	C1b	32	1	675	8350			9025	32	6.31	1822	
	C2	19	2	75	1020	500		83482	1	2.23	186	
	C3	19	2	150	1020	500		136911	1	2.23	305	
	C4	19	2	75	1020	500		150268	1	2.23	335	
SUB TOTAL =										3,655	Kgs	
PBR	C1a	32	1	675	12485			13140	12	6.31	995	8.291
	C1b	32	1	675	7910			8585	32	6.31	1733	
	C2	19	2	75	1020	500		83482	1	2.23	186	
	C3	19	2	150	1020	500		133571	1	2.23	298	
	C4	19	2	75	1020	500		150268	1	2.23	335	
SUB TOTAL =										3,548	Kgs	16.733
TOTAL =										7,203	Kgs	

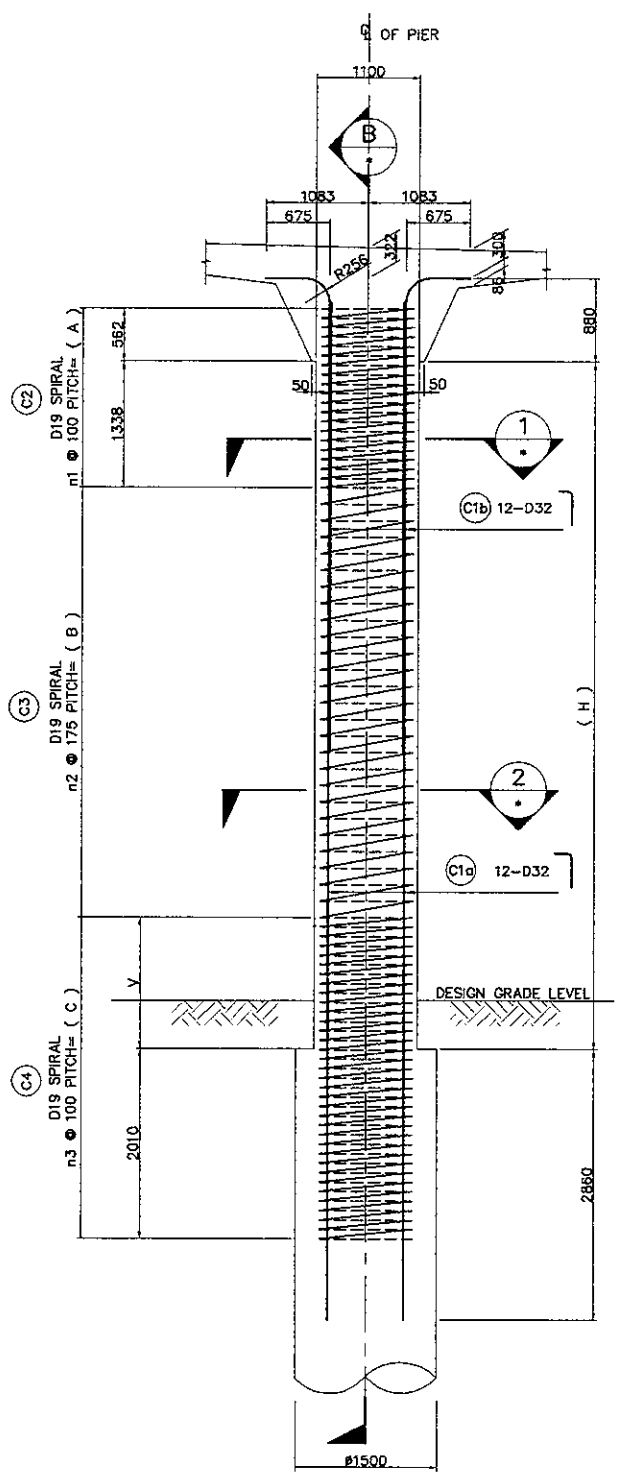
THE SCHEDULE OF REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

COLUMN TYPE	CL-PF03
SIZE (mm)	#1100
MAIN BARS	SIZE (mm)
	NO. LAYERS
	NO. OF PCS (a)
	NO. OF PCS (b)
SPIRAL	SIZE (mm)

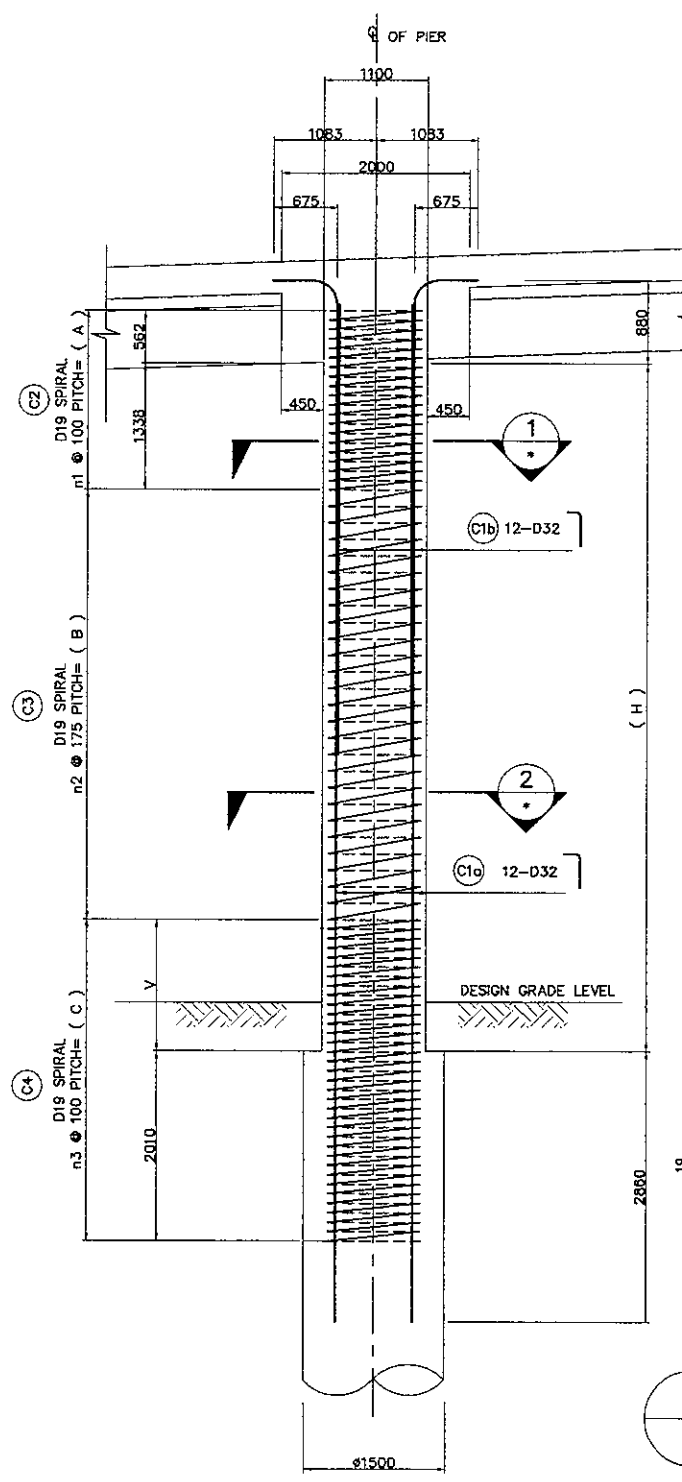
SCHEDULE OF PIER								
PIER NO.	HEIGHT H (mm)	A (mm)	B (mm)	C (mm)	v (mm)	n1	n2	n3
P&L	8863	1875	6150	3375	1365	25	41	45
PBR	8725	1875	6000	3375	1365	25	40	45

- NOTES :
1. ALL DIMENSIONS ARE IN MILLIMETERS
 2. CONCRETE : f_c' = 30 MPa
 3. REINFORCING STEEL : YIELD STRENGTH = 390 N/mm²

DESIGNED BY	CHECKED BY	SUBMITTED BY
Name A. GOURLEY	Name T. OKUMURA	Name M. KIUCHI
Sign	Sign	Sign
Date	Date	Date

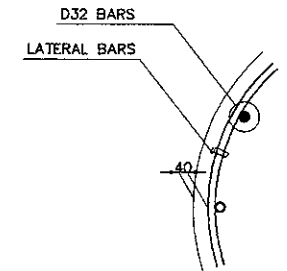


A ELEVATION
 SCALE 1 : 80

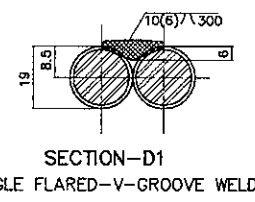


B ELEVATION
 SCALE 1 : 80

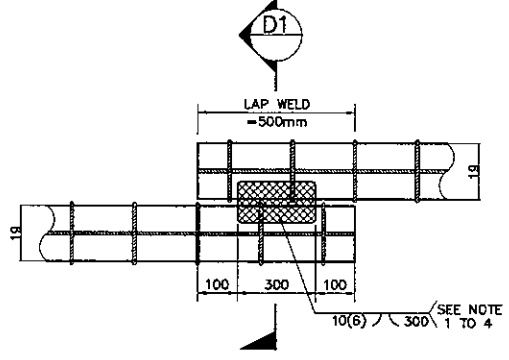
PIER NO.	HEIGHT H (mm)	A (mm)	B (mm)	C (mm)	V (mm)	n1	n2	n3
P9L	7280	1900	4550	3400	1390	19	26	34
P9R	7104	1900	4375	3400	1390	19	25	34
P10L	7157	1900	4375	3400	1390	19	25	34
P10R	6990	1900	4200	3400	1390	19	24	34



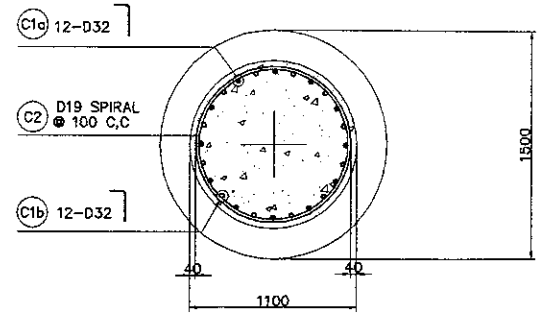
C TYPICAL BAR LAYOUT DETAIL
 NOT TO SCALE



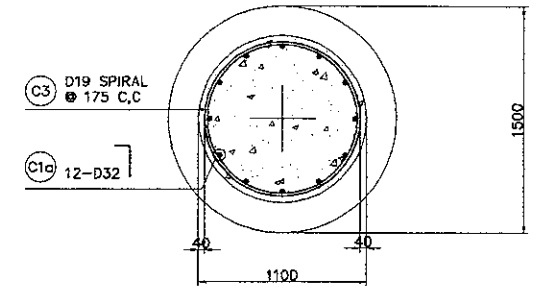
SECTION-D1
 SINGLE FLARED-V-GROOVE WELD



DIRECT LAP JOINT WITH BARS IN CONTACT
 DETAIL OF SPIRAL REINF.
 FULL LAP-WELD CONNECTION
 NOT TO SCALE



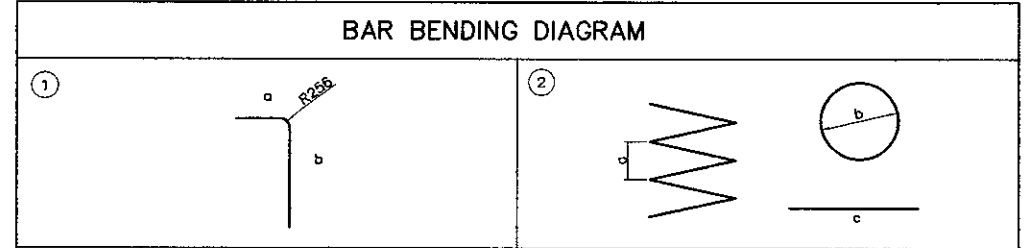
1 SECTION
 SCALE 1 : 50



2 SECTION
 SCALE 1 : 50

COLUMN TYPE	CL-PF04
SIZE (mm)	1100
MAIN BARS SIZE (mm)	32
NO. LAYERS	1
NO. OF PCS (a)	12
NO. OF PCS (b)	12
SPIRAL SIZE (mm)	19

- NOTES ON LAP-WELD CONNECTION :
- SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 - WELDING SHOULD CONFORM TO AWS (D1.4)
 STRUCTURAL WELDING CODE REINFORCED STEEL.
 - USE ELECTRODE E90XX.
 - CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.



SCHEDULE OF REINFORCEMENT

LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT				LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	VOLUME OF CONG. (m³)	
				a	b	c	d						
P9L	C1a	32	1	675	11020			11695	12	6.31	886	6.918	
	C1b	32	1	675	5630			6305	12	6.31	477		
	C2	19	2	100	1020	500		66786	1	2.23	149		
	C3	19	2	175	1020	500		86826	1	2.23	194		
	C4	19	2	100	1020	500		113536	1	2.23	253		
SUB TOTAL = 1,959 Kgs											6.751		
P9R	C1a	32	1	675	10844			11519	12	6.31		872	
	C1b	32	1	675	5540			6215	12	6.31		471	
	C2	19	2	100	1020	500		66786	1	2.23		149	
	C3	19	2	175	1020	500		83489	1	2.23		186	
	C4	19	2	100	1020	500		113536	1	2.23	253		
SUB TOTAL = 1,931 Kgs											6.811		
TOTAL P9 = 3,890 Kgs													
P10L	C1a	32	1	675	10907			11582	12	6.31		877	6.811
	C1b	32	1	675	5550			6225	12	6.31		471	
	C2	19	2	100	1020	500		66786	1	2.23		149	
	C3	19	2	175	1020	500		83482	1	2.23	186		
	C4	19	2	100	1020	500		113536	1	2.23	253		
SUB TOTAL = 1,937 Kgs											6.543		
P10R	C1a	32	1	675	10730			11405	12	6.31		864	6.543
	C1b	32	1	675	5480			6155	12	6.31		466	
	C2	19	2	100	1020	500		66786	1	2.23		149	
	C3	19	2	175	1020	500		80143	1	2.23		179	
	C4	19	2	100	1020	500		113536	1	2.23	253		
SUB TOTAL = 1,910 Kgs											13.453		
TOTAL P10 = 3,847 Kgs													

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

- NOTES :
- ALL DIMENSIONS ARE IN MILLIMETERS
 - CONCRETE : $f_c' = 30 \text{ MPa}$
 - REINFORCING STEEL : YIELD STRENGTH = 390 N/mm^2

SCHEDULE OF COLUMN

CL-PF01
PIER P3 & P11

COLUMN TYPE	CL-PF01	
SIZE (mm)	1100 ϕ	
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	1
	NO. OF PCS.	36
SPIRAL	SIZE (mm)	19
STEEL RATIO, ρ		3.03%

CL-PF02
PIER P1 & P2

COLUMN TYPE	CL-PF02	
SIZE (mm)	1100 ϕ	
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	1
	NO. OF PCS.	30
SPIRAL	SIZE (mm)	19
STEEL RATIO, ρ		2.53%

CL-PF03
PIER P8

COLUMN TYPE	CL-PF03	
SIZE (mm)	1100 ϕ	
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	1
	NO. OF PCS.	44
SPIRAL	SIZE (mm)	19
STEEL RATIO, ρ		3.70%

CL-PF04
PIER P9 & P10

COLUMN TYPE	CL-PF04	
SIZE (mm)	1100 ϕ	
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	1
	NO. OF PCS.	24
SPIRAL	SIZE (mm)	19
STEEL RATIO, ρ		2.02%

CL-PF05
ABUTMENT A1 & A2

COLUMN TYPE	CL-PF05	
SIZE (mm)	1400 ϕ	
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	2
	NO. OF PCS.	36
SPIRAL	SIZE (mm)	19
STEEL RATIO, ρ		3.00%

CL-PF06
PIER P4, P5, P6 & P7

COLUMN TYPE : COMPOSITE COLUMN
 SIZE (mm) : 1400

NOTES :

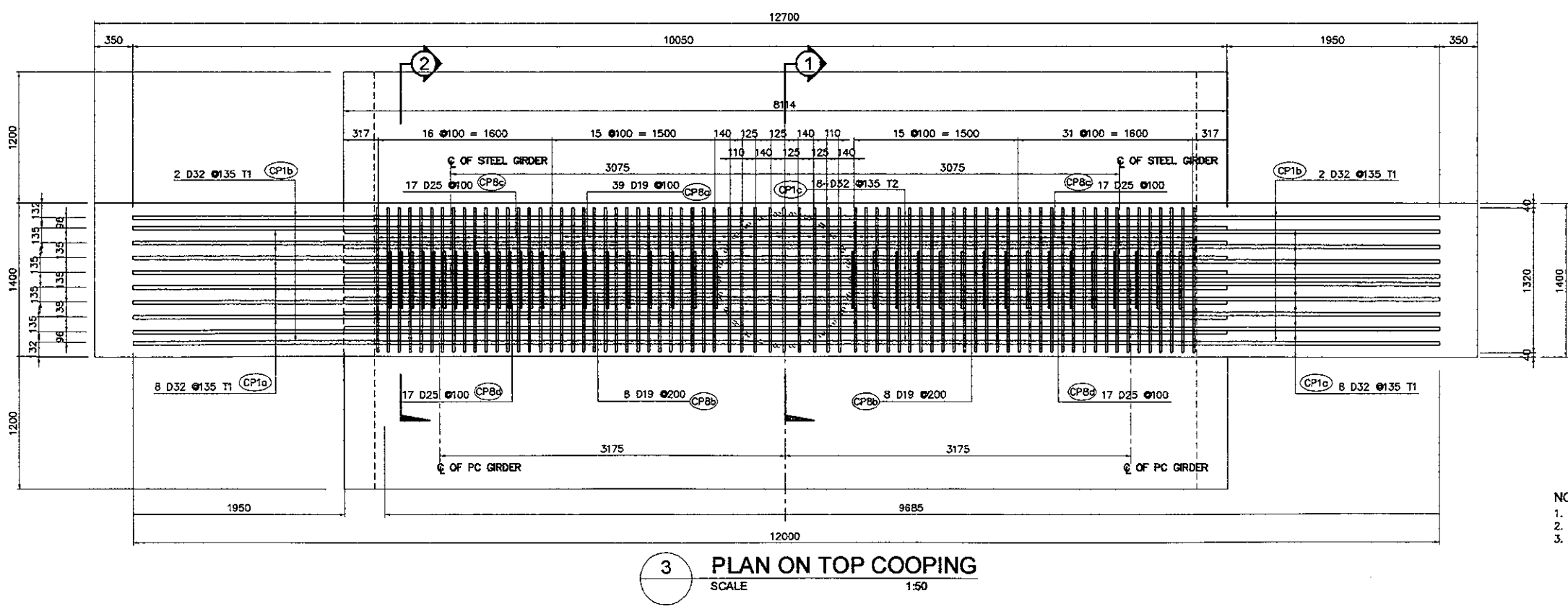
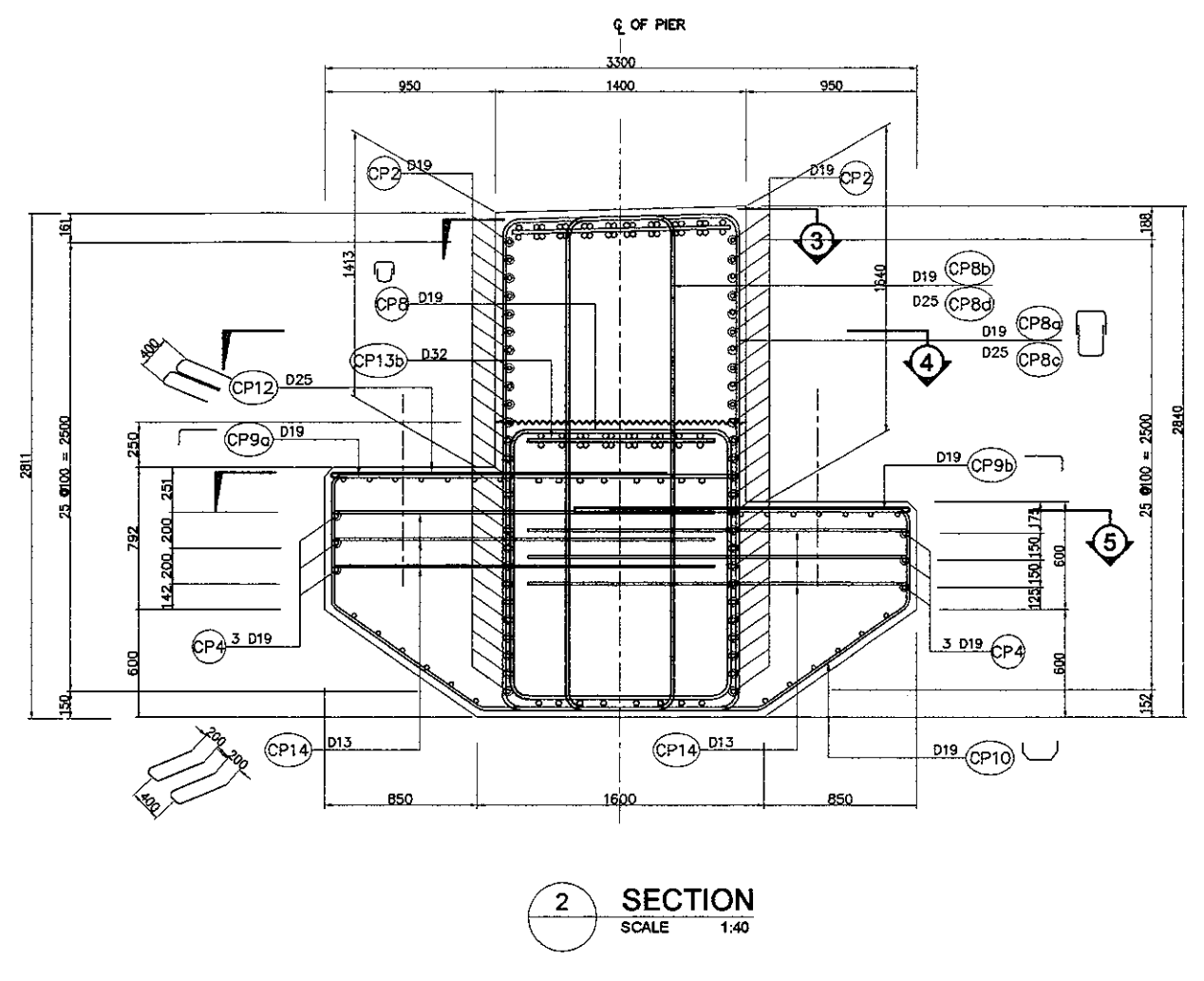
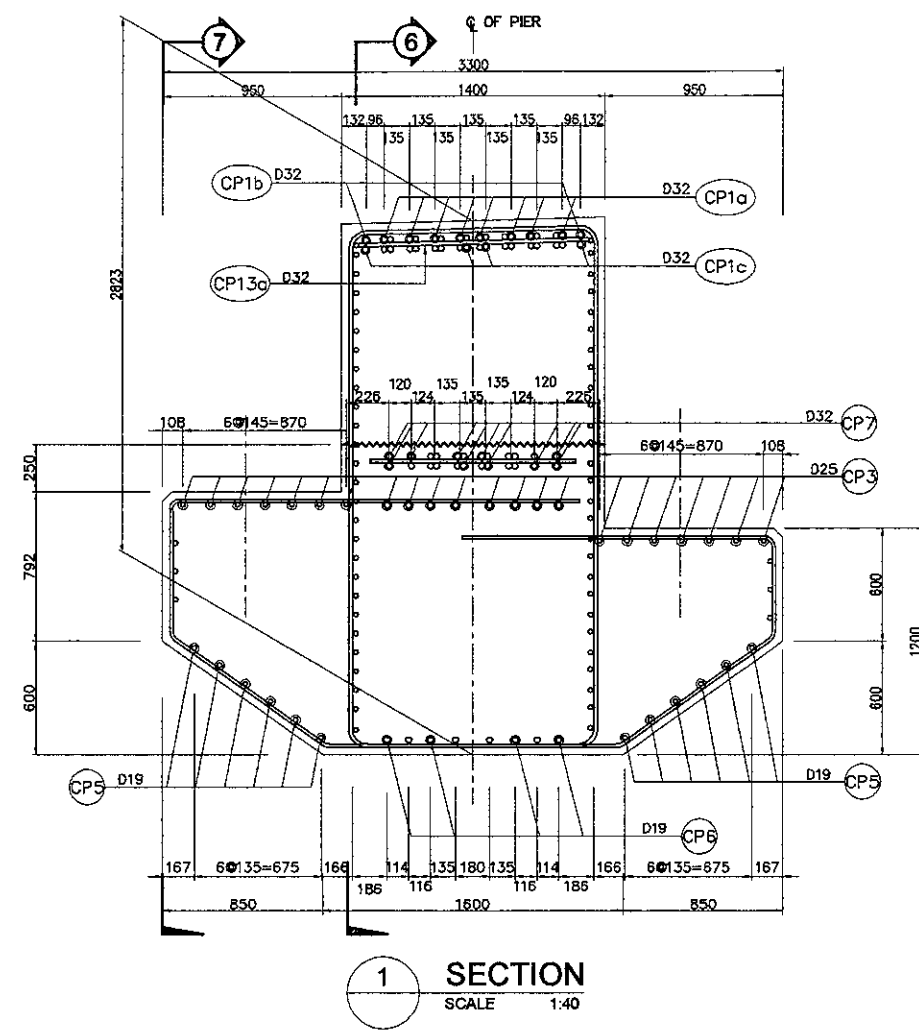
- LAP SPLICE OF COLUMN MAIN BARS WILL NOT BE ALLOWED IN ANY LOCATION.

