

**ÉTUDE PRÉPARATOIRE POUR  
LE PROJET D'AMÉNAGEMENT DE  
L'ÉCHANGEUR D'AMITIE IVOIRO-JAPONAISE  
EN  
RÉPUBLIQUE DE CÔTE D'IVOIRE**

**PLANS DE CONCEPTION D'AVANT-PROJET**

**MAI 2015**

**JAPAN INTERNATIONAL COOPERATION AGENCY**

**ORIENTAL CONSULTANTS GLOBAL CO., LTD.**

**CENTRAL CONSULTANT INC.**

**ASIA AIR SURVEY CO., LTD.**

**AGENCE DE GESTION DES ROUTES  
MINISTÈRE DES INFRASTRUCTURES ÉCONOMIQUES  
RÉPUBLIQUE DE CÔTE D'IVOIRE**

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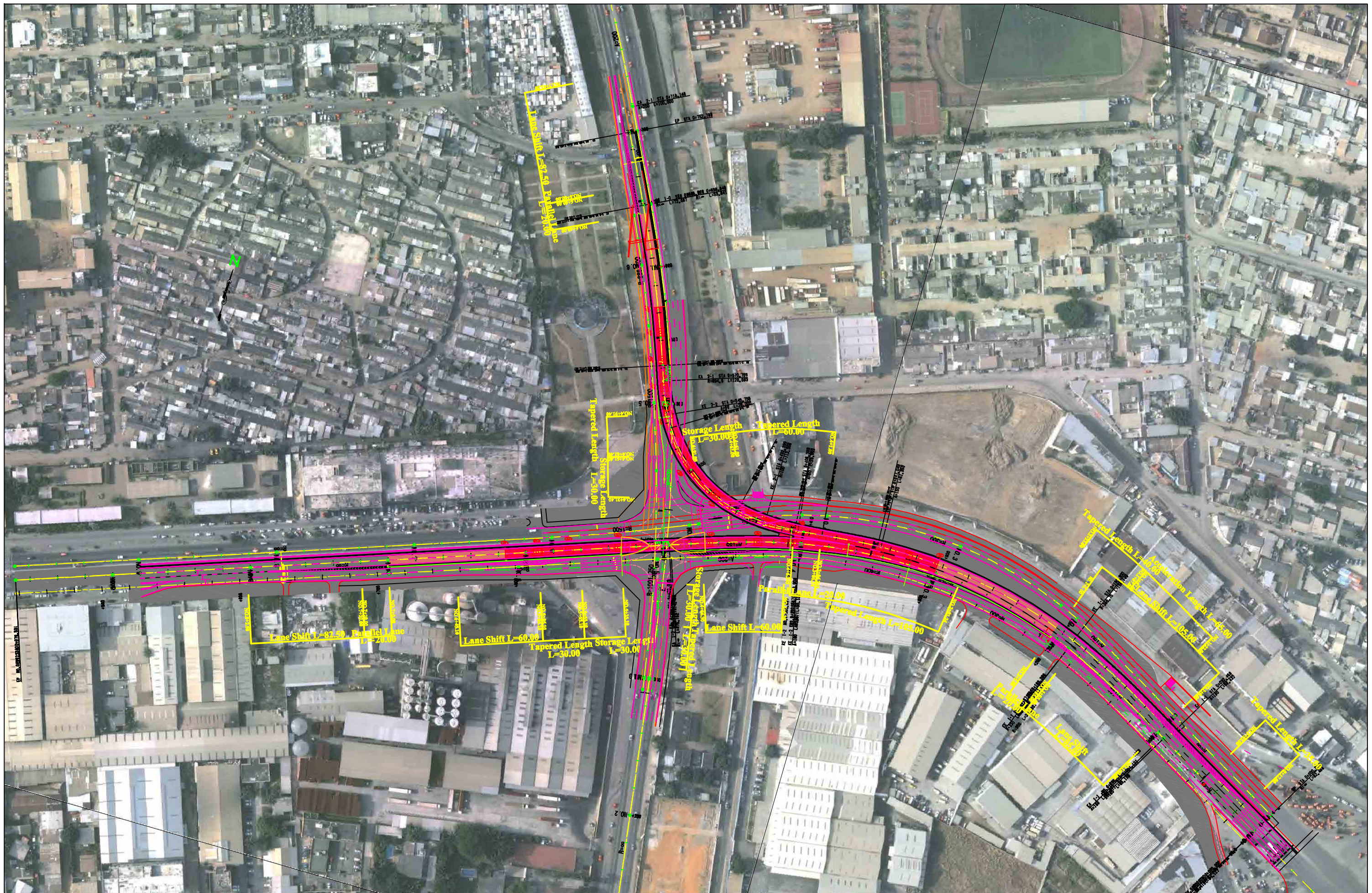
**JAPAN INTERNATIONAL COOPERATION AGENCY**

**ORIENTAL CONSULTANTS GLOBAL CO., LTD.**

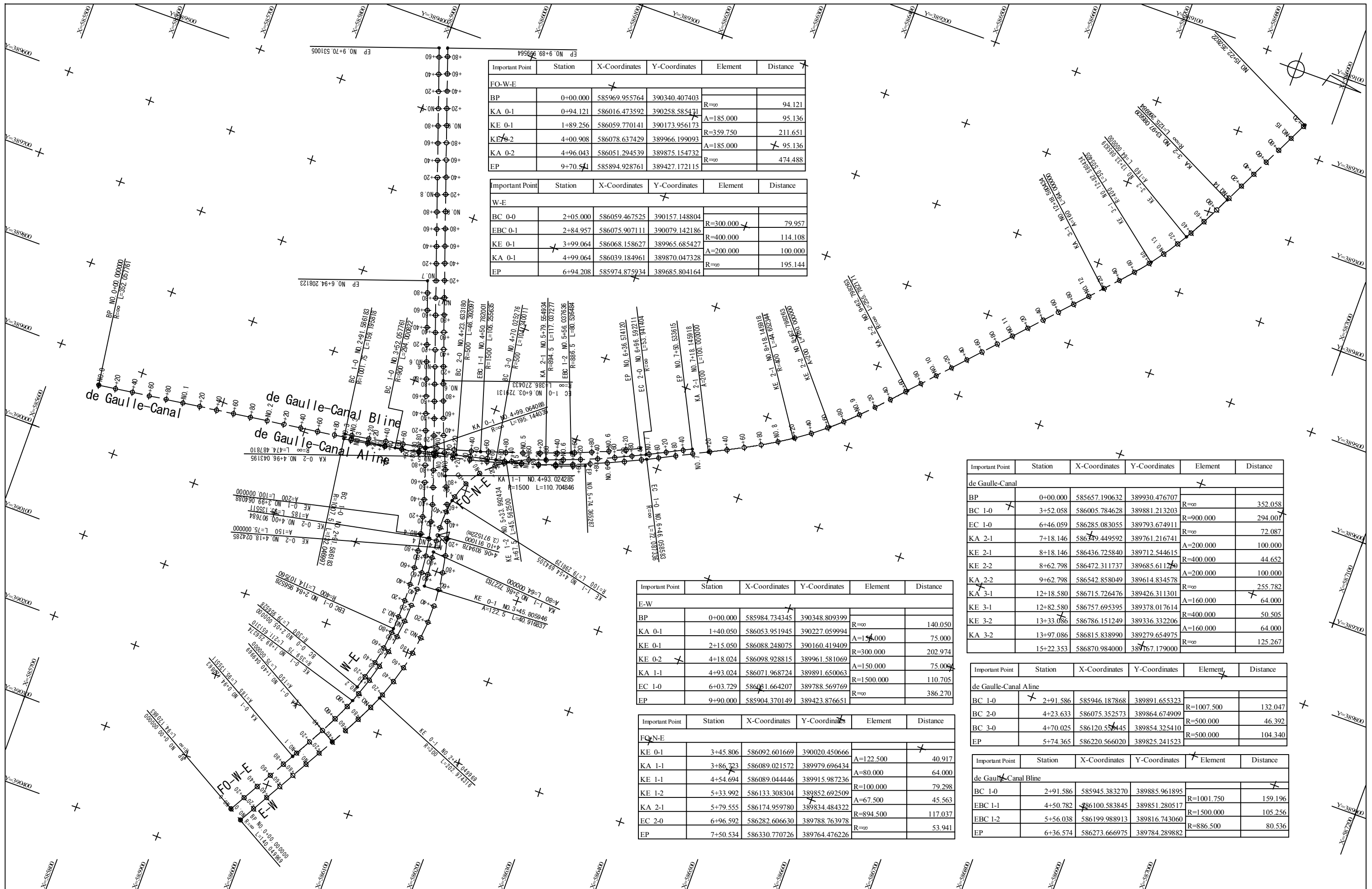
**CENTRAL CONSULTANT INC.**

**ASIA AIR SURVEY CO., LTD.**

Drawing Title	Scale (in A3)	Page	Remarks
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<p><b>CLIENT</b></p> <p><b>Japan International Cooperation Agency (JICA)</b></p>	<p>CLIENTS APPROVAL:</p>	<p>REVISION</p>	<p>DESCRIPTION</p>	<p>BY</p>	<p>DATE</p>	<p><b>CONSULTANT</b> The Consortium of <b>Oriental Consultants Global Co., Ltd., Central Consultant Inc., and Asia Air Survey Co., Ltd.</b></p>	<p><b>PROJECT</b> The Preparatory Survey for <b>Improvement of SOLIBRA Intersection</b> (Outline Design)</p>	<p><b>TITLE:</b> SOLIBRA Intersection Improvement Plan</p>	<p>Scale: 1:2500 (A3)</p>	<p>DESIGNED BY:</p>	<p>Drawing No: R-1 SHEET No:</p>
	<p>DIRECTOR RESPONSIBLE FOR DESIGN:</p>									<p>CHECKED BY:</p>	
	<p>SIGNATURE:      DATE:</p>									<p>APPROVED BY:</p>	
	<p>STAMP:</p>									<p>DATE:</p>	



Important Point	Station	X-Coordinates	Y-Coordinates	Element	Distance
FO-W-E					
BP	0+00.000	585969.955764	390340.407403	R=∞	94.121
KA 0-1	0+94.121	586016.473592	390258.585471	A=185.000	95.136
KE 0-1	1+89.256	586059.770141	390173.956173	R=359.750	211.651
KA 0-2	4+00.908	586078.637429	389966.199093	A=185.000	95.136
KA 0-2	4+96.043	586051.294539	389875.154732	R=∞	474.488
EP	9+70.574	585894.928761	389427.172115		

Important Point	Station	X-Coordinates	Y-Coordinates	Element	Distance
W-E					
BC 0-0	2+05.000	586059.467525	390157.148804	R=300.000	79.957
EBC 0-1	2+84.957	586075.907111	390079.142186	R=400.000	114.108
KA 0-1	4+99.064	586039.184961	389870.047328	A=200.000	100.000
EP	6+94.208	585974.875934	389685.804164	R=∞	195.144

Important Point	Station	X-Coordinates	Y-Coordinates	Element	Distance
de Gaulle-Canal					
BP	0+00.000	585657.190632	389930.476707	R=∞	352.058
BC 1-0	3+52.058	586005.784628	389881.213203	R=900.000	294.001
EC 1-0	6+46.059	586285.083055	389793.674911	R=∞	72.087
KA 2-1	7+18.146	586349.449592	389761.216741	A=200.000	100.000
KE 2-1	8+18.146	586436.725840	389712.544615	R=400.000	44.652
KE 2-2	8+62.798	586472.311737	389685.611276	A=200.000	100.000
KA 2-2	9+62.798	586542.858049	389614.834578	R=∞	255.782
KA 3-1	12+18.580	586715.726476	389426.311301	A=160.000	64.000
KE 3-1	12+82.580	586757.695395	389378.017614	R=400.000	50.505
KE 3-2	13+33.086	586786.151249	389336.332206	A=160.000	64.000
KA 3-2	13+97.086	586815.838990	389279.654975	R=∞	125.267
	15+22.353	586870.984000	389167.179000		

Important Point	Station	X-Coordinates	Y-Coordinates	Element	Distance
de Gaulle-Canal Aline					
BC 1-0	2+91.586	585946.187868	389891.655323	R=1007.500	132.047
BC 2-0	4+23.633	586075.352573	389864.674909	R=500.000	46.392
BC 3-0	4+70.025	586120.558445	389854.325410	R=500.000	104.340
EP	5+74.365	586220.566020	389825.241523		

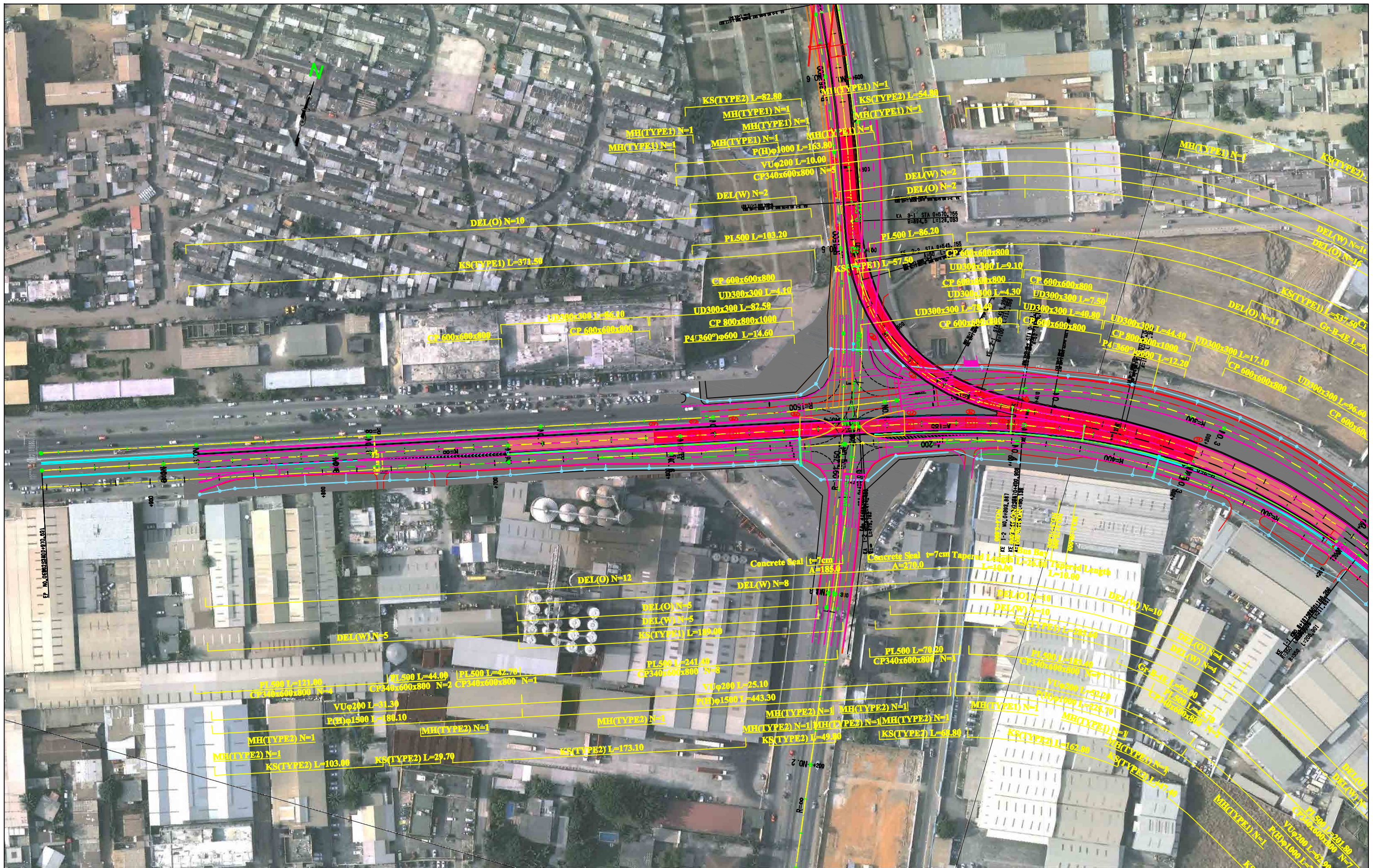
Important Point	Station	X-Coordinates	Y-Coordinates	Element	Distance
de Gaulle-Canal Bline					
BC 1-0	2+91.586	585945.383270	389885.961895	R=1001.750	159.196
EBC 1-1	4+50.782	586100.583845	389851.280517	R=1500.000	105.256
EBC 1-2	5+56.038	586199.988913	389816.743060	R=886.500	80.536
EP	6+36.574	586273.666975	389784.289882		

Important Point	Station	X-Coordinates	Y-Coordinates	Element	Distance
E-W					
BP	0+00.000	585984.734345	390348.809399	R=∞	140.050
KA 0-1	1+40.050	586053.951945	390227.059994	A=150.000	75.000
KE 0-1	2+15.050	586088.248075	390160.419409	R=300.000	202.974
KE 0-2	4+18.024	586098.928815	389961.581069	A=150.000	75.000
KA 1-1	4+93.024	586071.968724	389891.650063	R=1500.000	110.705
EC 1-0	6+03.729	586061.664207	389788.569769	R=∞	386.270
EP	9+90.000	585904.370149	389423.876651		

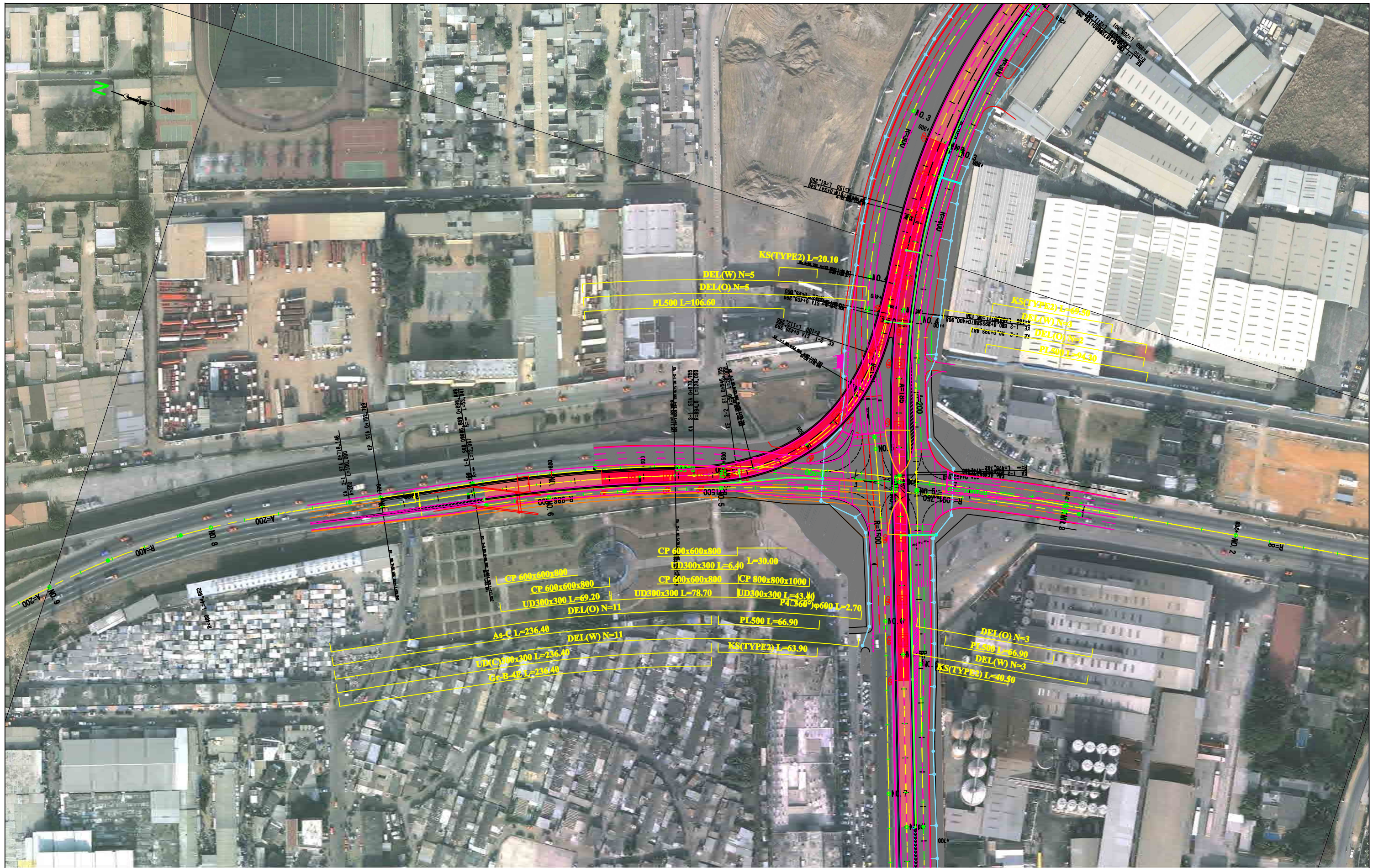
Important Point	Station	X-Coordinates	Y-Coordinates	Element	Distance
FO-N-E					
KE 0-1	3+45.806	586092.601669	390020.450666	A=122.500	40.917
KA 1-1	3+86.723	586089.021572	389979.696434	A=80.000	64.000
KE 1-1	4+54.694	586089.044446	389915.987236	R=100.000	79.298
KE 1-2	5+33.992	586133.308304	389852.692509	A=67.500	45.563
KA 2-1	5+79.555	586174.959780	389834.484322	R=894.500	117.037
EC 2-0	6+96.592	586282.606630	389788.763978	R=∞	53.941
EP	7+50.534	586330.770726	389764.476226		

	CLIENT APPROVAL:	REVISION	DESCRIPTION	BY	DATE	<b>CONSULTANT</b> The Consortium of <b>Oriental Consultants Global Co., Ltd.,</b> <b>Central Consultant Inc.,</b> and <b>Asia Air Survey Co., Ltd.</b>	<b>PROJECT</b> The Preparatory Survey for <b>Improvement of SOLIBRA Intersection</b> (Outline Design)	TITLE: Horizontal Alignment Plan	Scale: 1:4000 (A3)	DESIGNED BY:		Drawing No:R-2 SHEET No:
	DIRECTOR RESPONSIBLE FOR DESIGN:									CHECKED BY:		
	SIGNATURE: DATE:									APPROVED BY:		
	STAMP:									DATE:		





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	DIRECTOR RESPONSIBLE FOR DESIGN:									DRAWN BY:		
	SIGNATURE:      DATE:									CHECKED BY:		
	STAMP:									APPROVED BY:		
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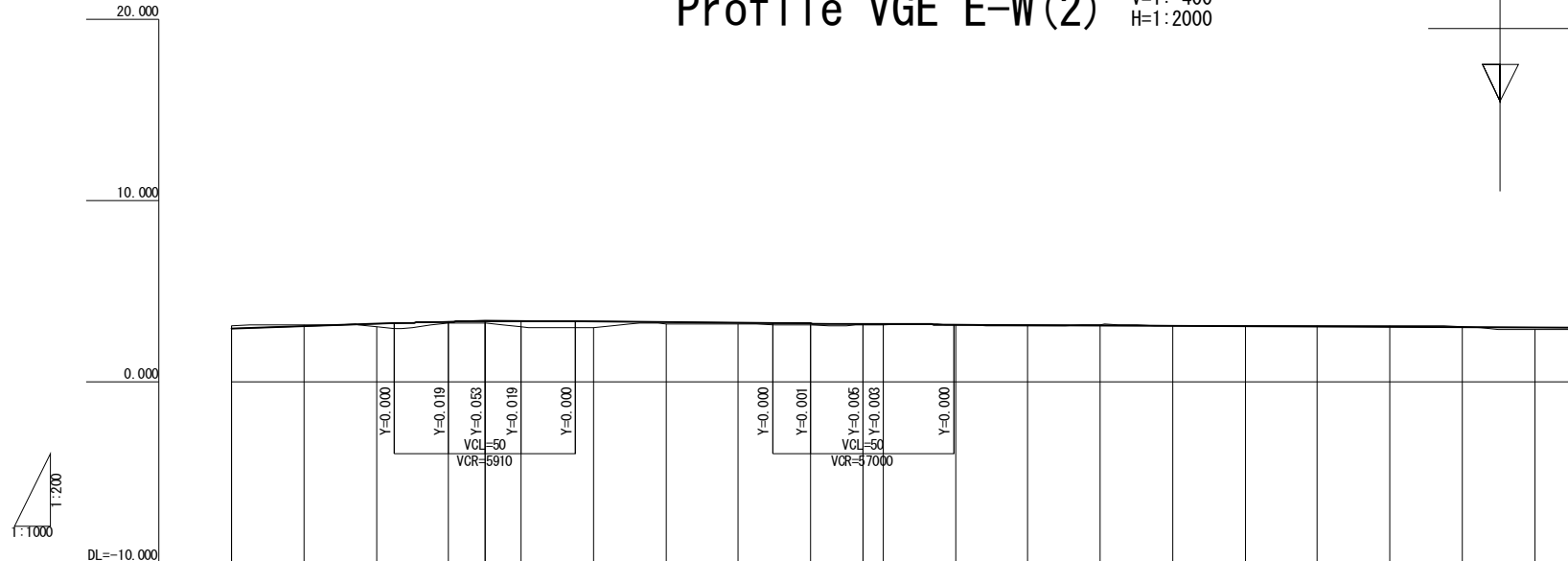
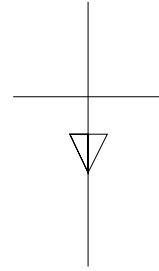


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	DIRECTOR RESPONSIBLE FOR DESIGN:									DRAWN BY:		
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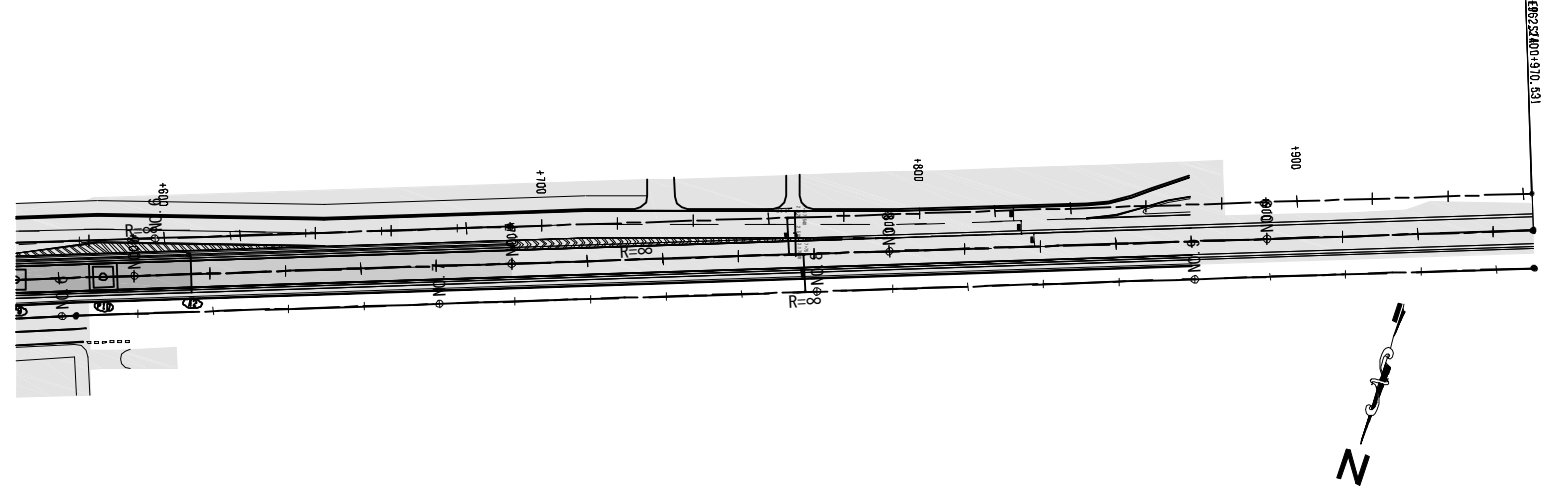




# Profile VGE E-W(2) V=1: 400 H=1:2000



Slope																						
Filling			0.145	0.075	0.096	0.340	0.359	0.079	0.059	0.090	0.065	0.037	0.011	0.029	0.014		0.082	0.061				
Cutting	0.154	0.084											0.044	0.008	0.021	0.063	0.046					
Proposed Level	2.926	3.056	3.185	3.295	3.326	3.340	3.319	3.279	3.239	3.200	3.175	3.167	3.141	3.119	3.096	3.074	3.052	3.029	3.007	2.984	2.962	2.951
Existing Level	3.08	3.14	3.04	3.22	3.23	3.00	2.96	3.20	3.18	3.11	3.11	3.13	3.13	3.09	3.14	3.06	3.06	3.05	3.07	3.03	2.88	2.89
Accumulated Length	620.000	640.000	660.000	680.000	690.000	700.000	720.000	740.000	760.000	780.000	794.489	800.000	820.000	840.000	860.000	880.000	900.000	920.000	940.000	960.000	980.000	990.000
Station	+20.000	+40.000	+60.000	+80.000	+90.000	NO.7	+20.000	+40.000	+60.000	+80.000	+94.489	NO.8	+20.000	+40.000	+60.000	+80.000	NO.9	+20.000	+40.000	+60.000	+80.000	EP
Alignment	R=∞ L=386.270																					
Super-Elevation																						



CLIENT  
 Japan International Cooperation Agency (JICA)

CLIENTS APPROVAL:	REVISION	DESCRIPTION	BY	DATE
DIRECTOR RESPONSIBLE FOR DESIGN:				
SIGNATURE:      DATE:				
STAMP:				

CONSULTANT  
 The Consortium of  
**Oriental Consultants Global Co., Ltd.**  
**Central Consultant Inc.**  
 and  
**Asia Air Survey Co., Ltd.**

PROJECT  
 The Preparatory Survey for  
**Improvement of SOLIBRA Intersection**  
 (Outline Design)

TITLE:  
 Profile of Boulevard Valéry  
 Giscard d'Estaing (VGE) (2/2)

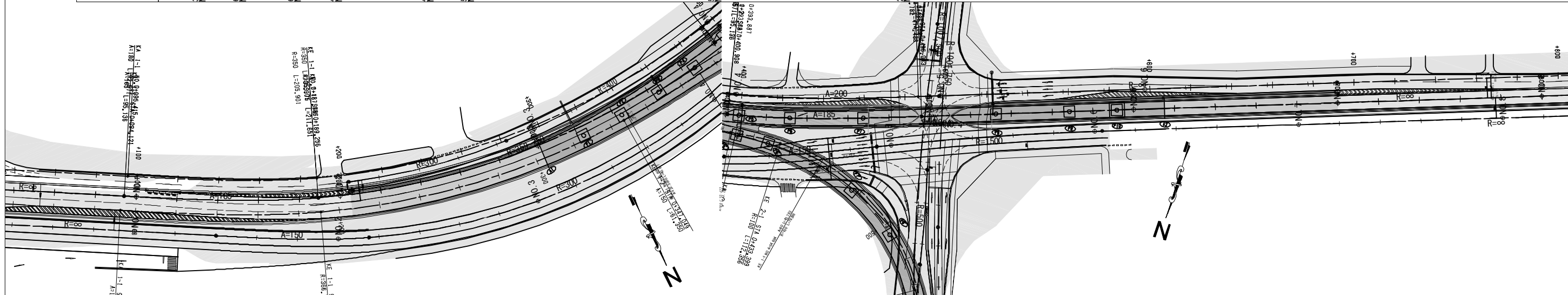
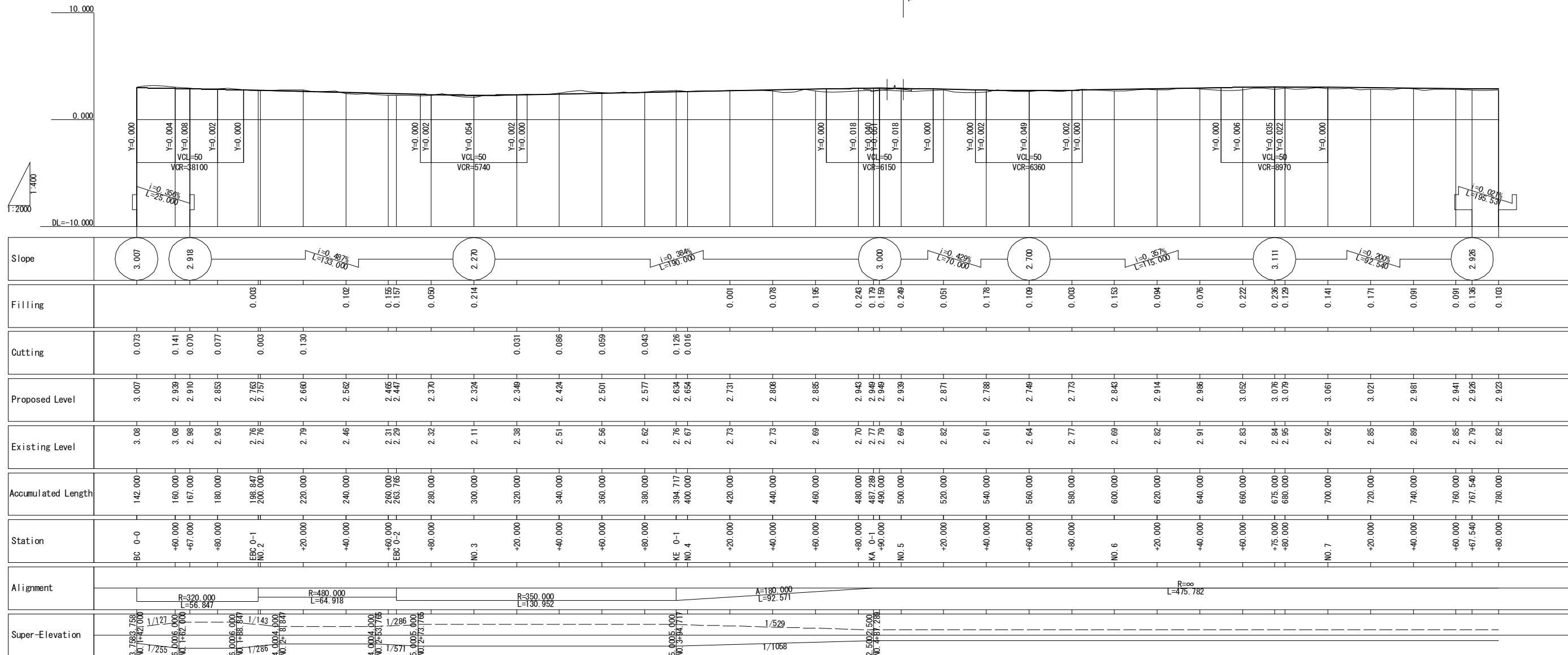
Scale:  
 H=1:2000  
 V=1:400 (A3)

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
DATE:	

Drawing No:R-7  
 SHEET No:

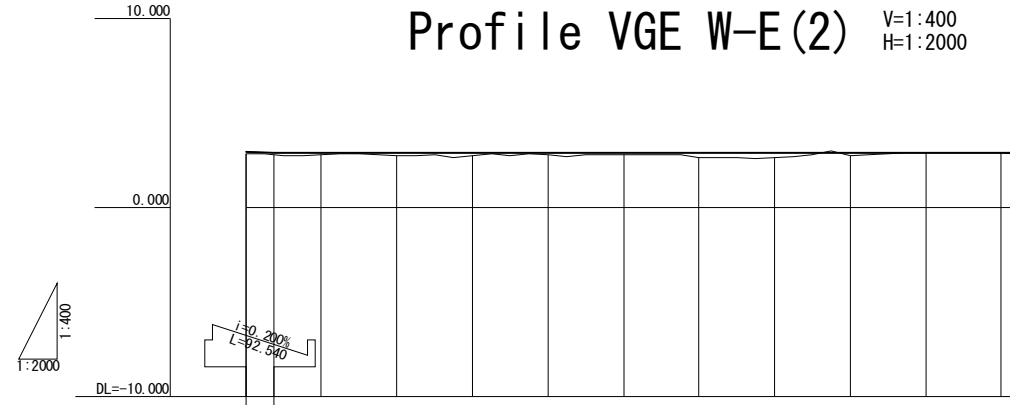
# Profile VGE W-E(1) V=1:400 H=1:2000

De Gaulle - Canal Aline  
NO. 4-93.510  
De Gaulle - Canal Bline  
NO. 5- 1.048

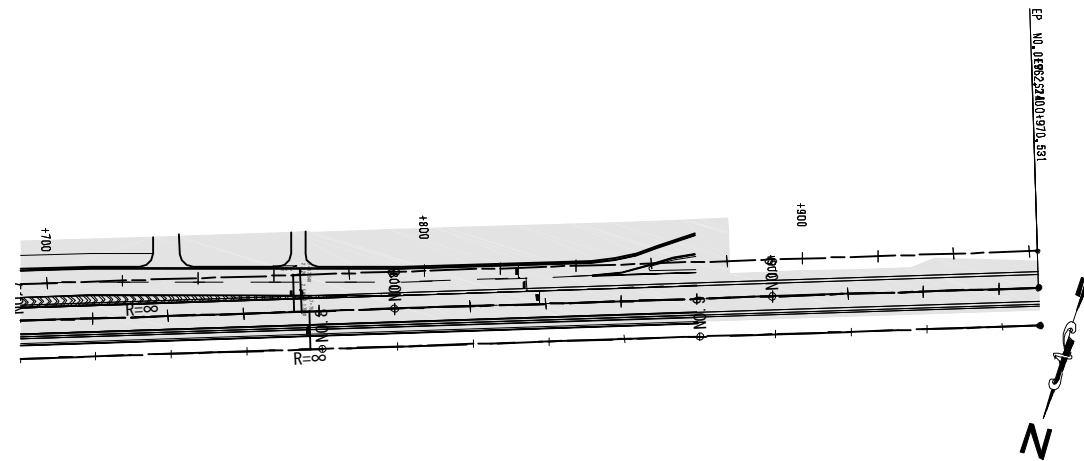


<b>Japan International Cooperation Agency (JICA)</b>	CLIENTS APPROVAL:	REVISION	DESCRIPTION	BY	DATE	<b>CONSULTANT</b> The Consortium of <b>Oriental Consultants Global Co., Ltd.,</b> <b>Central Consultant Inc.,</b> and <b>Asia Air Survey Co., Ltd.</b>	<b>PROJECT</b> The Preparatory Survey for <b>Improvement of SOLBRA Intersection</b> (Outline Design)	<b>TITLE:</b> Profile of Boulevard Valéry Giscard d'Estaing (VGE) (1/2)	Scale: H=1:2000 V=1:400 (A3)	DESIGNED BY:		Drawing No: R-8 SHEET No:
	DIRECTOR RESPONSIBLE FOR DESIGN:									CHECKED BY:		
	SIGNATURE:      DATE:									APPROVED BY:		
	STAMP:									DATE:		

# Profile VGE W-E(2) V=1:400 H=1:2000



Slope												
Filling	0.091	0.136	0.103	0.188	0.145	0.101	0.087	0.233	0.259	0.135	0.016	0.016
Cutting											0.030	0.004
Proposed Level	2.941	2.926	2.925	2.919	2.915	2.911	2.907	2.903	2.899	2.895	2.890	2.886
Existing Level	2.85	2.79	2.82	2.73	2.77	2.81	2.82	2.67	2.64	2.76	2.92	2.89
Accumulated Length	760.000	767.540	780.000	800.000	820.000	840.000	860.000	880.000	900.000	920.000	940.000	960.000
Station	+60.000	+67.540	+80.000	NO. 8	+20.000	+40.000	+60.000	+80.000	NO. 9	+20.000	+40.000	+60.000
Alignment	$R=\infty$ $L=475.782$											
Super-Elevation	-----											



CLIENT  
 Japan International Cooperation Agency (JICA)

CLIENTS APPROVAL:		REVISION	DESCRIPTION	BY	DATE
DIRECTOR RESPONSIBLE FOR DESIGN:					
SIGNATURE:	DATE:				
STAMP:					

CONSULTANT  
 The Consortium of  
**Oriental Consultants Global Co., Ltd.,**  
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 and  
**Asia Air Survey Co., Ltd.**

PROJECT  
 The Preparatory Survey for  
**Improvement of SOLIBRA Intersection**  
 (Outline Design)

TITLE:  
 Profile of Boulevard Valéry  
 Giscard d'Estaing (VGE) (2/2)

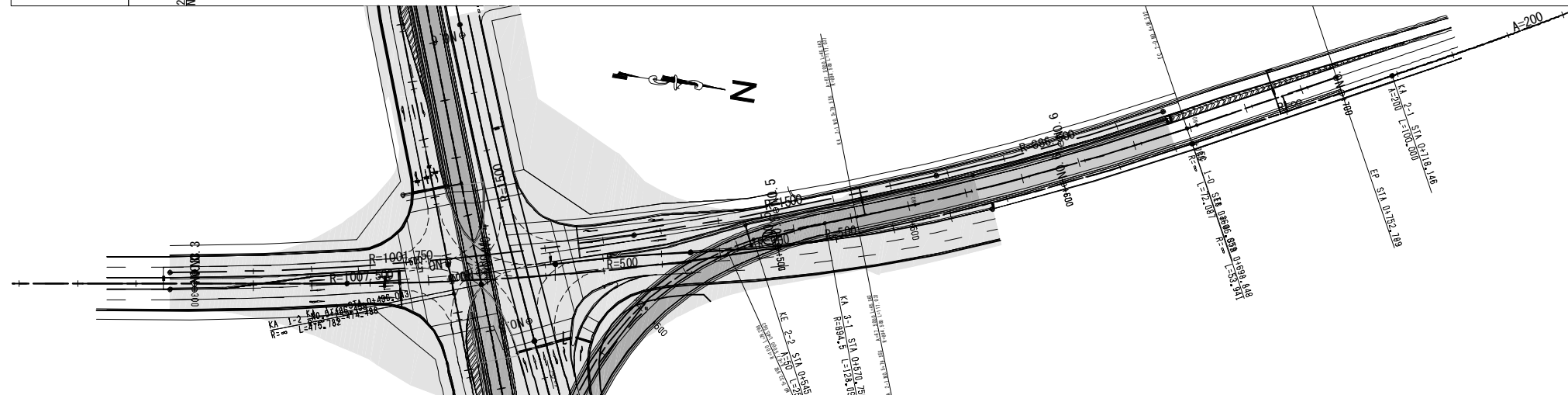
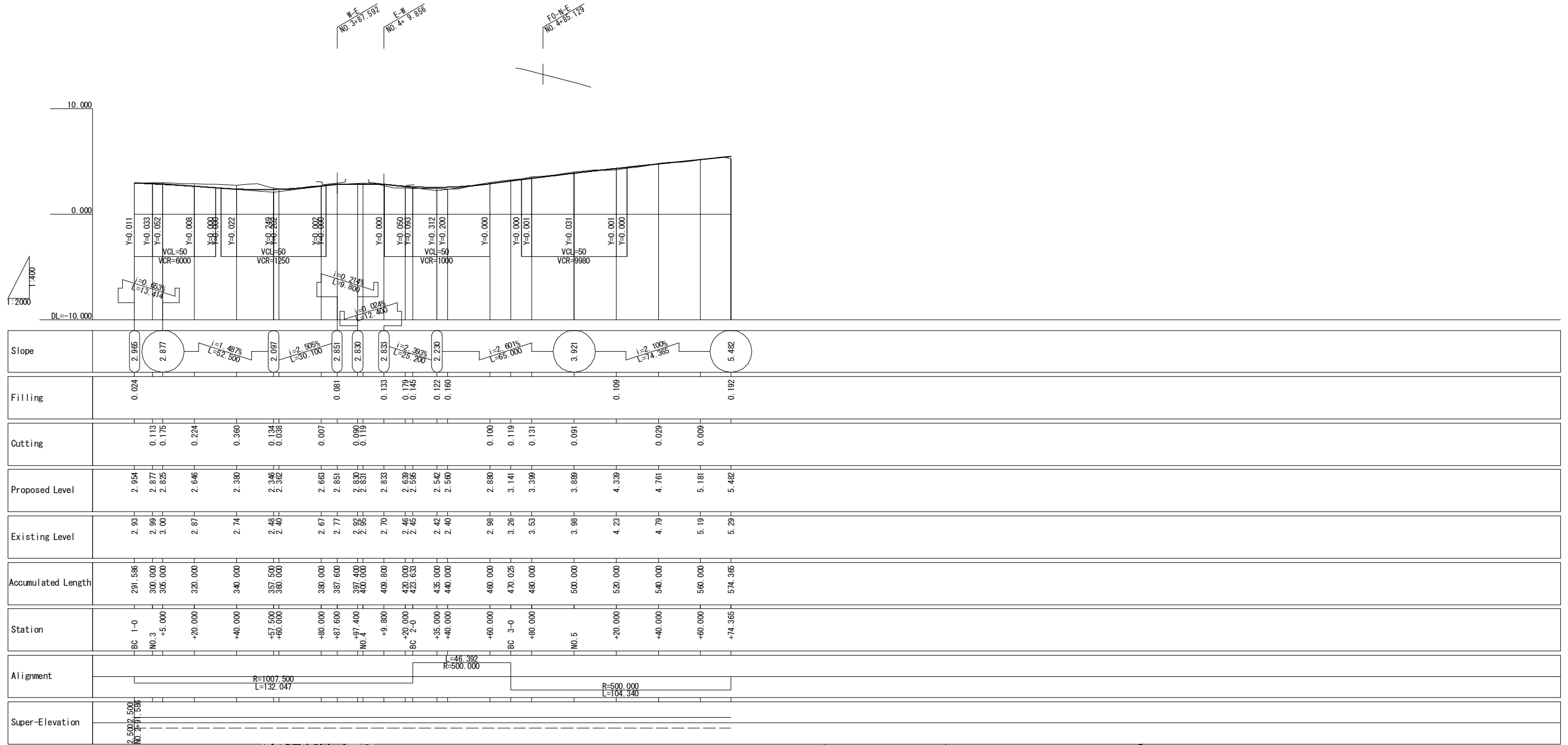
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DESIGNED BY:			
DRAWN BY:			
CHECKED BY:			
APPROVED BY:			
DATE:			

Drawing No: R-9  
 SHEET No:

# Profile of De Gaulle - Canal A Line

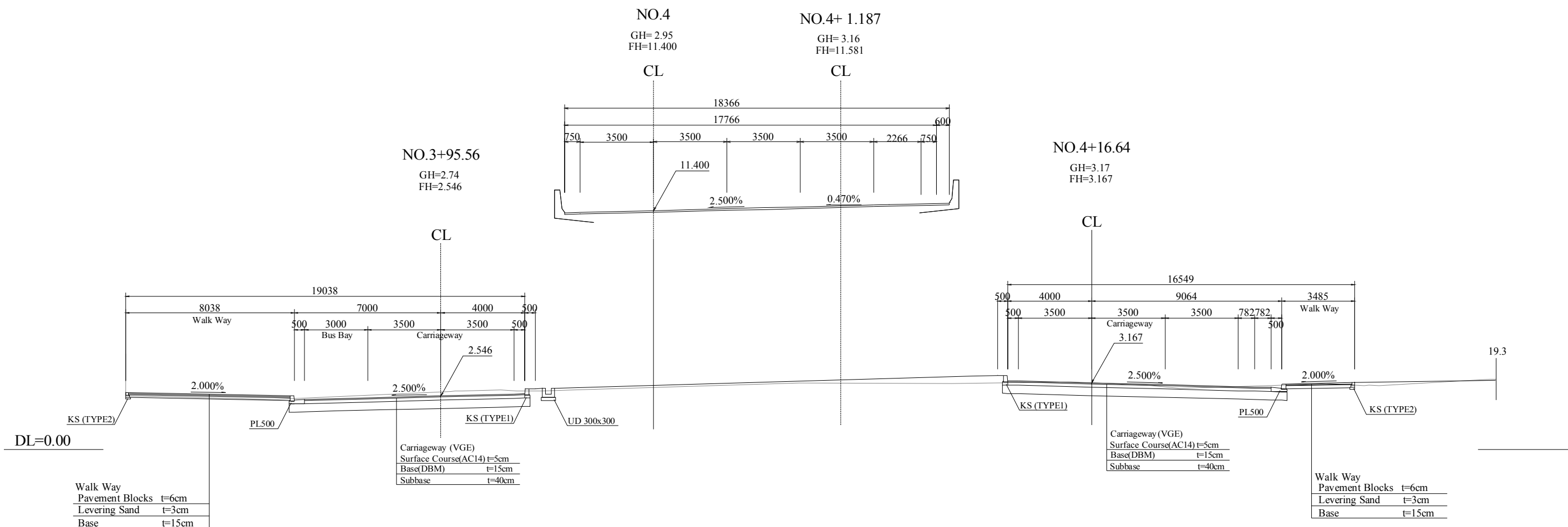
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H=1: 2000



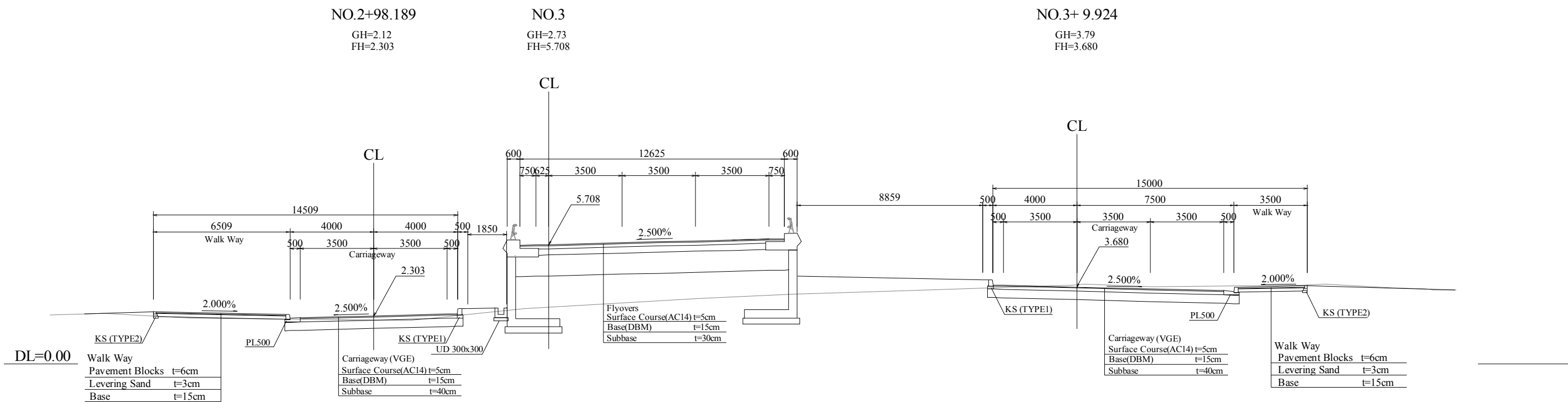
<b>Japan International Cooperation Agency (JICA)</b>	CLIENT APPROVAL:	REVISION	DESCRIPTION	BY	DATE	<b>CONSULTANT</b> The Consortium of <b>Oriental Consultants Global Co., Ltd.,</b> <b>Central Consultant Inc.,</b> and <b>Asia Air Survey Co., Ltd.</b>	_PROJECT_ The Preparatory Survey for <b>Improvement of SOLIBRA Intersection</b> (Outline Design)	TITLE: Profile of De Gaulle - Canal A Line	Scale: H=1:2000 V=1:400 (A3)	DESIGNED BY:		Drawing No: R-10 SHEET No:
	DIRECTOR RESPONSIBLE FOR DESIGN:									CHECKED BY:		
	SIGNATURE:      DATE:									APPROVED BY:		
	STAMP:									DATE:		



