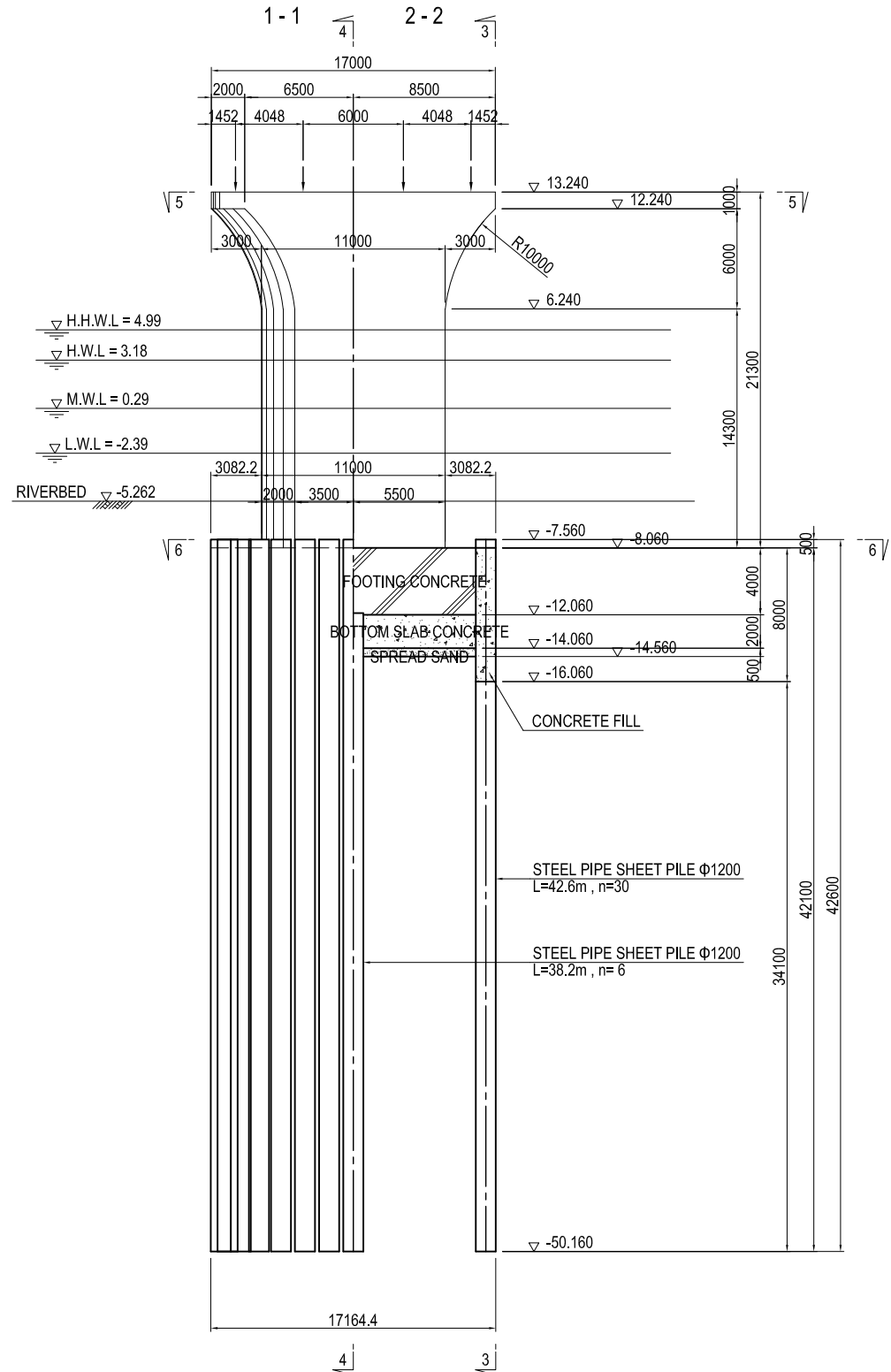


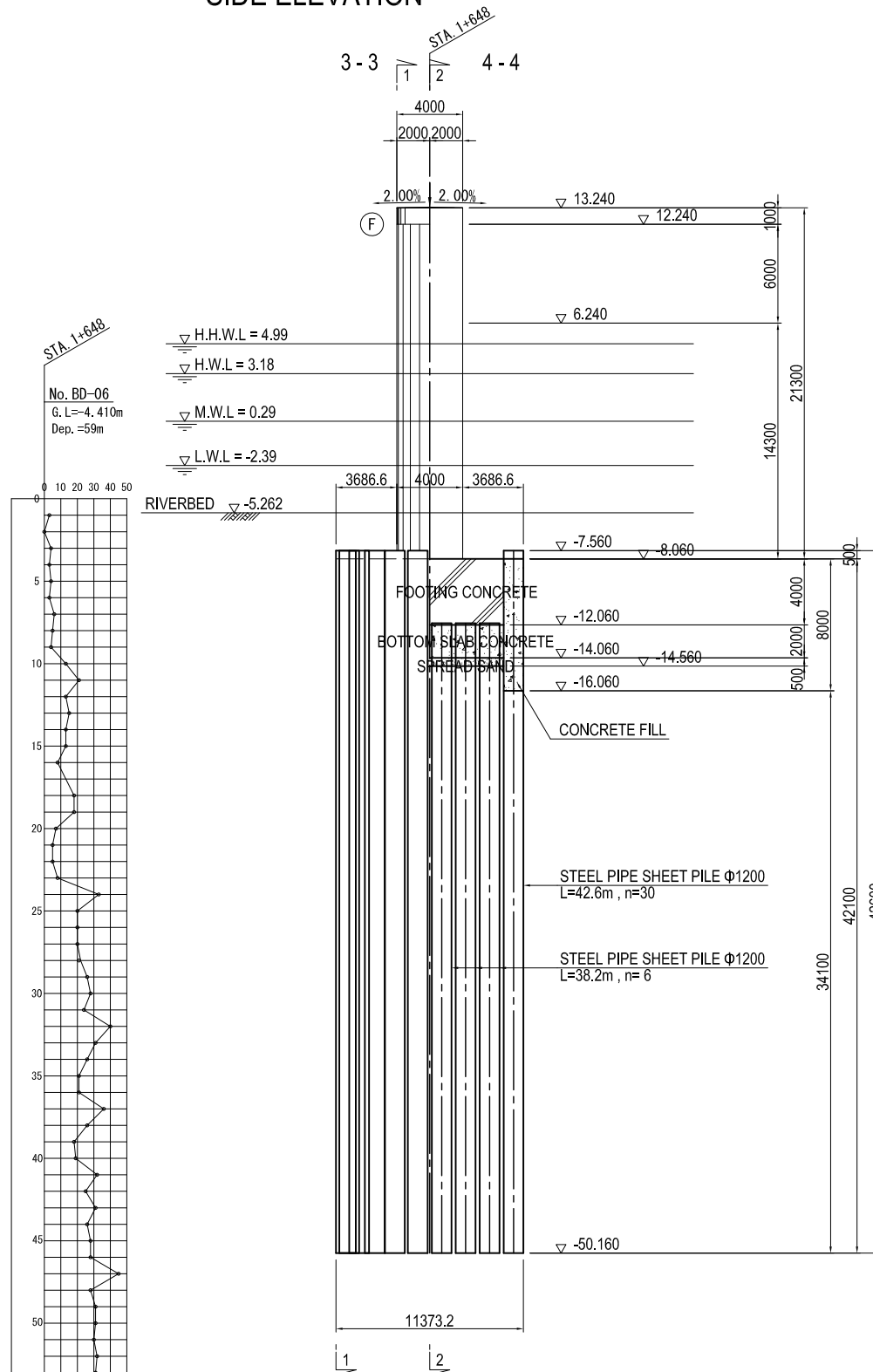
# GENERAL VIEW OF P16 PIER (1)

S=1:400

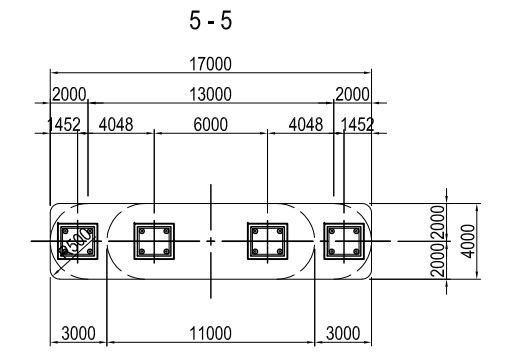
## FRONT ELEVATION



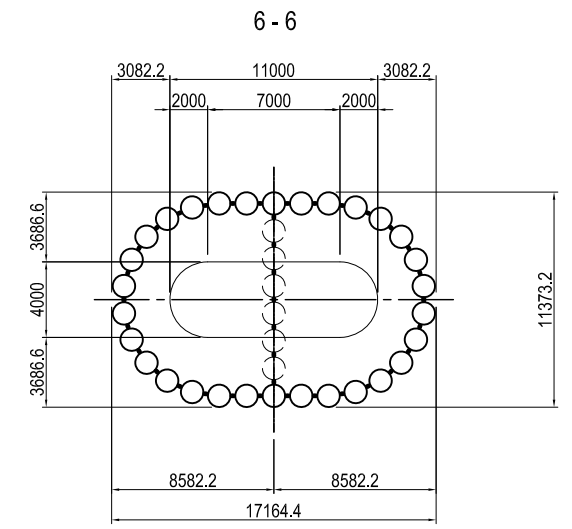
## SIDE ELEVATION



## PLAN



## PLAN



## USE MATERIALS

	CONCRETE	BAR
BEAM	$\sigma_{ck} = 30 \text{ N/mm}^2$	SD345
COLUMN	$\sigma_{ck} = 30 \text{ N/mm}^2$	SD390 • SD345
FOOTING	$\sigma_{ck} = 24 \text{ N/mm}^2$	SD345

PROJECT NAME  
DETAILED DESIGN ON  
BAGO RIVER BRIDGE  
CONSTRUCTION PROJECT

FINANCED BY  
 JAPAN INTERNATIONAL  
COOPERATION AGENCY

COUNTERPART  
 REPUBLIC OF THE UNION OF MYANMAR  
MINISTRY OF CONSTRUCTION  
DEPARTMENT OF BRIDGE

JICA STUDY TEAM  
 NIPPON KOEI CO., LTD.  
ORIENTAL CONSULTANTS GLOBAL CO., LTD.  
METROPOLITAN EXPRESSWAY COMPANY LIMITED  
CHODAI CO., LTD.  
NIPPON ENGINEERING CONSULTANTS CO., LTD.

	NAME	SIGNATURE	DATE
PREPARED BY	S. IMADA		27 Nov.2017
CHECKED BY	T. HAYAKAWA		28 Nov.2017
APPROVED BY	Y. SANO		29 Nov.2017

DRAWING TITLE	PACKAGE
GENERAL VIEW OF P16 PIER (1)	2
	DWG No.
	P2-SB-2201

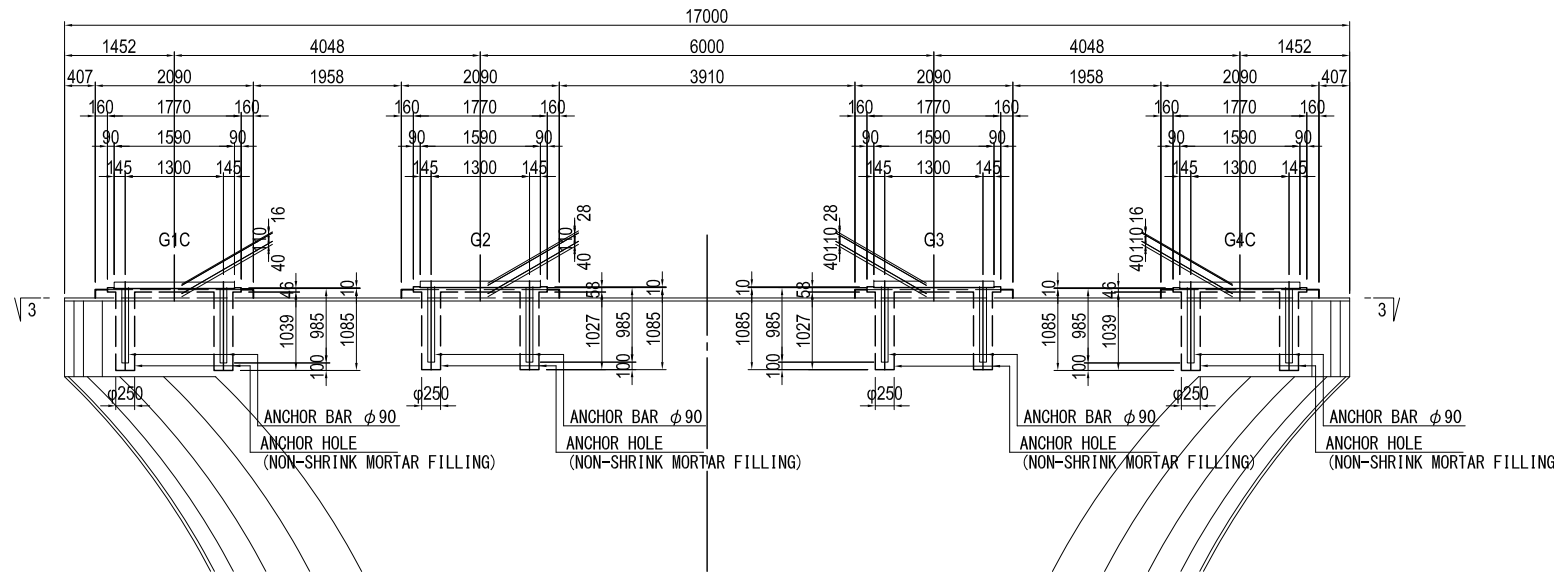
# GENERAL VIEW OF P16 PIER (2)

S=1:100

## DETAIL OF BEARING AND ANCHOR

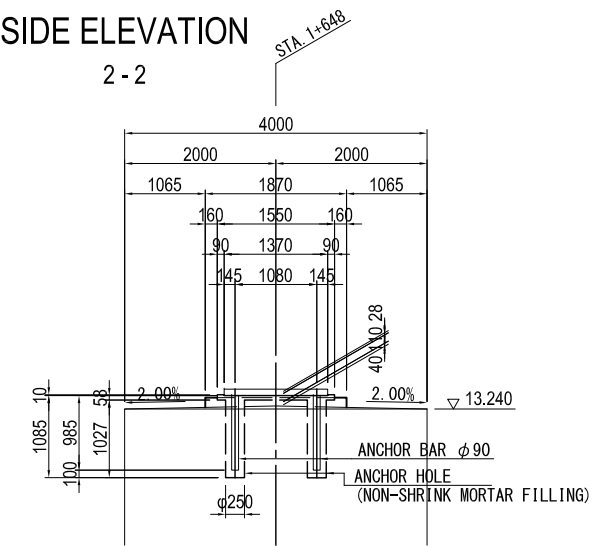
### FRONT ELEVATION

1-1



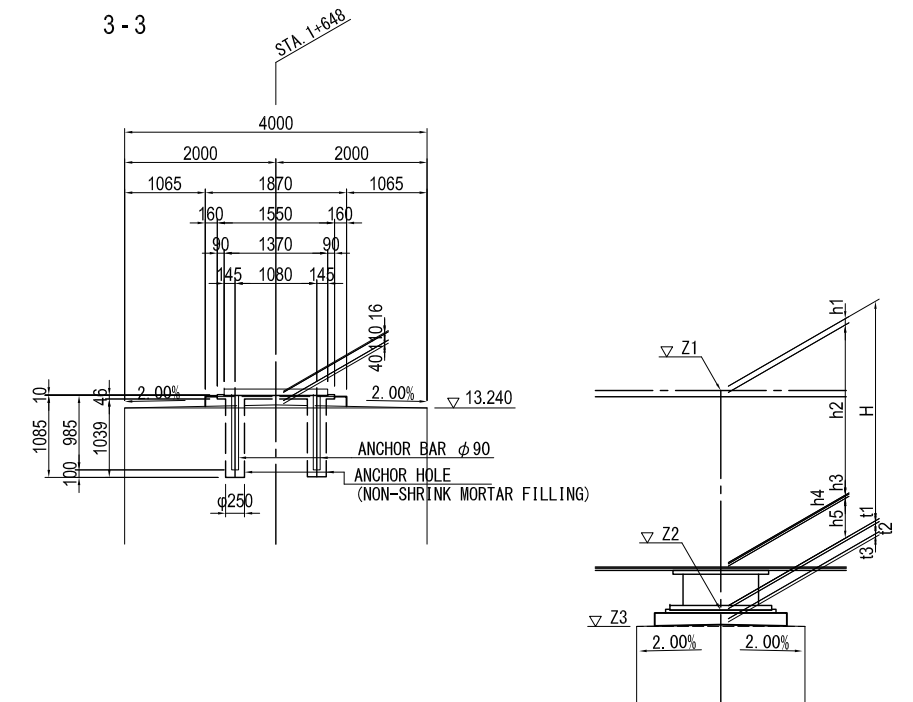
### SIDE ELEVATION

2-2



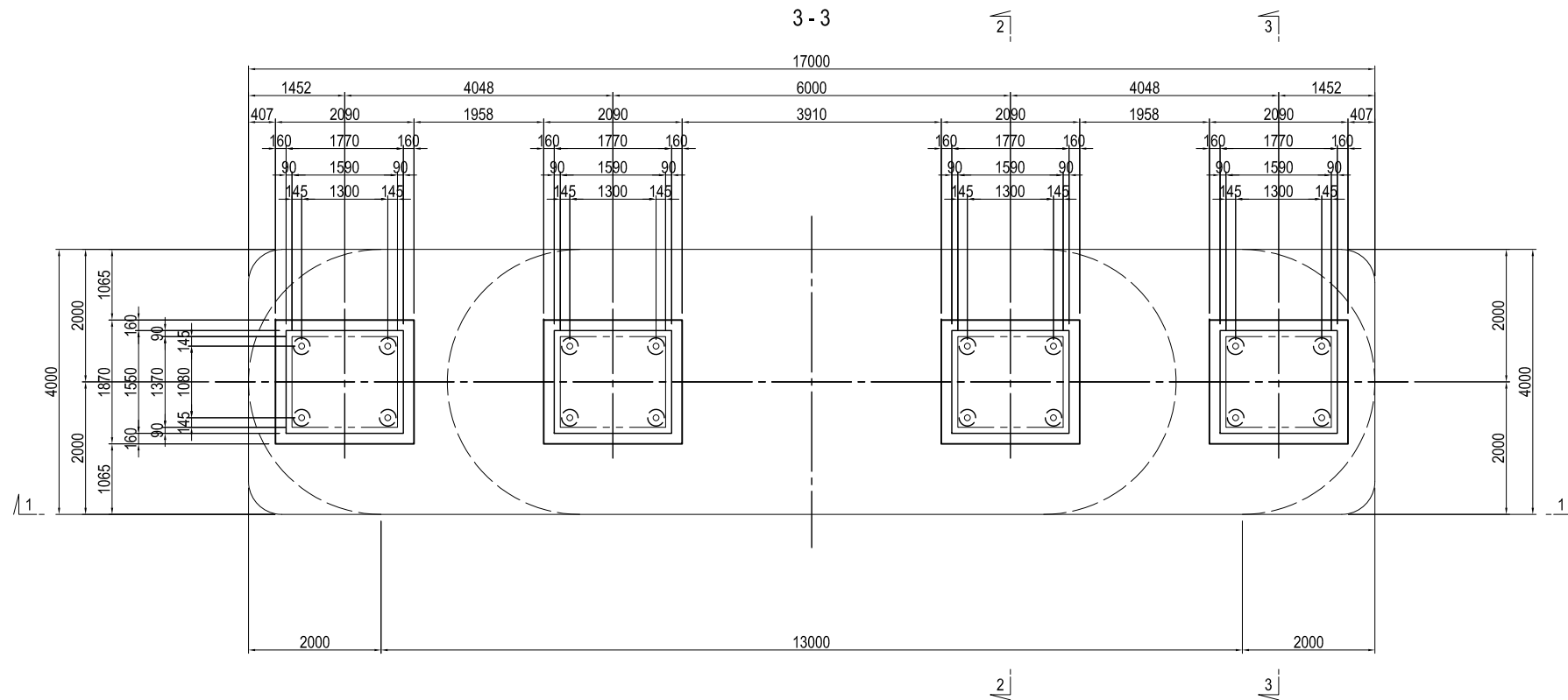
### SIDE ELEVATION

3-3



### PLAN

3-3



	P16 PIER				
	G1C	G2	G3	G4C	
PROPOSED HEIGHT	Z1	16.625	16.706	16.706	16.625
PAVEMENT	h1	0.080	0.080	0.080	0.080
GIRDER	h2	2.709	2.790	2.790	2.709
BOTTOM FLANGE	h3	0.042	0.030	0.030	0.042
SOLE PLATE	h4	0.035	0.035	0.035	0.035
BEARING	h5	0.353	0.353	0.353	0.353
SUBTOTAL	H	3.219	3.288	3.288	3.219
ELEVATION OF BEARING BOTTOM	Z2	13.406	13.418	13.418	13.406
MORTAR	t1	0.016	0.028	0.028	0.016
BEARING BASE	t2	0.110	0.110	0.110	0.110
DRAINAGE INCLINE	t3	0.040	0.040	0.040	0.040
ELEVATION OF PIER TOP	Z3	13.240	13.240	13.240	13.240

PROJECT NAME  
DETAILED DESIGN ON  
BAGO RIVER BRIDGE  
CONSTRUCTION PROJECT

FINANCED BY  
JICA  
JAPAN INTERNATIONAL  
COOPERATION AGENCY

COUNTERPART  
REPUBLIC OF THE UNION OF MYANMAR  
MINISTRY OF CONSTRUCTION  
DEPARTMENT OF BRIDGE

JICA STUDY TEAM  
NIPPON KOEI CO., LTD.  
ORIENTAL CONSULTANTS GLOBAL CO., LTD.  
METROPOLITAN EXPRESSWAY COMPANY LIMITED  
CHODAI CO., LTD.  
NIPPON ENGINEERING CONSULTANTS CO., LTD.

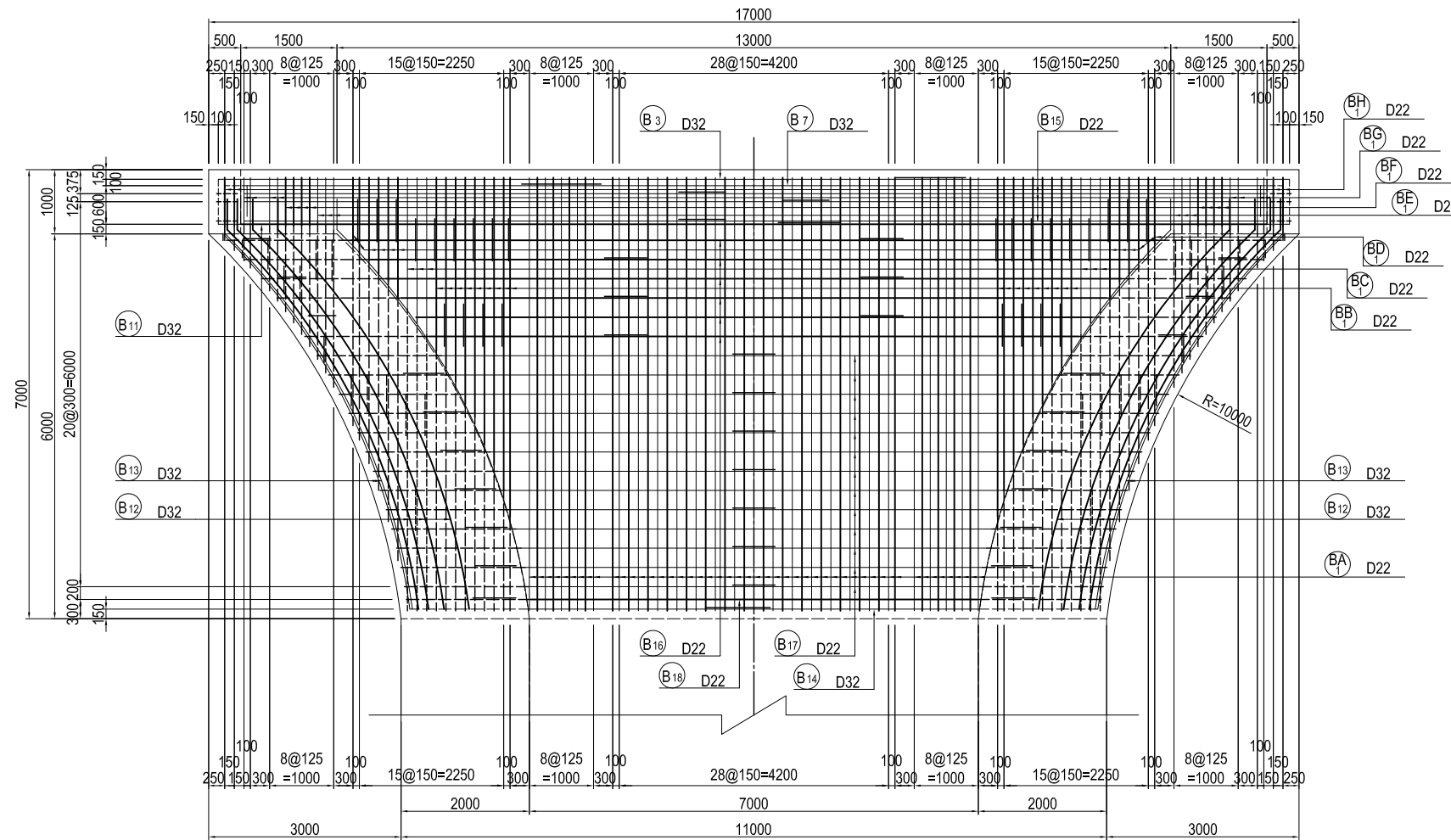
	NAME	SIGNATURE	DATE
PREPARED BY	S. IMADA	<i>S. Imada</i>	27 Nov.2017
CHECKED BY	T. HAYAKAWA	<i>T. Hayakawa</i>	28 Nov.2017
APPROVED BY	Y. SANO	<i>Y. Sano</i>	29 Nov.2017

DRAWING TITLE  
GENERAL VIEW OF P16 PIER (2)

