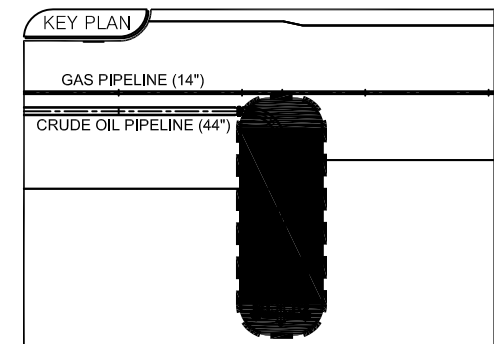
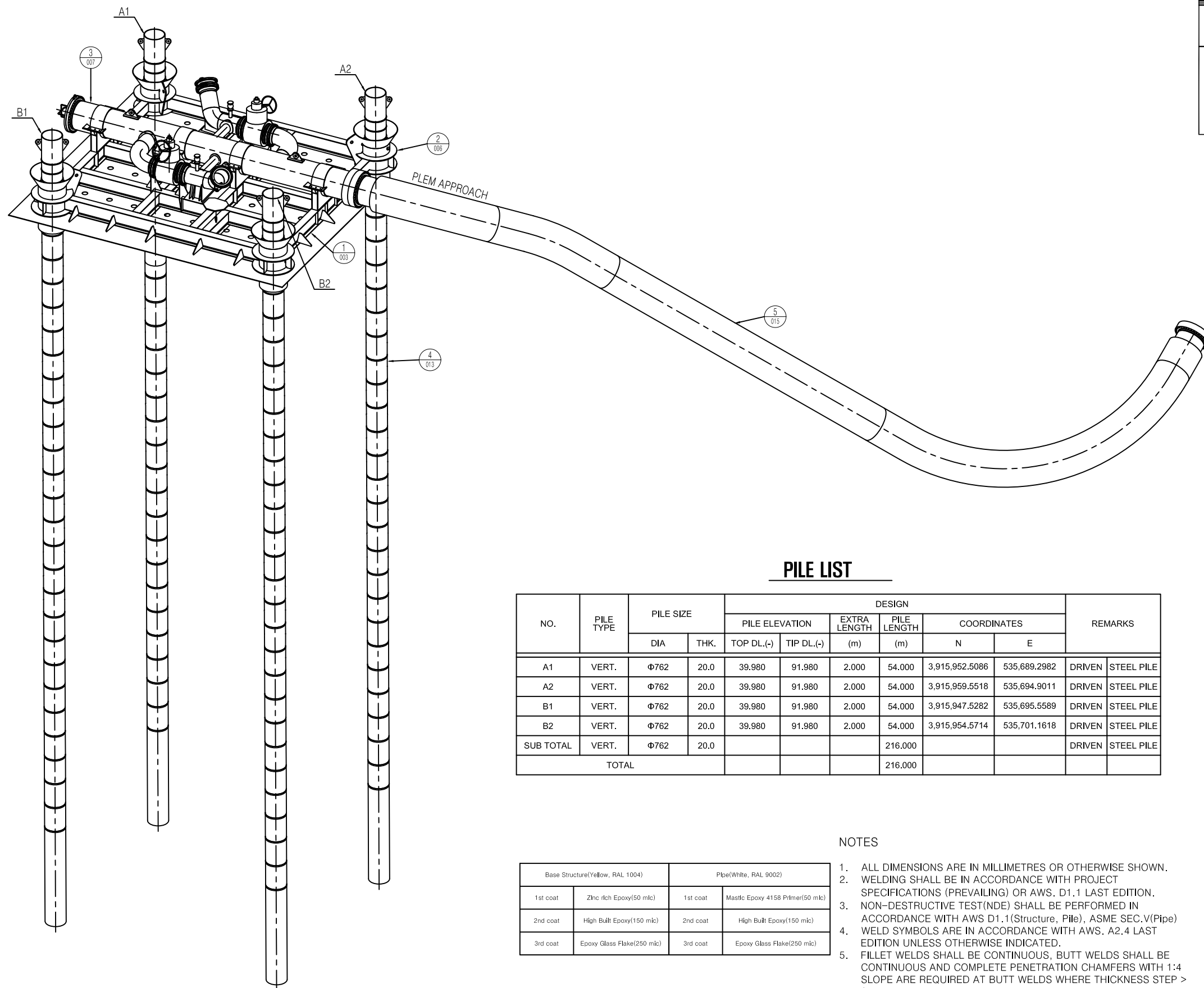


OVERALL GENERAL ARRANGEMENT (1)



PILE LIST

NO.	PILE TYPE	PILE SIZE		DESIGN						REMARKS	
				PILE ELEVATION		EXTRA LENGTH (m)	PILE LENGTH (m)	COORDINATES			
		DIA	THK.	TOP DL.(-)	TIP DL.(-)			N	E		
A1	VERT.	Φ762	20.0	39.980	91.980	2.000	54.000	3,915,952.5086	535,689.2982	DRIVEN	STEEL PILE
A2	VERT.	Φ762	20.0	39.980	91.980	2.000	54.000	3,915,959.5518	535,694.9011	DRIVEN	STEEL PILE
B1	VERT.	Φ762	20.0	39.980	91.980	2.000	54.000	3,915,947.5282	535,695.5589	DRIVEN	STEEL PILE
B2	VERT.	Φ762	20.0	39.980	91.980	2.000	54.000	3,915,954.5714	535,701.1618	DRIVEN	STEEL PILE
SUB TOTAL		VERT.	Φ762				216.000			DRIVEN	STEEL PILE
TOTAL							216.000				