SECTION A: SINGLE
 SECTION B: DOUBLE

WHERE: S = RADIUS OF REINFORCING BAR
 E = EFFECTIVE THROAT

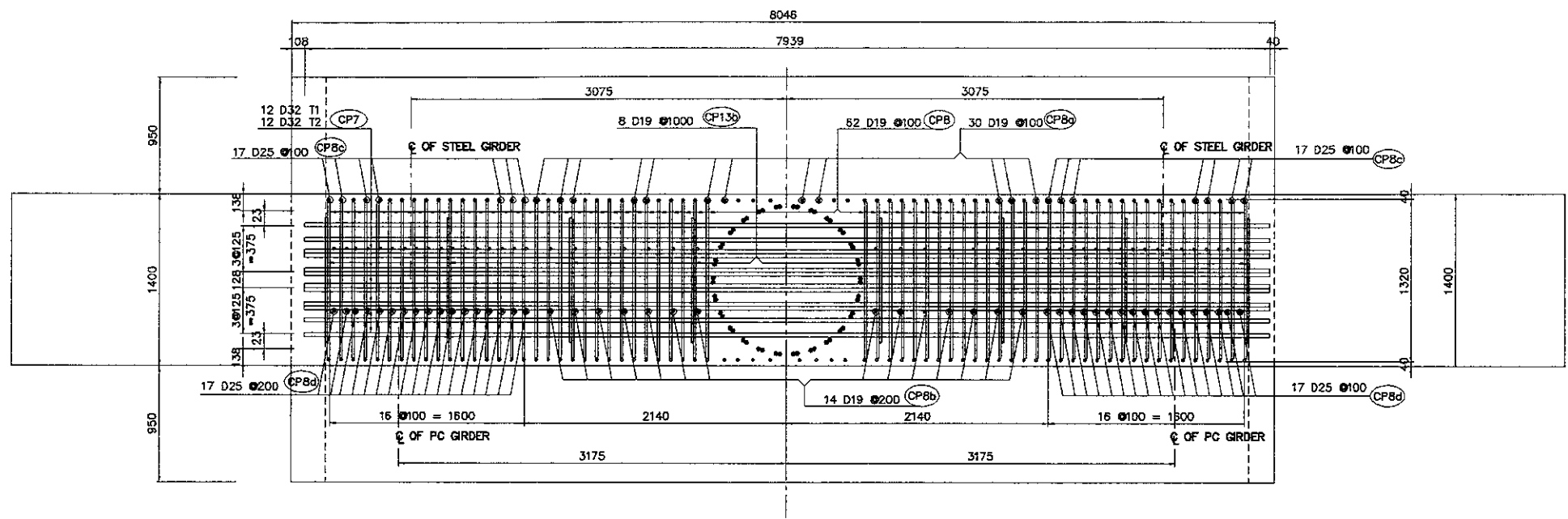
DETAILS OF LAP WELD SPLICE FOR SPIRAL

DESIGNED BY	CHECKED BY	SUBMITTED BY
Name: A. GOURLEY	Name: T. OKUMURA	Name: M. KIUCHI
Sign:	Sign:	Sign:
Date:	Date:	Date:

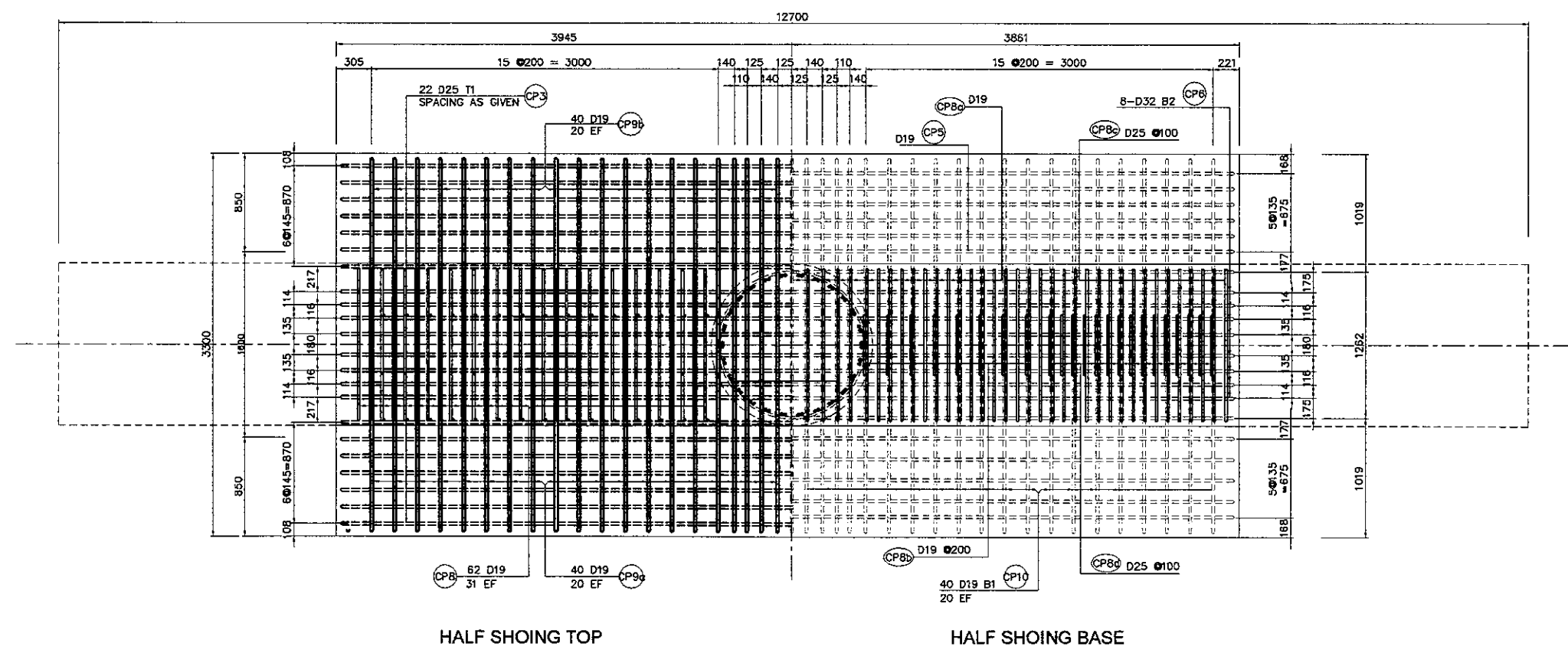


- NOTES :
- ALL DIMENSIONS ARE IN MILLIMETERS.
 - CONCRETE : $F_c' = 30MPa$
 - REINFORCING STEEL =
 D51 : YIELD STRENGTH = 345 N/mm²
 OTHERS : YIELD STRENGTH = 390 N/mm²

DESIGNED BY	CHECKED BY	SUBMITTED BY
Name: A. GOURLEY	Name: T. OKUMURA	Name: M. KIUCHI
Sign:	Sign:	Sign:
Date:	Date:	Date:

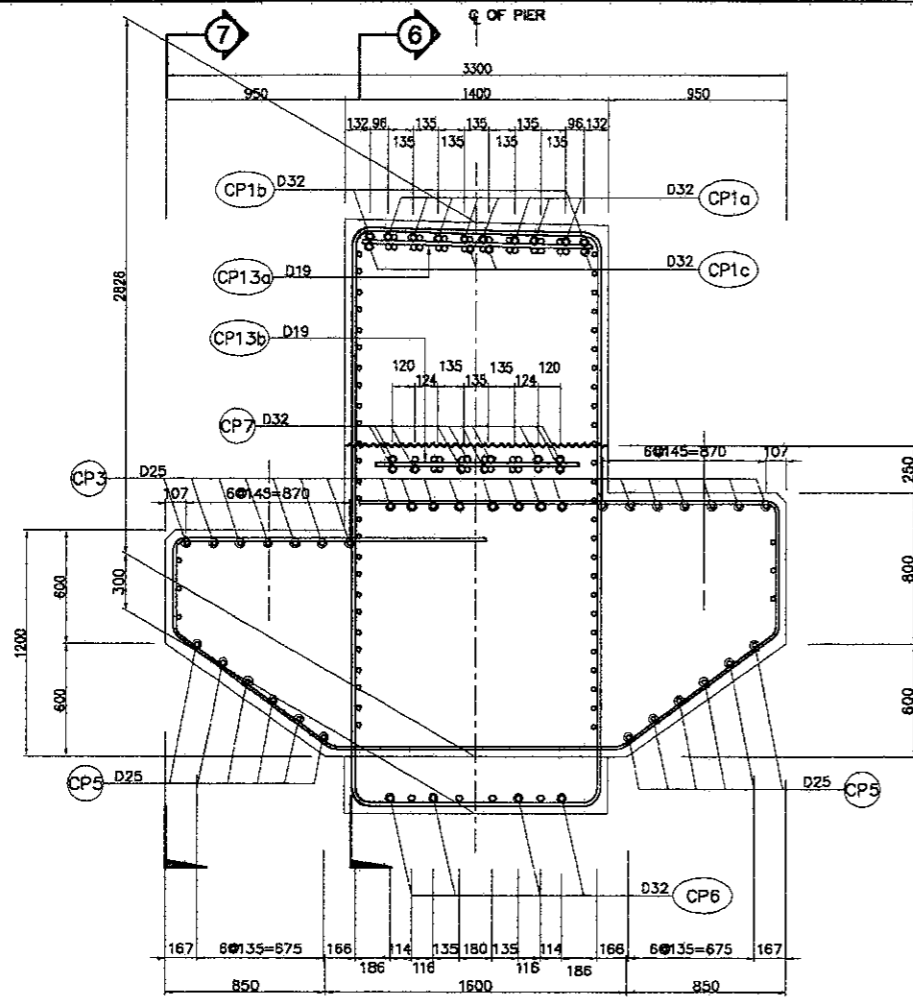


4 PLAN AT CONSTRUCTION JOINT
 SCALE 1 : 50

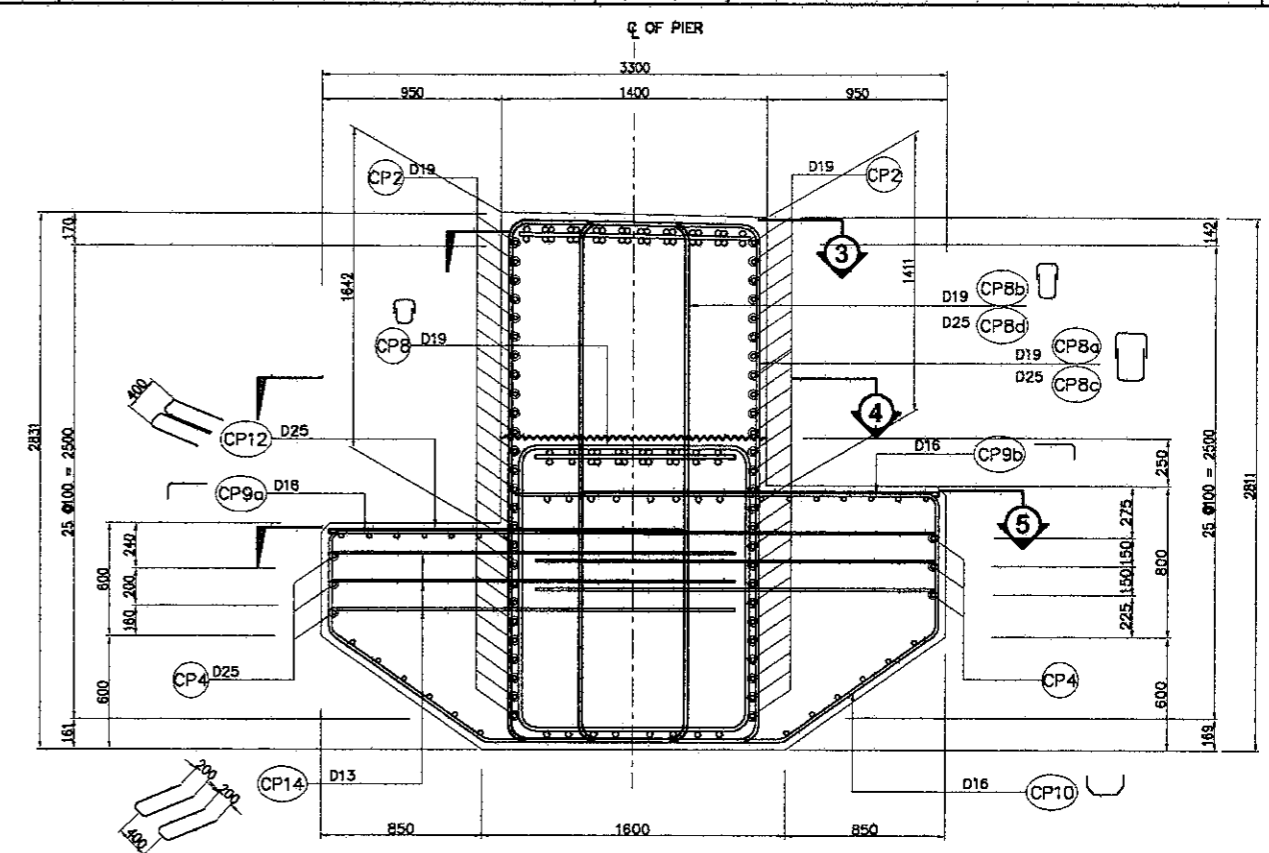


5 PLAN ON BEAM LEDGE
 SCALE 1 : 50

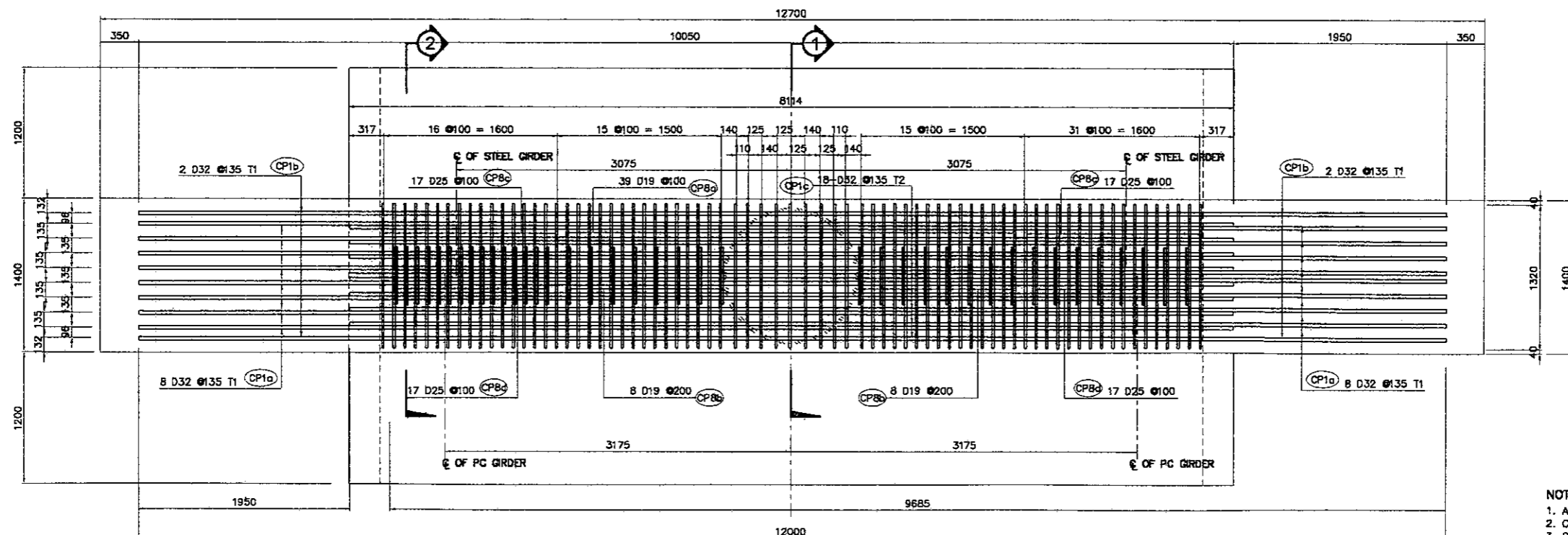
- NOTES :
- ALL DIMENSIONS ARE IN MILLIMETERS.
 - CONCRETE : $F_c' = 30 \text{ MPa}$
 - REINFORCING STEEL =
 D51 : YIELD STRENGTH = 345 N/mm²
 OTHERS : YIELD STRENGTH = 390 N/mm²



1 SECTION
 SCALE 1:40

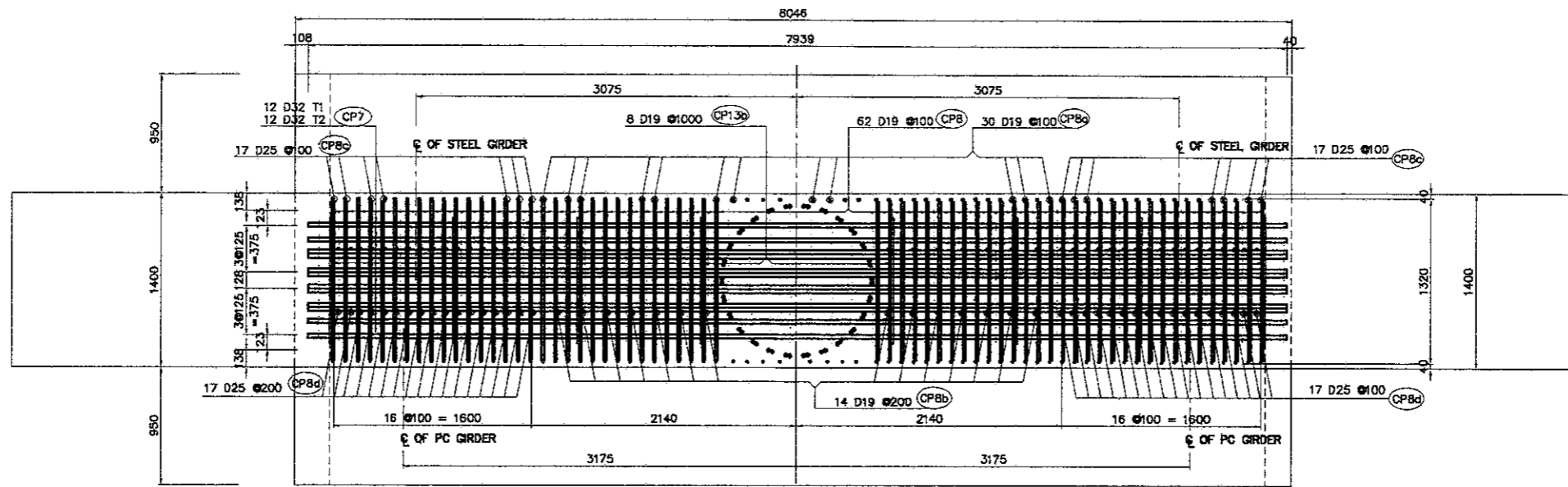


2 SECTION
 SCALE 1:40

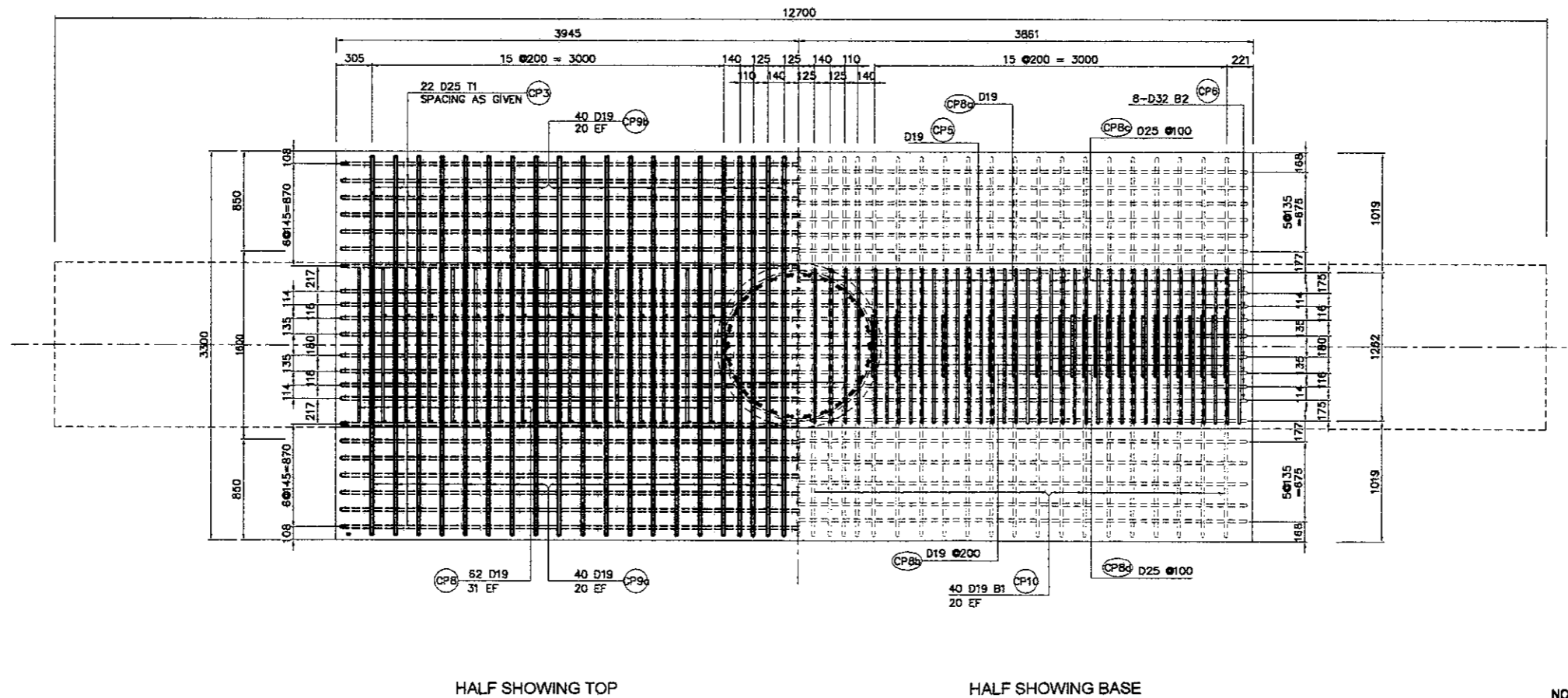


3 PLAN ON TOP COPPING
 SCALE 1:50

- NOTES :**
- ALL DIMENSIONS ARE IN MILLIMETERS.
 - CONCRETE : $F_c' = 30\text{MPa}$
 - REINFORCING STEEL =
 - D51 : YIELD STRENGTH = 345 N/mm²
 - OTHERS : YIELD STRENGTH = 390 N/mm²



