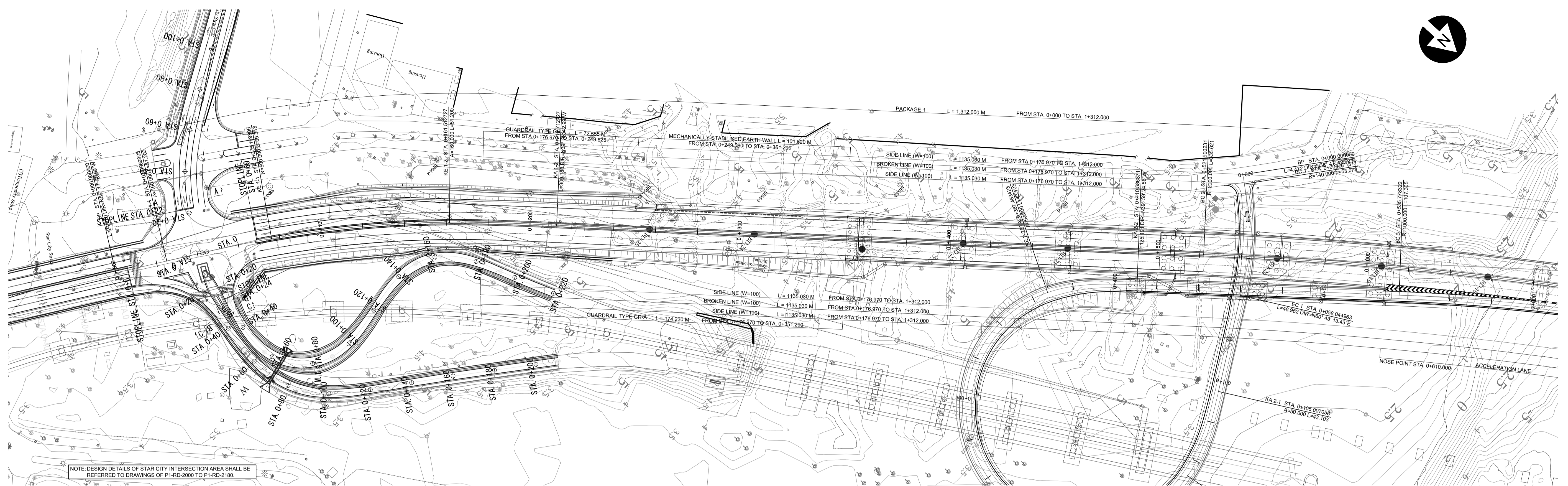
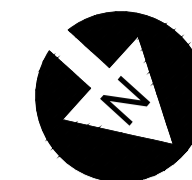
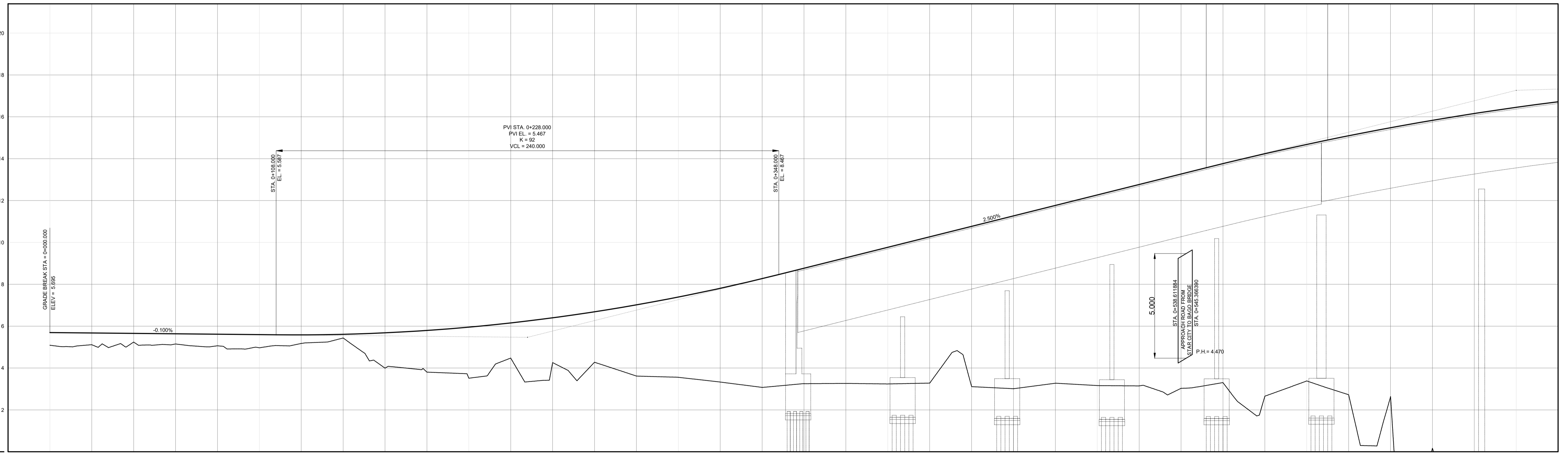


## **B. ROAD DESIGN**

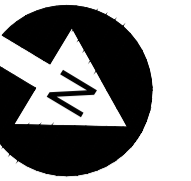


NOTE: DESIGN DETAILS OF STAR CITY INTERSECTION AREA SHALL BE REFERRED TO DRAWINGS OF P1-RD-2000 TO P1-RD-2150.



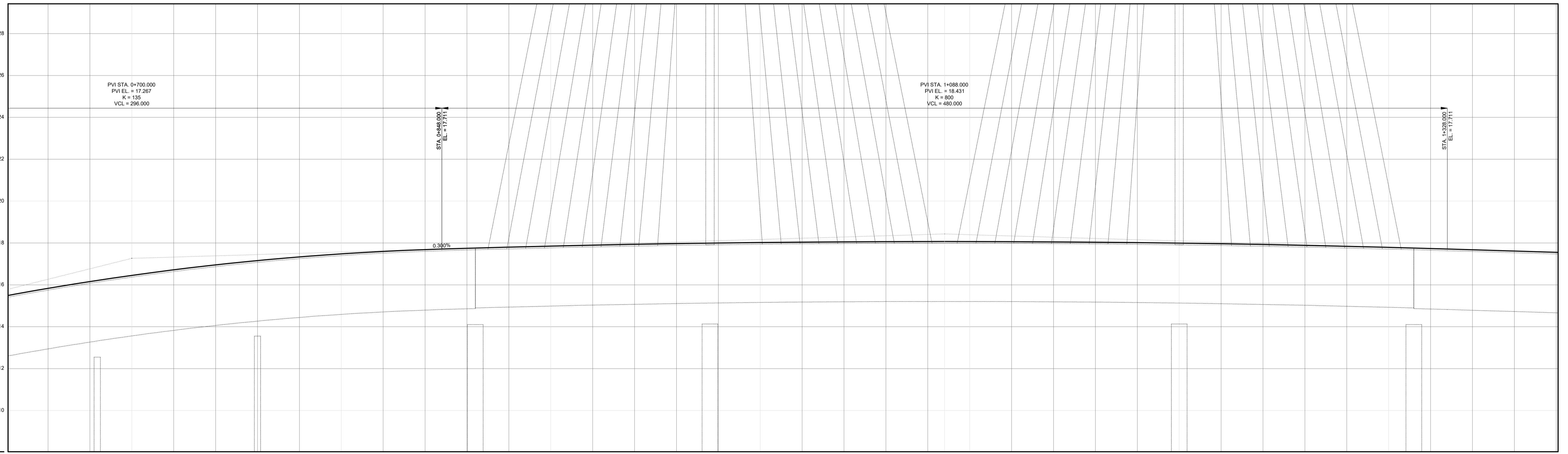
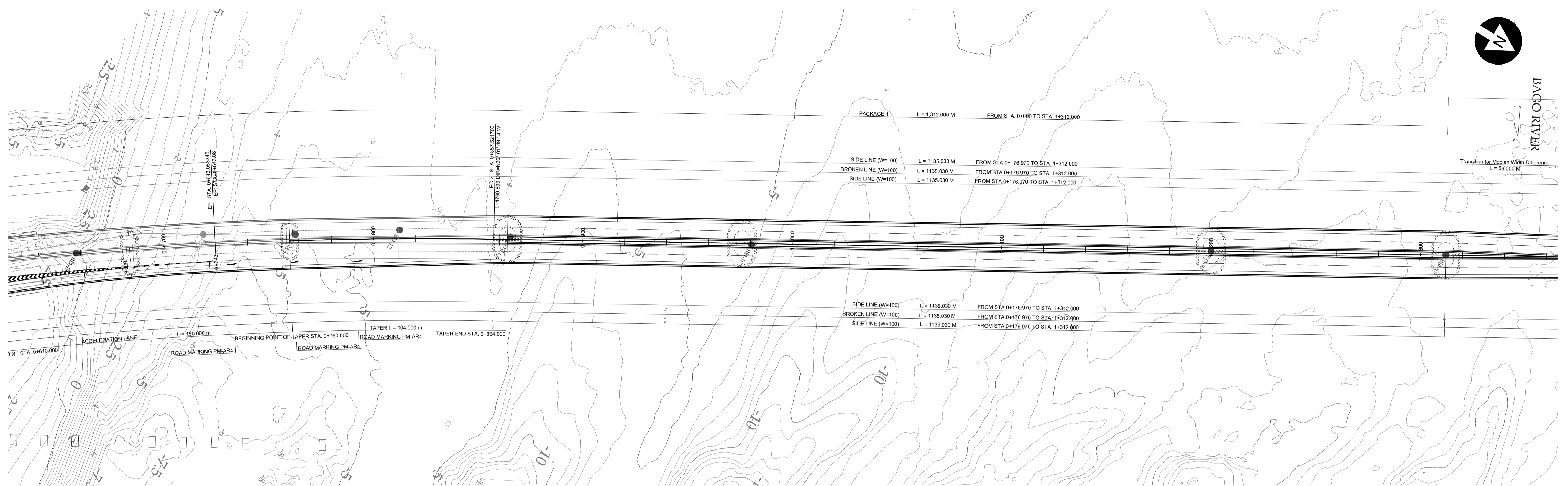
GRADE	0+000.000 ELEV = 5.855	0+020.000 ELEV = 5.898	0+040.000 ELEV = 5.875	0+060.000 ELEV = 5.855	0+080.000 ELEV = 5.835	0+100.000 ELEV = 5.815	0+120.000 ELEV = 5.795	0+140.000 ELEV = 5.775	0+160.000 ELEV = 5.755	0+180.000 ELEV = 5.735	0+200.000 ELEV = 5.715	0+220.000 ELEV = 5.695	0+240.000 ELEV = 5.675	0+260.000 ELEV = 5.655	0+280.000 ELEV = 5.635	0+300.000 ELEV = 5.615	0+320.000 ELEV = 5.595	0+340.000 ELEV = 5.575	0+360.000 ELEV = 5.555	0+380.000 ELEV = 5.535	0+400.000 ELEV = 5.515	0+420.000 ELEV = 5.495	0+440.000 ELEV = 5.475	0+460.000 ELEV = 5.455	0+480.000 ELEV = 5.435	0+500.000 ELEV = 5.415	0+520.000 ELEV = 5.395	0+540.000 ELEV = 5.375	0+560.000 ELEV = 5.355	0+580.000 ELEV = 5.335	0+600.000 ELEV = 5.315	0+620.000 ELEV = 5.295	0+640.000 ELEV = 5.275	0+660.000 ELEV = 5.255	0+680.000 ELEV = 5.235	0+700.000 ELEV = 5.215		
PROPOSED HEIGHT	5.855	5.898	5.875	5.855	5.835	5.815	5.795	5.775	5.755	5.735	5.715	5.695	5.675	5.655	5.635	5.615	5.595	5.575	5.555	5.535	5.515	5.495	5.475	5.455	5.435	5.415	5.395	5.375	5.355	5.335	5.315	5.295	5.275	5.255	5.235	5.215		
EXISTING HEIGHT	5.08	5.11	5.13	5.15	5.17	5.19	5.21	5.23	5.25	5.27	5.29	5.31	5.33	5.35	5.37	5.39	5.41	5.43	5.45	5.47	5.49	5.51	5.53	5.55	5.57	5.59	5.61	5.63	5.65	5.67	5.69	5.71	5.73	5.75	5.77	5.79	5.81	5.83
STATION	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+260	0+280	0+300	0+320	0+340	0+360	0+380	0+400	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	0+620	0+640	0+660	0+680	0+700		
SUPER ELEVATION	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%	-2.000%		
CURVE ELEMENTS	R = ∞ L = 24.970m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m	R = ∞ L = 51.200m		

PROJECT NAME <b>DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT</b>	FINANCED BY <b>JAPAN INTERNATIONAL COOPERATION AGENCY</b>	COUNTERPART <b>REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE</b>	JICA STUDY TEAM <b>NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.</b>	NAME	SIGNATURE	DATE	DRAWING TITLE <b>PLAN AND PROFILE (1/2)</b>	PACKAGE <b>1</b> DWG No. <b>P1-RD-0100</b>
				PREPARED BY	E. YOKOTA	15 JUNE 2017		
				CHECKED BY	T. HAYAKAWA	20 JUNE 2017		
APPROVED BY	Y. SANO	21 JUNE 2017						



BAGO RIVER

Transition for Median Width Difference  
L = 56.000 M

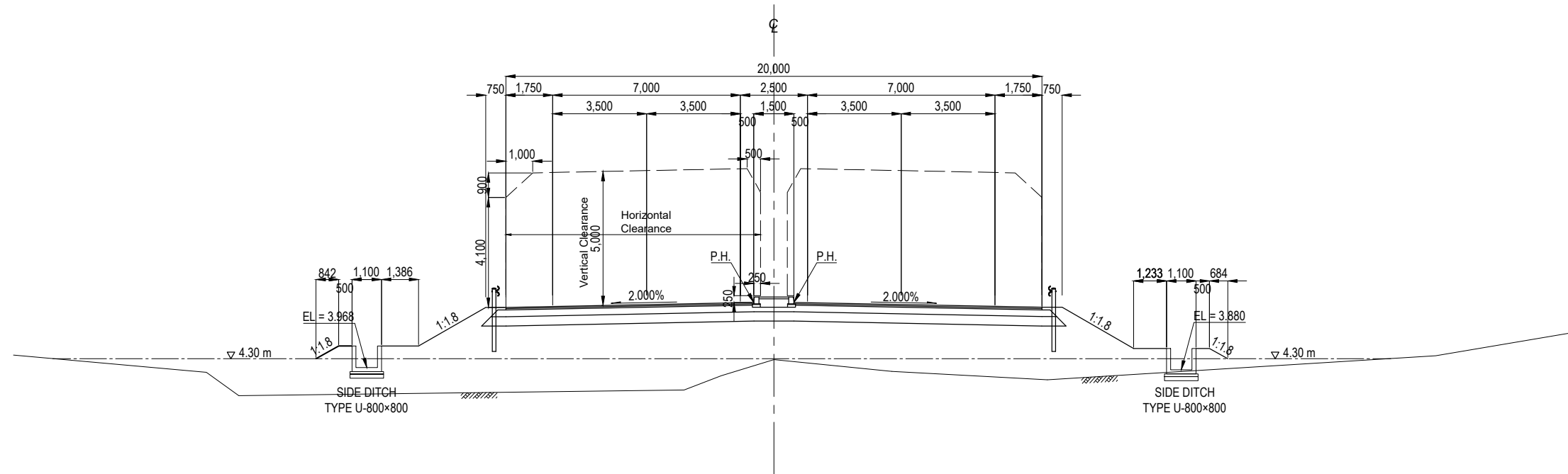


GRADE	0.300% L = 388.000 m																																			
PROPOSED HEIGHT	18.833	16.156	16.453	16.716	16.953	17.159	17.335	17.481	17.598	17.685	17.746	17.801	17.850	17.895	17.934	17.969	17.998	18.023	18.042	18.057	18.066	18.071	18.070	18.065	18.054	18.039	17.993	17.962	17.927	17.886	17.841	17.799	17.735	17.675	17.615	17.555
EXISTING HEIGHT	0.17	-1.23	-2.63	-3.63	-4.80	-5.01	-4.81	-4.88	-4.33	-4.09	-3.93	-4.88	-6.18	-4.94	-5.07	-4.74	-4.88	-6.74	-7.99	-6.87	-6.01	-6.33	-7.50	-8.38	-8.76	-8.11	-7.59	-7.97	-8.05	-8.33	-8.26	-7.74	-7.53	-8.07	-7.88	-7.53
STATION	0+660	0+680	0+700	0+720	0+740	0+760	0+780	0+800	0+820	0+840	0+860	0+880	0+900	0+920	0+940	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280	1+300	1+320	1+340	1+360
SUPER ELEVATION	-2.000%																																			
CURVE ELEMENTS	R=2000.000m L=336.621m																																			

PROJECT NAME <b>DETAILED DESIGN ON          BAGO RIVER BRIDGE          CONSTRUCTION PROJECT</b>	FINANCED BY <b>JAPAN INTERNATIONAL          COOPERATION AGENCY</b>	COUNTERPART <b>REPUBLIC OF THE UNION OF MYANMAR          MINISTRY OF CONSTRUCTION          DEPARTMENT OF BRIDGE</b>	JICA STUDY TEAM <b>NIPPON KOEI CO., LTD.          ORIENTAL CONSULTANTS GLOBAL CO., LTD.          METROPOLITAN EXPRESSWAY COMPANY LIMITED          CHODAI CO., LTD.          NIPPON ENGINEERING CONSULTANTS CO., LTD.</b>	NAME	SIGNATURE	DATE	DRAWING TITLE <b>PLAN AND PROFILE (2/2)</b>	PACKAGE <b>1</b> DWG No. <b>P1-RD-0110</b>	
				PREPARED BY	E. YOKOTA				15 JUNE 2017
				CHECKED BY	T. HAYAKAWA				20 JUNE 2017
APPROVED BY	Y. SANO		21 JUNE 2017						

STA. 0+240

G.H.= 4.26  
P.H.= 6.399

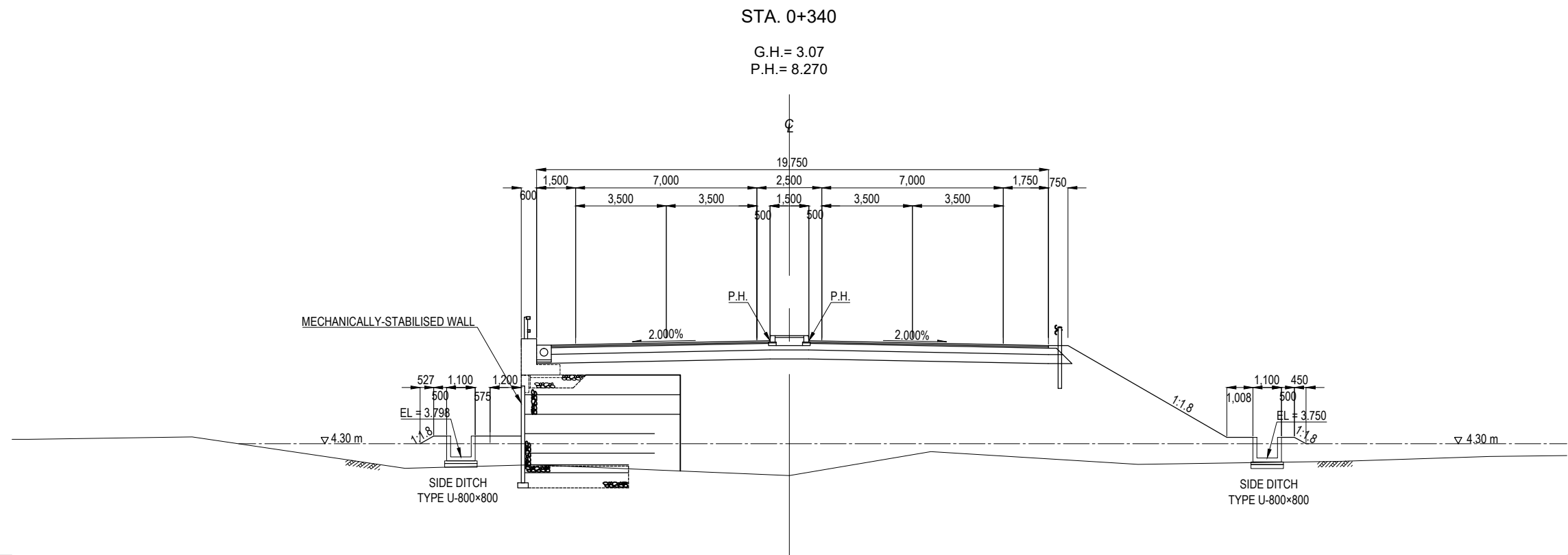


D.L.= 0.00

EMBANKMENT SECTION S = 1:200

NOTE: ELEVATION IS BASED ON MSL (MEAN SEA LEVEL).  
ELEVATION OF 4.30 M SHOWN IN THE DRAWING IS THE PROPOSED HEIGHT OF CONSTRUCTION YARD.

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TYPICAL CROSS SECTION (1/2)	PACKAGE	
				PREPARED BY	E. YOKOTA			15 JUNE 2017	1
				CHECKED BY	T. HAYAKAWA			20 JUNE 2017	DWG No.
				APPROVED BY	Y. SANO			21 JUNE 2017	P1-RD-0200



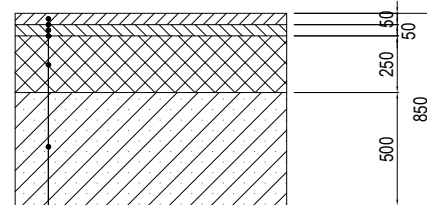
EMBANKMENT SECTION WITH MECHANICALLY-STABILISED WALL AT THE LEFT SIDE S = 1:200

NOTE: ELEVATION IS BASED ON MSL (MEAN SEA LEVEL).  
ELEVATION OF 4.30 M SHOWN IN THE DRAWING IS THE PROPOSED HEIGHT OF CONSTRUCTION YARD.

<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.		<small>NAME</small> PREPARED BY E. YOKOTA CHECKED BY T. HAYAKAWA APPROVED BY Y. SANO	<small>SIGNATURE</small>   	<small>DATE</small> 15 JUNE 2017 20 JUNE 2017 21 JUNE 2017	<small>DRAWING TITLE</small> <b>TYPICAL CROSS SECTION (2/2)</b>	<small>PACKAGE</small> 1 DWG No. P1-RD-0210
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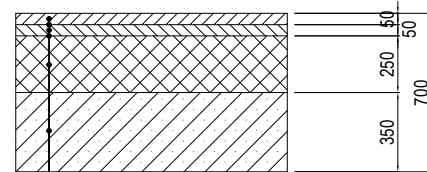
# PAVEMENT LAYER (1) S=1:30

TYPE E1



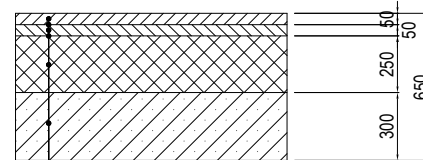
AC SURFACE COURSE (t=50mm)  
TACK COAT 0.4 l/m<sup>2</sup>  
AC SURFACE BASE (t=50mm)  
PRIME COAT 0.4 l/m<sup>2</sup>  
BASE COURSE (t=250mm)  
SUB BASE (t=500mm)

TYPE E2



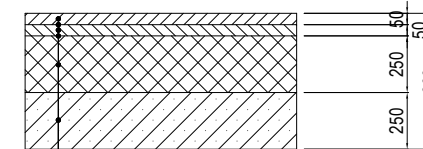
AC SURFACE COURSE (t=50mm)  
TACK COAT 0.4 l/m<sup>2</sup>  
AC SURFACE BASE (t=50mm)  
PRIME COAT 0.4 l/m<sup>2</sup>  
BASE COURSE (t=250mm)  
SUB BASE (t=350mm)

TYPE E3



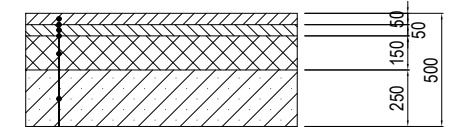
AC SURFACE COURSE (t=50mm)  
TACK COAT 0.4 l/m<sup>2</sup>  
AC SURFACE BASE (t=50mm)  
PRIME COAT 0.4 l/m<sup>2</sup>  
BASE COURSE (t=250mm)  
SUB BASE (t=300mm)

TYPE E4



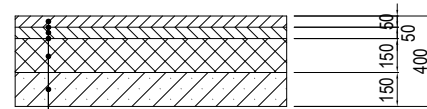
AC SURFACE COURSE (t=50mm)  
TACK COAT 0.4 l/m<sup>2</sup>  
AC SURFACE BASE (t=50mm)  
PRIME COAT 0.4 l/m<sup>2</sup>  
BASE COURSE (t=250mm)  
SUB BASE (t=250mm)

TYPE E5



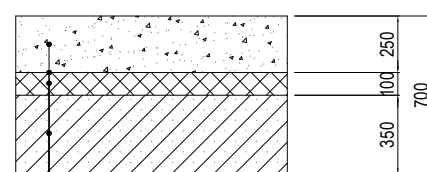
AC SURFACE COURSE (t=50mm)  
TACK COAT 0.4 l/m<sup>2</sup>  
AC SURFACE BASE (t=50mm)  
PRIME COAT 0.4 l/m<sup>2</sup>  
BASE COURSE (t=150mm)  
SUB BASE (t=250mm)

TYPE E6



AC SURFACE COURSE (t=50mm)  
TACK COAT 0.4 l/m<sup>2</sup>  
AC SURFACE BASE (t=50mm)  
PRIME COAT 0.4 l/m<sup>2</sup>  
BASE COURSE (t=150mm)  
SUB BASE (t=150mm)

TYPE C



CONCRETE (t=250mm)  
PRIME COAT 0.4 l/m<sup>2</sup>  
BASE COURSE (t=100mm)  
SUB BASE (t=350mm)

TYPE B1  
(FOR CONCRETE DECK)



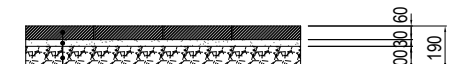
AC SURFACE COURSE (t=40mm)  
TACK COAT 0.4 l/m<sup>2</sup>  
AC SURFACE BASE (t=40mm)  
WATERPROOFING  
BONDING COAT

TYPE B2  
(FOR STEEL DECK)



POLYMER-MODIFIED ASPHALT II (t=40mm)  
TACK COAT 0.4 l/m<sup>2</sup>  
POLYMER-MODIFIED ASPHALT III-WF (t=40mm)  
WATERPROOFING  
BONDING COAT

SIDE WALK

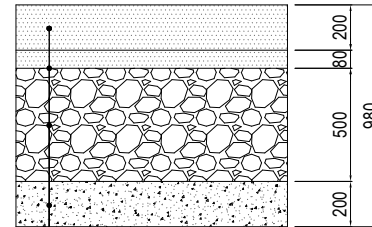


PRECAST CONCRETE PAVING BLOCK (300x300mm x t=60mm)  
SAND (t=30mm)  
SOIL AGGREGATE: C-30 (t=100mm)

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE PAVEMENT LAYER (1)	PACKAGE	
				PREPARED BY	J.TSUCHIYA			15 Jun. 2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun. 2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun. 2017	P1-RD-0300

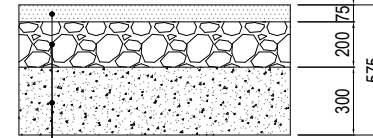
# PAVEMENT LAYER (2) S=1:30

## TYPE CS



RC PAVEMENT G-30 (t=200mm)  
 LEAN CONCRETE 1:3:6 (t=80mm)  
 PLASTIC SHEET  
 HARD CORE WITH SAND ROLLER MACHINE COMPACTED CBR>10% (t=500mm)  
 SAND COMPACTED (t=200mm)

## SIDE WALK S



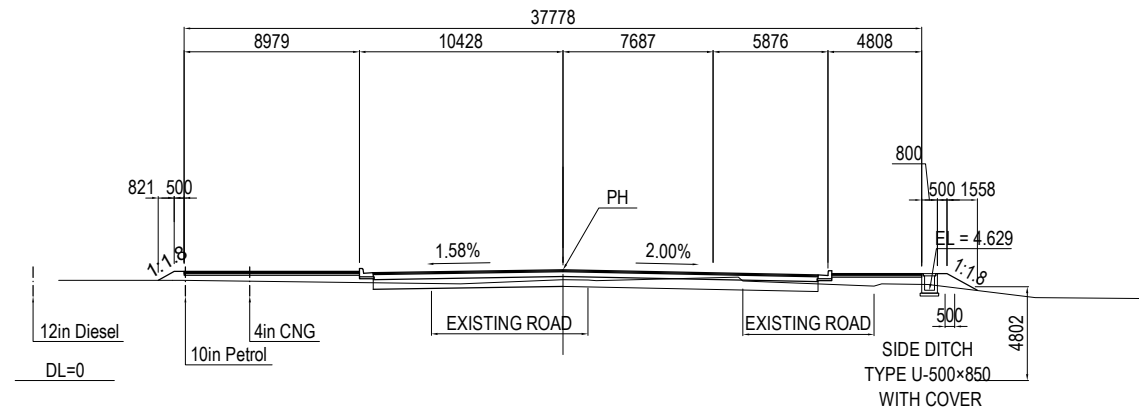
EXPOSED AGGREGATE FINISHED FOOTPATH (t=75mm)  
 HARD CORE WITH COMPACTED SAND (t=200mm)  
 SAND COMPACTED (t=300mm)

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE <b>PAVEMENT LAYER (2)</b>	PACKAGE	
				PREPARED BY	J.TSUCHIYA			15 Jun. 2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun. 2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun. 2017	P1-RD-0310

# CROSS SECTION MAIN ROAD (1) S=1:400

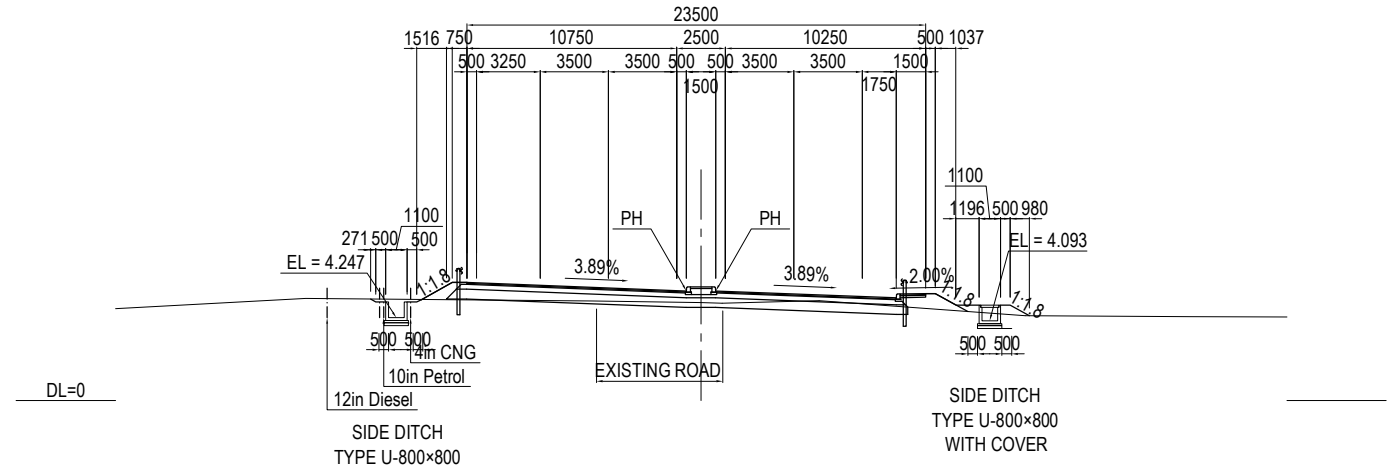
STA.0+24.97

GH = 5.16  
PH = 5.670



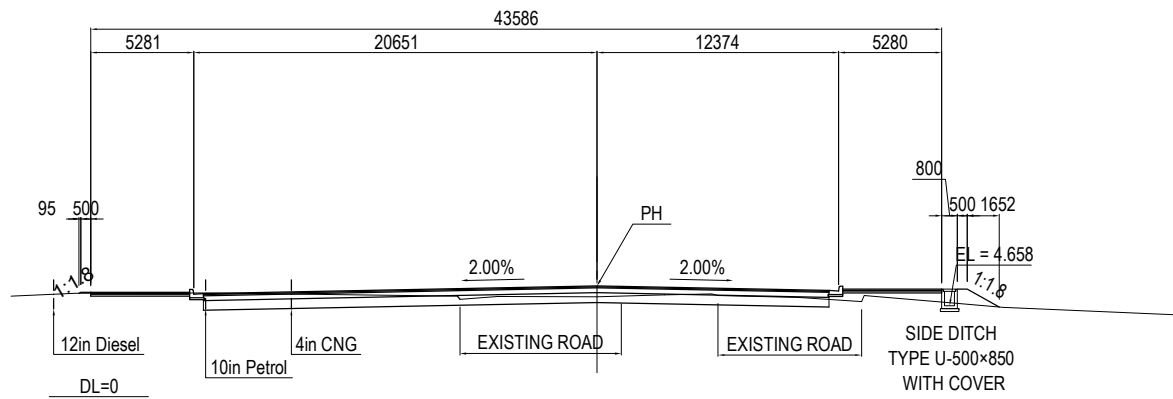
STA.0+76.17

GH = 5.01  
PH = 5.619



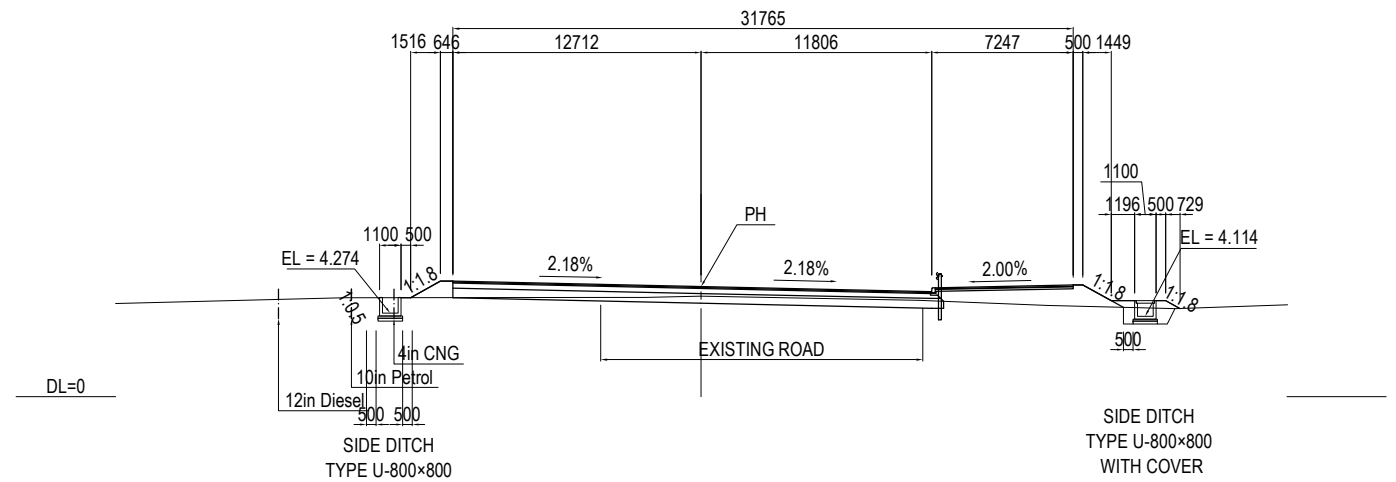
STA.0+20

GH = 5.12  
PH = 5.675



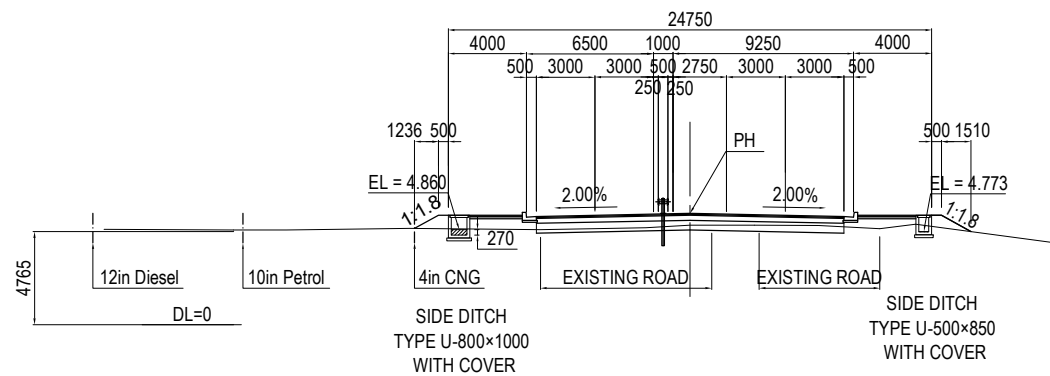
STA.0+60

GH = 5.15  
PH = 5.635



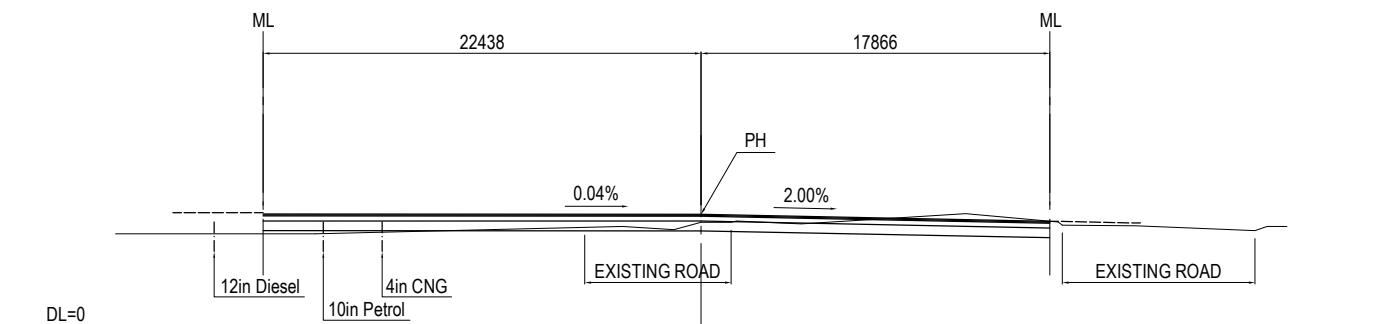
STA.0

GH = 5.09  
PH = 5.695



STA.0+40

GH = 5.24  
PH = 5.655



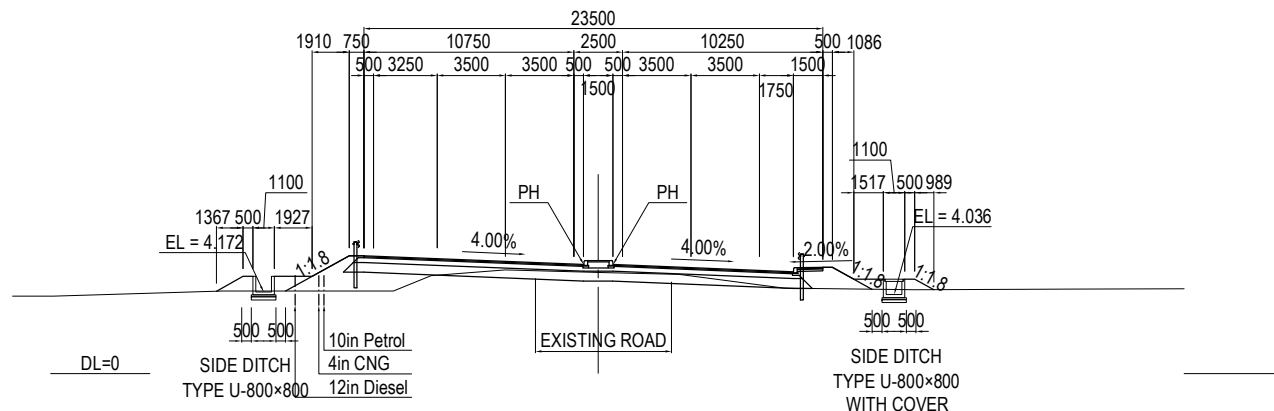
Note: Elevation is based on MSL (Mean Sea Level)

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION MAIN ROAD (1)	PACKAGE 1 DWG No. P1-RD-0400	
				PREPARED BY	M. TORIU				15 Jun. 2017
				CHECKED BY	T. HAYAKAWA				20 Jun. 2017
				APPROVED BY	Y. SANO				21 Jun. 2017

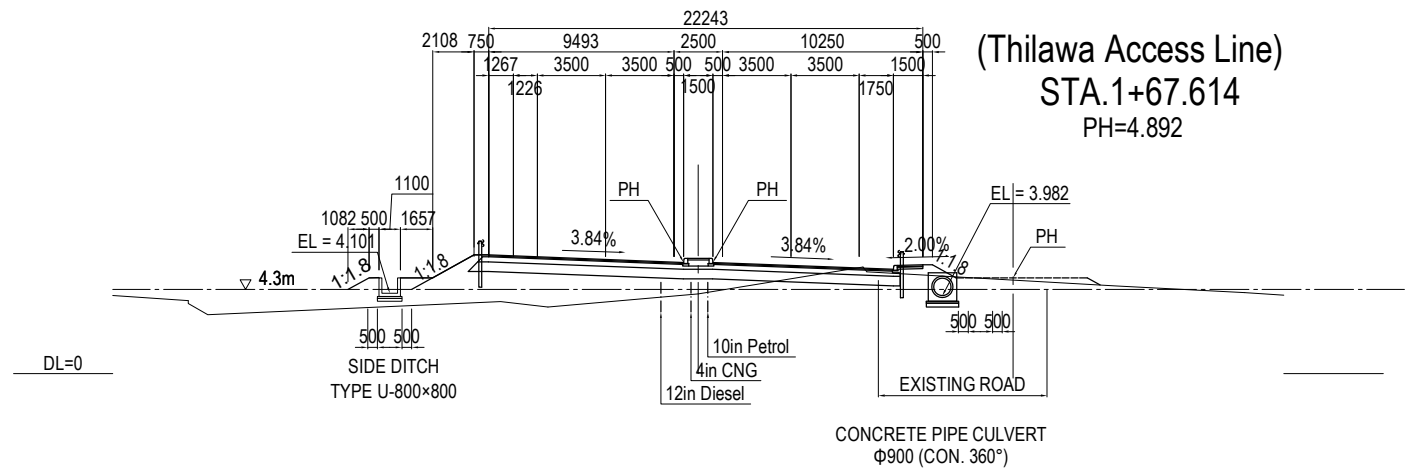


# CROSS SECTION MAIN ROAD (2) S=1:400

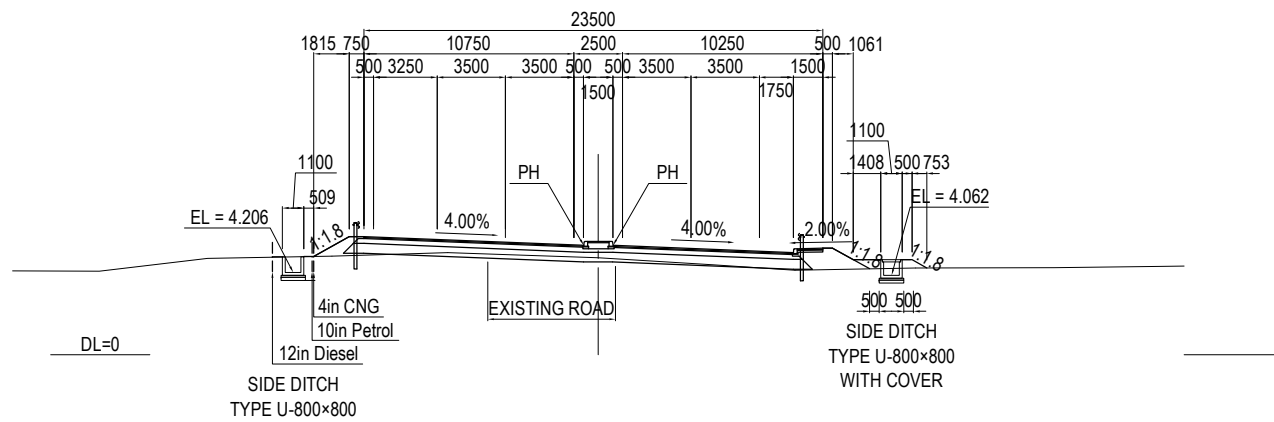
STA.0+120  
GH=5.17  
PH=5.583



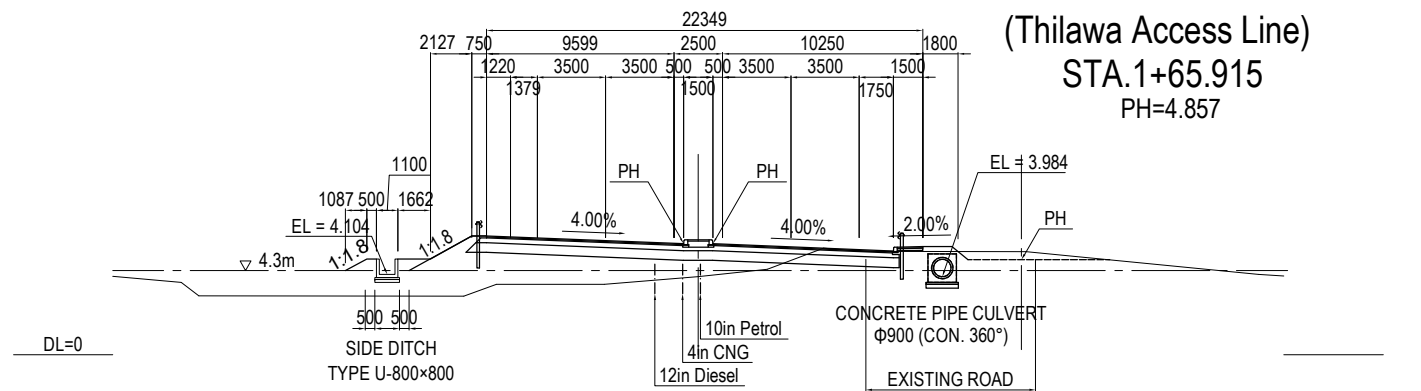
STA.0+161.513  
GH=4.08  
PH=5.689



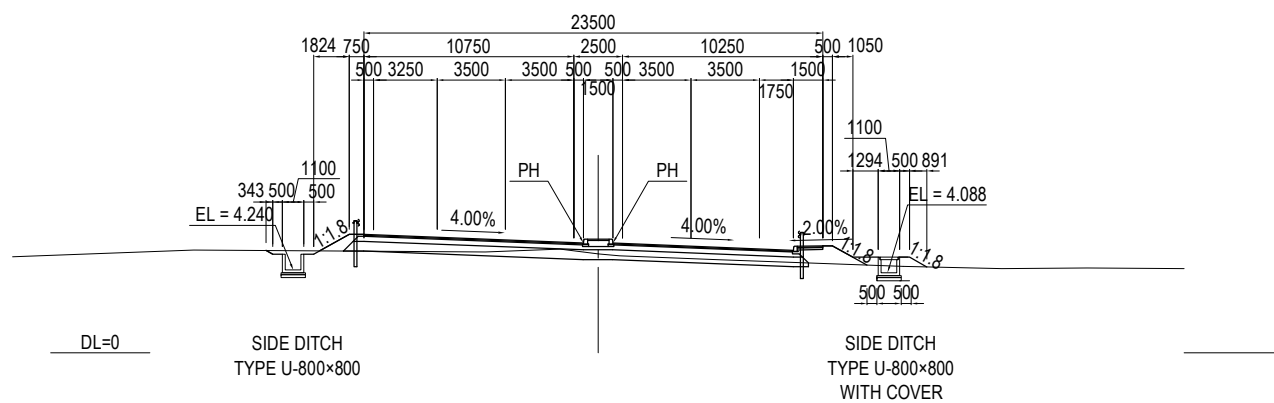
STA.0+100  
GH=4.97  
PH=5.595



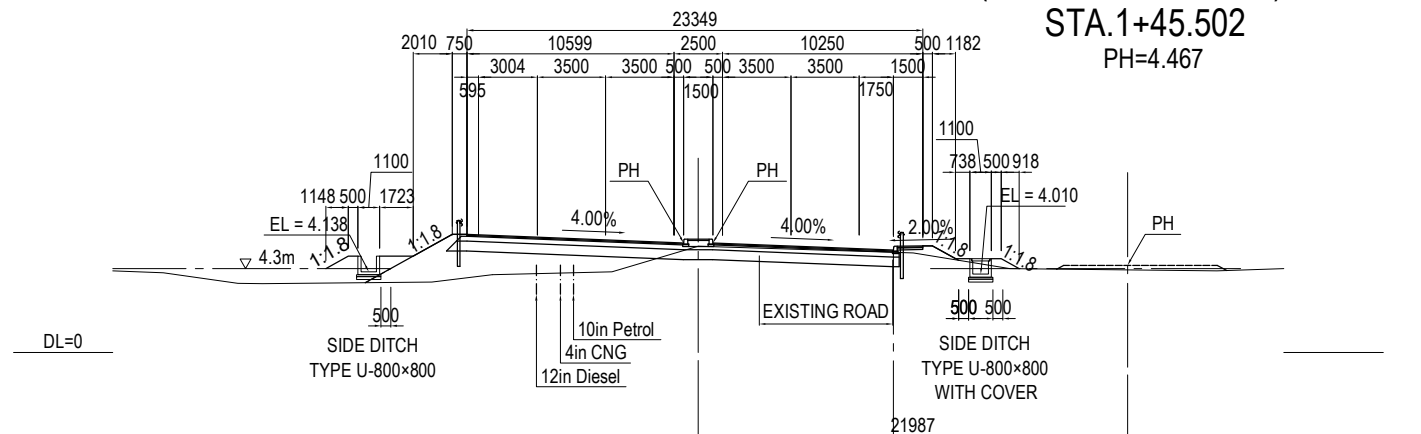
STA.0+160  
GH=3.99  
PH=5.681



STA.0+80  
GH=5.06  
PH=5.615



STA.0+140  
GH=5.44  
PH=5.610



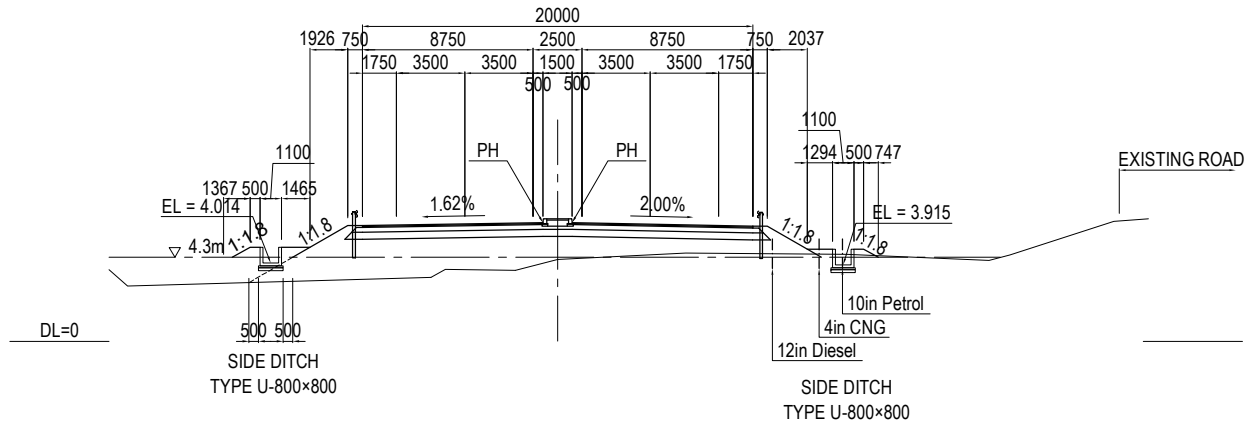
Note: Elevation is based on MSL (Mean Sea Level)

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION MAIN ROAD (2)	PACKAGE 1 DWG No. P1-RD-0410	
				PREPARED BY	M. TORIU				15 Jun. 2017
				CHECKED BY	T. HAYAKAWA				20 Jun. 2017
				APPROVED BY	Y. SANO				21 Jun. 2017

# CROSS SECTION MAIN ROAD (3) S=1:400

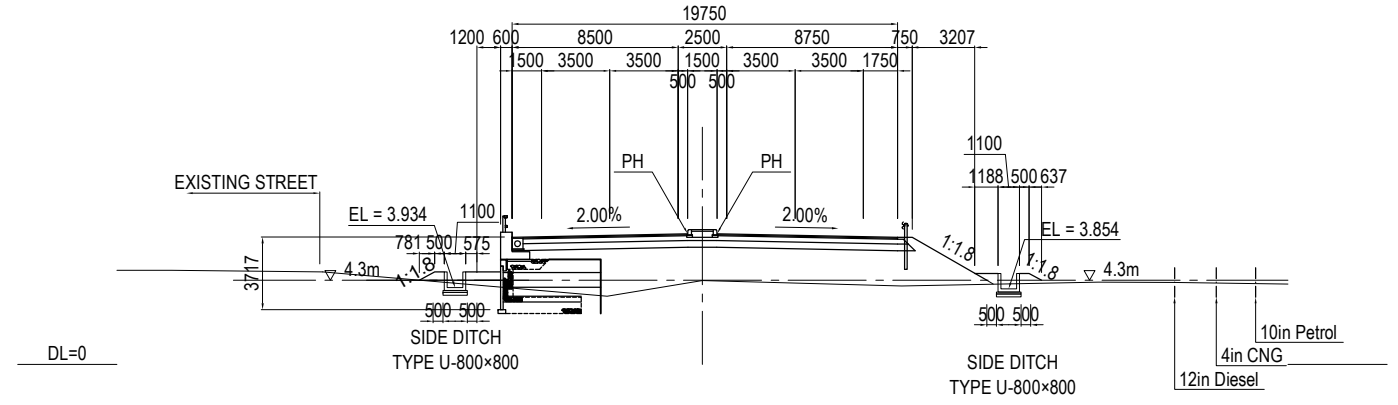
**STA.0+212.713**

GH=4.19  
PH=6.076



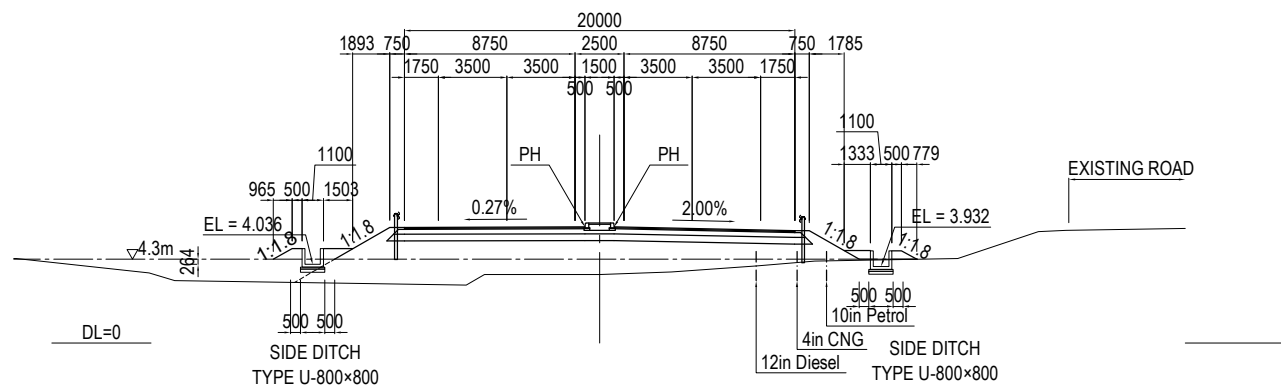
**STA.0+260**

GH=4.28  
PH=6.686



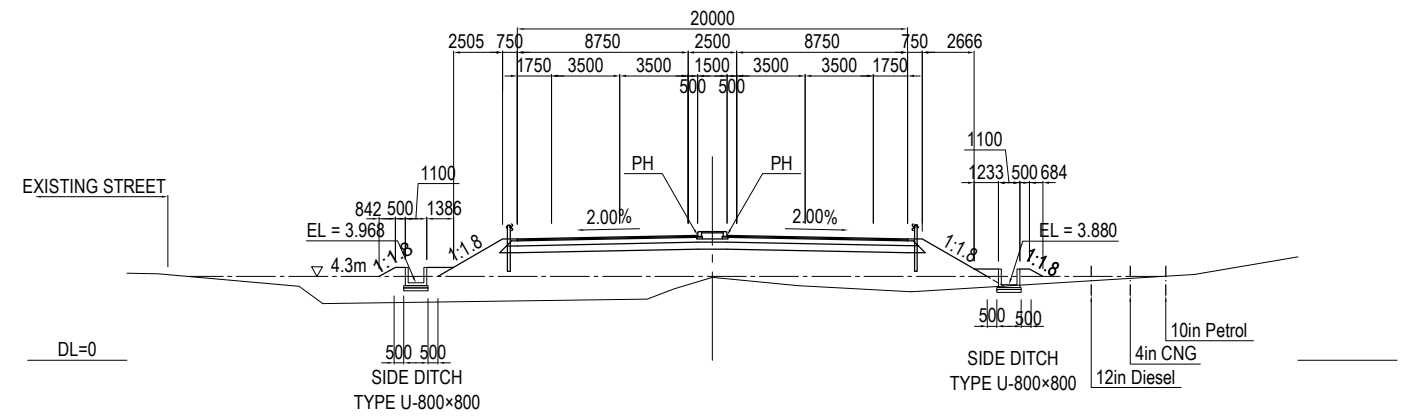
**STA.0+200**

GH=3.51  
PH=5.953



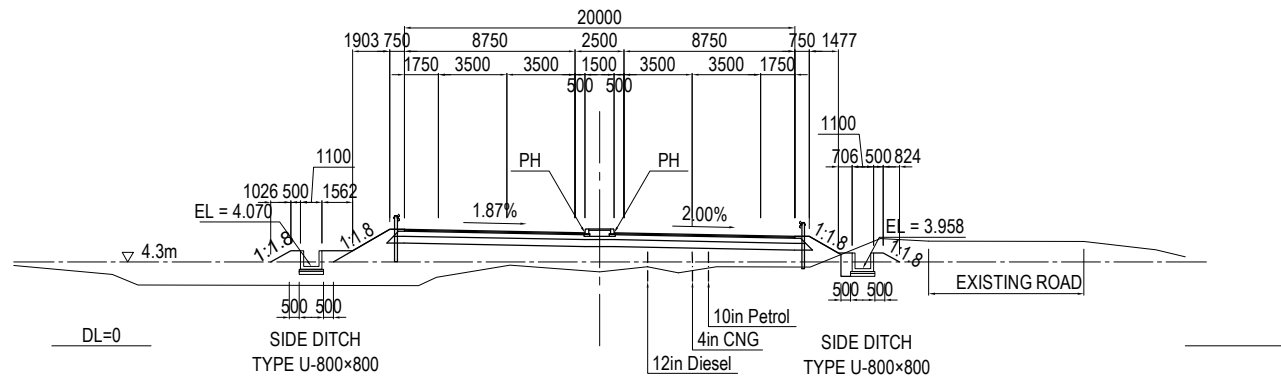
**STA.0+240**

GH=4.26  
PH=6.399



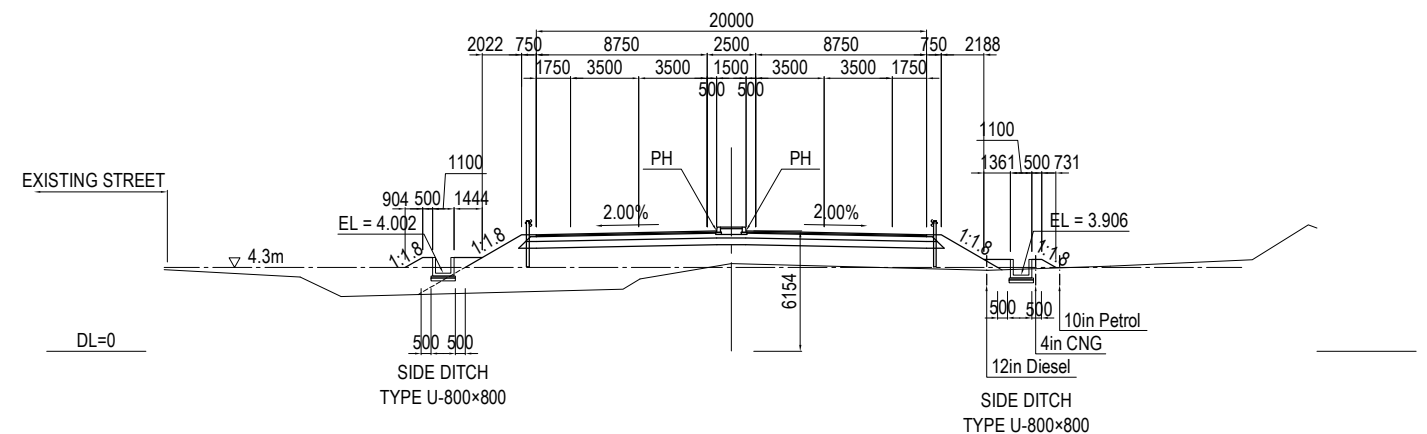
**STA.0+180**

GH=3.80  
PH=5.796



**STA.0+220**

GH=4.48  
PH=6.154



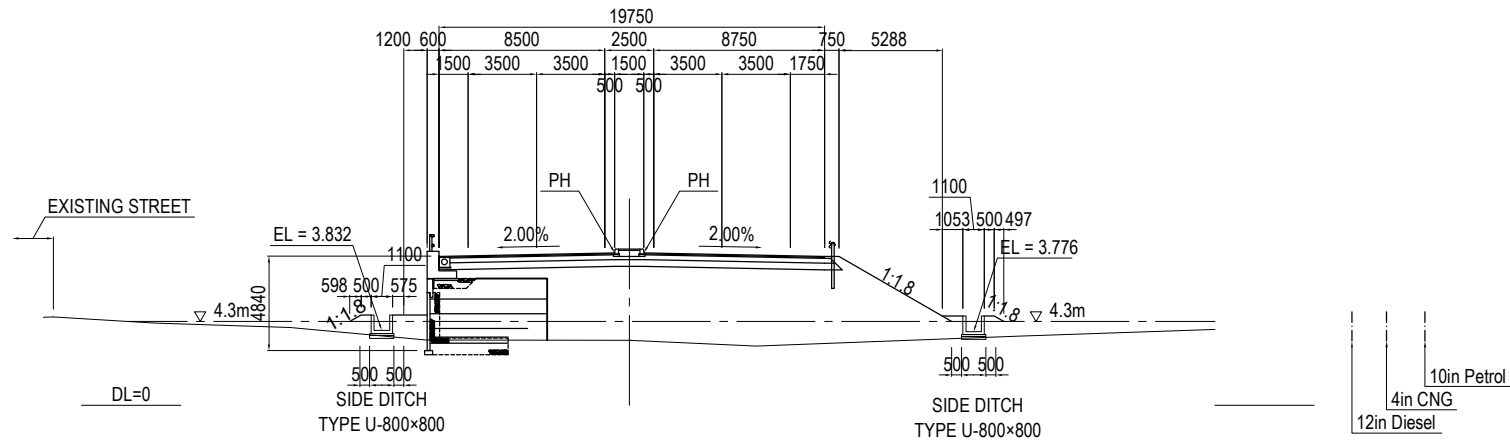
Note: Elevation is based on MSL (Mean Sea Level)

<p>PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT</p>	<p>FINANCED BY  JAPAN INTERNATIONAL COOPERATION AGENCY</p>	<p>COUNTERPART  REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE</p>	<p>JICA STUDY TEAM  NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">NAME</th> <th style="width: 15%;">SIGNATURE</th> <th style="width: 15%;">DATE</th> </tr> <tr> <td>PREPARED BY</td> <td>M. TORIU</td> <td>15 Jun. 2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td>20 Jun. 2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td>21 Jun. 2017</td> </tr> </table>	NAME	SIGNATURE	DATE	PREPARED BY	M. TORIU	15 Jun. 2017	CHECKED BY	T. HAYAKAWA	20 Jun. 2017	APPROVED BY	Y. SANO	21 Jun. 2017	<p style="text-align: center;">DRAWING TITLE</p> <p style="text-align: center;"><b>CROSS SECTION MAIN ROAD (3)</b></p>	<p style="text-align: center;">PACKAGE</p> <p style="text-align: center;">1</p> <p style="text-align: center;">DWG No.</p> <p style="text-align: center;">P1-RD-0420</p>
NAME	SIGNATURE	DATE																
PREPARED BY	M. TORIU	15 Jun. 2017																
CHECKED BY	T. HAYAKAWA	20 Jun. 2017																
APPROVED BY	Y. SANO	21 Jun. 2017																

# CROSS SECTION MAIN ROAD (4) S=1:400

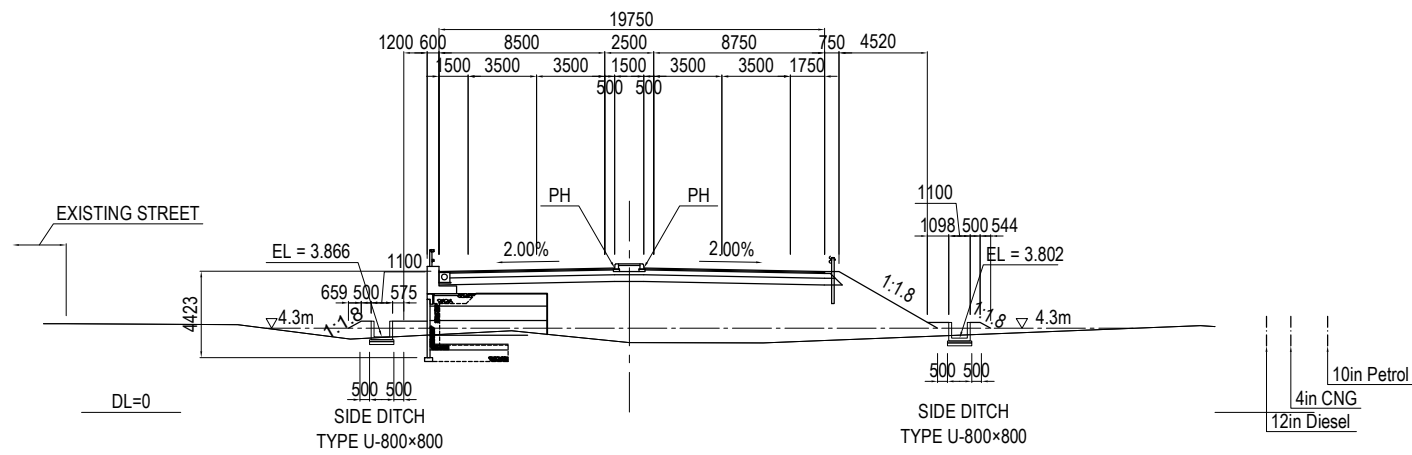
STA.0+320

GH=3.33  
PH=7.809



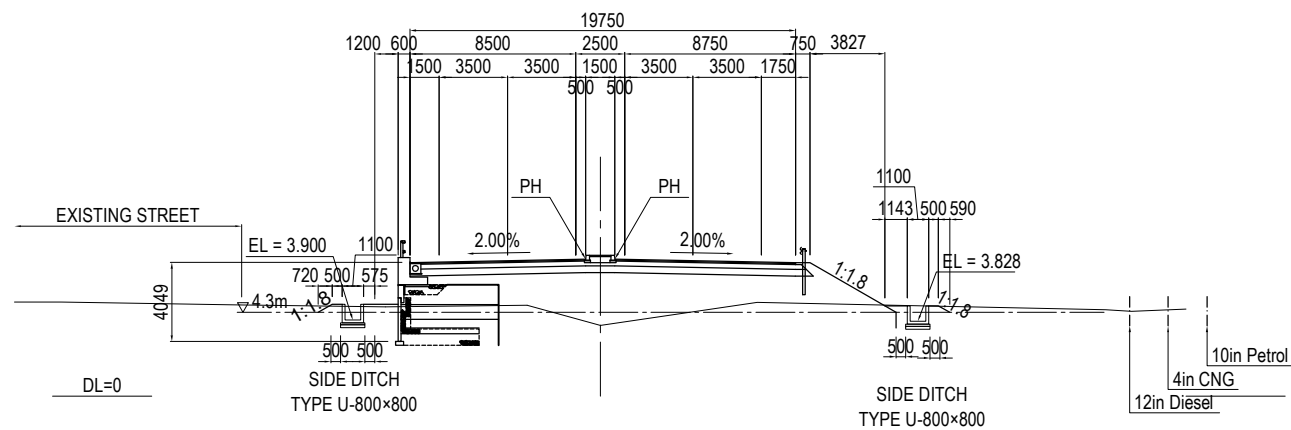
STA.0+300

GH=3.56  
PH=7.392



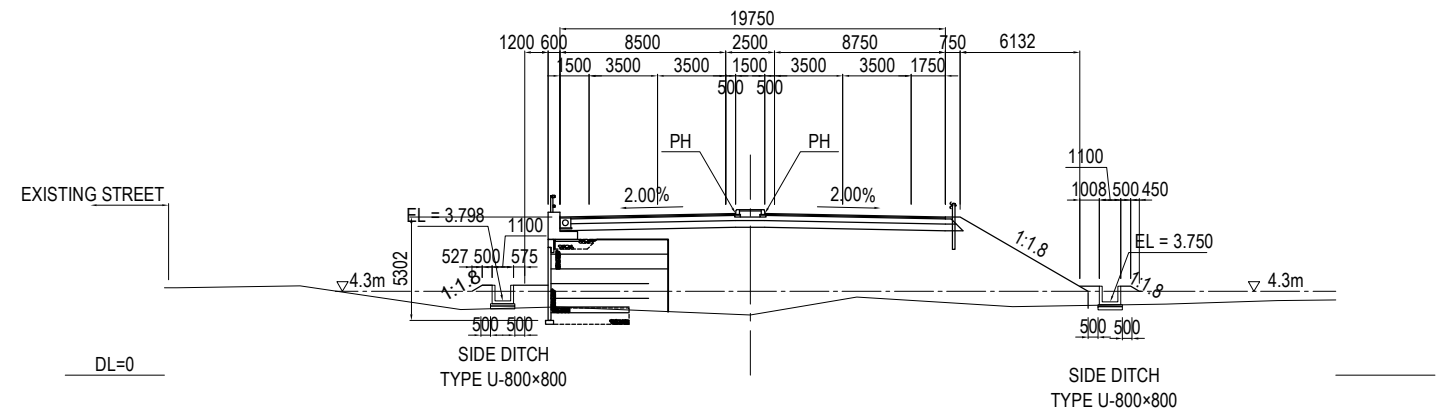
STA.0+280

GH=3.62  
PH=7.017



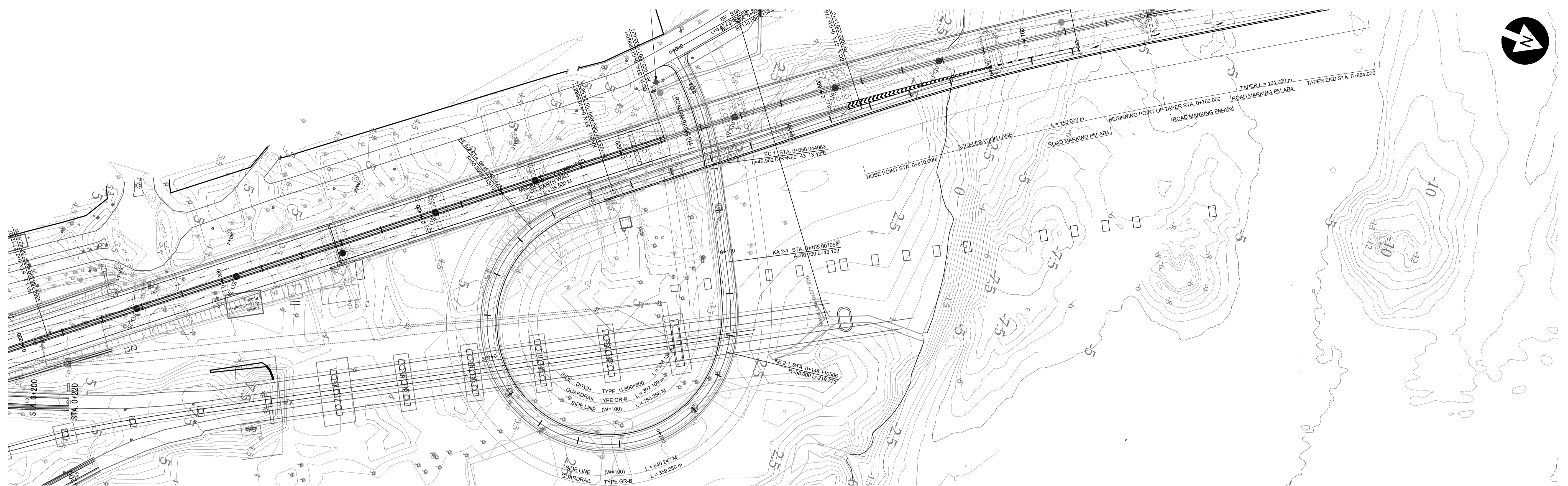
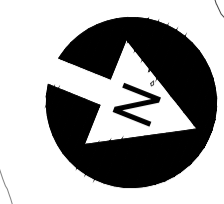
STA.0+340

GH=3.07  
PH=8.270

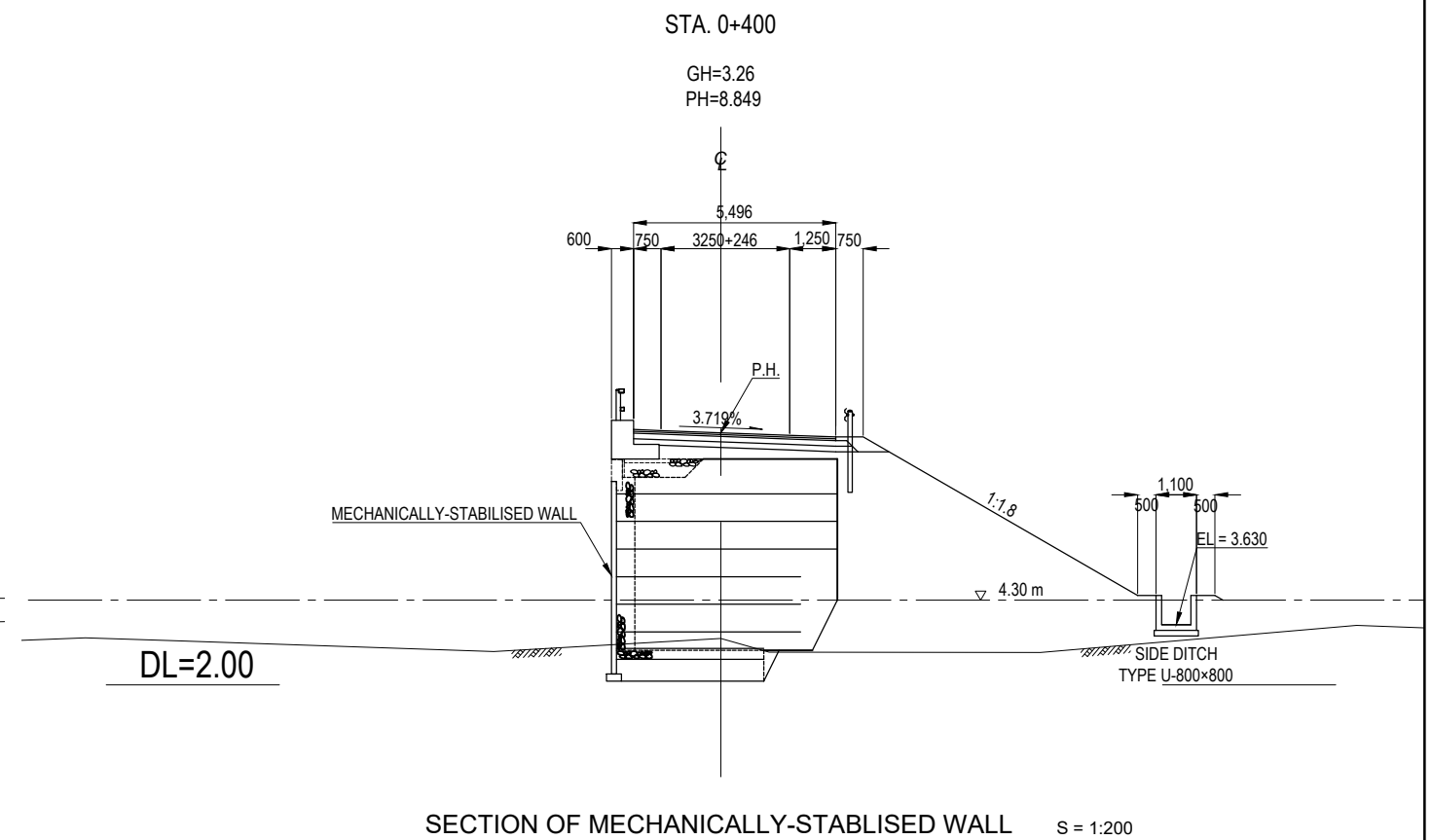
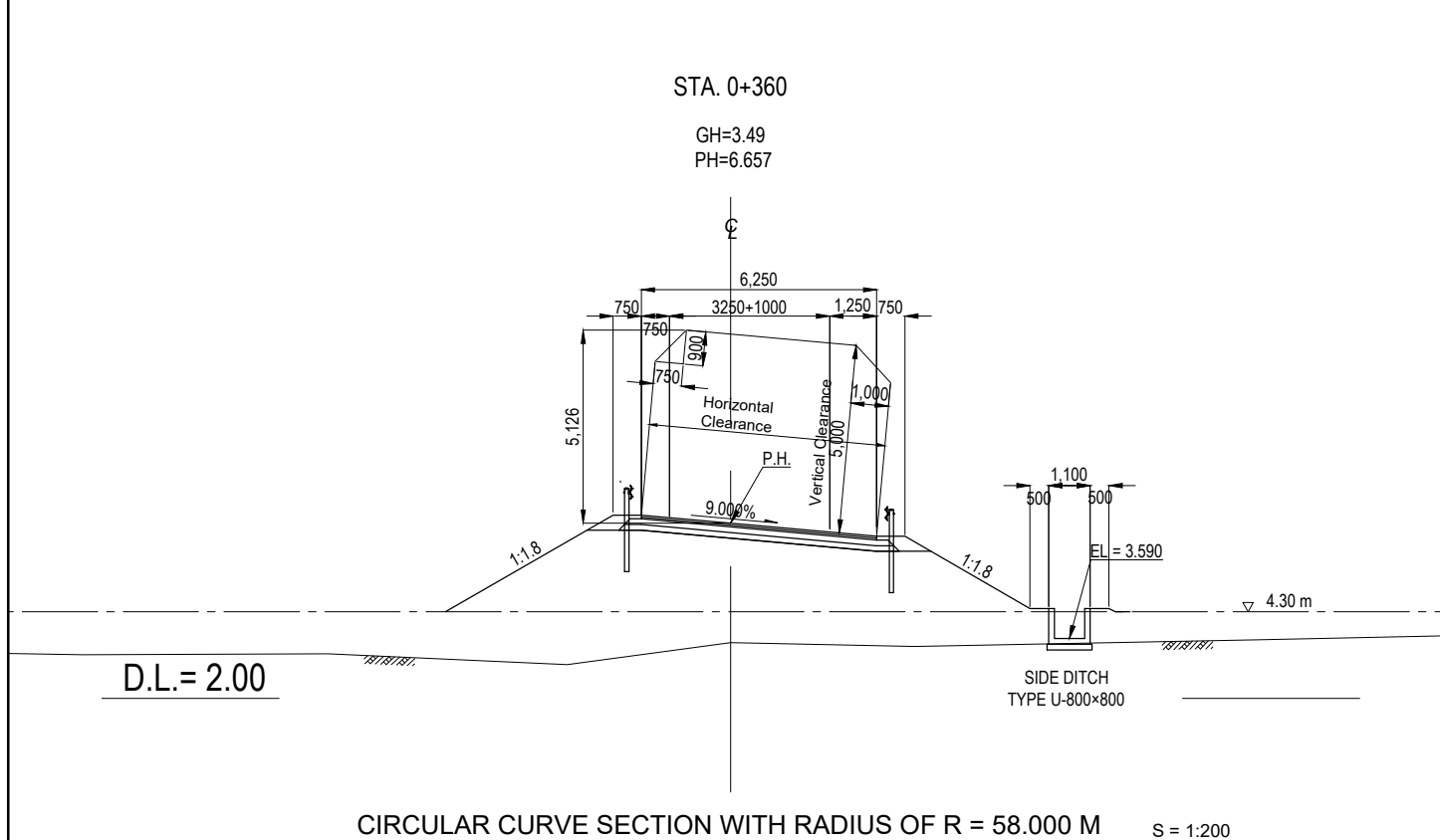
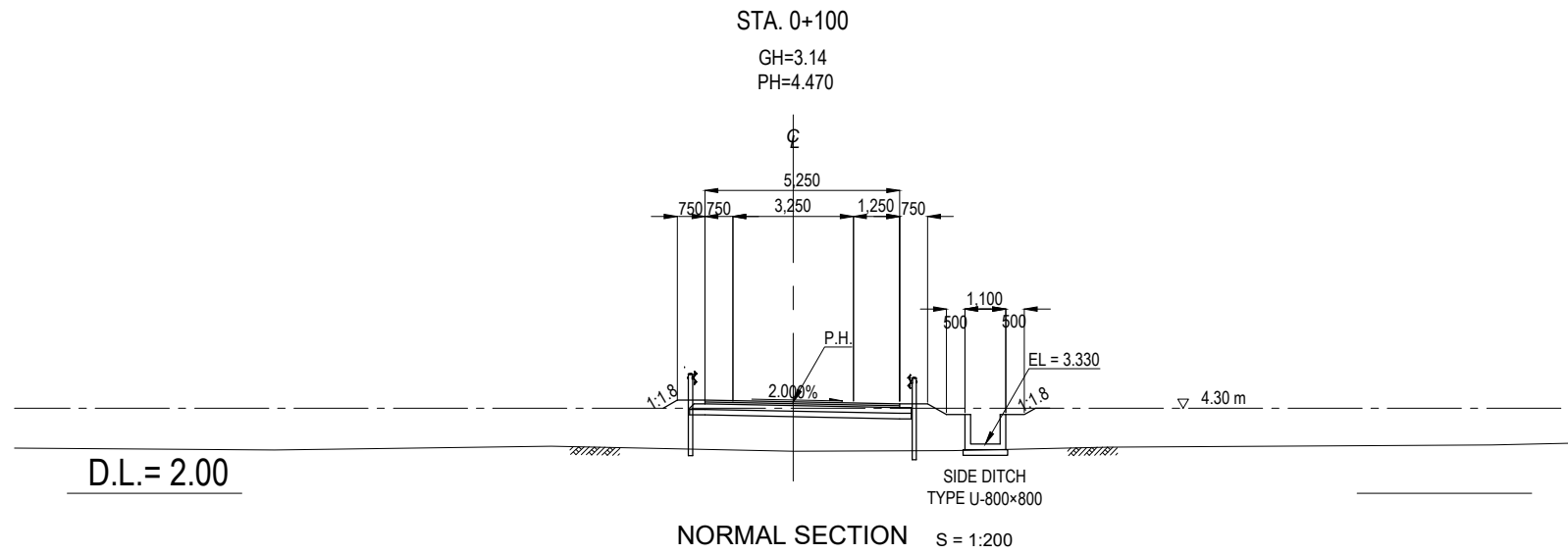


Note: Elevation is based on MSL (Mean Sea Level)

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION MAIN ROAD (4)	PACKAGE
				PREPARED BY	M. TORIU	15 Jun. 2017		1
				CHECKED BY	T. HAYAKAWA	20 Jun. 2017		DWG No.
				APPROVED BY	Y. SANO	21 Jun. 2017		P1-RD-0430



<b>PROJECT NAME</b> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<b>FINANCED BY</b> JAPAN INTERNATIONAL COOPERATION AGENCY	<b>COUNTERPART</b> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<b>JICA STUDY TEAM</b> NIPPON KOEI CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<b>NAME</b> E. YOKOTA	<b>SIGNATURE</b> 	<b>DATE</b> 15 JUNE 2017	<b>DRAWING TITLE</b> STAR CITY APPROACH ROAD TO BAGO BRIDGE PLAN AND PROFILE	<b>PACKAGE</b> 1 DWG No. P1-RD-1000
				<b>PREPARED BY</b> T. HAYAKAWA		20 JUNE 2017		
				<b>CHECKED BY</b> Y. SANO		21 JUNE 2017		



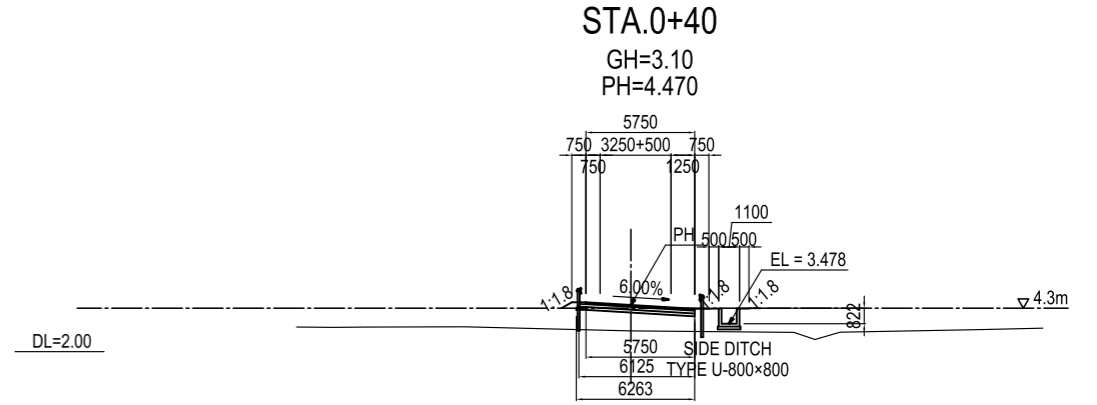
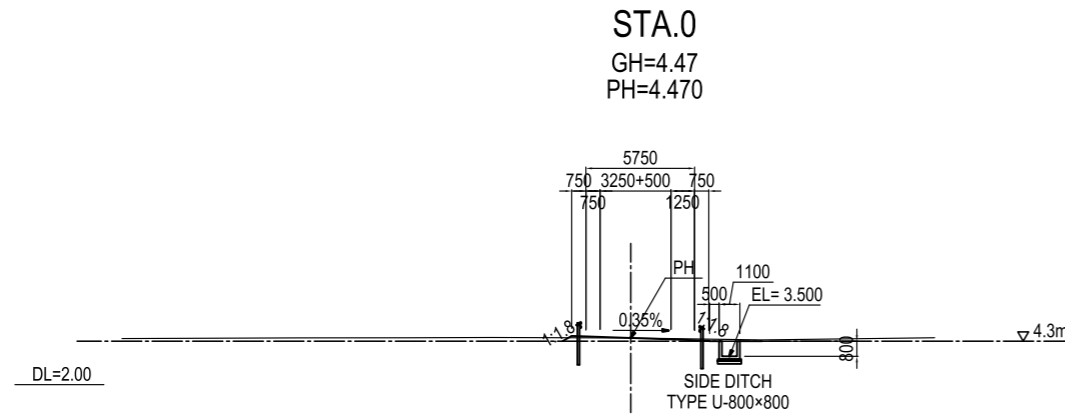
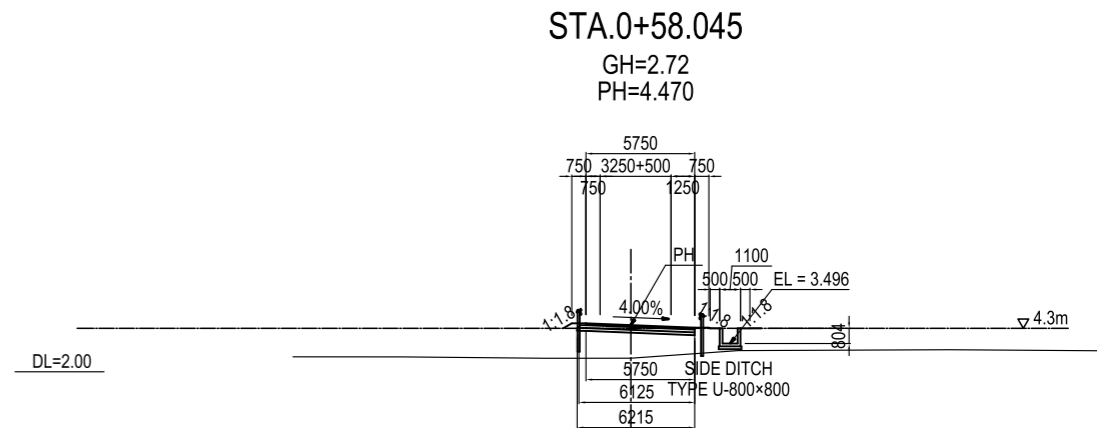
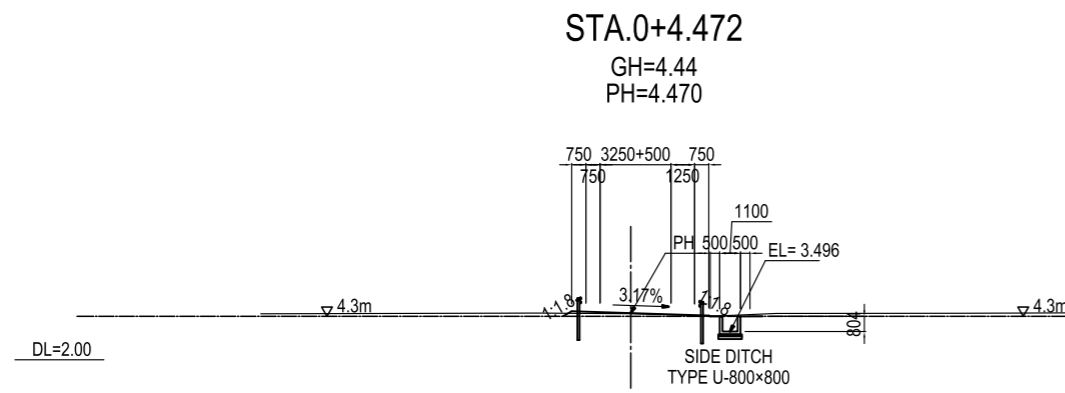
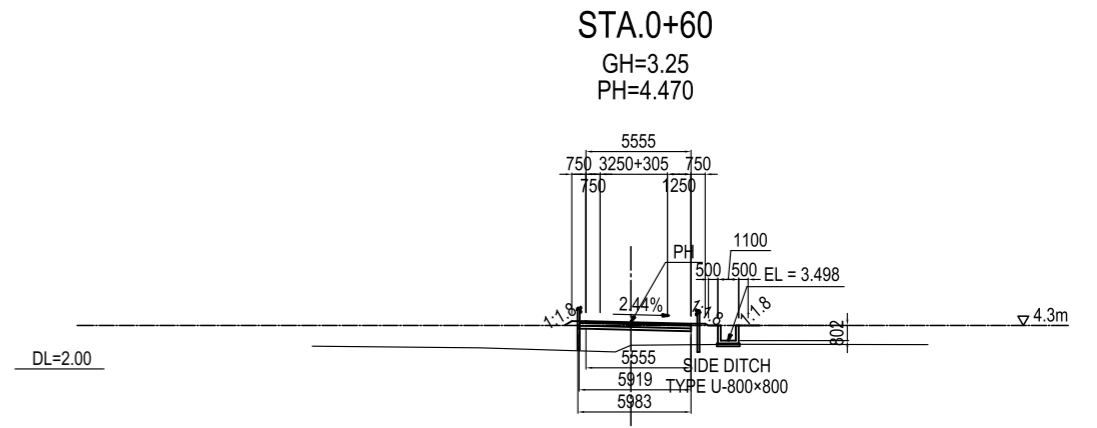
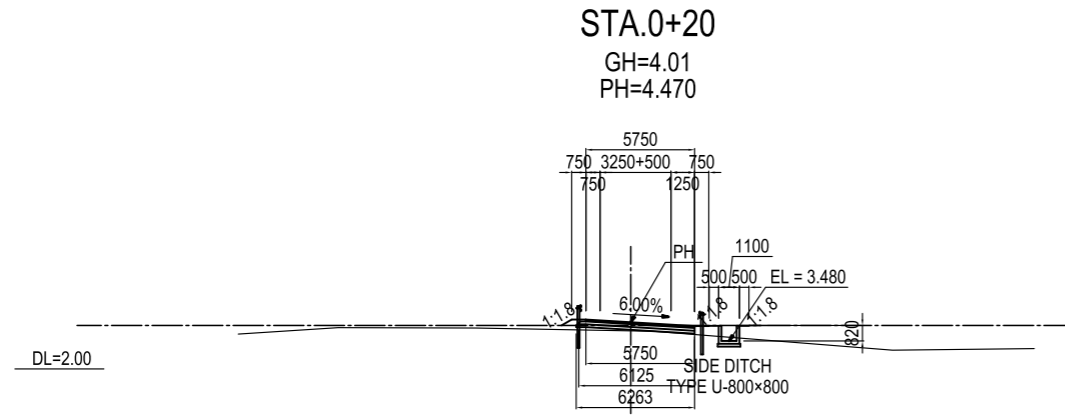
INSIDE WIDENING OF 1.000 M IS REQUIRED FOR THE CARRIAGEWAY  
VERTICAL/HORIZONTAL CLEARANCE LIMIT SHALL BE INCLINED PARALLEL TO SURFACE SLOPE

STA. 0+400 IS LOCATED IN THE TRANSITION SECTION OF 1.000 M WIDENING.

NOTE: ELEVATION IS BASED ON MSL (MEAN SEA LEVEL).  
ELEVATION OF 4.30 M SHOWN IN THE DRAWING IS THE PROPOSED HEIGHT OF CONSTRUCTION YARD.

PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	PREPARED BY E. YOKOTA		15 JUNE 2017	STAR CITY APPROACH ROAD TO BAGO BRIDGE TYPICAL CROSS SECTION	1
				CHECKED BY T. HAYAKAWA		20 JUNE 2017		DWG No.
				APPROVED BY Y. SANO		21 JUNE 2017		P1-RD-1010

# CROSS SECTION MAIN ROAD (1) S=1:400



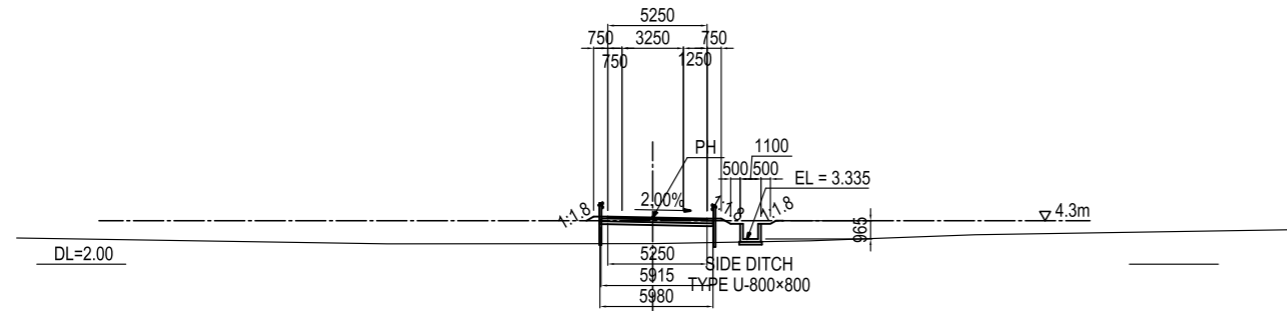
Note: Elevation is based on MSL (Mean Sea Level)

<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"><small>PREPARED BY</small></td> <td style="width: 20%;">M. TORIU</td> <td style="width: 20%;"><small>SIGNATURE</small></td> <td style="width: 20%;"></td> <td style="width: 20%;"><small>DATE</small></td> <td>15 Jun. 2017</td> </tr> <tr> <td><small>CHECKED BY</small></td> <td>T. HAYAKAWA</td> <td><small>SIGNATURE</small></td> <td></td> <td><small>DATE</small></td> <td>20 Jun. 2017</td> </tr> <tr> <td><small>APPROVED BY</small></td> <td>Y. SANO</td> <td><small>SIGNATURE</small></td> <td></td> <td><small>DATE</small></td> <td>21 Jun. 2017</td> </tr> </table>	<small>PREPARED BY</small>	M. TORIU	<small>SIGNATURE</small>		<small>DATE</small>	15 Jun. 2017	<small>CHECKED BY</small>	T. HAYAKAWA	<small>SIGNATURE</small>		<small>DATE</small>	20 Jun. 2017	<small>APPROVED BY</small>	Y. SANO	<small>SIGNATURE</small>		<small>DATE</small>	21 Jun. 2017	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;"><small>DRAWING TITLE</small></td> <td style="width: 20%;"><small>PACKAGE</small></td> </tr> <tr> <td style="text-align: center;">CROSS SECTION MAIN ROAD (1)</td> <td style="text-align: center;">1</td> </tr> <tr> <td></td> <td style="text-align: center;">DWG No.</td> </tr> <tr> <td></td> <td style="text-align: center;">P1-RD-1020</td> </tr> </table>	<small>DRAWING TITLE</small>	<small>PACKAGE</small>	CROSS SECTION MAIN ROAD (1)	1		DWG No.		P1-RD-1020
<small>PREPARED BY</small>	M. TORIU	<small>SIGNATURE</small>		<small>DATE</small>	15 Jun. 2017																										
<small>CHECKED BY</small>	T. HAYAKAWA	<small>SIGNATURE</small>		<small>DATE</small>	20 Jun. 2017																										
<small>APPROVED BY</small>	Y. SANO	<small>SIGNATURE</small>		<small>DATE</small>	21 Jun. 2017																										
<small>DRAWING TITLE</small>	<small>PACKAGE</small>																														
CROSS SECTION MAIN ROAD (1)	1																														
	DWG No.																														
	P1-RD-1020																														

# CROSS SECTION MAIN ROAD (2) S=1:400

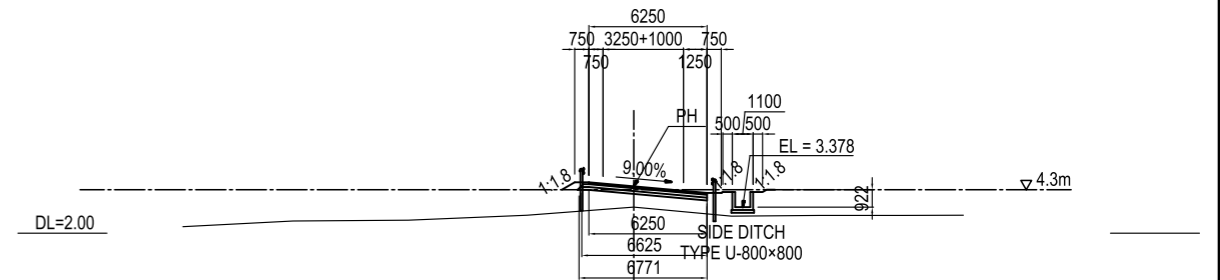
**STA.0+105.007**

GH=3.09  
PH=4.470



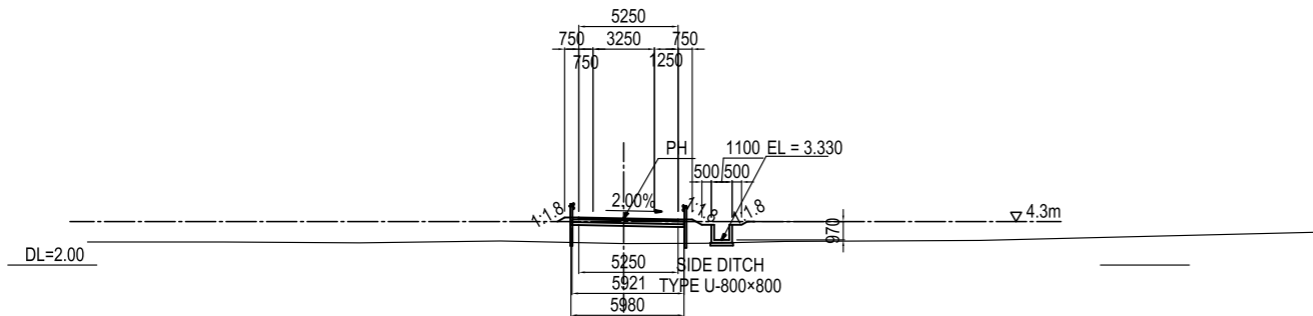
**STA.0+148.111**

GH=3.38  
PH=4.479



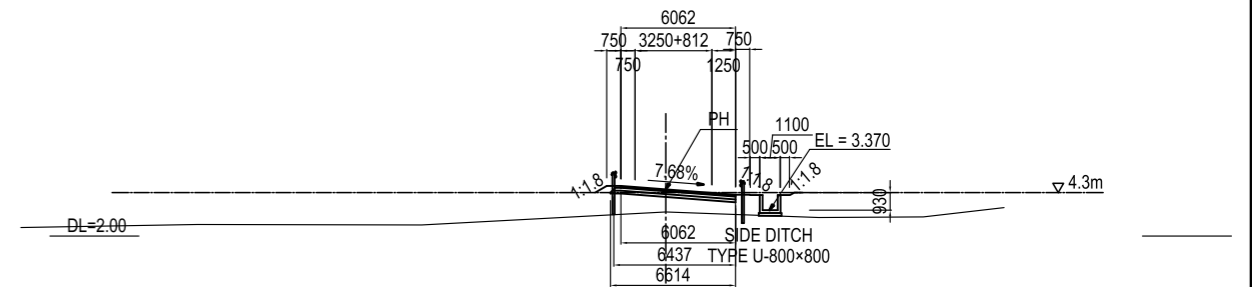
**STA.0+100**

GH=3.14  
PH=4.470



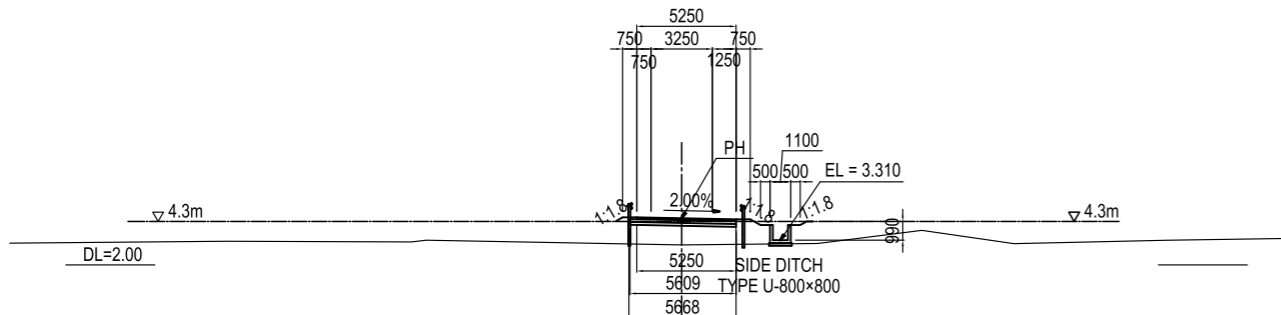
**STA.0+140**

GH=3.28  
PH=4.470



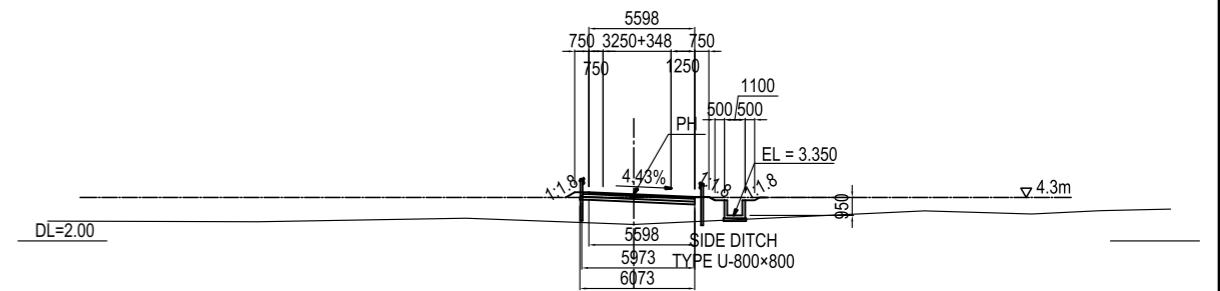
**STA.0+80**

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PH=4.470



**STA.0+120**

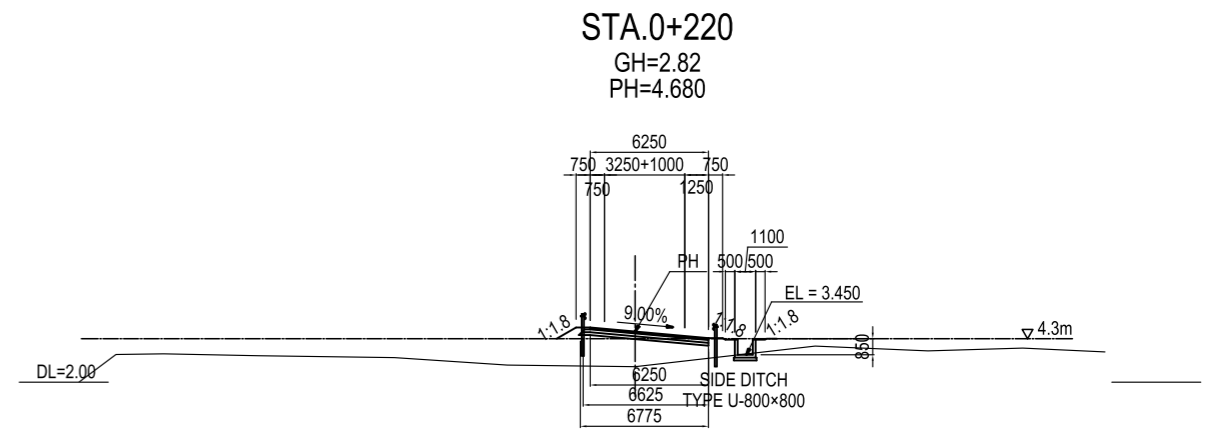
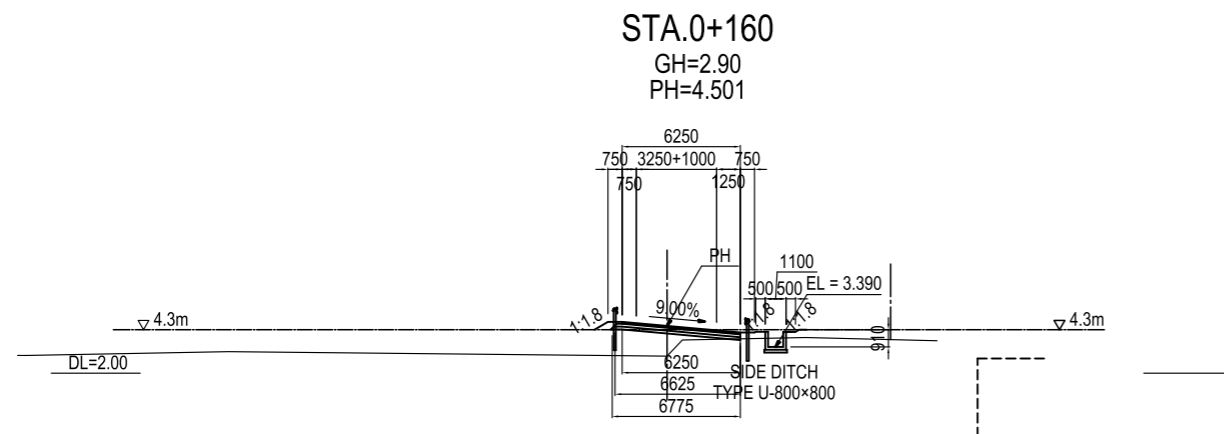
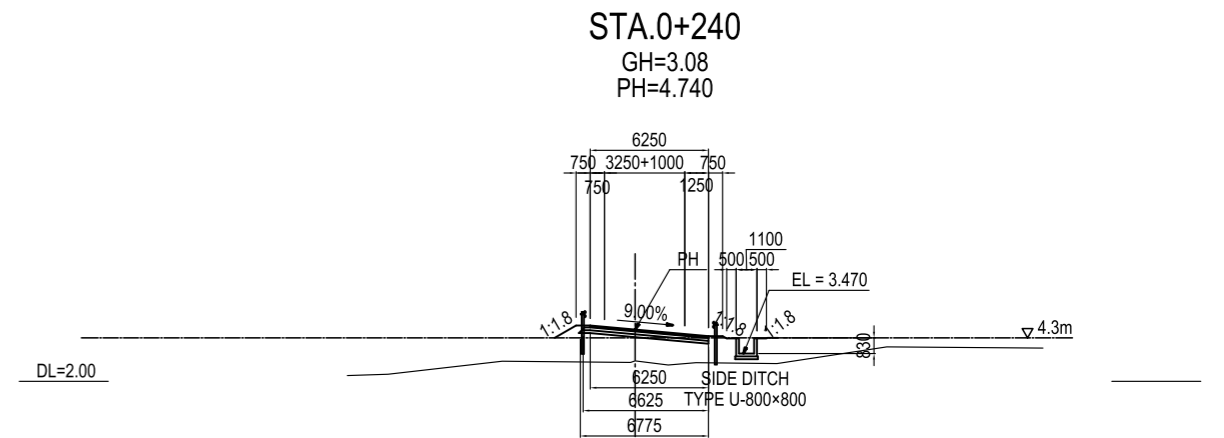
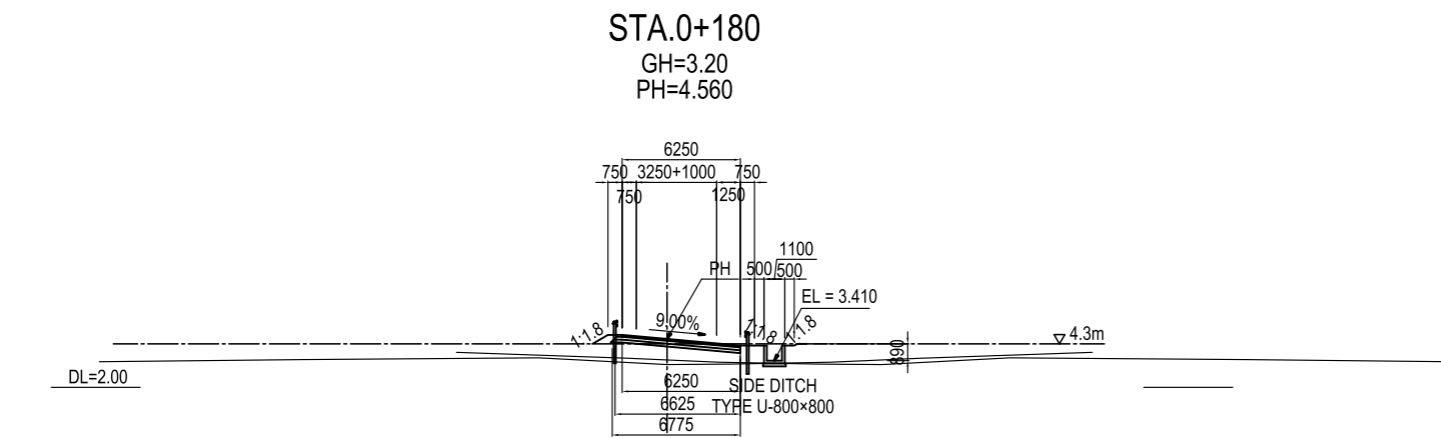
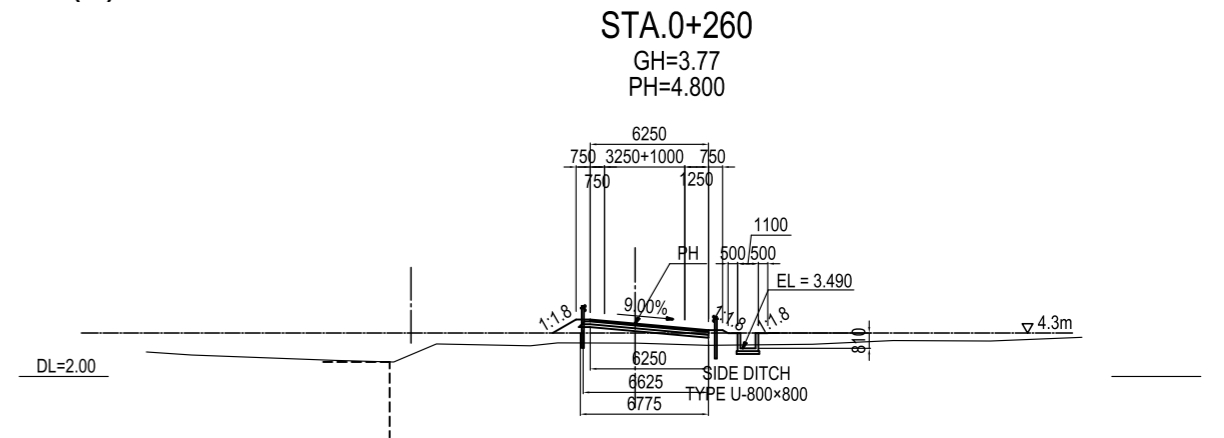
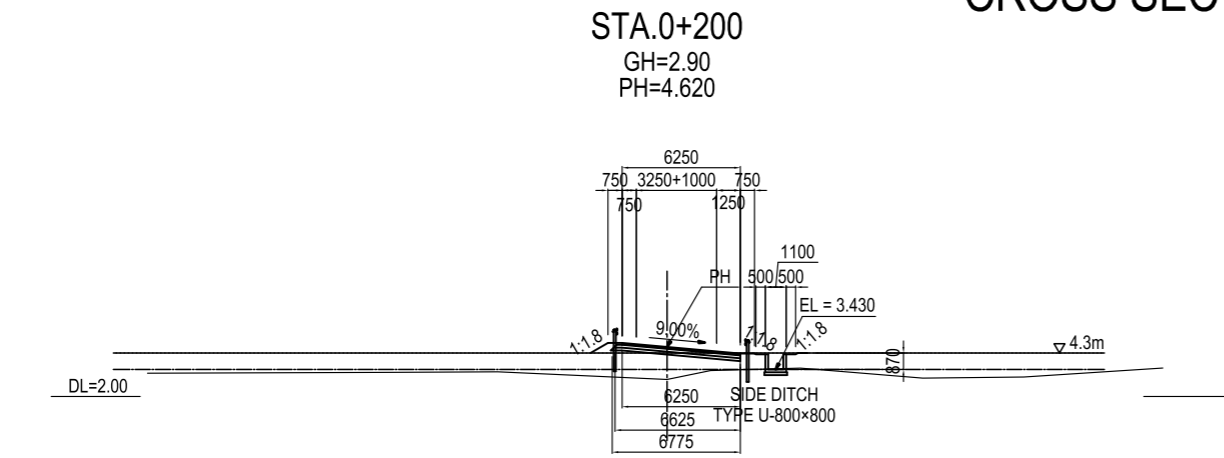
GH=2.87  
PH=4.470



Note: Elevation is based on MSL (Mean Sea Level)

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	PREPARED BY M. TORIU	CHECKED BY T. HAYAKAWA	APPROVED BY Y. SANO	NAME M. TORIU	SIGNATURE 	DATE 15 Jun. 2017	DATE 20 Jun. 2017	DATE 21 Jun. 2017	DRAWING TITLE CROSS SECTION MAIN ROAD (2)	PACKAGE 1 DWG No. P1-RD-1030
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# CROSS SECTION MAIN ROAD (3) S=1:400

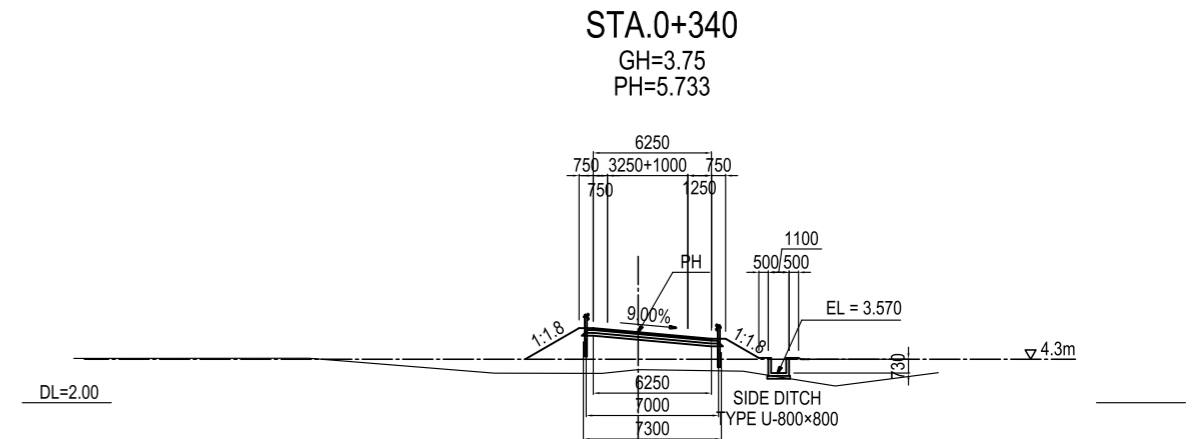
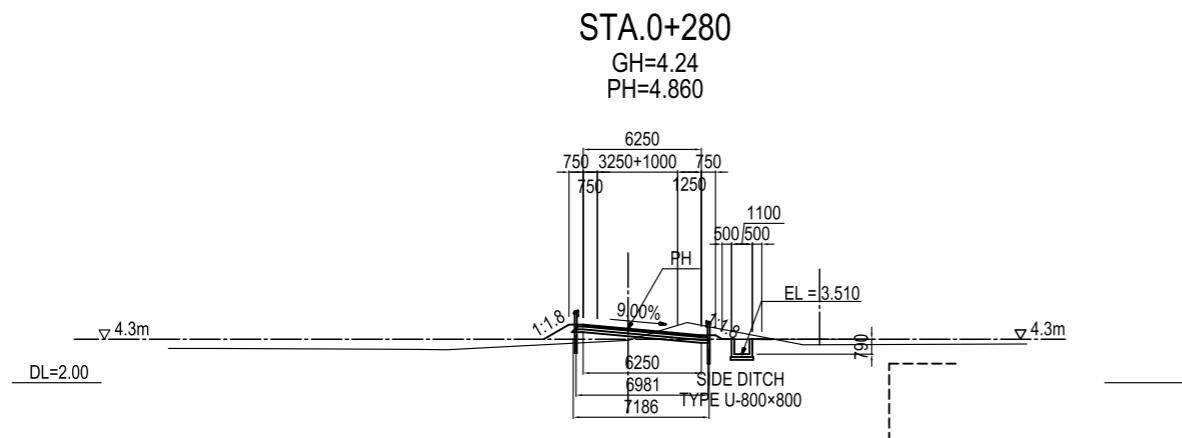
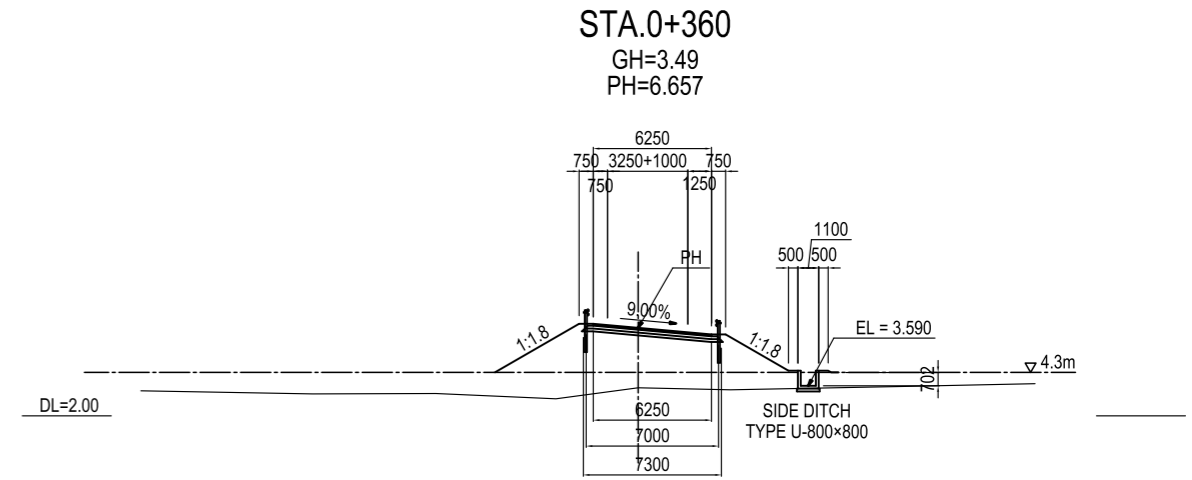
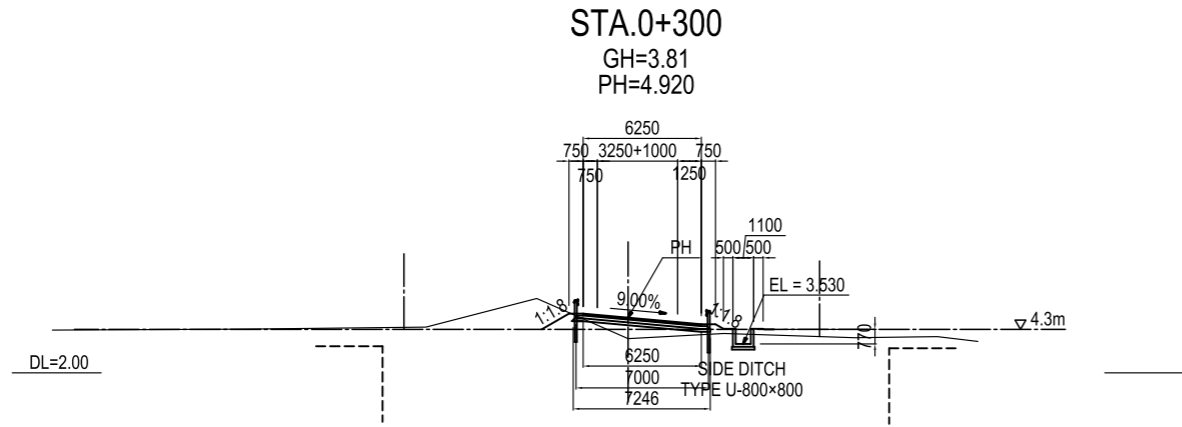
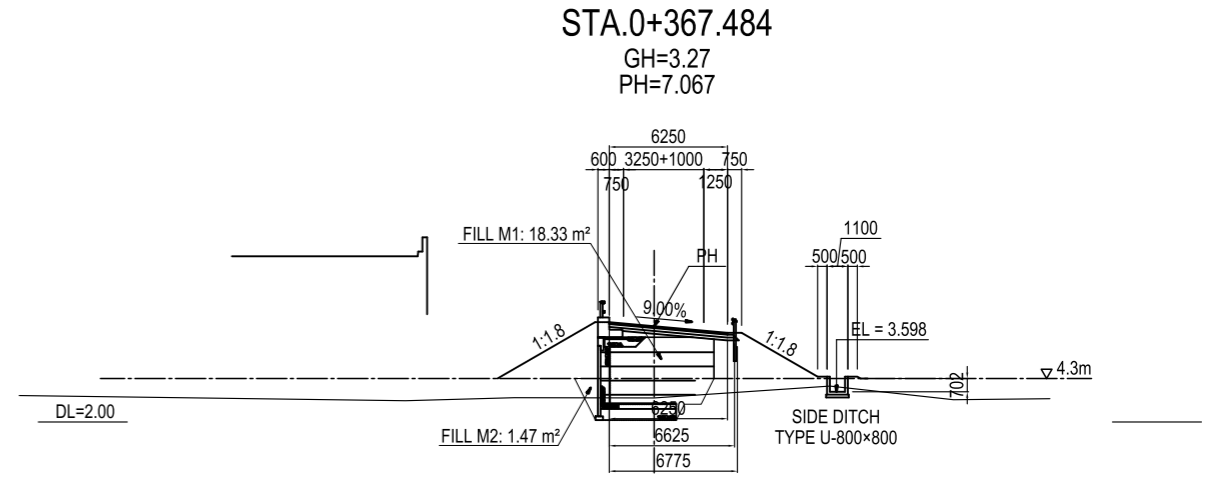
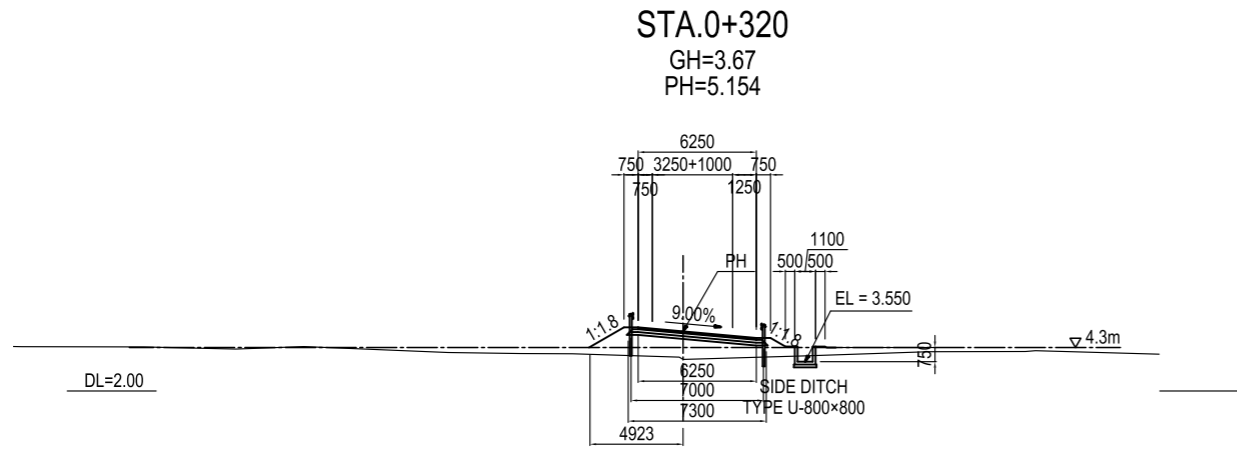


Note: Elevation is based on MSL (Mean Sea Level)

<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<small>PREPARED BY</small> M. TORIU	<small>SIGNATURE</small> 	<small>DATE</small> 15 Jun. 2017	<small>DRAWING TITLE</small> CROSS SECTION MAIN ROAD (3)	<small>PACKAGE</small> 1 DWG No. P1-RD-1040
<small>CHECKED BY</small> T. HAYAKAWA	<small>SIGNATURE</small> 	<small>DATE</small> 20 Jun. 2017						
<small>APPROVED BY</small> Y. SANO	<small>SIGNATURE</small> 	<small>DATE</small> 21 Jun. 2017						



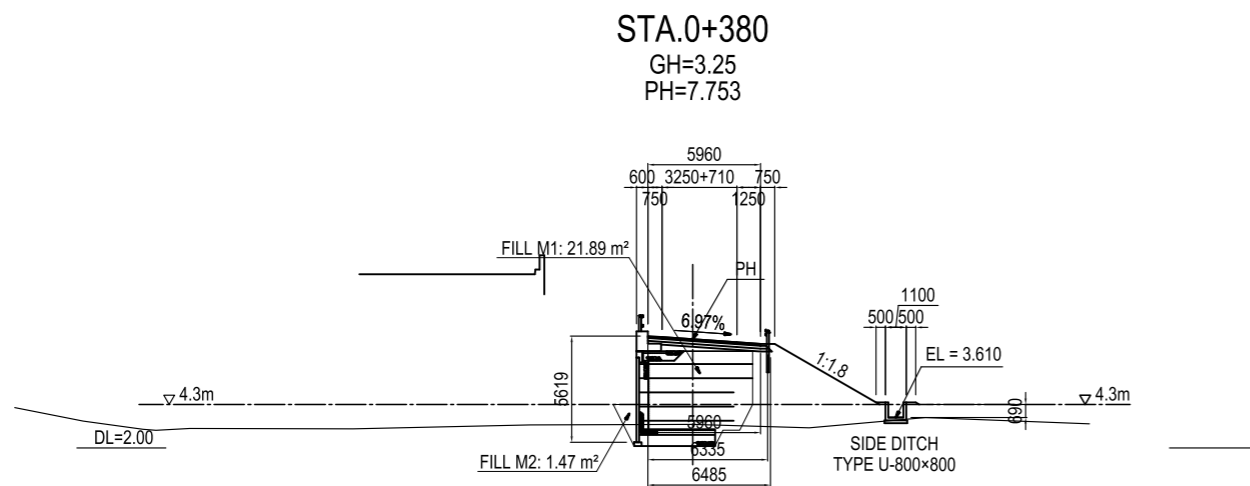
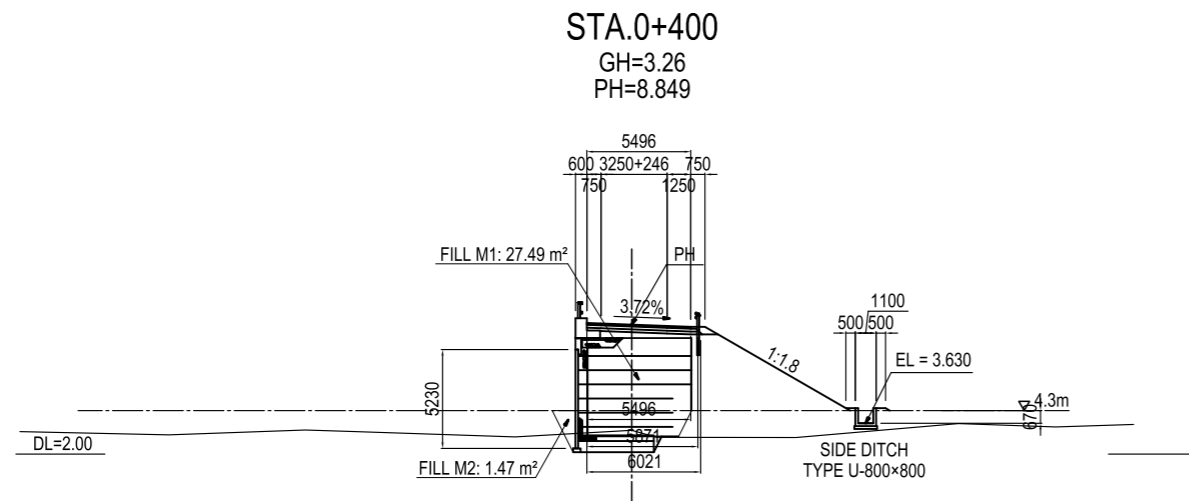
# CROSS SECTION MAIN ROAD (4) S=1:400



Note: Elevation is based on MSL (Mean Sea Level)

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME M. TORIU T. HAYAKAWA Y. SANO	SIGNATURE   	DATE 15 Jun. 2017 20 Jun. 2017 21 Jun. 2017	DRAWING TITLE CROSS SECTION MAIN ROAD (4)	PACKAGE 1 DWG No. P1-RD-1050
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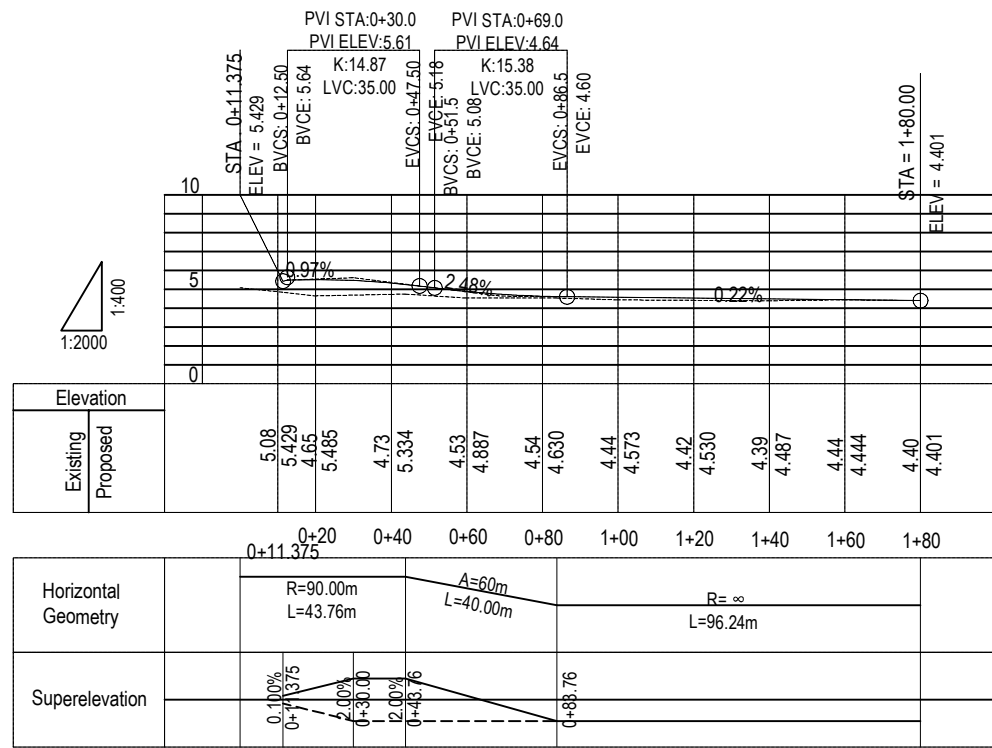
# CROSS SECTION MAIN ROAD (5) S=1:400



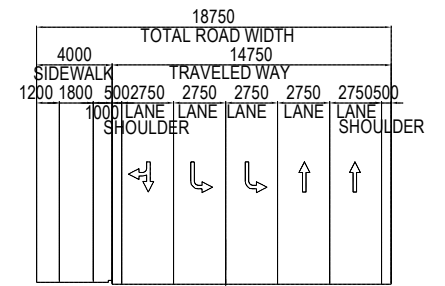
Note: Elevation is based on MSL (Mean Sea Level)

<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">NAME</th> <th style="text-align: left;">SIGNATURE</th> <th style="text-align: left;">DATE</th> </tr> <tr> <td>PREPARED BY M. TORIU</td> <td></td> <td>15 Jun. 2017</td> </tr> <tr> <td>CHECKED BY T. HAYAKAWA</td> <td></td> <td>20 Jun. 2017</td> </tr> <tr> <td>APPROVED BY Y. SANO</td> <td></td> <td>21 Jun. 2017</td> </tr> </table>	NAME	SIGNATURE	DATE	PREPARED BY M. TORIU		15 Jun. 2017	CHECKED BY T. HAYAKAWA		20 Jun. 2017	APPROVED BY Y. SANO		21 Jun. 2017	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">DRAWING TITLE</th> <th style="text-align: left;">PACKAGE</th> </tr> <tr> <td rowspan="3" style="text-align: center; vertical-align: middle;">                     CROSS SECTION MAIN ROAD (5)                 </td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">DWG No.</td> </tr> <tr> <td style="text-align: center;">P1-RD-1060</td> </tr> </table>	DRAWING TITLE	PACKAGE	CROSS SECTION MAIN ROAD (5)	1	DWG No.	P1-RD-1060
NAME	SIGNATURE	DATE																					
PREPARED BY M. TORIU		15 Jun. 2017																					
CHECKED BY T. HAYAKAWA		20 Jun. 2017																					
APPROVED BY Y. SANO		21 Jun. 2017																					
DRAWING TITLE	PACKAGE																						
CROSS SECTION MAIN ROAD (5)	1																						
	DWG No.																						
	P1-RD-1060																						

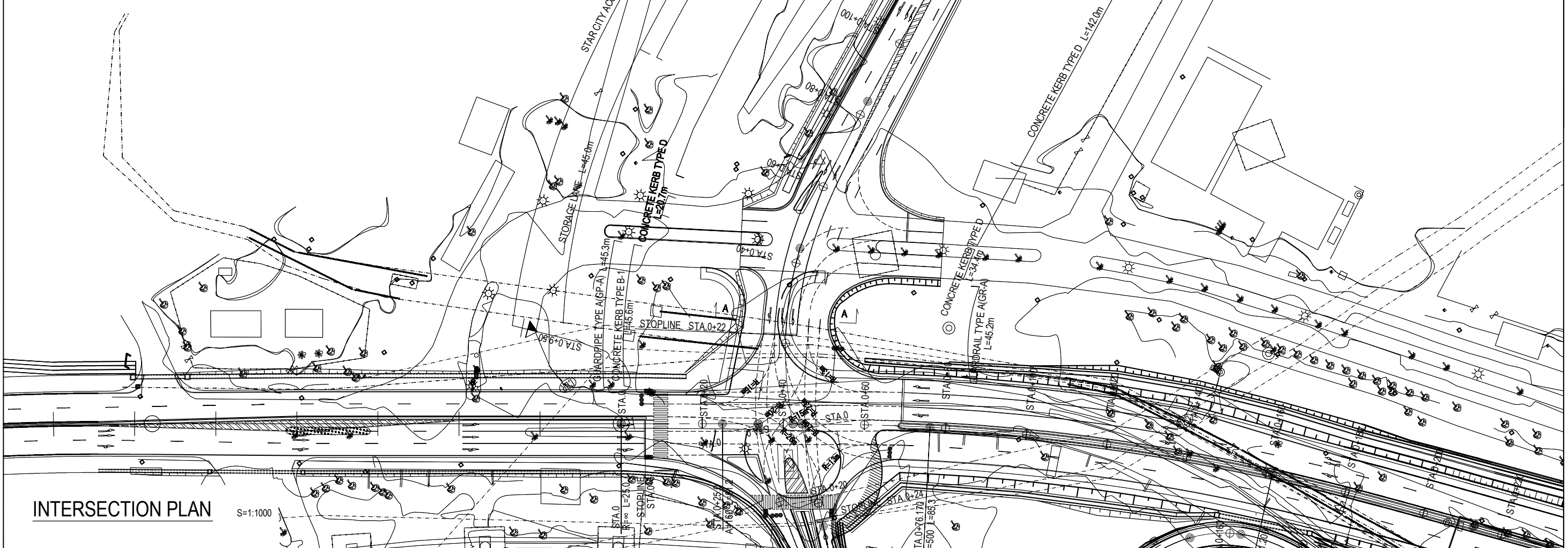
# PLAN & PROFILE (1) Star City Access Line



PROFILE SCALE H=1:2000,V=1:400

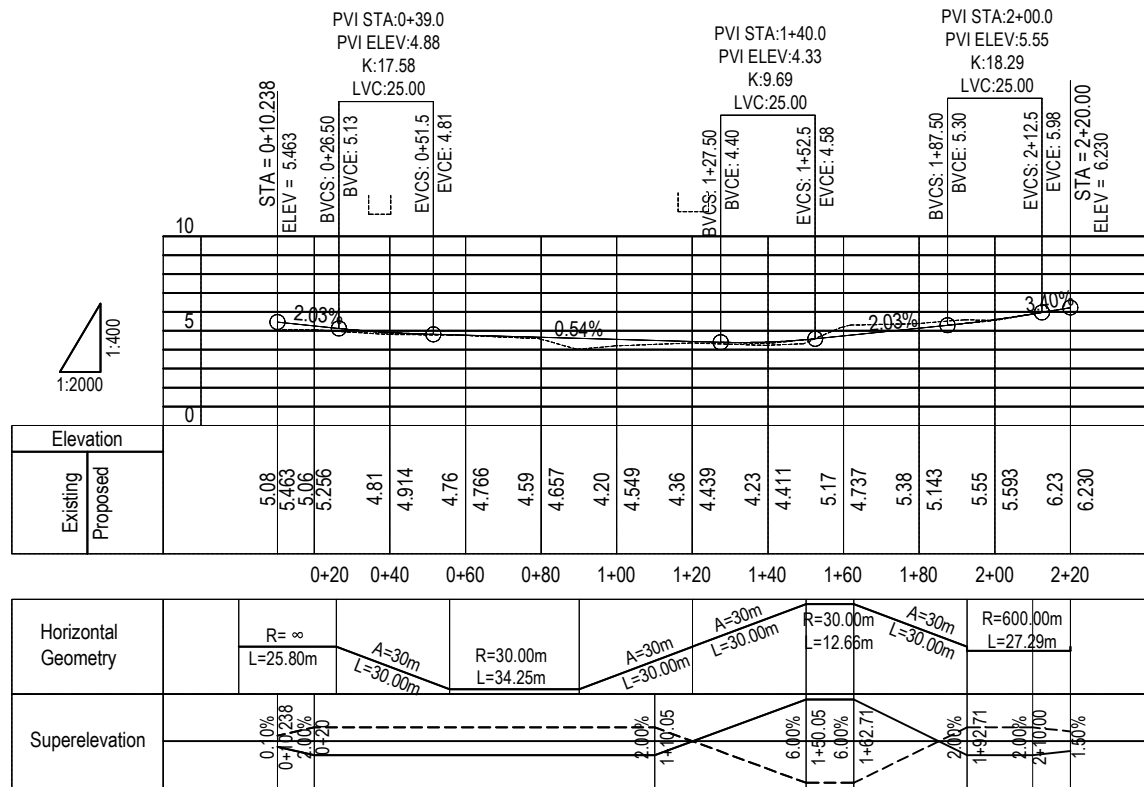


SECTION OF A-A S=1:400

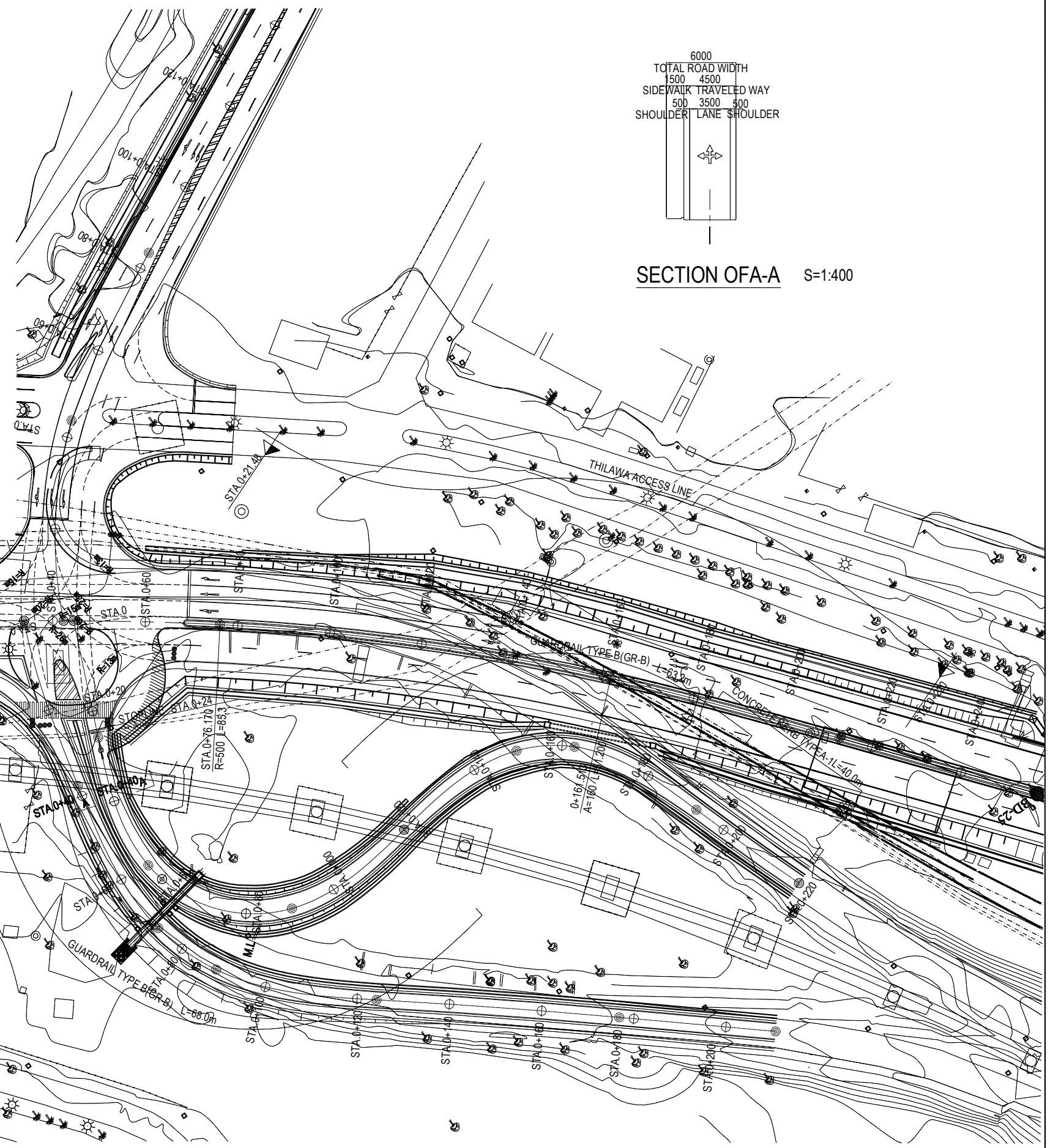
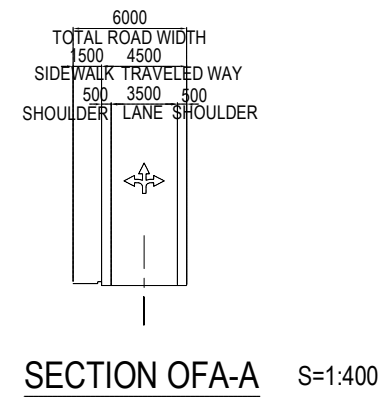


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JICA JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME M. TOMITA	SIGNATURE <i>[Signature]</i>	DATE 15 JUNE 2017	DRAWING TITLE PLAN & PROFILE (1) Star City Access Line	PACKAGE 1
				CHECKED BY T. HAYAKAWA	<i>[Signature]</i>	20 JUNE 2017		DWG No.
				APPROVED BY Y. SANO	<i>[Signature]</i>	21 JUNE 2017		P1-RD-2000

# PLAN & PROFILE (2) Thilawa Access Line

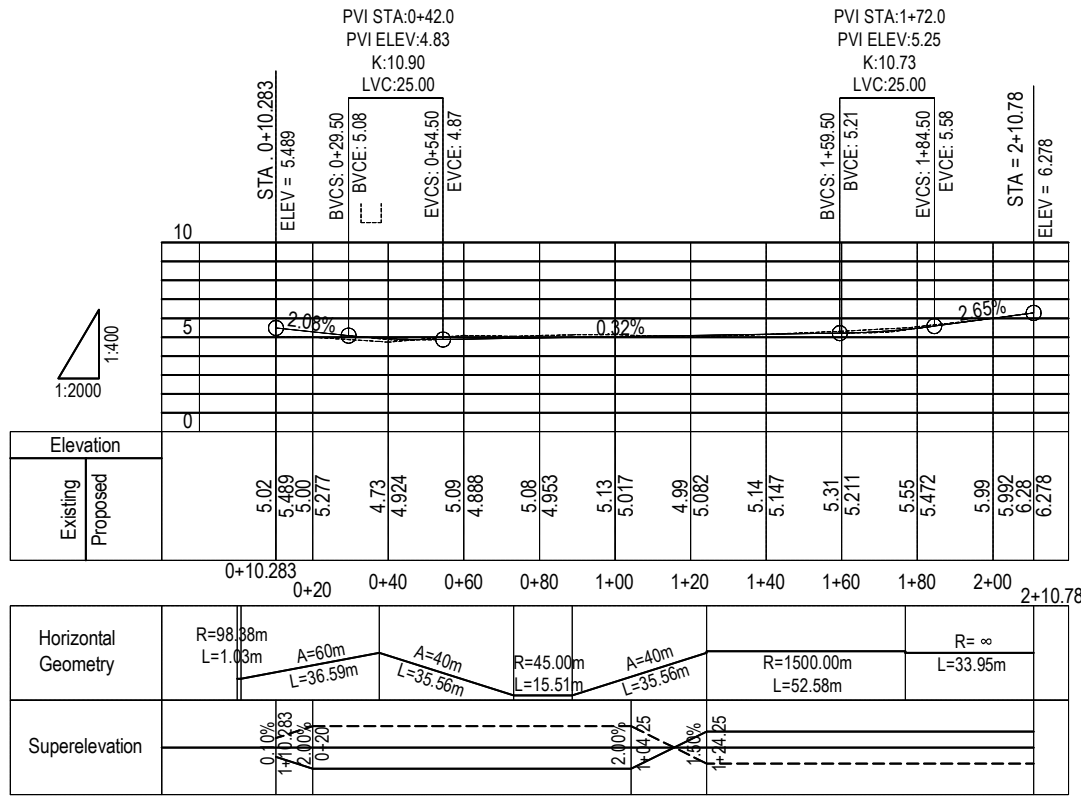


PROFILE SCALE H=1:2000, V=1:400

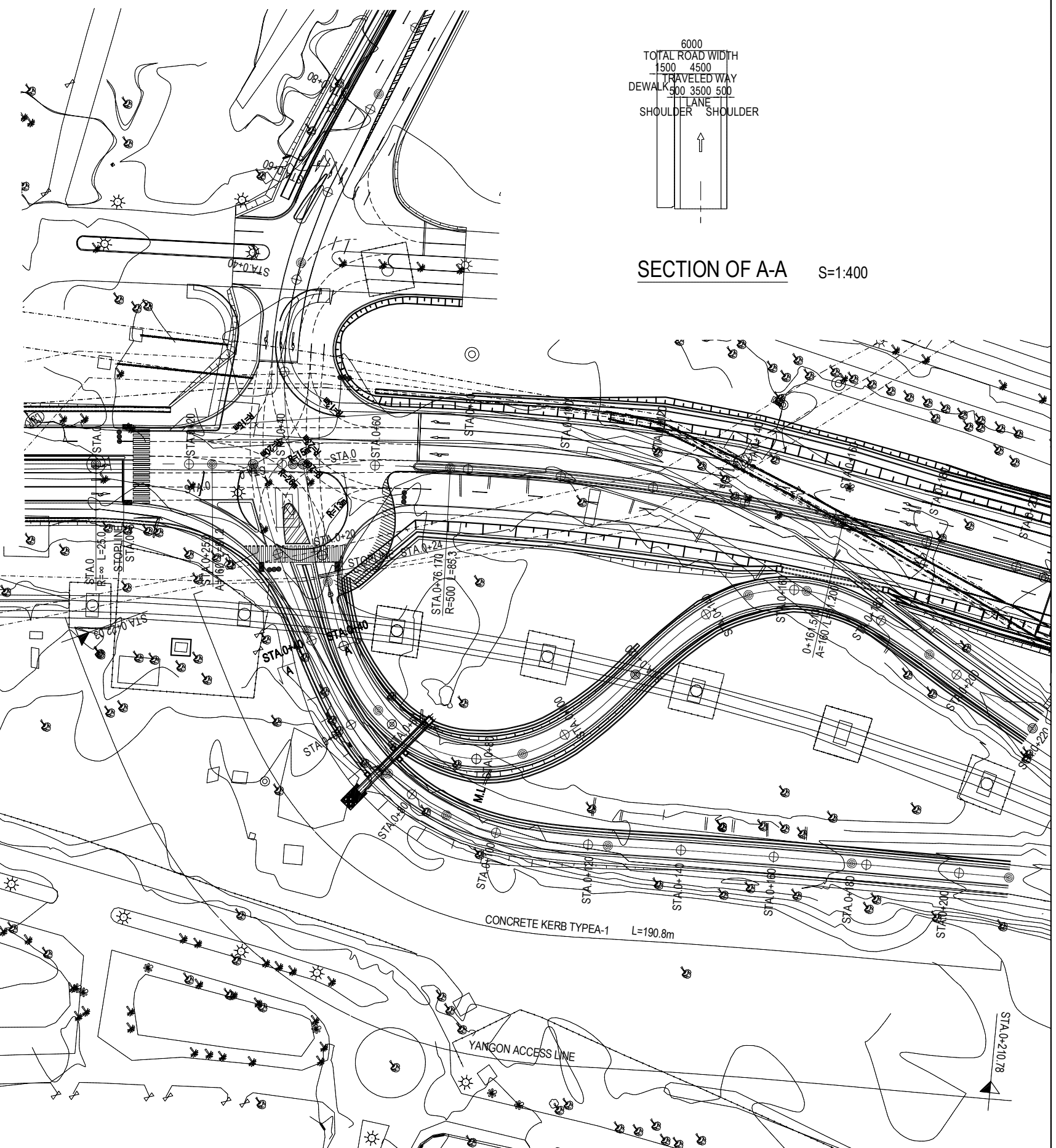
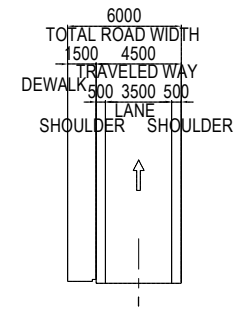


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE	
				PREPARED BY	M. TOMITA				15 JUNE 2017
				CHECKED BY	T. HAYAKAWA				20 JUNE 2017
APPROVED BY	Y. SANO		21 JUNE 2017	PLAN & PROFILE (2) Thilawa Access Line		P1-RD-2010			

# PLAN & PROFILE (3) Yangon Access Line



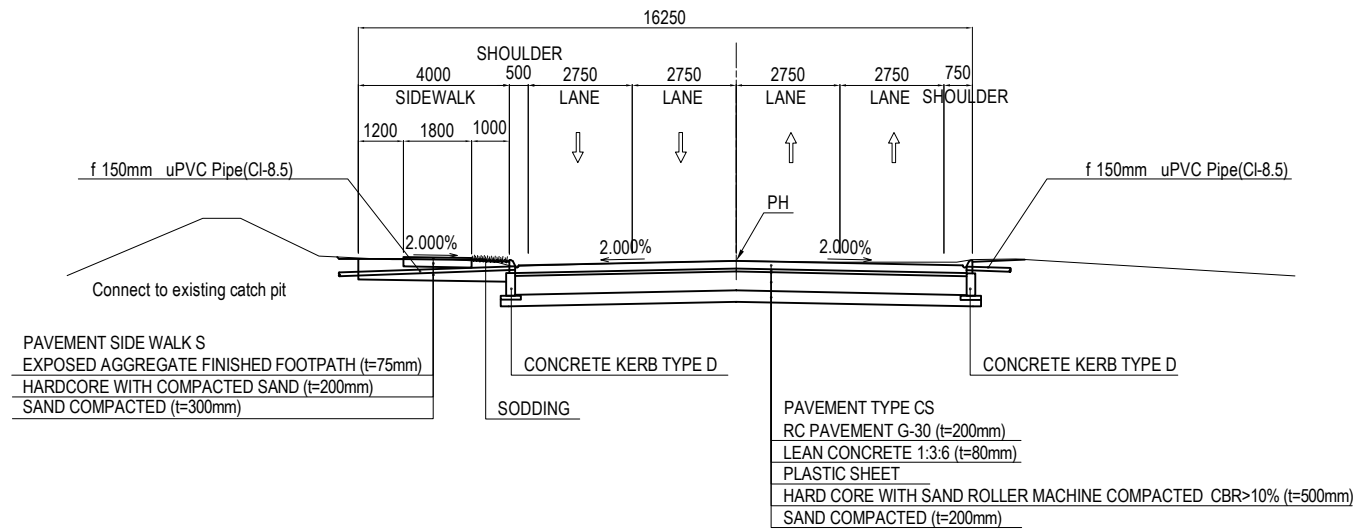
PROFILE SCALE H=1:2000,V=1:400



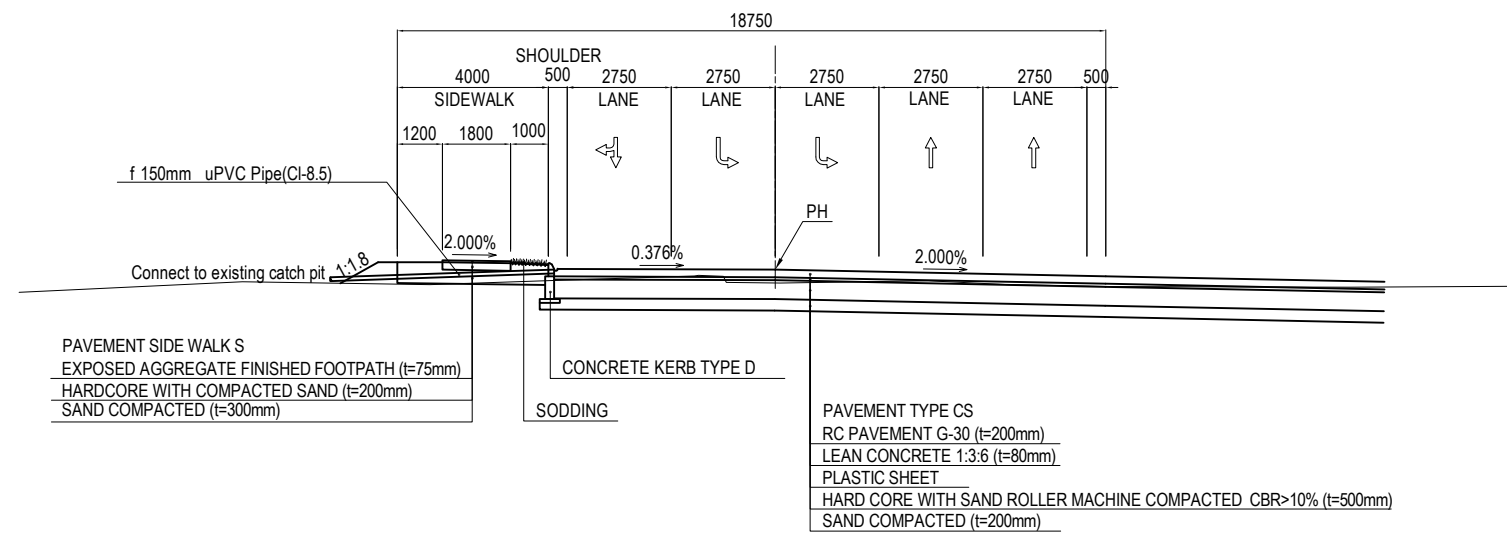
INTERSECTION PLAN S=1:1000

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE PLAN & PROFILE (3) Yangon Access Line	PACKAGE	
				PREPARED BY	M. TOMITA			15 JUNE 2017	1
				CHECKED BY	T. HAYAKAWA			20 JUNE 2017	DWG No.
				APPROVED BY	Y. SANO			21 JUNE 2017	P1-RD-2020

# TYPICAL CROSS SECTION (1) Star City Access Line S=1:200



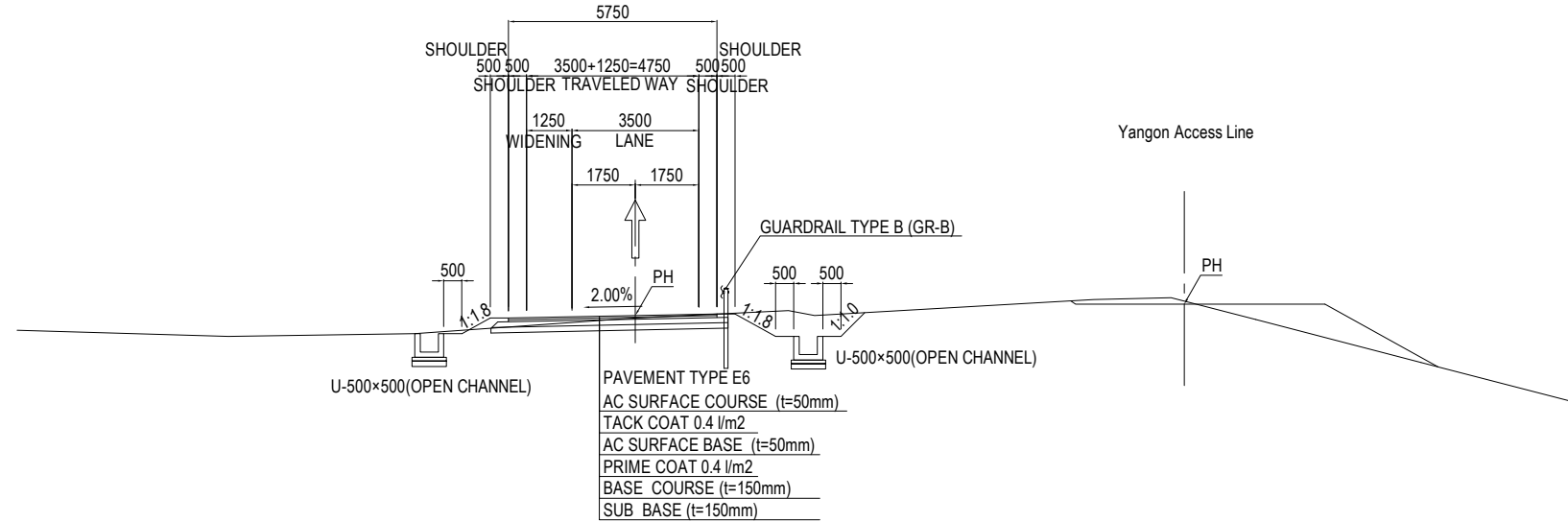
STANDARD SECTION



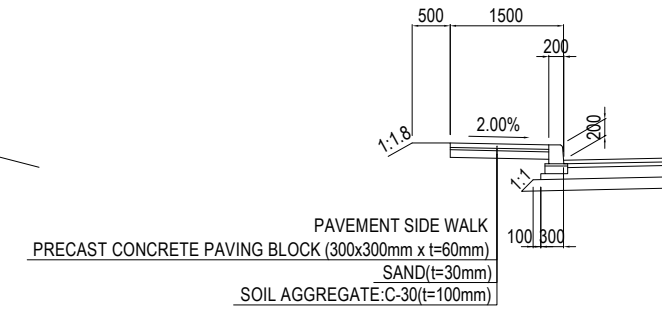
IN/OUT FLOW SECTION OF  
SIGNALIZED INTERSECTION WITH LEFT TURN LANE

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE	
				PREPARED BY	M. TOMITA				15 JUNE 2017
				CHECKED BY	T. HAYAKAWA				20 JUNE 2017
				APPROVED BY	Y. SANO				21 JUNE 2017
							TYPICAL CROSS SECTION (1) Star City Access Line	1	
								DWG No.	
								P1-RD-2030	

# TYPICAL CROSS SECTION (2) Thilawa Access Line / Yangon Access Line s=1:200

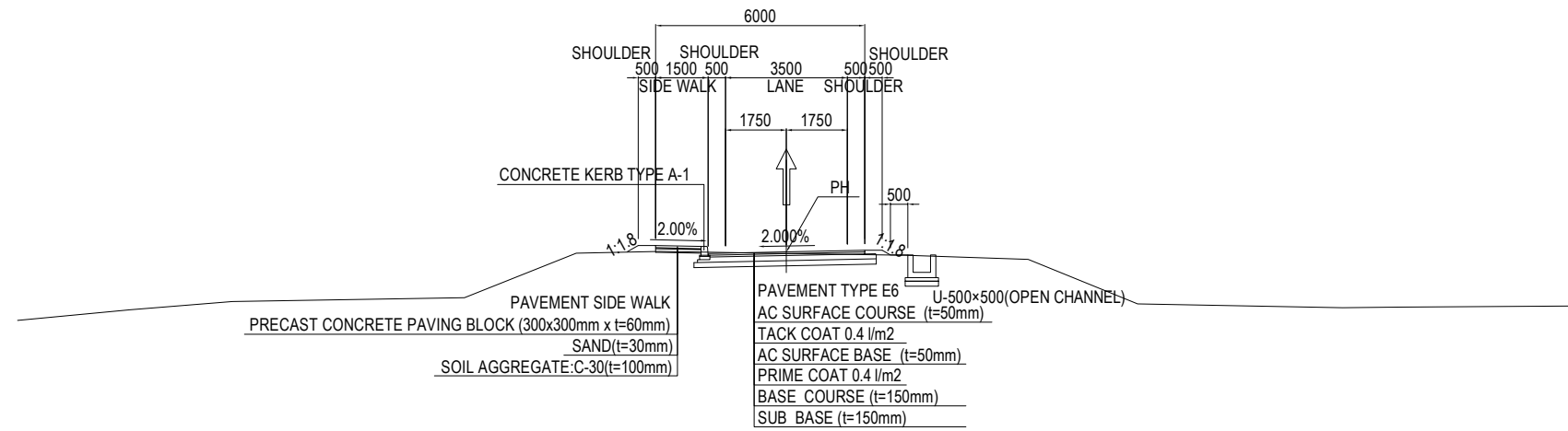


**STANDARD SECTION - 1 (Thilawa Access Line)**

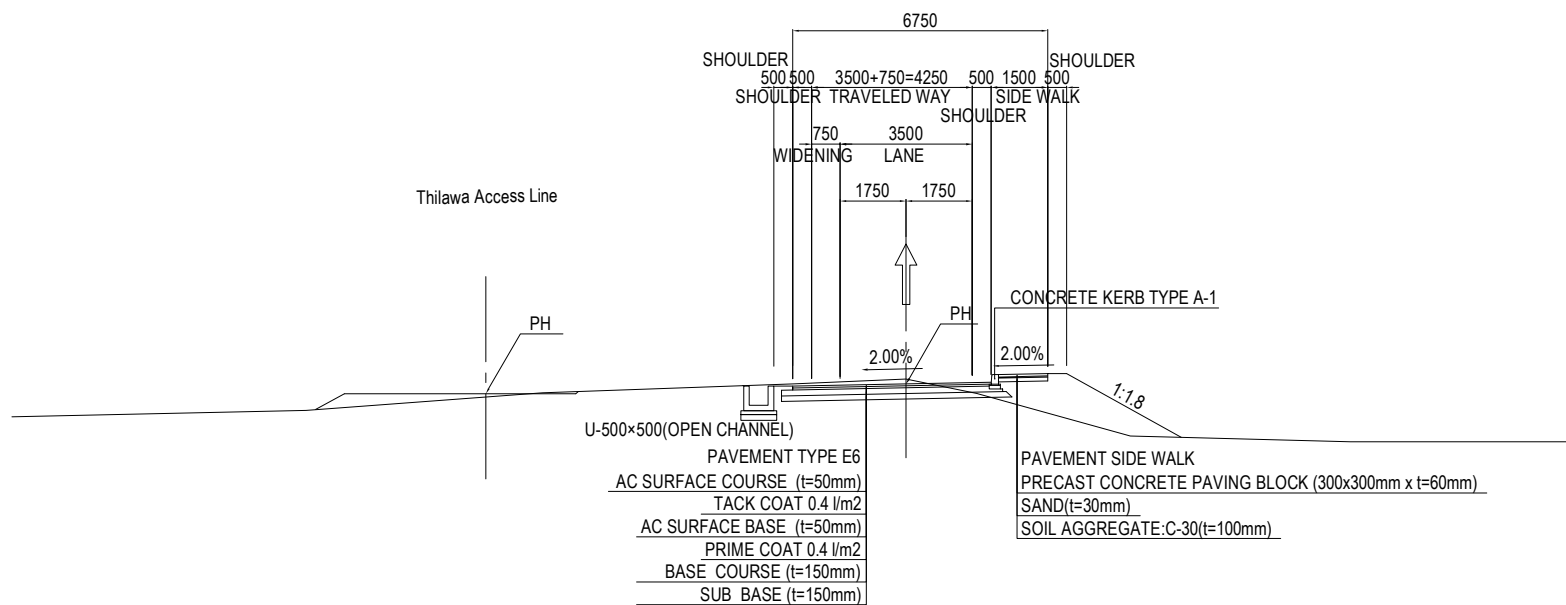


**SIDEWALK STANDARD SECTION**

S = 1:100



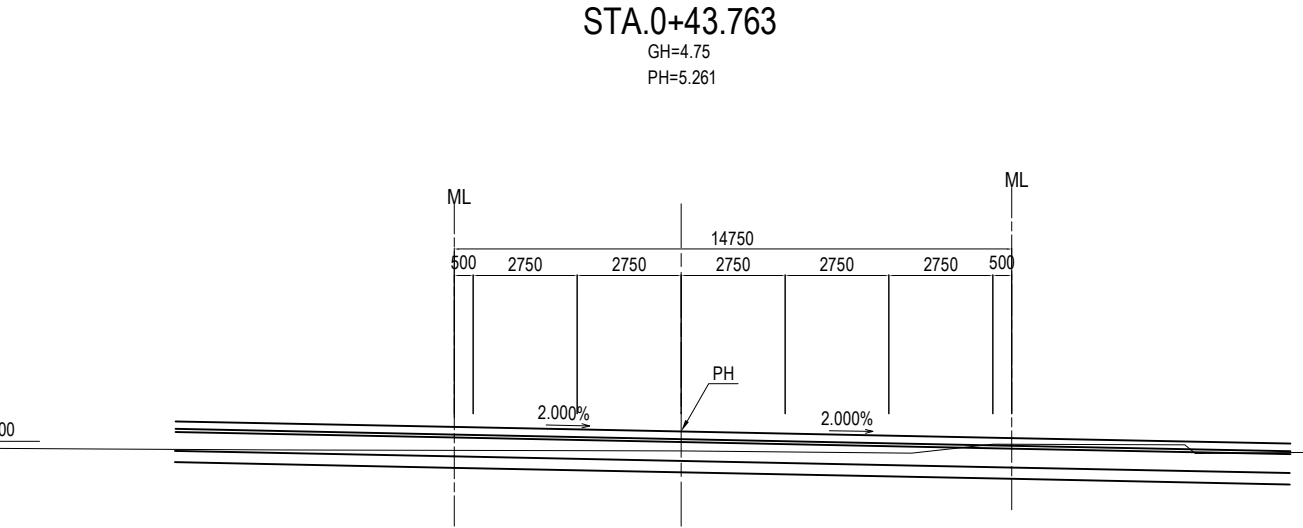
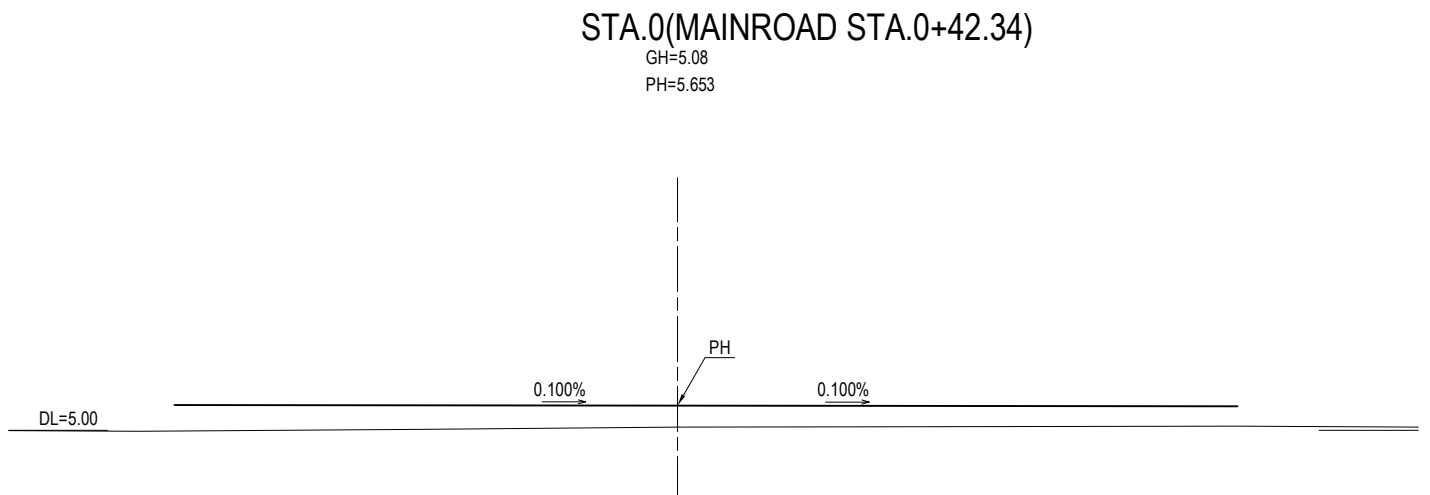
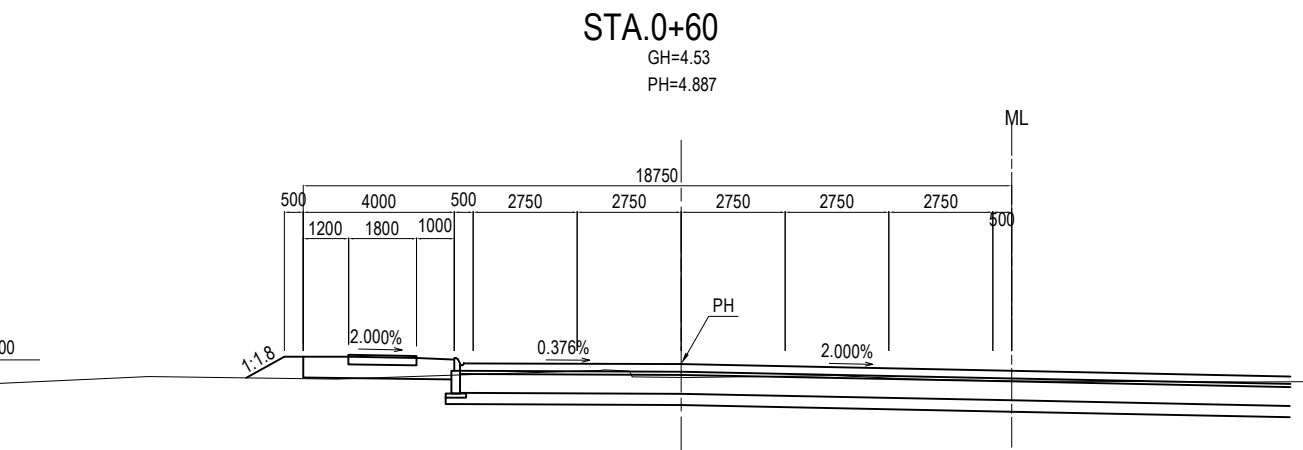
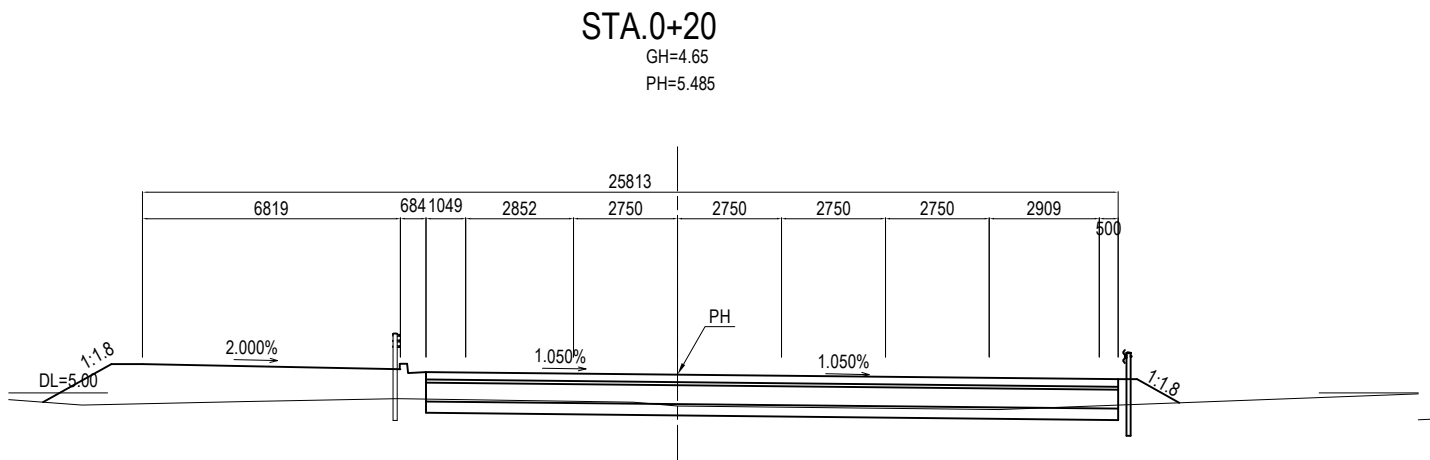
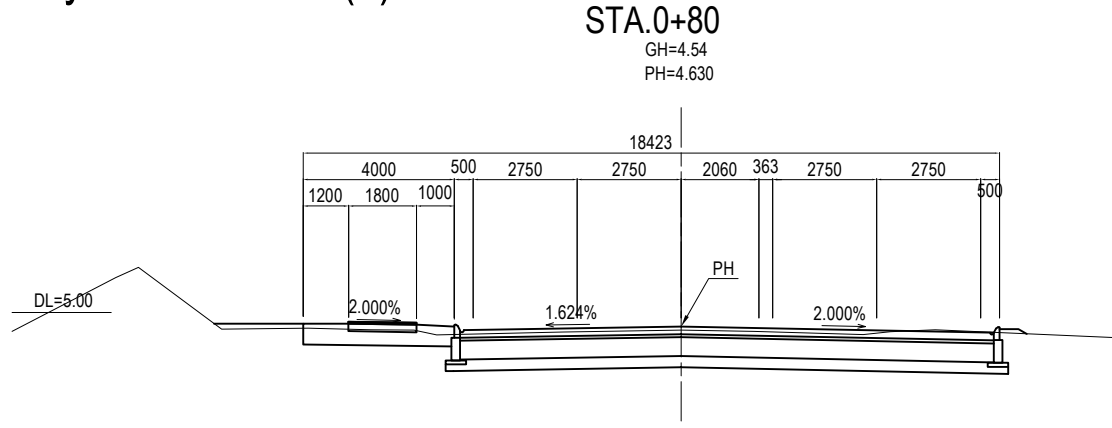
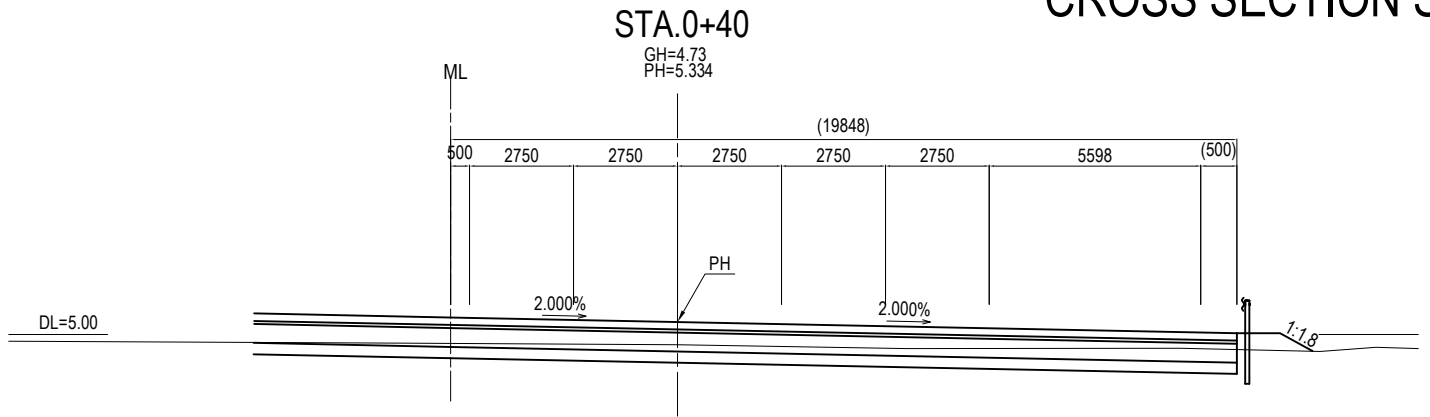
**STANDARD SECTION - 2 (Thilawa Access Line)**



**STANDARD SECTION (Yangon Access Line)**

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TYPICAL CROSS SECTION (2) Thilawa Access Line/Yangon Access Line	PACKAGE	
				PREPARED BY	M. TOMITA			15 JUNE 2017	1
				CHECKED BY	T. HAYAKAWA			20 JUNE 2017	DWG No.
				APPROVED BY	Y. SANO			21 JUNE 2017	P1-RD-2040

# CROSS SECTION Star City Access Line (1) s=1:200



PROJECT NAME  
 DETAILED DESIGN ON  
 BAGO RIVER BRIDGE  
 CONSTRUCTION PROJECT

FINANCED BY  
 JAPAN INTERNATIONAL  
 COOPERATION AGENCY

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

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

	NAME	SIGNATURE	DATE
PREPARED BY	M. TOMITA		15 JUNE 2017
CHECKED BY	T. HAYAKAWA		20 JUNE 2017
APPROVED BY	Y. SANO		21 JUNE 2017

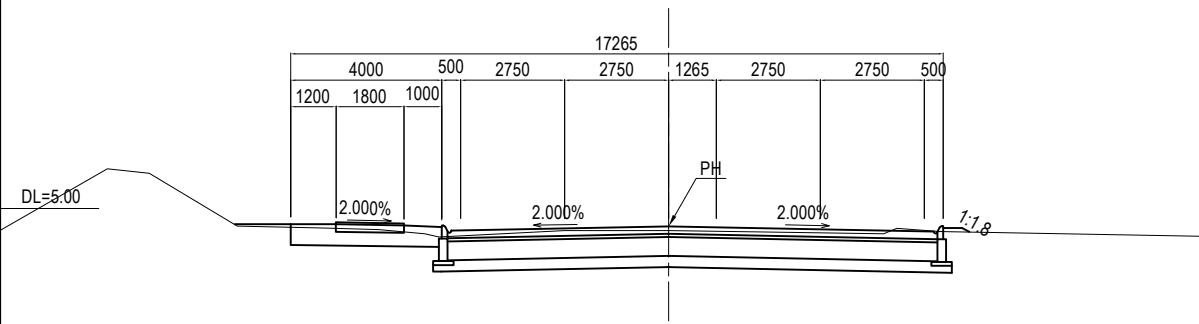
DRAWING TITLE  
 CROSS SECTION Star City Access Line (1)

PACKAGE  
 1  
 DWG No.  
 P1-RD-2050

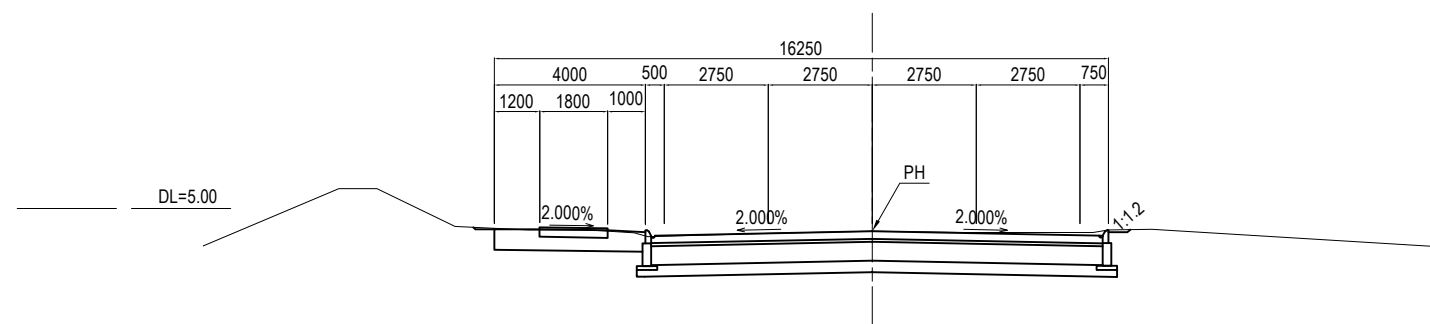


# CROSS SECTION Star City Access Line (2) s=1:200

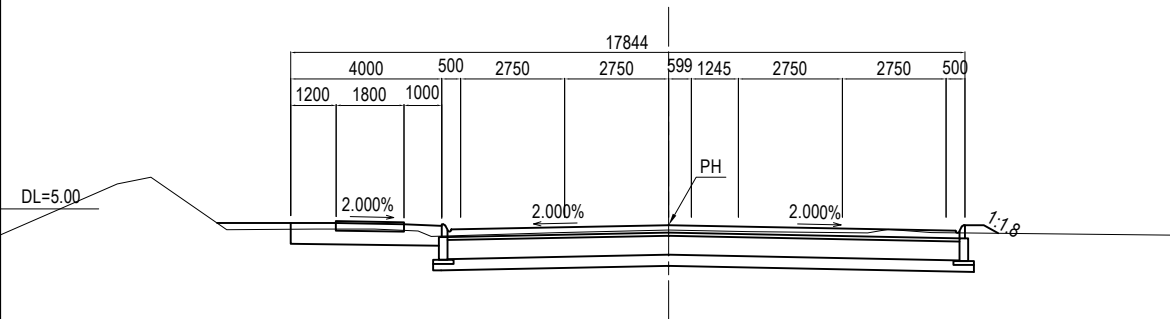
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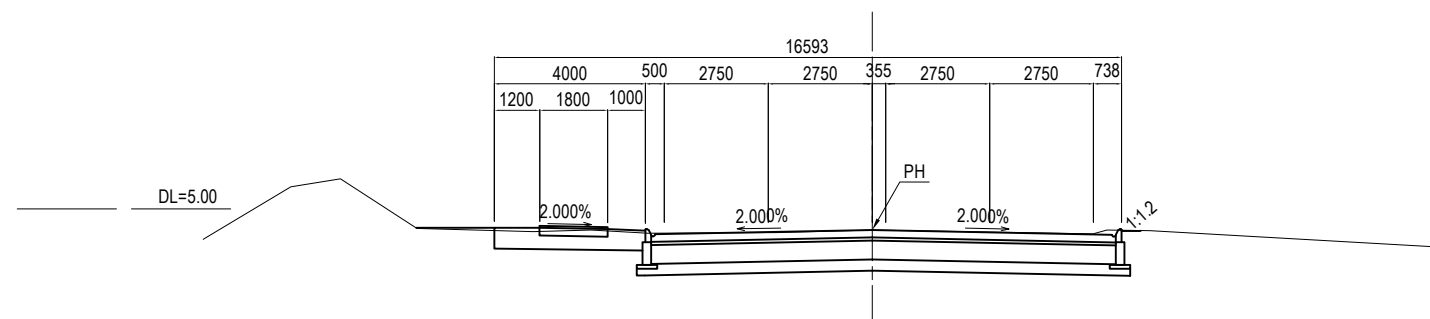
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GH=4.40  
PH=4.401



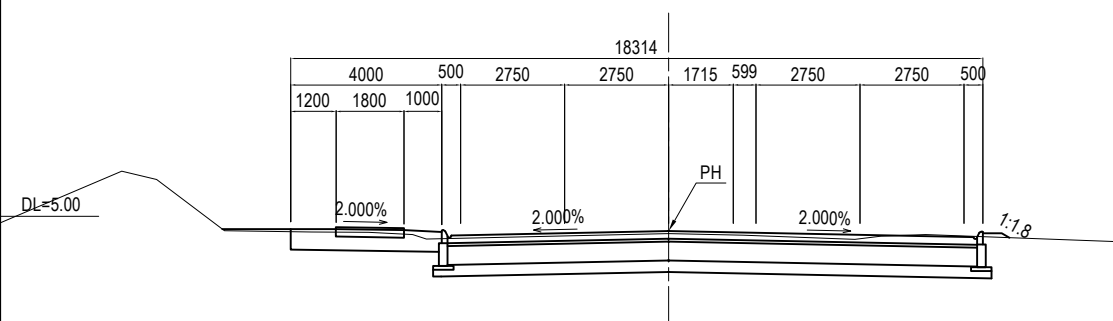
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GH=4.44  
PH=4.573



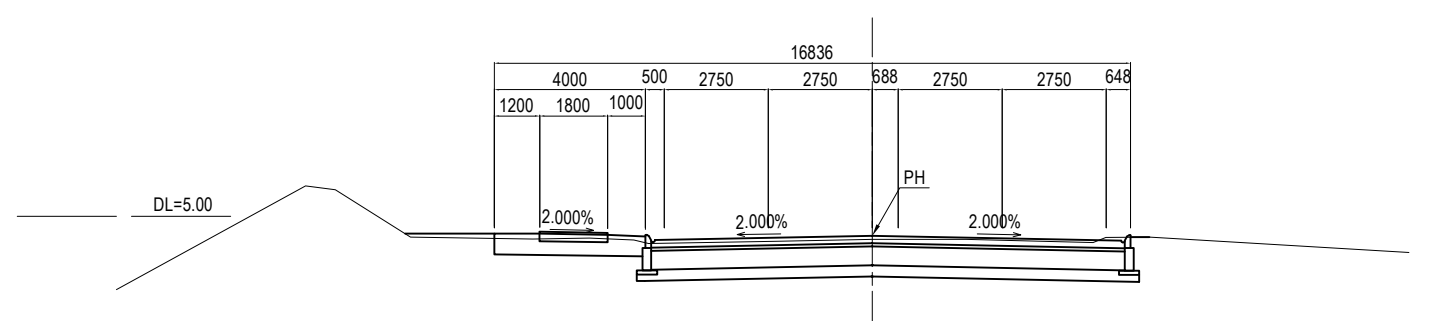
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GH=4.44  
PH=4.444



STA.0+83.763  
GH=4.54  
PH=4.611



STA.0+140  
GH=4.39  
PH=4.487



PROJECT NAME  
DETAILED DESIGN ON  
BAGO RIVER BRIDGE  
CONSTRUCTION PROJECT

FINANCED BY  
JICA  
JAPAN INTERNATIONAL  
COOPERATION AGENCY

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

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

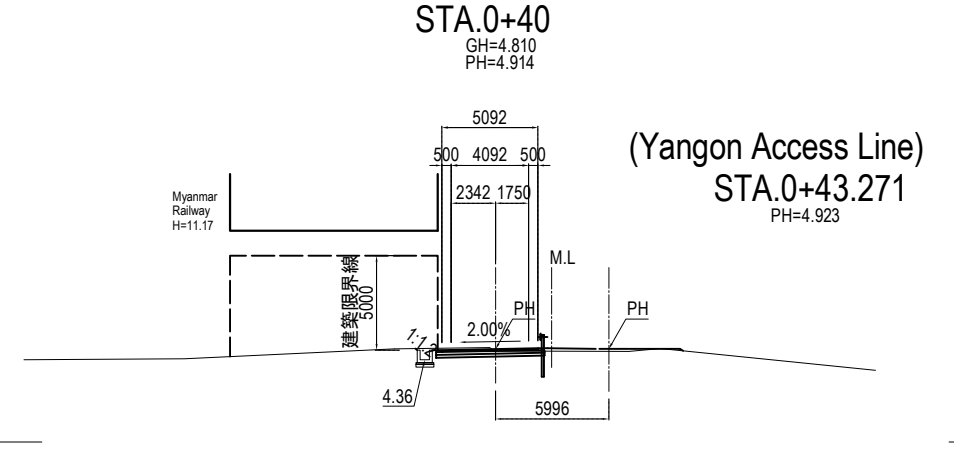
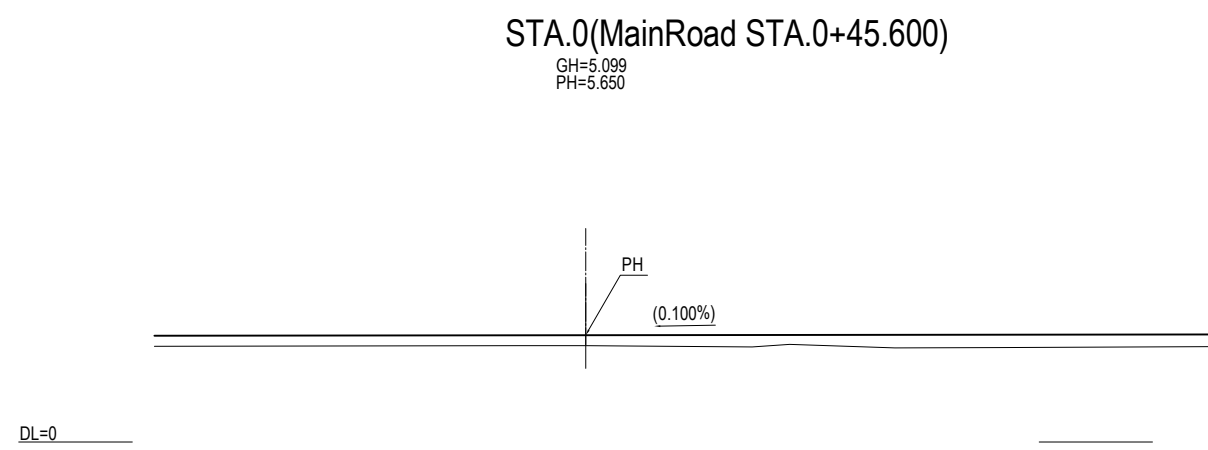
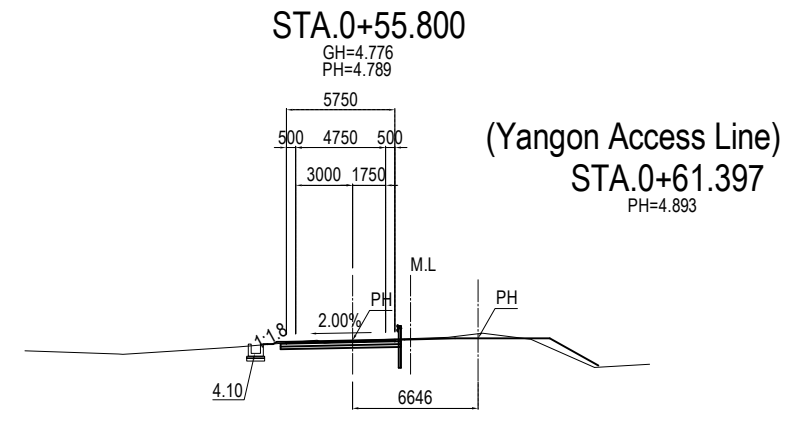
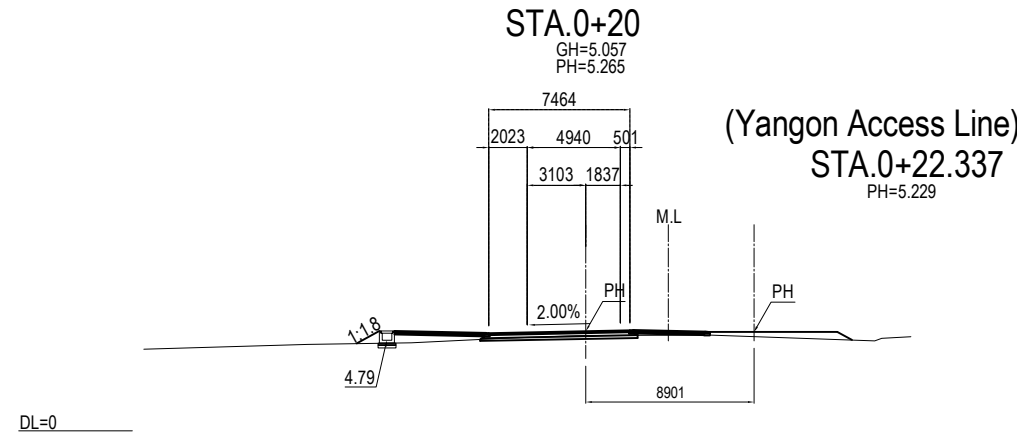
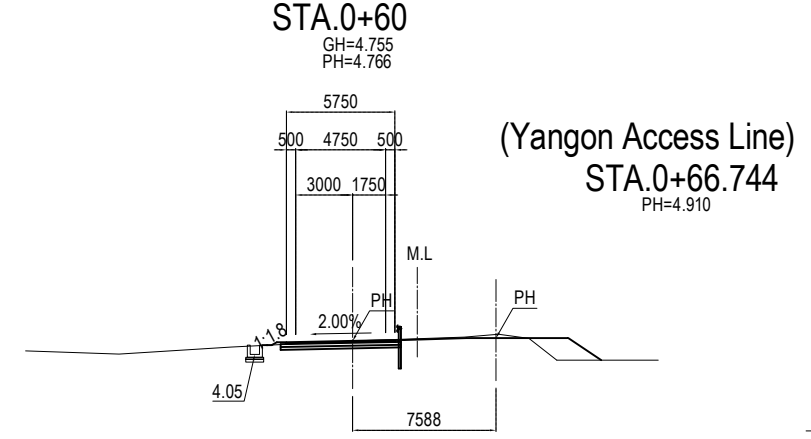
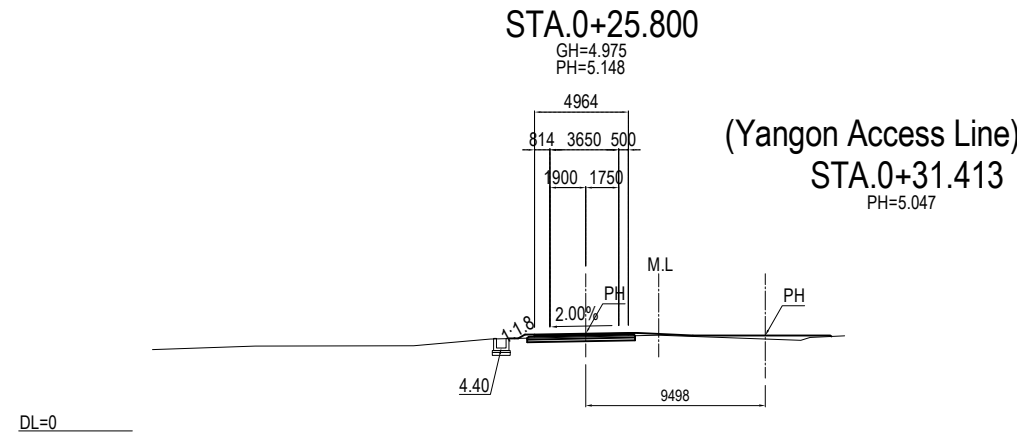
	NAME	SIGNATURE	DATE
PREPARED BY	M. TOMITA		15 JUNE 2017
CHECKED BY	T. HAYAKAWA		20 JUNE 2017
APPROVED BY	Y. SANO		21 JUNE 2017

DRAWING TITLE  
CROSS SECTION Star City Access Line (2)