ISOMETRIC VIEW

Base Structure(Yellow, RAL 1004)		Pipe(White, RAL 9002)	
1st coat	Zinc rich Epoxy(50 mic)	1st coat	Mastic Epoxy 4158 Primer(50 mic)
2nd coat	High Built Epoxy(150 mic)	2nd coat	High Built Epoxy(150 mic)
3rd coat	Epoxy Glass Flake(250 mic)	3rd coat	Epoxy Glass Flake(250 mic)

NOTES

- ALL DIMENSIONS ARE IN MILLIMETRES OR OTHERWISE SHOWN.
- WELDING SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS (PREVAILING) OR AWS. D1.1 LAST EDITION.
- NON-DESTRUCTIVE TEST(NDE) SHALL BE PERFORMED IN ACCORDANCE WITH AWS D1.1(Structure, Pile), ASME SEC.V(Pipe)
- WELD SYMBOLS ARE IN ACCORDANCE WITH AWS. A2.4 LAST EDITION UNLESS OTHERWISE INDICATED.
- FILLET WELDS SHALL BE CONTINUOUS, BUTT WELDS SHALL BE CONTINUOUS AND COMPLETE PENETRATION CHAMFERS WITH 1:4 SLOPE ARE REQUIRED AT BUTT WELDS WHERE THICKNESS STEP > 3mm.
- ALL WELDS TO BE FULL PENETRATION WELDS UNLESS NOTED OTHERWISE ON DRAWING.

REV.	DATE	DESCRIPTION	DRN	DGN	CK	RW	CL APP
16.05		AS BUILT					
16.01		FOR REVISION					
15.06		FOR CONSTRUCTION					
DRN	DGN	CK	RW	CL APP			
김동철	이강진	조강주	이희규	정현욱			

울산 BUOY 이설공사

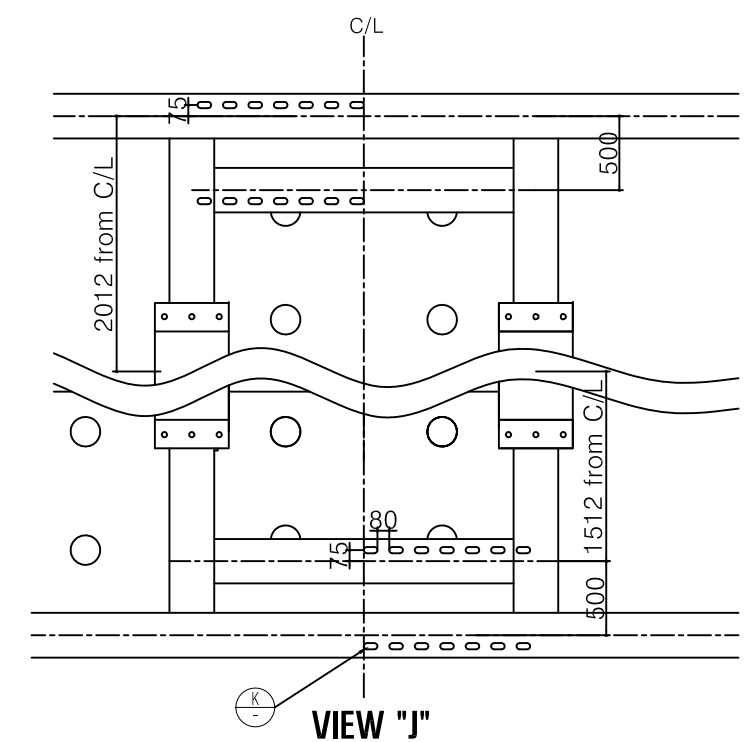
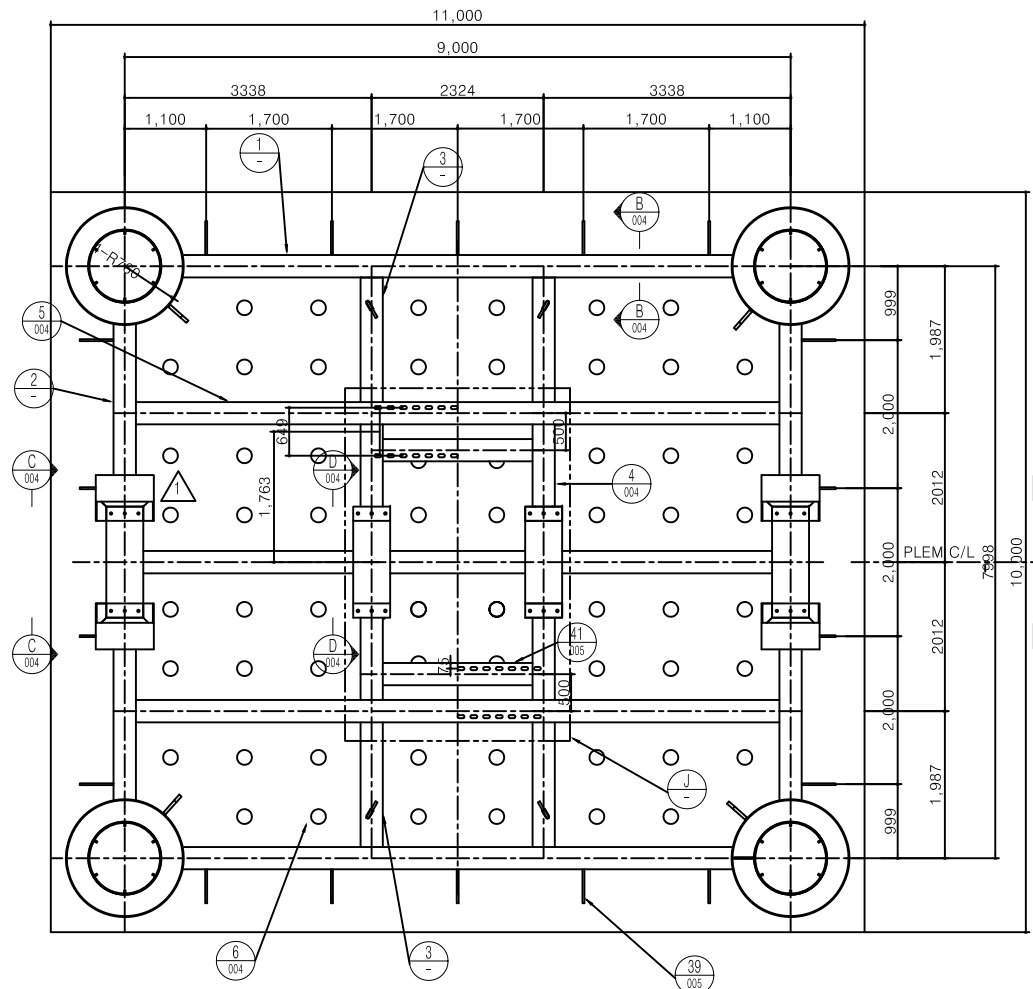
KNOC KOREA NATIONAL OIL CORPORATION