## Bridge Section(VGE)



## Wall Section(VGE)

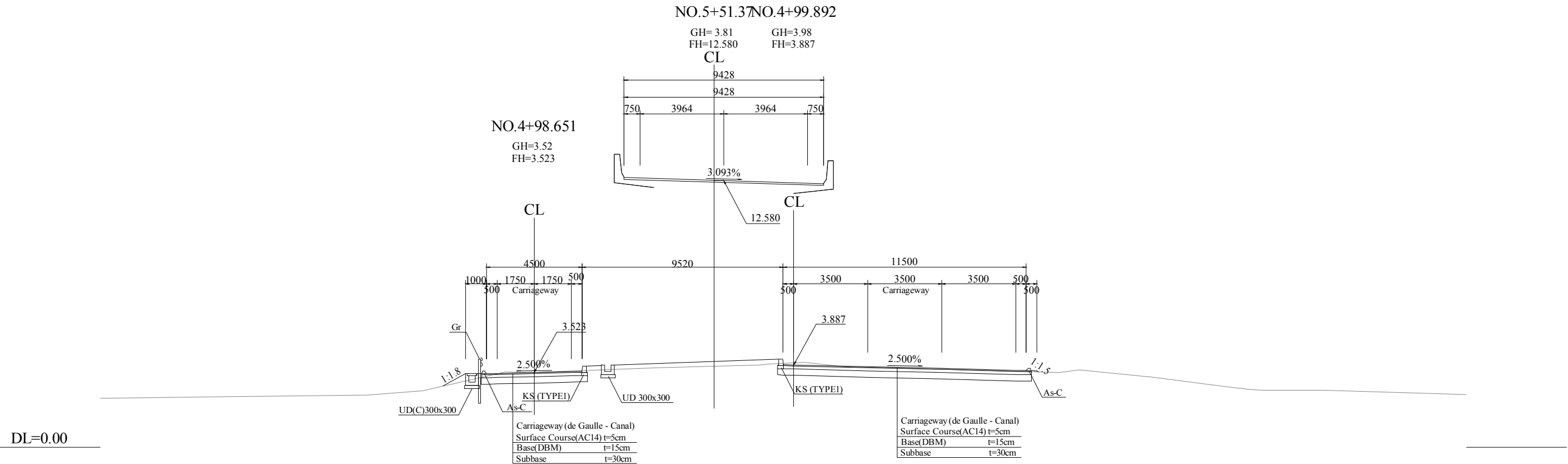


<b>Japan International Cooperation Agency (JICA)</b>	CLIENTS APPROVAL:	REVISION	DESCRIPTION	BY	DATE	<b>CONSULTANT</b> The Consortium of <b>Oriental Consultants Global Co., Ltd.,                  Central Consultant Inc.,                  and                  Asia Air Survey Co., Ltd.</b>	<b>PROJECT</b> The Preparatory Survey for <b>Improvement of SOUBRA Intersection</b> (Outline Design)	TITLE: Typical Cross Section (VGE)(1/2)	Scale: 1:400 (A3)	DESIGNED BY:					
	DIRECTOR RESPONSIBLE FOR DESIGN:														
	SIGNATURE:      DATE:														
	STAMP:														
											Drawing No.:R-12				
											SHEET No:				

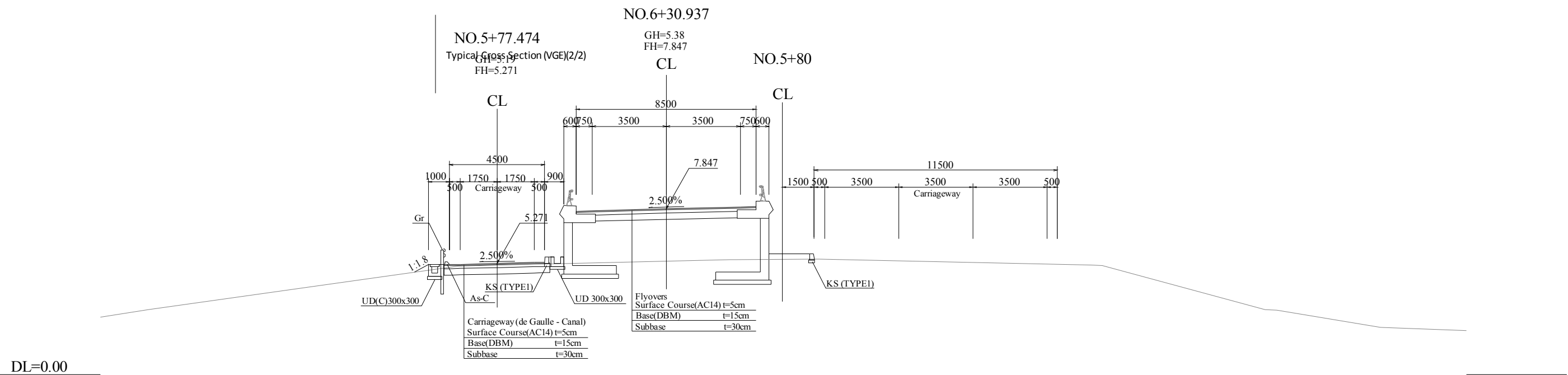




## Bridge Section(de Gaulle - Canal)



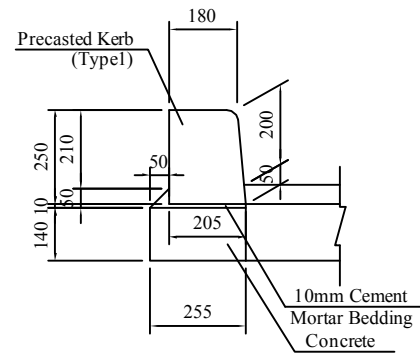
## Wall Section(de Gaulle - Canal)



CLIENT Japan International Cooperation Agency (JICA)	CLIENTS APPROVAL:	REVISION	DESCRIPTION	BY	DATE	CONSULTANT The Consortium of Oriental Consultants Global Co., Ltd., Central Consultant Inc., and Asia Air Survey Co., Ltd.	PROJECT The Preparatory Survey for Improvement of SOUBRA Intersection (Outline Design)	TITLE: Typical Cross Section (de Gaulle - Canal) (1/2)	Scale: 1:400 (A3)	DESIGNED BY:			Drawing No: R-14 SHEET No:
	DIRECTOR RESPONSIBLE FOR DESIGN:									CHECKED BY:			
	SIGNATURE:      DATE:									APPROVED BY:			
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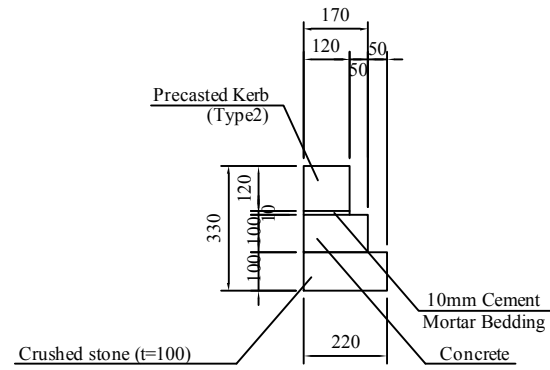
KS(TYPE1) Scale 1:20



MATERIALS LIST PER 10m

ITEM	STANDARD	UNIT	QUANTITY	REMARK
Concrete	$\sigma_{ck}=18\text{MPa}$	cu.m	0.357	
Form		sq.m	2.800	
Cement mortar	1:3	cu.m	0.033	
Precasted kerb	Type1	nos	16.7	

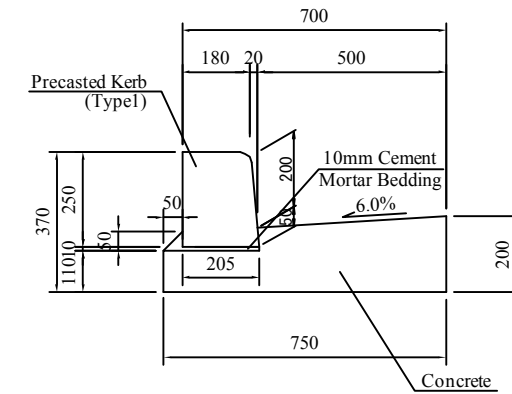
KS(TYPE2) Scale 1:20



MATERIALS LIST PER 10m

ITEM	STANDARD	UNIT	QUANTITY	REMARK
Concrete	$\sigma_{ck}=18\text{MPa}$	cu.m	0.170	
Form		sq.m	2.000	
Cement mortar	1:3	cu.m	0.012	
Precasted kerb	Type2	nos	16.7	
Crushed stone	t=100mm	cu.m	0.220	

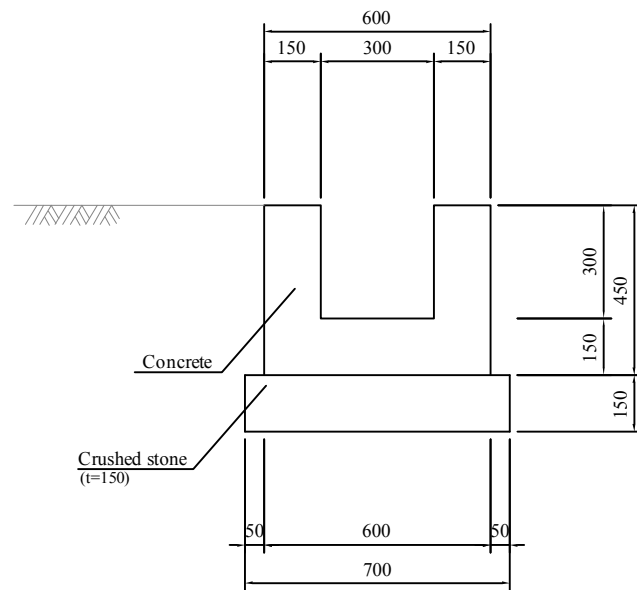
PL500 Scale 1:20



MATERIALS LIST PER 10m

ITEM	STANDARD	UNIT	QUANTITY	REMARK
Concrete	$\sigma_{ck}=18\text{MPa}$	cu.m	1.145	
Form		sq.m	3.100	
Cement mortar	1:3	cu.m	0.033	
Precasted kerb	Type1	nos	16.7	

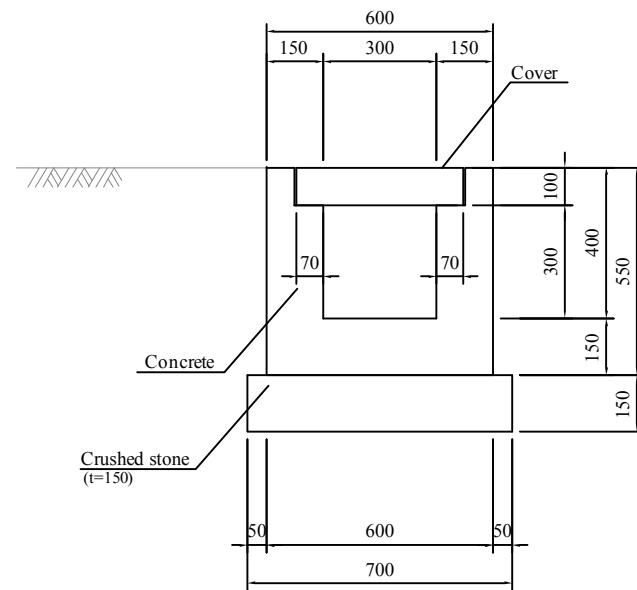
UD300x300 Scale 1:20



MATERIALS LIST PER 10m

ITEM	STANDARD	UNIT	QUANTITY	REMARK
Concrete	$\sigma_{ck}=18\text{MPa}$	cu.m	1.800	
Form		sq.m	15.000	
Crushed stone	t=150	cu.m	1.050	

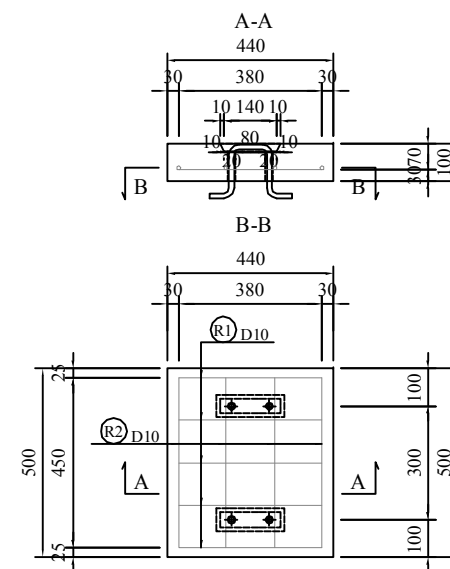
UD(C)300x300 Scale 1:20



MATERIALS LIST PER 10m

ITEM	STANDARD	UNIT	QUANTITY	REMARK
Concrete	$\sigma_{ck}=18\text{MPa}$	cu.m	1.950	
Form		sq.m	19.000	
Crushed stone	t=150	cu.m	1.050	
Cover	300x300	nos	20	

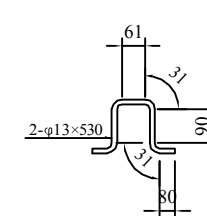
(Cover)



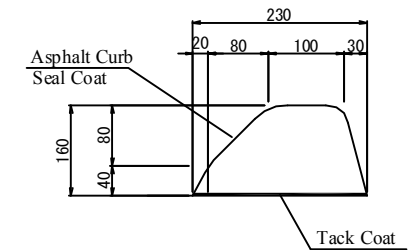
MATERIALS LIST(Cover) PER Each

CLASSIFICATION	STANDARD	UNIT	QUANTITY	REMARK
CONCRETE	$\sigma_{ck}=18\text{MPa}$	cu.m	0.022	
FORM		sq.m	0.408	
REINFORCED	D10, $\phi 13$	kg	3.174	

Handle



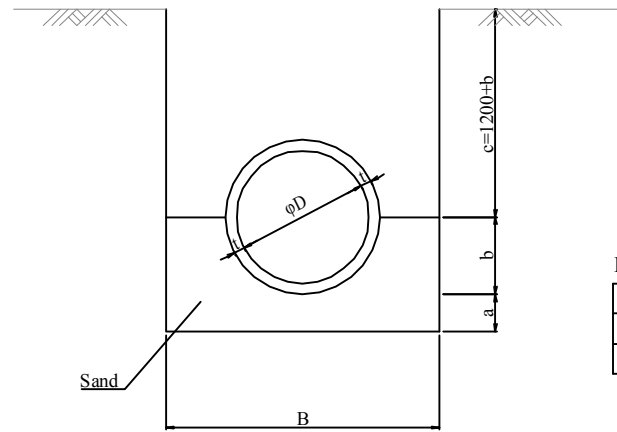
As-C Scale 1:10



MATERIALS LIST PER 10m

ITEM	STANDARD	UNIT	QUANTITY	REMARK
Asphalt Curb		cu.m	0.300	
Seal Coat		sq.m	4.600	
Tack Coat		sq.m	2.300	

P(H) φ1000  
P(H) φ1500



DIMENSION LIST

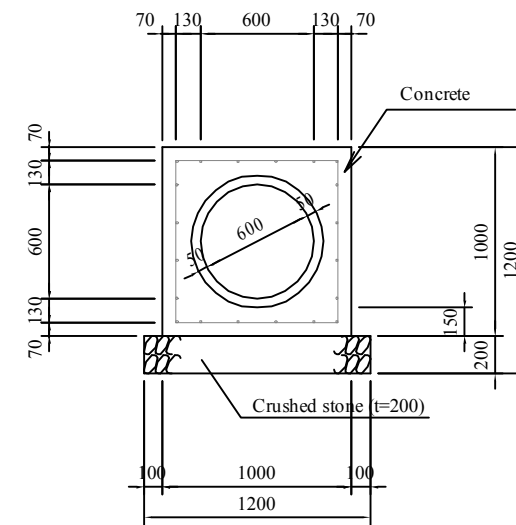
D	t	B	a	b	c
1000	82	2050	200	582	1782
1500	140	2650	200	890	2090

MATERIAL LIST

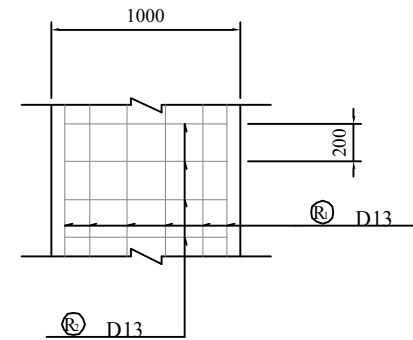
ITEM	STANDARD	UNIT	QUANTITY		REMARKS
			φ1000	φ1500	
Pipe Culvert	φ1000 (L=2430)	nos.	4.1	—	
	φ1500 (L=2430)	nos.	—	4.1	
Filling Material	Sand	cu.m	10.710	16.443	

PER 10m

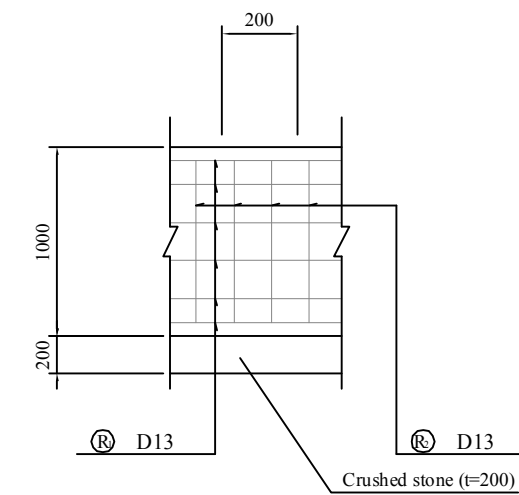
P4 φ600 Scale 1:40



(SKY VIEW)



(SIDE VIEW)

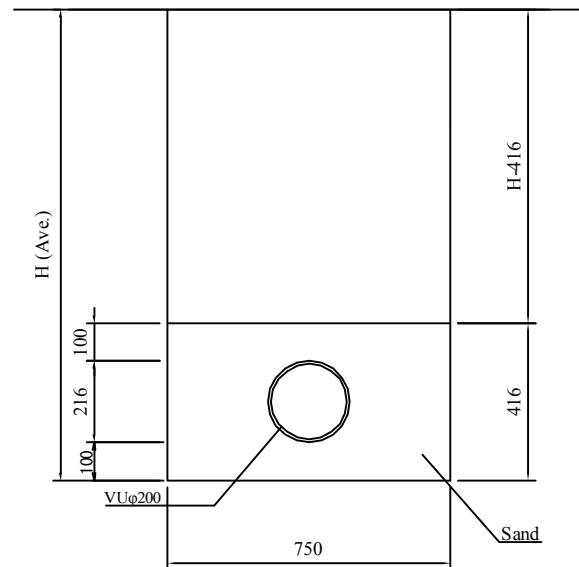


MATERIALS LIST

ITEM	STANDARD	UNIT	QUANTITY	REMARK
Pipe Culvert	φ600		4.6	
Concrete	σ <sub>ck</sub> =18MPa	cu.m	6.152	
Form		sq.m	20.000	
Crushed stone	t=200	cu.m	2.400	
Reinforced	D13	kg	416.905	

PER 10 m

VUφ200 Scale 1:20



MATERIAL LIST (MULTI CELL TYPE)

ITEM	STANDARD	UNIT	QUANTITY	REMARKS
Pipe	VUφ200	m	10.000	
Filling Material	Sand	cu.m	2.754	

PER 10m

CLIENT  
**Japan International Cooperation Agency (JICA)**

CLIENTS APPROVAL:	REVISION	DESCRIPTION	BY	DATE
DIRECTOR RESPONSIBLE FOR DESIGN:				
SIGNATURE: DATE:				
STAMP:				

CONSULTANT  
The Consortium of  
**Oriental Consultants Global Co., Ltd.,  
Central Consultant Inc.,  
and  
Asia Air Survey Co., Ltd.**

PROJECT  
The Preparatory Survey for  
**Improvement of SOLIBRA Intersection**  
(Outline Design)

TITLE:  
Road Structure Details (2/4)

Scale:  
As Shown (A3)

DESIGNED BY:			
DRAWN BY:			
CHECKED BY:			
APPROVED BY:			
DATE:			

Drawing No: R-17  
SHEET No:

CP 340x600x800

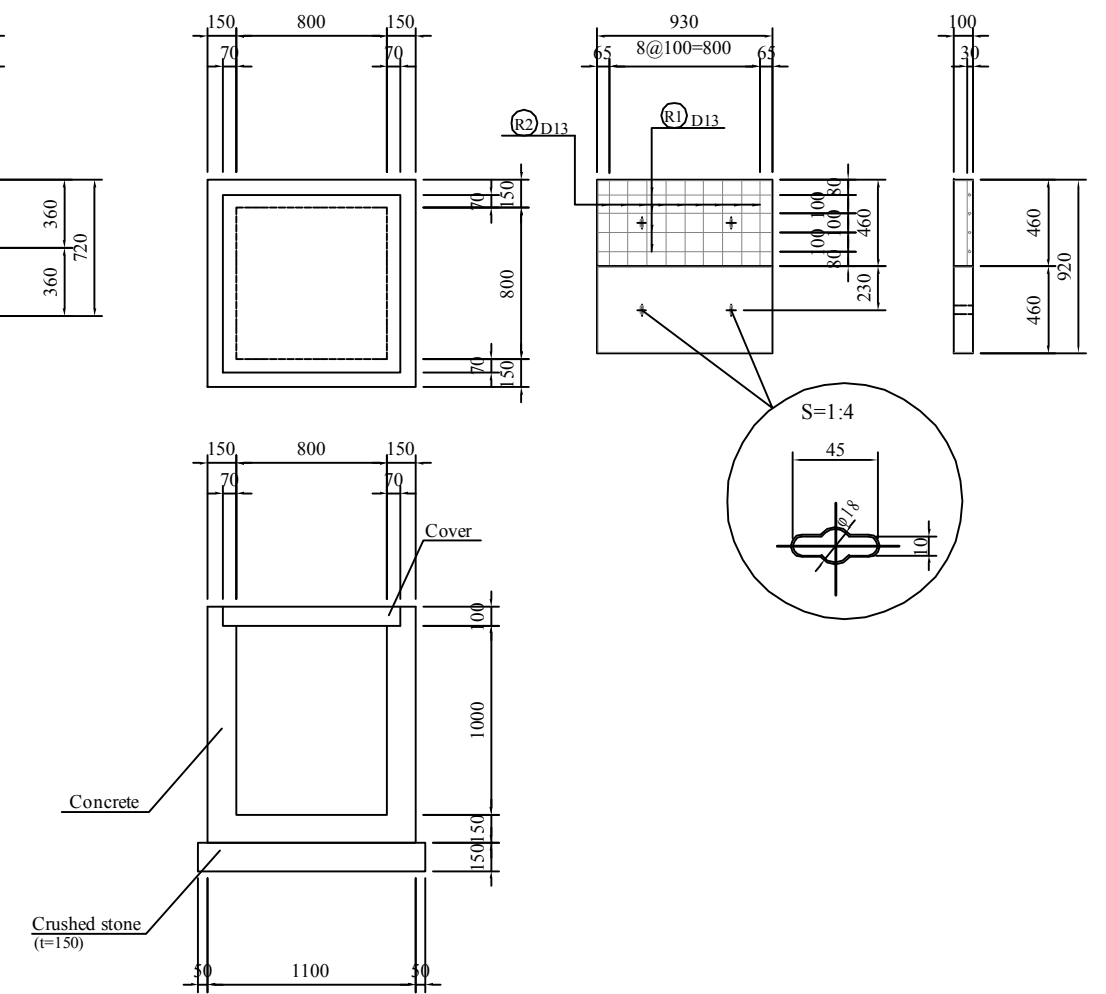
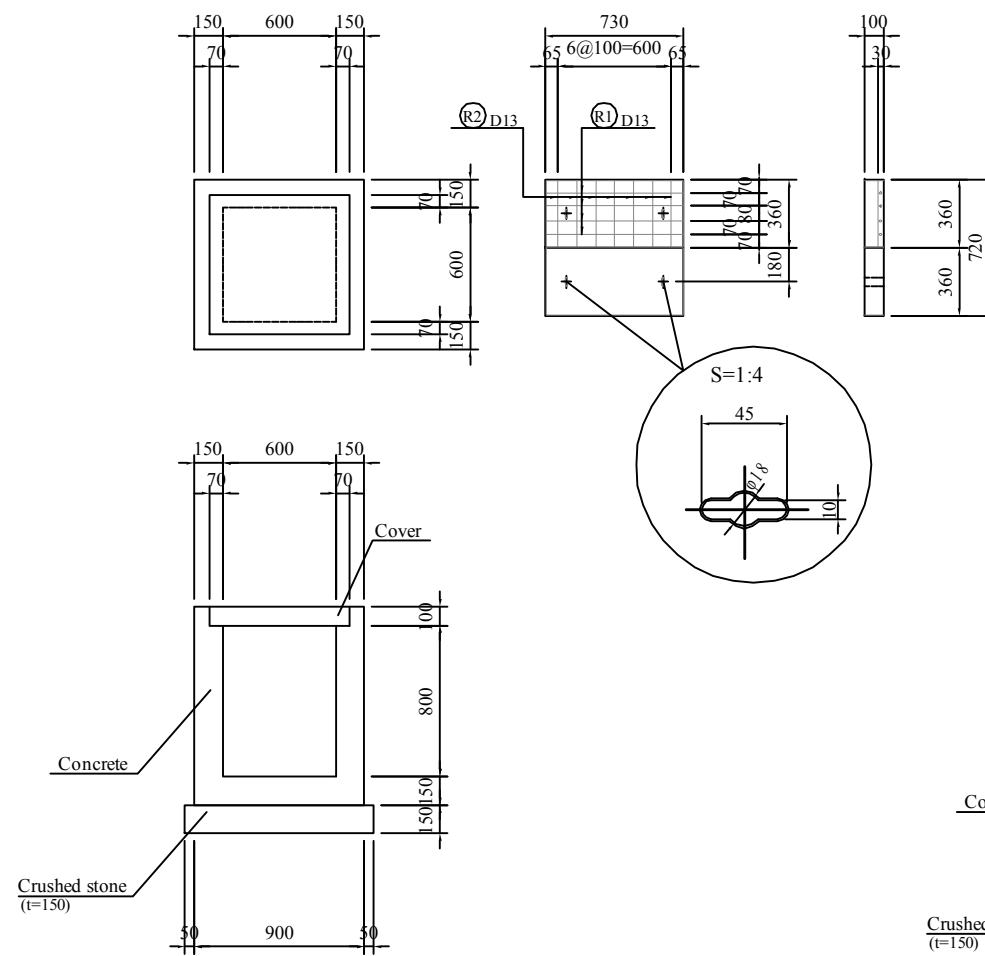
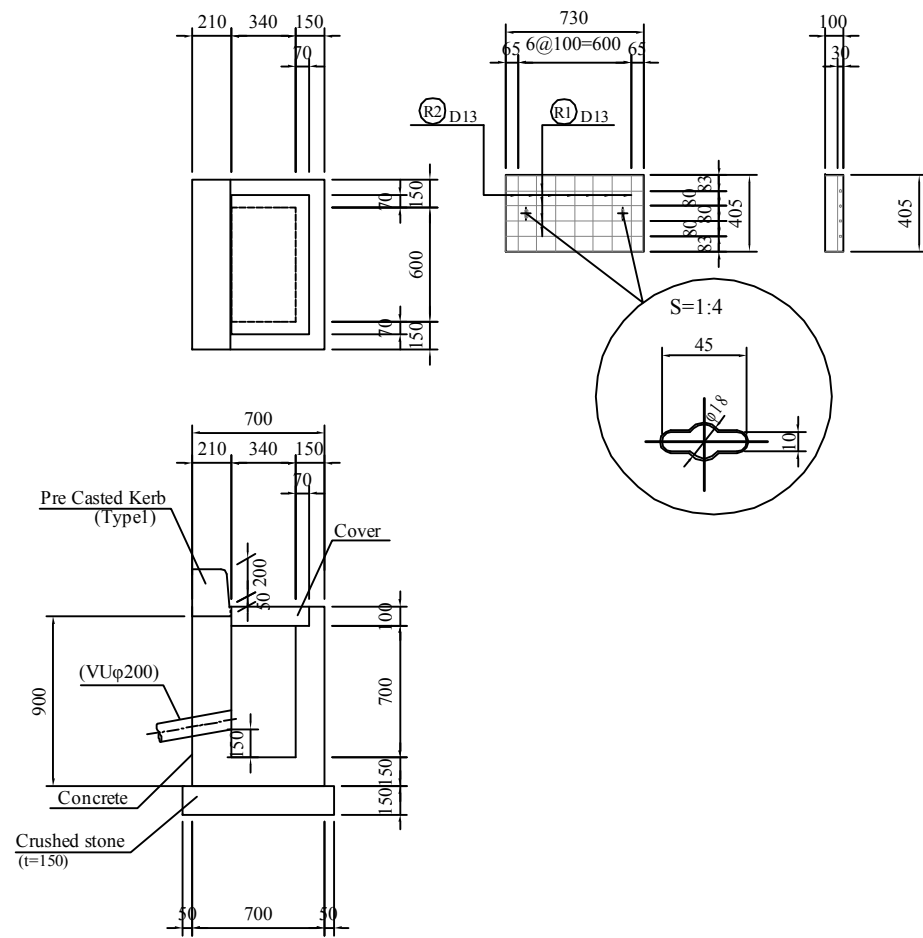
(Cover 340x600)

CP 600x600x800

(Cover 600x600)

CP 800x800x1000

(Cover 800x800)



MATERIALS LIST(Cover) PER Each

ITEM	STANDARD	UNIT	QUANTITY	REMARK
Concrete	σ <sub>ck</sub> =18MPa	cu.m	0.030	
Form		sq.m	0.296	
Reinforced	D13	kg	5.726	
Plate	SS400	kg	5.702	
Suspender		nos	2	

MATERIALS LIST PER Each

ITEM	STANDARD	UNIT	QUANTITY	REMARK
Concrete	σ <sub>ck</sub> =18MPa	cu.m	0.510	
Form		sq.m	2.721	
Crushed stone	t=150	cu.m	0.108	
Cover	340x600	nos	1	

MATERIALS LIST(Cover) PER Each

ITEM	STANDARD	UNIT	QUANTITY	REMARK
Concrete	σ <sub>ck</sub> =18MPa	cu.m	0.026	
Form		sq.m	0.263	
Reinforced	D13	kg	5.413	
Plate	SS400	kg	5.476	
Suspender		nos	2	

MATERIALS LIST PER Each

ITEM	STANDARD	UNIT	QUANTITY	REMARK
Concrete	σ <sub>ck</sub> =18MPa	cu.m	0.508	
Form		sq.m	6.356	
Crushed stone	t=150	cu.m	0.150	
Cover	600x600	nos	2	

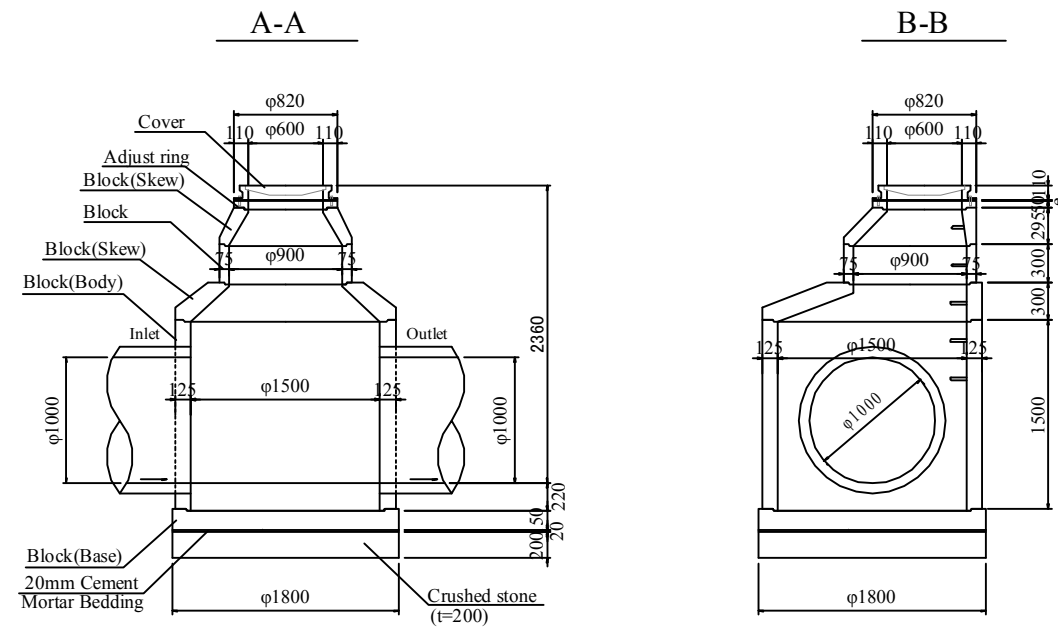
MATERIALS LIST(Cover) PER Each

ITEM	STANDARD	UNIT	QUANTITY	REMARK
Concrete	σ <sub>ck</sub> =18MPa	cu.m	0.043	
Form		sq.m	0.428	
Reinforced	D13	kg	7.821	
Plate	SS400	kg	6.983	
Suspender		nos	2	

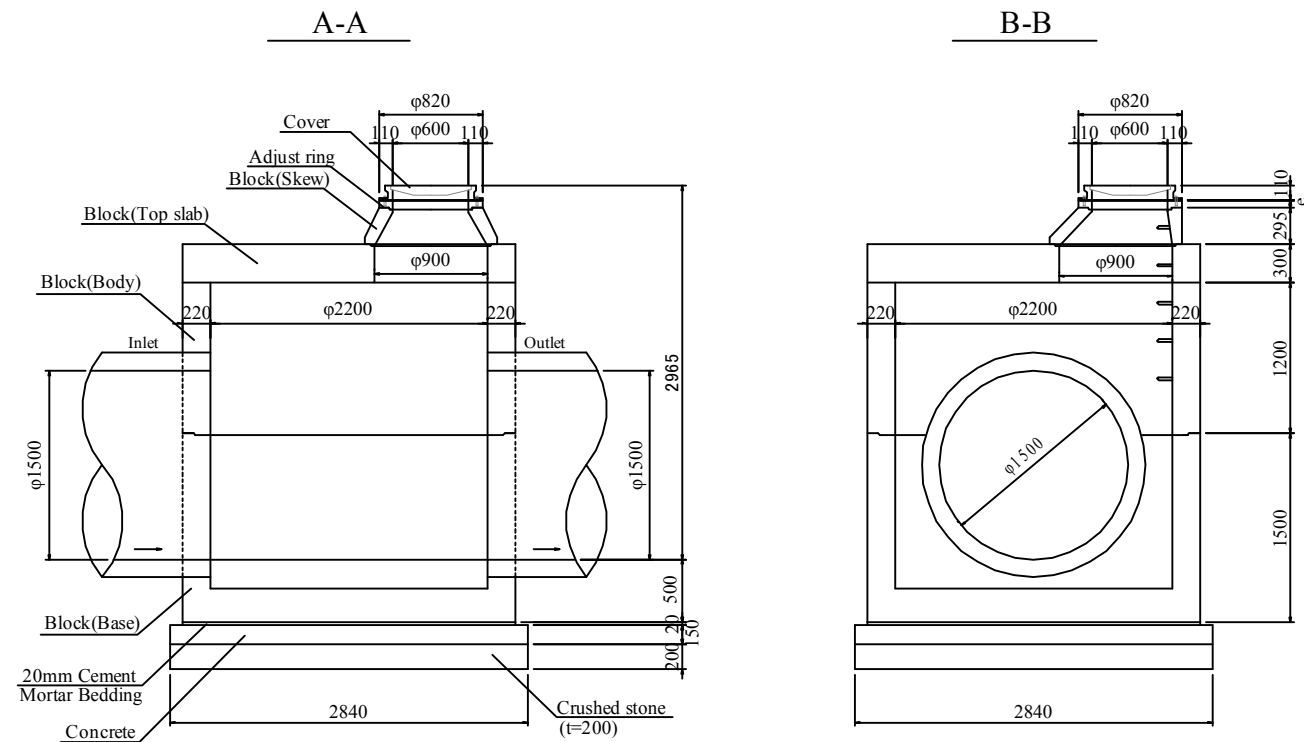
MATERIALS LIST PER Each

ITEM	STANDARD	UNIT	QUANTITY	REMARK
Concrete	σ <sub>ck</sub> =18MPa	cu.m	0.784	
Form		sq.m	9.556	
Crushed stone	t=150	cu.m	0.144	
Cover	800x800	nos	2	

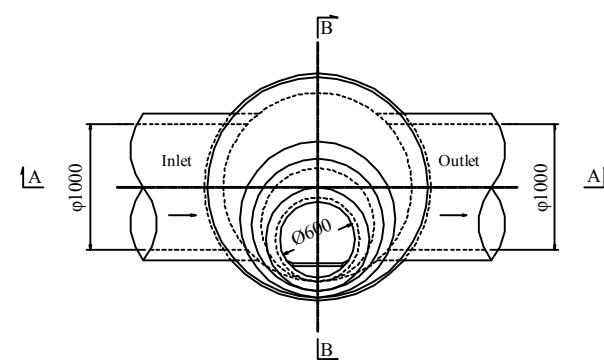
MH(TYPE1)



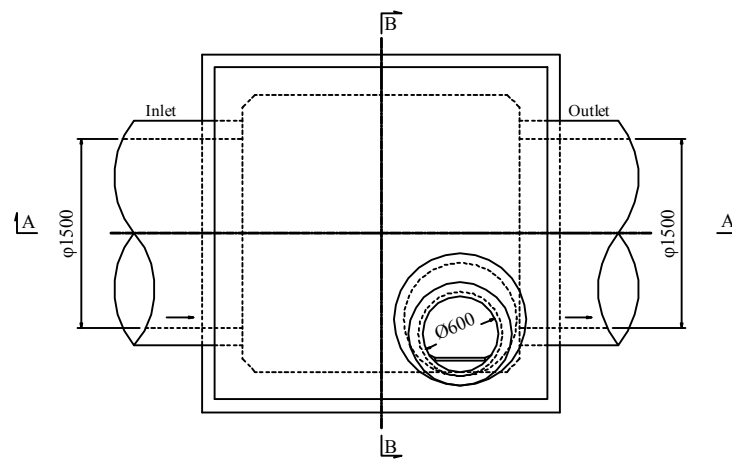
MH(TYPE2)



Plan



Plan

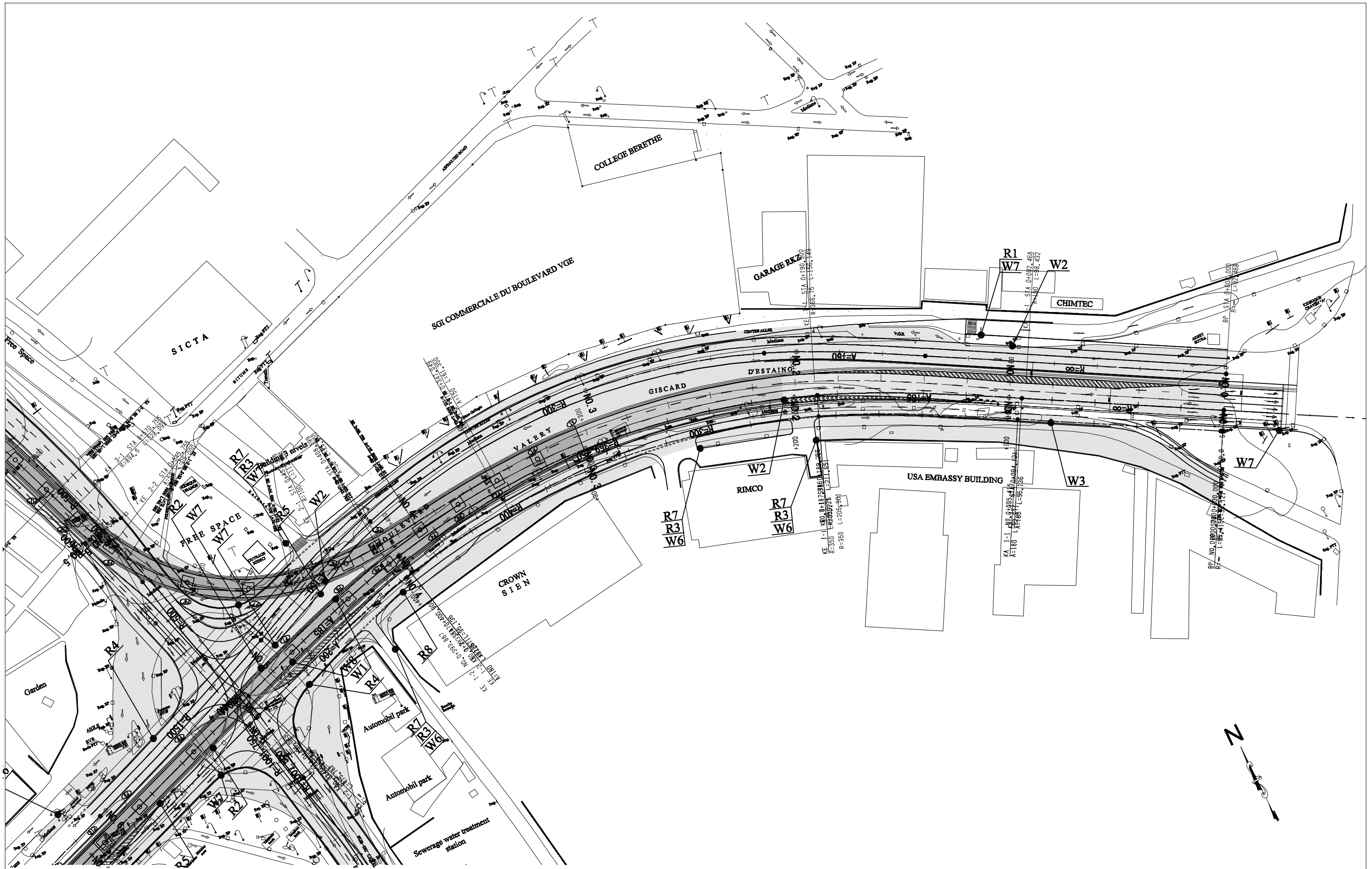


MATERIALS LIST

ITEM	STANDARD	UNIT	QUANTITY	REMARK
Block(Base)		nos	1	
Block(Body)	φ1500x1500	nos	1	
Block(Skew)	φ600xφ900x295	nos	1	
	φ900xφ1500x300	nos	1	
Block	φ900x300	nos	1	
Adjust ring	φ600x50	nos	1	
Cover	φ600	nos	1	
Cement mortar	1:3	cu.m	0.051	
Crushed stone	t=200mm	cu.m	0.509	

MATERIALS LIST

ITEM	STANDARD	UNIT	QUANTITY	REMARK
Block(Base)	2200x2200x1500	nos	1	
Block(Body)	2200x2200x1200	nos	1	
Block(Top slab)	2640x2640x300	nos	1	
Block(Skew)	φ600xφ900x295	nos	1	
Adjust ring	φ600x50	nos	1	
Cover	φ600	nos	1	
Concrete	σ <sub>ck</sub> =18MPa	cu.m	1.210	
Form		sq.m	1.704	
Cement mortar	1:3	cu.m	0.139	
Crushed stone	t=200mm	cu.m	1.613	

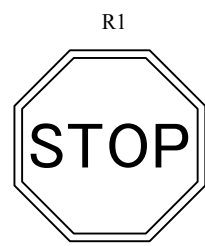


<b>CLIENT</b>  Japan International Cooperation Agency (JICA)	<b>CLIENTS APPROVAL:</b> DIRECTOR RESPONSIBLE FOR DESIGN: SIGNATURE: _____ DATE: _____ STAMP: _____	<b>REVISION</b> _____ _____ _____	<b>DESCRIPTION</b> _____ _____ _____	<b>BY</b> _____ _____ _____	<b>DATE</b> _____ _____ _____	<b>CONSULTANT</b> The Consortium of Oriental Consultants Global Co., Ltd., Central Consultant Inc., and Asia Air Survey Co., Ltd.	<b>PROJECT</b> The Preparatory Survey for Improvement of SOLIBRA Intersection (Outline Design)	<b>TITLE:</b> Road Safety Sign Posts Layout Plan (1/3)	<b>Scale:</b> 1:1600 (A3)	<b>DESIGNED BY:</b> _____ <b>DRAWN BY:</b> _____ <b>CHECKED BY:</b> _____ <b>APPROVED BY:</b> _____ <b>DATE:</b> _____	Drawing No: R-20 SHEET No: _____
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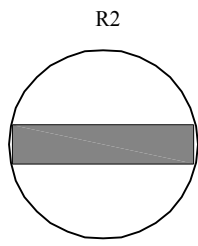




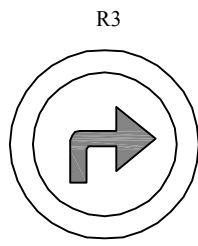




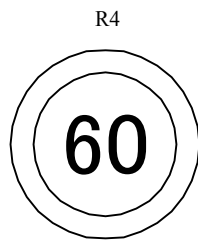
STOP



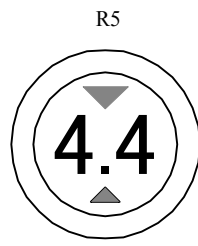
NO ENTRY



TURN RIGHT AHEAD



SPEED LIMIT



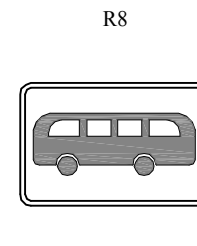
HEIGHT LIMIT



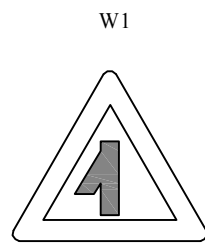
NO CYCLISTS AND PEDESTRIANS



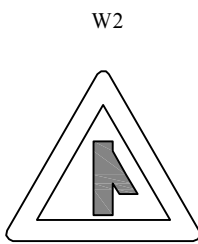
GIVE WAY



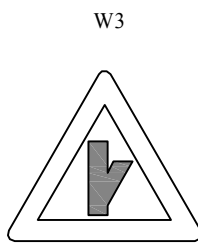
BUS STOP



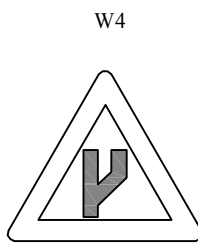
SHARP JUNCTION (LEFT)



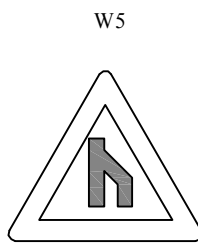
SHARP JUNCTION (RIGHT)



SHARP JUNCTION (HALF RIGHT)



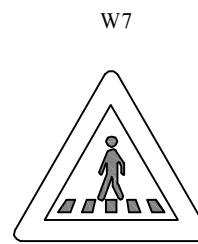
START OF DUAL ROADWAY



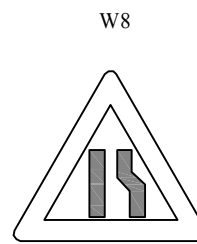
END OF DUAL ROADWAY



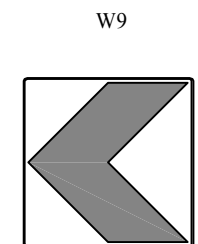
PEDESTRIANS



PEDESTRIAN CROSSING

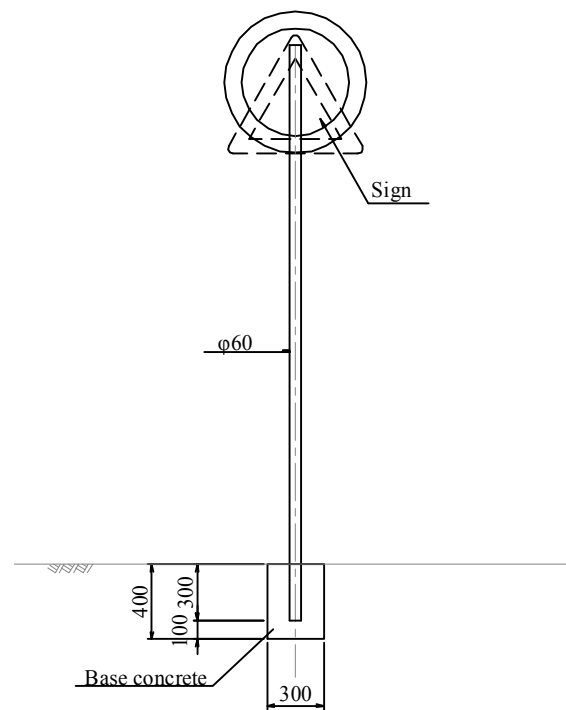


ROAD NARROWS FROM RIGHT SIDE



SHARP CURVE CHEVRON (TO THE LEFT)

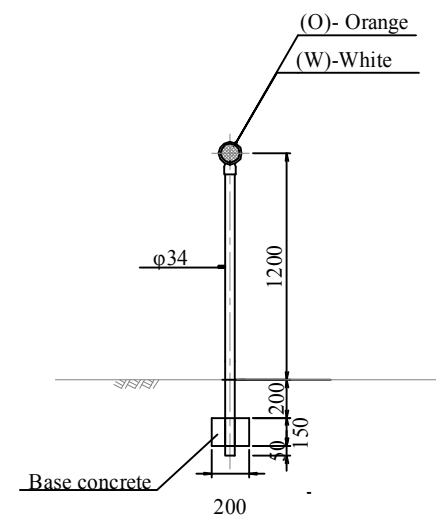
Sign post



MATERIAL LIST

ITEM	STANDARD	UNIT	QUANTITY	REMARKS	PER each
Base concrete	σck=18MPa	cu.m	0.035		
Sign post		nos	1		

DEL(O)  
DEL(W)



MATERIAL LIST

ITEM	STANDARD	UNIT	QUANTITY	REMARKS	PER each
Base concrete	σck=18MPa	cu.m	0.006		
DEL		nos	1		

CLIENT  
Japan International Cooperation Agency (JICA)

CLIENTS APPROVAL:	REVISION	DESCRIPTION	BY	DATE
DIRECTOR RESPONSIBLE FOR DESIGN:				
SIGNATURE: DATE:				
STAMP:				

CONSULTANT  
The Consortium of  
Oriental Consultants Global Co., Ltd.,  
Central Consultant Inc.,  
and  
Asia Air Survey Co., Ltd.