PACKAGE  
1  
DWG No.  
P1-RD-2060

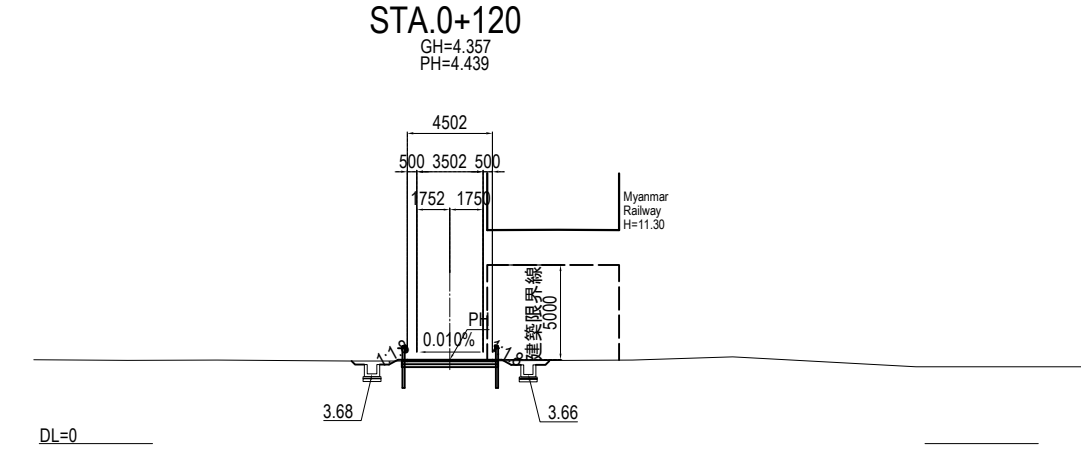
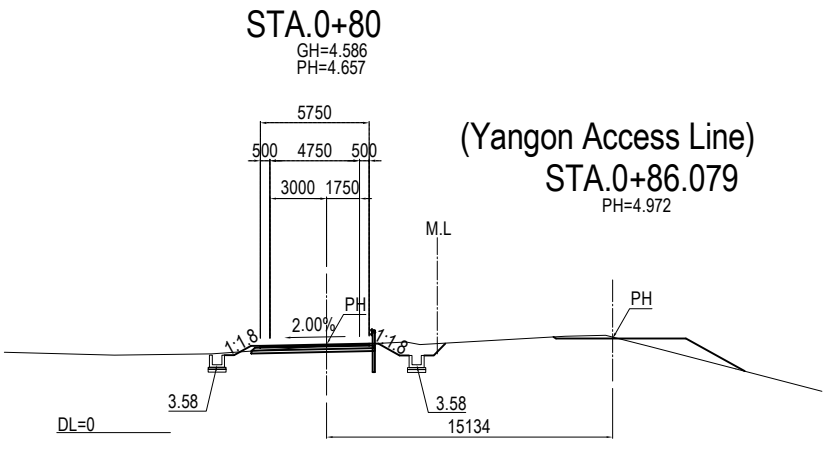
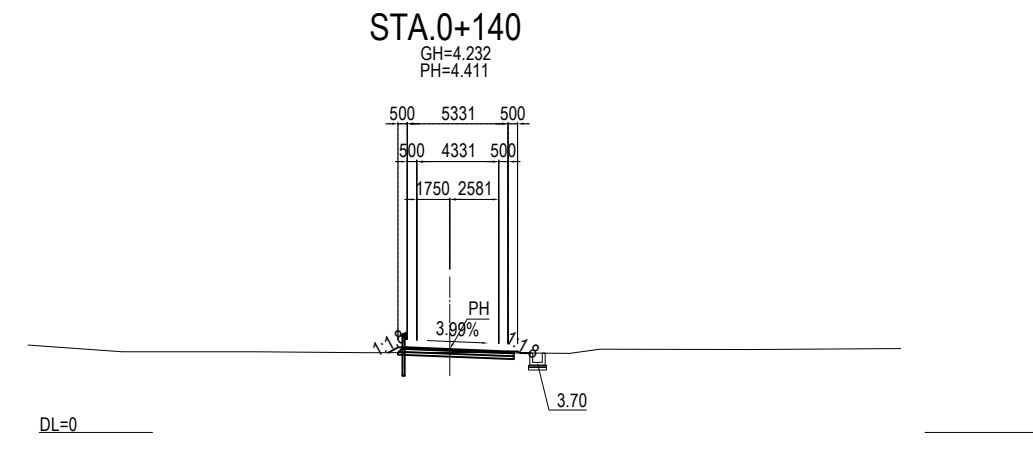
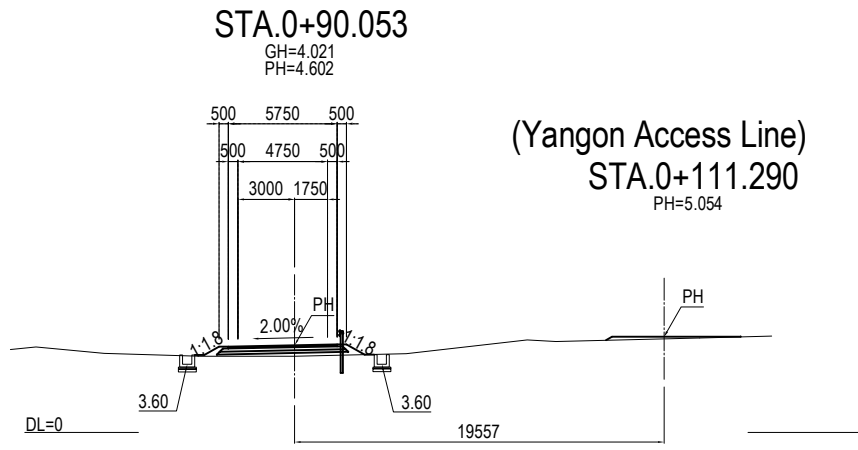
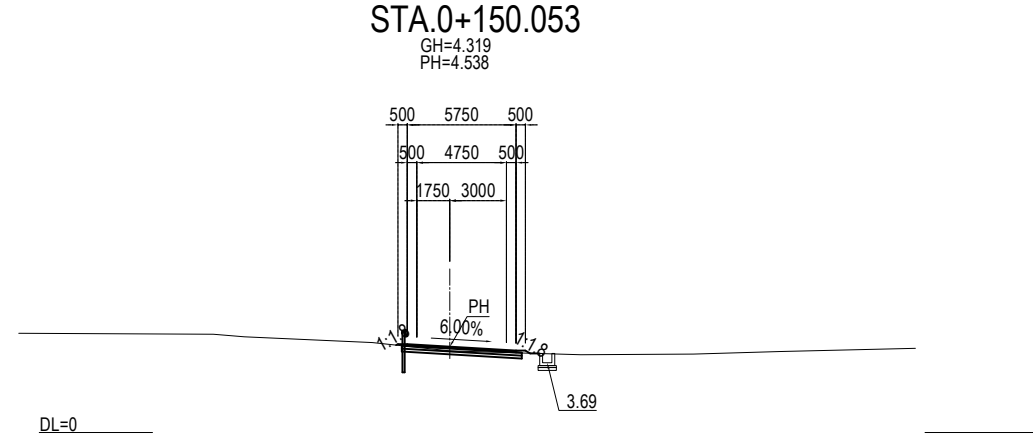
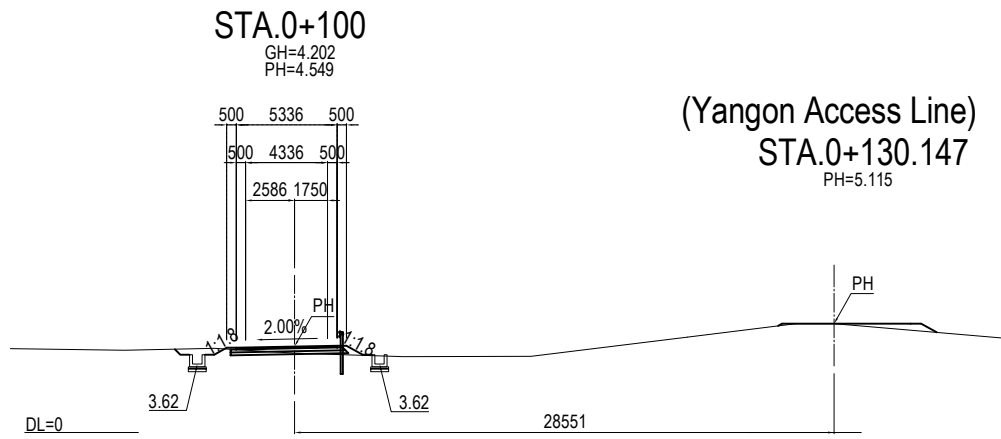
# CROSS SECTION Thilawa Access Line(1)

S=1:400



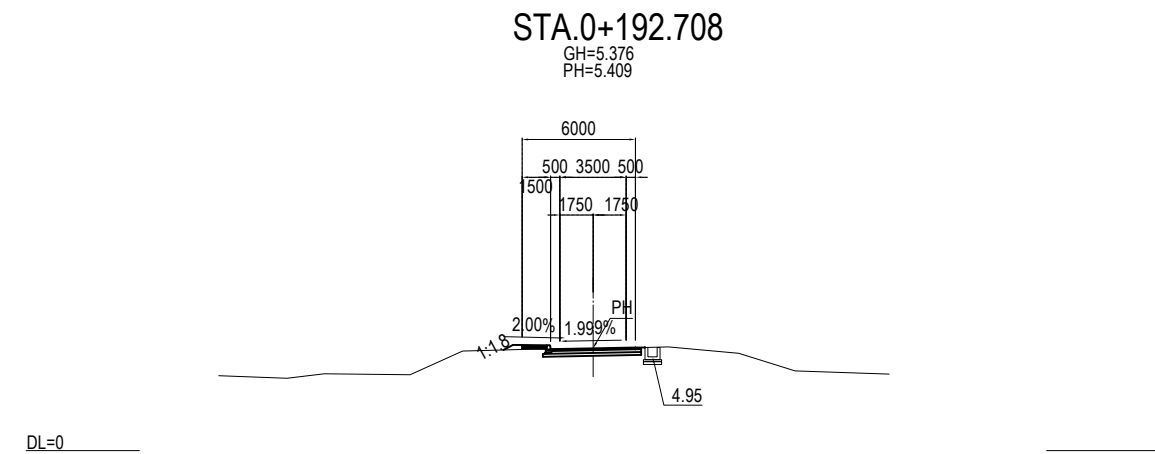
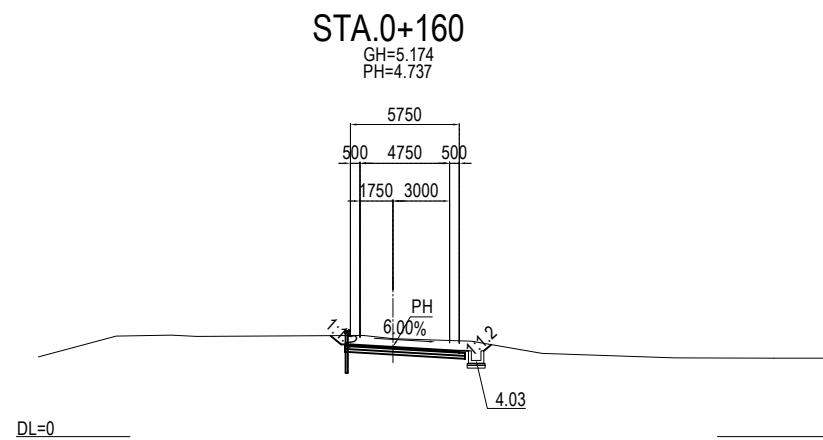
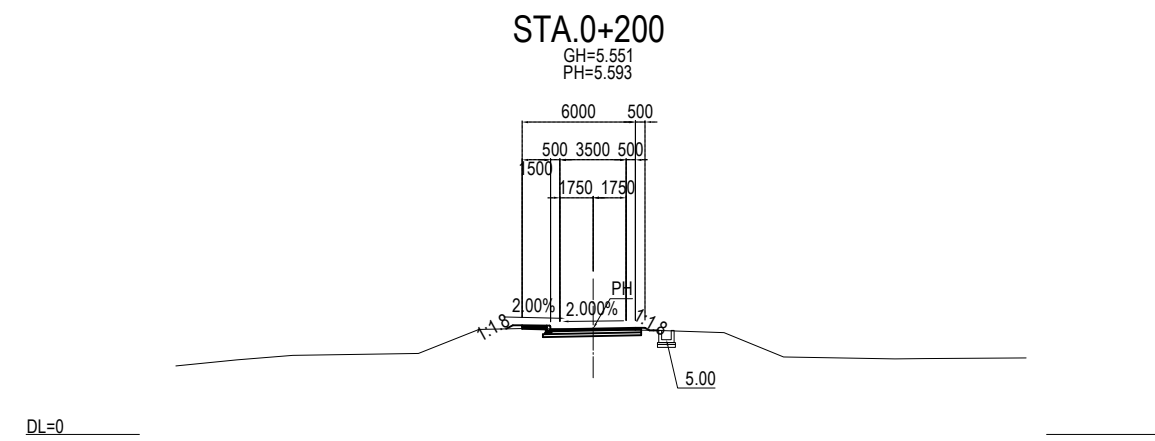
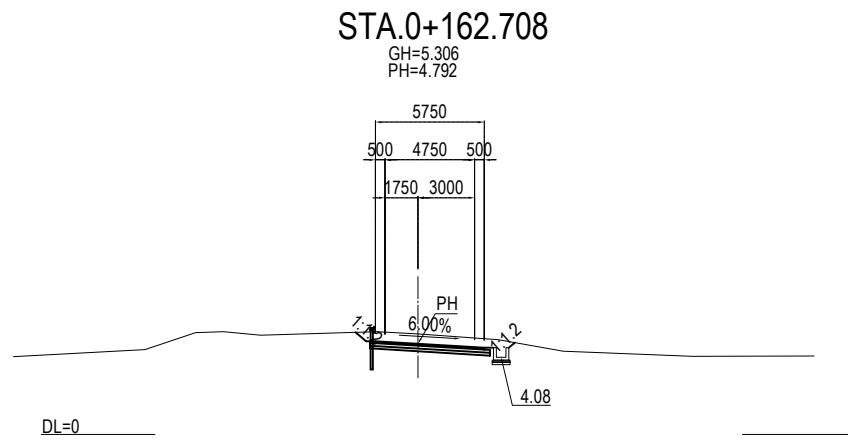
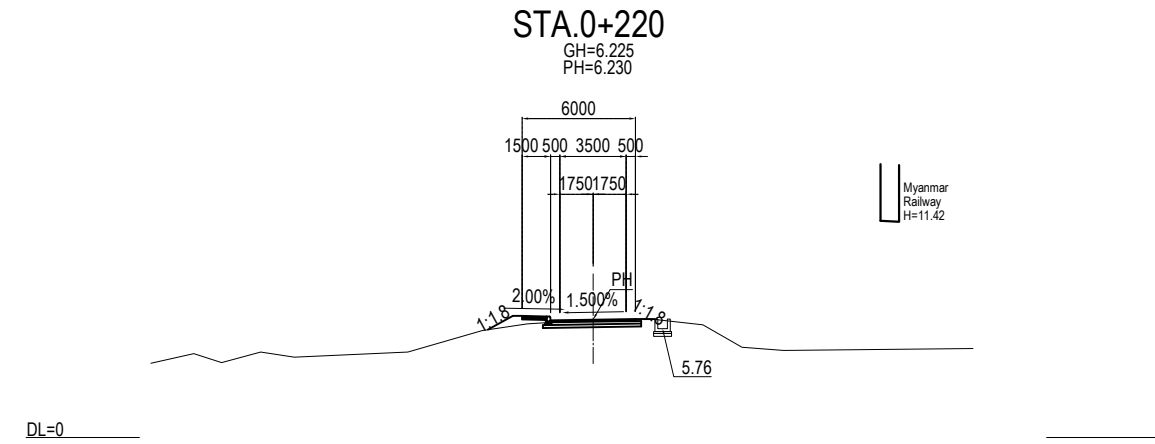
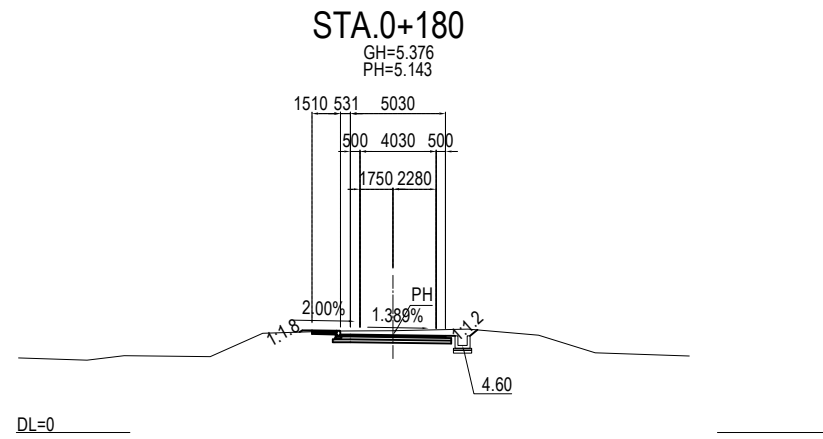
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION Thilawa Access Line(1)	PACKAGE	
				PREPARED BY	M. TOMITA			15 JUNE 2017	1
				CHECKED BY	T. HAYAKAWA			20 JUNE 2017	DWG No.
				APPROVED BY	Y. SANO			21 JUNE 2017	P1-RD-2070

# CROSS SECTION Thilawa Access Line(2) S=1:400



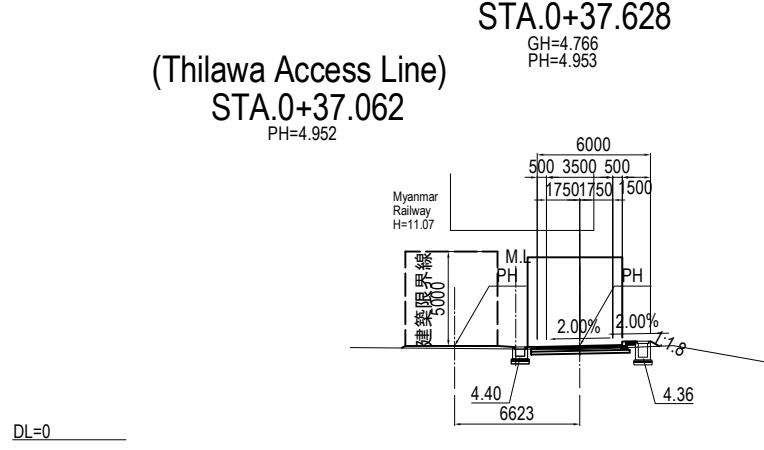
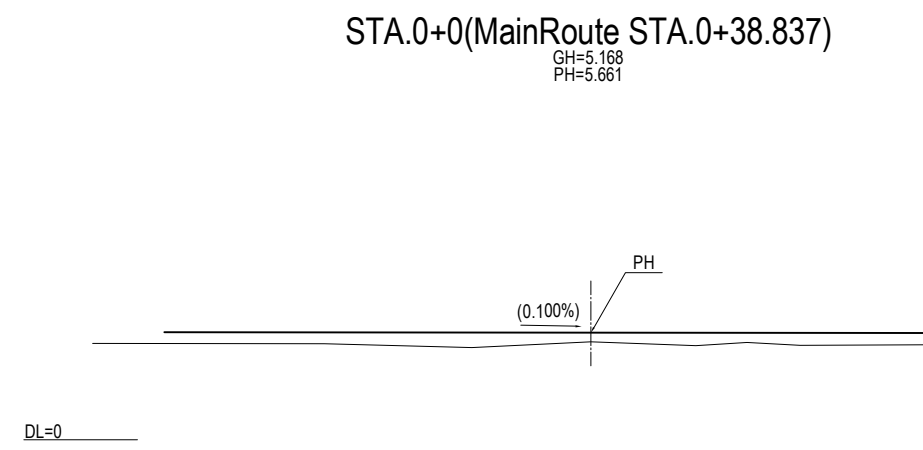
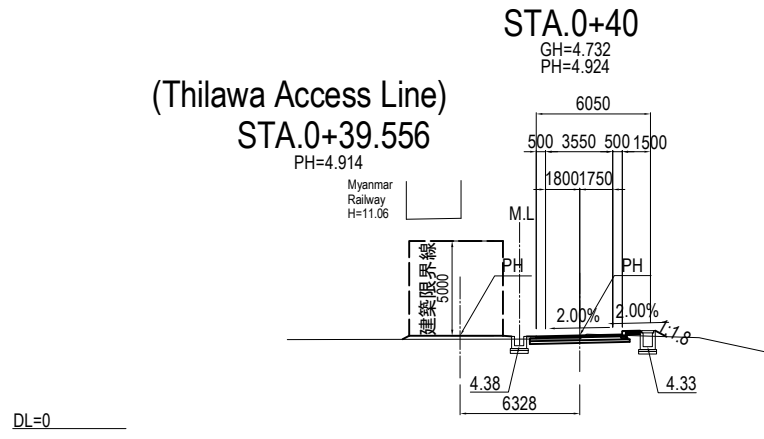
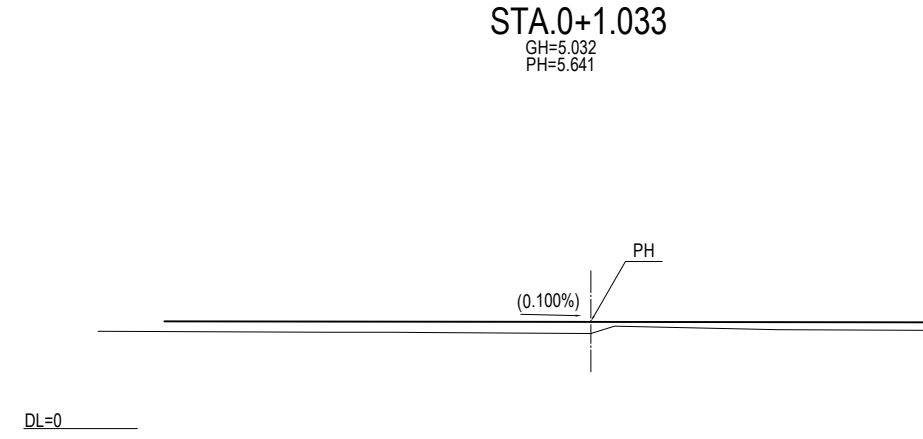
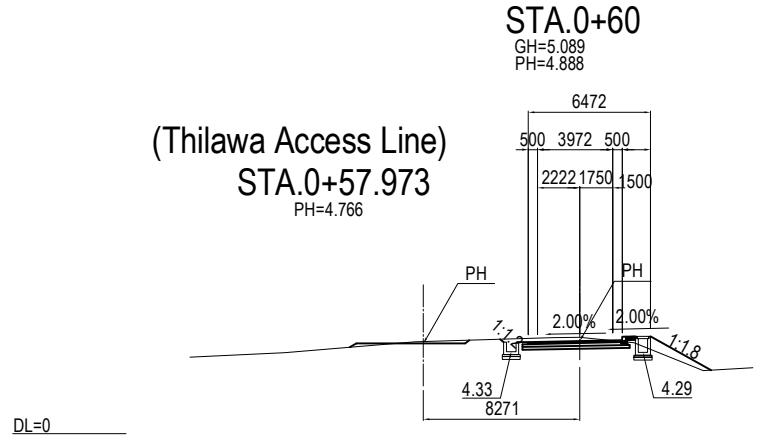
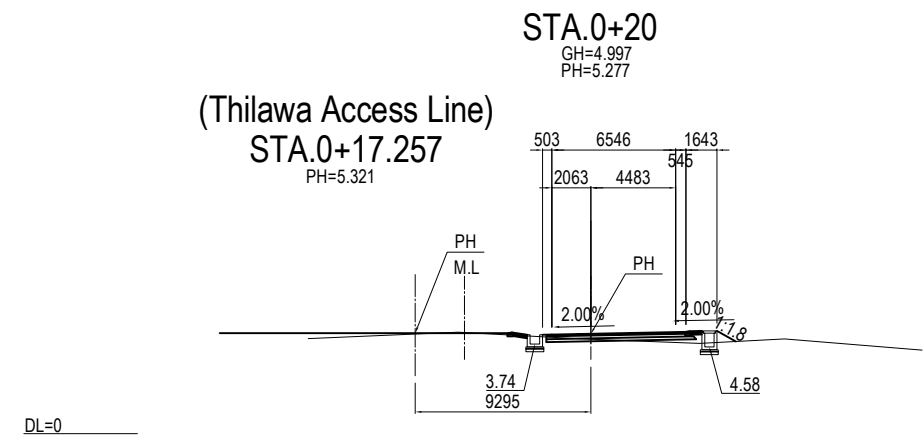
<p>PROJECT NAME</p> <p>DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT</p>	<p>FINANCED BY</p> <p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	<p>COUNTERPART</p> <p>REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE</p>	<p>JICA STUDY TEAM</p> <p>NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.</p>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">NAME</th> <th style="text-align: left;">SIGNATURE</th> <th style="text-align: left;">DATE</th> </tr> <tr> <td>PREPARED BY</td> <td>M. TOMITA</td> <td>15 JUNE 2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td>20 JUNE 2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td>21 JUNE 2017</td> </tr> </table>	NAME	SIGNATURE	DATE	PREPARED BY	M. TOMITA	15 JUNE 2017	CHECKED BY	T. HAYAKAWA	20 JUNE 2017	APPROVED BY	Y. SANO	21 JUNE 2017	<p style="text-align: center;">DRAWING TITLE</p> <p style="text-align: center;">CROSS SECTION Thilawa Access Line(2)</p>	<p>PACKAGE</p> <p style="text-align: center;">1</p> <p>DWG No.</p> <p>P01-RD-2080</p>
NAME	SIGNATURE	DATE																	
PREPARED BY	M. TOMITA	15 JUNE 2017																	
CHECKED BY	T. HAYAKAWA	20 JUNE 2017																	
APPROVED BY	Y. SANO	21 JUNE 2017																	

# CROSS SECTION Thilawa Access Line(3) S=1:400



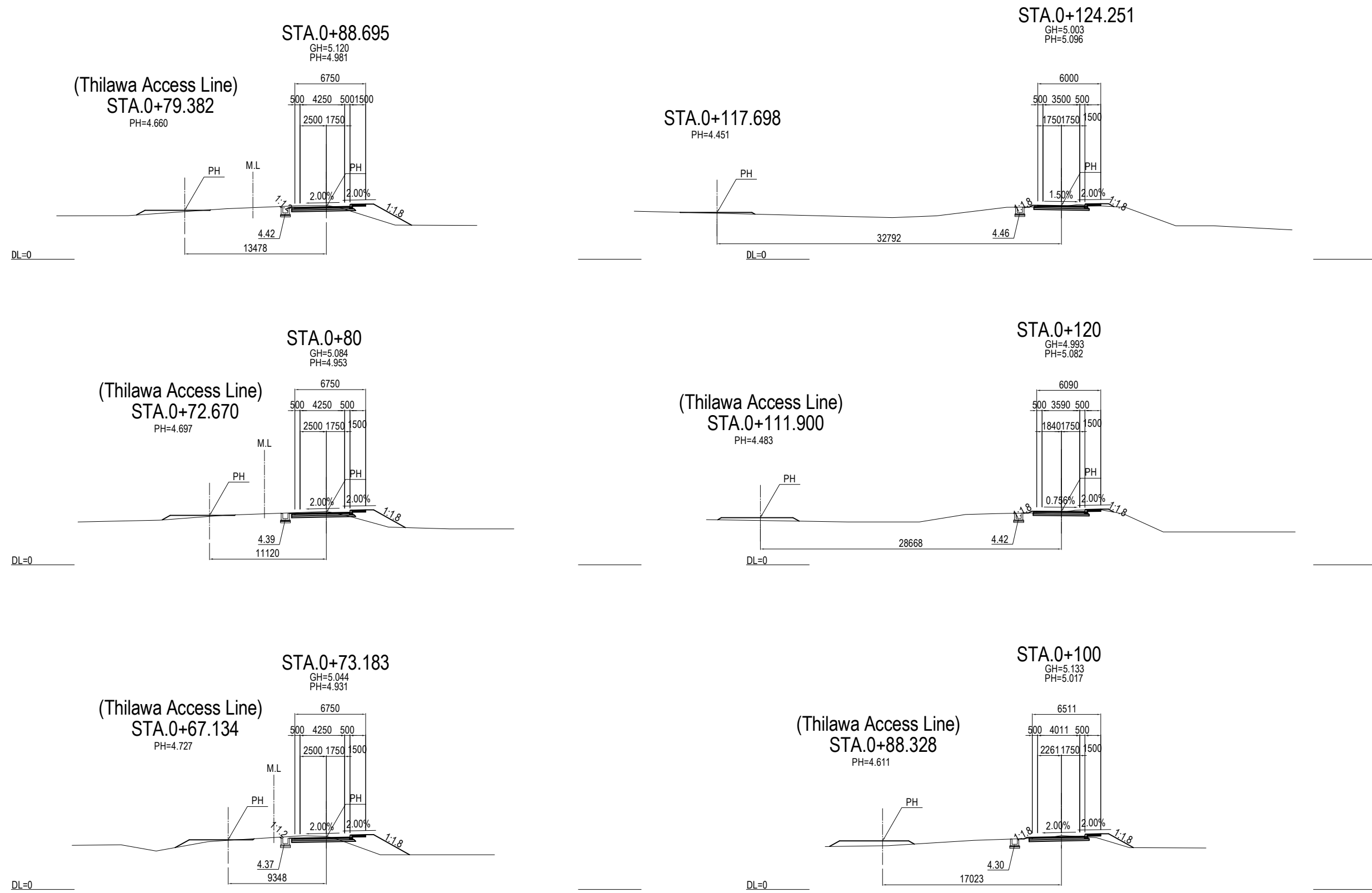
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION Thilawa Access Line(3)	PACKAGE	
				PREPARED BY	M. TOMITA			15 JUNE 2017	1
				CHECKED BY	T. HAYAKAWA			20 JUNE 2017	DWG No.
				APPROVED BY	Y. SANO			21 JUNE 2017	P1-RD-2090

# CROSS SECTION Yangon Access Line (1) S=1:400



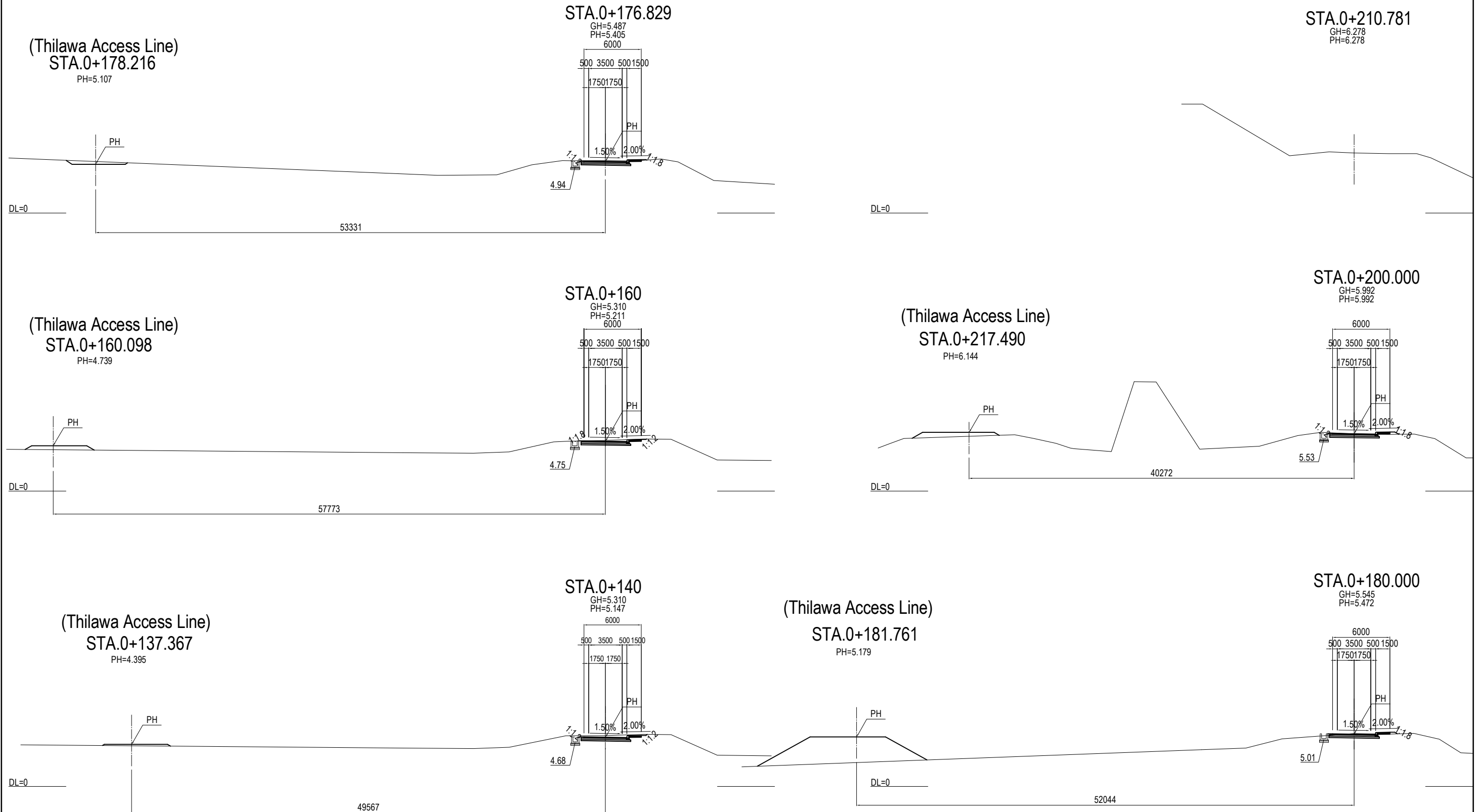
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.		NAME M. TOMITA T. HAYAKAWA Y. SANO	SIGNATURE   	DATE 15 JUNE 2017 20 JUNE 2017 21 JUNE 2017	DRAWING TITLE <b>CROSS SECTION Yangon Access Line (1)</b>	PACKAGE 1 DWG No. P1-RD-2100
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# CROSS SECTION Yangon Access Line (2) S=1:400



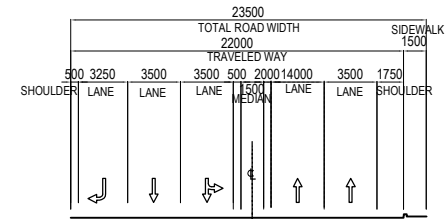
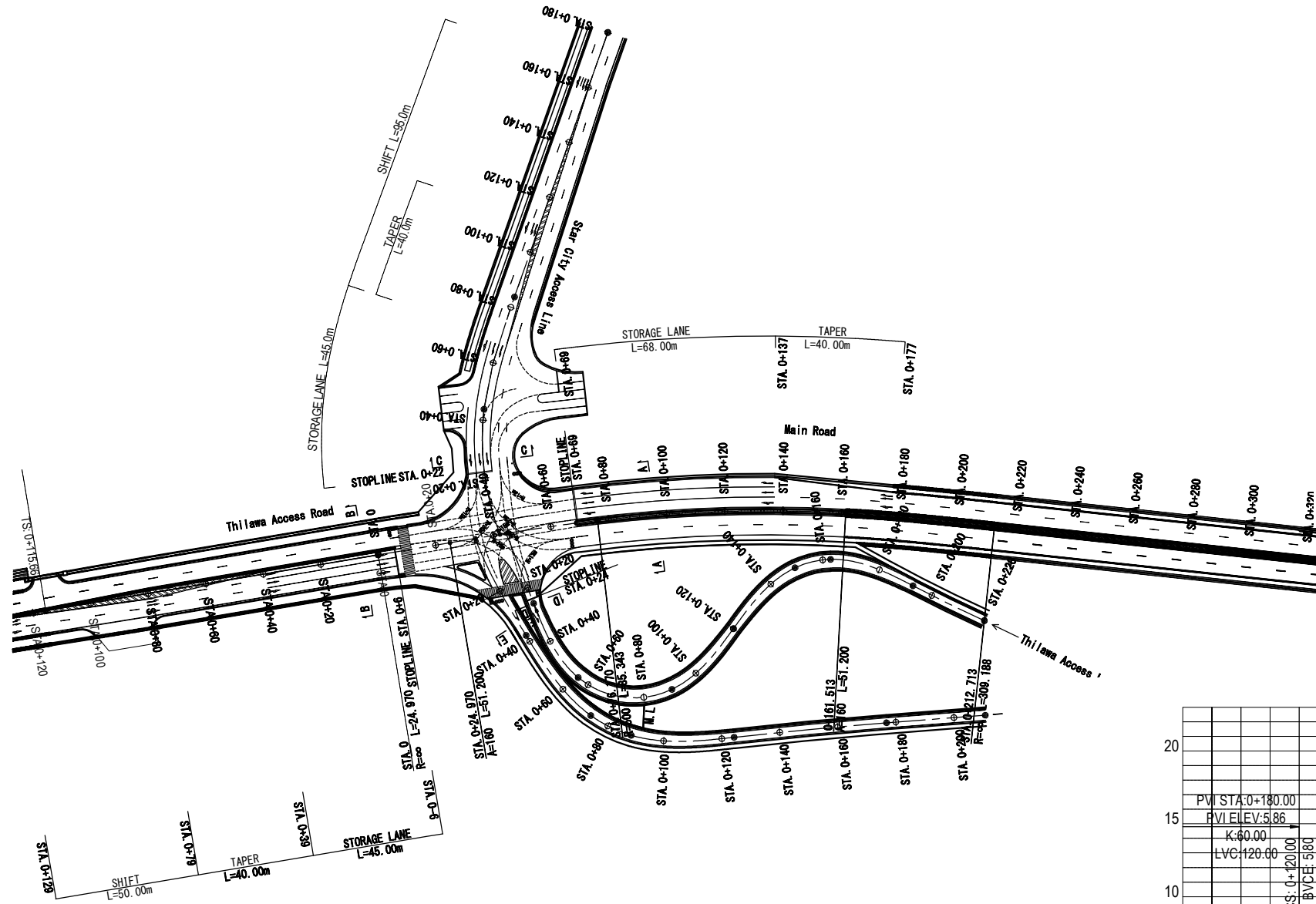
<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 20%;">NAME</th> <th style="width: 20%;">SIGNATURE</th> <th style="width: 20%;">DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY</td> <td>M. TOMITA</td> <td></td> <td>15 JUNE 2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>20 JUNE 2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>21 JUNE 2017</td> </tr> </tbody> </table>		NAME	SIGNATURE	DATE	PREPARED BY	M. TOMITA		15 JUNE 2017	CHECKED BY	T. HAYAKAWA		20 JUNE 2017	APPROVED BY	Y. SANO		21 JUNE 2017	<small>DRAWING TITLE</small> CROSS SECTION Yangon Access Line (2)	<small>PACKAGE</small> 1 <small>DWG No.</small> P1-RD-2110
	NAME	SIGNATURE	DATE																			
PREPARED BY	M. TOMITA		15 JUNE 2017																			
CHECKED BY	T. HAYAKAWA		20 JUNE 2017																			
APPROVED BY	Y. SANO		21 JUNE 2017																			

# CROSS SECTION Yangon Access Line (3) S=1:400



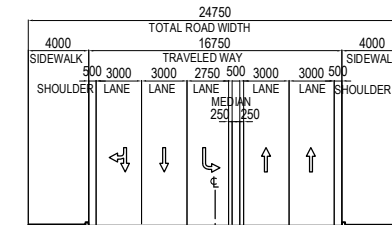
<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">NAME</th> <th style="text-align: left;">SIGNATURE</th> <th style="text-align: left;">DATE</th> </tr> <tr> <td>PREPARED BY M. TOMITA</td> <td></td> <td>15 JUNE 2017</td> </tr> <tr> <td>CHECKED BY T. HAYAKAWA</td> <td></td> <td>20 JUNE 2017</td> </tr> <tr> <td>APPROVED BY Y. SANO</td> <td></td> <td>21 JUNE 2017</td> </tr> </table>	NAME	SIGNATURE	DATE	PREPARED BY M. TOMITA		15 JUNE 2017	CHECKED BY T. HAYAKAWA		20 JUNE 2017	APPROVED BY Y. SANO		21 JUNE 2017	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">DRAWING TITLE</th> <th style="text-align: left;">PACKAGE</th> </tr> <tr> <td style="text-align: center;">CROSS SECTION Yangon Access Line (3)</td> <td style="text-align: center;">1</td> </tr> <tr> <td></td> <td style="text-align: center;">DWG No.</td> </tr> <tr> <td></td> <td style="text-align: center;">P1-RD-2120</td> </tr> </table>	DRAWING TITLE	PACKAGE	CROSS SECTION Yangon Access Line (3)	1		DWG No.		P1-RD-2120
NAME	SIGNATURE	DATE																							
PREPARED BY M. TOMITA		15 JUNE 2017																							
CHECKED BY T. HAYAKAWA		20 JUNE 2017																							
APPROVED BY Y. SANO		21 JUNE 2017																							
DRAWING TITLE	PACKAGE																								
CROSS SECTION Yangon Access Line (3)	1																								
	DWG No.																								
	P1-RD-2120																								

# INTERSECTION PLAN , PLOFILE AND SECTION (STA.0+040) S=1:2000



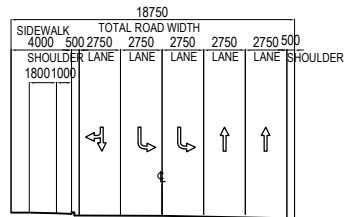
SECTION OF A-A

S=1:400

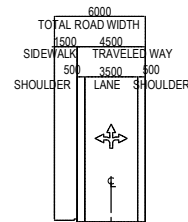


SECTION OF B-B

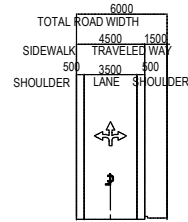
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C-C



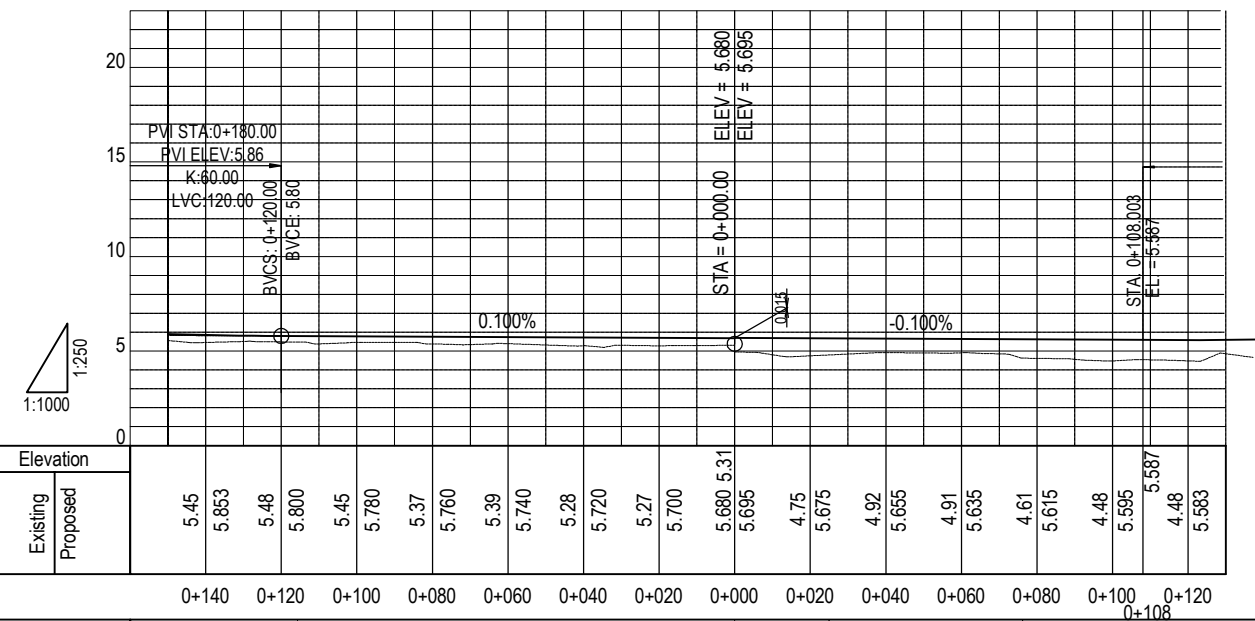
D-D



E-E

SECTION OF SUBROAD

S=1:400



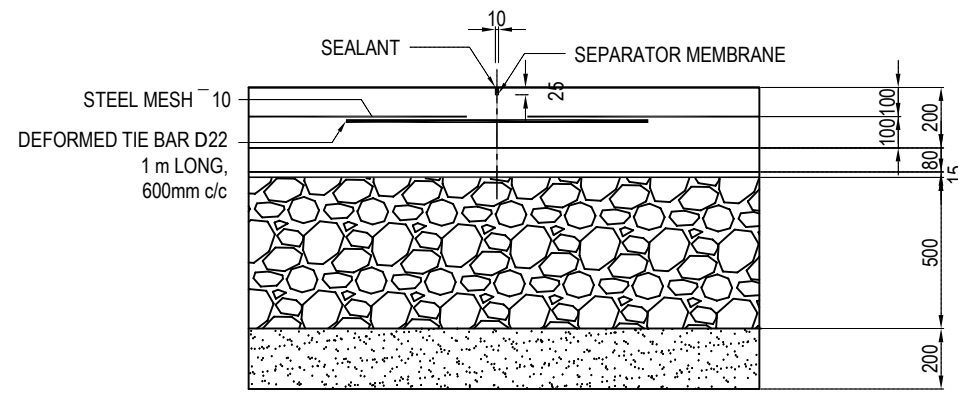
Elevation															
Existing	Proposed	0+140	0+120	0+100	0+080	0+060	0+040	0+020	0+000	0+020	0+040	0+060	0+080	0+100	0+120
		5.45	5.853	5.48	5.800	5.45	5.780	5.37	5.760	5.39	5.740	5.28	5.720	5.27	5.700
									5.680	5.31	5.695	4.75	5.675	4.92	5.665
												4.91	5.635	4.61	5.615
												4.48	5.595	4.48	5.587
												4.48	5.587	4.48	5.583

Horizontal Geometry	A=125m L=60.10m		R=∞ L=115.66m		R=∞ L=24.970m		A=160.000 L=51.200m		R=500.000m L=85.343m	
Superelevation	0+144.75	0+126.52	-2.000%		0-021.000		0+088.450	0+077.250	+4.000%	
			-4.000%		-4.000%				+4.000%	

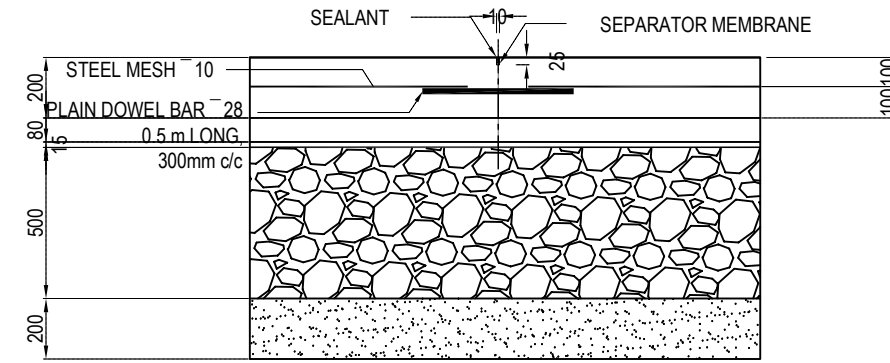


# DETAIL OF CONCRETE PAVEMENT (2)

S=1:1000

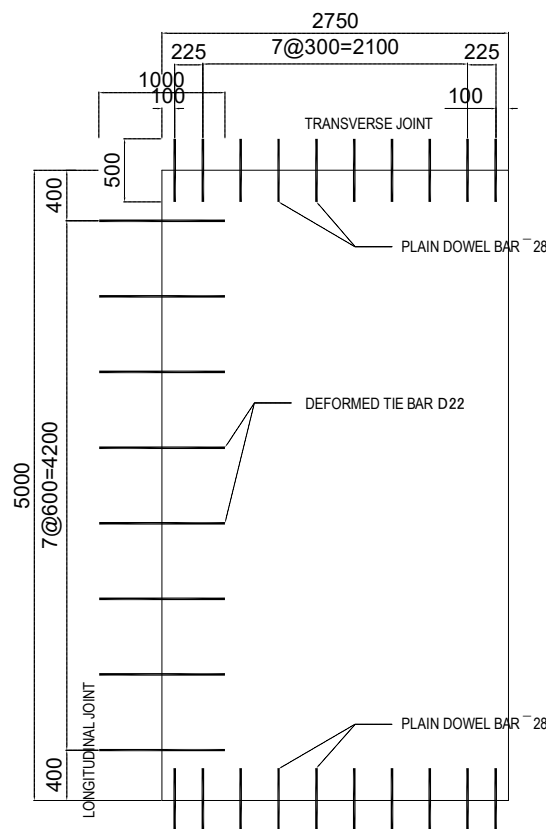


RC Pavement G-30 (t=200mm)  
Lean Concrete 1:3:6 (t=80mm)  
PLASTIC SHEET  
Hard Core with Sand (t=500mm)  
Sand Compacted (t=200mm)

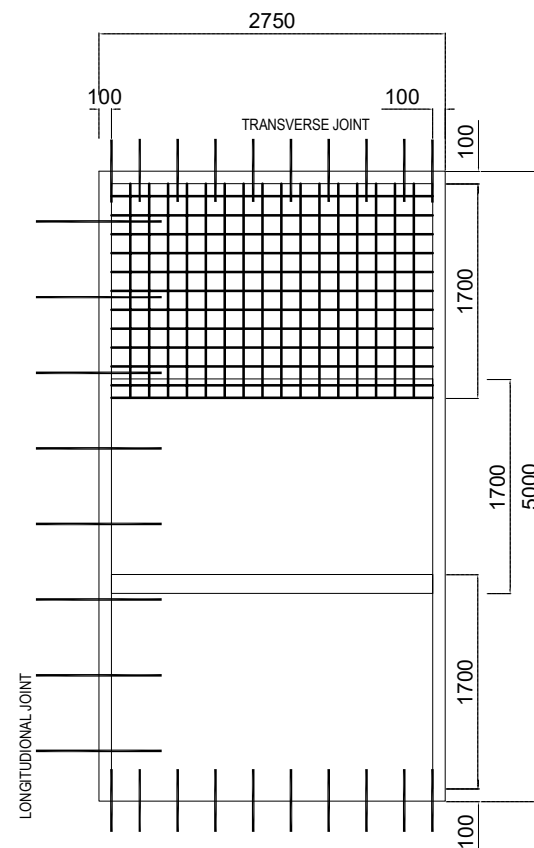


SECTION OF LONGITUDINAL JOINT S = 1:20

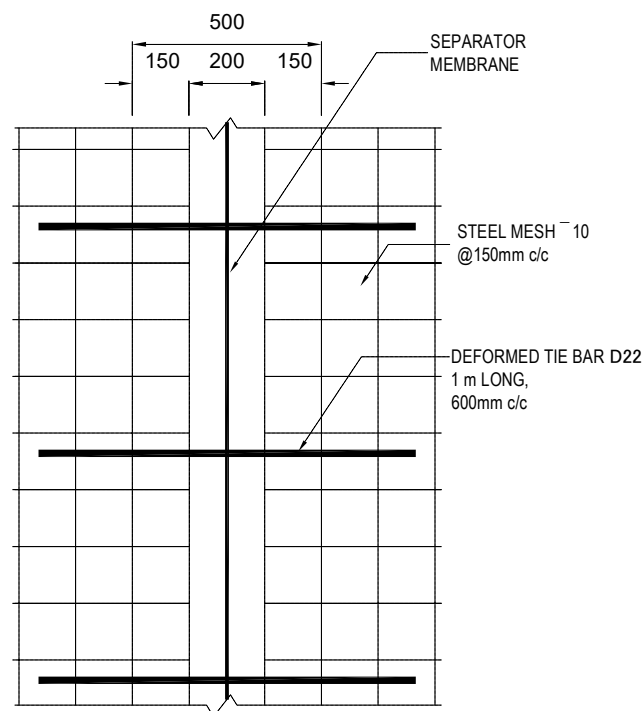
SECTION OF TRANSVERSE JOINT S = 1:20



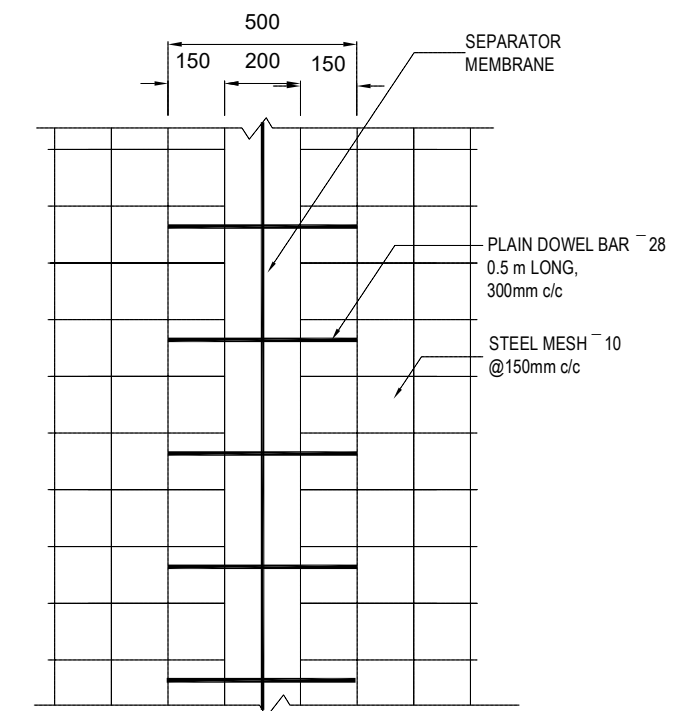
JOINT ARRANGEMENT S = 1:50



STEEL MESH ARRANGEMENT S = 1:50



PLAN VIEW OF LONGITUDINAL JOINT S = 1:20

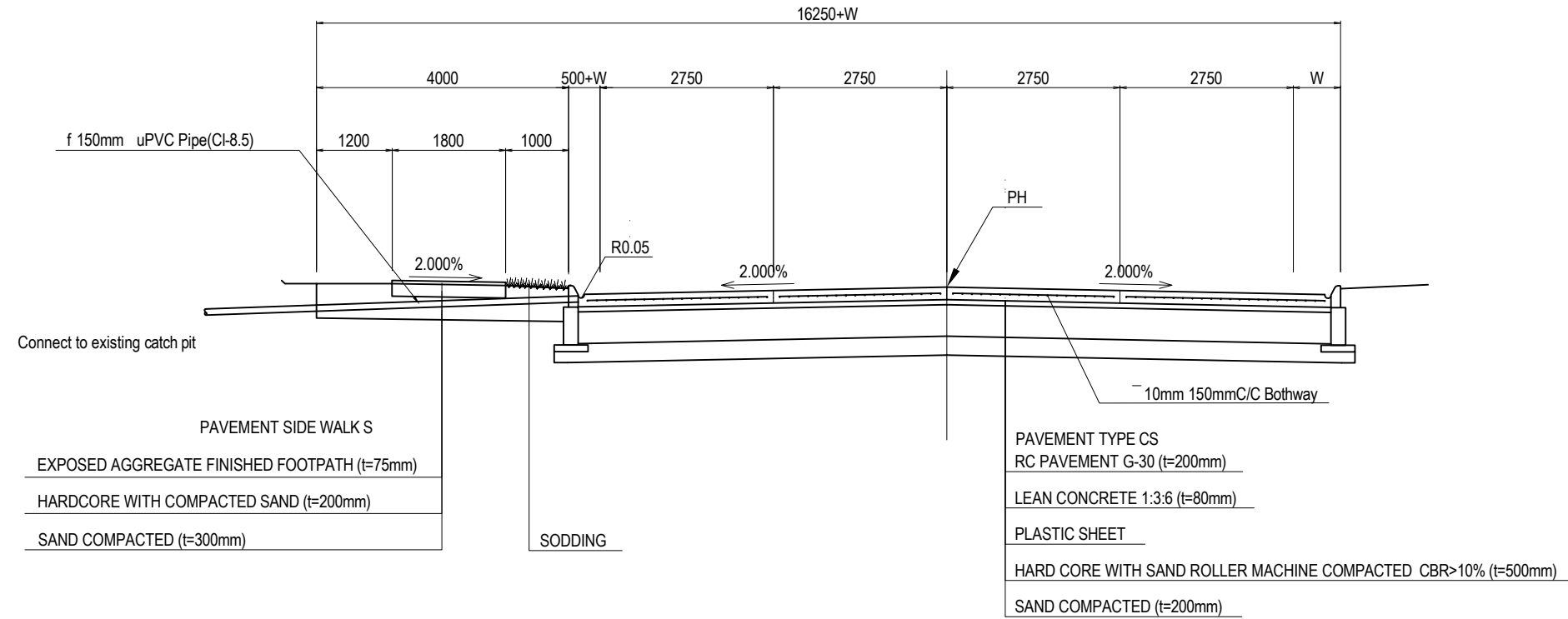


PLAN VIEW OF TRANSVERSE JOINT S = 1:20

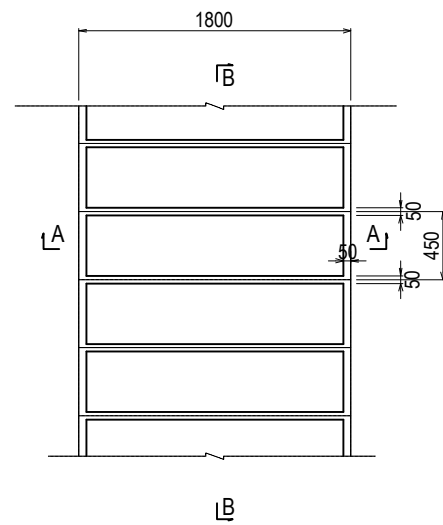
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DETAIL OF CONCRETE PAVEMENT (2)	PACKAGE	
				PREPARED BY	M. TOMITA			15 JUNE 2017	1
				CHECKED BY	T. HAYAKAWA			20 JUNE 2017	DWG No.
				APPROVED BY	Y. SANO			21 JUNE 2017	P1-RD-2150

# DETAIL OF CONCRETE PAVEMENT (1)

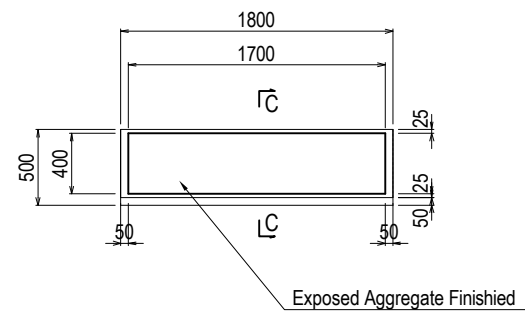
S=1:1000



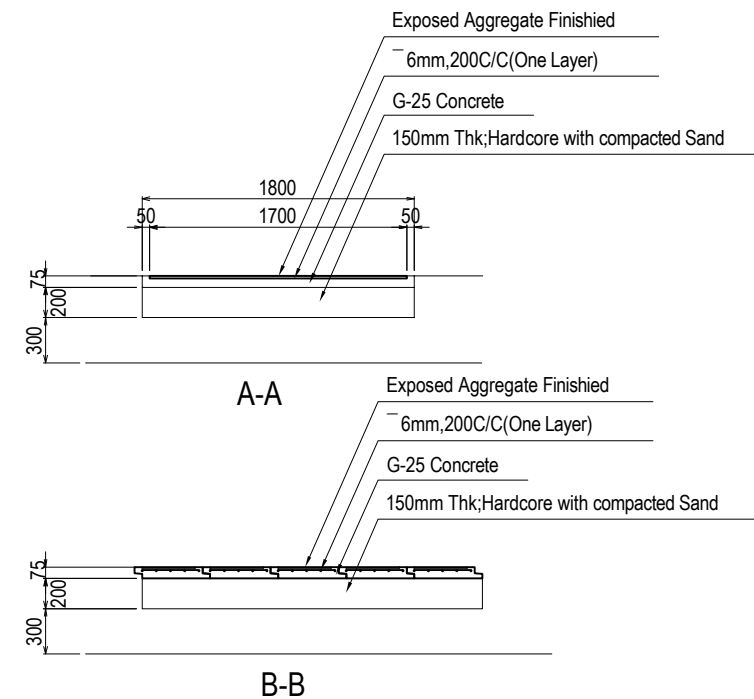
Connection Road Section



Exposed Aggregate Finished Footpath Plan



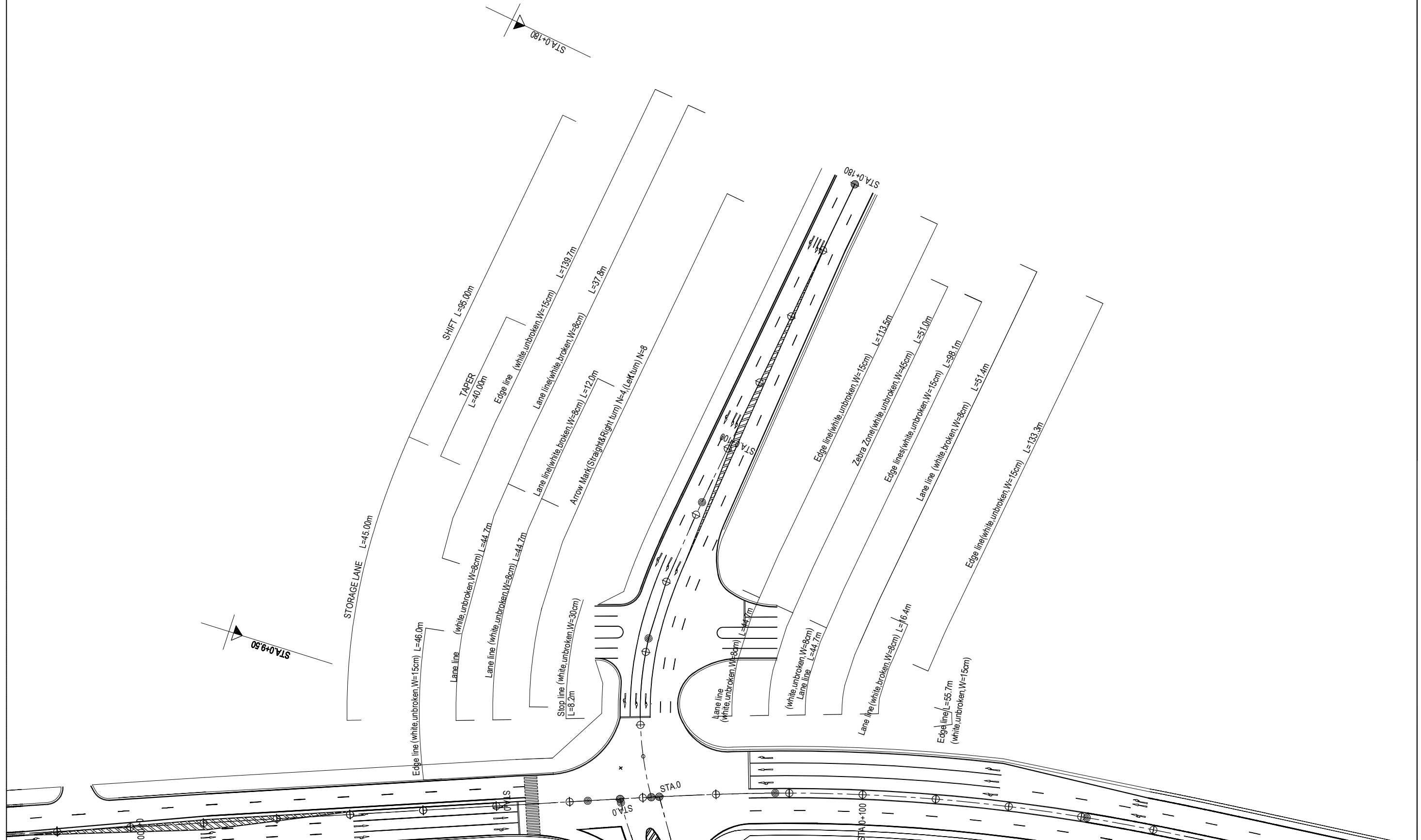
Detail Plan



Exposed Aggregate Finished Footpath Plan and Section Detail

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE			
				PREPARED BY	M. TOMITA				15 JUNE 2017	DETAIL OF CONCRETE PAVEMENT (1)	1
				CHECKED BY	T. HAYAKAWA				20 JUNE 2017		DWG No.
				APPROVED BY	Y. SANO				21 JUNE 2017		P1-RD-2140

# ROAD MARKINGS PLAN (1) Star City Access Line S=1:1000



PROJECT NAME  
 DETAILED DESIGN ON  
 BAGO RIVER BRIDGE  
 CONSTRUCTION PROJECT

FINANCED BY  
 JAPAN INTERNATIONAL  
 COOPERATION AGENCY

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

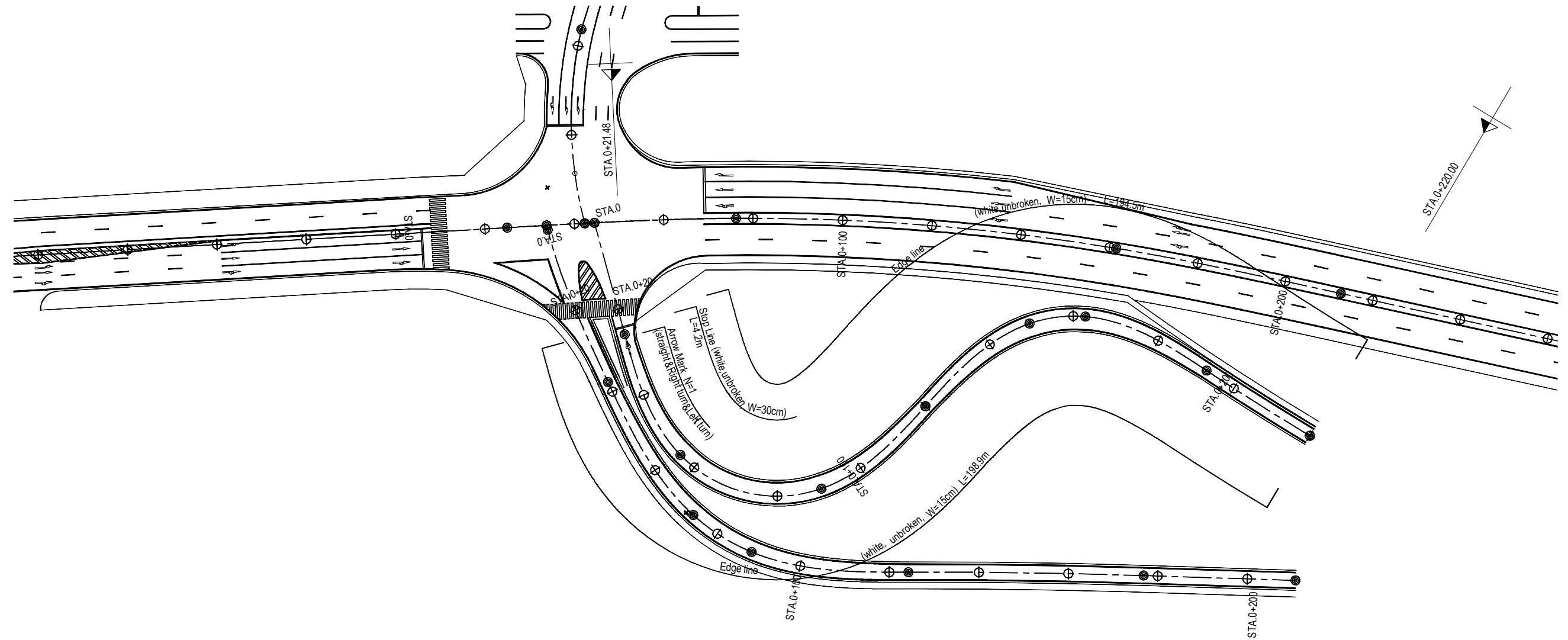
JICA STUDY TEAM  
 NIPPON KOEI CO., LTD.  
 ORIENTAL CONSULTANTS GLOBAL CO., LTD.  
 METROPOLITAN EXPRESSWAY COMPANY LIMITED  
 CHODAI CO., LTD.  
 NIPPON ENGINEERING CONSULTANTS CO., LTD.

	NAME	SIGNATURE	DATE
PREPARED BY	M. TOMITA		15 JUNE 2017
CHECKED BY	T. HAYAKAWA		20 JUNE 2017
APPROVED BY	Y. SANO		21 JUNE 2017

DRAWING TITLE  
 ROAD MARKINGS PLAN (1) Star City Access Line


PACKAGE  
 1  
 DWG No.  
 P1-RD-2160

# ROAD MARKINGS PLAN (2) Thilawa Access Line S=1:1000





PROJECT NAME  
 DETAILED DESIGN ON  
 BAGO RIVER BRIDGE  
 CONSTRUCTION PROJECT

FINANCED BY  
 JAPAN INTERNATIONAL  
 COOPERATION AGENCY

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

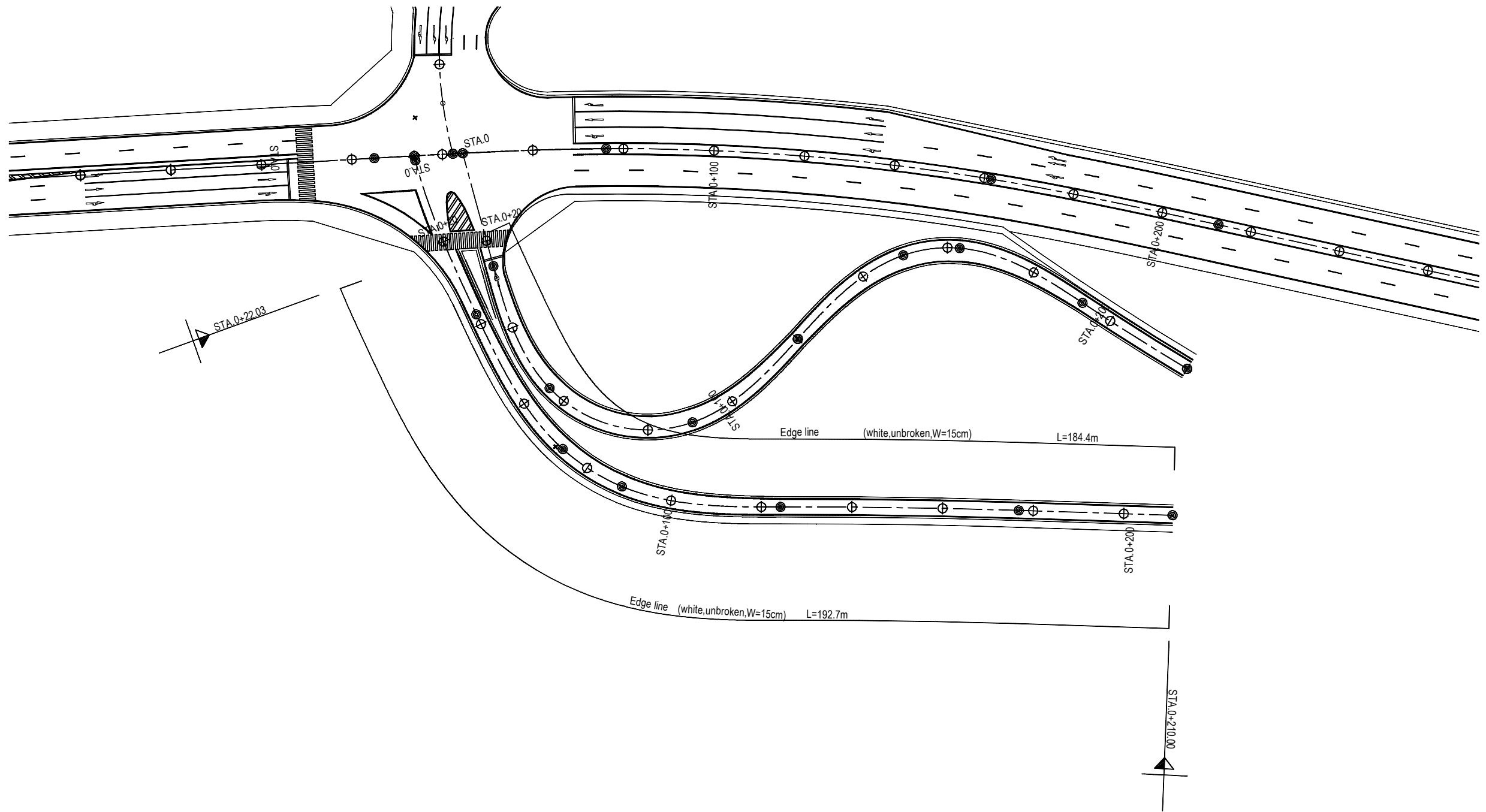
JICA STUDY TEAM  
 NIPPON KOEI CO., LTD.  
 ORIENTAL CONSULTANTS GLOBAL CO., LTD.  
 METROPOLITAN EXPRESSWAY COMPANY LIMITED  
 CHODAI CO., LTD.  
 NIPPON ENGINEERING CONSULTANTS CO., LTD.

	NAME	SIGNATURE	DATE
PREPARED BY	M. TOMITA		15 JUNE 2017
CHECKED BY	T. HAYAKAWA		20 JUNE 2017
APPROVED BY	Y. SANO		21 JUNE 2017

DRAWING TITLE  
 ROAD MARKINGS PLAN (2) Thilawa Access Line


PACKAGE  
 1  
 DWG No.  
 P1-RD-2170

# ROAD MARKINGS PLAN (3) Yangon Access Line S=1:1000





PROJECT NAME  
 DETAILED DESIGN ON  
 BAGO RIVER BRIDGE  
 CONSTRUCTION PROJECT

FINANCED BY  
 JAPAN INTERNATIONAL  
 COOPERATION AGENCY

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

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

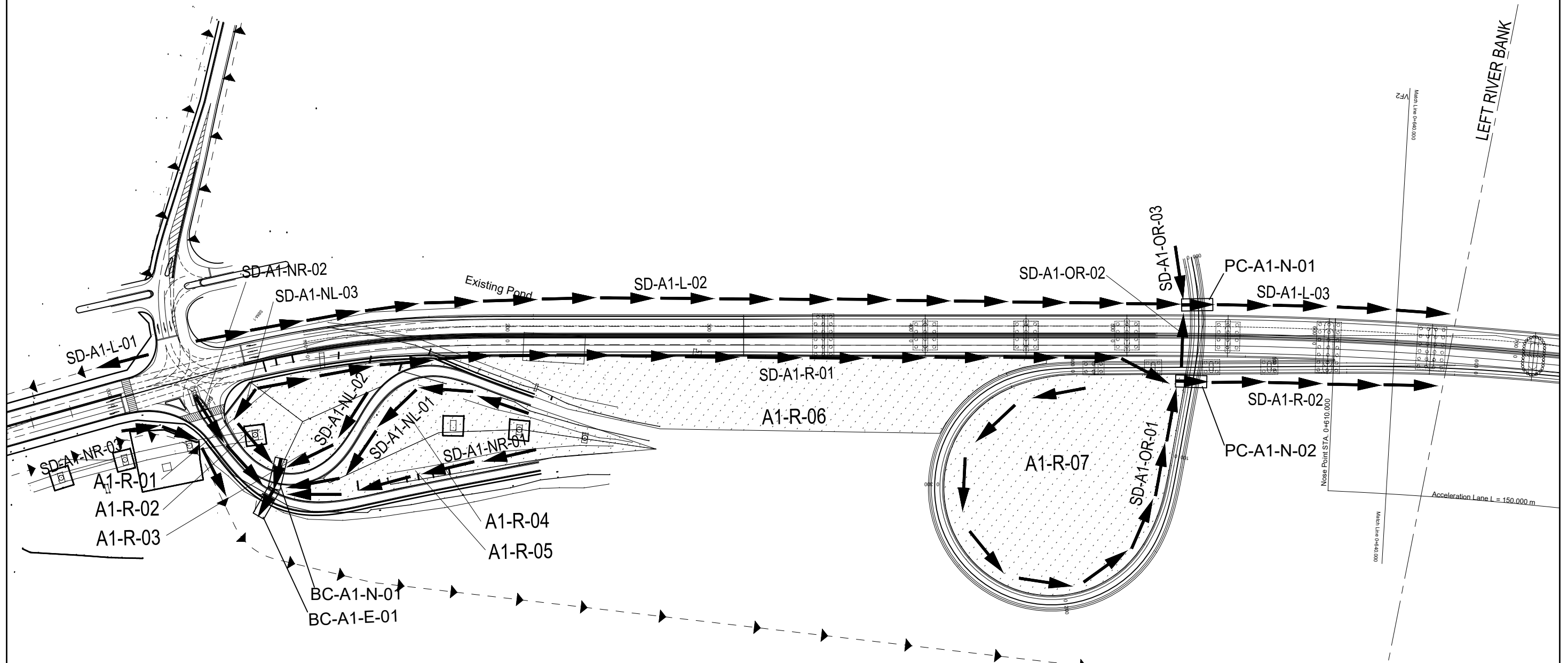
	NAME	SIGNATURE	DATE
PREPARED BY	M. TOMITA		15 JUNE 2017
CHECKED BY	T. HAYAKAWA		20 JUNE 2017
APPROVED BY	Y. SANO		21 JUNE 2017



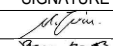
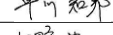
DRAWING TITLE  
 ROAD MARKINGS PLAN (3) Yangon Access Line

PACKAGE  
 1  
 DWG No.  
 P1-RD-2180

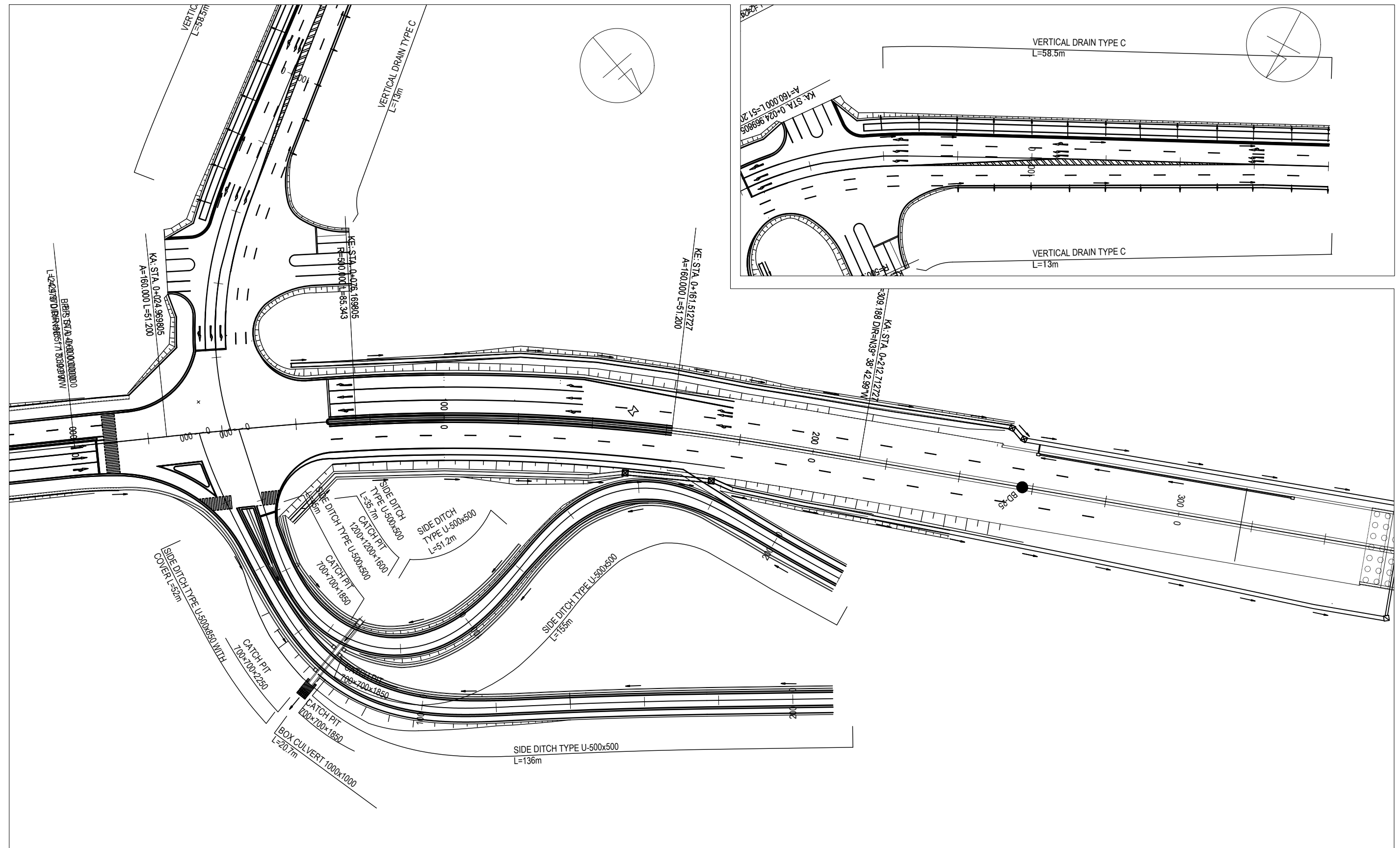
# DRAINAGE SYSTEM PLAN AND OUTLETS (LEFT RIVER BANK)

S= 1:2000



PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY  JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART  REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM  NIPPON KOEI CO., LTD.  ORIENTAL CONSULTANTS GLOBAL CO., LTD.  METROPOLITAN EXPRESSWAY COMPANY LIMITED  CHODAI CO., LTD.  NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DRAINAGE SYSTEM PLANS (LEFT RIVER BANK) S= 1:2000	PACKAGE	
				PREPARED BY	EMYORIDA			15 Jun. 2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun. 2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun. 2017	P1-RD-3000

# DRAINAGE SYSTEM PLAN (1) S= 1:1000



PROJECT NAME  
 DETAILED DESIGN ON  
 BAGO RIVER BRIDGE  
 CONSTRUCTION PROJECT

FINANCED BY  
 JAPAN INTERNATIONAL  
 COOPERATION AGENCY

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

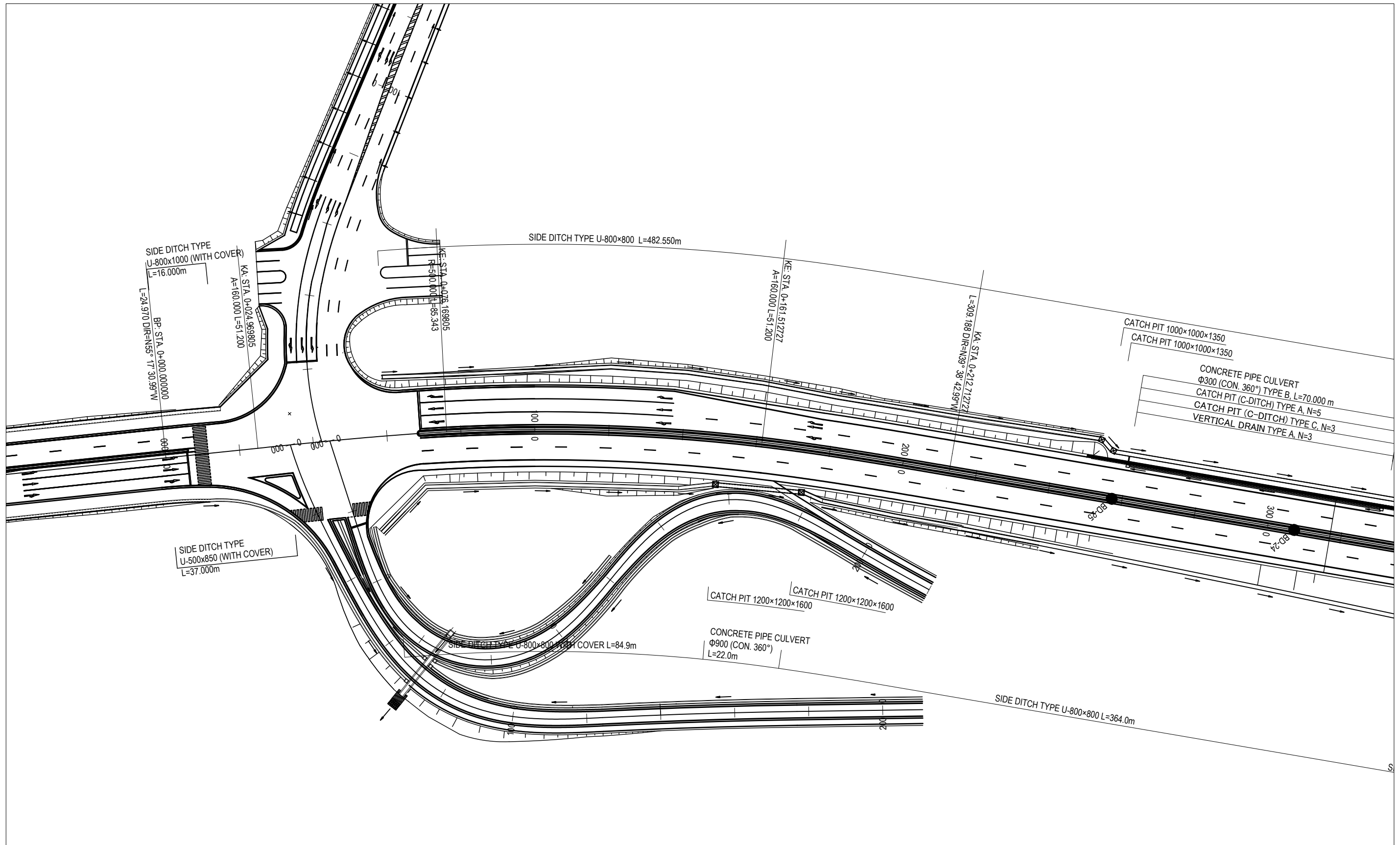
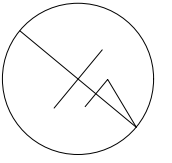
JICA STUDY TEAM  
 NIPPON KOEI CO., LTD.  
 ORIENTAL CONSULTANTS GLOBAL CO., LTD.  
 METROPOLITAN EXPRESSWAY COMPANY LIMITED  
 CHODAI CO., LTD.  
 NIPPON ENGINEERING CONSULTANTS CO., LTD.

	NAME	SIGNATURE	DATE
PREPARED BY	M. TORIU		15 Jun. 2017
CHECKED BY	T. HAYAKAWA		20 Jun. 2017
APPROVED BY	Y. SANO		21 Jun. 2017

DRAWING TITLE  
 DRAINAGE SYSTEM PLAN(1)  
 S=1:1000

PACKAGE  
 1  
 DWG No.  
 P1-RD-3010

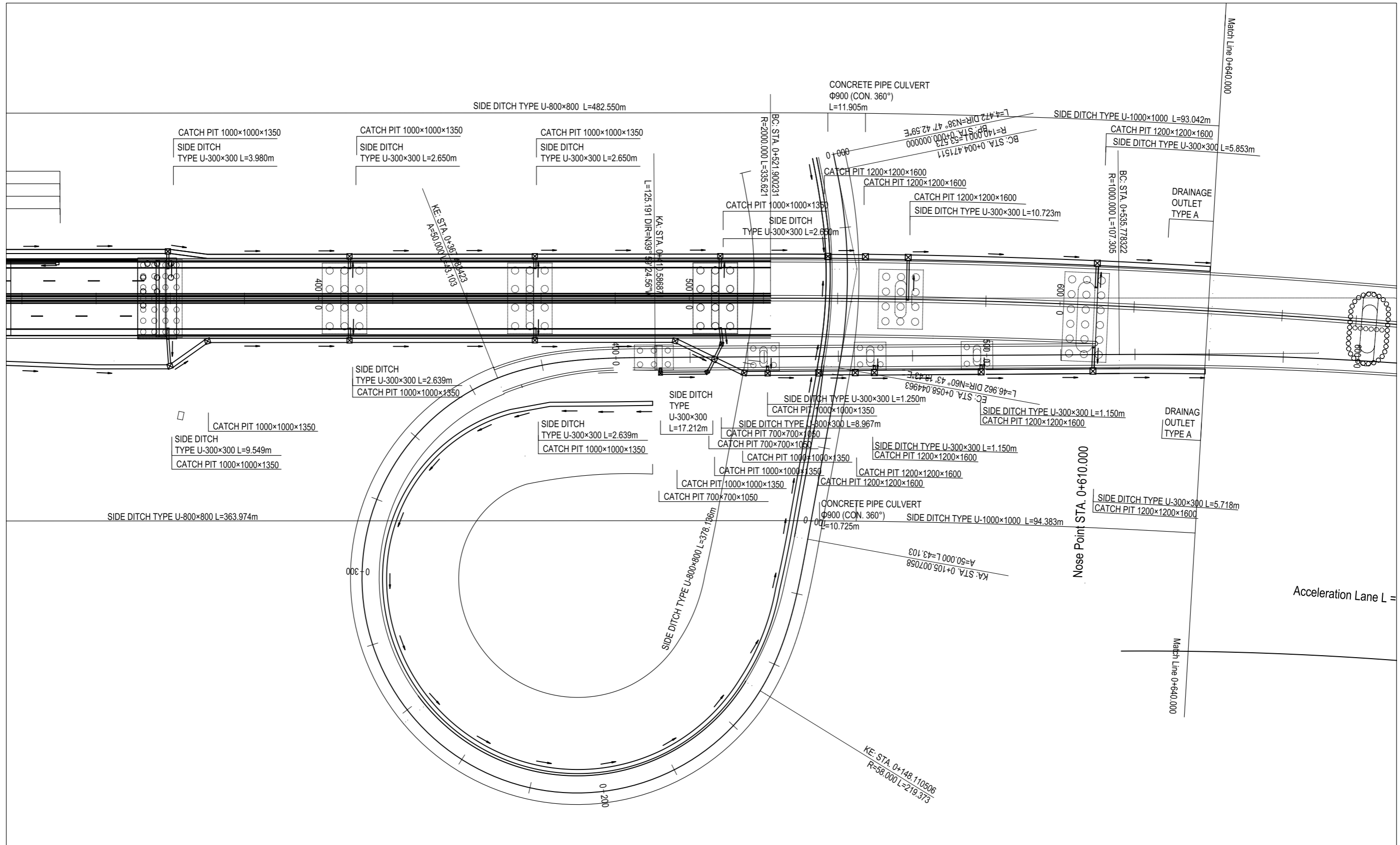
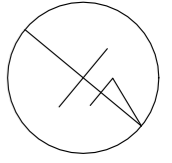
# DRAINAGE SYSTEM PLAN (2) S= 1:1000



PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DRAINAGE SYSTEM PLAN(2) S=1:1000	PACKAGE 1 DWG No. P1-RD-3011	
				PREPARED BY	M. TORIU				15 Jun. 2017
				CHECKED BY	T. HAYAKAWA				20 Jun. 2017
				APPROVED BY	Y. SANO				21 Jun. 2017



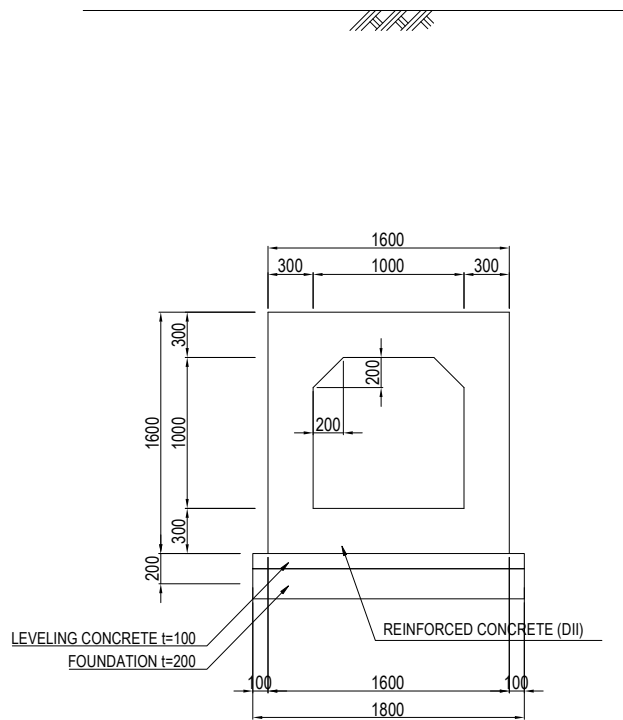
# DRAINAGE SYSTEM PLAN (3) S= 1:1000



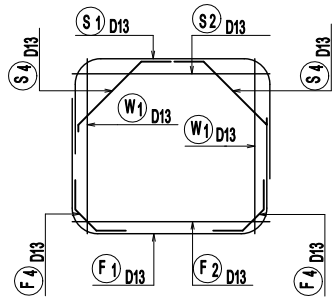
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DRAINAGE SYSTEM PLAN(3) S=1:1000	PACKAGE	
				PREPARED BY	M. TORIU			15 Jun. 2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun. 2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun. 2017	P1-RD-3012

# DETAIL OF BOX CULVERT (1) BAR ARRANGEMENT OF BOX CULVERT S=1:50

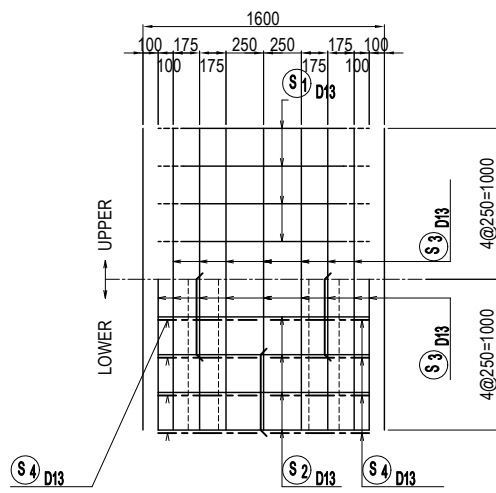
GENERAL DRAWING S=1:50



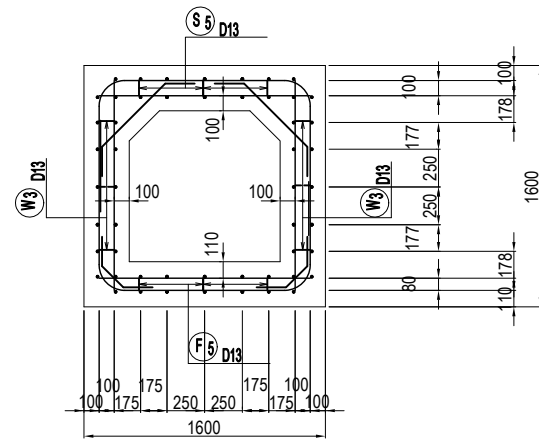
ERECTION DIAGRAM OF MAIN REINFORCEMENT



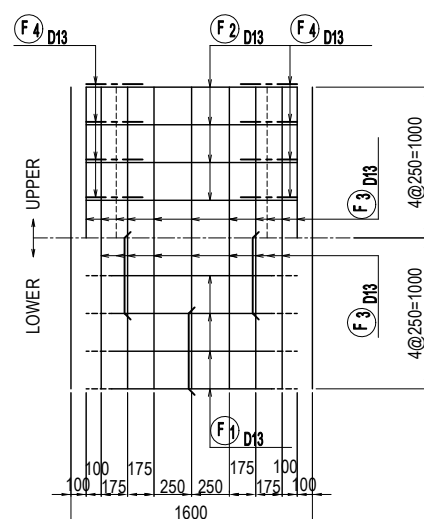
TOP SLAB



SECTION S=1:50



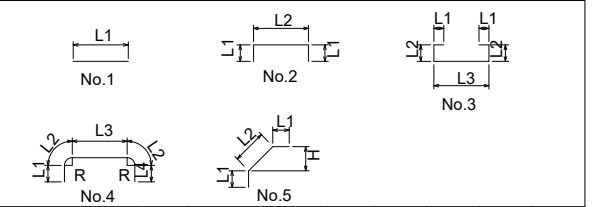
BOTTOM SLAB



DESIGN CRITERIA

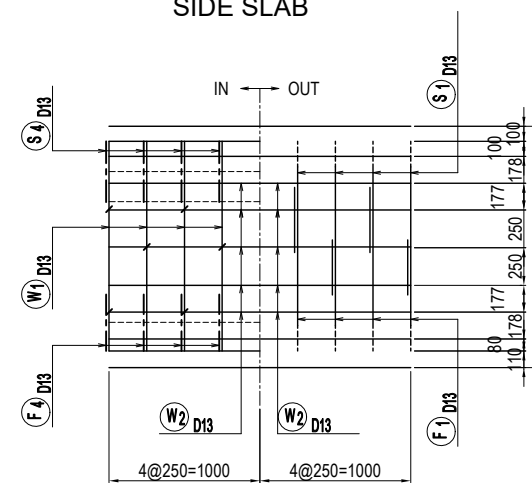
INSIDE DIMENSION		WIDTH	1.00 m
		HEIGHT	1.00 m
LIVE LOAD		T-TYPE LIVE LOAD	
UNIT WEIGHT	REINFORCED CONCRETE	24.5 kN/m <sup>3</sup>	
	SOIL	18 kN/m <sup>3</sup>	
CONCRETE DESIGN STRENGTH		24 N/mm <sup>2</sup>	
ALLOWABLE STRESS			
COMPRESSIVE STRESS DUE TO BENDING		8 N/mm <sup>2</sup>	
SHEARING STRESS		0.39 N/mm <sup>2</sup>	
TENSILE STRESS (SD345)		160 N/mm <sup>2</sup>	
COEFFICIENT OF EARTH PRESSURE		0.5	
IMPACT COEFFICIENT		-	
SEISMIC COEFFICIENT		-	
ANGLE OF SKEW		90°00'00"	
RADIUS OF CURVATURE		R=∞	
GRADIENT OF BOX CULVERT		i=0.500%	

(PER 1m)



MARK	No.	SEC.	EACH	LENGTH (mm)	L 1 (mm)	L 2 (mm)	L 3 (mm)	L 4 (mm)	H (mm)	R (mm)
S 1	4	D13	4	3080	600	220	1120	920		140
S 2	1	D13	4	1400	1400					
S 3	1	D13	16	1000	1000					
S 4	5	D13	8	1040	195	649			459	
S 5	3	D13	3	980		126				
W 1	1	D13	8	1390	1390					
W 2	1	D13	20	1000	1000					
W 3	2	D13	12	360		152				
F 1	4	D13	4	3080	600	220	1120	920		140
F 2	1	D13	4	1400	1400					
F 3	1	D13	16	1000	1000					
F 4	5	D13	8	650	195	255			180	
F 5	3	D13	3	940		106				

SIDE SLAB



LIST OF REINFORCEMENT

(PER 1m)

MARK	SEC.	LENGTH (mm)	EACH	WEIGHT (kg/m)	WEIGHT/one (kg)	WEIGHT (kg)	REMARKS
S 1	D13	3080	4	0.995	3.065	12.260	
S 2	D13	1400	4	0.995	1.393	5.572	
S 3	D13	1000	16	0.995	0.995	15.920	
S 4	D13	1040	8	0.995	1.035	8.280	
S 5	D13	980	3	0.995	0.975	2.925	
W 1	D13	1390	8	0.995	1.383	11.064	
W 2	D13	1000	20	0.995	0.995	19.900	
W 3	D13	360	12	0.995	0.358	4.296	
F 1	D13	3080	4	0.995	3.065	12.260	
F 2	D13	1400	4	0.995	1.393	5.572	
F 3	D13	1000	16	0.995	0.995	15.920	
F 4	D13	650	8	0.995	0.647	5.176	
F 5	D13	940	3	0.995	0.935	2.805	

MATERIALS

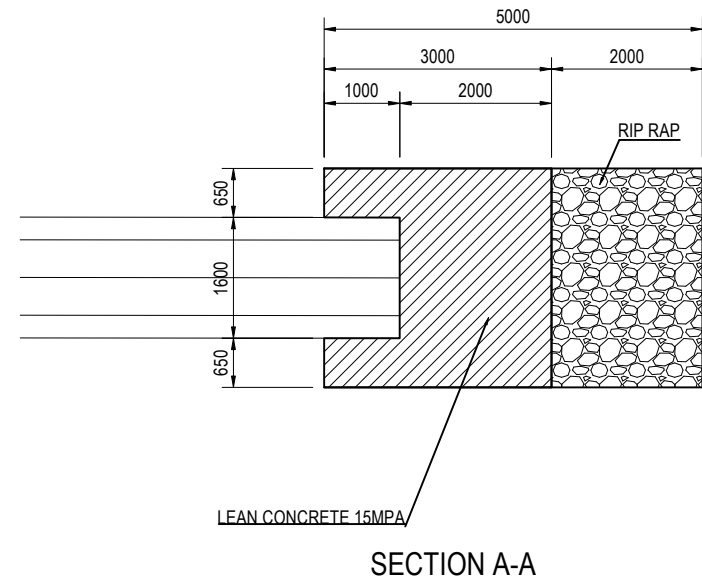
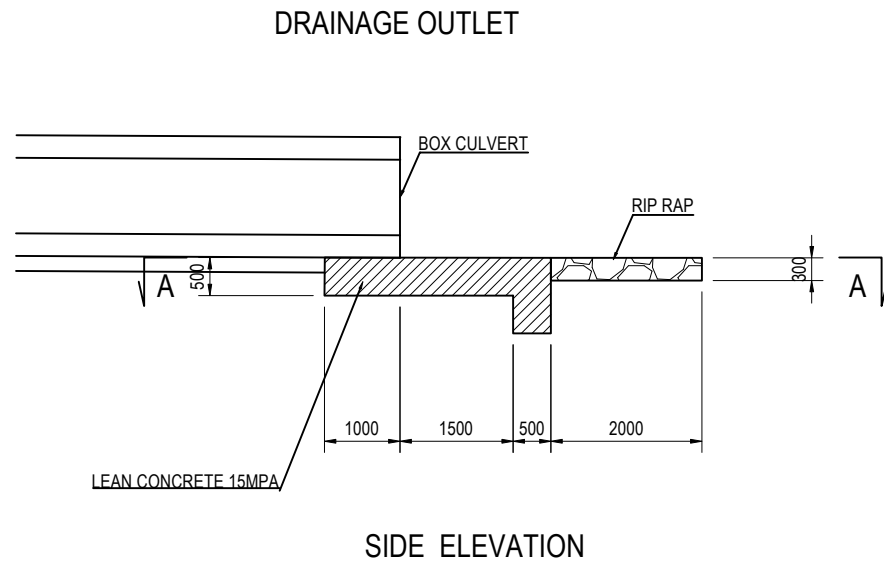
(PER 1m)

ITEM	UNIT	QUANTITY
CONCRETE (DII)		
TOP	m <sup>3</sup>	0.480
SIDE	m <sup>3</sup>	0.640
BOTTOM	m <sup>3</sup>	0.480
TOTAL	m <sup>3</sup>	1.600
FORM	m <sup>2</sup>	5.966
REINFORCING BAR		
D19	kg	0
D16	kg	0
D13	kg	121.950
TOTAL	kg	121.950
LEVELING CONCRETE (EI) t=100	m <sup>2</sup>	0.180
FOUNDATION t=200	m <sup>2</sup>	0.360