SK Engineering & Construction
POSCO Engineering Co.,LTD

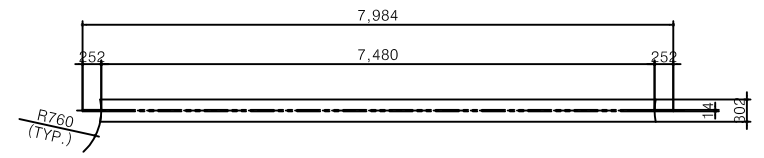
BUOY & OIL PIPELINE
OVERALL GENERAL ARRANGEMENT (1)

NONE	T1J-CR-PL-001	▲
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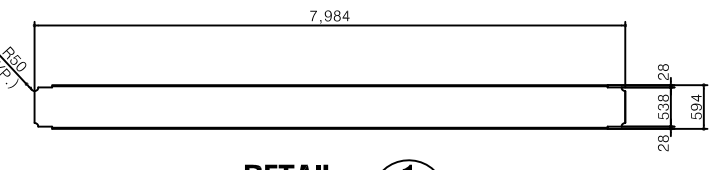
BASE STRUCTURE (1)



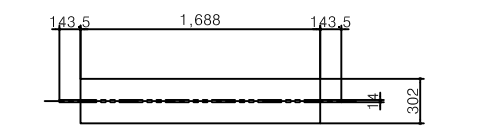
VIEW "K"



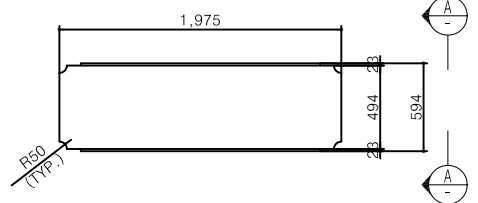
DETAIL 1



DETAIL 2

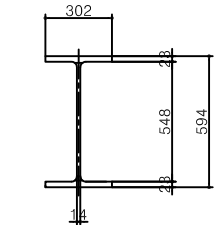


DETAIL 3



VIEW "A-A"

No.	DESCRIPTION	SIZE	MATERIAL	WEIGHT UNIT(kg)	Q'TY	WEIGHT TOTAL(kg)	REMARK
1	H-BEAM	302*594*7984L	SM490A	178 kg/m	2	2842.3	
2	H-BEAM	302*594*6984L	SM490A	178 kg/m	2	2486.3	
3	H-BEAM	302*594*1975L	SM490A	178 kg/m	4	1153.4	
4	H-BEAM	302*594*1999L	SM490A	178 kg/m	4	1267.4	
5	H-BEAM	302*594*8987L	SM490A	178 kg/m	3	4799.0	
6	BASE PLATE	19*1685*3036	ASTM A36 or SM490A	322.0	4	1288.0	
7	BASE PLATE	19*1685*2022	ASTM A36 or SM490A	214.0	2	428.0	
8	BASE PLATE	19*1710*3036	ASTM A36 or SM490A	326.6	4	1306.4	
9	BASE PLATE	19*2022*198	ASTM A36 or SM490A	21.2	2	42.4	
10	BASE PLATE	19*2022*1210	ASTM A36 or SM490A	153.6	2	307.2	
17	STIFF. WEB	115*143.5*540	ASTM A36 or SM490A	9.1	24	218.4	
18	SADDLE SUPPORT	115*1150*1600	ASTM A36 or SM490A	216.7	8	1733.6	
19	BOLT/2 HEX. NUTS	M30*200L	A 193 B7/A 194 2H7	2.0	24	48.0	NOTE: 6
20	SUPPORT PLATE	115*220*575	ASTM A36 or SM490A	13.2	8	105.6	
21	SADDLE	125*500*1834	ASTM A36 or SM490A	180.0	8	1440.0	
22	SADDLE CLIP	125*191.6*500	ASTM A36 or SM490A	18.8	16	300.8	
23	SADDLE COVER	125*150*332.8	ASTM A36 or SM490A	9.8	8	78.4	
24	SADDLE COVER	125*120*784.8	ASTM A36 or SM490A	23.1	4	92.4	
32	HOLE PULL-IN LUG	130*175*300	ASTM A36 or SM490A	12.4	2	24.8	
33	LUG PAD	19*1044*OD110	ASTM A36 or SM490A	0.6	4	2.4	
34	BASE PLATE	19*11000*1150	ASTM A36 or SM490A	587.2	2	1174.4	
35	BASE PLATE	19*7700*850	ASTM A36 or SM490A	411.0	2	822.0	
36	SUPPORT PLATE	120*784.8*1000	ASTM A36 or SM490A	123.2	4	492.8	
37	SUPPORT PLATE	120*332.8*1000	ASTM A36 or SM490A	52.3	8	418.4	
38	SUPPORT PLATE	120*332.8*784.8	ASTM A36 or SM490A	41.0	4	164.0	
39	BRACKET	125*600*400	ASTM A36 or SM490A	27.5	18	495.0	
41	H-BEAM	302*594*2309L	SM490A	178 kg/m	2	1644.7	
TOTAL WEIGHT						25233.3	kgf