PROJECT  
The Preparatory Survey for  
Improvement of SOLIBRA Intersection  
(Outline Design)

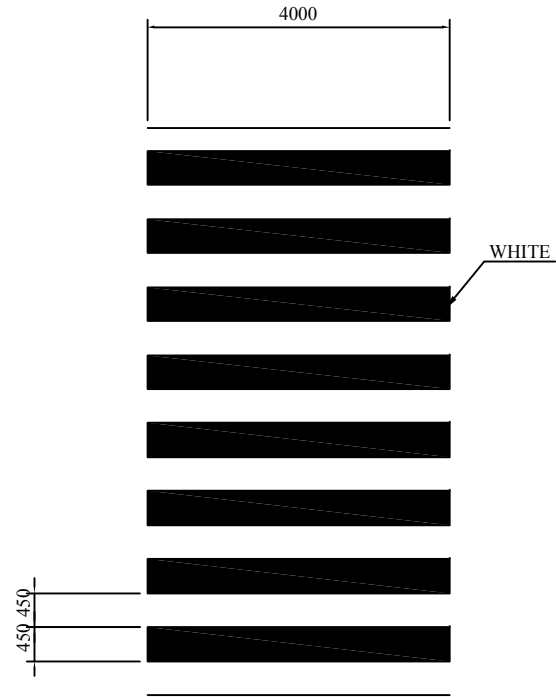
TITLE:  
Road Safety Facilities

Scale:  
Non

DESIGNED BY:			
DRAWN BY:			
CHECKED BY:			
APPROVED BY:			
DATE:			

Drawing No: R-23  
SHEET No:

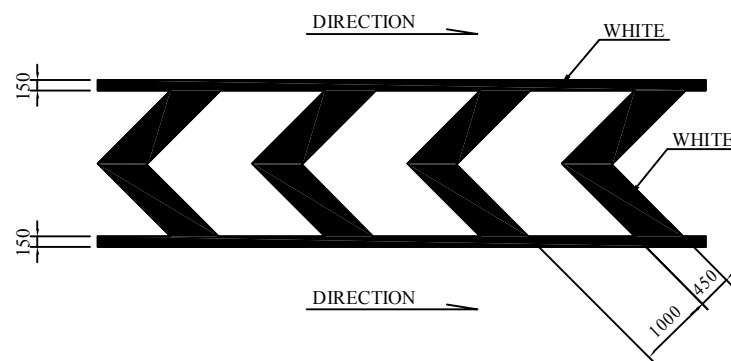
Pedestrian-Crossing (W=450mm)  
SCALE 1:100



Stop Line (W=450mm) SCALE 1:100



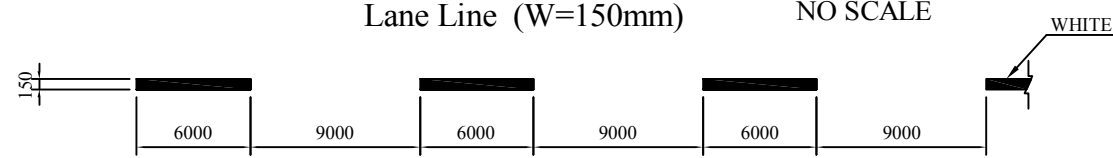
Zebra Marking SCALE 1:100



Continuouse Line (W=150mm) SCALE 1:100

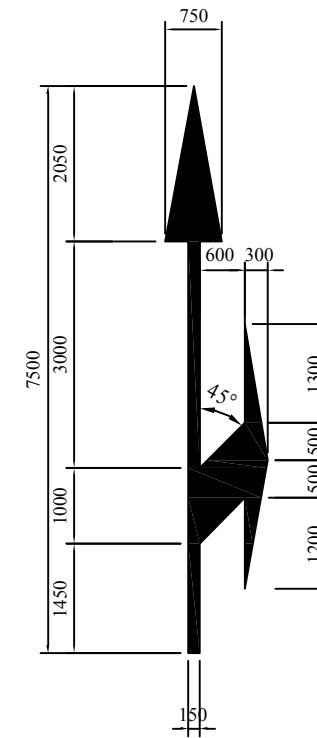


Lane Line (W=150mm) NO SCALE

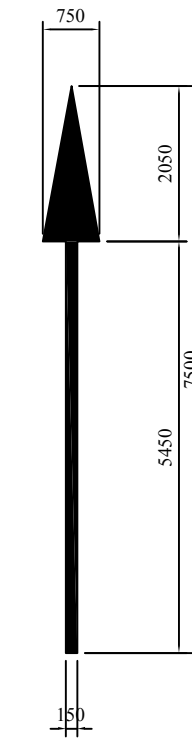


Arrow Mark SCALE 1:100

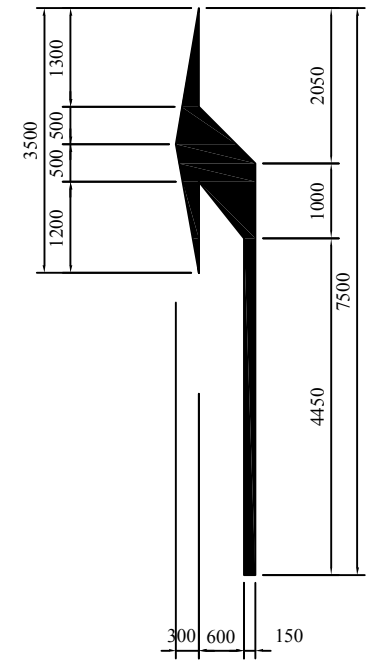
Straight-Turn



Straight

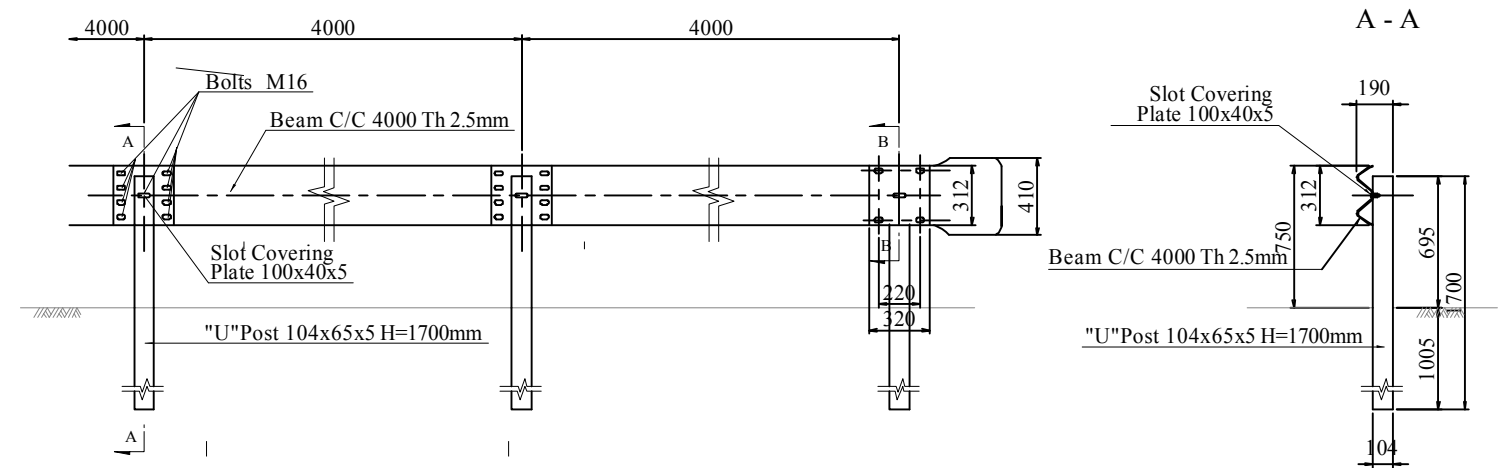


Turn



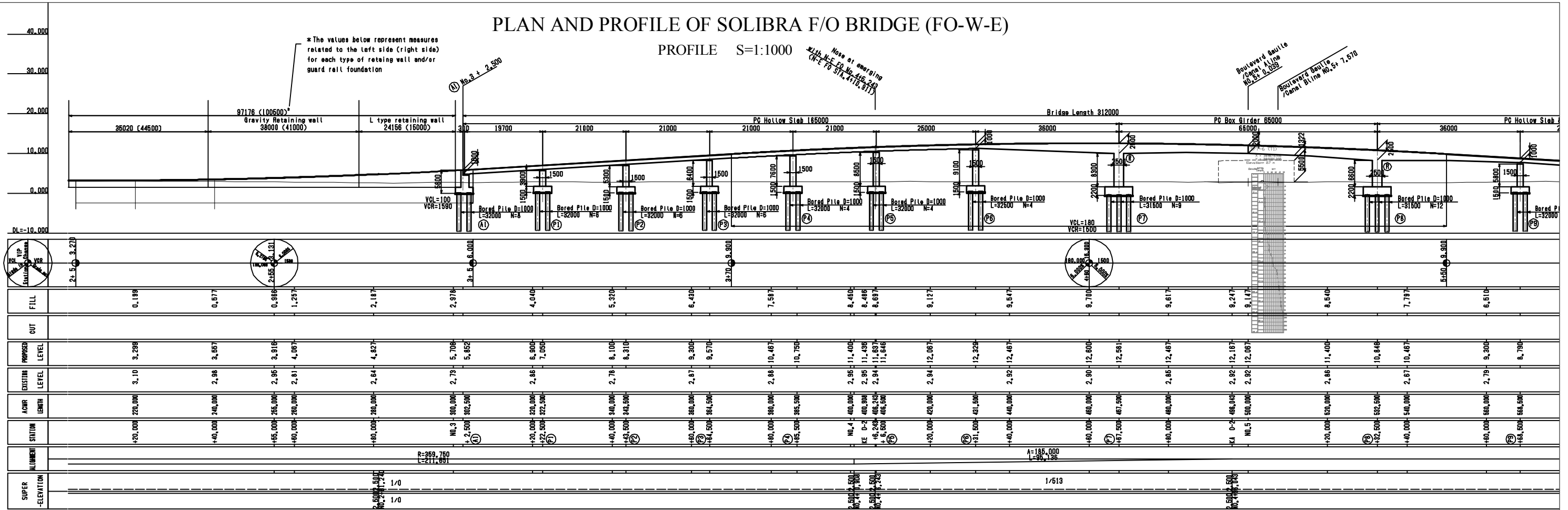
GR SCALE 1:40

VIEW

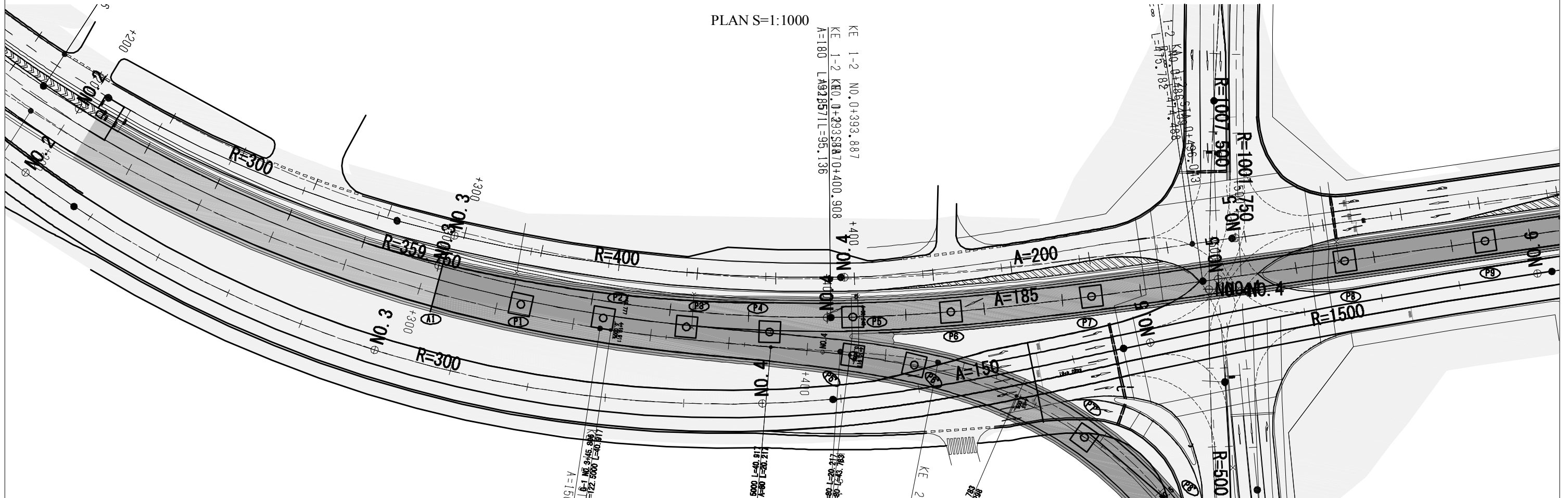


# PLAN AND PROFILE OF SOLIBRA F/O BRIDGE (FO-W-E)

PROFILE S=1:1000



PLAN S=1:1000

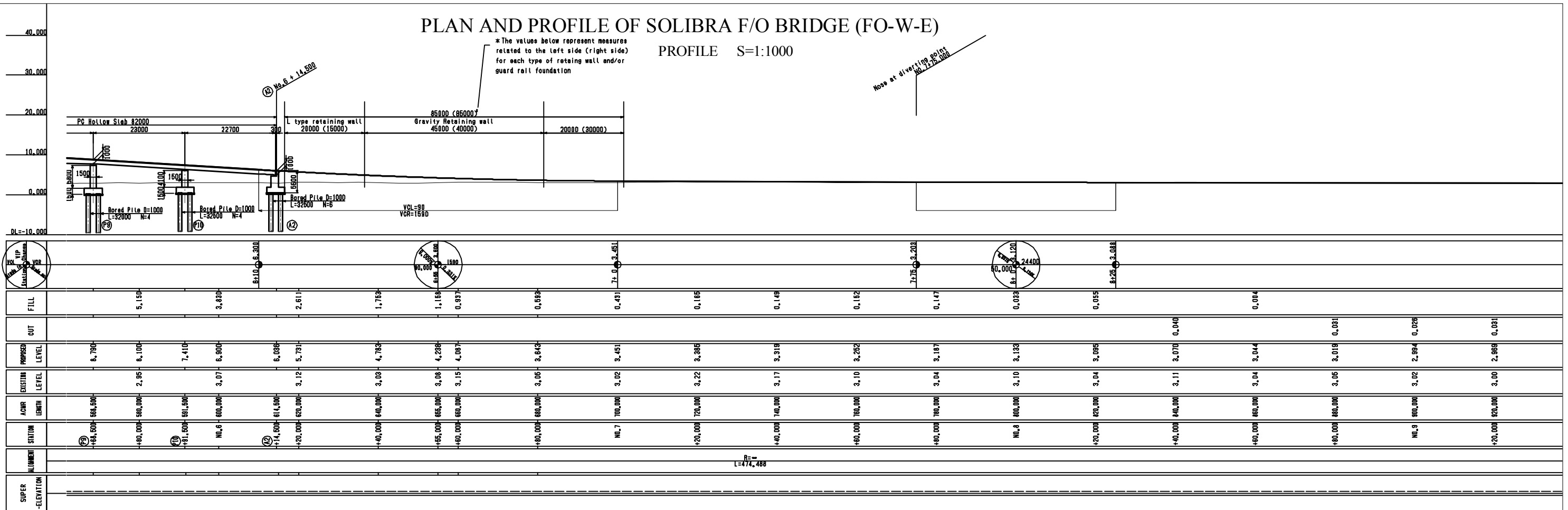


	CLIENT APPROVAL:	REVISION	DESCRIPTION	BY	DATE	CONSULTANT The Consortium of Oriental Consultants Global Co., Ltd., Central Consultant Inc., and Asia Air Survey Co., Ltd.	PROJECT The Preparatory Survey for Improvement of SOLIBRA Intersection (Outline Design)	TITLE: Flyover Bridge Layout Plan FO W-E (1/2)	Scale: 1:1000 (A3)	DESIGNED BY:		Drawing No: B-1 SHEET No:
	DIRECTOR RESPONSIBLE FOR DESIGN:									CHECKED BY:		
	SIGNATURE:      DATE:									APPROVED BY:		
	STAMP:									DATE:		

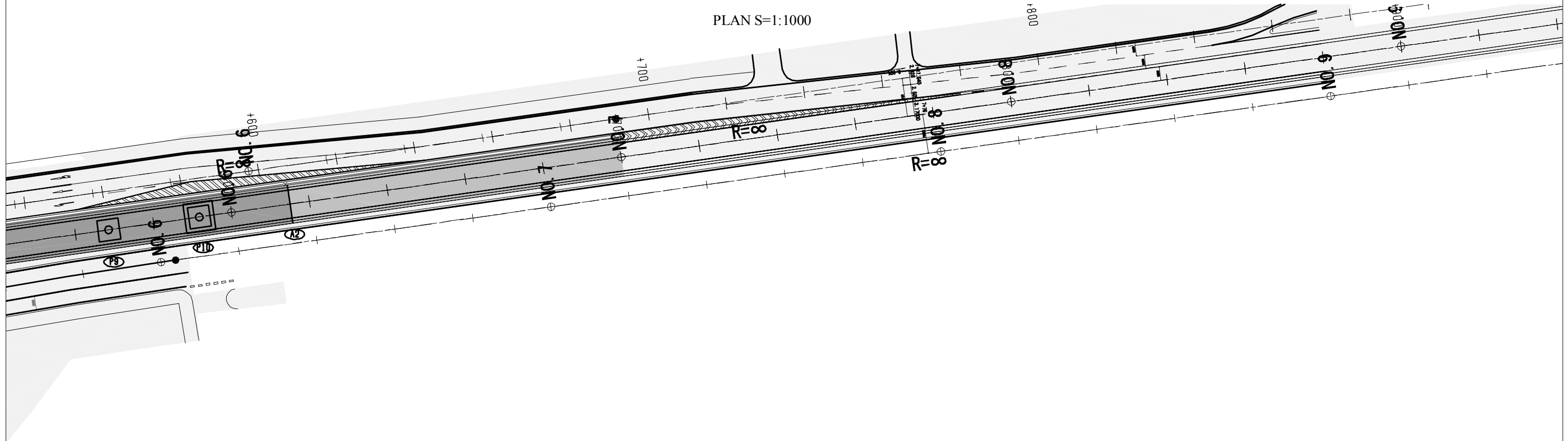
# PLAN AND PROFILE OF SOLIBRA F/O BRIDGE (FO-W-E)

PROFILE S=1:1000

\* The values below represent measures related to the left side (right side) for each type of retaining wall and/or guard rail foundation



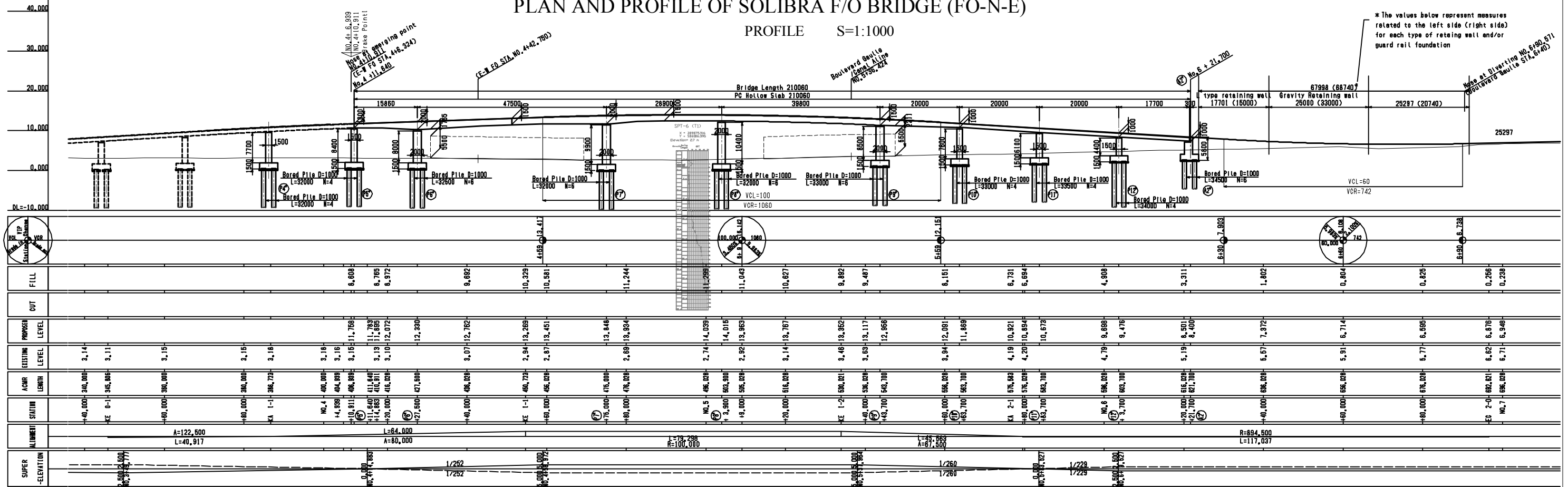
PLAN S=1:1000



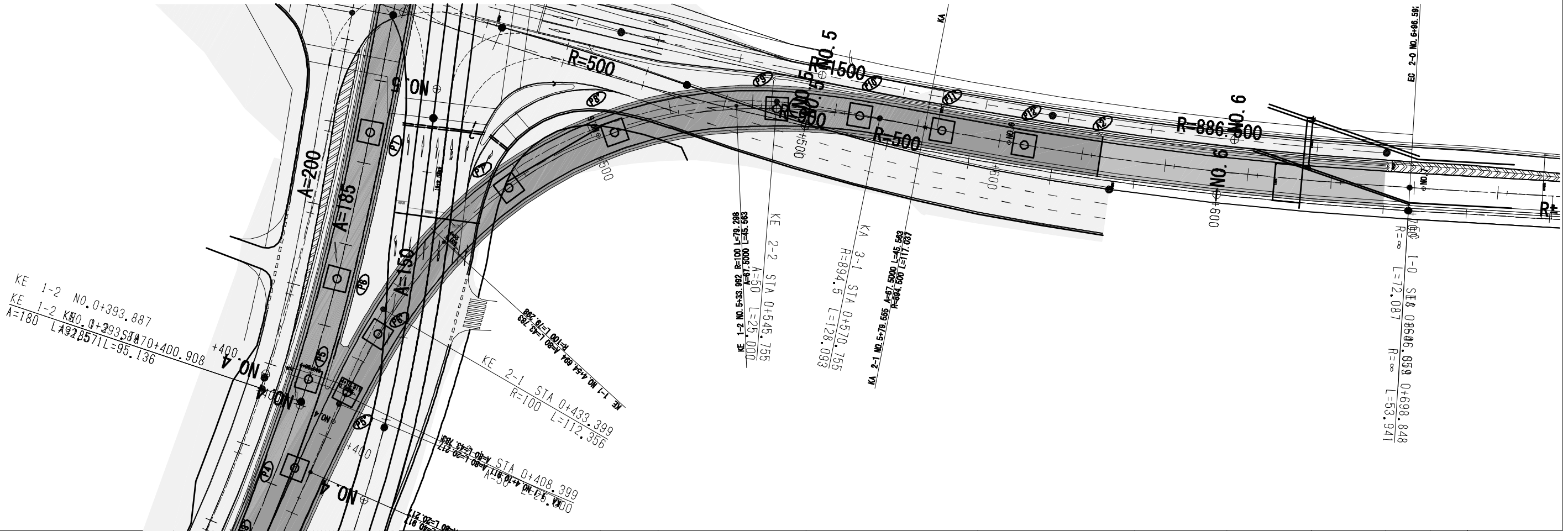
<b>Japan International Cooperation Agency (JICA)</b>	CLIENT APPROVAL:	REVISION	DESCRIPTION	BY	DATE	CONSULTANT The Consortium of <b>Oriental Consultants Global Co., Ltd.,</b> <b>Central Consultant Inc.,</b> and <b>Asia Air Survey Co., Ltd.</b>	PROJECT The Preparatory Survey for <b>Improvement of SOLIBRA Intersection</b> (Outline Design)	TITLE: Flyover Bridge Layout Plan FO W-E (2/2)	Scale: 1:1000 (A3)	DESIGNED BY:		Drawing No: B-2 SHEET No:
	DIRECTOR RESPONSIBLE FOR DESIGN:									DRAWN BY:		
	SIGNATURE:      DATE:									CHECKED BY:		
	STAMP:									APPROVED BY:		
										DATE:		

# PLAN AND PROFILE OF SOLIBRA F/O BRIDGE (FO-N-E)

PROFILE S=1:1000



PLAN S=1:1000

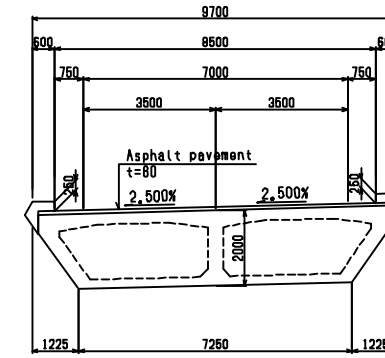
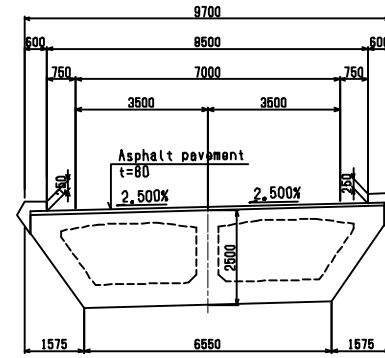
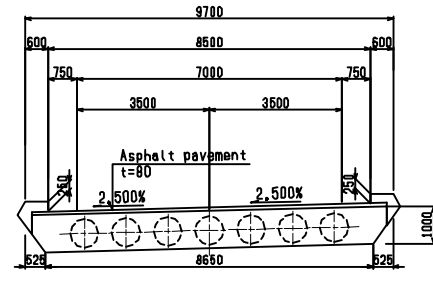
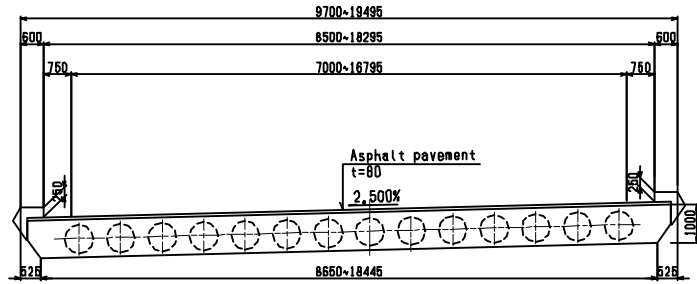


\*The values below represent measures related to the left side (right side) for each type of retaining wall and/or guard rail foundation

<p>Japan International Cooperation Agency (JICA)</p>	CLIENTS APPROVAL:	REVISION	DESCRIPTION	BY	DATE	CONSULTANT The Consortium of Oriental Consultants Global Co., Ltd., Central Consultant Inc., and Asia Air Survey Co., Ltd.	PROJECT The Preparatory Survey for Improvement of SOLIBRA Intersection (Outline Design)	TITLE: Flyover Bridge Layout Plan FO-N-E	Scale: 1:1000 (A3)	DESIGNED BY:		Drawing No: B-3 SHEET No:
	DIRECTOR RESPONSIBLE FOR DESIGN:									CHECKED BY:		
	SIGNATURE:      DATE:									APPROVED BY:		
	STAMP:									DATE:		

# CROSS-SECTION OF SOLIBRA F/O BRIDGE (1)

SECTION S=1:200  
(PC HOLLOW SLAB BRIDGE)



SECTION S=1:200  
(PC BOX GIRDER BRIDGE)

## DESIGN CRITERIA (F0-W-E)

CATEGORY	PRESTRESSED CONCRETE ROAD BRIDGE
TYPE	7 SPAN PC HOLLOW SLAB BRIDGE 1 SPAN PC BOX GIRDER BRIDGE 3 SPAN PC HOLLOW SLAB BRIDGE
TOTAL BRIDGE LENGTH	L=312,000m
BRIDGE LENGTH	7 SPAN PC HOLLOW SLAB : L=185,0m(20,0+4*21,0+2*25,0+3*30,0) 1 SPAN PC BOX GIRDER : L=85,0m 3 SPAN PC HOLLOW SLAB : L=82,0m(3*6,0+23,0+23,0)
WIDTH	TOTAL 9,700~13,800m
LIVE-LOAD	B-Live Load
ANGLE OF SKEW	90° 00' 00"
RADIUS OF CURVATURE	R=359,750 ~ A=185,000
SECTION SLOPE	i=2,500%
LONGITUDINAL SLOPE	i=8,000% / i=8,000%

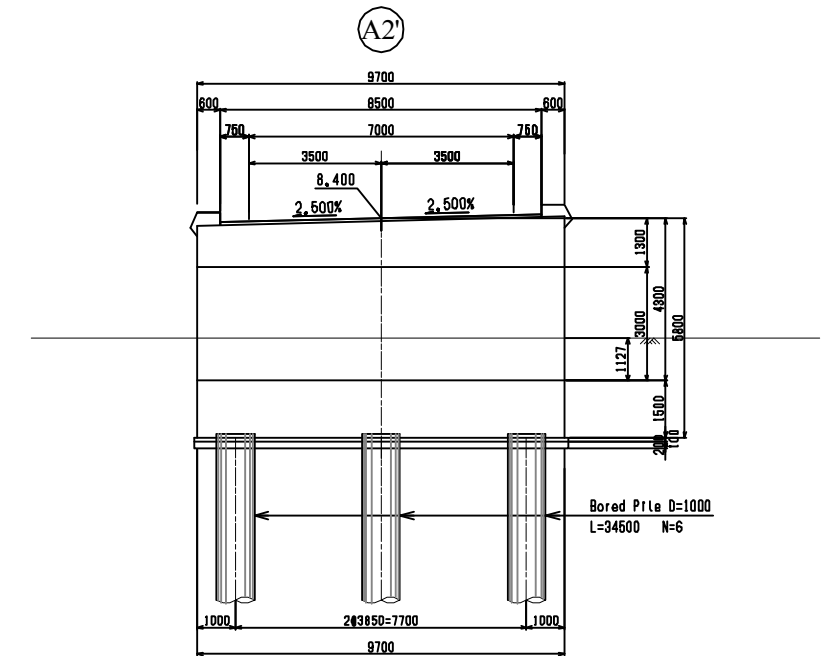
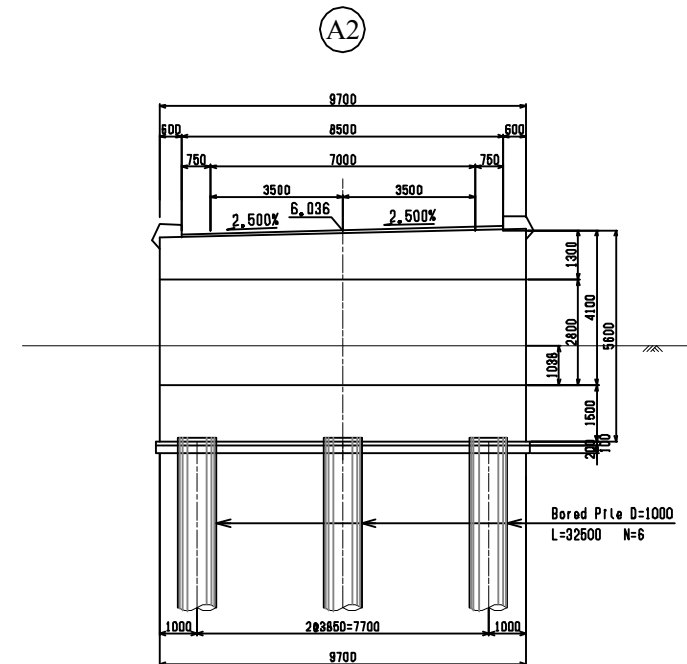
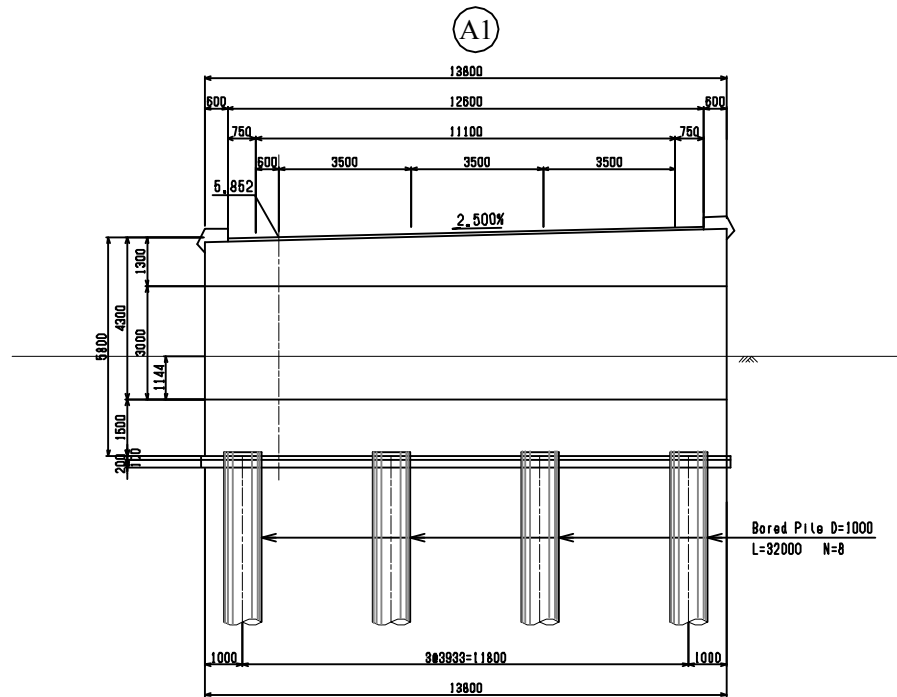
## DESIGN CRITERIA (F0-N-E)

CATEGORY	PRESTRESSED CONCRETE ROAD BRIDGE
TYPE	8 SPAN PC HOLLOW SLAB BRIDGE
TOTAL BRIDGE LENGTH	L=210,060m
BRIDGE LENGTH	8 SPAN PC HOLLOW SLAB : L=210,060m (15,860+47,500+28,900+3*20,000+18,000)
WIDTH	TOTAL 9,700~11,200m
LIVE-LOAD	B-Live Load
ANGLE OF SKEW	90° 00' 00"
RADIUS OF CURVATURE	A=80,000 ~ R=100,000 ~ A=87,500
SECTION SLOPE	i=2,500%~5,000%
LONGITUDINAL SLOPE	i=3,450% / i=5,983%

## MATERIALS

CONCRETE	PC HOLLOW SLAB	$\sigma_{ck}=36,0 \text{ N/mm}^2$
	PC BOX GIRDER	$\sigma_{ck}=36,0 \text{ N/mm}^2$
PC STEEL	SUBSTRUCTURE	P7, P8 : $\sigma_{ck}=30,0 \text{ N/mm}^2$
		except P7, P8 : $\sigma_{ck}=24,0 \text{ N/mm}^2$
	PC HOLLOW SLAB	12S12,7 (SWPR7BL)
		1S28,6 (SWPR19L)
PC BOX GIRDER	12S12,7 (SWPR7BL)	
	1S28,6 (SWPR19L)	
DEFORMED BAR	SUPERSTRUCTURE	SD345
	SUBSTRUCTURE	SD345

CROSS SECTION S=1:200



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and  
Asia Air Survey Co., Ltd.

PROJECT  
The Preparatory Survey for  
Improvement of SOLIBRA Intersection  
(Outline Design)

TITLE:  
CROSS-SECTION  
OF SOLIBRA F/O BRIDGE  
-INBOUND (1)

Scale:  
1:200 (A3)

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
DATE:	

Drawing No: B-4  
SHEET No:

# CROSS-SECTION OF SOLIBRA F/O BRIDGE (2)

CROSS SECTION S=1:200

(P1) (P2) (P3)

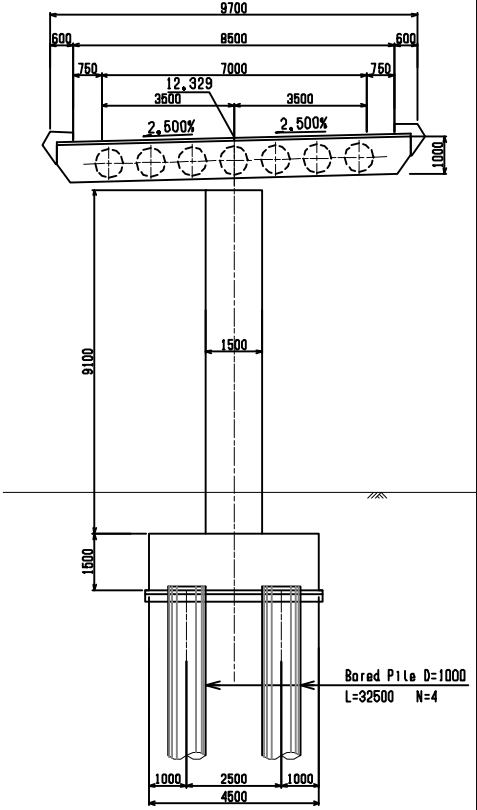
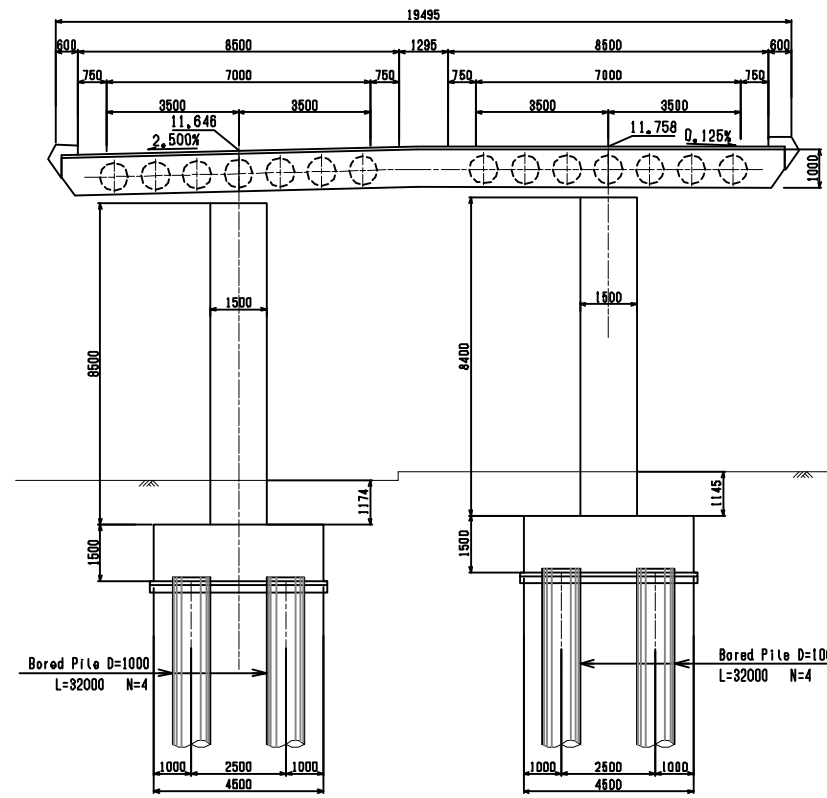
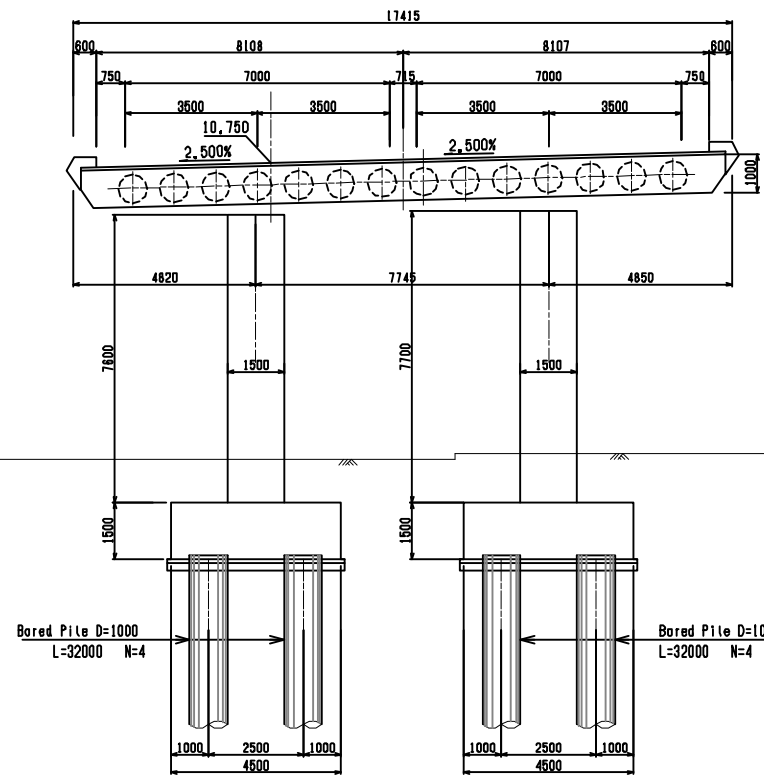
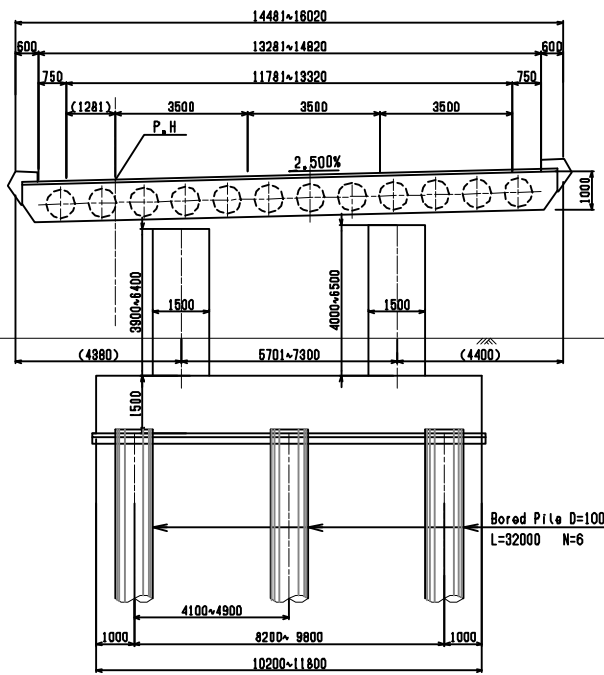
(P4)

(P4')

(P5)

(P5')

(P6)



(P8') (P9')

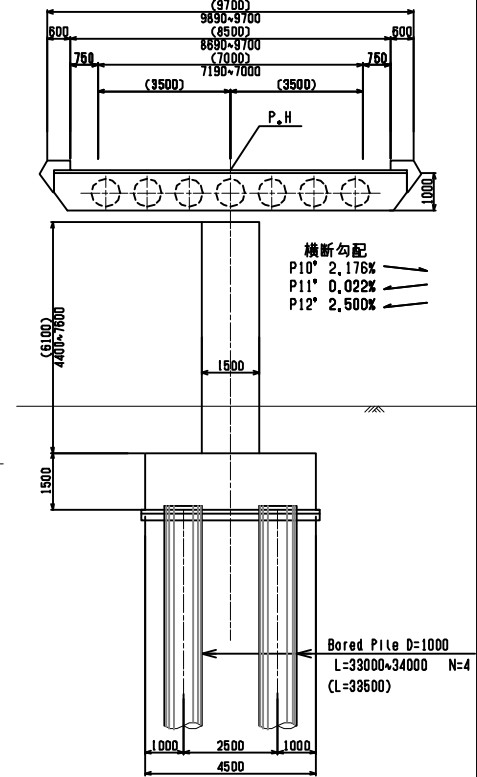
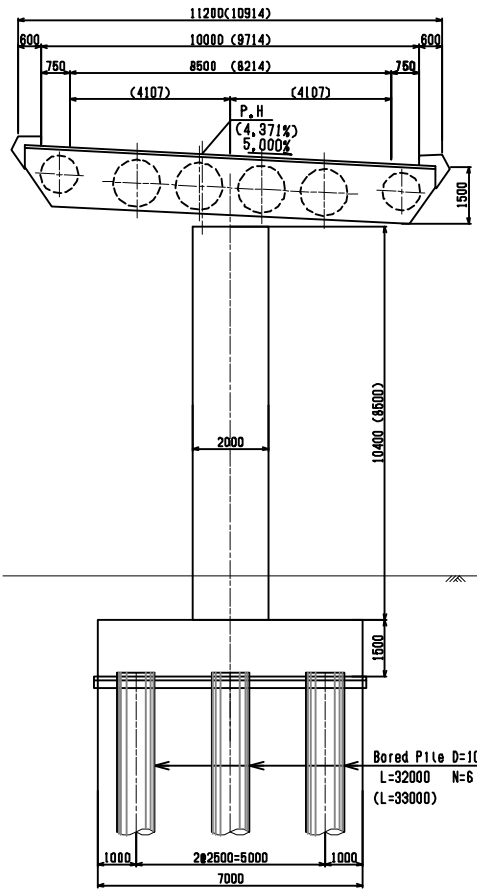
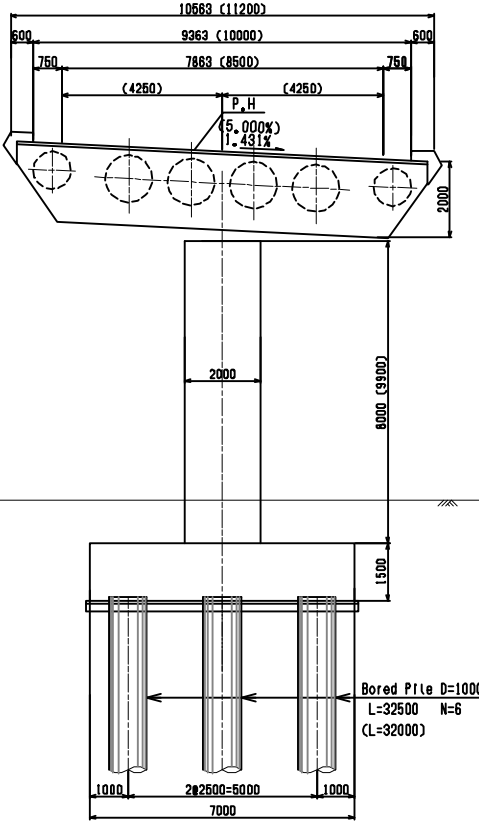
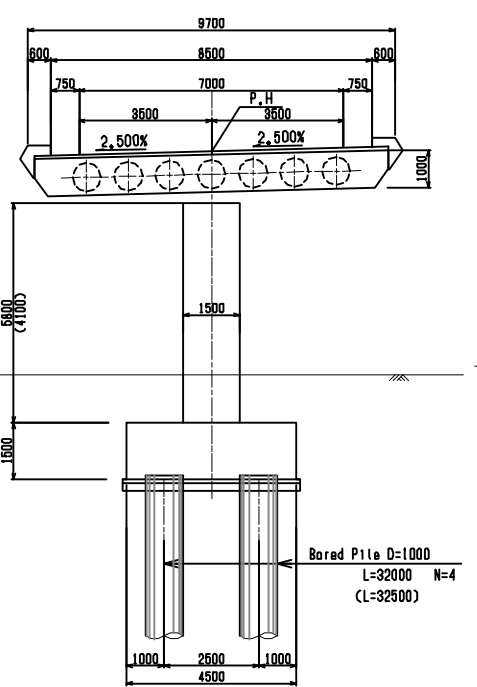
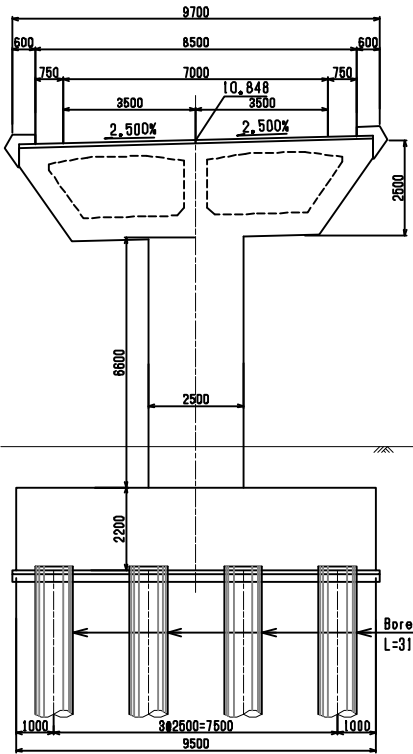
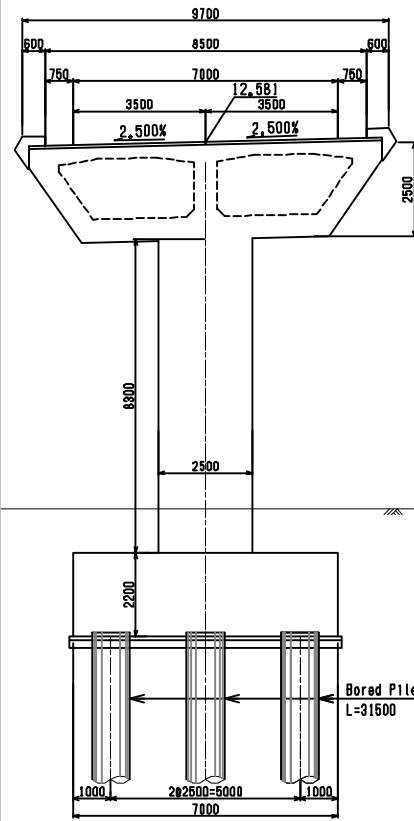
(P7)

(P8)

(P9) (P10)

(P6') (P7')

(P10') (P11') (P12')



横断勾配  
P10' 2.176%  
P11' 0.022%  
P12' 2.500%

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PROJECT  
The Preparatory Survey for  
**Improvement of SOLIBRA Intersection  
(Outline Design)**

TITLE:  
CROSS-SECTION  
OF SOLIBRA F/O BRIDGE  
-INBOUND (2)

Scale:  
1:200 (A3)

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
DATE:	

Drawing No: B-5  
SHEET No:



SUBSTRUCTURE AND FOUNDATION (1) S=1:200

A1

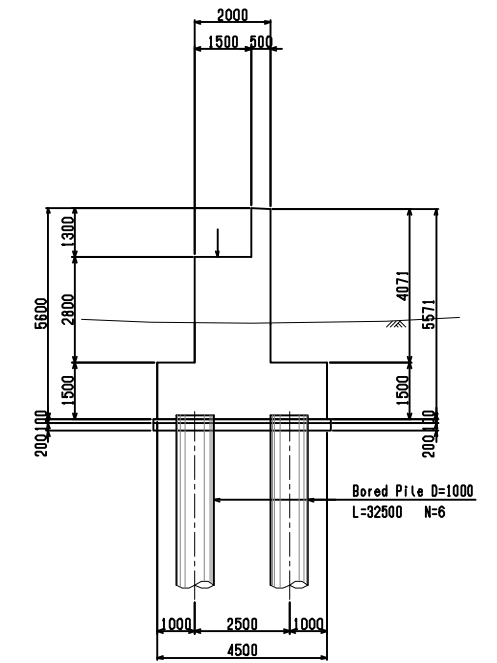
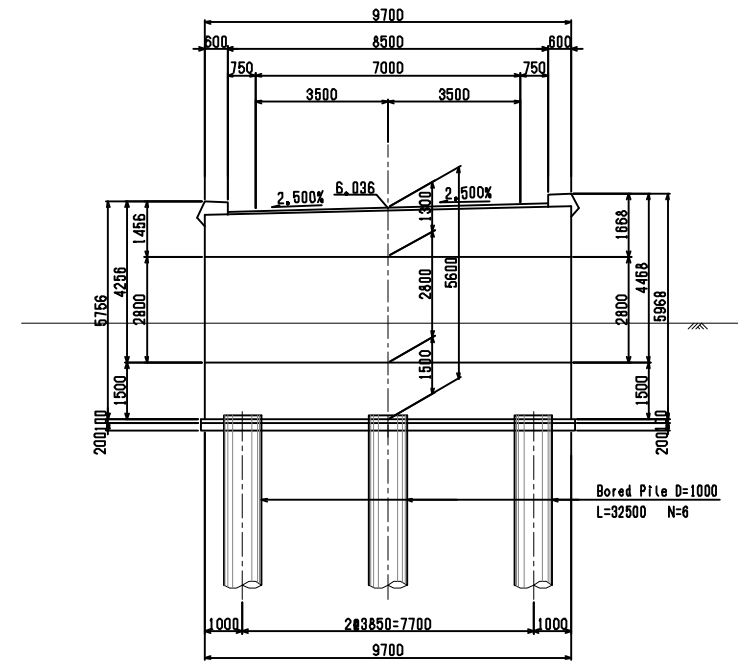
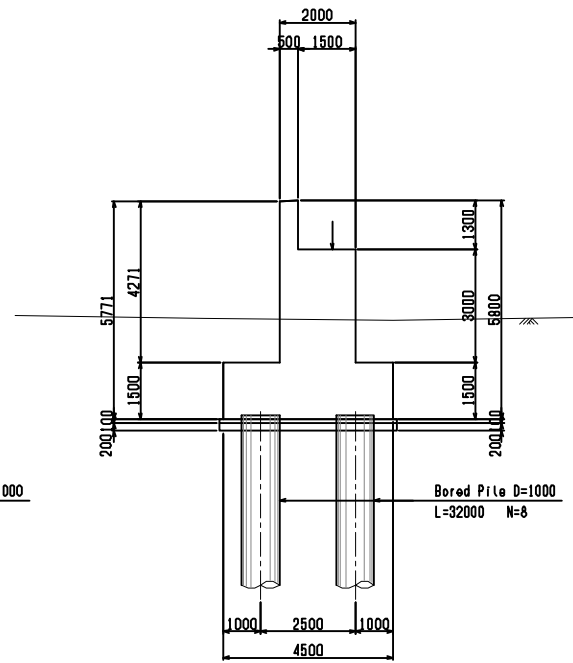
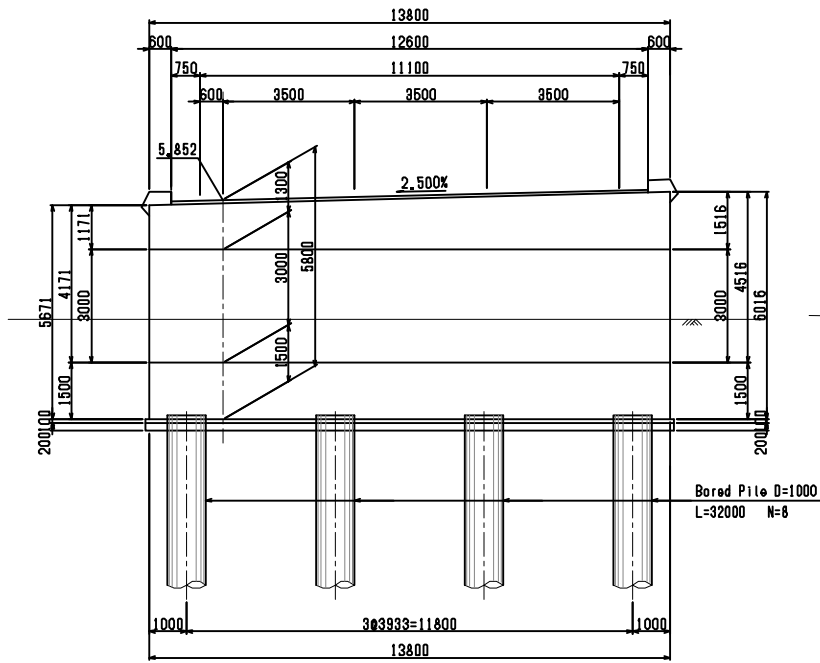
A2