4 PLAN AT CONSTRUCTION JOINT
 SCALE 1 : 50

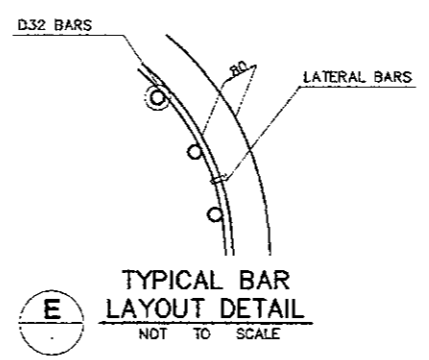
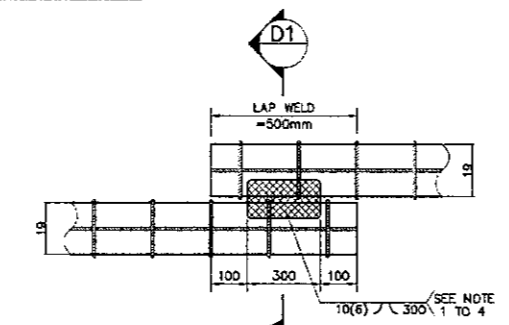
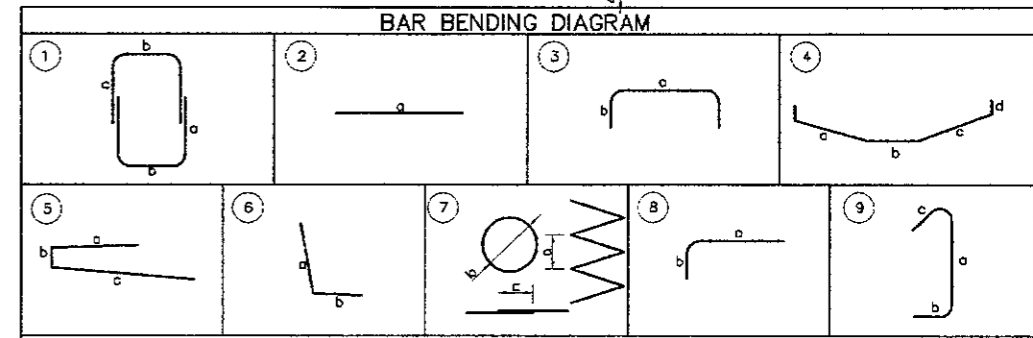
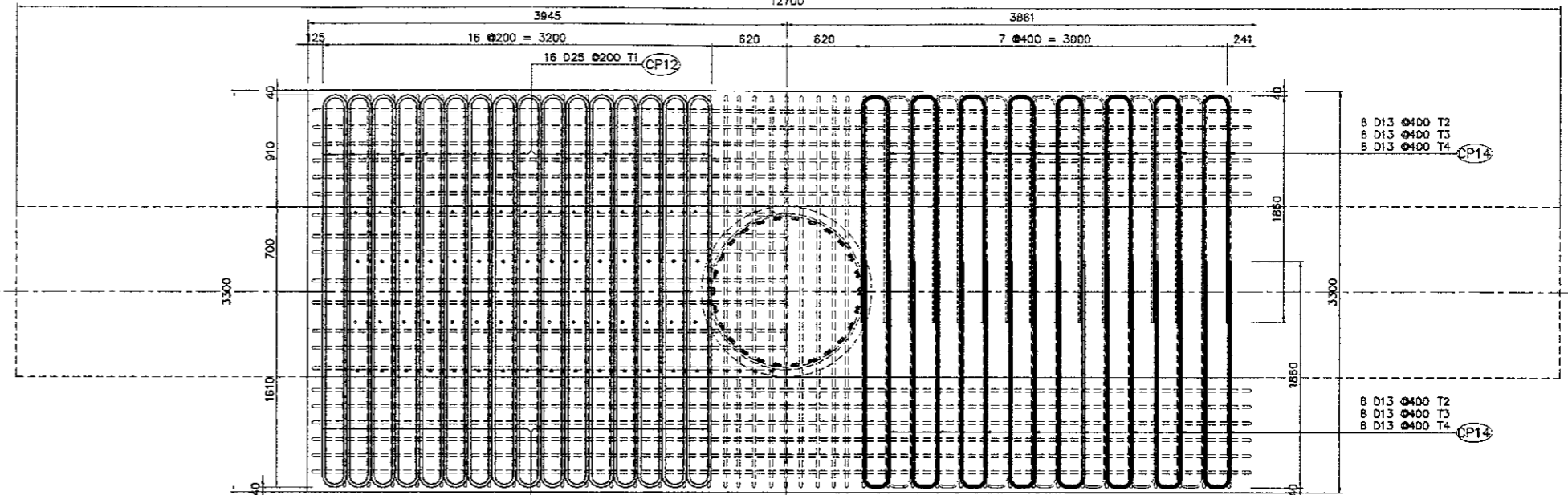
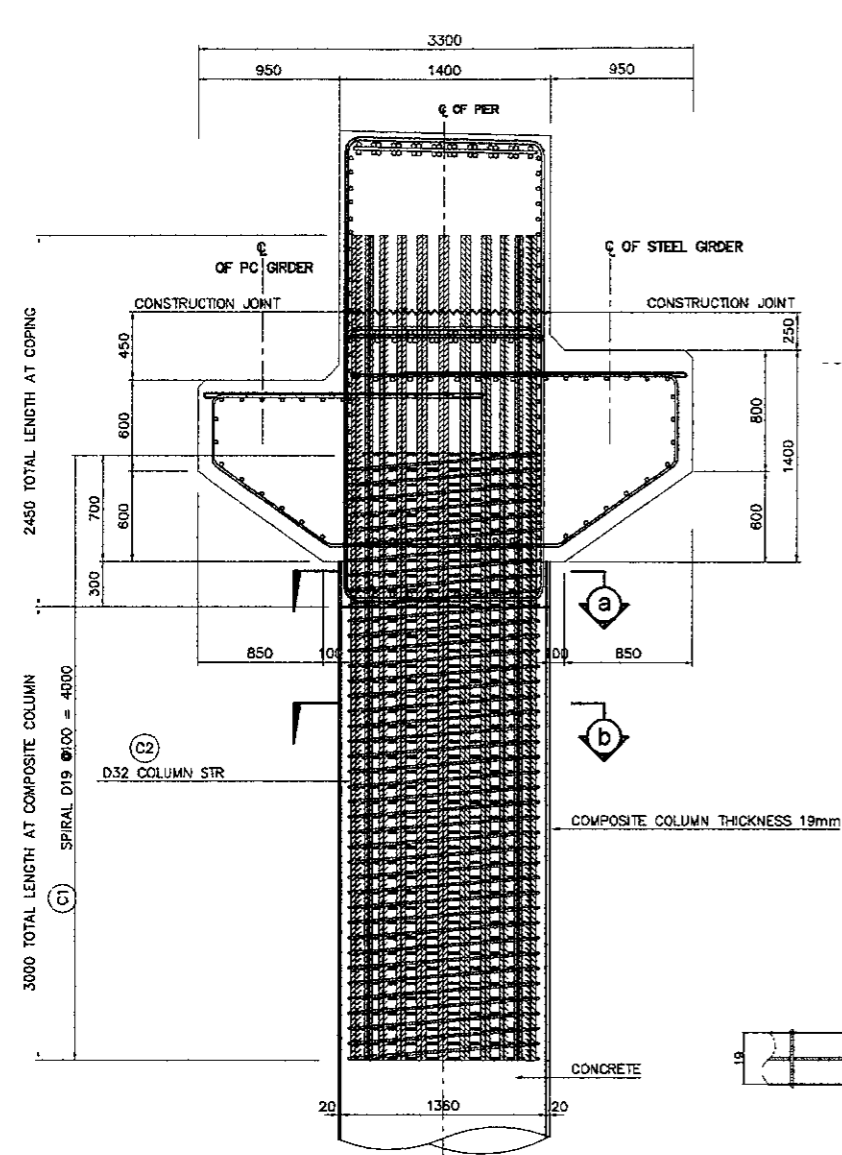


HALF SHOWING TOP HALF SHOWING BASE

5 PLAN ON BEAM LEDGE
 SCALE 1 : 50

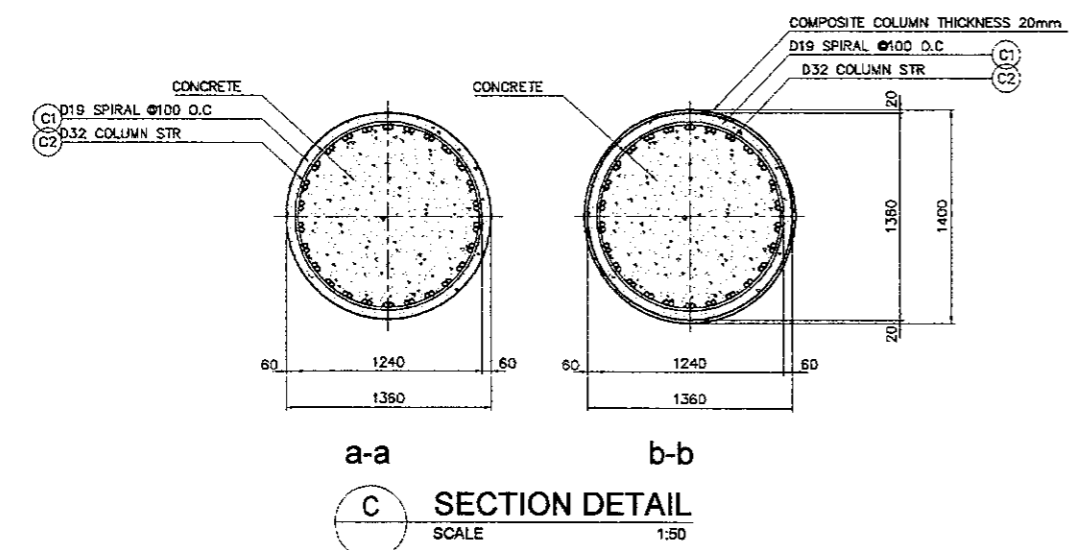
NOTES :

- ALL DIMENSIONS ARE IN MILLIMETERS.
- CONCRETE : $f_c' = 30\text{MPa}$
- REINFORCING STEEL =
 D51 : YIELD STRENGTH = 345 N/mm²
 OTHERS : YIELD STRENGTH = 390 N/mm²



SCHEDULE OF REINFORCEMENT

LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION (mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m.)	WEIGHT (kg.)	VOLUME OF CONCRETE (m ³)	
				a	b	c	d	e	f						
COPING PIER 7	CP1a	32	2	10050							10050	16	6.31	1015	54.53
	CP1b	32	2	12000							12000	2	6.31	151	
	CP1c	32	2	8100							8100	18	6.31	920	
	CP2	19	2	7545							7545	52	2.23	875	
	CP2a	19	3	1250	1250						3750	52	2.23	435	
	CP3	25	2	7726							7726	22	3.85	654	
	CP4	19	2	7480							7480	6	2.23	100	
	CP4a	19	8	2100	1015						3115	12	2.23	83	
	CP5	19	2	7480							7480	12	2.23	200	
	CP5a	19	8	1650	1015						2665	24	2.23	143	
	CP6	19	4	3055	1590	3035					7680	8	2.23	137	
	CP7	32	2	7900							7900	24	6.31	1196	
	CP8	19	1	1244	1210	1000					6908	62	2.23	955	
	CP8a	19	1	2731	1300	1125					10312	39	2.23	897	
	CP8b	19	1	2731	575	1125					8862	16	2.23	316	
	CP8c	25	1	2731	1300	1125					10312	34	3.85	1350	
	CP8d	25	1	2731	575	1125					8862	34	3.85	1180	
	CP9a	19	8	1650	700						3050	40	2.23	272	
CP9b	19	8	2230	500						3230	40	2.23	288		
CP10	19	4	1000	1570	1000	500				4570	40	2.23	408		
CP11	19	6	2650	1000						3650	16	2.23	130		
CP12	25	3	200	1800						3800	64	3.85	936		
CP13a	32	2	1200							1200	8	6.31	61		
CP13b	32	2	1075							1075	8	6.31	54		
CP14	13	3	200	1800						3800	96	1.04	380		
CP15	13	3	1300	200						1700	24	1.04	42		
CP15a	16	3	1300	350						2000	38	1.58	120		
CP16	19	5	2200	165	3000					5365	20	2.23	240		
CP16a	19	5	2200	165	165					2630	12	2.23	68		
CP17	13	9	350	165	165					680	28	1.04	20		
CP18	19	5	400	1100	400					1900	24	2.23	102		
TOTAL WEIGHT FOR / COPING = 13,706 Kgs.															
COPING CONNECTION															
C1	19	7	100	1280	500					171740	1	2.23	383		
C2	32	STR	5450							5450	52	6.31	1788		
TOTAL WEIGHT FOR / COLUMN = 2,171 Kgs.															



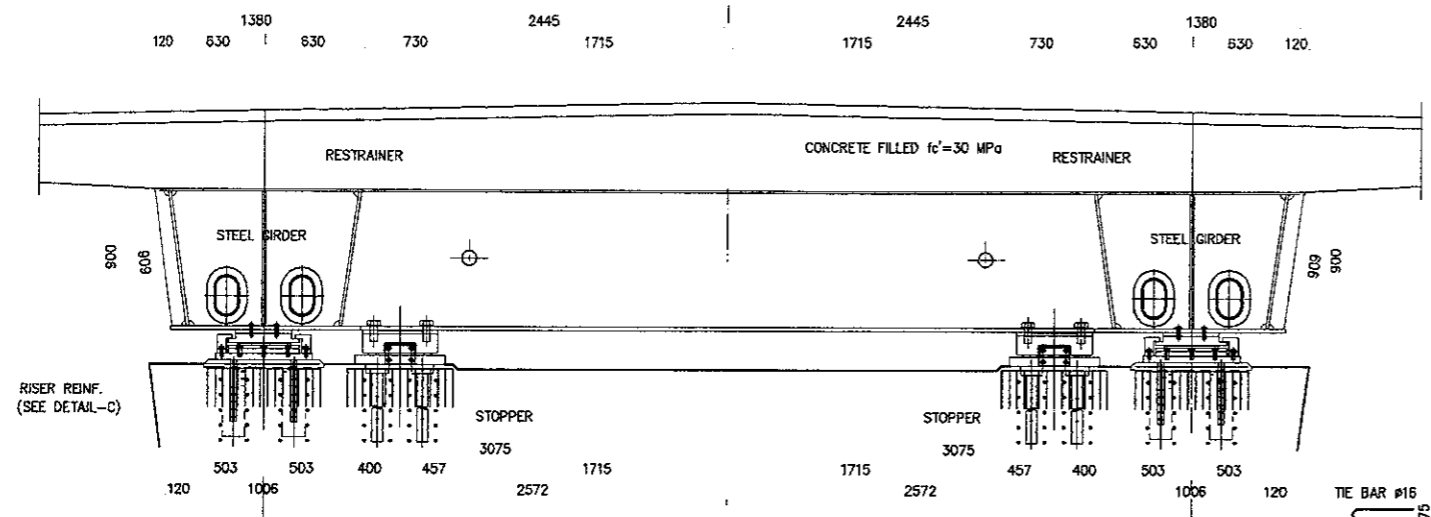
NOTES ON LAP-WELD CONNECTION :

- SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
- WELDING SHOULD CONFORM TO AWS (D1.4) *STRUCTURAL WELDING CODE REINFORCED STEEL.*
- USE ELECTRODE E90XX.
- CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN DURING WELDING.

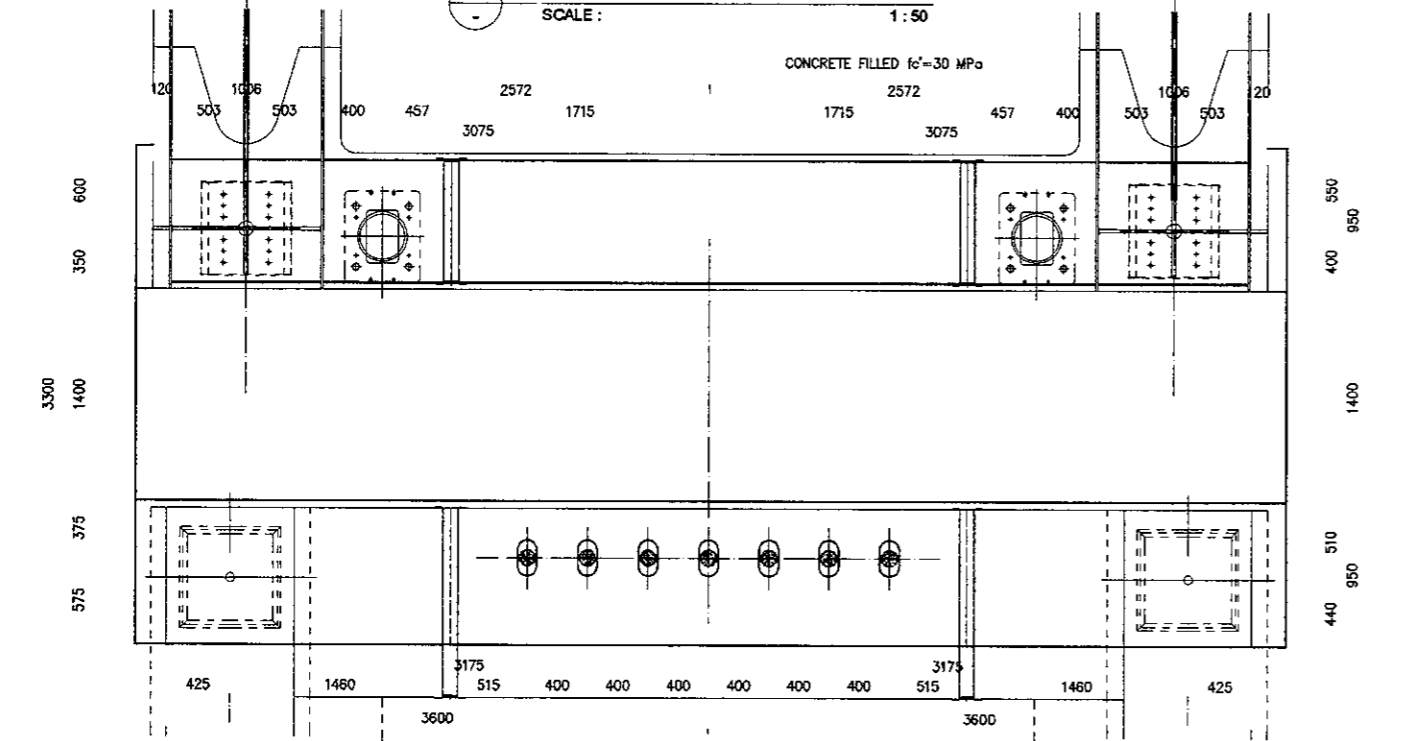
NOTES :

- ALL DIMENSIONS ARE IN MILLIMETERS.
- CONCRETE : F_c' = 30MPa
- REINFORCING STEEL = D51 : YIELD STRENGTH = 345 N/mm²
 OTHERS : YIELD STRENGTH = 390 N/mm²

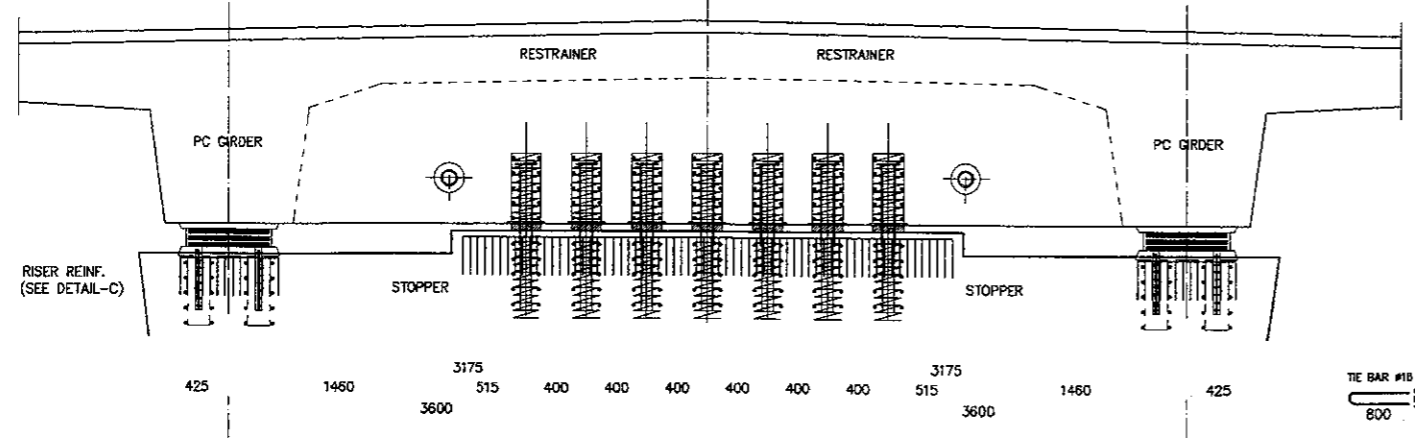
THE REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.



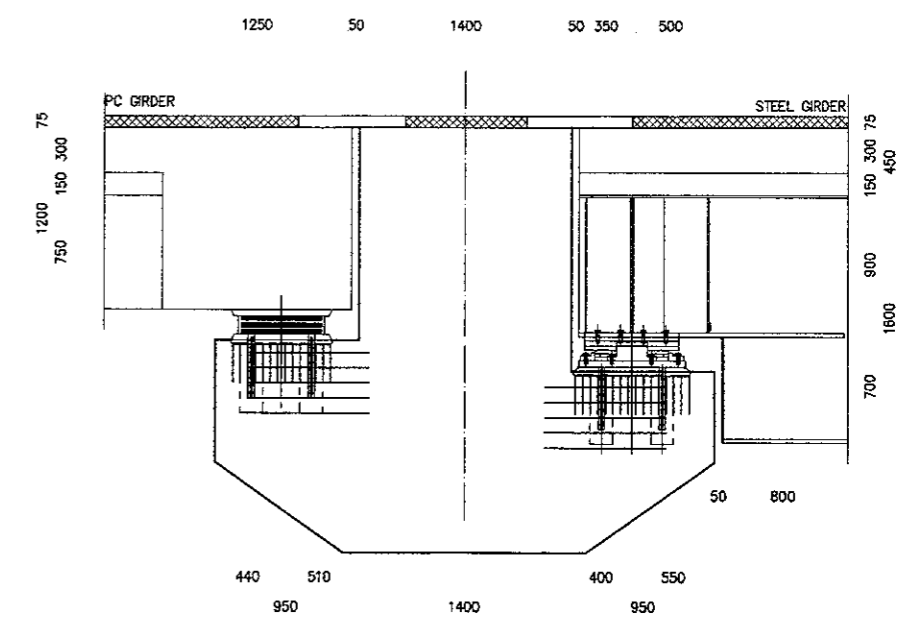
3
 ELEVATION OF STEEL GIRDER
 SCALE : 1 : 50



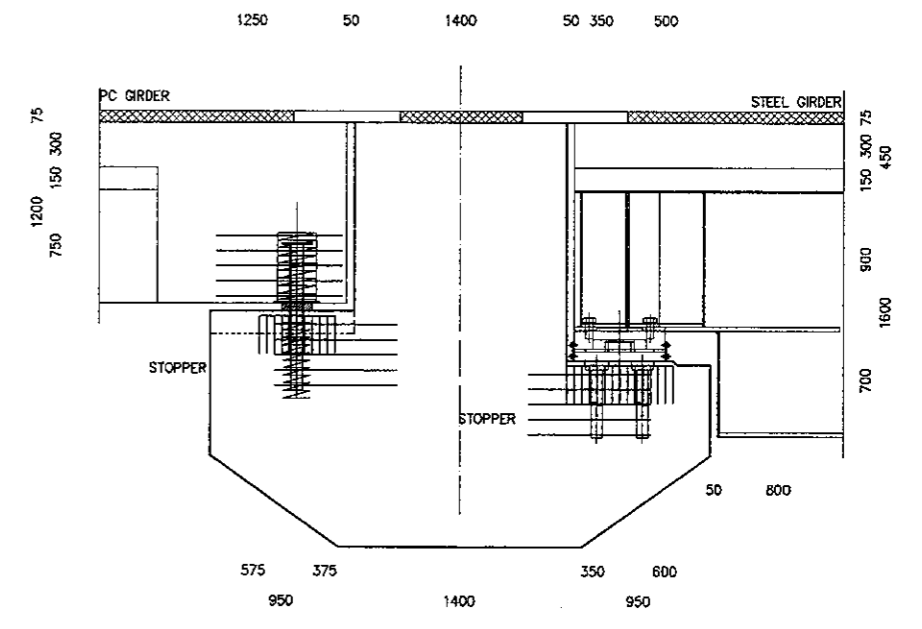
2
 PLAN
 SCALE : 1 : 50



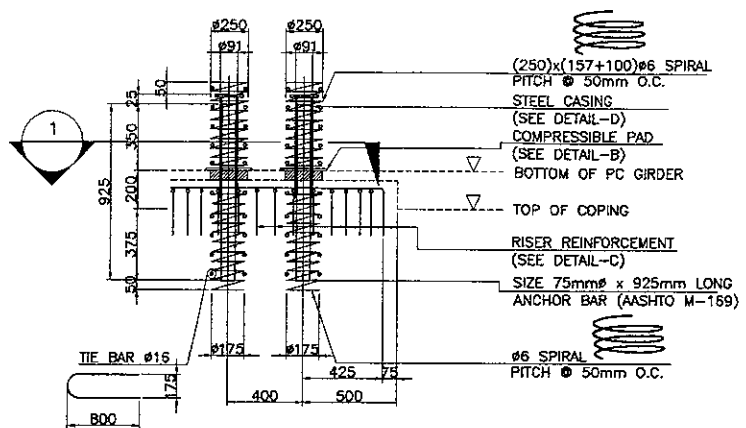
1
 ELEVATION OF PC GIRDER
 SCALE : 1 : 50



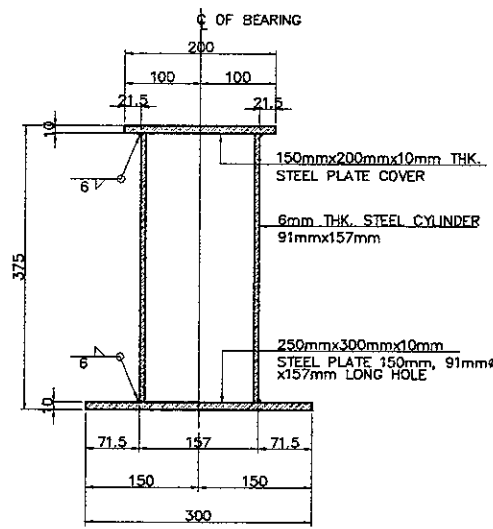
4
 SECTION AT BEARING
 SCALE : 1 : 50



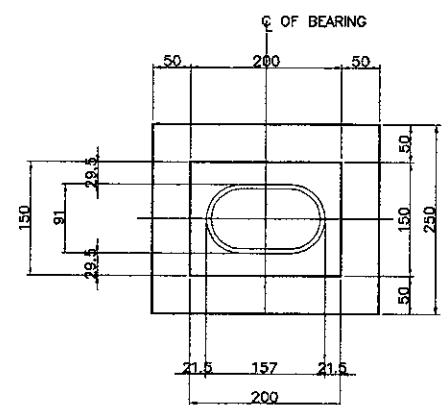
5
 SECTION AT STOPER
 SCALE : 1 : 50



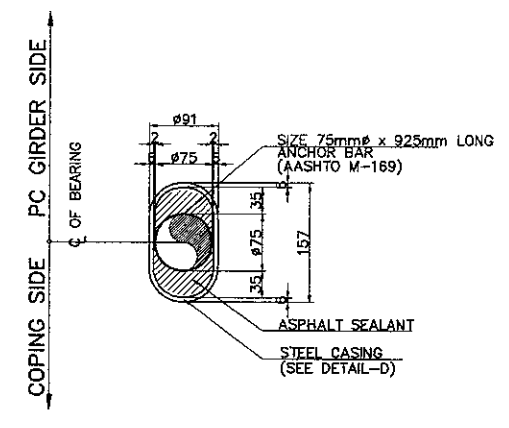
A DOWEL BAR DETAILS
 SCALE : 1:40



D1 ELEVATION
 SCALE : 1:10

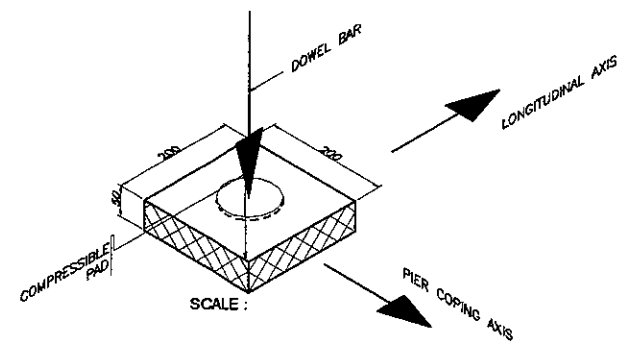


D2 PLAN
 SCALE : 1:10

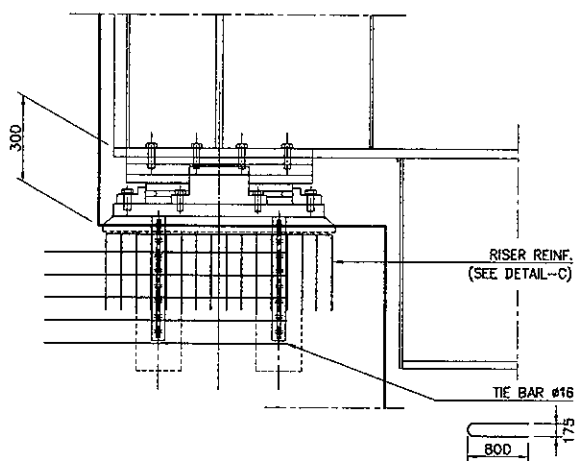


1 SECTION
 SCALE : 1:10

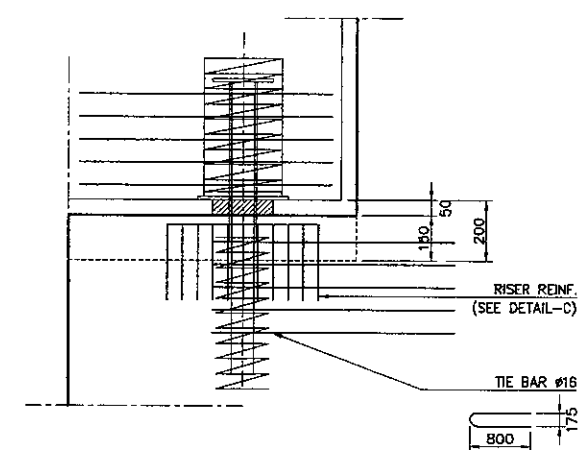
D STEEL CASING DETAILS
 SCALE : 1:10



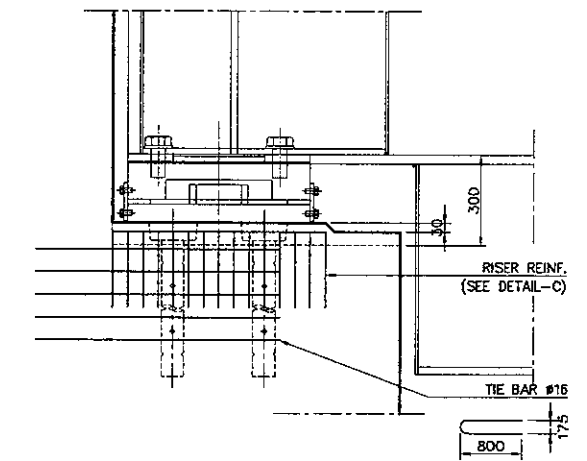
B COMPRESSIBLE PAD FOR DOWELS
 SCALE : 1:10



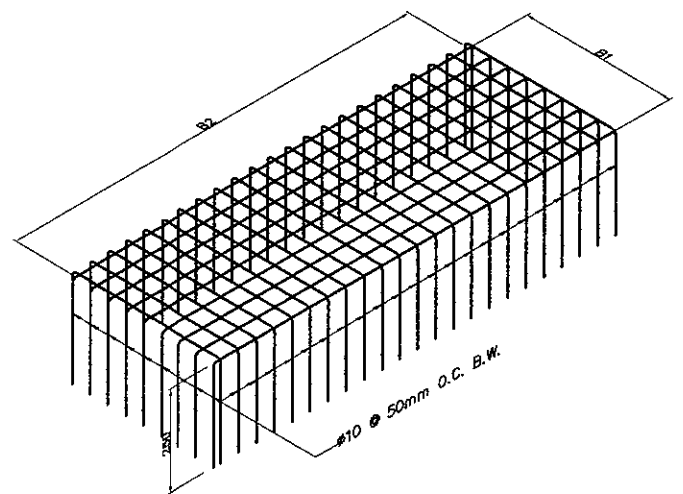
3 DETAIL AT BEARING (STEEL)
 SCALE : 1:25



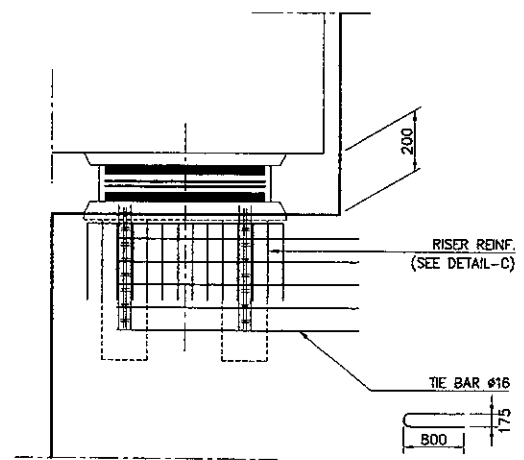
4 DETAIL AT STOPPER (PC)
 SCALE : 1:25



5 DETAIL AT STOPPER (STEEL)
 SCALE : 1:25



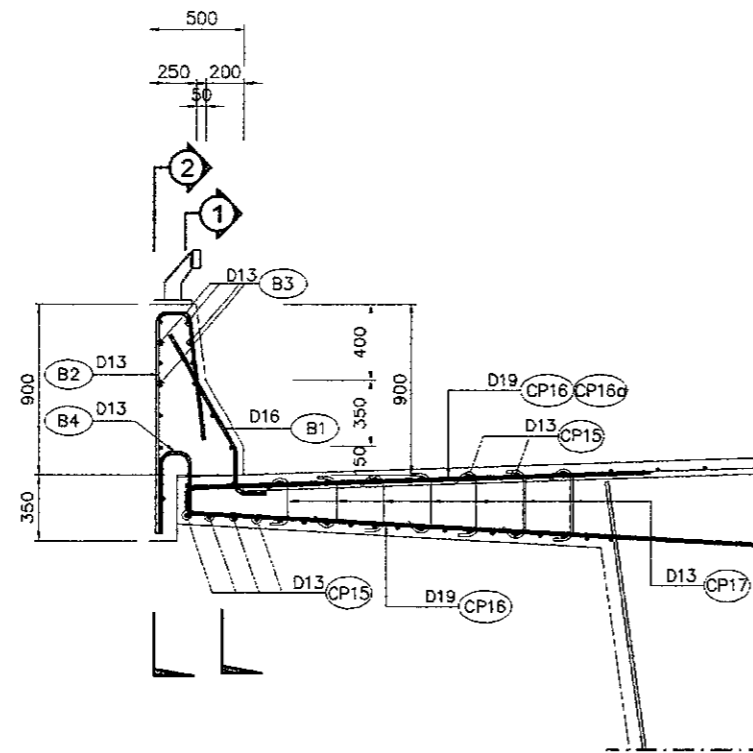
C RISER REINFORCEMENT
 NOT TO SCALE



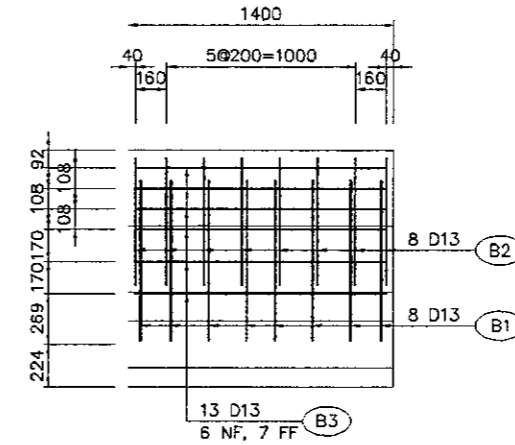
2 DETAIL AT BEARING (PC)
 SCALE : 1:25

PIER NO.		SCHEDULE OF RISER REINFORCEMENT & TIE BAR											
		RISER REINFORCEMENT								TIE BAR			
		BEARING				STOPPER				BEARING		STOPPER	
		LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT
		B1	B2	B1	B2	B1	B2	B1	B2	QTY.	QTY.	QTY.	QTY.
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(PCS.)	(PCS.)	(PCS.)	(PCS.)
P4	PC CONC.	650	650	650	650	500	1625	500	1625	10	10	35	35
	STEEL GIRDER	800	750	800	750	700	700	700	700	10	10	10	10
P7	PC CONC.	650	650	650	650	500	1625	500	1625	10	10	35	35
	STEEL GIRDER	800	750	800	750	700	700	700	700	10	10	10	10

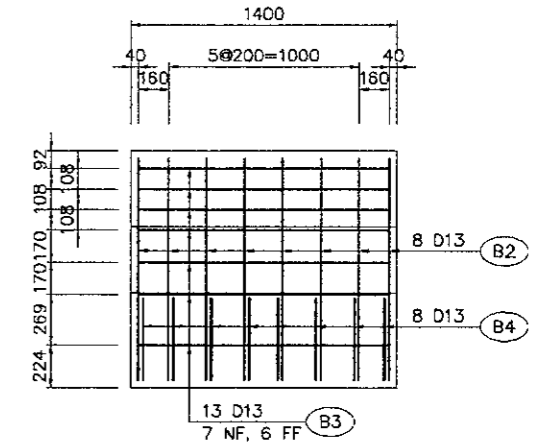
NOTE:
 ALL METALS SHALL BE HOT-DIPPED GALVANIZED CONFORMING TO LATEST ASTM REQUIREMENTS.



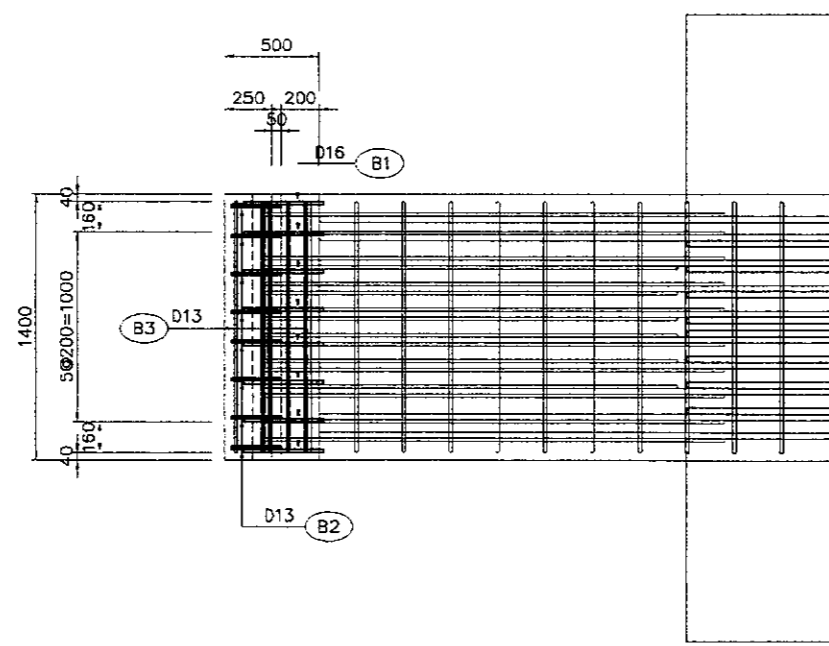
2 ELEVATION
 SCALE 1:40



3 SECTION 1-1
 SCALE 1:40



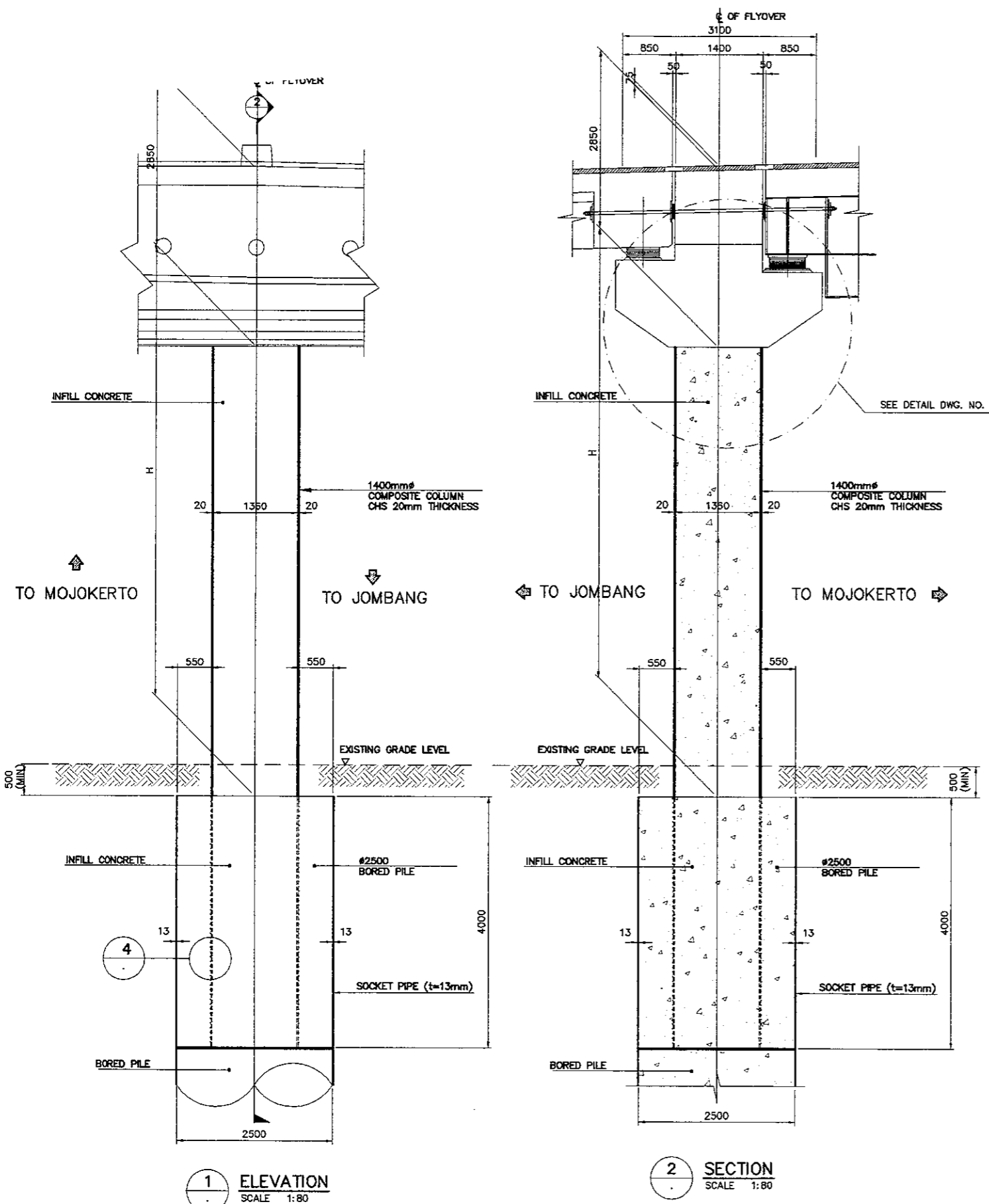
4 SECTION 2-2
 SCALE 1:40



1 PLAN
 SCALE 1:40

BAR BENDING DIAGRAM														
1		2		3		4								
SCHEDULE OF REINFORCEMENT														
LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION (mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m.)	WEIGHT (kg.)	VOLUME OF CONCRETE (cu.m)
				a	b	c	d	e	f					
BARRIER PIER 4, PIER 7	BARRIER													
	B1	16	1	700	220	150				1070	8	1.58	14	0.378
	B2	13	2	1185	650	145				1960	8	1.04	16	
	B3	13	3	1320						1320	13	1.04	18	
B4	13	4	420	330	160				910	8	1.04	8		
TOTAL WEIGHT FOR / BARRIER = 56 Kgs.														
THE REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY, THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.														

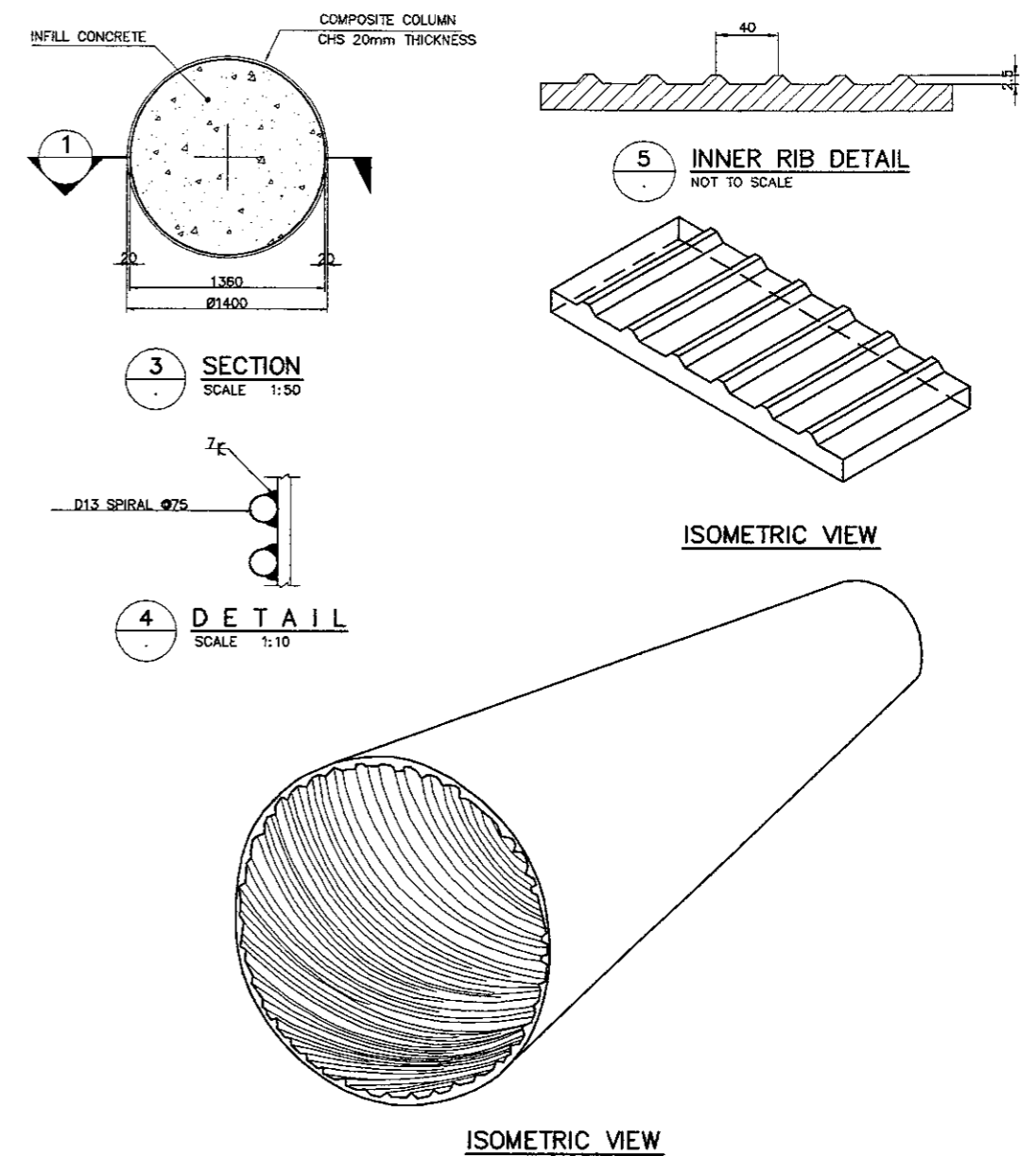
- NOTES :
- ALL DIMENSION ARE IN MILLIMETERS.
 - CONCRETE : $f_c' = 30 \text{ MPa}$
 - REINFORCING STEEL : YIELD STRENGTH = 390 N/mm^2



1 ELEVATION
 SCALE 1:80

2 SECTION
 SCALE 1:80

COMPOSITE COLUMN CASING DETAIL (P4)
 SCALE AS SHOWN



3 SECTION
 SCALE 1:50

4 DETAIL
 SCALE 1:10

5 INNER RIB DETAIL
 NOT TO SCALE

ISOMETRIC VIEW

ISOMETRIC VIEW

BAR BENDING DIAGRAM

SCHEDULE OF REINFORCEMENT

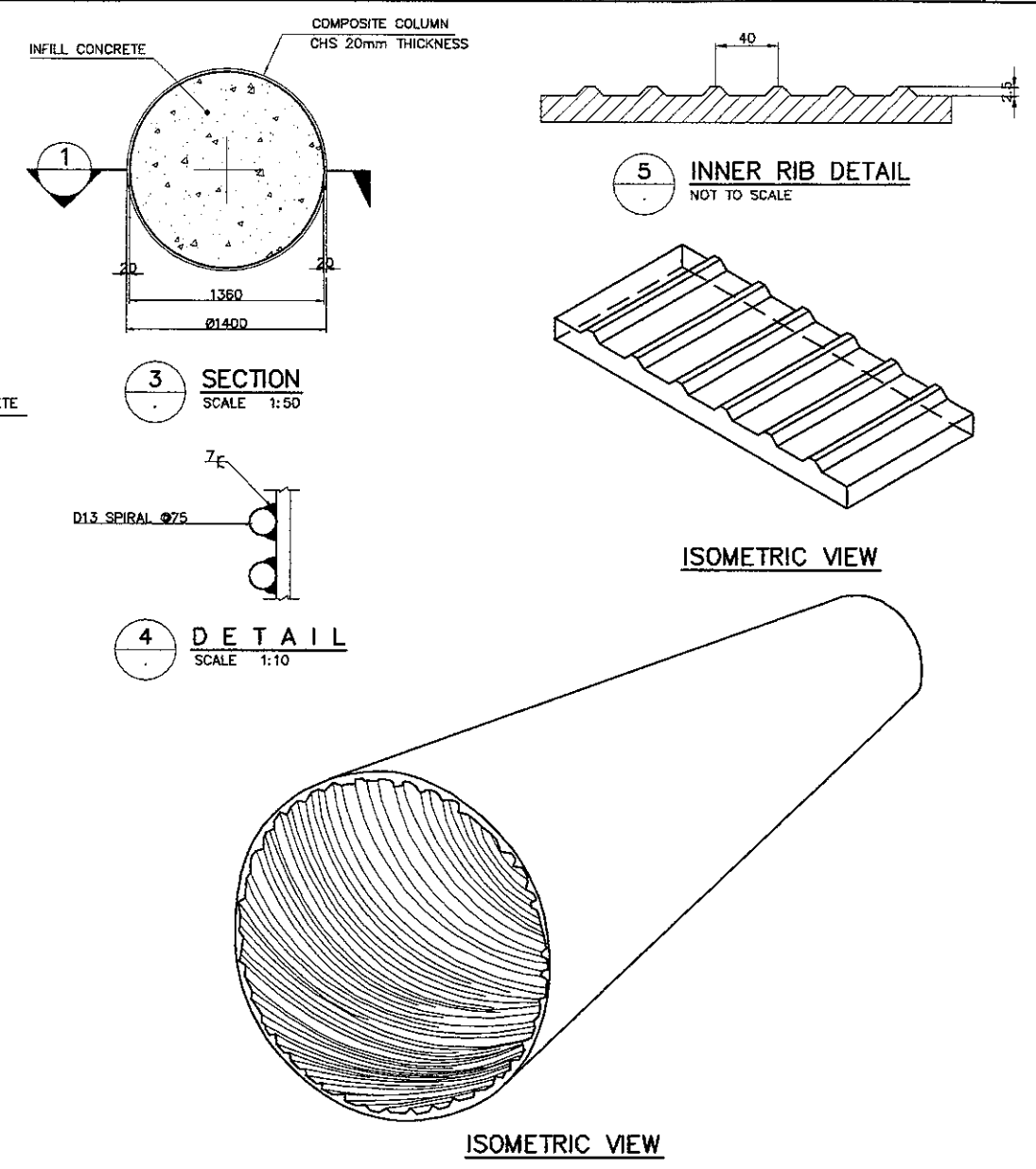
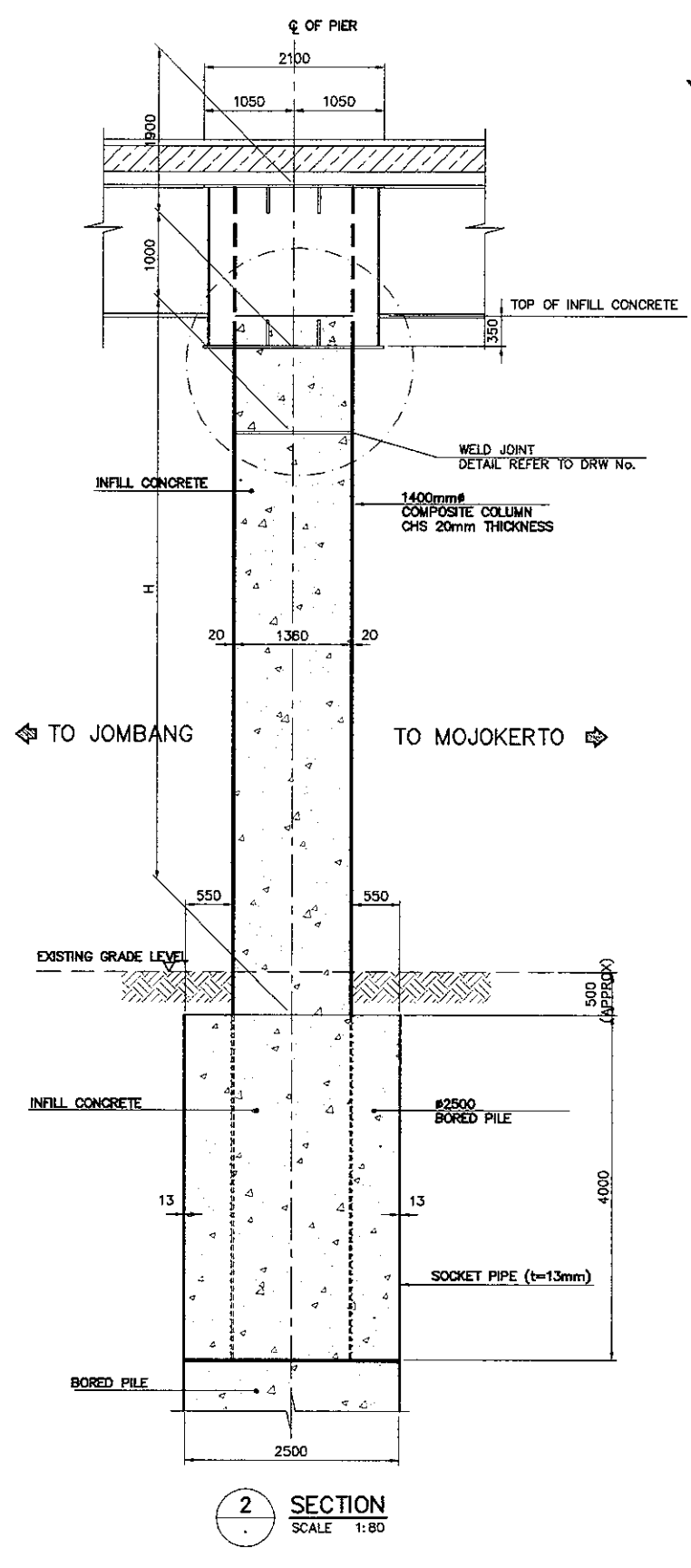
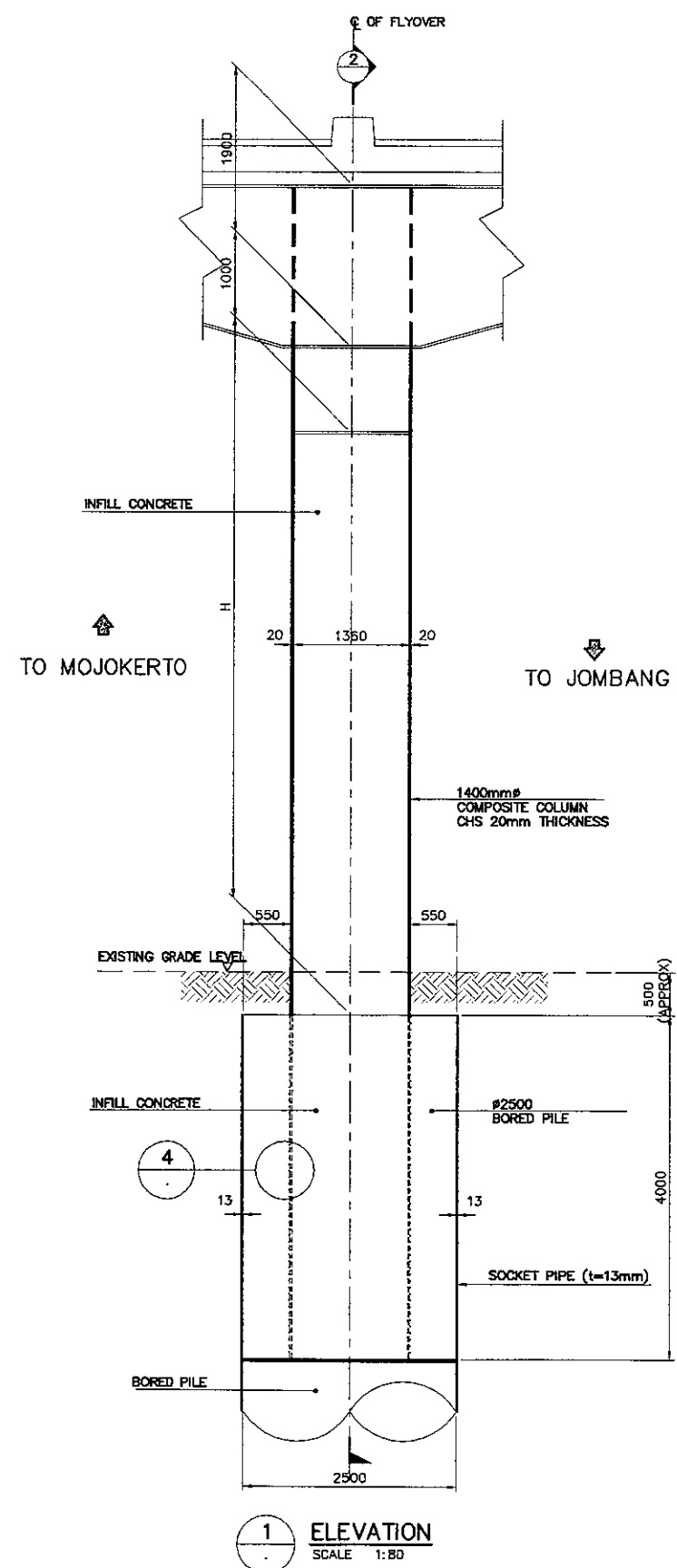
LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)
				a	b	c	d	e	f				
PIER P4		13	-	75	1400	450				245410	1	1.04	256
				TOTAL WEIGHT / COLUMN = 256 Kgs.									

CONCRETE VOLUME (m3)
P4 16.261

PIER NO.	DIMENSION(mm) OUT TO OUT				TOTAL LENGTH	REMARKS
	NO. OF PCS.	HEIGHT (H)	DIAMETER (MM)*	THICKNESS (MM)		
P4	1	7194	1400	19	11194	CORRUGATED

* OUTSIDE DIAMETER OF COMPOSITE COLUMN

- NOTES :
- ALL DIMENSIONS ARE IN MILLIMETERS
 - CONCRETE : $f_c' = 30 \text{ MPa}$
 - REINFORCING STEEL : YIELD STRENGTH = 390 N/mm^2



BAR BENDING DIAGRAM

SCHEDULE OF REINFORCEMENT

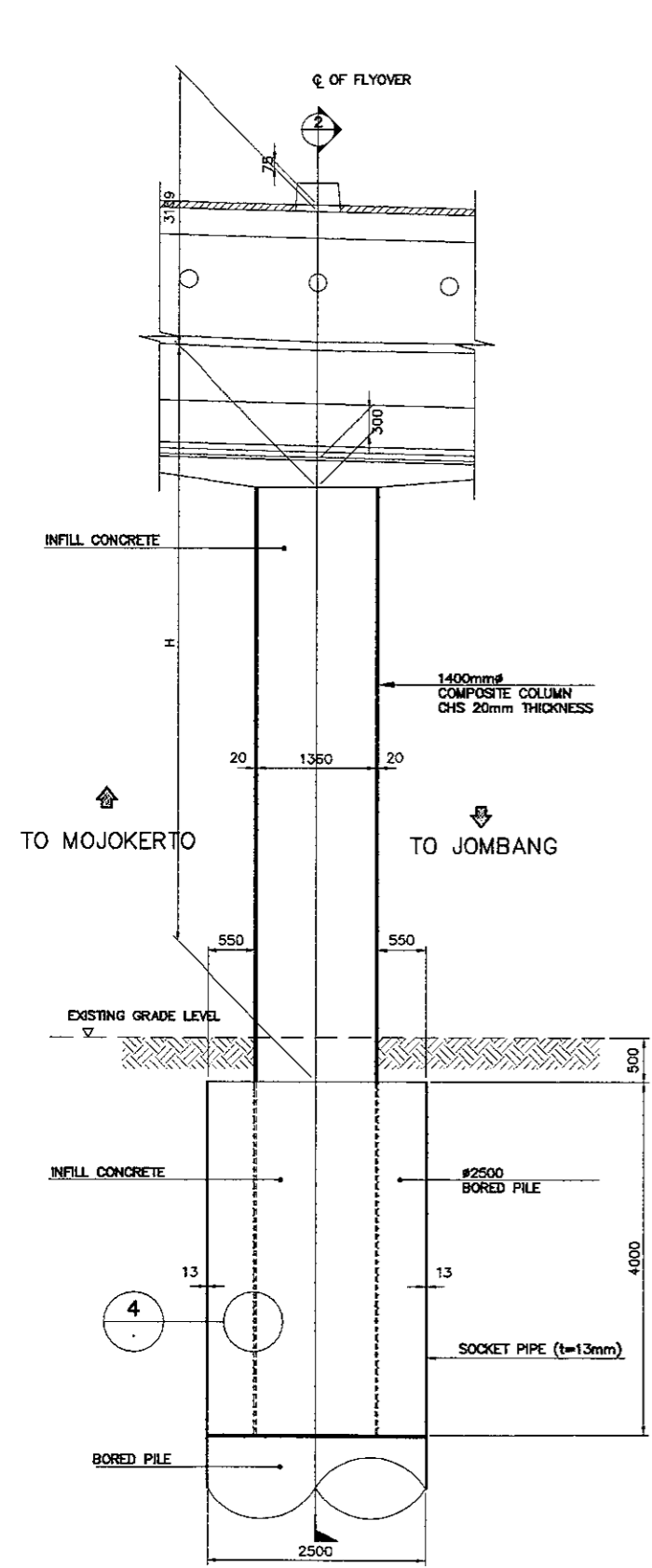
LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	
				a	b	c	d	e	f					
PIER P5 & P6		13	--	75	1400	450					246410	1	1.04	256
	TOTAL WEIGHT / COLUMN = 256 Kgs.													

CONCRETE VOLUME (m3)	DIMENSION(mm) OUT TO OUT				REMARKS	
	PIER NO.	NO. OF PCS.	HEIGHT (H)	TOTAL LENGTH		
P5	1	7222	1400	19	13122	CORRUGATED
P6	1	7232	1400	19	13132	CORRUGATED

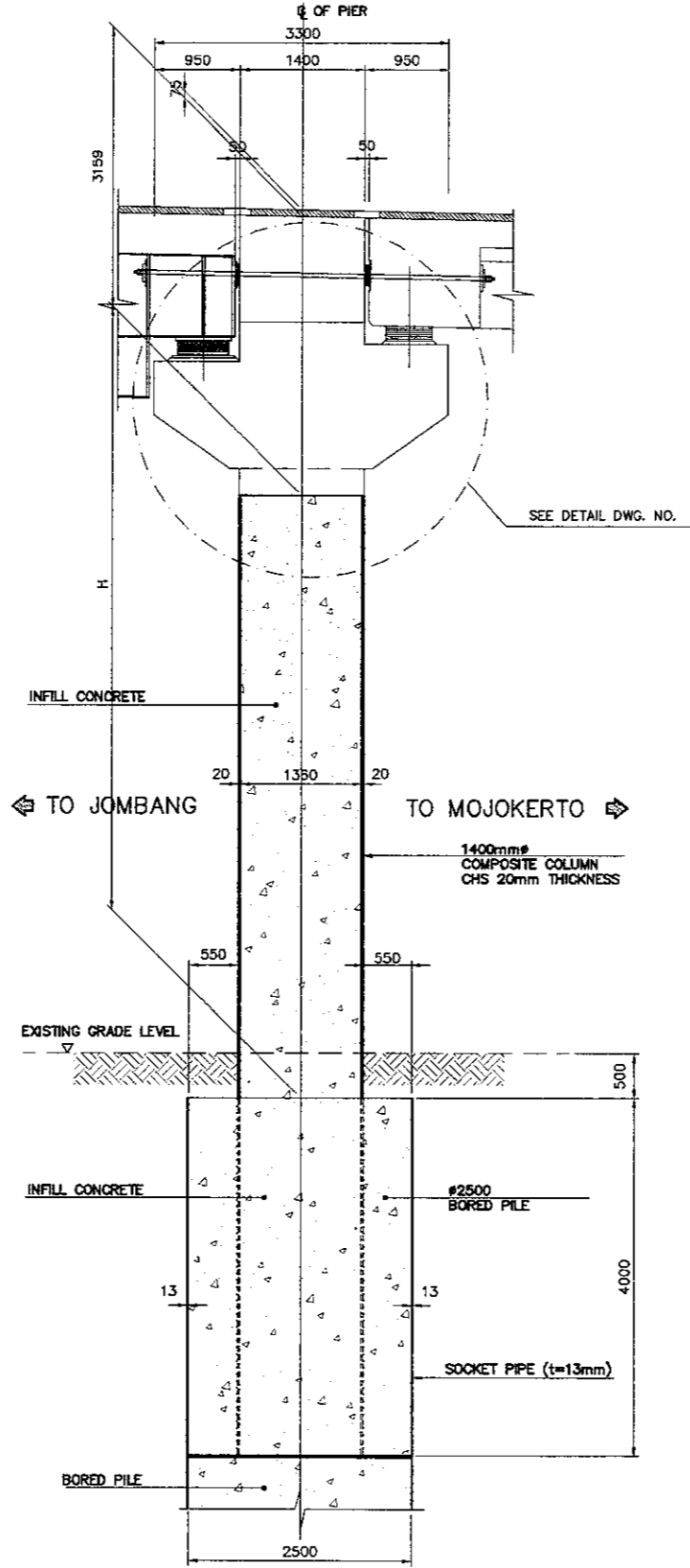
* OUTSIDE DIAMETER OF COMPOSITE COLUMN

COMPOSITE COLUMN CASING DETAIL (P5 & P6)
 SCALE AS SHOWN

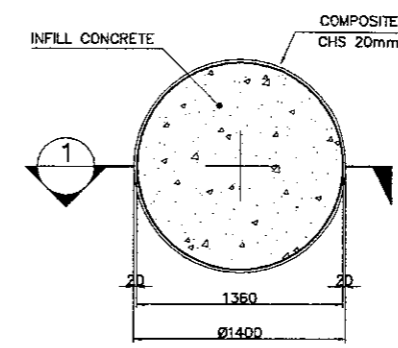
NOTES :
 1. ALL DIMENSIONS ARE IN MILLIMETERS
 2. CONCRETE : $f_c' = 30 \text{ MPa}$
 3. REINFORCING STEEL : YIELD STRENGTH = 390 N/mm^2



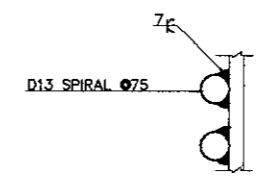
1 ELEVATION
 SCALE 1:80



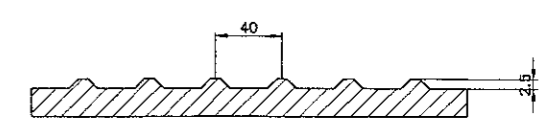
2 SECTION
 SCALE 1:80



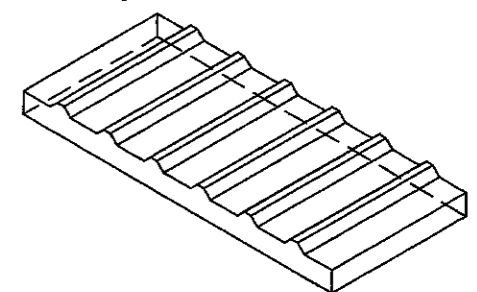
3 SECTION
 SCALE 1:50



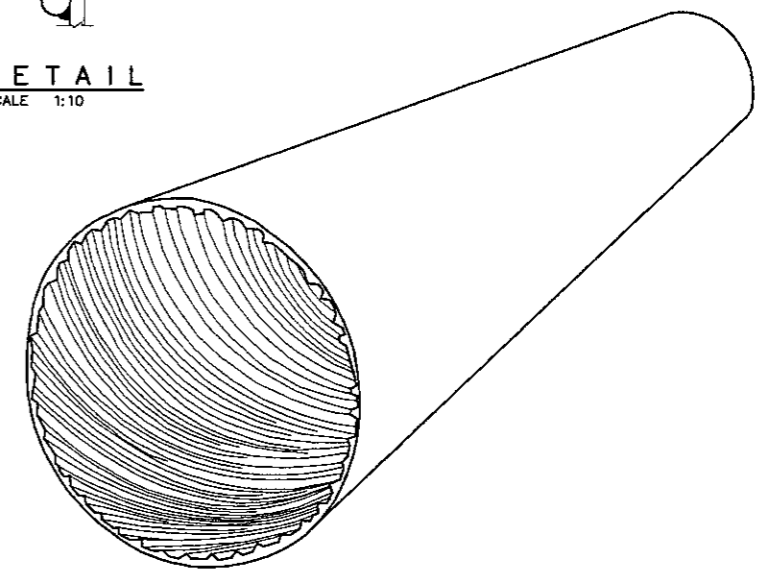
4 DETAIL
 SCALE 1:10



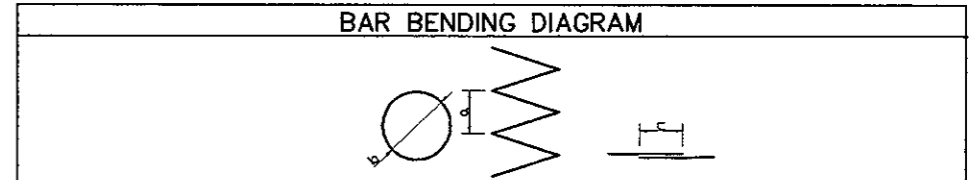
5 INNER RIB DETAIL
 NOT TO SCALE



ISOMETRIC VIEW



ISOMETRIC VIEW



SCHEDULE OF REINFORCEMENT

LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)
				a	b	c	d	e	f				
PIER P7		13	-	75	1400	450				246410	1	1.04	256
	TOTAL WEIGHT / COLUMN = 256 Kgs.												

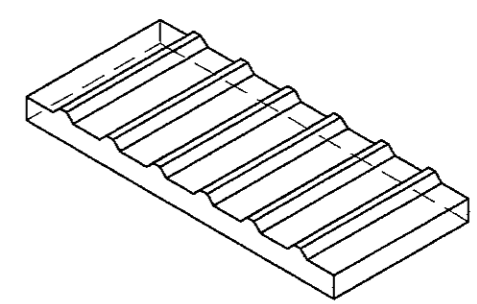
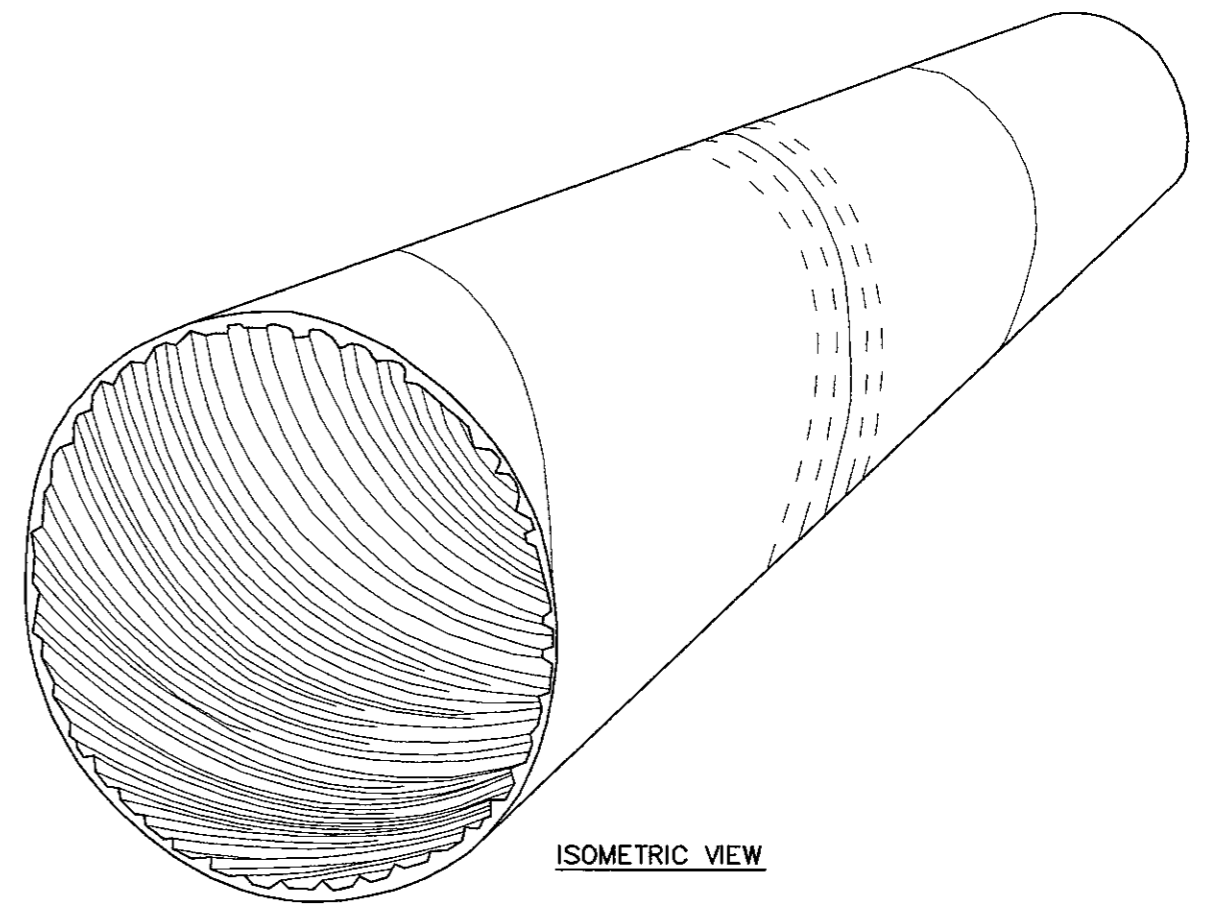
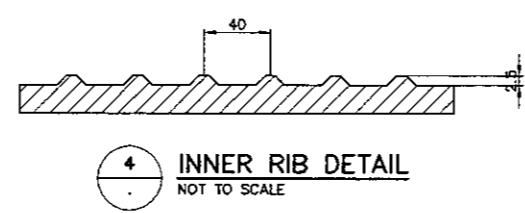
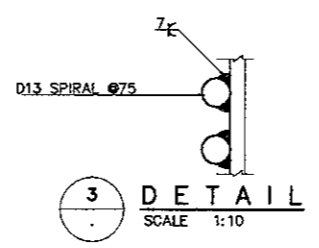
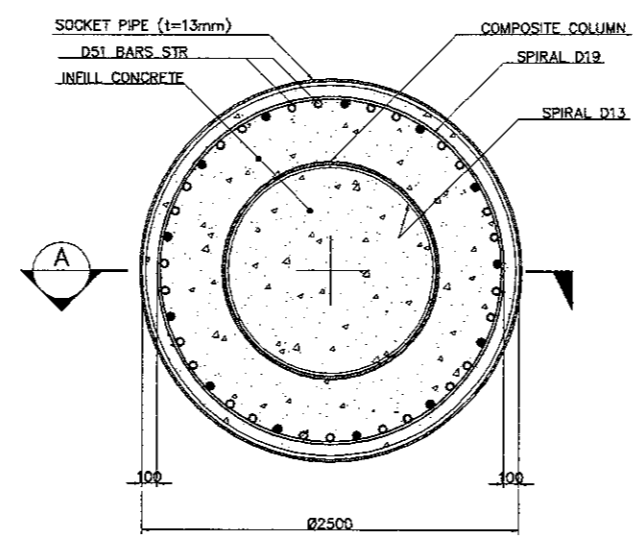
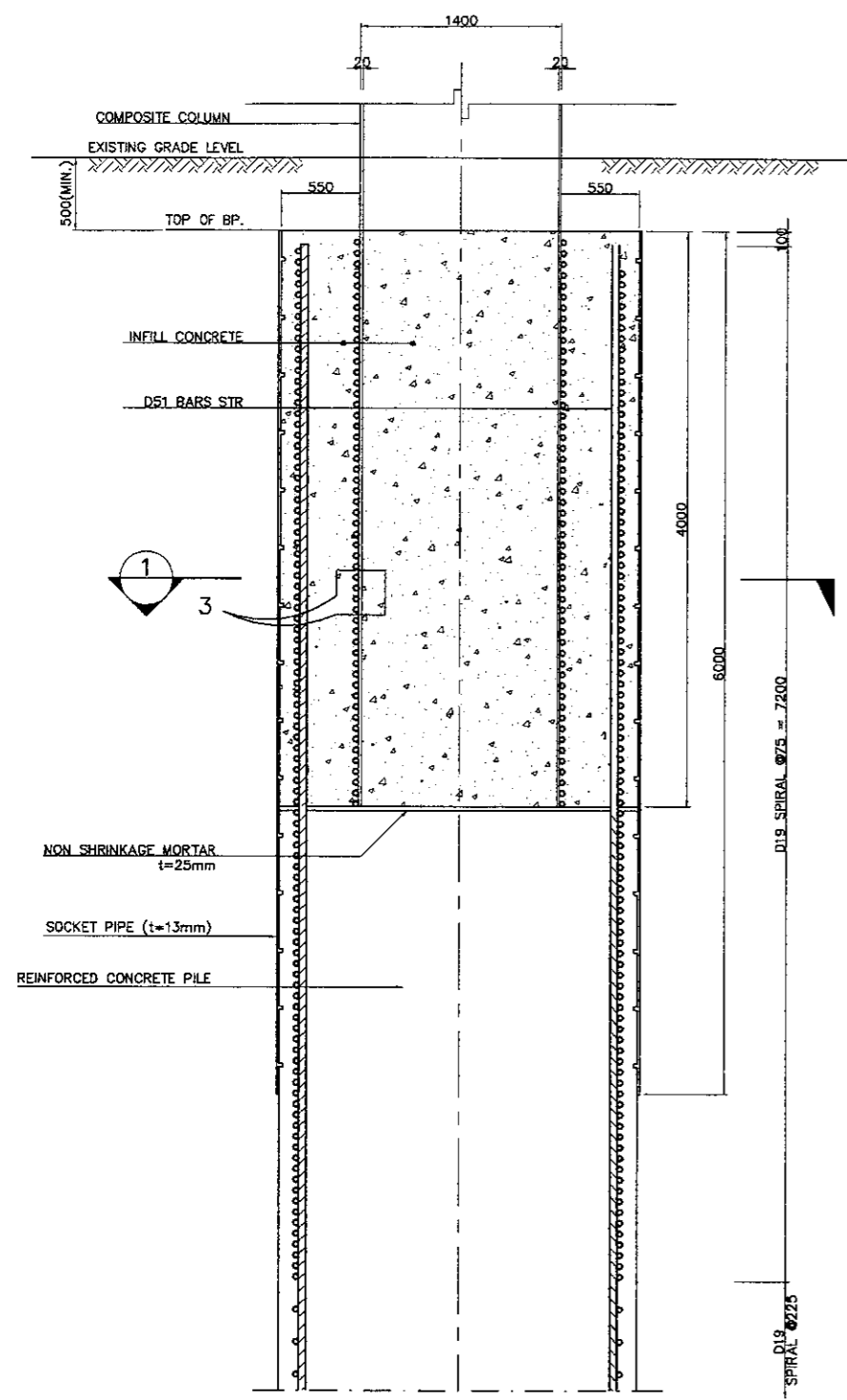
CONCRETE VOLUME (m3)	P7	15.632
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PIER NO.	DIMENSION(mm) OUT TO OUT				TOTAL LENGTH	REMARKS
	NO. OF PCS.	HEIGHT (H)	DIAMETER (MM)*	THICKNESS (MM)		
P7	1	6761	1400	19	10761	CORRUGATED

* OUTSIDE DIAMETER OF COMPOSITE COLUMN

- NOTES :
1. ALL DIMENSIONS ARE IN MILLIMETERS
 2. CONCRETE : $f_c' = 30 \text{ MPa}$
 3. REINFORCING STEEL : YIELD STRENGTH = 390 N/mm^2

COMPOSITE COLUMN CASING DETAIL (P7)
 SCALE AS SHOWN



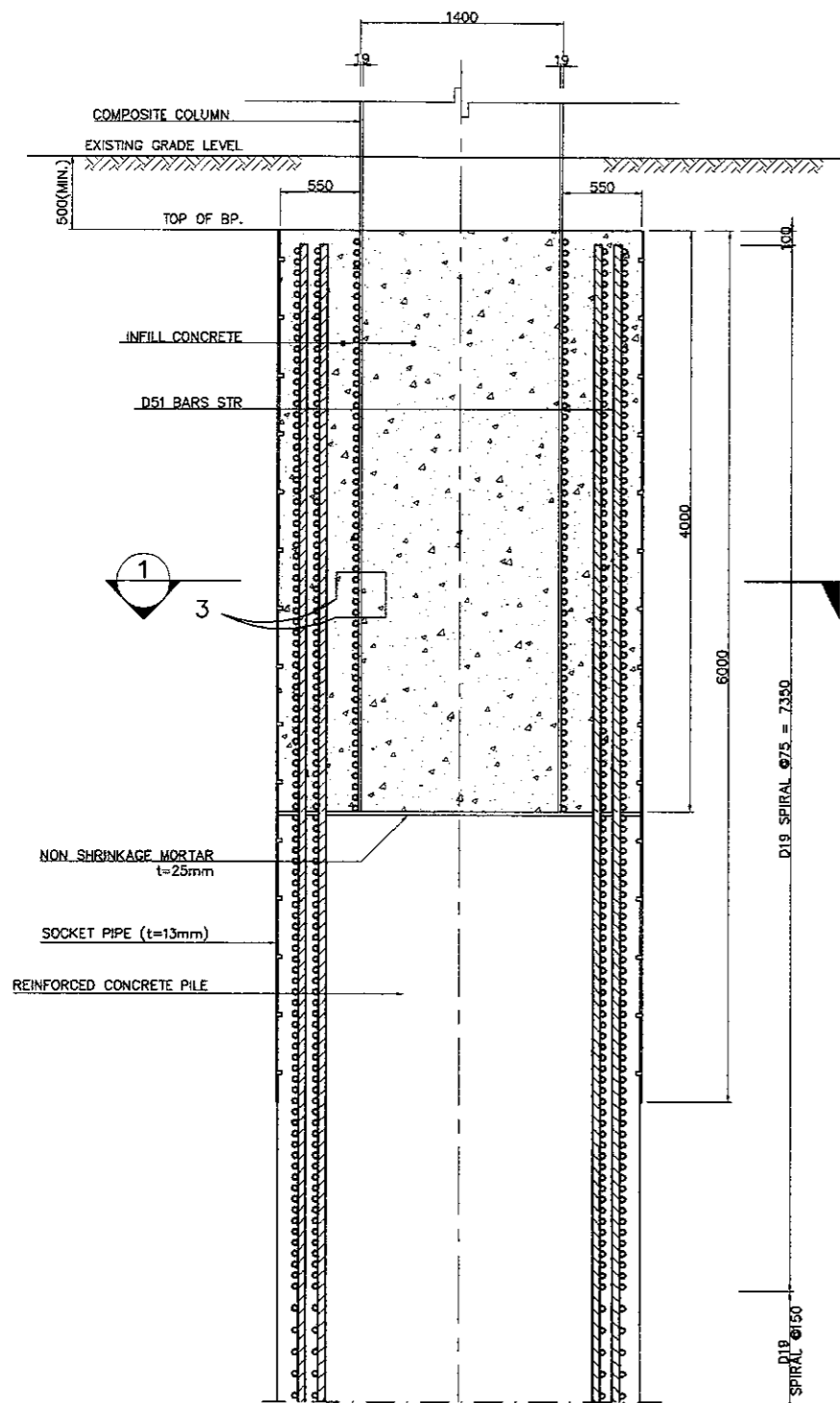
A SECTION
 SCALE 1:50

PIER NO.	DIMENSION(mm) OUT TO OUT				REMARKS
	NO. OF PCS.	LENGTH (M)	DIAMETER (MM)*	THICKNESS (MM)	
P4	2	6	2500	13	CORRUGATED
P7	2	6	2500	13	CORRUGATED

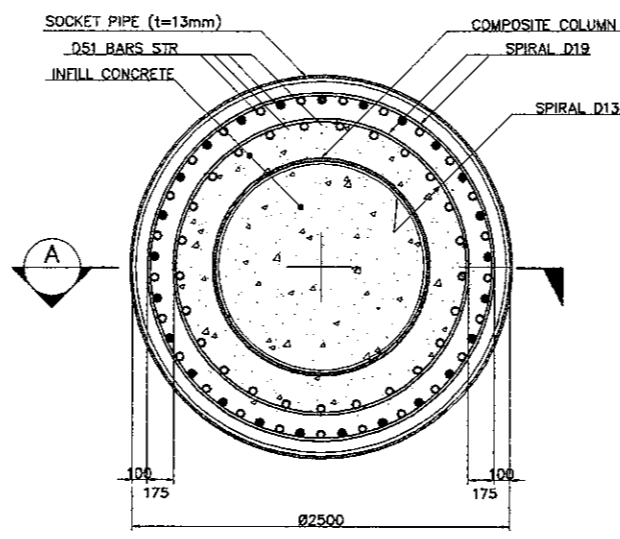
* OUTSIDE DIAMETER OF CONCRETE PILE CAST-IN DRILLED HOLE

NOTES :
 1. ALL DIMENSION ARE IN MILLIMETERS.