VIEW "G-G"

Base Structure(Yellow, RAL 1004)		Pipe(White, RAL 9002)	
1st coat	Zinc rich Epoxy(50 mic)	1st coat	Mastic Epoxy 4158 Primer(50 mic)
2nd coat	High Built Epoxy(150 mic)	2nd coat	High Built Epoxy(150 mic)
3rd coat	Epoxy Glass Flake(250 mic)	3rd coat	Epoxy Glass Flake(250 mic)

REV.	DATE	DESCRIPTION	DRN	DGN	CK	RW	CL APP
16.05		AS BUILT					
16.01		FOR REVISION					
15.06		FOR CONSTRUCTION					

울산 BUOY 이설공사

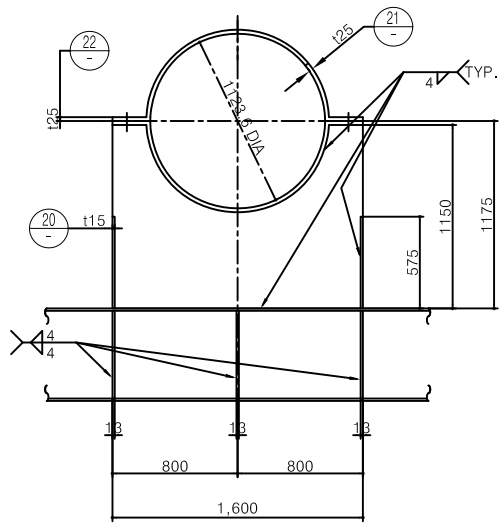


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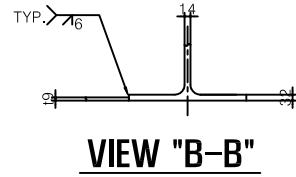
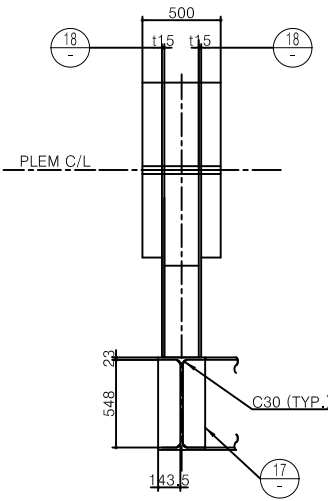
BUOY & OIL PIPELINE
BASE STRUCTURE (1)

- NOTES
- ALL DIMENSIONS ARE IN MILLIMETRES OR OTHERWISE SHOWN.
 - WELDING SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS (PREVAILING) OR AWS. D1.1 LAST EDITION.
 - NON-DESTRUCTIVE TEST(NDE) SHALL BE PERFORMED IN ACCORDANCE WITH AWS D1.1(Structure, Pile), ASME SEC.V(Pipe)
 - WELD SYMBOLS ARE IN ACCORDANCE WITH AWS. A2.4 LAST EDITION UNLESS OTHERWISE INDICATED.
 - FILLET WELDS SHALL BE CONTINUOUS. BUTT WELDS SHALL BE CONTINUOUS AND COMPLETE PENETRATION CHAMFERS WITH 1:4 SLOPE ARE REQUIRED AT BUTT WELDS WHERE THICKNESS STEP > 3mm.
 - ALL WELDS TO BE FULL PENETRATION WELDS UNLESS NOTED OTHERWISE ON DRAWING.
 - ALL BOLTS SHALL BE PAINTED BY XYLAN 1070-17.5 TO 22.5 μm

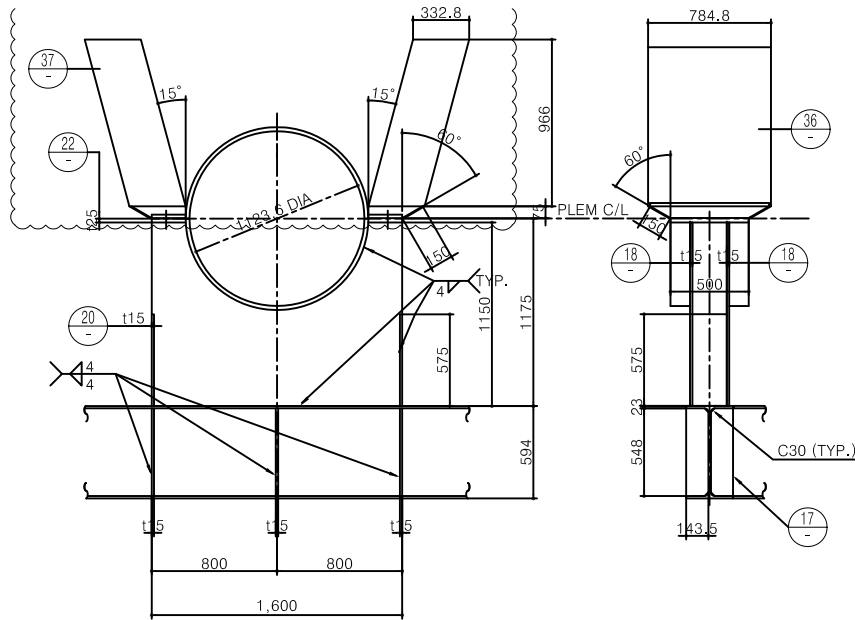
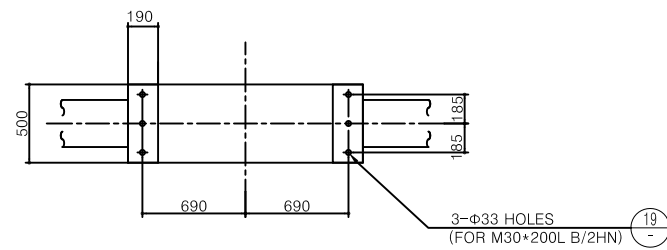
BASE STRUCTURE (2)



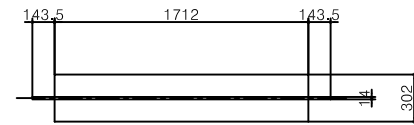
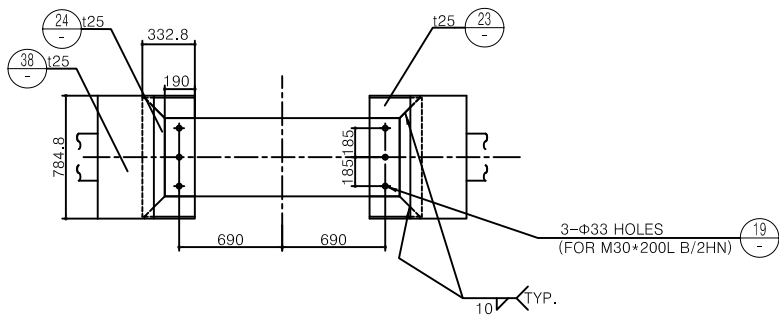
VIEW "D-D"



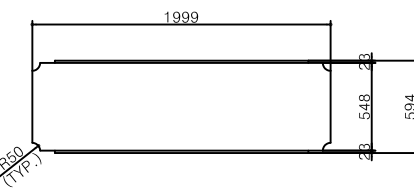
VIEW "B-B"



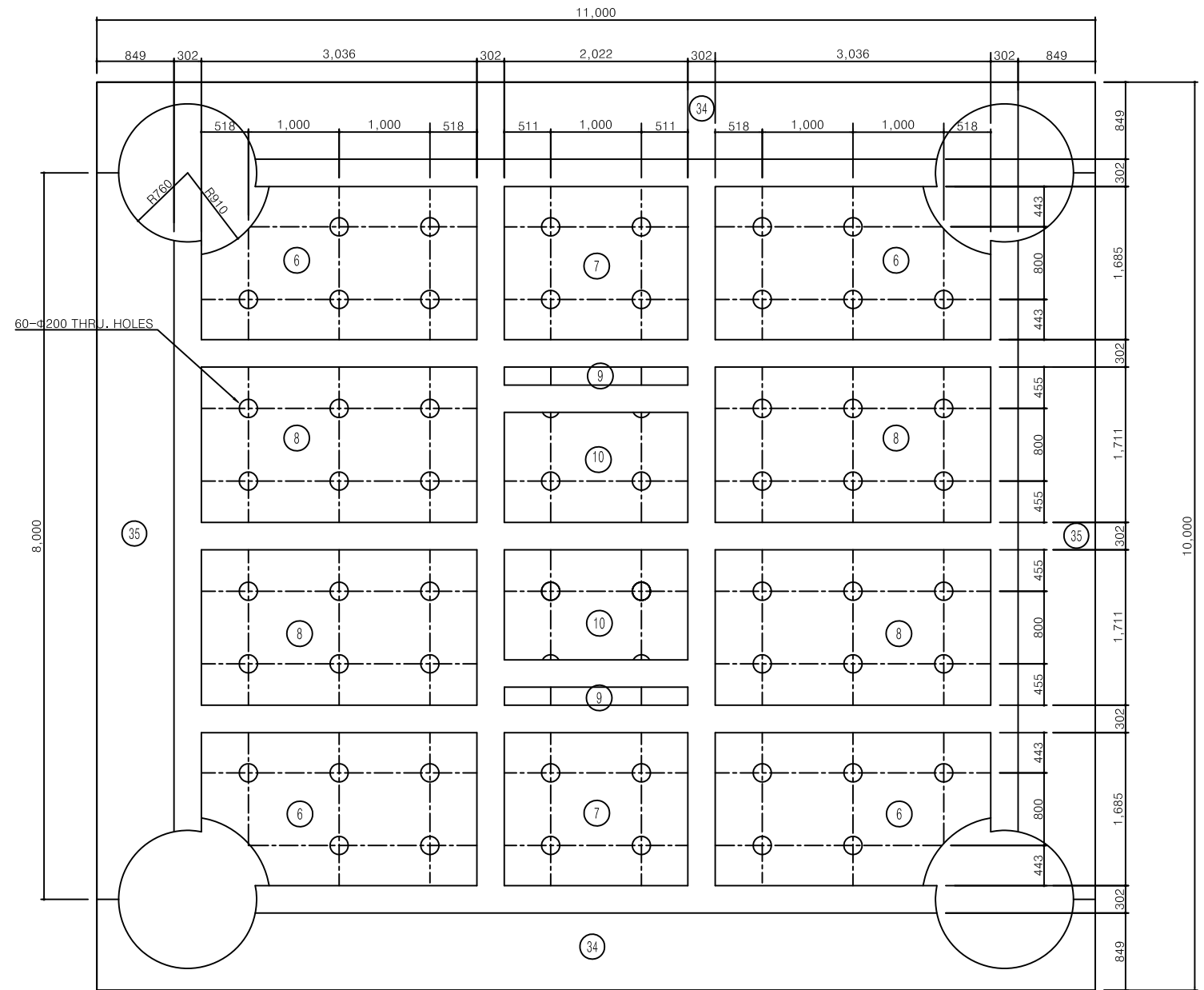
VIEW "C-C"



DETAIL 4

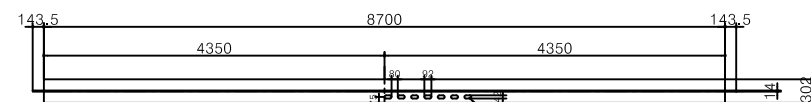


003



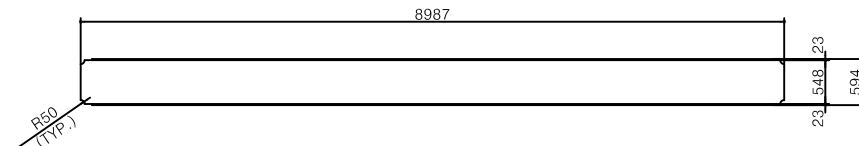
DETAIL 6

003



DETAIL 5

003



REV.	DATE	DESCRIPTION	DRN	DGN	CK	RW	CL APP
16.05		AS BUILT					
16.01		FOR REVISION					
15.06		FOR CONSTRUCTION					
DRN	DRN	DRN	CK	RW	CL APP	CL APP	CL APP
김동철	이강진	조강주	이희규	정현욱			

울산 BUOY 이설공사



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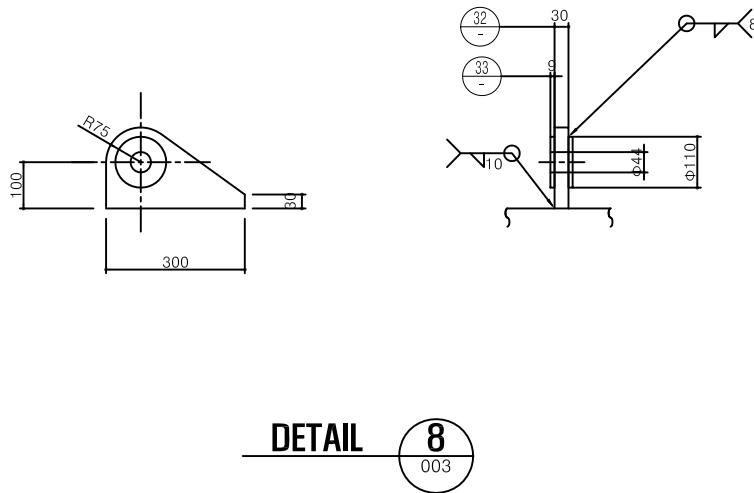
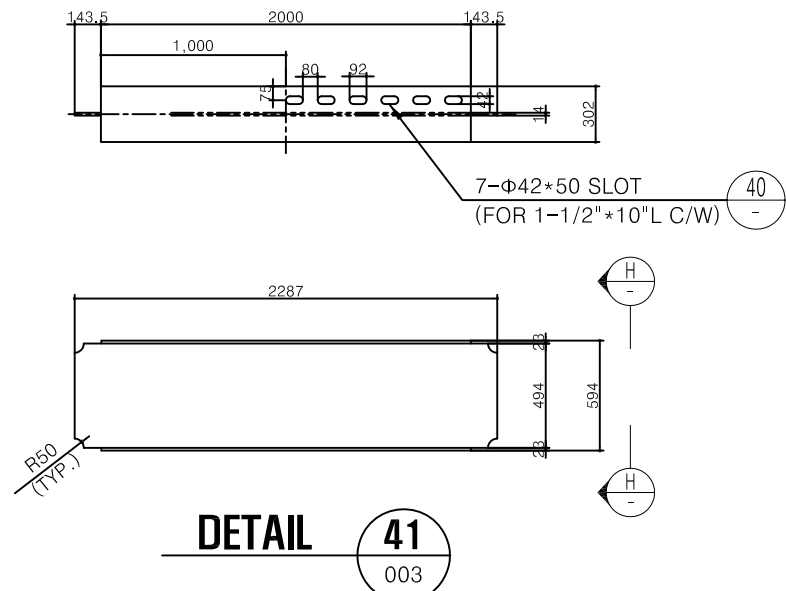
BUOY & OIL PIPELINE
BASE STRUCTURE (2)

AS SHOWN

T1J-CR-PL-004



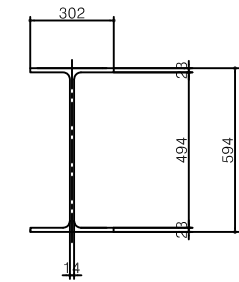
BASE STRUCTURE (3)



DETAIL 41
003

DETAIL 8
003

DETAIL 39
003



VIEW "H-H"

NOTES:

1. FLANGE TO BE POSITIONED AND WELDED ON ERECTION WITH 4" PIPE MANIFOLD.
2. ALL MARKINGS SHALL BE PAINTED USING WHITE HIGH DENSITY REFLECTIVE PAINT.
3. APPROXIMATE POSITION FOR HOSE PULL-IN LUGS -POSITION ON ERECTION.

REV.	DATE	DESCRIPTION	DRN	DGN	CK	RW	CL APP
16.05		AS BUILT					
16.01		FOR REVISION					
15.06		FOR CONSTRUCTION					
DRN		DESCRIPTION	DRN	DGN	CK	RW	CL APP
김동철			이강진		조광주	이외규	정현욱

울산 BUOY 이설공사



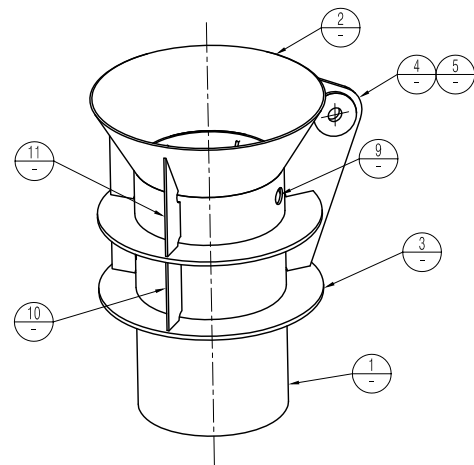
**SK Engineering & Construction
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**BUOY & OIL PIPELINE
BASE STRUCTURE (3)**

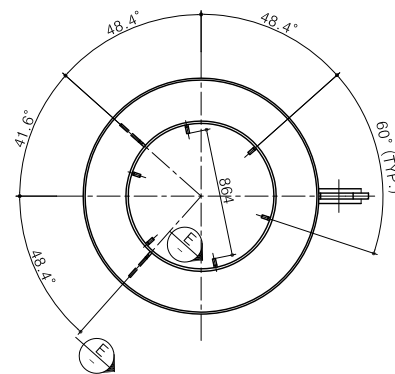
Base Structure(Yellow, RAL 1004)		Pipe(White, RAL 9002)	
1st coat	Zinc rich Epoxy(50 mic)	1st coat	Mastic Epoxy 4158 Primer(50 mic)
2nd coat	High Built Epoxy(150 mic)	2nd coat	High Built Epoxy(150 mic)
3rd coat	Epoxy Glass Flake(250 mic)	3rd coat	Epoxy Glass Flake(250 mic)

SLEEVE ASSEMBLY

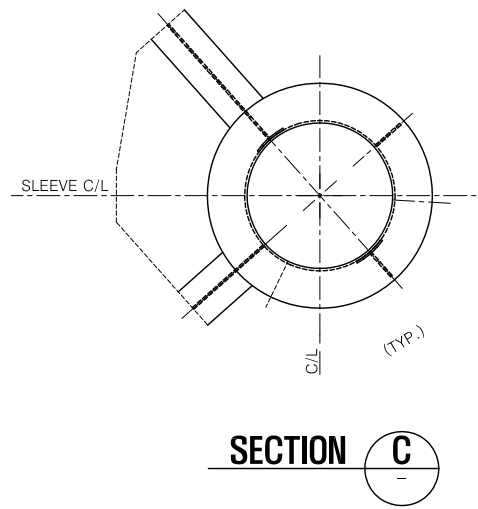
No.	DESCRIPTION	SIZE	MATERIAL	WEIGHT UNIT(kg)	Q'TY	WEIGHT TOTAL(kg)	REMARK
1	SLEEVE-40" PIPE	115*OD1016	SM490A	710.3	4	2841.2	
2	CONE	115*L.D990*L.D1567.4	SM490A	276.0	4	1104.0	
3	STIFF. RING	130*L.D1016*O.D1520	SM490A	472.8	8	3782.4	
4	LIFTING LUG	140*625*1390	SM490A	168.1	4	672.4	
5	REINF. RING	130*L.D88*O.D300	SM490A	14.8	8	118.4	
6	SUPPORT RIB	125*60*200	SM490A	3.2	48	153.6	
7	RING-FLAT BAR	115*L.D954.2*O.D984.2	SM490A	9.0	20	180.0	
9	REINF. PAD	115*L.D120*O.D230	SM490A	2.5	8	20.0	
10	STIFF. RIB	115*220*530	SM490A	20.1	8	160.8	
11	STIFF. RIB	115*220*741	SM490A	26.5	8	212.0	
TOTAL WEIGHT						9217.8	Kg



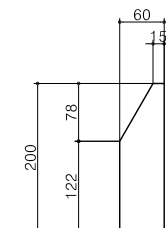
ISOMETRIC VIEW



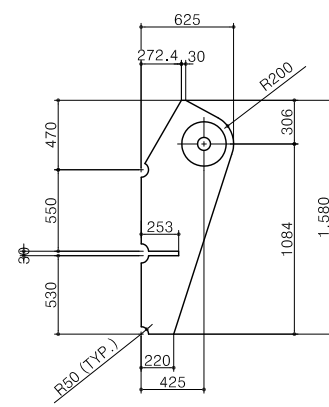
PLAN VIEW



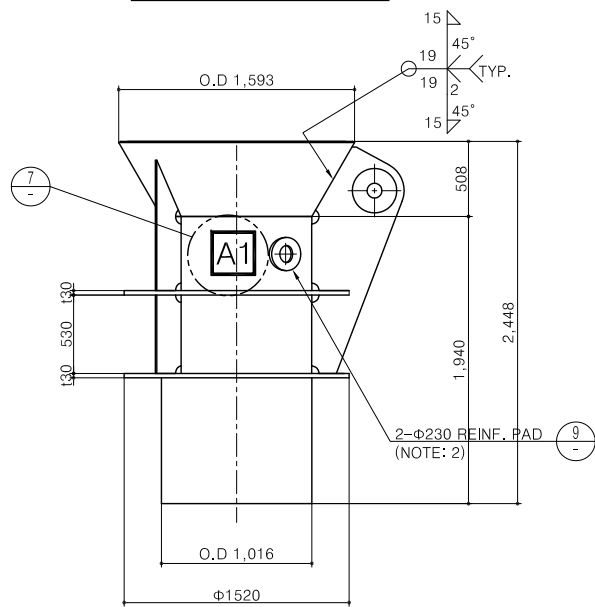
SECTION C



DETAIL 6



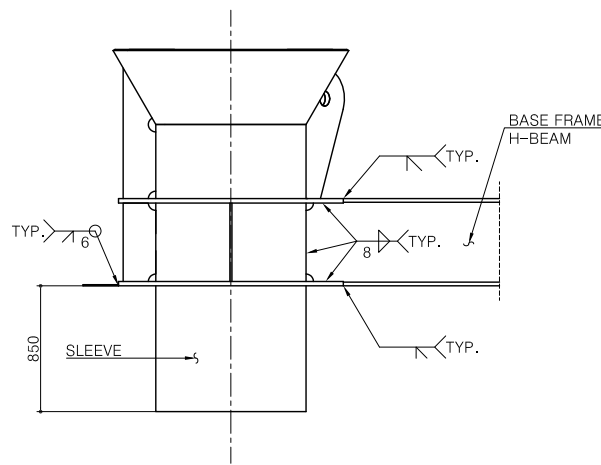
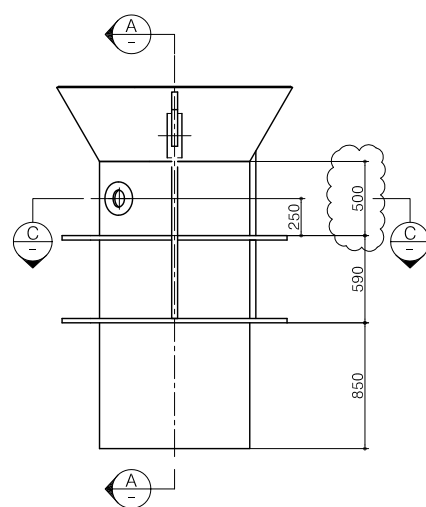
DETAIL 4



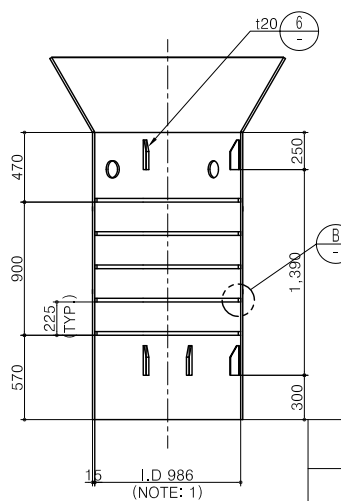
SECTION A

- NOTES:
- DON'T PAINT INNER SURFACE OF SLEEVE.
 - DIA. 88 HOLE TO BE TORCH CUT AFTER INSTALLATION OF PILES BOTH SIDES OF GUIDE
 - INTERNAL SIDE OF PILE GUIDE CONE TO BE PAINTED YELLOW

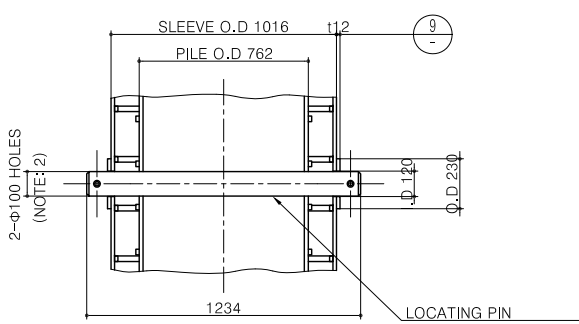
Base Structure(Yellow, RAL 1004)		Pipe(White, RAL 9002)	
1st coat	Zinc rich Epoxy(50 mic)	1st coat	Mastic Epoxy 4158 Primer(50 mic)
2nd coat	High Built Epoxy(150 mic)	2nd coat	High Built Epoxy(150 mic)
3rd coat	Epoxy Glass Flake(250 mic)	3rd coat	Epoxy Glass Flake(250 mic)



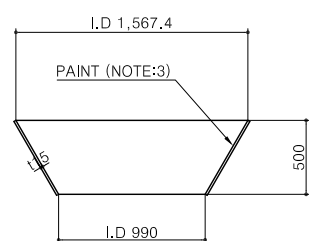
SECTION E



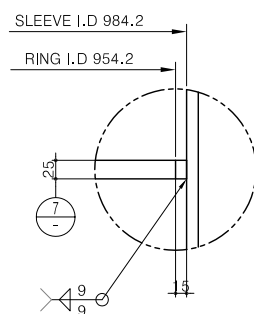
DETAIL 7



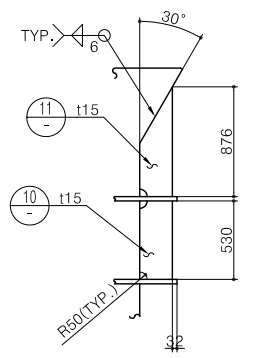
DETAIL 9



DETAIL 2



DETAIL B



16.05	AS BUILT					
16.01	FOR REVISION					
15.06	FOR CONSTRUCTION					
REV. DATE	DESCRIPTION	DRN	DGN	CK	RW	CL APP
김동철	이강진	조강주	이희규	정현욱		

울산 BUOY 이설공사



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BUOY & OIL PIPELINE
SLEEVE ASSEMBLY