FRONT VIEW

SIDE VIEW

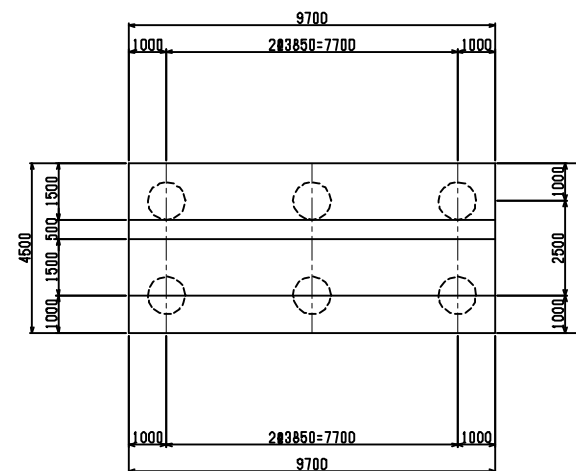
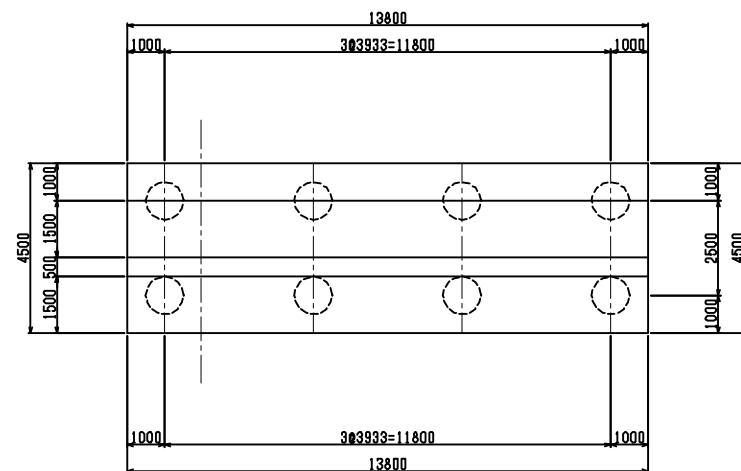
FRONT VIEW

SIDE VIEW



PLAN VIEW

PLAN VIEW



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PROJECT  
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Improvement of SOLIBRA Intersection  
(Outline Design)

TITLE:  
Substructure & Foundation (1)

Scale:  
1:200 (A3)

DESIGNED BY:		
DRAWN BY:		
CHECKED BY:		
APPROVED BY:		
DATE:		

Drawing No: B-6  
SHEET No:

SUBSTRUCTURE AND FOUNDATION (2) S=1:200

P1

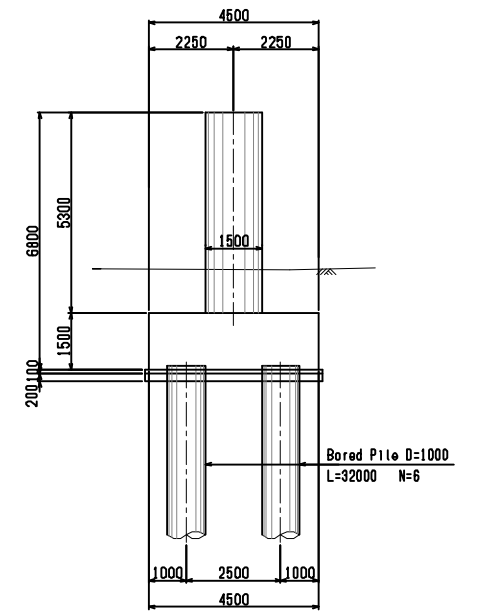
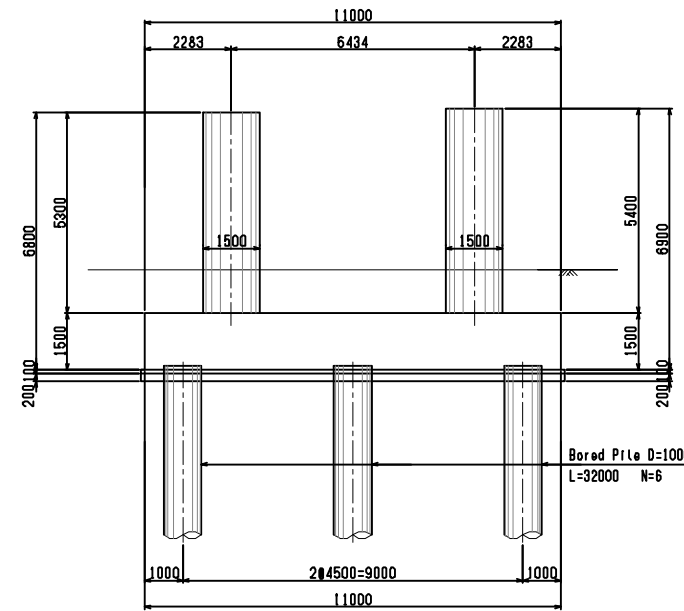
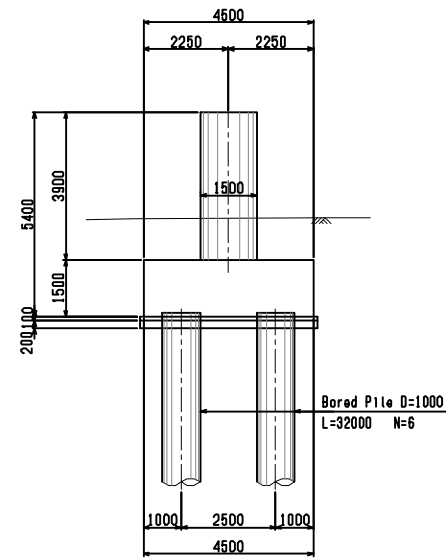
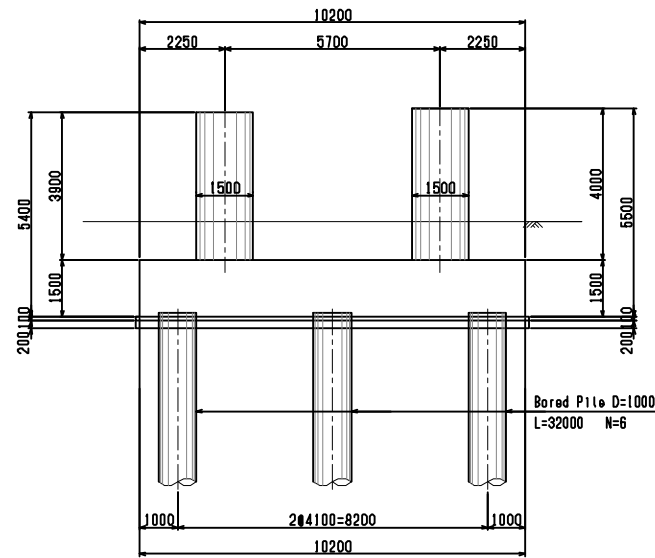
P2

FRONT VIEW

SIDE VIEW

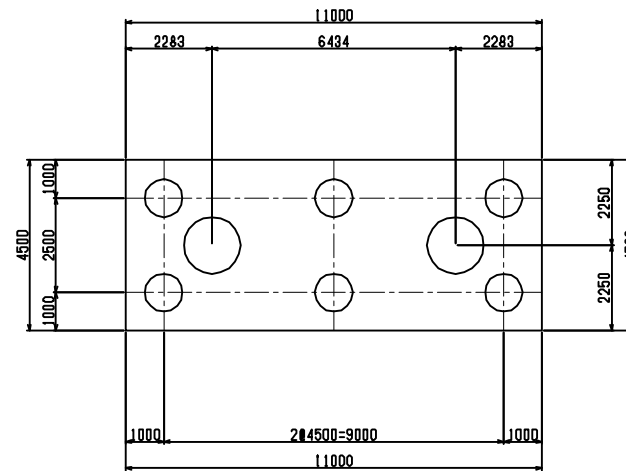
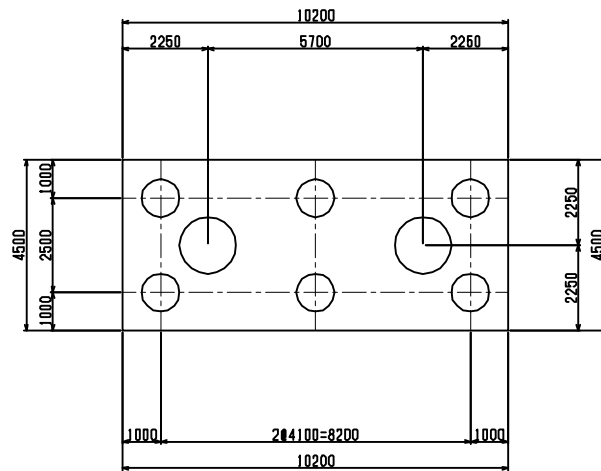
FRONT VIEW

SIDE VIEW



PLAN VIEW

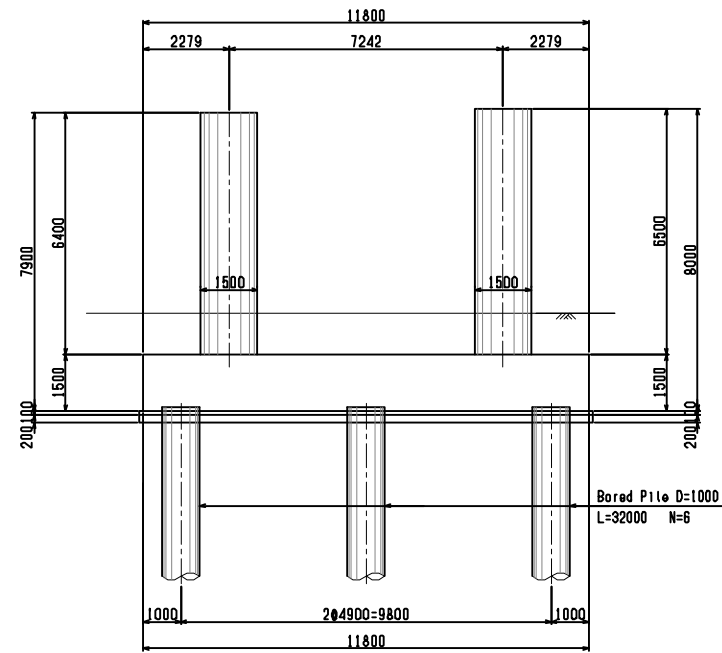
PLAN VIEW



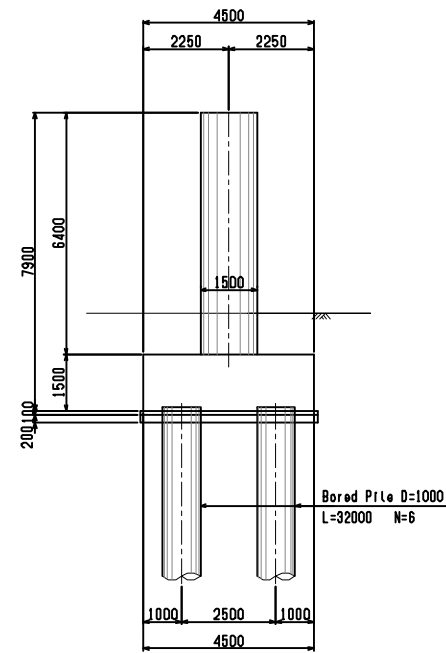
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	DIRECTOR RESPONSIBLE FOR DESIGN:							CHECKED BY:				
	SIGNATURE:      DATE:							APPROVED BY:				
	STAMP:							DATE:				

P3

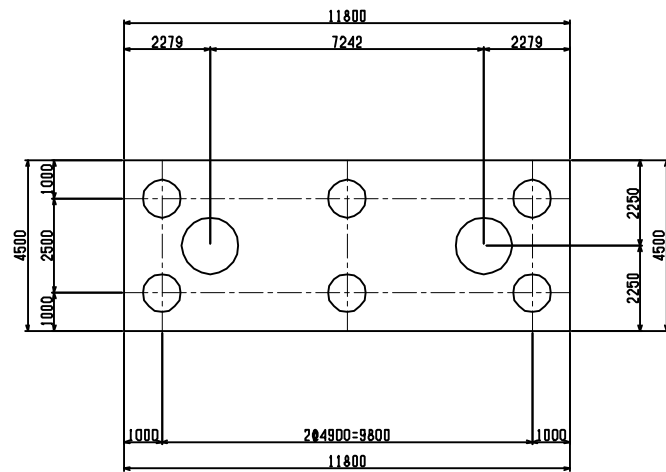
FRONT VIEW



SIDE VIEW

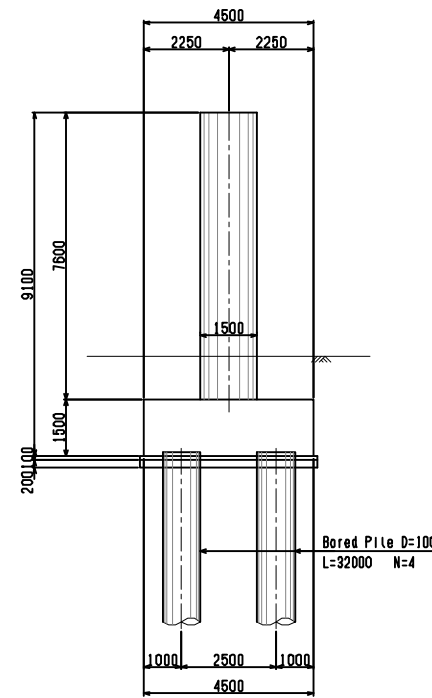


PLAN VIEW

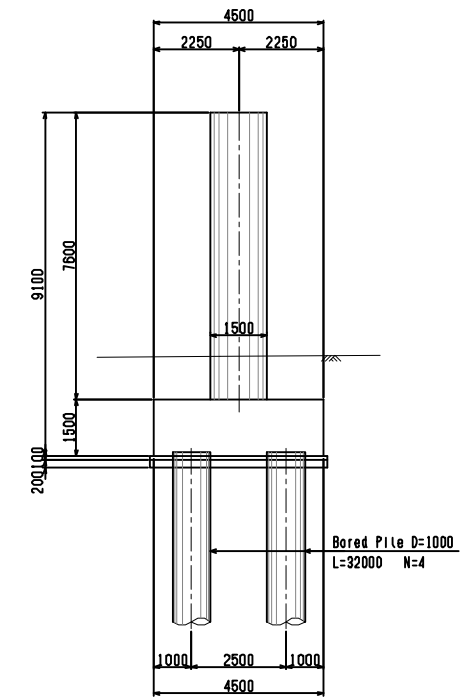


P4

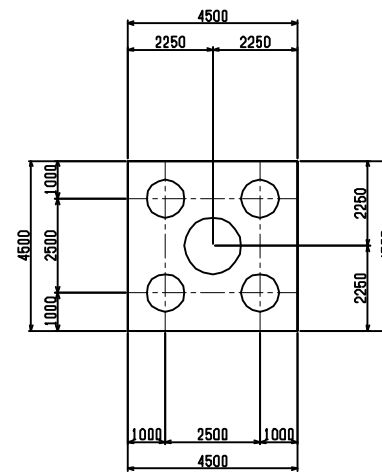
FRONT VIEW



SIDE VIEW



PLAN VIEW



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PROJECT  
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Improvement of SOLIBRA Intersection  
(Outline Design)

TITLE:  
Substructure & Foundation (3)

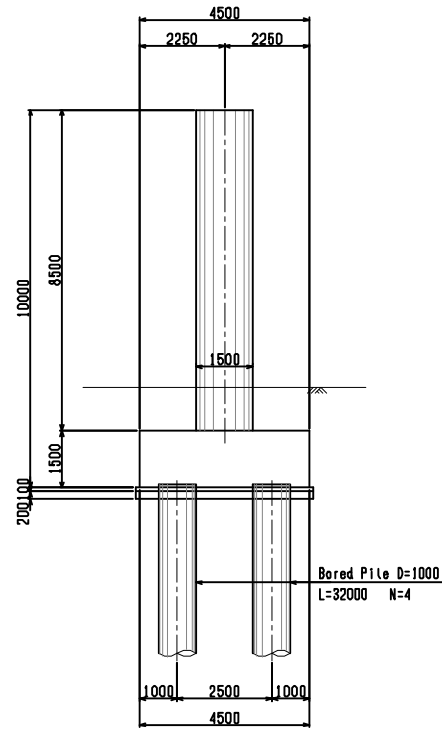
Scale:  
1:200 (A3)

DESIGNED BY:		
DRAWN BY:		
CHECKED BY:		
APPROVED BY:		
DATE:		

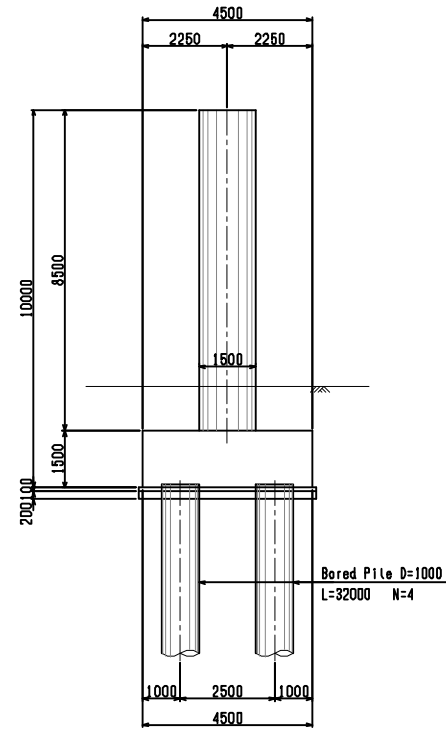
Drawing No: B-8  
SHEET No:

P5

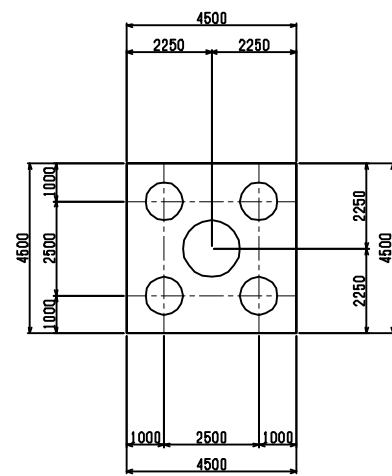
FRONT VIEW



SIDE VIEW

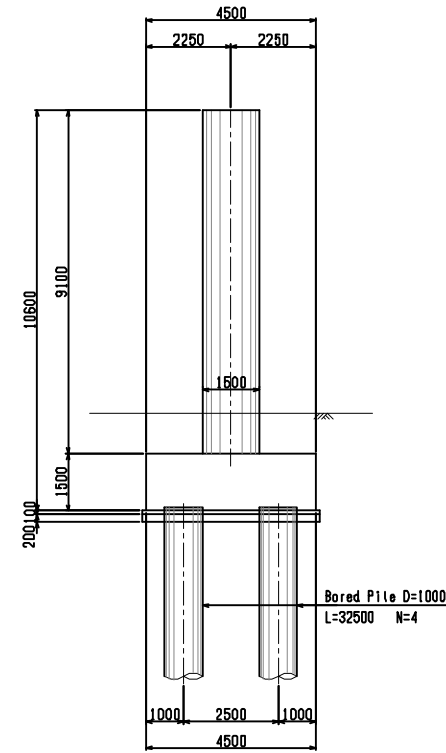


PLAN VIEW

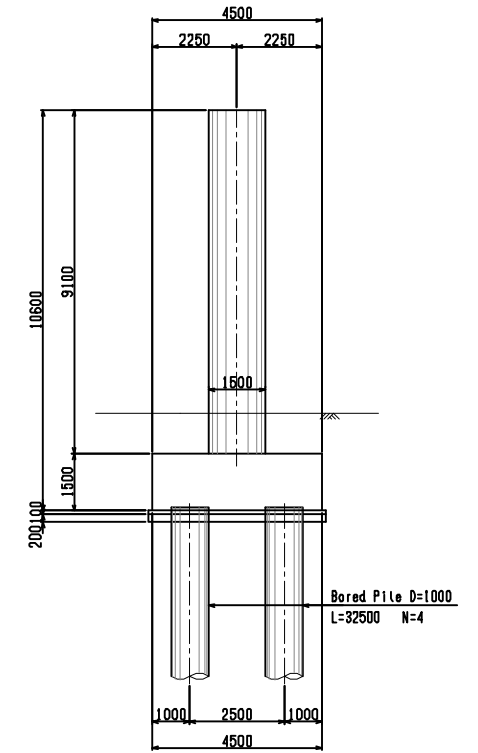


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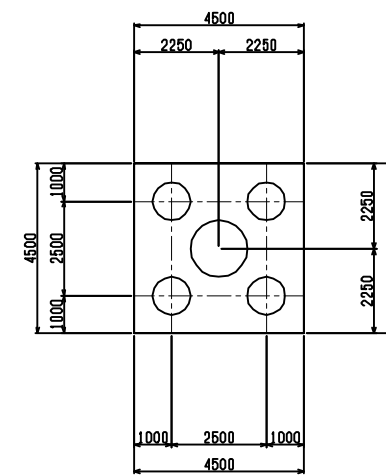
FRONT VIEW



SIDE VIEW



PLAN VIEW



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PROJECT  
The Preparatory Survey for  
Improvement of SOUBRA Intersection  
(Outline Design)

TITLE:  
Substructure & Foundation (4)

Scale:  
1:200 (A3)

DESIGNED BY:			
DRAWN BY:			
CHECKED BY:			
APPROVED BY:			
DATE:			

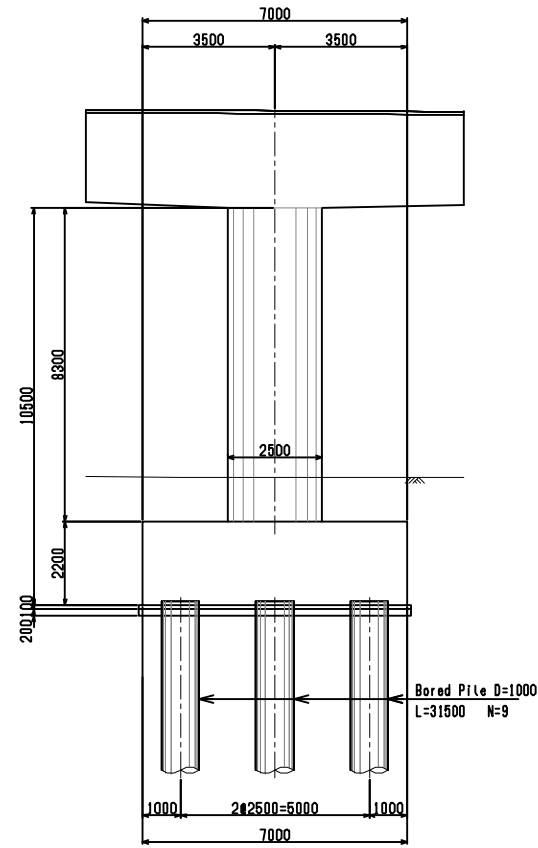
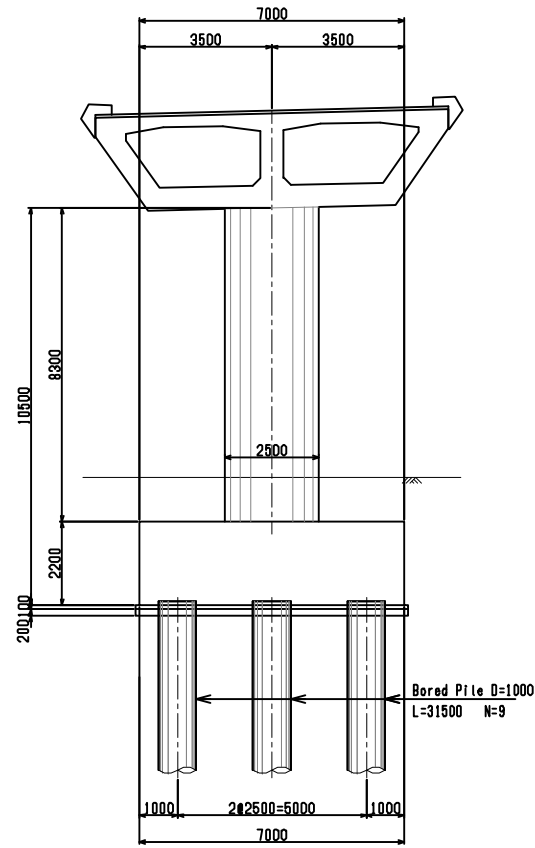
Drawing No: B-9  
SHEET No:

P7

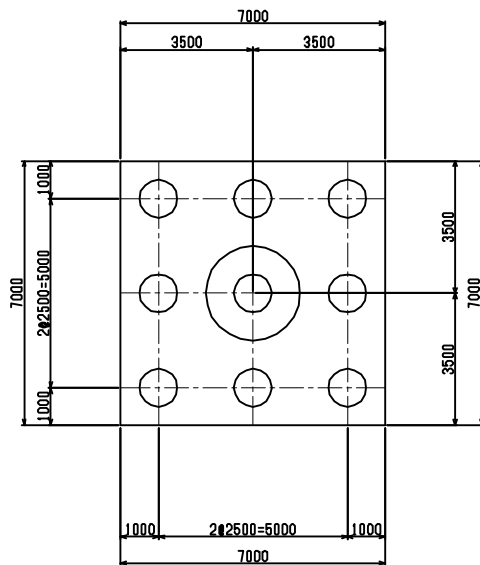
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FRONT VIEW

SIDE VIEW

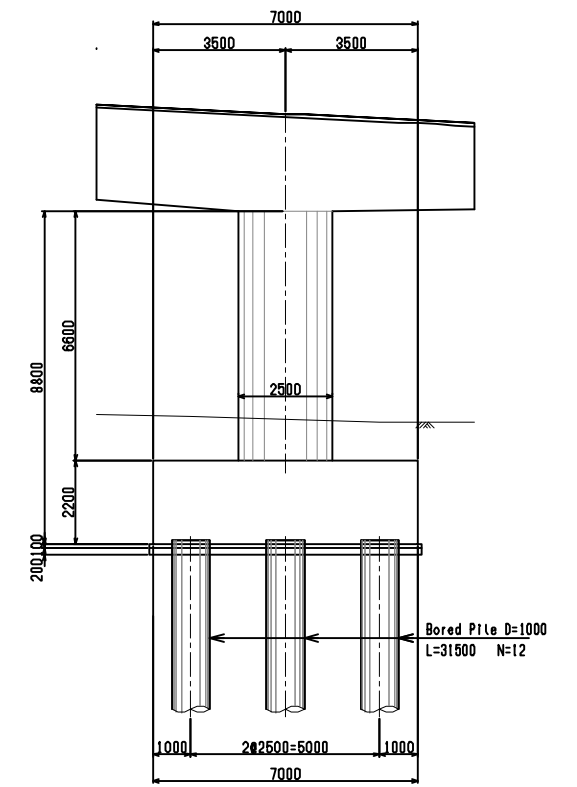
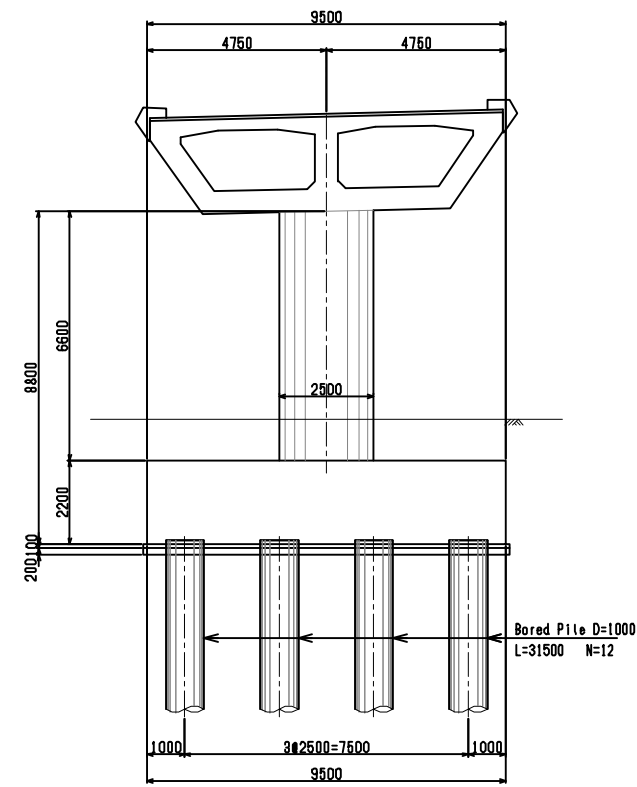


PLAN VIEW

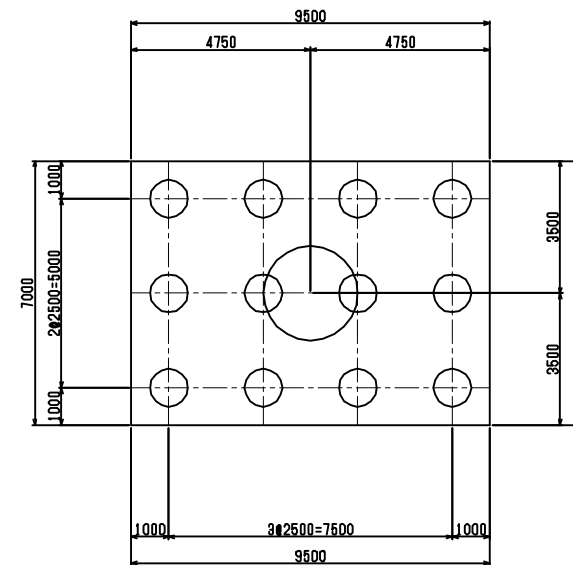


FRONT VIEW

SIDE VIEW



PLAN VIEW



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 Improvement of SOLIBRA Intersection  
 (Outline Design)

TITLE:  
 Substructure & Foundation (5)

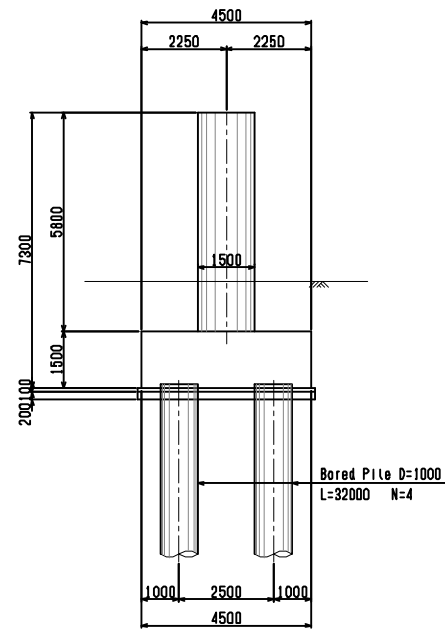
Scale:  
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DESIGNED BY:		
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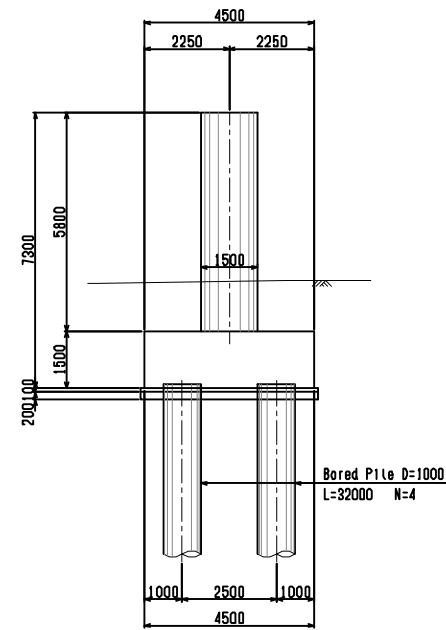
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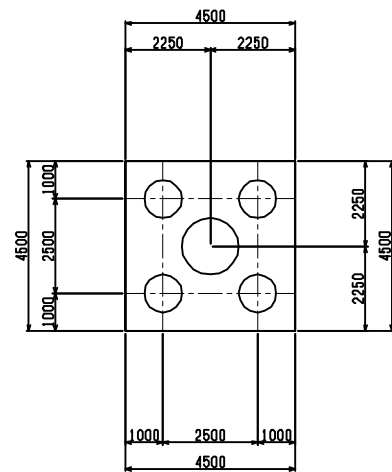
FRONT VIEW



SIDE VIEW

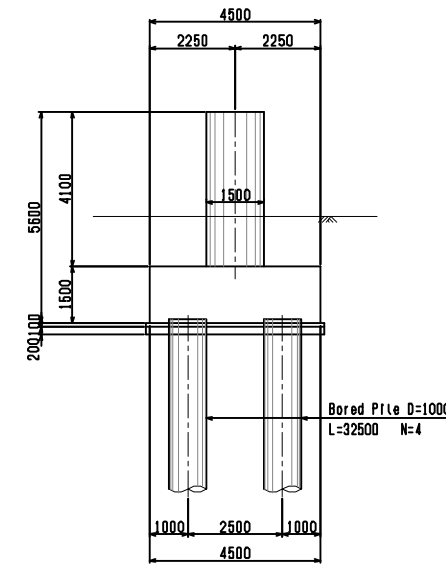


PLAN VIEW

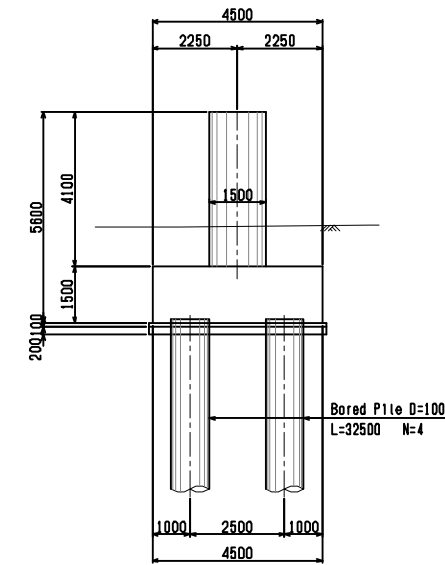


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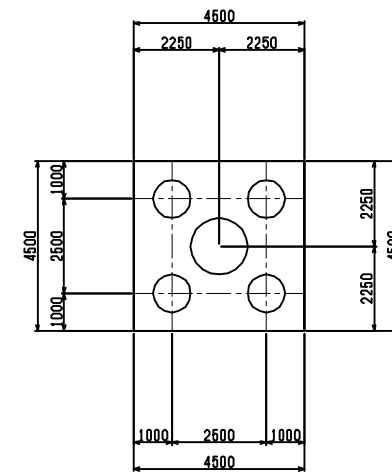
FRONT VIEW



SIDE VIEW



PLAN VIEW



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PROJECT  
The Preparatory Survey for  
Improvement of SOJIBRA Intersection  
(Outline Design)

TITLE:  
Substructure & Foundation (6)

Scale:  
1:200 (A3)

DESIGNED BY:		
DRAWN BY:		
CHECKED BY:		
APPROVED BY:		
DATE:		

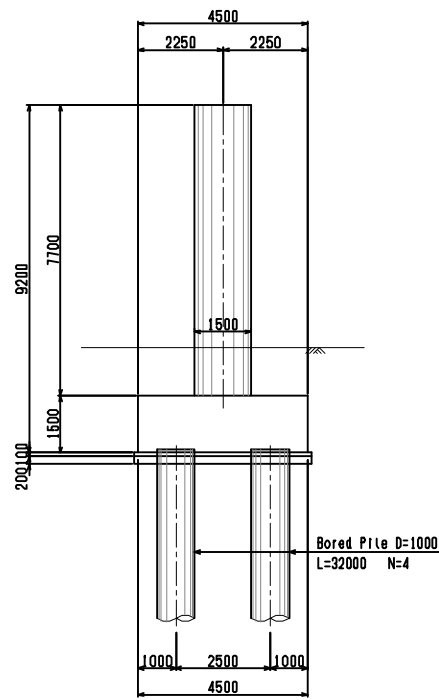
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SHEET No:

SUBSTRUCTURE AND FOUNDATION (7) S=1:200

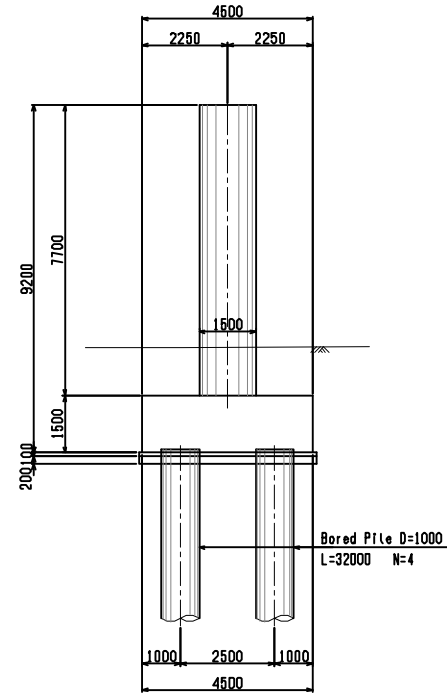
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P5'

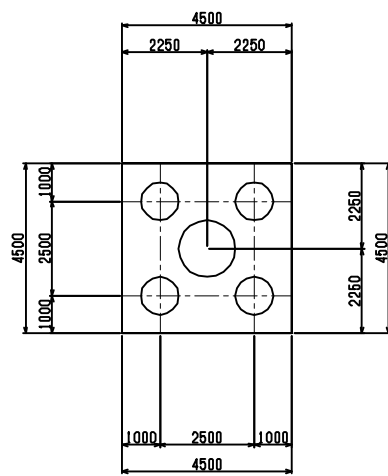
FRONT VIEW



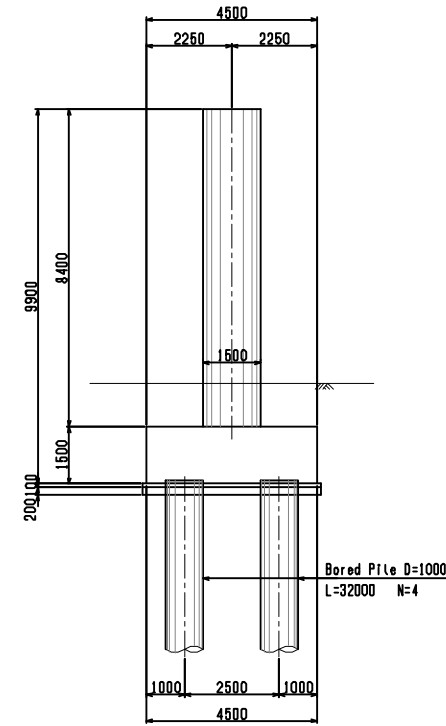
SIDE VIEW



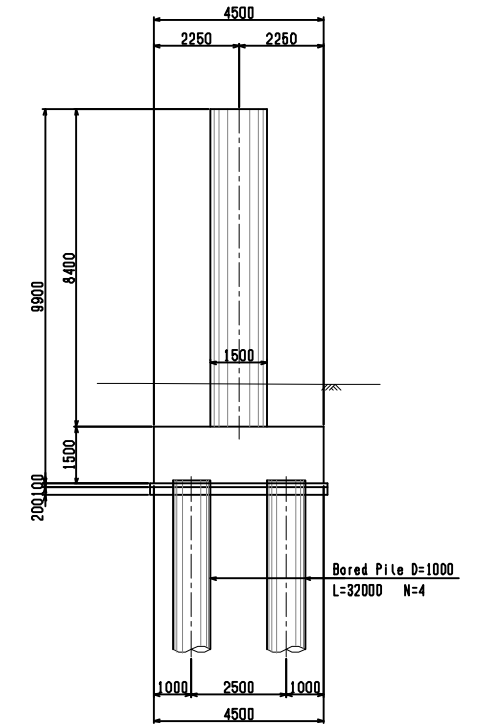
PLAN VIEW



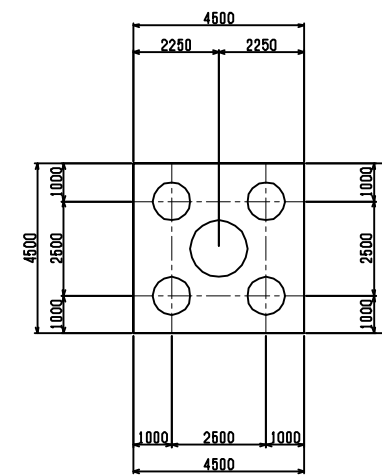
FRONT VIEW



SIDE VIEW



PLAN VIEW



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DIRECTOR RESPONSIBLE FOR DESIGN:				
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 and  
 Asia Air Survey Co., Ltd.

PROJECT  
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 Improvement of SOUBRA Intersection  
 (Outline Design)

TITLE:  
 Substructure & Foundation (7)

Scale:  
 1:200 (A3)

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
DATE:	

Drawing No: B-12  
 SHEET No:

P6'

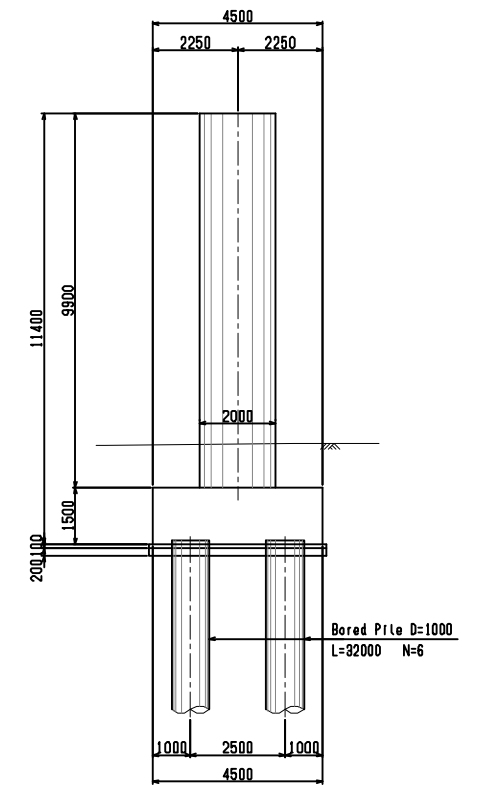
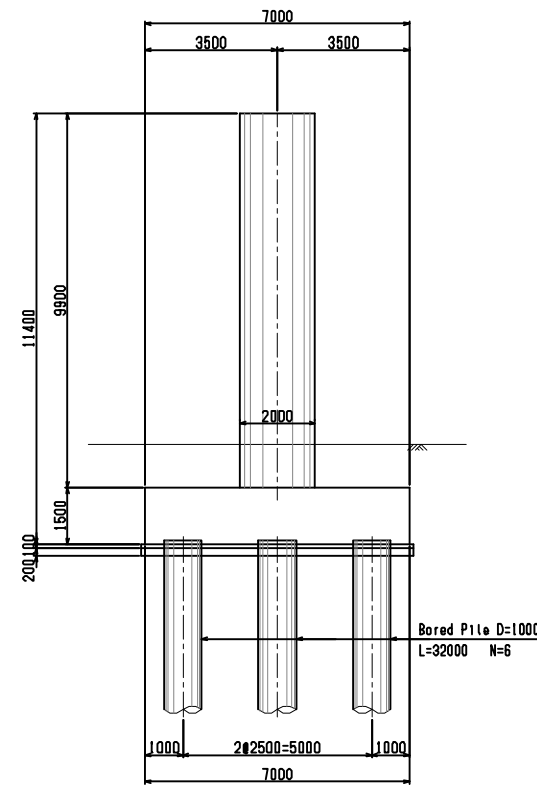
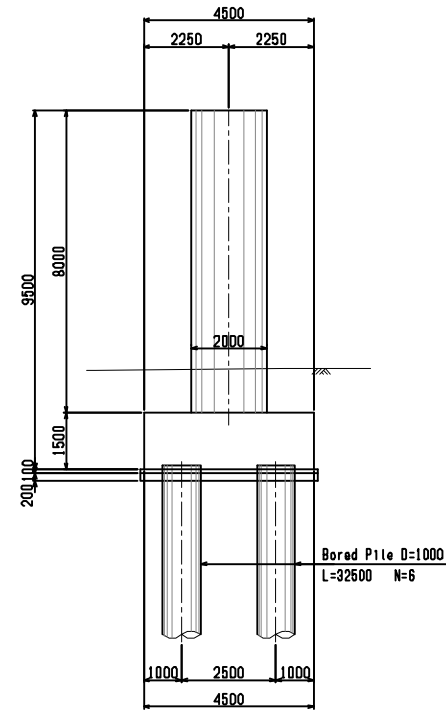
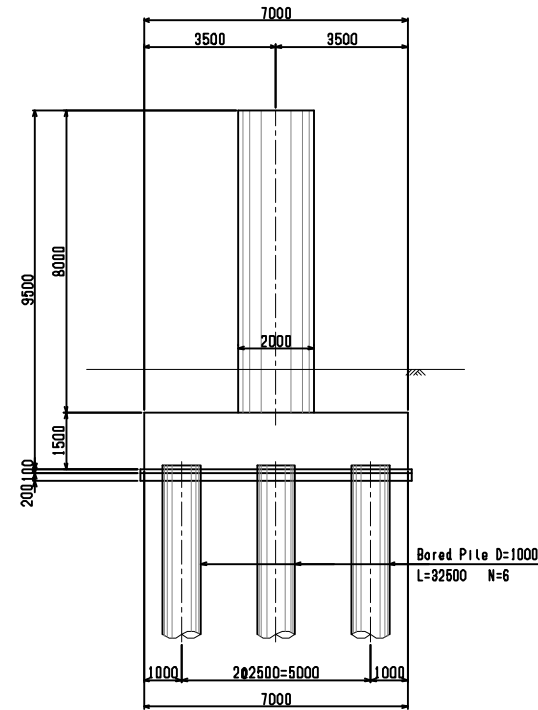
P7'

FRONT VIEW

SIDE VIEW

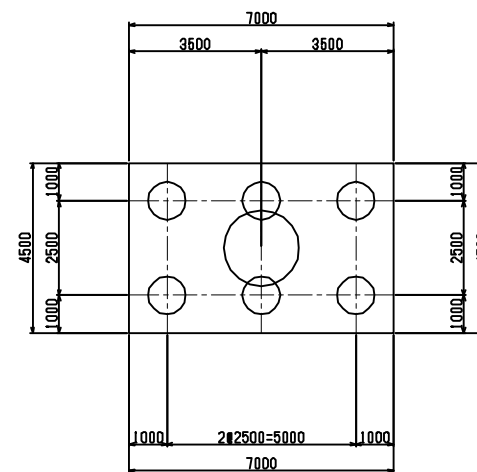
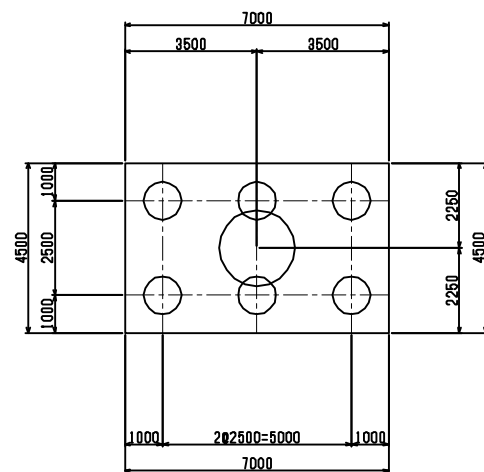
FRONT VIEW

SIDE VIEW



PLAN VIEW

PLAN VIEW



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 (Outline Design)

TITLE:  
 Substructure & Foundation (8)

Scale:  
 1:200 (A3)

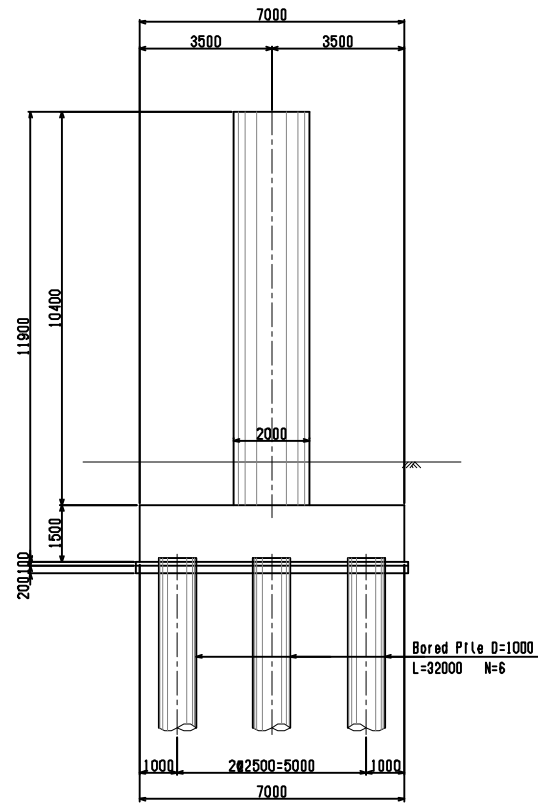
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DRAWN BY:		
CHECKED BY:		
APPROVED BY:		
DATE:		

Drawing No: B-13  
 SHEET No:

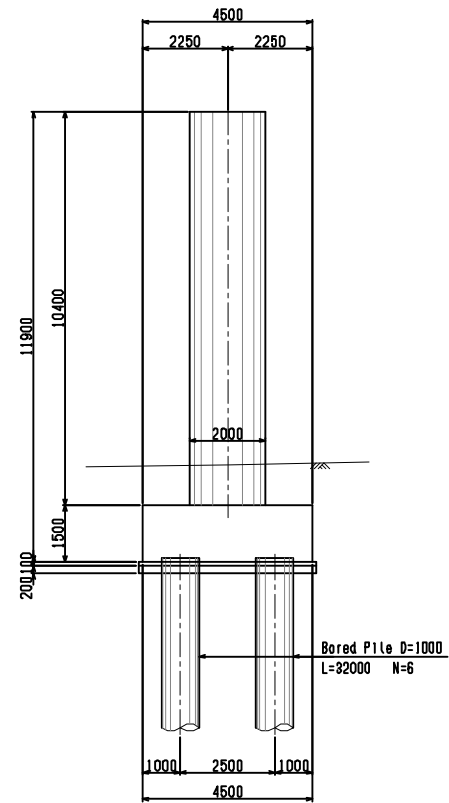


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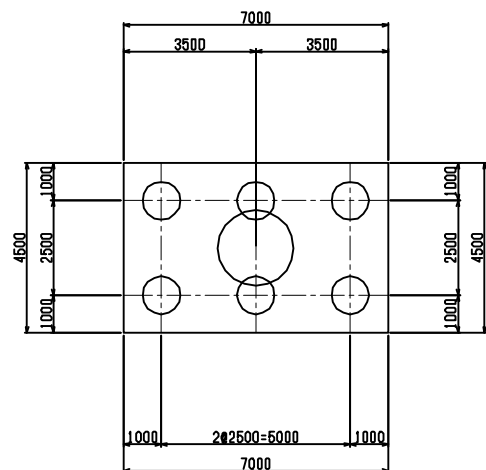
FRONT VIEW