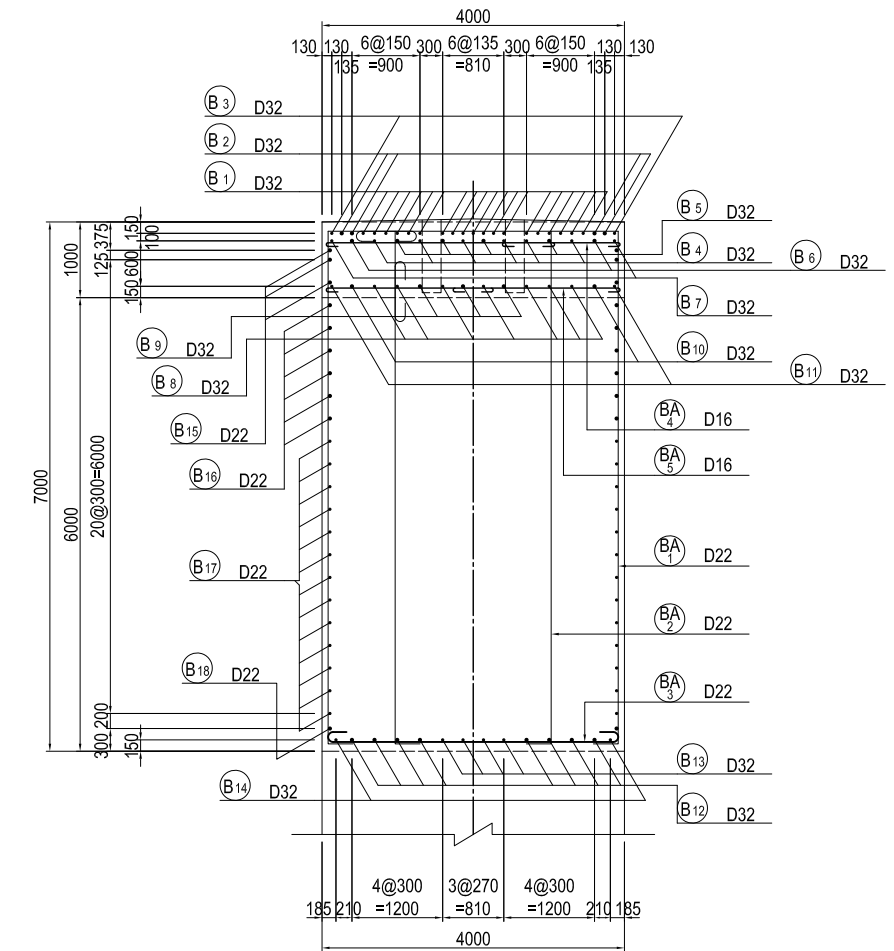
PACKAGE  
2  
DWG No.  
P2-SB-2202

# BAR ARRANGEMENT OF P16 PIER (1) S=1:100 BEAM

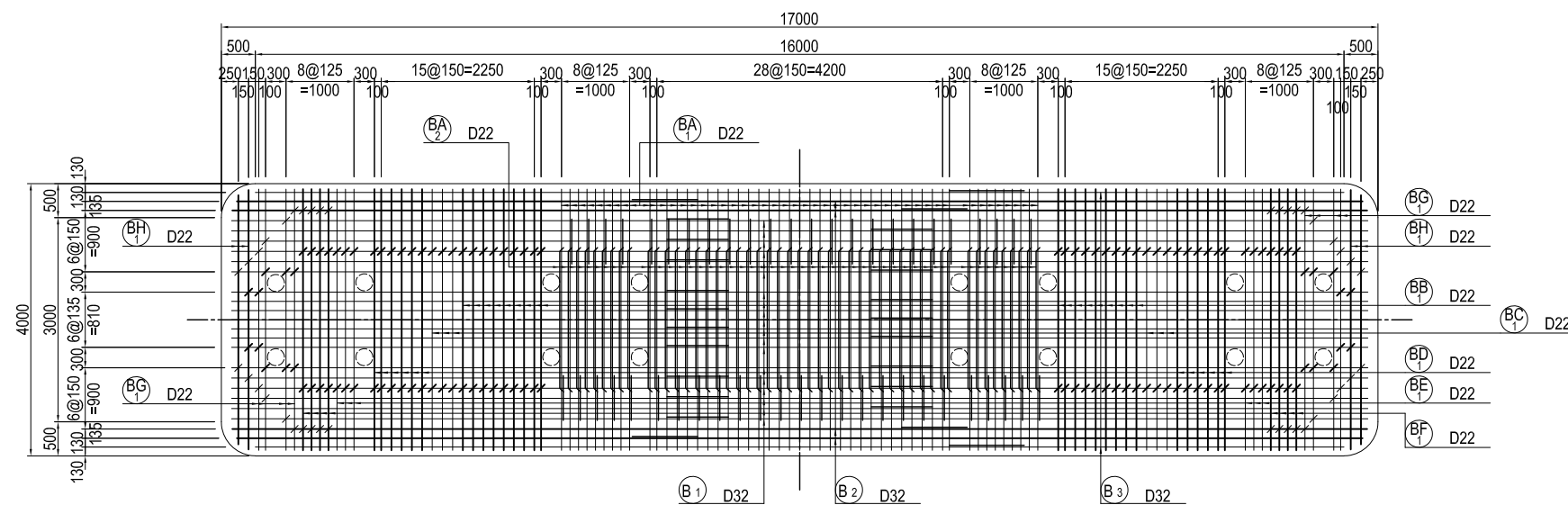
## FRONT ELEVATION 1-1



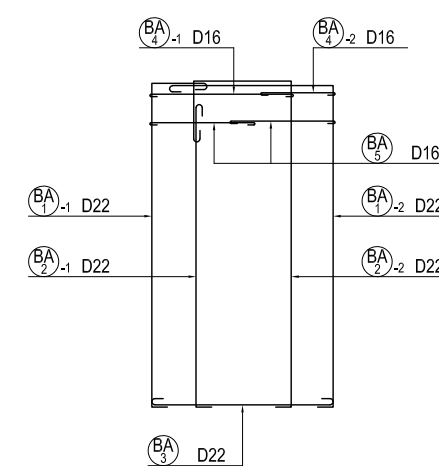
## SECTION 3-3



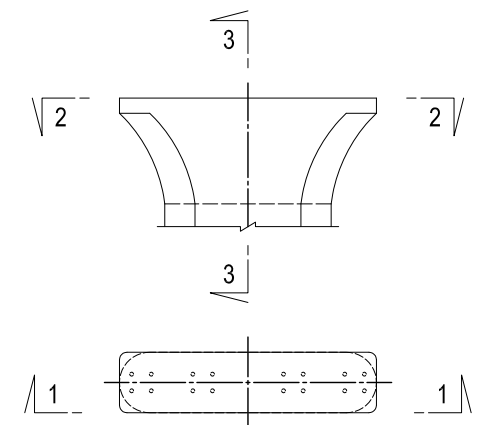
## PLAN 2-2



## ASSEMBLY DRAWING OF STIRRUP



## MARKING DIAGRAM

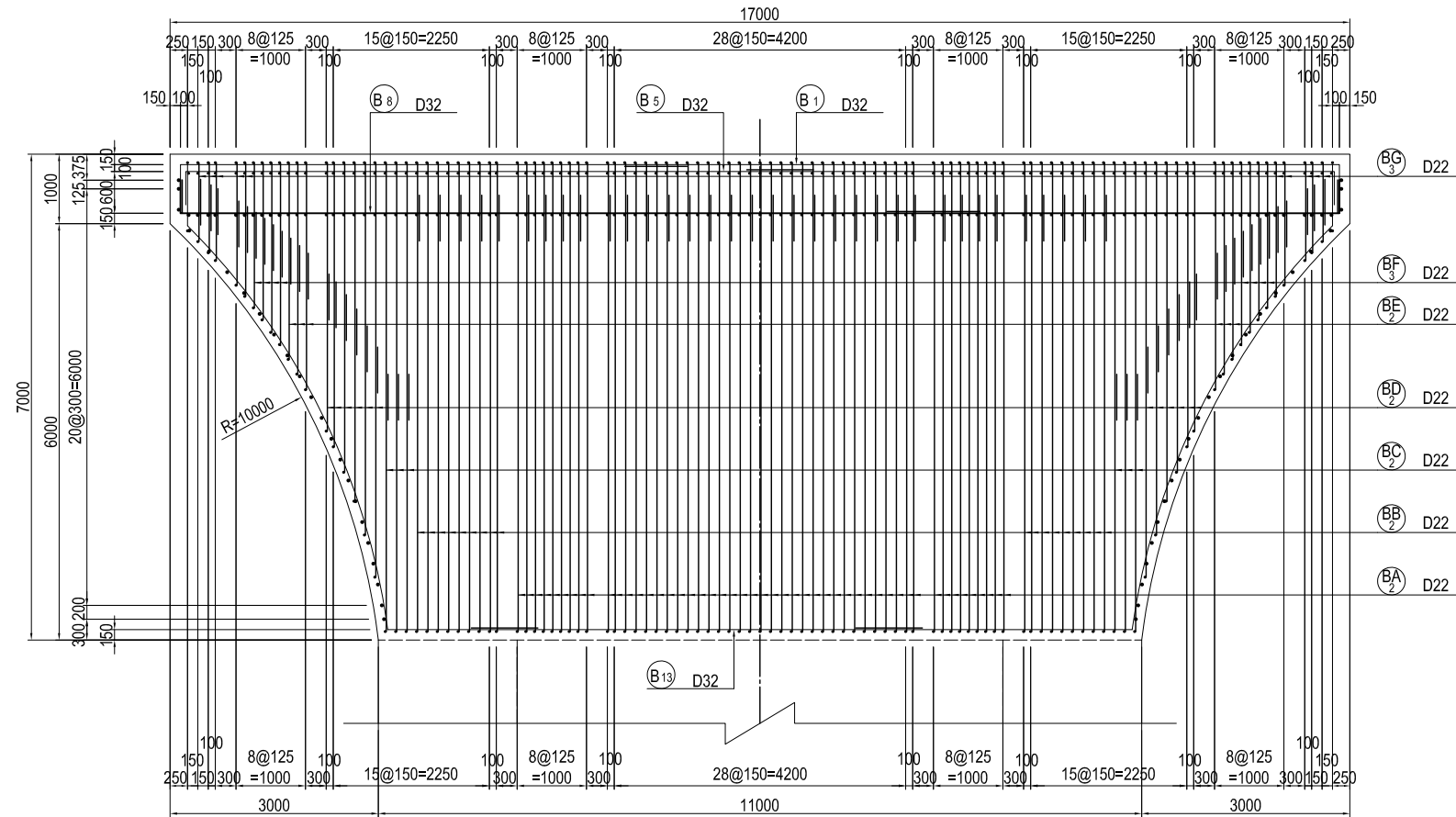


## USE MATERIALS

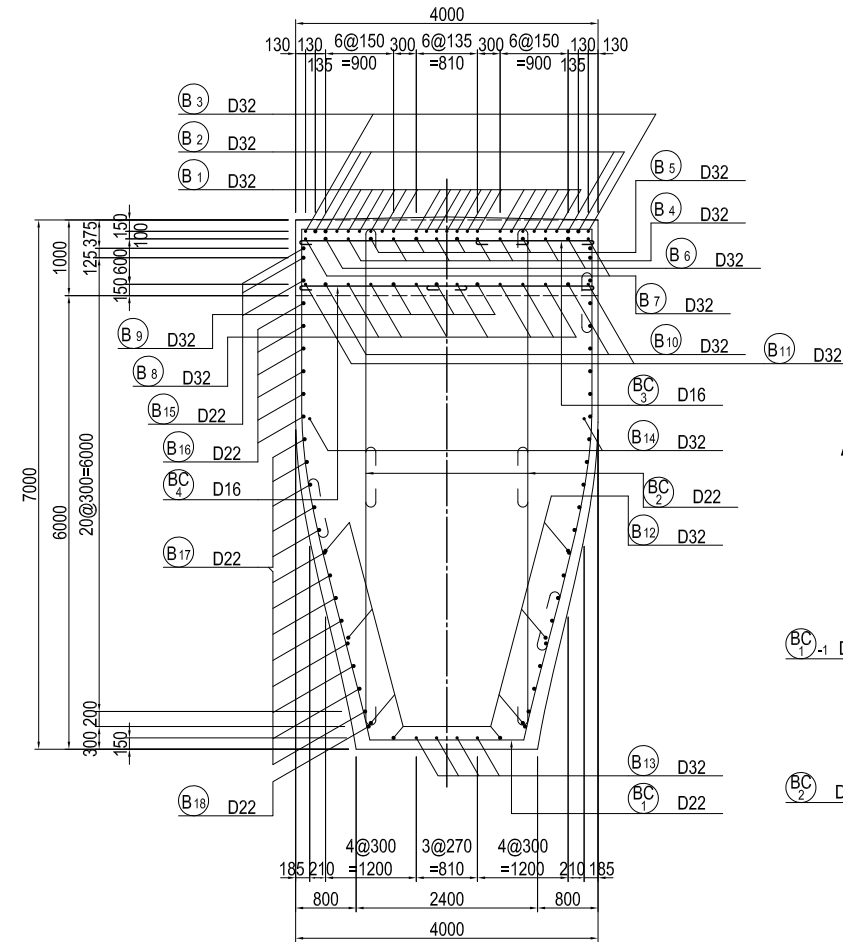
	CONCRETE	BAR
BEAM	σck = 30 N/mm <sup>2</sup>	SD345

# BAR ARRANGEMENT OF P16 PIER (2) S=1:100 BEAM

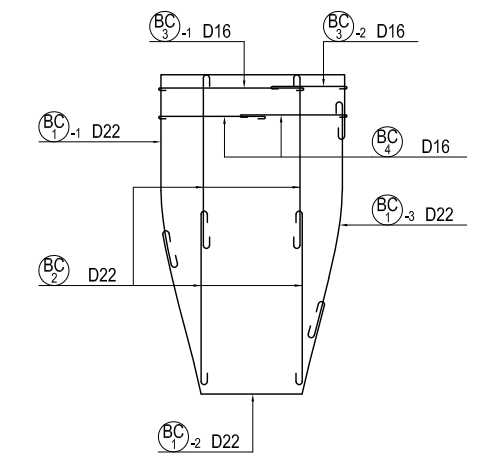
## SECTION 4-4



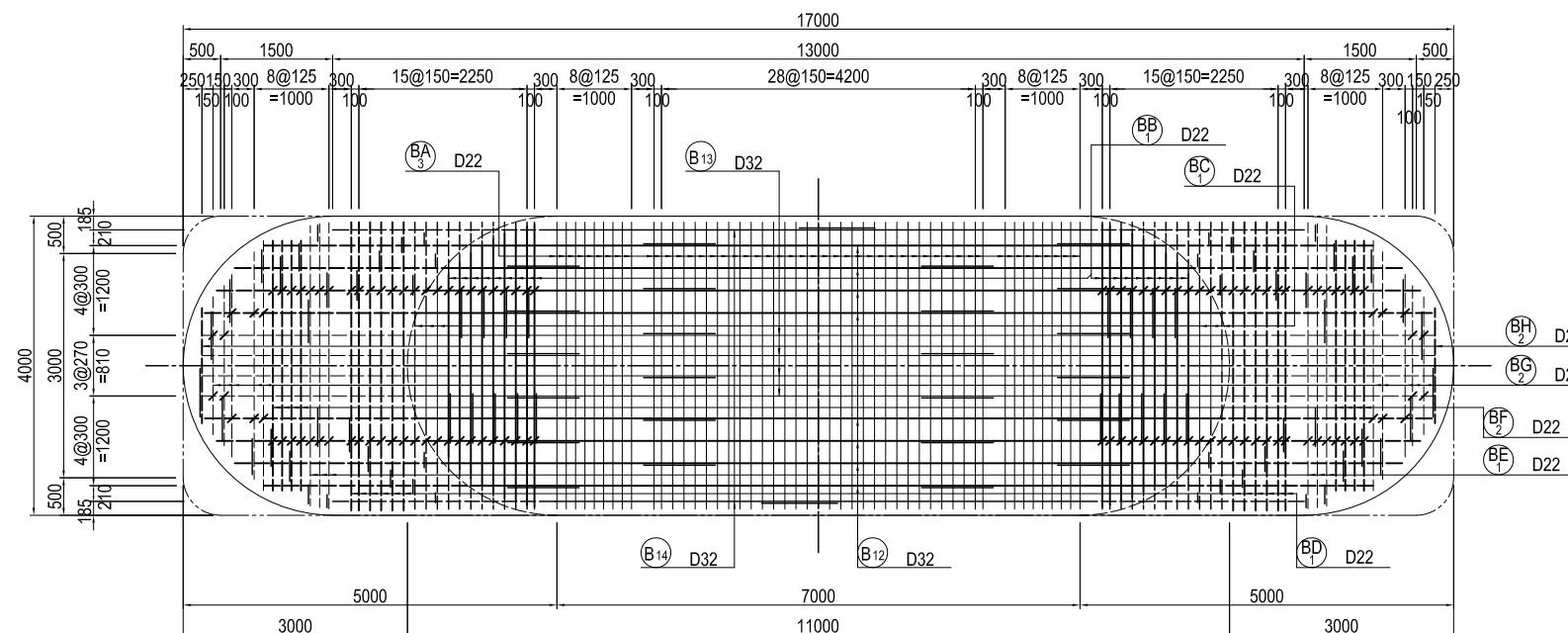
## SECTION 7-7



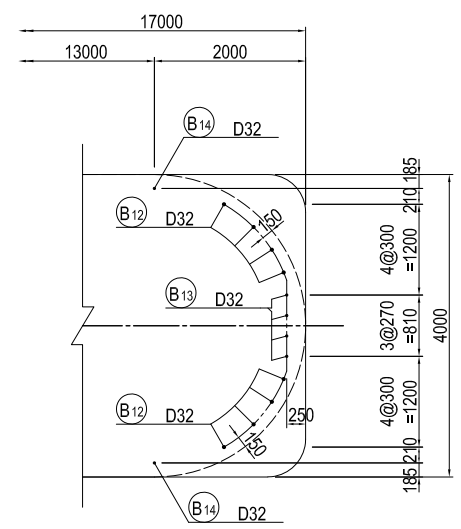
## ASSEMBLY DRAWING OF STIRRUP



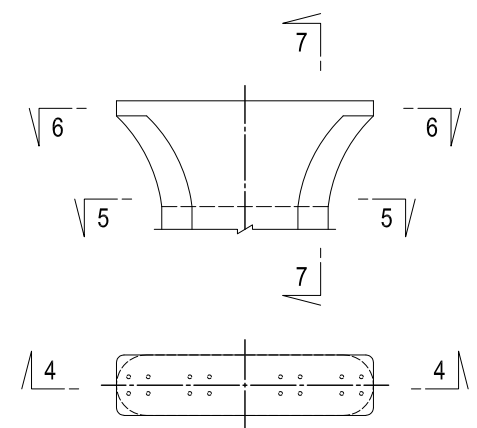
## PLAN 5-5



## PLAN 6-6



## MARKING DIAGRAM



## USE MATERIALS

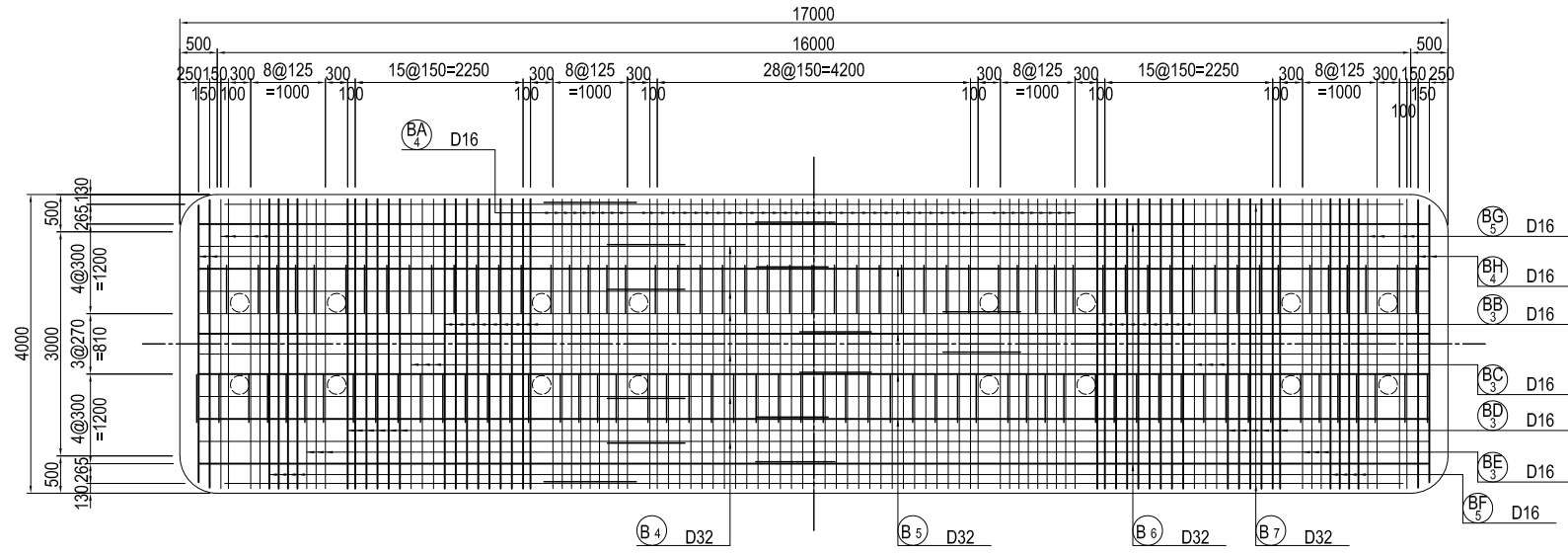
	CONCRETE	BAR
BEAM	σ <sub>ck</sub> = 30 N/mm <sup>2</sup>	SD345



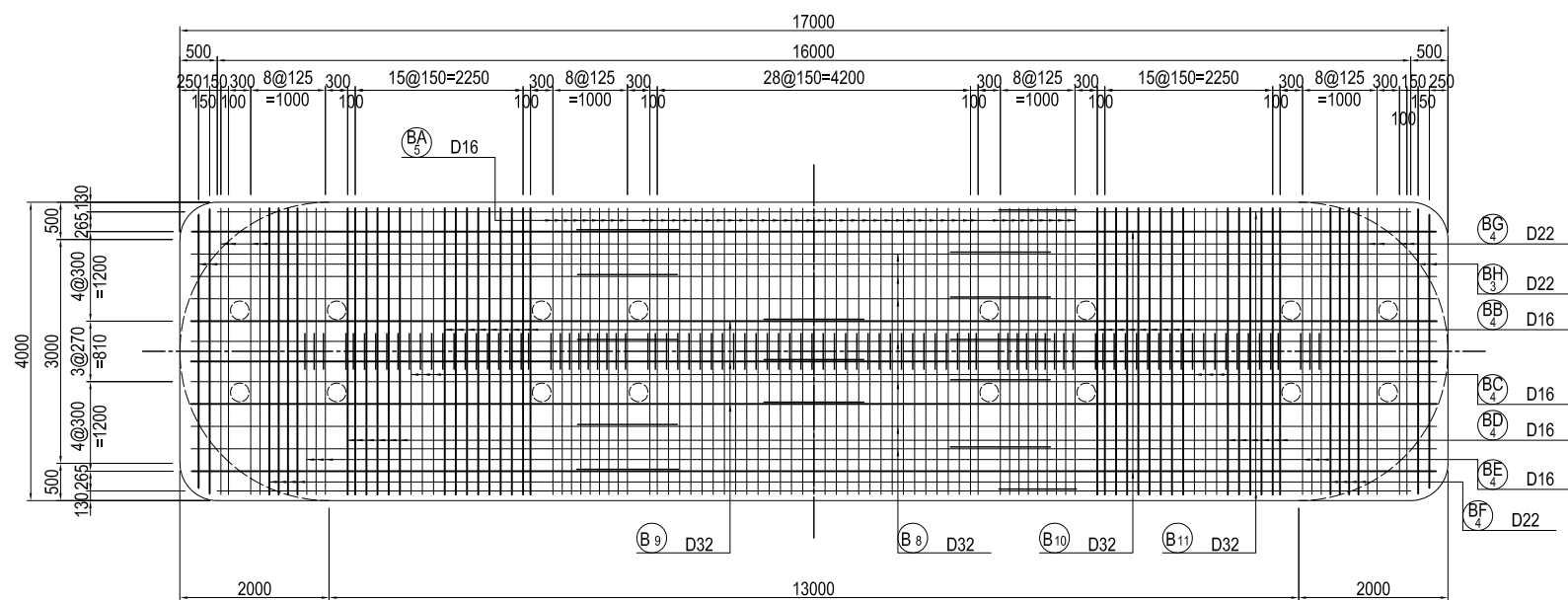
# BAR ARRANGEMENT OF P16 PIER (3) S=1:100

## BEAM

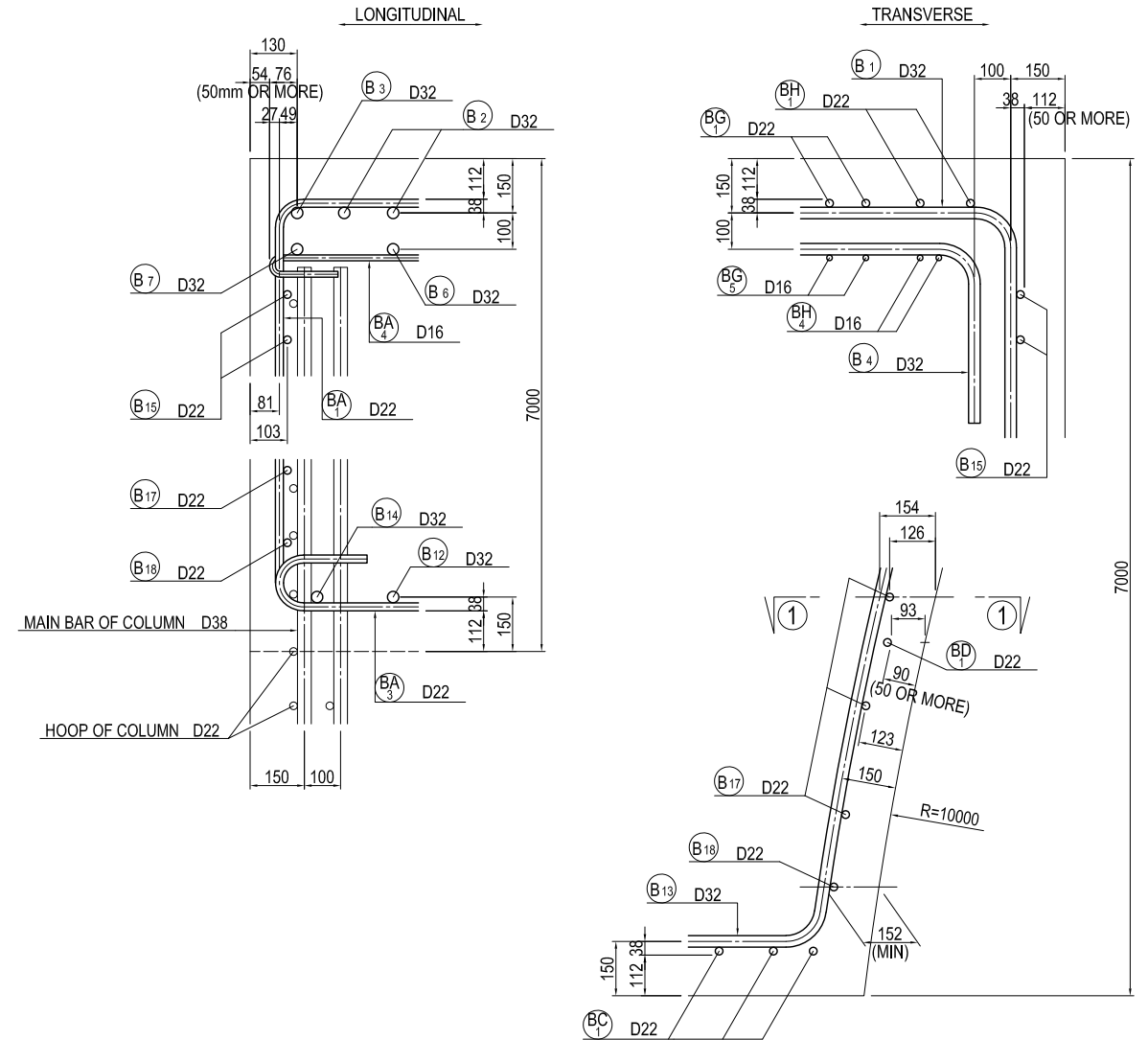
**PLAN  
8-8**



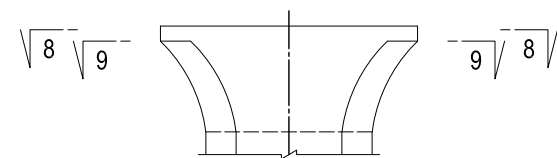
**PLAN  
9-9**



**DETAIL OF BEAM S=1:20**



**MARKING DIAGRAM**



**USE MATERIALS**

	CONCRETE	BAR
BEAM	σ <sub>ck</sub> = 30 N/mm <sup>2</sup>	SD345

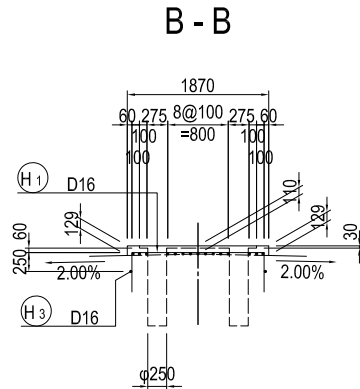
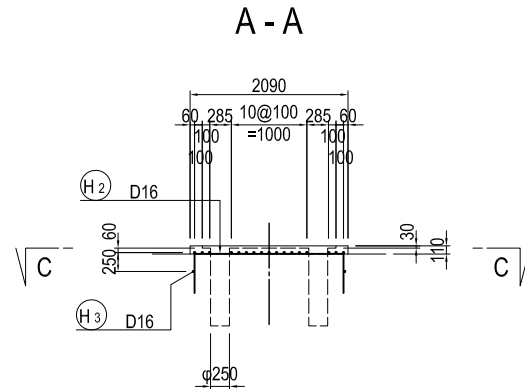
# BAR ARRANGEMENT OF P16 PIER (4) S=1:100

## BEAM

### BAR ARRANGEMENT OF BEARING BASE

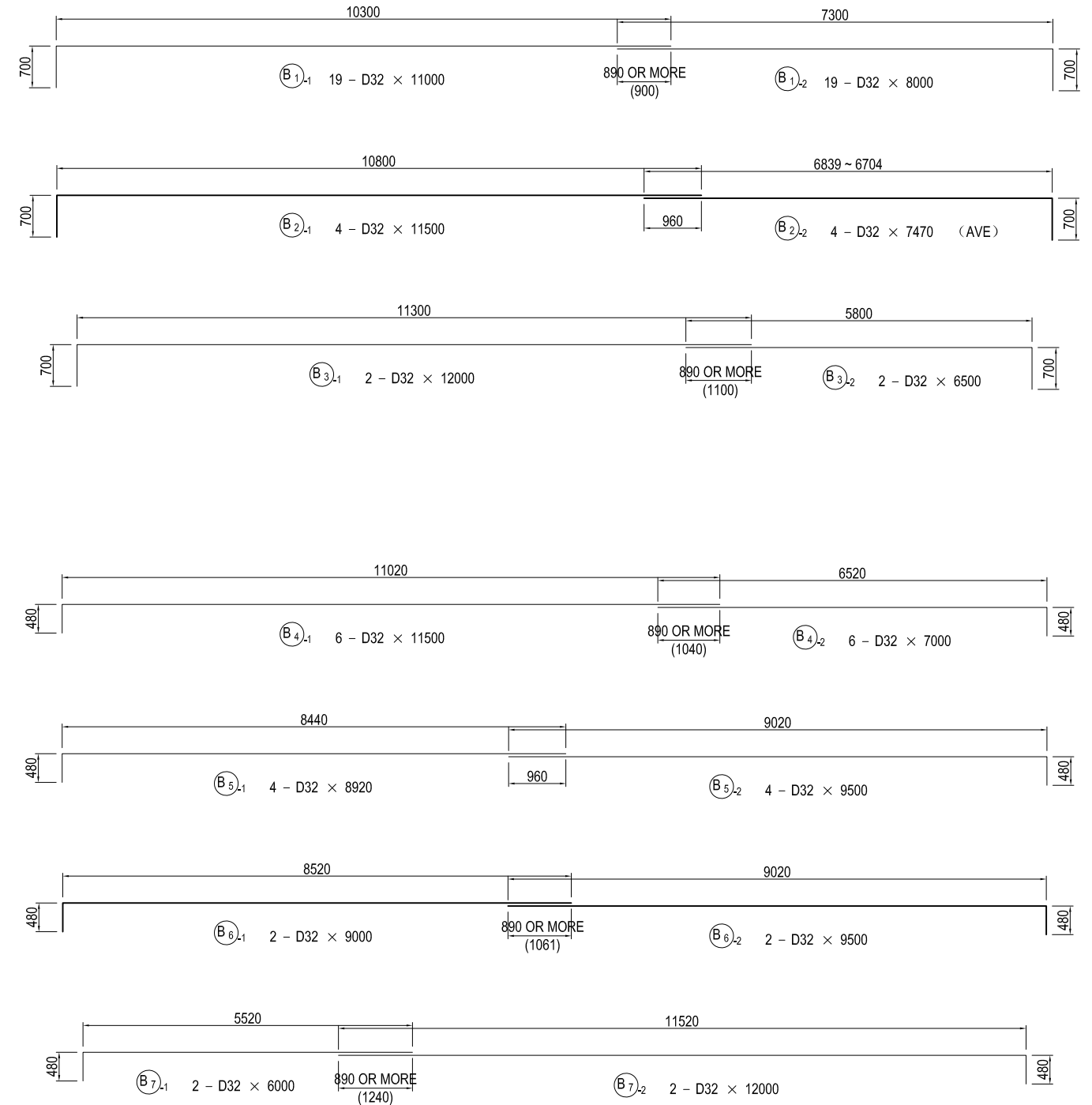
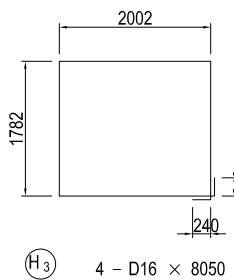
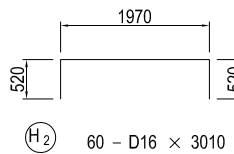
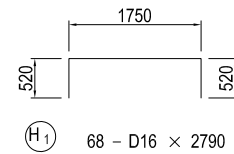
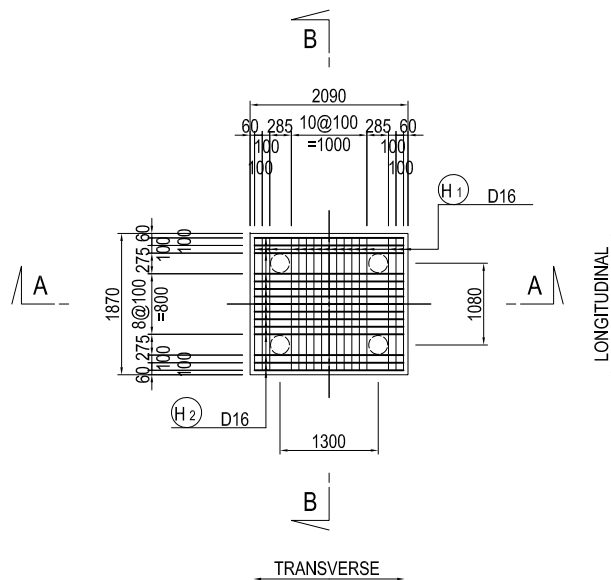
(N = 4)

### SECTION



### PLAN

#### C - C



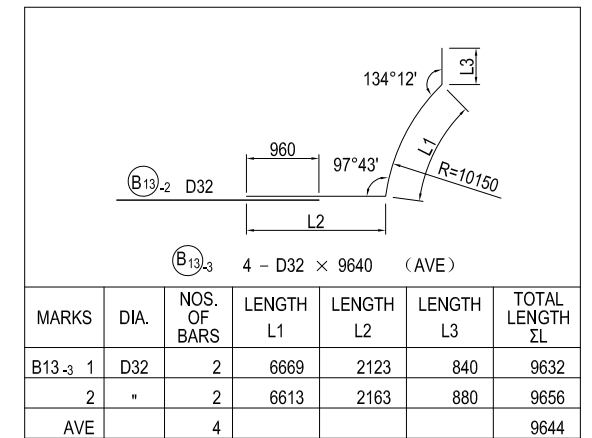
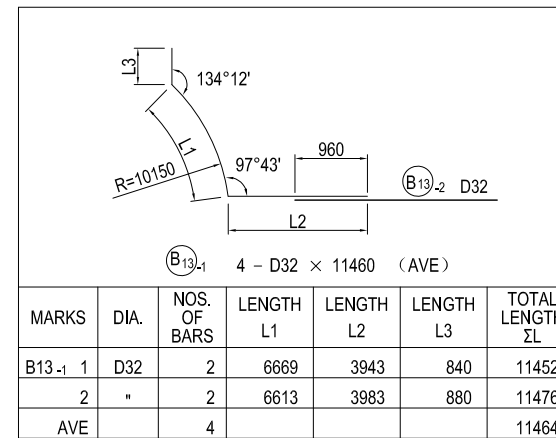
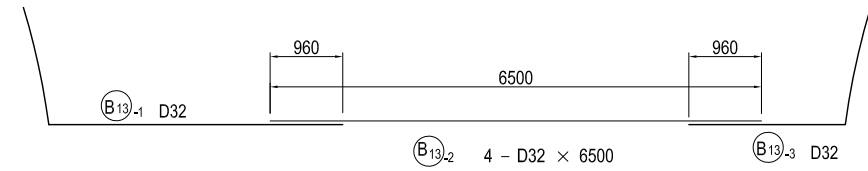
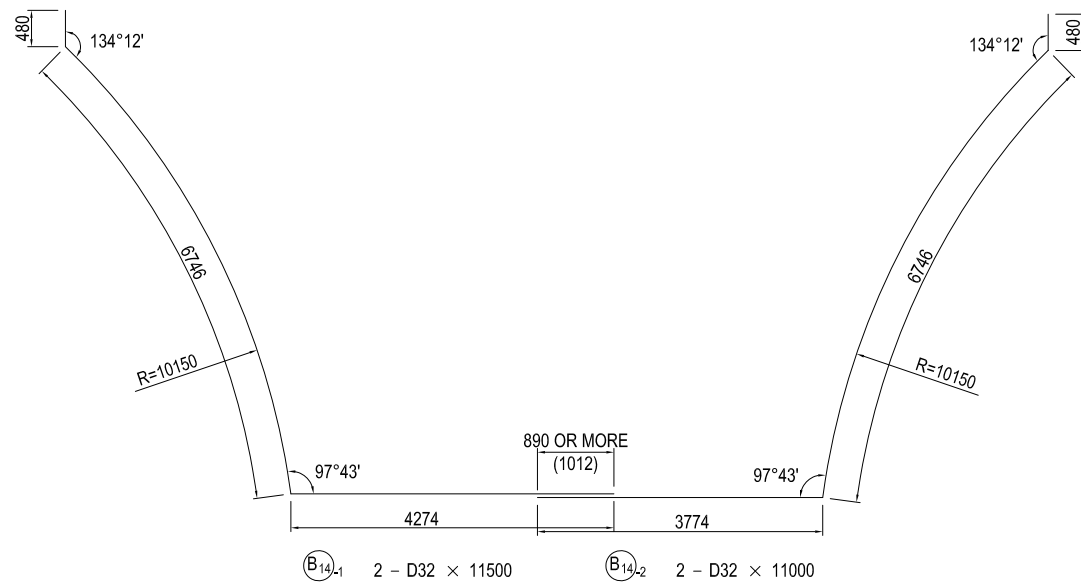
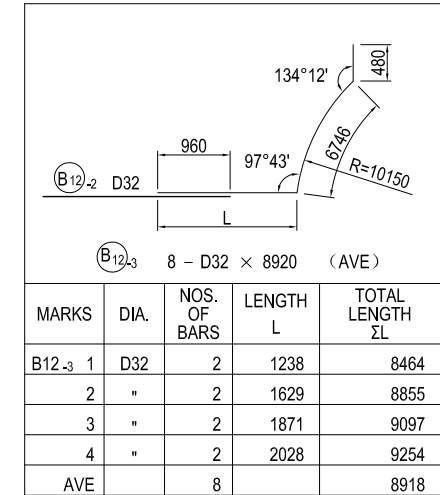
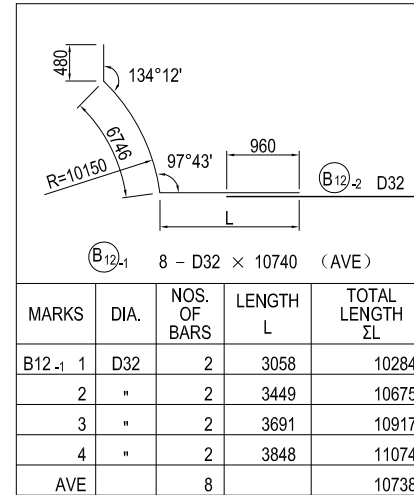
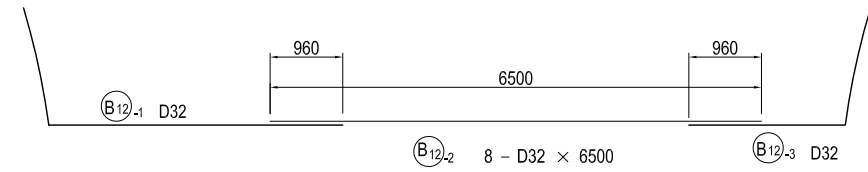
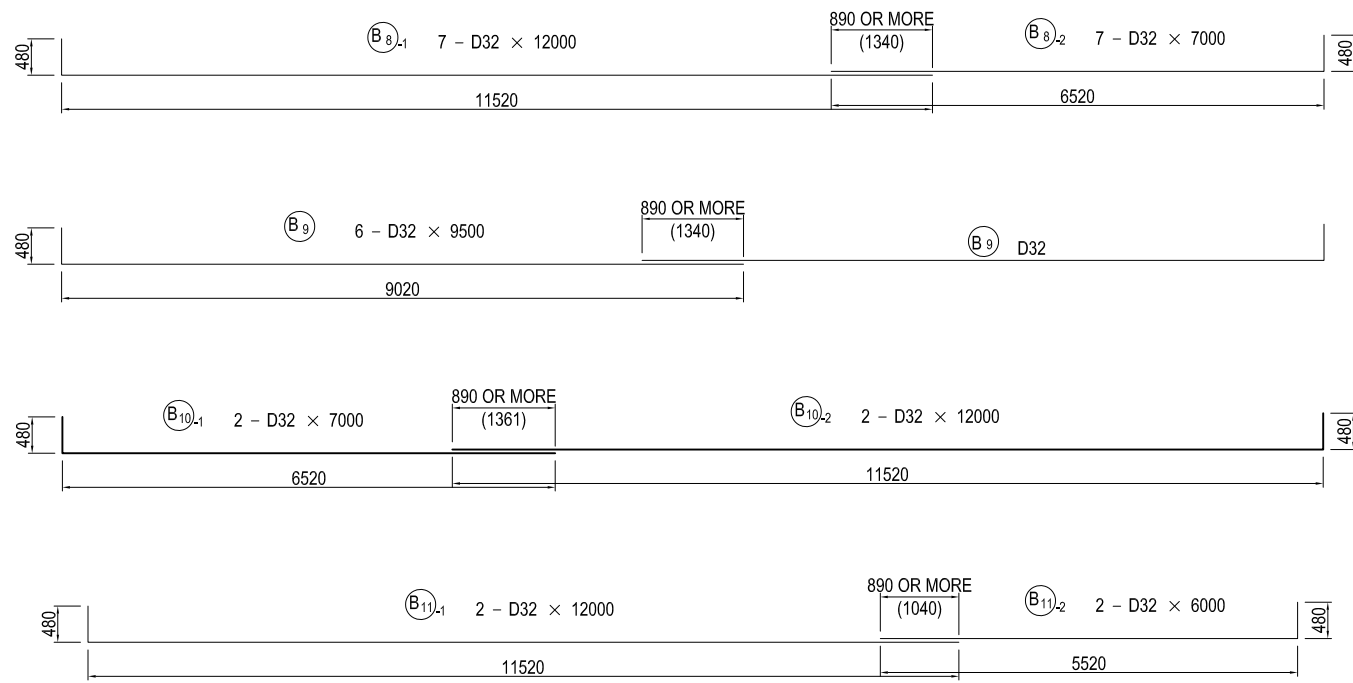
### USE MATERIALS