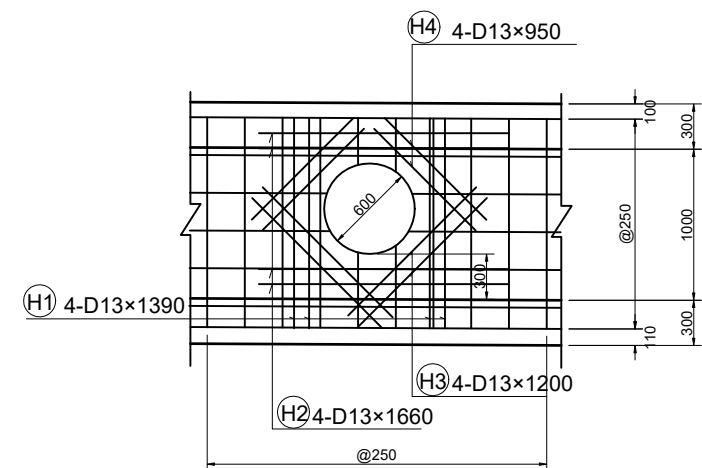
	D	a (mm)	b (mm)	c (mm)	R (mm)	L (mm)
	D13	66	164	230	42	410
	D16	75	195	270	48	500
	D19	94	236	330	60	600
	D22	104	266	370	66	690
	D25	122	308	430	78	790
	D29	141	349	490	90	910
	D32	151	389	540	96	1000

Note1: Size of Box Culvert and Bar Arrangement are based on Standard Drawing of Ministry of Land, Infrastructure, Transport and Tourism of Japan  
 Note2: Specification of Steel Reinforcement Bar shall comply with SD345 (JIS G3112) or equivalent

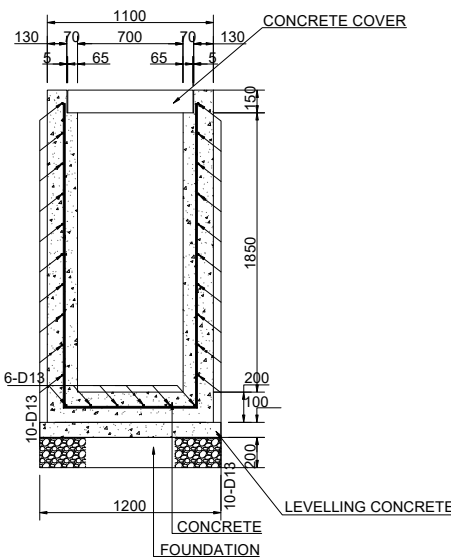
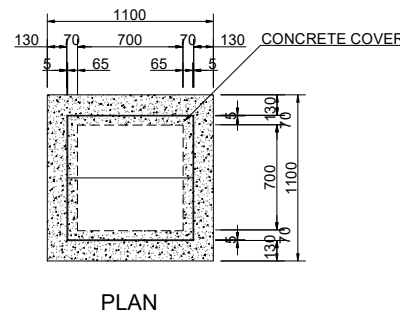
# DETAIL OF BOX CULVERT (2) FOR ROAD ACCESS



### DETAIL OF REINFORCEMENT REINFORCING ROD

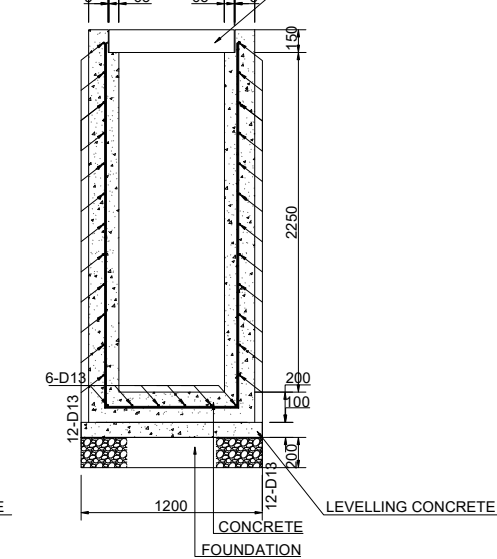
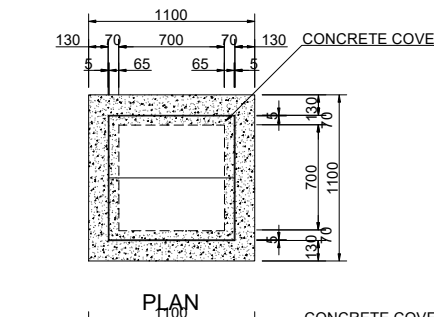


### CATCH PIT (700X700X1850)



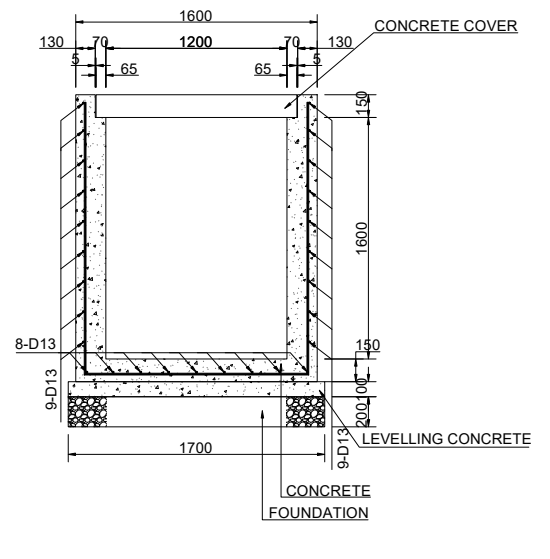
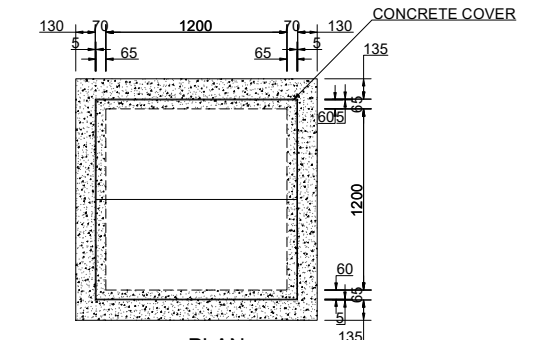
SECTION

### CATCH PIT (700X700X2250)

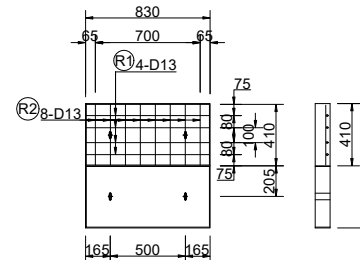
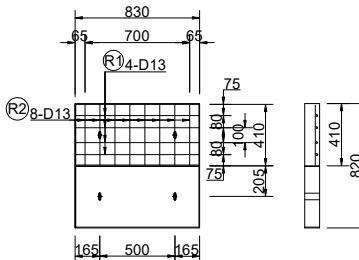


SECTION

### CATCH PIT (1200X1200X1600)

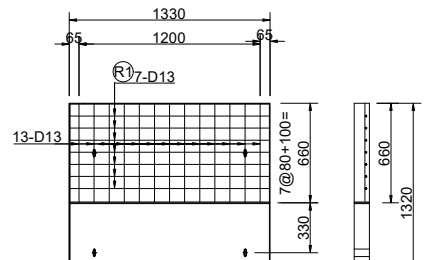


SECTION



COVER

COVER

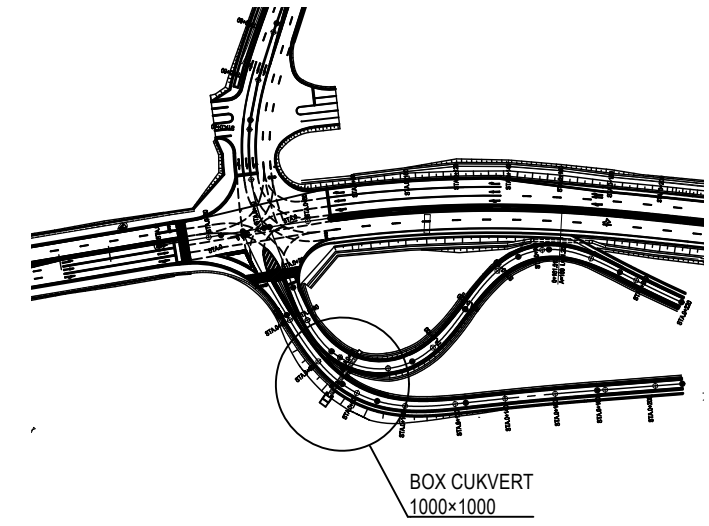
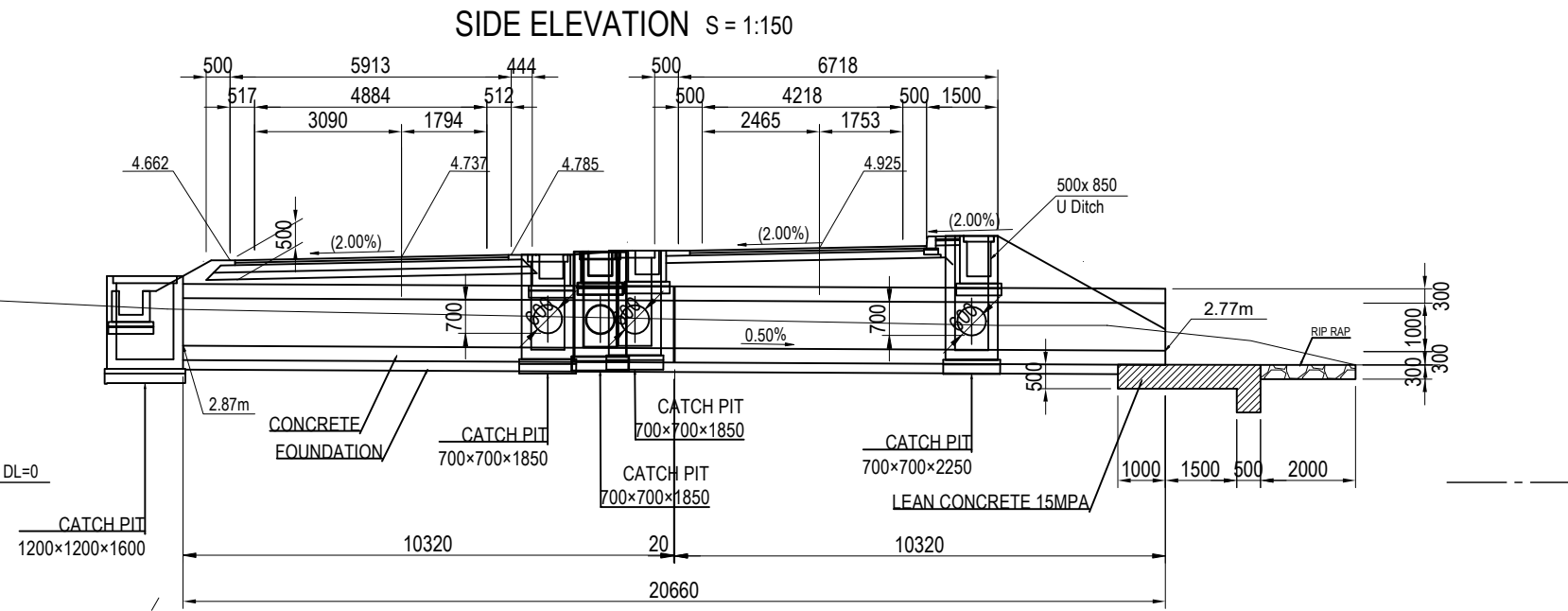


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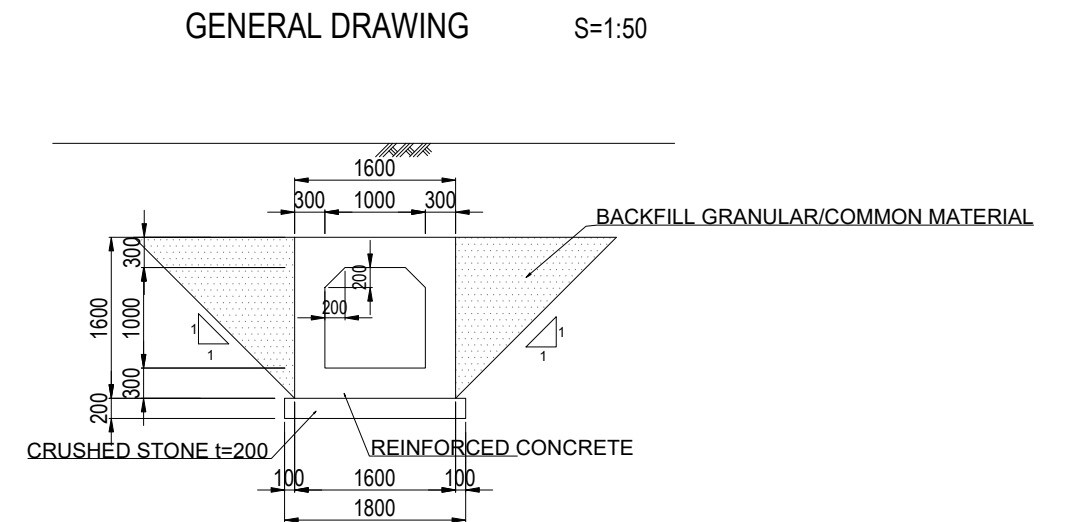
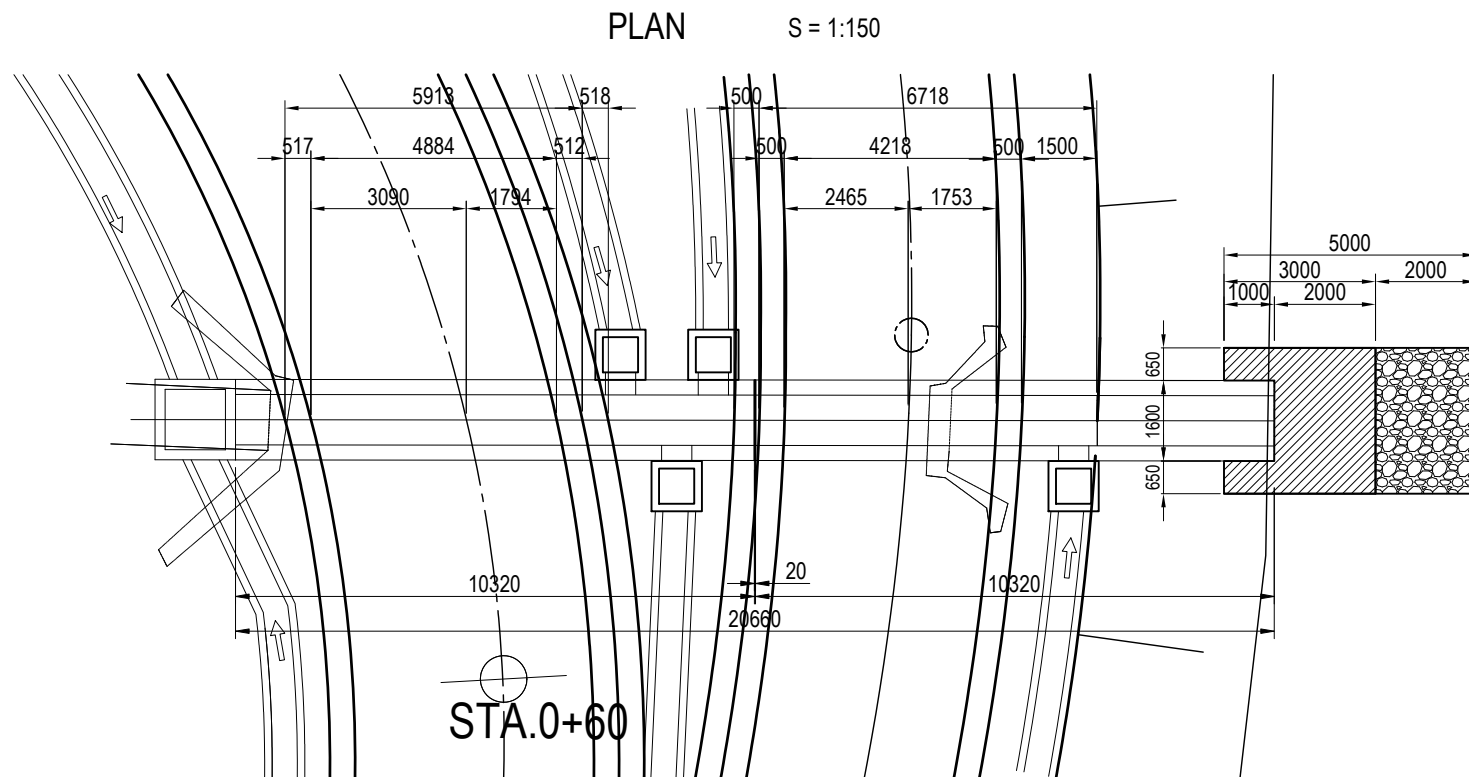
Note: 1. Concrete Class DII  
2. Leveling Concrete Class EI  
3. Steel Reinforcement SD345

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JICA JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DETAIL OF BOX CULVERT (2) FOR ROAD ACCESS	PACKAGE 1 DWG No. P1-RD-3021
				PREPARED BY	M. TORIU	15 Jun. 2017		
				CHECKED BY	T. HAYAKAWA	20 Jun. 2017		
				APPROVED BY	Y. SANO	21 Jun. 2017		

# GENERAL VIEW OF BOX CULVERT

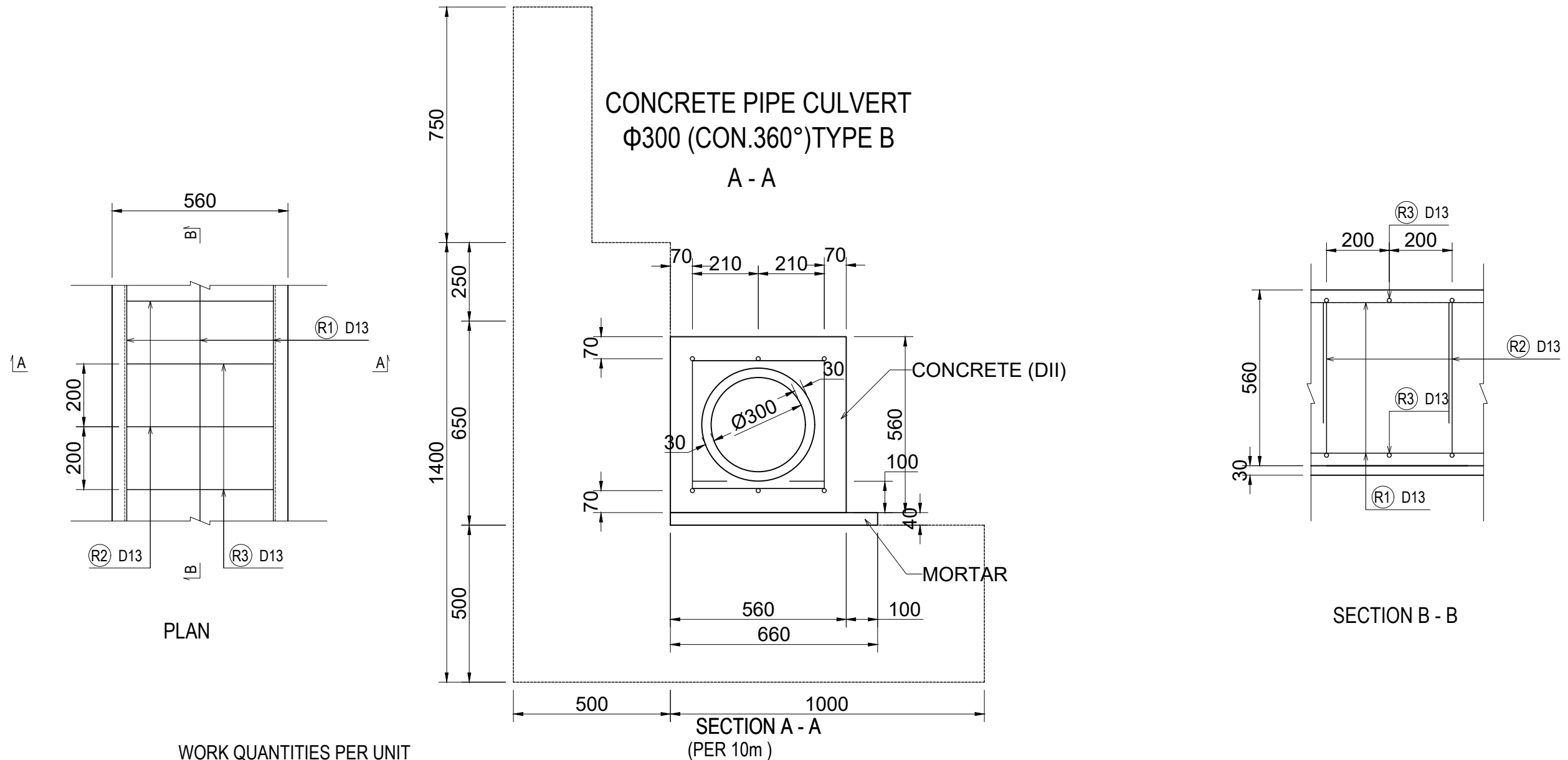


**KEY PLAN S=1:2000**



PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE <b>GENERAL VIEW OF BOX CULVERT</b>	PACKAGE	
				PREPARED BY	M. TORIU			15 Jun. 2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun. 2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun. 2017	P1-RD-3030

# DETAIL OF CONCRETE PIPE CULVERT $\Phi 300$ (CON.360°) TYPE B S= 1:15



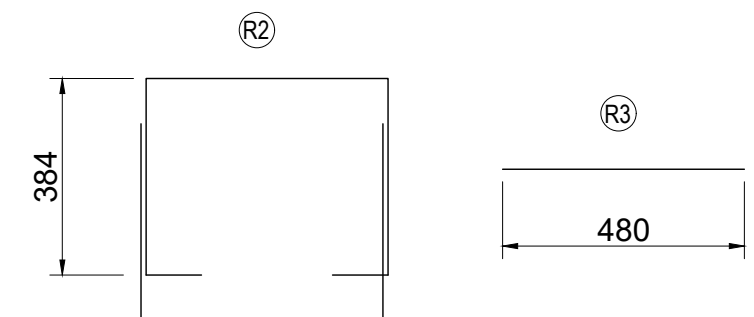
WORK QUANTITIES PER UNIT

ITEM	UNIT	QUANTITY	REMARKS
R.C.PIPE $\Phi 300$	m	10.000	JIS A 5303 CLASS 1
CONCRETE (DII)	m <sup>3</sup>	2.118	28 days = 240 kg/cm <sup>2</sup>
MORTAR	m <sup>2</sup>	0.264	
FORM	m <sup>2</sup>	11.200	

WORK QUANTITIES PER UNIT FOR REINFORCEMENT BAR (PER 1.0m)

Dia	Nos	Length (mm/nos)	Unit Weight (kg/m)	Weight (kg)	Remarks
D13	6	1,000	0.995	5.970	(R1) / SD345
D13	5	420	0.995	2.090	(R2) / SD345
D13	5	1,310	0.995	6.517	(R3) / SD345
TOTAL				14.557	

## DETAIL OF STEEL REINFORCEMENT



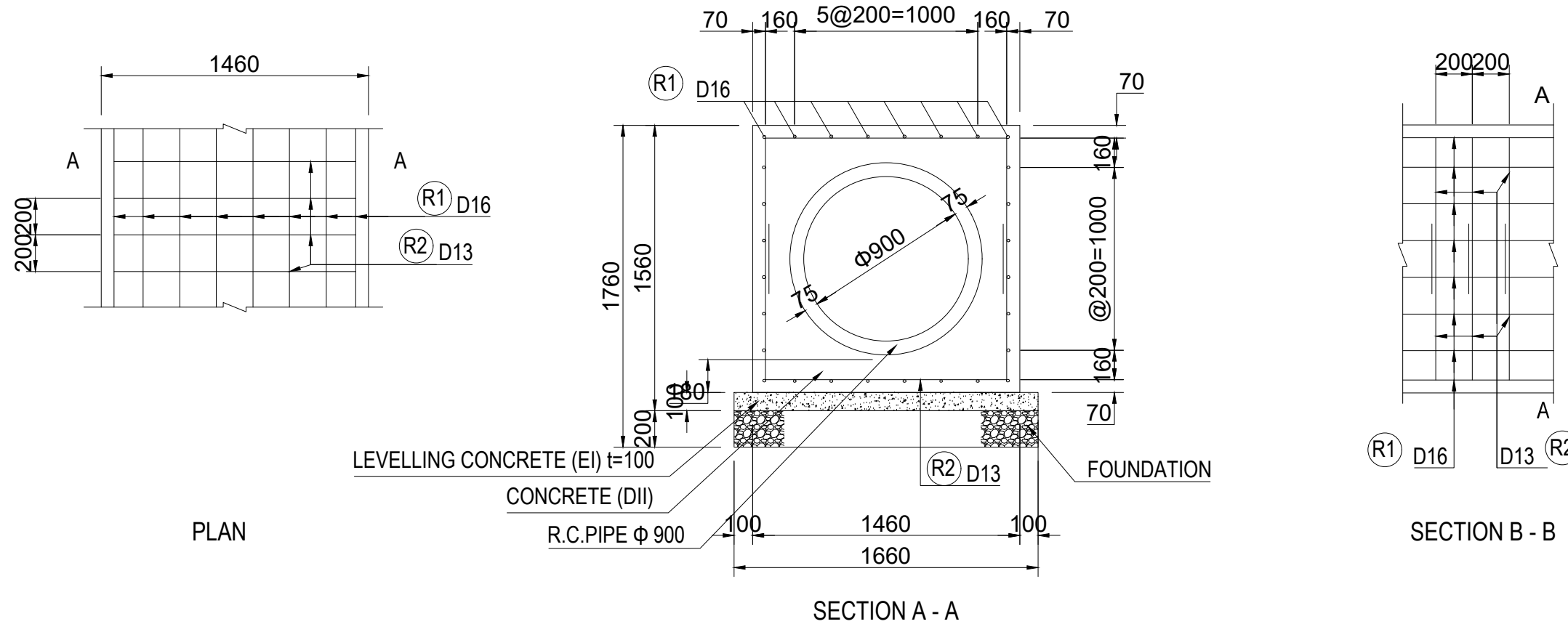
Note: Precast R.C. Pipe  $\Phi 300$ , Reinforced Spun and Centrifugal Reinforced Concrete Pipes shall be Selected.

<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>NAME</th> <th>SIGNATURE</th> <th>DATE</th> </tr> <tr> <td>PREPARED BY</td> <td>M. TORIU</td> <td>15 Jun. 2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td>20 Jun. 2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td>21 Jun. 2017</td> </tr> </table>	NAME	SIGNATURE	DATE	PREPARED BY	M. TORIU	15 Jun. 2017	CHECKED BY	T. HAYAKAWA	20 Jun. 2017	APPROVED BY	Y. SANO	21 Jun. 2017	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>DRAWING TITLE</th> <th>PACKAGE</th> </tr> <tr> <td rowspan="3" style="text-align: center;">                     DETAIL OF CONCRETE PIPE CULVERT <math>\Phi 300</math> (CON.360°)                      TYPE B S=1:15                 </td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">DWG No.</td> </tr> <tr> <td style="text-align: center;">P1-RD-3040</td> </tr> </table>	DRAWING TITLE	PACKAGE	DETAIL OF CONCRETE PIPE CULVERT $\Phi 300$ (CON.360°) TYPE B S=1:15	1	DWG No.	P1-RD-3040
NAME	SIGNATURE	DATE																					
PREPARED BY	M. TORIU	15 Jun. 2017																					
CHECKED BY	T. HAYAKAWA	20 Jun. 2017																					
APPROVED BY	Y. SANO	21 Jun. 2017																					
DRAWING TITLE	PACKAGE																						
DETAIL OF CONCRETE PIPE CULVERT $\Phi 300$ (CON.360°) TYPE B S=1:15	1																						
	DWG No.																						
	P1-RD-3040																						

DETAIL OF CONCRETE PIPE CULVERT  $\Phi 900$  (CON.360°) S= 1:30

CONCRETE PIPE CULVERT  
 $\Phi 900$  (CON.360°)

A - A



WORK QUANTITIES PER UNIT (PER 10m)

ITEM	UNIT	QUANTITY	REMARKS
R.C.PIPE $\Phi 900$	m	10.000	JIS A 5303 CLASS 1
CONCRETE (DII)	m <sup>3</sup>	12.657	28 days = 240 kg/cm <sup>2</sup>
FOUNDATION	m <sup>2</sup>	16.600	GRAVEL / t=200mm
FORM	m <sup>2</sup>	29.200	
LEVELLING CONCRETE (EI)	m <sup>3</sup>	1.660	t=100

WORK QUANTITIES PER UNIT FOR REINFORCEMENT BAR (PER 1.0m)

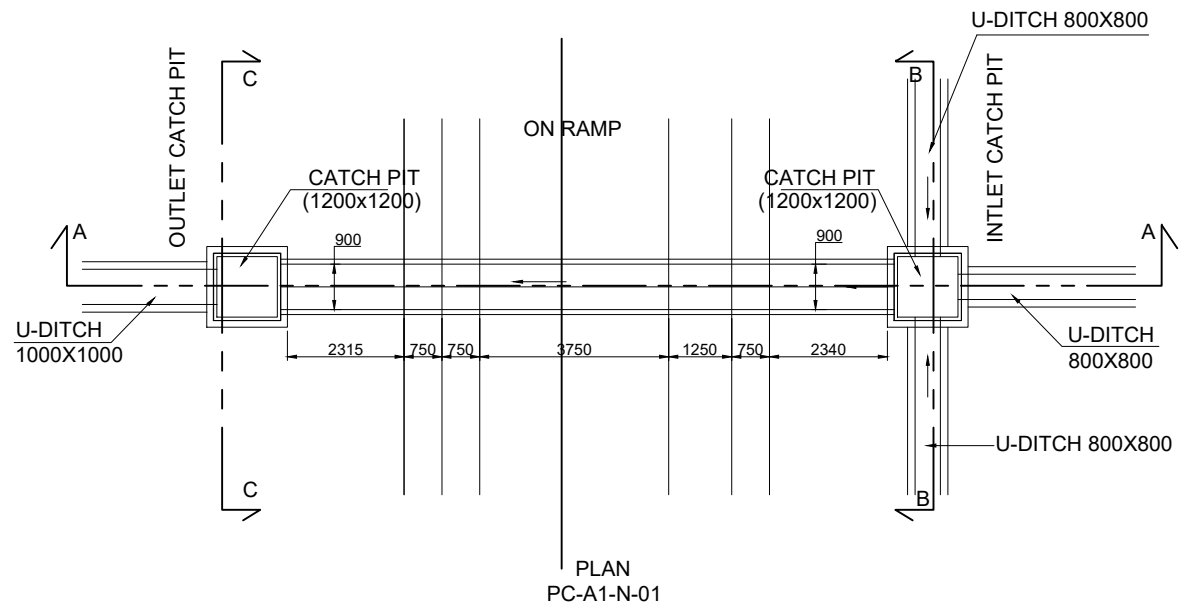
Dia	Nos	Length (mm/nos)	Unit Weight (kg/m)	Weight (kg)	Remarks
D13	10	3,110	0.995	30.945	(R2) / SD345
D16	28	1,000	1.560	43.680	(R1) / SD345
TOTAL				74.625	

Note: Precast R.C. Pipe  $\Phi 900$ , Reinforced Spun and Centrifugal Reinforced Concrete Pipes shall be Selected.

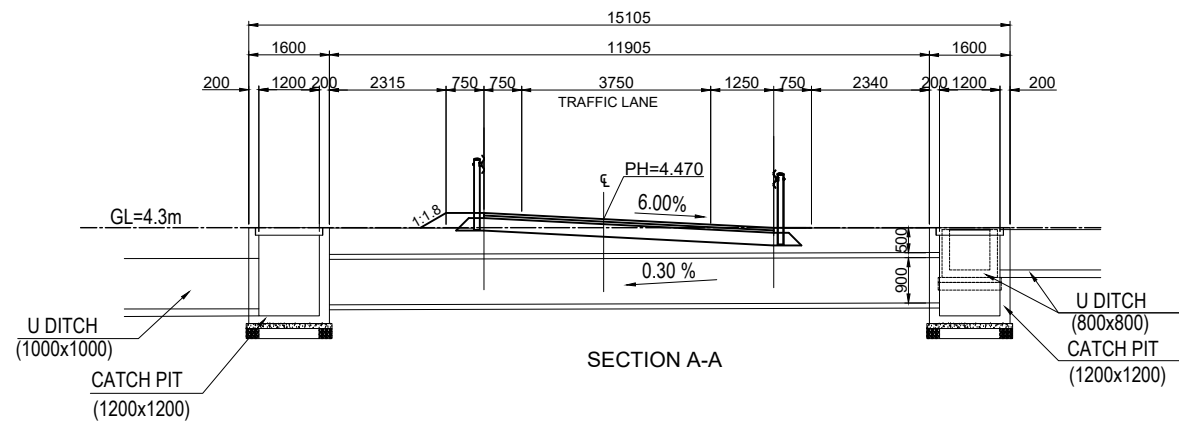
PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	M. TORIU	<i>[Signature]</i>	15 Jun. 2017	DETAIL OF CONCRETE PIPE CULVERT $\Phi 900$ (CON.360°) S=1:30	1
				T. HAYAKAWA	<i>[Signature]</i>	20 Jun. 2017		DWG No.
				Y. SANO	<i>[Signature]</i>	21 Jun. 2017		P1-RD-3041

# GENERAL VIEW OF R.C. PIPE CULVERT (1)

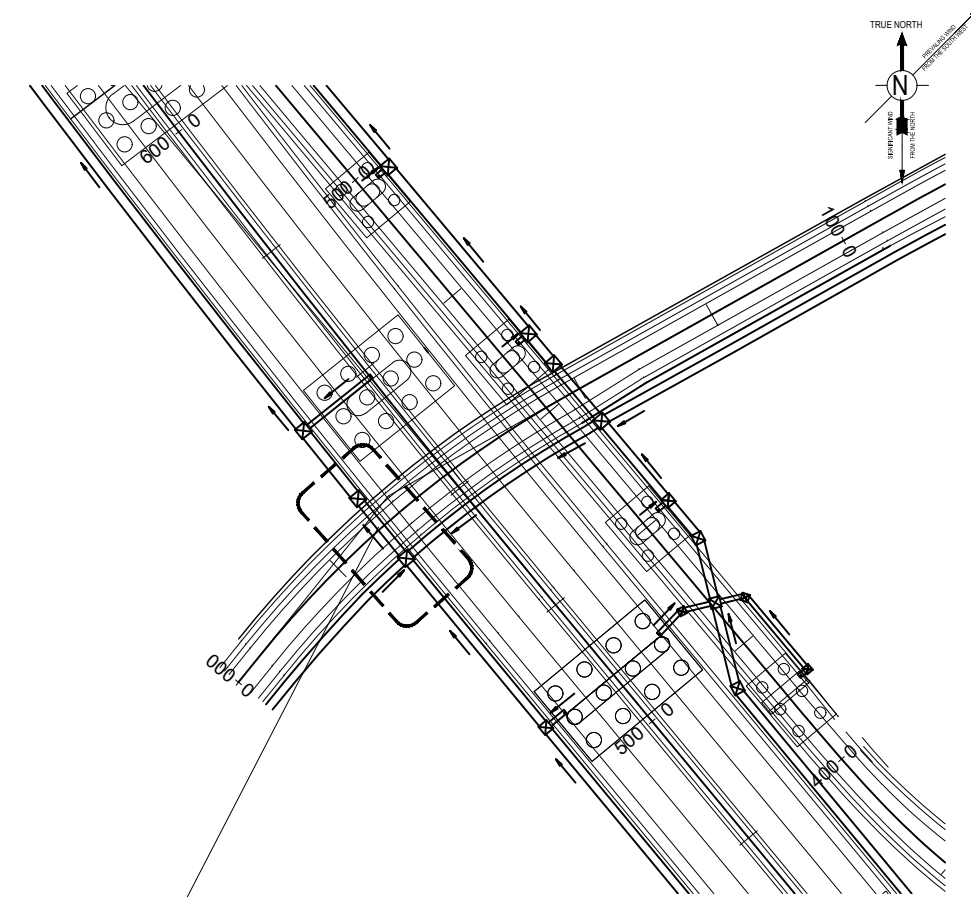
## PC-A1-N-01 - STA.0+025.900 (CON.360°)



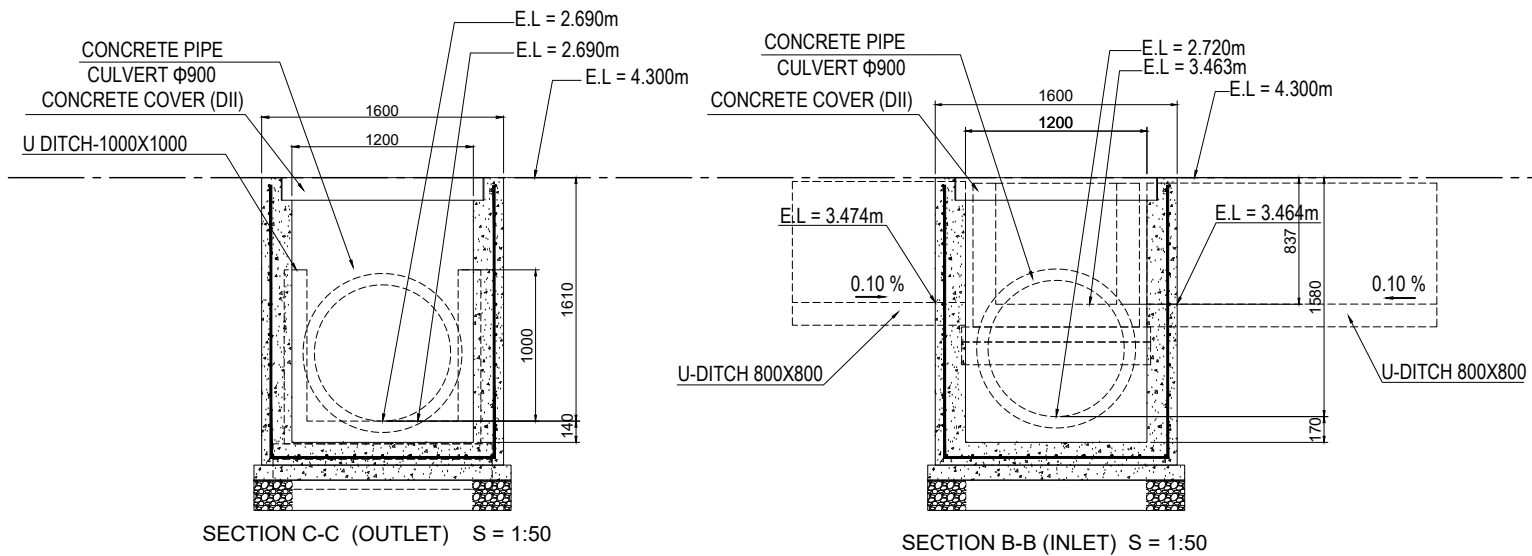
PLAN  
PC-A1-N-01



SECTION A-A

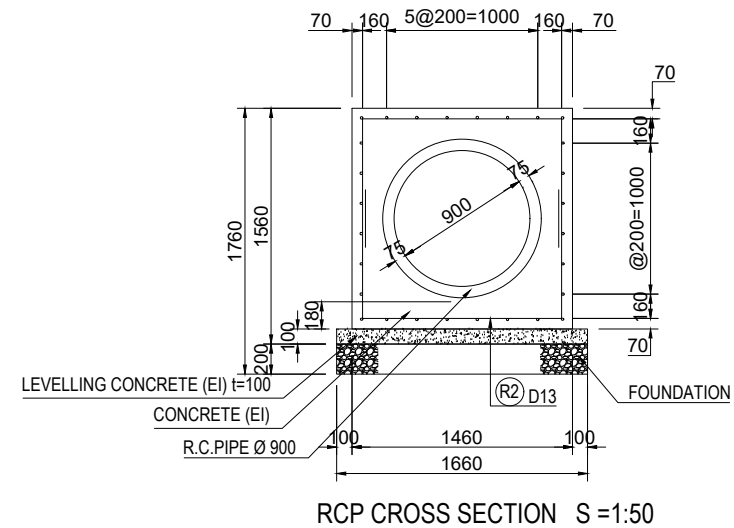


KEY PLAN

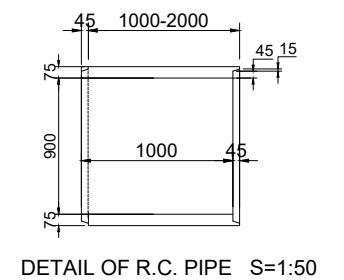


SECTION C-C (OUTLET) S = 1:50

SECTION B-B (INLET) S = 1:50



RCP CROSS SECTION S = 1:50

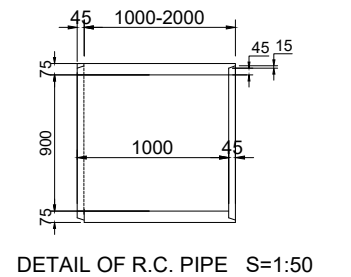
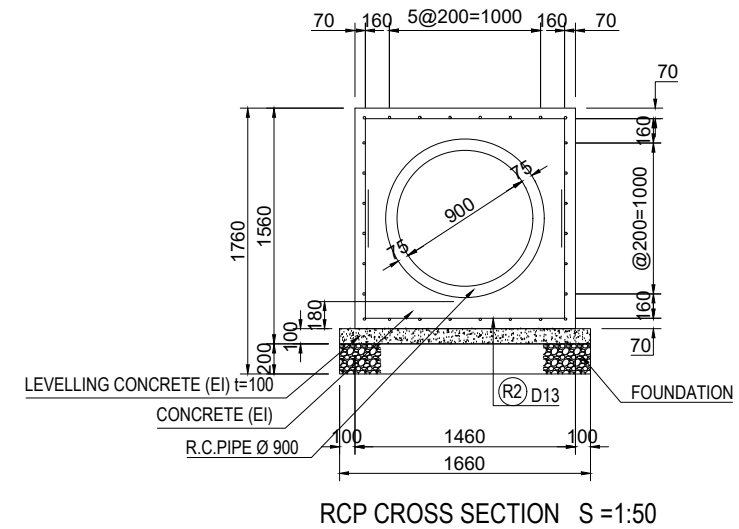
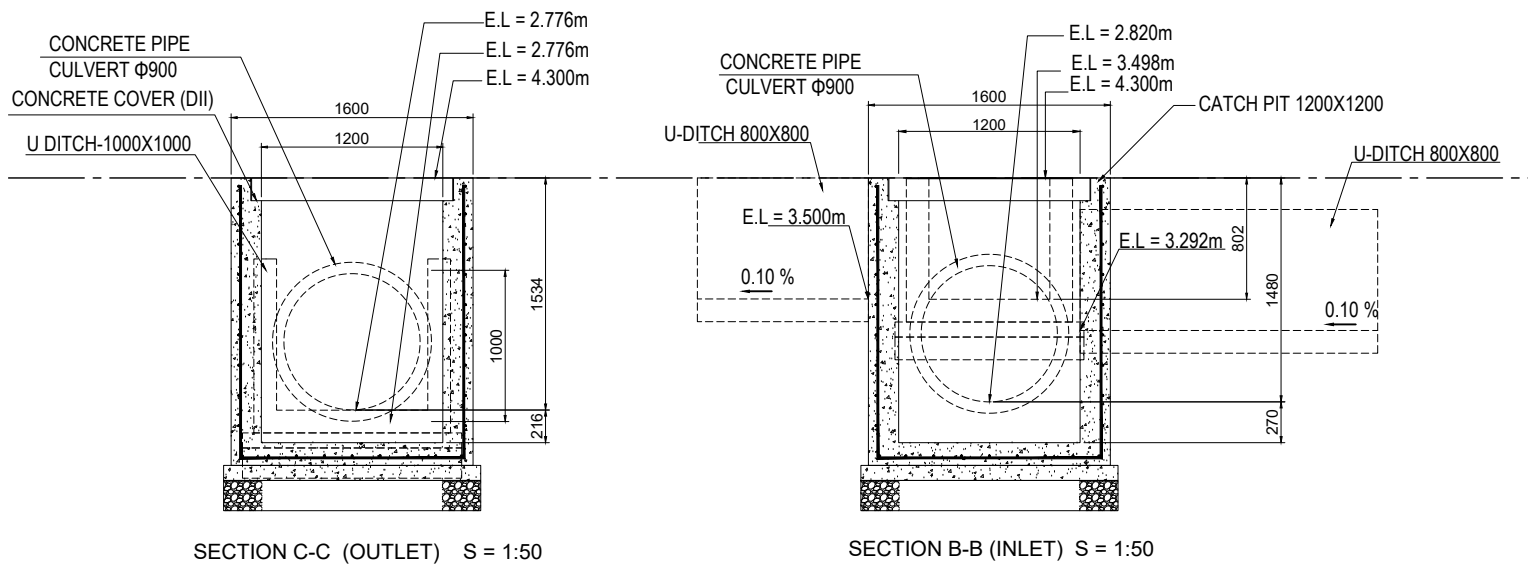
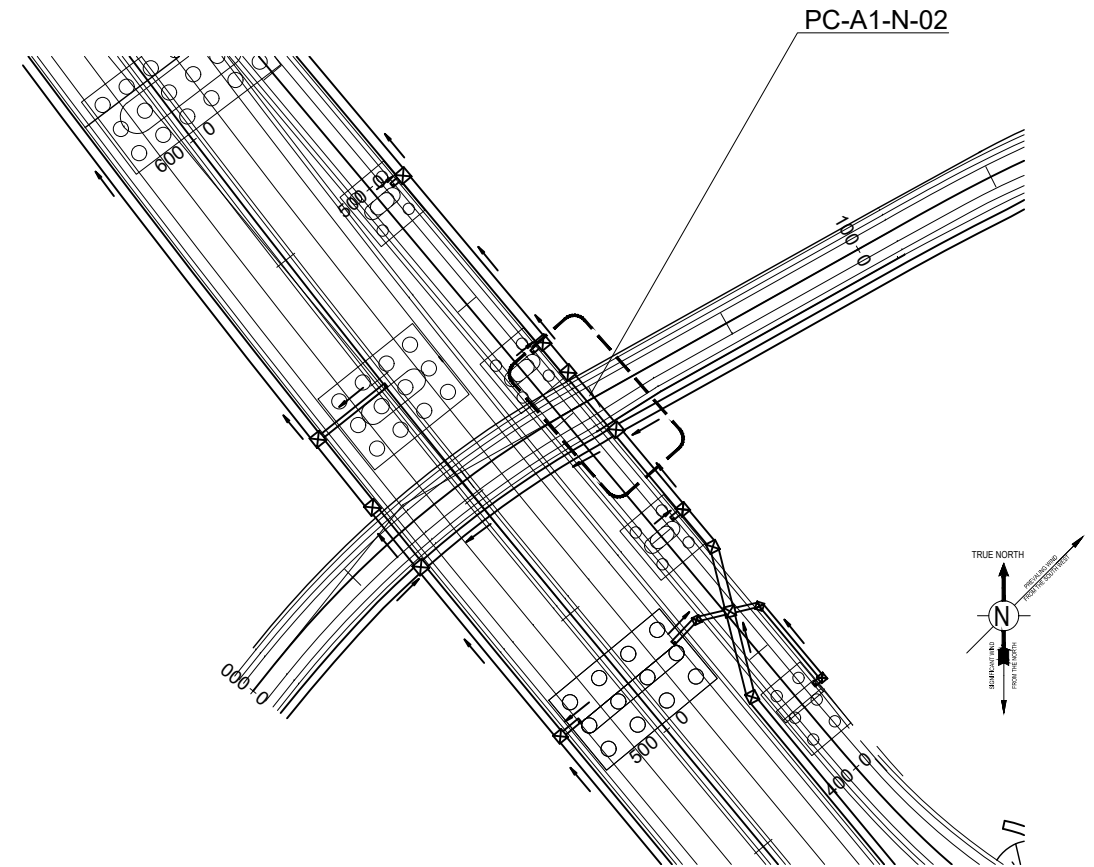
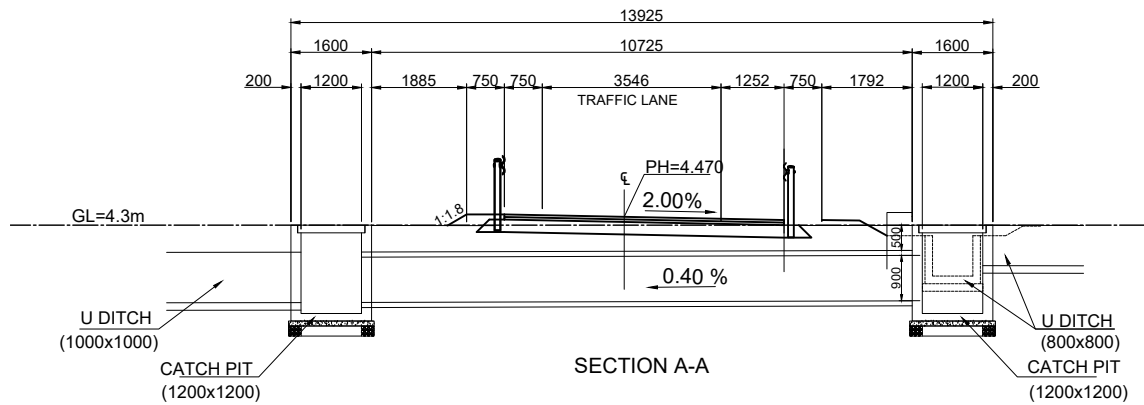
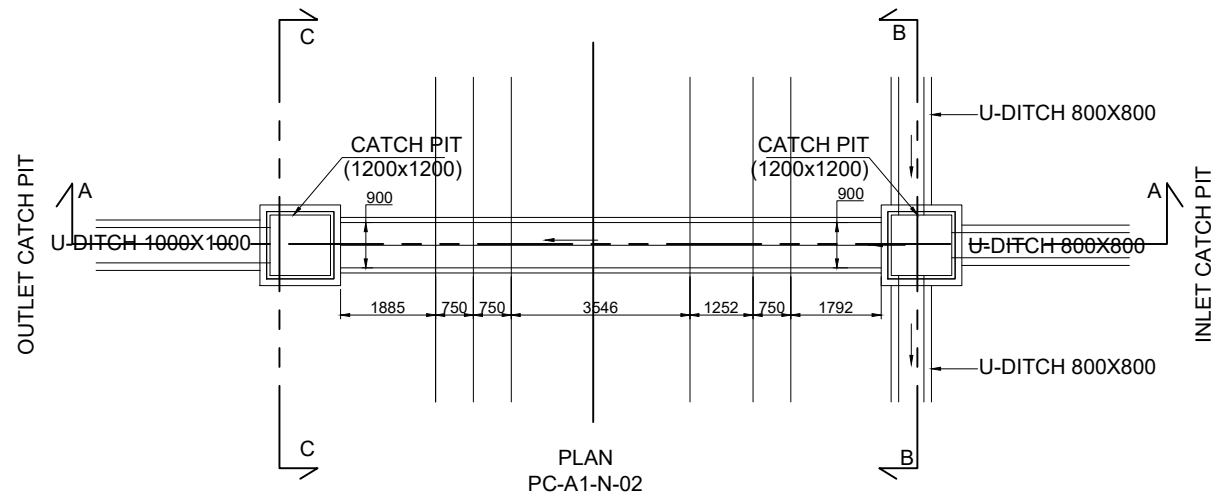


DETAIL OF R.C. PIPE S=1:50

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 20%;">NAME</th> <th style="width: 20%;">SIGNATURE</th> <th style="width: 10%;">DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY</td> <td>M. TORIU</td> <td></td> <td>15 Jun. 2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>20 Jun. 2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>21 Jun. 2017</td> </tr> </tbody> </table>		NAME	SIGNATURE	DATE	PREPARED BY	M. TORIU		15 Jun. 2017	CHECKED BY	T. HAYAKAWA		20 Jun. 2017	APPROVED BY	Y. SANO		21 Jun. 2017	DRAWING TITLE GENERAL VIEW OF R.C. PIPE CULVERT (1)	PACKAGE 1 DWG No. P1-RD-3050
	NAME	SIGNATURE	DATE																			
PREPARED BY	M. TORIU		15 Jun. 2017																			
CHECKED BY	T. HAYAKAWA		20 Jun. 2017																			
APPROVED BY	Y. SANO		21 Jun. 2017																			

# GENERAL VIEW OF R.C. PIPE CULVERT (2)

## PC-A1-N-02 - STA.0+062.100 (CON.360°)



PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	M. TORIU	<i>[Signature]</i>	15 Jun. 2017	GENERAL VIEW OF R.C. PIPE CULVERT (2)	1
				T. HAYAKAWA	<i>[Signature]</i>	20 Jun. 2017		DWG No.
				Y. SANO	<i>[Signature]</i>	21 Jun. 2017		P1-RD-3051



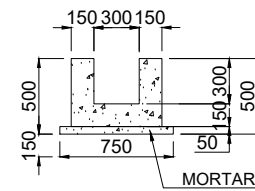
# DETAIL OF SIDE DITCH (1)

S=1:50

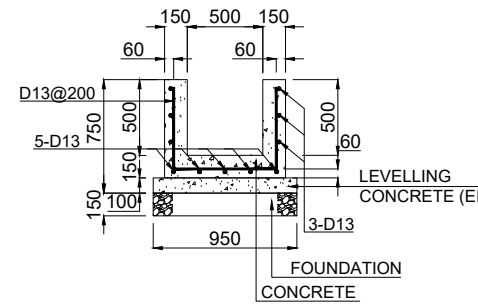
**NOTES:**

1. Concrete Class DII  
(240 kg/cm<sup>2</sup>)
2. Steel Reinforcement  
SD345
3. Pit of Steel Reinforcement  
is 200mm

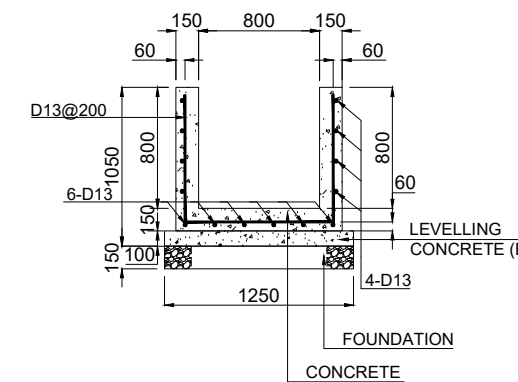
SIDE DITCH TYPE U-300×300



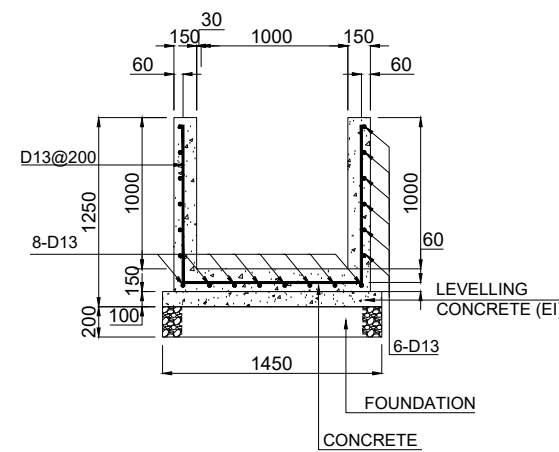
SIDE DITCH TYPE U-500×500



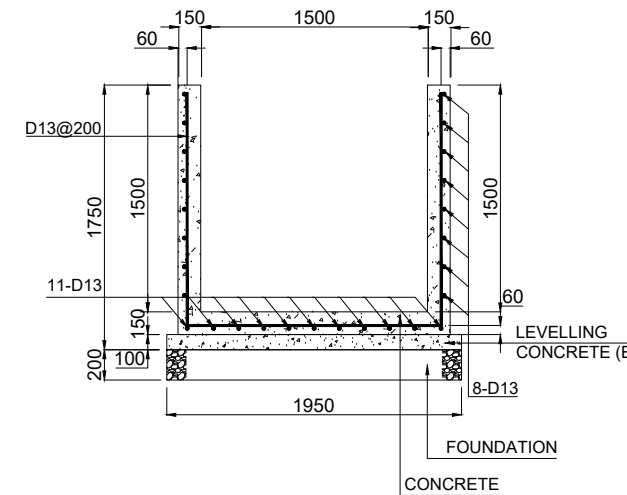
SIDE DITCH TYPE U-800×800



SIDE DITCH TYPE U-1000×1000



SIDE DITCH TYPE U-1500×1500



PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DETAIL OF SIDE DITCH (1) S=1:50	PACKAGE	
				PREPARED BY	M. TORIU			15 Jun. 2017	DWG No.
				CHECKED BY	T. HAYAKAWA			20 Jun. 2017	P1-RD-3060
				APPROVED BY	Y. SANO			21 Jun. 2017	

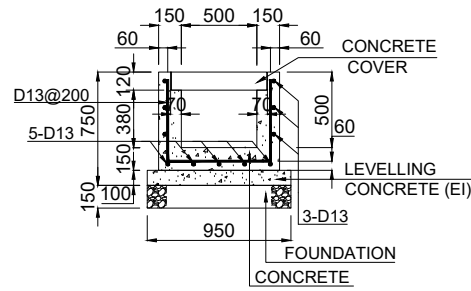
# DETAIL OF SIDE DITCH (2)

S=1:50

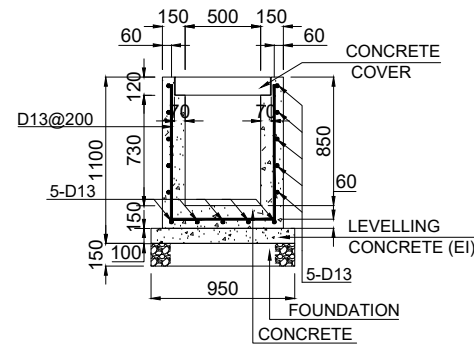
## NOTES:

1. Concrete Class DII (240 kg/cm<sup>2</sup>)
2. Steel Reinforcement SD345
3. Pit of Steel Reinforcement is 200mm

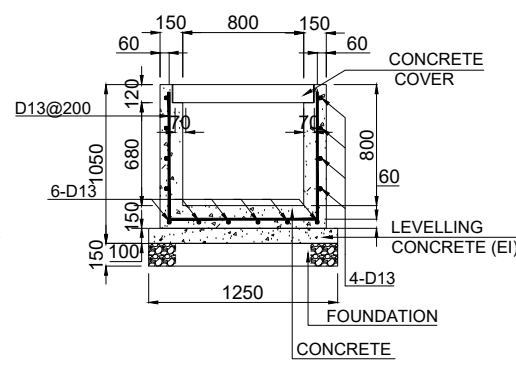
SIDE DITCH TYPE U-500×500 WITH COVER



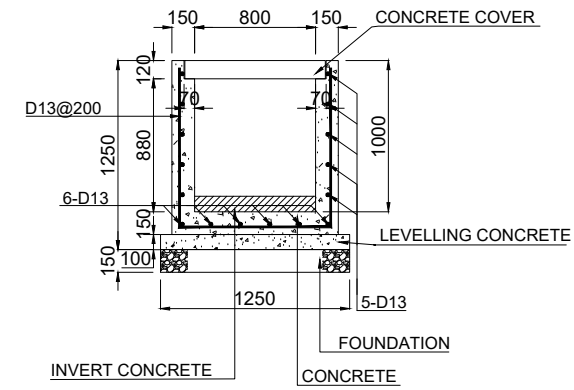
SIDE DITCH TYPE U-500×850 WITH COVER



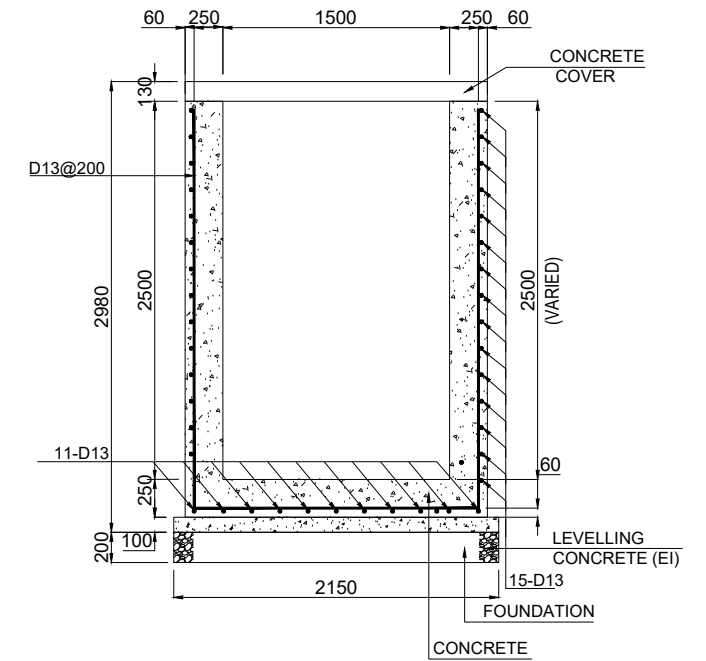
SIDE DITCH TYPE U-800×800 WITH COVER



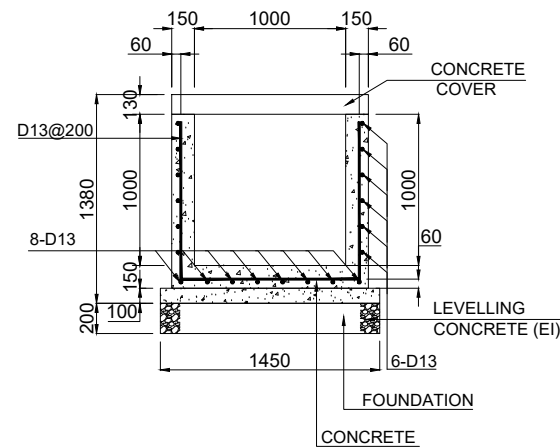
SIDE DITCH TYPE U-800×1000 WITH COVER



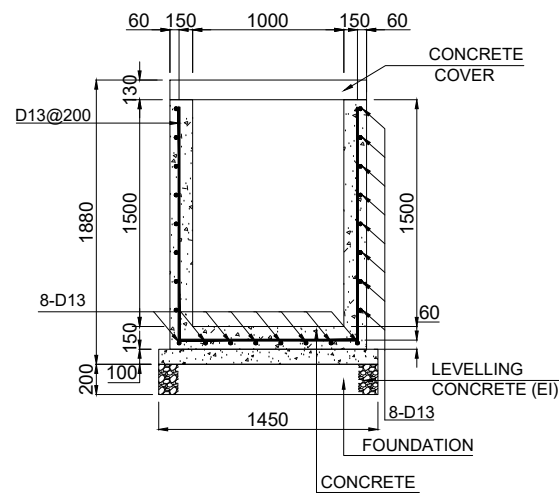
SIDE DITCH TYPE U-1500×2500 WITH COVER



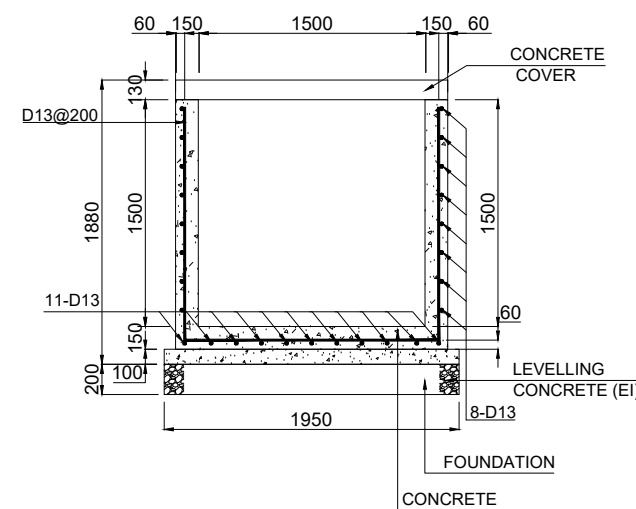
SIDE DITCH TYPE U-1000×1000 WITH COVER



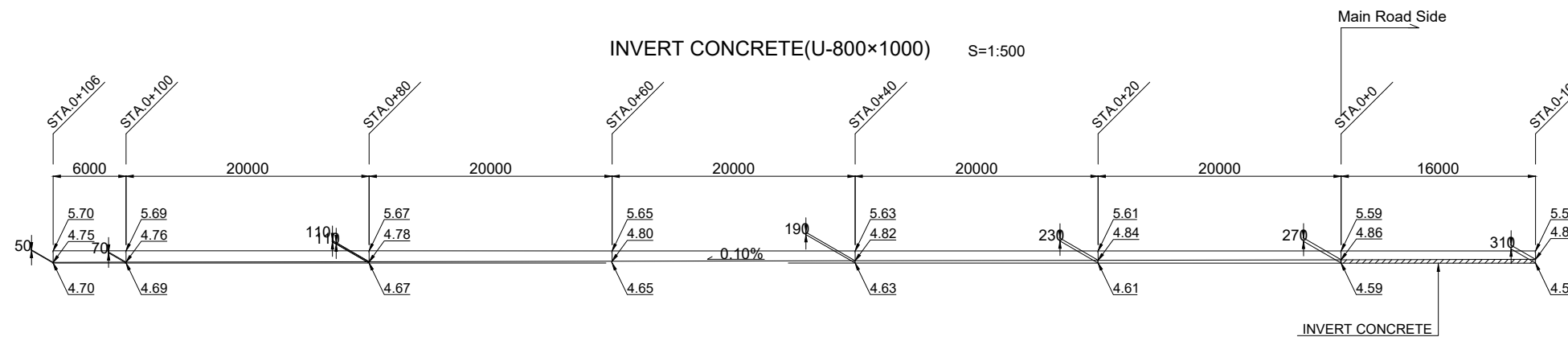
SIDE DITCH TYPE U-1000×1500 WITH COVER



SIDE DITCH TYPE U-1500×1500 WITH COVER



INVERT CONCRETE (U-800×1000) S=1:50

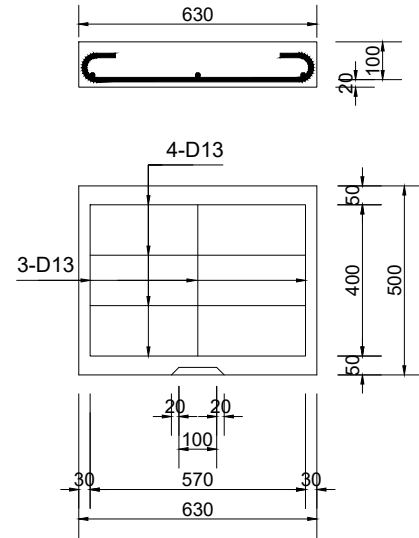


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DETAIL OF SIDE DITCH (2) S=1:50, 1:500	PACKAGE 1 DWG No. P1-RD-3061
				PREPARED BY	M. TORIU	15 Jun. 2017		
				CHECKED BY	T. HAYAKAWA	20 Jun. 2017		
				APPROVED BY	Y. SANO	21 Jun. 2017		

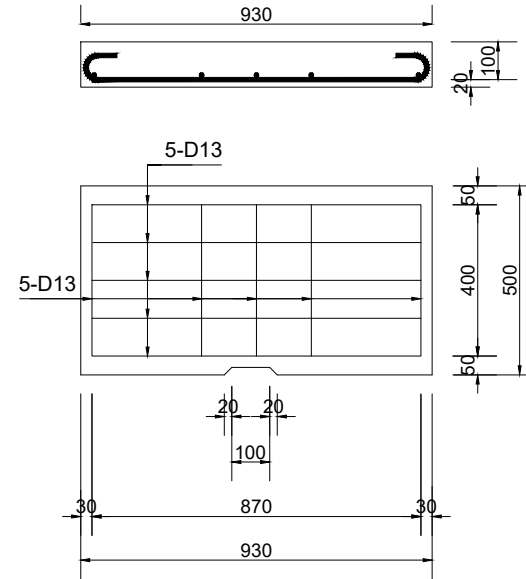
# DETAIL OF SIDE DITCH (3)

S=1:20

CONCRETE COVER  
SIDE DITCH TYPE U-500×500 WITH COVER



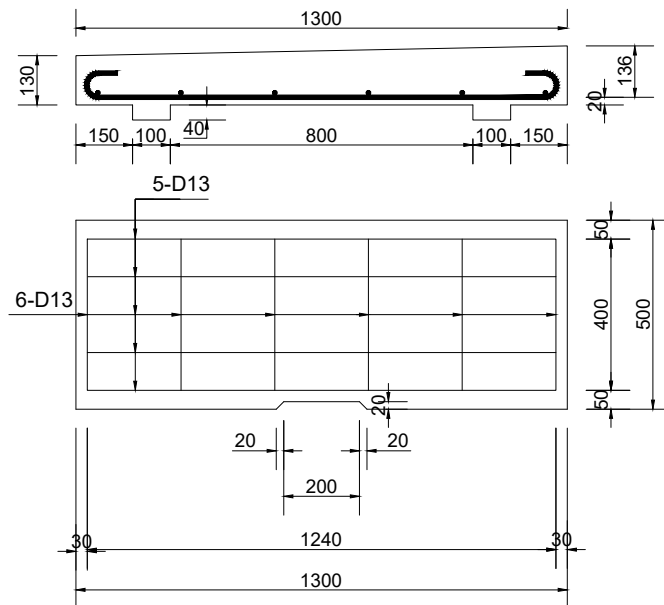
CONCRETE COVER  
SIDE DITCH TYPE U-800×800 WITH COVER  
SIDE DITCH TYPE U-800×1000 WITH COVER



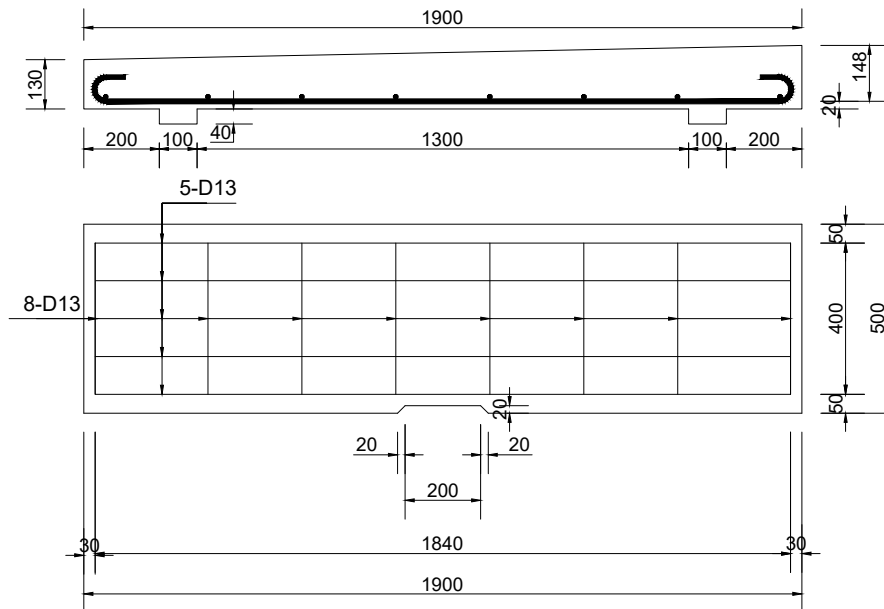
NOTES:

1. Concrete Class DII (240 kg/cm<sup>2</sup>)
2. Steel Reinforcement SD345
3. Pit of Steel Reinforcement is 200mm

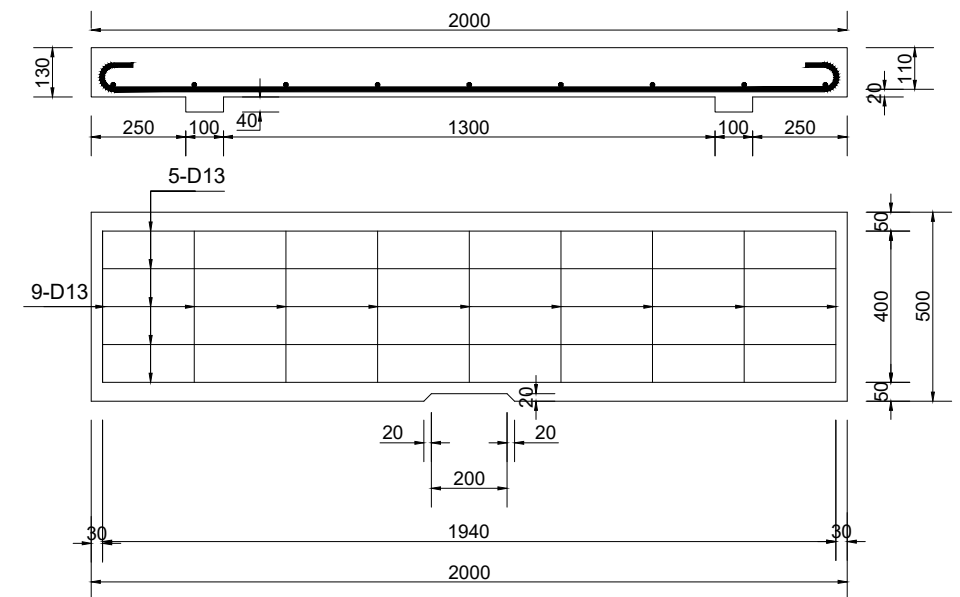
CONCRETE COVER  
SIDE DITCH TYPE U-1000×1000 WITH COVER  
SIDE DITCH TYPE U-1000×1500 WITH COVER



CONCRETE COVER  
SIDE DITCH TYPE U-1500×1700 WITH COVER



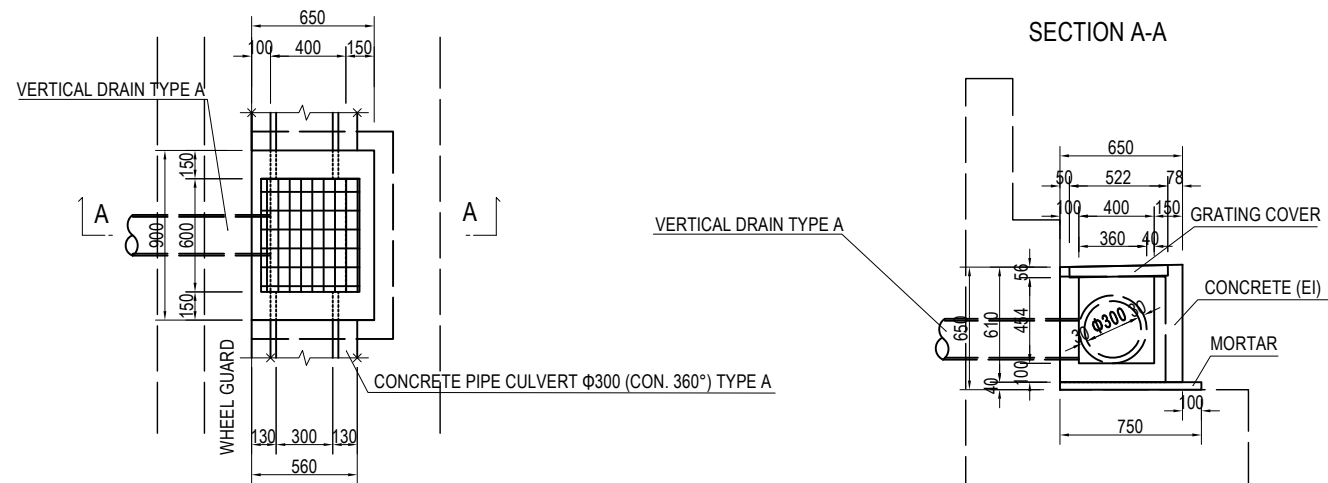
CONCRETE COVER  
SIDE DITCH TYPE U-1500×2500 WITH COVER



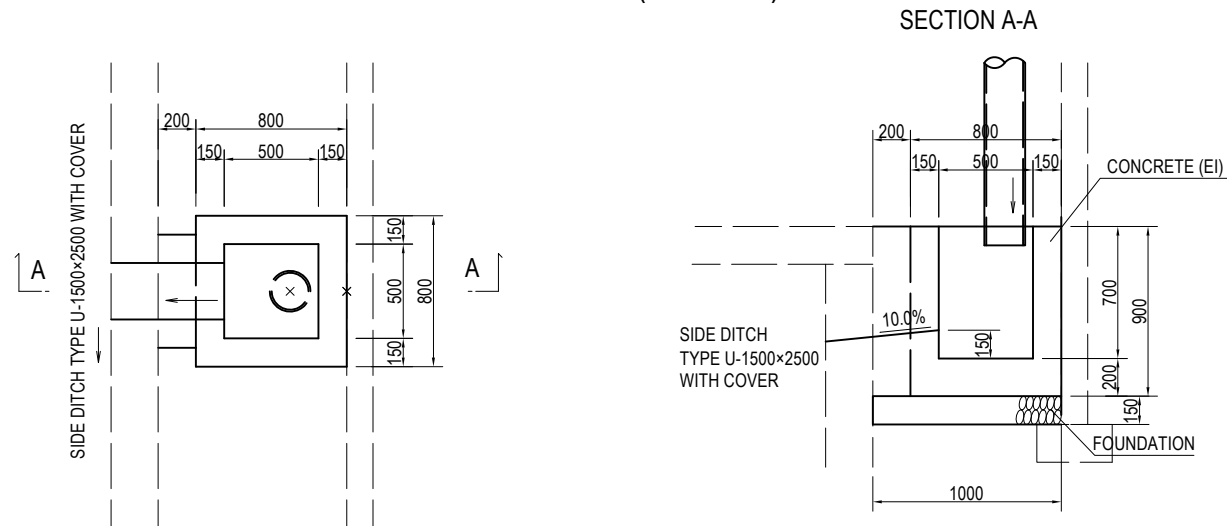
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY jica JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DETAIL OF SIDE DITCH (3) S=1:20	PACKAGE 1 DWG No. P1-RD-3062
				PREPARED BY	M. TORIU	15 Jun. 2017		
				CHECKED BY	T. HAYAKAWA	20 Jun. 2017		
				APPROVED BY	Y. SANO	21 Jun. 2017		

# DETAIL OF CATCH PIT (1)

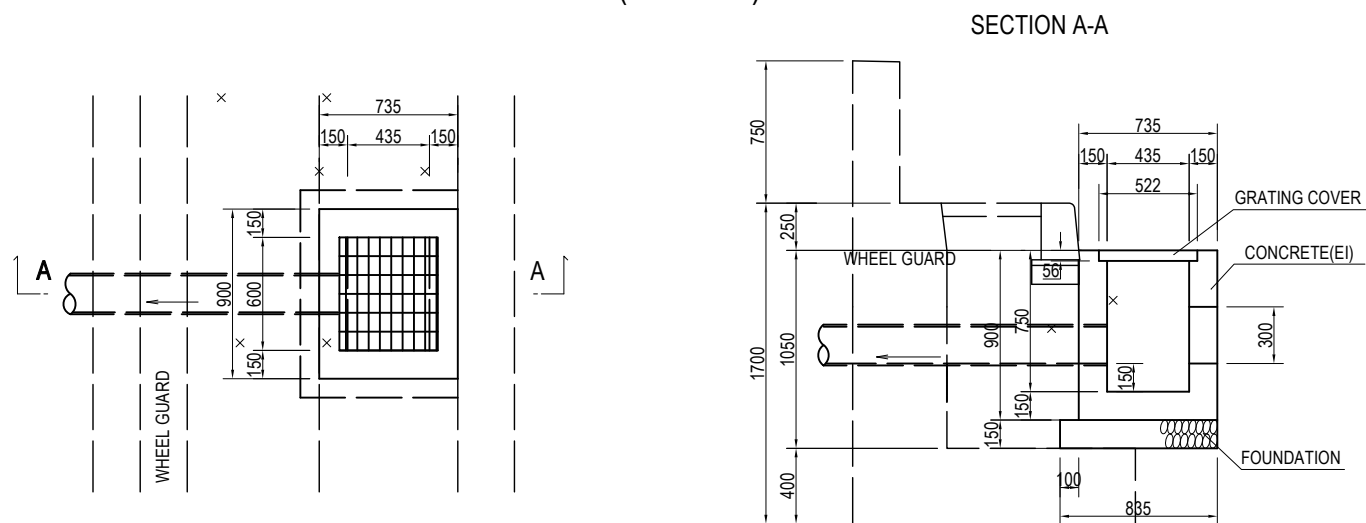
DETAIL OF CATCH PIT (C-DITCH) TYPE A S=1:40



DETAIL OF CATCH PIT (C-DITCH) TYPE C S=1:40



DETAIL OF CATCH PIT (C-DITCH) TYPE D S=1:40

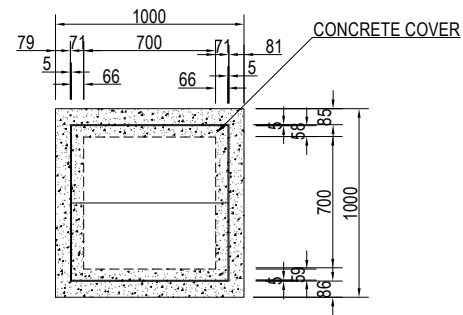


SCHEDULE OF CATCH PIT & VERTICAL DRAIN

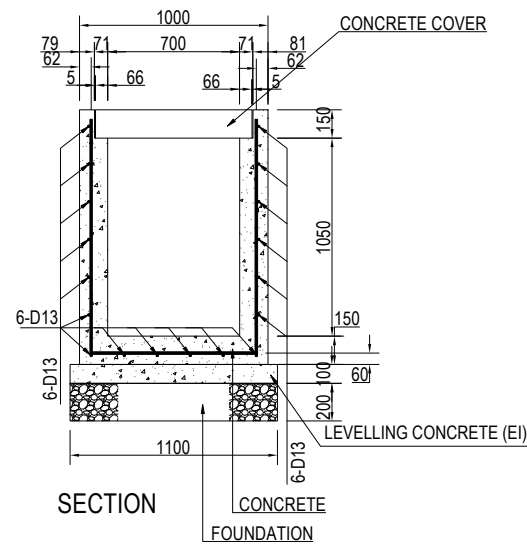
PACKAGE	ROAD	SIDE	STATION	CATCH PIT (C-DITCH)				VERTICAL DRAIN TYPE A	VERTICAL DRAIN TYPE B		
				TYPE A	TYPE B	TYPE C	TYPE D				
				Nos.	Nos.	Nos.	Nos.				
1	MAIN	LEFT	325.000	1	-	1	-	1	-		
			305.000	1	-	-	-	-	-		
			285.000	1	-	1	-	1	-		
			270.000	1	-	-	-	-	-		
			260.000	1	-	1	-	1	-		
		TOTAL		5	-	3	-	3	-		
2	MAIN	LEFT	2413.416	1	-	-	-	-	-		
			2428.416	1	-	1	-	1	-		
			2438.416	1	-	-	-	-	-		
			2448.416	1	-	1	-	1	-		
			2453.416	1	-	-	-	-	-		
			2458.416	1	-	1	-	1	-		
			2463.416	1	-	-	-	-	-		
			2468.416	1	-	1	-	1	-		
			2473.416	1	-	-	-	-	-		
			2478.416	1	-	1	-	1	-		
			2483.416	1	-	-	-	-	-		
			2488.416	1	-	1	-	1	-		
			2505.500	-	-	1	1	1	-		
			2518.741	1	-	1	-	1	-		
		2523.741	1	-	-	-	-	-			
		2528.741	1	-	1	-	1	-			
		2533.741	1	-	-	-	-	-			
		2538.741	1	-	1	-	1	-			
		2543.741	1	-	-	-	-	-			
		2548.741	1	-	1	-	1	-			
		2553.741	1	-	-	-	-	-			
		2558.741	1	-	1	-	1	-			
		2568.741	1	-	-	-	-	-			
		2578.741	1	-	1	-	1	-			
		2588.741	1	-	-	-	-	-			
				RIGHT	2505.500	-	-	-	1	-	1
		FLYOVER	LEFT		2601.400	-	2	1	-	1	-
					2628.741	1	-	-	-	-	-
RIGHT			2601.400	-	2	-	-	-	1		
			2628.741	1	-	-	-	-	-		
ON-RAMP	LEFT		2645.000	1	-	-	-	-	-		
			2675.000	1	-	-	-	-	-		
			2705.000	1	-	1	-	1	-		
			2730.000	1	-	1	-	1	-		
			2745.000	1	-	-	-	-	-		
			2755.000	1	-	1	-	1	-		
		TOTAL		32	4	17	2	17	2		

# DETAIL OF CATCH PIT (2)

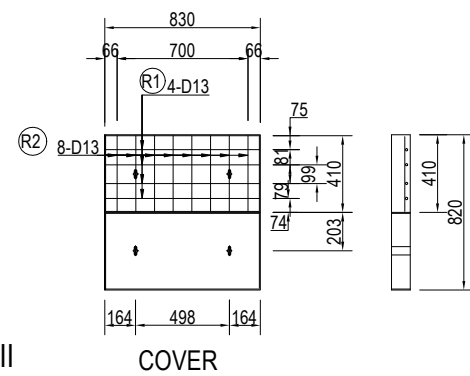
CATCH PIT (700X700X1050) S = 1:40



PLAN

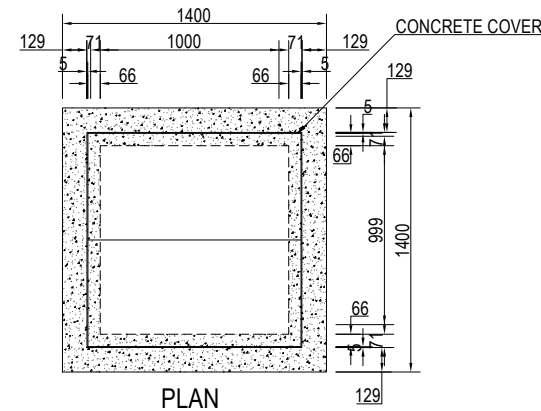


SECTION

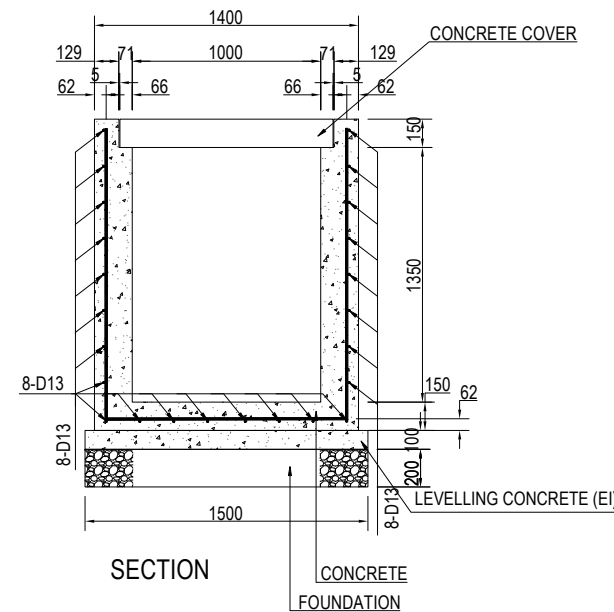


COVER

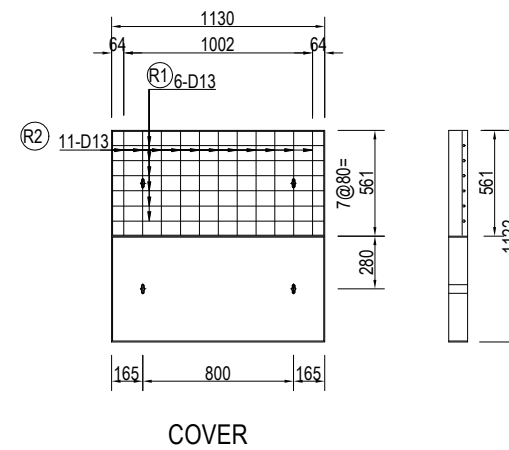
CATCH PIT (1000X1000X1350) S = 1:40



PLAN

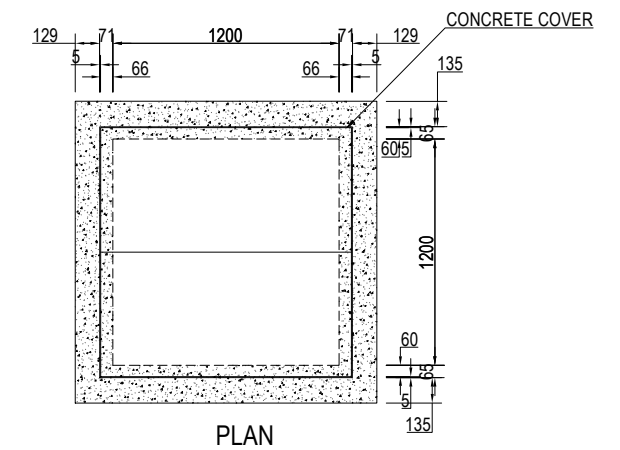


SECTION

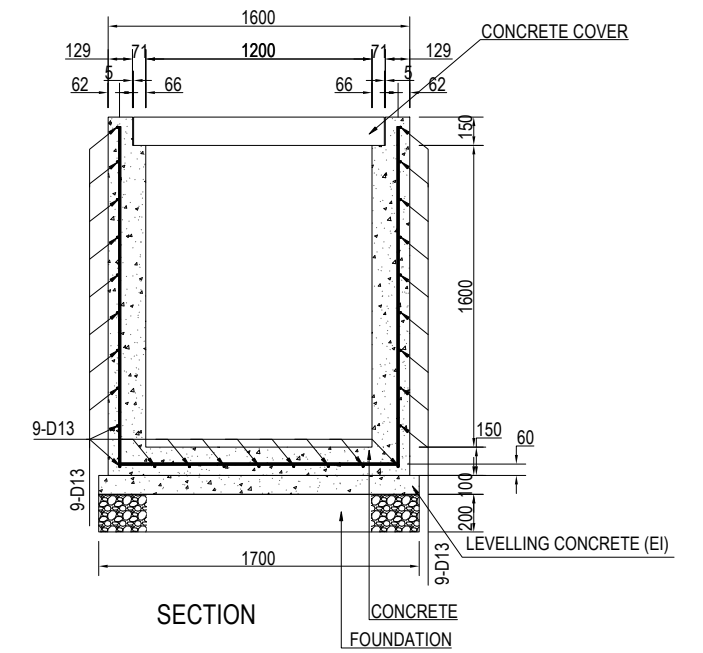


COVER

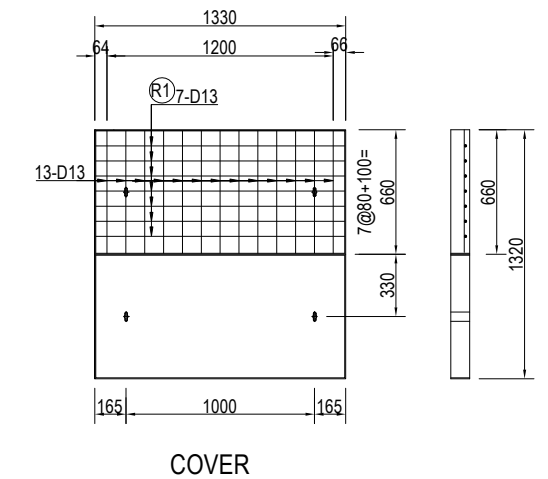
CATCH PIT (1200X1200X1600) S = 1:40



PLAN



SECTION



COVER

**NOTES:**

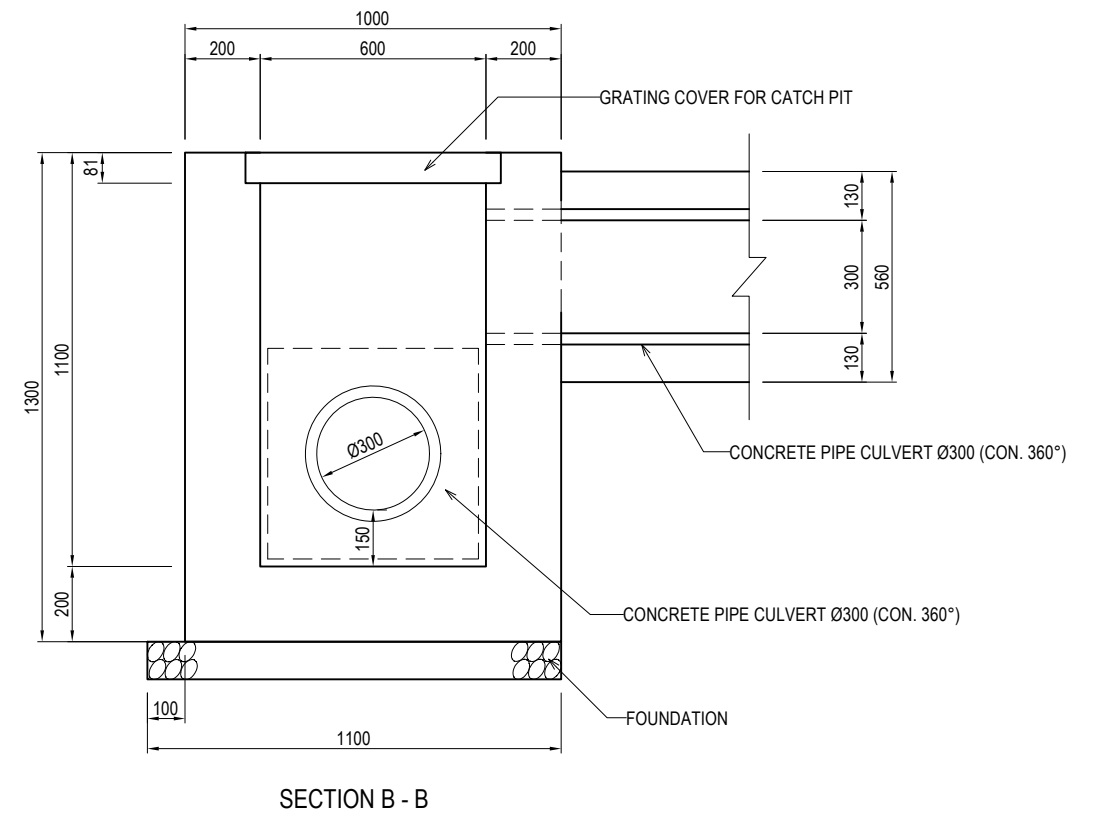
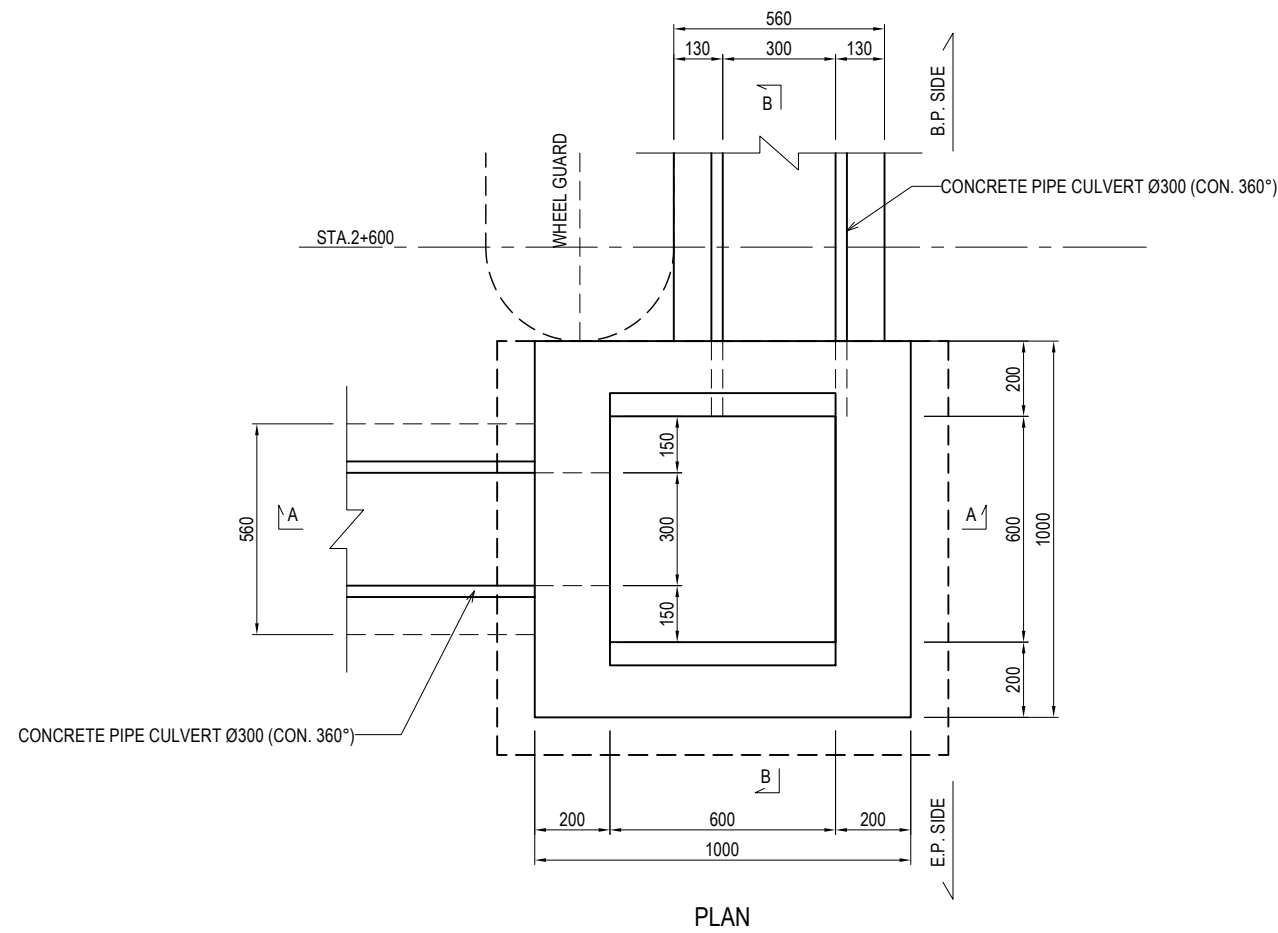
1. Concrete Class DII (240 kg/cm<sup>2</sup>)
2. Steel Reinforcement SD345
3. Pit of Steel Reinforcement is 200mm

PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	M. TORIU	<i>[Signature]</i>	15 Jun. 2017	DETAIL OF CATCH PIT (2)	1
				T. HAYAKAWA	<i>[Signature]</i>	20 Jun. 2017		DWG No.
				Y. SANO	<i>[Signature]</i>	21 Jun. 2017		P1-RD-3071

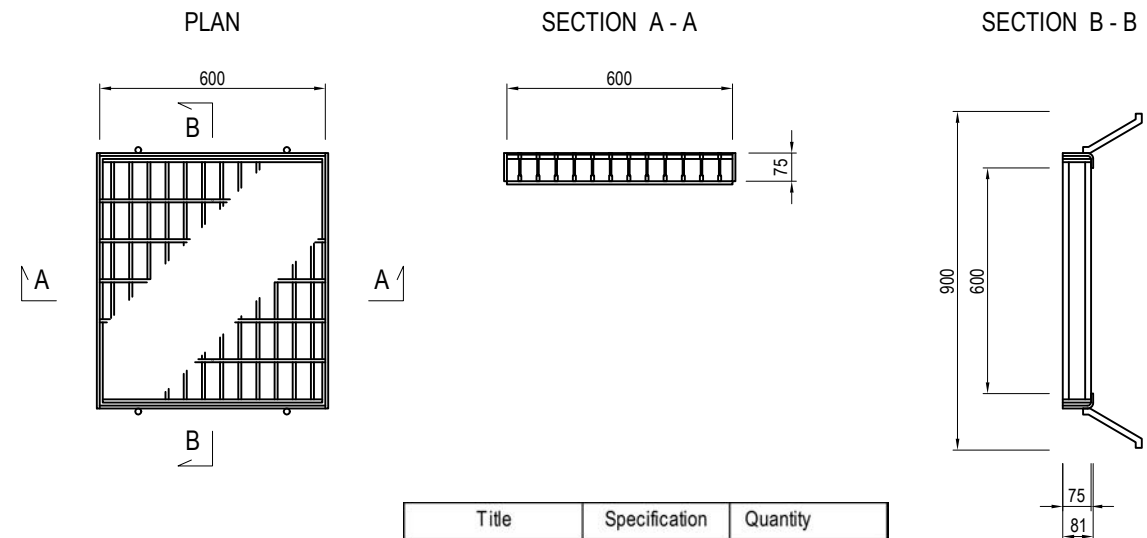
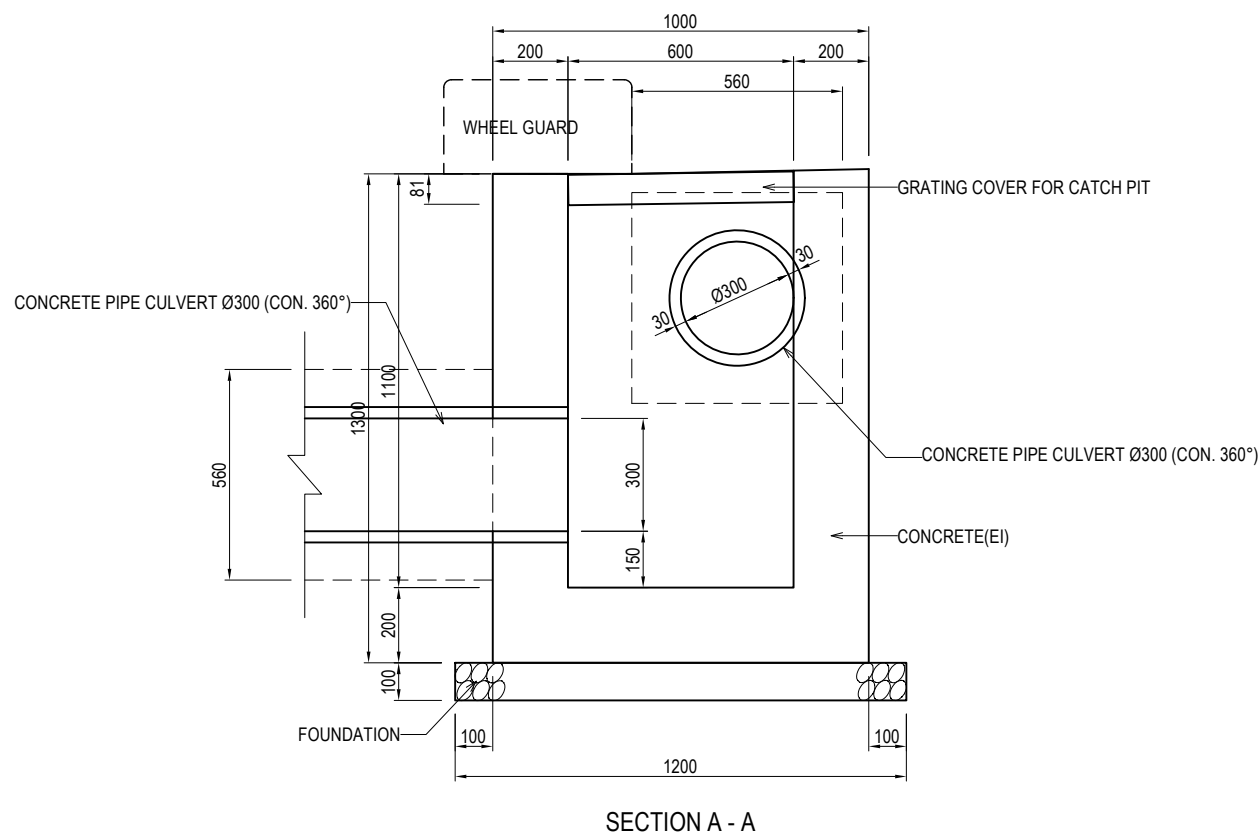
# DETAIL OF CATCH PIT (3) S=1:20

## CATCH PIT (C-DITCH) TYPE B

Note  
1. Specification of Plain Concrete should be CLASS EI



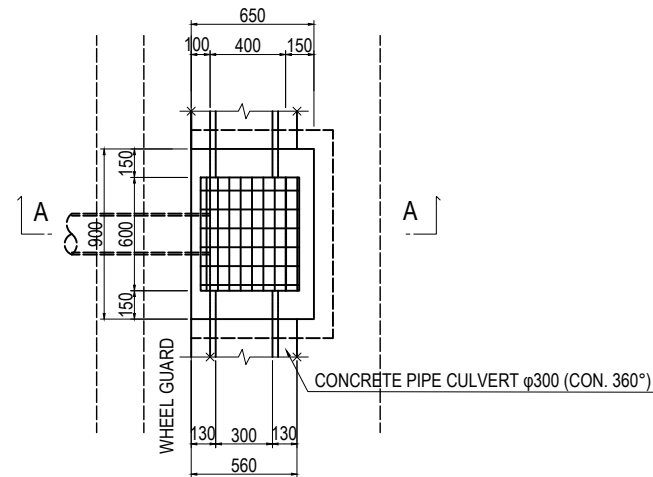
### DETAIL OF GRATING COVER FOR CATCH PIT



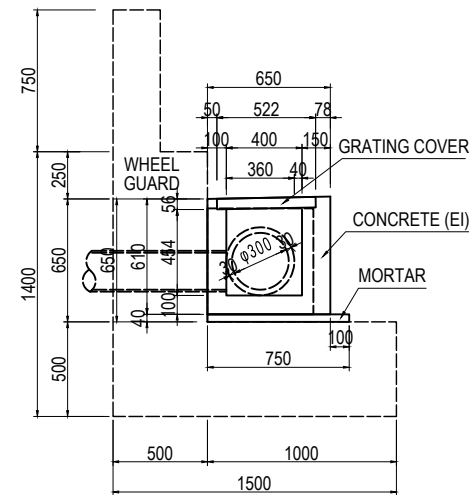
Title	Specification	Quantity
Body		
Concrete	18N/mm <sup>2</sup>	8.570 m <sup>3</sup>
Reinforcing bar		kg
Form		78.40 m <sup>2</sup>
Foundation	t=100	13.20 m <sup>2</sup>
Cover		
Grating Cover		10 each

# VERTICAL DRAIN TYPE A (1)

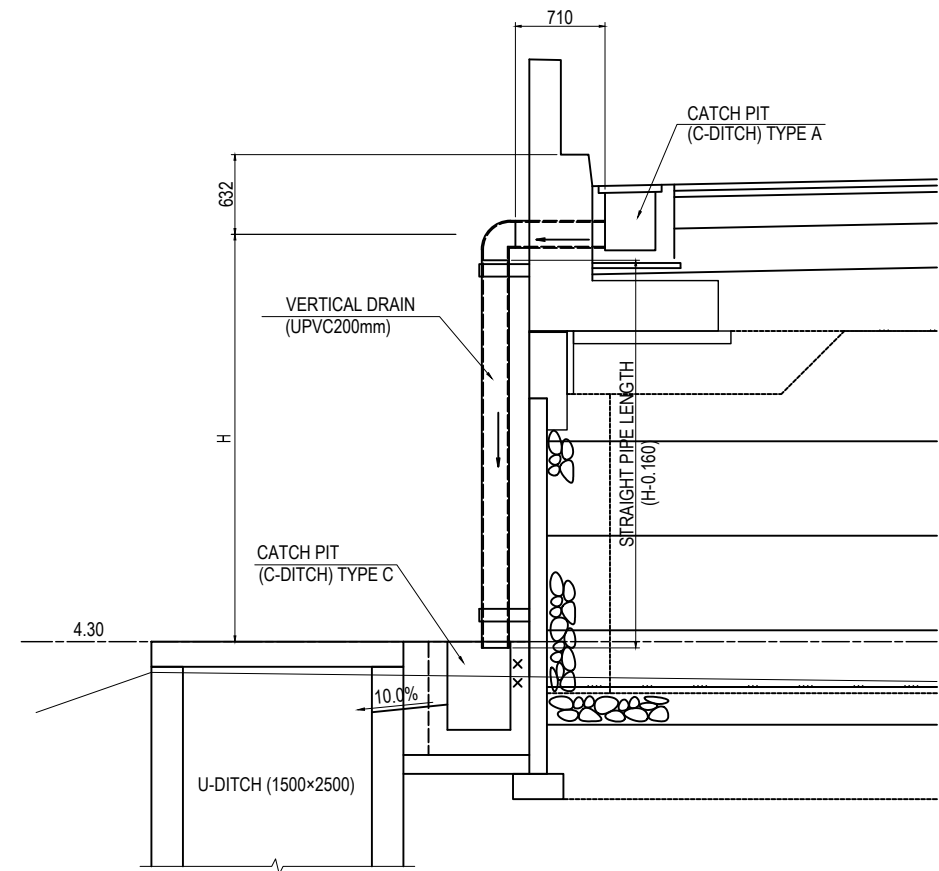
DETAIL OF CATCH PIT (C-DITCH) TYPE A S=1:20



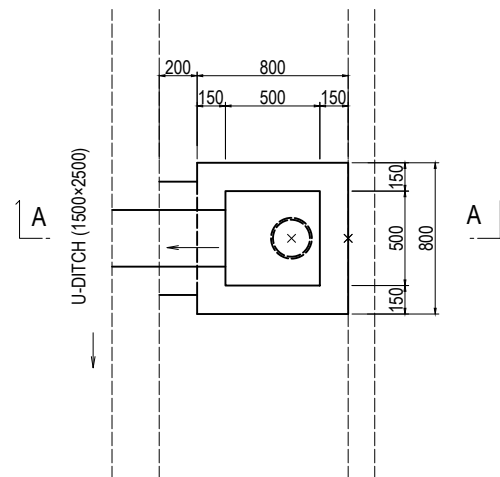
SECTION A-A



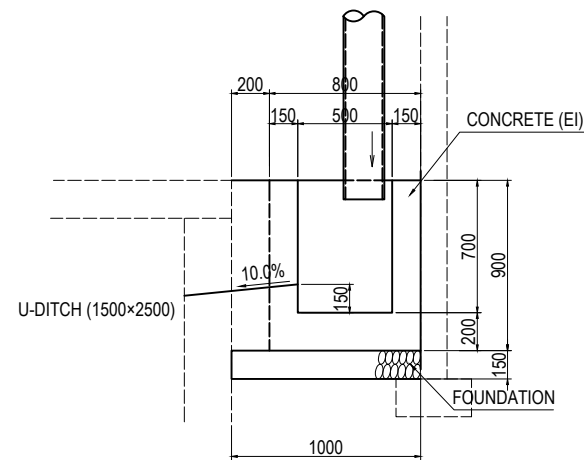
DETAIL OF VERTICAL DRAIN S=1:30



DETAIL OF CATCH PIT (C-DITCH) TYPE C S=1:20



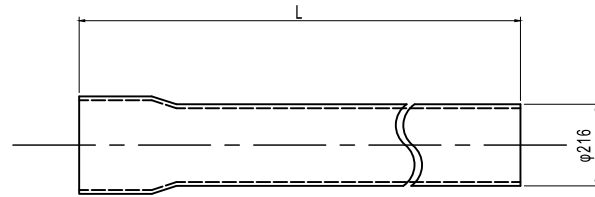
SECTION A-A



PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE VERTICAL DRAIN TYPE A (1)	PACKAGE	
				PREPARED BY	M. TORIU			15 Jun. 2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun. 2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun. 2017	P1-RD-3080

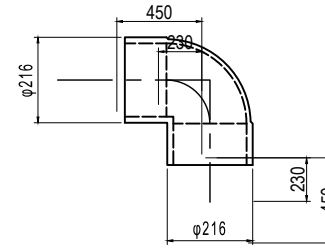
# VERTICAL DRAIN TYPE A (2)

UPVC200mm(8inch) S=1:10  
(O.D.216mm)

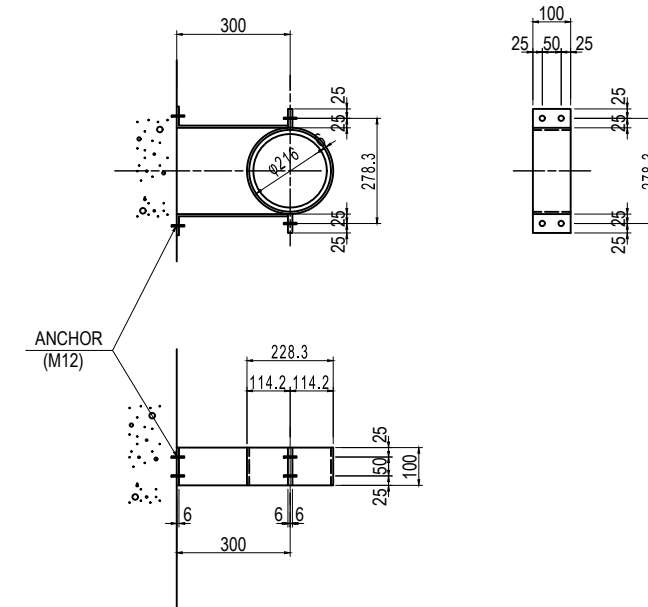


Note: UPVC pipes one end with Socket shape

JOINT (90°) 200mm (8inch) S=1:10



PIPE BRACE S=1:10  
(200mm)

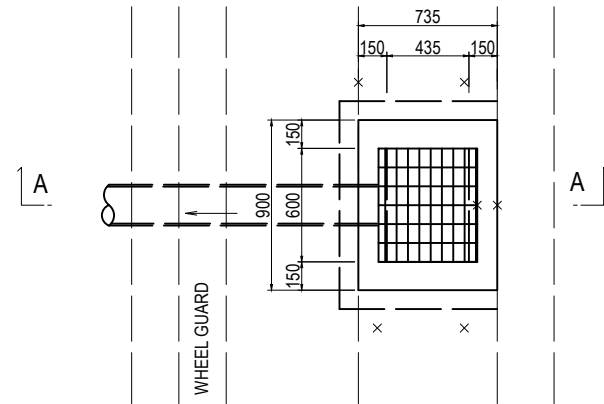


Vertical Drain Location	Ground	H	Pipe Length (m)			JOINT (nos.)	Remark		
			Straight	Cross	Total				
PK1(Thanlyin side)	0+260.000	4.30	1.684	1.524	0.710	2.8570	1		
	0+285.000	4.30	2.261	2.101	0.710	3.434	1		
	0+325.000	4.30	3.074	2.914	0.710	4.247	1		
						<b>Total</b>	<b>10.538</b>	<b>3</b>	
PK2(Thaketa side)	2+428.400	4.30	3.429	3.268	0.710	4.601	1		
	2+448.400	4.30	3.125	2.965	0.710	4.298	1		
	2+458.400	4.30	2.996	2.836	0.710	4.169	1		
	2+468.400	4.30	2.920	2.760	0.973	4.356	1		
	2+478.400	4.30	2.859	2.699	0.973	4.295	1		
	2+488.400	4.30	2.849	2.689	0.973	4.285	1		
	2+505.500	4.30	2.719	2.559	0.973	4.155	1	CATCH PIT TYPE C	
	2+518.700	4.30	2.814	2.654	0.973	4.250	1		
	2+528.700	4.30	2.853	2.693	0.973	4.289	1		
	2+538.700	4.30	2.901	2.741	0.973	4.337	1		
	2+548.700	4.30	2.987	2.827	0.710	4.160	1		
	2+558.700	4.30	3.086	2.926	0.710	4.259	1		
	2+578.700	4.30	3.363	3.203	0.710	4.536	1		
	2+600.000	4.30	3.728	3.568	0.710	4.901	1		
	2+705.000	4.30	1.246	1.086	0.710	2.419	1		
	2+730.000	4.30	0.277	0.117	0.710	1.450	1		
2+755.000	4.30	0.218	0.058	0.710	1.391	1			
						<b>Total</b>	<b>66.151</b>	<b>17</b>	

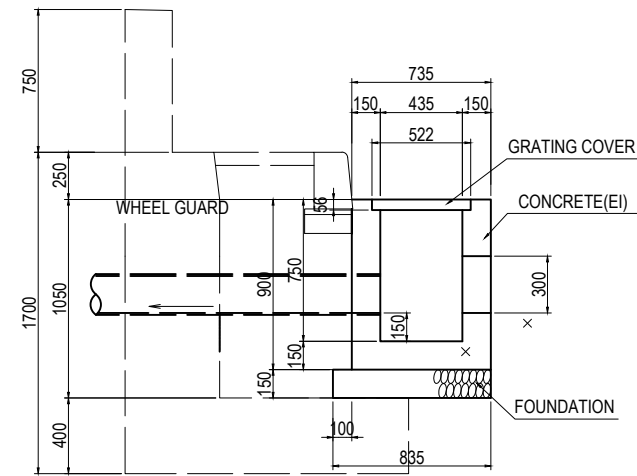


# VERTICAL DRAIN TYPE A (3)

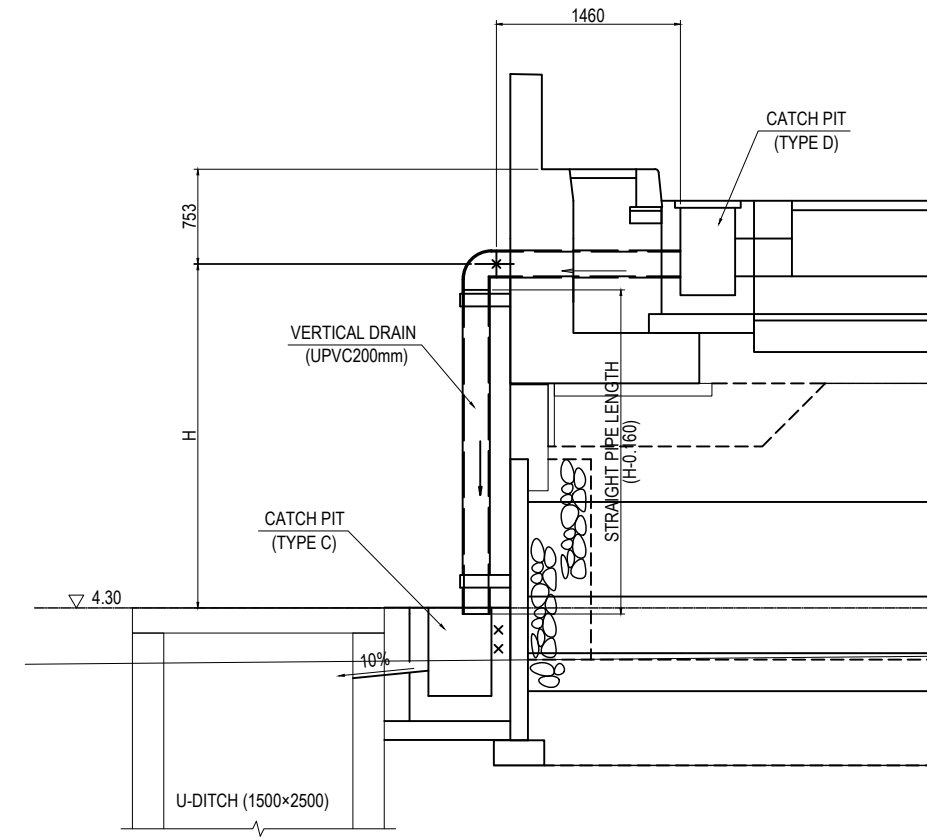
DETAIL OF CATCH PIT (C-DITCH) TYPE D S=1:20  
(STA.2+505.500)



SECTION A-A



DETAIL OF VERTICAL DRAIN S=1:30  
(STA.2+505.500)

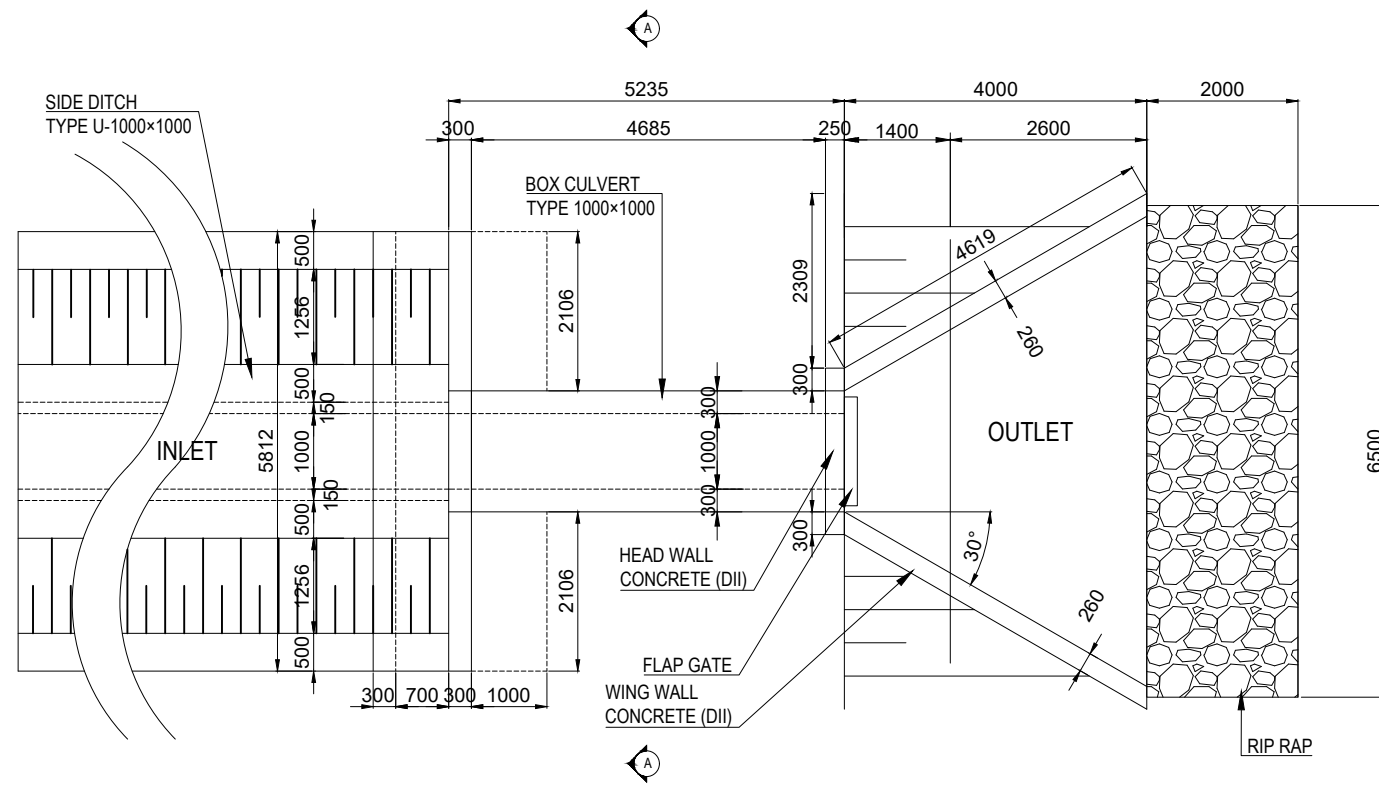


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE	
				PREPARED BY	M. TORIU				15 Jun. 2017
				CHECKED BY	T. HAYAKAWA				20 Jun. 2017
				APPROVED BY	Y. SANO				21 Jun. 2017
							VERTICAL DRAIN TYPE A (3)	1	
								DWG No.	
								P1-RD-3082	

# DRAINAGE OUTLET TYPE-A (1)

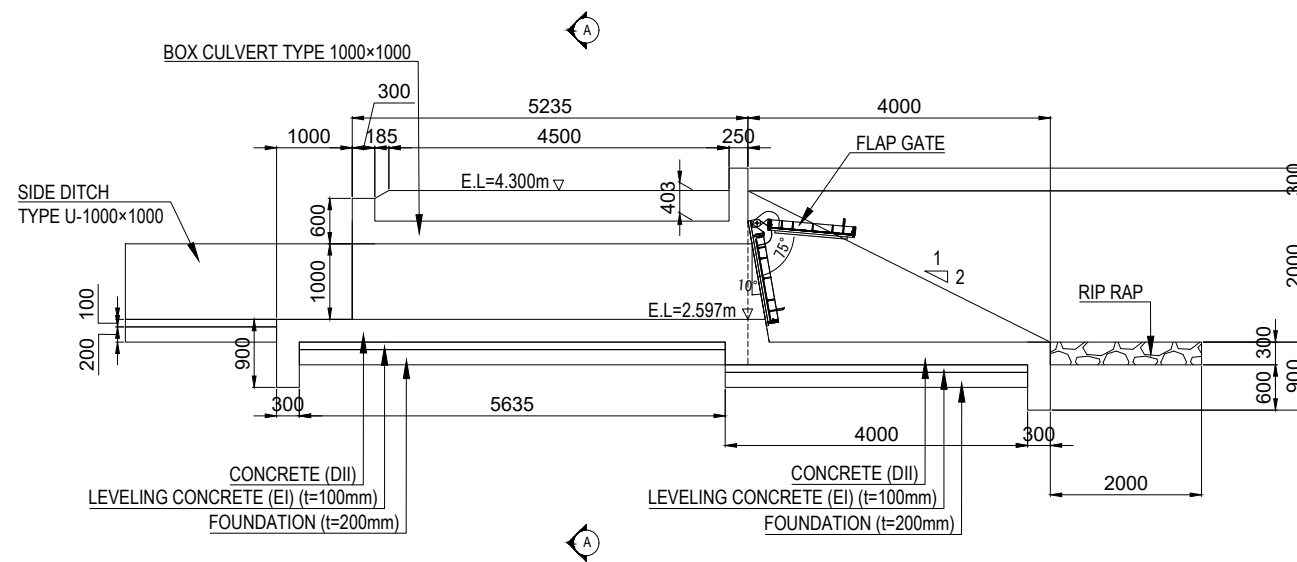
## LEFT SIDE OF MAIN ROAD (1) S=1:100

PLAN VIEW



- NOTES:
1. Concrete Class DII (240 kg/cm<sup>2</sup>)
  2. Steel Reinforcement SD345

SECTION

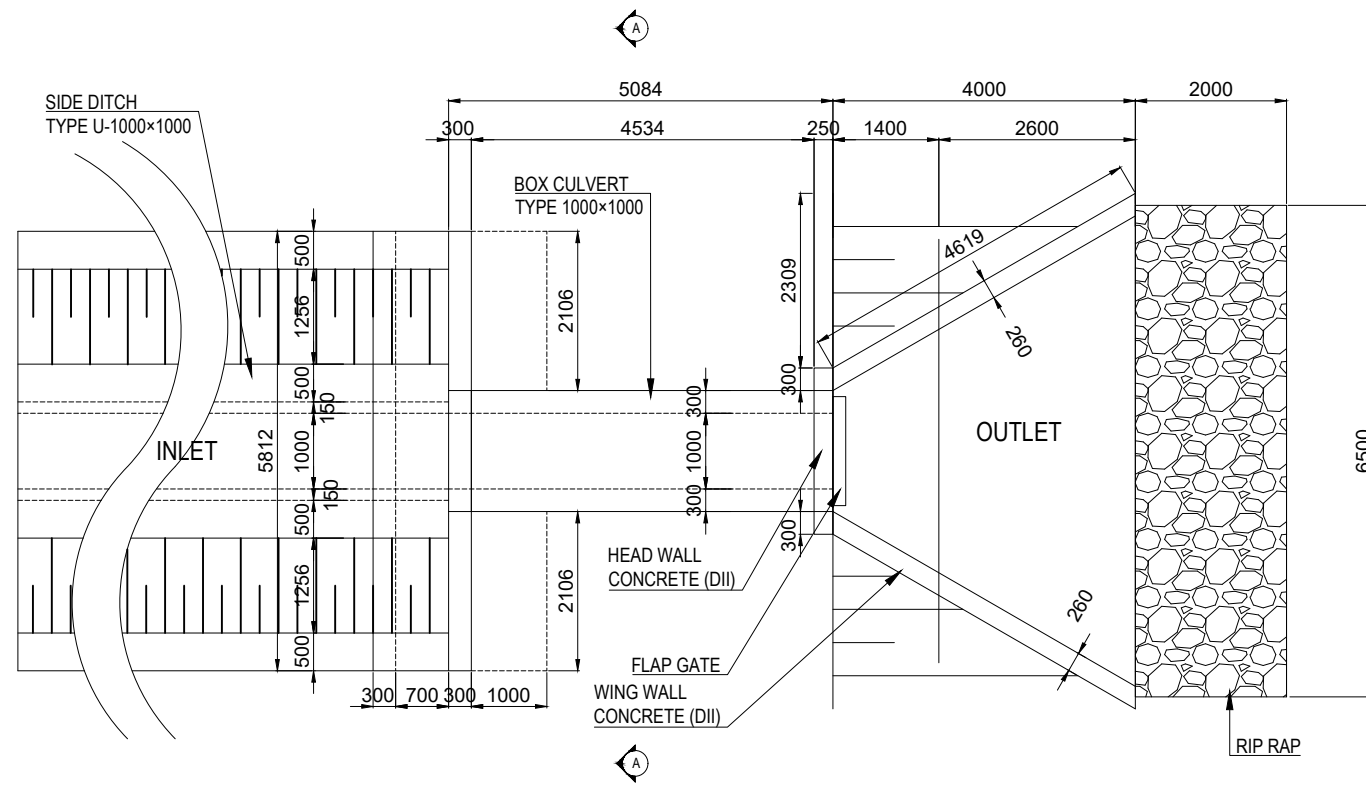


LOCATION		LEFT RIVER BANK
INSIDE DIMENSION	WIDTH	1.000 m
	HEIGHT	1.000 m
TOTAL BOX CULVERT LENGTH		5.235 m
UNIT WEIGHT	REINFORCED CONCRETE	24.5 kN/m <sup>3</sup>
	SOIL	18.0 kN/m <sup>3</sup>
CONCRETE DESIGN STRENGTH		24.0 N/mm <sup>2</sup>
ALLOWABLE STRESS	COMPRESSIVE STRESS DUE TO BENDING	8 N/mm <sup>2</sup>
	SHEARING STRESS	0.39 N/mm <sup>2</sup>
	TENSILE STRESS (SD345)	160 N/mm <sup>2</sup>
COEFFICIENT OF EARTH PRESSURE		0.5000
IMPACT COEFFICIENT		-
SEISMIC COEFFICIENT		-
ANGLE OF SKEW		90°0'0"
RADIUS OF CURVATURE		R = ∞
GRADIENT OF BOX CULVERT		i = 0.100 %

# DRAINAGE OUTLET TYPE-A (2)

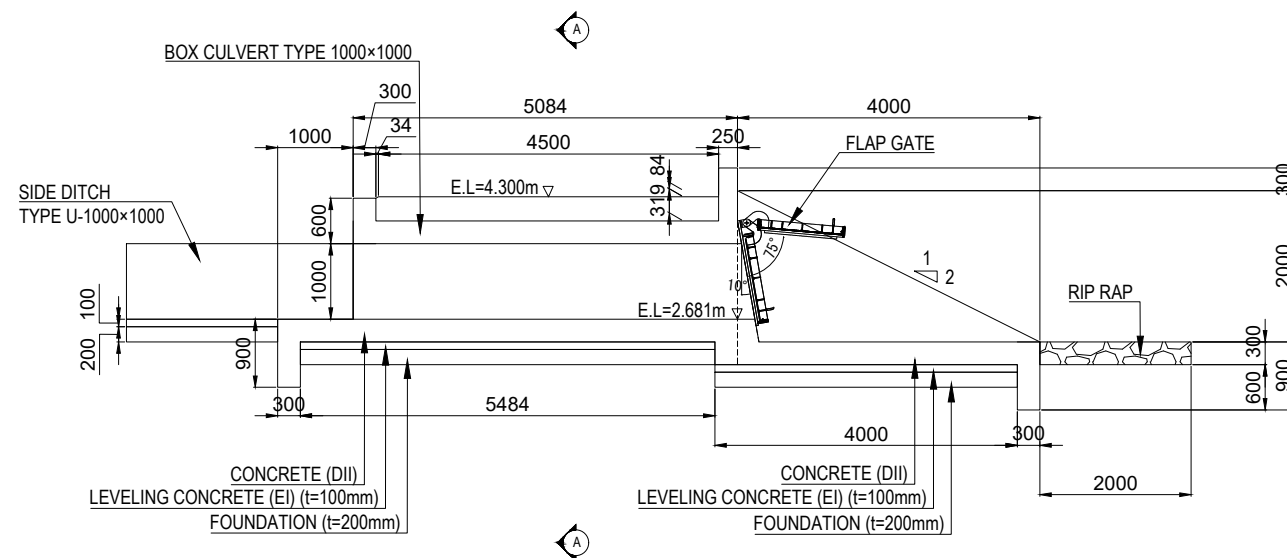
## RIGHT SIDE OF MAIN ROAD (1) S=1:100

PLAN VIEW



- NOTES:
1. Concrete Class DII (240 kg/cm<sup>2</sup>)
  2. Steel Reinforcement SD345

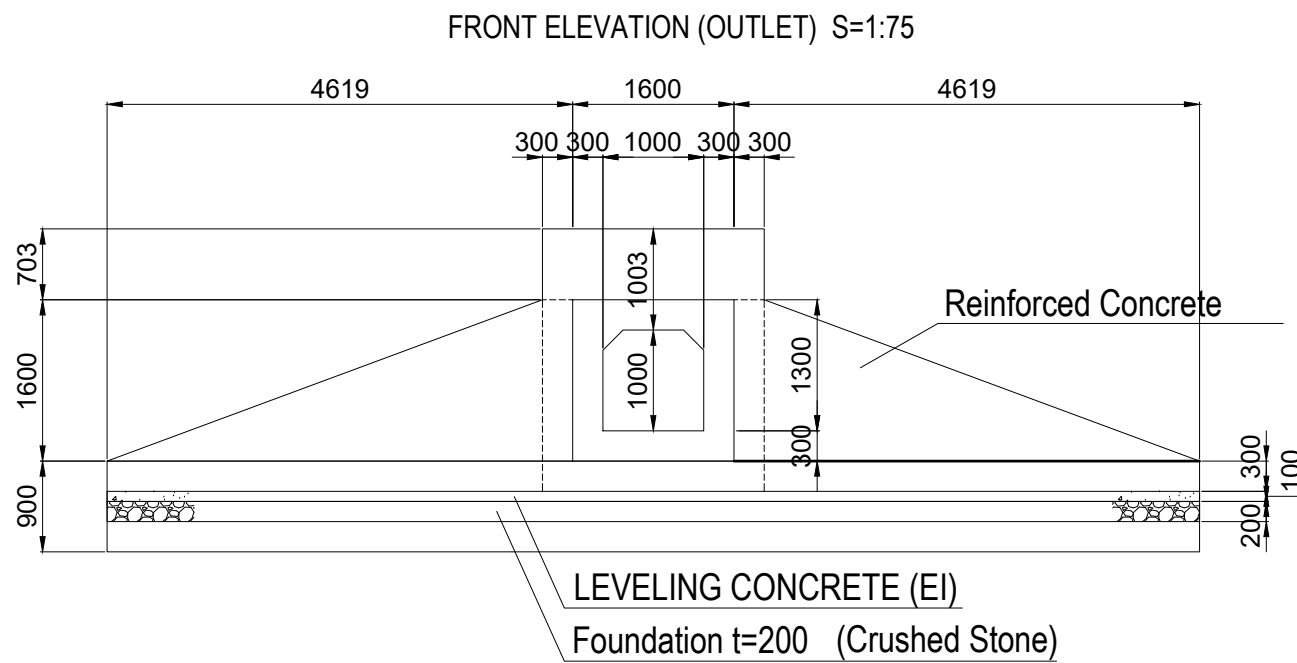
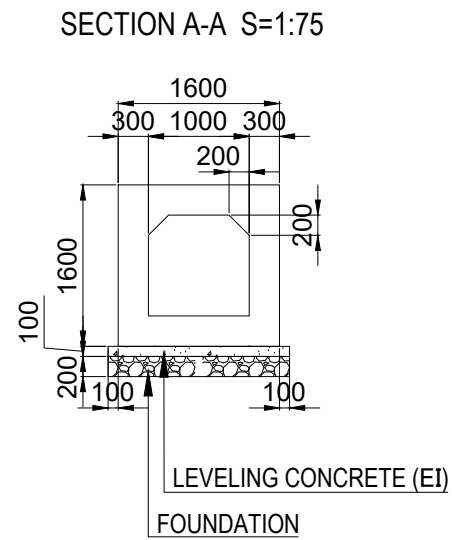
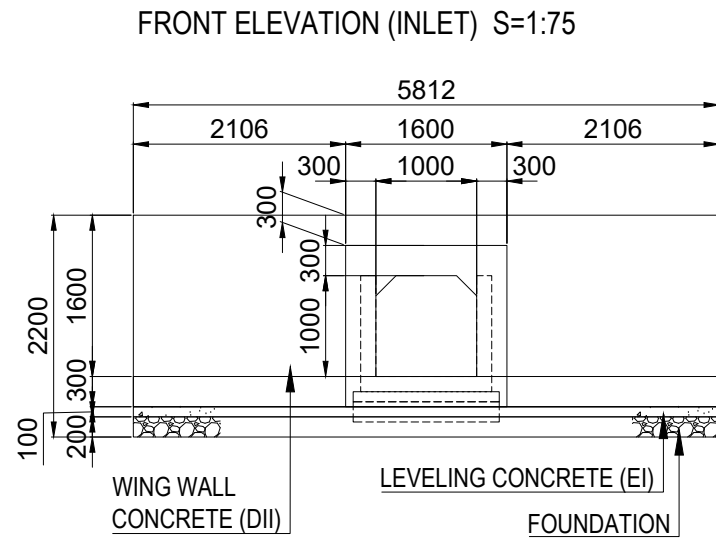
SECTION



LOCATION		LEFT RIVER BANK
INSIDE DIMENSION	WIDTH	1.000 m
	HEIGHT	1.000 m
TOTAL BOX CULVERT LENGTH		5.084 m
UNIT WEIGHT	REINFORCED CONCRETE	24.5 kN/m <sup>3</sup>
	SOIL	18.0 kN/m <sup>3</sup>
CONCRETE DESIGN STRENGTH		24.0 N/mm <sup>2</sup>
ALLOWABLE STRESS	COMPRESSIVE STRESS DUE TO BENDING	8 N/mm <sup>2</sup>
	SHEARING STRESS	0.39 N/mm <sup>2</sup>
	TENSILE STRESS (SD345)	160 N/mm <sup>2</sup>
COEFFICIENT OF EARTH PRESSURE		0.5000
IMPACT COEFFICIENT		-
SEISMIC COEFFICIENT		-
ANGLE OF SKEW		90°0'0"
RADIUS OF CURVATURE		R = ∞
GRADIENT OF BOX CULVERT		i = 0.100 %

## DRAINAGE OUTLET TYPE-A (3)

INLET AND OUTLET FOR TYPE A S=1:75

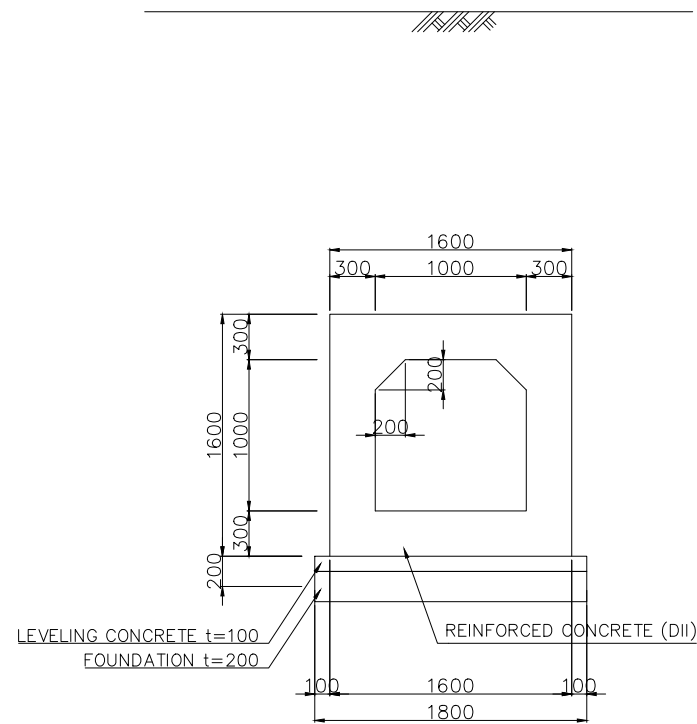


### QUANTITIES OF DRAINAGE OUTLET

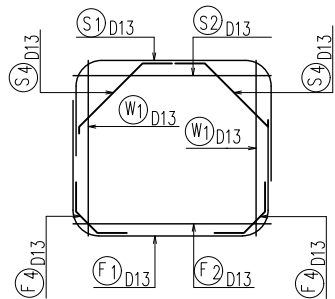
No.	Description	Width	Length	Thickness	Height	Number	Unit	Quantity
		W	L	T	H	N		
1	Box 1000x1000		5.235				m	5.235
2	Leveling concrete						m <sup>3</sup>	2.794
	Outlet Slab1	2.200	4.000	0.100		1	m <sup>3</sup>	0.880
	Outlet Slab2	2.309	3.950	0.100		1	m <sup>3</sup>	0.912
	Inlet Slab	5.812	1.000	0.100		1	m <sup>3</sup>	0.581
	Inlet Wall	2.106	1.000	0.100		2	m <sup>3</sup>	0.421
3	Foundation						m <sup>3</sup>	5.588
	Outlet Slab1	2.200	4.000	0.200		1	m <sup>3</sup>	1.760
	Outlet Slab2	2.309	3.950	0.200		1	m <sup>3</sup>	1.824
	Inlet Slab	5.812	1.000	0.200		1	m <sup>3</sup>	1.162
	Inlet Wall	2.106	1.000	0.200		2	m <sup>3</sup>	0.842
4	Reinforced Concrete (DII)						m <sup>3</sup>	15.845
	Inlet Front Slab	5.812	0.700	0.300		1	m <sup>3</sup>	1.221
	Inlet Back Slab	2.106	1.000	0.300		2	m <sup>3</sup>	1.264
	Inlet Wall1	5.812		0.300	2.500	1	m <sup>3</sup>	4.359
	Inlet Wall2	1.600		0.300	1.300	-1	m <sup>3</sup>	-0.624
	Outlet Slab1	1.600	4.000	0.300		1	m <sup>3</sup>	1.920
	Outlet Slab2	2.309	4.000	0.300		1	m <sup>3</sup>	2.771
	Outlet Slab3	6.518		0.300	0.600	1	m <sup>3</sup>	1.173
	Outlet Wing Wall1	4.619		0.300	1.600	1	m <sup>3</sup>	2.217
	Outlet Wing Wall2	4.619		0.260	0.300	2	m <sup>3</sup>	0.721
	Outlet Wing Wall3	0.300		0.300	1.900	2	m <sup>3</sup>	0.342
	Outlet Head Wall1	1.600		0.300	0.703	1	m <sup>3</sup>	0.337
	Outlet Head Wall2	1.600		0.300	0.300	1	m <sup>3</sup>	0.144
5	Formwork of out-let						m <sup>2</sup>	63.942
	Inlet Wall1	5.812			2.500	2	m <sup>2</sup>	29.060
	Inlet Wall2	1.600			1.000	-2	m <sup>2</sup>	-3.200
	Outlet Slab	6.518			0.900	2	m <sup>2</sup>	11.732
	Outlet Wing Wall	4.619			1.600	2	m <sup>2</sup>	14.781
	Outlet Head Wall1	2.200			2.603	2	m <sup>2</sup>	11.453
	Outlet Head Wall2	1.600			1.000	-2	m <sup>2</sup>	-3.200
	Leveling Concrete1	5.812			0.100	2	m <sup>2</sup>	1.162
	Leveling Concrete2	10.768			0.100	2	m <sup>2</sup>	2.154
6	Riprap for Bedding Stone	6.500	2.000	0.300		1	m <sup>3</sup>	3.900

# DRAINAGE OUTLET TYPE-A (4) BAR ARRANGEMENT OF BOX CULVERT S=1:50

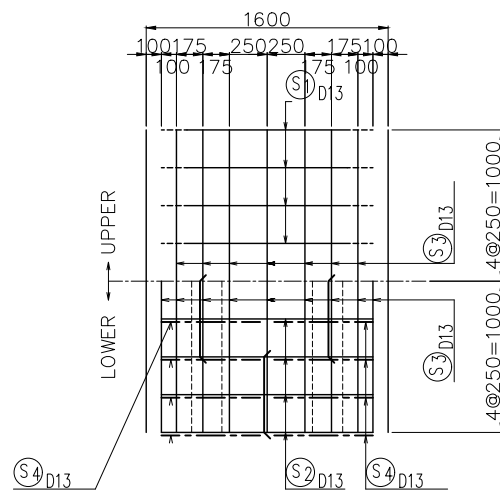
GENERAL DRAWING S=1:50



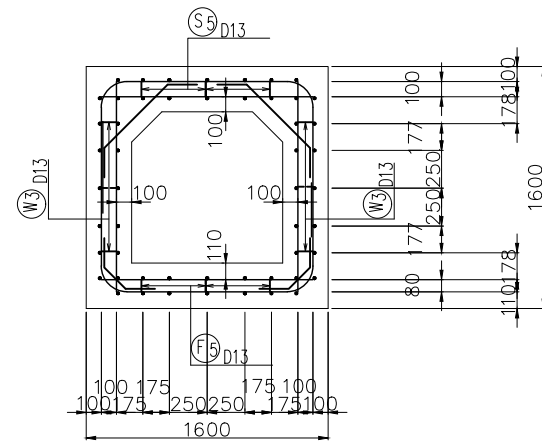
ERECTION DIAGRAM OF MAIN REINFORCEMENT



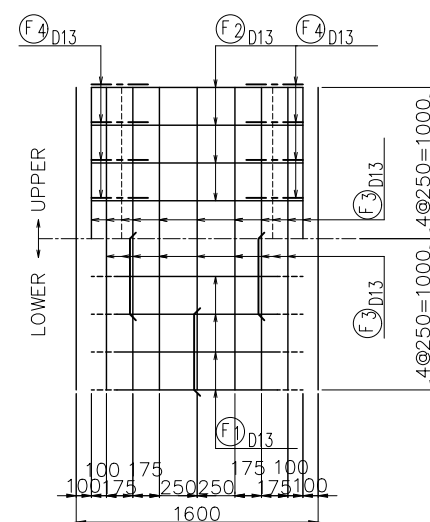
TOP SLAB



SECTION S=1:50



BOTTOM SLAB



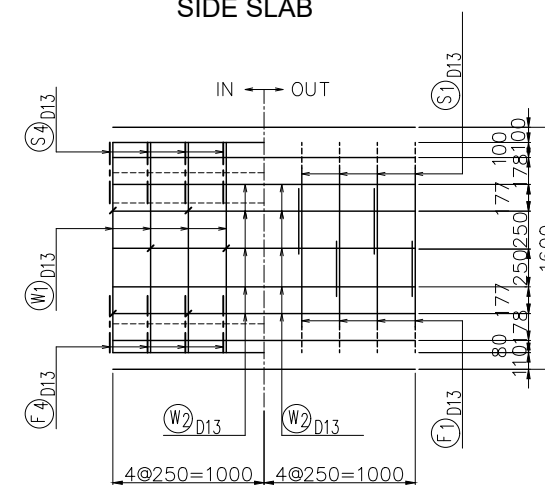
DESIGN CRITERIA

INSIDE DIMENSION		WIDTH	1.00 m
		HEIGHT	1.00 m
LIVE LOAD		T-TYPE LIVE LOAD	
UNIT WEIGHT	REINFORCED CONCRETE (DII)	24.5	kN/m <sup>3</sup>
	SOIL	18	kN/m <sup>3</sup>
CONCRETE DESIGN STRENGTH		24	N/mm <sup>2</sup>
ALLOWABLE STRESS			
COMPRESSIVE STRESS DUE TO BENDING		8	N/mm <sup>2</sup>
SHEARING STRESS		0.39	N/mm <sup>2</sup>
TENSILE STRESS (SD345)		160	N/mm <sup>2</sup>
COEFFICIENT OF EARTH PRESSURE		0.5	
IMPACT COEFFICIENT		-	
SEISMIC COEFFICIENT		-	
ANGLE OF SKEW		90°00'00"	
RADIUS OF CURVATURE		R=∞	
GRADIENT OF BOX CULVERT		i=0.100%	

(PER 1m)

MARK	No.	SEC.	EACH	LENGTH (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	H (mm)	R (mm)
S 1	4	D13	4	3080	600	220	1120	920		140
S 2	1	D13	4	1400	1400					
S 3	1	D13	16	1000	1000					
S 4	5	D13	8	1040	195	649			459	
S 5	3	D13	3	980		126				
W 1	1	D13	8	1390	1390					
W 2	1	D13	20	1000	1000					
W 3	2	D13	12	360		152				
F 1	4	D13	4	3080	600	220	1120	920		140
F 2	1	D13	4	1400	1400					
F 3	1	D13	16	1000	1000					
F 4	5	D13	8	650	195	255			180	
F 5	3	D13	3	940		106				

SIDE SLAB



LIST OF REINFORCEMENT (PER 1m)

MARK	SEC.	LENGTH (mm)	EACH	WEIGHT (kg/m)	WEIGHT/one (kg)	WEIGHT (kg)	REMARKS
S 1	D13	3080	4	0.995	3.065	12.260	
S 2	D13	1400	4	0.995	1.393	5.572	
S 3	D13	1000	16	0.995	0.995	15.920	
S 4	D13	1040	8	0.995	1.035	8.280	
S 5	D13	980	3	0.995	0.975	2.925	
W 1	D13	1390	8	0.995	1.383	11.064	
W 2	D13	1000	20	0.995	0.995	19.900	
W 3	D13	360	12	0.995	0.358	4.296	
F 1	D13	3080	4	0.995	3.065	12.260	
F 2	D13	1400	4	0.995	1.393	5.572	
F 3	D13	1000	16	0.995	0.995	15.920	
F 4	D13	650	8	0.995	0.647	5.176	
F 5	D13	940	3	0.995	0.935	2.805	

MATERIALS (PER 1m)

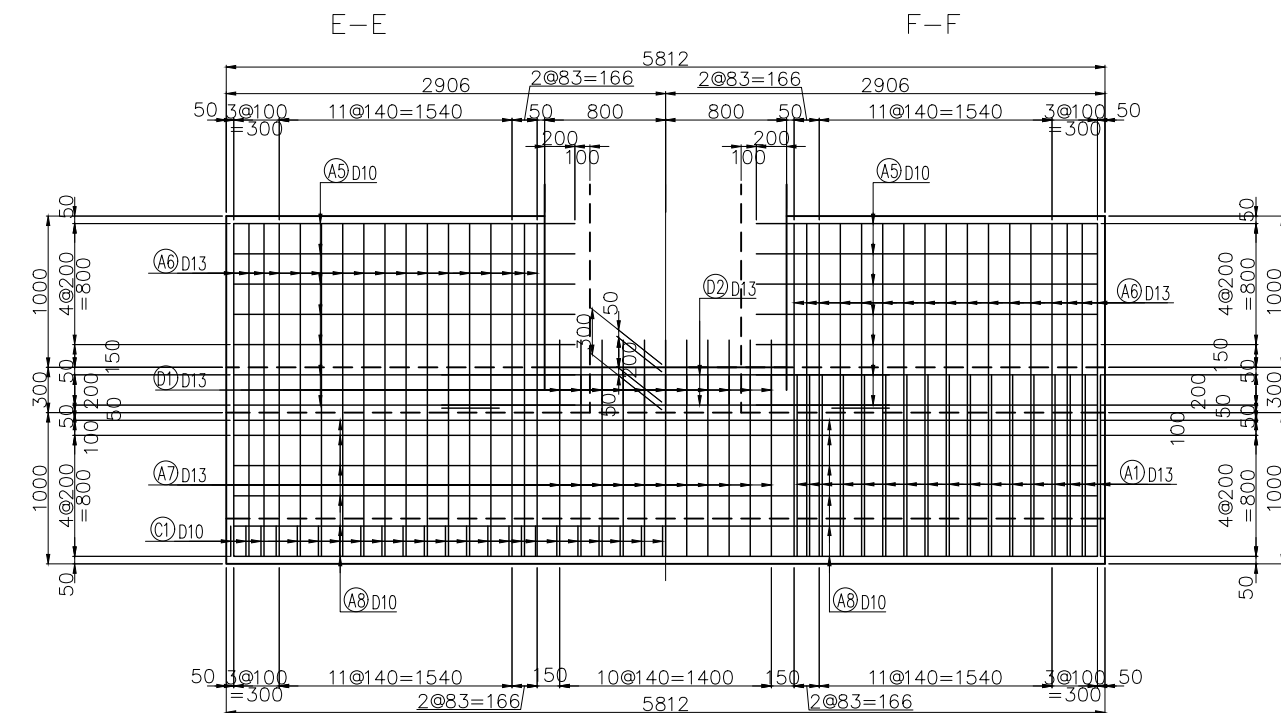
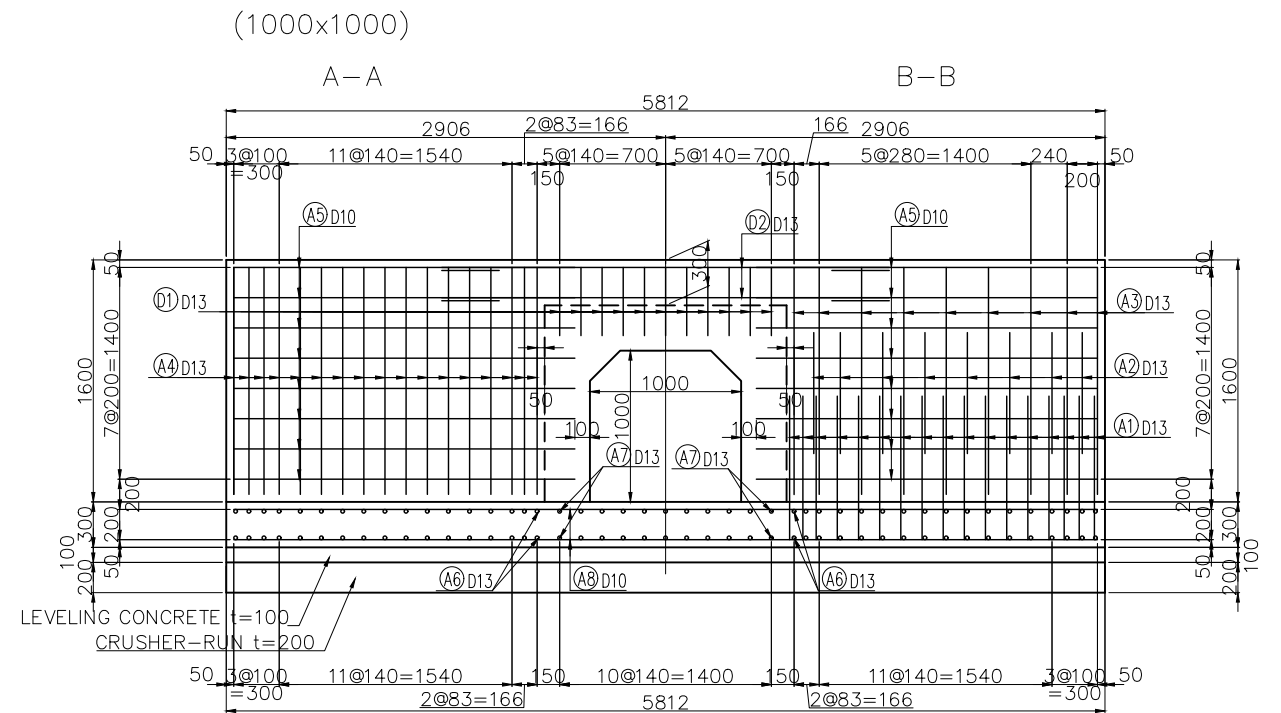
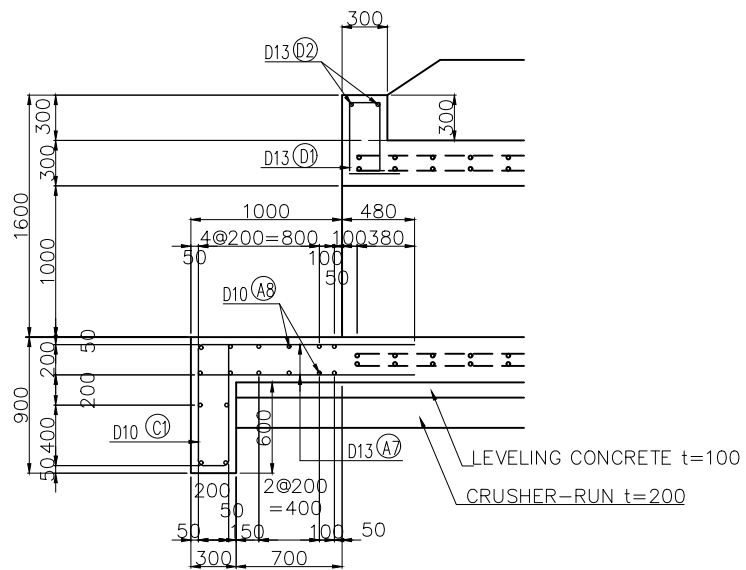
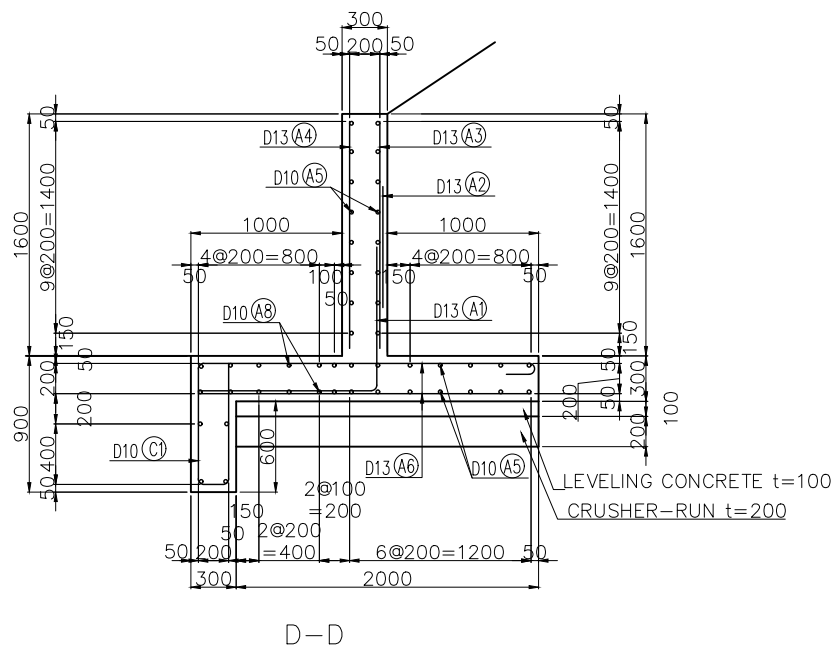
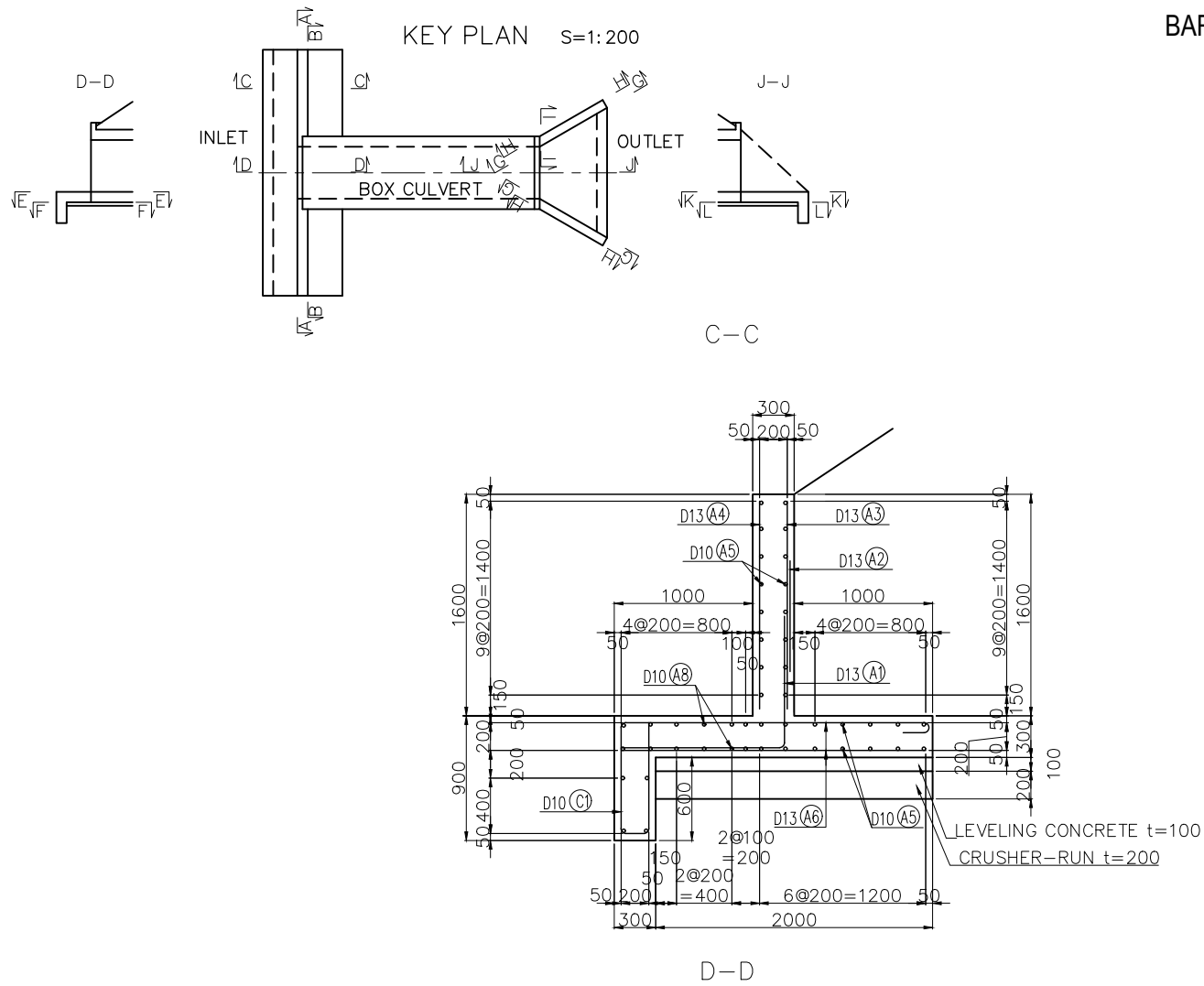
KIND	UNIT	QUANTITY
CONCRETE (DII)	TOP	m <sup>3</sup> 0.480
	SIDE	m <sup>3</sup> 0.640
	BOTTOM	m <sup>3</sup> 0.480
	TOTAL	m <sup>3</sup> 1.600
FORM	m <sup>2</sup>	5.966
REINFORCING BAR	D19	kg 0
	D16	kg 0
	D13	kg 121.950
	TOTAL	kg 121.950
	LEVELING CONCRETE (EI) t=100	m <sup>2</sup>
FOUNDATION t=200	m <sup>2</sup>	0.360

D	a (mm)	b (mm)	c (mm)	R (mm)	L (mm)
D13	66	164	230	42	410
D16	75	195	270	48	500
D19	94	236	330	60	600
D22	104	266	370	66	690
D25	122	308	430	78	790
D29	141	349	490	90	910
D32	151	389	540	96	1000

Note1: Size of Box Culvert and Bar Arrangement are based on Standard Drawing of Ministry of Land, Infrastructure, Transport and Tourism of Japan  
 Note2: Specification of Steel Reinforcement Bar shall comply with SD345 (JIS G3112) or equivalent

# DRAINAGE OUTLET TYPE-A (5)

## BAR ARRANGEMENT OF INLET S=1:200

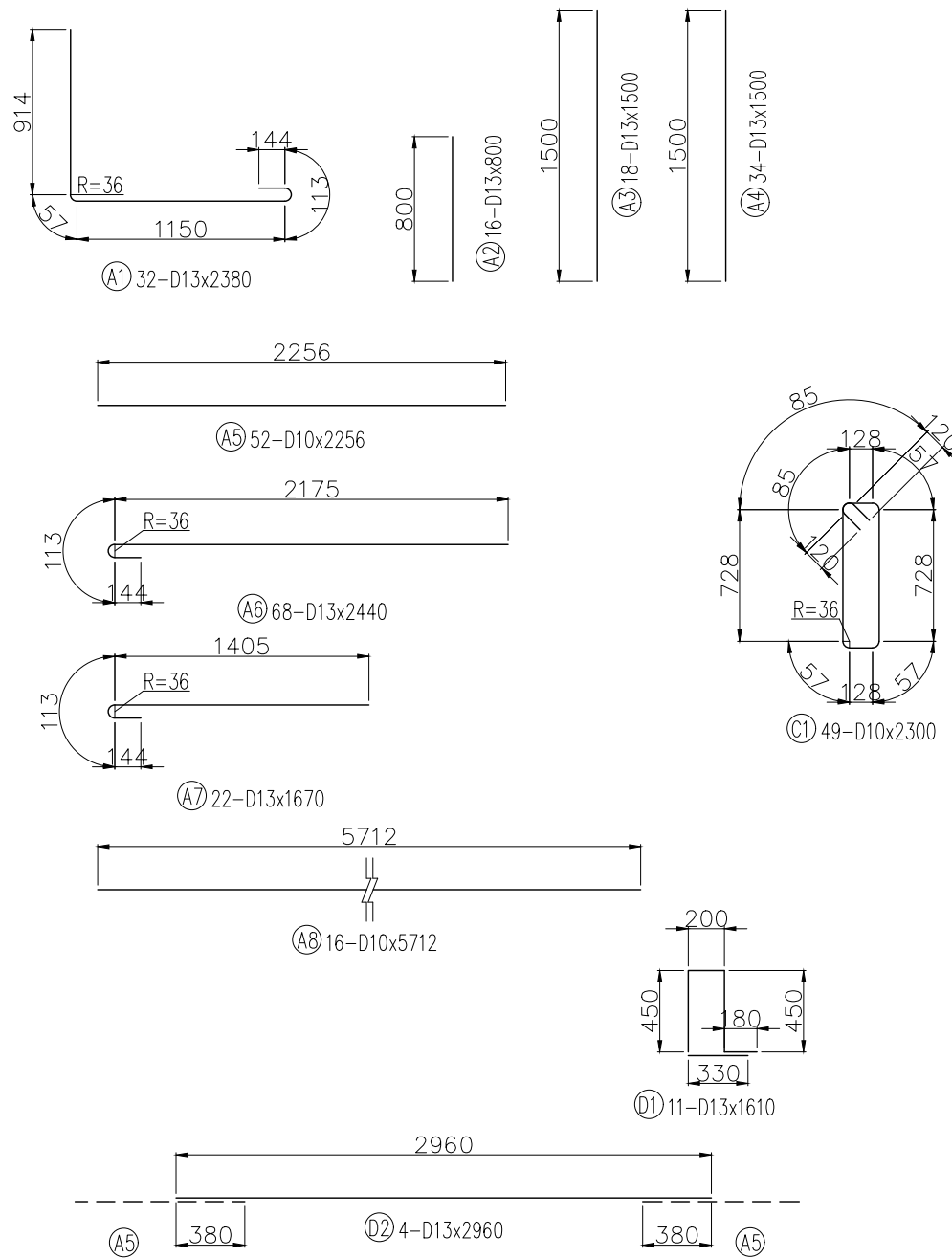


PROJECT NAME <b>DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT</b>	FINANCED BY <b>JAPAN INTERNATIONAL COOPERATION AGENCY</b>	COUNTERPART <b>REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE</b>	JICA STUDY TEAM <b>NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">NAME</th> <th style="width: 15%;">SIGNATURE</th> <th style="width: 15%;">DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY M. TORIU</td> <td></td> <td>15 Jun. 2017</td> </tr> <tr> <td>CHECKED BY T. HAYAKAWA</td> <td></td> <td>20 Jun. 2017</td> </tr> <tr> <td>APPROVED BY Y. SANO</td> <td></td> <td>21 Jun. 2017</td> </tr> </tbody> </table>	NAME	SIGNATURE	DATE	PREPARED BY M. TORIU		15 Jun. 2017	CHECKED BY T. HAYAKAWA		20 Jun. 2017	APPROVED BY Y. SANO		21 Jun. 2017	DRAWING TITLE <h3 style="text-align: center;">DRAINAGE OUTLET TYPE-A (5)</h3>	PACKAGE 1 DWG No. P1-RD-3094
NAME	SIGNATURE	DATE																
PREPARED BY M. TORIU		15 Jun. 2017																
CHECKED BY T. HAYAKAWA		20 Jun. 2017																
APPROVED BY Y. SANO		21 Jun. 2017																

# DRAINAGE OUTLET TYPE-A (6)

## BAR ARRANGEMENT OF INLET S=1:40

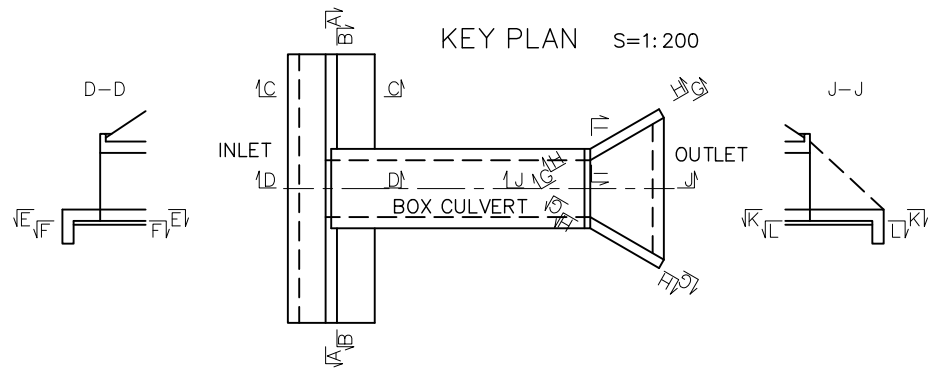
INLET



LIST OF REINFORCEMENT(INLET)

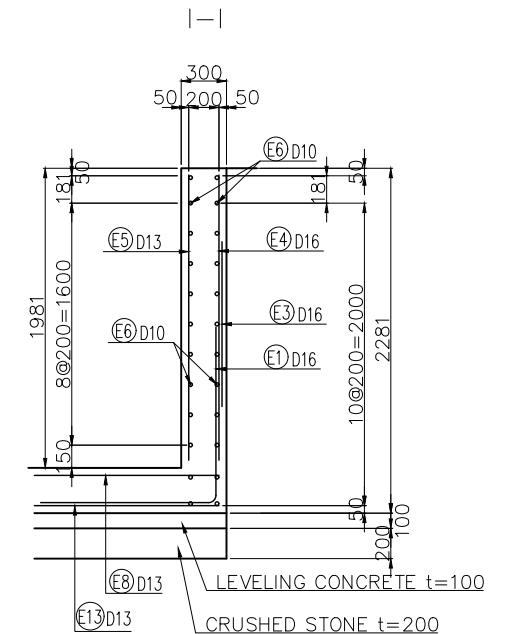
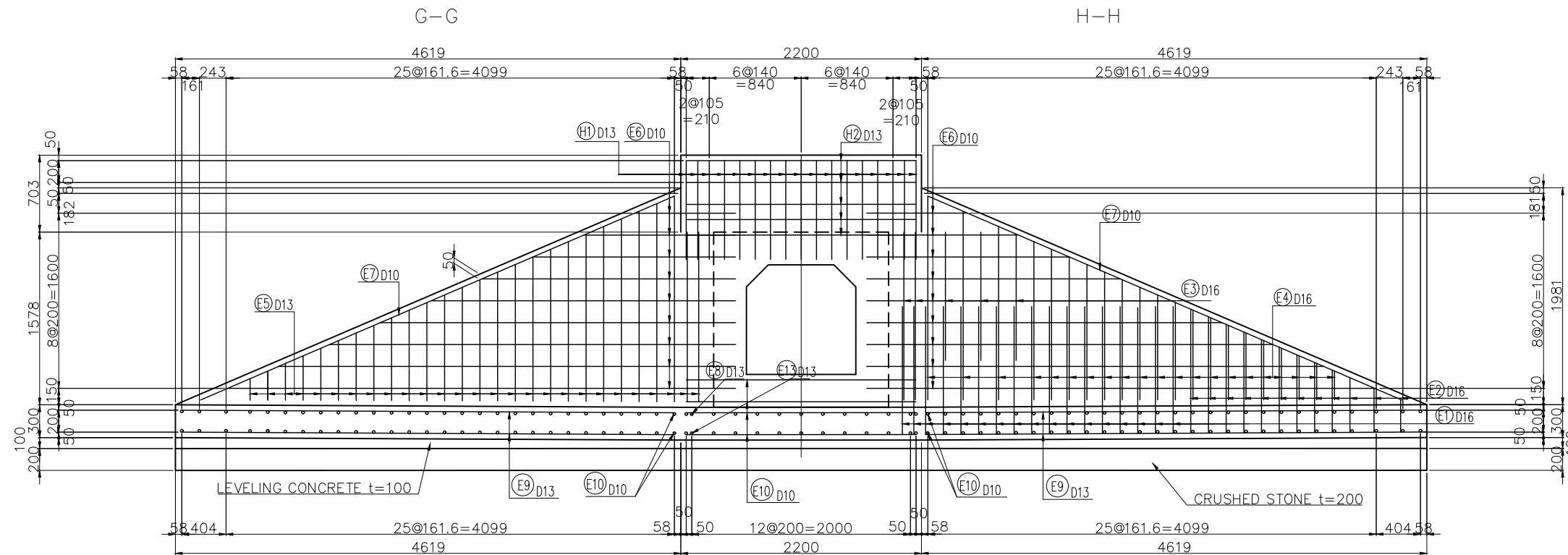
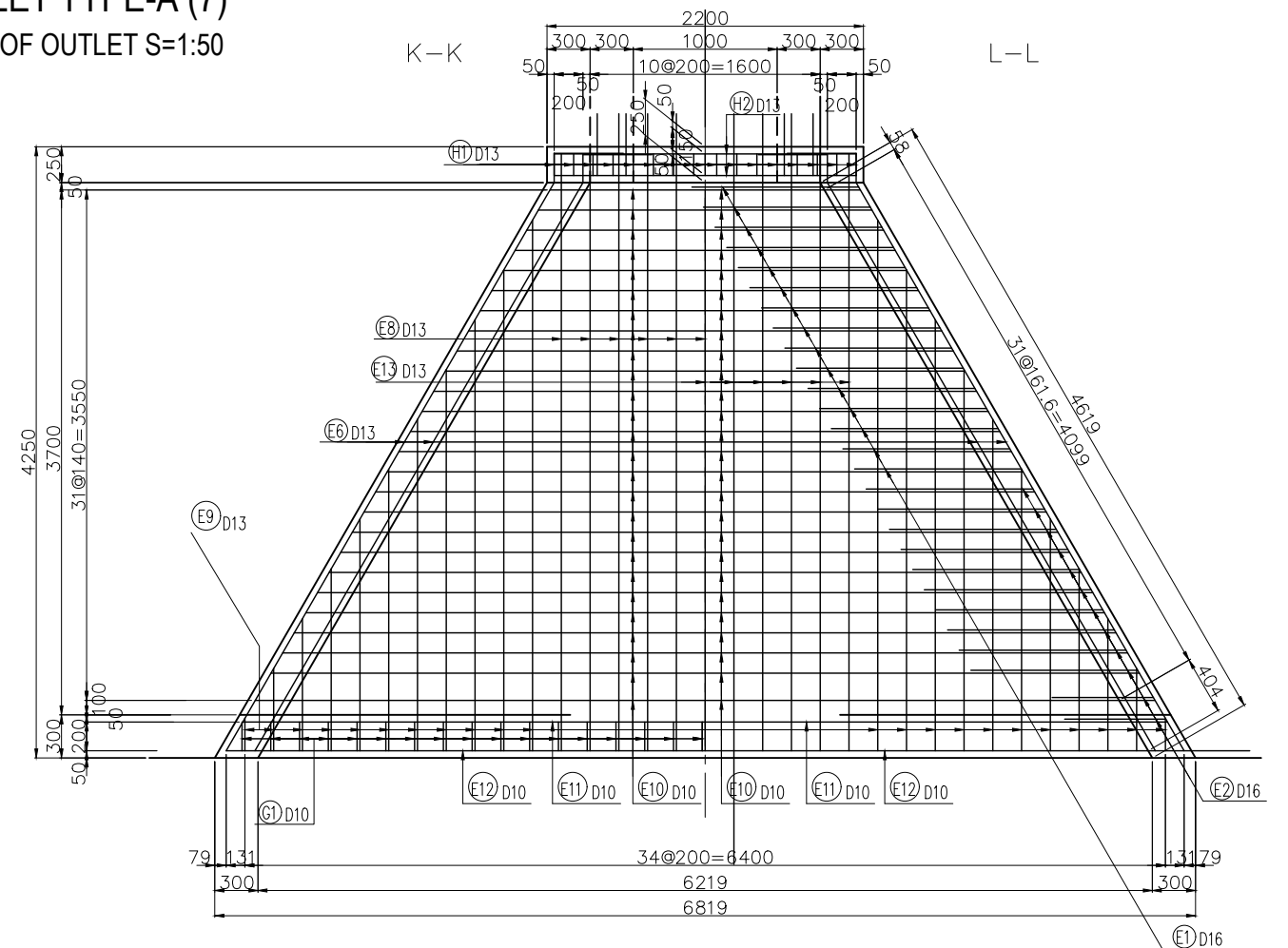
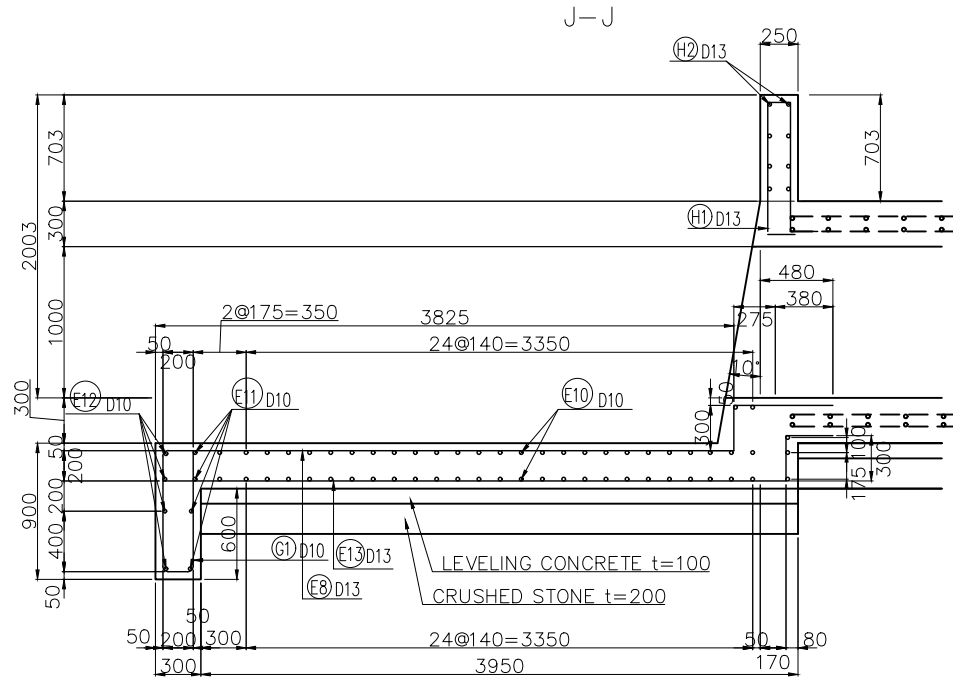
MARK	SEC.	LENGTH (mm)	EACH	WEIGHT (kg/m)	WEIGHT/one (kg)	WEIGHT (kg)	REMARKS
A 1	D13	2 380	32	0.995	2.368	76	L
A 2	"	800	16	"	0.796	13	
A 3	"	1 500	18	"	1.493	27	
A 4	"	1 500	34	"	1.493	51	
A 5	D10	2 256	52	0.560	1.263	66	—
A 6	D13	2 440	68	0.995	2.428	165	—
A 7	"	1 670	22	"	1.662	37	—
A 8	D10	5 712	16	0.560	3.199	51	—
C 1	"	2 300	49	"	1.288	63	⊥
D 1	D13	1 610	11	0.995	1.602	18	⊥
D 2	"	2 960	4	"	2.945	12	—
SUB TOTAL						579	kg
D10						180	kg
D13						399	kg
Total						579	kg

D	a (mm)	b (mm)	c (mm)	R (mm)	L (mm)
D10	47	120	167	30	320
D13	57	144	201	36	380
D16	75	195	270	48	500
D19	94	240	334	60	630
L AND OVER					



### DRAINAGE OUTLET TYPE-A (7)

BAR ARRANGEMENT OF OUTLET S=1:50



PROJECT NAME  
 DETAILED DESIGN ON  
 BAGO RIVER BRIDGE  
 CONSTRUCTION PROJECT

FINANCED BY  
 JAPAN INTERNATIONAL  
 COOPERATION AGENCY

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

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

	NAME	SIGNATURE	DATE
PREPARED BY	M. TORIU		15 Jun. 2017
CHECKED BY	T. HAYAKAWA		20 Jun. 2017
APPROVED BY	Y. SANO		21 Jun. 2017

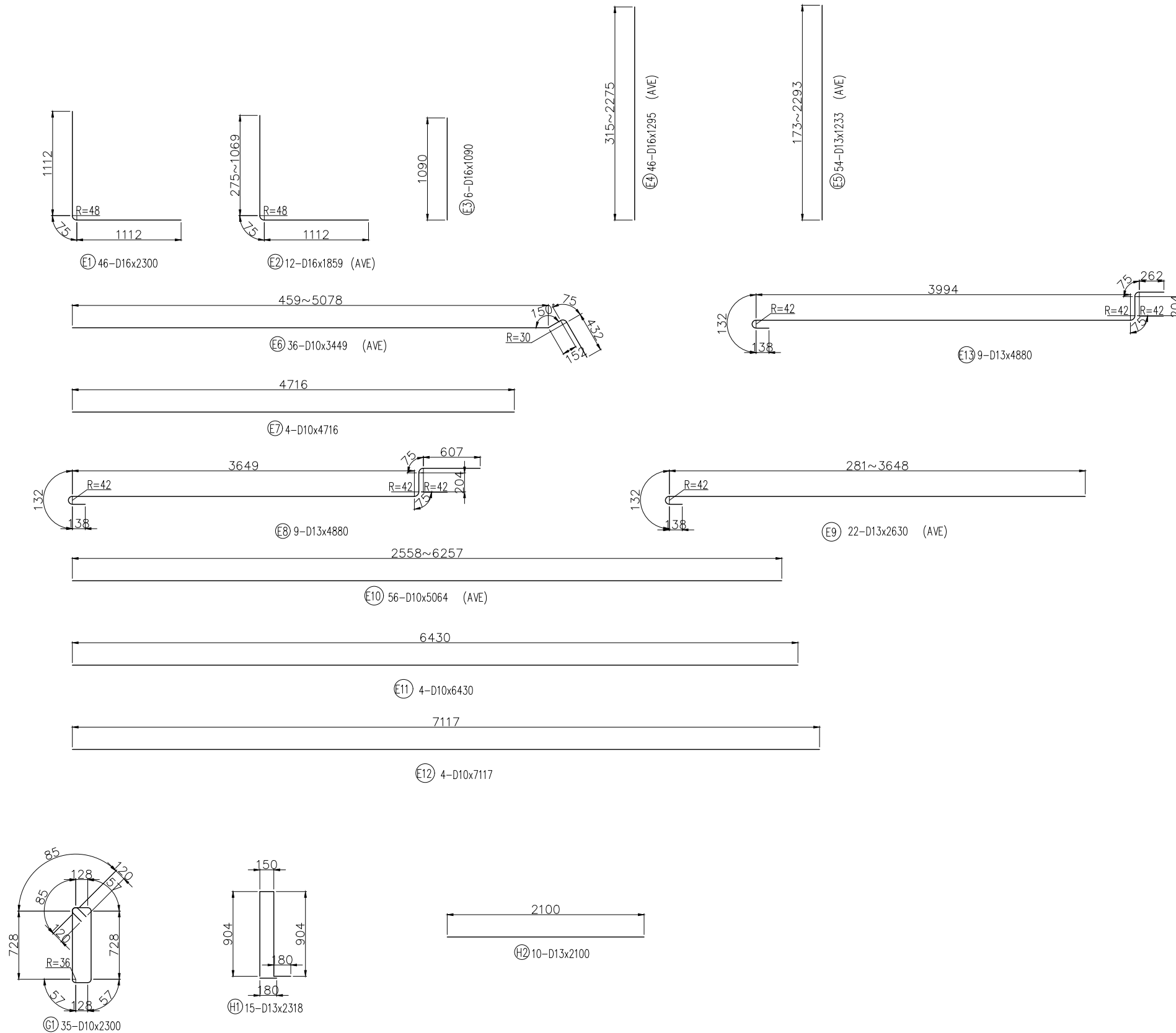
DRAWING TITLE  
 DRAINAGE OUTLET/TYPE-A (7)

PACKAGE  
 1  
 DWG No.  
 P1-RD-3096



# DRAINAGE OUTLET TYPE-A (8)

## BAR ARRANGEMENT OF OUTLET S=1:50



LIST OF REINFORCEMENT(INLET)

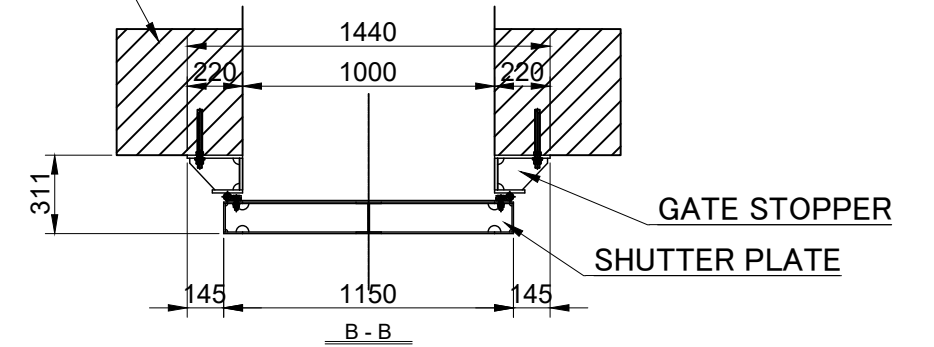
MARK	SEC.	LENGTH (mm)	EACH	WEIGHT (kg/m)	WEIGHT/one (kg)	WEIGHT (kg)	REMARKS
E 1	D16	2 300	44	1.560	3.588	158	L
E 2	"	1 859	12	"	2.900	35	L (AVE)
E 3	"	1 090	10	"	1.700	17	I
E 4	"	1 295	42	"	2.020	85	I (AVE)
E 5	D13	1 233	54	0.995	1.227	66	I (AVE)
E 6	D10	3 449	36	0.560	1.931	70	— (AVE)
E 7	"	5 715	4	"	3.200	13	—
E 8	D13	4 880	9	0.995	4.856	44	—
E 9	"	2 630	22	"	2.617	58	— (AVE)
E 10	D10	5 064	53	0.560	2.836	150	— (AVE)
E 11	"	6 430	4	"	3.601	14	—
E 12	"	7 117	4	"	3.986	20	—
E 13	D13	4 880	9	0.995	4.856	16	—
G 1	"	2 300	35	"	2.289	80	—
H 1	D13	2 318	15	0.995	2.306	35	—
H 2	"	2 100	10	"	2.090	21	—
SUB TOTAL						906	kg
D10						263	kg
D13						348	kg
D16						295	kg
Total						906	kg

	D	a	b	c	R	L
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
	D10	47	120	167	30	320
	D13	66	164	230	42	410
	D16	75	195	270	48	500
	D19	94	236	330	60	600

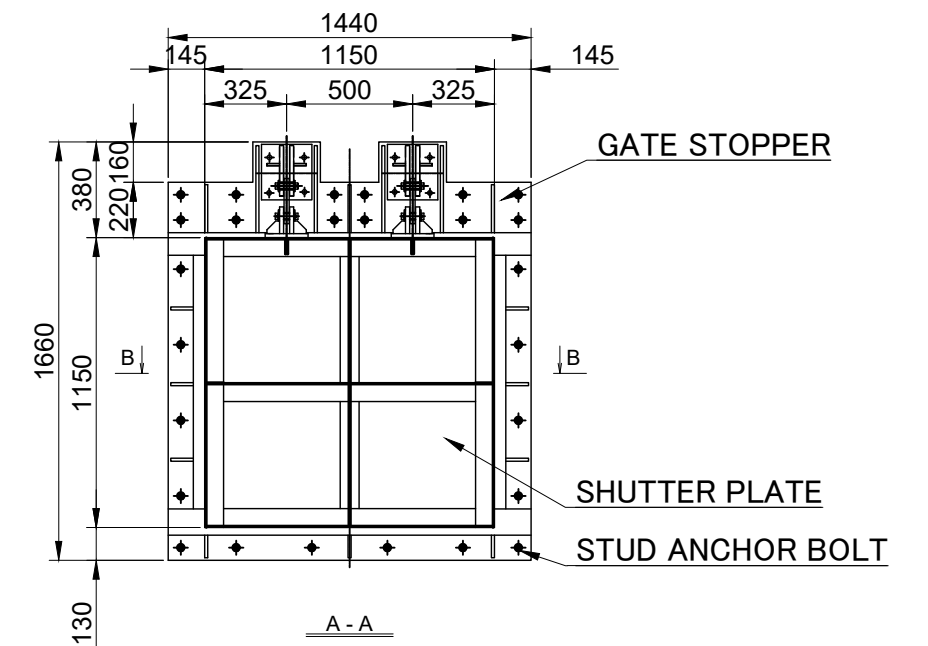
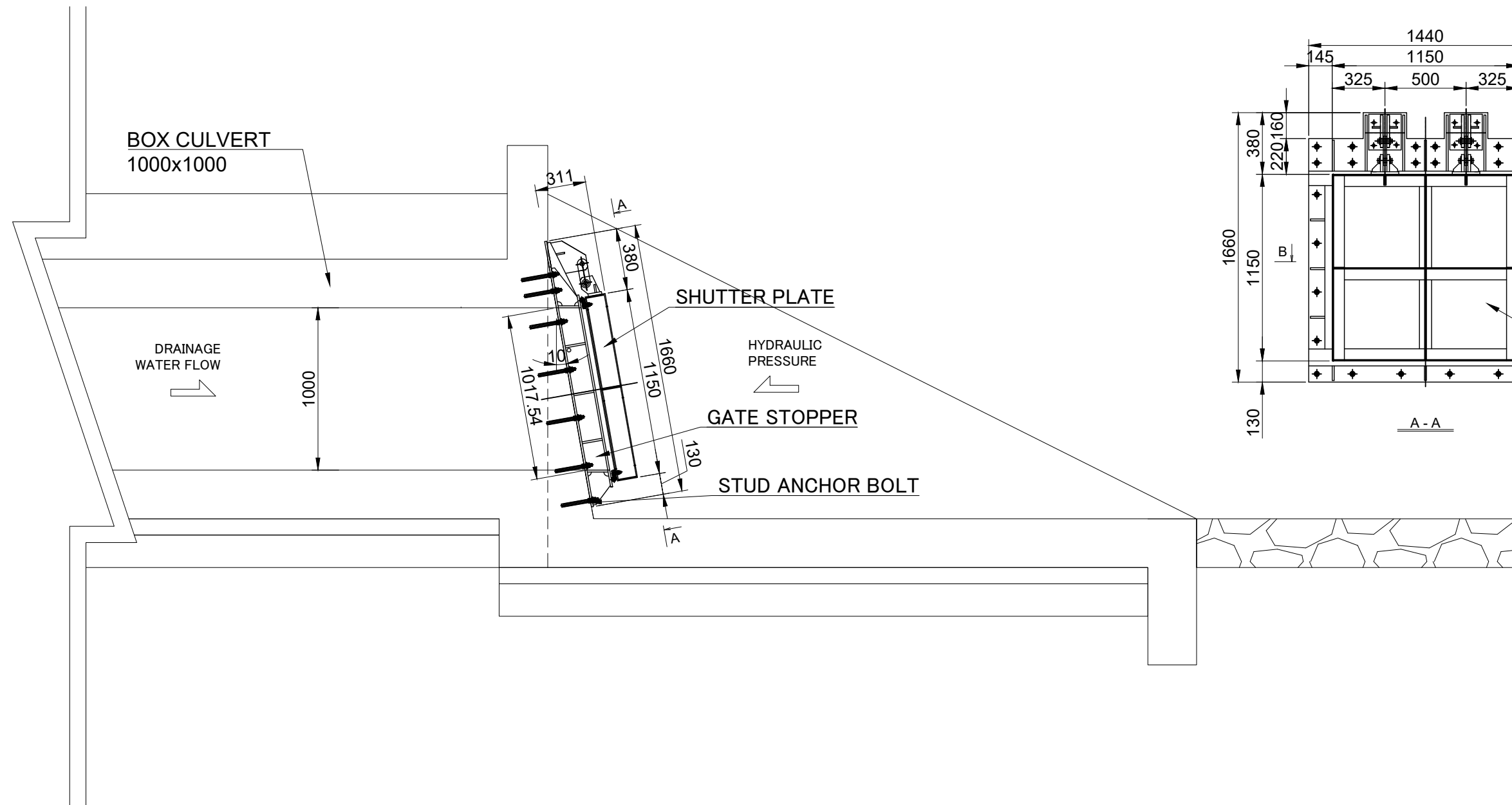
# DRAINAGE OUTLET TYPE-A (9)

DETAIL OF FLAP GATE S=1:30

CONCRETE (DII)



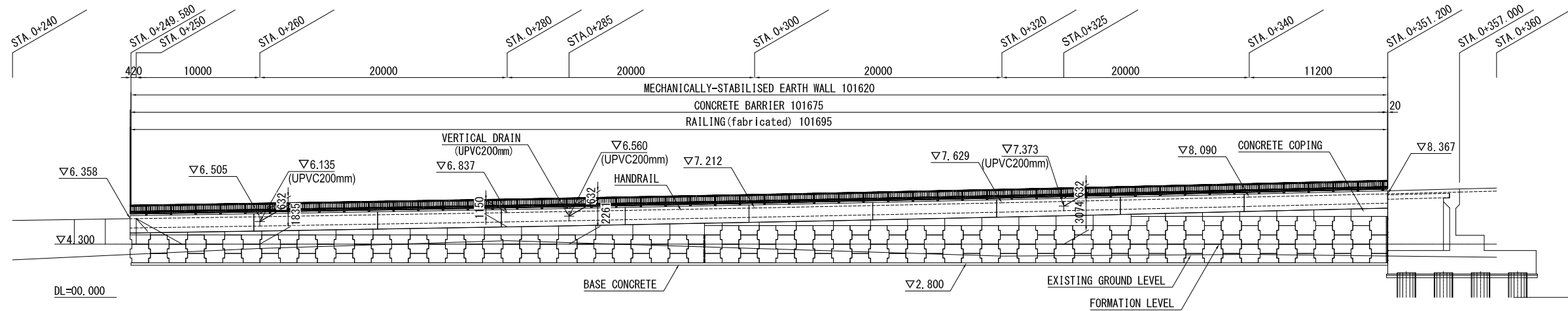
SIDE VIEW



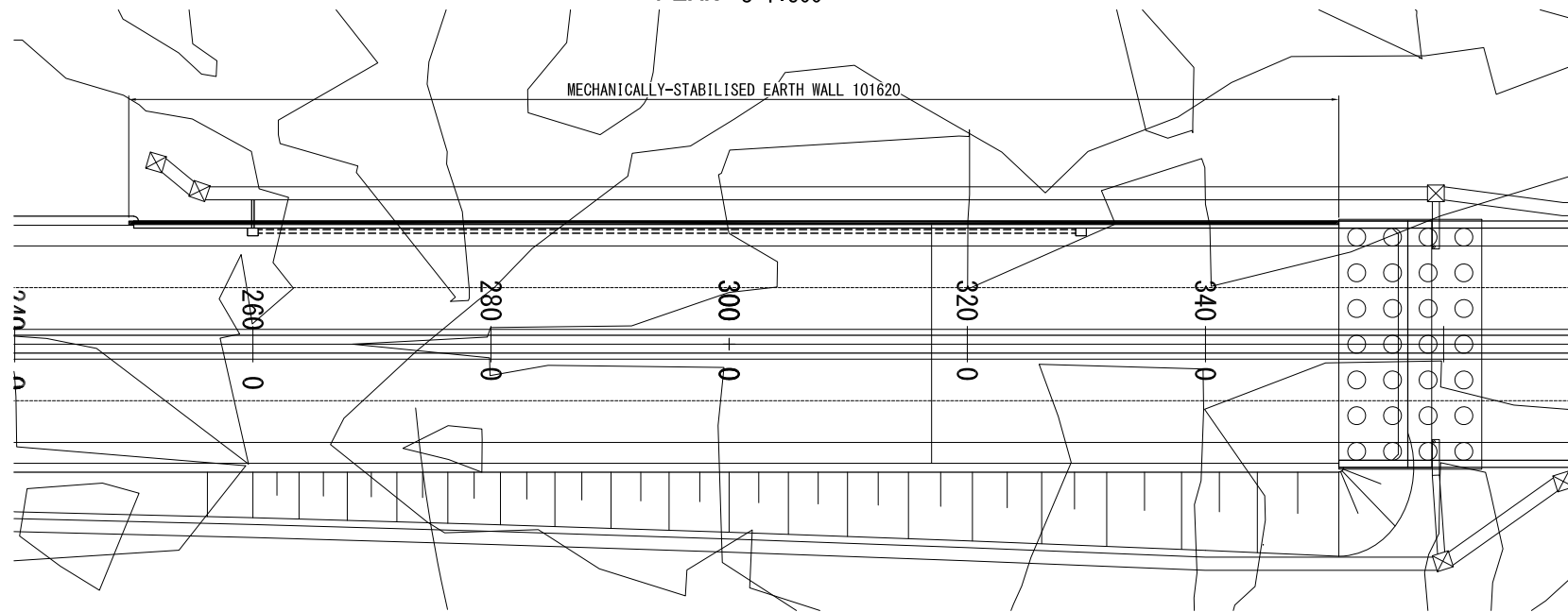
PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	M. TORIU	<i>[Signature]</i>	15 Jun. 2017	DRAINAGE OUTLET TYPE-A (9)	1
				T. HAYAKAWA	<i>[Signature]</i>	20 Jun. 2017		DWG No.
				Y. SANO	<i>[Signature]</i>	21 Jun. 2017		P1-RD-3098

# MECHANICALLY STABILISED EARTH WALL MAIN ROAD (1)

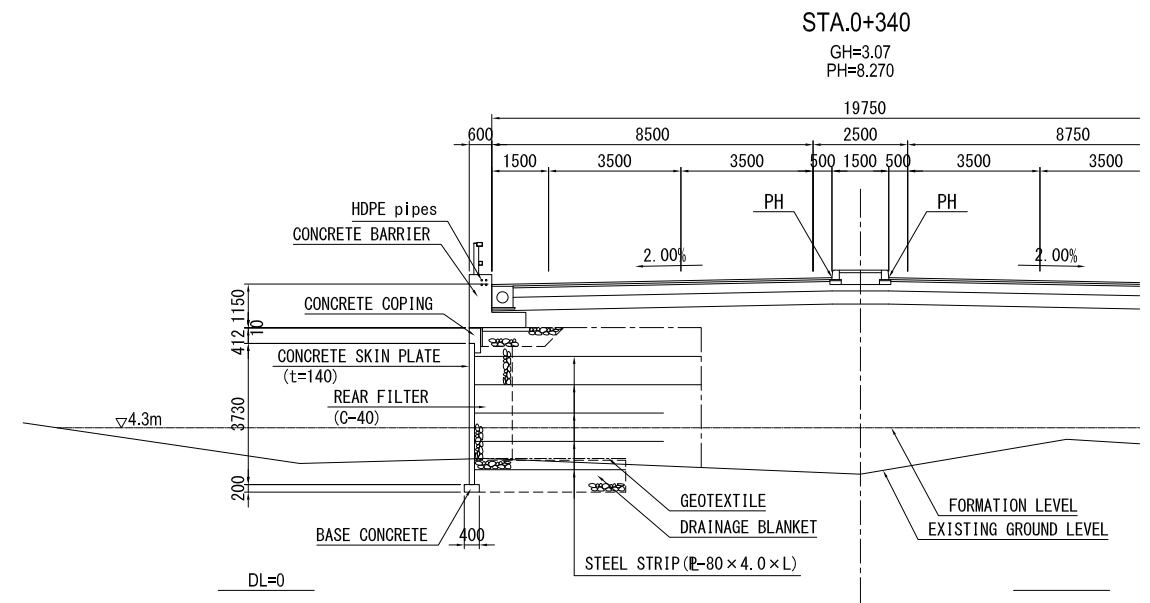
LEFT SIDE (DEVELOP FROM BACK SIDE) S=1:200  
Main Road (STA. 0+250~0+350)



PLAN S=1:300



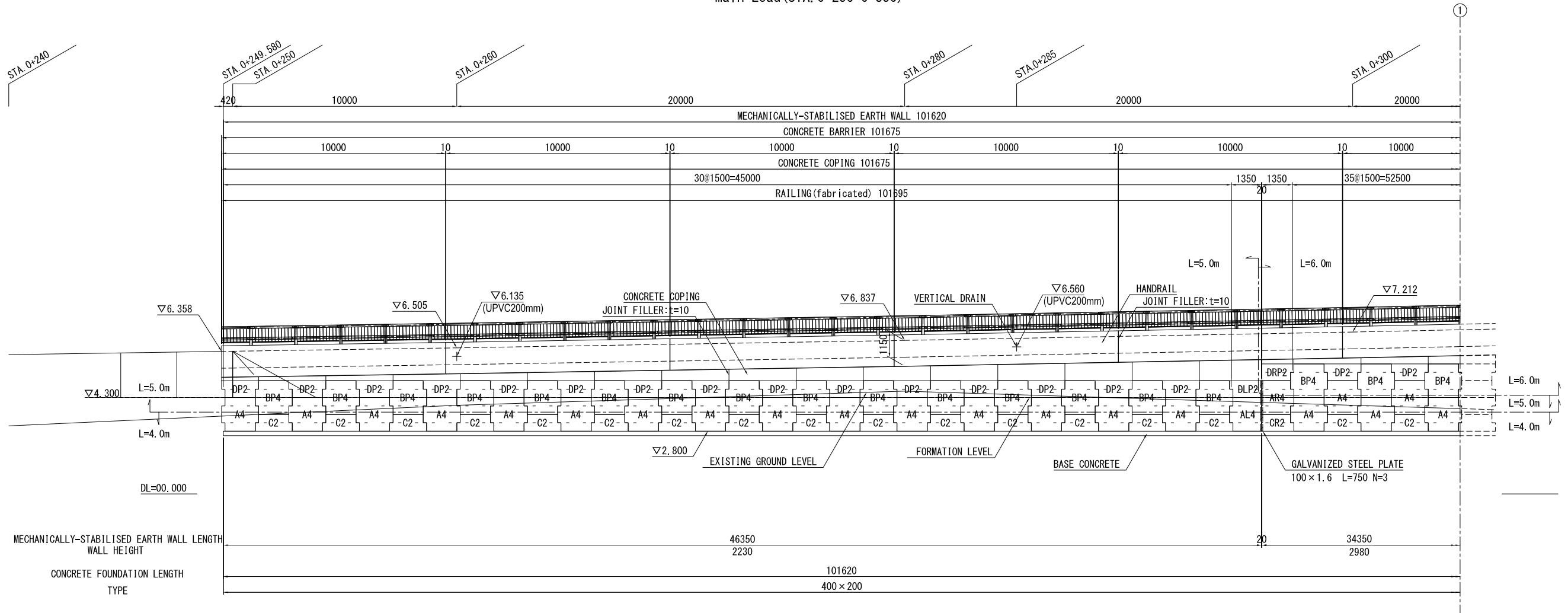
CROSS SECTION S=1:100



PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE MECHANICALLY STABILISED EARTH WALL MAIN ROAD (1)	PACKAGE	
				PREPARED BY	J.TSUCHIYA			15 Jun. 2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun. 2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun. 2017	P1-RD-4000

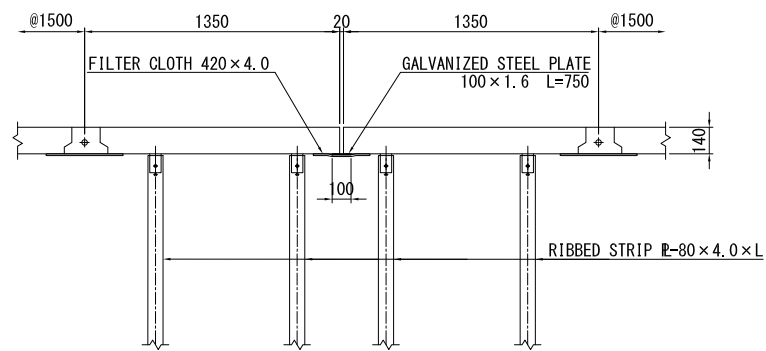
# MECHANICALLY STABILISED EARTH WALL MAIN ROAD(2)

LEFT SIDE (DEVELOP FROM BACK SIDE) S=1:100  
Main Road (STA. 0+250~0+350)

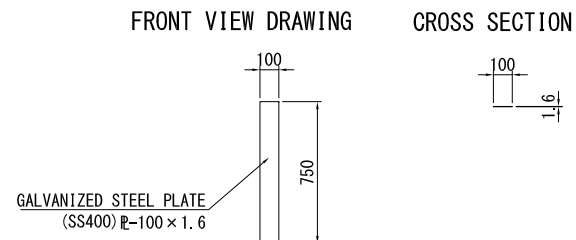


NOTE)  
1) The mark "L" indicates the length of steel strip determined by the stability calculation.  
2) Wall length indicates the length of wall surface.

JOINT DETAIL DRAWING S=1:20



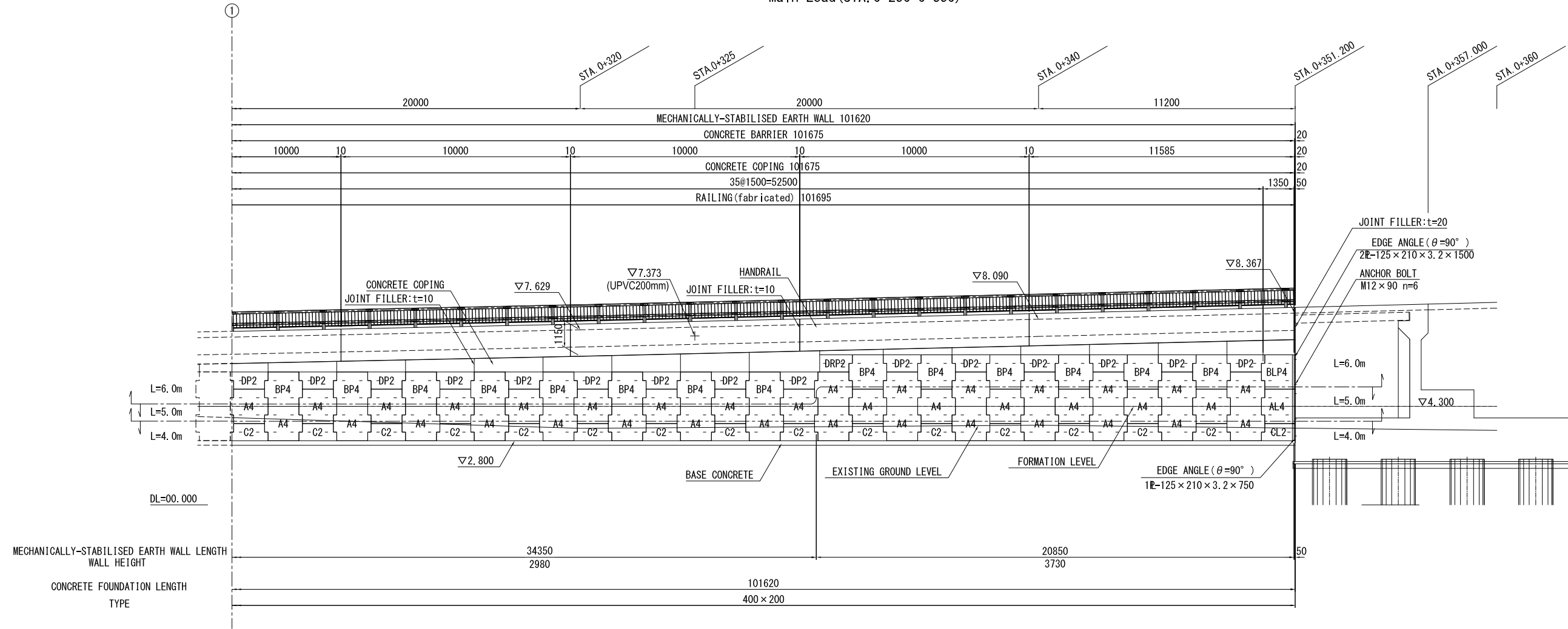
GALVANIZED STEEL PLATE S=1:20



PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JICA JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE MECHANICALLY STABILISED EARTH WALL MAIN ROAD(2)	PACKAGE	
				PREPARED BY	J.TSUCHIYA	土屋 潤		15 Jun. 2017	1
				CHECKED BY	T. HAYAKAWA	平川 知那		20 Jun. 2017	DWG No.
				APPROVED BY	Y. SANO	佐野 祐一		21 Jun. 2017	P1-RD-4010

# MECHANICALLY STABILISED EARTH WALL MAIN ROAD(3)

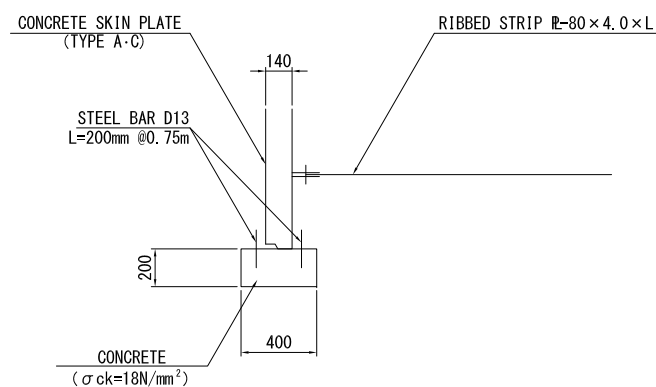
LEFT SIDE (DEVELOP FROM BACK SIDE) S=1:100  
Main Load (STA. 0+250~0+350)



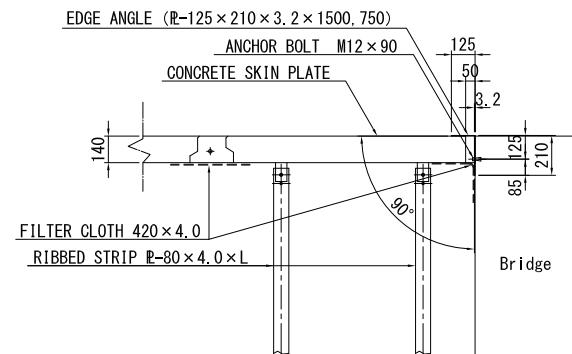
JOINT FILLER: t=20  
EDGE ANGLE (θ=90°)  
2R=125 x 210 x 3.2 x 1500  
ANCHOR BOLT  
M12 x 90 n=6

NOTE)  
1) The mark "L" indicates the length of steel strip determined by the stability calculation.  
2) Wall length indicates the length of wall surface.

CONCRETE FOUNDATION DRAWING S=1:20

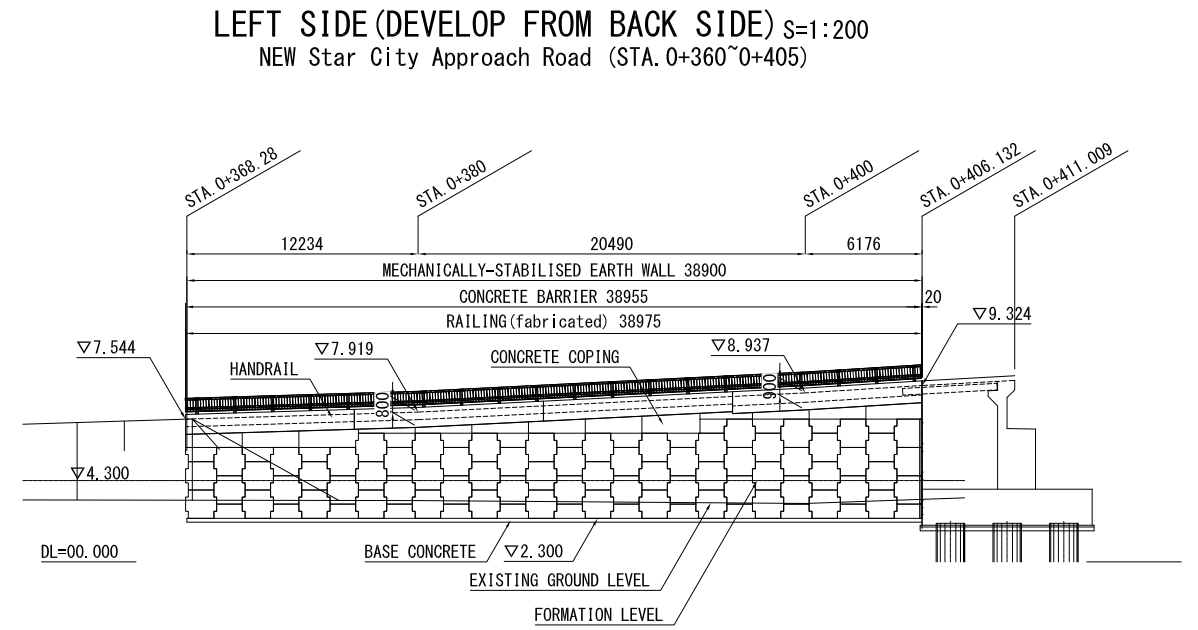
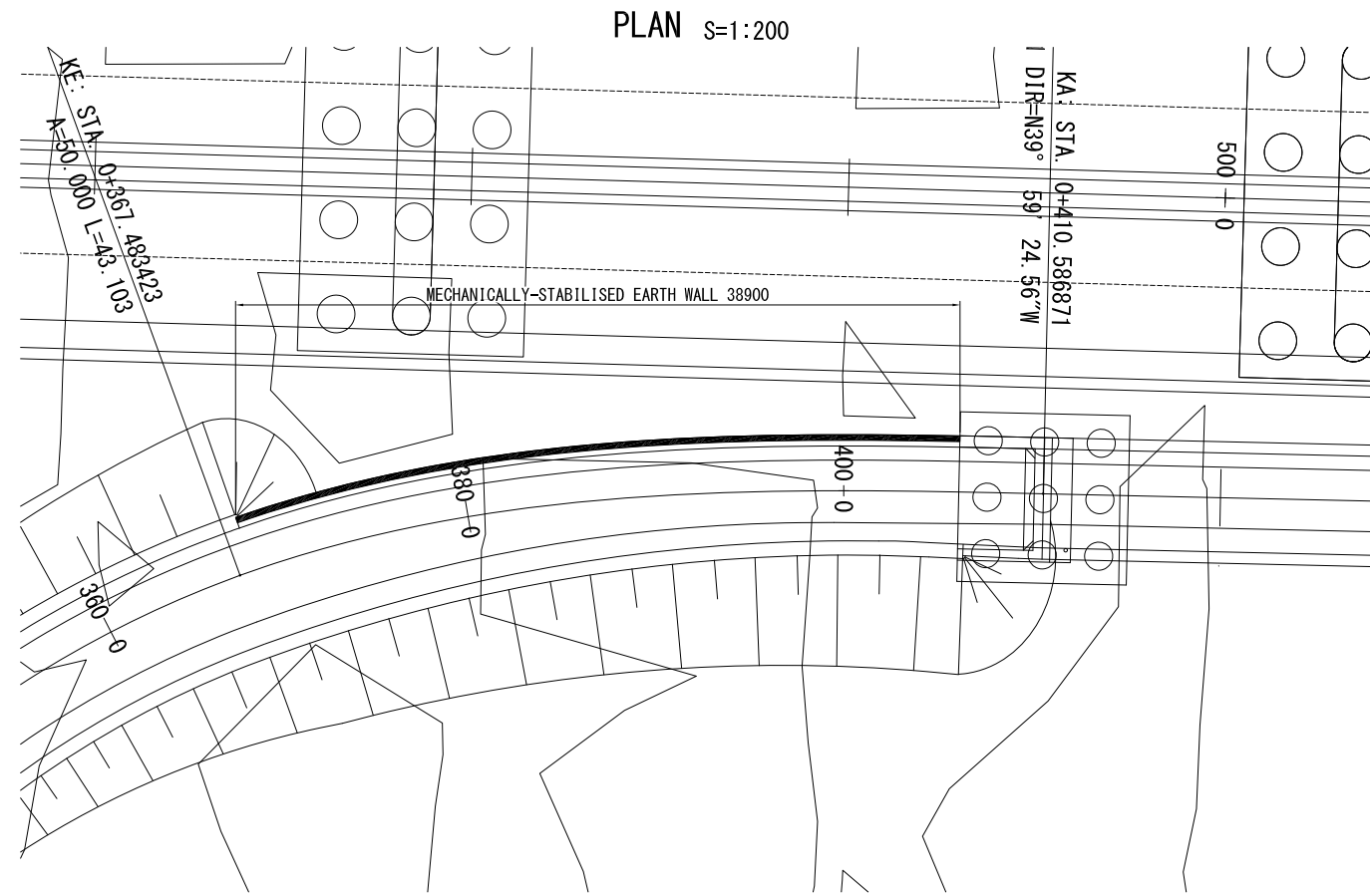


EDGE DETAIL DRAWING S=1:20

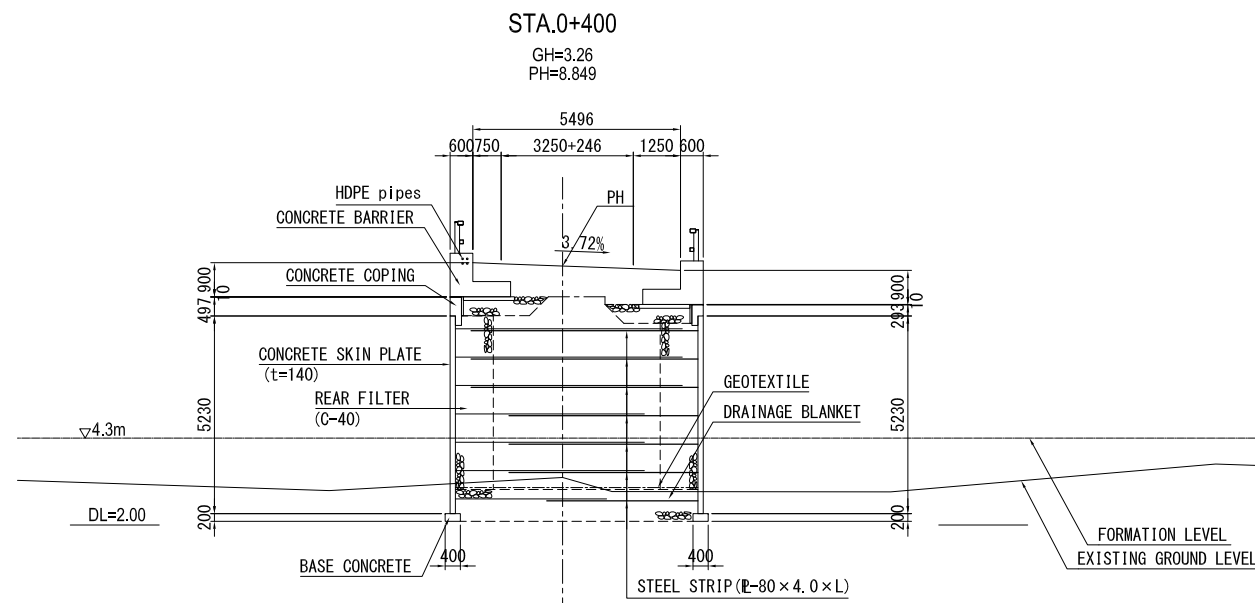


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JICA JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME PREPARED BY CHECKED BY APPROVED BY	SIGNATURE J.TSUCHIYA T. HAYAKAWA Y. SANO	DATE 15 Jun. 2017 20 Jun. 2017 21 Jun. 2017	DRAWING TITLE MECHANICALLY STABILISED EARTH WALL MAIN ROAD(3)	PACKAGE 1 DWG No. P1-RD-4020
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# MECHANICALLY STABILISED EARTH WALL RAMP(1)



## CROSS SECTION S=1:100



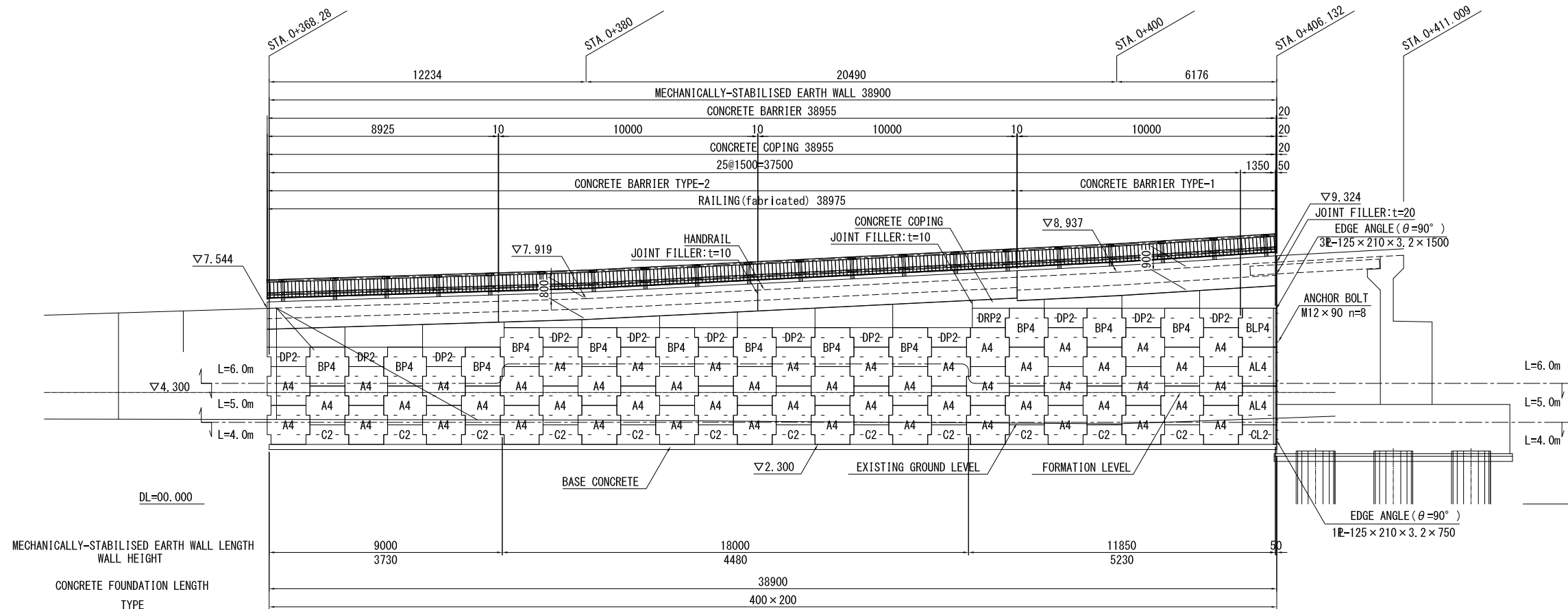
Note : HDPE pipe set in Concrete Barrier exsept Right side

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JICA JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE MECHANICALLY STABILISED EARTH WALL RAMP(1)	PACKAGE	
				PREPARED BY	J.TSUCHIYA	土屋 潤		15 Jun. 2017	1
				CHECKED BY	T. HAYAKAWA	平川 知那		20 Jun. 2017	DWG No.
				APPROVED BY	Y. SANO	佐野 祐一		21 Jun. 2017	P1-RD-4030

# MECHANICALLY STABILISED EARTH WALL RAMP(2)

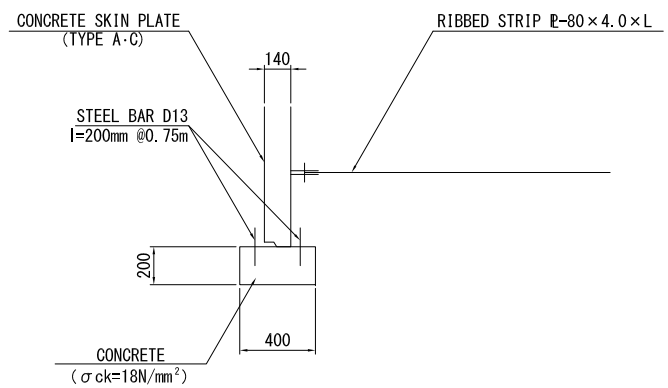
LEFT SIDE (DEVELOP FROM BACK SIDE) S=1:100

NEW Star City Approach Road (STA. 0+360~0+405)

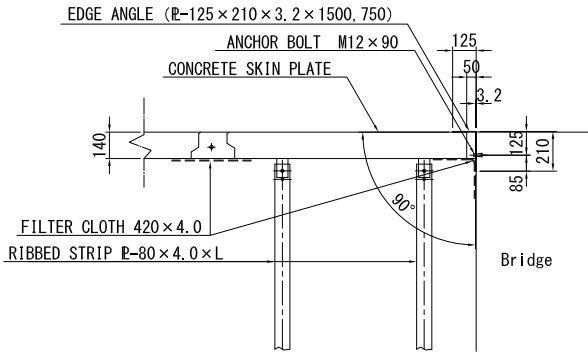


- NOTE)
- 1) The mark "L" indicates the length of steel strip determined by the stability calculation.
  - 2) Wall length indicates the length of wall surface.

CONCRETE FOUNDATION DRAWING S=1:20



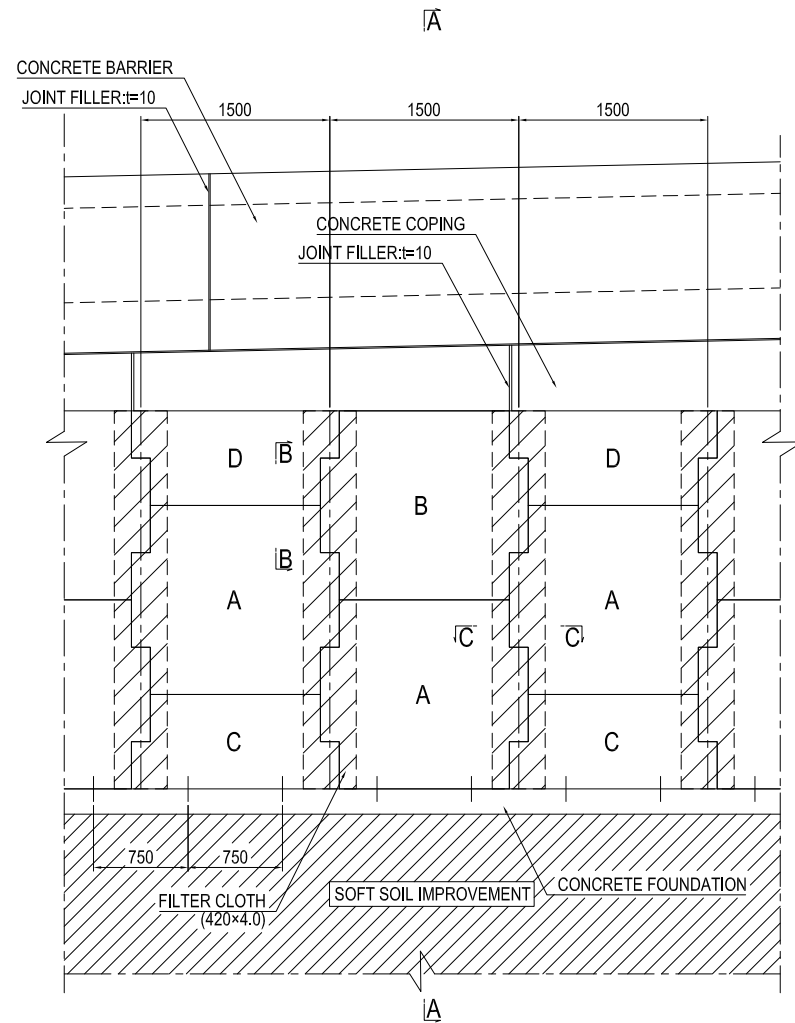
EDGE DETAIL DRAWING S=1:20



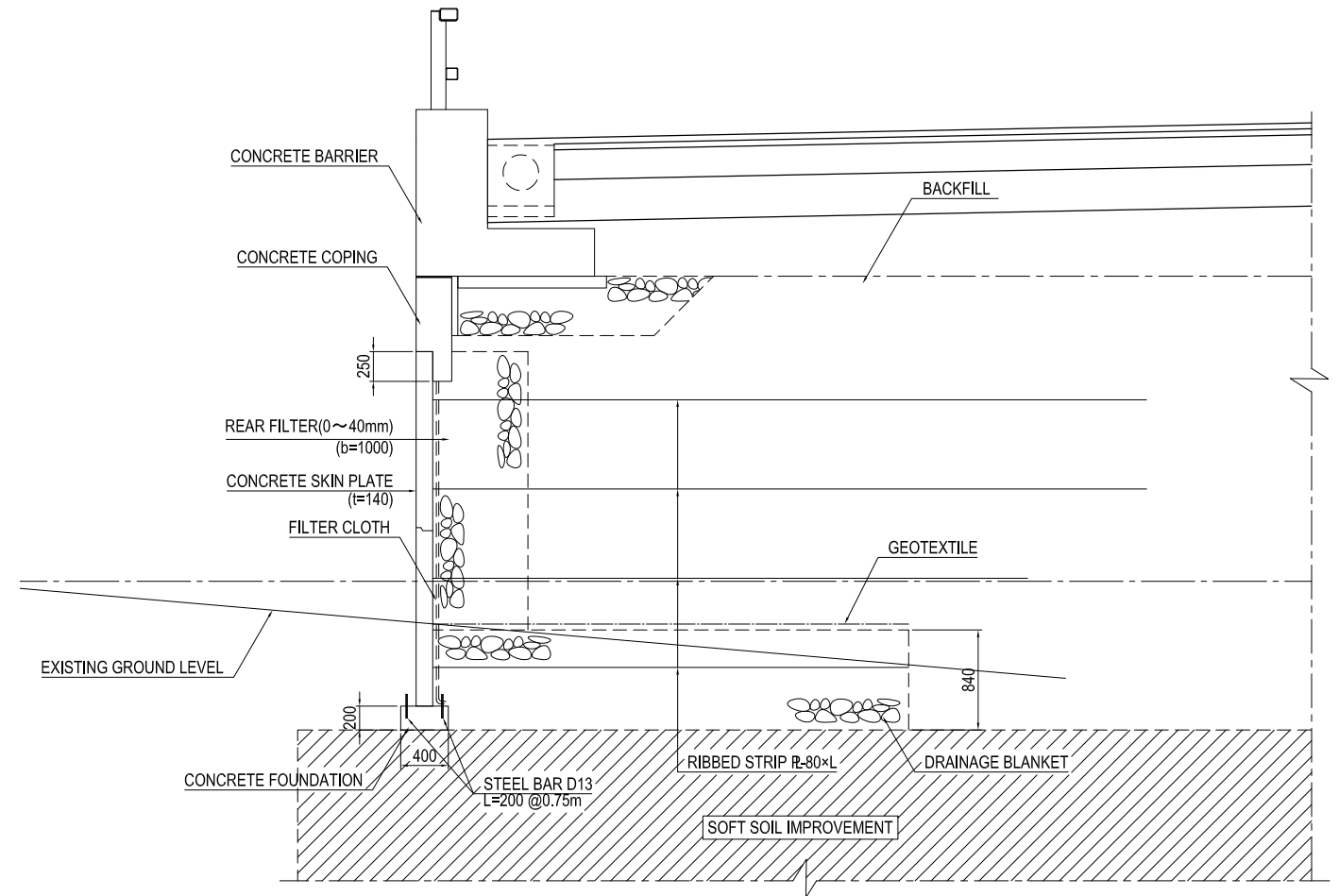
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE <b>MECHANICALLY STABILISED EARTH WALL RAMP(2)</b>	PACKAGE	
				PREPARED BY	J.TSUCHIYA			15 Jun. 2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun. 2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun. 2017	P1-RD-4040

# DETAIL OF MECHANICALLY STABILISED EARTH WALL(1)

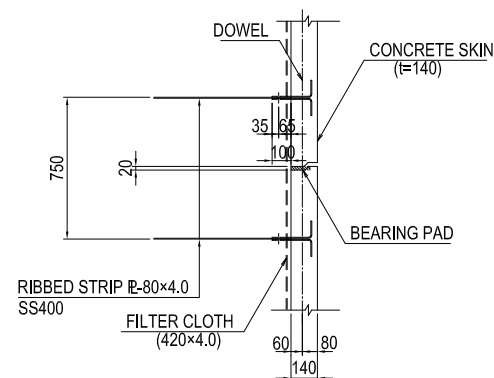
SKIN ARRANGEMENT S=1:30



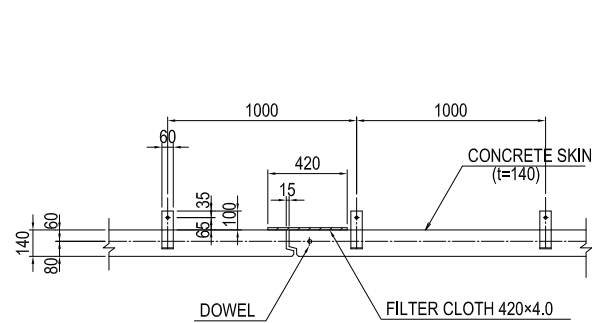
A-A CROSS SECTION S=1:30



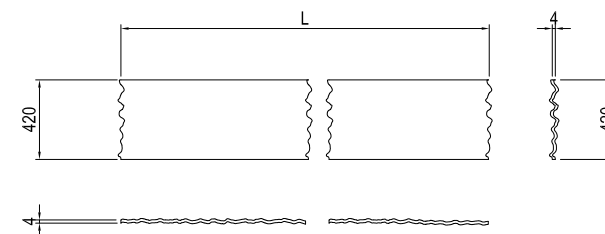
B-B CROSS SECTION S=1:20



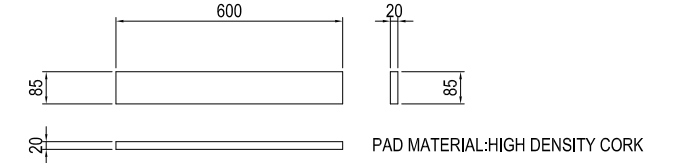
C-C CROSS SECTION S=1:20



FILTER CLOTH S=1:20



BEARING PAD S=1:10



PROJECT NAME  
DETAILED DESIGN ON  
BAGO RIVER BRIDGE  
CONSTRUCTION PROJECT

FINANCED BY  
JICA  
JAPAN INTERNATIONAL  
COOPERATION AGENCY

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

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

	NAME	SIGNATURE	DATE
PREPARED BY	J.TSUCHIYA	土屋 潤	15 Jun. 2017
CHECKED BY	T. HAYAKAWA	平川 知那	20 Jun. 2017
APPROVED BY	Y. SANO	佐野 祐一	21 Jun. 2017

DRAWING TITLE  
DETAIL OF MECHANICALLY STABILISED EARTH WALL(1)

PACKAGE  
1  
DWG No.  
P1-RD-4050

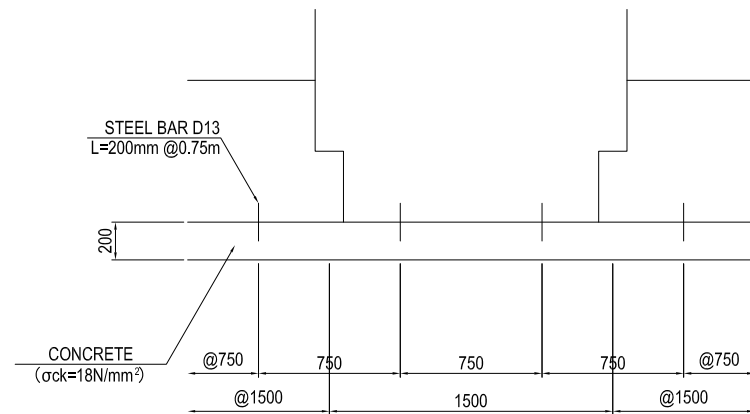




# DETAIL OF MECHANICALLY STABILISED EARTH WALL(3)

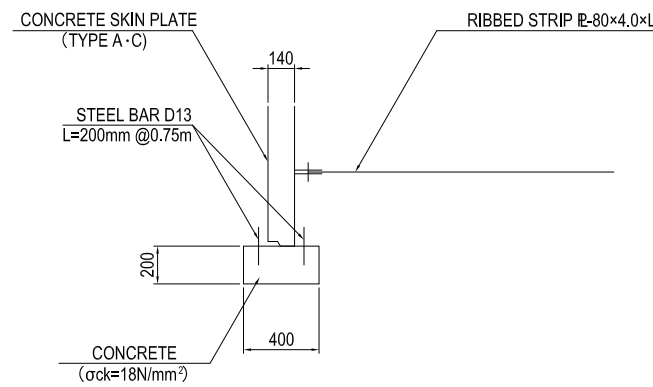
CONCRETE FOUNDATION DRAWING S=1:20

FRONT VIEW DRAWING



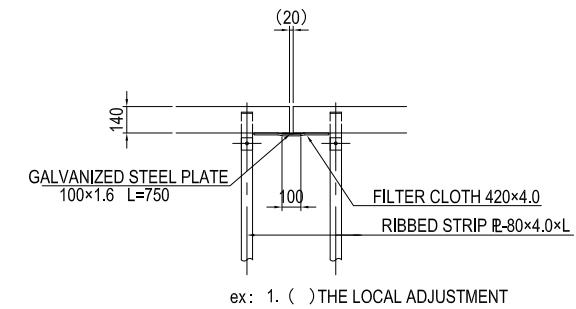
NOTE)1. FOUNDATION WORK OF TOP FINISH:TROWEL FINISH

CROSS SECTION



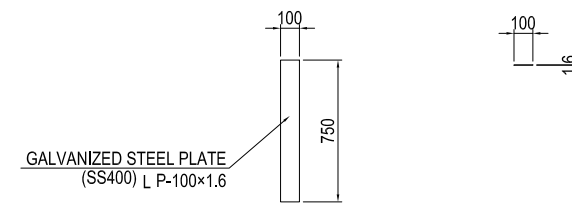
JOINT DETAIL DRAWING S=1:20

CROSS SECTION



GALVANIZED STEEL PLATE S=1:20

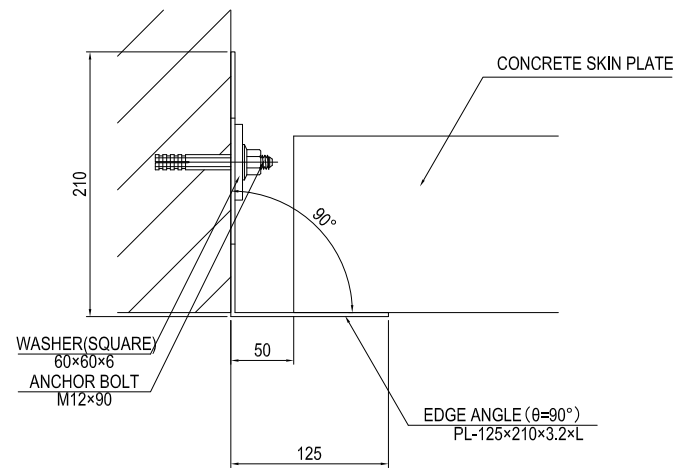
FRONT VIEW DRAWING CROSS SECTION



EDGE DETAIL DRAWING

CROSS SECTION

S=1:3

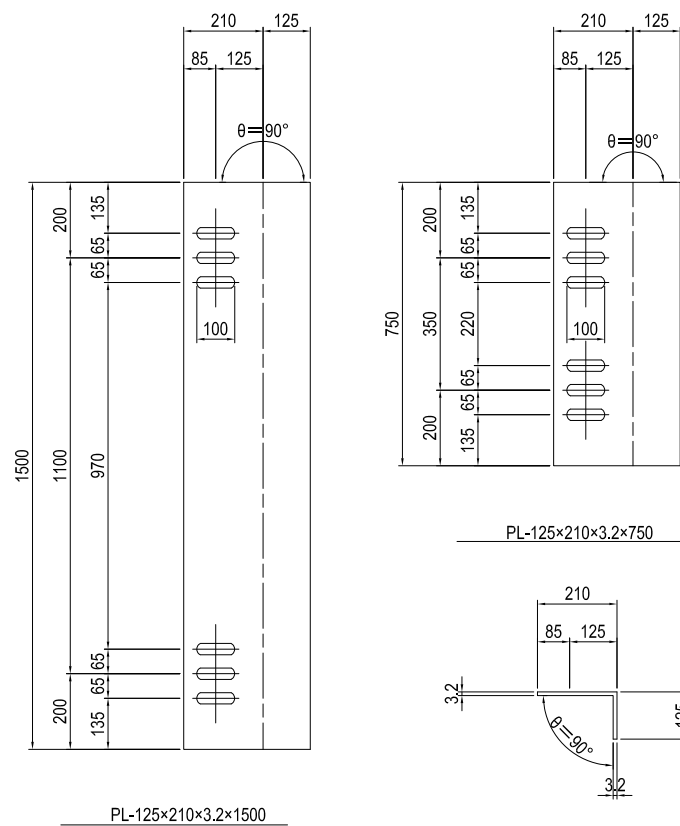


NOTE) 1. BOLT IT IS USED TWO PER ONE EDGE ANGLE

EDGE ANGLE BRACKET S=1:10

L=1500

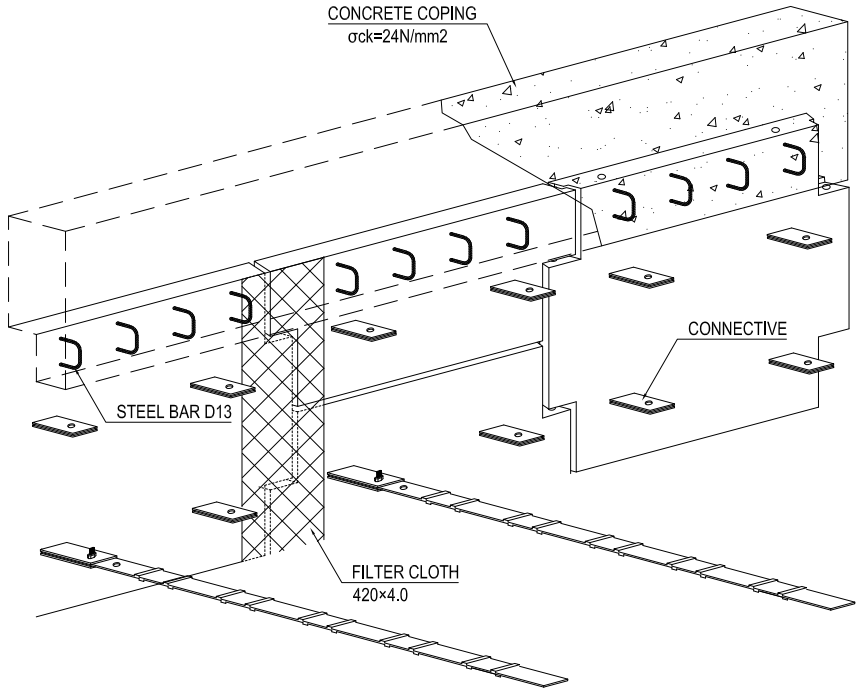
L=750



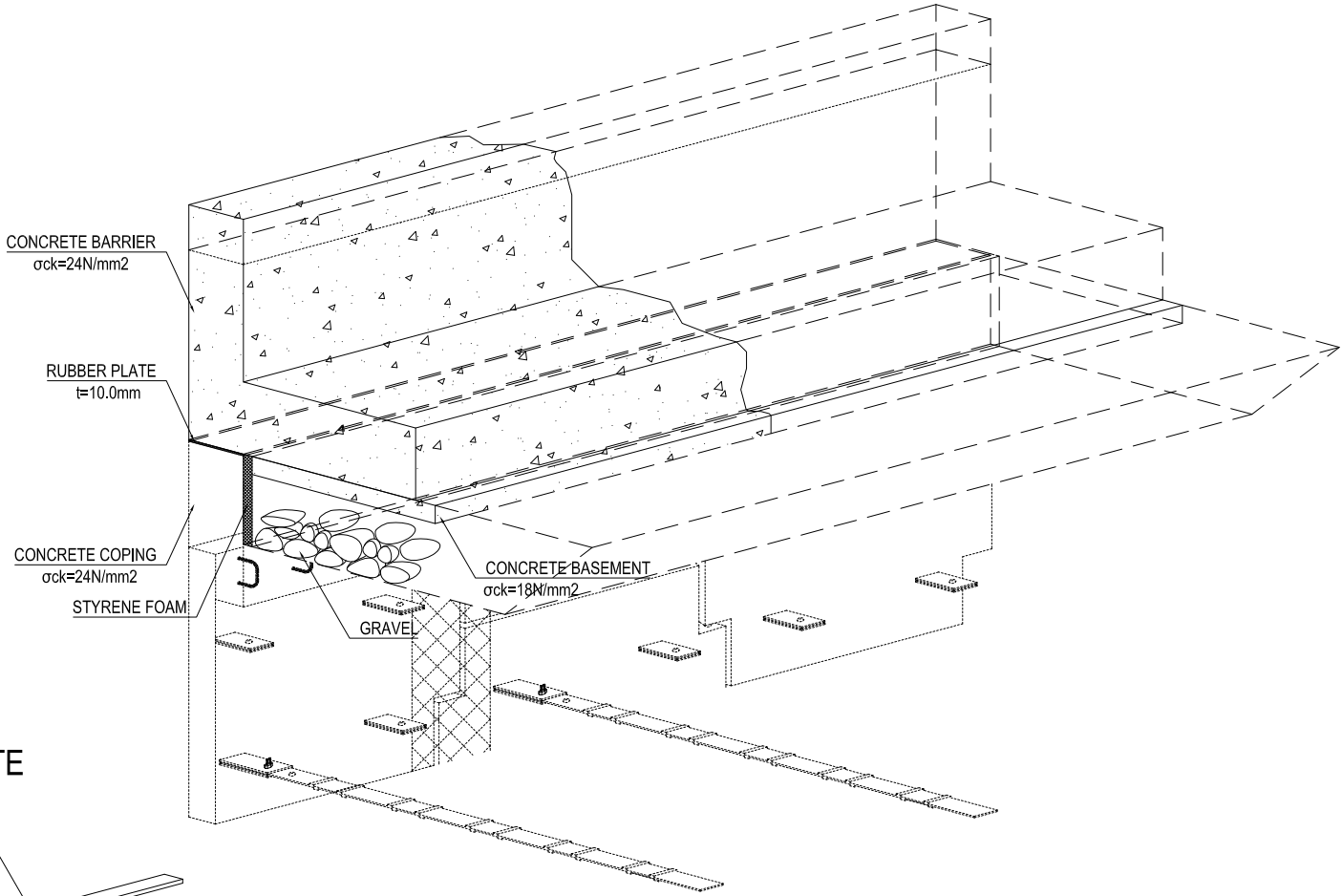
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JICA JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DETAIL OF MECHANICALLY STABILISED EARTH WALL(3)	PACKAGE 1 DWG No. P1-RD-4070	
				PREPARED BY	J.TSUCHIYA	土屋 潤			15 Jun. 2017
				CHECKED BY	T. HAYAKAWA	平川 知那			20 Jun. 2017
				APPROVED BY	Y. SANO	佐野 祐一			21 Jun. 2017

# DETAIL OF MECHANICALLY STABILISED EARTH WALL(4)

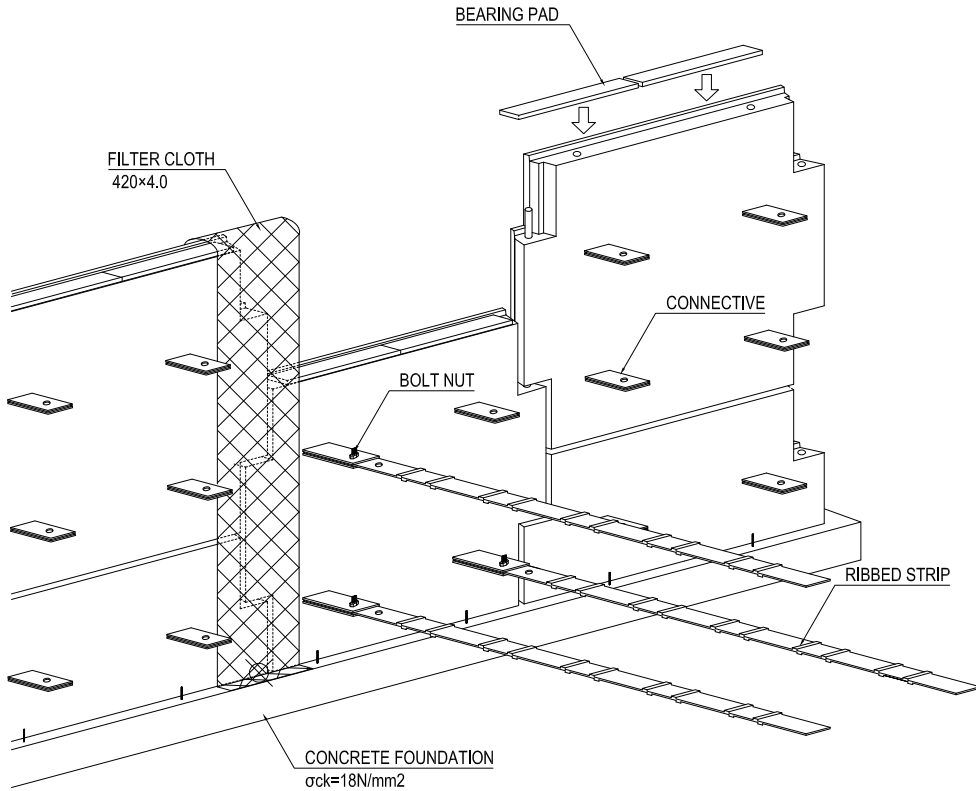
CONCRETE COPING



BIRD'S EYE VIEW



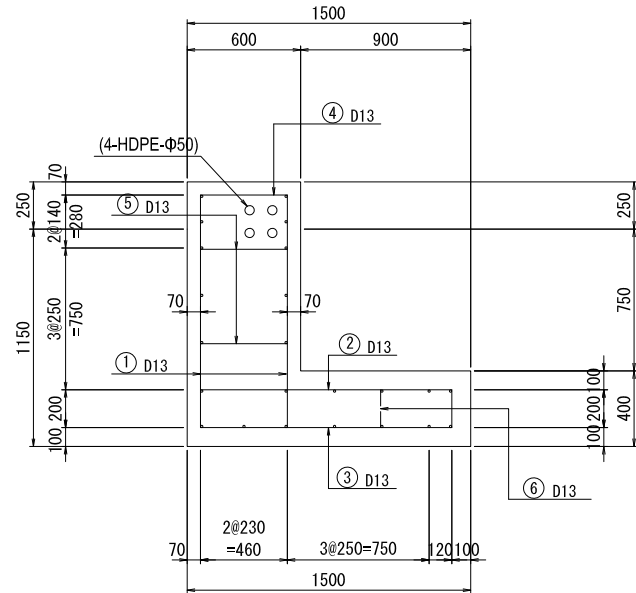
CONCRETE SKIN PLATE



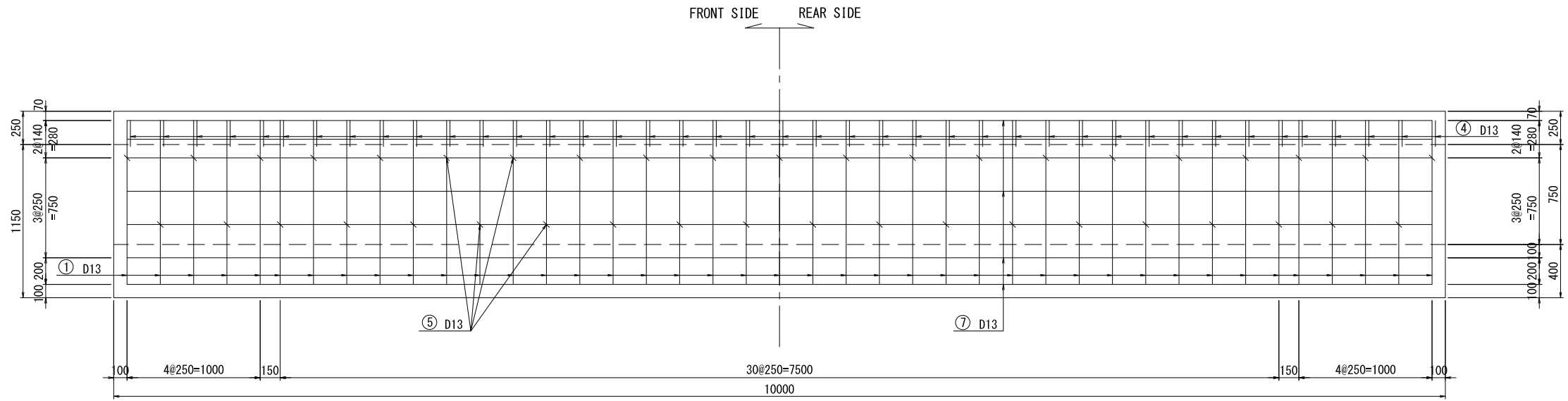
<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">NAME</th> <th style="text-align: left;">SIGNATURE</th> <th style="text-align: left;">DATE</th> </tr> <tr> <td>PREPARED BY J.TSUCHIYA</td> <td></td> <td>15 Jun. 2017</td> </tr> <tr> <td>CHECKED BY T. HAYAKAWA</td> <td></td> <td>20 Jun. 2017</td> </tr> <tr> <td>APPROVED BY Y. SANO</td> <td></td> <td>21 Jun. 2017</td> </tr> </table>	NAME	SIGNATURE	DATE	PREPARED BY J.TSUCHIYA		15 Jun. 2017	CHECKED BY T. HAYAKAWA		20 Jun. 2017	APPROVED BY Y. SANO		21 Jun. 2017	<small>DRAWING TITLE</small> DETAIL OF MECHANICALLY STABILISED EARTH WALL(4)	<small>PACKAGE</small> 1 DWG No. P1-RD-4080
NAME	SIGNATURE	DATE																
PREPARED BY J.TSUCHIYA		15 Jun. 2017																
CHECKED BY T. HAYAKAWA		20 Jun. 2017																
APPROVED BY Y. SANO		21 Jun. 2017																

# GUARDRAIL ON MECHANICALLY STABILISED EARTH WALL MAIN ROAD(1) S=1:20

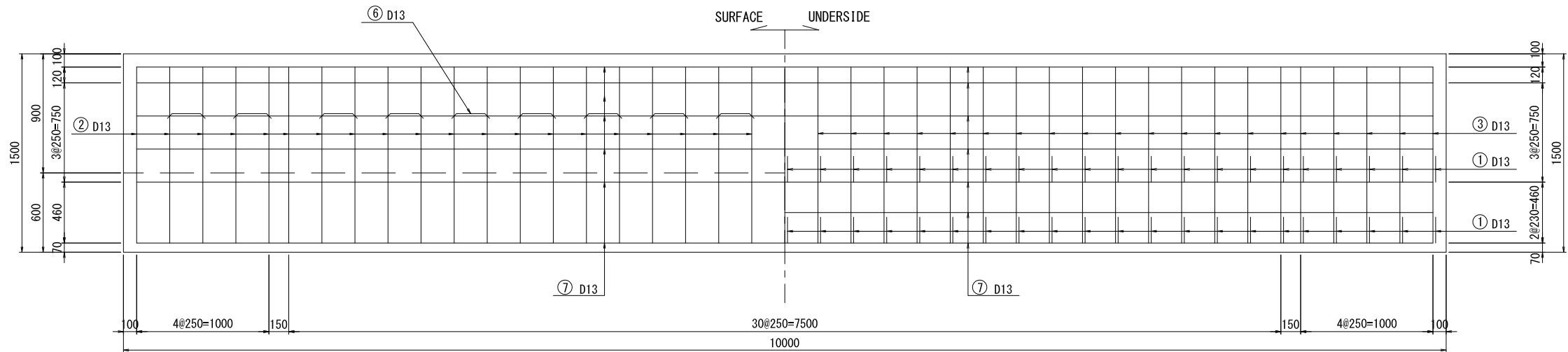
### SECTION



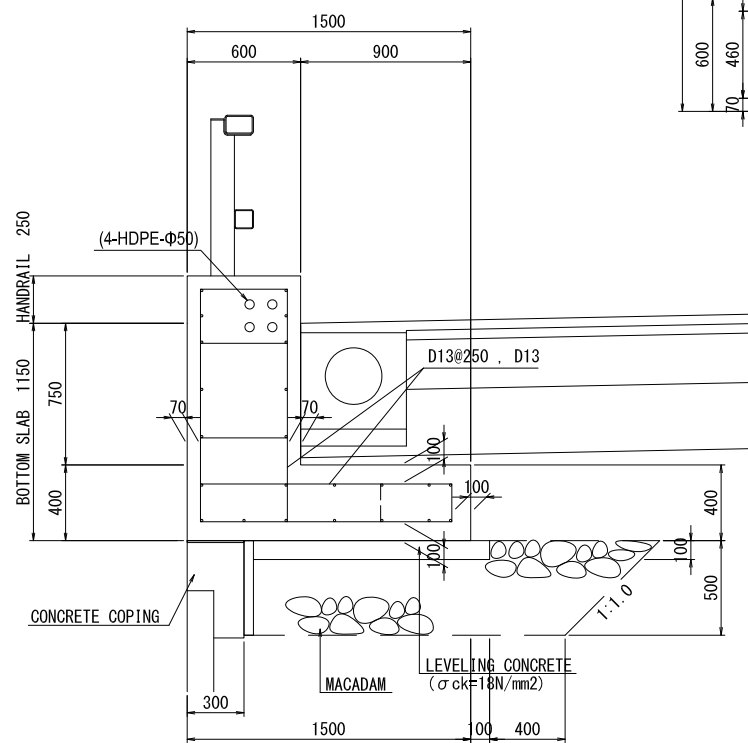
### BREAST WALL



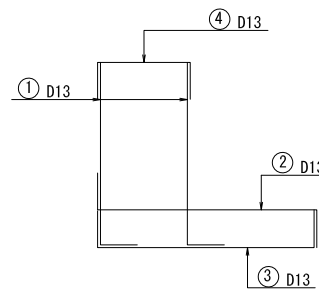
### BOTTOM SLAB



### SETTING



### BAR ASSEMBLING



PROJECT NAME  
DETAILED DESIGN ON  
BAGO RIVER BRIDGE  
CONSTRUCTION PROJECT

FINANCED BY  
 JAPAN INTERNATIONAL  
COOPERATION AGENCY

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

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

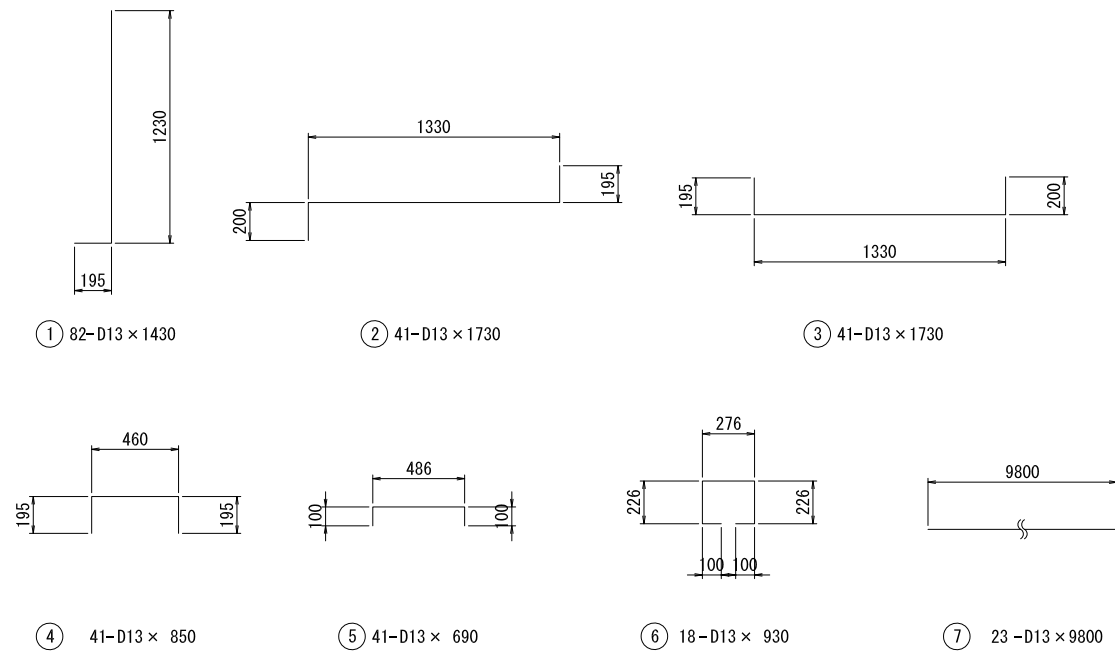
	NAME	SIGNATURE	DATE
PREPARED BY	J.TSUCHIYA		15 Jun. 2017
CHECKED BY	T. HAYAKAWA		20 Jun. 2017
APPROVED BY	Y. SANO		21 Jun. 2017

DRAWING TITLE  
GUARDRAIL ON  
MECHANICALLY STABILISED EARTH WALL MAIN ROAD(1)

PACKAGE  
1  
DWG No.  
P1-RD-4090

# GUARDRAIL ON MECHANICALLY STABILISED EARTH WALL MAIN ROAD(2)

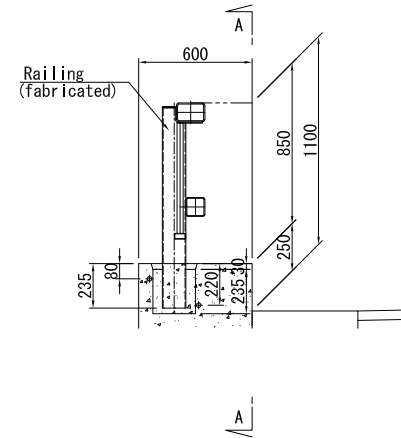
## BAR SCHEDULING



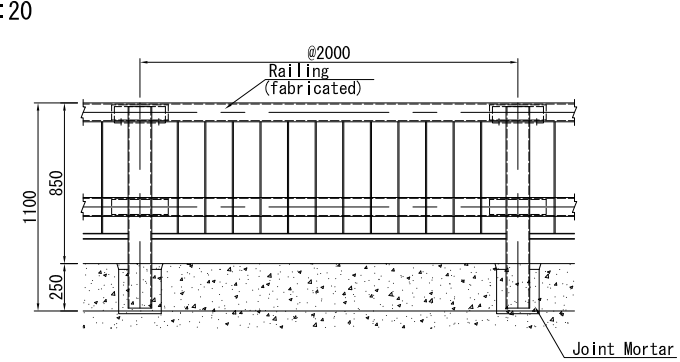
LIST OF REINFORCEMENT (per 10.0m)

NAME	PIANETER	LENGTH (mm)	NUMBER (nos.)	UNIT WEIGHT (kg/m)	WEIGHT/BAR (kg)	WEIGHT (kg)	REMARKS
BOTTOM SLAB							
1	D13	1430	82	0.995	1.42	116	┘
2	D13	1730	41	0.995	1.72	71	┘
3	D13	1730	41	0.995	1.72	71	┘
4	D13	850	41	0.995	0.85	35	┘
5	D13	690	41	0.995	0.69	28	┘
6	D13	930	18	0.995	0.93	17	┘
7	D13	9800	23	0.995	9.75	224	—
						D13	562 kg
total							562 kg

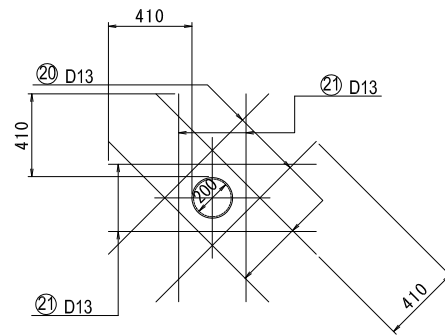
CROSS SECTION OF WHEEL GUARD  
S=1:20



A - A



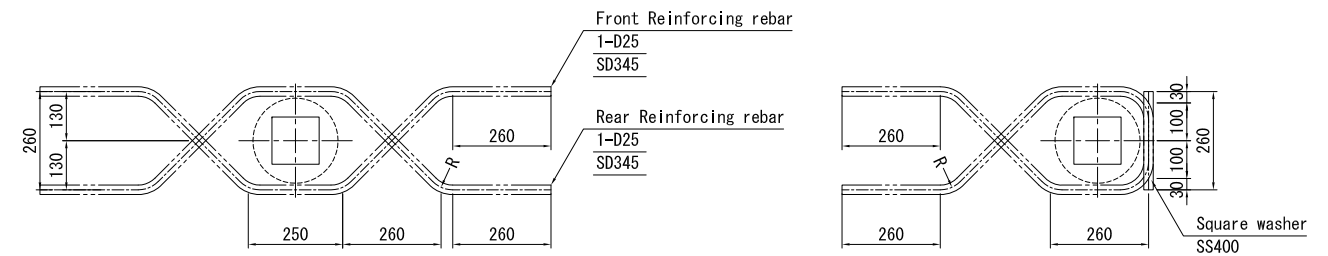
φ200 BOX WITHOUT REINFORCEMENT VIEW



LIST OF REINFORCEMENT (per 1 place)

NAME	PIANETER	LENGTH (mm)	NUMBER (nos.)	UNIT WEIGHT (kg/m)	WEIGHT/BAR (kg)	WEIGHT (kg)	REMARKS
HANDRAIL							
20	D13	1200	8	0.995	1.19	10	┘
21	D13	1100	8	0.995	1.09	9	┘
						D13	19 kg
total							19 kg

REINFORCING REBAR S=1:10

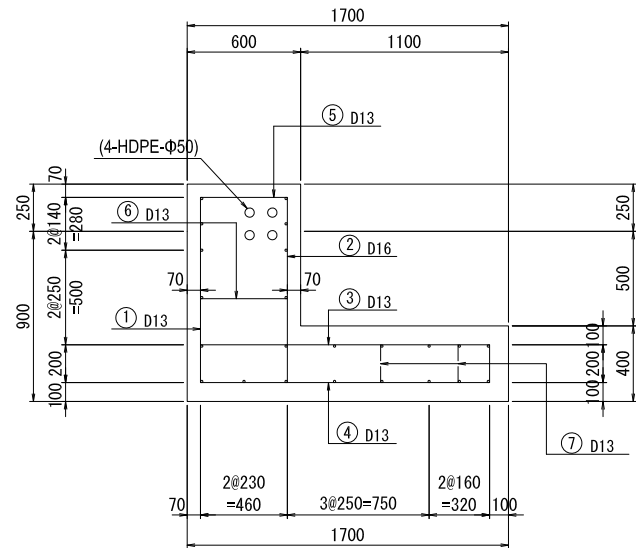


LIST OF REINFORCEMENT (per 10.0m)

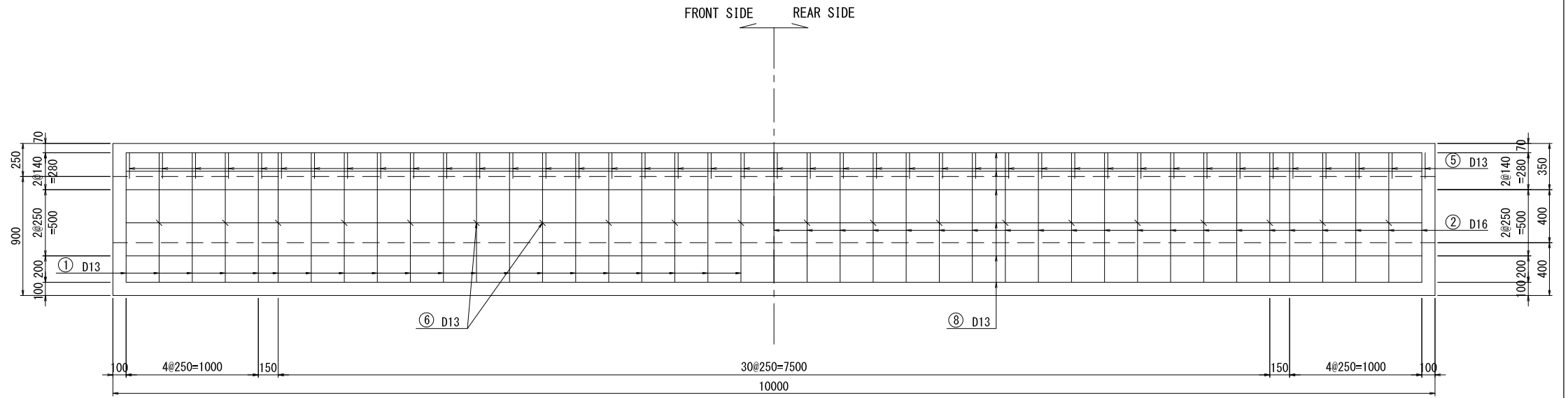
NAME	PIANETER	LENGTH (mm)	NUMBER (nos.)	UNIT WEIGHT (kg/m)	WEIGHT/BAR (kg)	WEIGHT (kg)
Reinforcing rebar	D25	1550	10	3.98	6.17	62
					D25	62 kg
total						62 kg

# GUARDRAIL ON MECHANICALLY STABILISED EARTH WALL RAMP(1) S=1:20

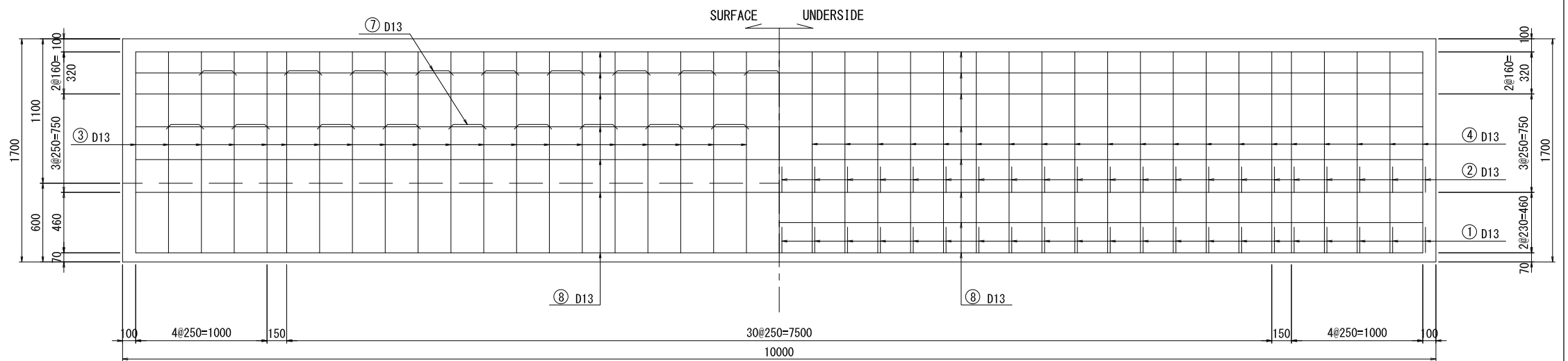
### SECTION



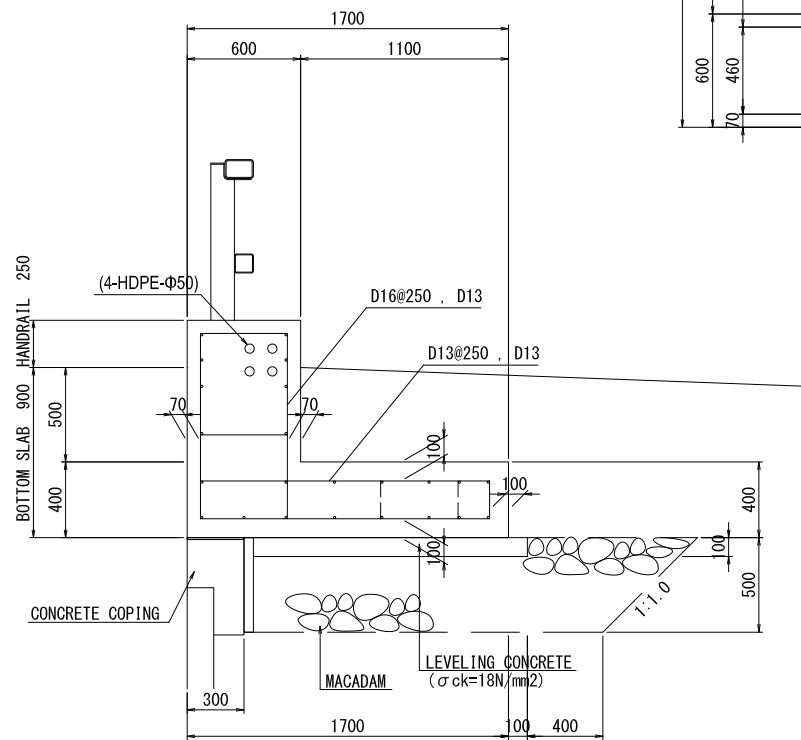
### BREAST WALL



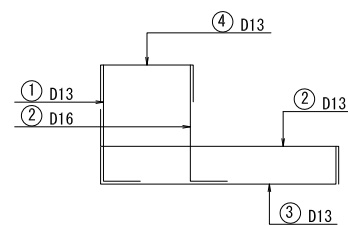
### BOTTOM SLAB



### SETTING



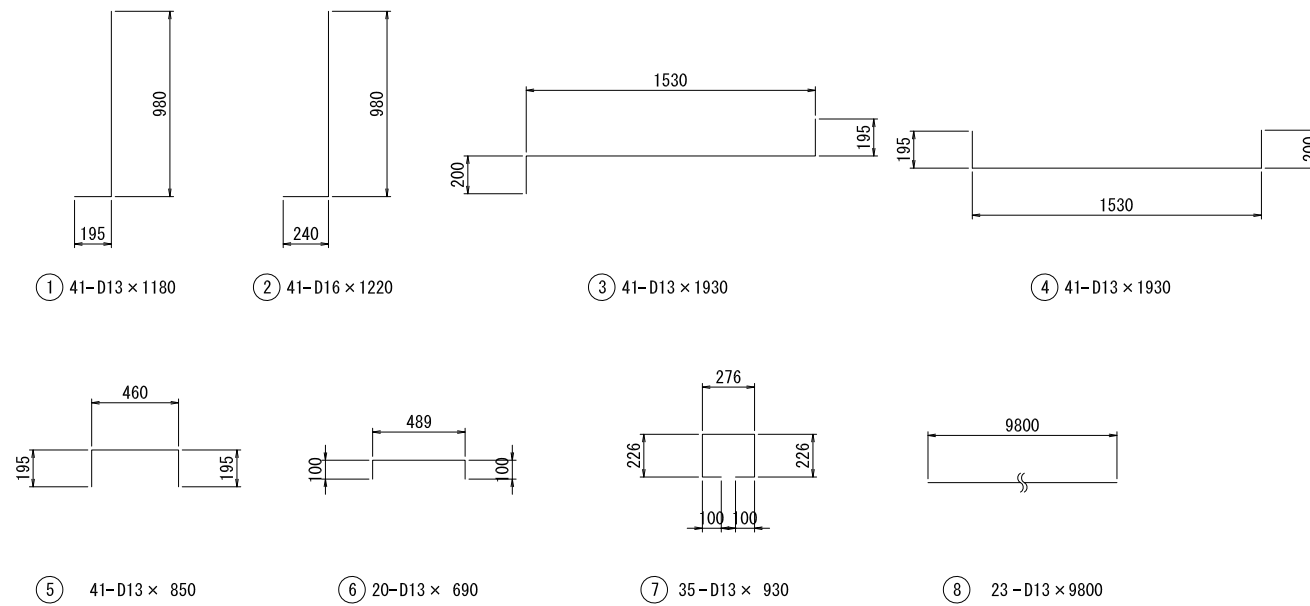
### BAR ASSEMBLING



PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">NAME</th> <th style="width: 15%;">SIGNATURE</th> <th style="width: 15%;">DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY J.TSUCHIYA</td> <td></td> <td>15 Jun. 2017</td> </tr> <tr> <td>CHECKED BY T. HAYAKAWA</td> <td></td> <td>20 Jun. 2017</td> </tr> <tr> <td>APPROVED BY Y. SANO</td> <td></td> <td>21 Jun. 2017</td> </tr> </tbody> </table>	NAME	SIGNATURE	DATE	PREPARED BY J.TSUCHIYA		15 Jun. 2017	CHECKED BY T. HAYAKAWA		20 Jun. 2017	APPROVED BY Y. SANO		21 Jun. 2017	DRAWING TITLE GUARDRAIL ON MECHANICALLY STABILISED EARTH WALL RAMP(1)	PACKAGE 1 DWG No. P1-RD-4110
NAME	SIGNATURE	DATE																
PREPARED BY J.TSUCHIYA		15 Jun. 2017																
CHECKED BY T. HAYAKAWA		20 Jun. 2017																
APPROVED BY Y. SANO		21 Jun. 2017																

# GUARDRAIL MECHANICALLY STABILISED EARTH WALL RAMP(2)

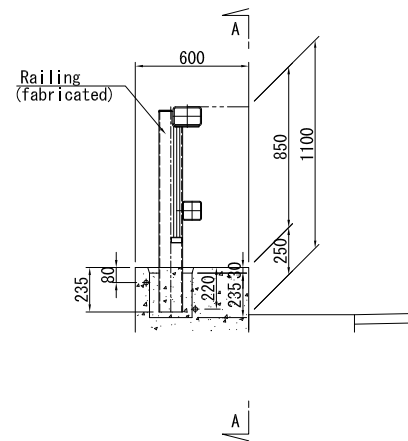
## BAR SCHEDULING



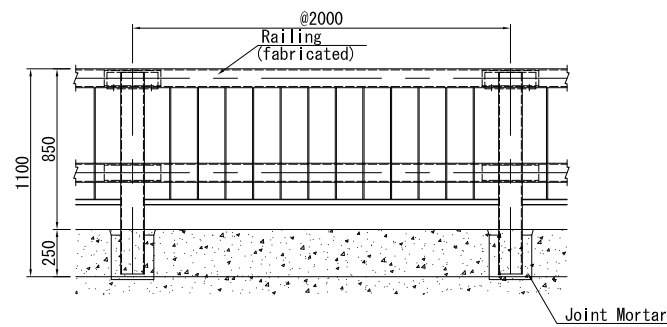
### LIST OF REINFORCEMENT (per 10.0m)

NAME	PIANETER	LENGTH (mm)	NUMBER (本)	UNIT WEIGHT (kg/m)	WEIGHT/BAR (kg)	WEIGHT (kg)	REMARKS
BOTTOM SLAB							
1	D13	1180	41	0.995	1.17	48	┘
2	D16	1220	41	1.560	1.90	78	┘
3	D13	1930	41	0.995	1.92	79	┘
4	D13	1930	41	0.995	1.92	79	┘
5	D13	850	41	0.995	0.85	35	┘
6	D13	690	20	0.995	0.69	14	┘
7	D13	930	35	0.995	0.93	33	┘
8	D13	9800	23	0.995	9.75	224	—
						D16	78 kg
						D13	512 kg
total							590 kg

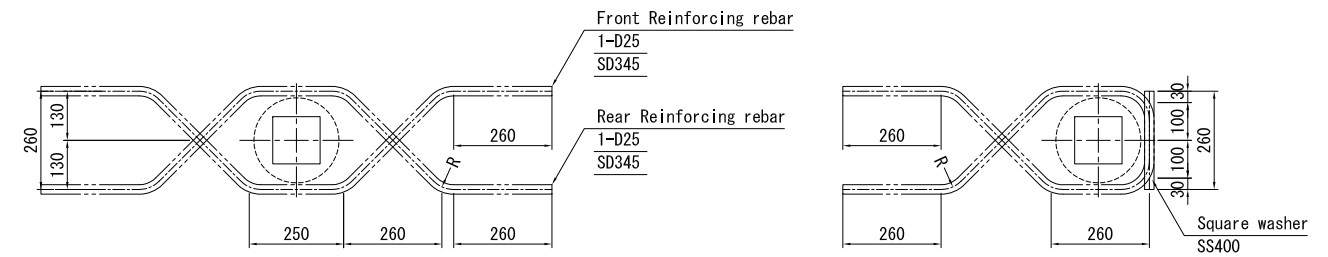
### CROSS SECTION OF WHEEL GUARD S=1:20



### A - A



### REINFORCING REBAR S=1:10

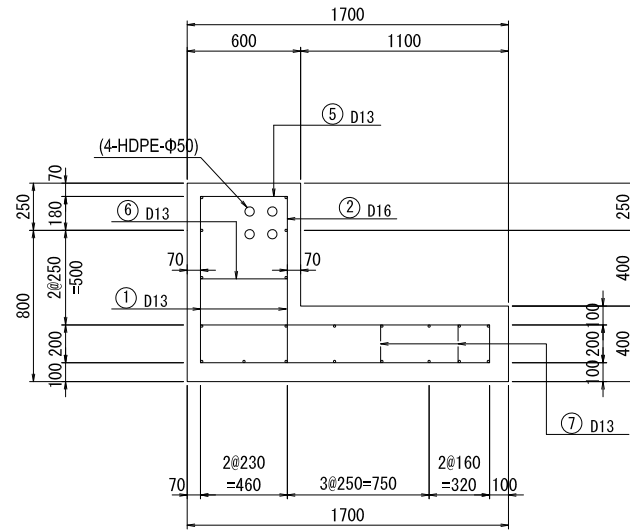


### LIST OF REINFORCEMENT (per 10.0m)

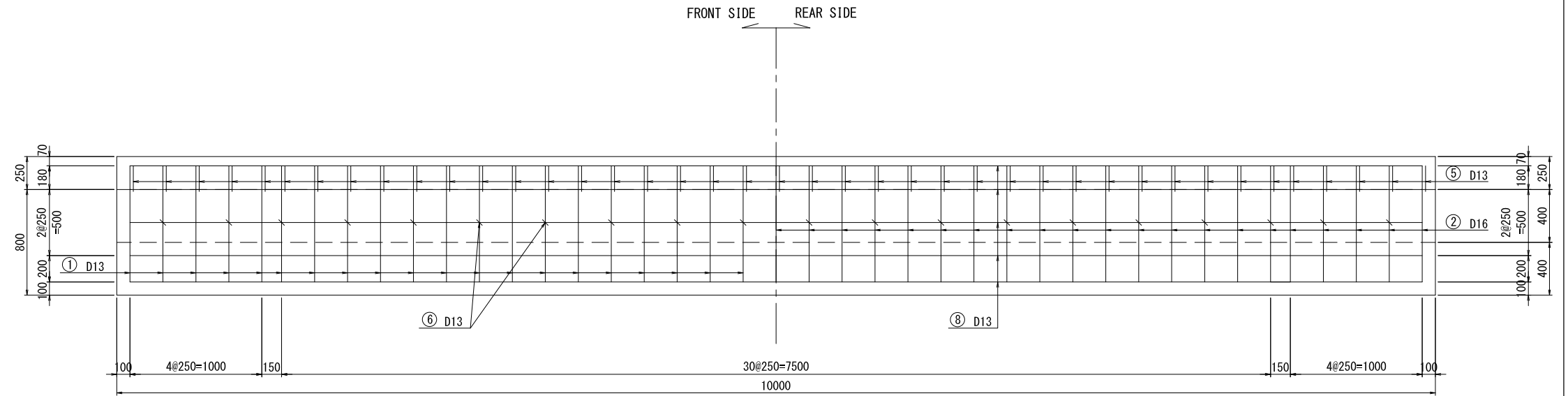
NAME	PIANETER	LENGTH (mm)	NUMBER (nos.)	UNIT WEIGHT (kg/m)	WEIGHT/BAR (kg)	WEIGHT (kg)
Reinforcing rebar	D25	1550	10	3.98	6.17	62
					D25	62 kg
total						62 kg

# GUARDRAIL ON MECHANICALLY STABILISED EARTH WALL RAMP(3) S=1:20

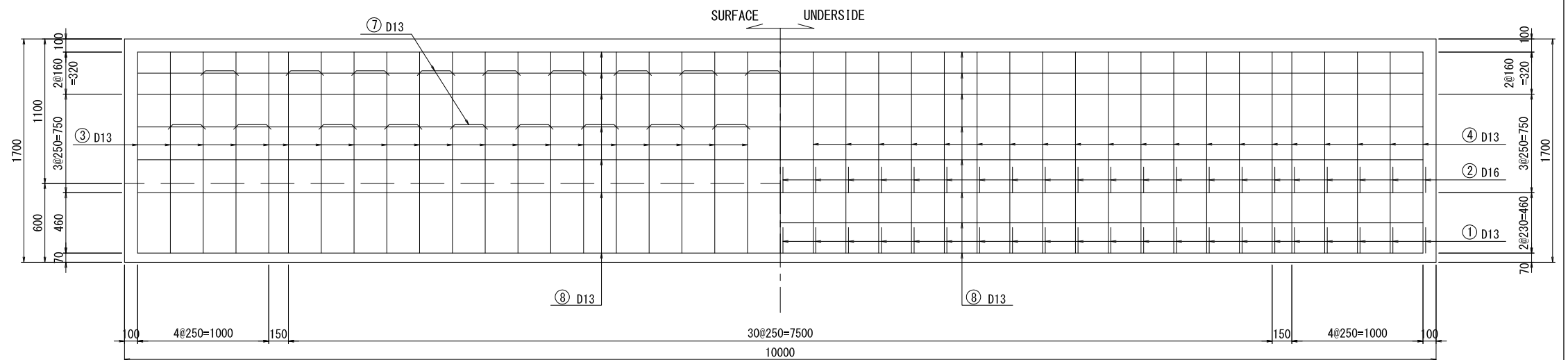
**SECTION**



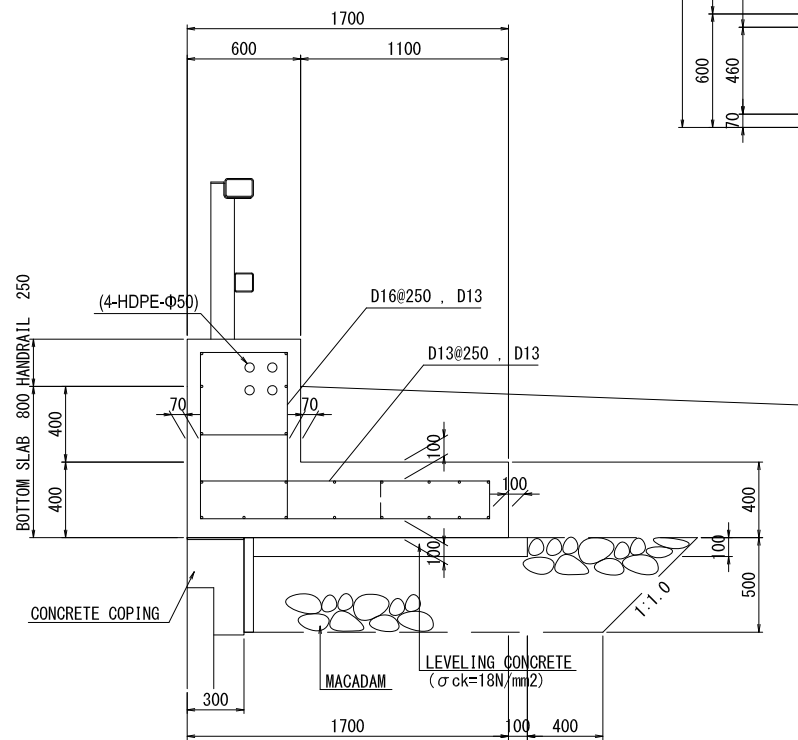
**BREST WALL**



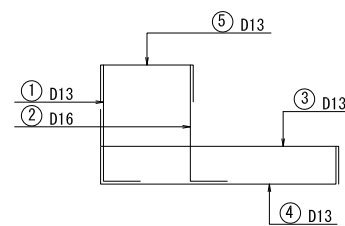
**BOTTOM SLAB**



**SETTING**



**BAR ASSEMBLING**

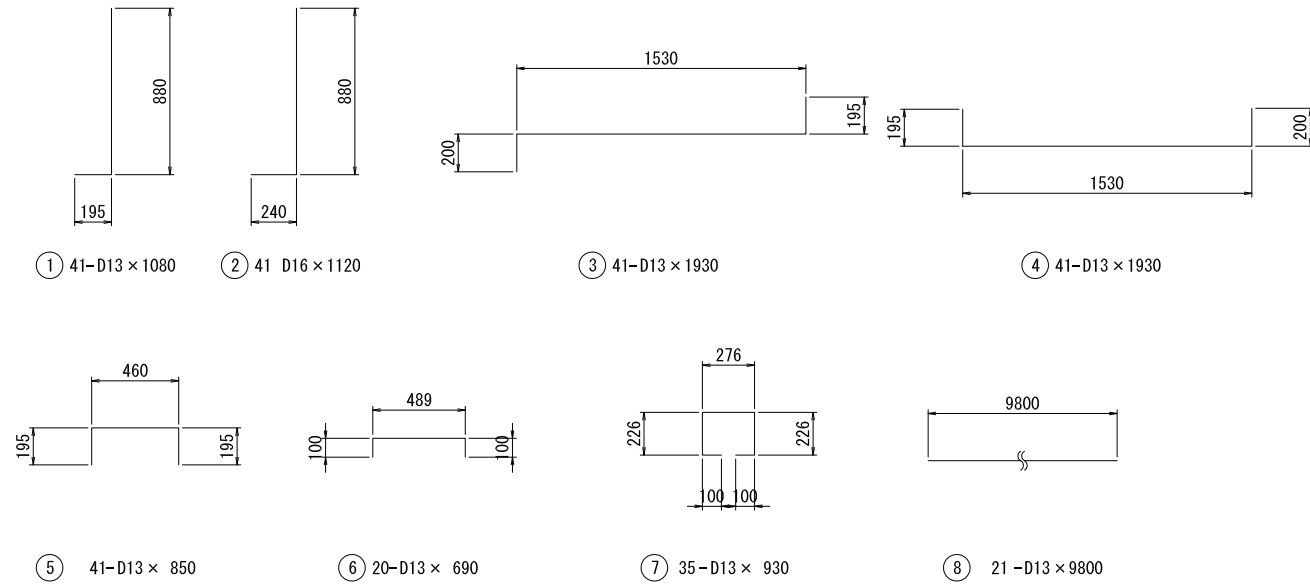


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">NAME</th> <th style="width: 15%;">SIGNATURE</th> <th style="width: 15%;">DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY J.TSUCHIYA</td> <td></td> <td>15 Jun. 2017</td> </tr> <tr> <td>CHECKED BY T. HAYAKAWA</td> <td></td> <td>20 Jun. 2017</td> </tr> <tr> <td>APPROVED BY Y. SANO</td> <td></td> <td>21 Jun. 2017</td> </tr> </tbody> </table>	NAME	SIGNATURE	DATE	PREPARED BY J.TSUCHIYA		15 Jun. 2017	CHECKED BY T. HAYAKAWA		20 Jun. 2017	APPROVED BY Y. SANO		21 Jun. 2017	DRAWING TITLE GUARDRAIL ON MECHANICALLY STABILISED EARTH WALL RAMP(3)	PACKAGE 1 DWG No. P1-RD-4130
NAME	SIGNATURE	DATE																
PREPARED BY J.TSUCHIYA		15 Jun. 2017																
CHECKED BY T. HAYAKAWA		20 Jun. 2017																
APPROVED BY Y. SANO		21 Jun. 2017																



# GUARDRAIL MECHANICALLY STABILISED EARTH WALL RAMP(4)

## BAR SCHEDULING

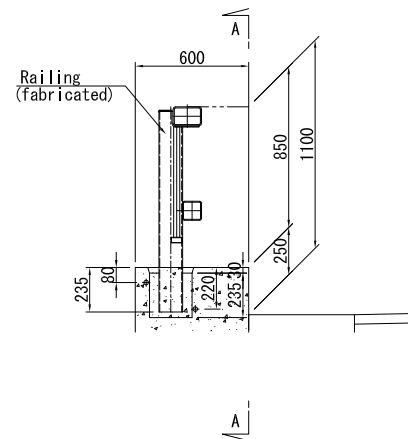


## LIST OF REINFORCEMENT (per10.0m)

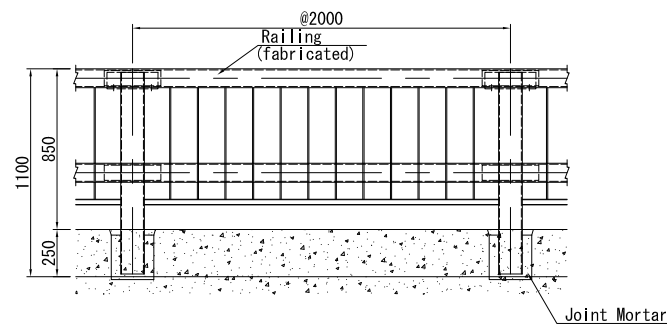
NAME	PIANETER	LENGTH (mm)	NUMBER (本)	UNIT WEIGHT (kg/m)	WEIGHT/BAR (kg)	WEIGHT (kg)	REMARKS
BOTTOM SLAB							
1	D13	1080	41	0.995	1.07	44	┘
2	D16	1120	41	1.560	1.75	72	┘
3	D13	1930	41	0.995	1.92	79	┘
4	D13	1930	41	0.995	1.92	79	┘
5	D13	850	41	0.995	0.85	35	┘
6	D13	690	20	0.995	0.69	14	┘
7	D13	930	35	0.995	0.93	33	┘
8	D13	9800	21	0.995	9.75	205	—
						D16	72 kg
						D13	489 kg
total							561 kg

## CROSS SECTION OF WHEEL GUARD

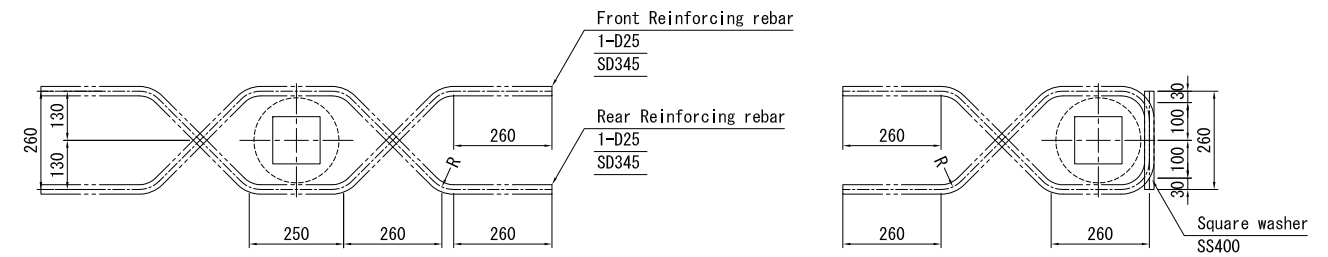
S=1:20



## A - A



## REINFORCING REBAR S=1:10

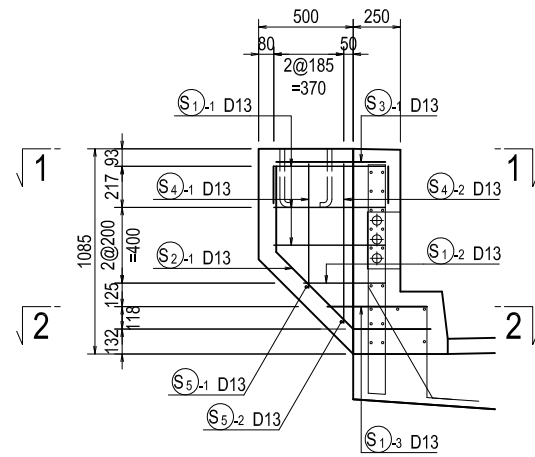


## LIST OF REINFORCEMENT (per 10.0m)

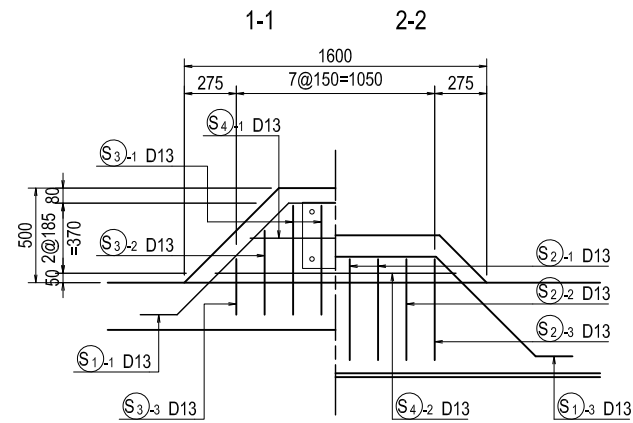
NAME	PIANETER	LENGTH (mm)	NUMBER (nos.)	UNIT WEIGHT (kg/m)	WEIGHT/BAR (kg)	WEIGHT (kg)
Reinforcing rebar	D25	1550	10	3.98	6.17	62
					D25	62 kg
total						62 kg

# DETAIL OF LIGHTING FOUNDATION

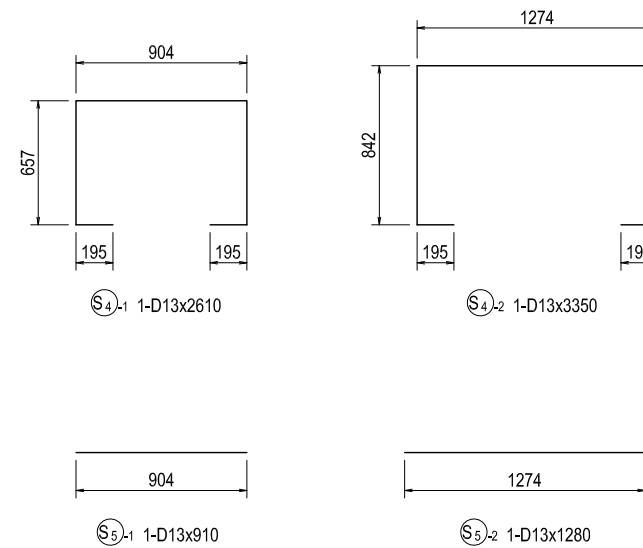
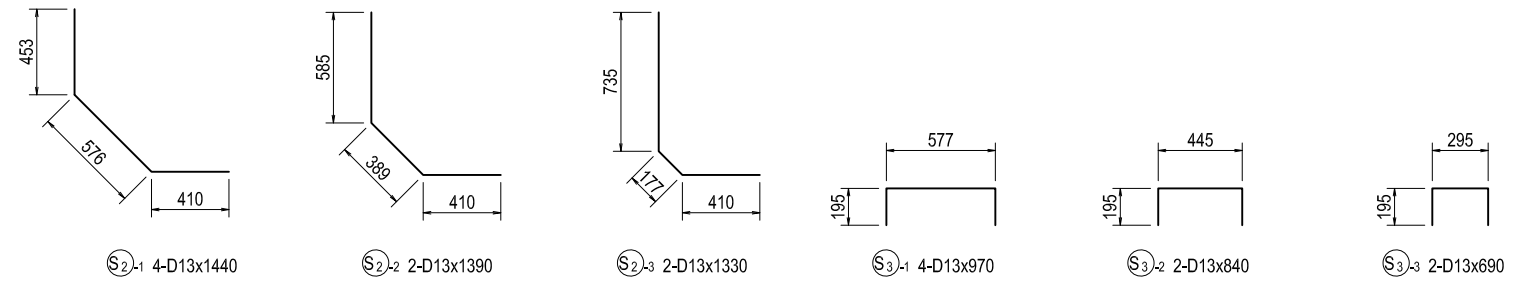
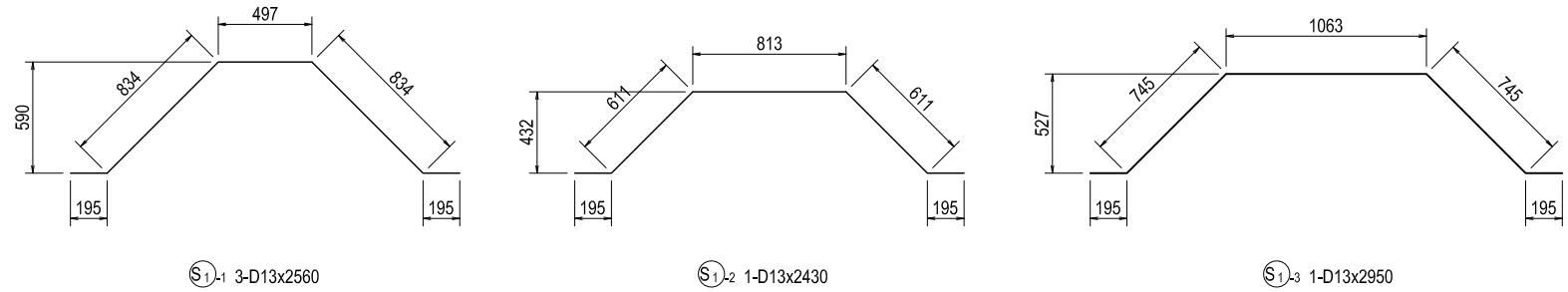
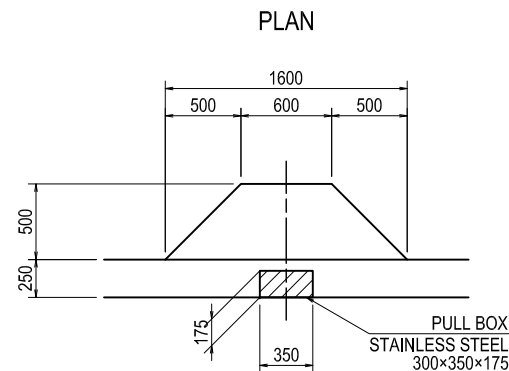
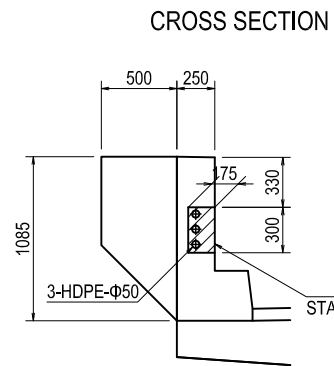
CROSS SECTION S=1:40



PLAN S=1:40



PULLBOX DETAIL S=1:50



BAR LIST

REBAR NO.	DIA (mm)	LENGTH (mm)	NUMBER	UNIT WEIGHT (kg/m)	WEIGHT/ONE (kg)	WEIGHT (kg)	REMARKS
S 1 -1	D13	2560	3	0.995	2.55	8	
S 1 -2	D13	2430	1	0.995	2.42	2	
S 1 -3	D13	2950	1	0.995	2.94	3	
S 2 -1	D13	1440	4	0.995	1.43	6	
S 2 -2	D13	1390	2	0.995	1.38	3	
S 2 -3	D13	1330	2	0.995	1.32	3	
S 3 -1	D13	970	4	0.995	0.97	4	
S 3 -2	D13	840	2	0.995	0.84	2	
S 3 -3	D13	690	2	0.995	0.69	1	
S 4 -1	D13	2610	1	0.995	2.60	3	
S 4 -2	D13	3350	1	0.995	3.33	3	
S 5 -1	D13	910	1	0.995	0.91	1	
S 5 -2	D13	1280	1	0.995	1.27	1	
						40	kg
TOTAL						40	kg

PROJECT NAME  
DETAILED DESIGN ON  
BAGO RIVER BRIDGE  
CONSTRUCTION PROJECT

FINANCED BY  
JICA  
JAPAN INTERNATIONAL  
COOPERATION AGENCY

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

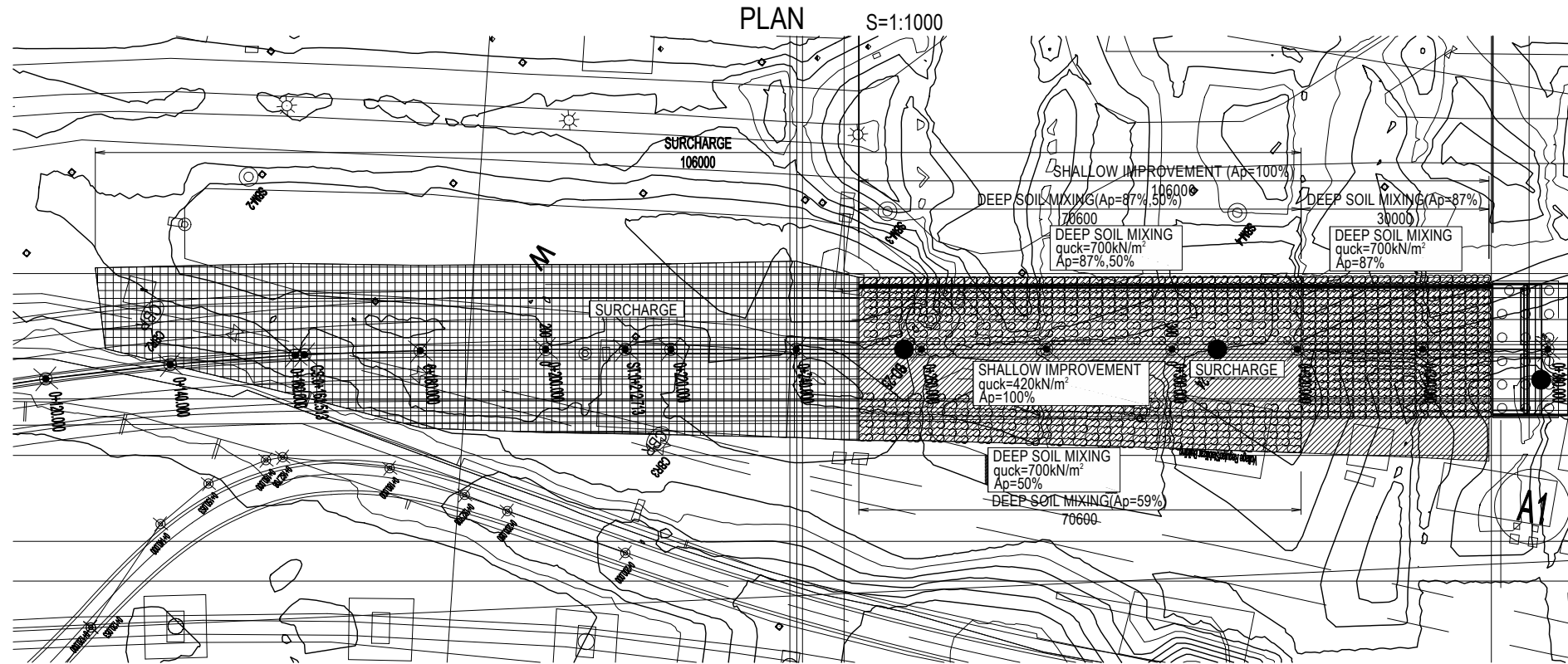
JICA STUDY TEAM  
NIPPON KOEI CO., LTD.  
ORIENTAL CONSULTANTS GLOBAL CO., LTD.  
METROPOLITAN EXPRESSWAY COMPANY LIMITED  
CHODAI CO., LTD.  
NIPPON ENGINEERING CONSULTANTS CO., LTD.

	NAME	SIGNATURE	DATE
PREPARED BY	J.TSUCHIYA	土屋 潤	15 Jun. 2017
CHECKED BY	T. HAYAKAWA	平川 知那	20 Jun. 2017
APPROVED BY	Y. SANO	佐野 祐一	21 Jun. 2017

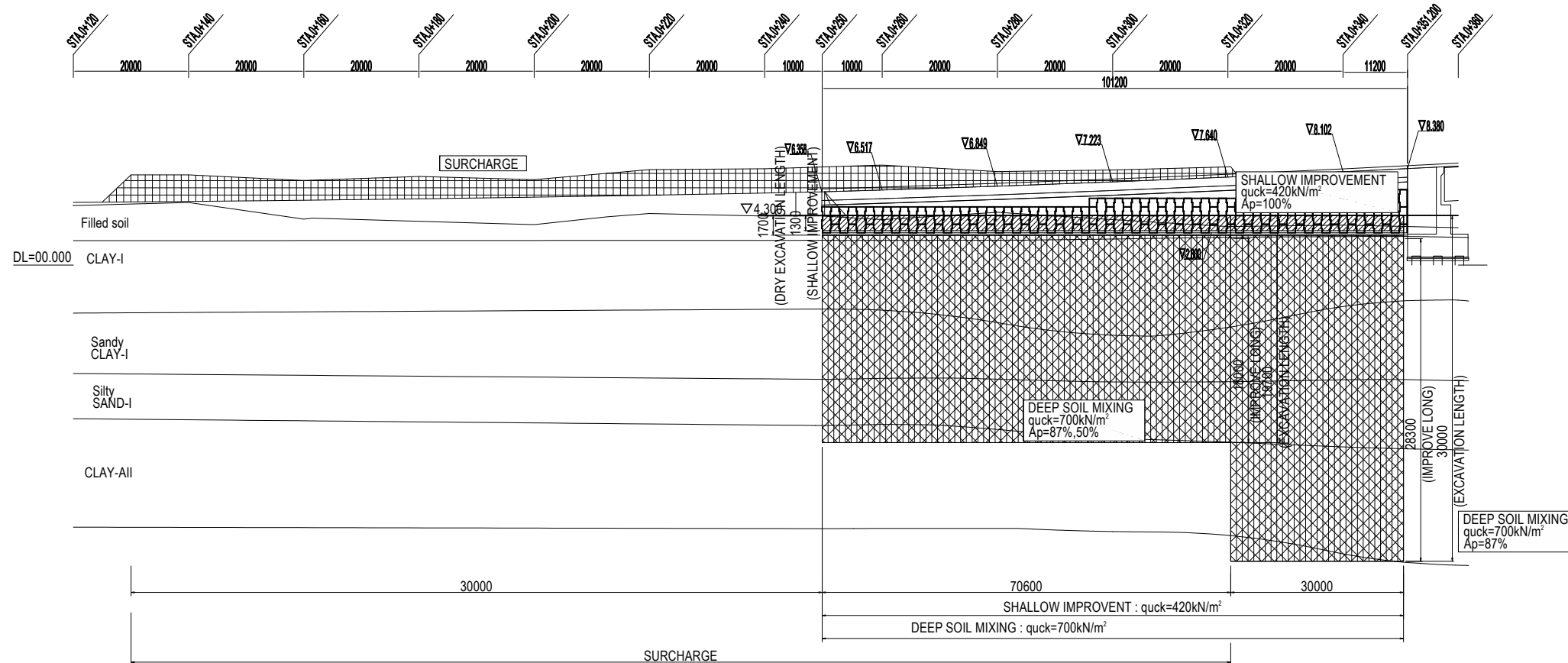
DRAWING TITLE  
DETAIL OF LIGHTING FOUNDATION

PACKAGE  
1  
DWG No.  
P1-RD-4150

# SOFT SOIL IMPROVEMENT MEASURES:MAIN ROAD(1)



PROFILE V=1:500  
H=1:1000  
LEFT SIDE(DEVLOP FROM BACK SIDE)  
MAIN ROAD(STA.0+120.000~0+351.200)

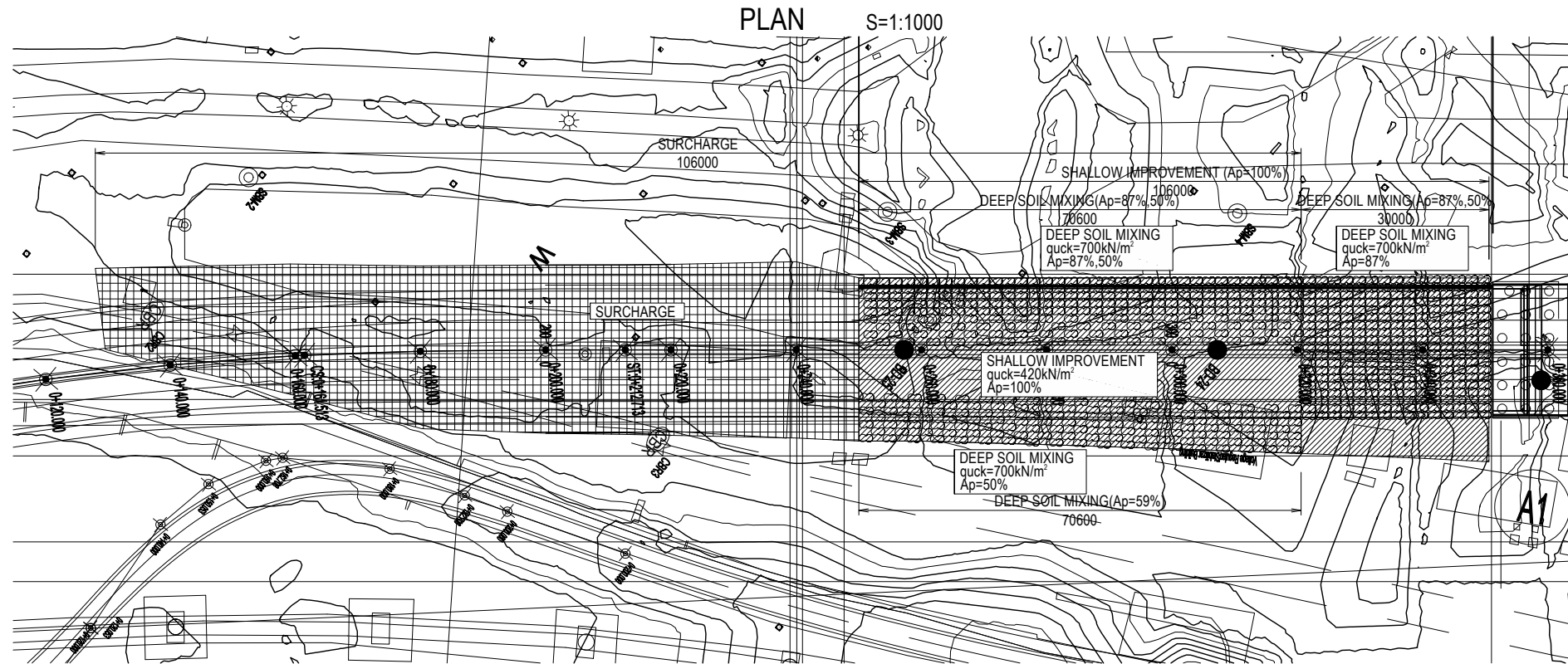


Elevation represents above MSL unless otherwise indicated.

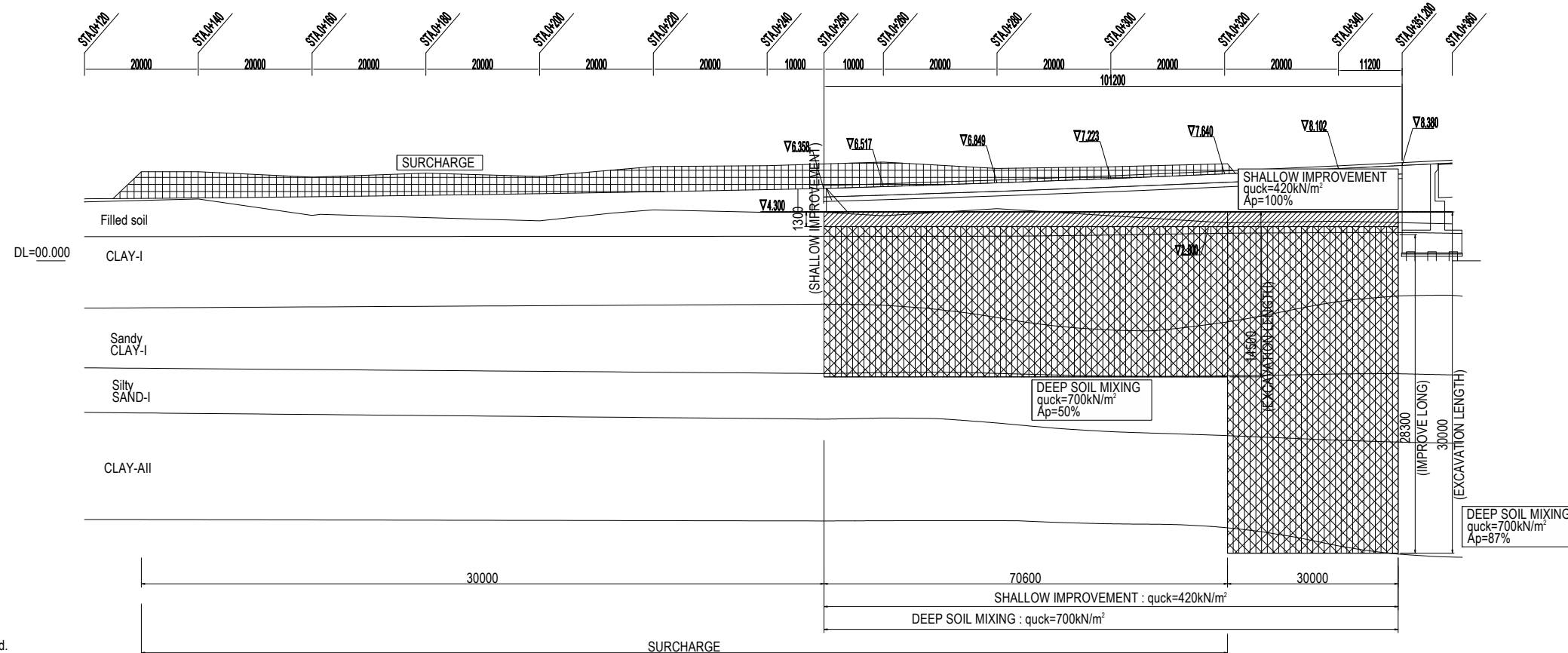
LEGEND	
	SHALLOW IMPROVEMENT
	DRY EXCAVATION LENGTH
	DEEP SOIL MIXING
	SURCHARGE

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE			
				PREPARED BY	R.HOSOKAWA				29 Sept. 2017	SOFT SOIL IMPROVEMENT MEASURES:MAIN ROAD(1)	1
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017		DWG No.
				APPROVED BY	Y. SANO				6 Oct. 2017		P1-RD-5000

# SOFT SOIL IMPROVEMENT MEASURES:MAIN ROAD(2)



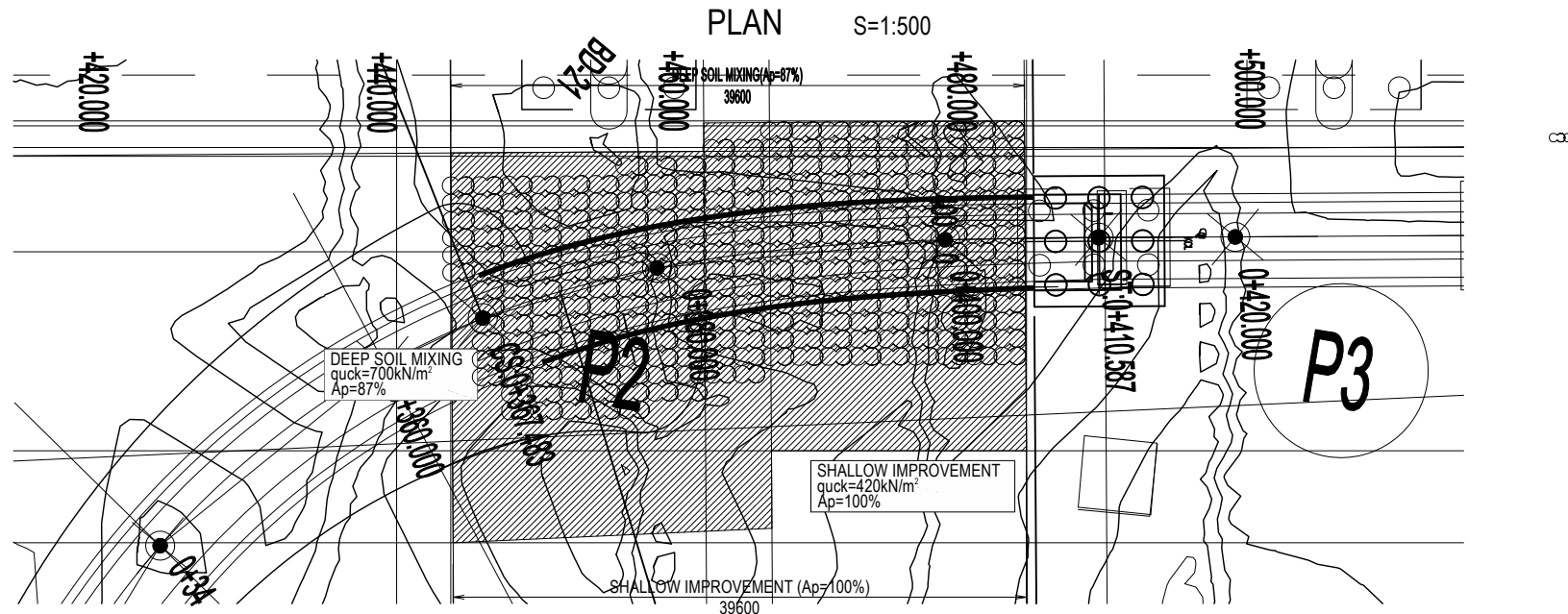
PROFILE V=1:500  
H=1:1000  
RIGHT SIDE  
MAIN ROAD(STA.0+120.000~0+351.200)



Elevation represents above MSL unless otherwise indicated.

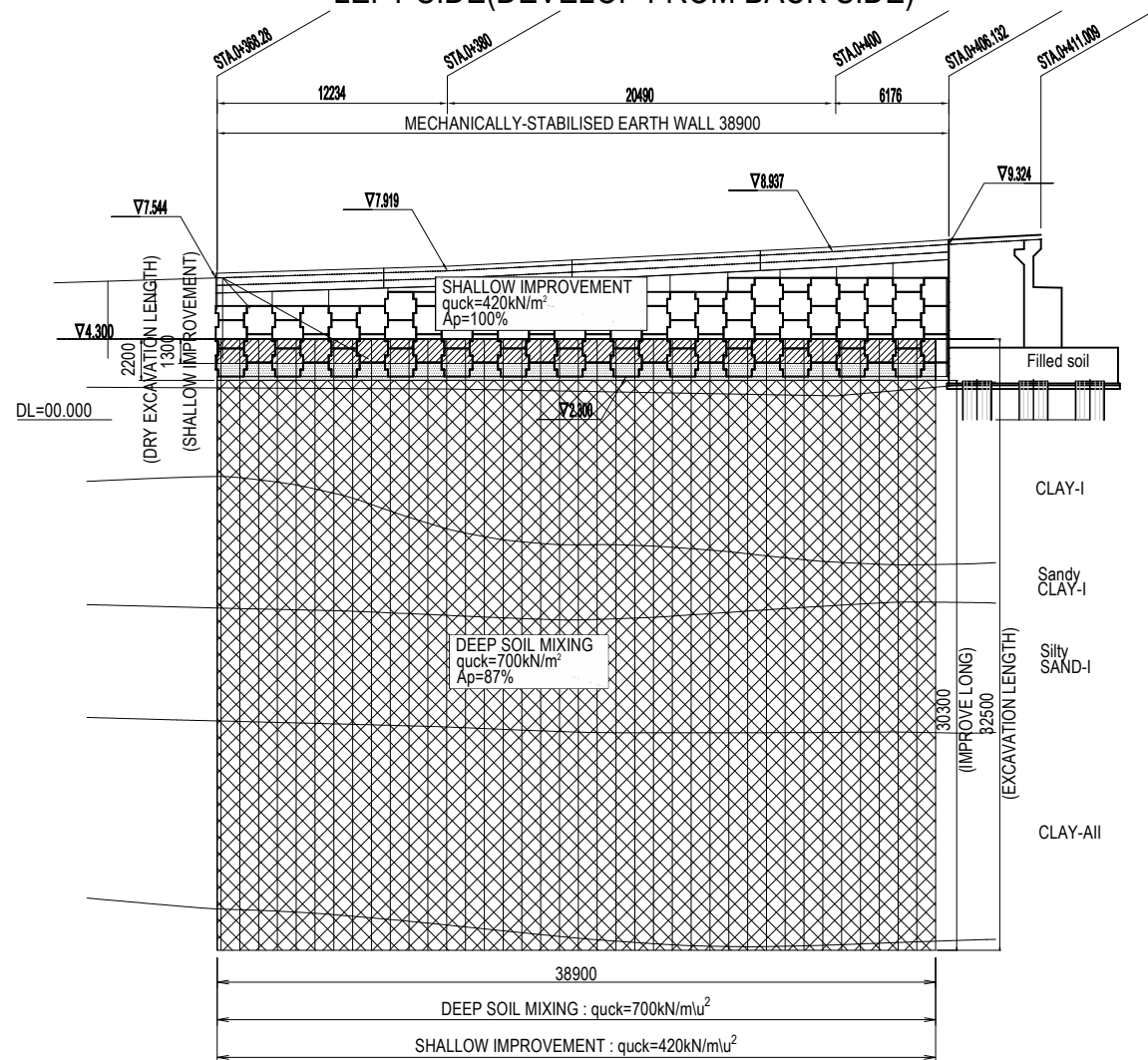
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE	
				PREPARED BY	R.HOSOKAWA				29 Sept. 2017
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017
				APPROVED BY	Y. SANO				6 Oct. 2017
SOFT SOIL IMPROVEMENT MEASURES:MAIN ROAD(2)							1	DWG No.	
								P1-RD-5010	

# SOFT SOIL IMPROVEMENT MEASURES:RAMP

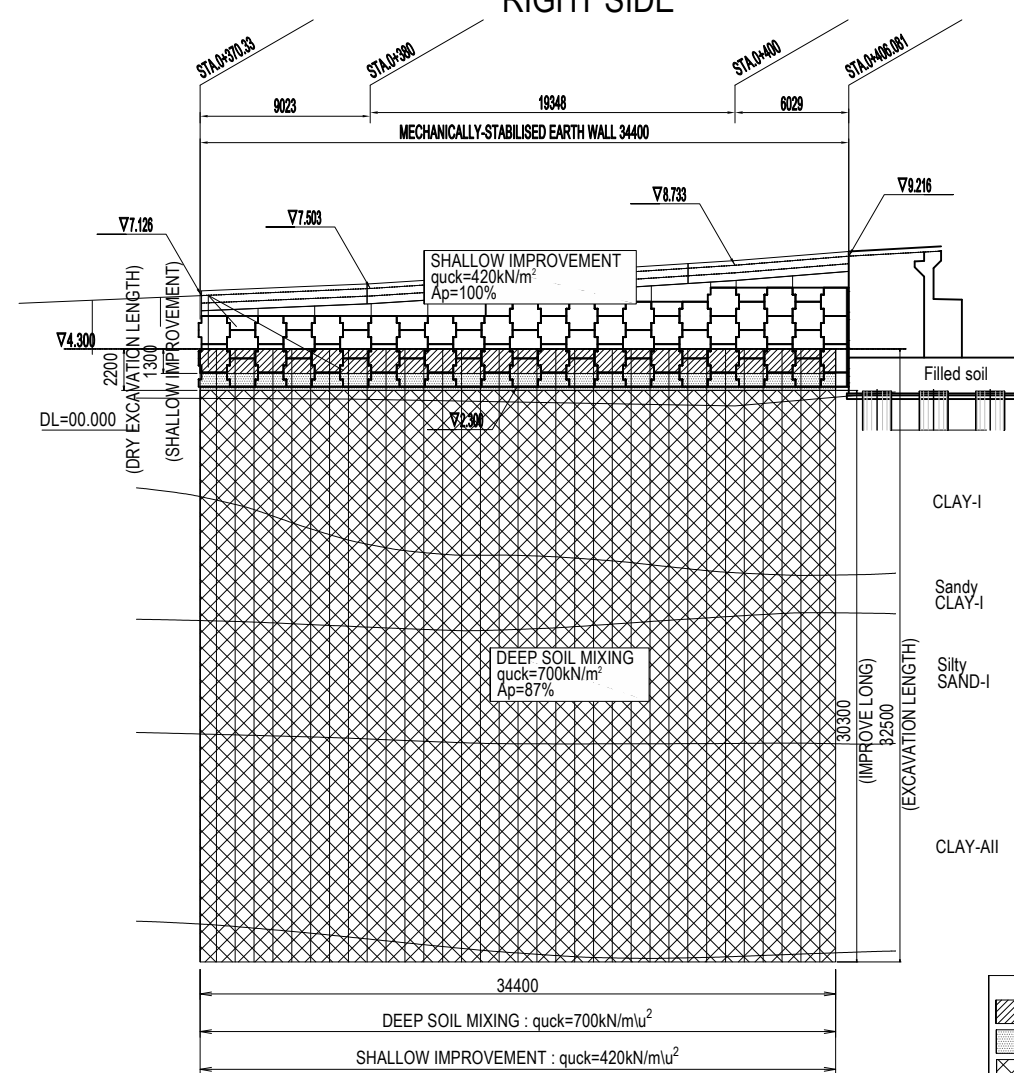


PROFILE S=1:400

LEFT SIDE(DEVELOP FROM BACK SIDE)



RIGHT SIDE



LEGEND	
	SHALLOW IMPROVEMENT
	DRY EXCAVATION LENGTH
	DEEP SOIL MIXING
	SURCHARGE

Elevation represents above MSL unless otherwise indicated.

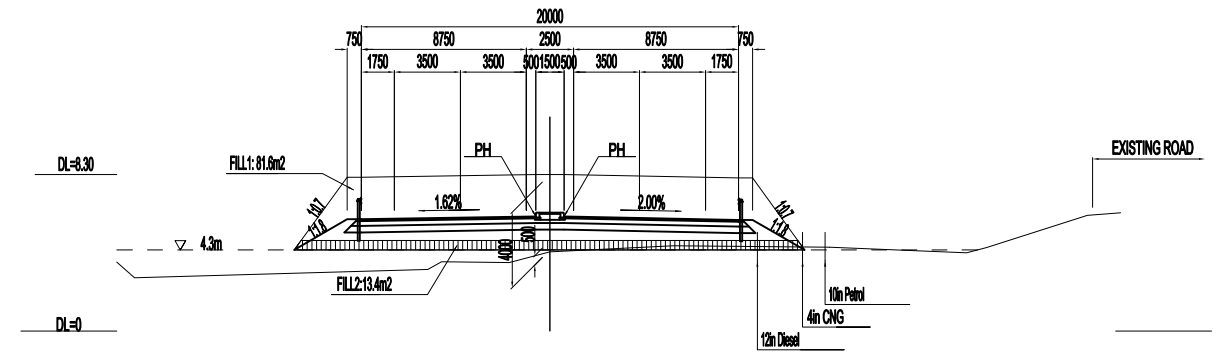
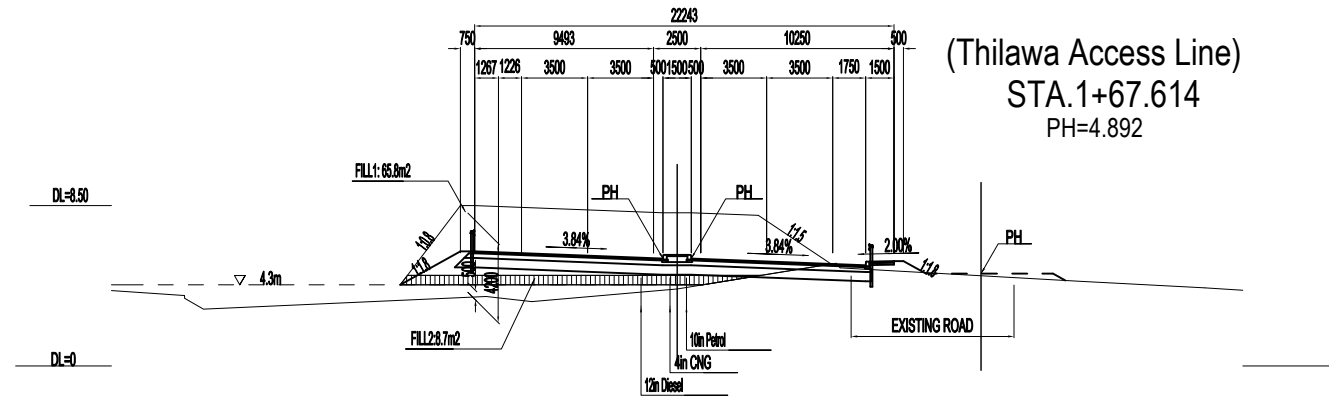
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE	
				PREPARED BY	R. HOSOKAWA				29 Sept. 2017
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017
				APPROVED BY	Y. SANO				6 Oct. 2017
SOFT SOIL IMPROVEMENT MEASURES:RAMP							1	DWG No.	P1-RD-5020

# CROSS SECTION OF SURCHARGE:MAIN ROAD(1)

S=1:400

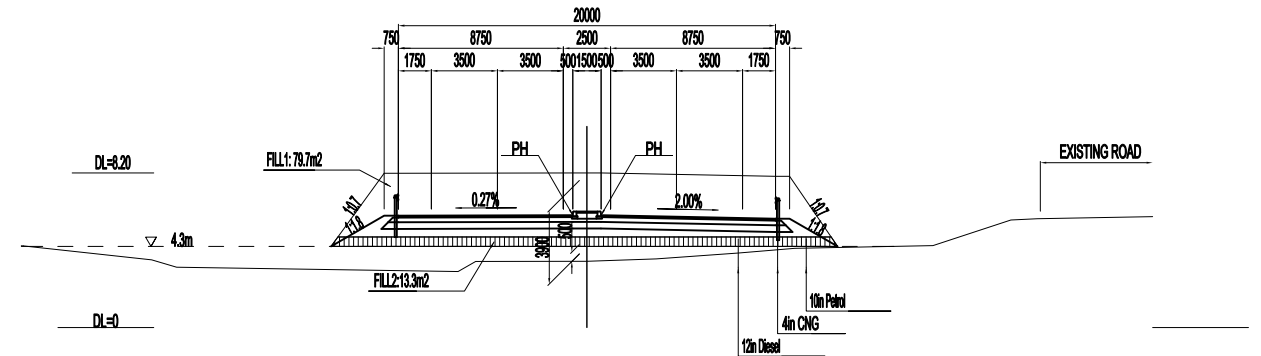
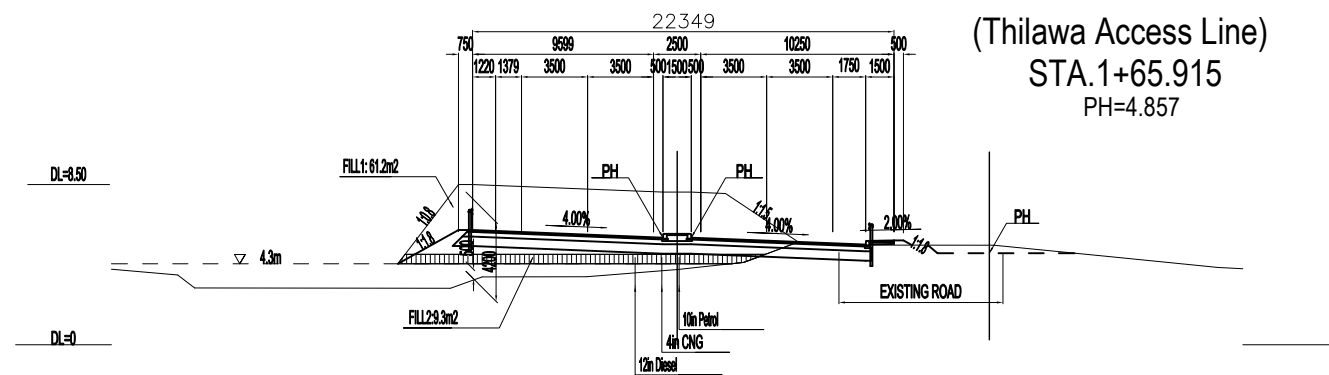
STA.0+161.513  
GH=4.08  
PH=5.689

STA.0+212.713  
GH=4.19  
PH=6.076



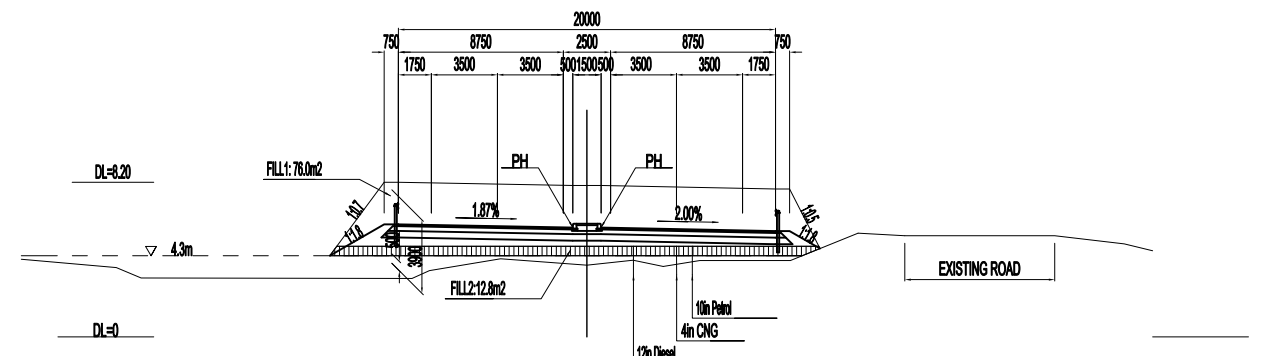
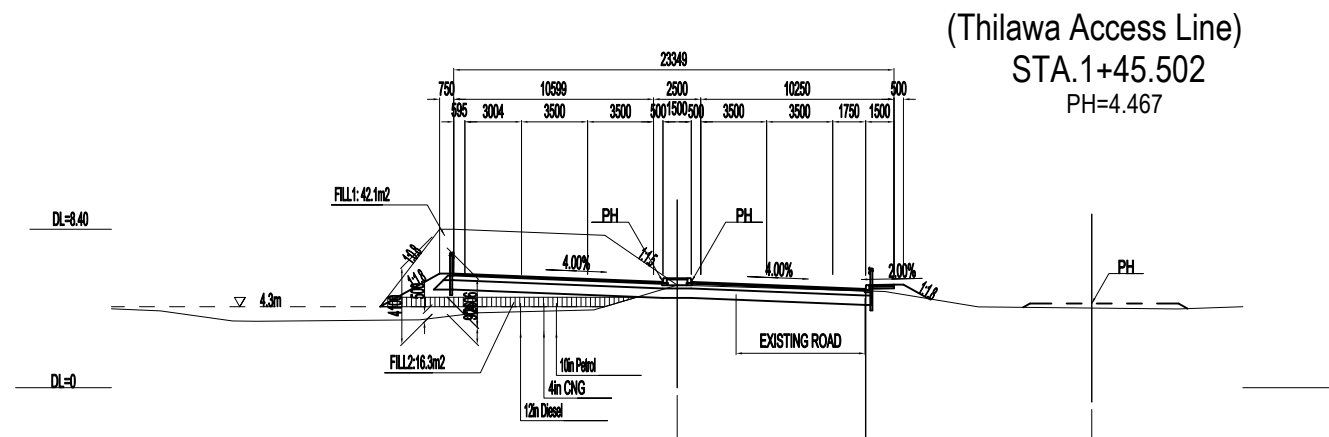
STA.0+160  
GH=3.99  
PH=5.681

STA.0+200  
GH=3.51  
PH=5.953



STA.0+140  
GH=5.44  
PH=5.610

STA.0+180  
GH=3.80  
PH=5.796



Elevation represents above MSL unless otherwise indicated.

LEGEND	
	SAND MAT

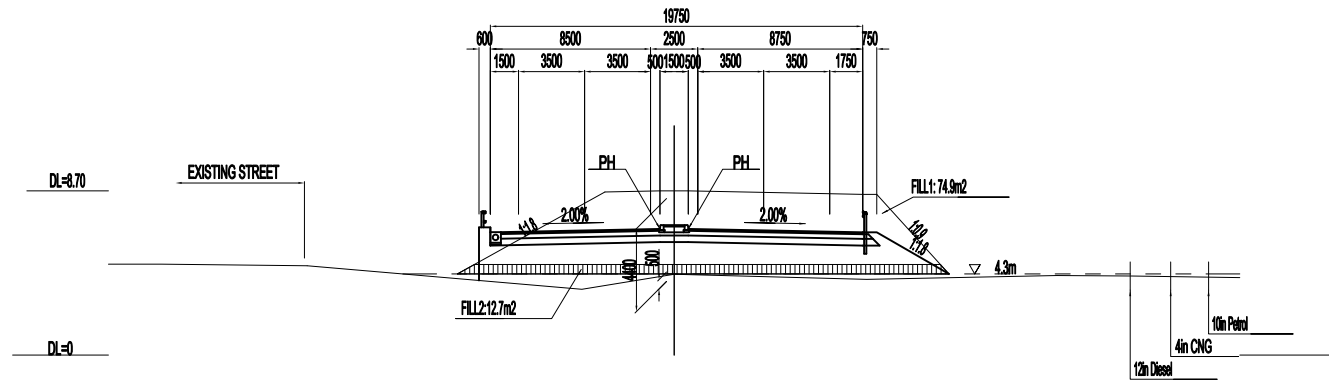
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	NAME PREPARED BY R.HOSOKAWA CHECKED BY T. HAYAKAWA APPROVED BY Y. SANO	SIGNATURE   	DATE 29 Sept. 2017 3 Oct. 2017 6 Oct. 2017	DRAWING TITLE CROSS SECTION OF SURCHARGE:MAIN ROAD(1)	PACKAGE 1 DWG No. P1-RD-5030
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# CROSS SECTION OF SURCHARGE:MAIN ROAD(2)

S=1:400

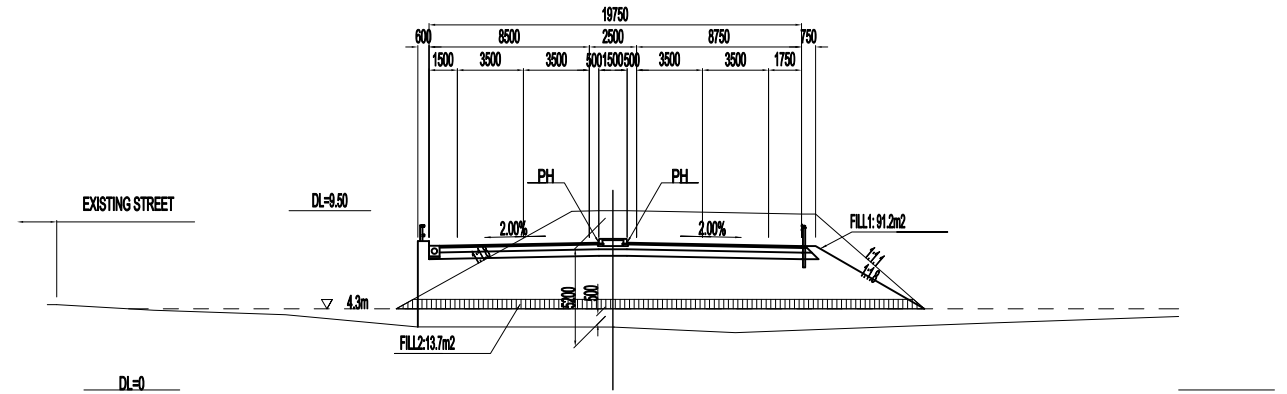
STA.0+260

GH=4.28  
PH=6.686



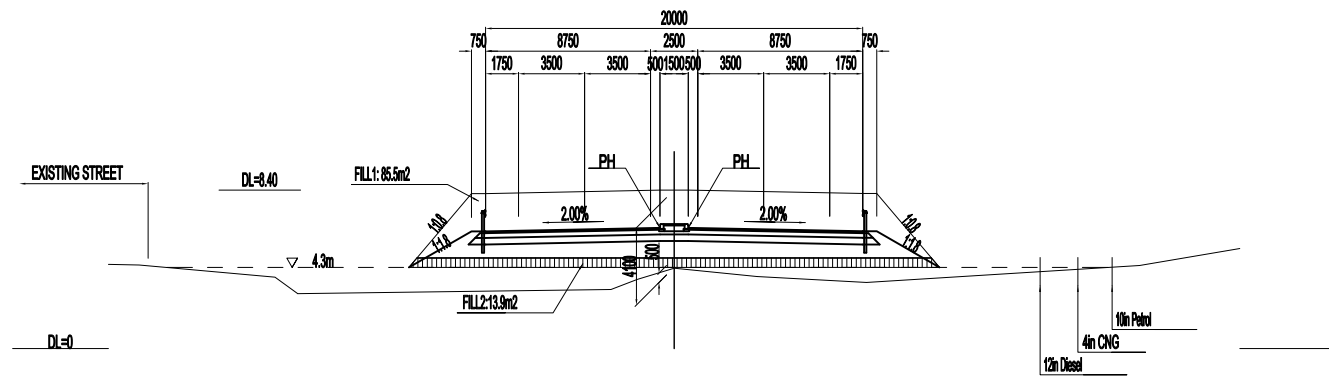
STA.0+320

GH=3.33  
PH=7.809



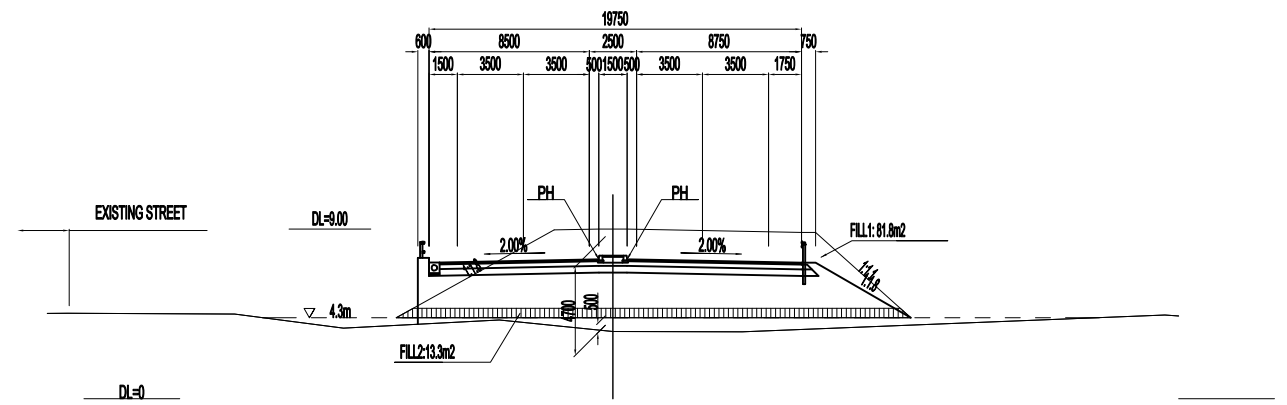
STA.0+240

GH=4.26  
PH=6.399



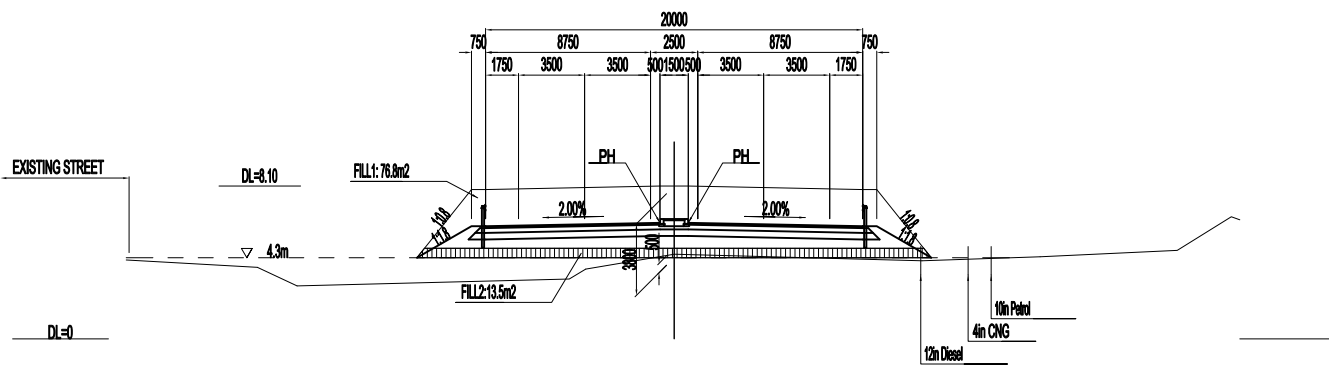
STA.0+300

GH=3.56  
PH=7.392



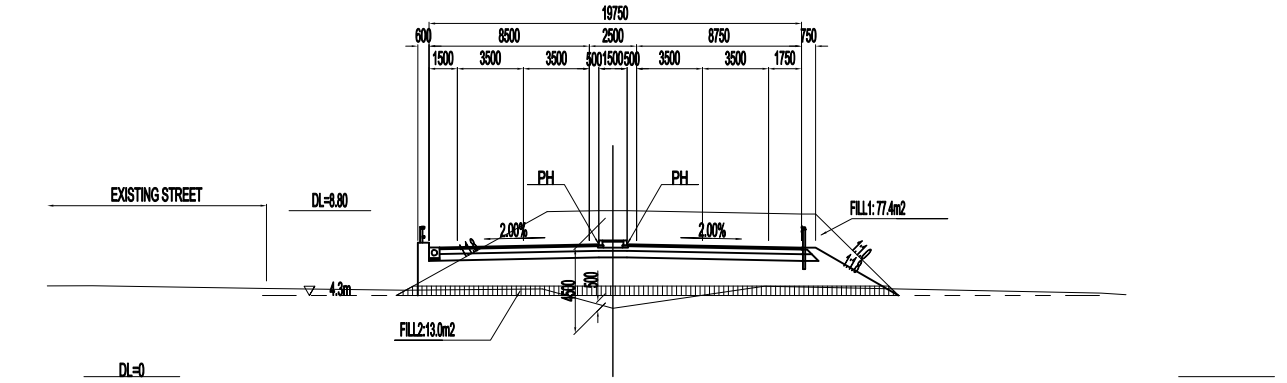
STA.0+220

GH=4.48  
PH=6.154



STA.0+280

GH=3.62  
PH=7.017



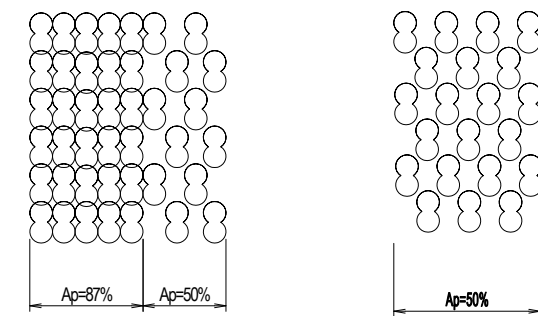
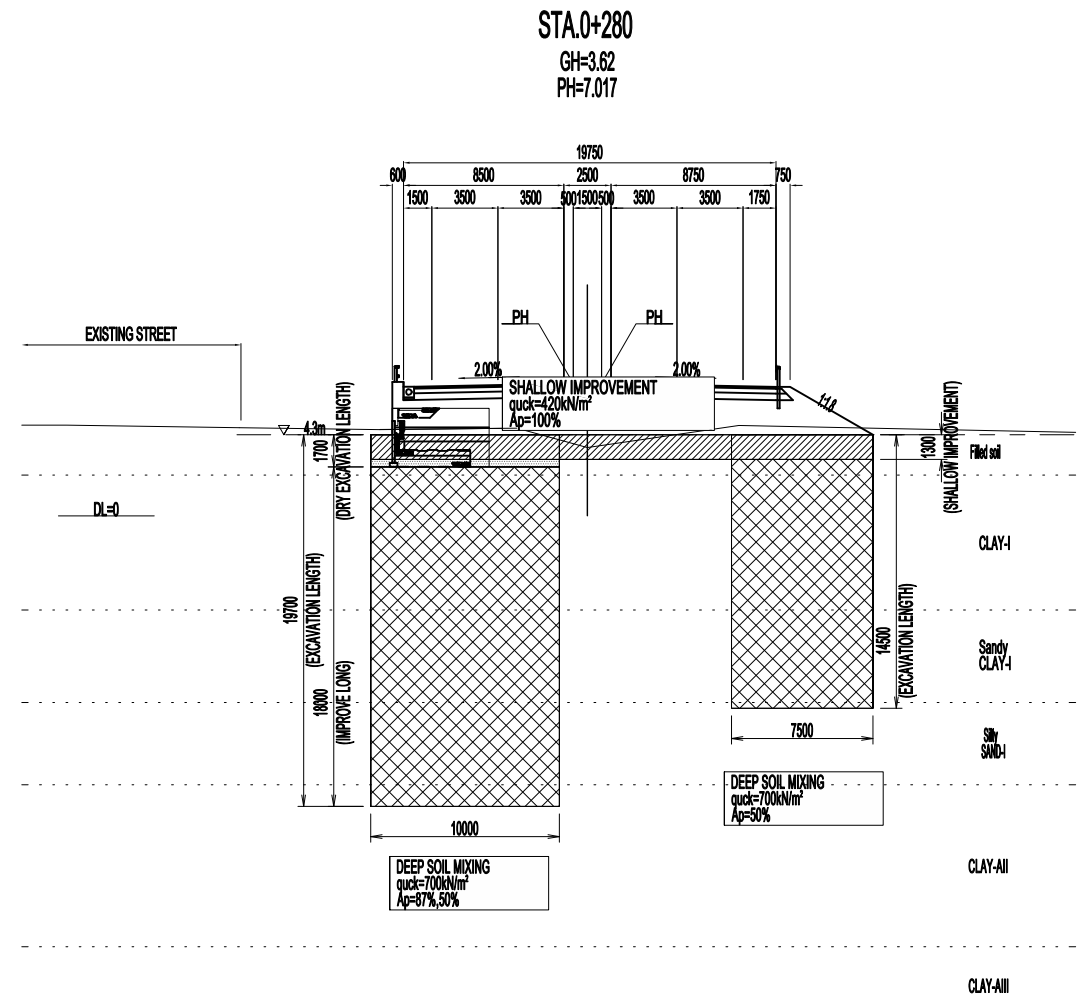
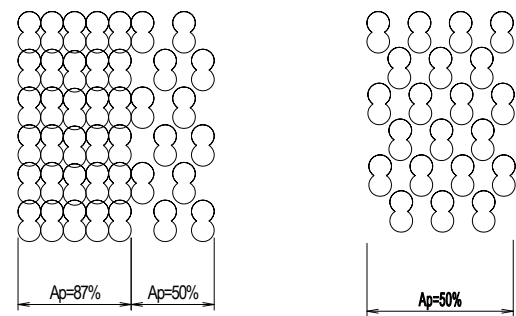
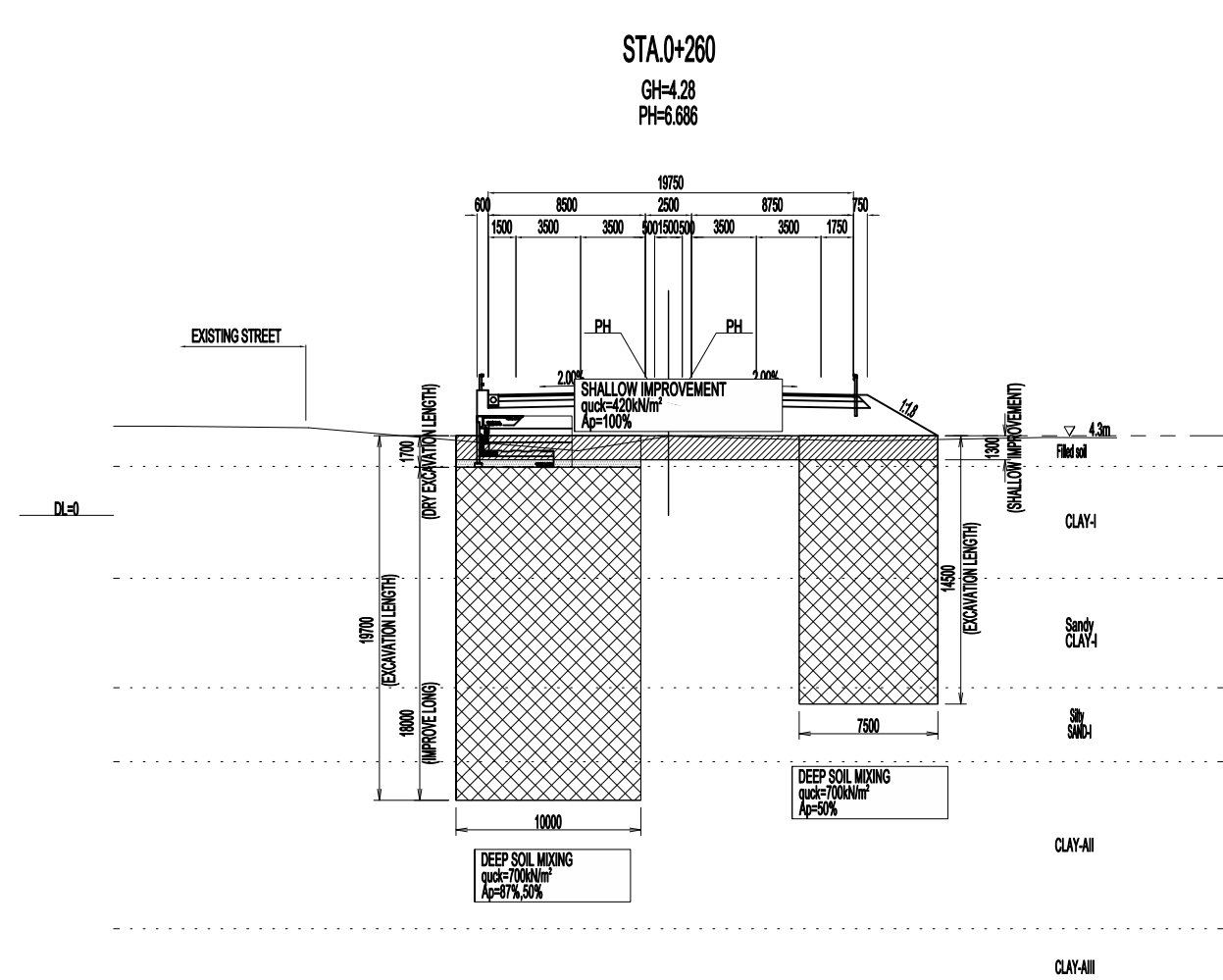
Elevation represents above MSL unless otherwise indicated.

LEGEND
SAND MAT

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION OF SURCHARGE:MAIN ROAD(2)	PACKAGE 1 DWG No. P1-RD-5040	
				PREPARED BY	R.HOSOKAWA				29 Sept. 2017
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017
				APPROVED BY	Y. SANO				6 Oct. 2017

# CROSS SECTION OF DEEP MIXING METHOD:MAIN ROAD(1)

S=1:400



LEGEND	
	SHALLOW IMPROVEMENT
	DRY EXCAVATION LENGTH
	DEEP SOIL MIXING

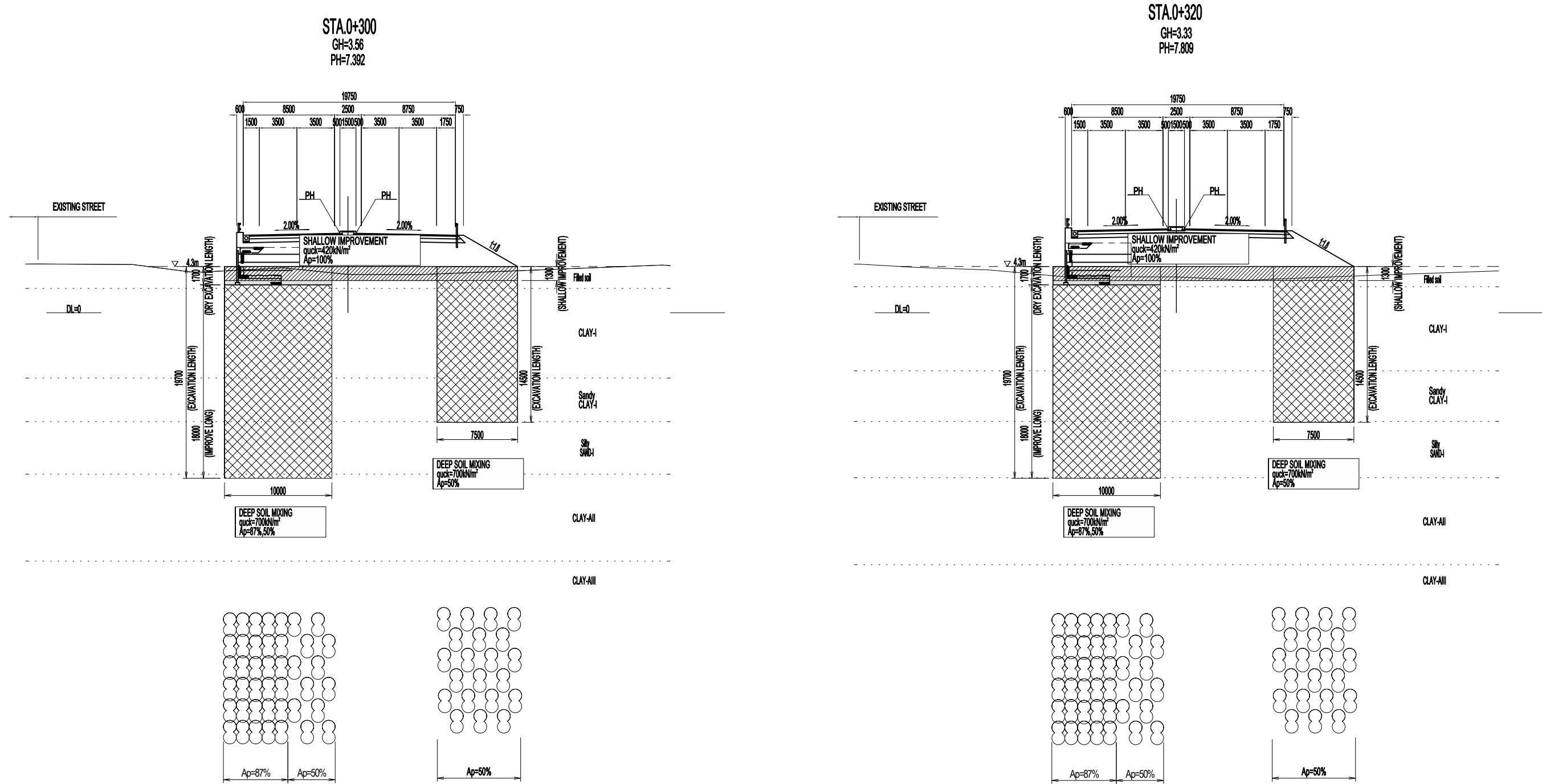
Elevation represents above MSL unless otherwise indicated.

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION OF DEEP MIXING METHOD: MAIN ROAD(1)	PACKAGE	
				PREPARED BY	R.HOSOKAWA			29 Sept. 2017	1
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P1-RD-5050



# CROSS SECTION OF DEEP MIXING METHOD:MAIN ROAD(2)

S=1:400



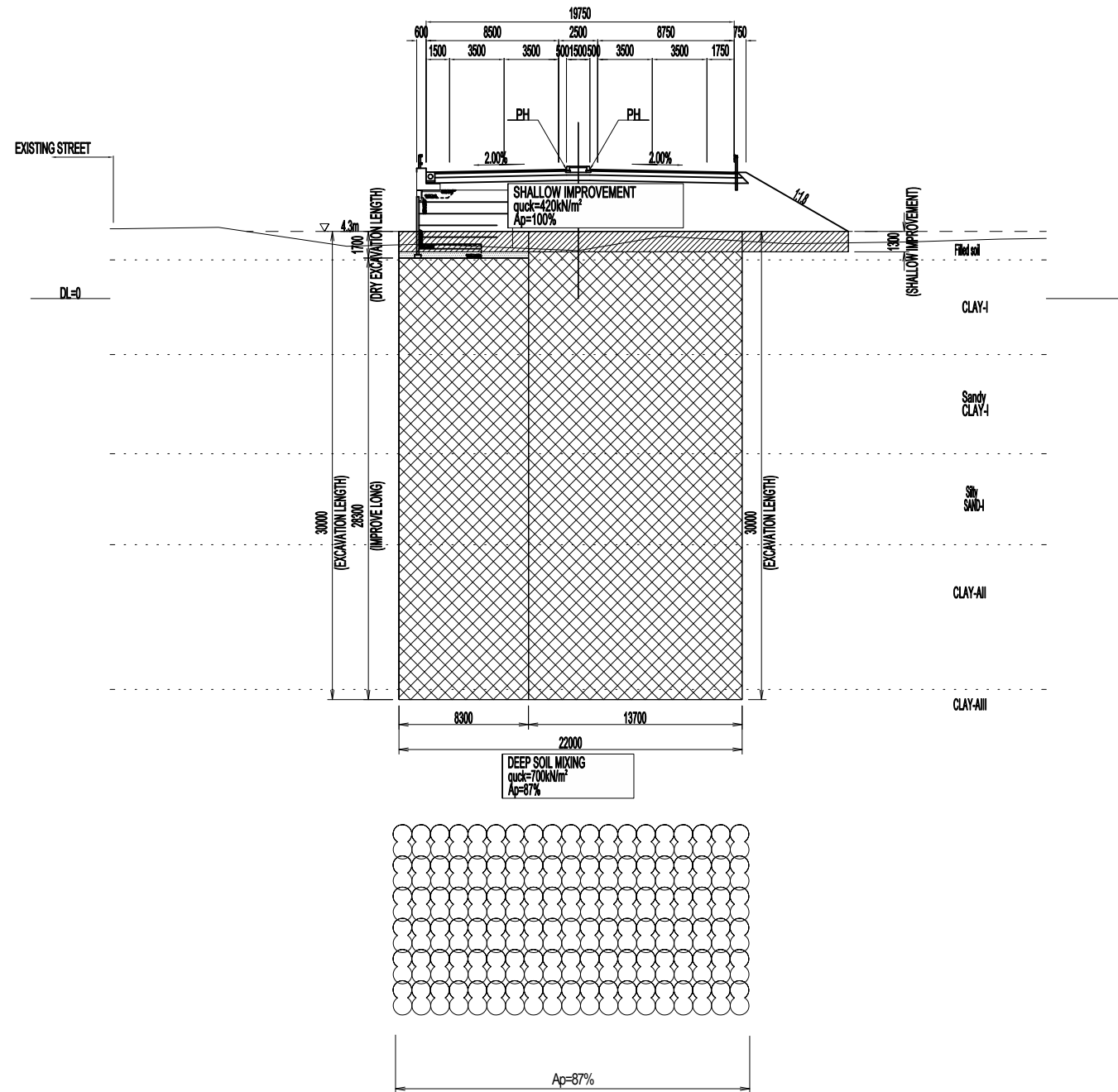
Elevation represents above MSL unless otherwise indicated.

PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	R.HOSOKAWA	細川 亮介	29 Sept. 2017	CROSS SECTION OF DEEP MIXING METHOD: MAIN ROAD(2)	1
				T. HAYAKAWA	平川 和男	3 Oct. 2017		DWG No.
				Y. SANO	佐野 祐一	6 Oct. 2017		P1-RD-5060

# CROSS SECTION OF DEEP MIXING METHOD:MAIN ROAD(3)

S=1:400

PK1 Analysis Section  
 STA.0+340  
 GH=3.07  
 PH=8.270



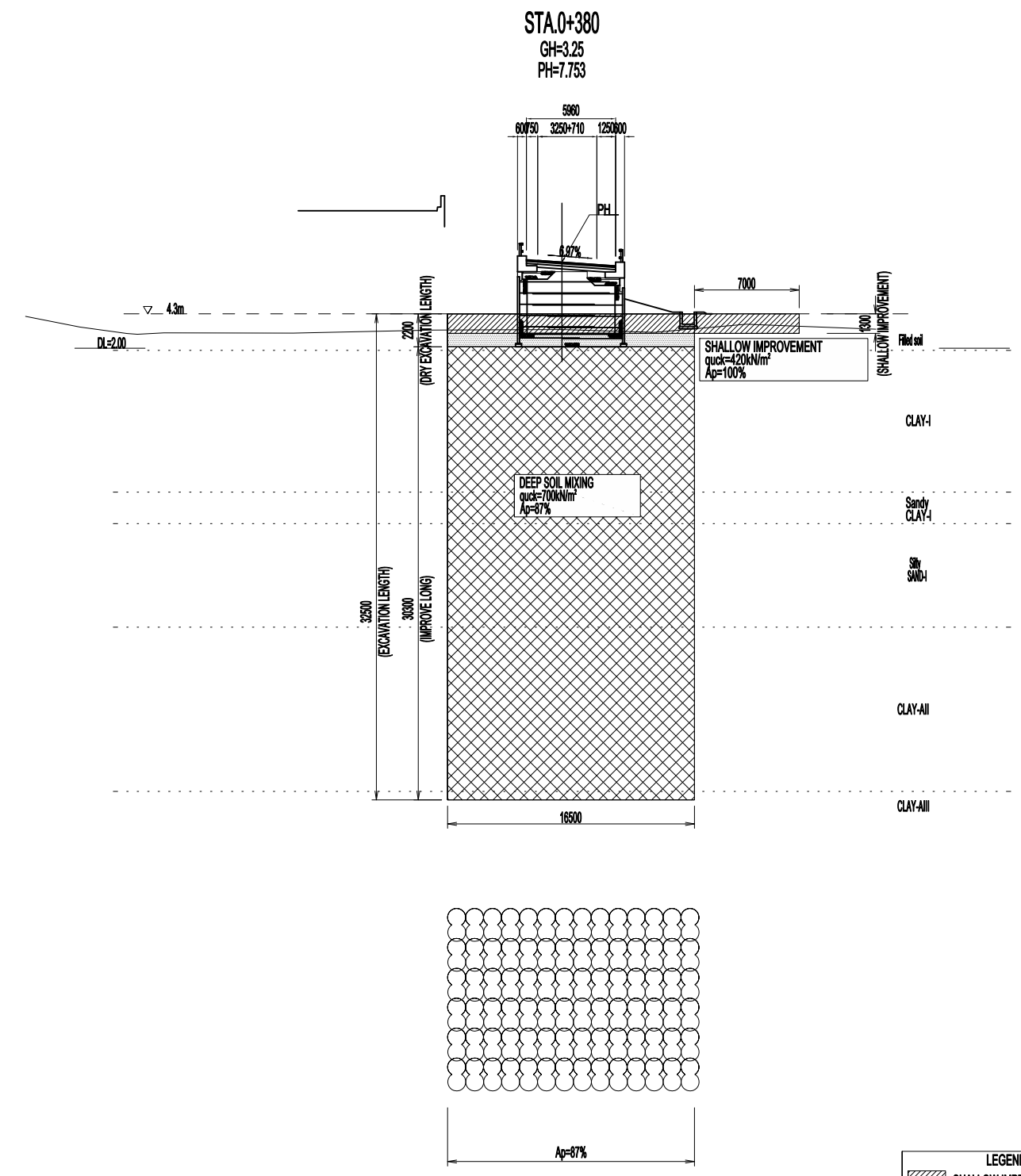
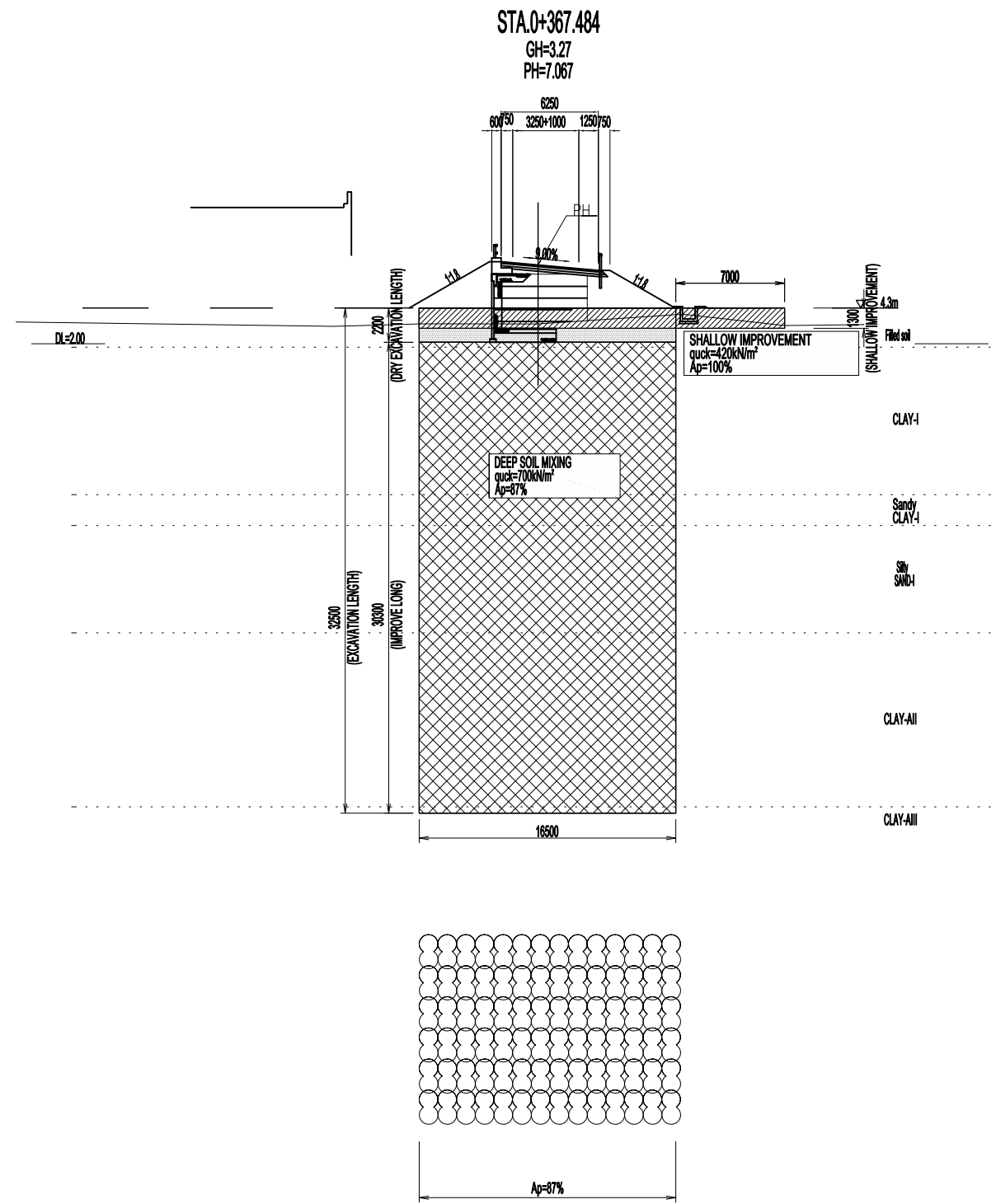
Elevation represents above MSL unless otherwise indicated.

LEGEND	
	SHALLOW IMPROVEMENT
	DRY EXCAVATION LENGTH
	DEEP SOIL MIXING

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION OF DEEP MIXING METHOD: MAIN ROAD(3)	PACKAGE	
				PREPARED BY	R.HOSOKAWA			29 Sept. 2017	1
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P1-RD-5070

# CROSS SECTION OF DEEP MIXING METHOD:RAMP(1)

S=1:400



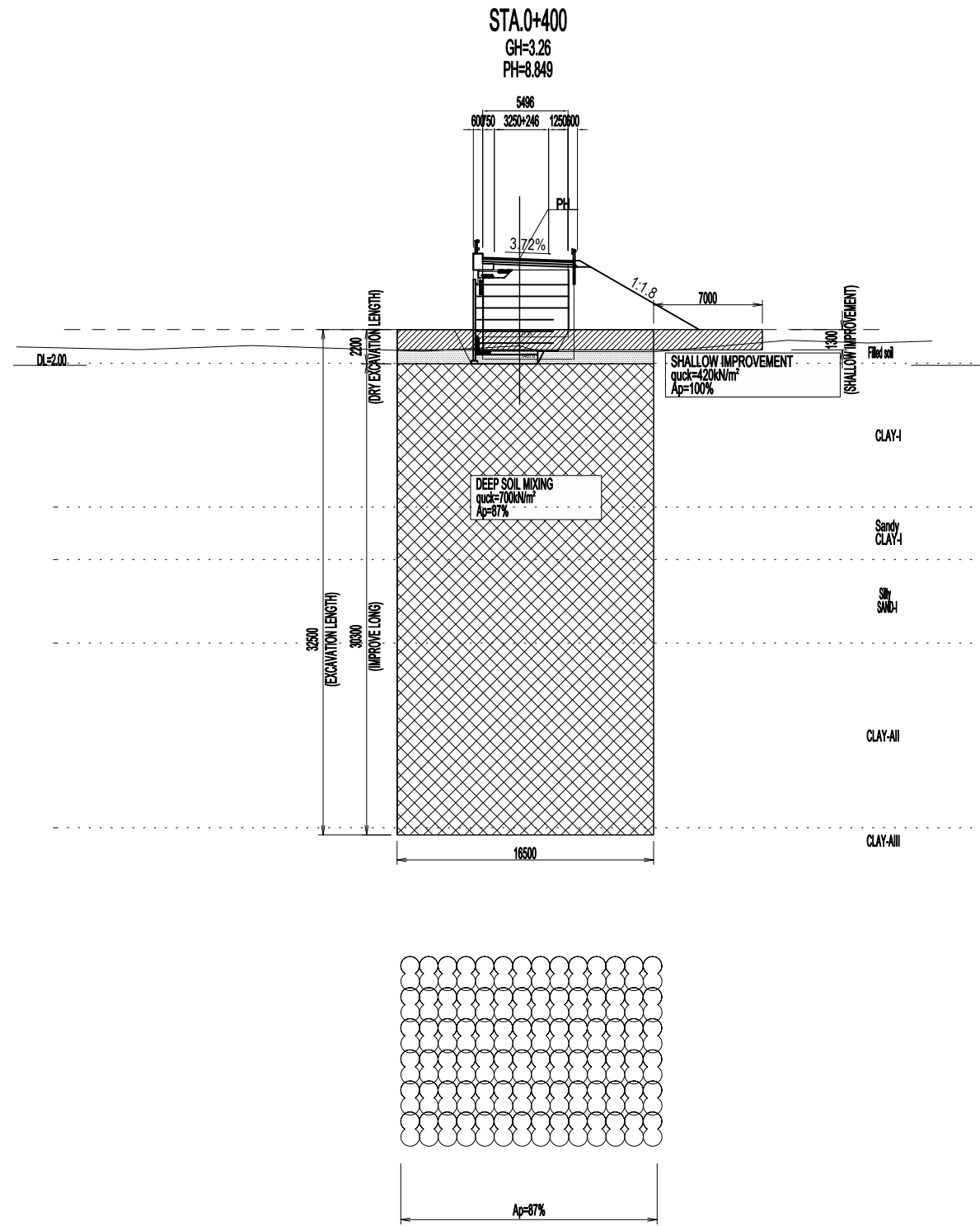
Elevation represents above MSL unless otherwise indicated.

LEGEND	
	SHALLOW IMPROVEMENT
	DRY EXCAVATION LENGTH
	DEEP SOIL MIXING

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION OF DEEP MIXING METHOD:RAMP(1)	PACKAGE	
				PREPARED BY	R.HOSOKAWA			29 Sept. 2017	1
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P1-RD-5080

# CROSS SECTION OF DEEP MIXING METHOD:RAMP(2)

S=1:400



Elevation represents above MSL unless otherwise indicated.

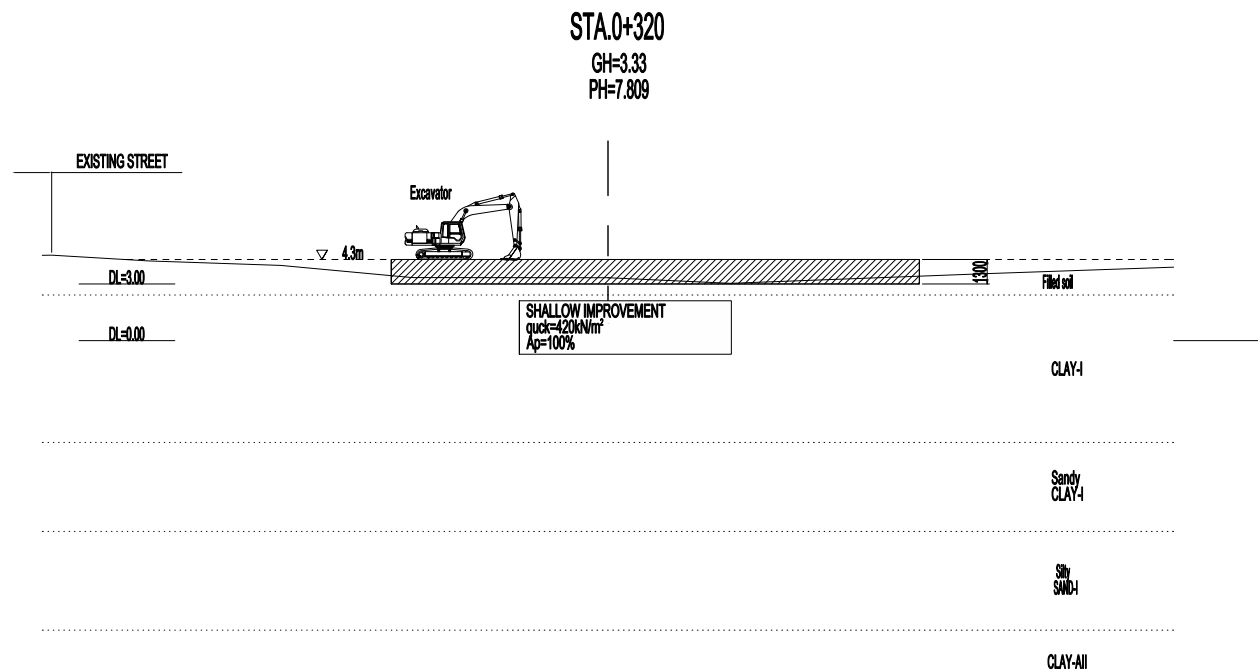
LEGEND	
	SHALLOW IMPROVEMENT
	DRY EXCAVATION LENGTH
	DEEP SOIL MIXING

PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	R.HOSOKAWA		29 Sept. 2017	CROSS SECTION OF DEEP MIXING METHOD:RAMP(2)	1
				T. HAYAKAWA		3 Oct. 2017		DWG No.
				Y. SANO		6 Oct. 2017		P1-RD-5090

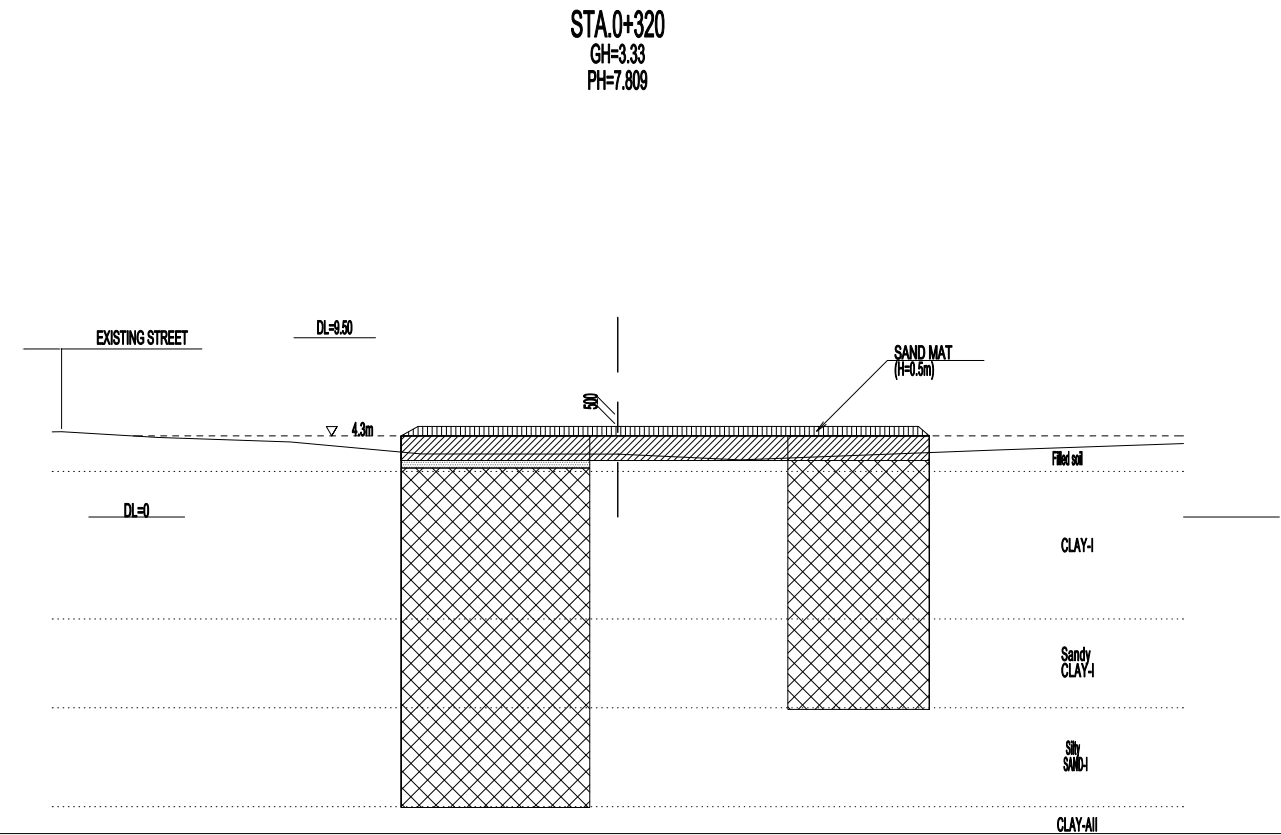
# (REFERENCE) CONSTRUCTION PROCEDURE(1)

S=1:400

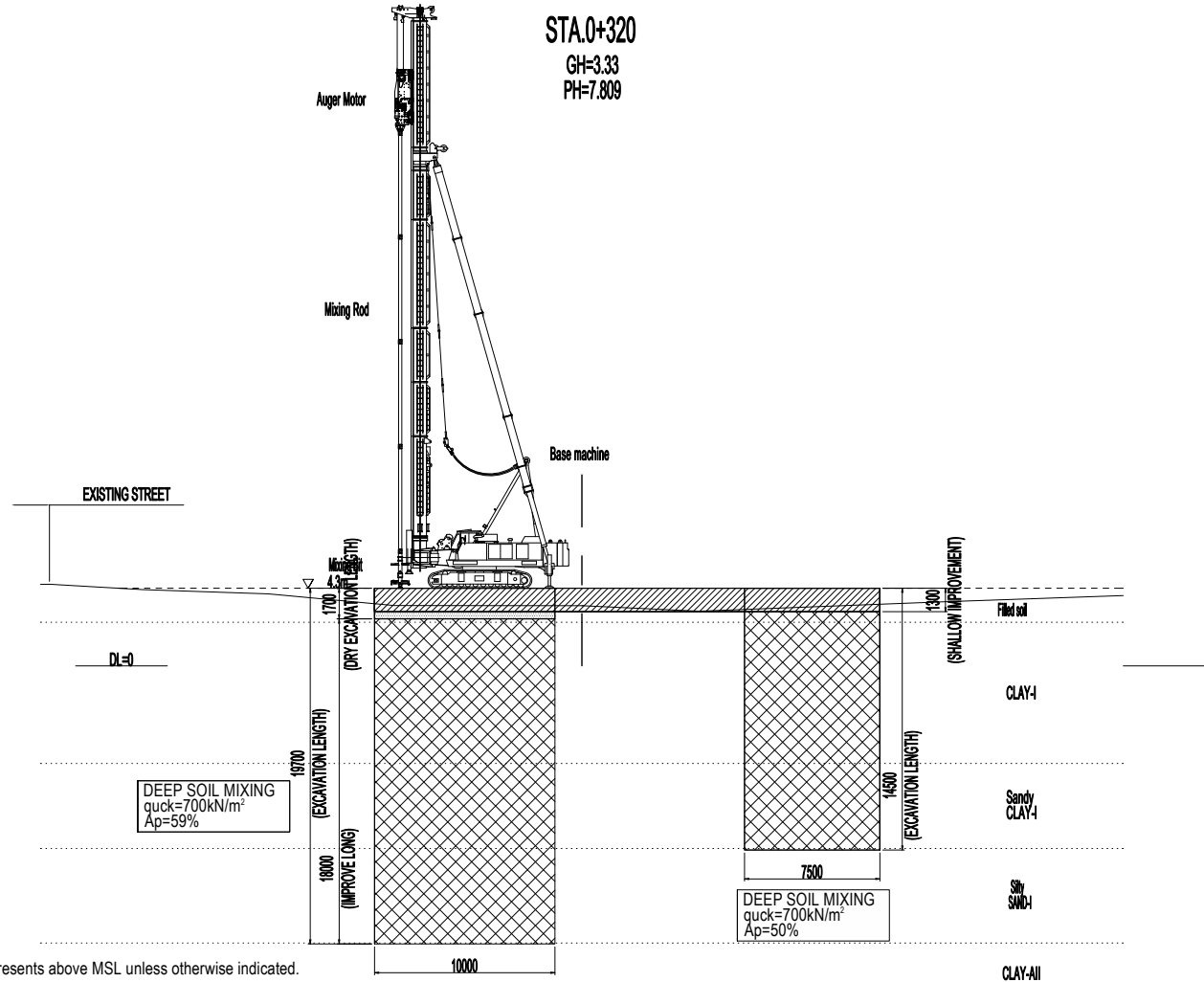
## 1. CONSTRUCTION OF SHALLOW IMPROVEMENT



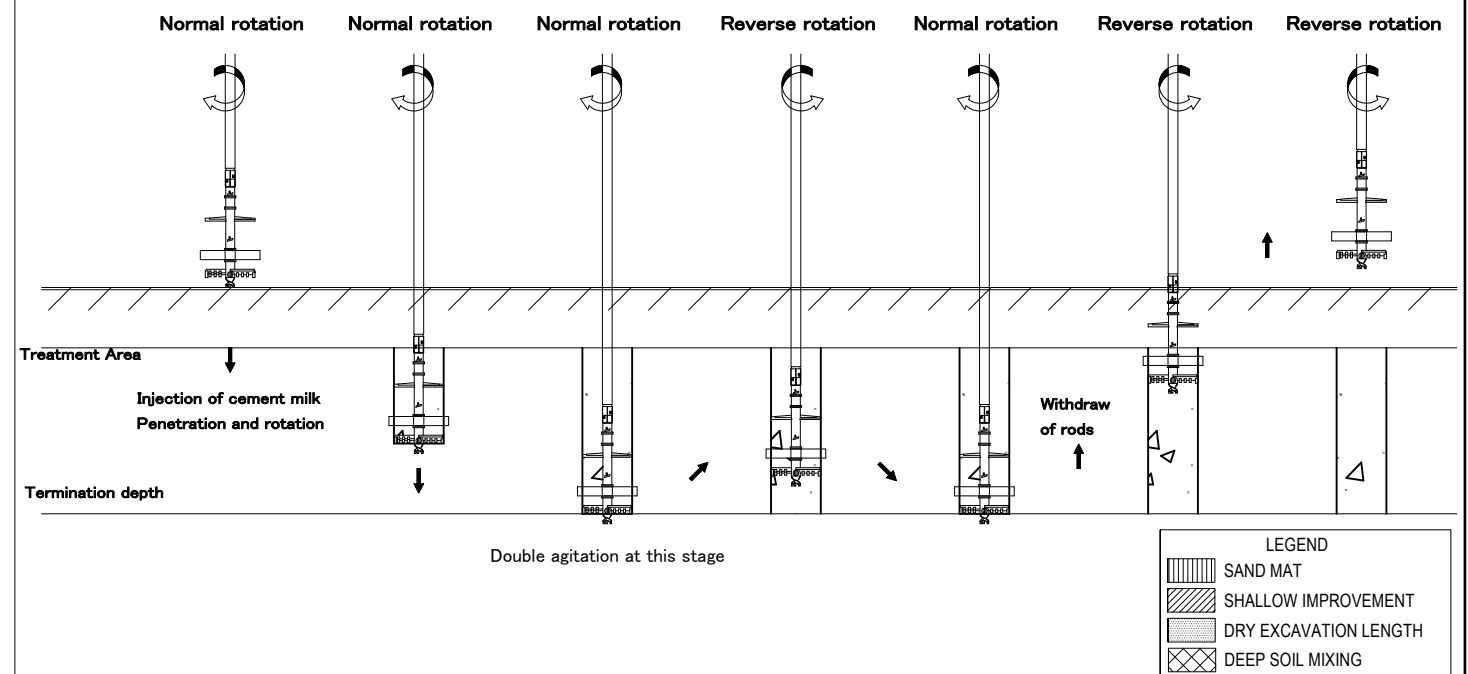
## 3. CONSTRUCTION OF SAND MAT



## 2. CONSTRUCTION OF DEEP SOIL MIXING



## CONSTRUCTION CYCLE



Elevation represents above MSL unless otherwise indicated.

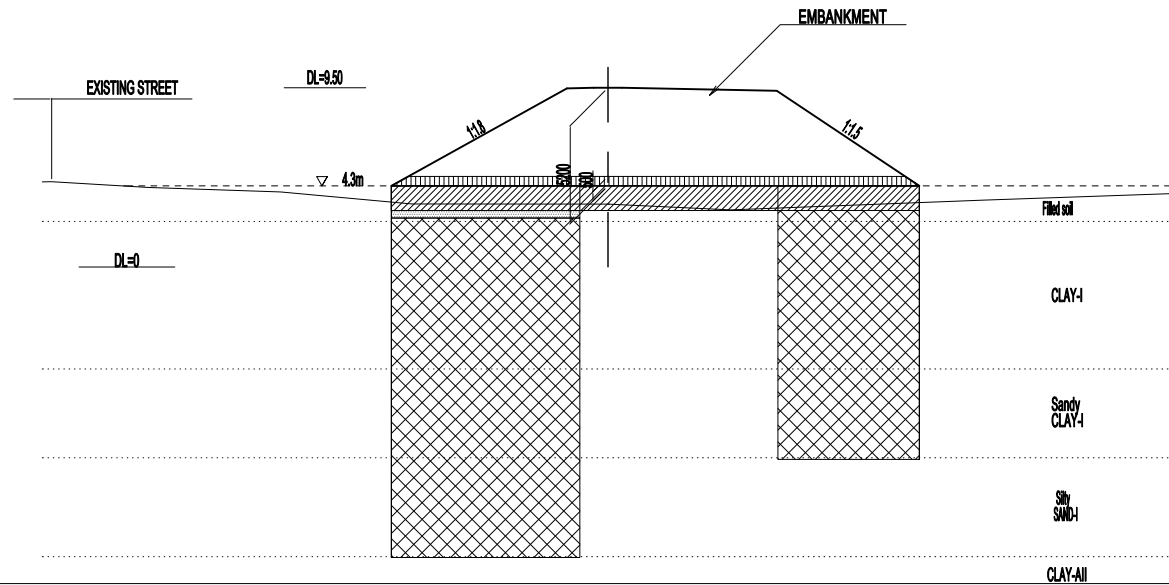
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE			
				PREPARED BY	R.HOSOKAWA				29 Sept. 2017	(REFERENCE) CONSTRUCTION PROCEDURE(1)	1
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017		DWG No.
				APPROVED BY	Y. SANO				6 Oct. 2017		P1-RD-5100

# (REFERENCE) CONSTRUCTION PROCEDURE(2)

S=1:400

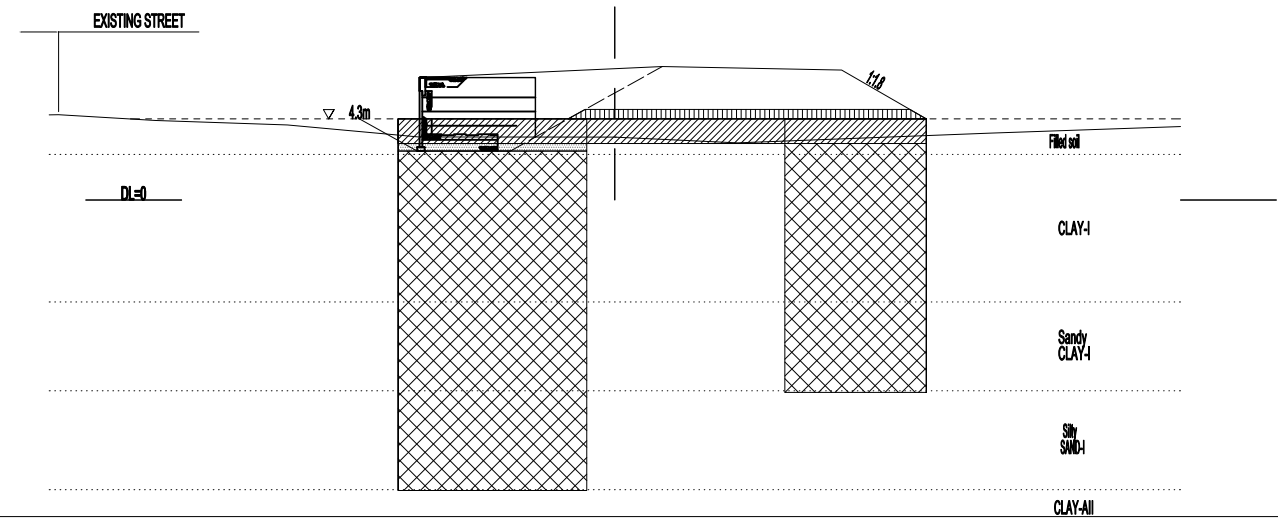
## 4. EMBANKMENT CONSTRUCTION

STA.0+320  
GH=3.33  
PH=7.809



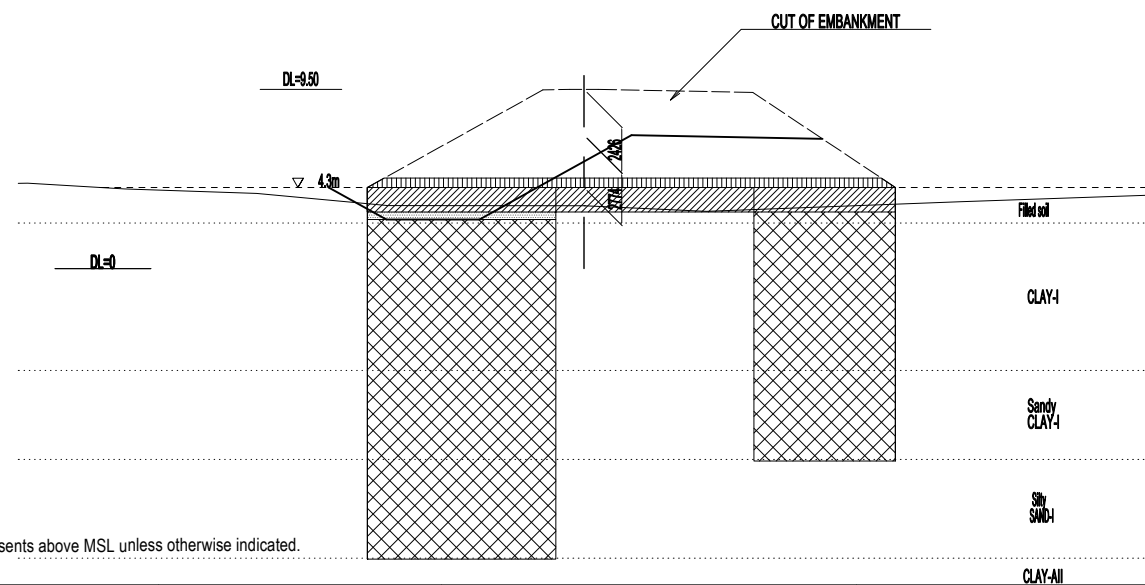
## 6. CONSTRUCTION OF MECHANICALLY-STABILISED EARTH WALL

STA.0+320  
GH=3.33  
PH=7.809



## 5. CUT OF EMBANKMENT

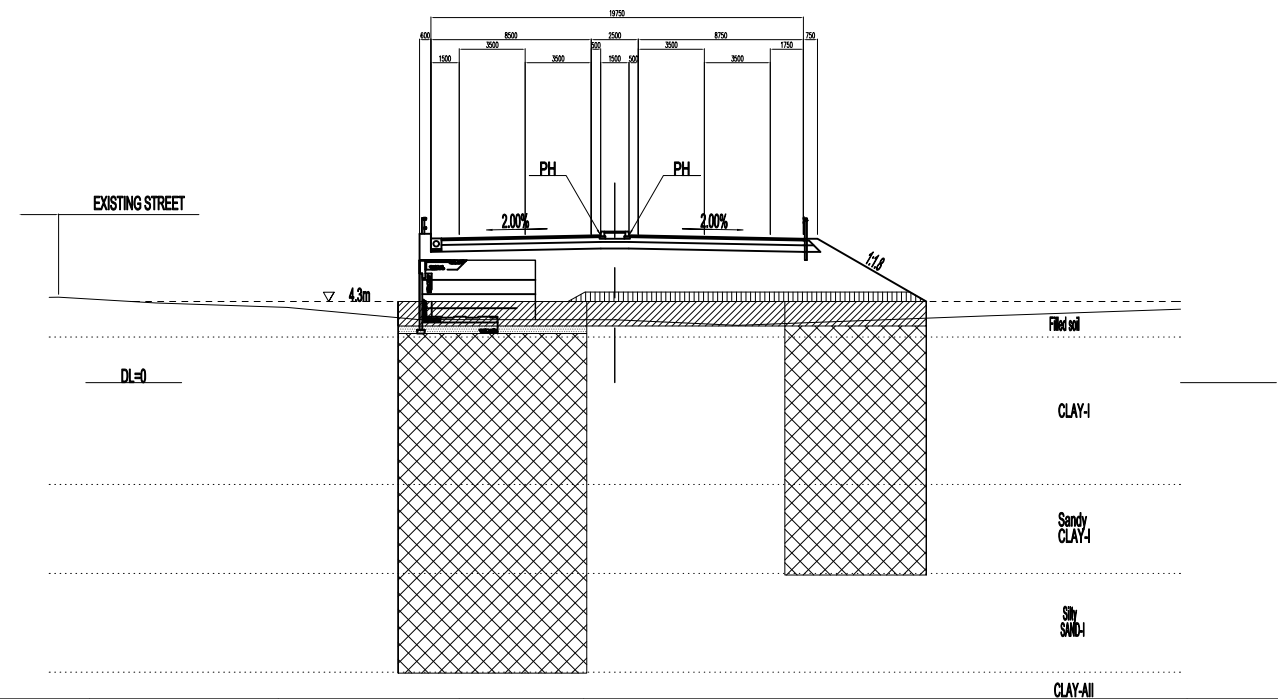
STA.0+320  
GH=3.33  
PH=7.809



Elevation represents above MSL unless otherwise indicated.

## 7. PAVING WORK ETC.

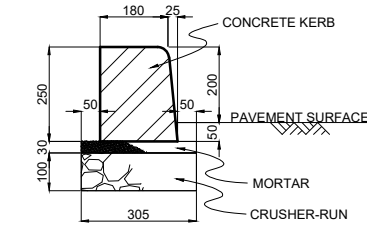
STA.0+320  
GH=3.33  
PH=7.809



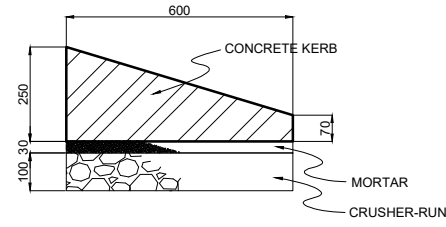
LEGEND	
	SAND MAT
	SHALLOW IMPROVEMENT
	DRY EXCAVATION LENGTH
	DEEP SOIL MIXING

PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	R. HOSOKAWA		29 Sept. 2017	(REFERENCE) CONSTRUCTION PROCEDURE(2)	1
				T. HAYAKAWA		3 Oct. 2017		DWG No.
				Y. SANO		6 Oct. 2017		P1-RD-5110

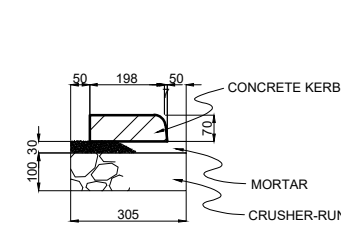
DETAILS OF KERB SCALE = 1:20



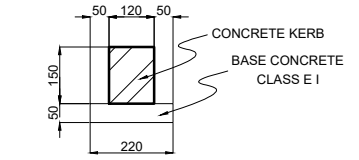
CONCRETE KERB TYPE A-1



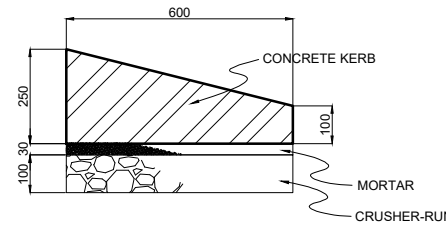
CONCRETE KERB TYPE A-2  
TRANSITION BLOCK BETWEEN  
TYPE A-1 AND TYPE A-3



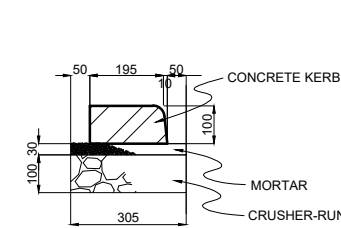
CONCRETE KERB TYPE A-3



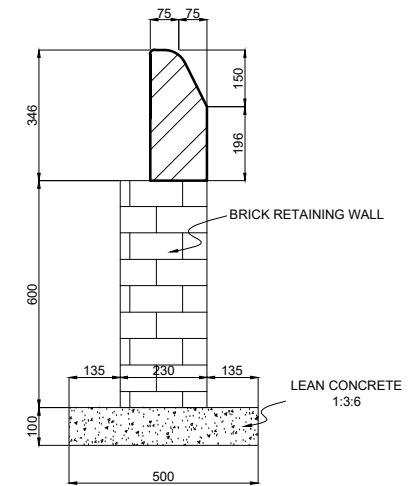
CONCRETE KERB TYPE C



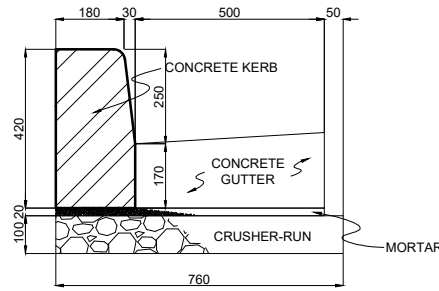
CONCRETE KERB TYPE A-4  
TRANSITION BLOCK BETWEEN  
TYPE A-1 AND TYPE A-5



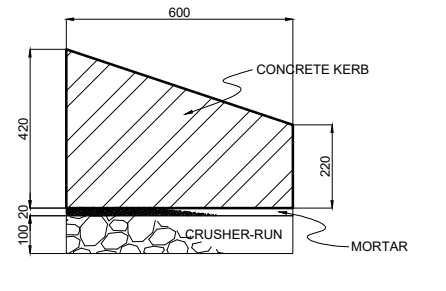
CONCRETE KERB TYPE A-5



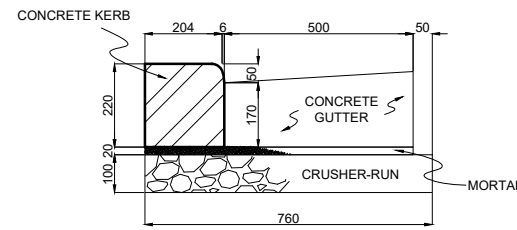
CONCRETE KERB TYPE D



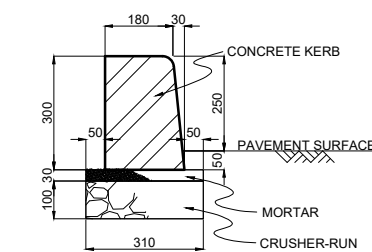
CONCRETE KERB TYPE B-1



CONCRETE KERB TYPE B-2  
TRANSITION BLOCK BETWEEN  
TYPE B-1 AND TYPE B-3



CONCRETE KERB TYPE B-3



CONCRETE KERB TYPE E

MATERIAL LIST (QUANTITIES PER 10 M)

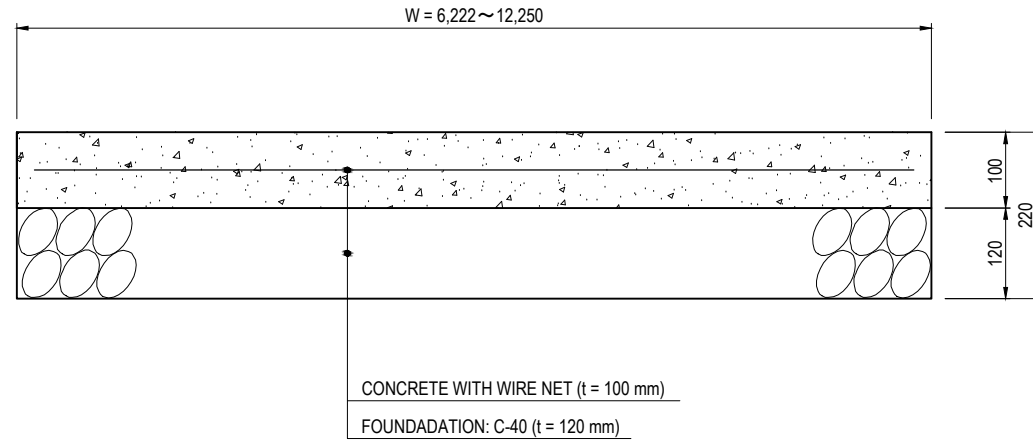
TYPE	A-1	A-2	A-3	A-4	A-5	B-1	B-2	B-3
DIMENSION	180/205×H250×L600	180/205×H250 198/205×H70 ×L600	198/205×H70×L600	180/205×H250 195/205×H100 ×L600	195/205×H100×L600	180/210×H420×L600	180/210×H420 204/210×H220 ×L600	204/210×H220×L600
CONCRETE	CLASS E I	CLASS E I	CLASS E I	CLASS E I	CLASS E I	CLASS E I	CLASS E I	CLASS E I
MORTAR (1:3)	0.0915 m <sup>3</sup>	0.0915 m <sup>3</sup>	0.0915 m <sup>3</sup>	0.0915 m <sup>3</sup>	0.0915 m <sup>3</sup>	0.142 m <sup>3</sup>	0.142 m <sup>3</sup>	0.142 m <sup>3</sup>
CRUSHER-RUN	0.305 m <sup>3</sup>	0.305 m <sup>3</sup>	0.305 m <sup>3</sup>	0.305 m <sup>3</sup>	0.305 m <sup>3</sup>	0.760 m <sup>3</sup>	0.760 m <sup>3</sup>	0.760 m <sup>3</sup>
GUTTER CONCRETE	-	-	-	-	-	0.925 m <sup>3</sup>	0.925 m <sup>3</sup>	0.925 m <sup>3</sup>

MATERIAL LIST (QUANTITIES PER 10 M)

TYPE	C	D	E
DIMENSION	120×H150×L600	75/150×H346×L600	180/210×H300×L600
CONCRETE	CLASS E I	CLASS E I	CLASS E I
MORTAR (1:3)	-	-	-
CRUSHER-RUN	-	-	0.093 m <sup>3</sup>
BASE CONCRETE	0.110 m <sup>3</sup>	-	0.310 m <sup>3</sup>
LEAN CONCRETE	-	0.500 m <sup>3</sup>	-
BRICK	-	1.380 m <sup>3</sup>	-

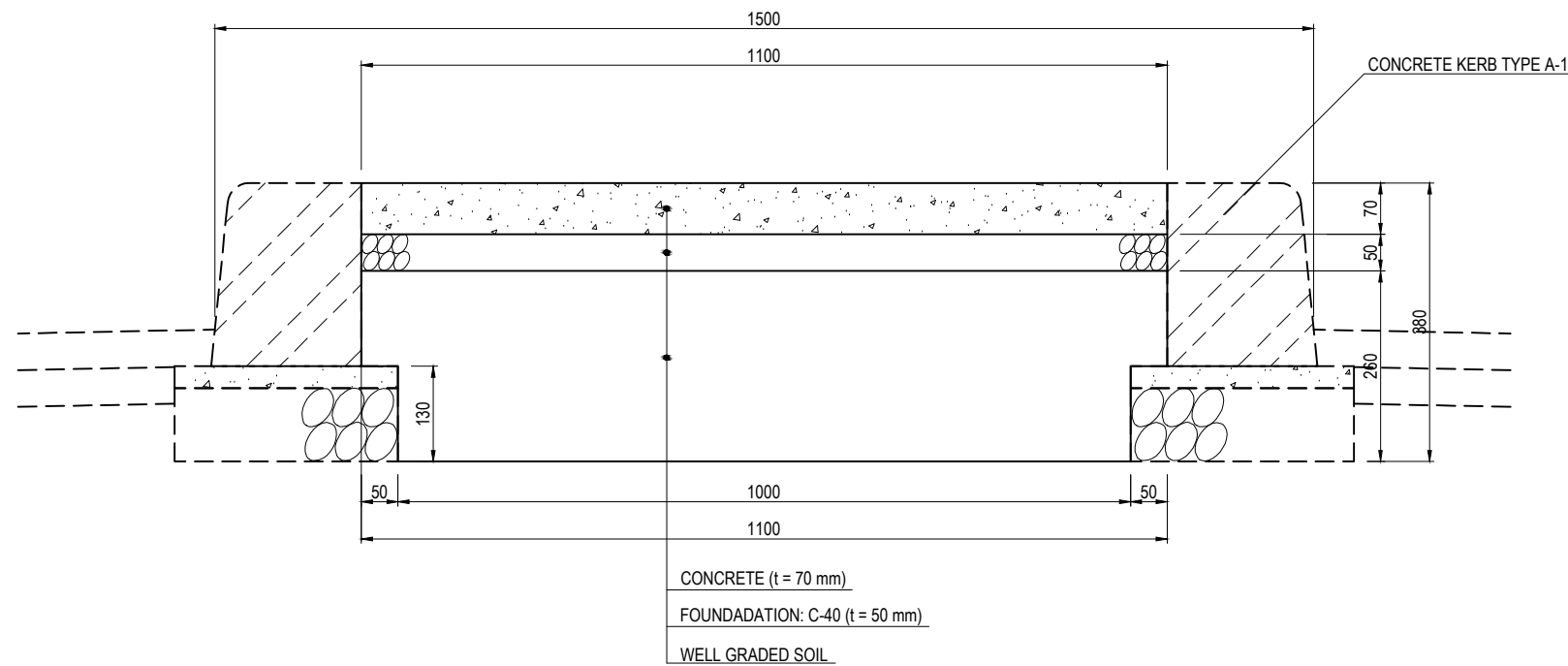
# DETAILS OF CONCRETE SEAL S=1:10

NOTE  
1. SPECIFICATION OF PLAIN CONCRETE SHOULD BE CLASS EI



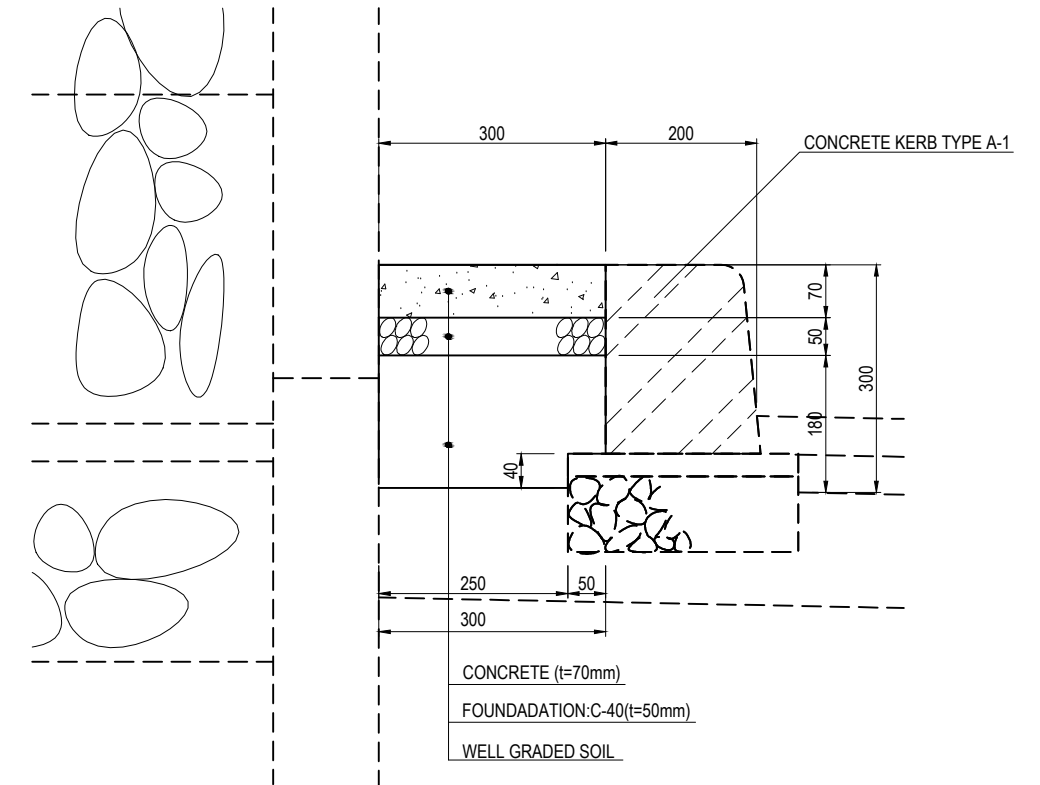
QUANTITY		PER 100 M
TITLE	SPECIFICATION	QUANTITY
CONCRETE	18 N/mm <sup>2</sup> , t = 100	100.00 M <sup>2</sup>
WIRE NET		100.00 M <sup>2</sup>
FOUNDATION	t = 120	100.00 M <sup>2</sup>

**CONCRETE SEAL (t = 100 mm)  
UNDER FLYOVER SECTION**



**MEDIAN TYPE C (t = 70 mm)  
EARTHWORK SECTION**

QUANTITY		PER 100 M
TITLE	SPECIFICATION	QUANTITY
CONCRETE	18 N/mm <sup>2</sup> , t = 70	7.70 M <sup>3</sup>
FOUNDATION	t = 50	110.00 M <sup>2</sup>
WELL GRADED SOIL		27.30 M <sup>3</sup>

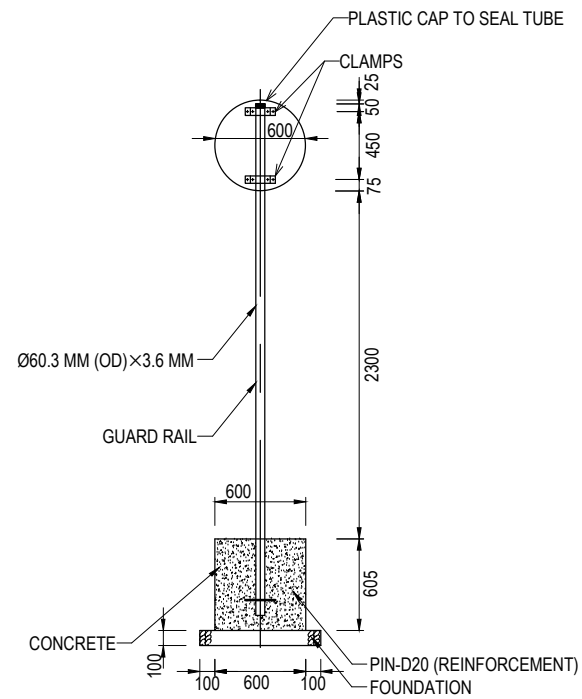


**MEDIAN TYPE B (t = 70 mm)  
MECHANICALLY STABILISED EARTH WALL/GRAVITY WALL SECTION**

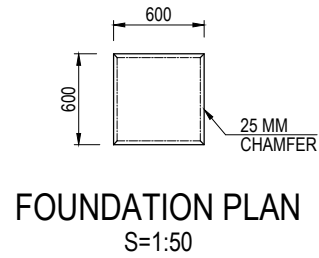
QUANTITY		PER 100 M
TITLE	SPECIFICATION	QUANTITY
CONCRETE	18 N/mm <sup>2</sup> , t = 70	2.10 M <sup>3</sup>
FOUNDATION	t = 50	30.00 M <sup>2</sup>
WELL GRADED SOIL		5.20 M <sup>3</sup>



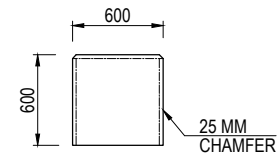
# DETAIL OF SIGNBOARD FOUNDATION AND POST



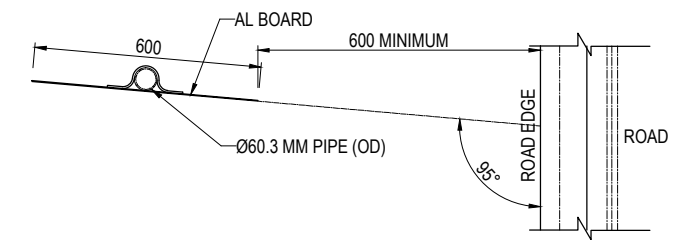
**SIGN POST**  
S=1:50



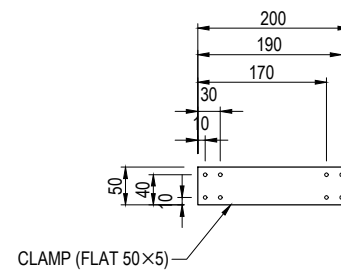
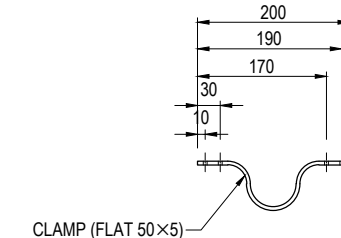
**FOUNDATION PLAN**  
S=1:50



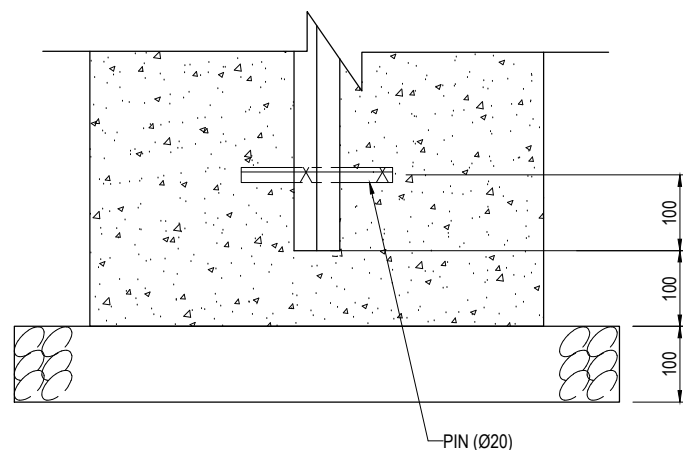
**FOUNDATION ELEVATION**  
S=1:50



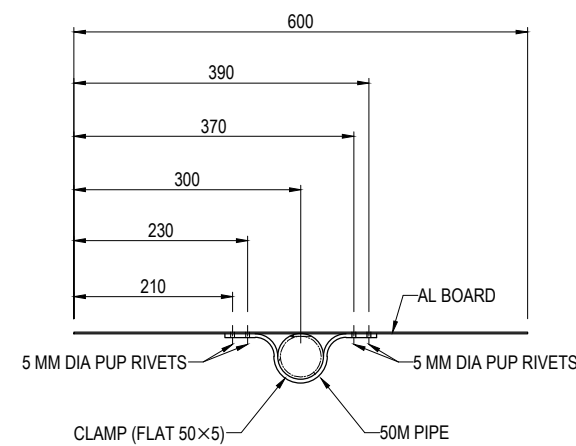
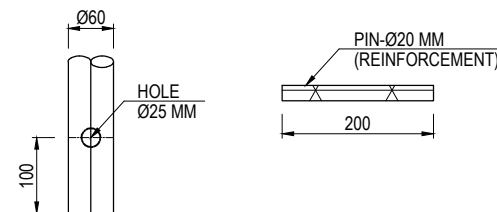
**TOP VIEW  
PLAN OF SIGN BOARD**  
S=1:20



**CLAMP DETAILS-2**  
S=1:10



**DETAIL OF "A"**  
S=1:10



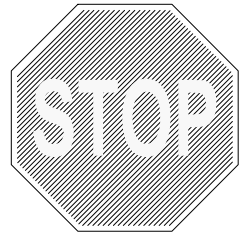
**CLAMP DETAILS-1**  
S=1:10

QUANTITY			PER 10 EACH
TITLE	SPECIFICATION	QUANTITY	DESCRIPTION
SIGNBOARD	ALUMINIUM: t = 2.0 MM	10 EACH	WIDE-ANGLE PRISM TYPE
POST	60.3x3380x3.6	10 EACH	COATING SPECIFICATION
CONCRETE	E I	2.18 M <sup>3</sup>	
FOUNDATION	t = 100	6.40 M <sup>2</sup>	
FORM		14.52 M <sup>2</sup>	

NOTE  
1. SPECIFICATION OF PLAIN CONCRETE SHOULD BE CLASS EI

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME PREPARED BY K. TACHIBANA CHECKED BY T. HAYAKAWA APPROVED BY Y. SANO	SIGNATURE   	DATE 15 JUNE 2017 20 JUNE 2017 21 JUNE 2017	DRAWING TITLE <b>DETAIL OF SIGNBOARD FOUNDATION AND POST</b>	PACKAGE 1 DWG No. P1-RD-6010
---	--	---	--	---	-----------------------	--	---	---------------------------------------

DETAIL OF SIGNBOARD



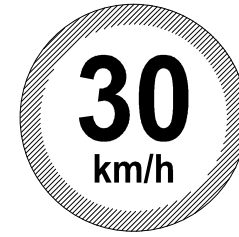
TS-1  
STOP  
SIZE: 600 MM×600 MM



TS-2  
SPEED LIMIT 60 KM/H  
SIZE: 600 MM DIAMETER



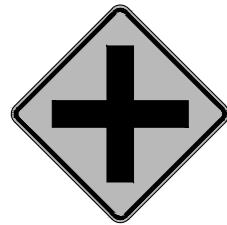
TS-3  
SPEED LIMIT 40 KM/H  
SIZE: 600 MM DIAMETER



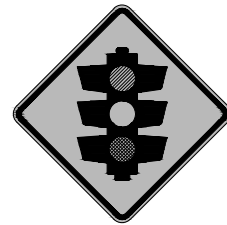
TS-4  
SPEED LIMIT 30 KM/H  
SIZE: 600 MM DIAMETER



TS-5  
NO U-TURN  
SIZE: 600 MM DIAMETER



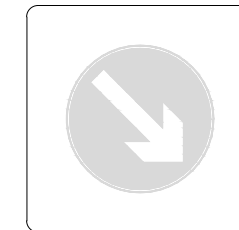
TS-6  
CROSS ROAD  
SIZE: 600 MM×600 MM



TS-7  
TRAFFIC SIGNAL  
SIZE: 600 MM×600 MM



TS-8  
PEDESTRIAN CROSSING  
SIZE: 600 MM×600 MM



TS-9  
KEEP RIGHT (THIS WAY)  
SIZE: 600 MM×600 MM



TS-10  
SLOW DOWN  
SIZE: 600 MM×600 MM



TS-11  
SCHOOL ZONE  
SIZE: 600 MM×600 MM



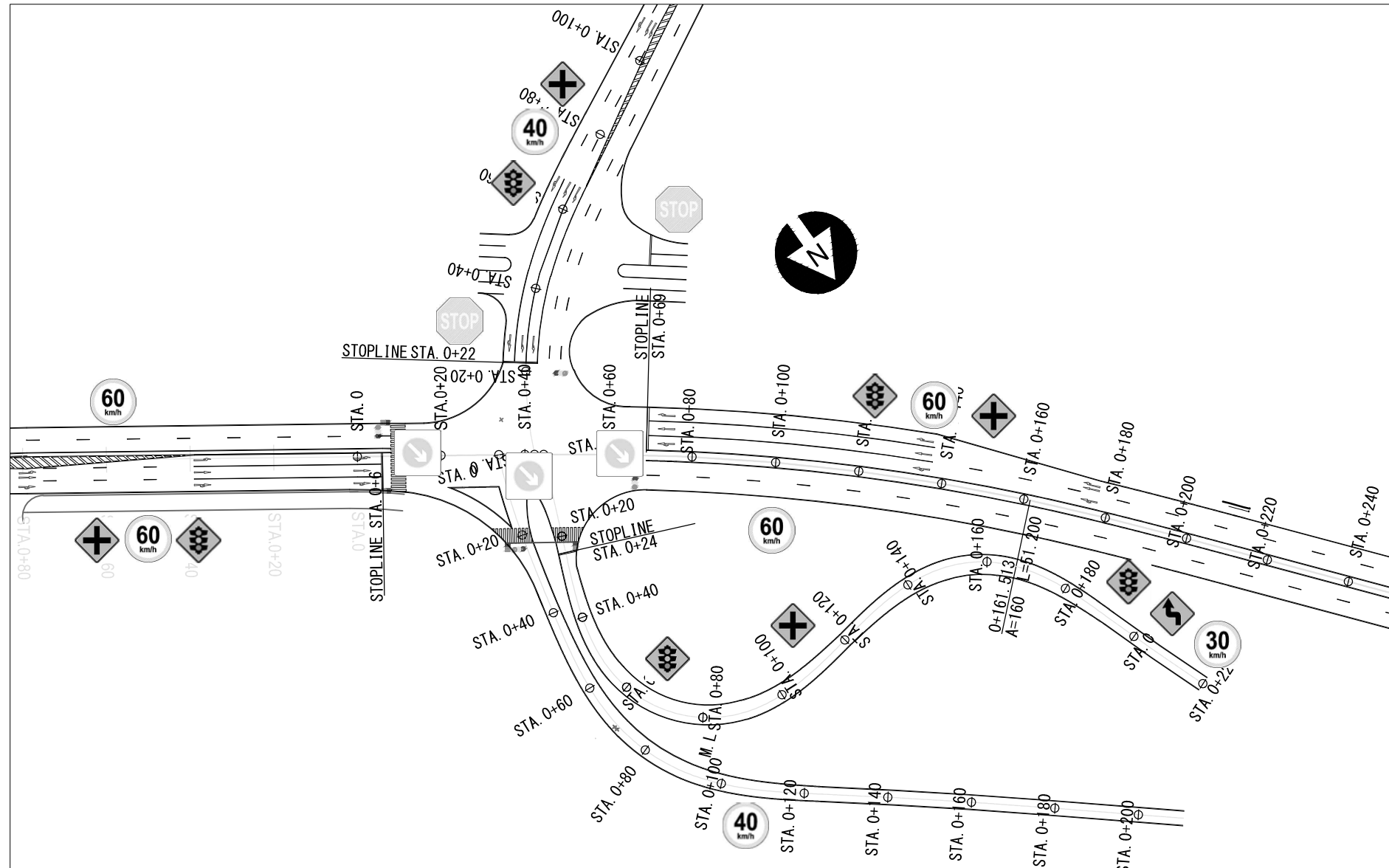
TS-12  
REVERSE TURN (RIGHT)  
SIZE: 600 MM×600 MM






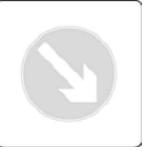




TS-13  
REVERSE TURN (LEFT)  
SIZE: 600 MM×600 MM

COLORS: ■ BLACK ▨ RED ■ YELLOW ▩ GREEN □ WHITE ■ LIGHT BLUE

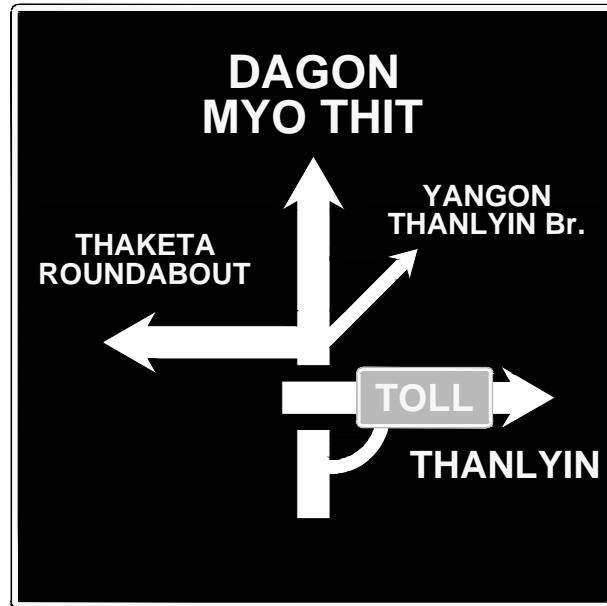
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE			
				PREPARED BY	K. TACHIBANA				15 JUNE 2017	DETAIL OF SIGNBOARD	1
				CHECKED BY	T. HAYAKAWA				20 JUNE 2017		DWG No.
				APPROVED BY	Y. SANO				21 JUNE 2017		P1-RD-6020



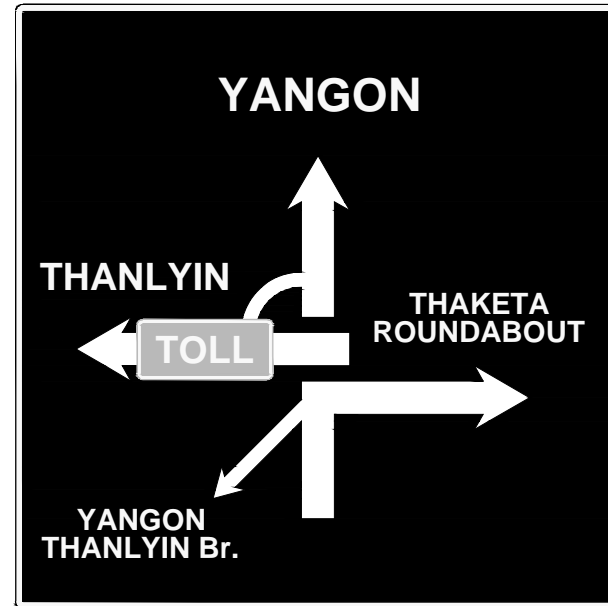
SIGNBOARD LAYOUT PLAN AT STAR CITY INTERSECTION AREA NO SCALE

SIGNBOARD	QUANTITY	SIGNBOARD	QUANTITY	SIGNBOARD	QUANTITY	SIGNBOARD	QUANTITY
 TYPE TS-1	2	 TYPE TS-3	2	 TYPE TS-6	4	 TYPE TS-9	3
 TYPE TS-2	4	 TYPE TS-4	1	 TYPE TS-7	5	 TYPE TS-13	1

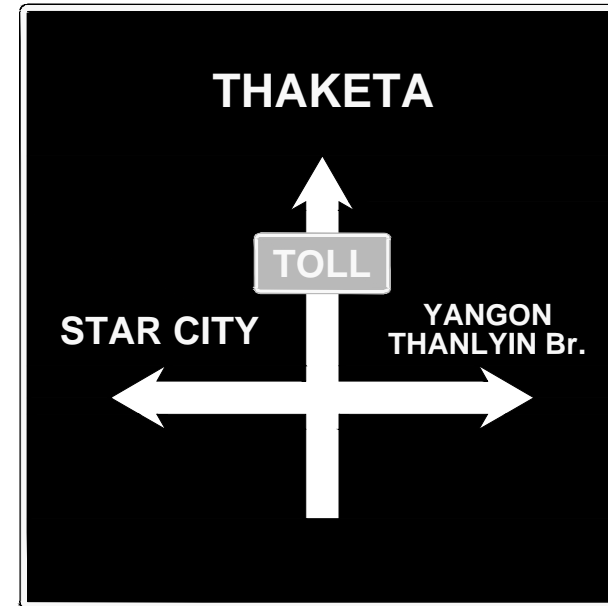
DETAIL OF INFORMATORY SIGNBOARD



TYPE GS-5



TYPE GS-6



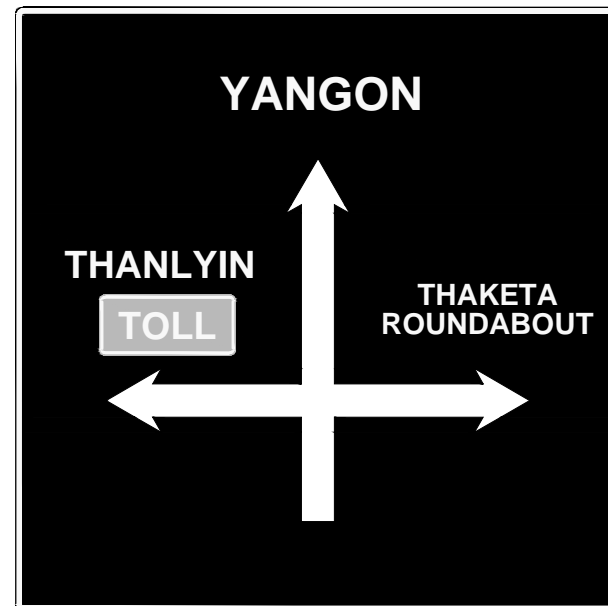
TYPE GS-7



TYPE GS-8



TYPE GS-1



TYPE GS-2



TYPE GS-3



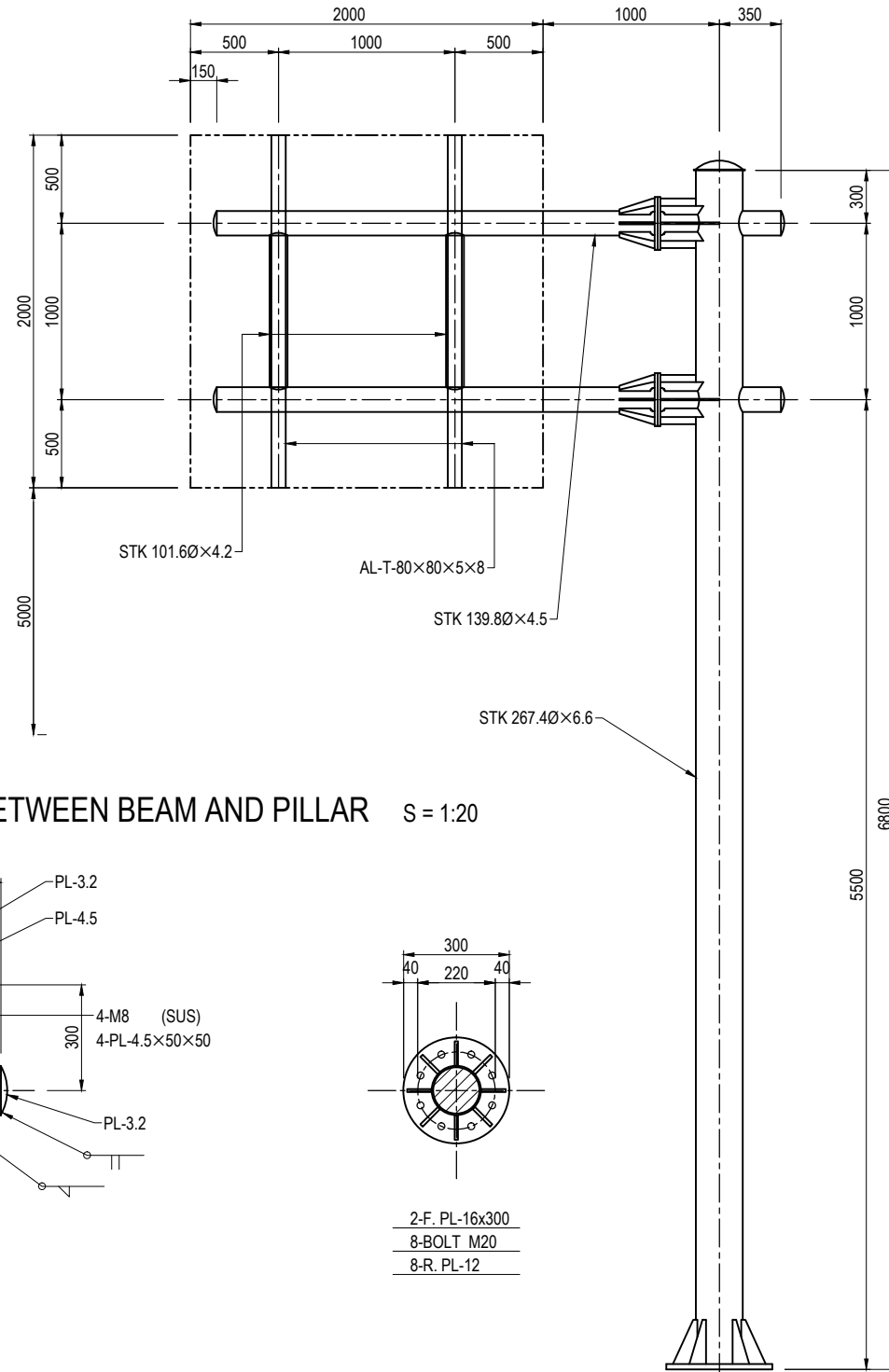
TYPE GS-4

COLORS:  WHITE  BLUE  GREEN

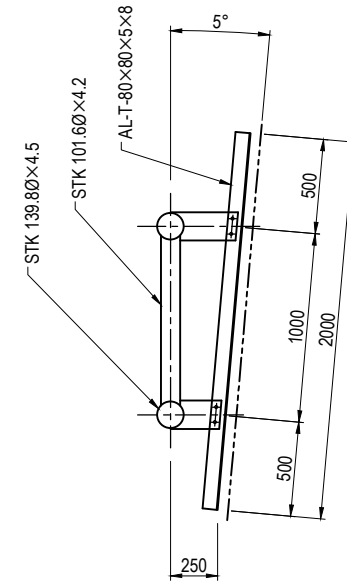
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DETAIL OF INFORMATORY SIGNBOARD	PACKAGE	
				PREPARED BY	K. TACHIBANA			15 JUNE 2017	1
				CHECKED BY	T. HAYAKAWA			20 JUNE 2017	DWG No.
				APPROVED BY	Y. SANO			21 JUNE 2017	P1-RD-6040

# DETAIL OF INFORMATORY SIGNBOARD-TYPE C FOUNDATION AND POST (1)

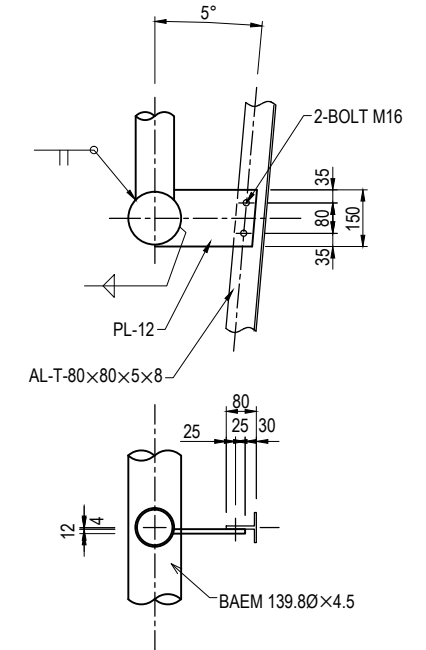
GENERAL VIEW S = 1:40



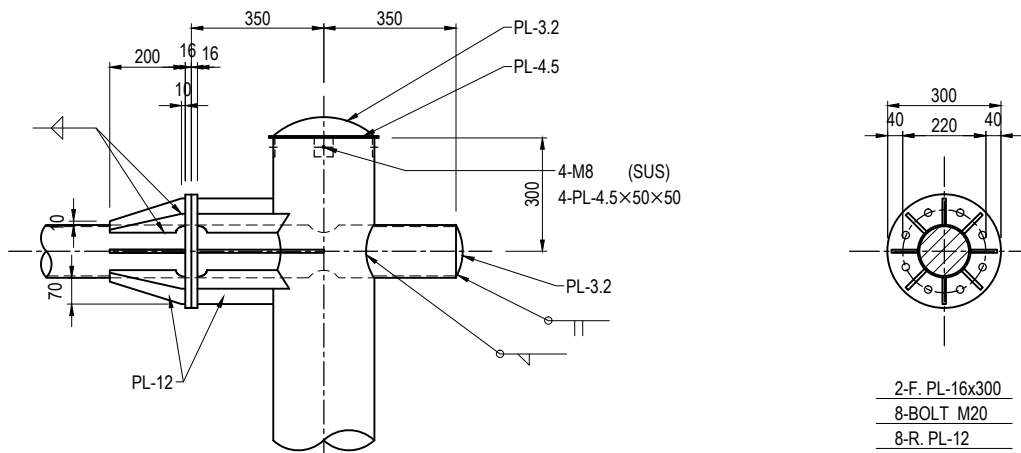
SECTION OF PANEL S = 1:40



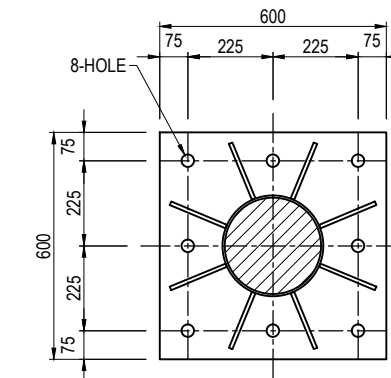
DETAIL OF MOUNTING BRACKET S = 1:20



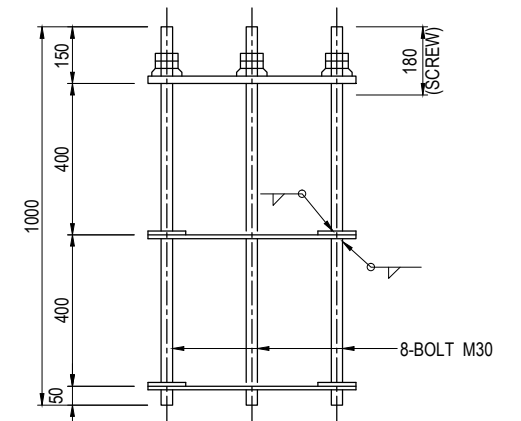
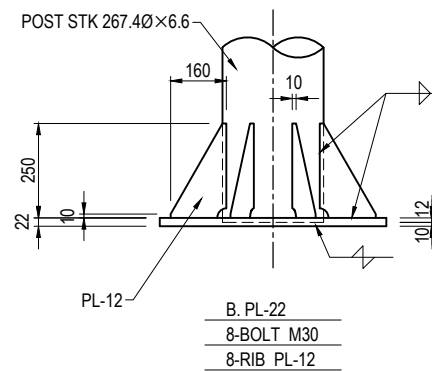
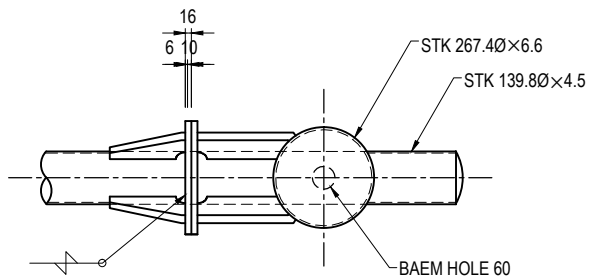
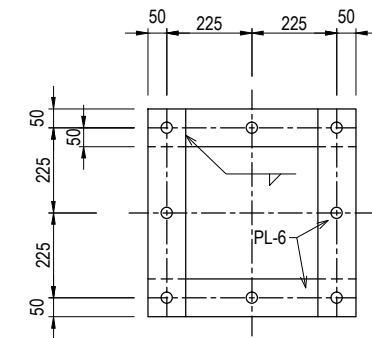
DETAIL OF INTERACTION BETWEEN BEAM AND PILLAR S = 1:20



DETAIL OF COLUMN BASE S = 1:20



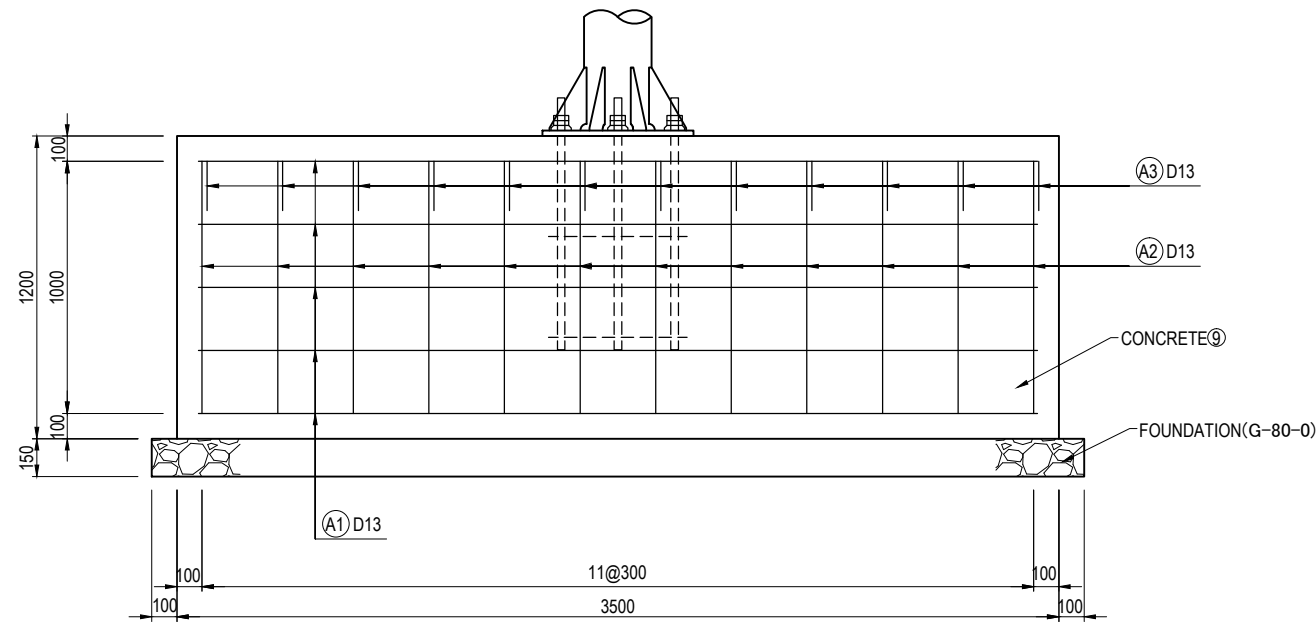
DETAIL OF ANCHOR BOLT S = 1:20



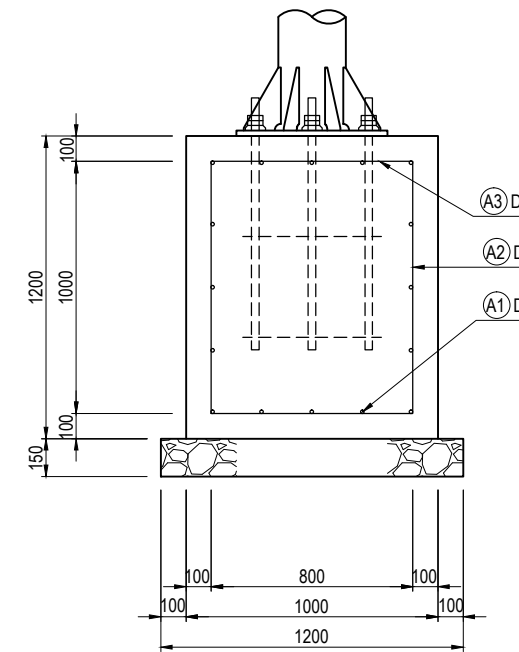
TITLE	SPECIFICATION	QUANTITY	DESCRIPTION
SIGNBOARD	ALUMINIUM: T = 2.0 MM	1 EACH	ENCAPSULATED LENS TYPE
POST	Φ406.4×7300×6.4	309.52 KG	HDZ 55
BEAM	Φ190.7×4700×5.3	96.00 KG	HDZ 55
POST JOINTING	Φ139.8×1000×4.5	20.20 KG	HDZ 55
STIFFENER		209.92 KG	
ANCHOR BOLT	M42×1000	48.40 KG	HDZ 55
ANCHOR BOLT FIXED FRAME	PL-100×700×6	20.72 KG	HDZ 55

# DETAIL OF INFORMATORY SIGNBOARD-TYPE C FOUNDATION AND POST (2) S=1:30

FRONT VIEW OF BASEMENT

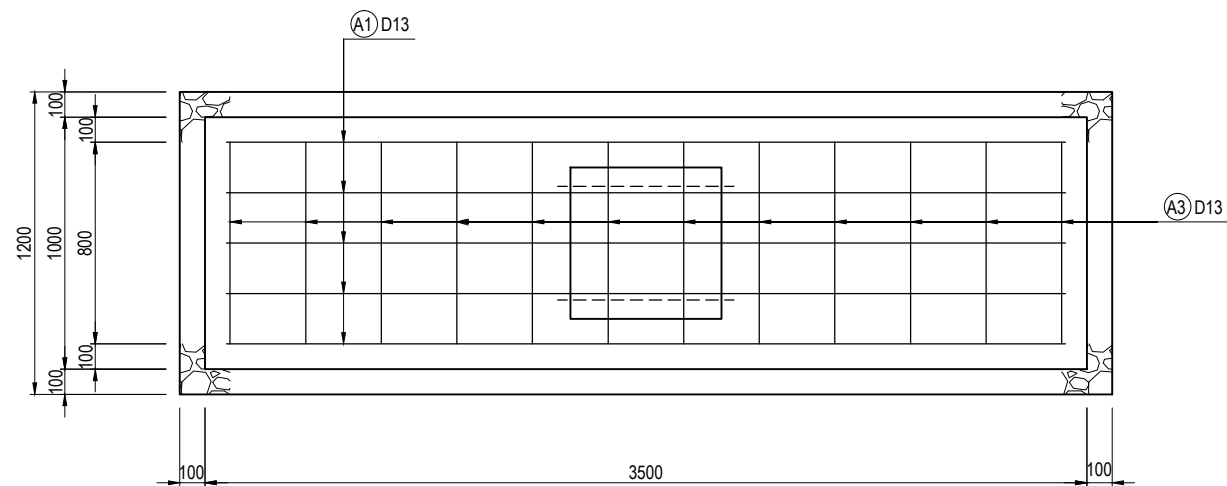


SIDE VIEW OF BASEMENT

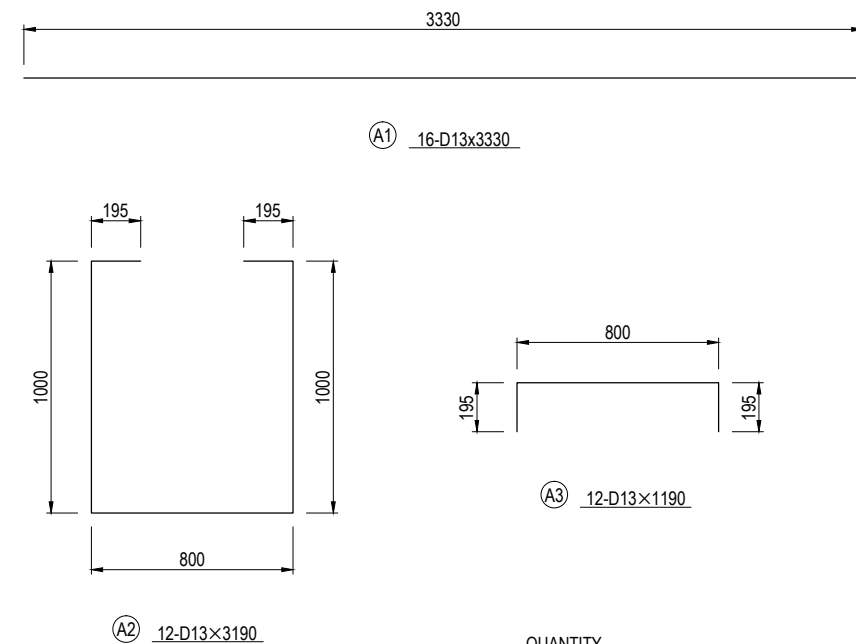


- Note
1. Specification of Reinforced Concrete should be CLASS DII
  2. Specification of Steel reinforcement bar should be SD345

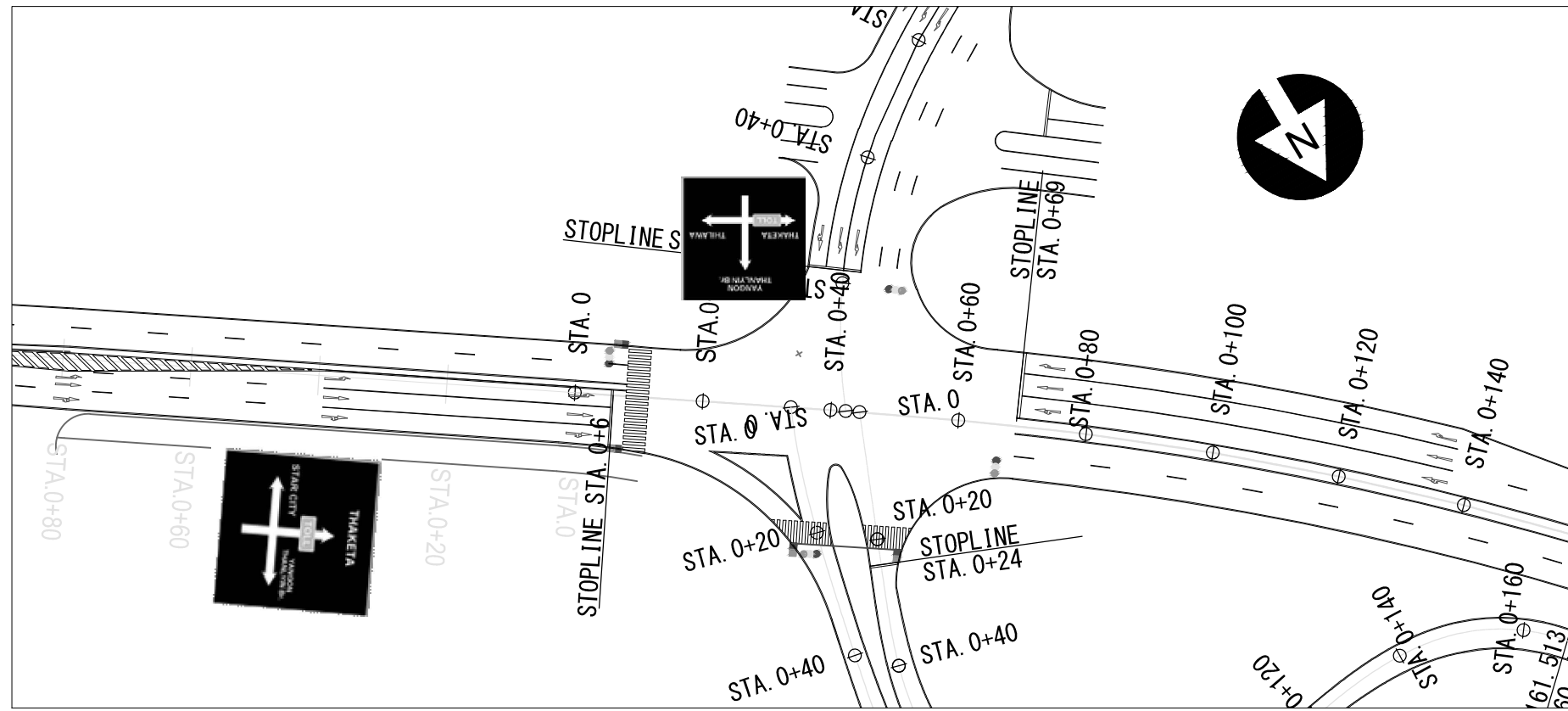
PLAN VIEW OF BASEMENT



REBAR PROCESSING DRAWING

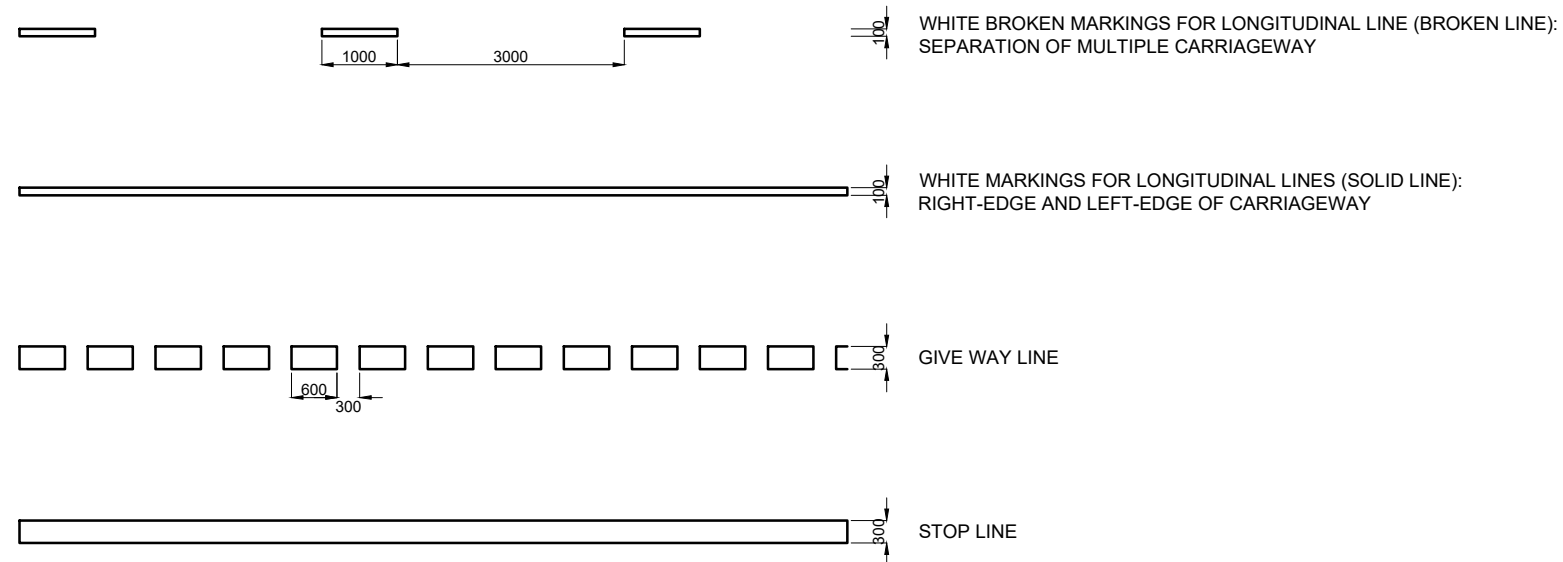


QUANTITY			PER ONE EACH
TITLE	SPECIFICATION	QUANTITY	DESCRIPTION
CONCRETE	D II	4.20 M <sup>3</sup>	
REINFORCING BAR	D13	105.31 KG	
FOUNDATION	t = 150 MM	4.44 M <sup>2</sup>	
FORM		10.80 M <sup>2</sup>	

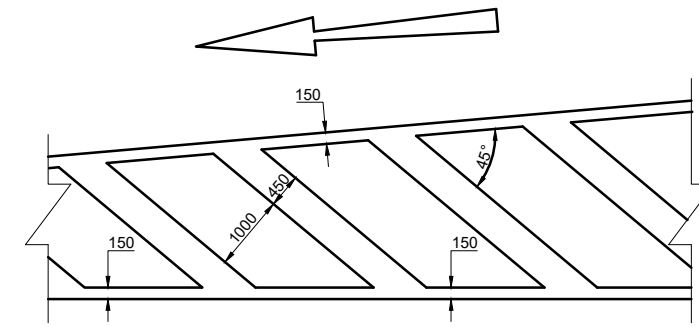


PROPOSED INFORMATORY SIGNBOARD AT STAR CITY INTERSECTION AREA

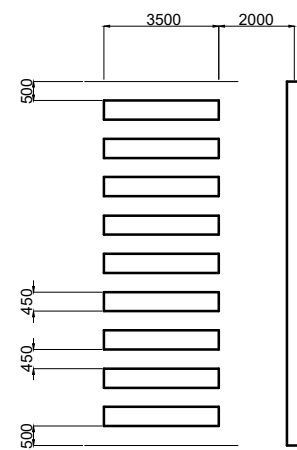
INFORMATORY SIGNBOARD	FOUNDATION AND POST	PROPOSED LOCATION TO INSTALL	QUANTITY
 TYPE GS-7	TYPE C	RIGHT SIDE OF THILAWAACCESS ROAD BEFORE INTERSECTION	1
 TYPE GS-8	TYPE C	RIGHT SIDE OF STAR CITY LINE BEFORE INTERSECTION	1



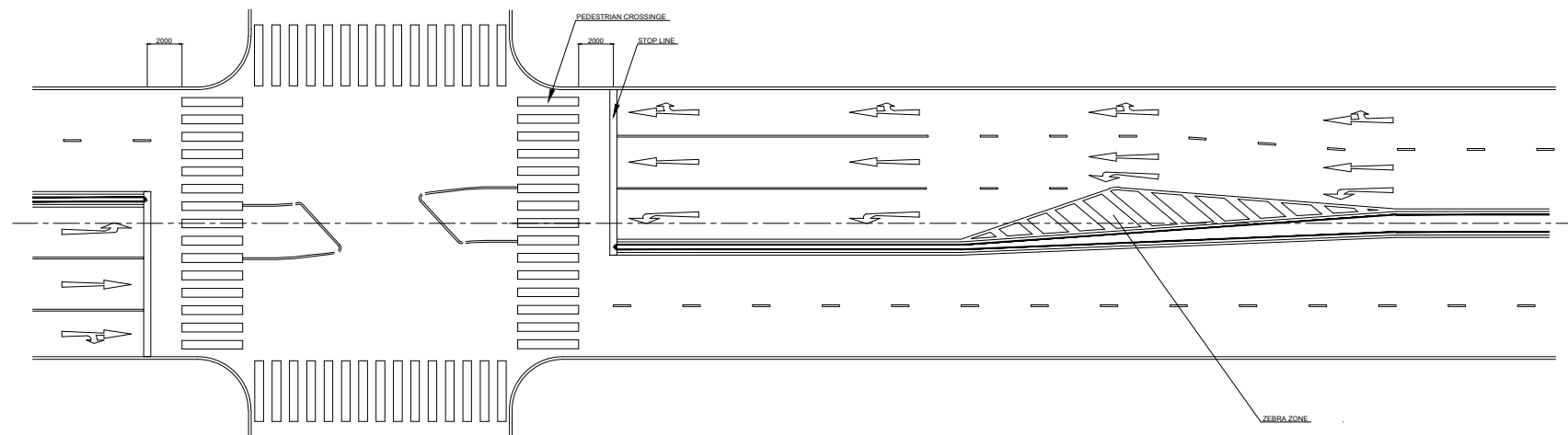
LINE MARKINGS SCALE = 1:100



ZEBRA ZONE SCALE = 1:100



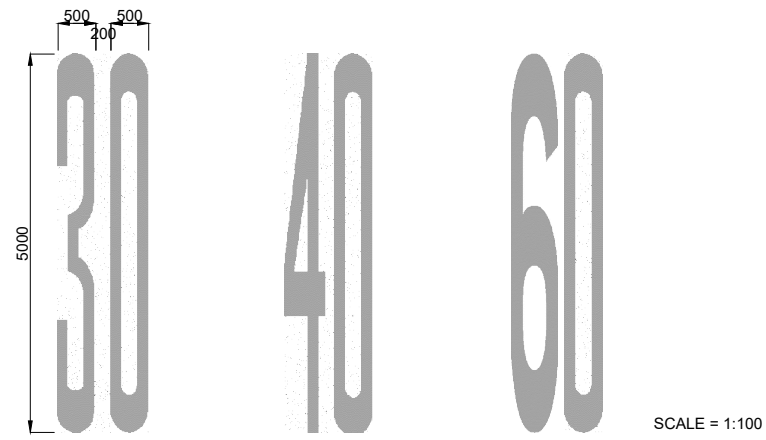
DETAILED ARRANGEMENT OF PEDESTRIAN CROSSING AND STOP LINE SCALE = 1:200



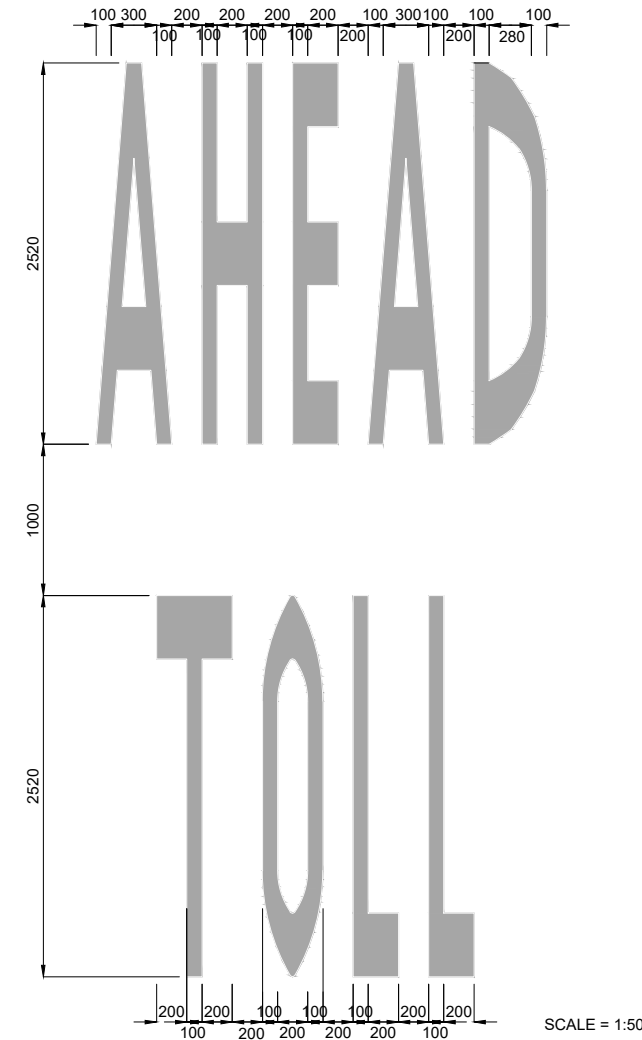
PAVEMENT MARKINGS AT CROSS ROAD NO SCALE

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE			
				PREPARED BY	K. TACHIBANA				15 JUNE 2017	ROAD MARKING DETAILS (1)	1
				CHECKED BY	T. HAYAKAWA				20 JUNE 2017		DWG No.
				APPROVED BY	Y. SANO				21 JUNE 2017		P1-RD-6080



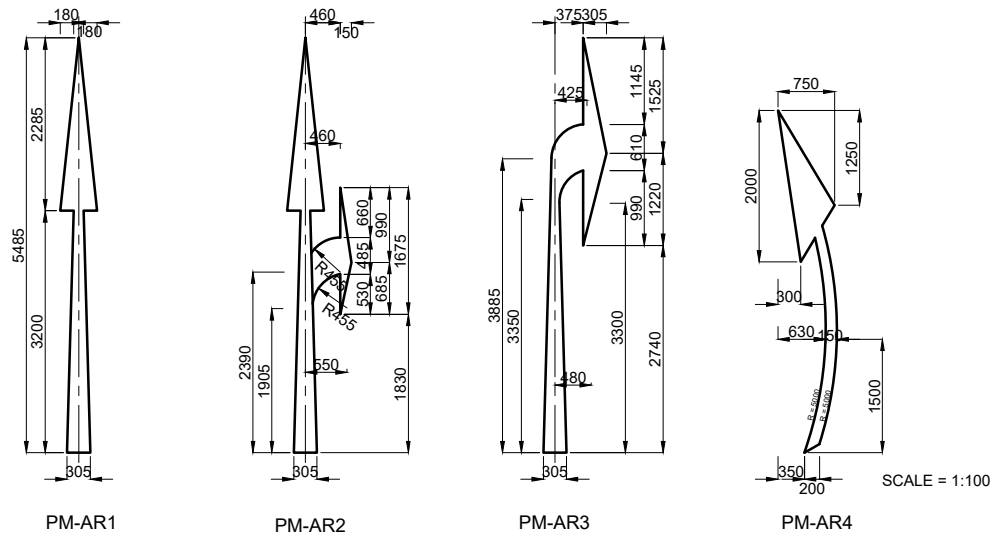


PM-1 SPEED LIMIT 30 KM/H    PM-2 SPEED LIMIT 40 KM/H    PM-3 SPEED LIMIT 60 KM/H



PM-4 TOLL AHEAD  
REFERENCE SHALL BE MADE TO DRAWING NO. PWD(RD)/SD91/20-1, ROAD AND TRANSPORTATION DIVISION, PUBLIC WORKS DEPARTMENT

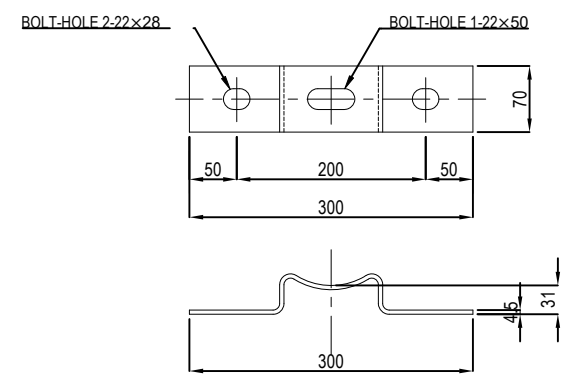
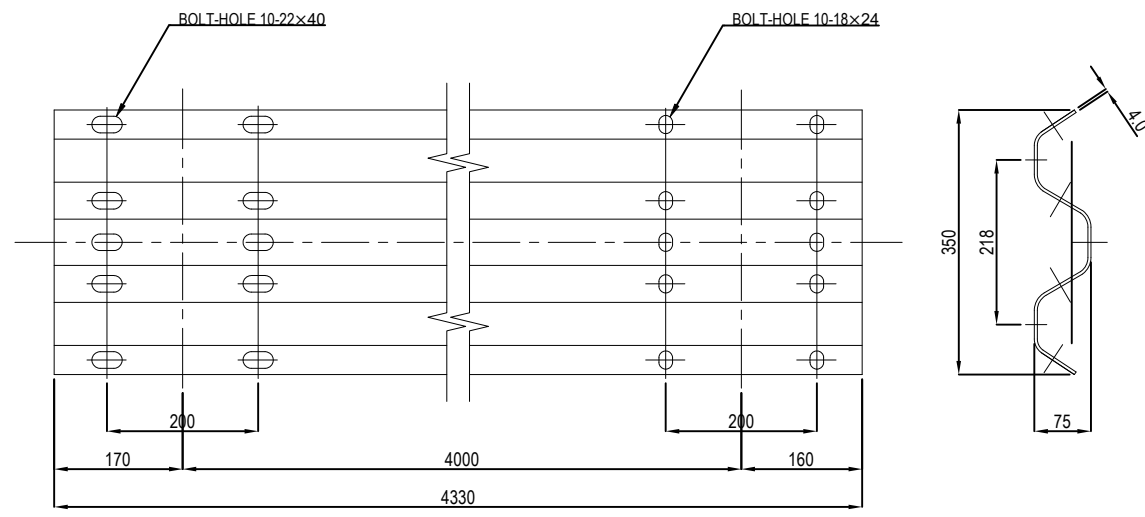
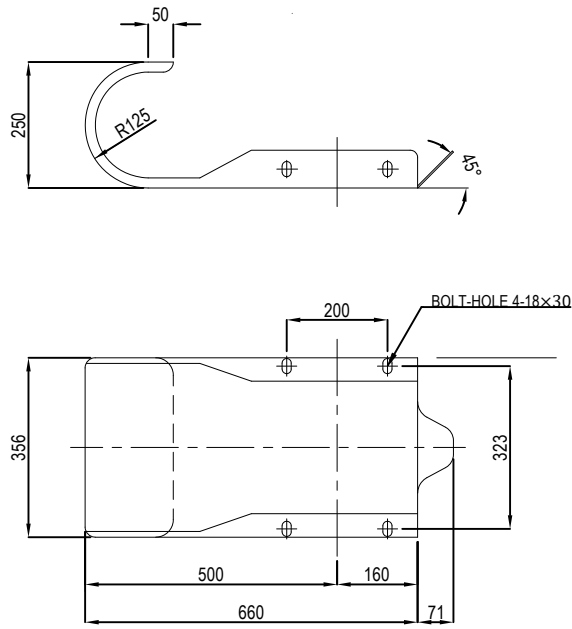
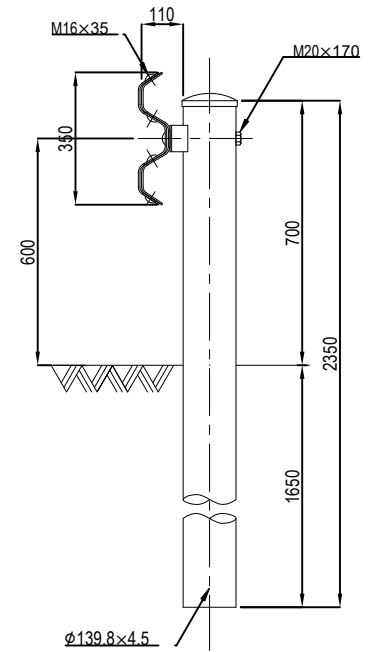
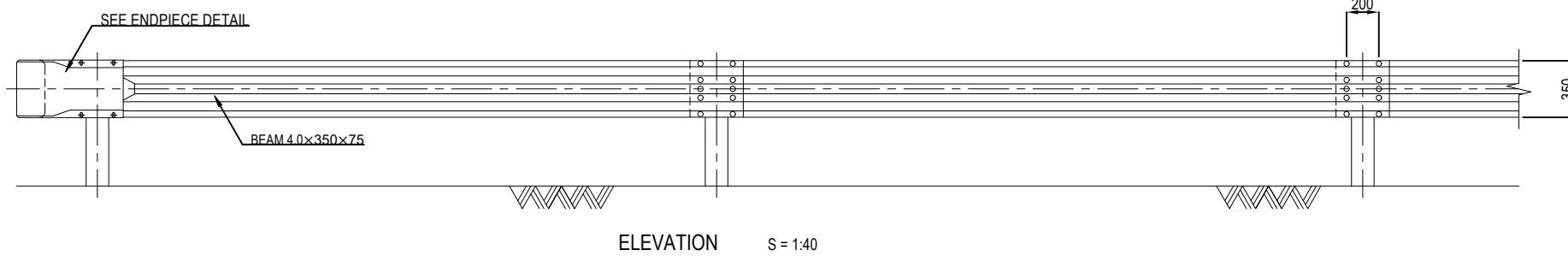
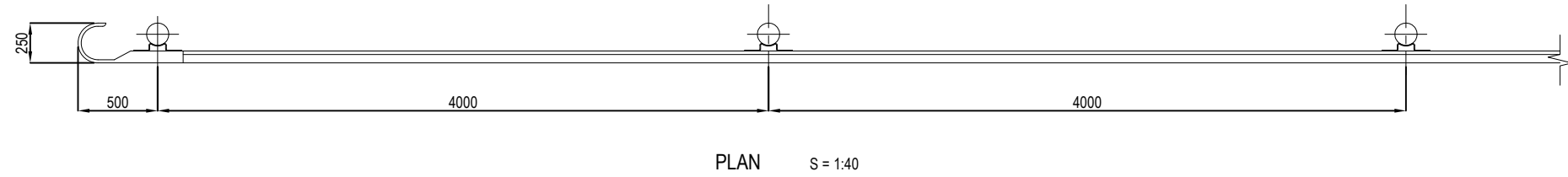
COLORS:  WHITE  ORANGE



ARROW MARKS  
REFERENCE SHALL BE MADE TO DRAWING NO. PWD(RD)/SD91/8-2 ROAD AND TRANSPORTATION DIVISION, PUBLIC WORKS DEPARTMENT

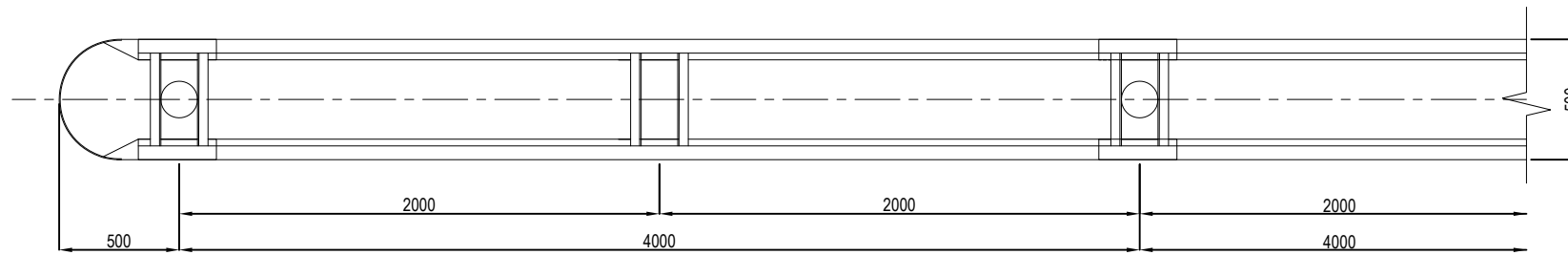
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE ROAD MARKING DETAILS (2)	PACKAGE	
				PREPARED BY	K. TACHIBANA			15 JUNE 2017	1
				CHECKED BY	T. HAYAKAWA			20 JUNE 2017	DWG No.
				APPROVED BY	Y. SANO			21 JUNE 2017	P1-RD-6090

# GUARDRAIL TYPE-A (GR-A)

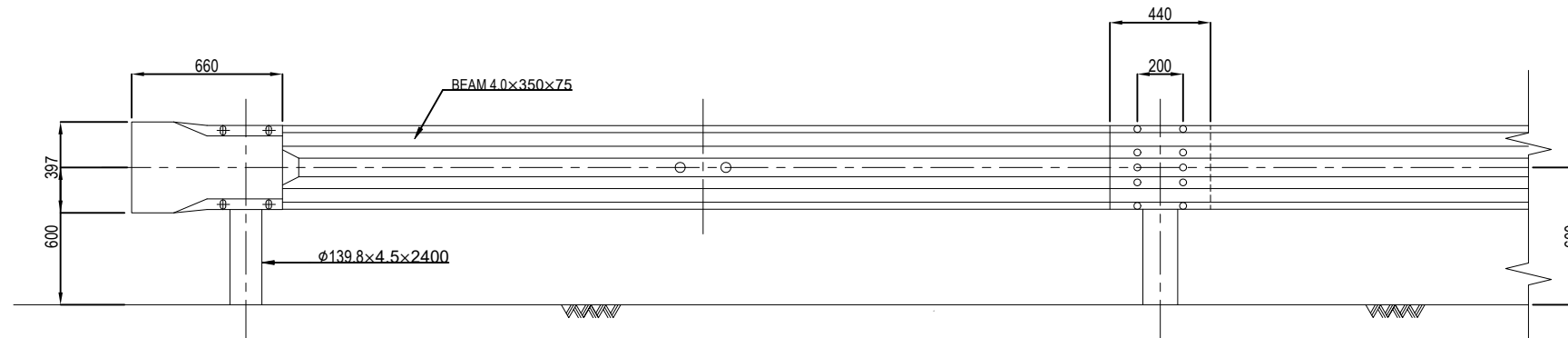


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DETAILS OF GUARDRAIL (1) TYPE-A	PACKAGE	
				PREPARED BY	E. YOKOTA			15 JUNE 2017	1
				CHECKED BY	T. HAYAKAWA			20 JUNE 2017	DWG No.
				APPROVED BY	Y. SANO			21 JUNE 2017	P1-RD-6100

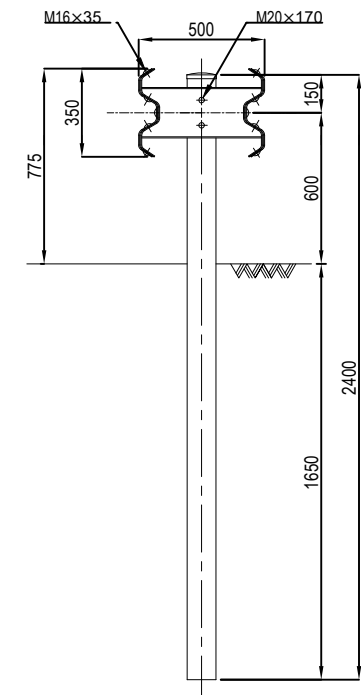
# GUARDRAIL TYPE-Am (GR-Am)



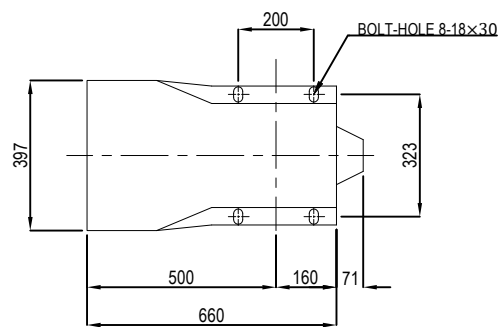
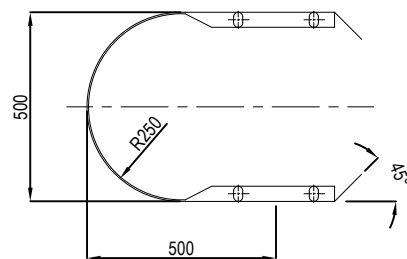
PLAN S = 1:30



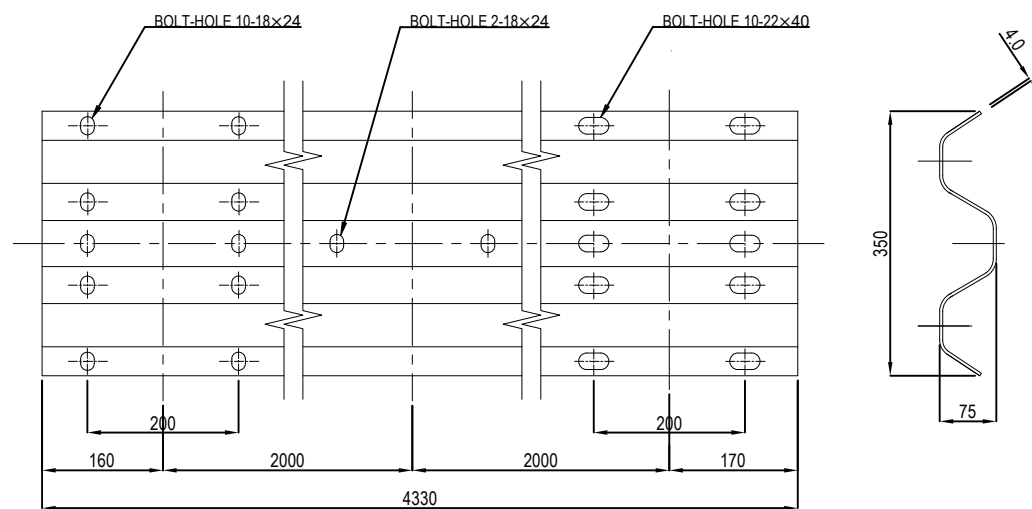
ELEVATION S = 1:30



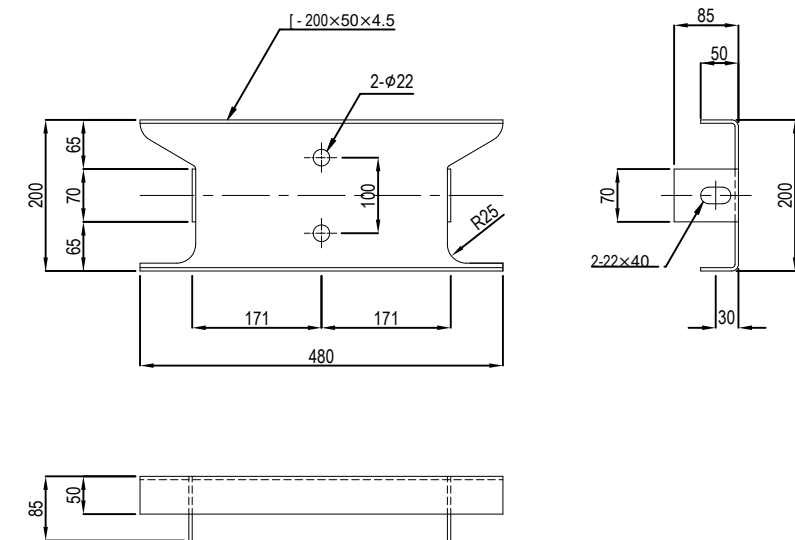
GR-Am SECTION S = 1:30



ENDPIECE DETAIL S = 1:20



BEEM S = 1:10



BRACKET (SS400) S = 1:10

PROJECT NAME  
DETAILED DESIGN ON  
BAGO RIVER BRIDGE  
CONSTRUCTION PROJECT

FINANCED BY  
JICA  
JAPAN INTERNATIONAL  
COOPERATION AGENCY

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

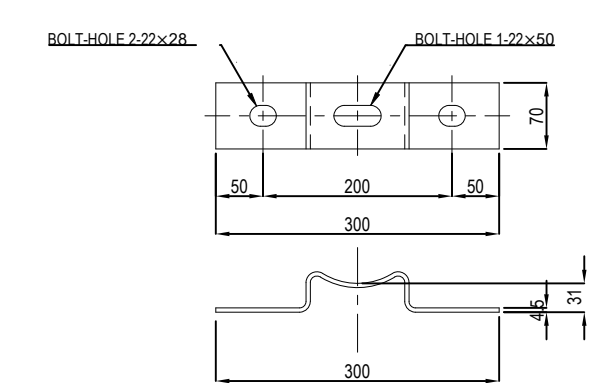
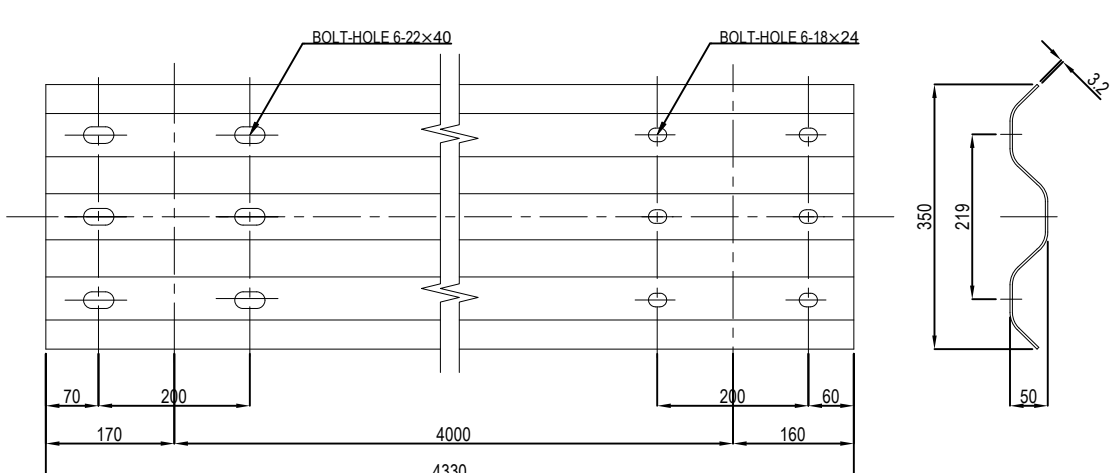
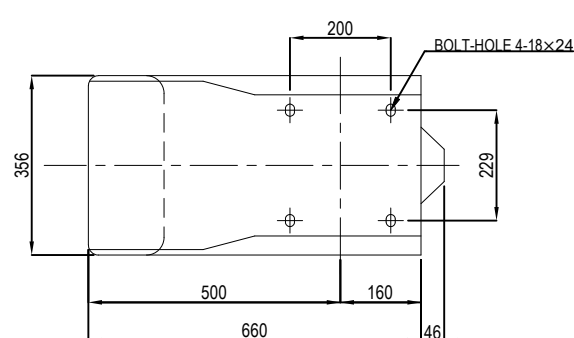
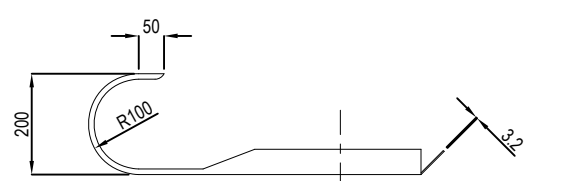
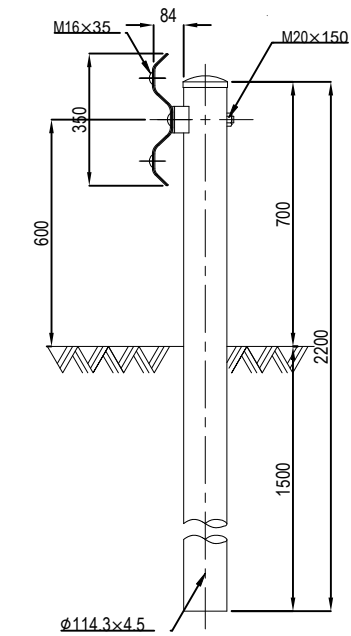
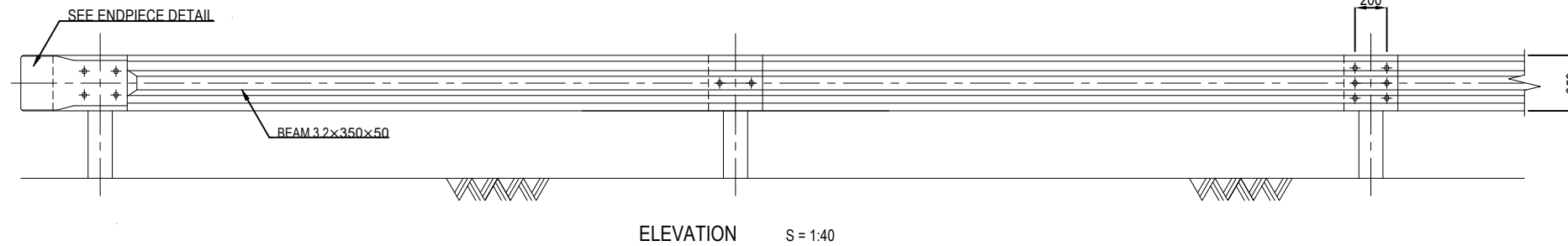
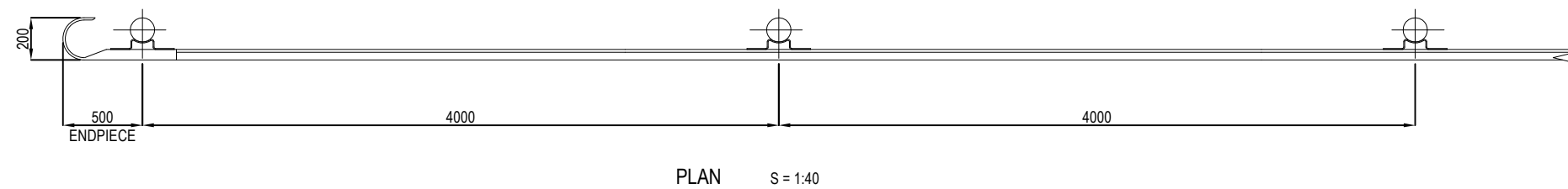
JICA STUDY TEAM  
NIPPON KOEI CO., LTD.  
ORIENTAL CONSULTANTS GLOBAL CO., LTD.  
METROPOLITAN EXPRESSWAY COMPANY LIMITED  
CHODAI CO., LTD.  
NIPPON ENGINEERING CONSULTANTS CO., LTD.

	NAME	SIGNATURE	DATE
PREPARED BY	E. YOKOTA	<i>E. Yokota</i>	15 JUNE 2017
CHECKED BY	T. HAYAKAWA	<i>T. Hayakawa</i>	20 JUNE 2017
APPROVED BY	Y. SANO	<i>Y. Sano</i>	21 JUNE 2017

DRAWING TITLE  
DETAILS OF GUARDRAIL (2)  
TYPE-Am

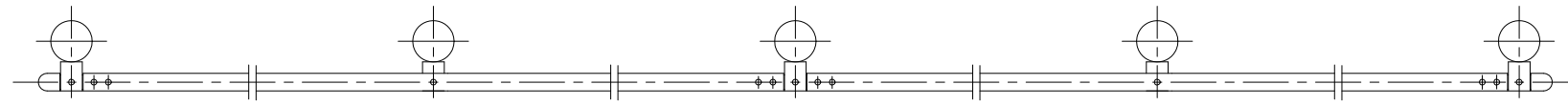
PACKAGE  
1  
DWG No.  
P1-RD-6105

# GUARDRAIL TYPE-B (GR-B)

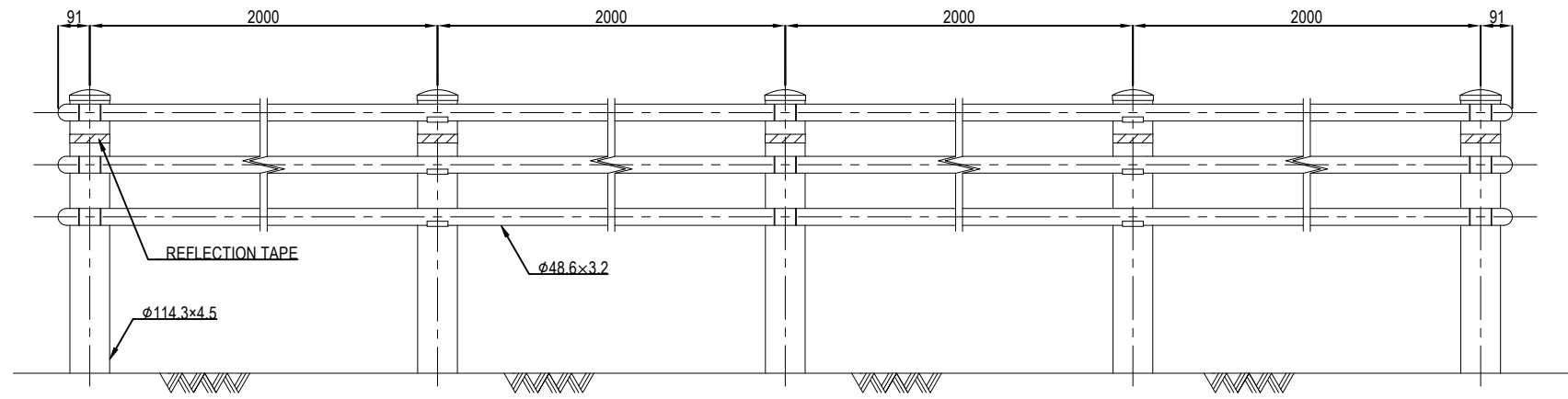


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DETAILS OF GUARDRAIL (3) TYPE-B	PACKAGE	
				PREPARED BY	E. YOKOTA			15 JUNE 2017	1
				CHECKED BY	T. HAYAKAWA			20 JUNE 2017	DWG No.
				APPROVED BY	Y. SANO			21 JUNE 2017	P1-RD-6110

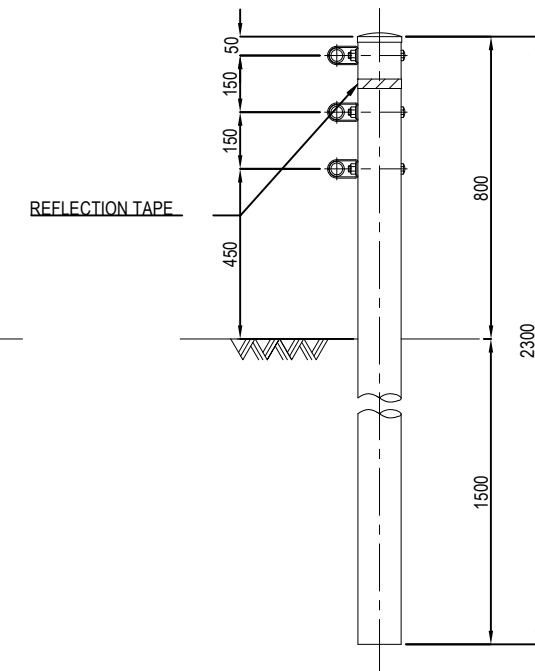
# GUARD PIPE TYPE-A (GP-A)



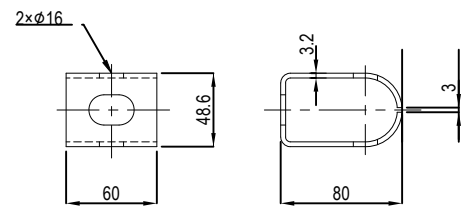
PLAN S = 1:20



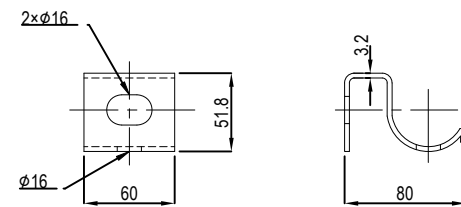
ELEVATION S = 1:20



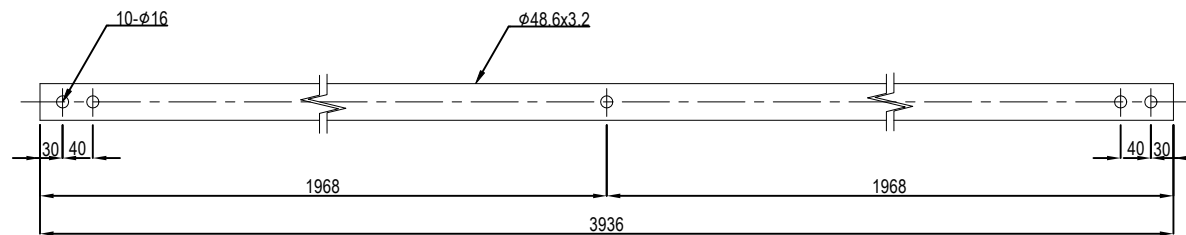
SECTION S = 1:20



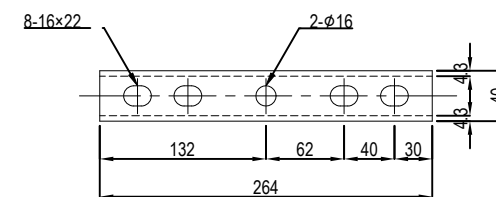
JOINT BLACKET S = 1:5



INTERMEDIATE BLACKET S = 1:5



GP-A BEAM S = 1:10



INNER SLEAVE S = 1:10

PROJECT NAME  
DETAILED DESIGN ON  
BAGO RIVER BRIDGE  
CONSTRUCTION PROJECT

FINANCED BY  
 JAPAN INTERNATIONAL  
COOPERATION AGENCY

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

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

	NAME	SIGNATURE	DATE
PREPARED BY	E. YOKOTA		15 JUNE 2017
CHECKED BY	T. HAYAKAWA		20 JUNE 2017
APPROVED BY	Y. SANO		21 JUNE 2017

DRAWING TITLE  
DETAILS OF GUARD PIPE  
TYPE-A

PACKAGE  
1  
DWG No.  
P1-RD-6120