SIDE VIEW

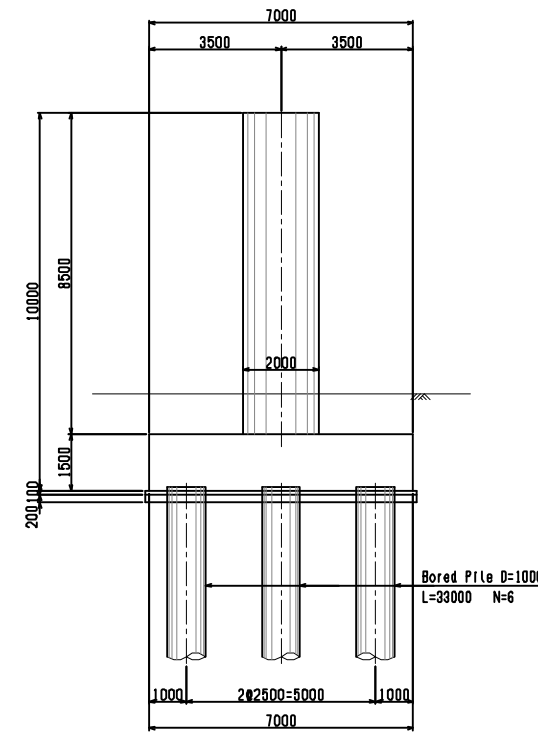


PLAN VIEW

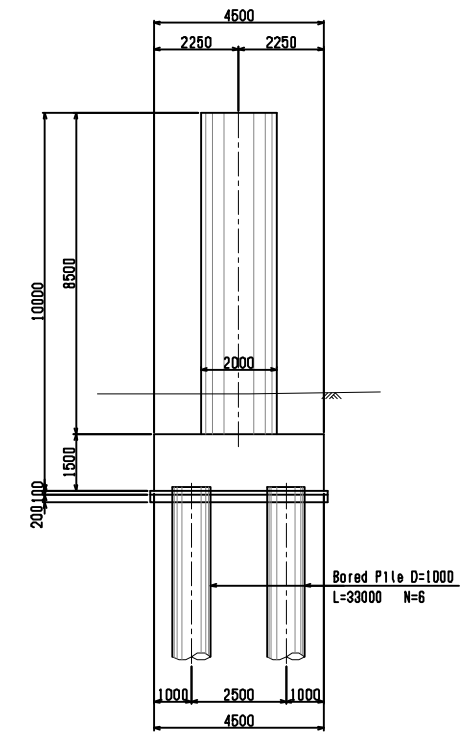


P9'

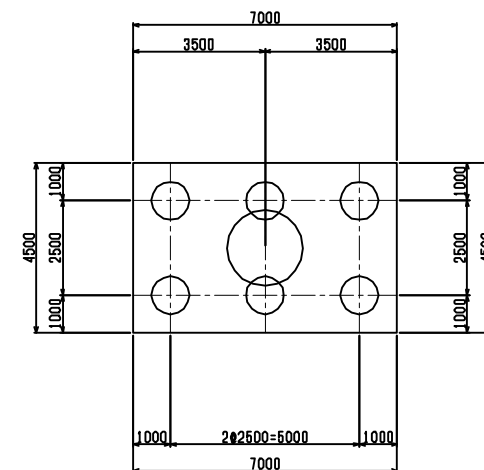
FRONT VIEW



SIDE VIEW



PLAN VIEW



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TITLE:  
 Substructure & Foundation (9)

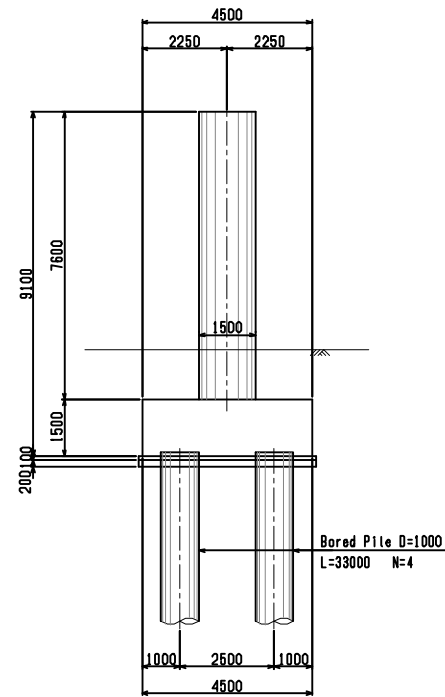
Scale:  
 1:200 (A3)

DESIGNED BY:		
DRAWN BY:		
CHECKED BY:		
APPROVED BY:		
DATE:		

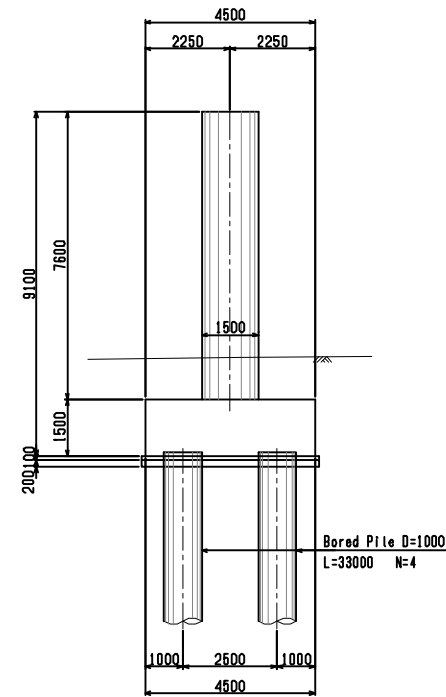
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P10'

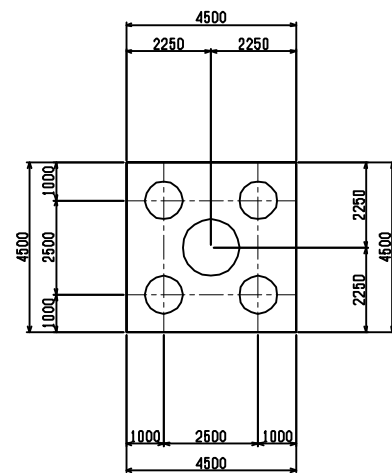
FRONT VIEW



SIDE VIEW

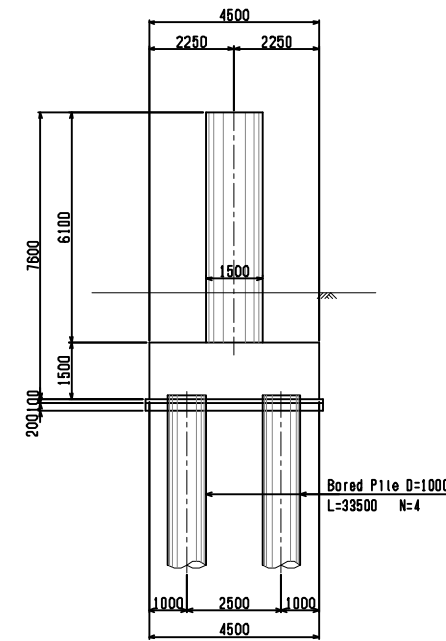


PLAN VIEW

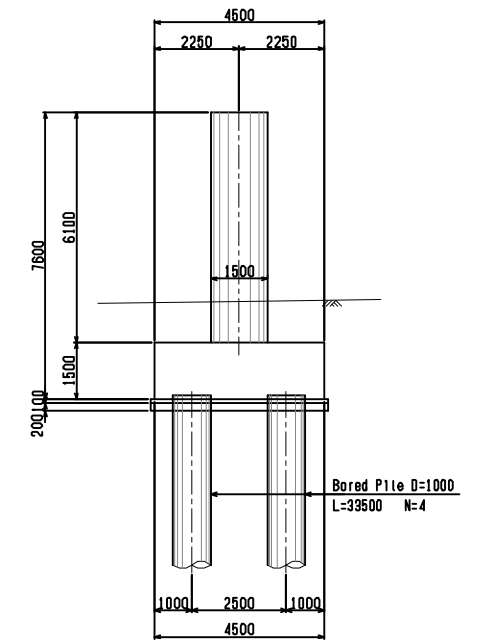


P11'

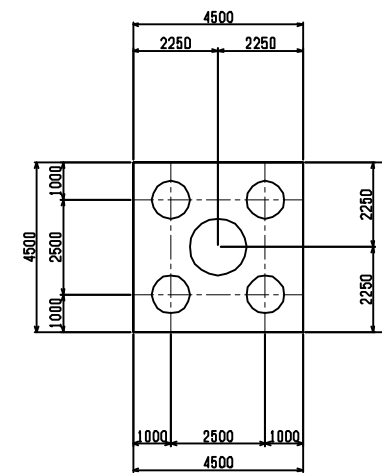
FRONT VIEW



SIDE VIEW



PLAN VIEW



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Substructure & Foundation (10)

Scale:  
1:200 (A3)

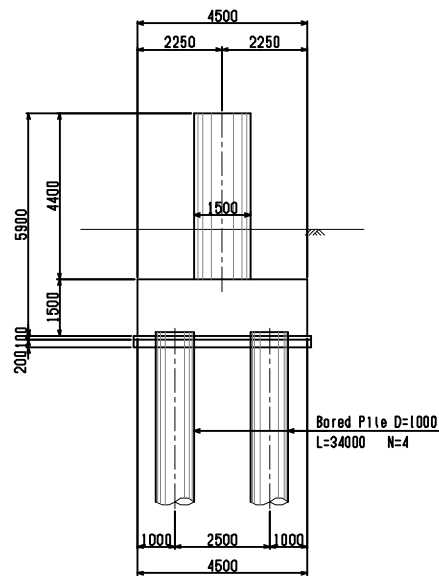
DESIGNED BY:			
DRAWN BY:			
CHECKED BY:			
APPROVED BY:			
DATE:			

Drawing No: B-15  
SHEET No:

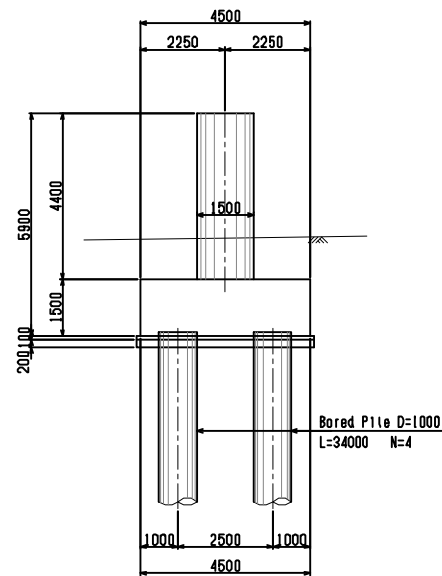
P12'

A2'

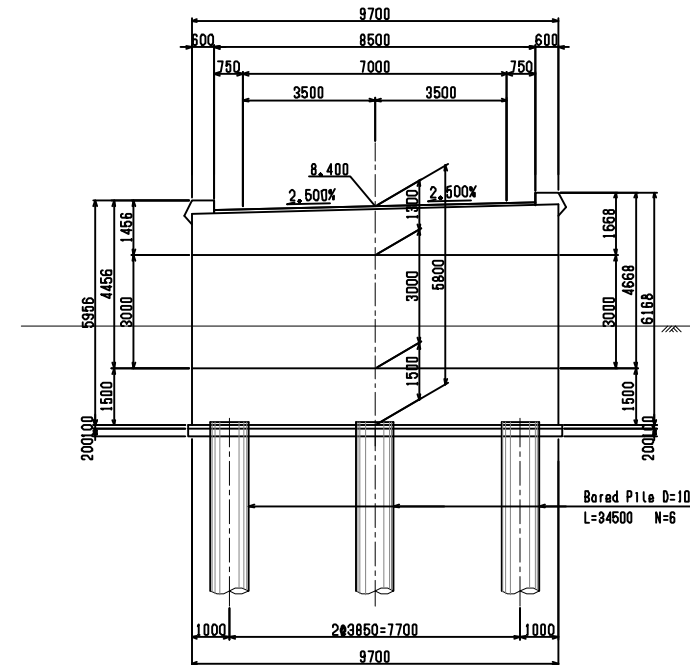
FRONT VIEW



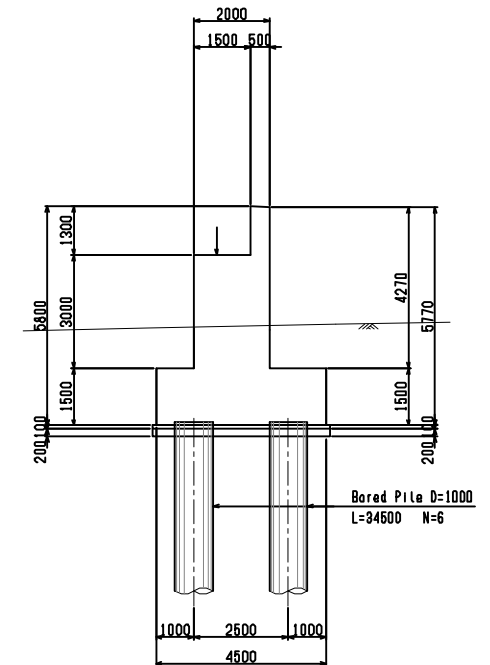
SIDE VIEW



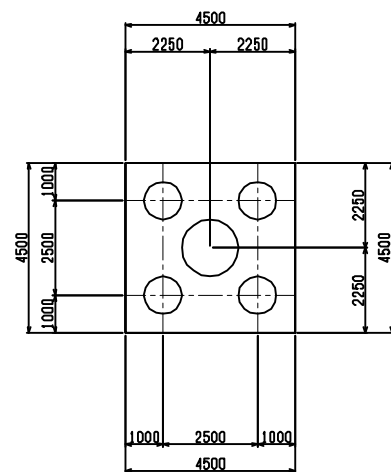
FRONT VIEW



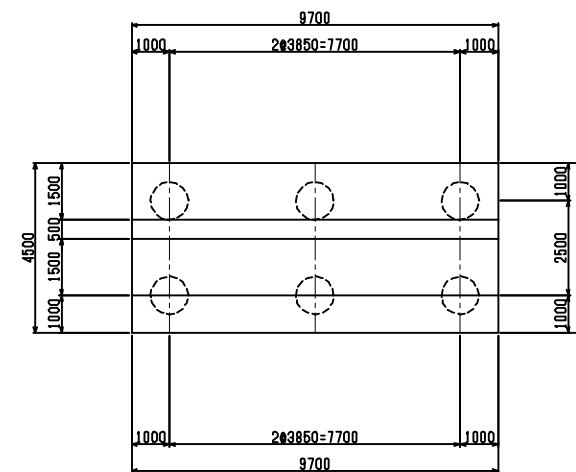
SIDE VIEW



PLAN VIEW



PLAN VIEW



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TITLE:  
Substructure & Foundation (11)

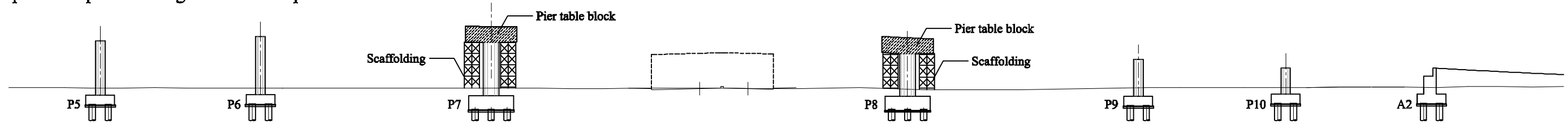
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DESIGNED BY:		
DRAWN BY:		
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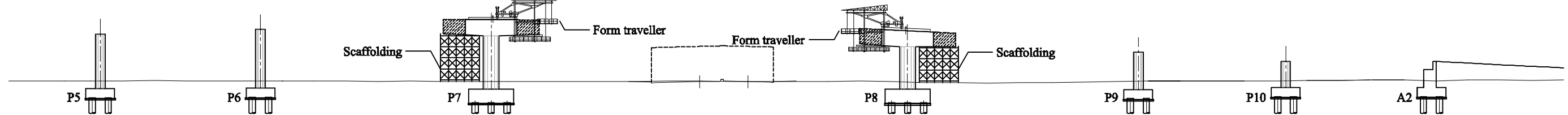
Drawing No: B-16  
SHEET No:

# SOLIBRA F/O BRIDGE ERECTION PROCEDURE S=NTS

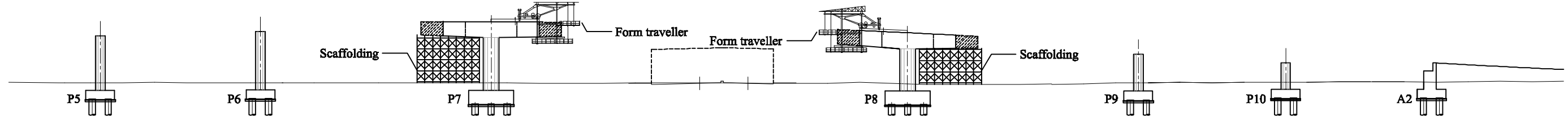
**Step-1: Set up scaffolding and build the pier table block**



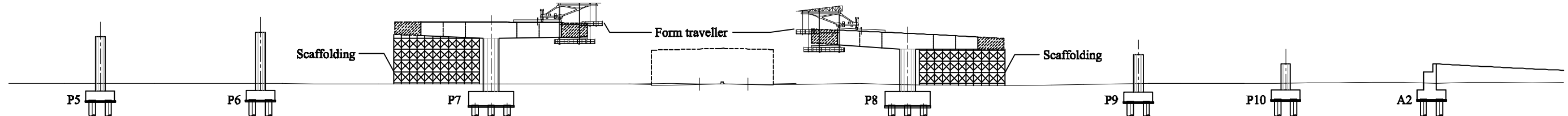
**Step-2: Install the form traveller system, cast and stress the first pair of segments**



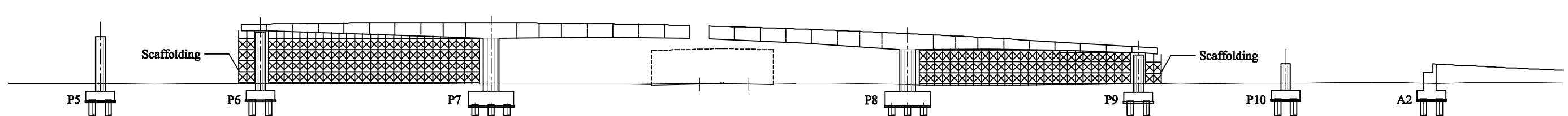
**Step-2': Move the form traveller, cast and stress the second pair of segments**



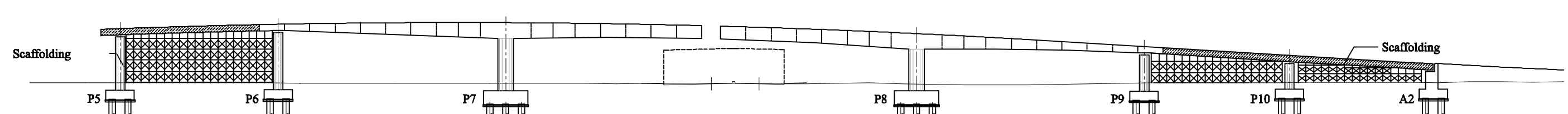
**Step-2'': Move the form traveller, cast and stress the third pair of segments**



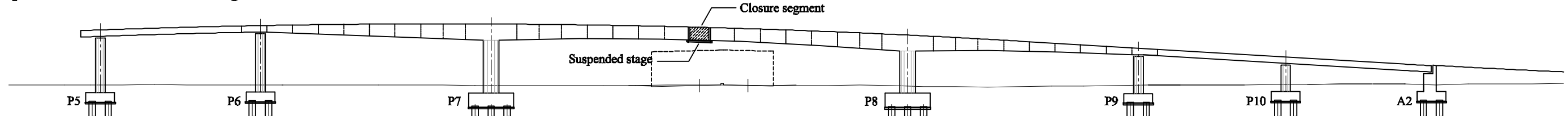
**Step-2''': Successively move the form traveller, cast and stress each pair of segments**



**Step-3: Assemble the spans P5-P6 and P9-A2**

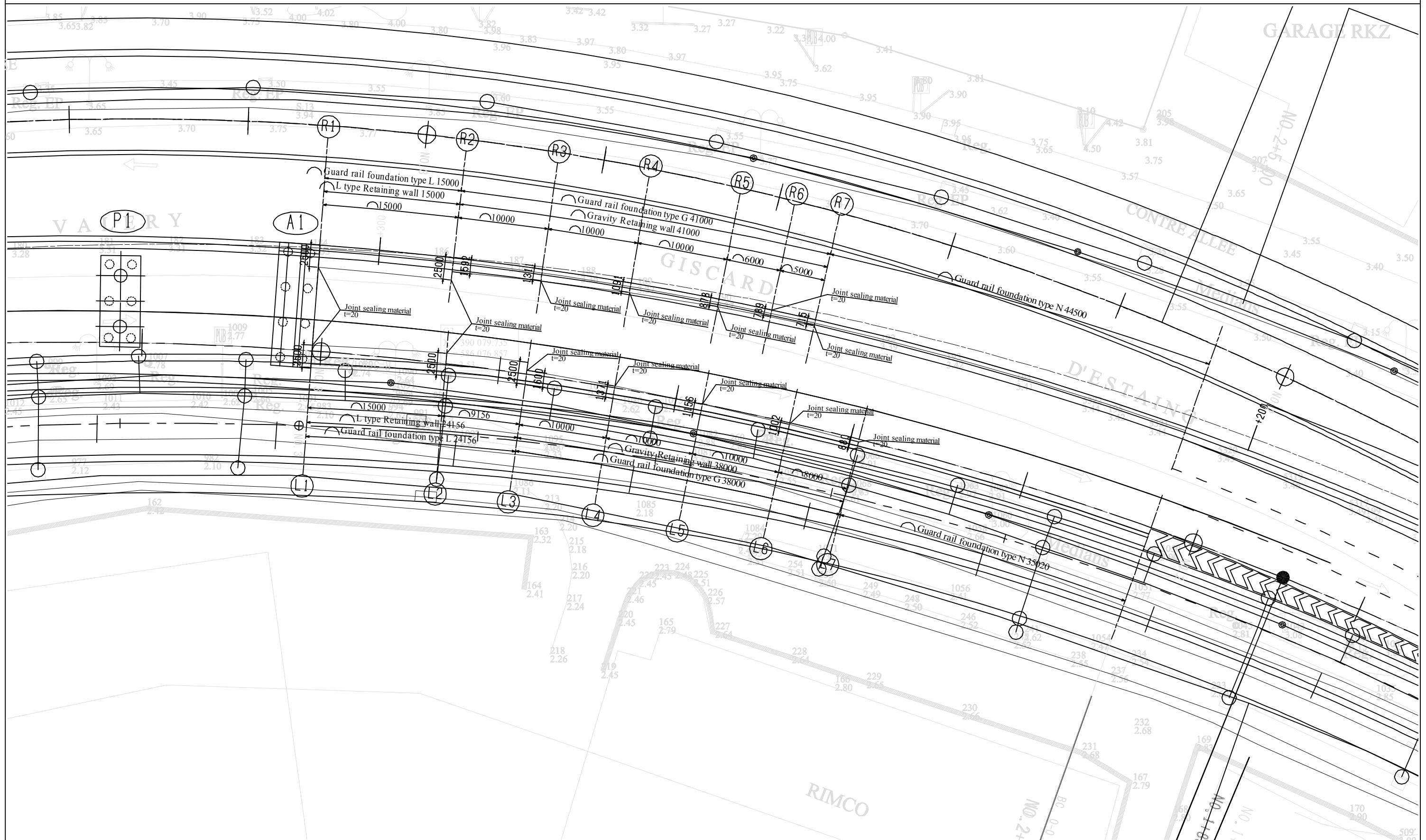


**Step-4: Assemble the closure segment**



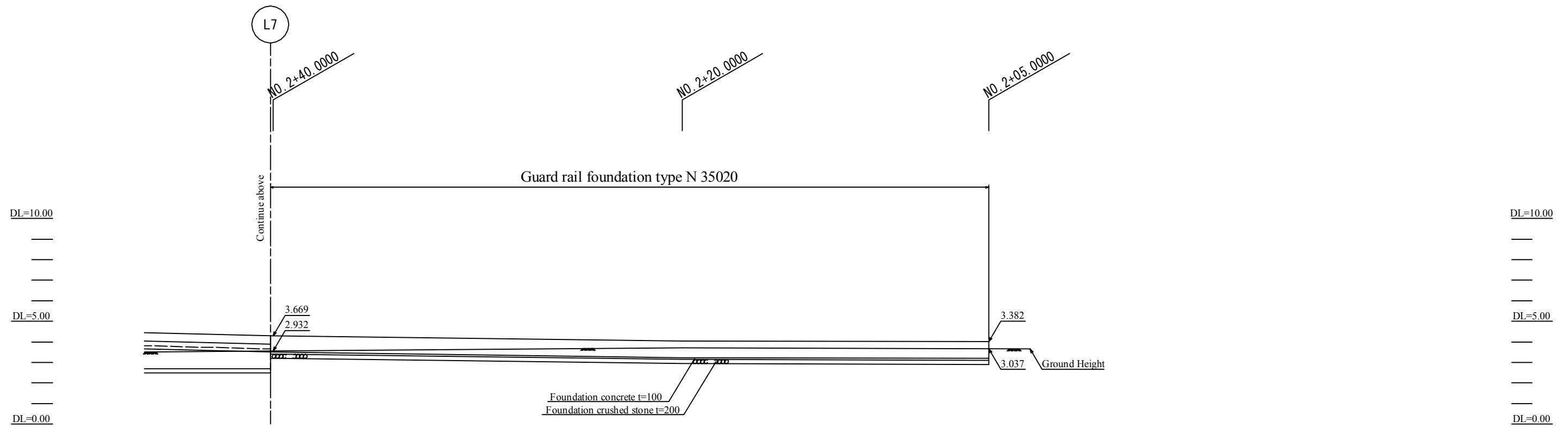
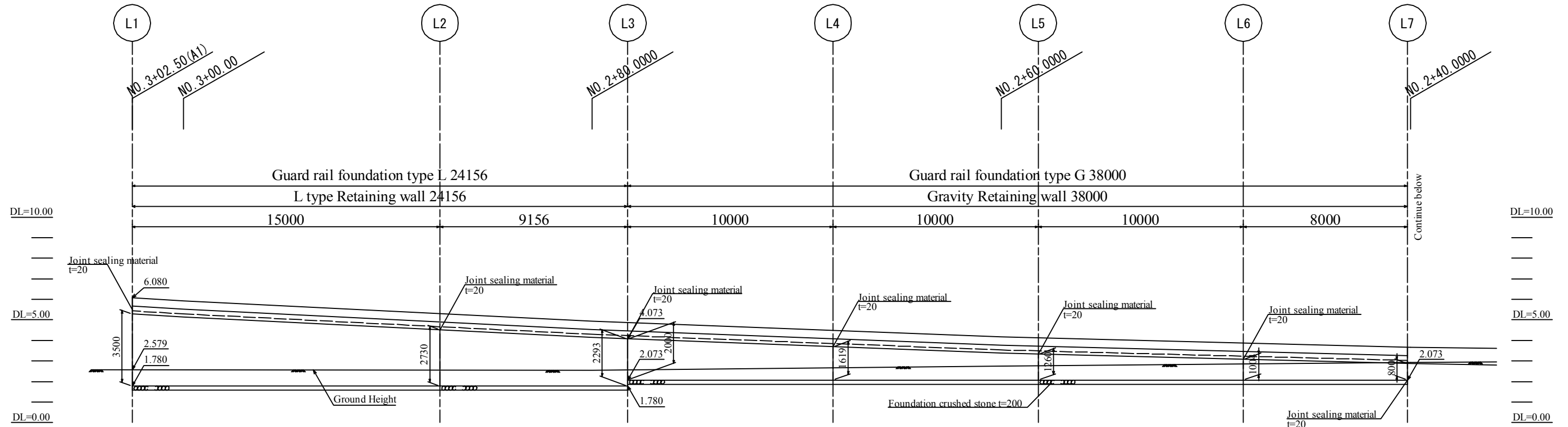
CLIENT Japan International Cooperation Agency (JICA)	CLIENTS APPROVAL:	REVISION	DESCRIPTION	BY	DATE	CONSULTANT The Consortium of Oriental Consultants Global Co., Ltd., Central Consultant Inc., and Asia Air Survey Co., Ltd.	PROJECT The Preparatory Survey for Improvement of SOLIBRA Intersection (Outline Design)	TITLE: SOLIBRA F/O BRIDGE ERECTION PROCEDURE	Scale: 1:1000 (A3)	DESIGNED BY:		Drawing No: B-17 SHEET No:
	DIRECTOR RESPONSIBLE FOR DESIGN:									CHECKED BY:		
	SIGNATURE:      DATE:									APPROVED BY:		
	STAMP:									DATE:		

# Retaining wall - Plan (A1)



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	DIRECTOR RESPONSIBLE FOR HIGHWAY DESIGN:									CHECKED BY:		
	SIGNATURE:      DATE:									APPROVED BY:		
	STAMP:									DATE:		

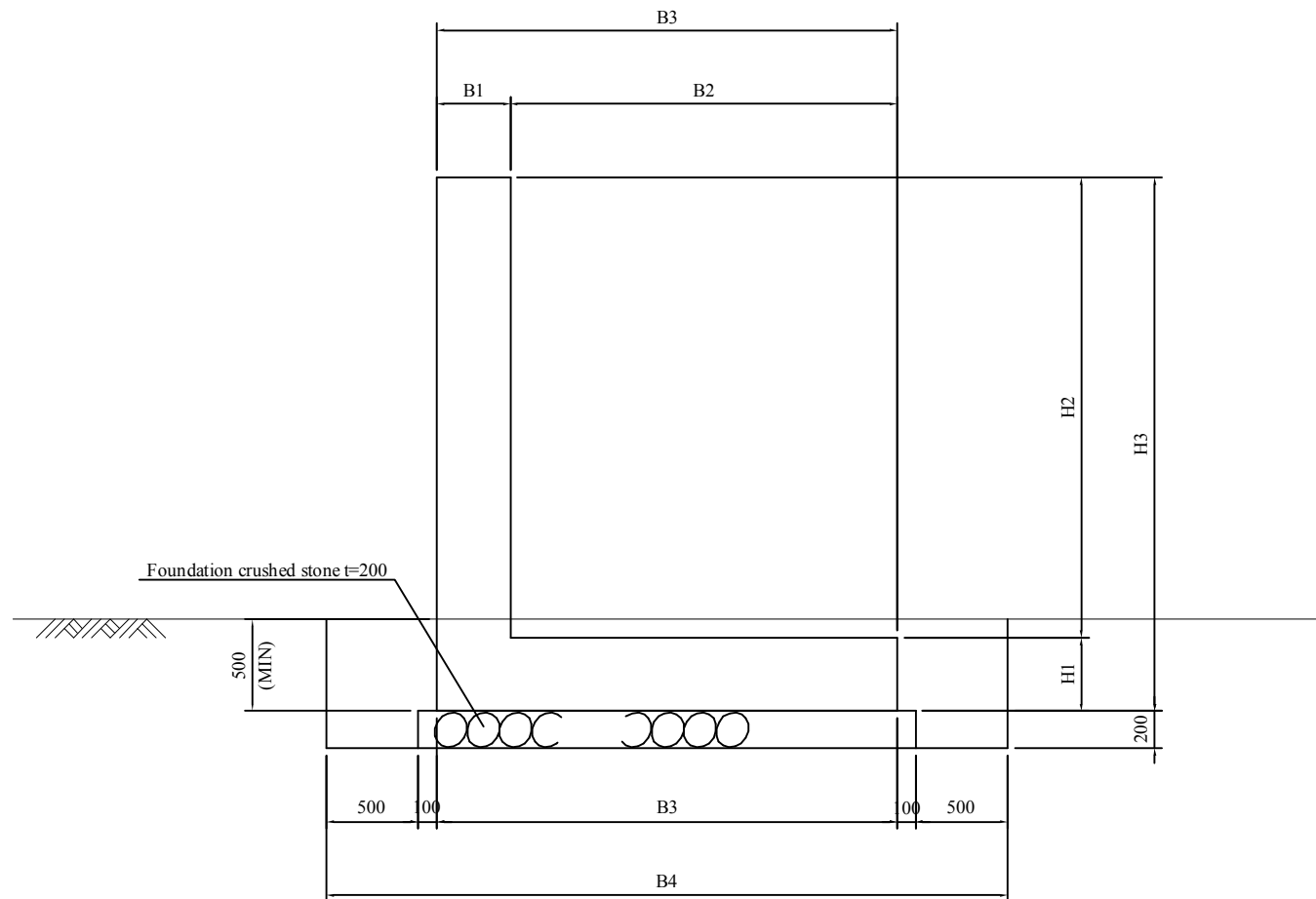
FO W-E A1 (L)



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	DIRECTOR RESPONSIBLE FOR HIGHWAY DESIGN:							Retaining Wall (2)		DRAWN BY:			
	SIGNATURE:      DATE:									CHECKED BY:			
	STAMP:									APPROVED BY:			
													Drawing No: B-19 SHEET No:

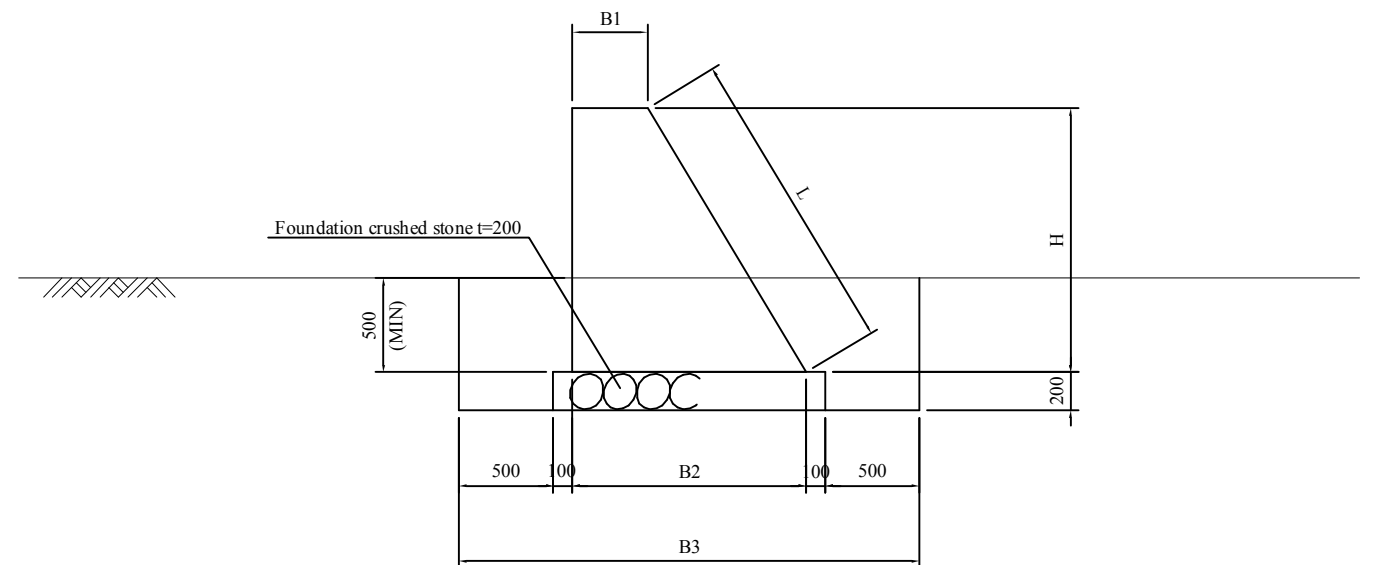
FO W-E A1 (L)

L type Retaining wall




	L1	L2	L3
B1	400	400	400
B2	2100	2100	2100
B3	2500	2500	2500
B4	3700	3700	3700
H1	400	400	400
H2	3100	2330	1893
H3	3500	2730	2293

Gravity Retaining wall



	L3	L4	L5	L6	L7
B1	400	400	400	400	400
B2	1600	1371	1156	1002	880
B3	2800	2571	2356	2202	2080
H	2000	1619	1260	1004	800
L	2332	1888	1469	1171	933

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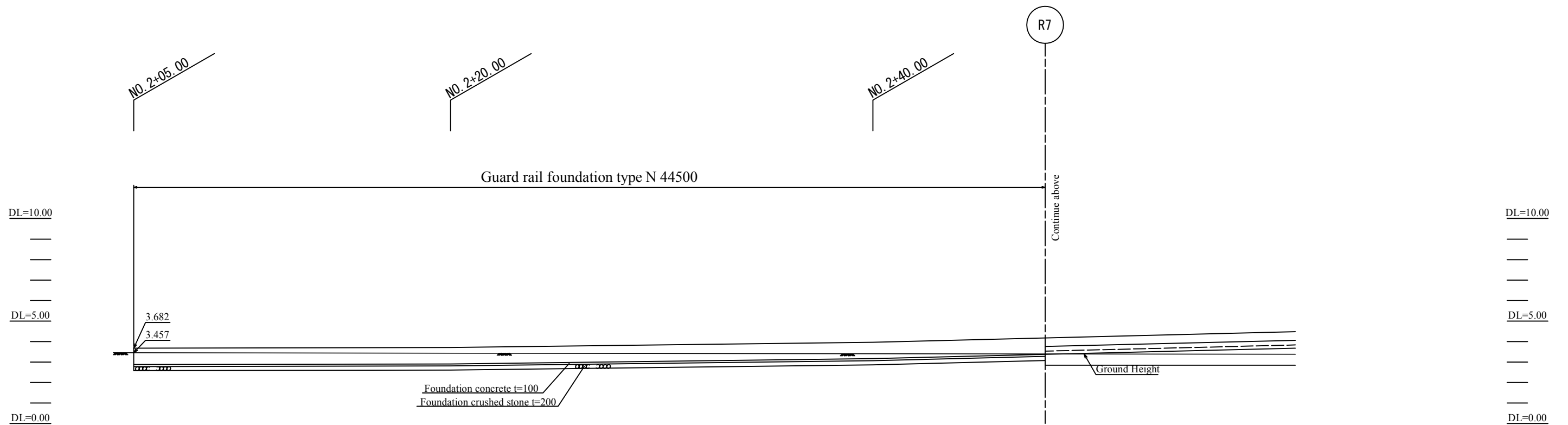
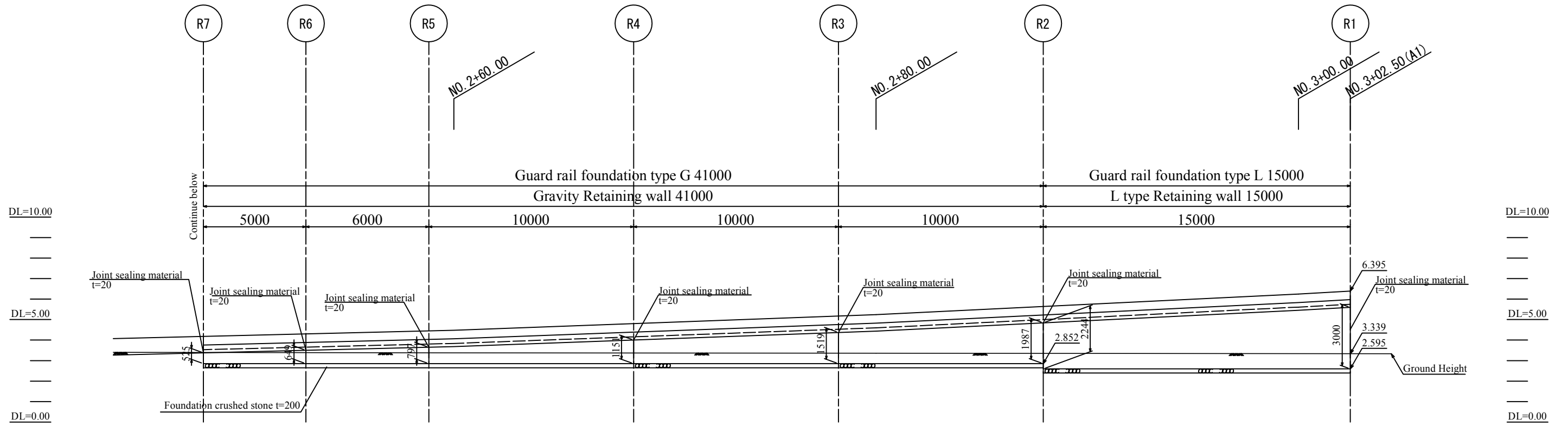
TITLE:  
 Retaining Wall (3)


Scale:  
 NTS

DESIGNED BY:			
DRAWN BY:			
CHECKED BY:			
APPROVED BY:			
DATE:			

Drawing No: B-20  
 SHEET No:

FO W-E A1(R)

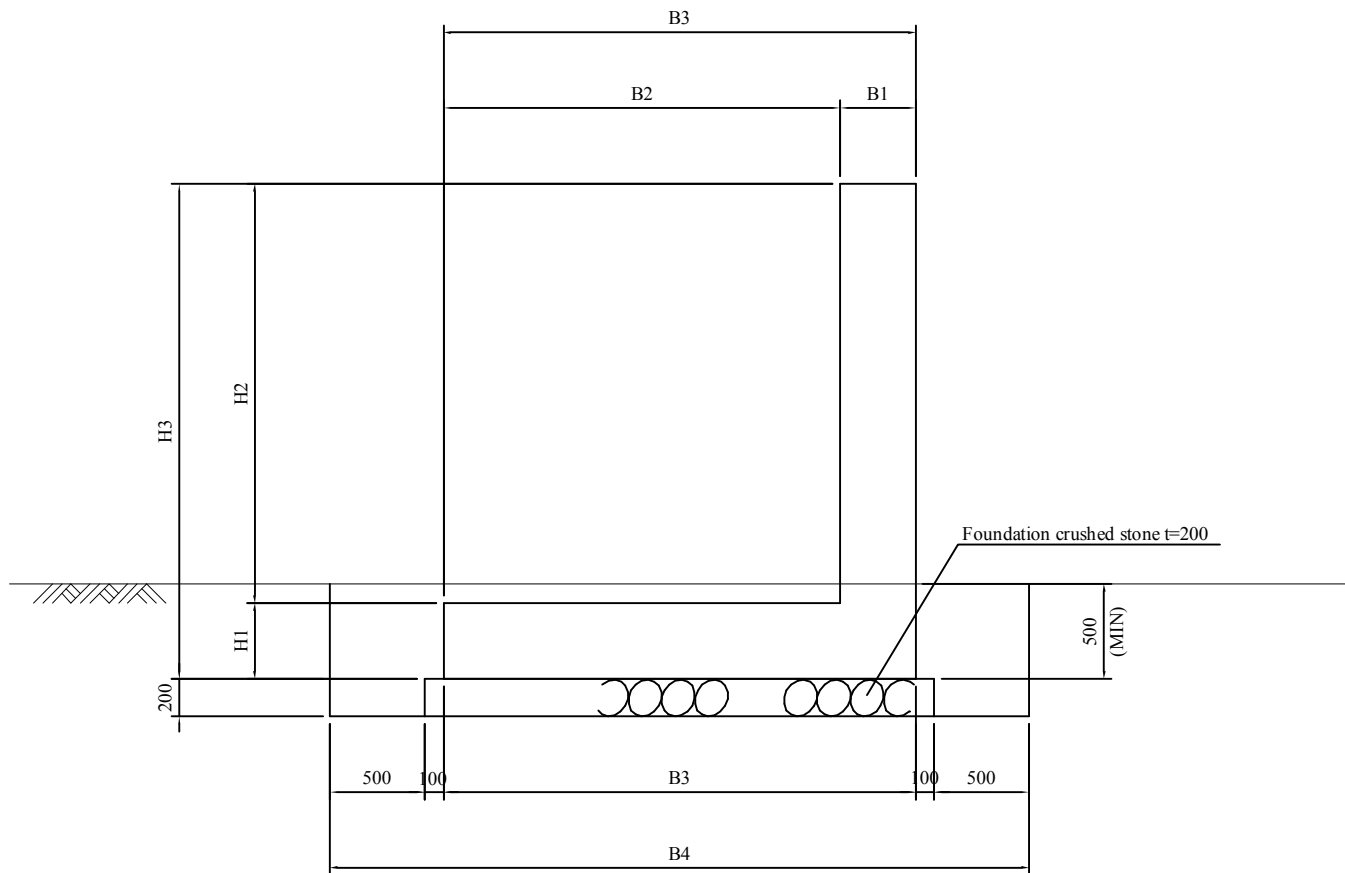


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	DIRECTOR RESPONSIBLE FOR HIGHWAY DESIGN:									DRAWN BY:			
	SIGNATURE:      DATE:									CHECKED BY:			
	STAMP:									APPROVED BY:			
										DATE:			



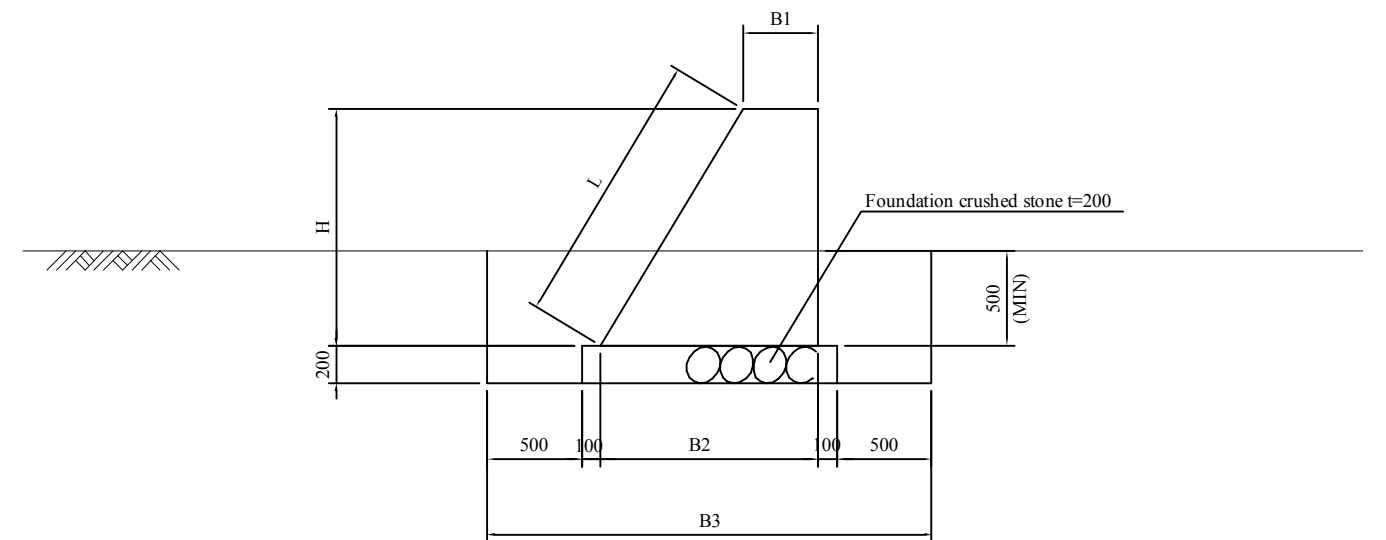
FO W-E A1 (R)

L type Retaining wall




	R1	R2
B1	400	400
B2	2100	2100
B3	2500	2500
B4	3700	3700
H1	400	400
H2	2600	1844
H3	3000	2244

Gravity Retaining wall



	R2	R3	R4	R5	R6	R7
B1	400	400	400	400	400	400
B2	1592	1311	1091	878	789	715
B3	2792	2511	2291	2078	1989	1915
H	1987	1519	1151	797	649	525
L	2317	1771	1342	929	757	612

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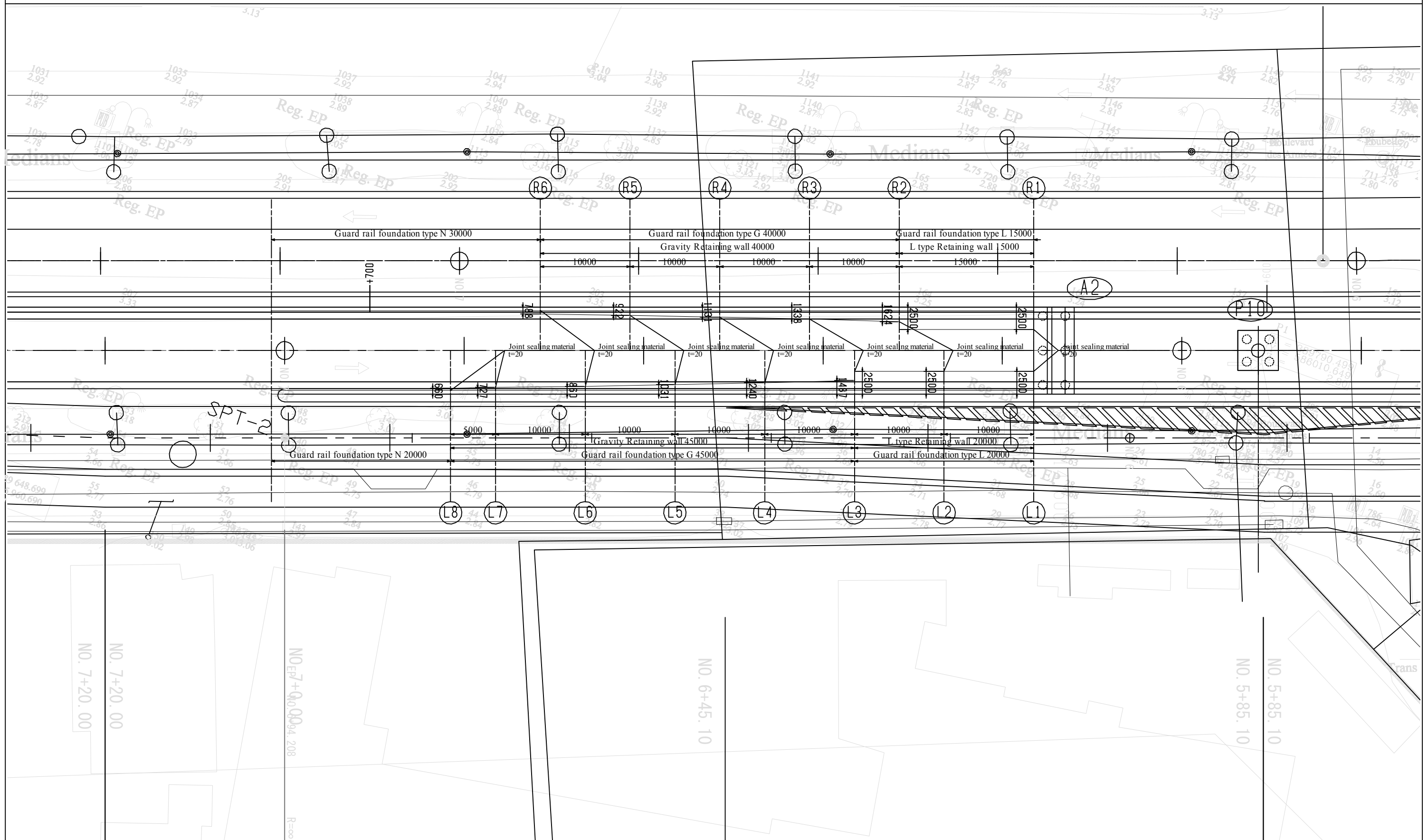
TITLE:  
Retaining Wall(5)

Scale:  
NTS

DESIGNED BY:	CHECKED BY:	APPROVED BY:	DATE:

Drawing No:B-22  
SHEET No:

# Retaining wall - Plan (A2)

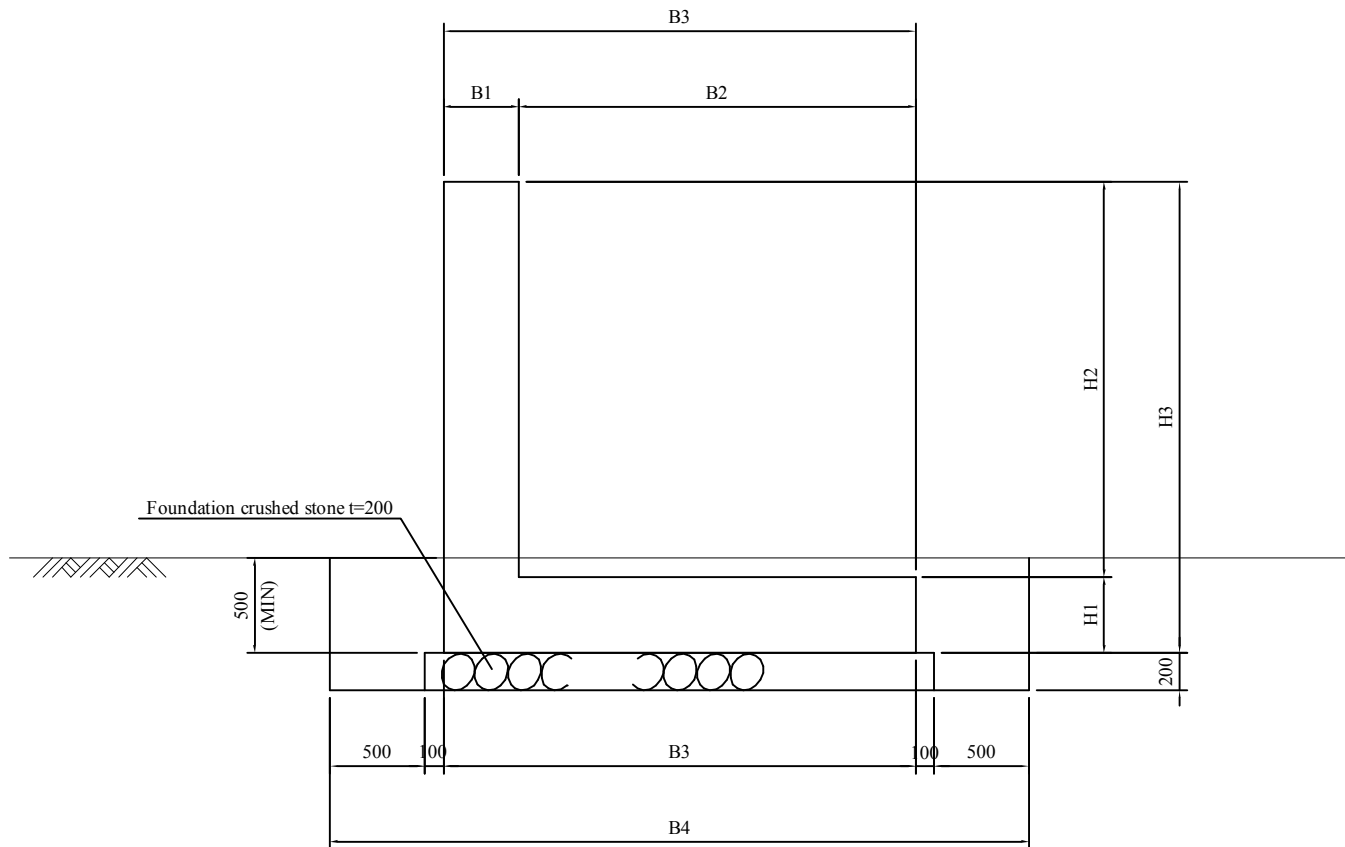


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	DIRECTOR RESPONSIBLE FOR HIGHWAY DESIGN:									CHECKED BY:		
	SIGNATURE:      DATE:									APPROVED BY:		
	STAMP:									DATE:		



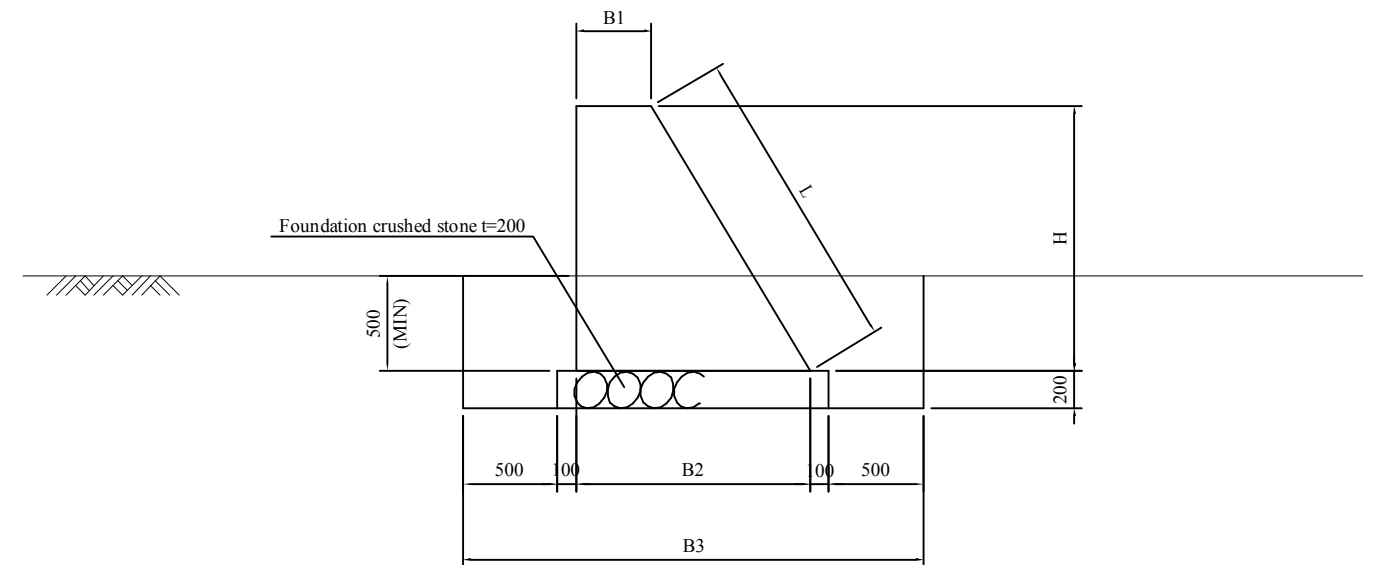
FO W-E A2 (L)

L type Retaining wall




	L1	L2	L3
B1	400	400	400
B2	2100	2100	2100
B3	2500	2500	2500
B4	3700	3700	3700
H1	400	400	400
H2	2600	2058	1584
H3	3000	2458	1984

Gravity Retaining wall



	L3	L4	L5	L6	L7	L8
B1	400	400	400	400	400	400
B2	1487	1240	1031	860	727	660
B3	2687	2440	2231	2060	1927	1860
H	1811	1400	1052	767	545	434
L	2112	1633	1227	894	636	506

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(Outline Design)

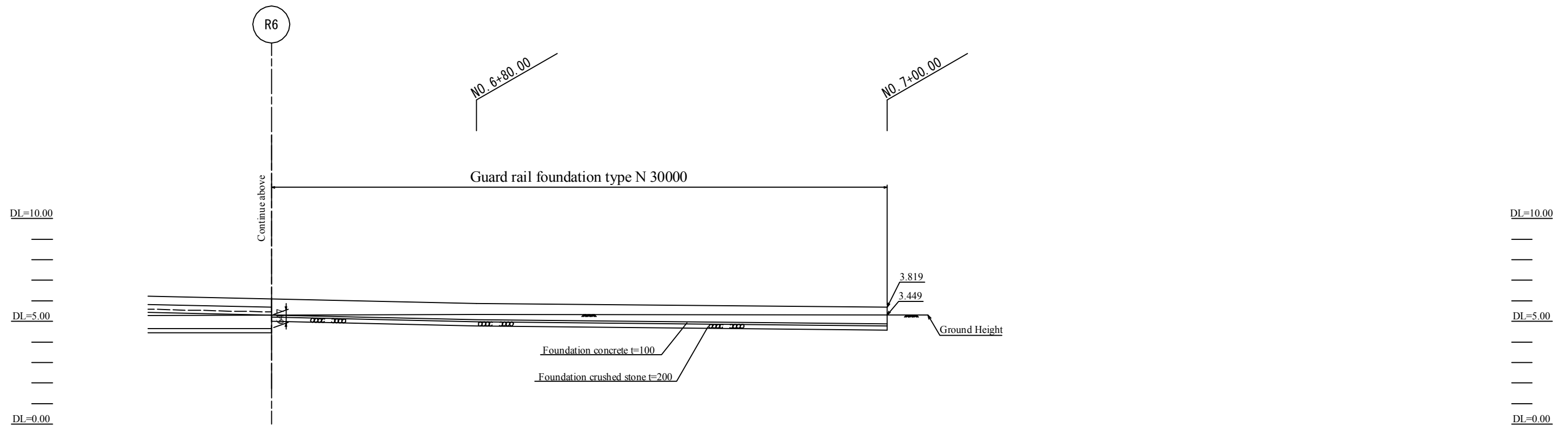
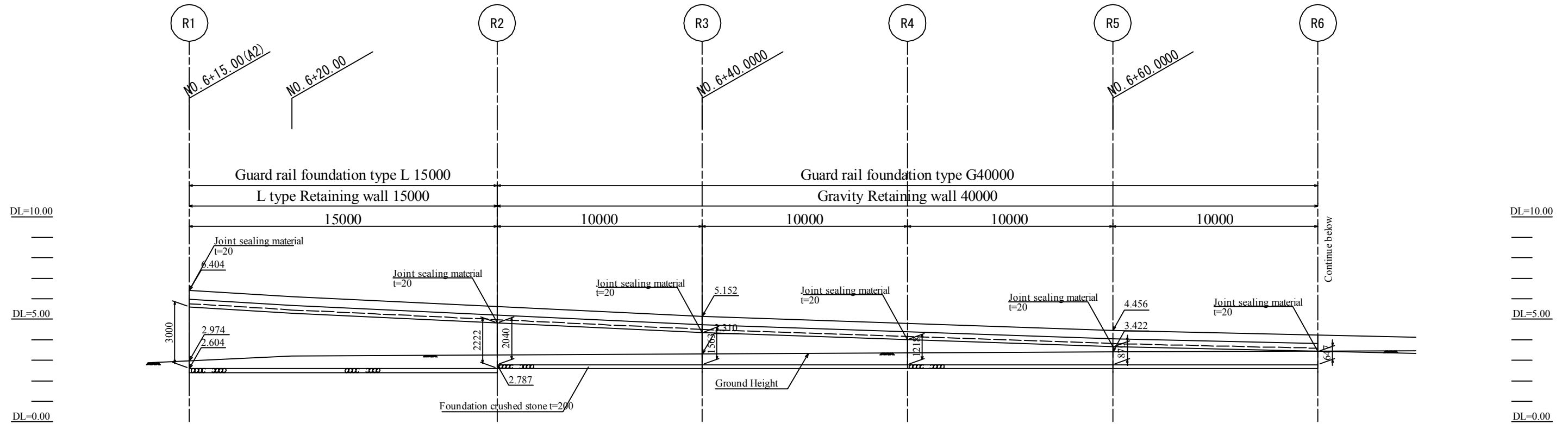
TITLE:  
Retaining Wall (8)


Scale:  
NTS

DESIGNED BY:			
DRAWN BY:			
CHECKED BY:			
APPROVED BY:			
DATE:			

Drawing No: B-25  
SHEET No:

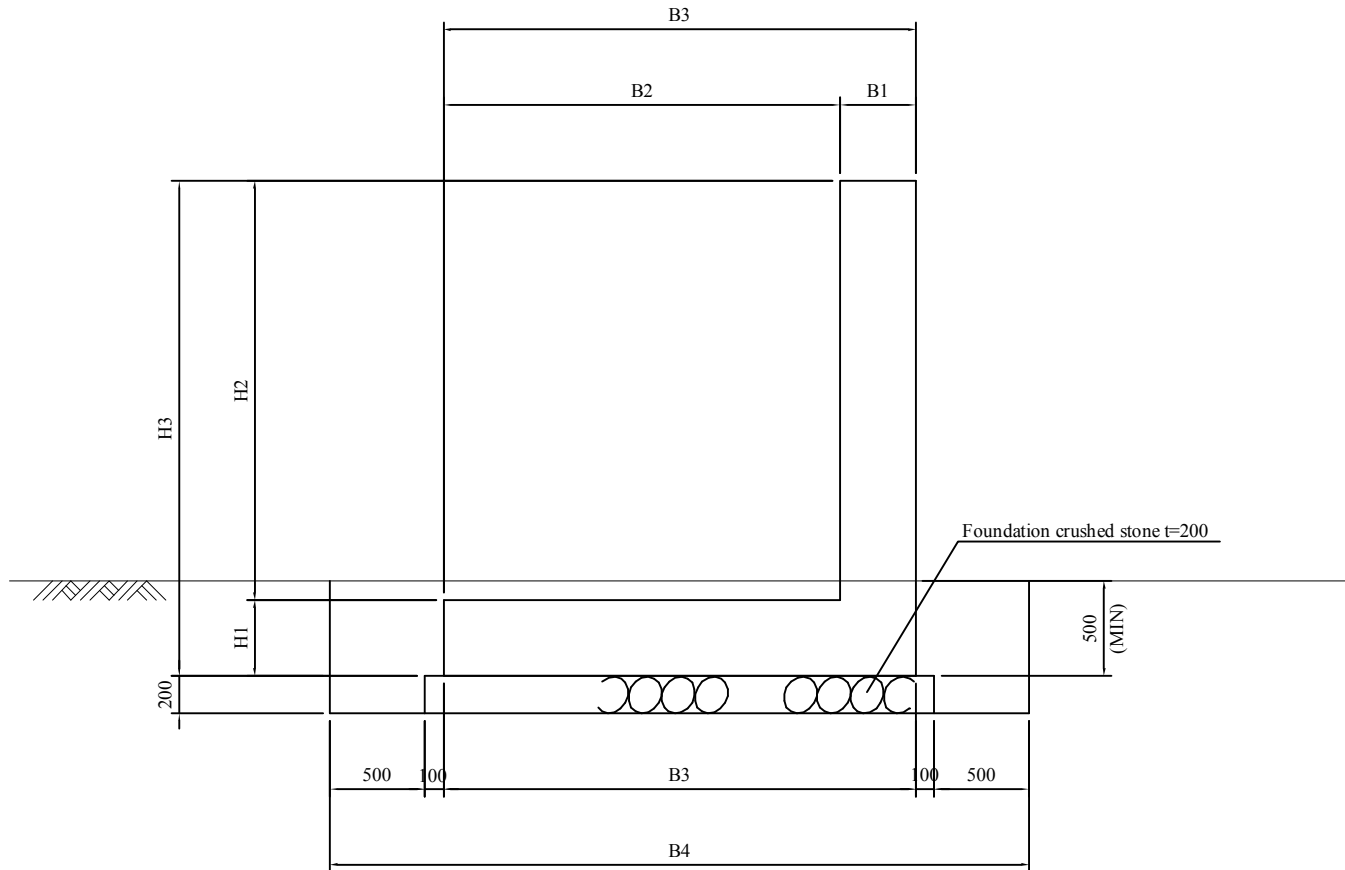
FO W-E A2 (R)



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	DIRECTOR RESPONSIBLE FOR HIGHWAY DESIGN:									DRAWN BY:			
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	STAMP:									APPROVED BY:			
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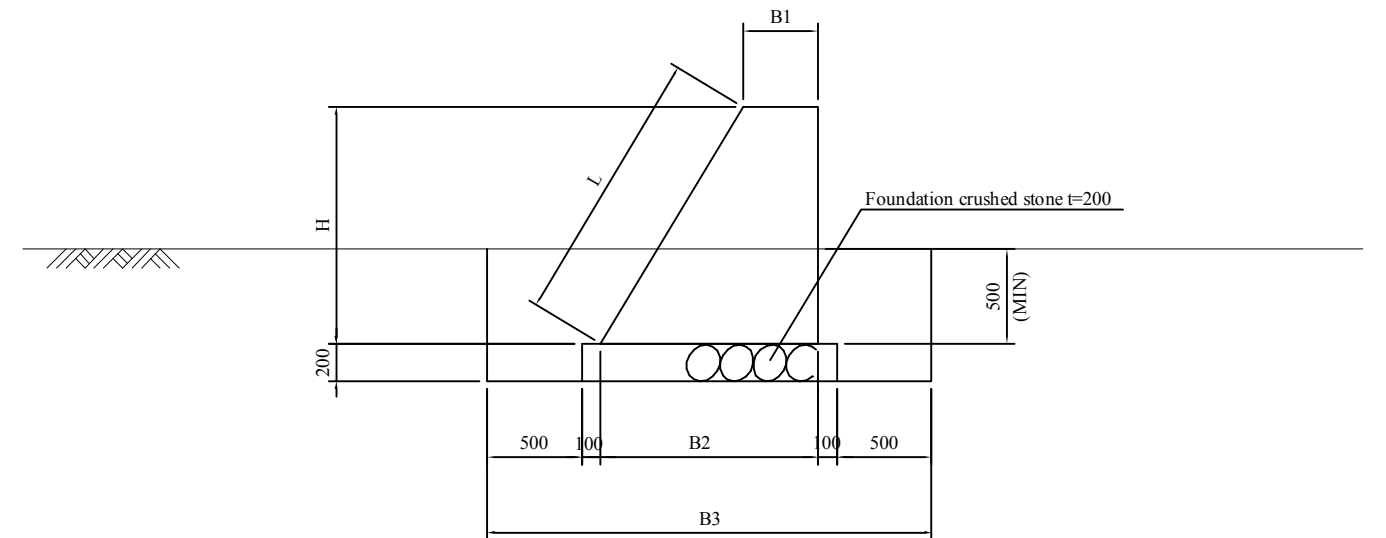
FO W-E A2 (R)

L type Retaining wall



	R1	R2
B1	400	400
B2	2100	2100
B3	2500	2500
B4	3700	3700
H1	400	400
H2	2600	1822
H3	3000	2222

Gravity Retaining wall



	R2	R3	R4	R5	R6
B1	400	400	400	400	400
B2	1624	1338	1131	922	788
B3	2824	2538	2331	2122	1988
H	2040	1563	1218	870	647
L	2379	1823	1420	1015	755

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TITLE:  
Retaining Wall(10)

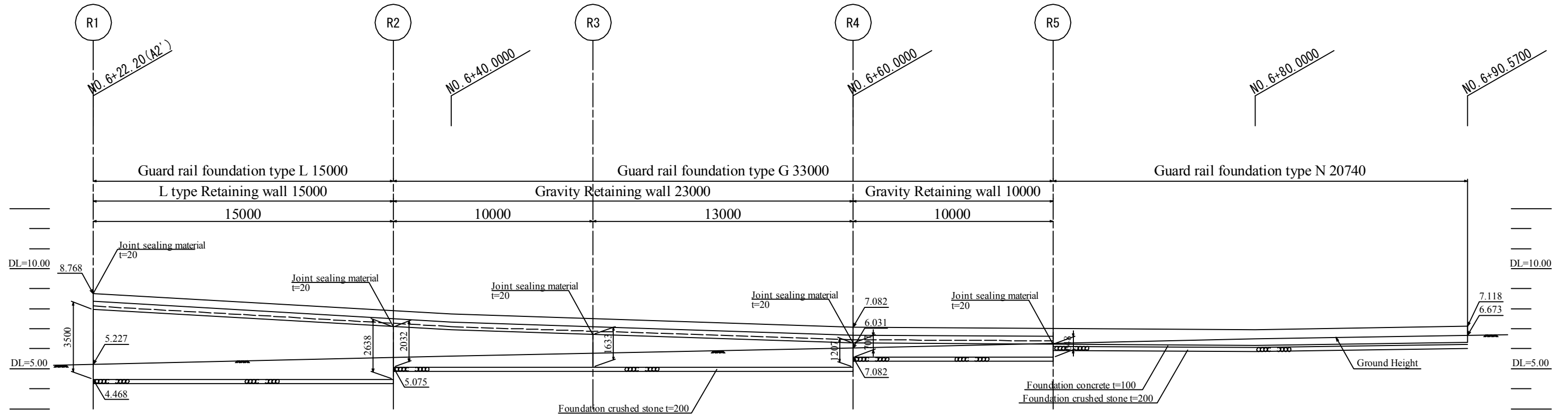
Scale:  
NTS

DESIGNED BY:	CHECKED BY:	APPROVED BY:	DATE:

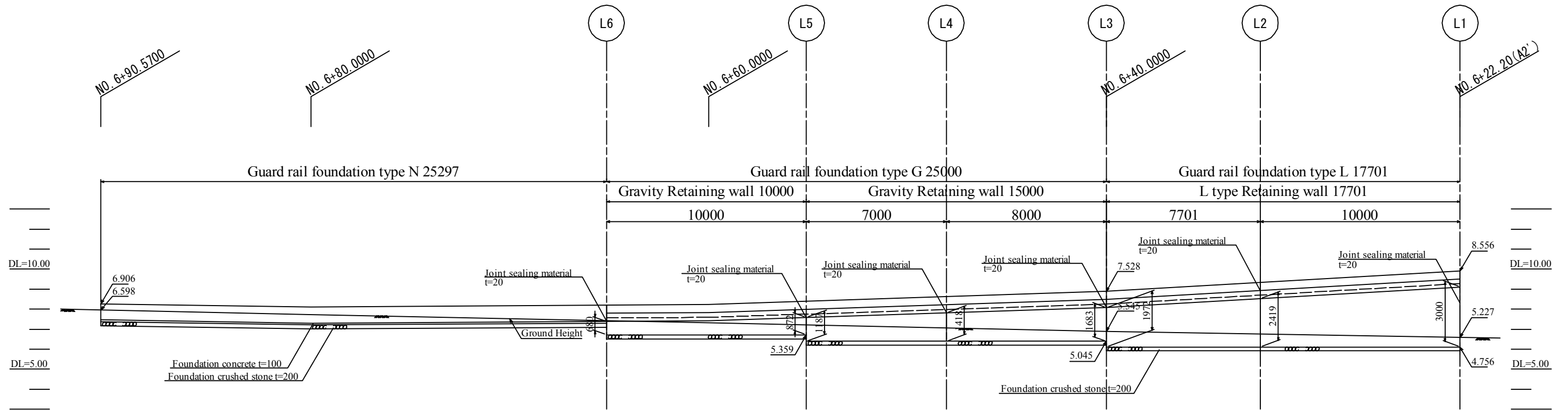
Drawing No: B-27  
SHEET No:



FO N-E A2' (R)



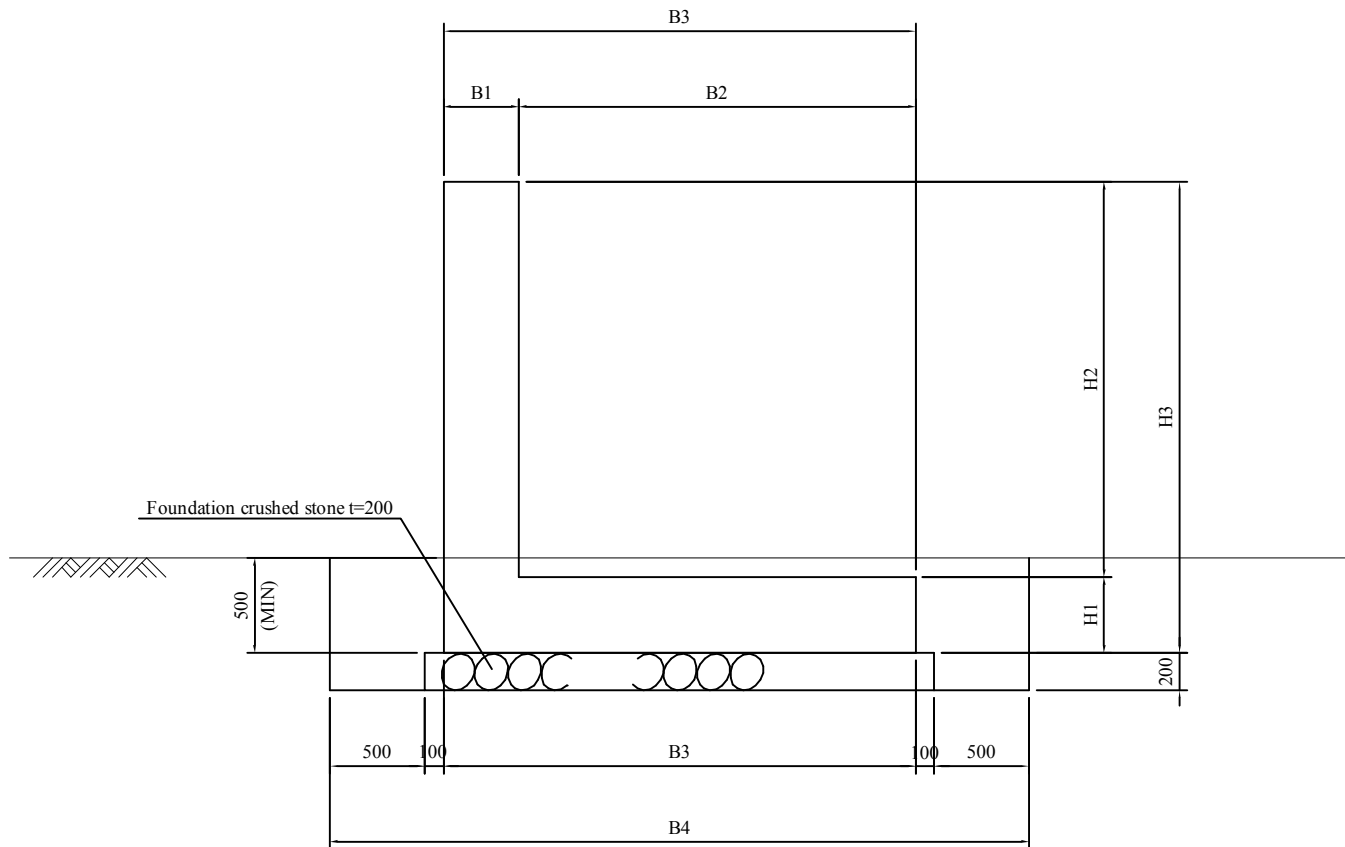
FO N-E A2' (L)





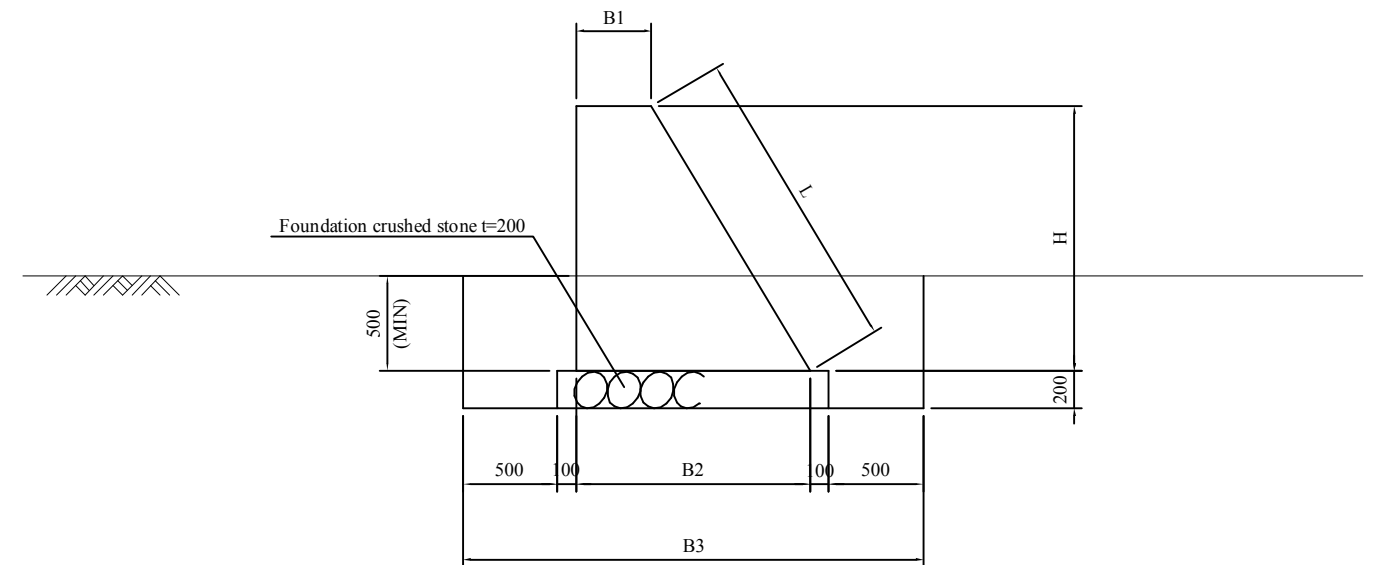
FO N-E A2' (L)

L type Retaining wall



	L1	L2	L3
B1	400	400	400
B2	2100	2100	2100
B3	2500	2500	2500
B4	3700	3700	3700
H1	400	400	400
H2	2600	2019	1572
H3	3000	2419	1972

Gravity Retaining wall

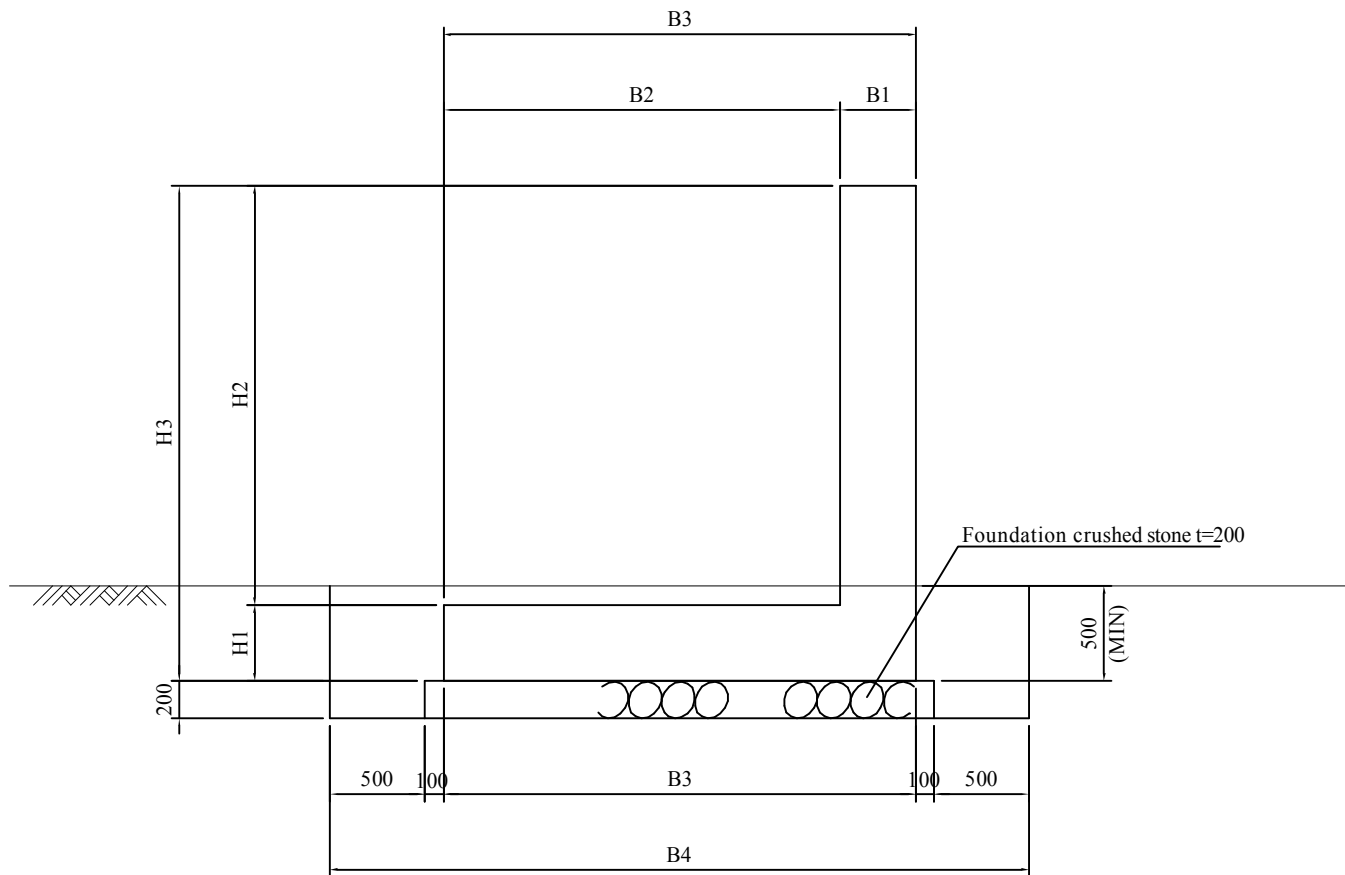


	L3	L4	L5
B1	400	400	400
B2	1410	1251	1112
B3	2610	2451	2312
H	1683	1418	1187
L	1963	1654	1384

	L5	L6
B1	400	400
B2	923	808
B3	2123	2008
H	872	680
L	1017	793

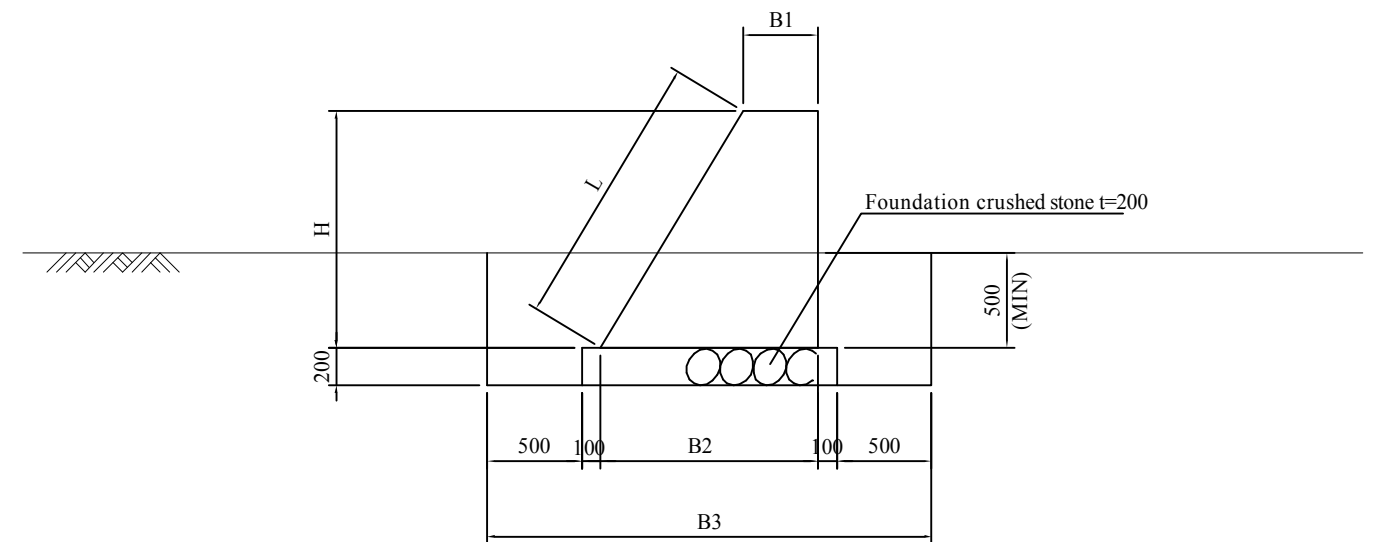
FO N-E A2' (R)

L type Retaining wall



	R1	R2
B1	400	400
B2	2100	2100
B3	2500	2500
B4	3700	3700
H1	400	400
H2	3100	2238
H3	3500	2638

Gravity Retaining wall



	R2	R3	R4
B1	400	400	400
B2	1619	1380	1124
B3	2819	2580	2324
H	2032	1633	1207
L	2370	1904	1408

	R4	R5
B1	400	400
B2	824	789
B3	2024	1989
H	707	648
L	824	756

CLIENT



Japan International Cooperation Agency  
(JICA)

CLIENTS APPROVAL:	REVISION	DESCRIPTION	BY	DATE
DIRECTOR RESPONSIBLE FOR HIGHWAY DESIGN:				
SIGNATURE: DATE:				
STAMP:				

CONSULTANT  
The Consortium of  
Oriental Consultants CO., LTD.,  
Central Consultant Inc.,  
and  
Asia Air Survey Co., Ltd.

PROJECT

The Preparatory Survey for  
Improvement of Solibra Intersection  
(Outline Design)

TITLE:

Retaining Wall (14)

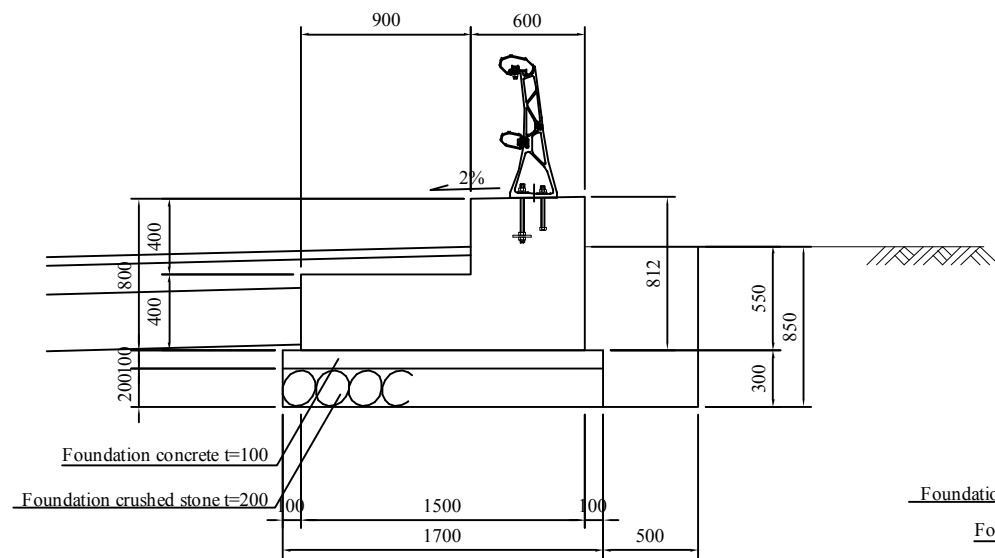
Scale:

NTS

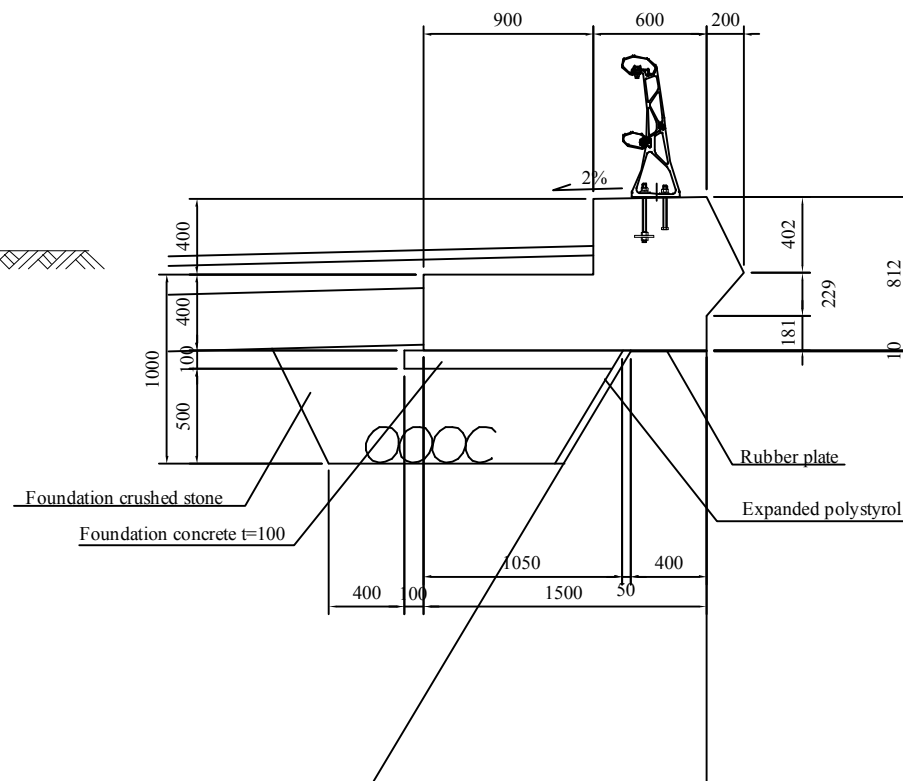
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DRAWN BY:			
CHECKED BY:			
APPROVED BY:			
DATE:			

Drawing No: B-31  
SHEET No:

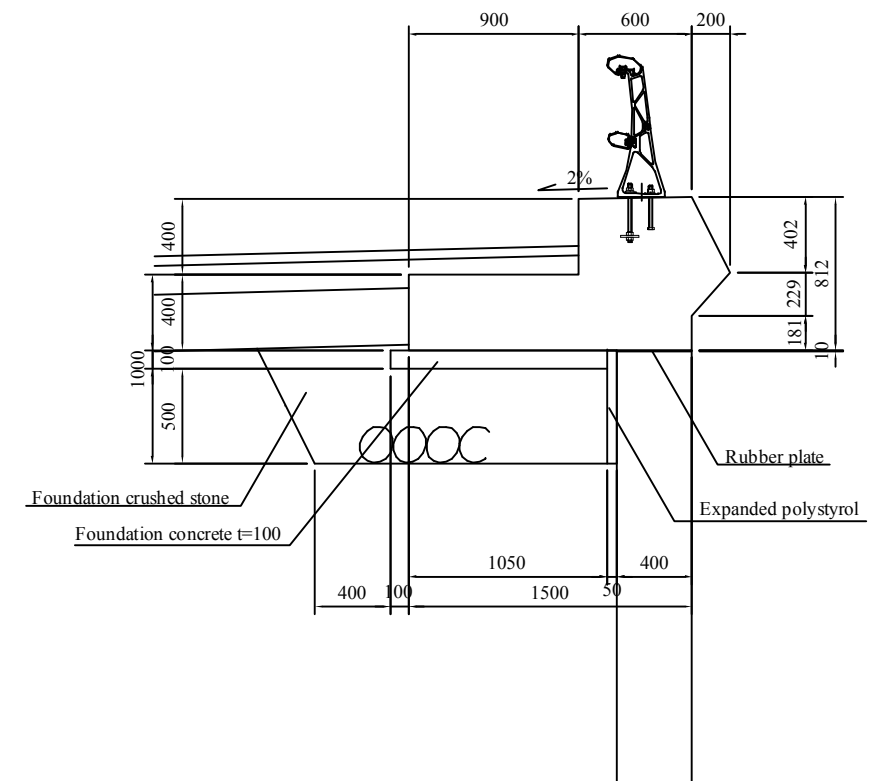
Guard rail foundation typeN




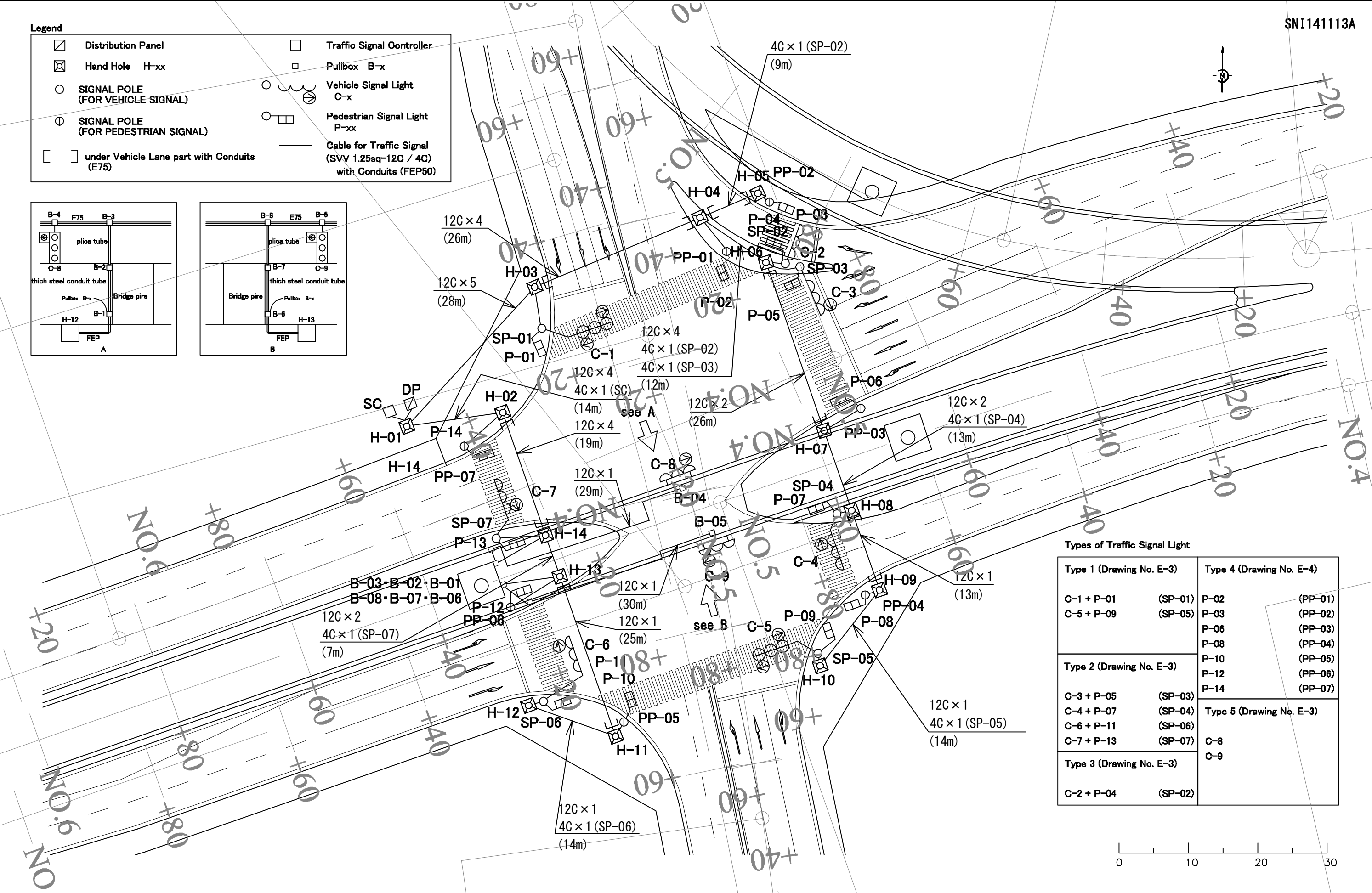
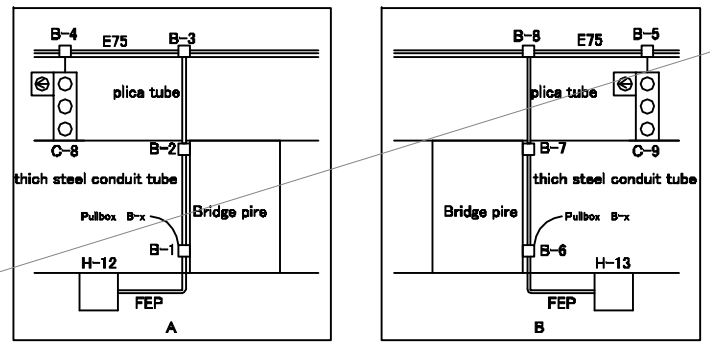
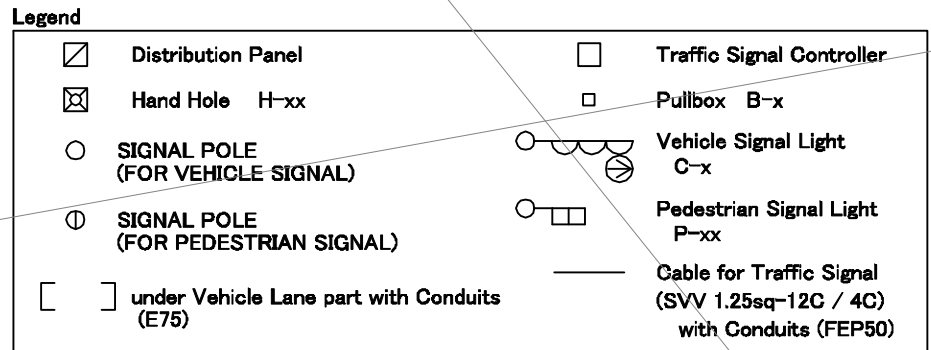
Guard rail foundation typeG



Guard rail foundation type L

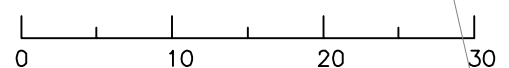


CLIENT  Japan International Cooperation Agency (JICA)	CLIENTS APPROVAL:	REVISION	DESCRIPTION	BY	DATE	CONSULTANT The Consortium of Oriental Consultants CO., LTD., Central Consultant Inc., and Asia Air Survey Co., Ltd.	PROJECT The Preparatory Survey for Improvement of Solibra Intersection (Outline Design)	TITLE: Retaining Wall(15)	Scale: 1:20	DESIGNED BY:			Drawing No: B-32 SHEET No:
	DIRECTOR RESPONSIBLE FOR HIGHWAY DESIGN:									DRAWN BY:			
	SIGNATURE:      DATE:									CHECKED BY:			
	STAMP:									APPROVED BY:			
										DATE:			

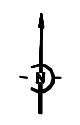
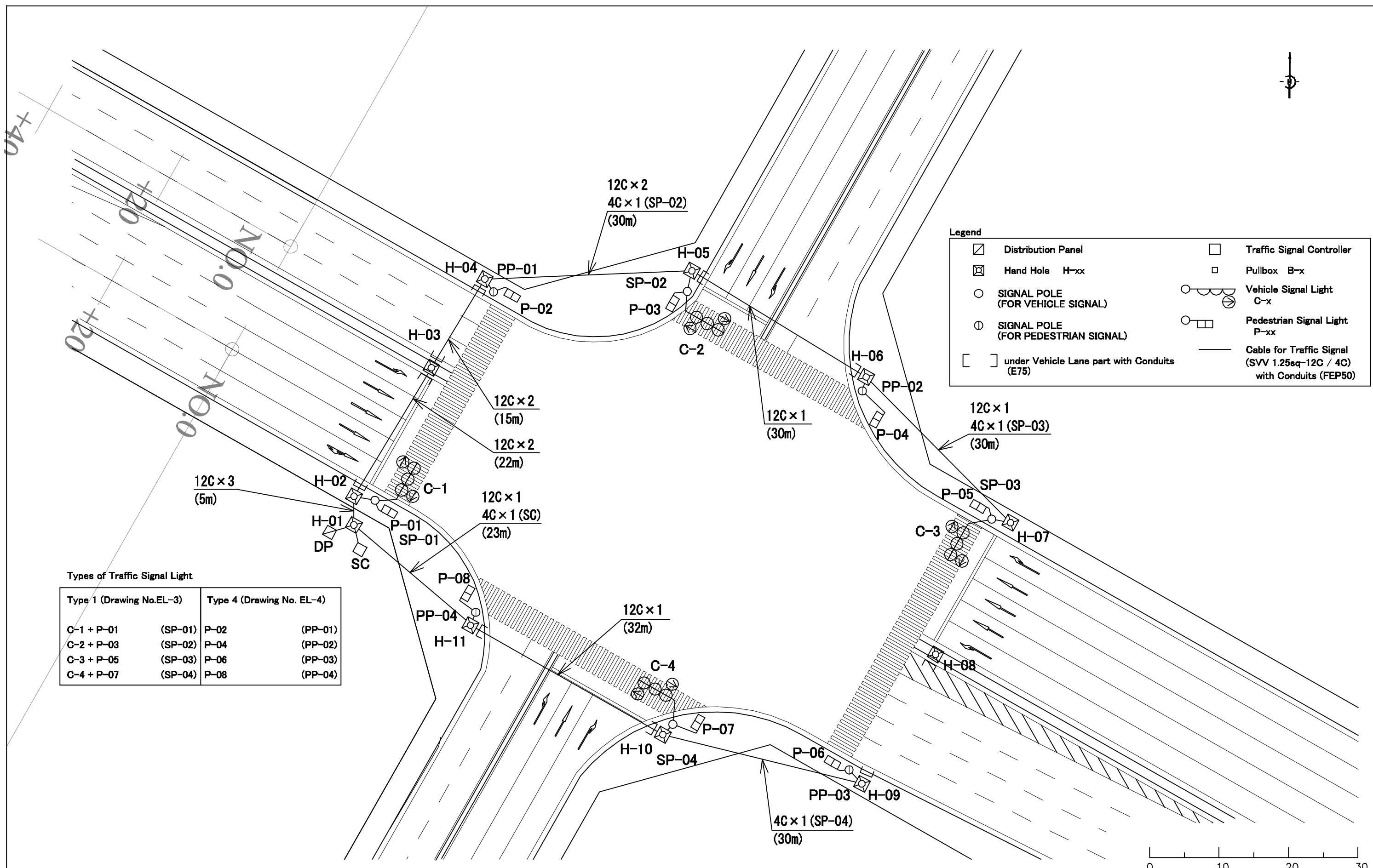