	CONCRETE	BAR
BEAM	σ <sub>ck</sub> = 30 N/mm <sup>2</sup>	SD345

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">NAME</th> <th style="width: 15%;">SIGNATURE</th> <th style="width: 15%;">DATE</th> </tr> <tr> <td>PREPARED BY</td> <td>S. IMADA</td> <td>27 Nov.2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td>28 Nov.2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td>29 Nov.2017</td> </tr> </table>	NAME	SIGNATURE	DATE	PREPARED BY	S. IMADA	27 Nov.2017	CHECKED BY	T. HAYAKAWA	28 Nov.2017	APPROVED BY	Y. SANO	29 Nov.2017	DRAWING TITLE <h3 style="text-align: center;">BAR ARRANGEMENT OF P16 PIER (4)</h3>	PACKAGE 1 DWG No. P2-SB-2206
NAME	SIGNATURE	DATE																
PREPARED BY	S. IMADA	27 Nov.2017																
CHECKED BY	T. HAYAKAWA	28 Nov.2017																
APPROVED BY	Y. SANO	29 Nov.2017																

# BAR ARRANGEMENT OF P16 PIER (5) S=1:100

## BEAM

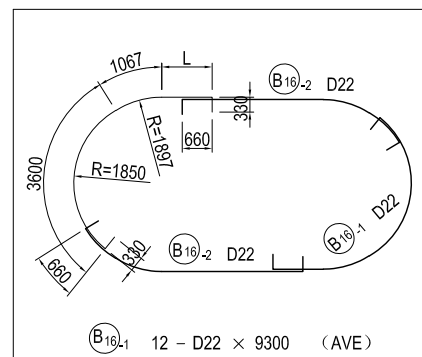
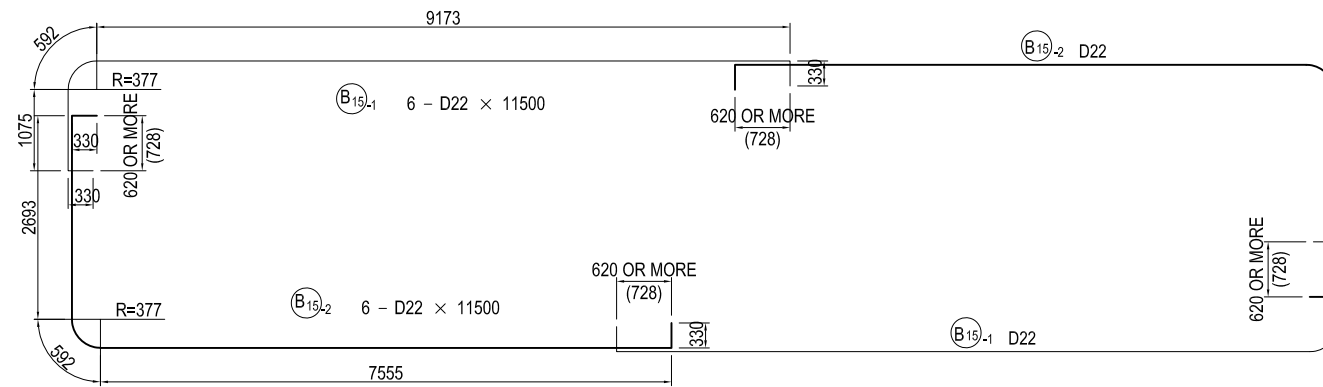


### USE MATERIALS

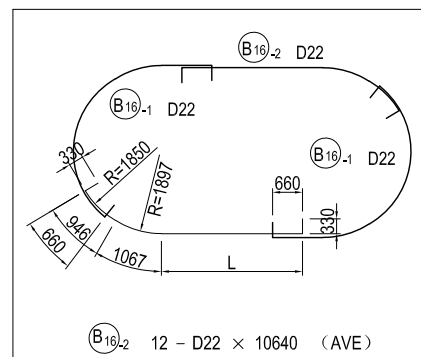
	CONCRETE	BAR
BEAM	σ <sub>ck</sub> = 30 N/mm <sup>2</sup>	SD345

# BAR ARRANGEMENT OF P16 PIER (6) S=1:100

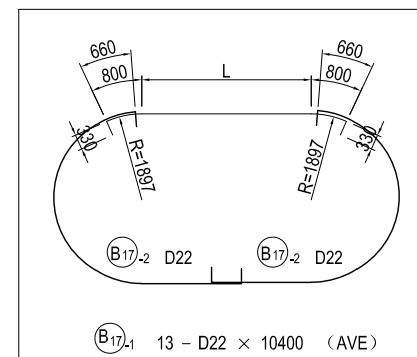
## BEAM



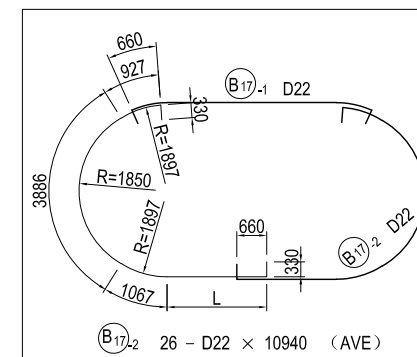
MARKS	DIA.	NOS. OF BARS	LENGTH L	TOTAL LENGTH ΣL
B16-1 1	D22	2	4612	9939
2	"	2	4328	9655
3	"	2	4065	9392
4	"	2	3823	9150
5	"	2	3598	8925
6	"	2	3391	8718
AVE		12		9297



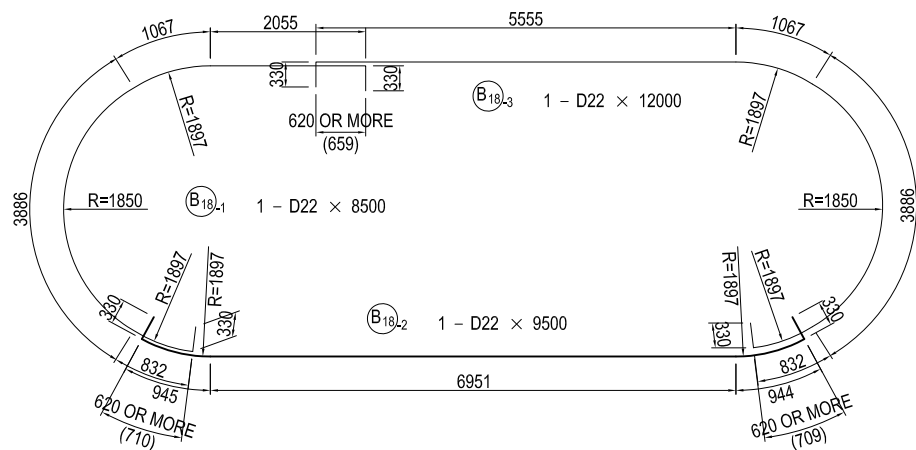
MARKS	DIA.	NOS. OF BARS	LENGTH L	TOTAL LENGTH ΣL
B16-2 1	D22	2	8612	11285
2	"	2	8328	11001
3	"	2	8065	10738
4	"	2	7823	10496
5	"	2	7598	10271
6	"	2	7391	10064
AVE		12		10643



MARKS	DIA.	NOS. OF BARS	LENGTH L	TOTAL LENGTH ΣL
B17-1 1	D22	1	9737	11997
2	"	1	9381	11641
3	"	1	9052	11312
4	"	1	8749	11009
5	"	1	8470	10730
6	"	1	8215	10475
7	"	1	7982	10242
8	"	1	7771	10031
9	"	1	7580	9840
10	"	1	7410	9670
11	"	1	7260	9520
12	"	1	7128	9388
13	"	1	7016	9276
AVE		13		10395



MARKS	DIA.	NOS. OF BARS	LENGTH L	TOTAL LENGTH ΣL
B17-2 1	D22	2	5198	11738
2	"	2	5020	11560
3	"	2	4856	11396
4	"	2	4705	11245
5	"	2	4565	11105
6	"	2	4438	10978
7	"	2	4321	10861
8	"	2	4215	10755
9	"	2	4120	10660
10	"	2	4035	10575
11	"	2	3960	10500
12	"	2	3894	10434
13	"	2	3838	10378
AVE		26		10937



### USE MATERIALS

	CONCRETE	BAR
BEAM	σ <sub>ck</sub> = 30 N/mm <sup>2</sup>	SD345

PROJECT NAME  
DETAILED DESIGN ON  
BAGO RIVER BRIDGE  
CONSTRUCTION PROJECT

FINANCED BY  
 JAPAN INTERNATIONAL  
COOPERATION AGENCY

COUNTERPART  
 REPUBLIC OF THE UNION OF MYANMAR  
MINISTRY OF CONSTRUCTION  
DEPARTMENT OF BRIDGE

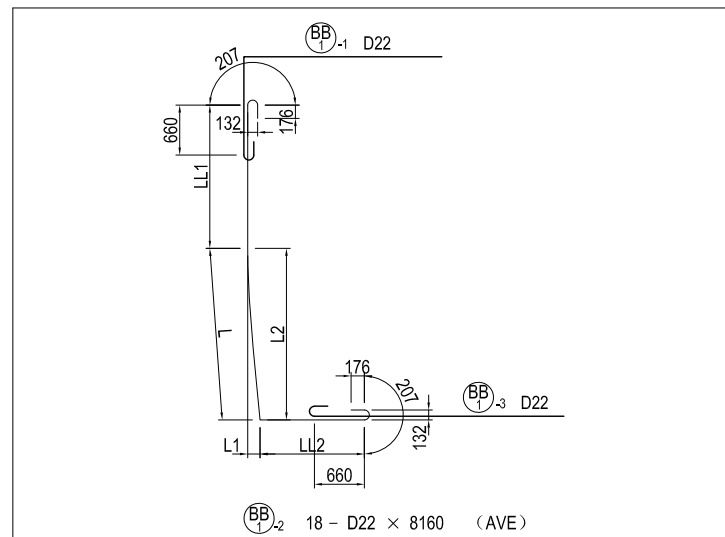
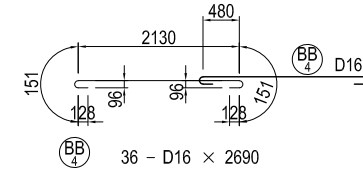
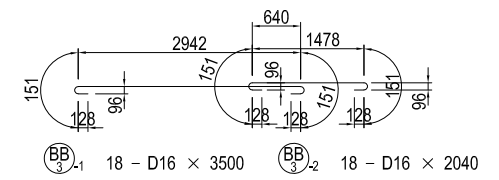
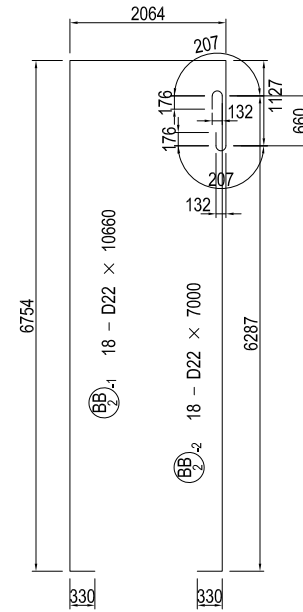
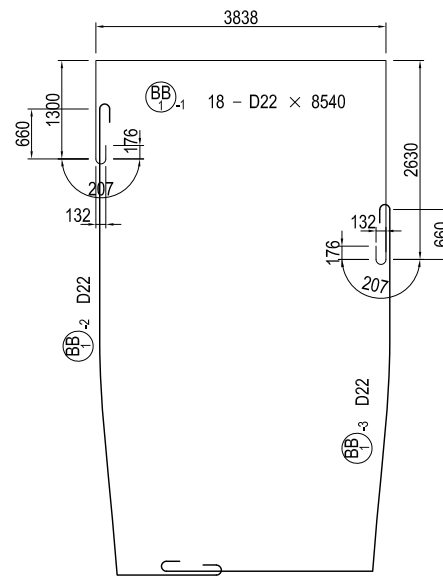
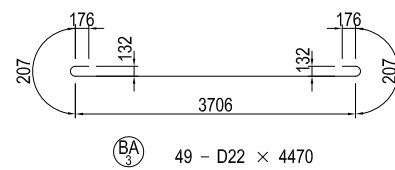
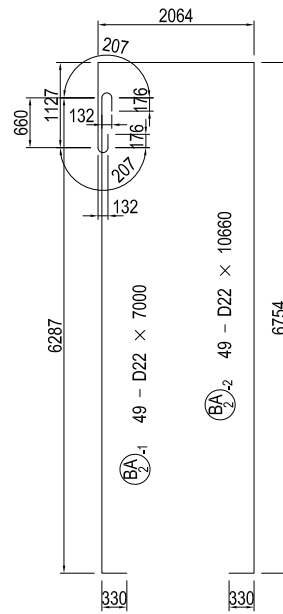
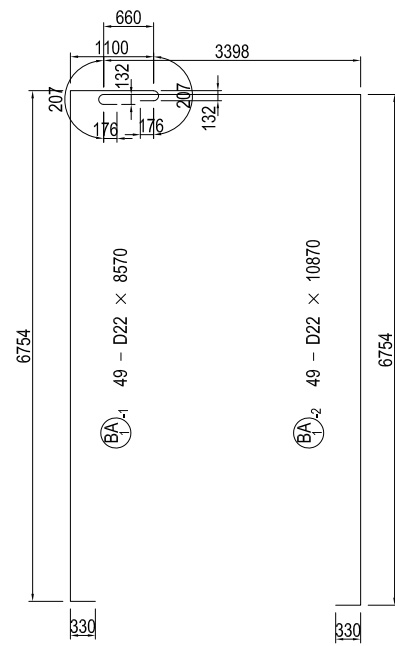
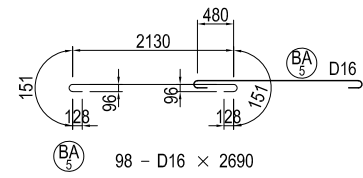
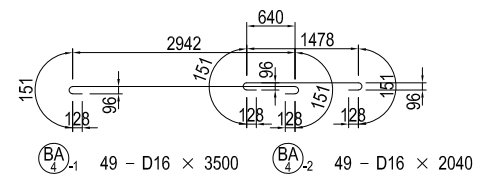
JICA STUDY TEAM  
 NIPPON KOEI CO., LTD.  
ORIENTAL CONSULTANTS GLOBAL CO., LTD.  
METROPOLITAN EXPRESSWAY COMPANY LIMITED  
CHODAI CO., LTD.  
NIPPON ENGINEERING CONSULTANTS CO., LTD.

	NAME	SIGNATURE	DATE
PREPARED BY	S. IMADA		27 Nov.2017
CHECKED BY	T. HAYAKAWA		28 Nov.2017
APPROVED BY	Y. SANO		29 Nov.2017

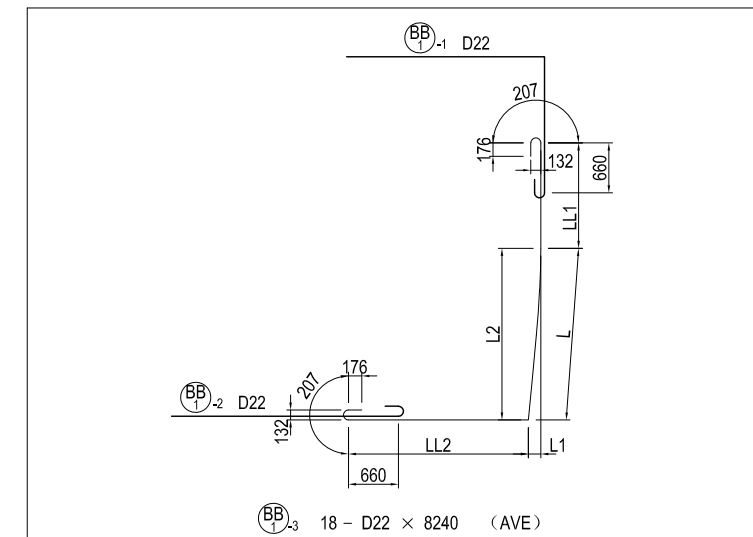
DRAWING TITLE  
BAR ARRANGEMENT OF P16 PIER (6)

PACKAGE  
2  
DWG No.  
P2-SB-2208

# BAR ARRANGEMENT OF P16 PIER (7) S=1:100 BEAM



MARKS	DIA.	NOS. OF BARS	LENGTH L	LENGTH L1	LENGTH L2	LENGTH LL1	LENGTH LL2	TOTAL LENGTH ΣL
BB1-2 1	D22	2	1464	33	1464	4650	1511	8391
2	"	2	1892	54	1891	4223	1490	8371
3	"	2	2282	97	2280	3834	1447	8329
4	"	2	2606	155	2601	3513	1389	8274
5	"	2	3029	227	3020	3094	1317	8206
6	"	2	3241	315	3225	2889	1229	8125
7	"	2	3607	416	3580	2534	1128	8035
8	"	2	3827	541	3785	2329	1003	7925
9	"	2	4115	698	4051	2063	846	7790
AVE		18						8161



MARKS	DIA.	NOS. OF BARS	LENGTH L	LENGTH L1	LENGTH L2	LENGTH LL1	LENGTH LL2	TOTAL LENGTH ΣL
BB1-3 1	D22	2	1464	33	1464	3320	2921	8471
2	"	2	1892	54	1891	2893	2900	8451
3	"	2	2282	97	2280	2504	2857	8409
4	"	2	2606	155	2601	2183	2799	8354
5	"	2	3029	227	3020	1764	2727	8286
6	"	2	3241	315	3225	1559	2639	8205
7	"	2	3607	416	3580	1204	2538	8115
8	"	2	3827	541	3785	999	2413	8005
9	"	2	4115	698	4051	733	2256	7870
AVE		18						8241

## USE MATERIALS

	CONCRETE	BAR
BEAM	σck = 30 N/mm <sup>2</sup>	SD345

PROJECT NAME  
DETAILED DESIGN ON  
BAGO RIVER BRIDGE  
CONSTRUCTION PROJECT

FINANCED BY  
 JAPAN INTERNATIONAL  
COOPERATION AGENCY

COUNTERPART  
 REPUBLIC OF THE UNION OF MYANMAR  
MINISTRY OF CONSTRUCTION  
DEPARTMENT OF BRIDGE

JICA STUDY TEAM  
 NIPPON KOEI CO., LTD.  
ORIENTAL CONSULTANTS GLOBAL CO., LTD.  
METROPOLITAN EXPRESSWAY COMPANY LIMITED  
CHODAI CO., LTD.  
NIPPON ENGINEERING CONSULTANTS CO., LTD.

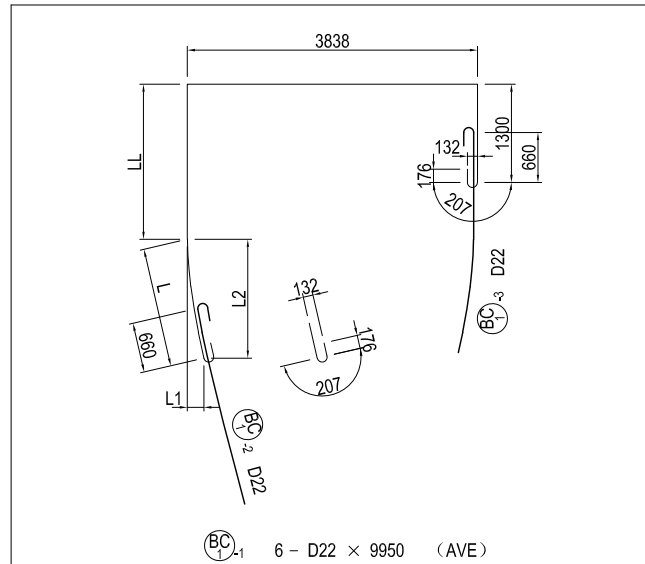
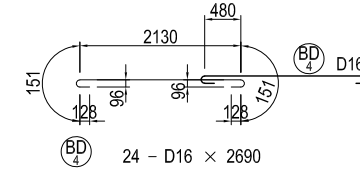
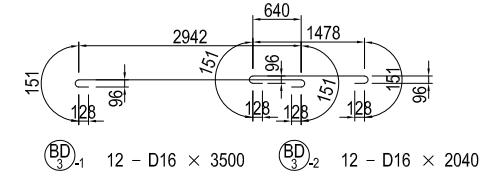
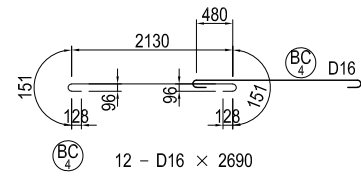
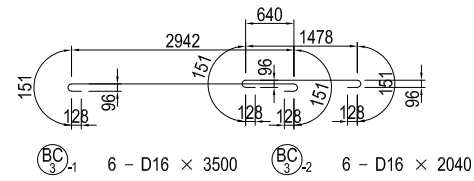
	NAME	SIGNATURE	DATE
PREPARED BY	S. IMADA		27 Nov.2017
CHECKED BY	T. HAYAKAWA		28 Nov.2017
APPROVED BY	Y. SANO		29 Nov.2017

DRAWING TITLE  
**BAR ARRANGEMENT OF P16 PIER (7)**

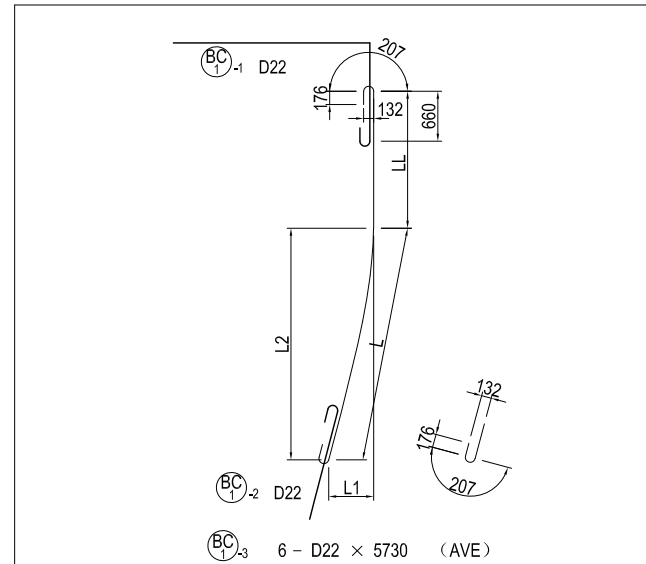
PACKAGE  
2  
DWG No.  
P2-SB-2209



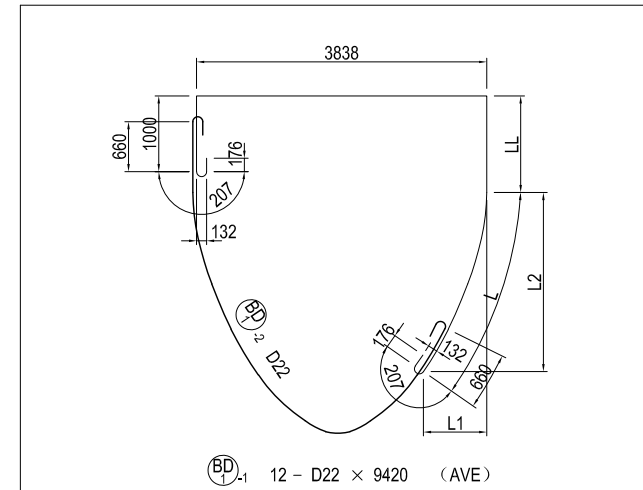
# BAR ARRANGEMENT OF P16 PIER (8) S=1:100 BEAM



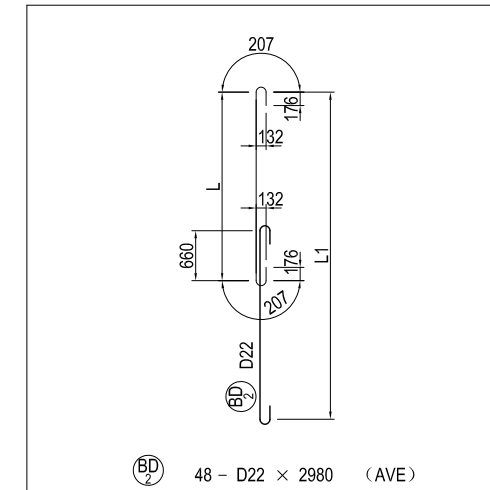
MARKS	DIA.	NOS. OF BARS	LENGTH L	LENGTH L1	LENGTH L2	LENGTH LL	TOTAL LENGTH ΣL
BC1-1 1	D22	2	1591	219	1573	2451	9946
2	"	2	1871	304	1837	2177	9952
3	"	2	2008	400	1961	2049	9961
AVE		6					9953



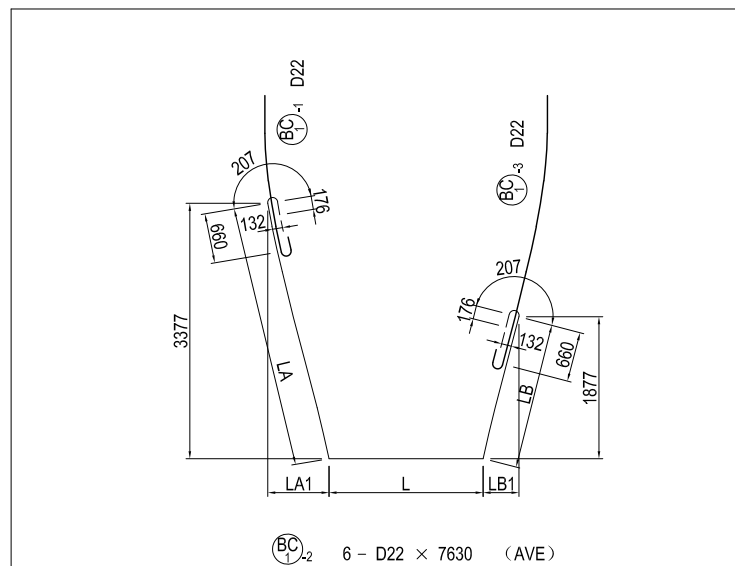
MARKS	DIA.	NOS. OF BARS	LENGTH L	LENGTH L1	LENGTH L2	LENGTH LL	TOTAL LENGTH ΣL
BC1-2 1	D22	2	3129	594	3064	1811	5706
2	"	2	3426	761	3327	1537	5729
3	"	2	3591	975	3434	1409	5766
AVE		6					5734



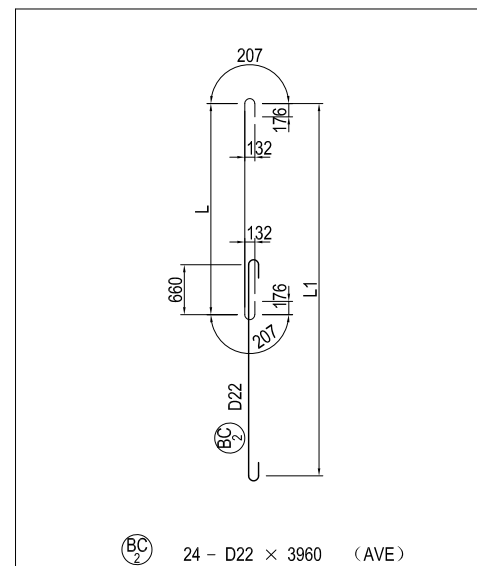
MARKS	DIA.	NOS. OF BARS	LENGTH L	LENGTH L1	LENGTH L2	LENGTH LL	TOTAL LENGTH ΣL
BD1-1 1	D22	2	1907	407	1855	1851	9362
2	"	2	2150	524	2071	1623	9377
3	"	2	2289	665	2171	1503	9396
4	"	2	2544	836	2369	1277	9425
5	"	2	2697	1045	2436	1167	9468
6	"	2	2879	1218	2528	1027	9510
AVE		12					9423



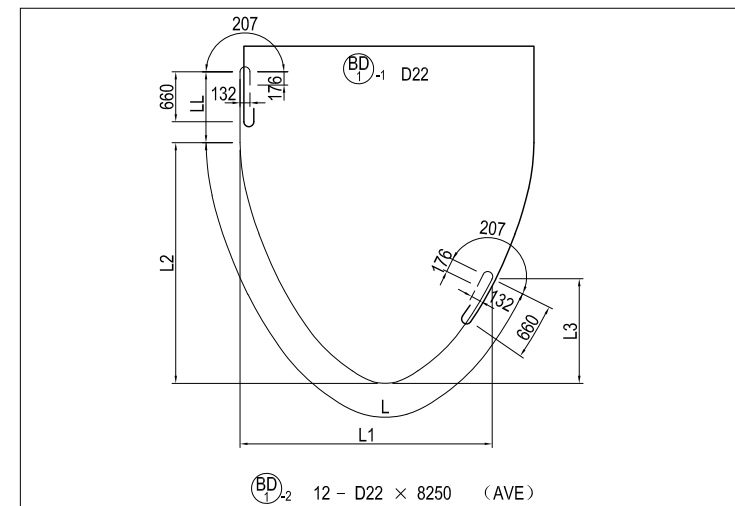
MARKS	DIA.	NOS. OF BARS	LENGTH L	LENGTH L1	TOTAL LENGTH ΣL
BD2 1	D22	8	2645	4630	3411
2	"	8	2445	4229	3211
3	"	8	2266	3872	3032
4	"	8	2105	3549	2871
5	"	8	1957	3253	2723
6	"	8	1864	3068	2630
AVE		48			2980



MARKS	DIA.	NOS. OF BARS	LENGTH LA	LENGTH LA1	LENGTH LB	LENGTH LB1	LENGTH L	TOTAL LENGTH ΣL
BC1-2 1	D22	2	3474	811	1936	474	2038	8214
2	"	2	3536	1043	1981	760	1465	7748
3	"	2	3791	1621	2209	1120	171	6937
AVE		6						7633



MARKS	DIA.	NOS. OF BARS	LENGTH L	LENGTH L1	TOTAL LENGTH ΣL
BC2 1	D22	8	3543	6425	4309
2	"	8	3159	5657	3925
3	"	8	2877	5093	3643
AVE		24			3959



MARKS	DIA.	NOS. OF BARS	LENGTH L	LENGTH L1	LENGTH L2	LENGTH L3	LENGTH LL	TOTAL LENGTH ΣL
BD1-2 1	D22	2	8159	3633	4120	2894	1511	10436
2	"	2	7303	3548	3741	2287	1283	9352
3	"	2	6546	3453	3373	1799	1163	8475
4	"	2	5999	3336	3183	1383	937	7702
5	"	2	5399	3189	2925	1015	827	6992
6	"	2	5104	3072	2841	791	687	6557
AVE		12						8252

### USE MATERIALS

BEAM	CONCRETE	BAR
	σ <sub>ck</sub> = 30 N/mm <sup>2</sup>	SD345

PROJECT NAME  
DETAILED DESIGN ON  
BAGO RIVER BRIDGE  
CONSTRUCTION PROJECT

FINANCED BY  
JICA  
JAPAN INTERNATIONAL  
COOPERATION AGENCY

COUNTERPART  
REPUBLIC OF THE UNION OF MYANMAR  
MINISTRY OF CONSTRUCTION  
DEPARTMENT OF BRIDGE

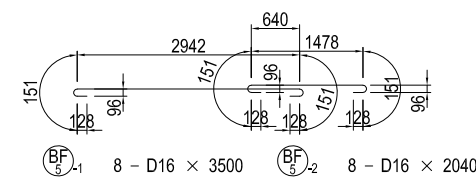
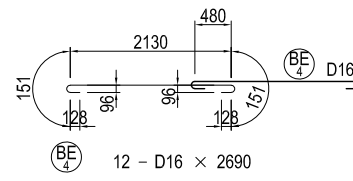
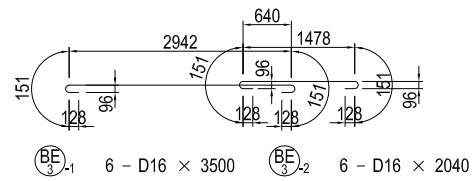
JICA STUDY TEAM  
NIPPON KOEI CO., LTD.  
ORIENTAL CONSULTANTS GLOBAL CO., LTD.  
METROPOLITAN EXPRESSWAY COMPANY LIMITED  
CHODAI CO., LTD.  
NIPPON ENGINEERING CONSULTANTS CO., LTD.

	NAME	SIGNATURE	DATE
PREPARED BY	S. IMADA	<i>S. Imada</i>	27 Nov.2017
CHECKED BY	T. HAYAKAWA	<i>T. Hayakawa</i>	28 Nov.2017
APPROVED BY	Y. SANO	<i>Y. Sano</i>	29 Nov.2017

DRAWING TITLE  
BAR ARRANGEMENT OF P16 PIER (8)

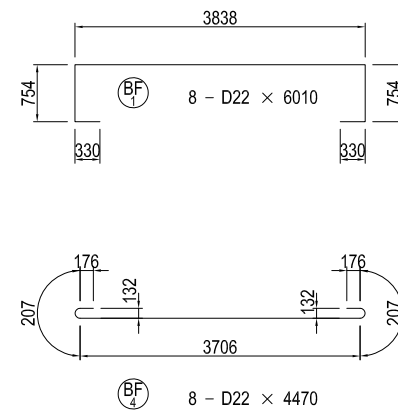
PACKAGE  
2  
DWG No.  
P2-SB-2210

# BAR ARRANGEMENT OF P16 PIER (9) S=1:100 BEAM



BE<sub>1-1</sub> 6 - D22 × 9620 (AVE)

MARKS	DIA.	NOS. OF BARS	LENGTH LA	LENGTH LA1	LENGTH LA2	LENGTH LB	LENGTH LB1	LENGTH LB2	LENGTH LL	TOTAL LENGTH ΣL
BE1-1 1	D22	2	820	196	793	2475	1141	2129	818	9535
2	"	2	905	257	863	2624	1351	2154	736	9605
3	"	2	970	325	906	2780	1612	2117	679	9712
AVE		6								9617



BF<sub>3</sub> 16 - D22 × 1980 (AVE)

MARKS	DIA.	NOS. OF BARS	LENGTH L	LENGTH L1	TOTAL LENGTH ΣL
BF3 1	D22	4	1335	2009	2101
2	"	4	1251	1841	2017
3	"	4	1170	1680	1936
4	"	4	1093	1526	1859
AVE		16			1978

BE<sub>1-2</sub> 6 - D22 × 4990 (AVE)

MARKS	DIA.	NOS. OF BARS	LENGTH L	LENGTH L1	LENGTH L2	LENGTH L3	TOTAL LENGTH ΣL
BE1-2 1	D22	2	4693	3139	2292	792	5459
2	"	2	4230	2959	2069	569	4996
3	"	2	3755	2725	1858	358	4521
AVE		6					4992

BE<sub>2</sub> 24 - D22 × 2280 (AVE)

MARKS	DIA.	NOS. OF BARS	LENGTH L	LENGTH L1	TOTAL LENGTH ΣL
BE2 1	D22	8	1611	2561	2377
2	"	8	1514	2368	2280
3	"	8	1423	2185	2189
AVE		24			2282

BF<sub>2-1</sub> 8 - D22 × 5850 (AVE)

MARKS	DIA.	NOS. OF BARS	LENGTH L	LENGTH L1	LENGTH L2	LENGTH L3	LENGTH LL	TOTAL LENGTH ΣL
BF2-1 1	D22	2	4397	3300	1340	1258	1228	6391
2	"	2	4172	3218	1287	1068	1092	6030
3	"	2	3933	3126	1233	887	964	5663
4	"	2	3721	3016	1196	713	829	5316
AVE		8						5850

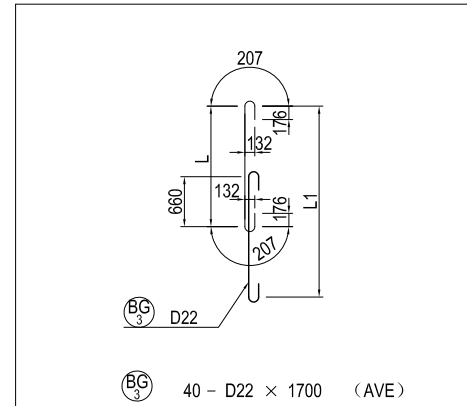
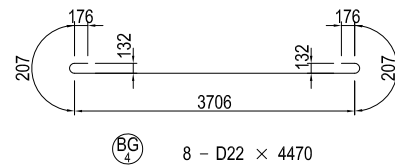
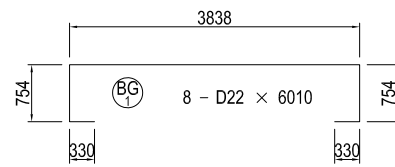
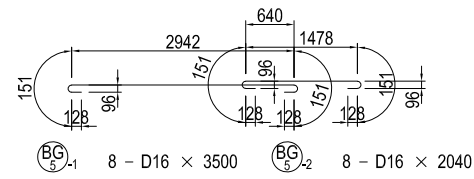
BF<sub>2-2</sub> 8 - D22 × 2790 (AVE)

MARKS	DIA.	NOS. OF BARS	LENGTH L	LENGTH L1	LENGTH L2	LENGTH LL	TOTAL LENGTH ΣL
BF2-2 1	D22	2	753	407	631	1228	2747
2	"	2	912	530	737	1092	2770
3	"	2	1069	665	828	964	2799
4	"	2	1243	821	914	829	2838
AVE		8					2789

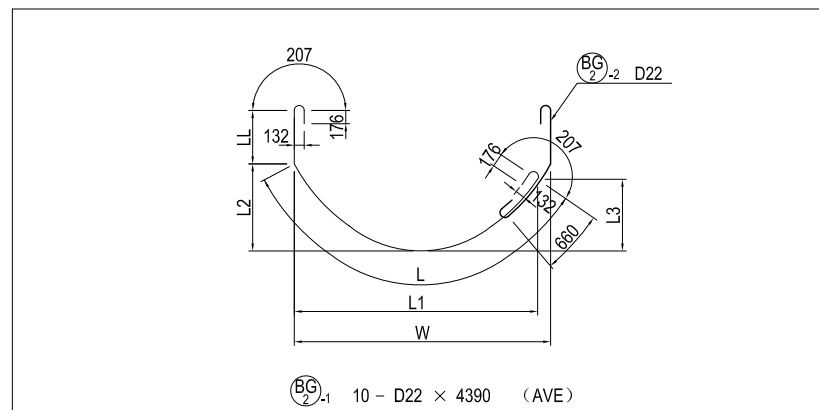
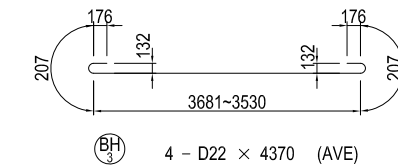
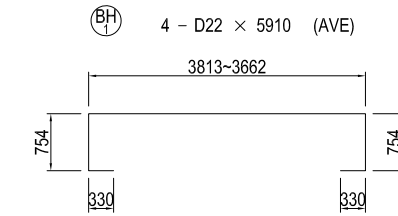
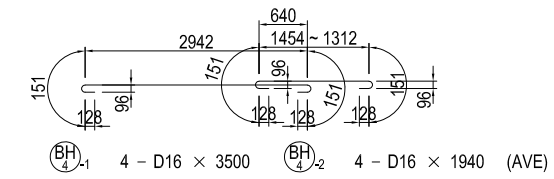
## USE MATERIALS

	CONCRETE	BAR
BEAM	σ <sub>ck</sub> = 30 N/mm <sup>2</sup>	SD345

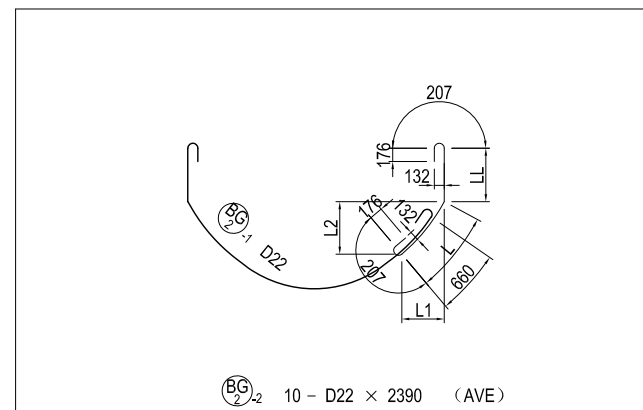
# BAR ARRANGEMENT OF P16 PIER (10) S=1:100 BEAM



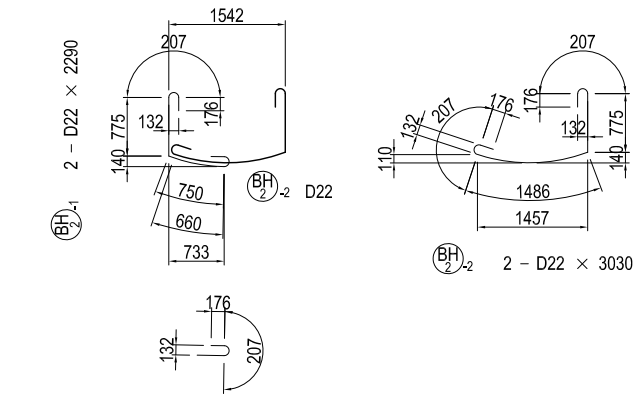
MARKS	DIA.	NOS. OF BARS	LENGTH L	LENGTH L1	TOTAL LENGTH ΣL
BG3 1	D22	8	1113	1565	1879
2	"	8	1038	1415	1804
3	"	8	869	1077	1635
4	"	8	866	1071	1632
5	"	8	787	914	1553
AVE		40			1701



MARKS	DIA.	NOS. OF BARS	LENGTH L	LENGTH L1	LENGTH L2	LENGTH L3	LENGTH W	LENGTH LL	TOTAL LENGTH ΣL
BG2-1 1	D22	2	4015	3220	1151	948	3342	707	5488
2	"	2	3528	2977	876	789	3042	824	5118
3	"	2	2594	2371	491	432	2442	852	4212
4	"	2	2227	2077	369	321	2142	863	3856
5	"	2	1715	1639	271	159	1842	799	3280
AVE		10							4391



MARKS	DIA.	NOS. OF BARS	LENGTH L	LENGTH L1	LENGTH L2	LENGTH LL	TOTAL LENGTH ΣL
BG2-2 1	D22	2	898	561	694	707	2371
2	"	2	769	545	536	824	2359
3	"	2	752	645	379	852	2370
4	"	2	740	662	320	863	2369
5	"	2	892	840	269	799	2457
AVE		10					2385



### USE MATERIALS

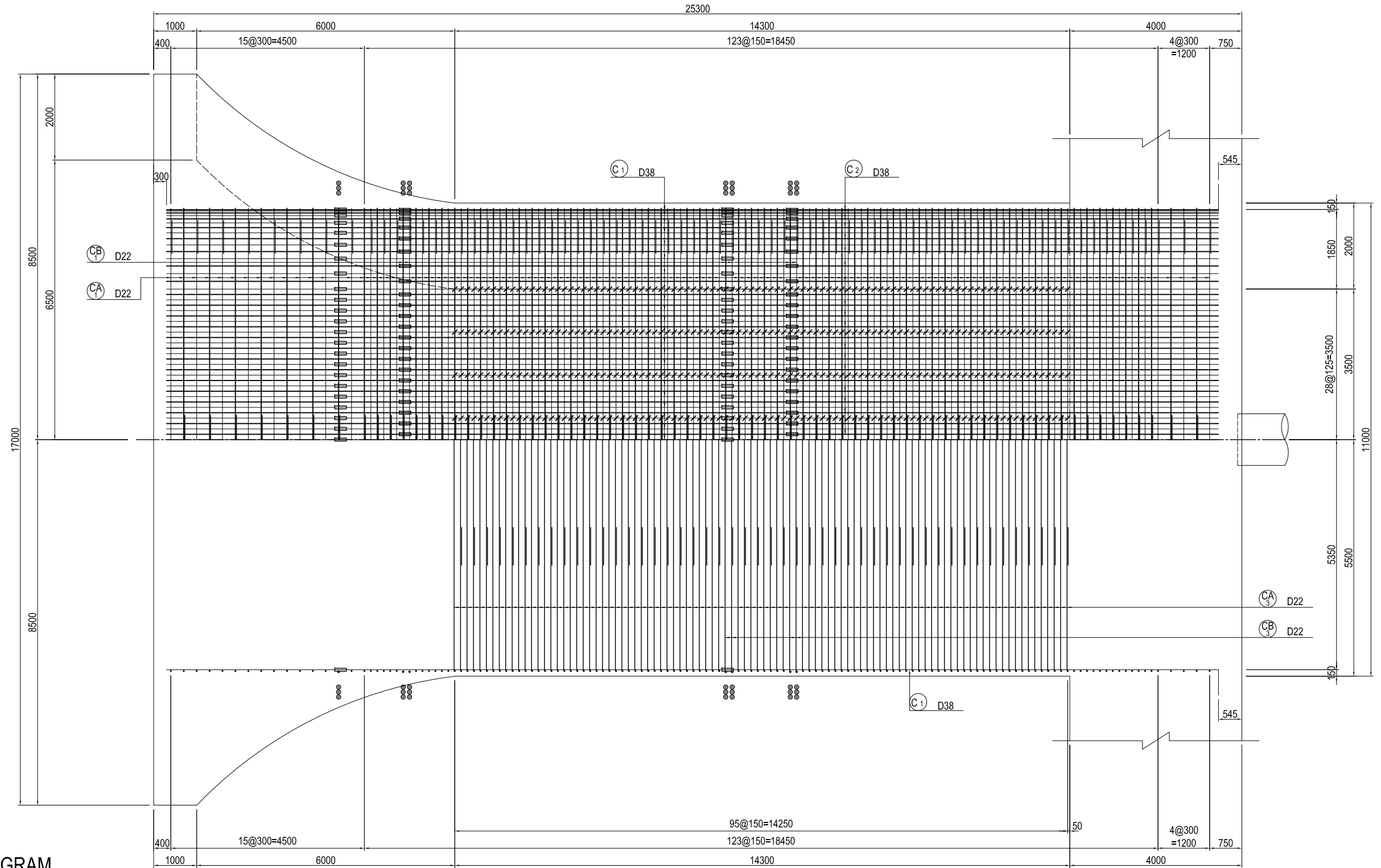
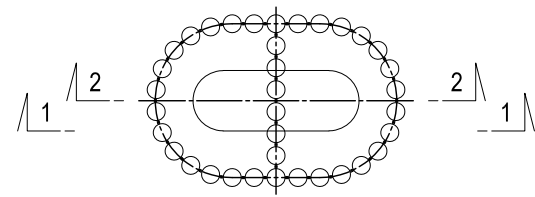
	CONCRETE	BAR
BEAM	σ <sub>ck</sub> = 30 N/mm <sup>2</sup>	SD345

# BAR ARRANGEMENT OF P16 PIER (11) S=1:100 COLUMN

FRONT ELEVATION  
1-1

SECTION  
2-2

MARKING DIAGRAM



Notes) 1. : This mark indicates hoop arranged in the location of mechanical joint.  
2. : This mark indicates a mechanical joint.

### USE MATERIALS

	CONCRETE	BAR	
COLUMN	$\sigma_{ck} = 30 \text{ N/mm}^2$	MAIN BAR	SD390
		OTHERS	SD345

PROJECT NAME  
DETAILED DESIGN ON  
BAGO RIVER BRIDGE  
CONSTRUCTION PROJECT

FINANCED BY  
 JAPAN INTERNATIONAL  
COOPERATION AGENCY

COUNTERPART  
 REPUBLIC OF THE UNION OF MYANMAR  
MINISTRY OF CONSTRUCTION  
DEPARTMENT OF BRIDGE

JICA STUDY TEAM  
 NIPPON KOEI CO., LTD.  
ORIENTAL CONSULTANTS GLOBAL CO., LTD.  
METROPOLITAN EXPRESSWAY COMPANY LIMITED  
CHODAI CO., LTD.  
NIPPON ENGINEERING CONSULTANTS CO., LTD.

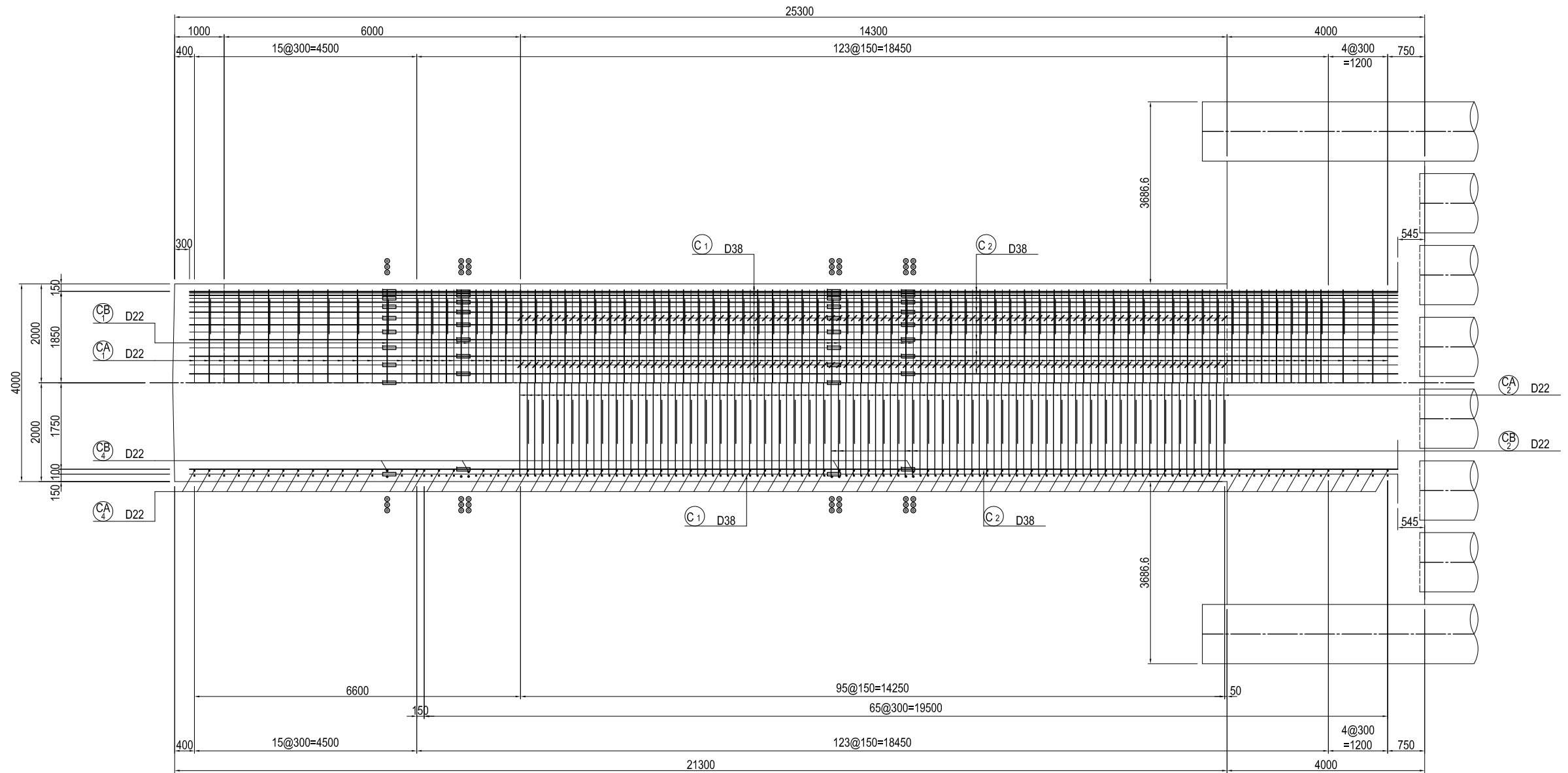
	NAME	SIGNATURE	DATE
PREPARED BY	S. IMADA		27 Nov.2017
CHECKED BY	T. HAYAKAWA		28 Nov.2017
APPROVED BY	Y. SANO		29 Nov.2017

DRAWING TITLE  
**BAR ARRANGEMENT OF P16 PIER (11)**

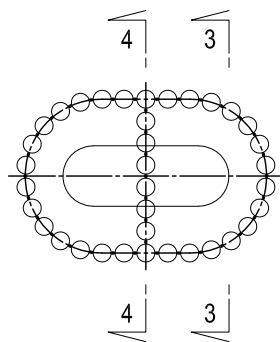
PACKAGE  
2  
DWG No.  
P2-SB-2213

# BAR ARRANGEMENT OF P16 PIER (12) S=1:100 COLUMN

SECTION SIDE ELEVATION  
4-4  
3-3



MARKING DIAGRAM



Notes) 1. : This mark indicates hoop arranged in the location of mechanical joint.  
2. : This mark indicates a mechanical joint.

### USE MATERIALS

COLUMN	CONCRETE $\sigma_{ck} = 30 \text{ N/mm}^2$	BAR	
		MAIN BAR	OTHERS
		SD390	SD345

PROJECT NAME  
DETAILED DESIGN ON  
BAGO RIVER BRIDGE  
CONSTRUCTION PROJECT

FINANCED BY  
 JAPAN INTERNATIONAL  
COOPERATION AGENCY

COUNTERPART  
 REPUBLIC OF THE UNION OF MYANMAR  
MINISTRY OF CONSTRUCTION  
DEPARTMENT OF BRIDGE

JICA STUDY TEAM  
 NIPPON KOEI CO., LTD.  
 ORIENTAL CONSULTANTS GLOBAL CO., LTD.  
 METROPOLITAN EXPRESSWAY COMPANY LIMITED  
 CHODAI CO., LTD.  
 NIPPON ENGINEERING CONSULTANTS CO., LTD.

	NAME	SIGNATURE	DATE
PREPARED BY	S. IMADA		27 Nov.2017
CHECKED BY	T. HAYAKAWA		28 Nov.2017
APPROVED BY	Y. SANO		29 Nov.2017

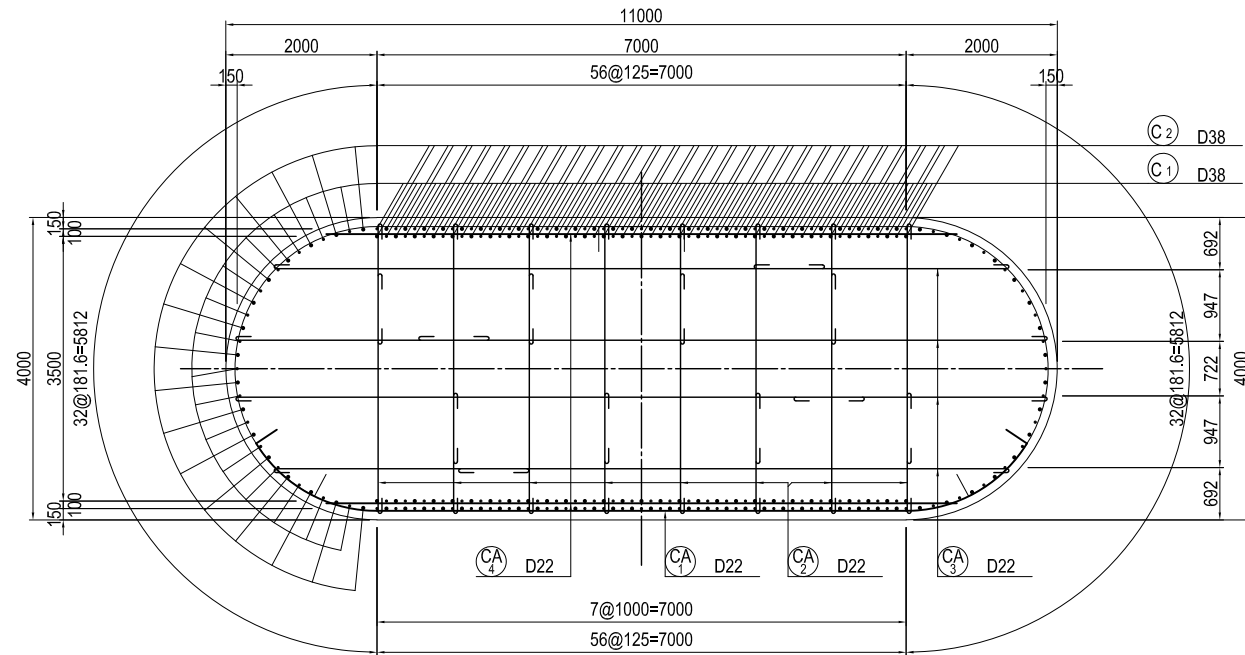
DRAWING TITLE  
**BAR ARRANGEMENT OF P16 PIER (12)**

PACKAGE  
2  
DWG No.  
P2-SB-2214



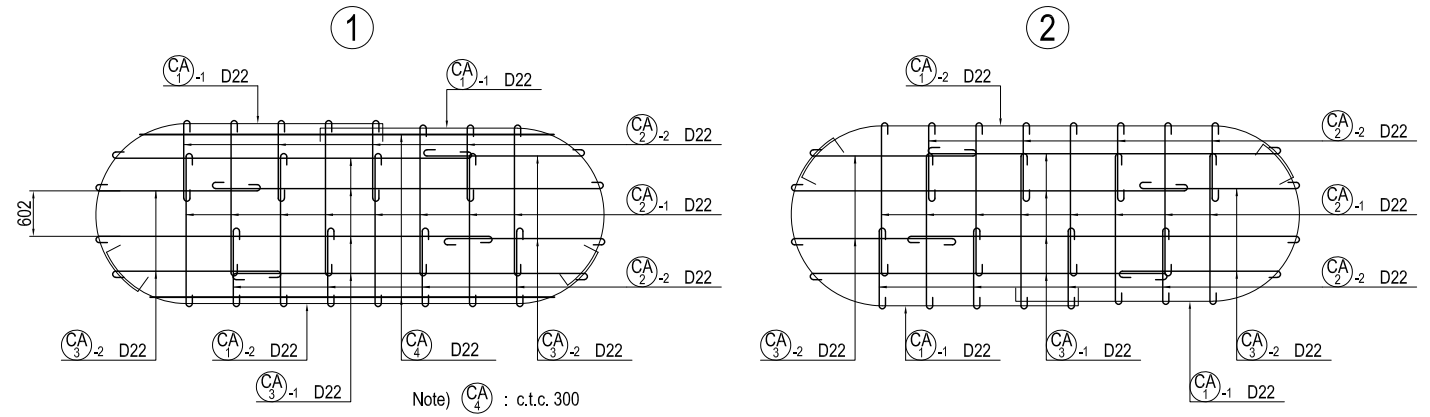
# BAR ARRANGEMENT OF P16 PIER (13) S=1:100 COLUMN

**PLAN  
5-5**

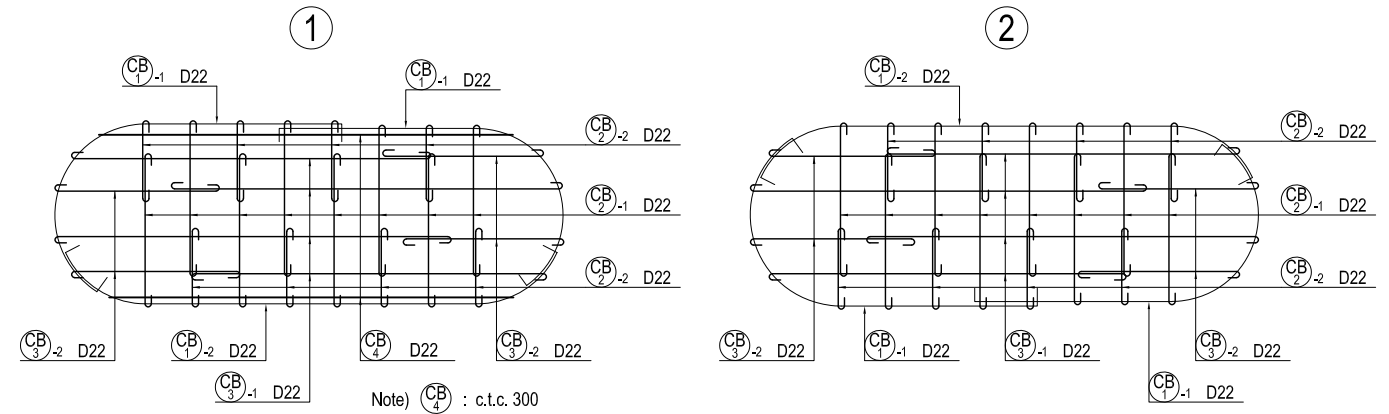


**ASSEMBLY DRAWING OF HOOP  
(c.t.c. 150)**

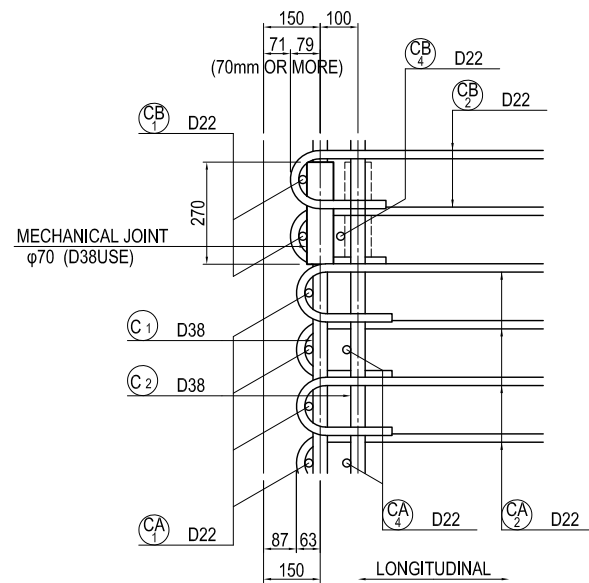
【STANDARD PART】



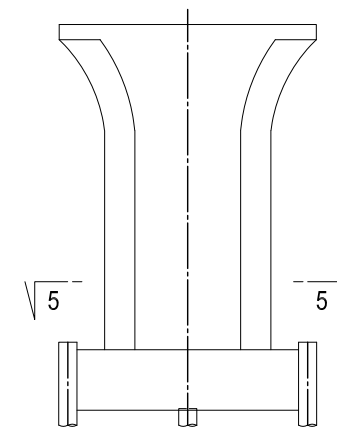
【MECHANICAL JOINT PART】



**DETAIL OF COLUMN S=1:20**



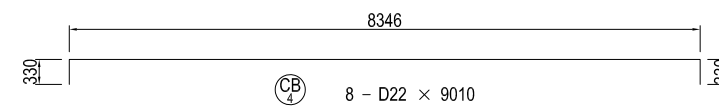
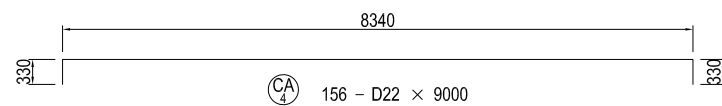
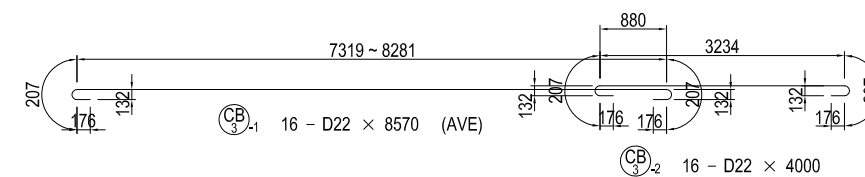
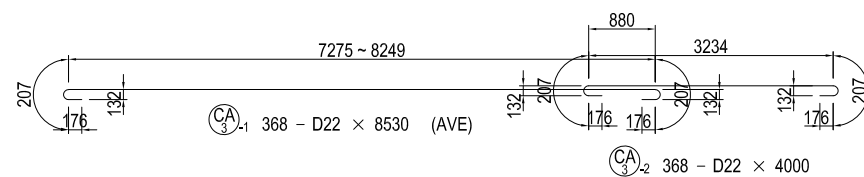
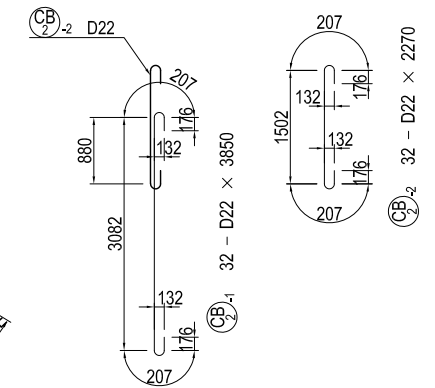
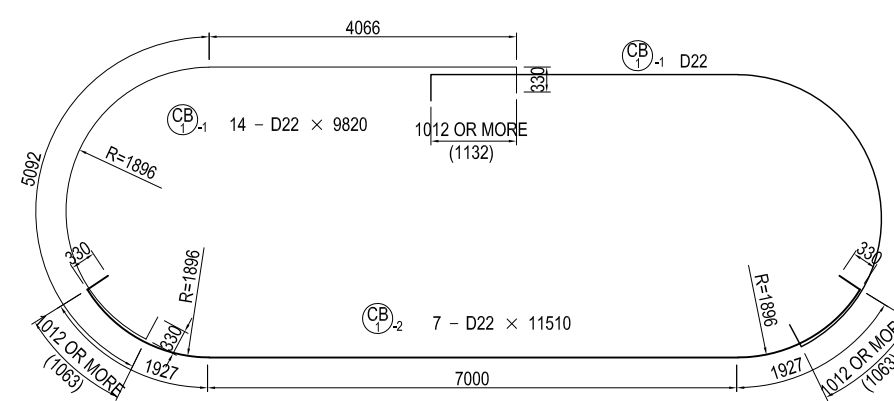
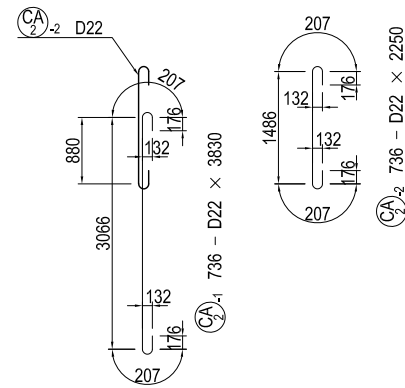
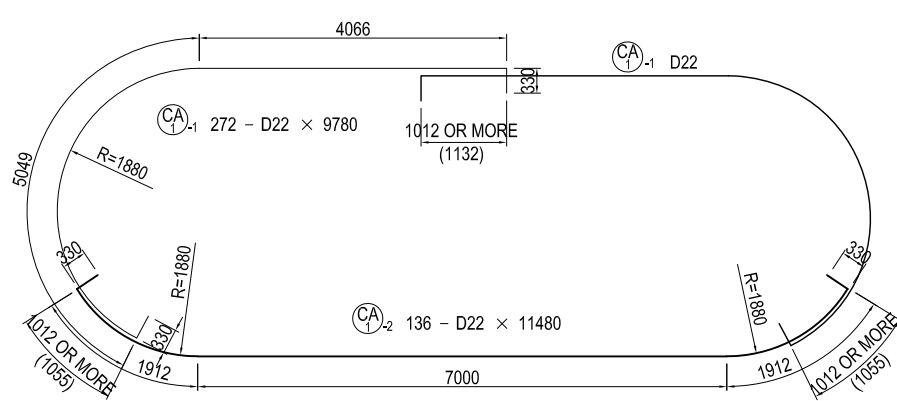
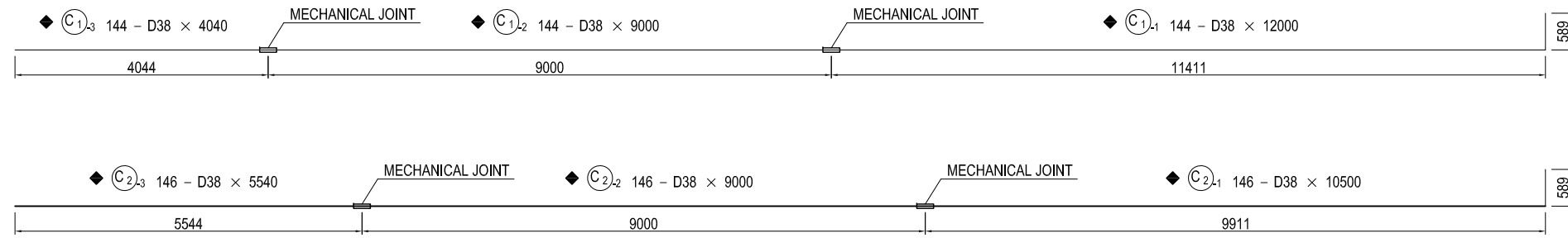
**MARKING DIAGRAM**



**USE MATERIALS**

COLUMN	CONCRETE	BAR		
	$\sigma_{ck} = 30 \text{ N/mm}^2$	MAIN BAR	SD390	OTHERS

# BAR ARRANGEMENT OF P16 PIER (14) S=1:100 COLUMN



### LAP LENGTH LIST OF HOOP

DIA.	R	LAP LENGTH (40φ)	L
D13	39	520	598
D16	48	640	736
D19	57	760	874
D22	66	880	1012
D25	75	1000	1150
D29	87	1160	1334
D32	96	1280	1472

- Notes) 1. ◆ : SD390  
2. — : MECHANICAL JOINT

### USE MATERIALS

COLUMN	CONCRETE σ <sub>ck</sub> = 30 N/mm <sup>2</sup>	BAR	
		MAIN BAR	OTHERS
		SD390	SD345

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE BAR ARRANGEMENT OF P16 PIER (14)	PACKAGE 2 DWG No. P2-SB-2216
				PREPARED BY	S. IMADA	27 Nov.2017		
				CHECKED BY	T. HAYAKAWA	28 Nov.2017		
				APPROVED BY	Y. SANO	29 Nov.2017		

# BAR ARRANGEMENT OF P16 PIER (15) NOT TO SCALE

## BAR SCHEDULE (SD390)

MARKS	DIA.	LENGTH (mm)	NOS. OF BARS	UNIT WEIGHT (kg/m)	WEIGHT/EA. (kg)	WEIGHT (kg)	REMARKS
C 1-1	D38	12000	144	8.95	107.40	15466	└┘ (144)
1-2	"	9000	144	"	80.55	11599	└┘ (144)
1-3	"	4040	144	"	36.16	5207	└┘
2-1	"	10500	146	"	93.98	13721	└┘ (146)
2-2	"	9000	146	"	80.55	11760	└┘ (146)
2-3	"	5540	146	"	49.58	7239	└┘
SUBTOTAL						64992 kg	
(MECHANICAL JOINT)							
SD390				D38	64992 kg	(580)	
TOTAL					64992 kg	(580)	

## BAR SCHEDULE (SD345)

MARKS	DIA.	LENGTH (mm)	NOS. OF BARS	UNIT WEIGHT (kg/m)	WEIGHT/EA. (kg)	WEIGHT (kg)	REMARKS
B 1-1	D32	11000	19	6.23	68.53	1302	└┘
1-2	"	8000	19	"	49.84	947	└┘
2-1	"	11500	4	"	71.65	287	└┘
2-2	"	7470	4	"	46.54	186	└┘ (AVE)
3-1	"	12000	2	"	74.76	150	└┘
3-2	"	6500	2	"	40.50	81	└┘
4-1	"	11500	6	"	71.65	430	└┘
4-2	"	7000	6	"	43.61	262	└┘
5-1	"	8920	4	"	55.57	222	└┘
5-2	"	9500	4	"	59.19	237	└┘
6-1	"	9000	2	"	56.07	112	└┘
6-2	"	9500	2	"	59.19	118	└┘
7-1	"	6000	2	"	37.38	75	└┘
7-2	"	12000	2	"	74.76	150	└┘
8-1	"	12000	7	"	74.76	523	└┘
8-2	"	7000	7	"	43.61	305	└┘
9	"	9500	6	"	59.19	355	└┘
10-1	"	7000	2	"	43.61	87	"
10-2	"	12000	2	"	74.76	150	└┘
11-1	"	12000	2	"	74.76	150	└┘
11-2	"	6000	2	"	37.38	75	└┘
12-1	"	10740	8	"	66.91	535	└┘ (AVE)
12-2	"	6500	8	"	40.50	324	└┘
12-3	"	8920	8	"	55.57	445	└┘ (AVE)
13-1	"	11460	4	"	71.40	286	└┘ (AVE)
13-2	"	6500	4	"	40.50	162	└┘
13-3	"	9640	4	"	60.06	240	└┘ (AVE)
14-1	"	11500	2	"	71.65	143	└┘
14-2	"	11000	2	"	68.53	137	└┘
15-1	D22	11500	6	3.04	34.96	210	└┘
15-2	"	11500	6	"	34.96	210	└┘
16-1	"	9300	12	"	28.27	339	└┘ (AVE)
16-2	"	10640	12	"	32.35	388	└┘ (AVE)
17-1	"	10400	13	"	31.62	411	└┘ (AVE)
17-2	"	10940	26	"	33.26	865	└┘ (AVE)
18-1	"	8500	1	"	25.84	26	└┘
18-2	"	9500	1	"	28.88	29	└┘
18-3	"	12000	1	"	36.48	36	└┘
SUBTOTAL						10990 kg	
BA 1-1	D22	8570	49	3.04	26.05	1276	└┘
1-2	"	10870	49	"	33.04	1619	└┘
2-1	"	7000	49	"	21.28	1043	└┘
2-2	"	10660	49	"	32.41	1588	└┘
3	"	4470	49	"	13.59	666	└┘
4-1	D16	3500	49	1.56	5.46	268	└┘
4-2	"	2040	49	"	3.18	156	"
5	"	2690	98	"	4.20	412	"
SUBTOTAL						7028 kg	

MARKS	DIA.	LENGTH (mm)	NOS. OF BARS	UNIT WEIGHT (kg/m)	WEIGHT/EA. (kg)	WEIGHT (kg)	REMARKS
BB 1-1	D22	8540	18	3.04	25.96	467	└┘
1-2	"	8160	18	"	24.81	447	└┘ (AVE)
1-3	"	8240	18	"	25.05	451	└┘ (AVE)
2-1	"	10660	18	"	32.41	583	└┘
2-2	"	7000	18	"	21.28	383	└┘
3-1	D16	3500	18	1.56	5.46	98	└┘
3-2	"	2040	18	"	3.18	57	"
4	"	2690	36	"	4.20	151	"
SUBTOTAL						2637 kg	
BC 1-1	D22	9950	6	3.04	30.25	182	└┘ (AVE)
1-2	"	7630	6	"	23.20	139	└┘ (AVE)
1-3	"	5730	6	"	17.42	105	└┘ (AVE)
2	"	3960	24	"	12.04	289	└┘ (AVE)
3-1	D16	3500	6	1.56	5.46	33	└┘
3-2	"	2040	6	"	3.18	19	"
4	"	2690	12	"	4.20	50	"
SUBTOTAL						817 kg	
BD 1-1	D22	9420	12	3.04	28.64	344	└┘ (AVE)
1-2	"	8250	12	"	25.08	301	└┘ (AVE)
2	"	2980	48	"	9.06	435	└┘ (AVE)
3-1	D16	3500	12	1.56	5.46	66	└┘
3-2	"	2040	12	"	3.18	38	"
4	"	2690	24	"	4.20	101	"
SUBTOTAL						1285 kg	
BE 1-1	D22	9620	6	3.04	29.24	175	└┘ (AVE)
1-2	"	4990	6	"	15.17	91	└┘ (AVE)
2	"	2280	24	"	6.93	166	└┘ (AVE)
3-1	D16	3500	6	1.56	5.46	33	└┘
3-2	"	2040	6	"	3.18	19	"
4	"	2690	12	"	4.20	50	"
SUBTOTAL						534 kg	
BF 1	D22	6010	8	3.04	18.27	146	└┘
2-1	"	5850	8	"	17.78	142	└┘ (AVE)
2-2	"	2790	8	"	8.48	68	└┘ (AVE)
3	"	1980	16	"	6.02	96	└┘ (AVE)
4	"	4470	8	"	13.59	109	└┘
5-1	D16	3500	8	1.56	5.46	44	└┘
5-2	"	2040	8	"	3.18	25	"
SUBTOTAL						630 kg	
BG 1	D22	6010	8	3.04	18.27	146	└┘
2-1	"	4390	10	"	13.35	134	└┘ (AVE)
2-2	"	2390	10	"	7.27	73	└┘ (AVE)
3	"	1700	40	"	5.17	207	└┘ (AVE)
4	"	4470	8	"	13.59	109	└┘
5-1	D16	3500	8	1.56	5.46	44	└┘
5-2	"	2040	8	"	3.18	25	"
SUBTOTAL						738 kg	

MARKS	DIA.	LENGTH (mm)	NOS. OF BARS	UNIT WEIGHT (kg/m)	WEIGHT/EA. (kg)	WEIGHT (kg)	REMARKS
BH 1	D22	5910	4	3.04	17.97	72	└┘ (AVE)
2-1	"	2290	2	"	6.96	14	└┘
2-2	"	3030	2	"	9.21	18	└┘
3	"	4370	4	"	13.28	53	└┘ (AVE)
4-1	D16	3500	4	1.56	5.46	22	└┘
4-2	"	1940	4	"	3.03	12	└┘ (AVE)
SUBTOTAL						191 kg	
H 1	D16	2790	68	1.56	4.35	296	└┘
2	"	3010	60	"	4.70	282	"
3	"	8050	4	"	12.56	50	└┘
SUBTOTAL						628 kg	
CA 1-1	D22	9780	272	3.04	29.73	8087	└┘
1-2	"	11480	136	"	34.90	4746	└┘
2-1	"	3830	736	"	11.64	8567	└┘
2-2	"	2250	736	"	6.84	5034	"
3-1	"	8530	368	"	25.93	9542	└┘ (AVE)
3-2	"	4000	368	"	12.16	4475	"
4	"	9000	156	"	27.36	4268	└┘
SUBTOTAL						44719 kg	
CB 1-1	D22	9820	14	3.04	29.85	418	└┘
1-2	"	11510	7	"	34.99	245	└┘
2-1	"	3850	32	"	11.70	374	└┘
2-2	"	2270	32	"	6.90	221	"
3-1	"	8570	16	"	26.05	417	└┘ (AVE)
3-2	"	4000	16	"	12.16	195	"
4	"	9010	8	"	27.39	219	└┘
SUBTOTAL						2089 kg	
SD345				D32	8476 kg		
				D22	61459	"	
				D16	2351	"	
TOTAL					72286 kg		

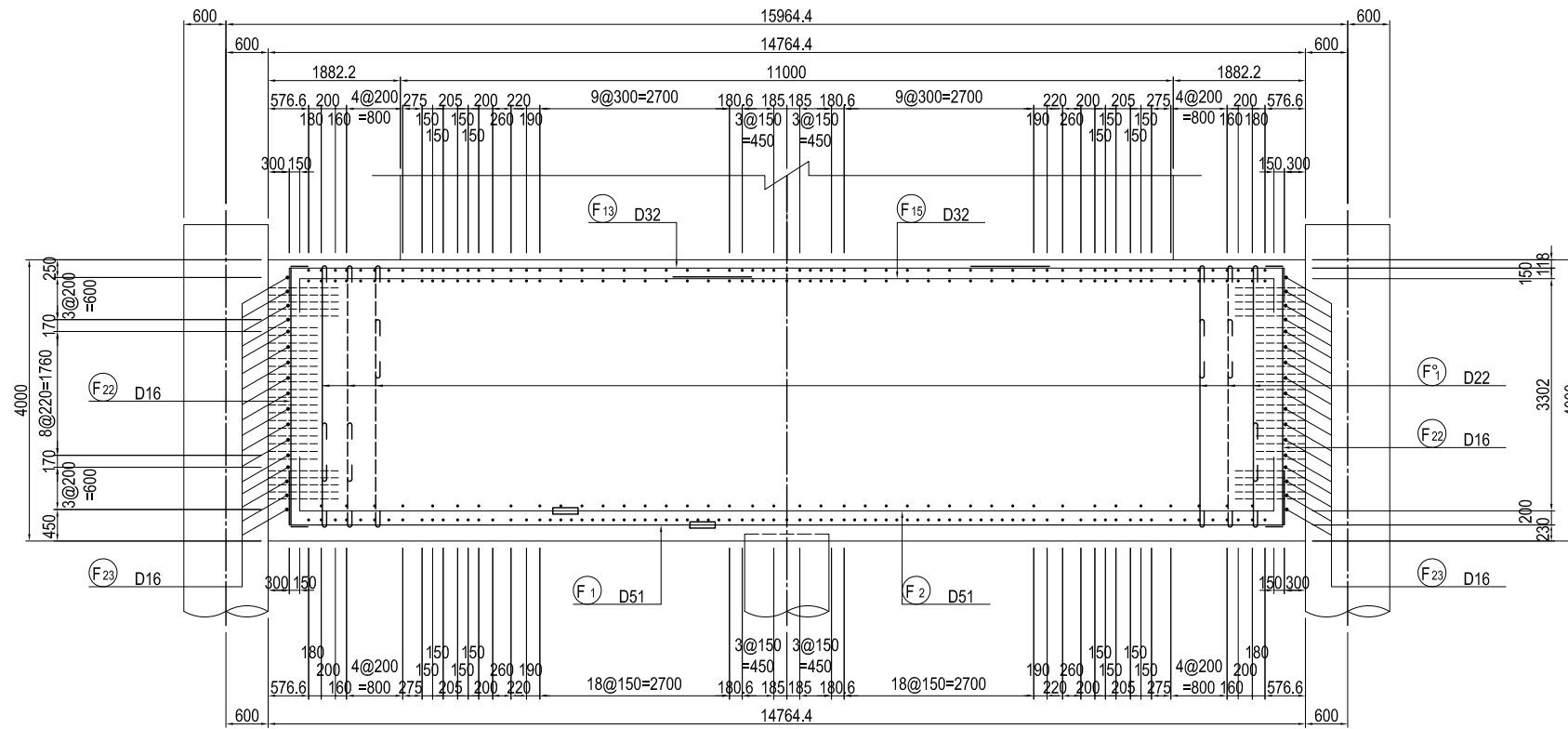
## USE MATERIALS

COLUMN	CONCRETE σck = 30 N/mm <sup>2</sup>	BAR	
		MAIN BAR	OTHERS
		SD390	SD345

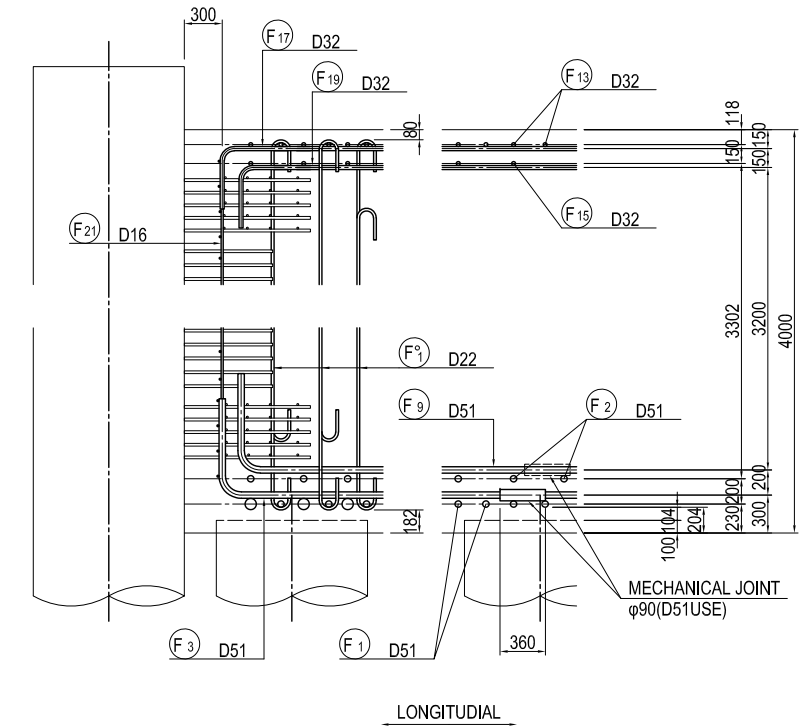
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE BAR ARRANGEMENT OF P16 PIER (15)	PACKAGE 2 DWG No. P2-SB-2217
				PREPARED BY	S. IMADA	27 Nov.2017		
				CHECKED BY	T. HAYAKAWA	28 Nov.2017		
				APPROVED BY	Y. SANO	29 Nov.2017		

# BAR ARRANGEMENT OF P16 FOOTING (1) S=1:100

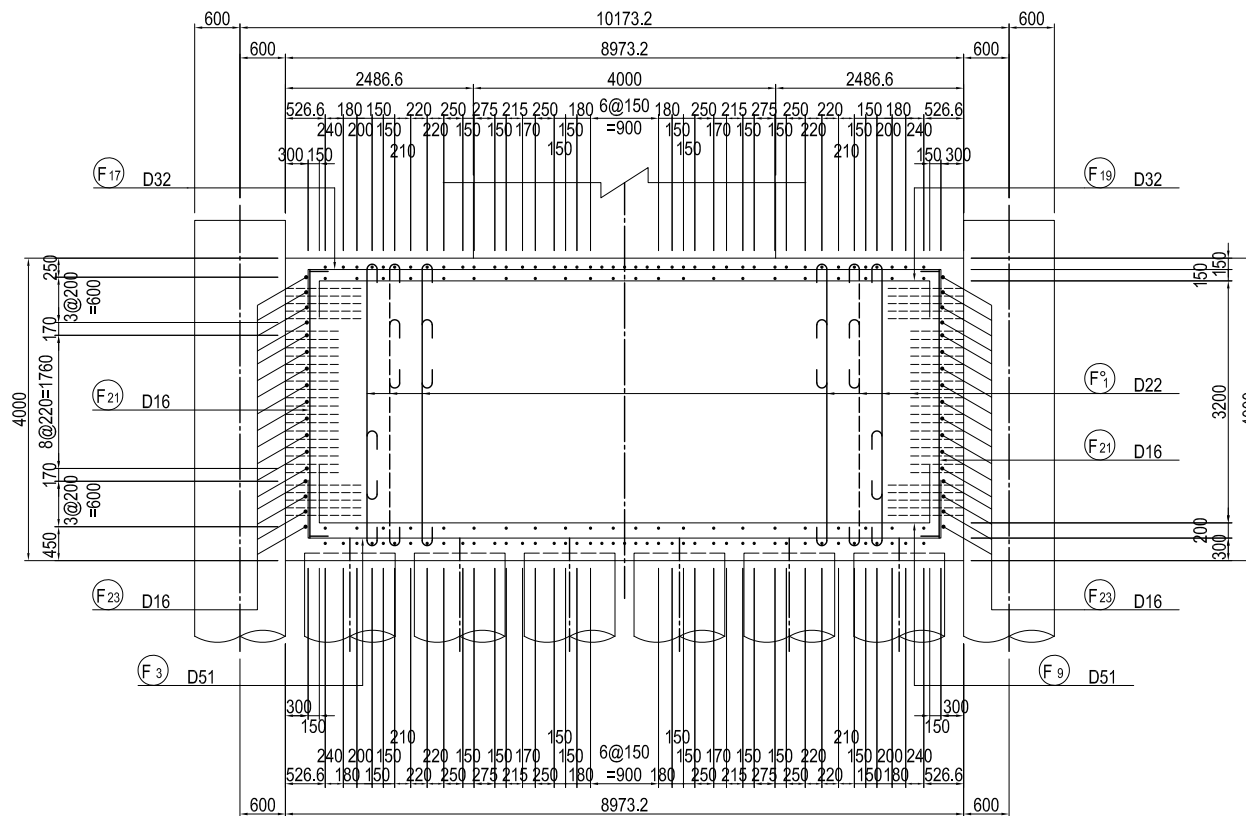
## SECTION 1-1



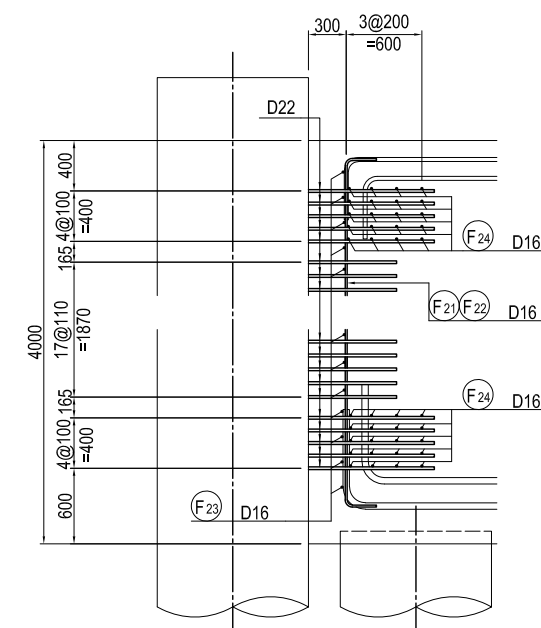
## DETAIL OF PILE CAP S=1:60



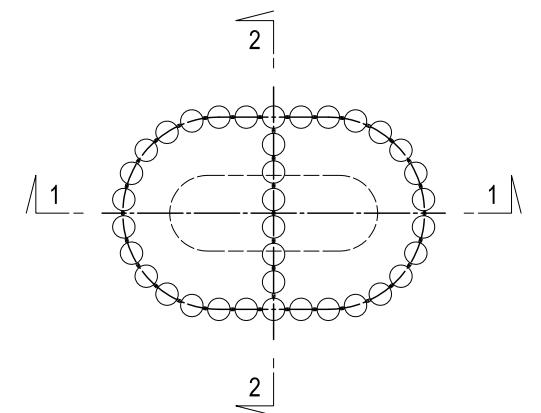
## SECTION 2-2



## DETAIL OF CONNECTION BETWEEN STEEL PIPE SHEET PILE AND FOOTING S=1:60



## MARKING DIAGRAM



Note: — : MECHANICAL JOINT

## USE MATERIALS

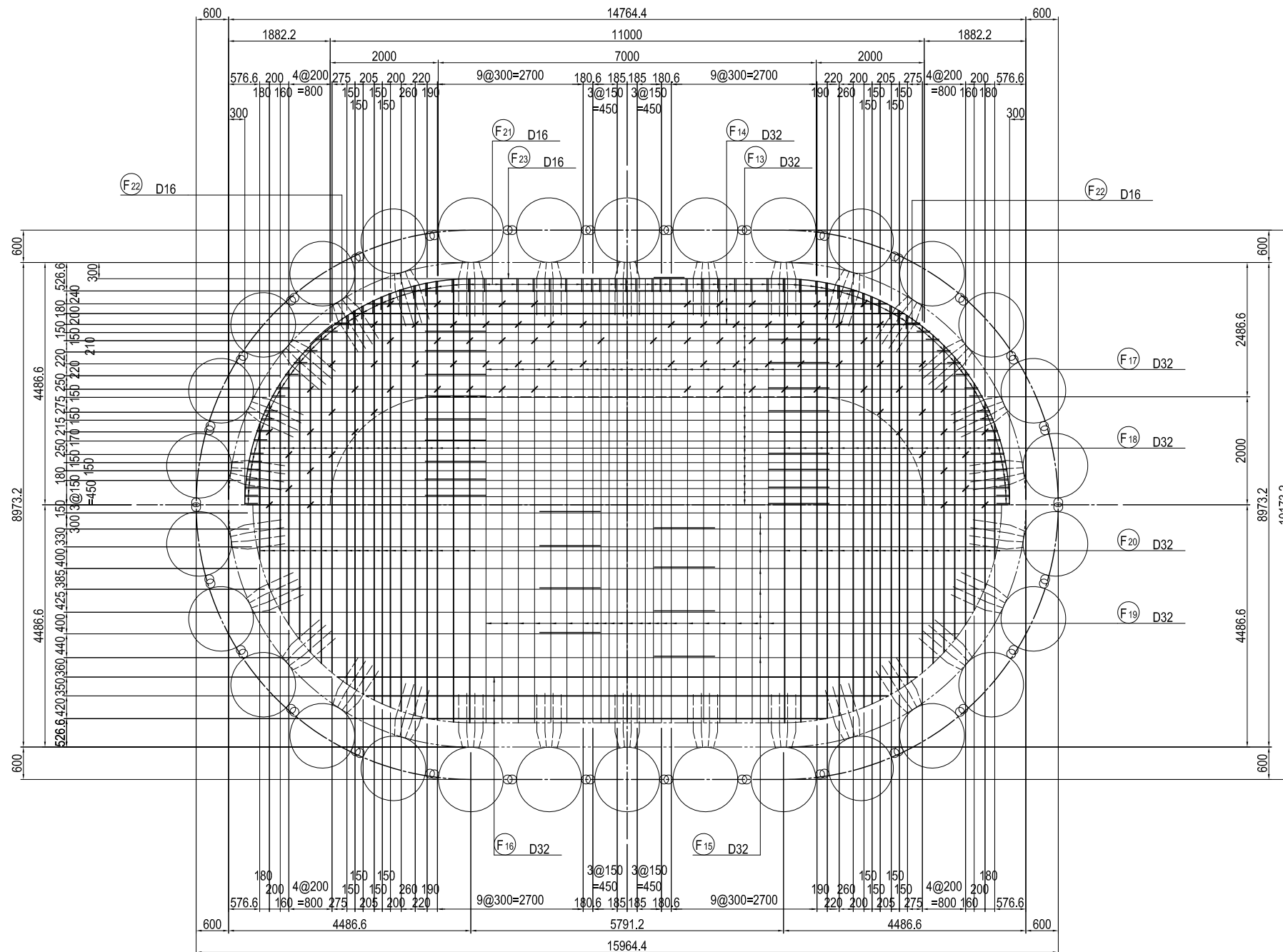
	CONCRETE	BAR
FOOTING	σ <sub>ck</sub> = 24 N/mm <sup>2</sup>	SD345

PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	S. IMADA	<i>S. Imada</i>	27 Nov.2017	BAR ARRANGEMENT OF P16 FOOTING (1)	2
				T. HAYAKAWA	<i>T. Hayakawa</i>	28 Nov.2017		DWG No.
				Y. SANO	<i>Y. Sano</i>	29 Nov.2017		P2-SB-2218

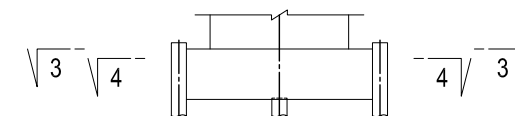
# BAR ARRANGEMENT OF P16 FOOTING (2) S=1:100

PLAN  
3-3

PLAN  
4-4



MARKING DIAGRAM



### USE MATERIALS

	CONCRETE	BAR
FOOTING	$\sigma_{ck} = 24 \text{ N/mm}^2$	SD345

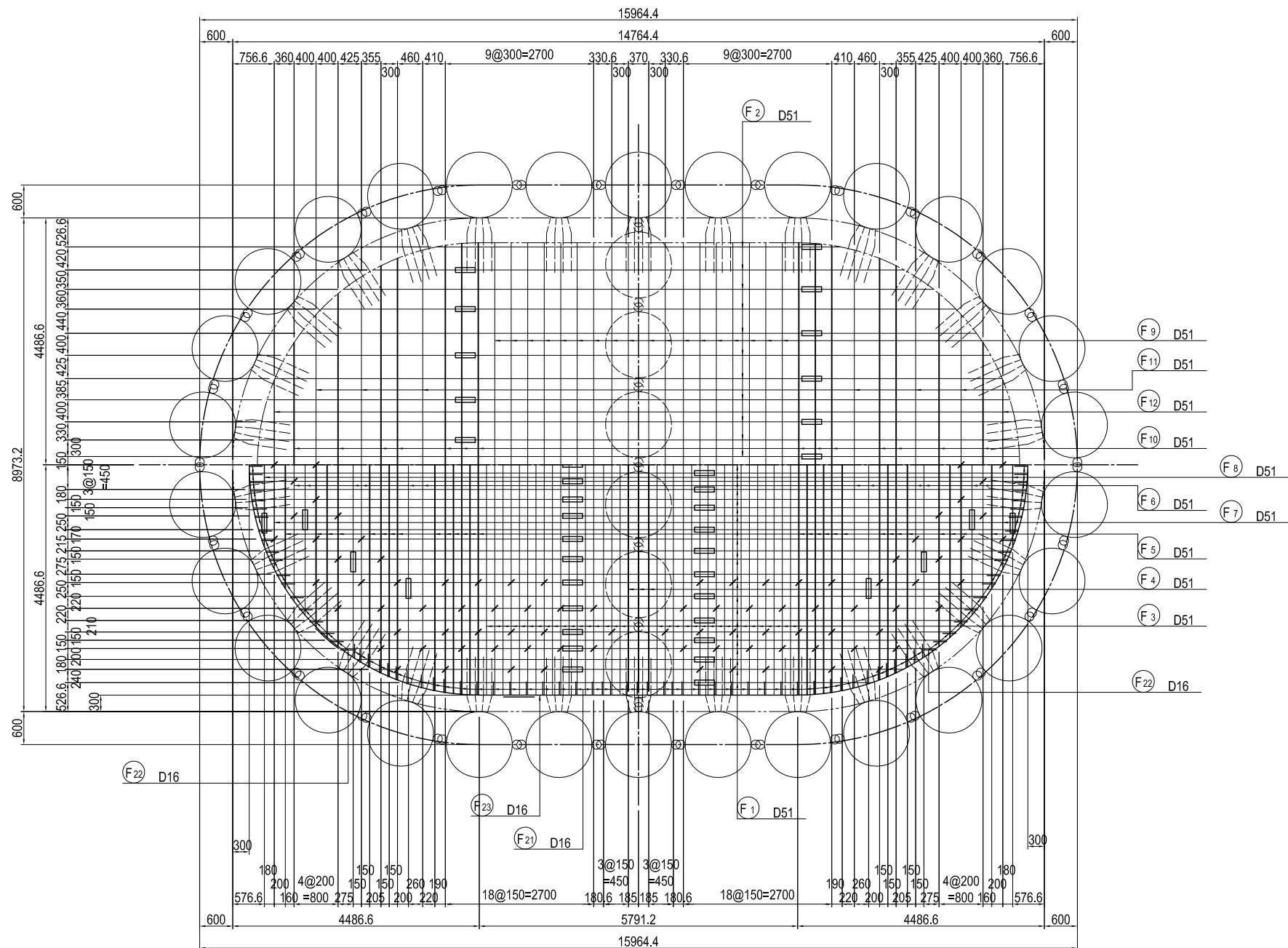
<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>NAME</th> <th>SIGNATURE</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY</td> <td>S. IMADA</td> <td></td> <td>27 Nov.2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>28 Nov.2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>29 Nov.2017</td> </tr> </tbody> </table>		NAME	SIGNATURE	DATE	PREPARED BY	S. IMADA		27 Nov.2017	CHECKED BY	T. HAYAKAWA		28 Nov.2017	APPROVED BY	Y. SANO		29 Nov.2017	<small>DRAWING TITLE</small> BAR ARRANGEMENT OF P16 FOOTING (2)	<small>PACKAGE</small> 2 DWG No. P2-SB-2219
	NAME	SIGNATURE	DATE																			
PREPARED BY	S. IMADA		27 Nov.2017																			
CHECKED BY	T. HAYAKAWA		28 Nov.2017																			
APPROVED BY	Y. SANO		29 Nov.2017																			



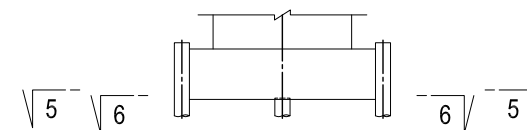
# BAR ARRANGEMENT OF P16 FOOTING (3) S=1:100

PLAN  
5-5

PLAN  
6-6



MARKING DIAGRAM



### USE MATERIALS

	CONCRETE	BAR
FOOTING	$\sigma_{ck} = 24 \text{ N/mm}^2$	SD345

Note) : MECHANICAL JOINT

PROJECT NAME  
DETAILED DESIGN ON  
BAGO RIVER BRIDGE  
CONSTRUCTION PROJECT

FINANCED BY  
 JAPAN INTERNATIONAL  
COOPERATION AGENCY

COUNTERPART  
 REPUBLIC OF THE UNION OF MYANMAR  
MINISTRY OF CONSTRUCTION  
DEPARTMENT OF BRIDGE

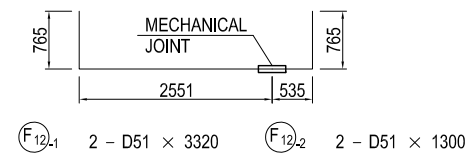
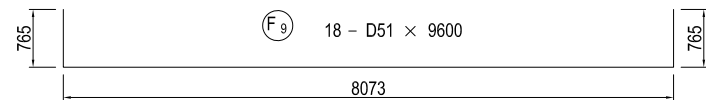
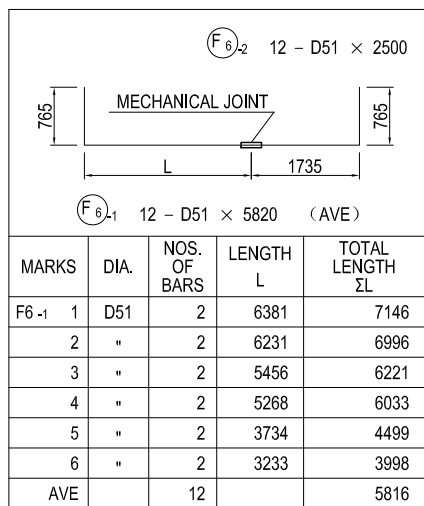
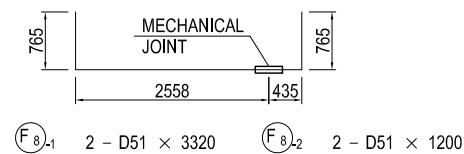
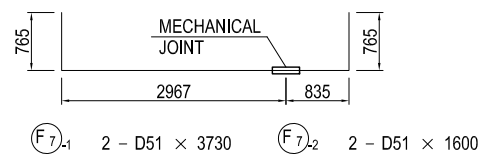
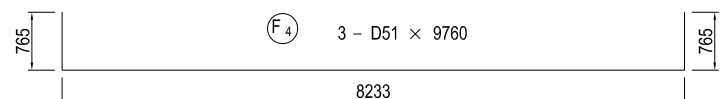
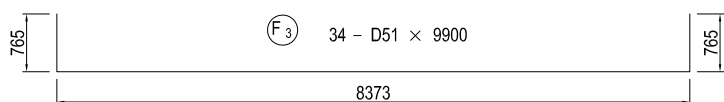
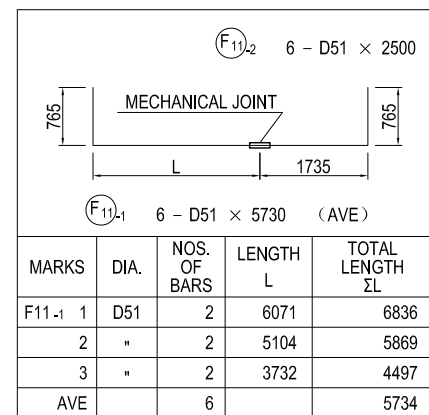
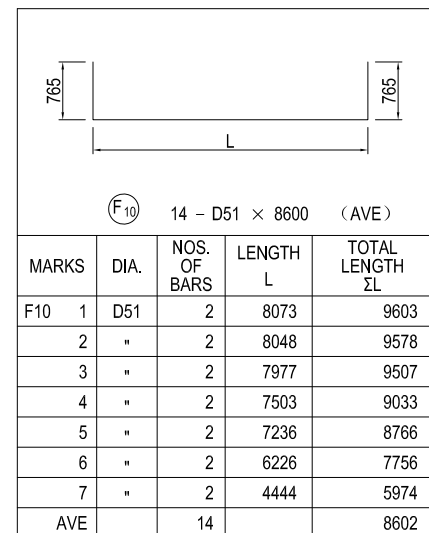
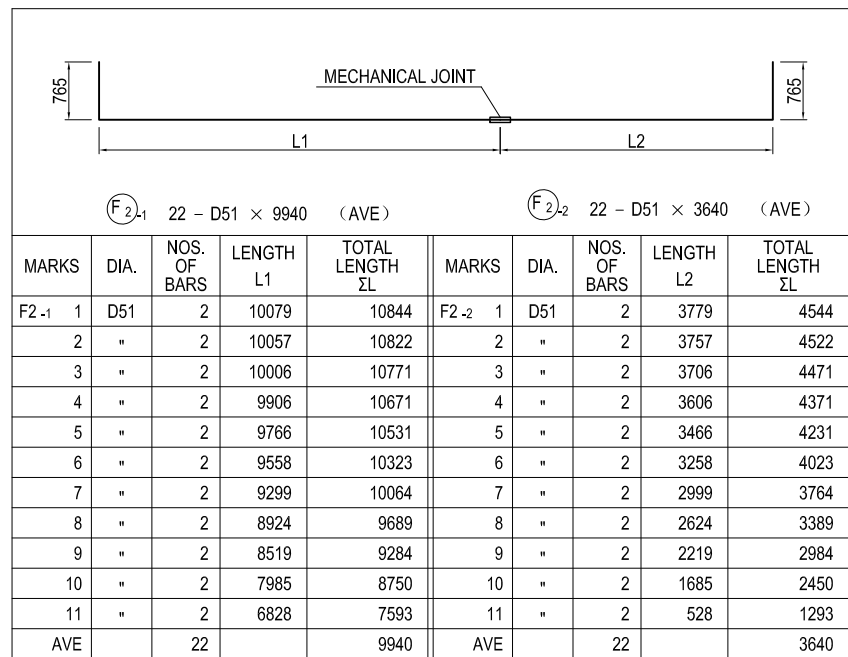
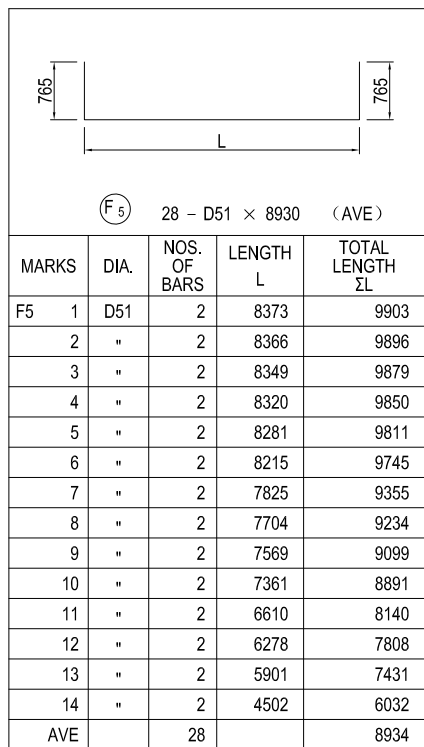
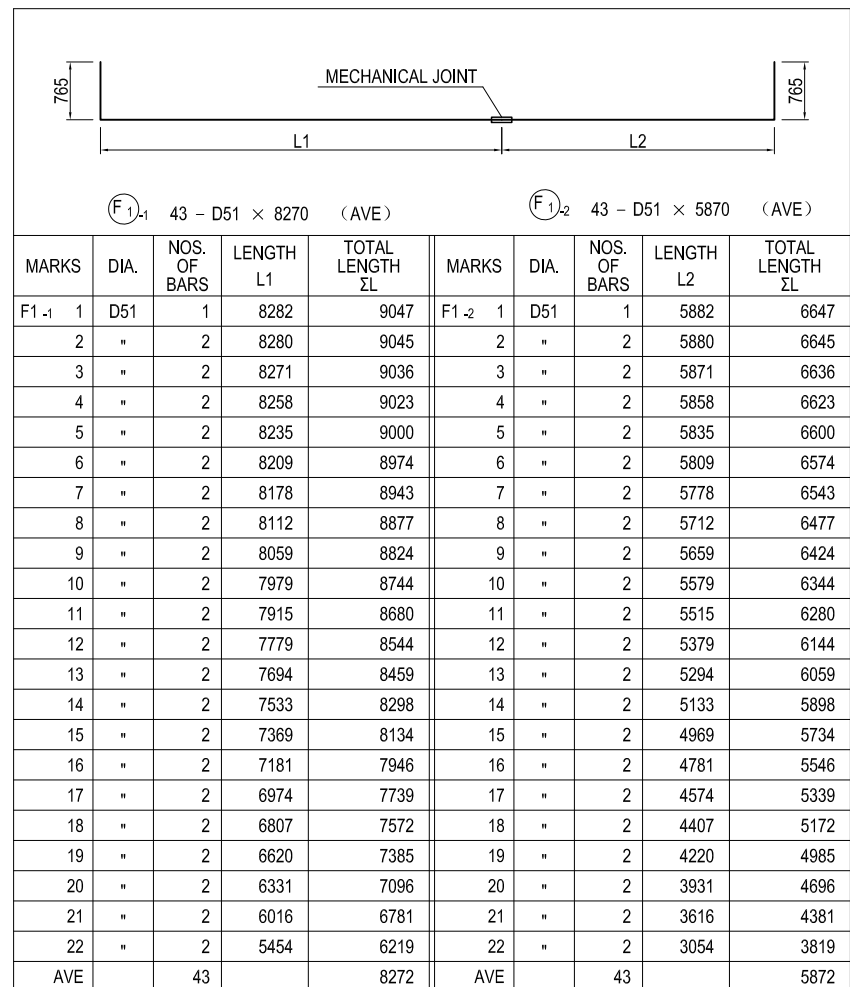
JICA STUDY TEAM  
 NIPPON KOEI CO., LTD.  
ORIENTAL CONSULTANTS GLOBAL CO., LTD.  
METROPOLITAN EXPRESSWAY COMPANY LIMITED  
CHODAI CO., LTD.  
NIPPON ENGINEERING CONSULTANTS CO., LTD.

	NAME	SIGNATURE	DATE
PREPARED BY	S. IMADA		27 Nov.2017
CHECKED BY	T. HAYAKAWA		28 Nov.2017
APPROVED BY	Y. SANO		29 Nov.2017

DRAWING TITLE  
**BAR ARRANGEMENT OF P16 FOOTING (3)**

PACKAGE  
2  
DWG No.  
P2-SB-2220

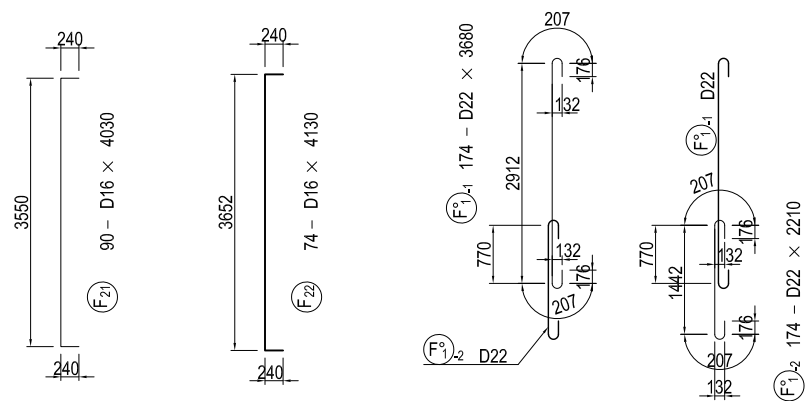
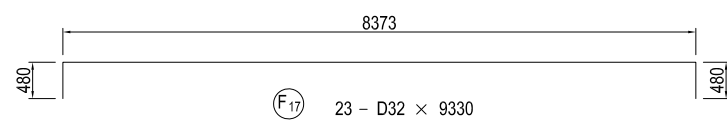
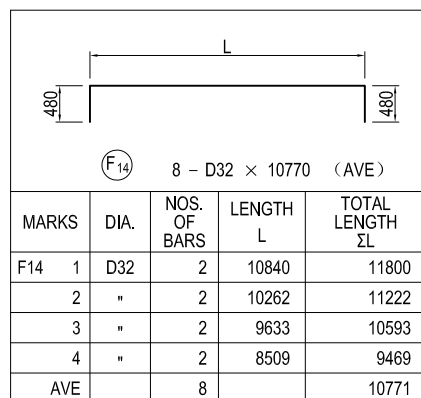
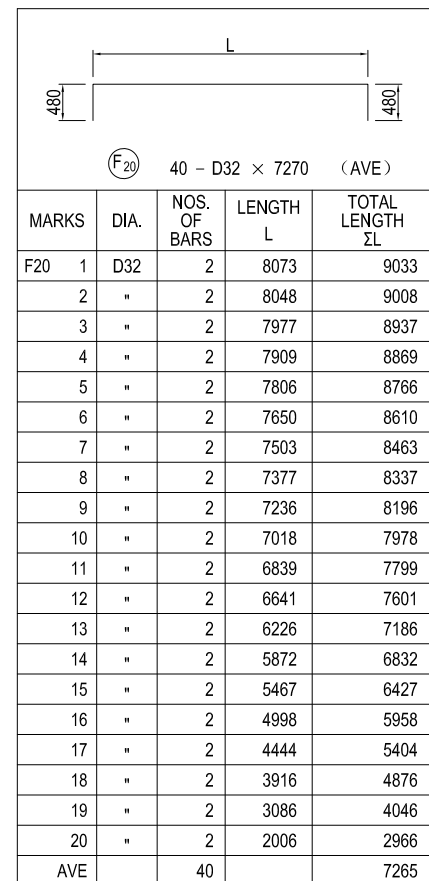
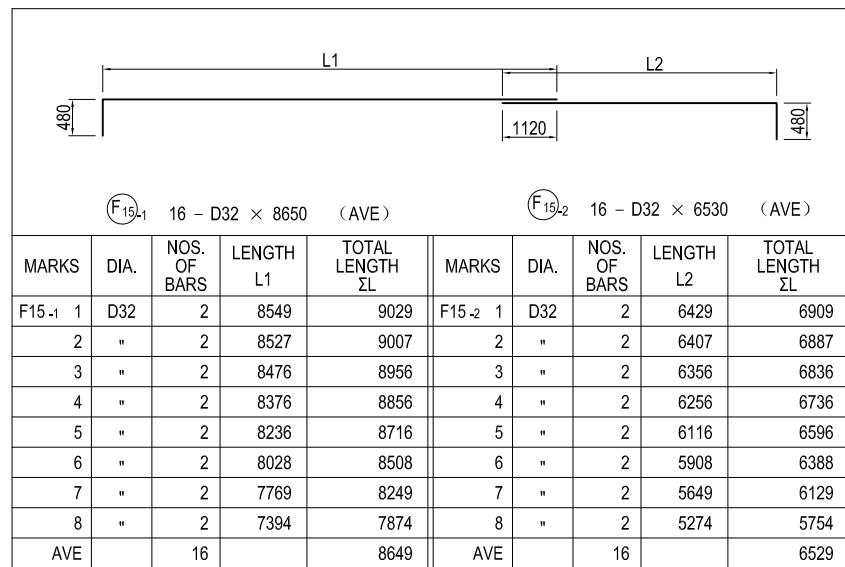
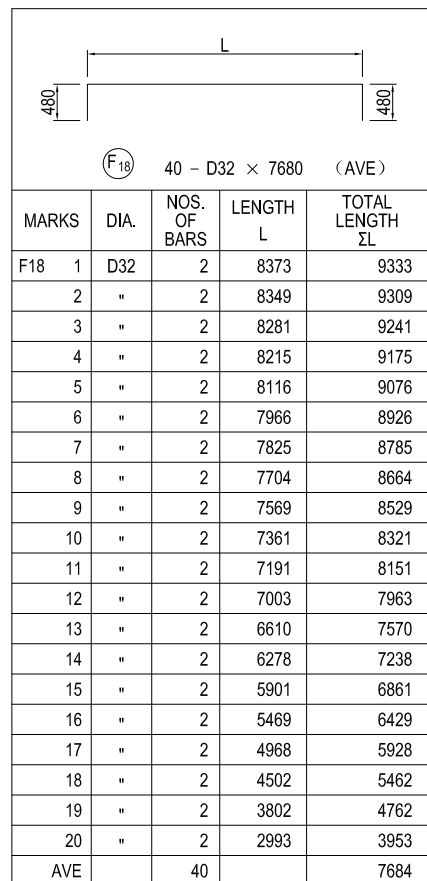
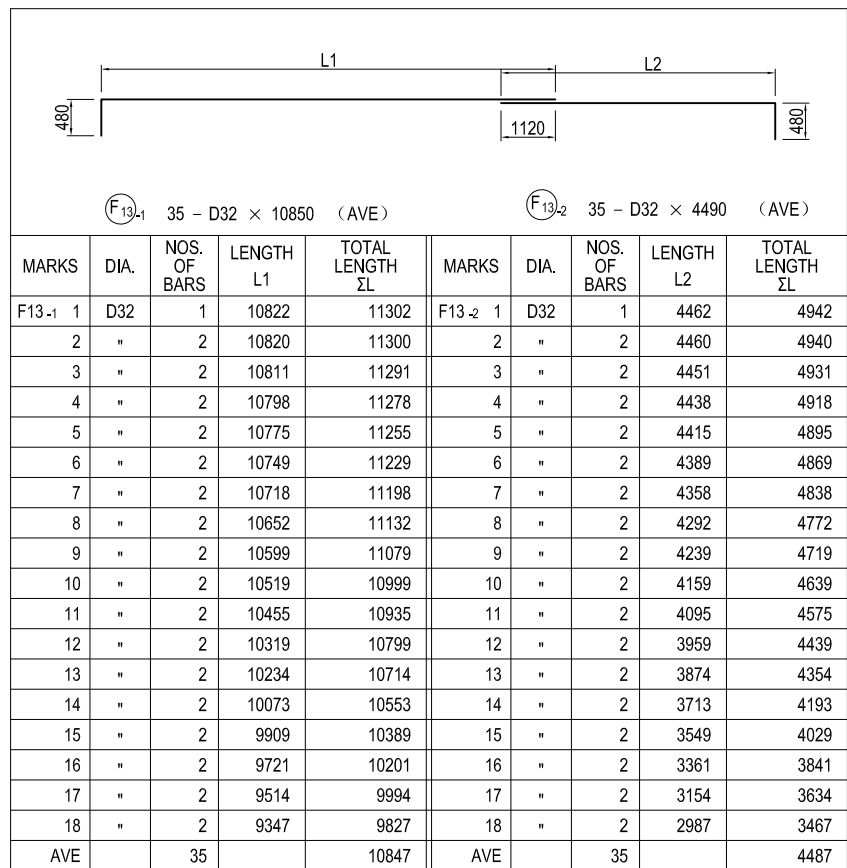
# BAR ARRANGEMENT OF P16 FOOTING (4) S=1:100



### USE MATERIALS

	CONCRETE	BAR
FOOTING	σck = 24 N/mm <sup>2</sup>	SD345

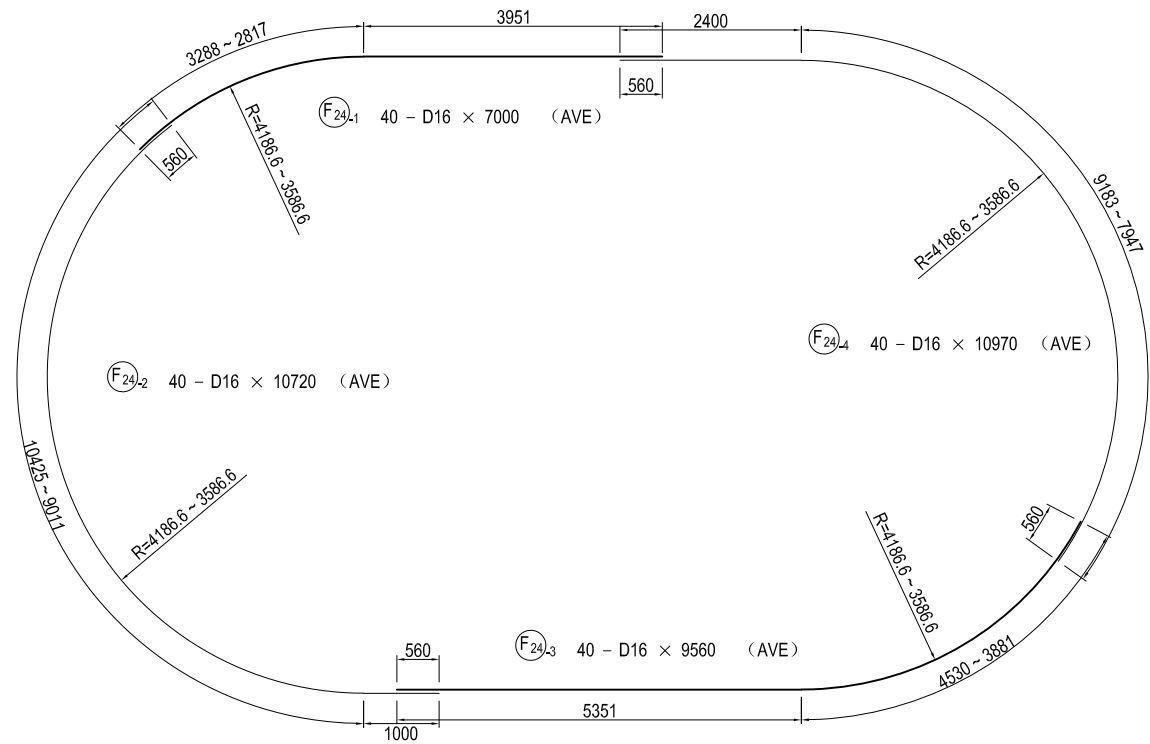
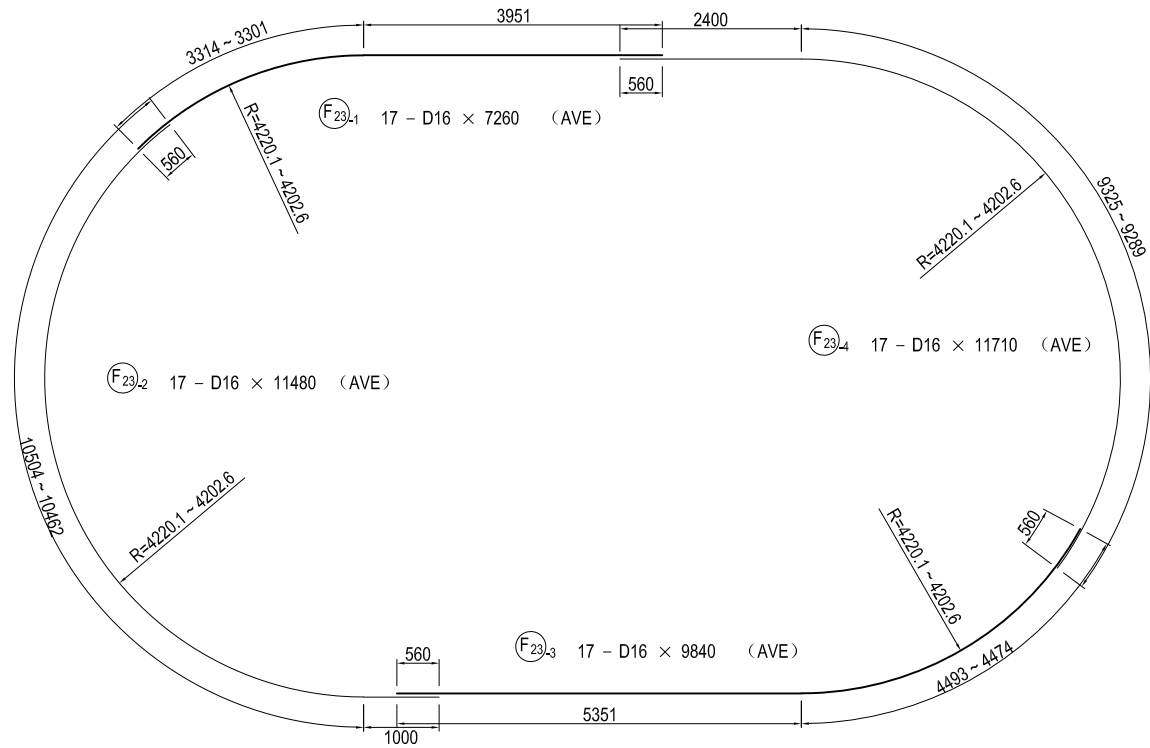
# BAR ARRANGEMENT OF P16 FOOTING (5) S=1:100



### USE MATERIALS

FOOTING	CONCRETE	BAR
	σ <sub>ck</sub> = 24 N/mm <sup>2</sup>	SD345

# BAR ARRANGEMENT OF P16 FOOTING (6) S=1:100



Note ) The joint position of the reinforcing bar is rotated 180 degrees for each step arranged.

## BAR SCHEDULE

MARKS	DIA.	LENGTH (mm)	NOS. OF BARS	UNIT WEIGHT (kg/m)	WEIGHT/EA. (kg)	WEIGHT (kg)	REMARKS
F 1-1	D51	8270	43	15.9	131.49	5654	↳ (43) (AVE)
1-2	"	5870	43	"	93.33	4013	↳ (AVE)
2-1	"	9940	22	"	158.05	3477	↳ (22) (AVE)
2-2	"	3640	22	"	57.88	1273	↳ (AVE)
3	"	9900	34	"	157.41	5352	↳
4	"	9760	3	"	155.18	466	"
5	"	8930	28	"	141.99	3976	" (AVE)
6-1	"	5820	12	"	92.54	1110	↳ (12) (AVE)
6-2	"	2500	12	"	39.75	477	↳
7-1	"	3730	2	"	59.31	119	↳ (2)
7-2	"	1600	2	"	25.44	51	↳
8-1	"	3320	2	"	52.79	106	↳ (2)
8-2	"	1200	2	"	19.08	38	↳
9	"	9600	18	"	152.64	2748	↳
10	"	8600	14	"	136.74	1914	" (AVE)
11-1	"	5730	6	"	91.11	547	↳ (6) (AVE)
11-2	"	2500	6	"	39.75	239	↳
12-1	"	3320	2	"	52.79	106	↳ (2)
12-2	"	1300	2	"	20.67	41	↳
13-1	D32	10850	35	6.23	67.60	2366	↳ (AVE)
13-2	"	4490	35	"	27.97	979	↳ (AVE)
14	"	10770	8	"	67.10	537	↳ (AVE)
15-1	"	8650	16	"	53.89	862	↳ (AVE)
15-2	"	6530	16	"	40.68	651	↳ (AVE)
16	"	10220	6	"	63.67	382	↳ (AVE)
17	"	9330	23	"	58.13	1337	"
18	"	7680	40	"	47.85	1914	" (AVE)
19	"	9030	23	"	56.26	1294	"
20	"	7270	40	"	45.29	1812	" (AVE)
21	D16	4030	90	1.56	6.29	566	↳
22	"	4130	74	"	6.44	477	"
23-1	"	7260	17	"	11.33	193	↳ (AVE)
23-2	"	11480	17	"	17.91	304	↳ (AVE)
23-3	"	9840	17	"	15.35	261	↳ (AVE)
23-4	"	11710	17	"	18.27	311	↳ (AVE)
24-1	"	7000	40	"	10.92	437	↳ (AVE)
24-2	"	10720	40	"	16.72	669	↳ (AVE)
24-3	"	9560	40	"	14.91	596	↳ (AVE)
24-4	"	10970	40	"	17.11	684	↳ (AVE)
SUBTOTAL						48339	kg
F° 1-1	D22	3680	174	3.04	11.19	1947	↳
1-2	"	2210	174	"	6.72	1169	"
SUBTOTAL						3116	kg
(MECHANICAL JOINT)							
					D51	31707	kg (89)
					D32	12134	"
					D22	3116	"
					D16	4498	"
					TOTAL	51455	kg (89)

## USE MATERIALS

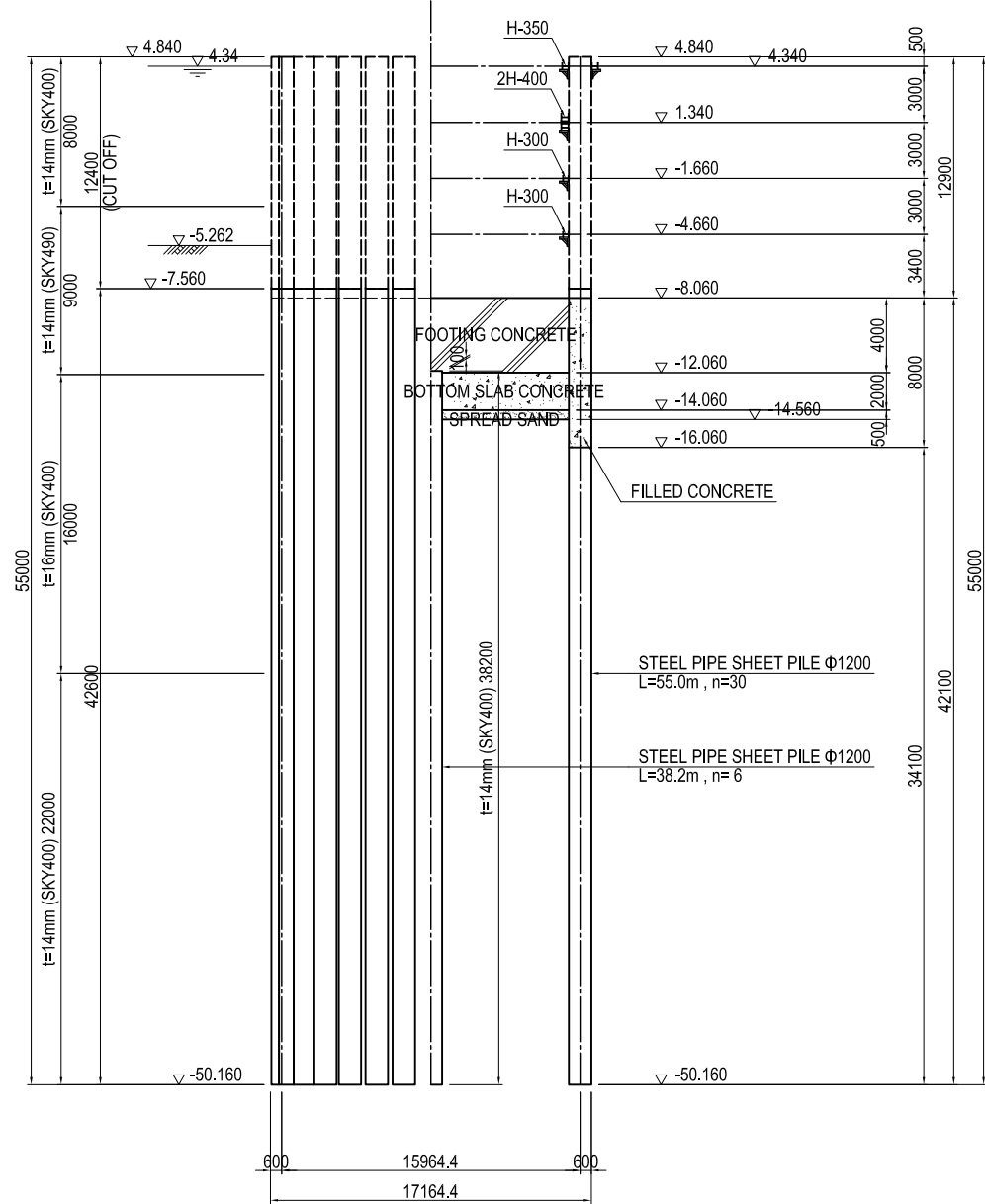
	CONCRETE	BAR
FOOTING	σ <sub>ck</sub> = 24 N/mm <sup>2</sup>	SD345

# GENERAL VIEW OF STEEL PIPE SHEET PILE FOUNDATION OF P16 PIER

S=1:400

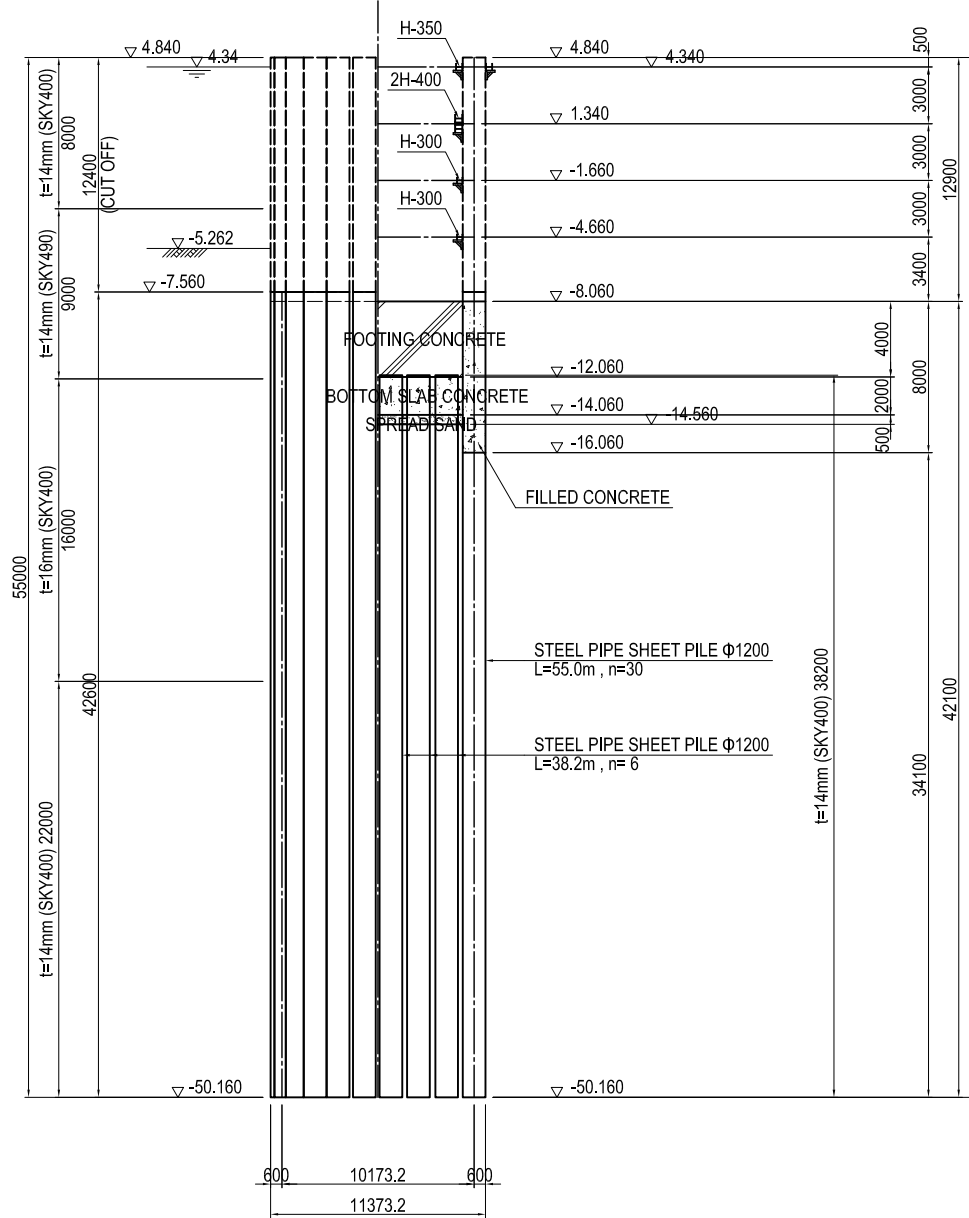
## FRONT ELEVATION

1-1 2-2

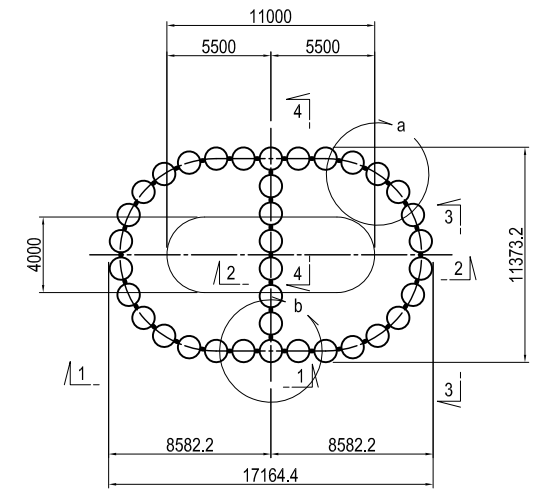


## SIDE ELEVATION

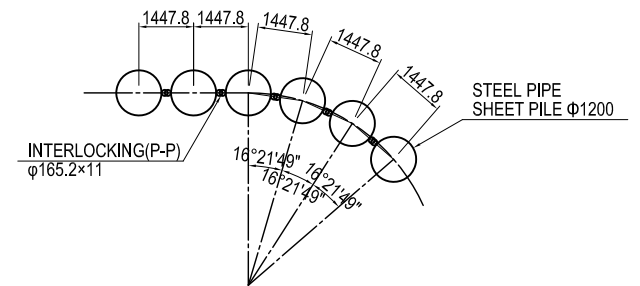
3-3 4-4



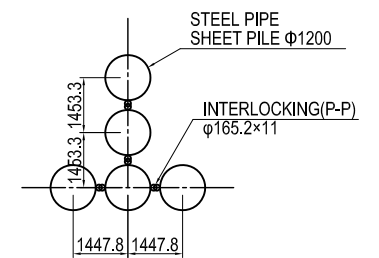
## PLAN



### DETAIL a S=1:200



### DETAIL b S=1:200



### USE MATERIALS

	CONCRETE	BAR
FOOTING	σ <sub>ck</sub> = 24 N/mm <sup>2</sup>	SD345

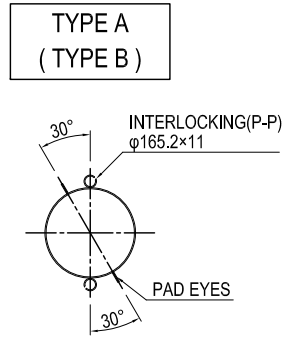
Note: Temporary support can be used for reference only.

PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	S. IMADA	<i>S. Imada</i>	27 Nov.2017	GENERAL VIEW OF STEEL PIPE SHEET PILE FOUNDATION OF P16 PIER	2
				T. HAYAKAWA	<i>T. Hayakawa</i>	28 Nov.2017		DWG No.
				Y. SANO	<i>Y. Sano</i>	29 Nov.2017		P2-SB-2224

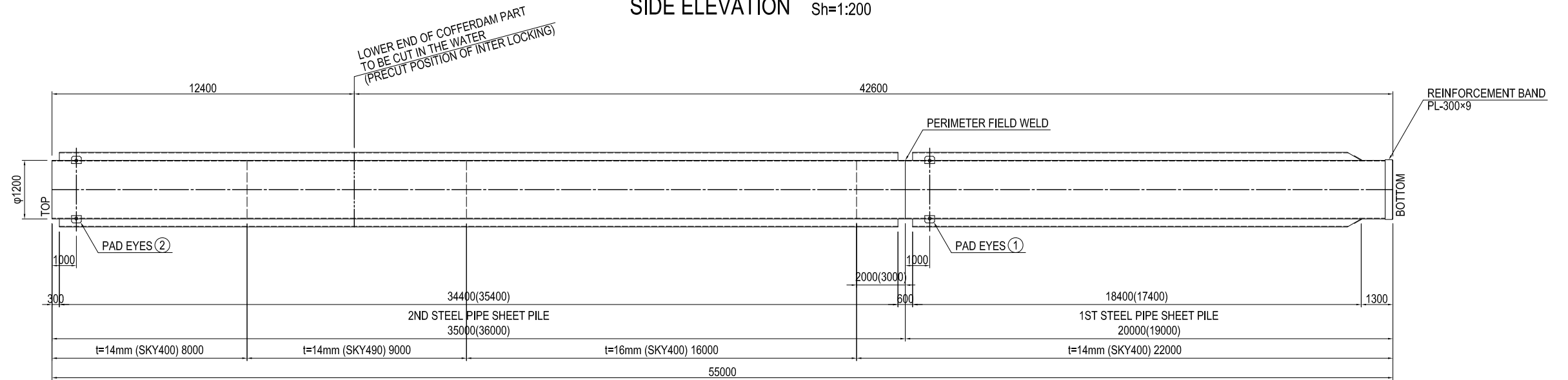


# DETAIL OF STEEL PIPE SHEET PILE OF P16 PIER (1)

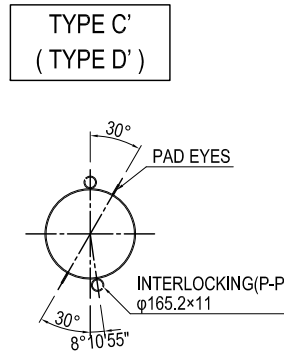
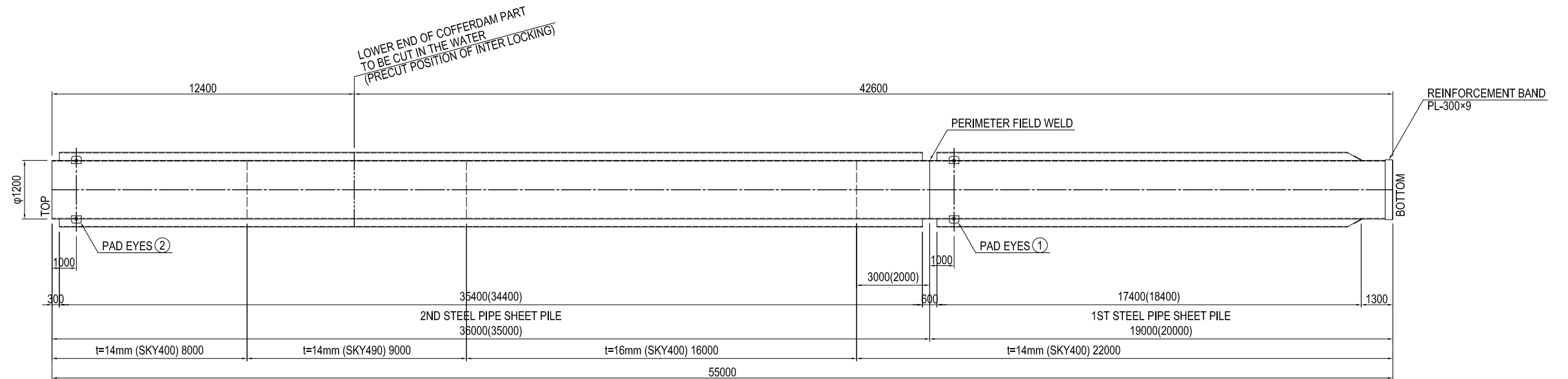
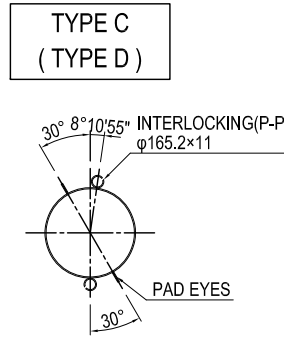
CROSS SECTION S=1:200



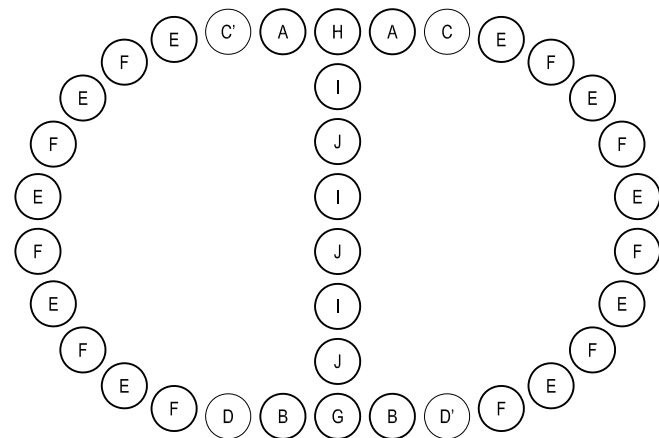
SIDE ELEVATION Sv=1:100 Sh=1:200



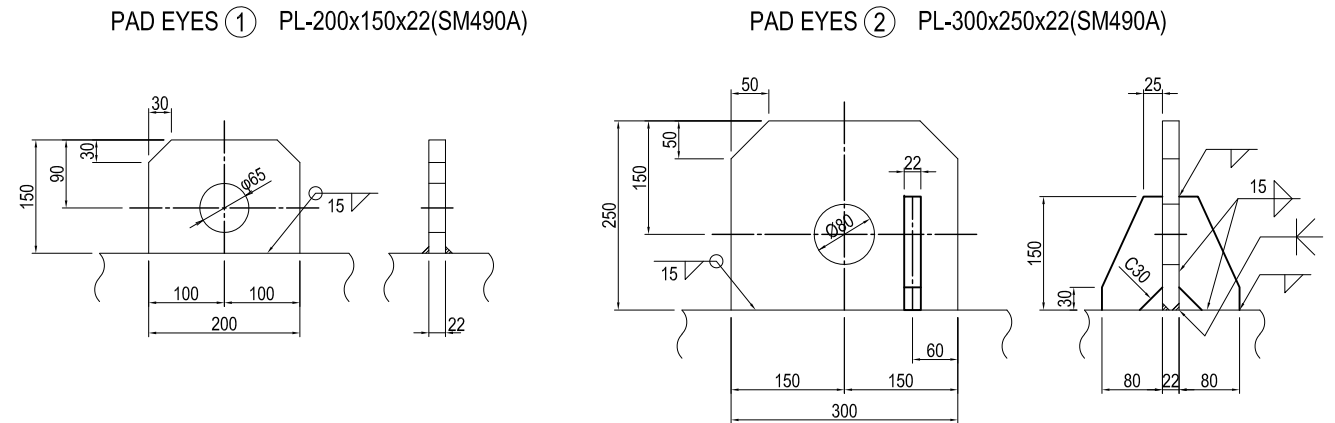
CROSS SECTION S=1:200



## STEEL PIPE SHEET PILE TYPE AND POSITION



## DETAIL OF EYES S=1:10

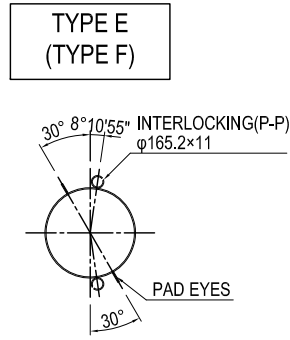


Note: Drawing of Pad Eye (metal fitting for hanging) and the position of perimeter field weld can be used for reference only.

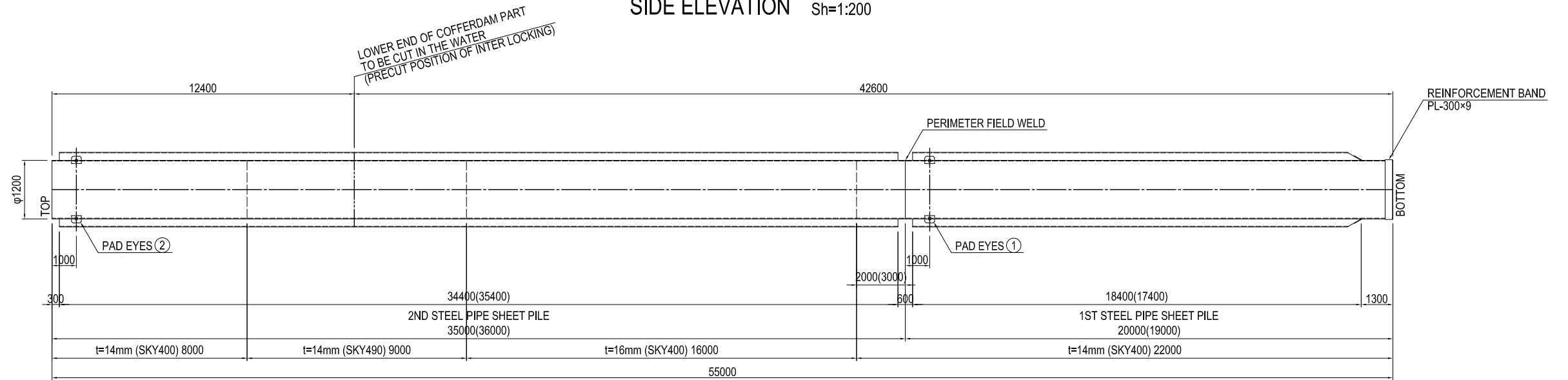
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JICA JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME S. IMADA T. HAYAKAWA Y. SANO	SIGNATURE <i>S. Imada</i> <i>T. Hayakawa</i> <i>Y. Sano</i>	DATE 27 Nov.2017 28 Nov.2017 29 Nov.2017	DRAWING TITLE DETAIL OF STEEL PIPE SHEET PILE OF P16 PIER (1)	PACKAGE 2 DWG No. P2-SB-2225
---	--	---	--	--	--	---	--	---------------------------------------

# DETAIL OF STEEL PIPE SHEET PILE OF P16 PIER (2)

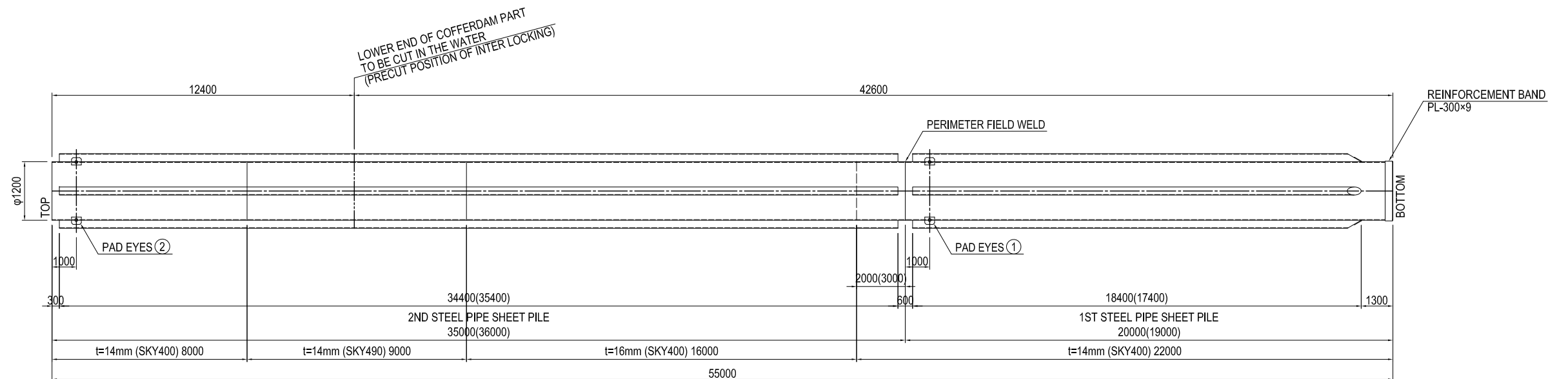
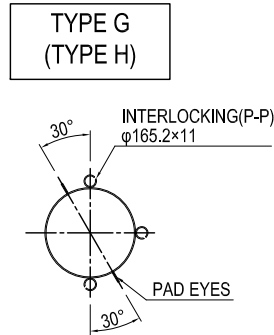
CROSS SECTION S=1:200



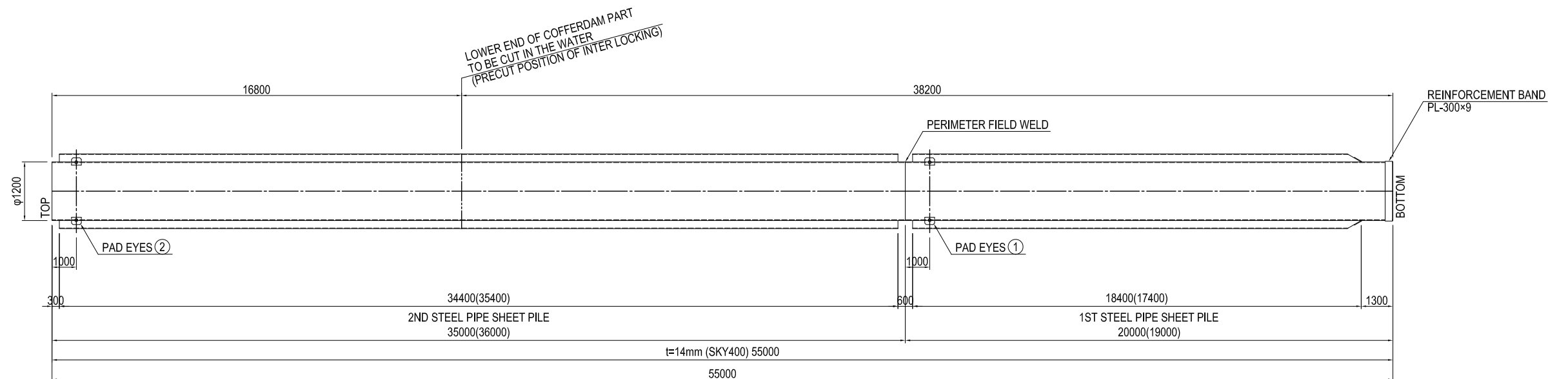
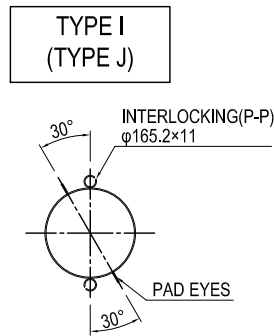
SIDE ELEVATION Sv=1:100 Sh=1:200



CROSS SECTION S=1:200



CROSS SECTION S=1:200

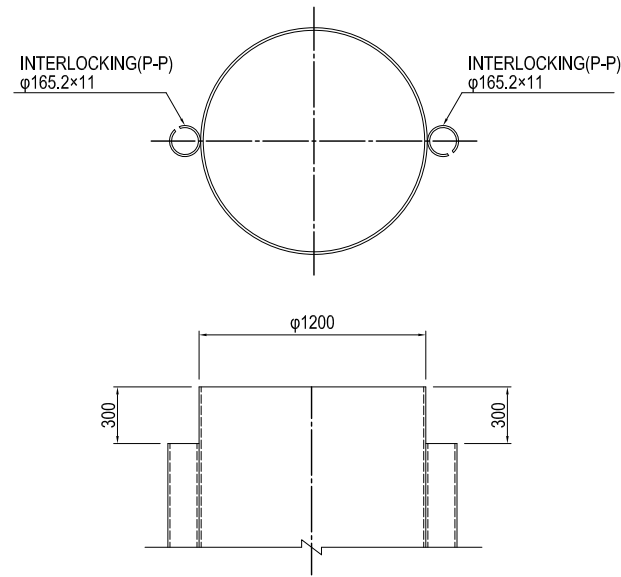


Note: Drawing of Pad Eye (metal fitting for hanging) and the position of perimeter field weld can be used for reference only.

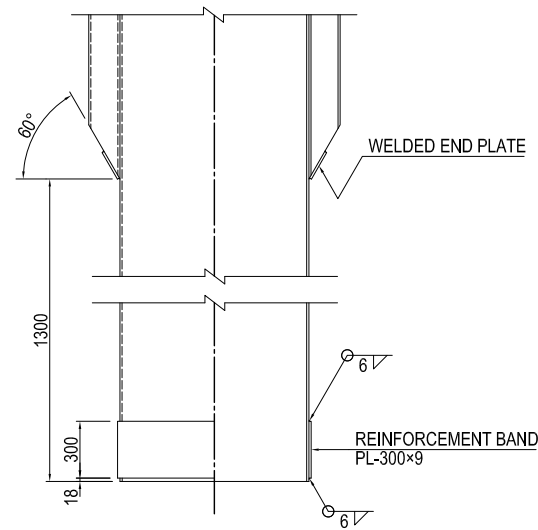
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 20%;">NAME</th> <th style="width: 20%;">SIGNATURE</th> <th style="width: 10%;">DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY</td> <td>S. IMADA</td> <td></td> <td>27 Nov.2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>28 Nov.2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>29 Nov.2017</td> </tr> </tbody> </table>		NAME	SIGNATURE	DATE	PREPARED BY	S. IMADA		27 Nov.2017	CHECKED BY	T. HAYAKAWA		28 Nov.2017	APPROVED BY	Y. SANO		29 Nov.2017	DRAWING TITLE DETAIL OF STEEL PIPE SHEET PILE OF P16 PIER (2)	PACKAGE 2 DWG No. P2-SB-2226
	NAME	SIGNATURE	DATE																			
PREPARED BY	S. IMADA		27 Nov.2017																			
CHECKED BY	T. HAYAKAWA		28 Nov.2017																			
APPROVED BY	Y. SANO		29 Nov.2017																			

# DETAIL OF INTERLOCKING OF STEEL PIPE SHEET PILE OF P16 PIER

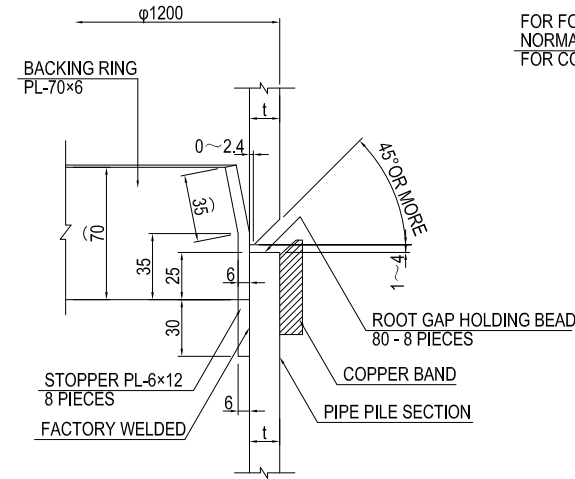
DETAIL OF STEEL PIPE SHEET PILE TOP S=1:40



DETAIL OF STEEL PIPE SHEET PILE TOE S=1:40

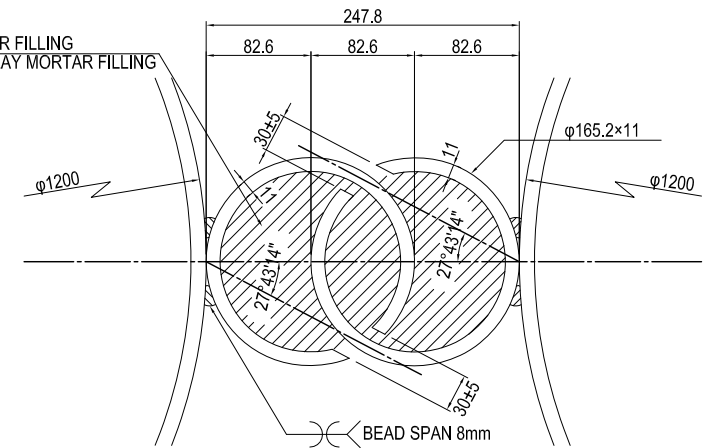


DETAIL OF PERIMETER FIELD WELDING OF STEEL PIPE SHEET PILE S=1:4



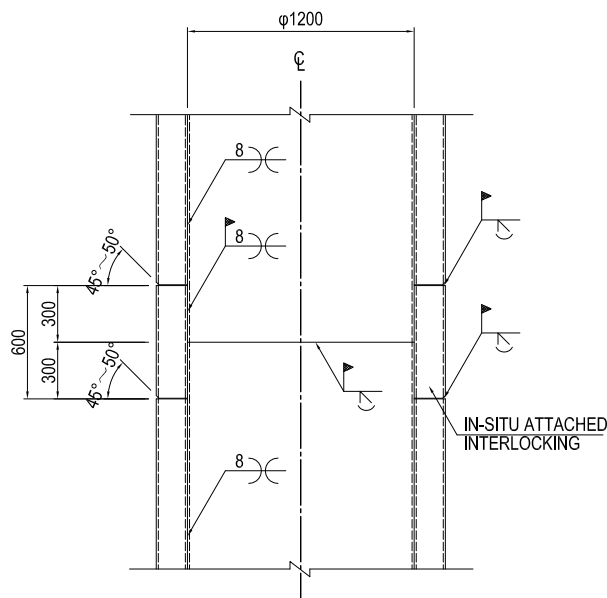
FOR FOUNDATION PART :  
NORMAL STRENGTH MORTAR FILLING  
FOR COFFERDAM PART : CLAY MORTAR FILLING

DETAIL OF CONNECTED INTERLOCKING(P-P) S=1:6

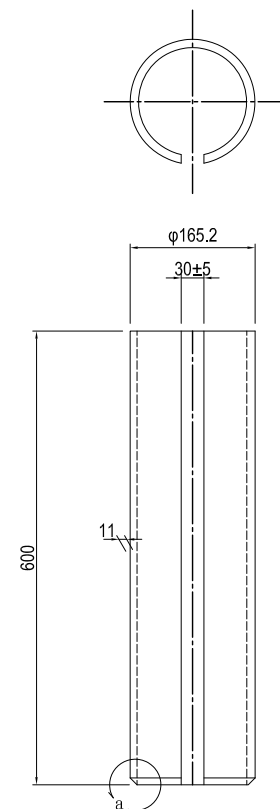


TREATMENT OF STEEL PIPE SHEET PILE INTERLOCKING

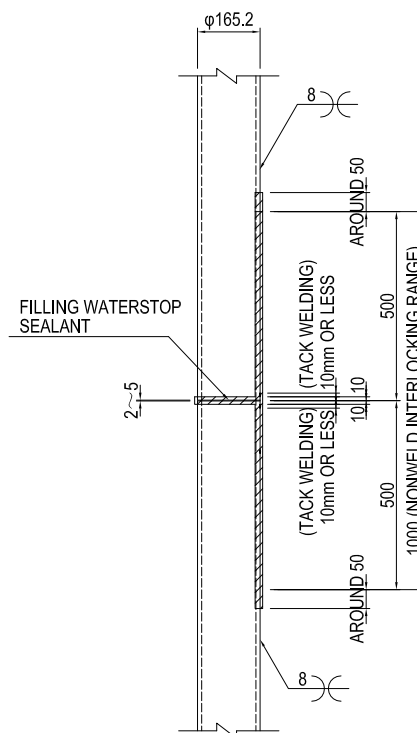
DETAIL OF IN-SITU LONGITUDINAL WELDING PART S=1:40



DETAIL OF IN-SITU ATTACHED INTERLOCKING S=1:10

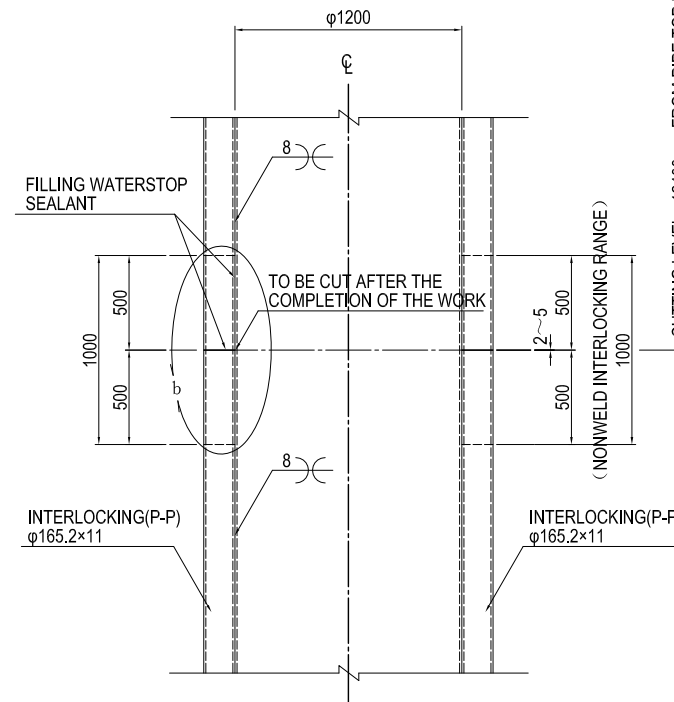


DETAIL b

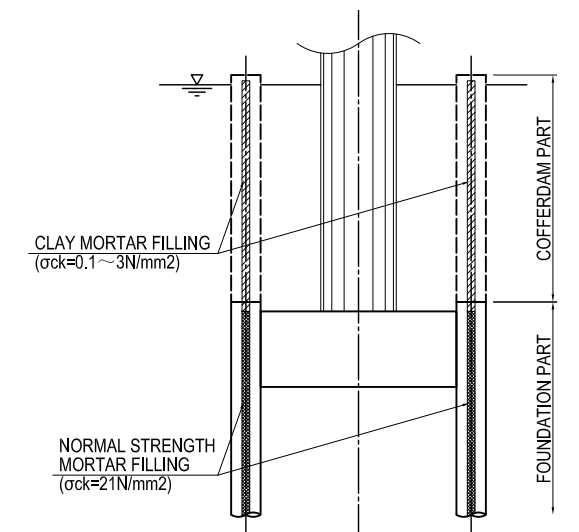


CUTTING LEVEL : 12400mm FROM PIPE TOP FOR EXTERNAL-WALL SHEET PILING.

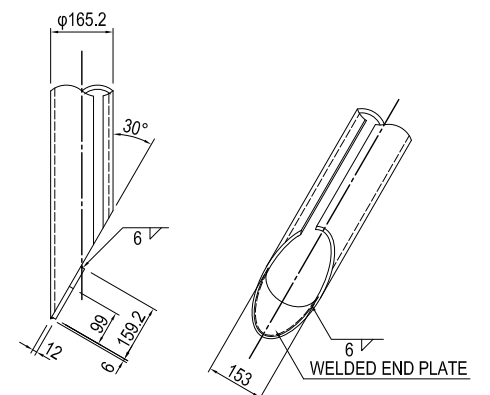
DETAIL OF PRECUT INTERLOCKING S=1:40



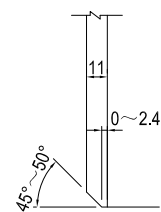
CUTTING LEVEL : 12400mm FROM PIPE TOP FOR EXTERNAL-WALL SHEET PILING.