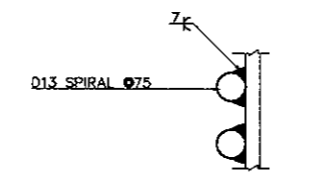
COMPOSITE COLUMN SOCKET TYPE CONNECTION (PIER P4 & P7)
 SCALE AS SHOWN



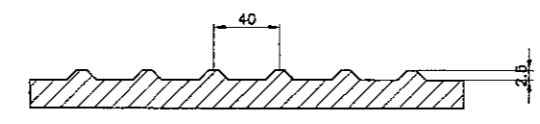
A SECTION
 SCALE 1:50



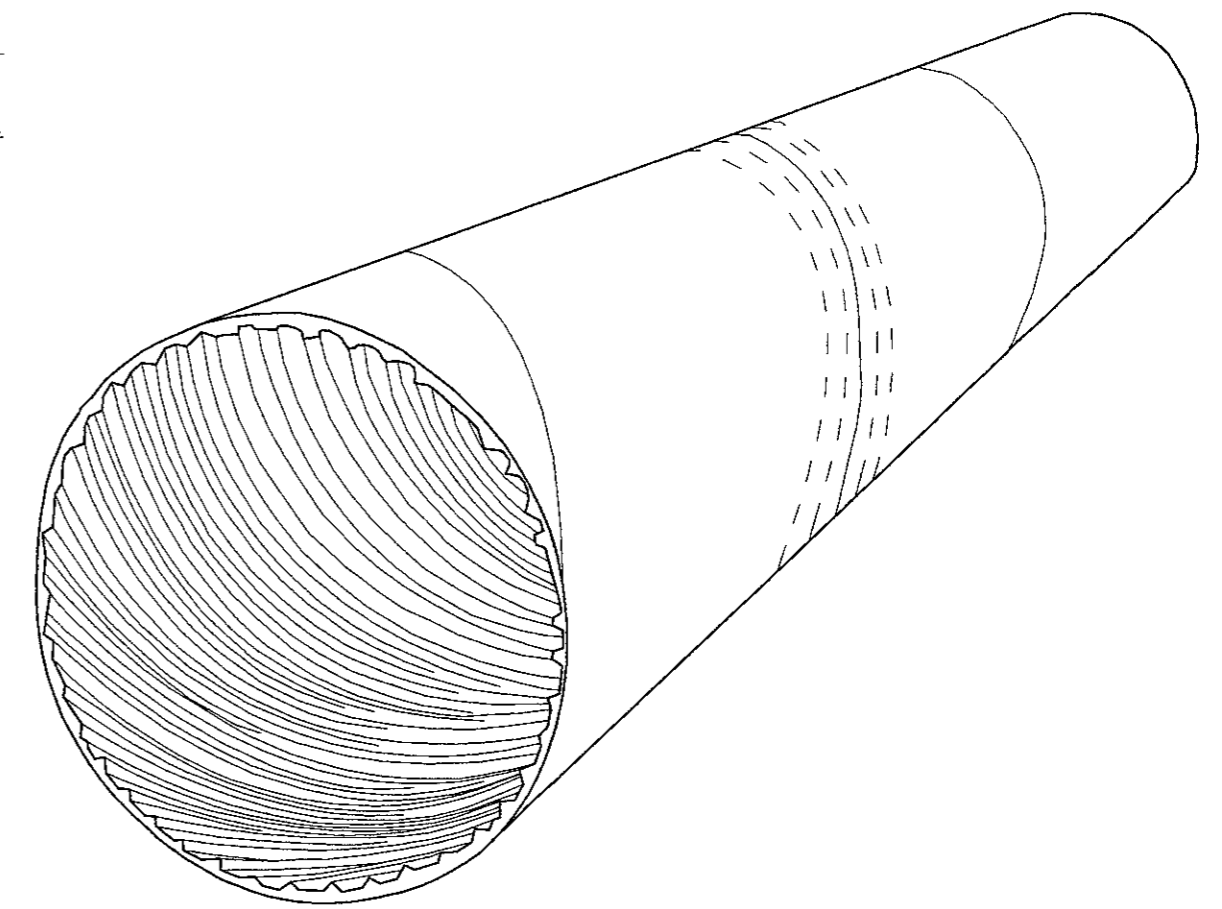
1 SECTION
 SCALE 1:50



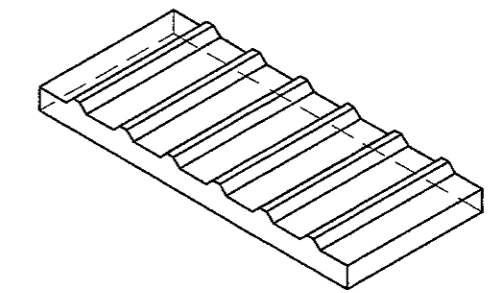
3 DETAIL
 SCALE 1:10



4 INNER RIB DETAIL
 NOT TO SCALE



ISOMETRIC VIEW



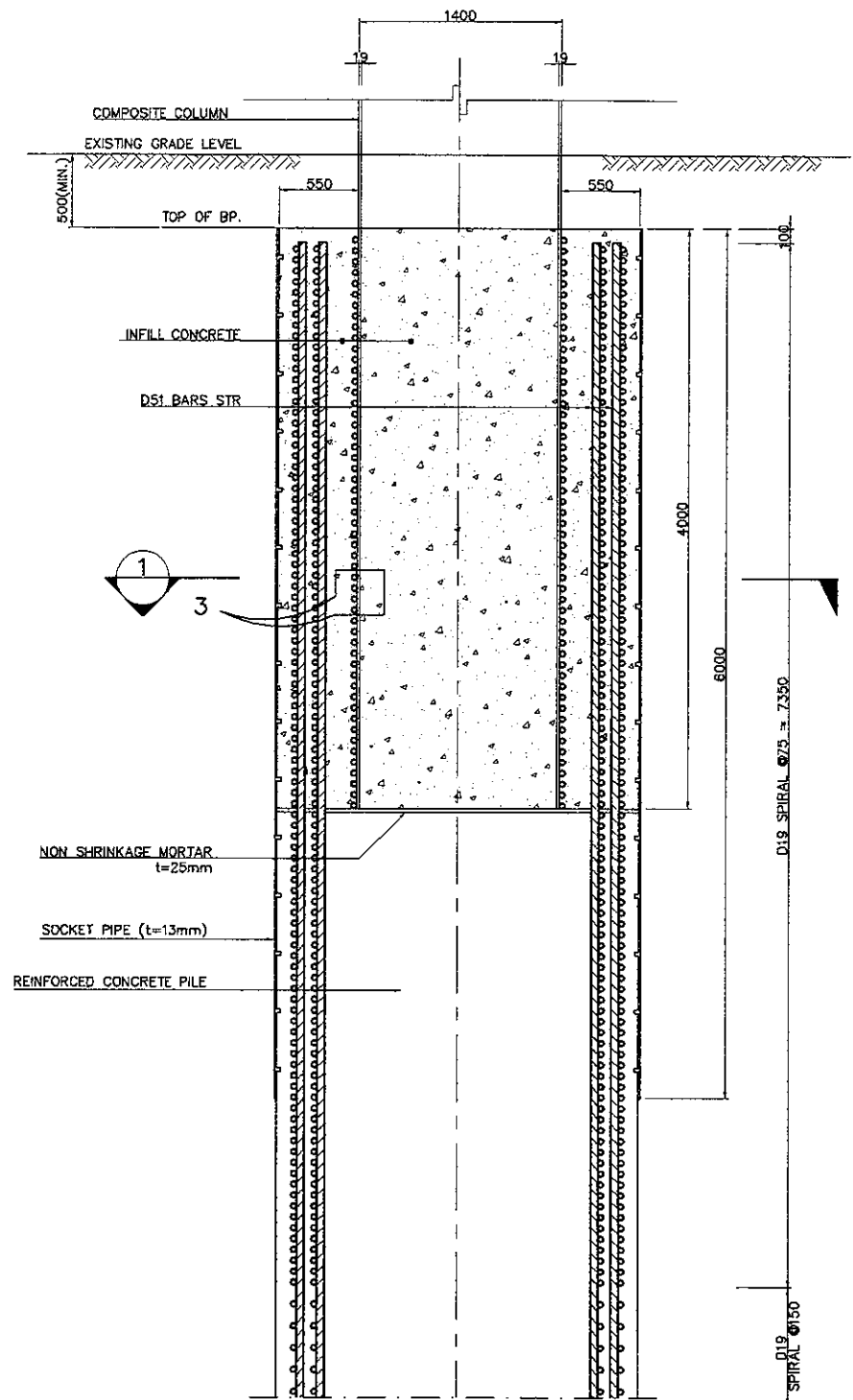
ISOMETRIC VIEW

PIER NO.	DIMENSION(mm) OUT TO OUT				REMARKS
	NO. OF PCS.	LENGTH (M)	DIAMETER (MM)*	THICKNESS (MM)	
P5	1	6	2500	13	CORRUGATED

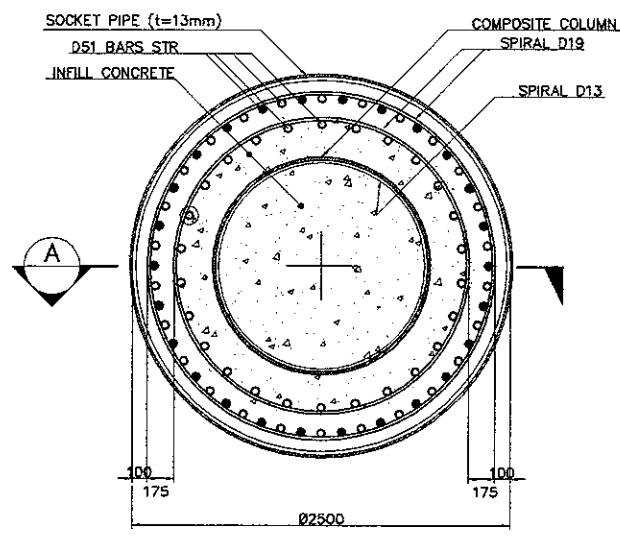
* OUTSIDE DIAMETER OF CONCRETE PILE CAST-IN DRILLED HOLE

NOTES :
 1. ALL DIMENSION ARE IN MILLIMETERS.

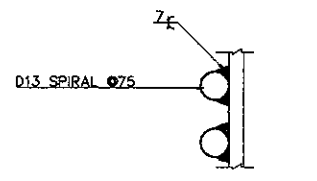
COMPOSITE COLUMN SOCKET TYPE CONNECTION (PIER P5)
 SCALE AS SHOWN



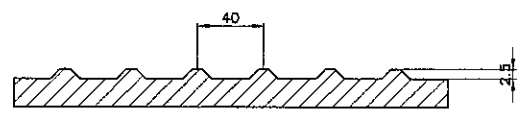
A SECTION
 SCALE 1:50



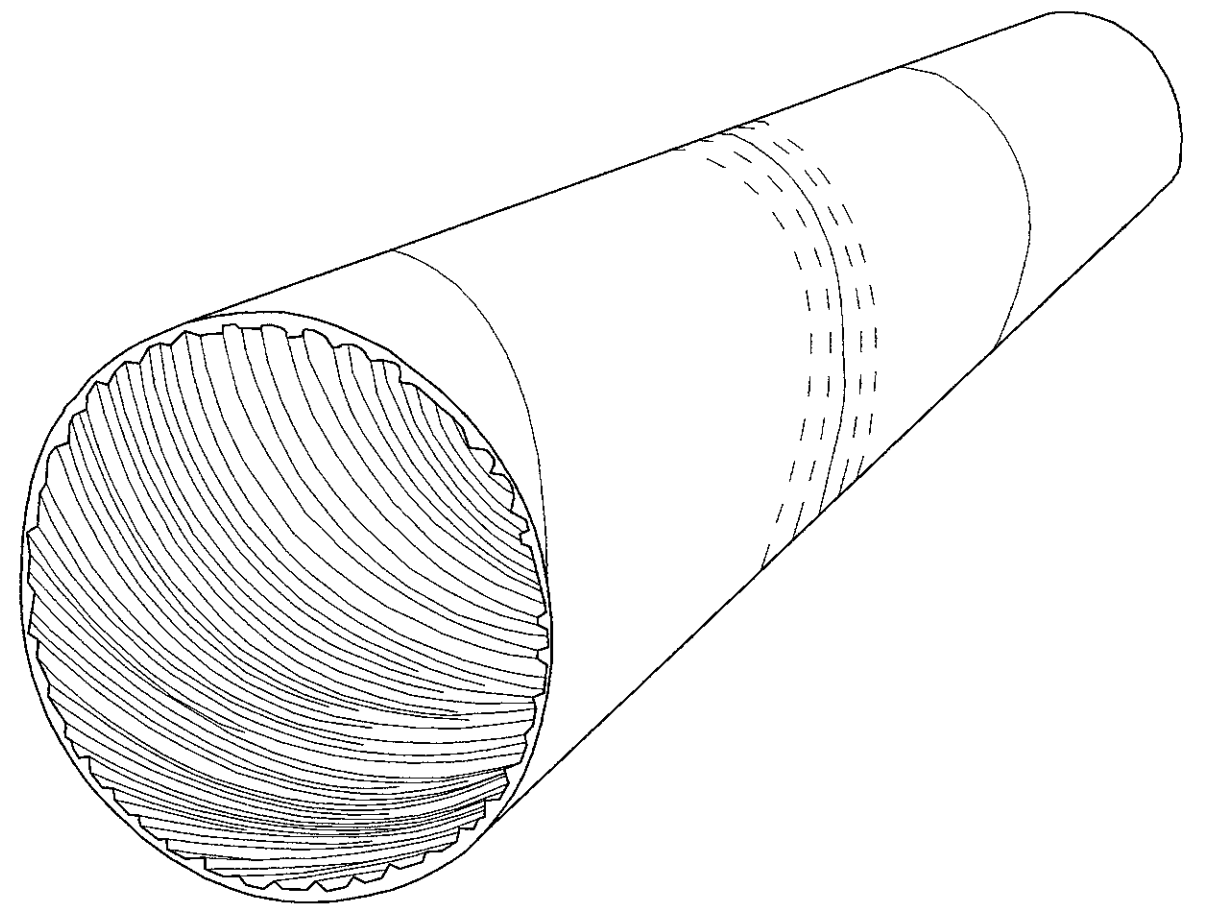
1 SECTION
 SCALE 1:50



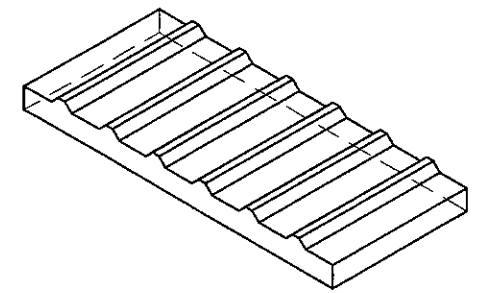
3 DETAIL
 SCALE 1:10



4 INNER RIB DETAIL
 NOT TO SCALE



ISOMETRIC VIEW



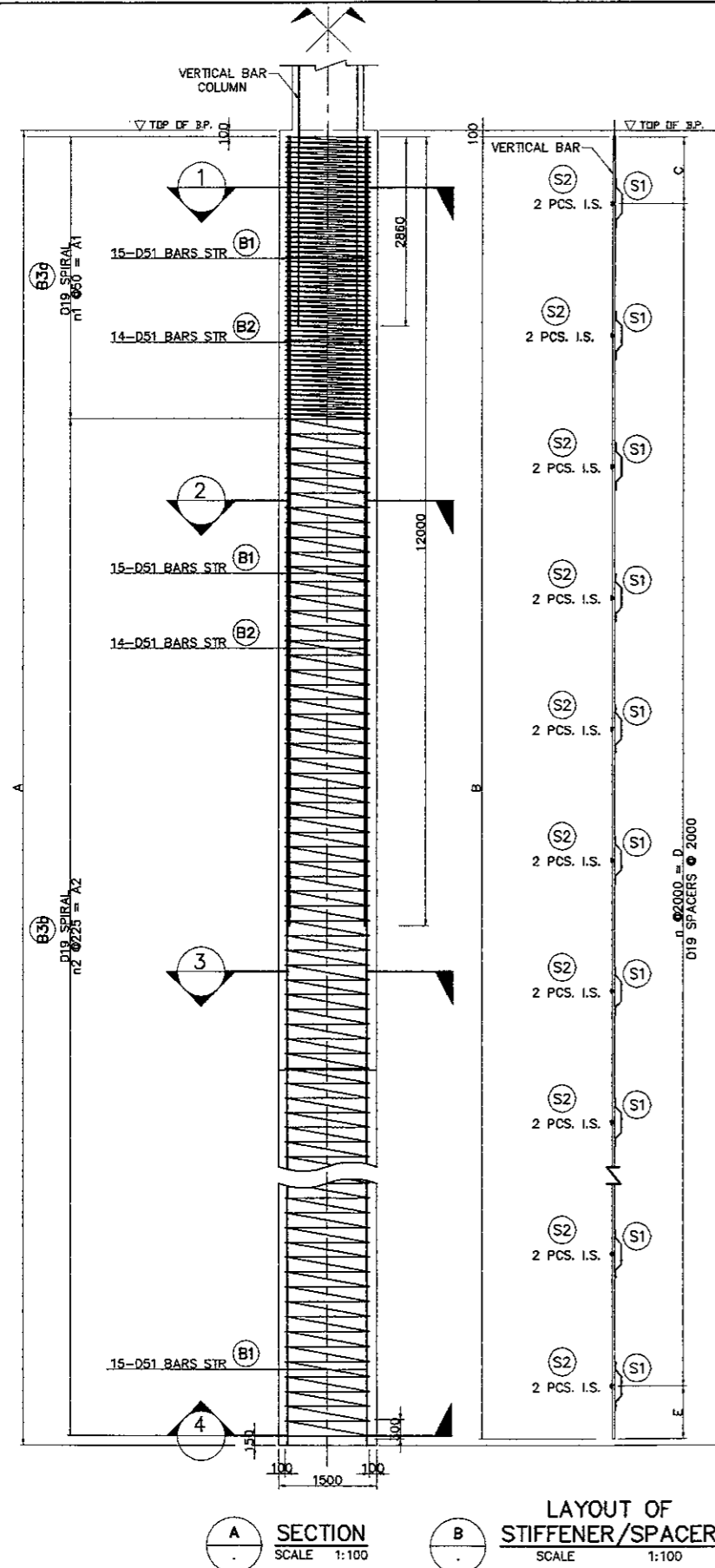
ISOMETRIC VIEW

PIER NO.	DIMENSION(mm) OUT TO OUT				REMARKS
	NO. OF PCS.	LENGTH (M)	DIAMETER (MM)*	THICKNESS (MM)	
P6	1	6	2500	13	CORRUGATED

* OUTSIDE DIAMETER OF CONCRETE PILE CAST-IN DRILLED HOLE

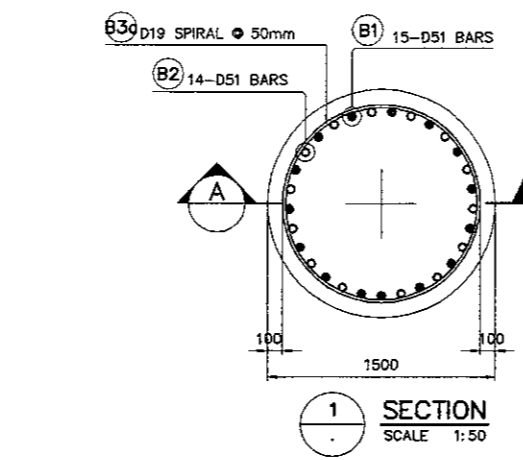
NOTES :
 1. ALL DIMENSION ARE IN MILLIMETERS.

COMPOSITE COLUMN SOCKET TYPE CONNECTION (PIER P6)
 SCALE AS SHOWN

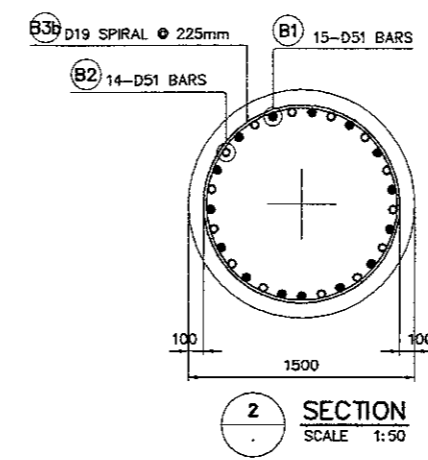


A SECTION
 SCALE 1:100

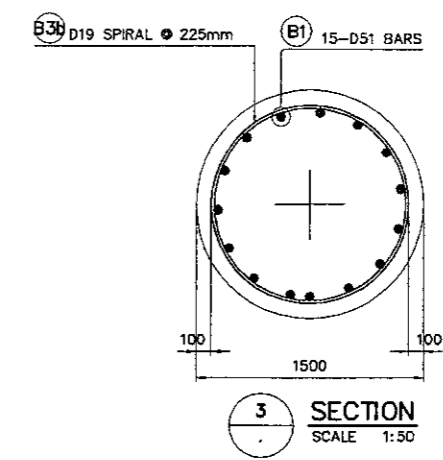
B LAYOUT OF STIFFENER/SPACER
 SCALE 1:100



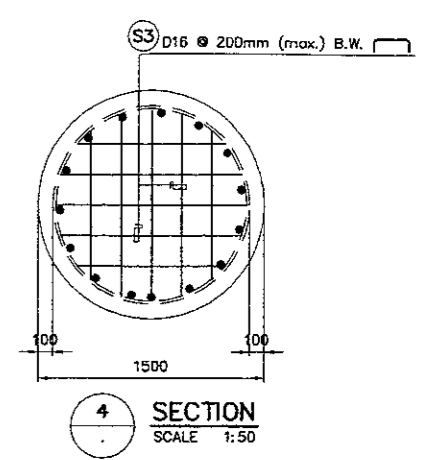
1 SECTION
 SCALE 1:50



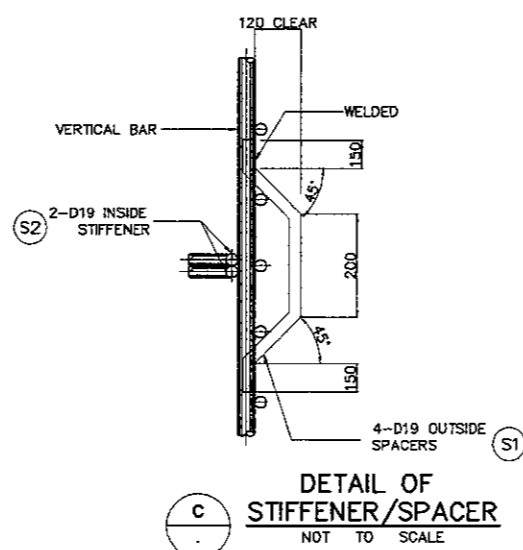
2 SECTION
 SCALE 1:50



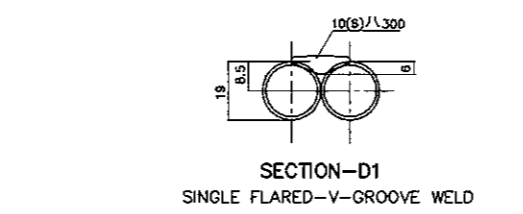
3 SECTION
 SCALE 1:50



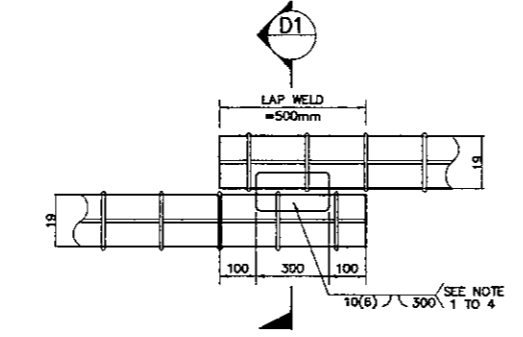
4 SECTION
 SCALE 1:50



C DETAIL OF STIFFENER/SPACER
 NOT TO SCALE



SECTION-D1
 SINGLE FLARED-V-GROOVE WELD

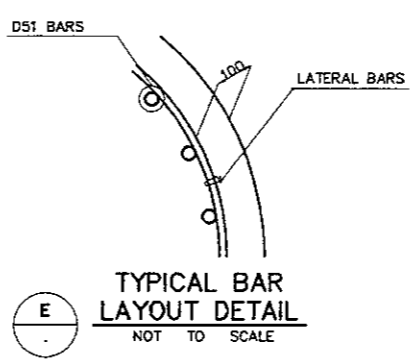


D DETAIL OF SPIRAL REINF. FULL LAP-WELD CONNECTION
 NOT TO SCALE

BORED PILE TYPE		BP-PF1
SIZE (mm)		Ø1500
MAIN BARS	SIZE (mm)	51
	NO. OF LAYERS	1.0
SPIRAL	NO. OF PCS.	29
	SIZE (mm)	19
	NO. / SET	

LOCATION	DIMENSION					
	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	n
P1 & P11	22000	21750	1000	20000	750	10

LOCATION	DIMENSION			
	A1 (mm)	A2 (mm)	n1	n2
P1 & P11	4200	17550	56	78



E TYPICAL BAR LAYOUT DETAIL
 NOT TO SCALE

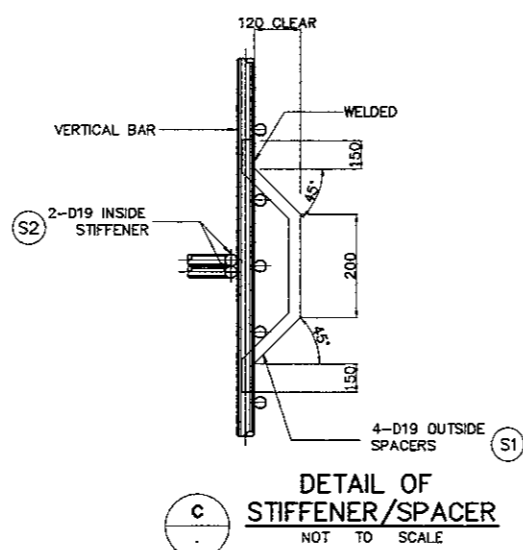
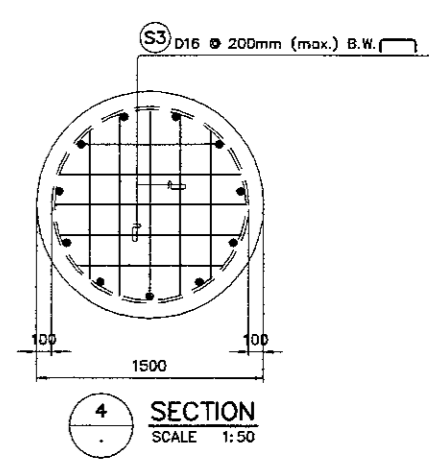
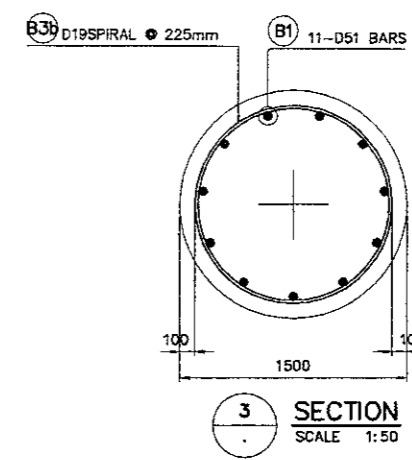
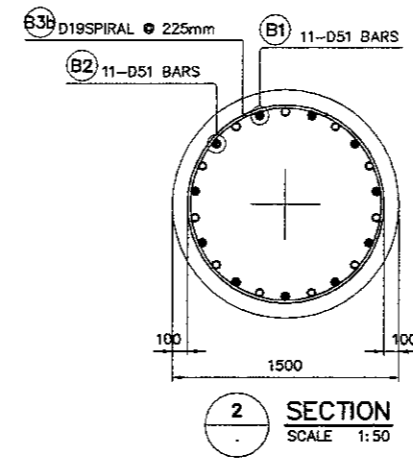
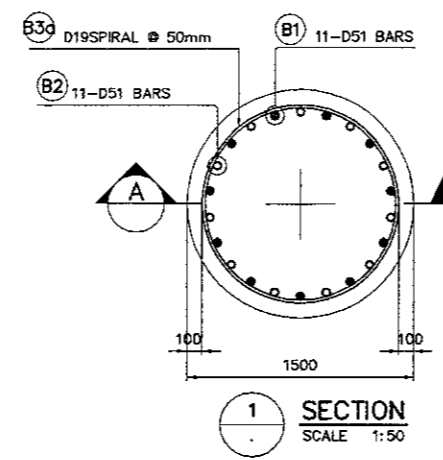
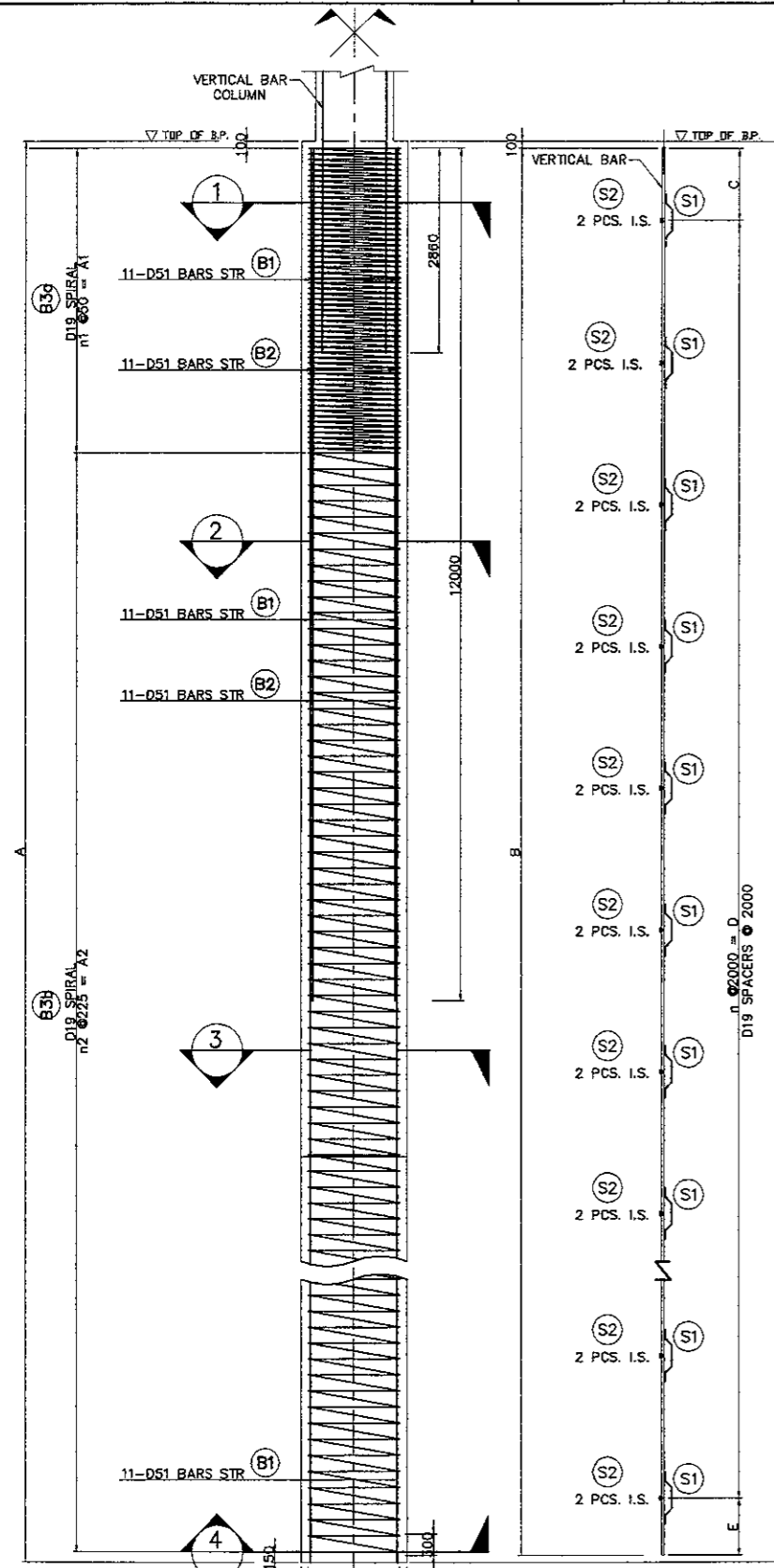
- NOTES ON LAP-WELD CONNECTION :**
- SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 - WELDING SHOULD CONFORM TO AWS (D1.4) *STRUCTURAL WELDING CODE REINFORCED STEEL*
 - USE ELECTRODE E90XX.
 - CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.

- NOTES :**
- ALL DIMENSIONS ARE IN MILLIMETERS.
 - BORED PILE MAIN BARS ARE PROVIDED WITHOUT ANY SPLICE. HOWEVER SPLICING OF MAIN BARS BY MECHANICAL COUPLERS ARE ALLOWED WITH PERMISSION FROM THE STRUCTURAL ENGINEER.
 - CONCRETE : $F_c' = 30\text{MPa}$
 - REINFORCING STEEL:
 D51 : YIELD STRENGTH = 345 N/mm²
 OTHERS : YIELD STRENGTH = 390 N/mm²

BAR BENDING DIAGRAM													
1	2	3	4	5									
SCHEDULE OF REINFORCEMENT													
LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)
				a	b	c	d	e	f				
PIER P1 & P11 DIA = 1500 mm L = 22000 mm	B1	51	1	21750						21750	15	15.90	5187
	B2	51	1	12000						12000	14	15.90	2671
	B3a	19	2	50	1300	500				238287	1	2.23	531
	B3b	19	2	225	1300	500				331831	1	2.23	790
	S1	19	3	150	170	250				890	44	2.23	87
	S2	19	4	1160	170					3814	22	2.23	187
	S3	16	5	150	1150				1450	10	1.58	23	
TOTAL WEIGHT FOR / PILE = 9,476 Kgs.													
VOLUME CONCRETE = 36.88 M ³													

THE SCHEDULE OF REINFORCEMENT SHOWN ON THE BAR BENDING DIAGRAM TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECK AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

BORED PILE REINFORCEMENT DETAILS (PIER P1 & P11)
 SCALE AS SHOWN



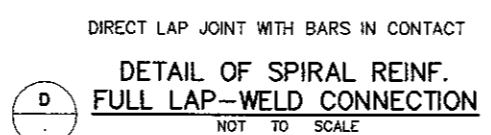
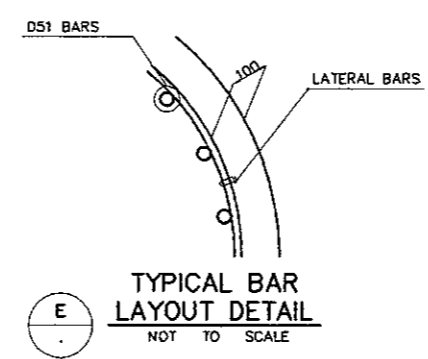
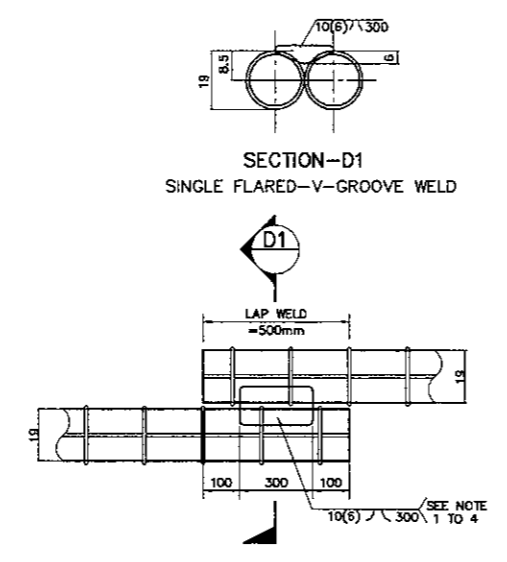
BORED PILE TYPE		BP-PF2
SIZE (mm)		Ø1500
MAIN BARS	SIZE (mm)	51
	NO. OF LAYERS	1.0
	NO. OF PCS.	22
SPIRAL	SIZE (mm)	19
	NO. / SET	

LOCATION	DIMENSION					
	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	n
P2	22000	21750	1000	20000	750	10

LOCATION	DIMENSION			
	A1 (mm)	A2 (mm)	n1	n2
P2	4200	17550	56	78

- NOTES ON LAP-WELD CONNECTION :
- SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 - WELDING SHOULD CONFORM TO AWS (D1.4) *STRUCTURAL WELDING CODE REINFORCED STEEL*
 - USE ELECTRODE E90XX.
 - CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.

- NOTES :
- ALL DIMENSIONS ARE IN MILLIMETERS.
 - BORED PILE MAIN BARS ARE PROVIDED WITHOUT ANY SPLICE. HOWEVER SPLICING OF MAIN BARS BY MECHANICAL COUPLERS ARE ALLOWED WITH PERMISSION FROM THE STRUCTURAL ENGINEER.
 - CONCRETE : $F_c' = 30MPa$
 - REINFORCING STEEL=
 D51 : YIELD STRENGTH = 345 N/mm²
 OTHERS : YIELD STRENGTH = 390 N/mm²



BAR BENDING DIAGRAM

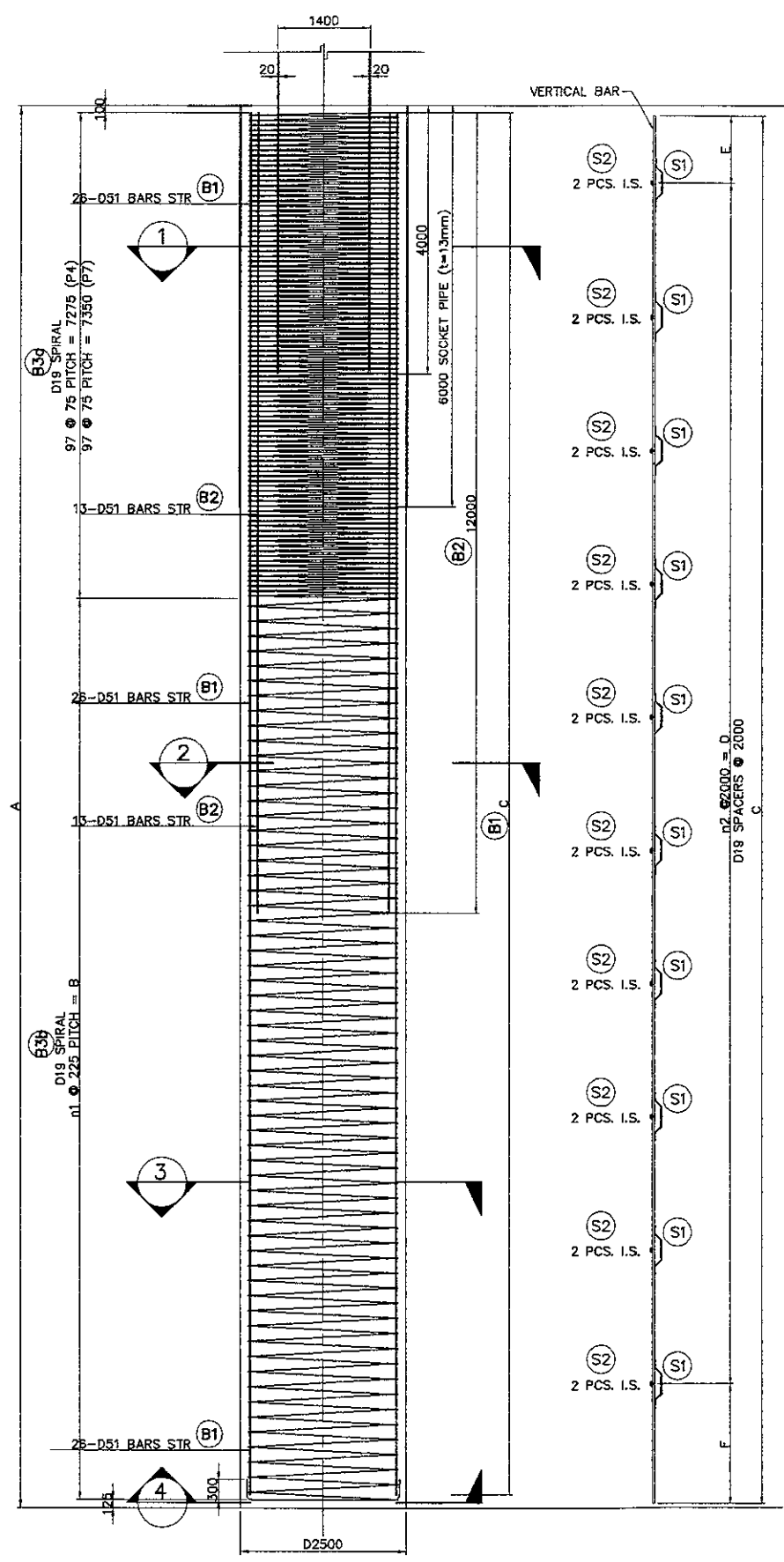
SCHEDULE OF REINFORCEMENT

LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)
				a	b	c	d	e	f				
PIER P1 & P11 DIA = 1500 mm L = 22000 mm	B1	51	1	21750						21750	11	15.90	3804
	B2	51	1	12000						12000	11	15.90	2099
	B3a	19	2	50	1300	500				238237	1	2.23	531
	B3b	19	2	225	1300	500				331831	1	2.23	740
	S1	19	3	150	170	250				890	44	2.23	87
	S2	19	4	1058	170					3814	22	2.23	187
	S3	18	5	150	1885					1450	10	1.58	23
TOTAL WEIGHT FOR / PILE = 7,471 Kgs.											VOLUME CONCRETE = 38.88 M ³		

THE SCHEDULE OF REINFORCEMENT SHOWN ON THE BAR BENDING DIAGRAM TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECK AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

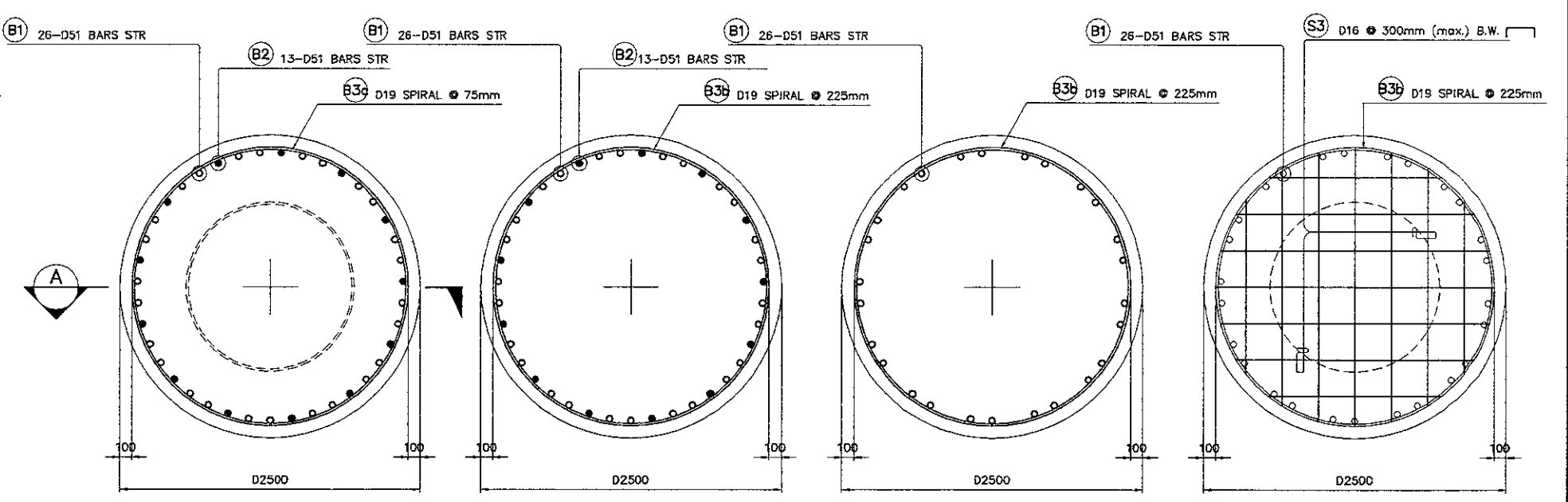
BORED PILE REINFORCEMENT DETAILS (PIER P2)
 SCALE AS SHOWN

DESIGNED BY	CHECKED BY	SUBMITTED BY
Name A. GOURLEY	Name T. OKUMURA	Name M. KIUCHI
Sign	Sign	Sign
Date	Date	Date



A SECTION
 SCALE 1:100

B LAYOUT OF STIFFENER/SPACER
 SCALE 1:100

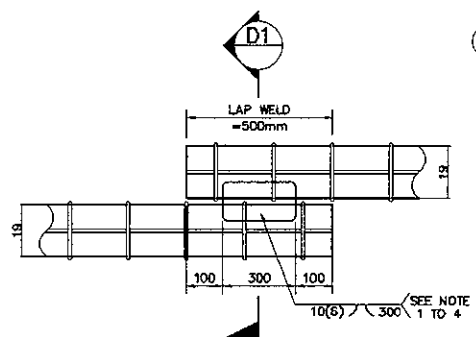
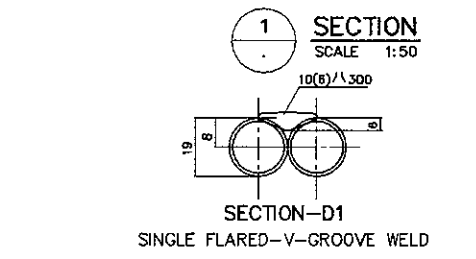


1 SECTION
 SCALE 1:50

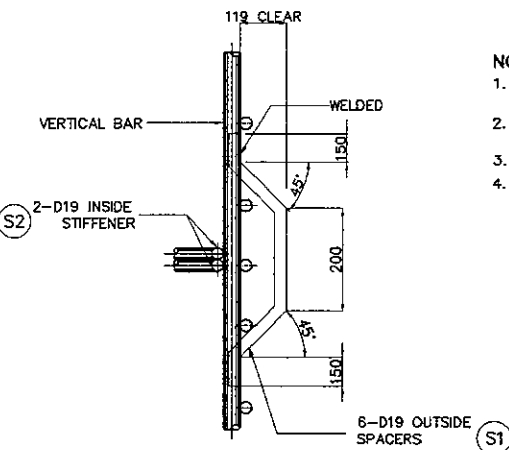
2 SECTION
 SCALE 1:50

3 SECTION
 SCALE 1:50

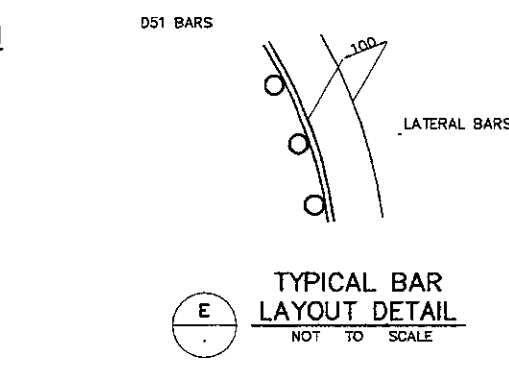
4 SECTION
 SCALE 1:50



D
 DIRECT LAP JOINT WITH BARS IN CONTACT
DETAIL OF SPIRAL REINF. FULL LAP-WELD CONNECTION
 NOT TO SCALE



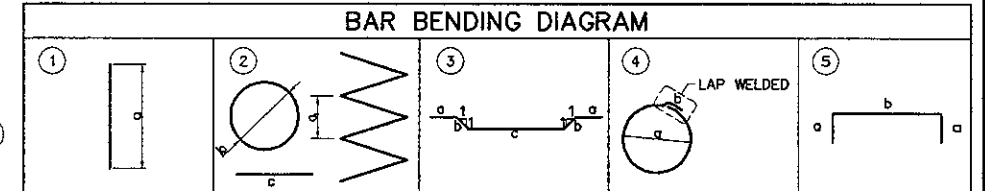
C
DETAIL OF STIFFENER/SPACER
 NOT TO SCALE



E
TYPICAL BAR LAYOUT DETAIL
 NOT TO SCALE

- NOTES ON LAP-WELD CONNECTION :**
- SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 - WELDING SHOULD CONFORM TO AWS (D1.4) *STRUCTURAL WELDING CODE REINFORCED STEEL.*
 - USE ELECTRODE E90XX.
 - CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.

- NOTES :**
- ALL DIMENSIONS ARE IN MILLIMETERS.
 - BORED PILE MAIN BARS ARE PROVIDED WITHOUT ANY SPLICE. HOWEVER SPLICING OF MAIN BARS BY MECHANICAL COUPLERS ARE ALLOWED WITH PERMISSION FROM THE STRUCTURAL ENGINEER.
 - COMPOSITE COLUMN SOCKET TYPE CONNECTION SEE DWG. NO. PSB-034
 - CONCRETE : $f_c' = 30\text{MPa}$
 - REINFORCING STEEL=
 D51 : YIELD STRENGTH = 345 N/mm²
 OTHERS : YIELD STRENGTH = 390 N/mm²



SCHEDULE OF REINFORCEMENT														
LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION (mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	
				a	b	c	d	e	f					
PIER P4, DIA = 2500 mm L = 32000 mm	B1	51	1	31800							31800	26	15.90	13148
	B2	51	1	12000							12000	13	15.90	2480
	B3a	19	2	75	2300	500					730093	1	2.23	1628
	B3b	19	2	225	2058	500					704728	1	2.23	1572
	S1	19	3	150	170	250					890	96	2.23	191
	S2	19	4	2160	170						6956	48	2.23	745
	S3	16	5	150	1865					2165	10	1.58	35	
											TOTAL WEIGHT FOR / PILE = 19,797 Kgs.			
											VOLUME CONCRETE = 157.08 M ³			
PIER P7, DIA = 2500 mm L = 24000 mm	B1	51	1	23775							23775	26	15.90	9829
	B2	51	1	12000							12000	13	15.90	2480
	B3a	19	2	75	2300	500					737620	1	2.23	1645
	B3b	19	2	225	2058	500					491640	1	2.23	1096
	S1	19	3	150	170	250					890	72	2.23	143
	S2	19	4	2160	170						6785	36	2.23	244
	S3	16	5	150	1865					2165	10	1.58	35	
											TOTAL WEIGHT FOR / PILE = 15,472 Kgs.			
											VOLUME CONCRETE = 117.81 M ³			

THE SCHEDULE OF REINFORCEMENT SHOWN ON THE BAR BENDING DIAGRAM TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECK AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

LOCATION	DIMENSION						
	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	n1
P4	32000	24525	31800	30000	1000	800	109
P7	24000	16425	23775	22000	1000	775	73

BORED PILE REINF. DETAILS (PIER P4 & P7)
 SCALE AS SHOWN