**Types of Traffic Signal Light**

Type 1 (Drawing No. E-3)	Type 4 (Drawing No. E-4)
C-1 + P-01 (SP-01)	P-02 (PP-01)
C-5 + P-09 (SP-05)	P-03 (PP-02)
	P-06 (PP-03)
	P-08 (PP-04)
	P-10 (PP-05)
	P-12 (PP-06)
	P-14 (PP-07)
Type 2 (Drawing No. E-3)	Type 5 (Drawing No. E-3)
C-3 + P-05 (SP-03)	C-8
C-4 + P-07 (SP-04)	C-9
C-6 + P-11 (SP-06)	
C-7 + P-13 (SP-07)	
Type 3 (Drawing No. E-3)	
C-2 + P-04 (SP-02)	



<b>CLIENT</b> Japan International Cooperation Agency (JICA)	CLIENTS APPROVAL:	REVISION	DESCRIPTION	BY	DATE	<b>CONSULTANT</b> The Consortium of Oriental Consultants Global Co., Ltd., Central Consultant Inc., and Asia Air Survey Co., Ltd.	<b>PROJECT</b> The Preparatory Survey for Improvement of SOLIBRA Intersection (Outline Design)	<b>TITLE:</b> Traffic Lights (Signal) Layout Plan (1/2) SOLIBRA Intersection	Scale: 1:500 (A3)	DESIGNED BY:		Drawing No: E-1 SHEET No:
	DIRECTOR RESPONSIBLE FOR DESIGN:									DRAWN BY:		
	SIGNATURE:      DATE:									CHECKED BY:		
	STAMP:									APPROVED BY:		
										DATE:		

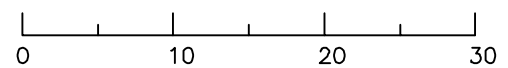


**Legend**

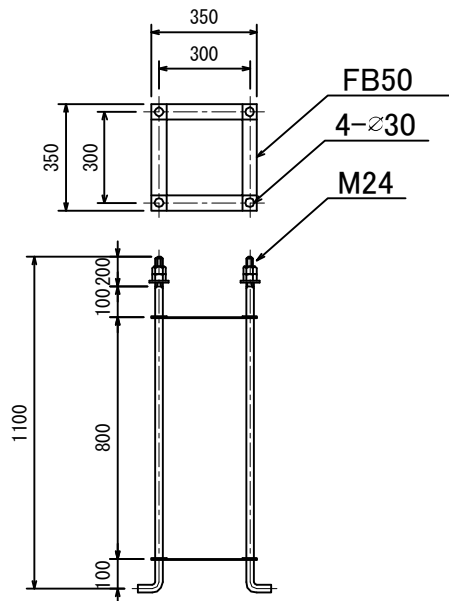
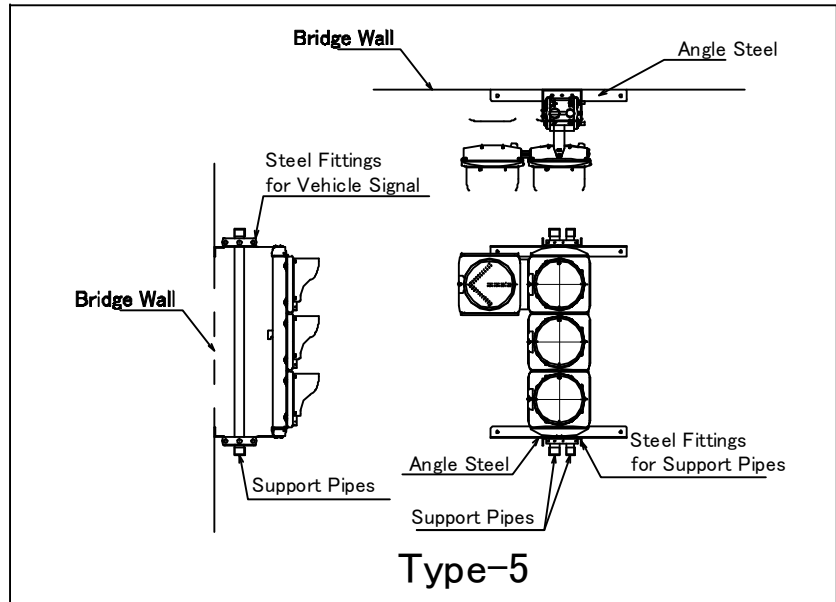
	Distribution Panel		Traffic Signal Controller
	Hand Hole H-xx		Pullbox B-x
	SIGNAL POLE (FOR VEHICLE SIGNAL)		Vehicle Signal Light C-x
	SIGNAL POLE (FOR PEDESTRIAN SIGNAL)		Pedestrian Signal Light P-xx
	under Vehicle Lane part with Conduits (E75)		Cable for Traffic Signal (SVV 1.25sq-12C / 4C) with Conduits (FEP50)

**Types of Traffic Signal Light**

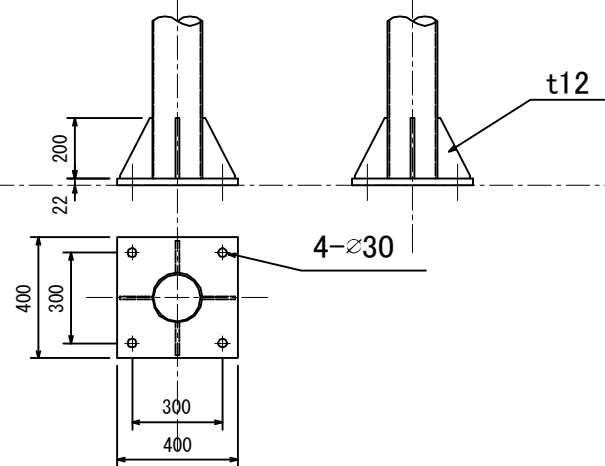
Type 1 (Drawing No.EL-3)		Type 4 (Drawing No. EL-4)	
C-1 + P-01	(SP-01)	P-02	(PP-01)
C-2 + P-03	(SP-02)	P-04	(PP-02)
C-3 + P-05	(SP-03)	P-06	(PP-03)
C-4 + P-07	(SP-04)	P-08	(PP-04)



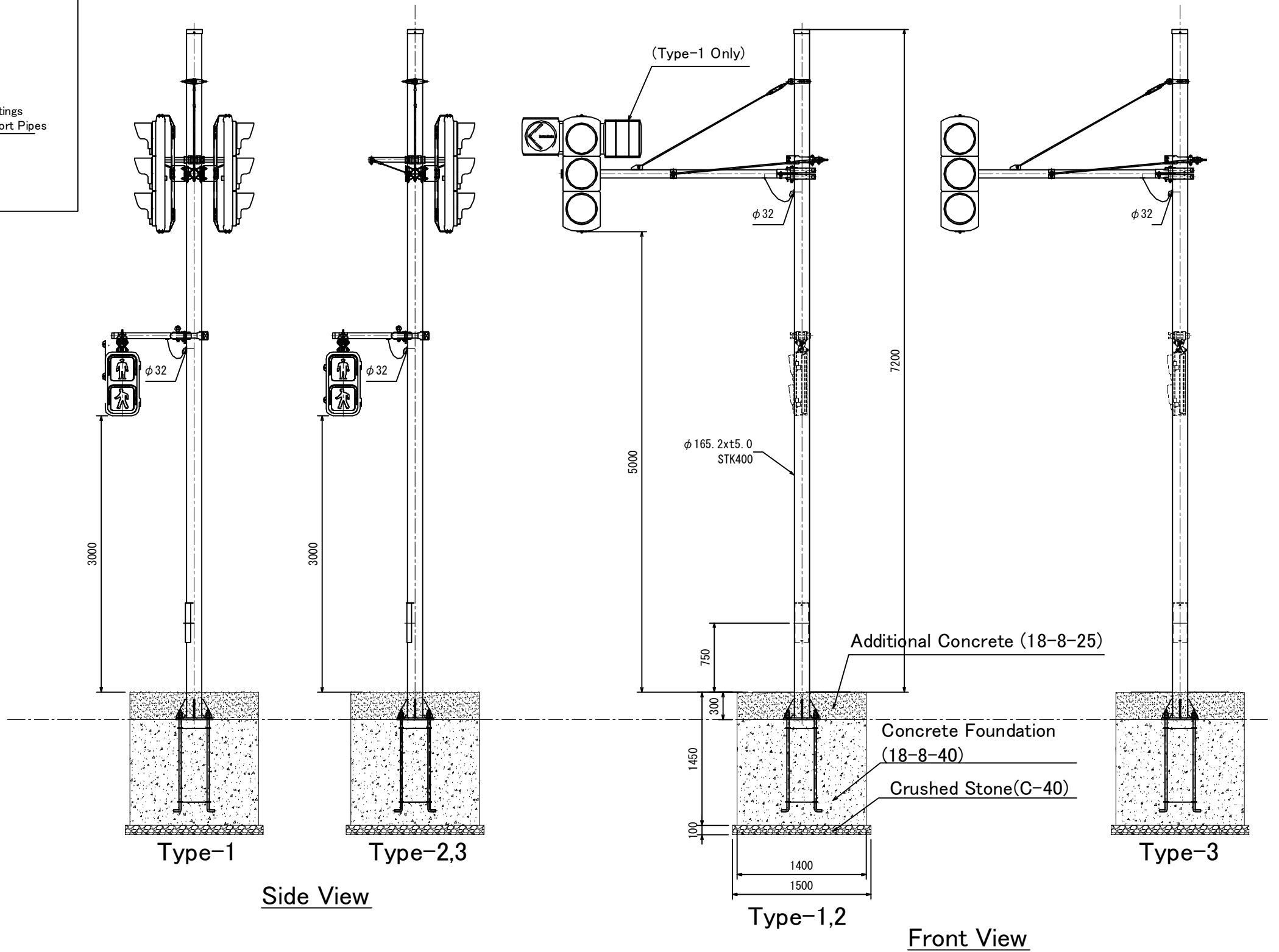
<b>CLIENT</b> Japan International Cooperation Agency (JICA)	CLIENTS APPROVAL:	REVISION	DESCRIPTION	BY	DATE	<b>CONSULTANT</b> The Consortium of Oriental Consultants Global Co., Ltd., Central Consultant Inc., and Asia Air Survey Co., Ltd.	<b>PROJECT</b> The Preparatory Survey for Improvement of SOLIBRA Intersection (Outline Design)	<b>TITLE:</b> Traffic Lights (Signal) Layout Plan (2/2) SOLIBRA East Intersection	<b>Scale:</b> 1:500 (A3)	DESIGNED BY:		Drawing No: E-2 SHEET No:
	DIRECTOR RESPONSIBLE FOR DESIGN:									DRAWN BY:		
	SIGNATURE:      DATE:									CHECKED BY:		
	STAMP:									APPROVED BY:		
										DATE:		



Detail of Anchor Bolt ( S=1/25 )

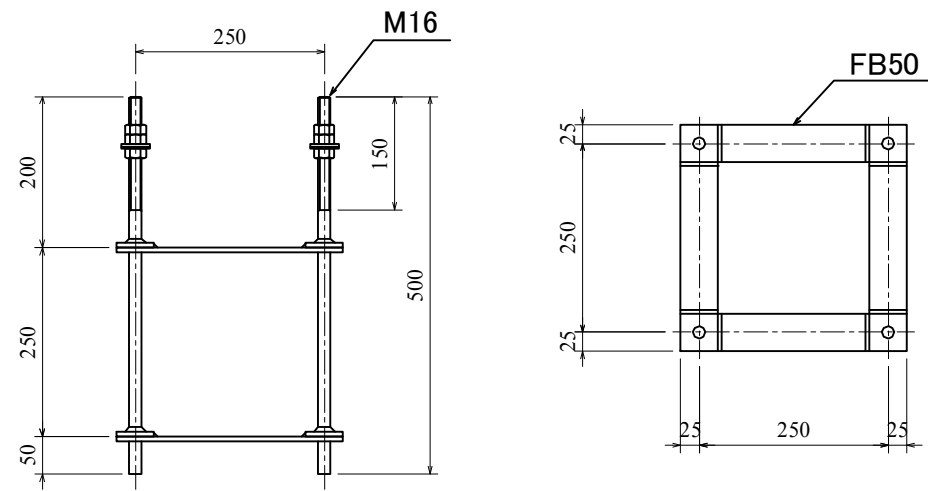


Detail of Base Plate ( S=1/25 )

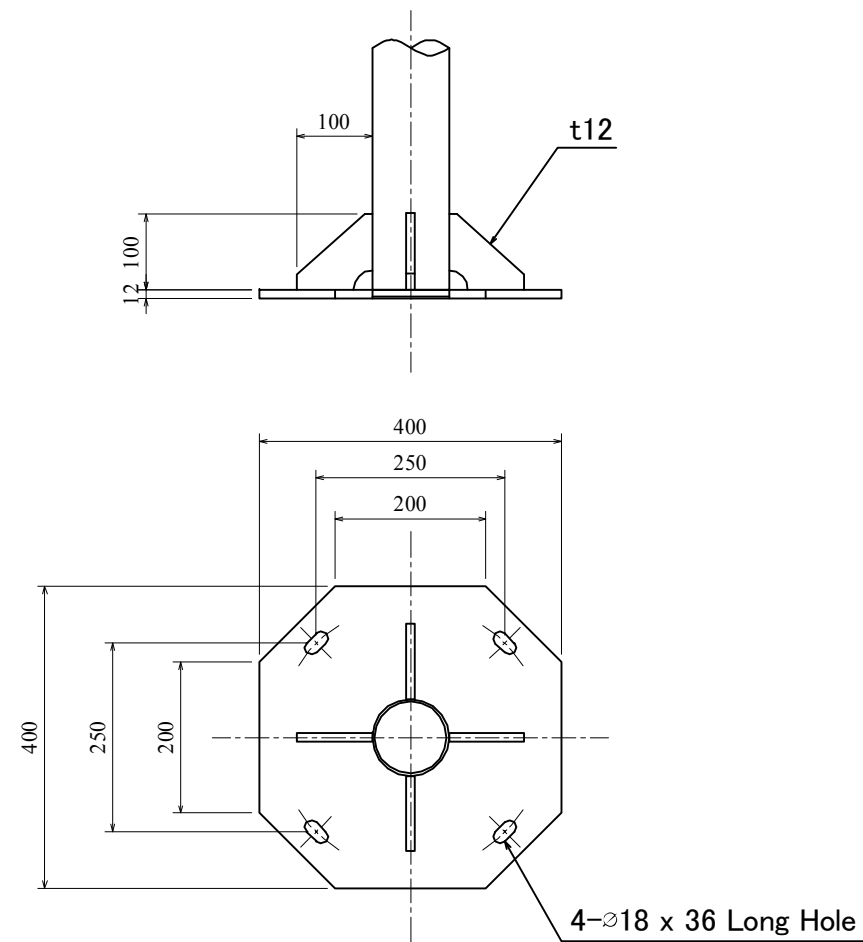


Traffic Light (Signal) Elevation ( S=1/50 )

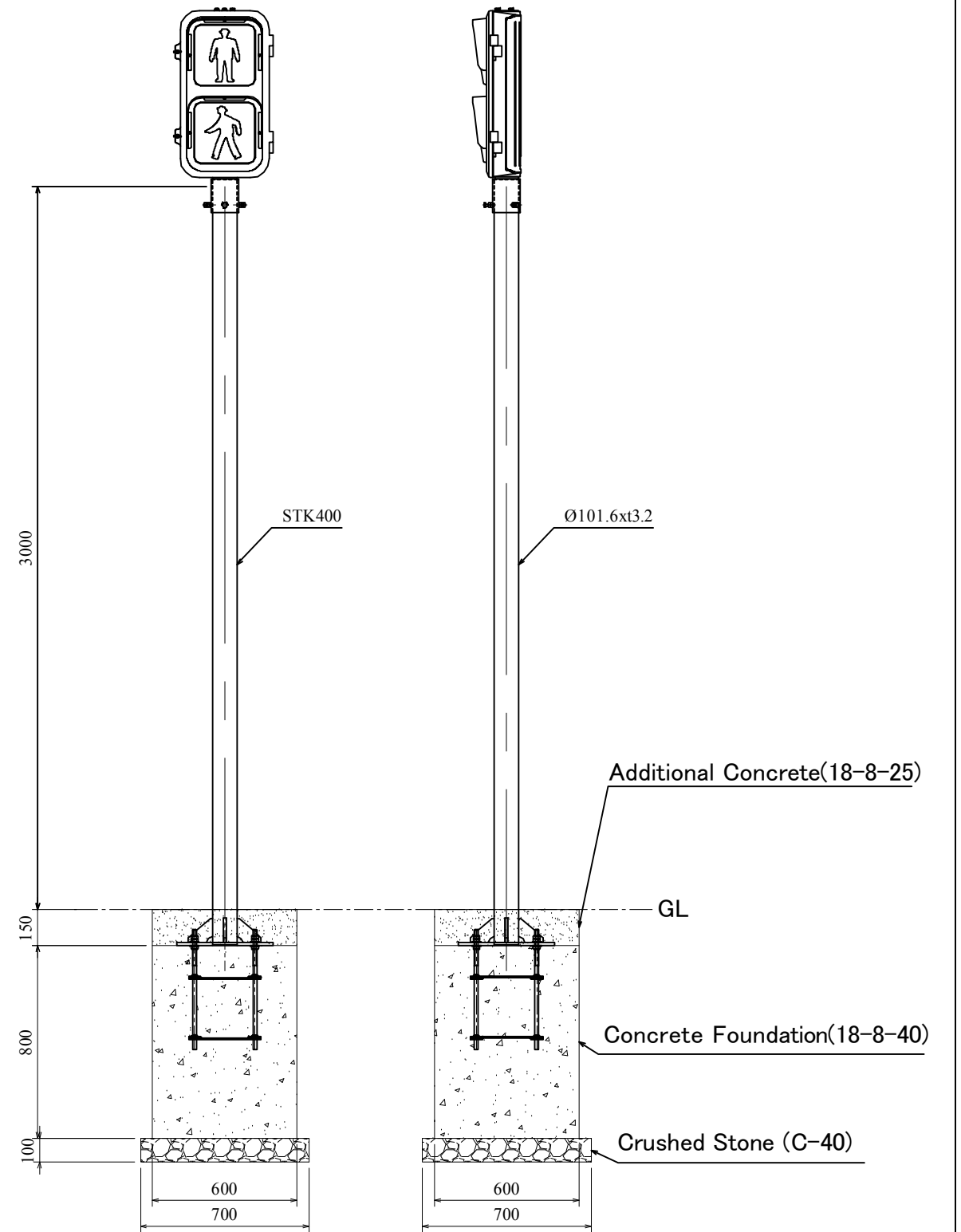
<p>Japan International Cooperation Agency (JICA)</p>	CLIENTS APPROVAL:	REVISION	DESCRIPTION	BY	DATE	<u>CONSULTANT</u> The Consortium of <b>Oriental Consultants Global Co., Ltd.,</b> <b>Central Consultant Inc.,</b> and <b>Asia Air Survey Co., Ltd.</b>	<u>PROJECT</u> The Preparatory Survey for <b>Improvement of SOLIBRA Intersection</b> (Outline Design)	TITLE:	Scale:	DESIGNED BY:				
	DIRECTOR RESPONSIBLE FOR DESIGN:							Traffic Light(Signal) Type-1,2,3&5 Details	As Shown(A3)	DRAWN BY:				
	SIGNATURE:      DATE:									CHECKED BY:				
	STAMP:									APPROVED BY:				
										DATE:				



Detail of Anchor Bolt ( S=1/10 )

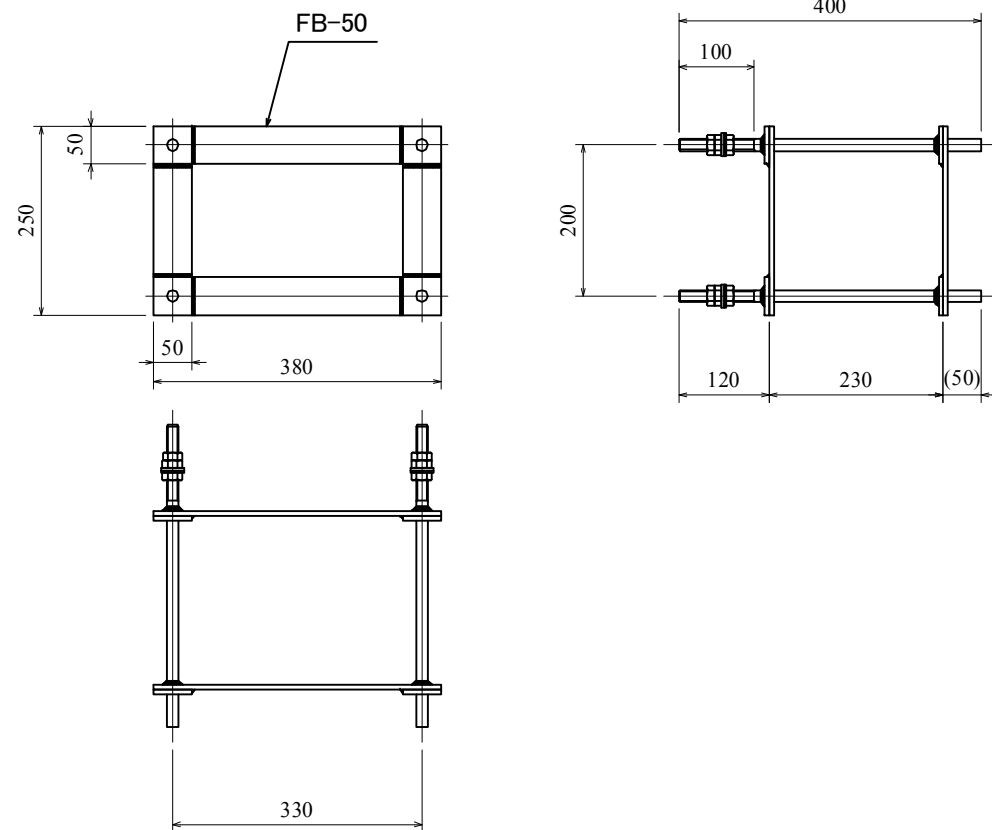


Detail of Base Plate ( S=1/10 )

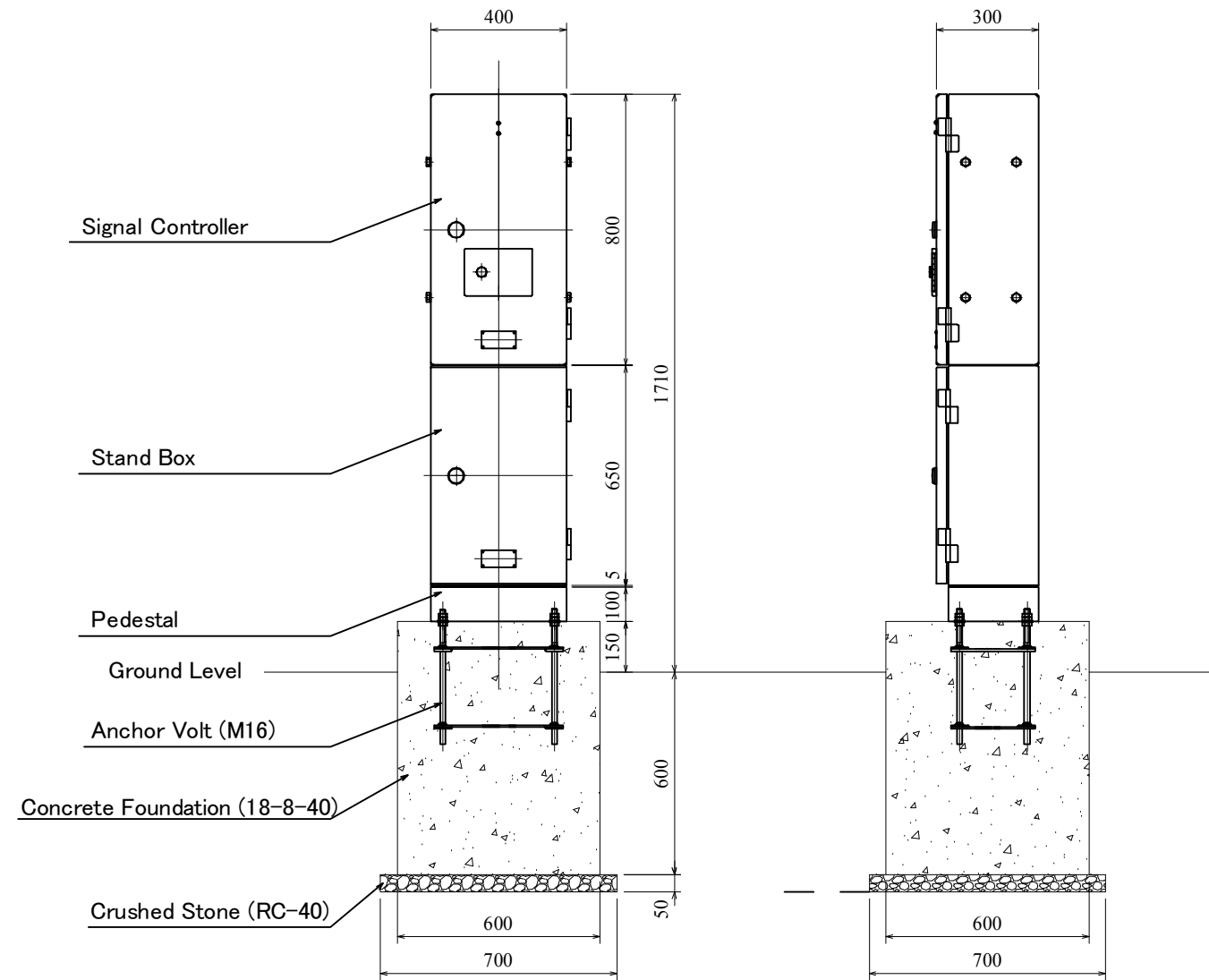


Pedestrian Pole ( S=1/25 )

<b>CLIENT</b>  <b>Japan International Cooperation Agency (JICA)</b>	CLIENTS APPROVAL:	REVISION	DESCRIPTION	BY	DATE	<b>CONSULTANT</b> The Consortium of <b>Oriental Consultants Global Co., Ltd.,</b> <b>Central Consultant Inc.,</b> and <b>Asia Air Survey Co., Ltd.</b>	<b>PROJECT</b> The Preparatory Survey for <b>Improvement of SOJIBRA Intersection</b> (Outline Design)	TITLE:	Scale:	DESIGNED BY:			Drawing No: E-4 SHEET No:
	DIRECTOR RESPONSIBLE FOR DESIGN:							Traffic Light (Signal) Type-4 Detail	As Shown(A3)	DRAWN BY:			
	SIGNATURE:      DATE:								CHECKED BY:				
	STAMP:								APPROVED BY:				
									DATE:				



DETAIL OF ANCHOR BOLTS ( S=1/10 )



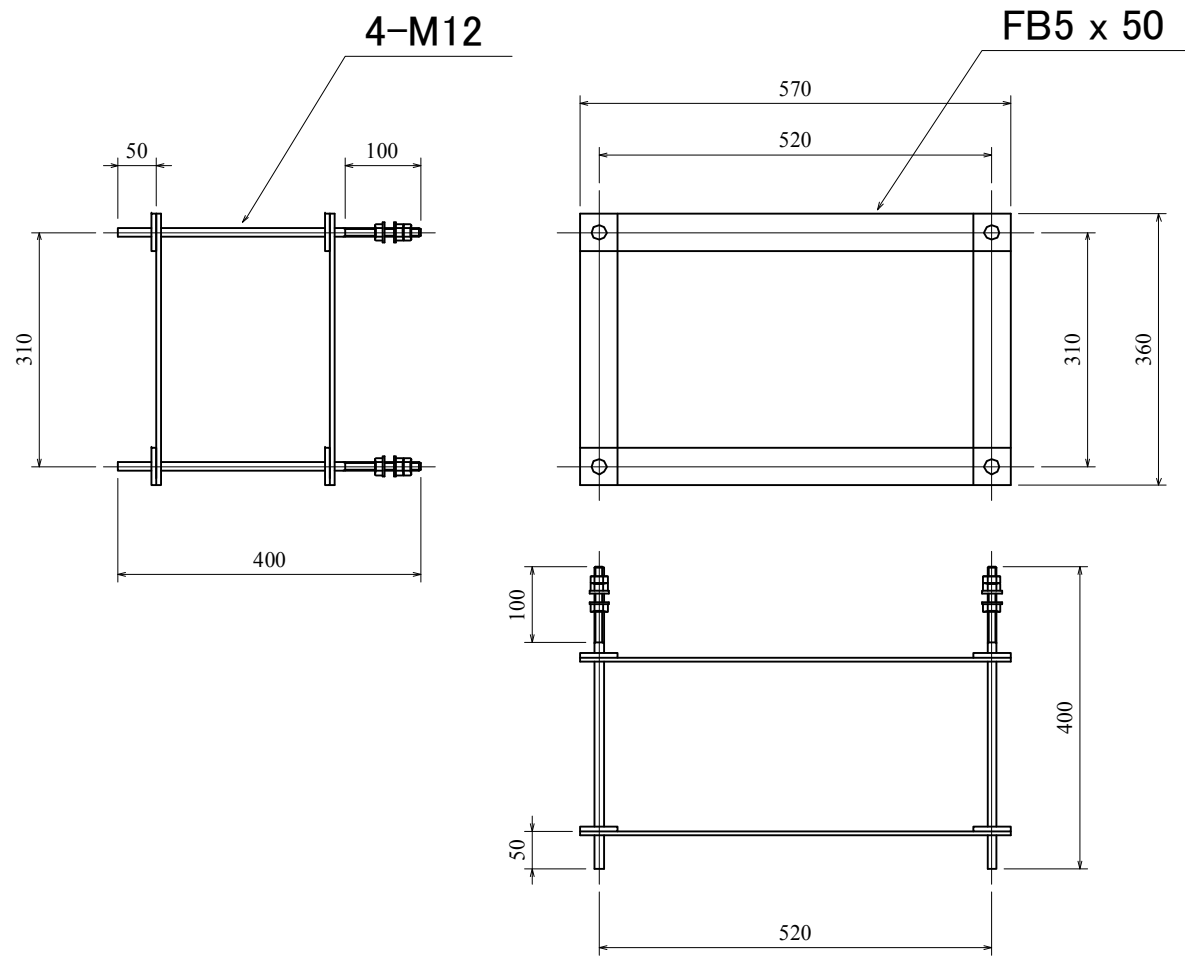
FRONT VIEW

SIDE VIEW

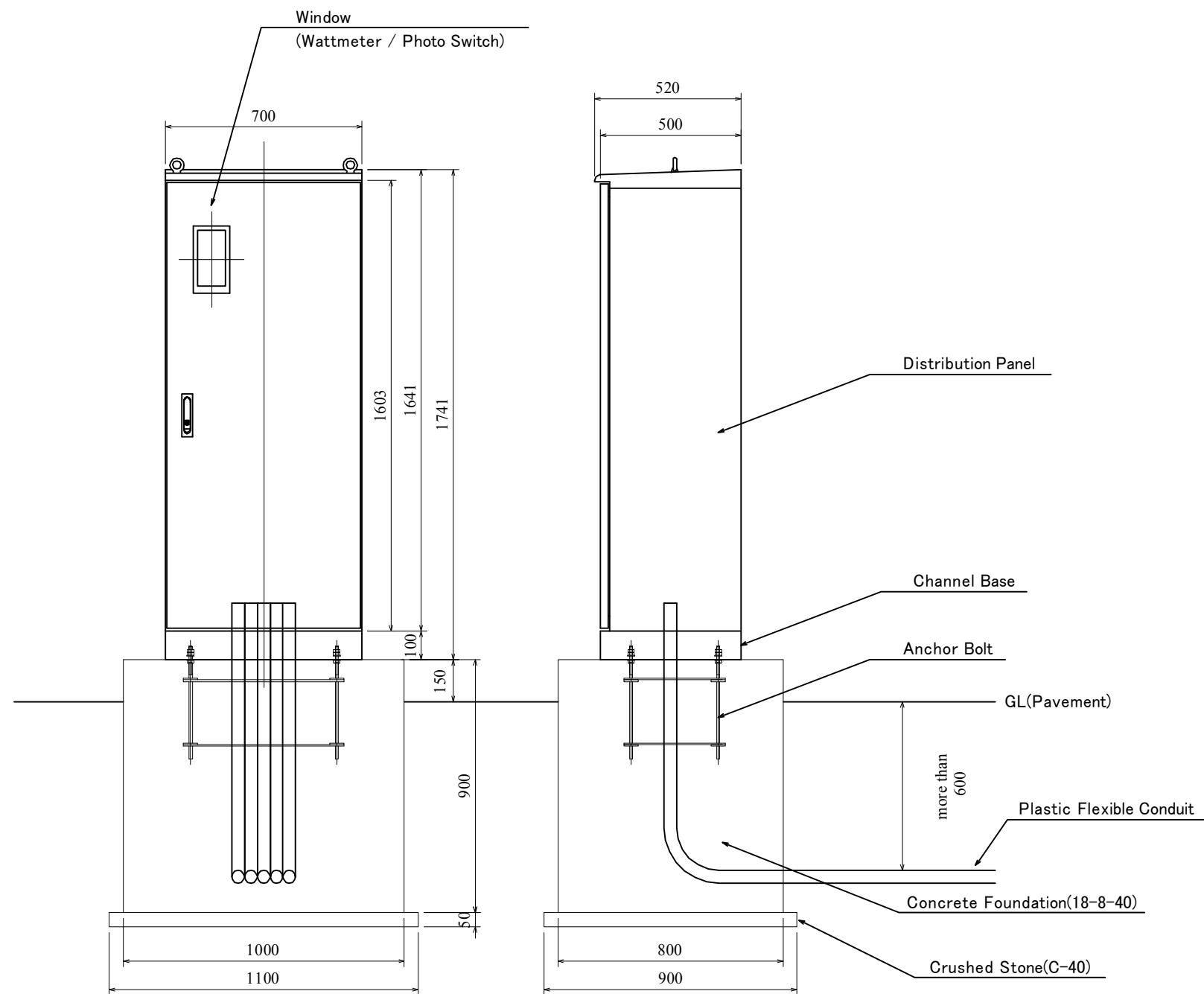
INSTALLATION DRAWING ( S=1/20 )

CLIENT Japan International Cooperation Agency (JICA)	CLIENTS APPROVAL:	REVISION	DESCRIPTION	BY	DATE	CONSULTANT The Consortium of Oriental Consultants Global Co., Ltd., Central Consultant Inc., and Asia Air Survey Co., Ltd.	PROJECT The Preparatory Survey for Improvement of SOJIBRA Intersection (Outline Design)	TITLE:	Scale: As Shown(A3)	DESIGNED BY:			Drawing No: E-5 SHEET No:
	DIRECTOR RESPONSIBLE FOR DESIGN:							Traffic Lights (Signal) Controller		DRAWN BY:			
	SIGNATURE:      DATE:							CHECKED BY:					
	STAMP:							APPROVED BY:					
								DATE:					



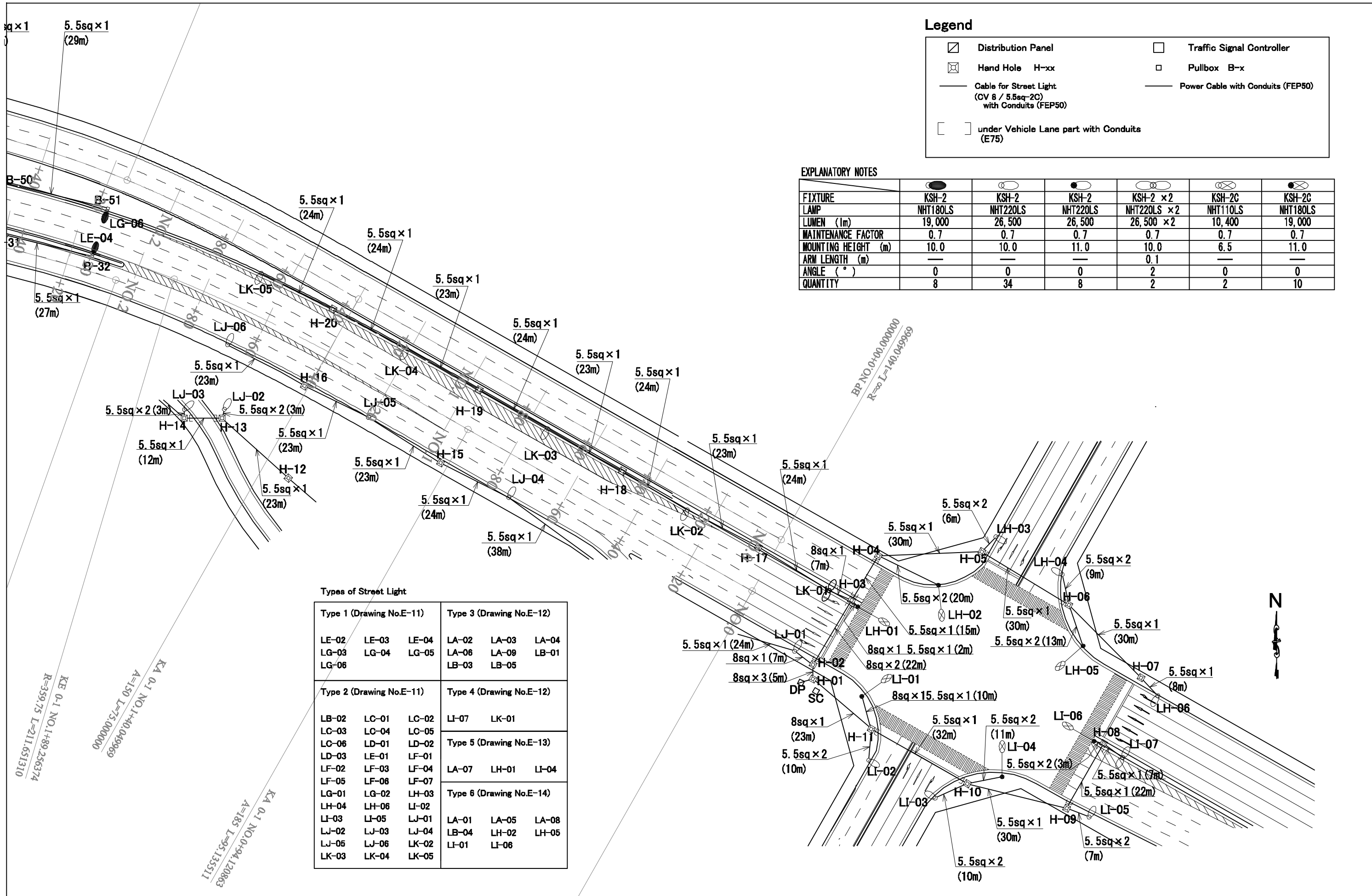


DETAIL OF ANCHOR BOLTS ( S=1/10 )



Distribution Elevation ( S=1/20 )

<b>Japan International Cooperation Agency (JICA)</b>	CLIENTS APPROVAL:	REVISION	DESCRIPTION	BY	DATE	<u>CONSULTANT</u> The Consortium of <b>Oriental Consultants Global Co., Ltd.,          Central Consultant Inc.,          and          Asia Air Survey Co., Ltd.</b>	<u>PROJECT</u> The Preparatory Survey for <b>Improvement of SOUBRA Intersection</b> (Outline Design)	TITLE:	Scale:  As Shown	DESIGNED BY:			Drawing No: E-6 SHEET No:
	DIRECTOR RESPONSIBLE FOR DESIGN:							DRAWN BY:					
	SIGNATURE:      DATE:							CHECKED BY:					
	STAMP:							APPROVED BY:					
								DATE:					



**Legend**

	Distribution Panel		Traffic Signal Controller
	Hand Hole H-xx		Pullbox B-x
	Cable for Street Light (CV 8 / 5.5sq-2C) with Conduits (FEP50)		Power Cable with Conduits (FEP50)
	under Vehicle Lane part with Conduits (E75)		

**EXPLANATORY NOTES**

FIXTURE						
LAMP	NHT180LS	NHT220LS	NHT220LS	NHT220LS x 2	NHT110LS	NHT180LS
LUMEN (lm)	19,000	26,500	26,500	26,500 x 2	10,400	19,000
MAINTENANCE FACTOR	0.7	0.7	0.7	0.7	0.7	0.7
MOUNTING HEIGHT (m)	10.0	10.0	11.0	10.0	6.5	11.0
ARM LENGTH (m)	—	—	—	0.1	—	—
ANGLE (°)	0	0	0	2	0	0
QUANTITY	8	34	8	2	2	10

**Types of Street Light**

Type 1 (Drawing No.E-11)			Type 3 (Drawing No.E-12)		
LE-02	LE-03	LE-04	LA-02	LA-03	LA-04
LG-03	LG-04	LG-05	LA-06	LA-09	LA-01
LG-06			LB-03	LB-05	
Type 2 (Drawing No.E-11)			Type 4 (Drawing No.E-12)		
LB-02	LC-01	LC-02	LI-07	LK-01	
LC-03	LC-04	LC-05	Type 5 (Drawing No.E-13)		
LC-06	LD-01	LD-02	LA-07	LH-01	LI-04
LD-03	LE-01	LE-01	Type 6 (Drawing No.E-14)		
LE-02	LE-03	LE-04	LA-01	LA-05	LA-08
LE-05	LE-06	LE-07	LA-02	LH-02	LH-05
LE-08	LH-03	LH-03	LI-01	LI-06	
LE-09	LH-04	LH-04			
LE-10	LH-05	LH-05			
LE-11	LH-06	LH-06			
LE-12	LH-07	LH-07			
LE-13	LH-08	LH-08			
LE-14	LH-09	LH-09			
LE-15	LH-10	LH-10			
LE-16	LH-11	LH-11			
LE-17	LH-12	LH-12			
LE-18	LH-13	LH-13			
LE-19	LH-14	LH-14			
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LE-22	LH-17	LH-17			
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LE-99	LH-94	LH-94			
LE-100	LH-95	LH-95			

**CLIENT**  
 Japan International Cooperation Agency (JICA)

CLIENTS APPROVAL:	REVISION	DESCRIPTION	BY	DATE
DIRECTOR RESPONSIBLE FOR DESIGN:				
SIGNATURE: DATE:				
STAMP:				

**CONSULTANT**  
 The Consortium of  
 Oriental Consultants Global Co., Ltd.,  
 Central Consultant Inc.,  
 and  
 Asia Air Survey Co., Ltd.

**PROJECT**  
 The Preparatory Survey for  
 Improvement of SOLIBRA Intersection  
 (Outline Design)

**TITLE:**  
 Street Lights Layout Plan  
 (1/4) SOLIBRA Intersection

**Scale:**  
 1:1000 (A3)

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
DATE:	

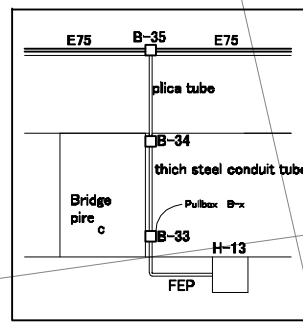
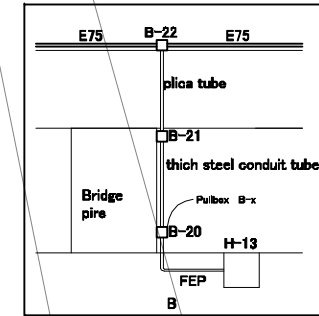
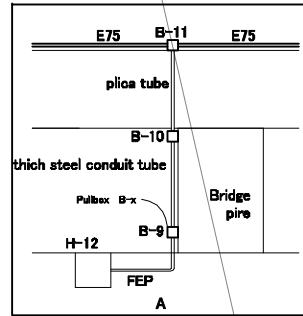
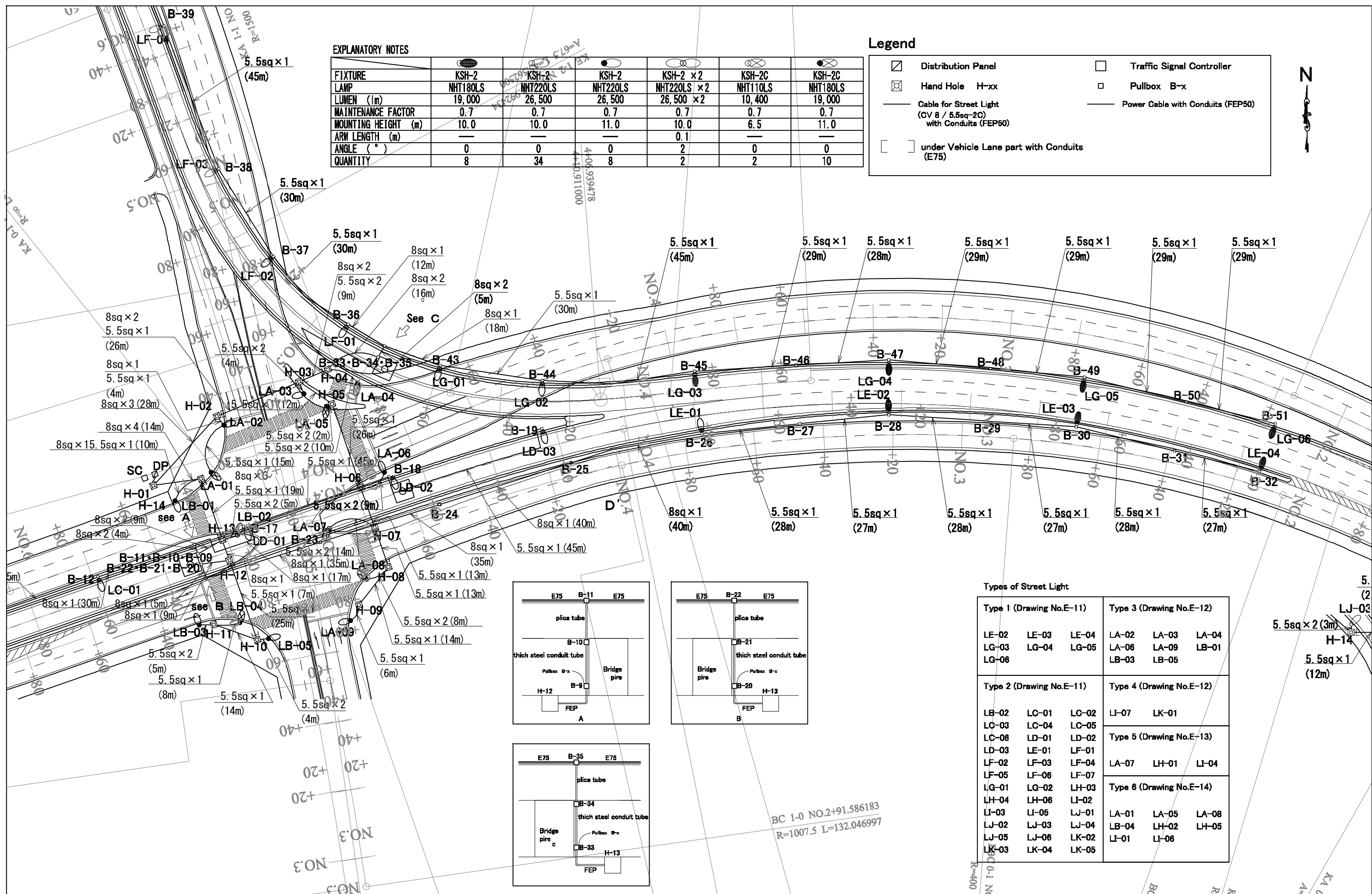
Drawing No:E-7  
 SHEET No:

EXPLANATORY NOTES

FIXTURE	KSH-2	KSH-2	KSH-2	KSH-2 × 2	KSH-2C	KSH-2C
LAMP	NHT180LS	NHT220LS	NHT220LS	NHT220LS × 2	NHT110LS	NHT180LS
LUMEN (lm)	19,000	26,500	26,500	26,500 × 2	10,400	19,000
MAINTENANCE FACTOR	0.7	0.7	0.7	0.7	0.7	0.7
MOUNTING HEIGHT (m)	10.0	10.0	11.0	10.0	6.5	11.0
ARM LENGTH (m)	—	—	—	0.1	—	—
ANGLE (°)	0	0	0	2	0	0
QUANTITY	8	34	8	2	2	10

Legend

	Distribution Panel		Traffic Signal Controller
	Hand Hole H-xx		Pullbox B-x
	Cable for Street Light (GV 8 / 5.5sq-2C) with Conduits (FEP50)		Power Cable with Conduits (FEP50)
	under Vehicle Lane part with Conduits (E75)		



Types of Street Light

Type 1 (Drawing No.E-11)	Type 3 (Drawing No.E-12)
LE-02 LG-03 LG-06	LA-02 LA-03 LA-04 LA-06 LA-09 LB-01 LB-03 LB-05
Type 2 (Drawing No.E-11)	Type 4 (Drawing No.E-12)
LB-02 LC-01 LC-02 LC-03 LC-04 LC-05 LC-06 LD-01 LD-02 LD-03 LE-01 LF-01 LF-02 LF-03 LF-04 LF-05 LF-06 LF-07 LG-01 LG-02 LH-03 LH-04 LH-06 LI-02 LI-03 LI-05 LJ-01 LJ-02 LJ-03 LJ-04 LJ-05 LJ-06 LK-02 LK-03 LK-04 LK-05	Type 5 (Drawing No.E-13) LA-07 LH-01 LI-04 Type 6 (Drawing No.E-14) LA-01 LA-05 LA-08 LB-04 LH-02 LH-05 LI-01 LI-06

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CLIENTS APPROVAL:	REVISION	DESCRIPTION	BY	DATE
DIRECTOR RESPONSIBLE FOR DESIGN:				
SIGNATURE: DATE:				
STAMP:				

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The Consortium of  
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Central Consultant Inc.,  
and  
Asia Air Survey Co., Ltd.