DETAIL OF INTERLOCKING TOE S=1:20

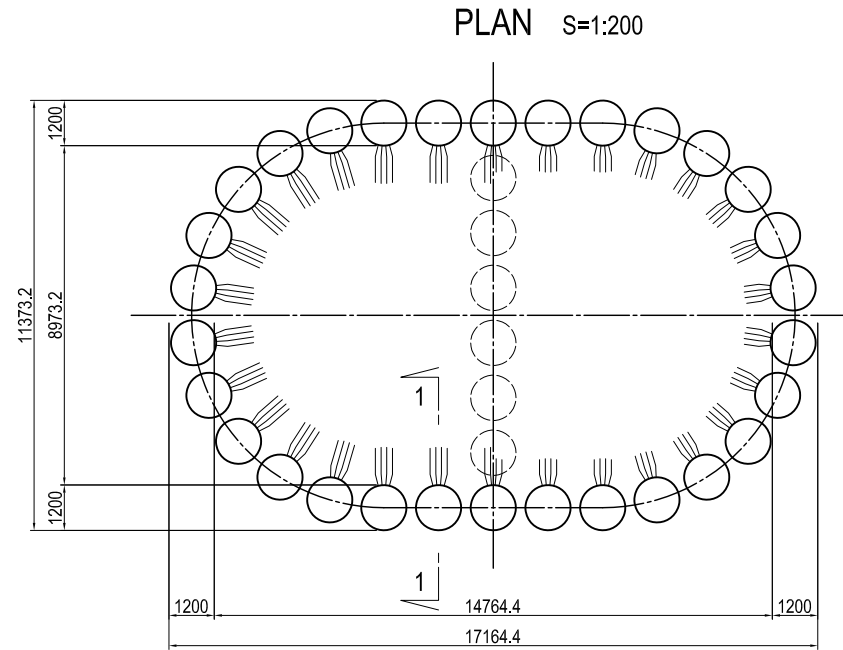


DETAIL a

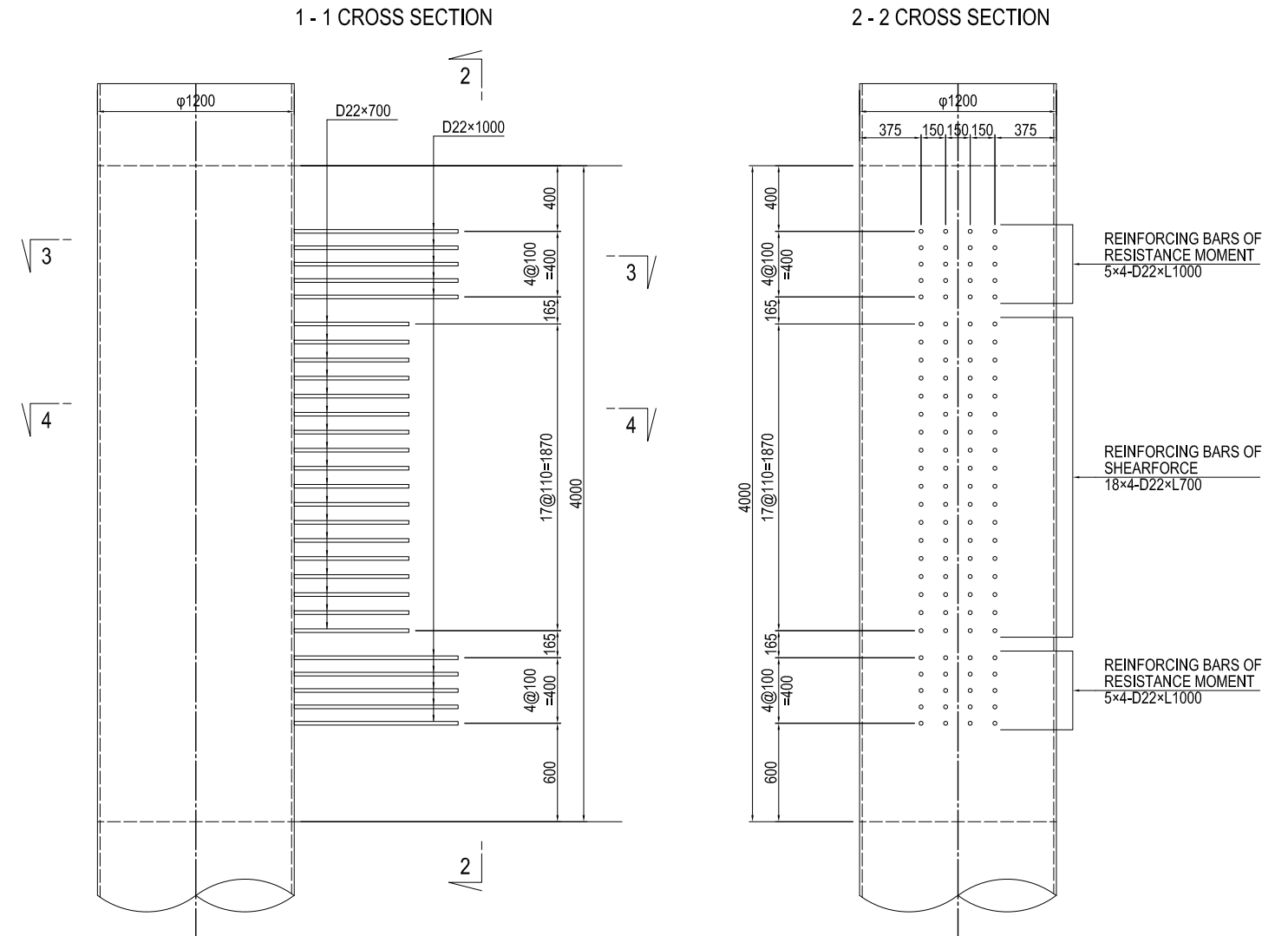


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY jica JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DETAIL OF INTERLOCKING OF STEEL PIPE SHEET PILE OF P16 PIER	PACKAGE 2 DWG No. P2-SB-2227
				PREPARED BY	S. IMADA	27 Nov.2017		
				CHECKED BY	T. HAYAKAWA	28 Nov.2017		
				APPROVED BY	Y. SANO	29 Nov.2017		

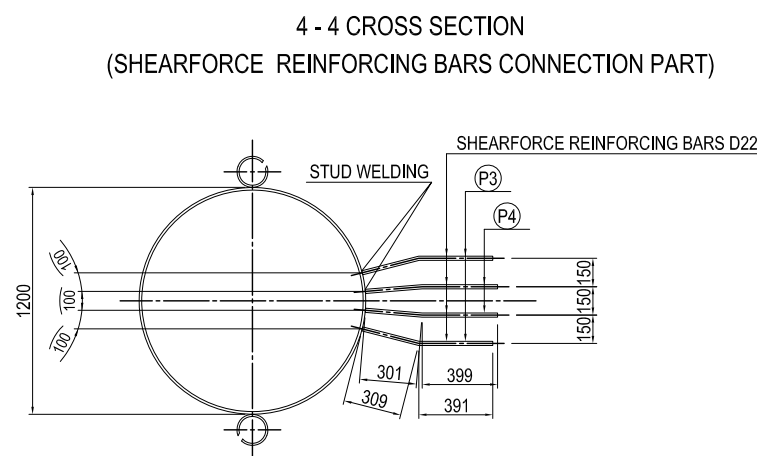
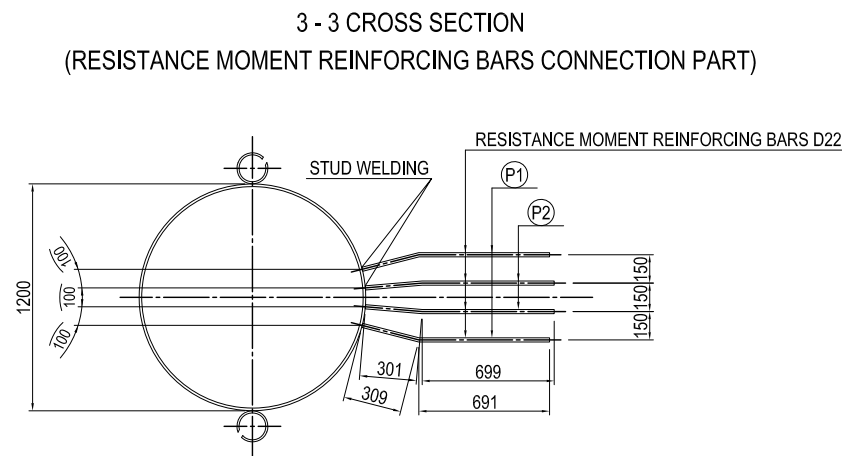
# DETAIL OF CONNECTION BETWEEN STEEL PIPE SHEET PILE AND FOOTING OF P16 PIER



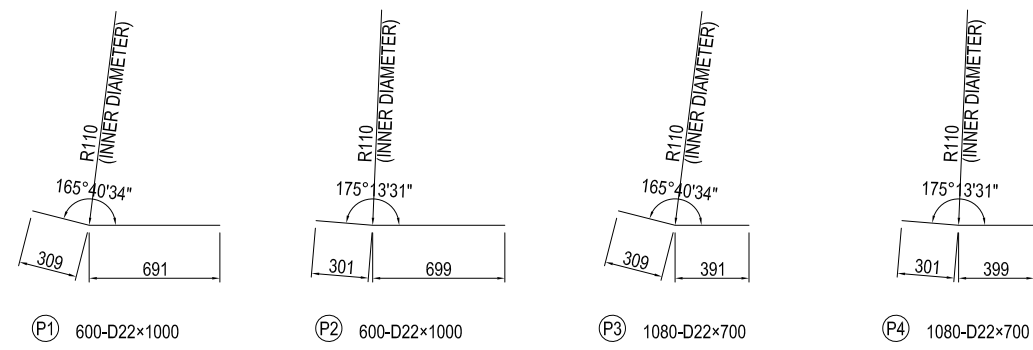
## DETAIL OF CONNECTION BETWEEN STEEL PIPE SHEET PILE AND FOOTING S=1:40



## CROSS SECTION OF CONNECTION BETWEEN STEEL PIPE SHEET PILE AND REINFORCING BARS S=1:40



## FABRICATION OF REINFORCING BARS S=1:40

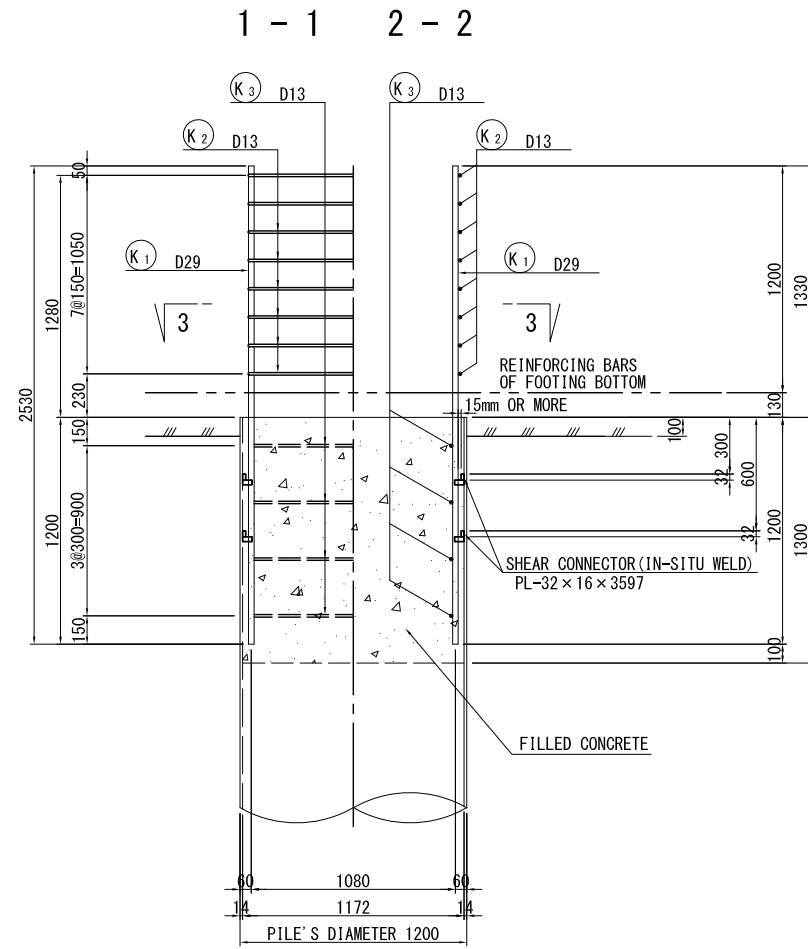


## TABLE OF REINFORCING BARS

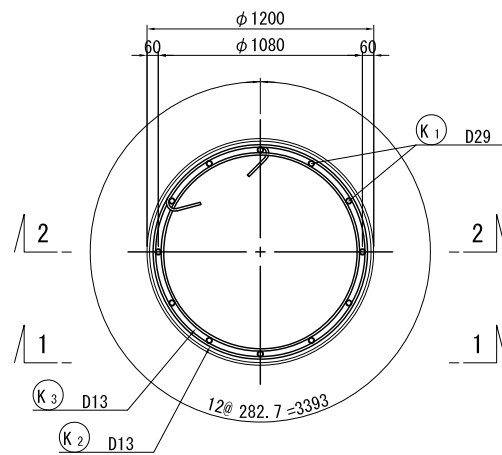
MARK	TYPE	LENGTH (mm)	PIECES (piece)	UNIT WEIGHT (kg/m)	UNIT WEIGHT (kg/piece)	WEIGHT (kg)	GRADE	MEMO
P1	D22	1000	600	3.04	3.04	1824.0	SD345 for STUD WELDING	
P2	D22	1000	600	3.04	3.04	1824.0	SD345 for STUD WELDING	
P3	D22	700	1080	3.04	2.13	2300.4	SD345 for STUD WELDING	
P4	D22	700	1080	3.04	2.13	2300.4	SD345 for STUD WELDING	
					D22	8248.8	kg	
					TOTAL WEIGHT	8248.8	kg	

# DETAIL OF PILE TOP CONNECTION TO THE BASE CONCRETE OF P16 PIER S=1:40

## DETAIL OF PILE TOP

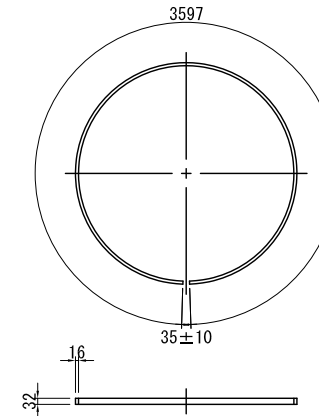


## 3 - 3

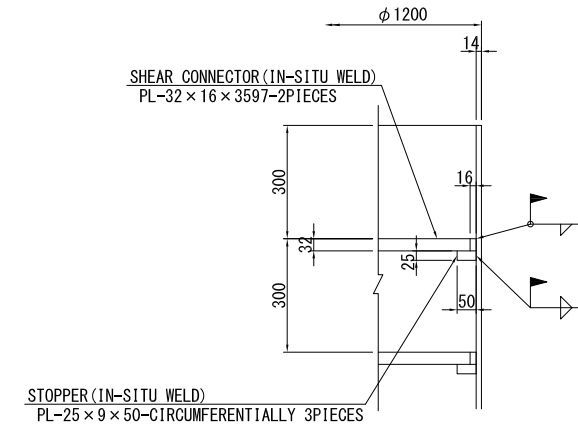


## DETAIL OF ATTACHMENT OF SHEAR CONNECTOR

### CENTER OF LENGTH

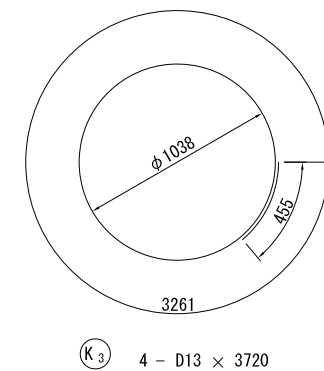
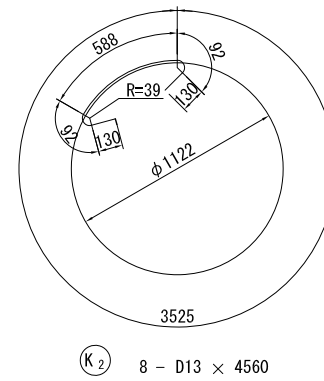


### SETTING IN THE FIELD S=1:20



## MATERIAL LIST

MARKS	SECTION SIZE	LENGTH (mm)	NOS. OF BARS	UNIT WEIGHT (kg/m)	WEIGHT/E.A. (kg)	WEIGHT (kg)	MATERIAL	REMARKS
PILE TOP ACCOMPANYING ITEMS								
PL	PL-32*16	3597	2	4.019	14.456	28.9	SS400	SHEAR CONNECTOR
PL	PL-25*9	50	6	1.766	0.088	0.5	SS400	STOPPER
REINFORCEMENT								
K1	D29	2530	12	5.04	12.75	153	SD345	
K2	D13	4560	8	0.995	4.54	36.3	SD345	○
K3	D13	3720	4	0.995	3.70	14.8	SD345	○
TOTAL						204		
FILLED CONCRETE (σ <sub>ck</sub> = 24 N/mm <sup>2</sup> )								
V = 1/4 × π × 1.172 <sup>2</sup> × 1.300 = 1.402 m <sup>3</sup>								

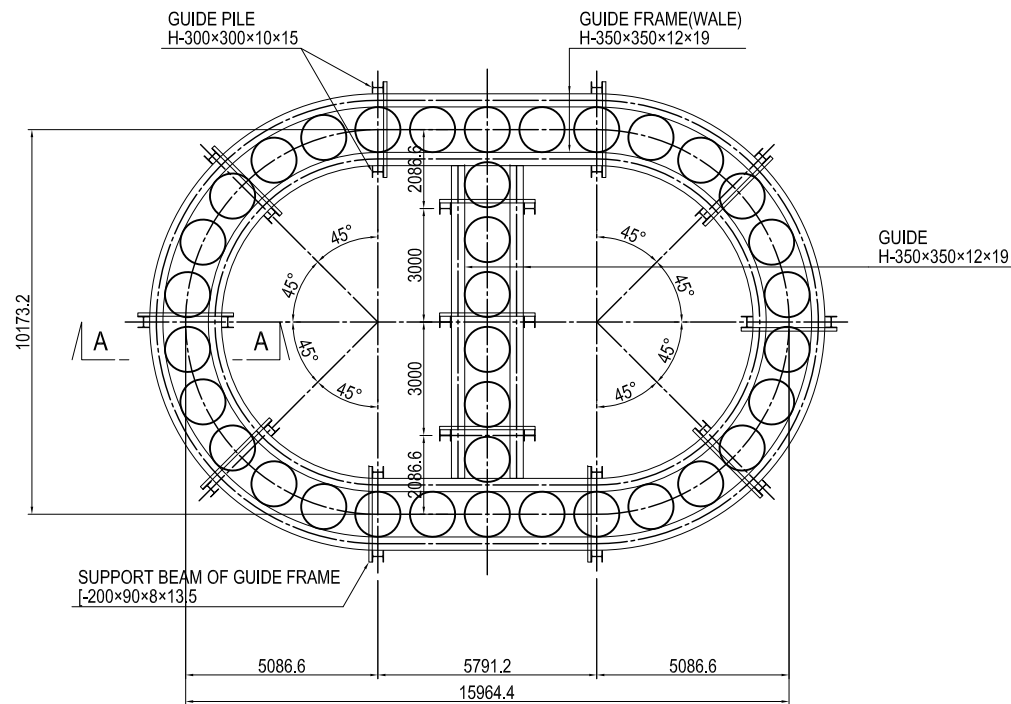


ITEM	DIVISION	UNIT CONTENT	WEIGHT/E.A.	QUANTITY
NUMBER OF PILE		Number		6
PILE TOP	SS400	TOTAL	kg	29.4
REINFORCEMENT	SD345	D29	kg	153
		D13	kg	51
		TOTAL	kg	204
FILLED CONCRETE	σ <sub>ck</sub> = 24 N/mm <sup>2</sup>	m <sup>3</sup>	1.402	8.4

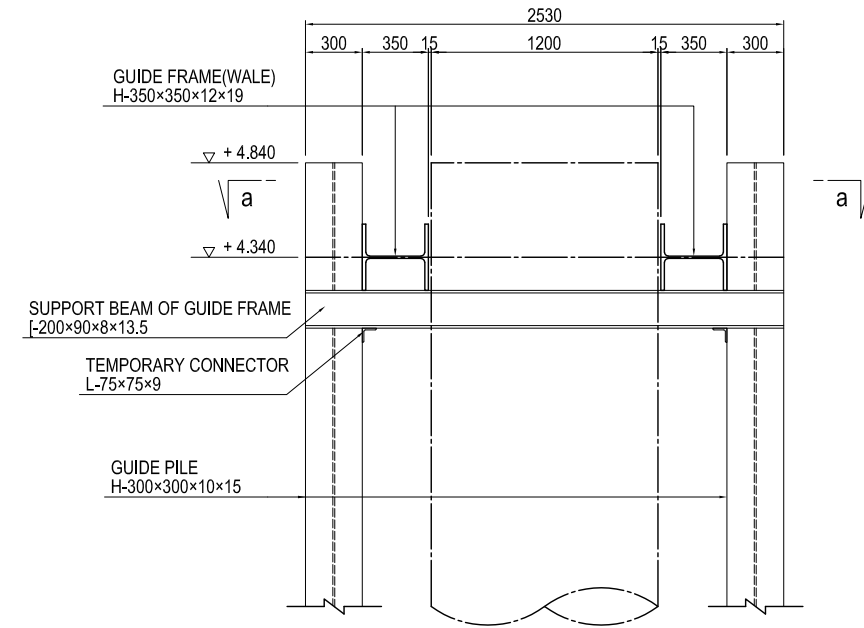


# (REFERENCE) LAYOUT PLAN OF COFFERDAM PART OF P16 PIER (1)

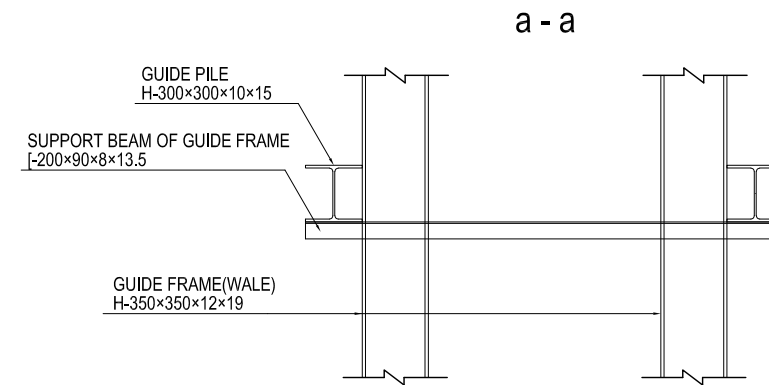
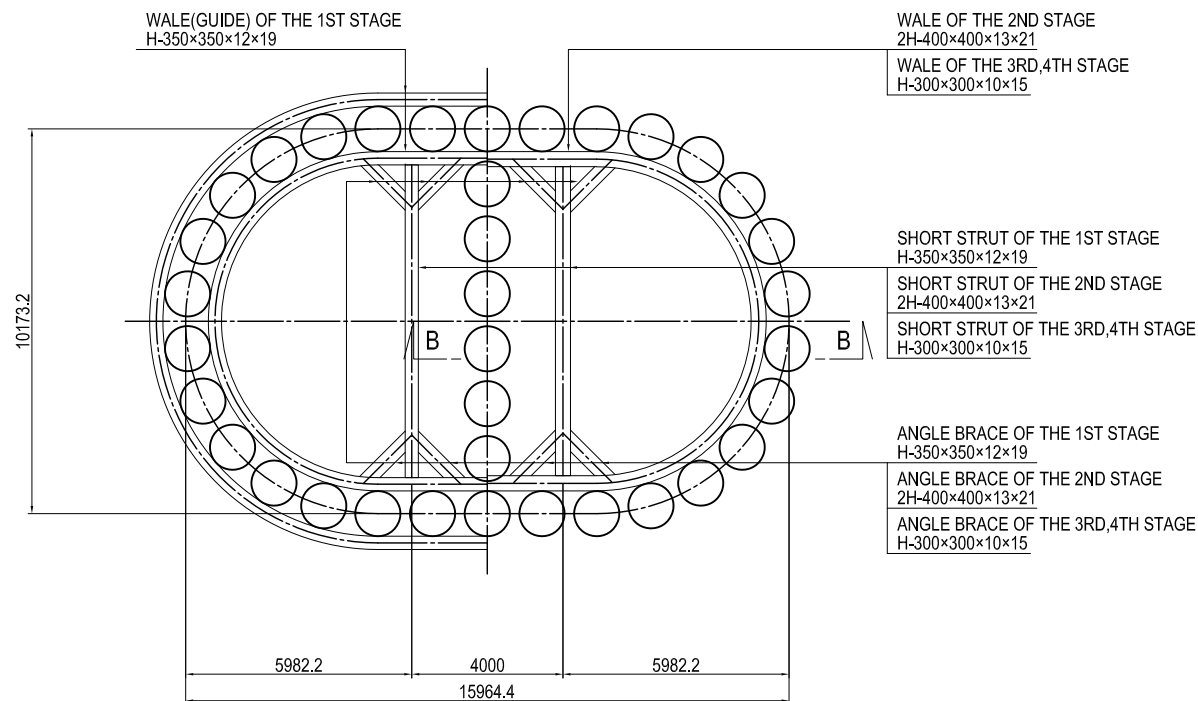
LAYOUT PLAN OF GUIDE FRAMES AND GUIDE PILES S=1:200



DETAIL OF ATTACHMENT OF GUIDE PILES AND GUIDE FRAMES S=1:40



LAYOUT PLAN OF STRUTS AND WALES S=1:200

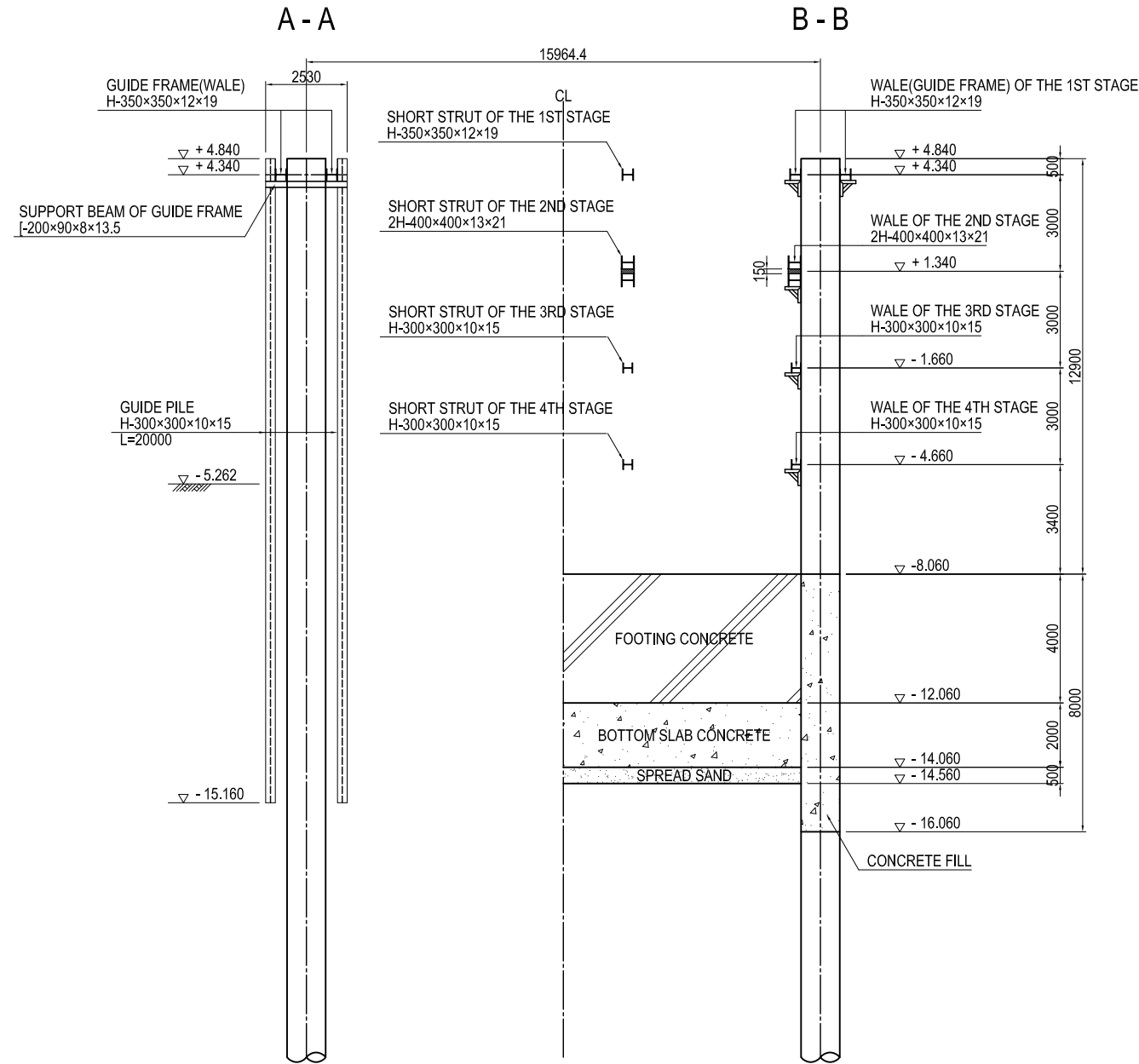


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY jica JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) LAYOUT PLAN OF COFFERDAM PART OF P16 PIER (1)	PACKAGE
				PREPARED BY	S. IMADA	27 Nov.2017		2
				CHECKED BY	T. HAYAKAWA	28 Nov.2017		DWG No.
				APPROVED BY	Y. SANO	29 Nov.2017		P2-SB-2230

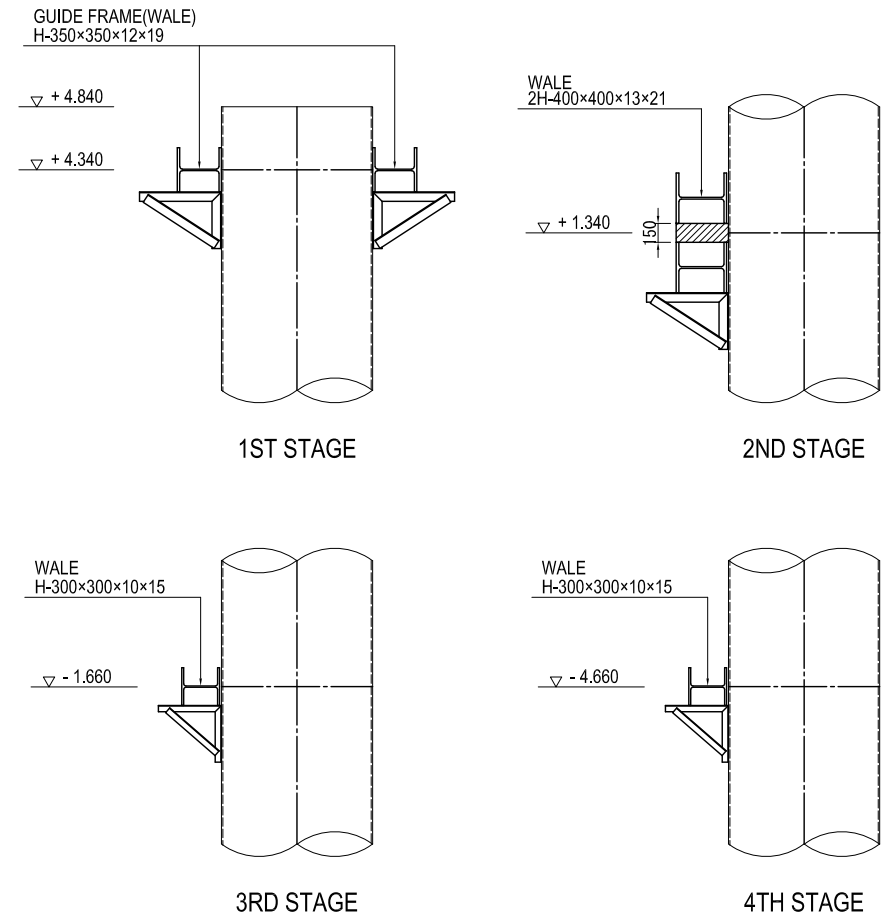


# (REFERENCE) LAYOUT PLAN OF COFFERDAM PART OF P16 PIER (2)

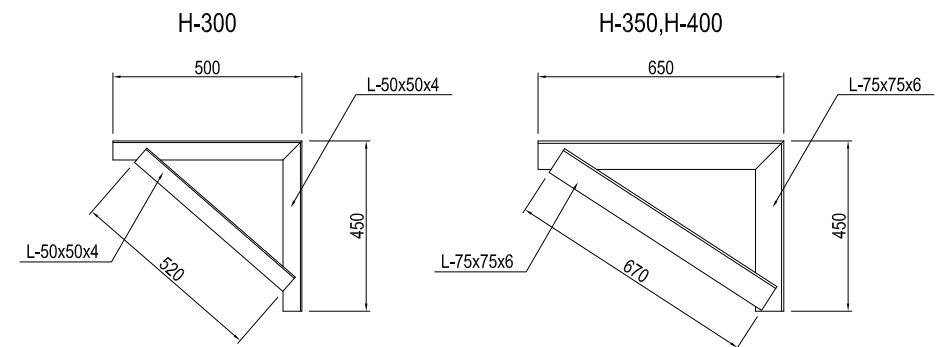
CROSS SECTION S=1:200



DETAIL OF ATTACHMENT OF WALE S=1:60



DETAIL OF BRACKET S=1:20



PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) LAYOUT PLAN OF COFFERDAM PART OF P16 PIER (2)	PACKAGE	
				PREPARED BY	S. IMADA			27 Nov.2017	2
				CHECKED BY	T. HAYAKAWA			28 Nov.2017	DWG No.
				APPROVED BY	Y. SANO			29 Nov.2017	P2-SB-2231

# (REFERENCE) CONSTRUCTION PLAN OF STEEL PIPE SHEET PILE WORK OF P16 PIER

S=1:400

STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
<p>Excavate inside of exterior sheet piles and filled with concrete as shown. Draining the inside of cofferdam up to +0.340m level. The 1st support Installation.</p>	<p>The 2nd support Installation. Underwater excavation up to -14.560m level.</p>	<p>Draining the inside of cofferdam up to -2.660m level. Placement of spread sand followed by Casting undewater bottom slab concrete.</p>	<p>The 3rd support Installation. Dry up inside the cofferdam.</p>	<p>The 4th support Installation.</p>
STEP 6				
<p>Casting of footing concrete.</p>				

Note : This drawing can be used for reference only.

<p>PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT</p>	<p>FINANCED BY  JAPAN INTERNATIONAL COOPERATION AGENCY</p>	<p>COUNTERPART  REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE</p>	<p>JICA STUDY TEAM  NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.</p>	<p>PREPARED BY CHECKED BY APPROVED BY</p>	<p>NAME S. IMADA T. HAYAKAWA Y. SANO</p>	<p>SIGNATURE   </p>	<p>DATE 27 Nov.2017 28 Nov.2017 29 Nov.2017</p>	<p>DRAWING TITLE (REFERENCE) CONSTRUCTION PLAN OF STEEL PIPE SHEET PILE WORK OF P16 PIER</p>	<p>PACKAGE 2 DWG No. P2-SB-2232</p>
---	--	--	---	---	--	---------------------------------	---	--	---