PROJECT  
The Preparatory Survey for  
Improvement of SOLIBRA Intersection  
(Outline Design)

TITLE:  
Street Lights Layout Plan  
(2/4) SOLIBRA Intersection

Scale:  
1:1000 (A3)

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
DATE:	

Drawing No:E-8  
SHEET No:



**Legend**

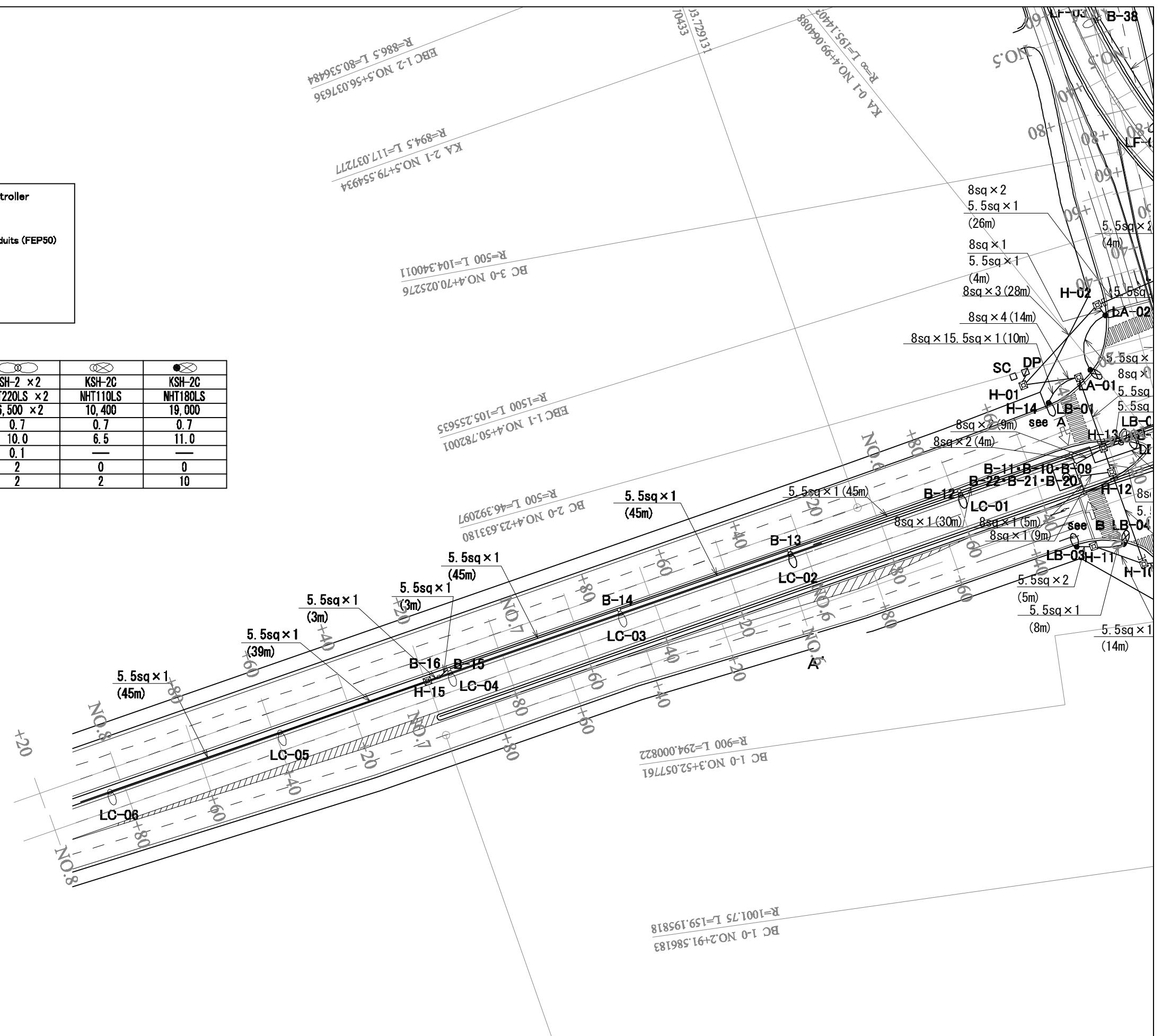
	Distribution Panel		Traffic Signal Controller
	Hand Hole H-xx		Pullbox B-x
	Cable for Street Light (CV 8 / 5.5sq-2C) with Conduits (FEP50)		Power Cable with Conduits (FEP50)
	under Vehicle Lane part with Conduits (E75)		

**EXPLANATORY NOTES**

FIXTURE						
LAMP	NHT180LS	NHT220LS	NHT220LS	NHT220LS x 2	NHT110LS	NHT180LS
LUMEN (lm)	19,000	26,500	26,500	26,500 x 2	10,400	19,000
MAINTENANCE FACTOR	0.7	0.7	0.7	0.7	0.7	0.7
MOUNTING HEIGHT (m)	10.0	10.0	11.0	10.0	6.5	11.0
ARM LENGTH (m)	—	—	—	0.1	—	—
ANGLE (°)	0	0	0	2	0	0
QUANTITY	8	34	8	2	2	10

**Types of Street Light**

Type 1 (Drawing No.E-11)			Type 3 (Drawing No.E-12)		
LE-02	LE-03	LE-04	LA-02	LA-03	LA-04
LG-03	LG-04	LG-05	LA-06	LA-09	LB-01
LG-06			LB-03	LB-05	
Type 2 (Drawing No.E-11)			Type 4 (Drawing No.E-12)		
LB-02	LC-01	LC-02	LF-07	LK-01	
LC-03	LC-04	LC-05	Type 5 (Drawing No.E-13)		
LC-06	LD-01	LD-02	LA-07	LH-01	LI-04
LD-03	LE-01	LF-01	Type 6 (Drawing No.E-14)		
LF-02	LF-03	LF-04	LA-01	LA-05	LA-08
LF-05	LF-06	LF-07	LB-04	LH-02	LH-05
LG-01	LG-02	LH-03	LI-01	LI-06	
LH-04	LH-06	LI-02			
LI-03	LI-05	LJ-01			
LJ-02	LJ-03	LJ-04			
LJ-05	LJ-06	LK-02			
LK-03	LK-04	LK-05			



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 and  
 Asia Air Survey Co., Ltd.

PROJECT  
 The Preparatory Survey for  
 Improvement of SOLIBRA Intersection  
 (Outline Design)

TITLE:  
 Street Lights Layout Plan  
 (3/4) SOLIBRA Intersection

Scale:  
 1:1000 (A3)

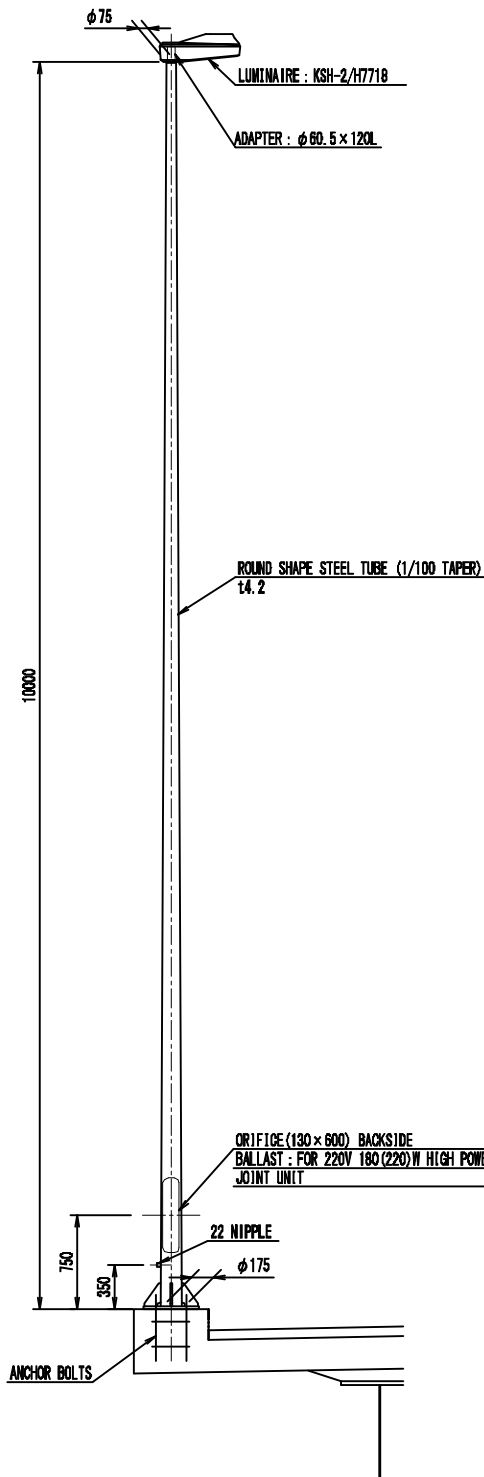
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
DATE:	

Drawing No:E-9  
 SHEET No:

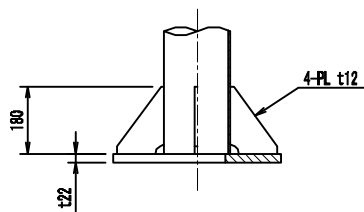
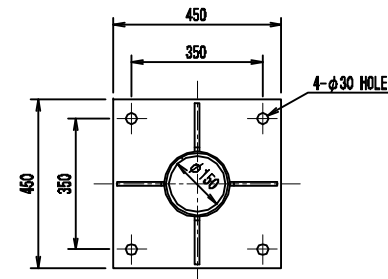


ELEVATION DIAGRAM OF LIGHTING S=1:60

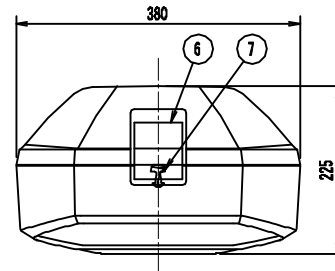
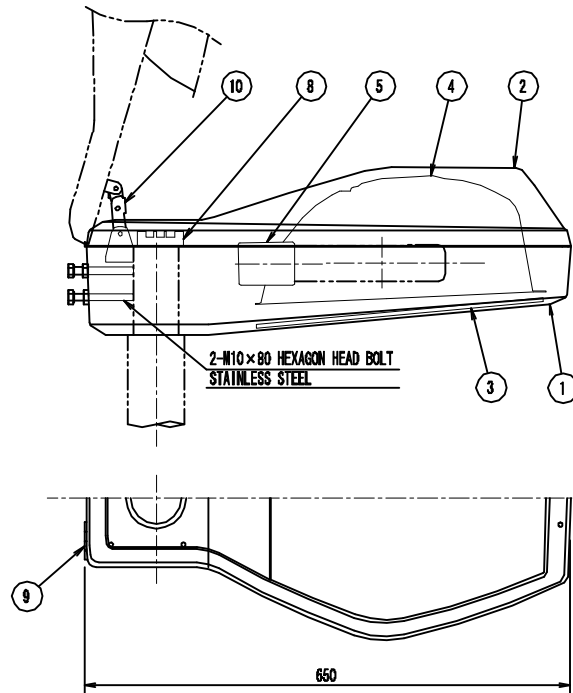
ELEVATION DIAGRAM OF LIGHTING S=1:60, 20, 10



BASE-PLATE DETAIL S=1:20

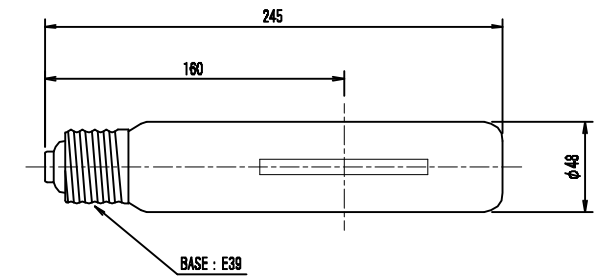


LUMINAIRES DETAIL S=1:10 (KSH-2)



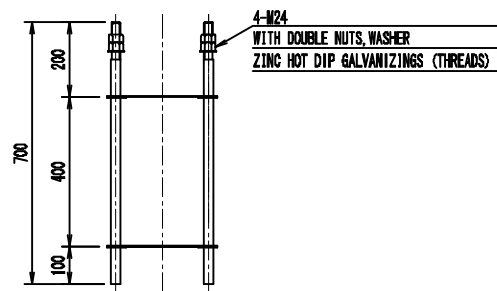
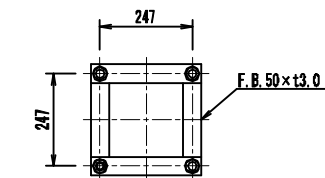
No.	PARTS	MATERIAL	Q'T	SUMMARY
1	BODY	ALUMINIUM ALLOY DIE CASTING	1	
2	UPPER COVER	ALUMINIUM ALLOY DIE CASTING	1	
3	FRONT GLASS	TEMPERED GLASS t4	1	CLEAR
4	REFLECTOR	ALUMINIUM ALLOY SHEET	1	ALMITE TREATMENT
5	LAMP SOCKET	PORCELAIN	1	E39
6	LATCH	ALUMINIUM ALLOY DIE CASTING	1	
7	OPEN PREVENTION SPRING	STAINLESS STEEL	1	
8	TERMINAL BLOCK	STAINLESS STEEL	1	3P - TERMINAL SCREW M4
9	HINGE	STAINLESS STEEL	2	
10	OPEN-CLOSE STOPPER	STAINLESS STEEL	1	

LAMP DETAIL S=1:4 (NHT180 (220) LS)

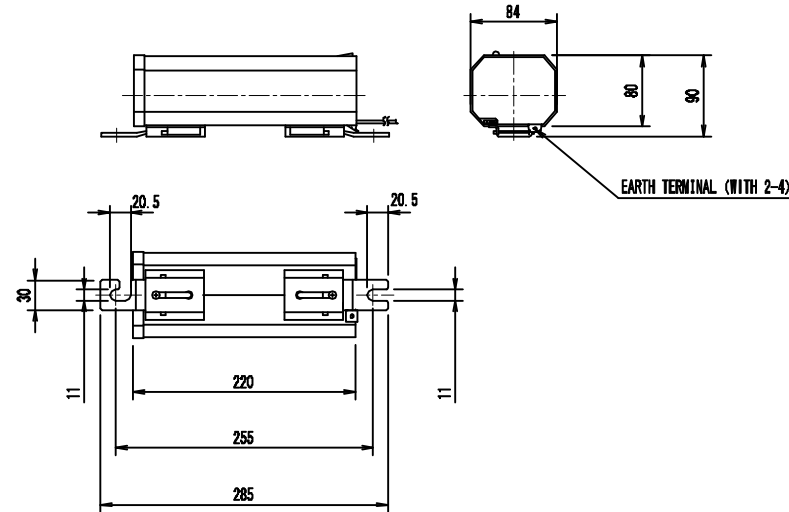


TYPE	INNER DIA FIBER	LAMP RAYTAGE (W)	LAMP VOLTAGE (V)	LAMP CURRENT (A)	INITIAL LUMINOUS FLUX (lm)	COLOR TEMPERATURE (K)	AVERAGE COLOR RENDERING INDEX (Ra)	AVERAGE LIFE (h)
TYPE 1	CLEAR	180	120	1.90	20,000	2100	25	24,000
TYPE 2	CLEAR	220	130	2.10	26,500	2100	25	24,000

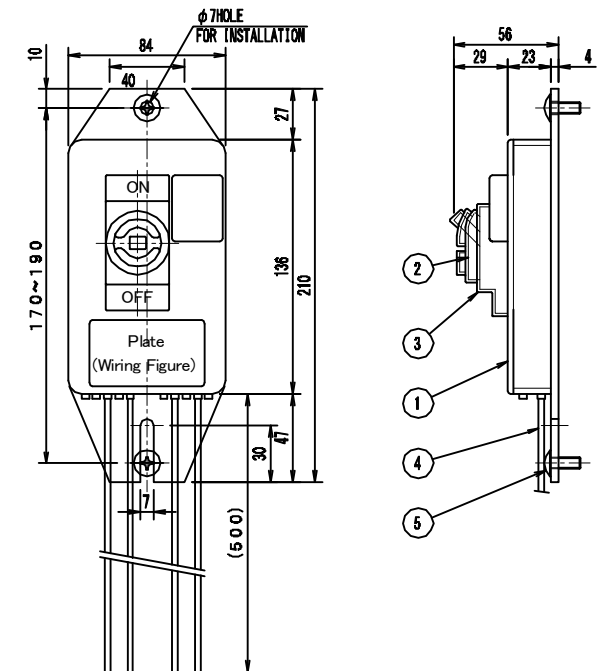
ANCHOR BOLTS DETAIL S=1:20



BALLAST DETAIL S=1:N (FOR 220V 180W (220W))



JOINT UNIT DETAIL S=1:4 (EFMN-15A)



No.	PARTS	MATERIAL	Q'T	SUMMARY
1	BODY	ABS RESIN	1	BLACK
2	CIRCUIT-BREAKERS FOR OVERCURRENT PROTECTION	ALUMINIUM ALLOY DIE CASTING	1	2P, 30AF, 15AT, 110/220V
3	CIRCUIT-BREAKERS COVER	EP-RUBBER	1	BLACK
4	LEAD WIRE	EM-1E WIRE	1SET	2mm <sup>2</sup> x 500mm
5	TRUSSED HEAD SCREW (CROSS RECESS)	STAINLESS STEEL	2	M6 x 16

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Asia Air Survey Co., Ltd.

PROJECT  
The Preparatory Survey for  
Improvement of SOUBRA Intersection  
(Outline Design)

TITLE:  
Street Light (Type-1&2) Details

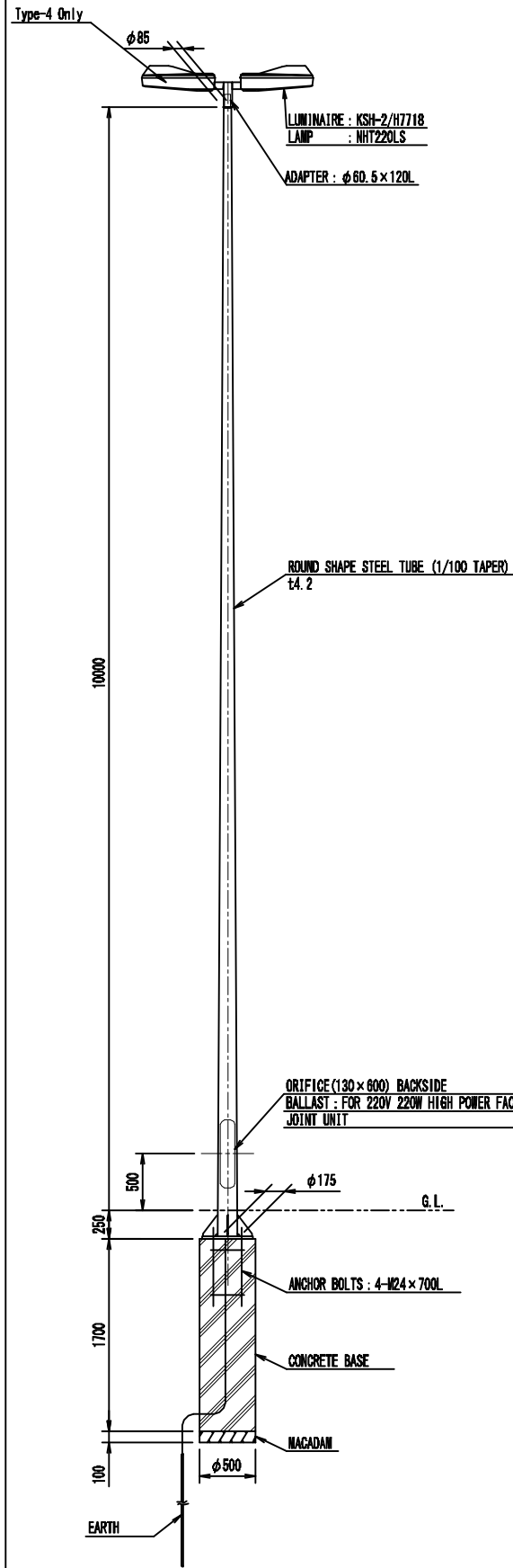
Scale:  
As Shown (A3)

DESIGNED BY:  
DRAWN BY:  
CHECKED BY:  
APPROVED BY:  
DATE:

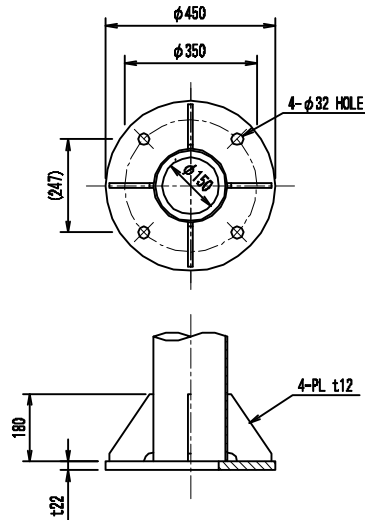
Drawing No: E-11  
SHEET No:

# ELEVATION DIAGRAM OF LIGHTING S=1:60, 20, 10

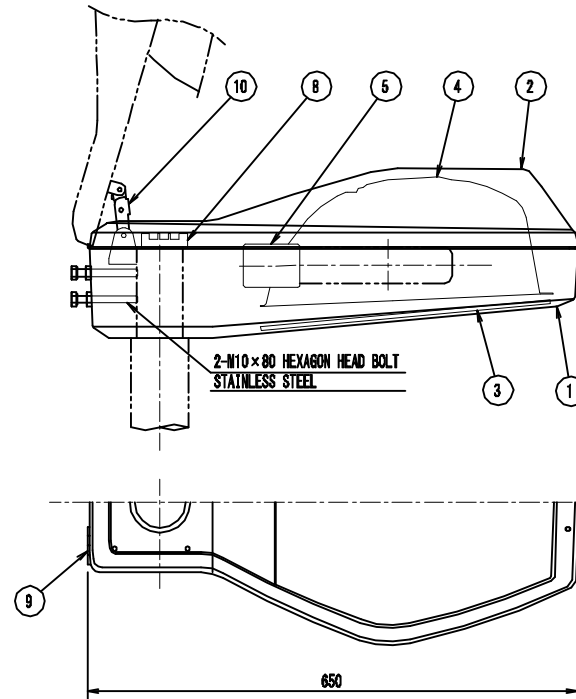
ELEVATION DIAGRAM OF LIGHTING S=1:60



BASE-PLATE DETAIL S=1:20

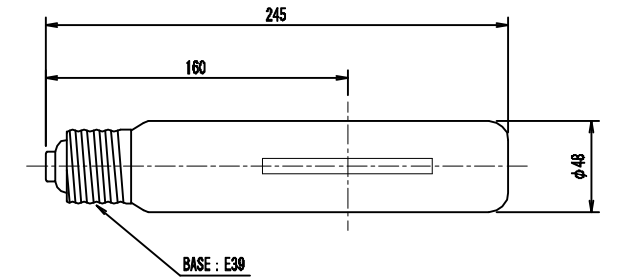


LUMINAIRES DETAIL S=1:10 (KSH-2)



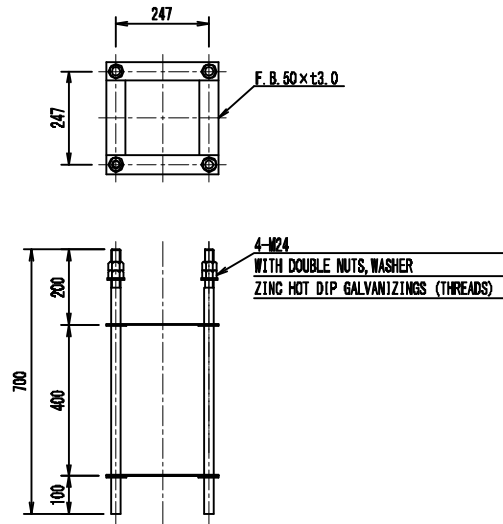
No.	PARTS	MATERIAL	Q'T	SUMMARY
1	BODY	ALUMINUM ALLOY DIE CASTING	1	
2	UPPER COVER	ALUMINUM ALLOY DIE CASTING	1	
3	FRONT GLASS	TEMPERED GLASS t4	1	CLEAR
4	REFLECTOR	ALUMINUM ALLOY SHEET	1	ALMITE TREATMENT
5	LAMP SOCKET	PORCELAIN	1	E39
6	LATCH	ALUMINUM ALLOY DIE CASTING	1	
7	OPEN PREVENTION SPRING	STAINLESS STEEL	1	
8	TERMINAL BLOCK	STAINLESS STEEL	1	3P-TERMINAL SCREW M4
9	HINGE	STAINLESS STEEL	2	
10	OPEN-CLOSE STOPPER	STAINLESS STEEL	1	

LAMP DETAIL S=1:4 (NHT220LS)

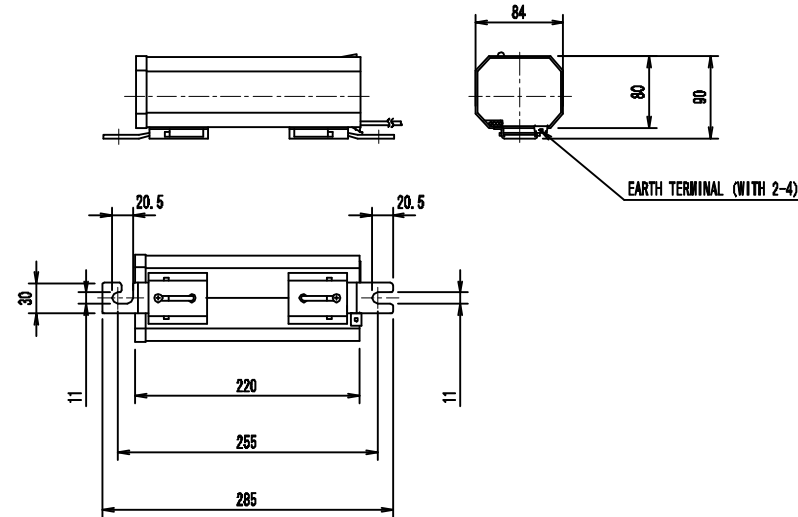


TYPE	OVER HALL FINISH	LAMP WATTAGE (W)	LAMP VOLTAGE (V)	LAMP CURRENT (A)	INITIAL LUMINOUS FLUX (lm)	COLOR TEMPERATURE (K)	AVERAGE COLOR RENDERING INDEX (Ra)	AVERAGE L. LIFE (h)
NHT220LS	CLEAR	220	130	2.10	26,500	2100	25	24,000

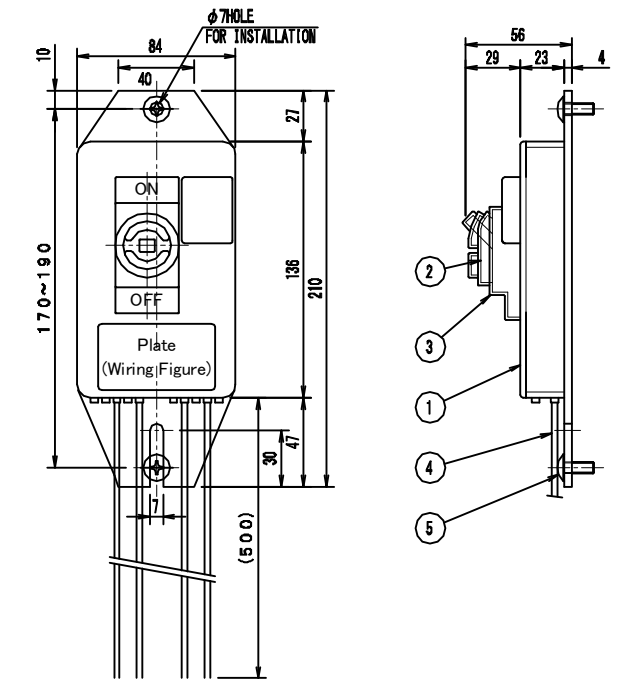
ANCHOR BOLTS DETAIL S=1:20



BALLAST DETAIL S=1:N (FOR 220V 220W)



JOINT UNIT DETAIL S=1:4 (EFMN-15A)



No.	PARTS	MATERIAL	Q'T	SUMMARY
1	BODY	ABS RESIN	1	BLACK
2	CIRCUIT-BREAKERS FOR OVERCURRENT PROTECTION	ALUMINUM ALLOY DIE CASTING	1	2P, 30AF, 15AT, 110/220V
3	CIRCUIT-BREAKERS COVER	EP-RUBBER	1	BLACK
4	LEAD WIRE	EM-1E WIRE	1SET	2mm <sup>2</sup> x 500mm
5	TRUSSED HEAD SCREW	STAINLESS STEEL	2	M6 x 16

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 Japan International Cooperation Agency (JICA)

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 DIRECTOR RESPONSIBLE FOR DESIGN:  
 SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
 STAMP: \_\_\_\_\_

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 Central Consultant Inc.,  
 and  
 Asia Air Survey Co., Ltd.

PROJECT  
 The Preparatory Survey for  
 Improvement of SOLIBRA Intersection  
 (Outline Design)

TITLE:  
 Street Light (Type-3&4) Details

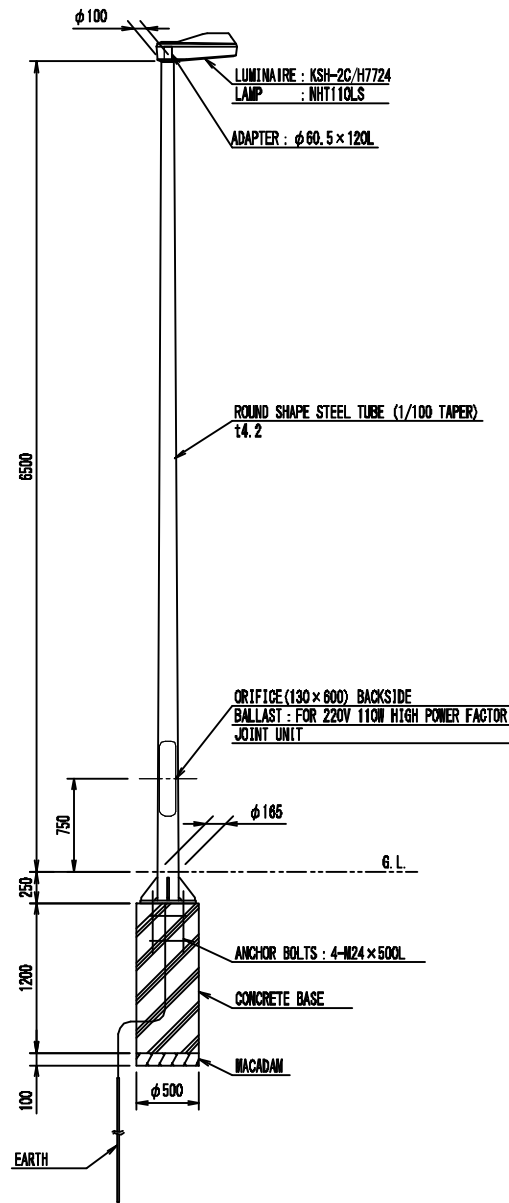
Scale:  
 As Shown(A3)

DESIGNED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 APPROVED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

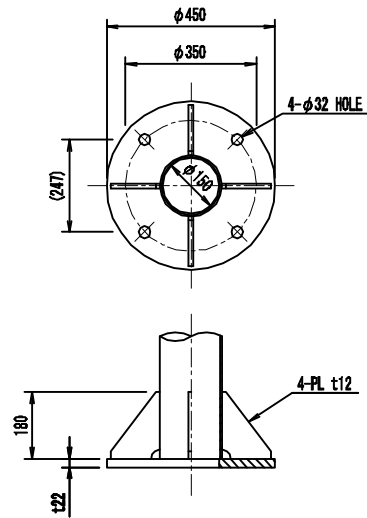
Drawing No: E-12  
 SHEET No: \_\_\_\_\_

# ELEVATION DIAGRAM OF LIGHTING S=1:30, 10, 5

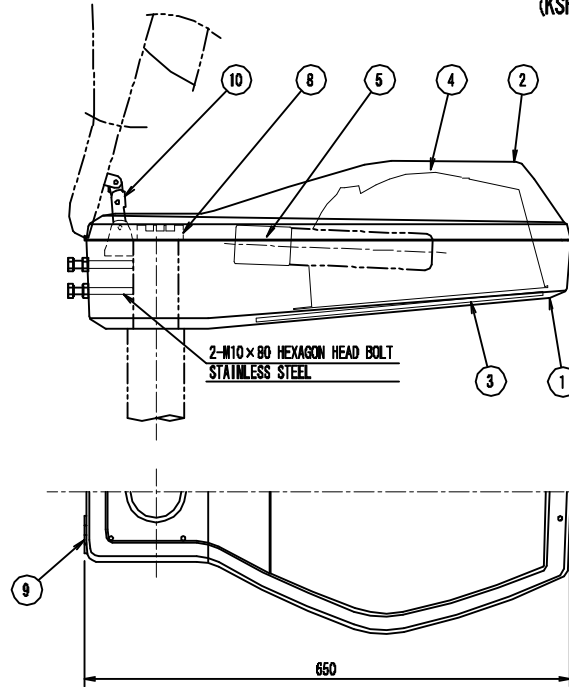
ELEVATION DIAGRAM OF LIGHTING S=1:60



BASE-PLATE DETAIL S=1:20

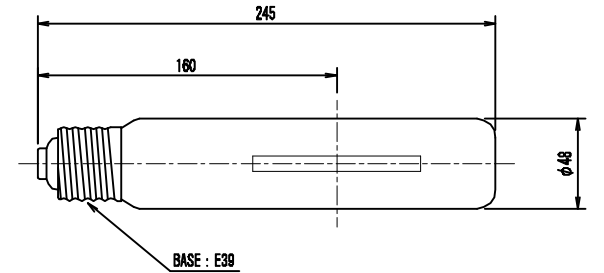


LUMINAIRES DETAIL S=1:10 (KSH-2C)



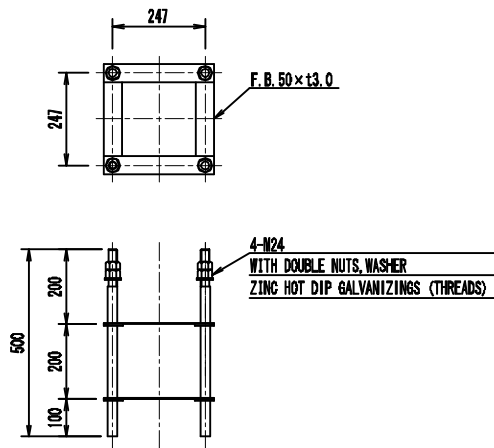
No.	PARTS	MATERIAL	Q'T	SUMMARY
1	BODY	ALUMINIUM ALLOY DIE CASTING	1	
2	UPPER COVER	ALUMINIUM ALLOY DIE CASTING	1	
3	FRONT GLASS	TEMPERED GLASS t4	1	CLEAR
4	REFLECTOR	ALUMINIUM ALLOY SHEET	1	ALMITE TREATMENT
5	LAMP SOCKET	PORCELAIN	1	E39
6	LATCH	ALUMINIUM ALLOY DIE CASTING	1	
7	OPEN PREVENTION SPRING	STAINLESS STEEL	1	
8	TERMINAL BLOCK	STAINLESS STEEL	1	3P - TERMINAL SCREW M4
9	HINGE	STAINLESS STEEL	2	
10	OPEN-CLOSE STOPPER	STAINLESS STEEL	1	

LAMP DETAIL S=1:4 (NHT110LS)

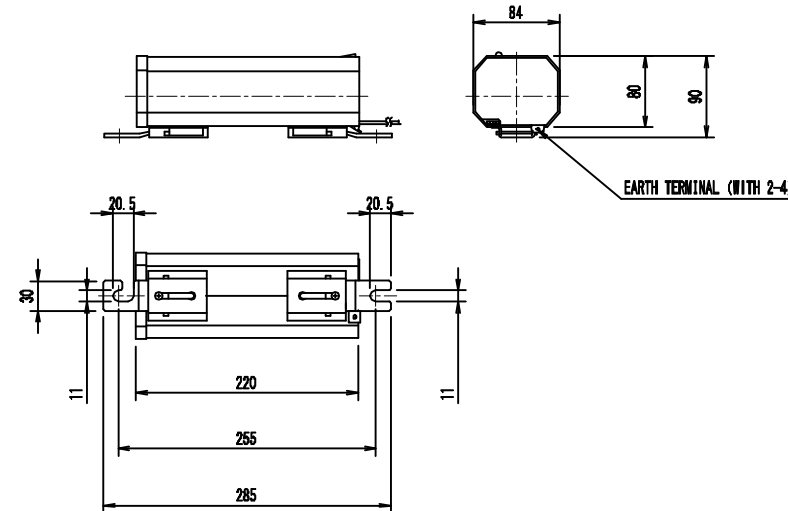


TYPE	OVERALL DIM (mm)	LAMP WATTAGE (W)	LAMP VOLTAGE (V)	LAMP CURRENT (A)	INITIAL LUMINOUS FLUX (lm)	COLOR TEMPERATURE (K)	AVERAGE COLOR RENDERING INDEX (Ra)	AVERAGE LIFE (h)
NHT110LS	CLEAR	110	115	1.15	11,000	2100	25	24,000

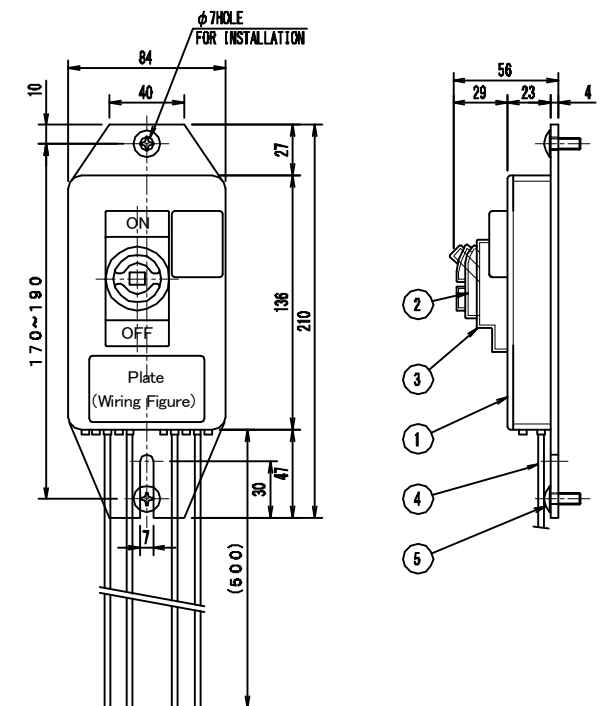
ANCHOR BOLTS DETAIL S=1:20



BALLAST DETAIL S=1:N (FOR 220V 110W)



JOINT UNIT DETAIL S=1:2 (EFMN-15A)



No.	PARTS	MATERIAL	Q'T	SUMMARY
1	BODY	ABS RESIN	1	BLACK
2	CIRCUIT-BREAKERS FOR OVERCURRENT PROTECTION	ALUMINIUM ALLOY DIE CASTING	1	2P, 30AF, 15AT, 110/220V
3	CIRCUIT-BREAKERS COVER	EP-RUBBER	1	BLACK
4	LEAD WIRE	EM-1E WIRE	1SET	2mm <sup>2</sup> x 500mm
5	TRUSSED HEAD SCREW (CROSS RECESS)	STAINLESS STEEL	2	M6 x 16

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DIRECTOR RESPONSIBLE FOR DESIGN:				
SIGNATURE: DATE:				
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 and  
 Asia Air Survey Co., Ltd.

PROJECT  
 The Preparatory Survey for  
 Improvement of SOUBRA Intersection  
 (Outline Design)

TITLE:  
 Street Light (Type-5) Detail

Scale:  
 1:1000 (A3)

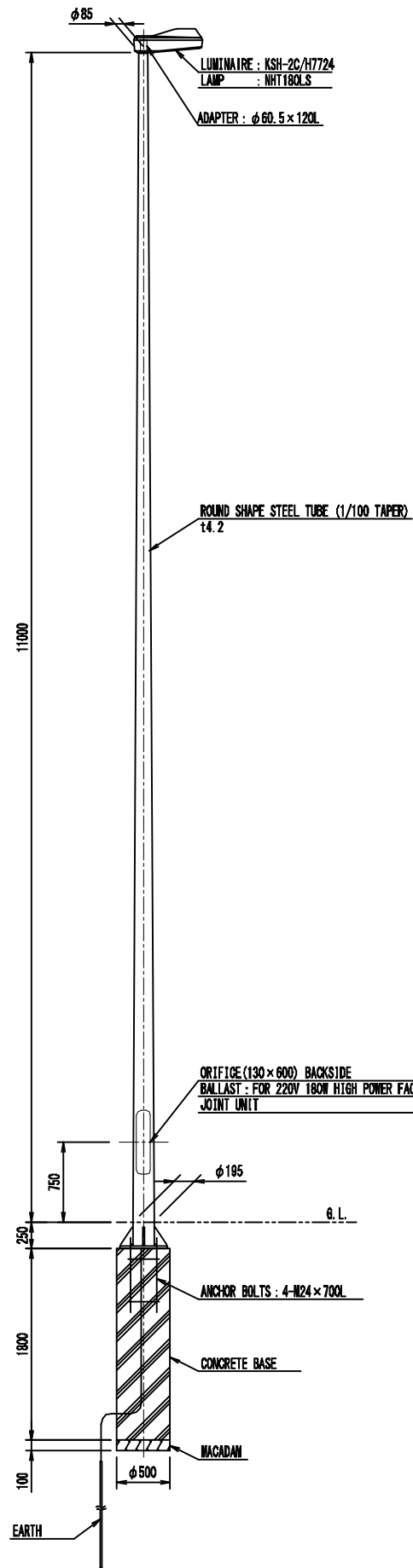
DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:

Drawing No: E-13  
 SHEET No:

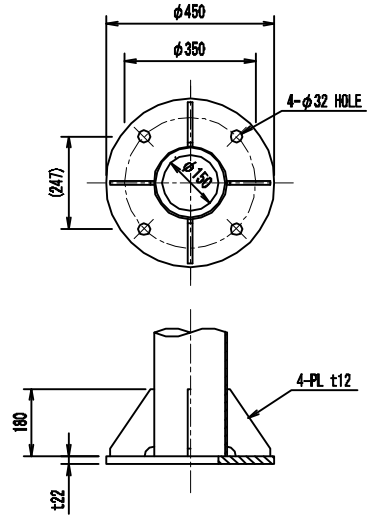


ELEVATION DIAGRAM OF LIGHTING S=1:60

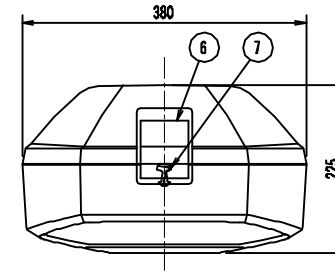
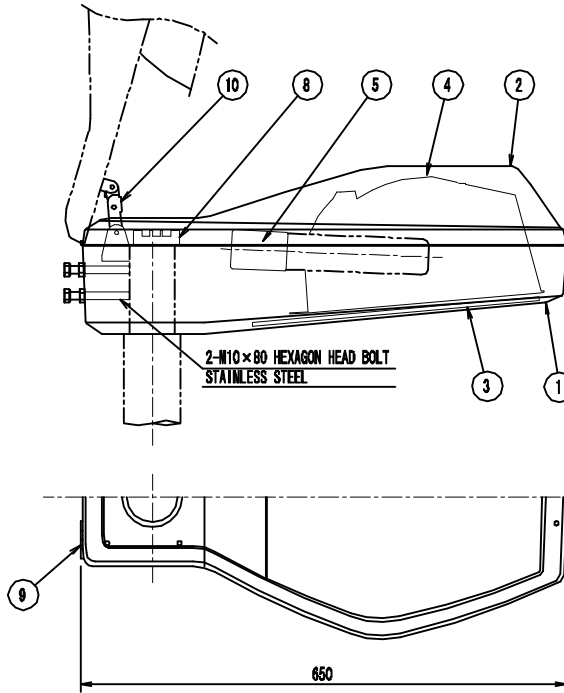
ELEVATION DIAGRAM OF LIGHTING S=1:60, 20, 10



BASE-PLATE DETAIL S=1:20

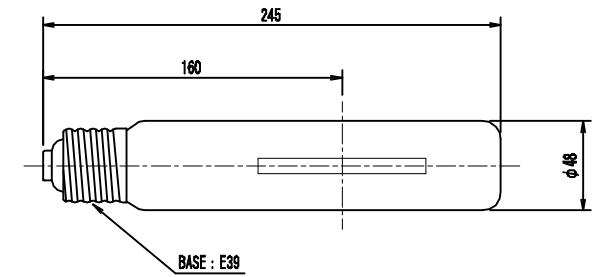


LUMINAIRES DETAIL S=1:10 (KSH-2C)



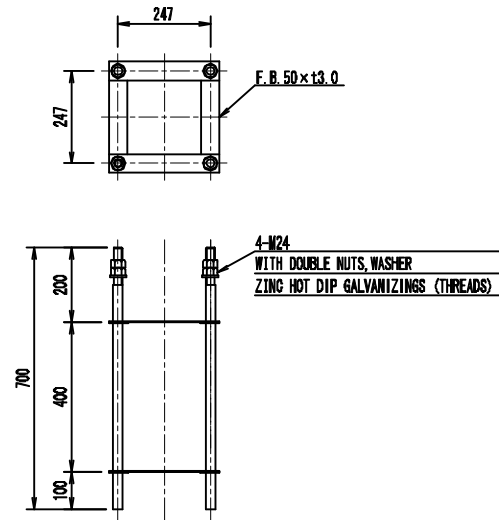
No.	PARTS	MATERIAL	Q'T	SUMMARY
1	BODY	ALUMINIUM ALLOY DIE CASTING	1	
2	UPPER COVER	ALUMINIUM ALLOY DIE CASTING	1	
3	FRONT GLASS	TEMPERED GLASS t4	1	CLEAR
4	REFLECTOR	ALUMINIUM ALLOY SHEET	1	ALMITE TREATMENT
5	LAMP SOCKET	PORCELAIN	1	E39
6	LATCH	ALUMINIUM ALLOY DIE CASTING	1	
7	OPEN PREVENTION SPRING	STAINLESS STEEL	1	
8	TERMINAL BLOCK	STAINLESS STEEL	1	3P-TERMINAL SCREW M4
9	HINGE	STAINLESS STEEL	2	
10	OPEN-CLOSE STOPPER	STAINLESS STEEL	1	

LAMP DETAIL S=1:4 (NHT180LS)

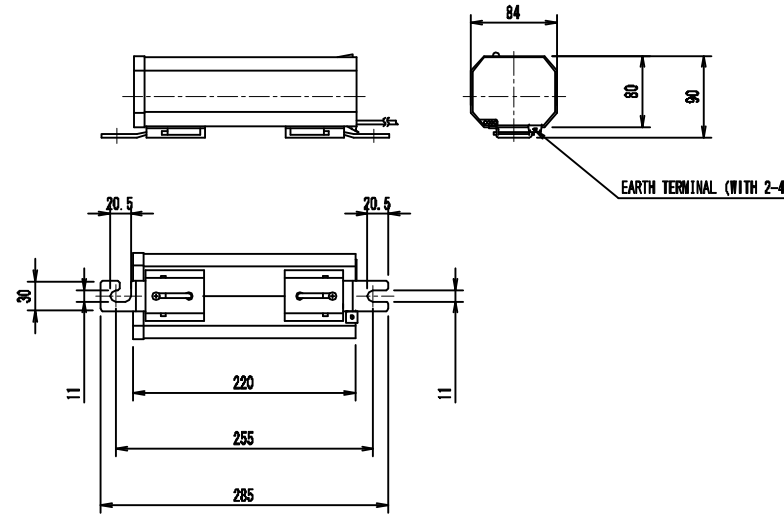


TYPE	OPER. M.D. FINISH	LAMP WATTAGE (W)	LAMP VOLTAGE (V)	LAMP CURRENT (A)	INITIAL LUMINOUS FLUX (lm)	COLOR TEMPERATURE (K)	AVERAGE COLOR RENDERING INDEX (Ra)	AVERAGE LIFE (h)
NHT180LS	CLEAR	180	120	1.90	20,000	2100	25	24,000

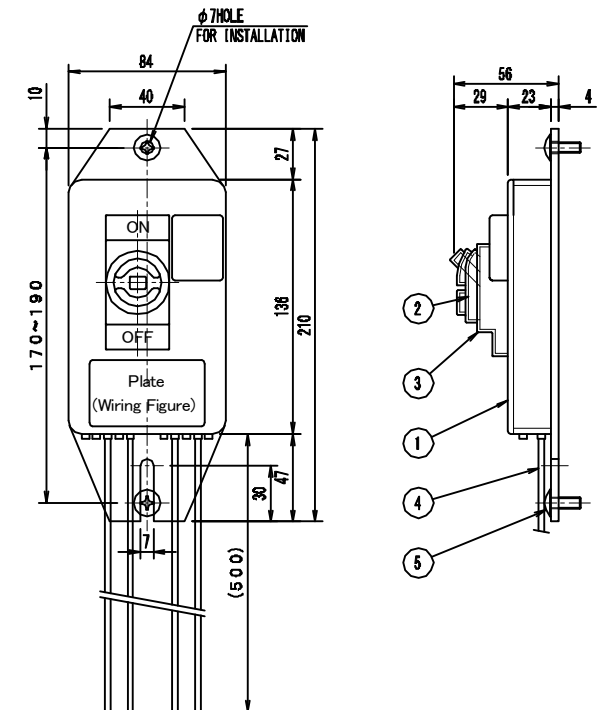
ANCHOR BOLTS DETAIL S=1:20



BALLAST DETAIL S=1:N (FOR 220V 180W)



JOINT UNIT DETAIL S=1:4 (EFMN-15A)



No.	PARTS	MATERIAL	Q'T	SUMMARY
1	BODY	ABS RESIN	1	BLACK
2	CIRCUIT-BREAKERS FOR OVERCURRENT PROTECTION	ALUMINIUM ALLOY DIE CASTING	1	2P, 30AF, 15AT, 110/220V
3	CIRCUIT-BREAKERS COVER	EP-RUBBER	1	BLACK
4	LEAD WIRE	EM-IE WIRE	1SET	2mm <sup>2</sup> $\times$ 500mm
5	TRUSS HEAD SCREW (CROSS RECESS)	STAINLESS STEEL	2	M6 $\times$ 16

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DIRECTOR RESPONSIBLE FOR DESIGN:				
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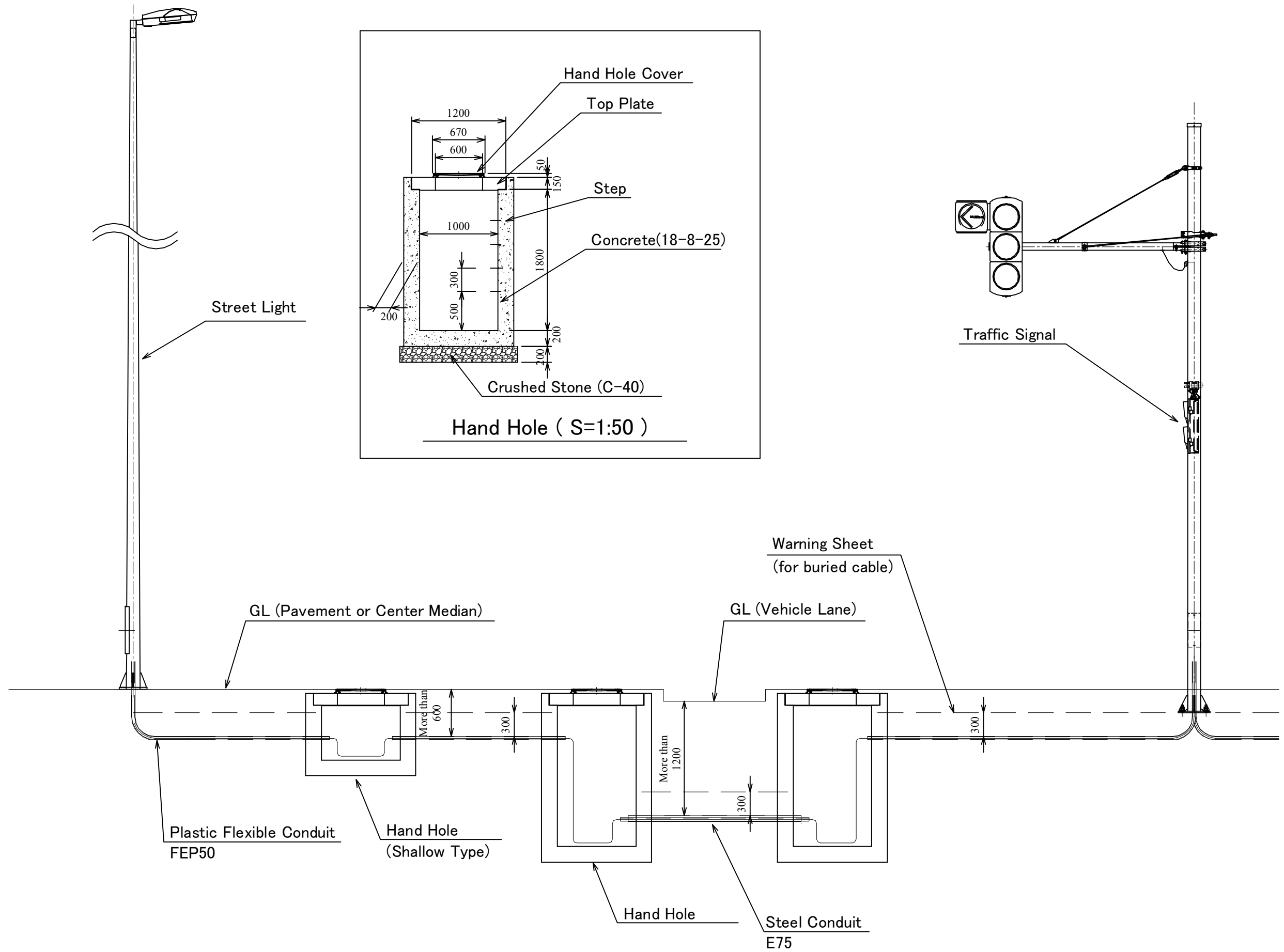
PROJECT  
 The Preparatory Survey for  
 Improvement of SOUBRA Intersection  
 (Outline Design)

TITLE:  
 Street Light (Type-6) Detail

Scale:  
 As Shown (A3)

DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:

Drawing No: E-14  
 SHEET No:



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DIRECTOR RESPONSIBLE FOR DESIGN:				
SIGNATURE: DATE:				
STAMP:				

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 Central Consultant Inc.,  
 and  
 Asia Air Survey Co., Ltd.

PROJECT  
 The Preparatory Survey for  
 Improvement of SOLIBRA Intersection  
 (Outline Design)

TITLE:  
 Cable Connection & Hand Hole

Scale:  
 Non, 1:50 (A3)

DESIGNED BY:			
DRAWN BY:			
CHECKED BY:			
APPROVED BY:			
DATE:			

Drawing No: E-15  
 SHEET No: