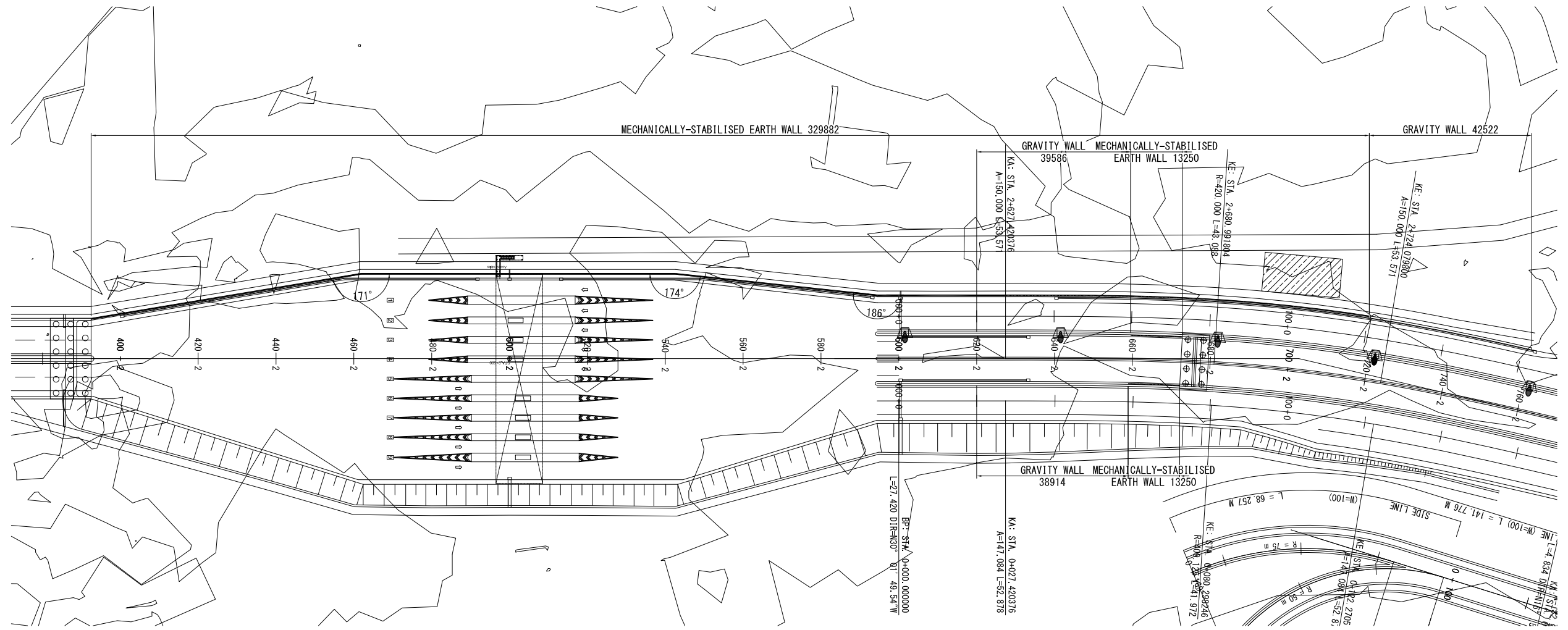


# MECHANICALLY STABILISED EARTH WALL(1)

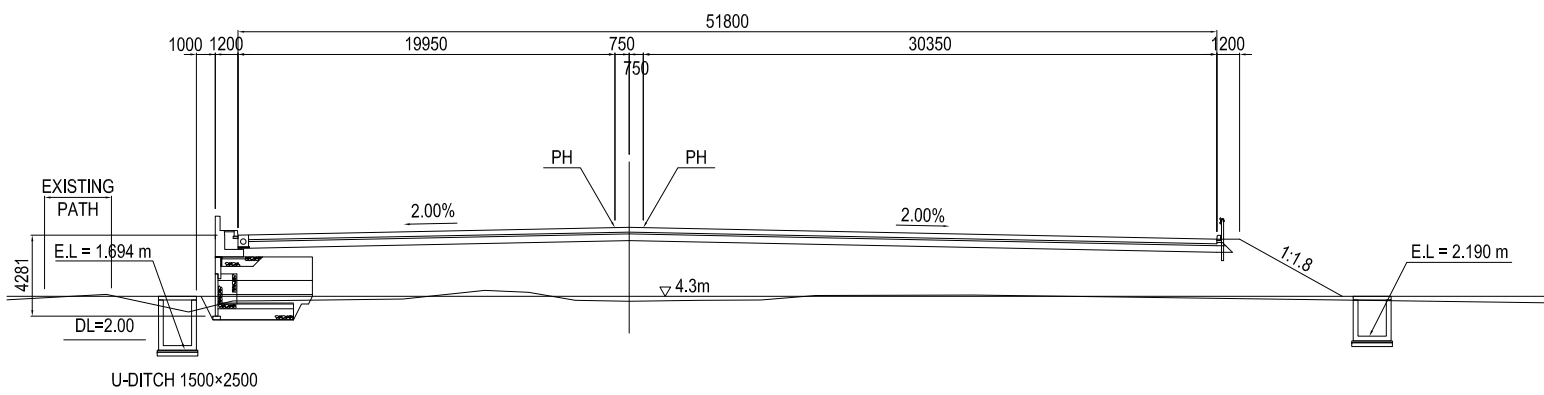
PLAN S=1:600  
Toll Plaza~Approach road (STA. 2+390~2+760)



CROSS SECTION S=1:200

Toll Plaza~Approach road (STA. 2+388~2+600)

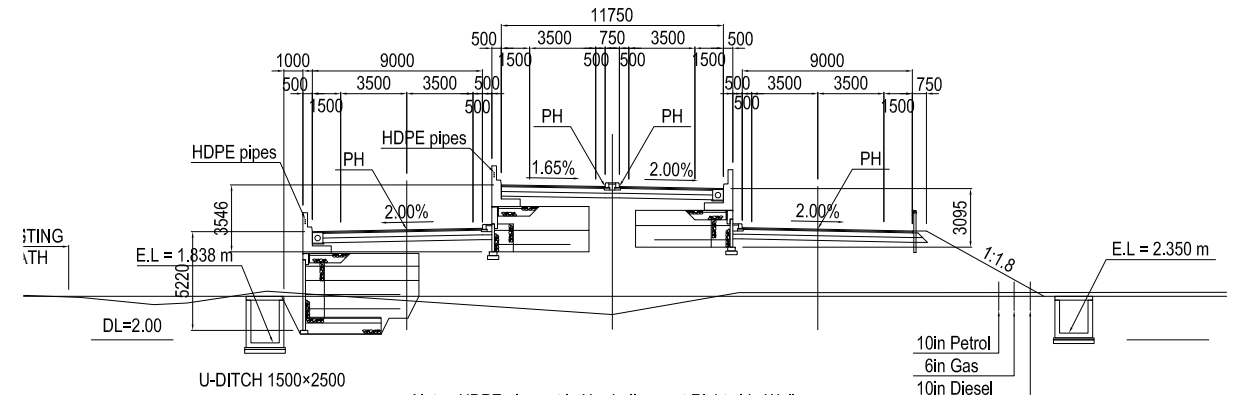
STA.2+480  
GH=4.04  
PH=7.930



Main Load (STA. 2+600~2+672.686)

STA.2+660  
GH=3.33  
PH=10.105

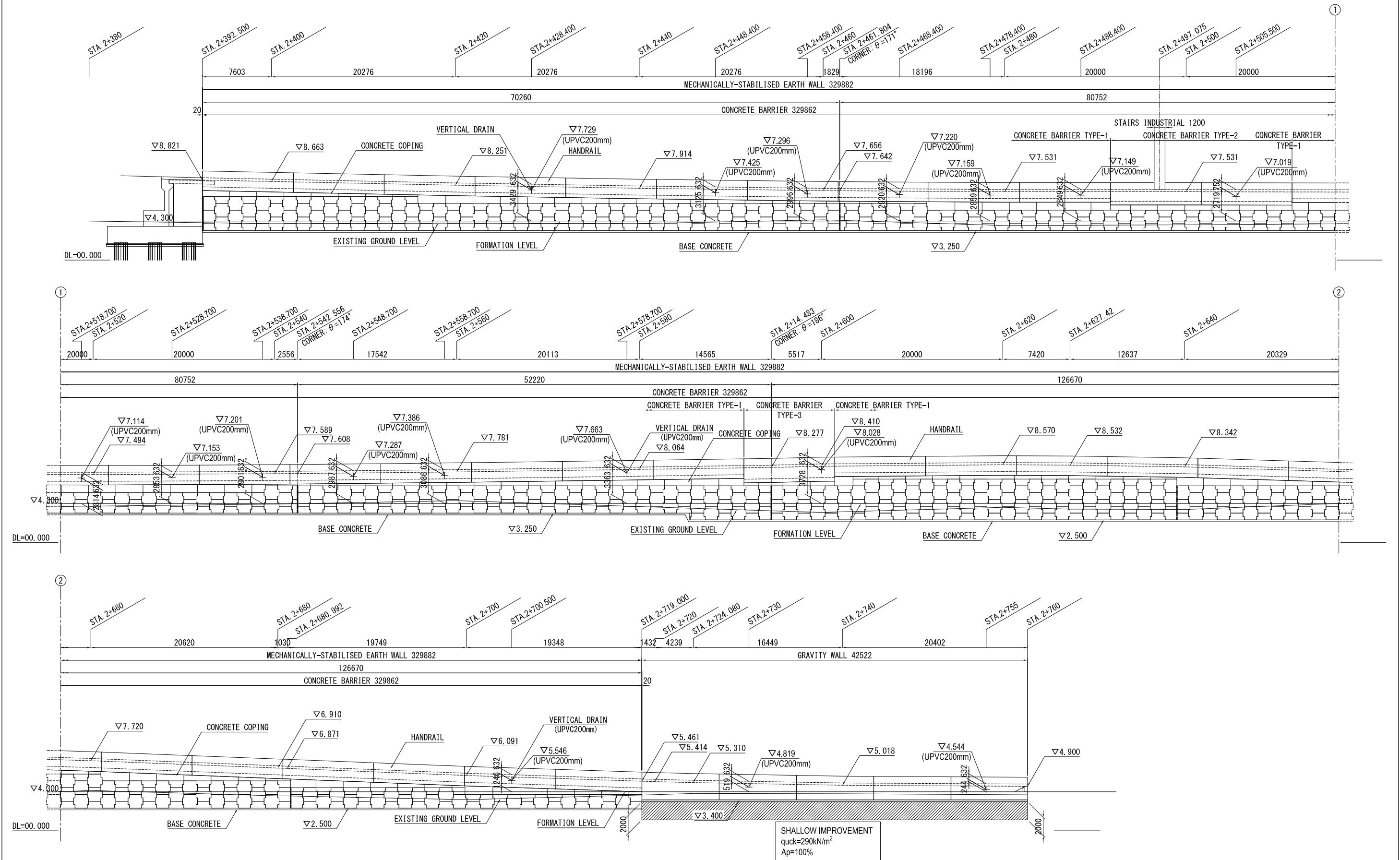
STA.0+60.441 PH=7.820      STA.0+56.561 PH=7.856



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(1)	PACKAGE 2 DWG No. P2-RD-4000	
				PREPARED BY	J.TSUCHIYA				15 Jun. 2017
				CHECKED BY	T. HAYAKAWA				20 Jun. 2017
				APPROVED BY	Y. SANO				21 Jun. 2017

# MECHANICALLY STABILISED EARTH WALL(2)

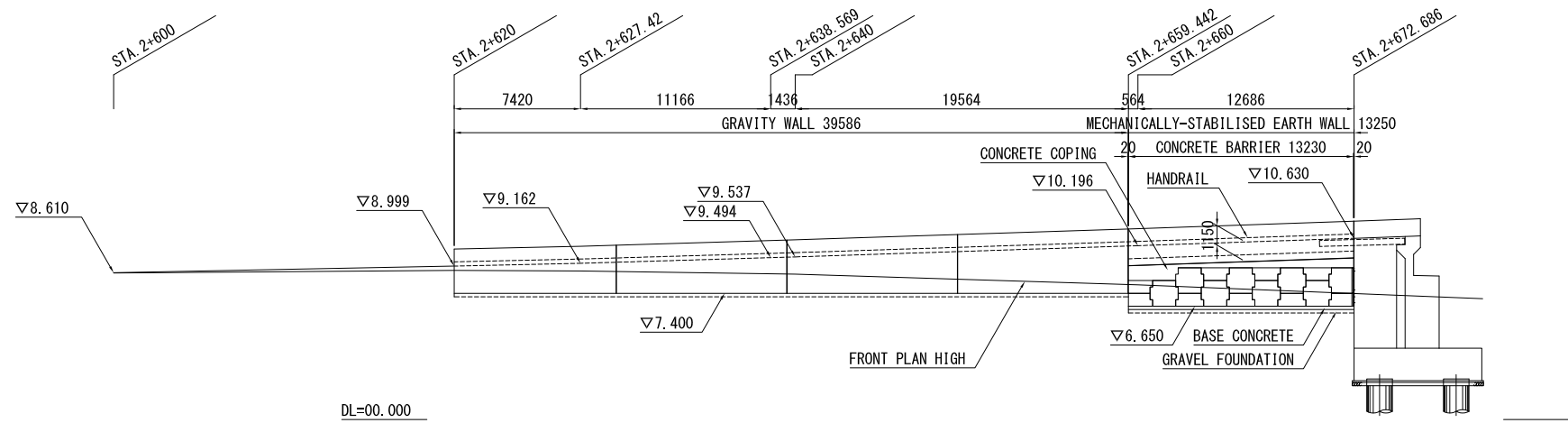
LEFT SIDE (DEVELOP FROM BACK SIDE) S=1:200  
Toll Plaza Approach road (STA. 2+390~2+760)



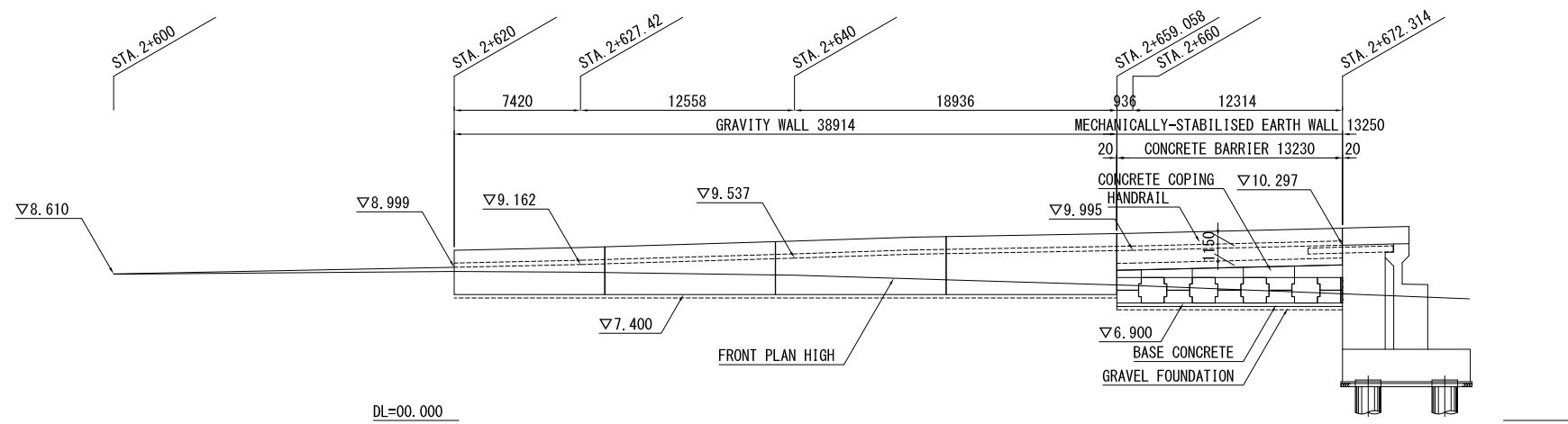
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE MECHANICALLY STABILISED EARTH WALL(2)	PACKAGE	
				PREPARED BY	J.TSUCHIYA			15 Jun. 2017	DWG No.
				CHECKED BY	T. HAYAKAWA			20 Jun. 2017	P2-RD-4010
				APPROVED BY	Y. SANO			21 Jun. 2017	

# MECHANICALLY STABILISED EARTH WALL(3)

LEFT SIDE (DEVELOP FROM BACK SIDE) S=1:200  
Main Load (STA. 2+600~2+672.686)



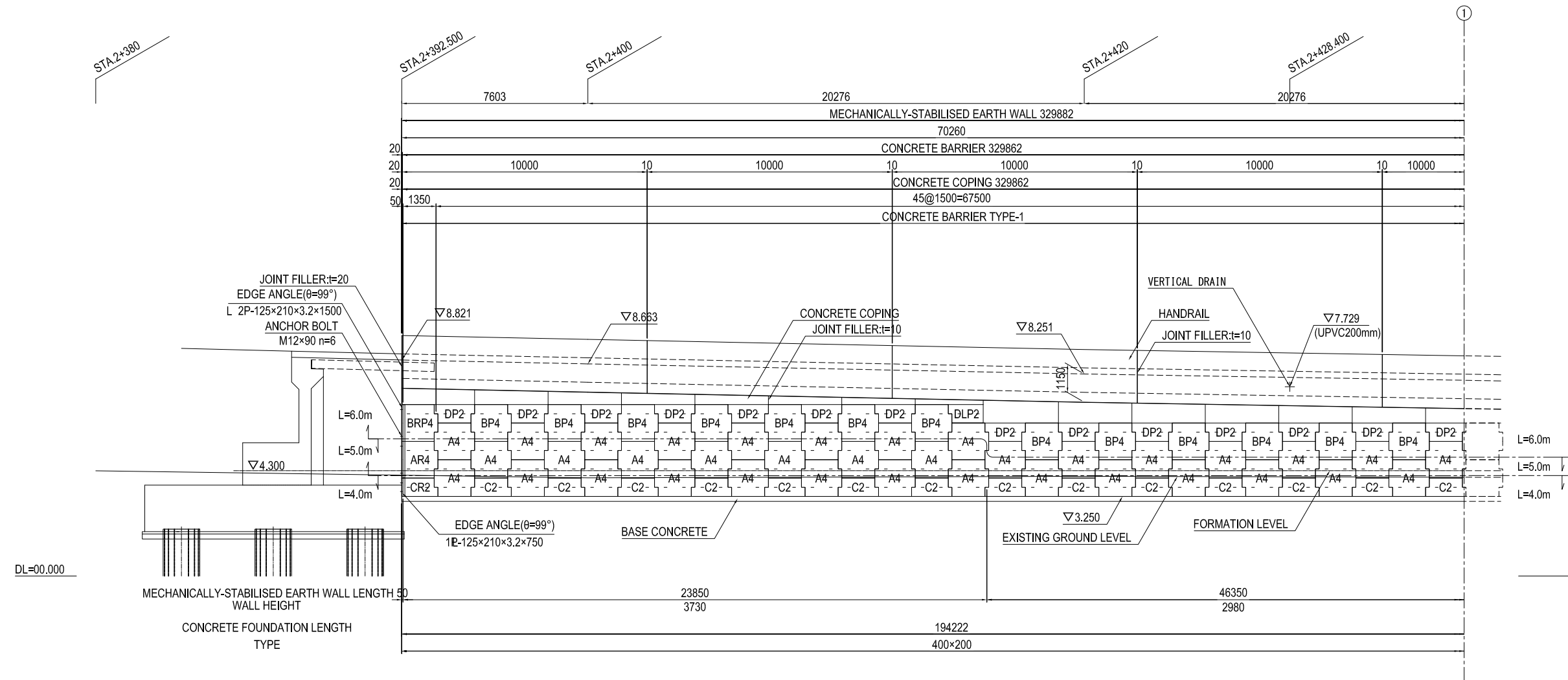
RIGHT SIDE S=1:200  
Main road (STA. 2+600~2+672.314)



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 CHECKED BY APPROVED BY	J.TSUCHIYA T. HAYAKAWA Y. SANO	15 Jun. 2017 20 Jun. 2017 21 Jun. 2017	MECHANICALLY STABILISED EARTH WALL(3)	2 DWG No. P2-RD-4020

# MECHANICALLY STABILISED EARTH WALL(4)

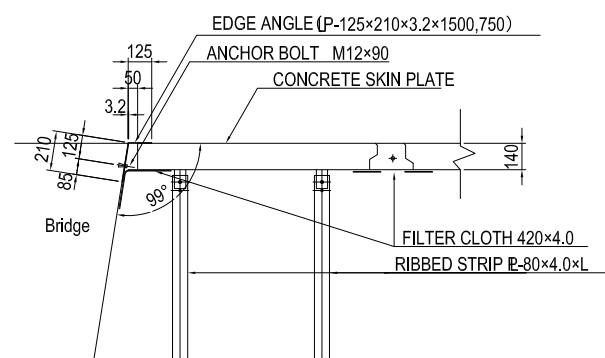
LEFT SIDE (DEVELOP FROM BACK SIDE) S=1:200  
Toll Plaza~Approach road (STA. 2+390~2+760)



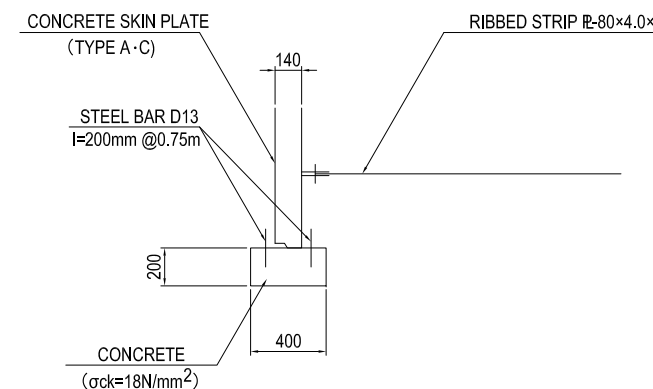
NOTE)

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

EDGE DETAIL DRAWING S=1:40

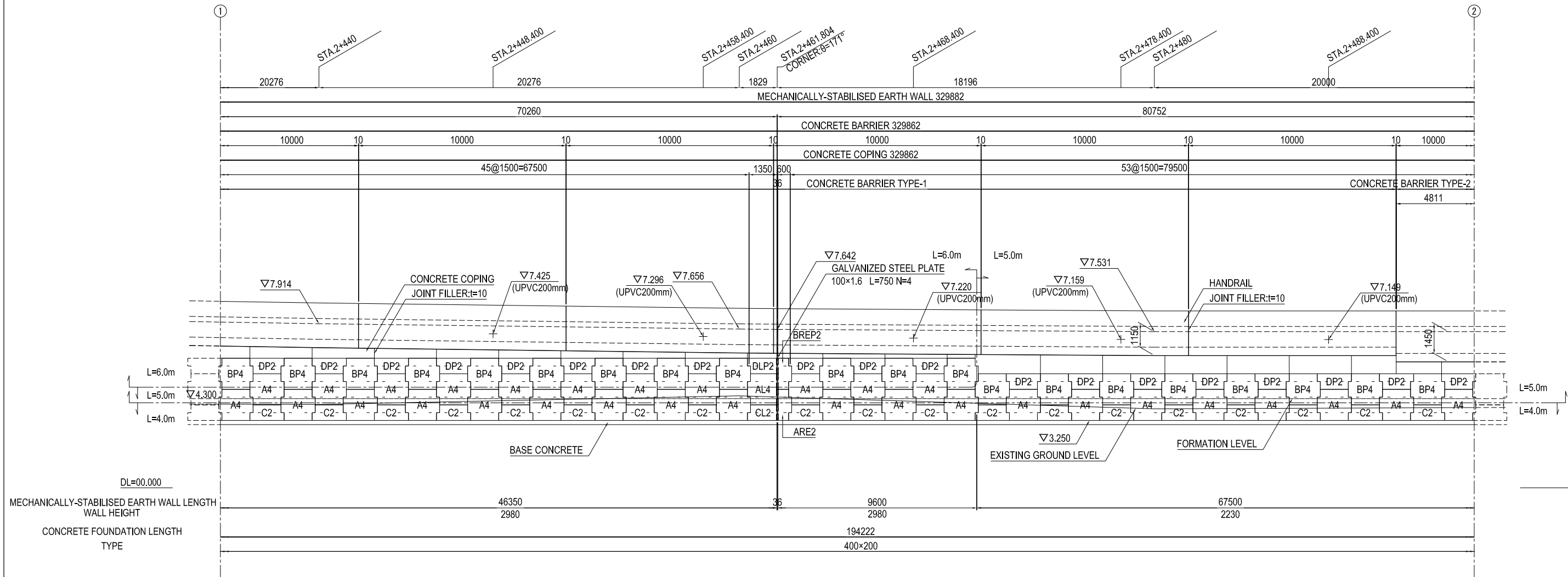


CONCRETE FOUNDATION DRAWING S=1:40



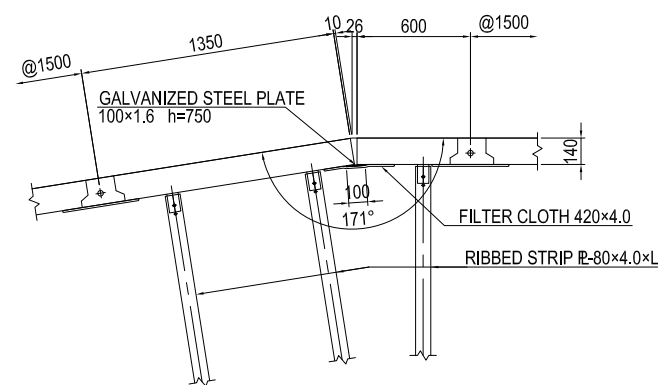
# MECHANICALLY STABILISED EARTH WALL(5)

LEFT SIDE (DEVELOP FROM BACK SIDE) S=1:200  
Toll Plaza Approach road (STA. 2+390~2+760)



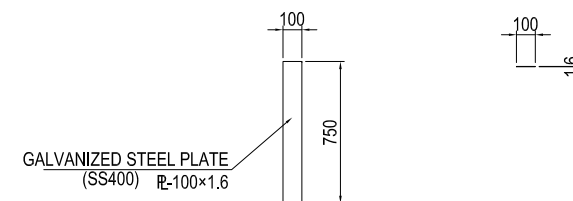
NOTE)  
1) The mark "L" indicates the length of steel strip determined by the stability calculation.  
2) Wall length indicates the length of wall surface.

JOINT DETAIL DRAWING S=1:40  
( $\theta=171^\circ$ )



GALVANIZED STEEL PLATE S=1:40

FRONT VIEW DRAWING CROSS SECTION



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.

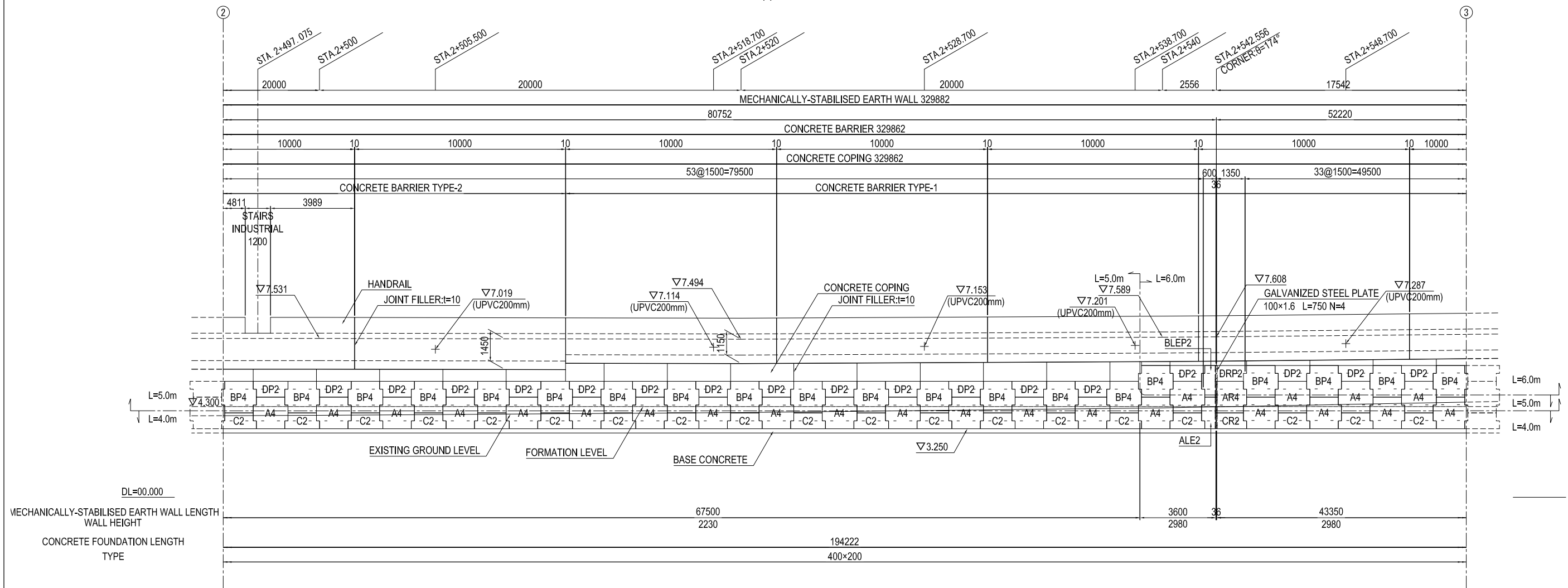
	NAME	SIGNATURE	DATE
PREPARED BY	J.TSUCHIYA	<i>J. Tsuchiya</i>	15 Jun. 2017
CHECKED BY	T. HAYAKAWA	<i>T. Hayakawa</i>	20 Jun. 2017
APPROVED BY	Y. SANO	<i>Y. Sano</i>	21 Jun. 2017

DRAWING TITLE  
MECHANICALLY STABILISED EARTH WALL(5)

PACKAGE  
2  
DWG No.  
P2-RD-4040

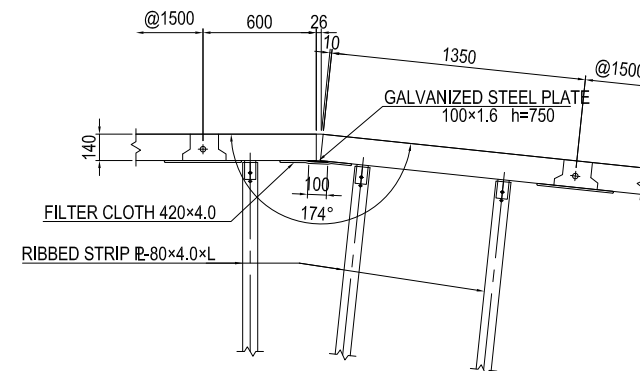
# MECHANICALLY STABILISED EARTH WALL(6)

LEFT SIDE (DEVELOP FROM BACK SIDE) S=1:200  
Toll Plaza Approach road (STA. 2+390~2+760)



- 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=1:40  
( $\theta=174^\circ$ )



PROJECT NAME  
DETAILED DESIGN ON  
BAGO RIVER BRIDGE  
CONSTRUCTION PROJECT

FINANCED BY  
JICA  
JAPAN INTERNATIONAL  
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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.

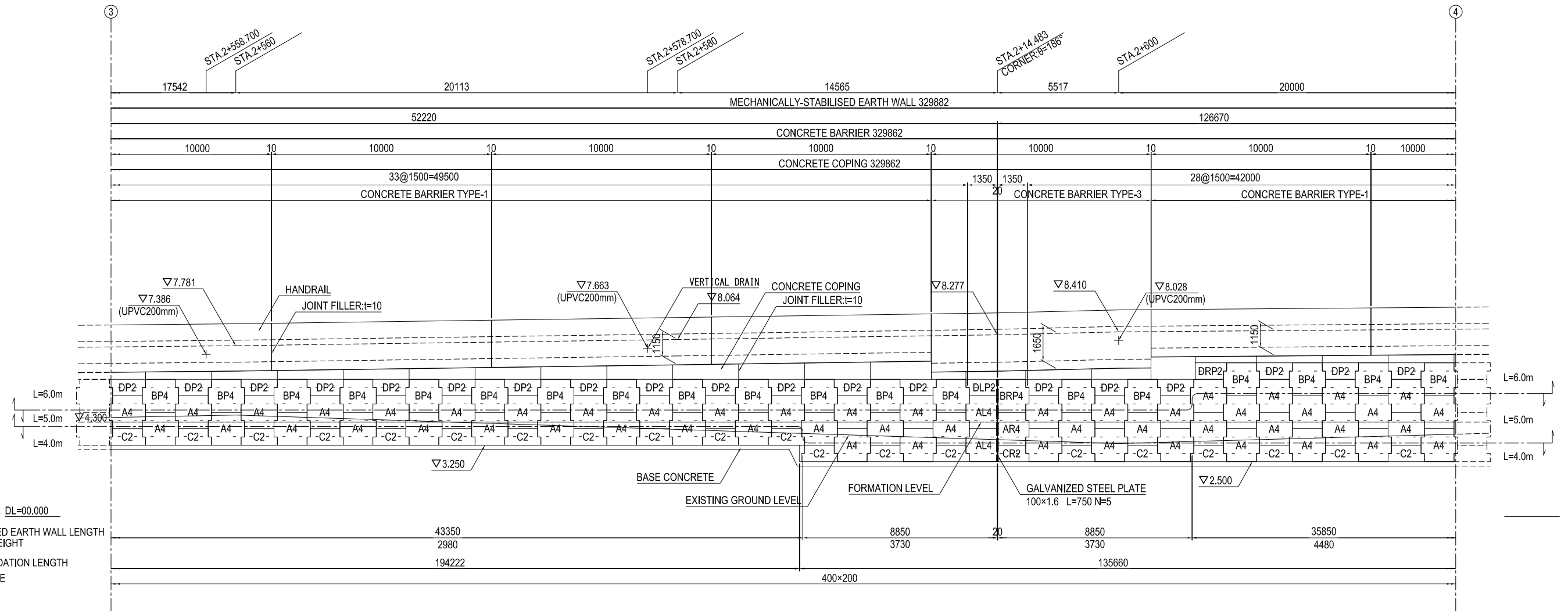
	NAME	SIGNATURE	DATE
PREPARED BY	J.TSUCHIYA	<i>J. Tsuchiya</i>	15 Jun. 2017
CHECKED BY	T. HAYAKAWA	<i>T. Hayakawa</i>	20 Jun. 2017
APPROVED BY	Y. SANO	<i>Y. Sano</i>	21 Jun. 2017

DRAWING TITLE  
MECHANICALLY STABILISED EARTH WALL(6)

PACKAGE  
2  
DWG No.  
P2-RD-4050

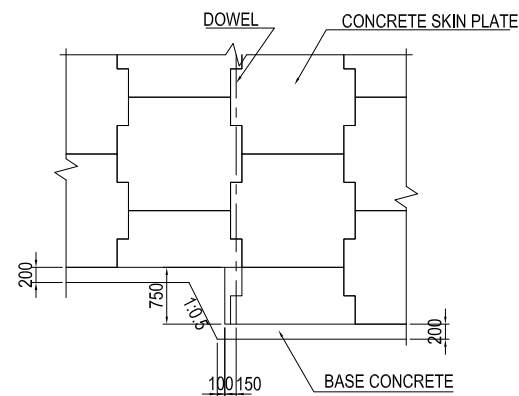
# MECHANICALLY STABILISED EARTH WALL(7)

LEFT SIDE (DEVELOP FROM BACK SIDE) S=1:200  
Toll Plaza Approach road (STA. 2+390~2+760)

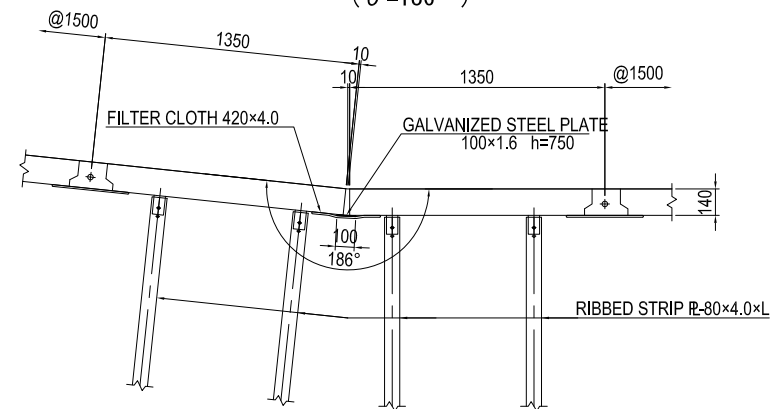


NOTE)  
1) The mark "L" indicates the length of steel strip determined by the stability calculation.  
2) Wall length indicates the length of wall surface.

STEP DETAIL DRAWING S=1:100

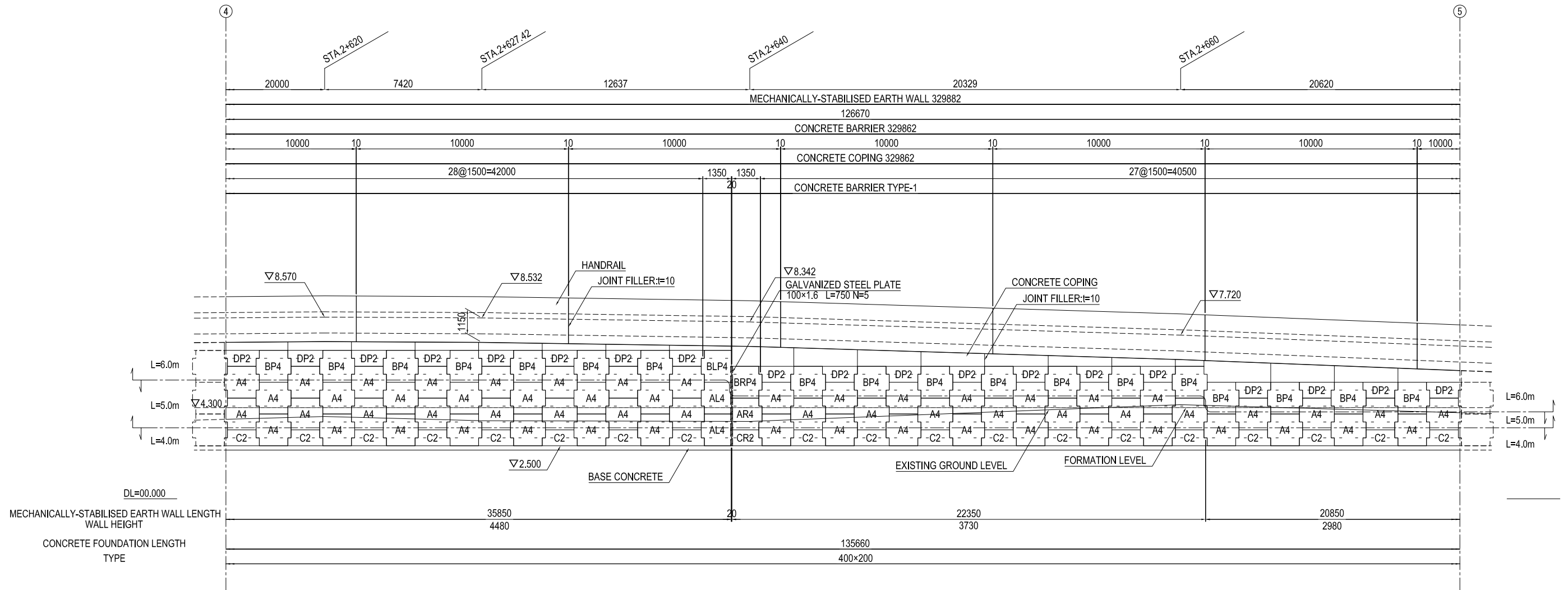


JOINT DETAIL DRAWING S=1:40  
( $\theta = 186^\circ$ )



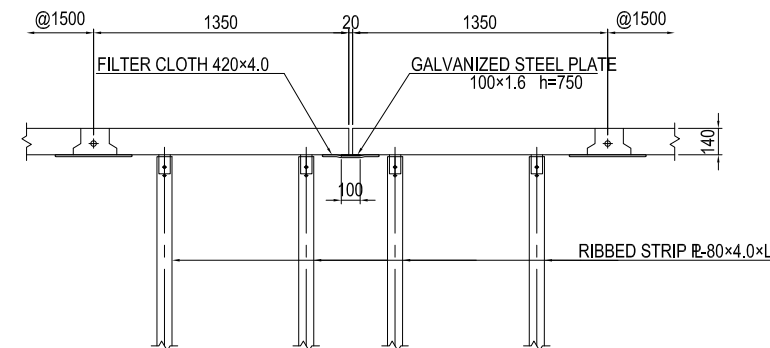
# MECHANICALLY STABILISED EARTH WALL(8)

LEFT SIDE (DEVELOP FROM BACK SIDE) S=1:200  
Toll Plaza Approach road (STA. 2+390~2+760)



- 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=1:40



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

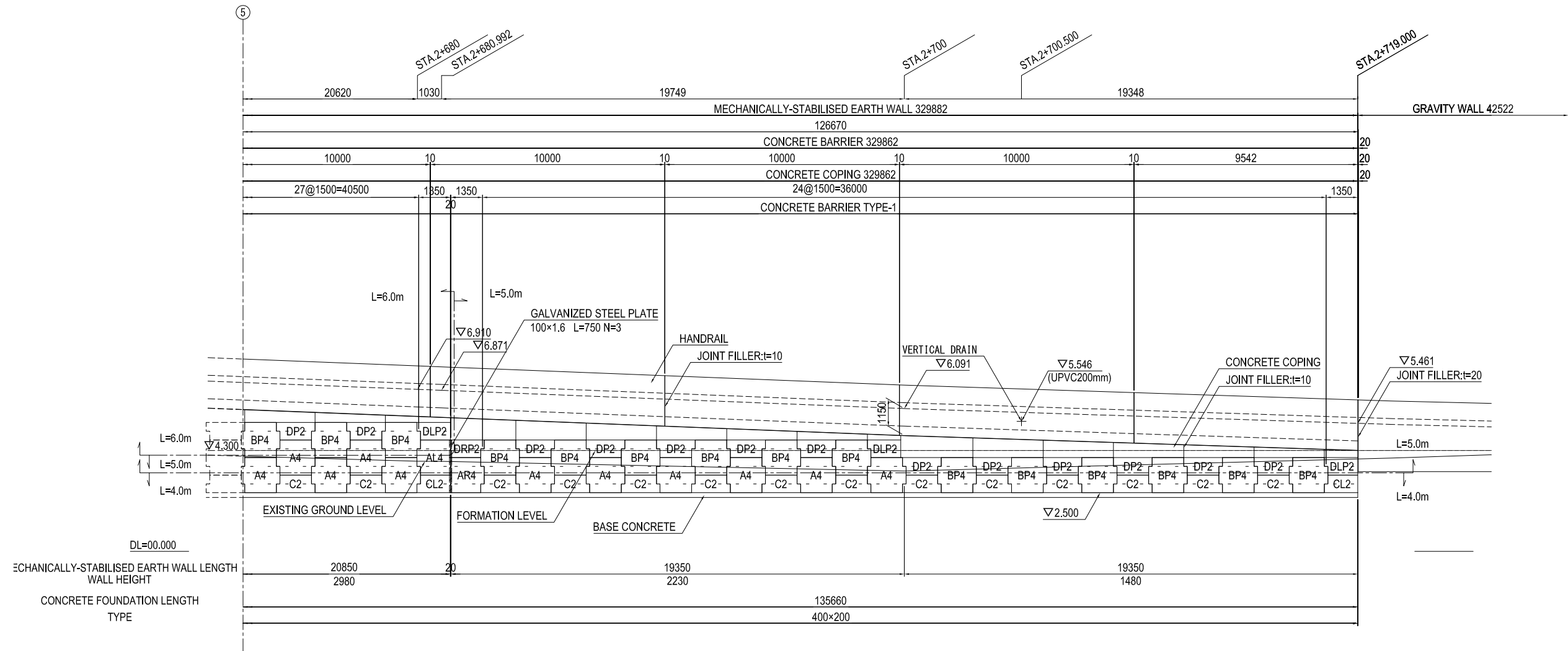
DRAWING TITLE  
MECHANICALLY STABILISED EARTH WALL(8)

PACKAGE  
2  
DWG No.  
P2-RD-4070



# MECHANICALLY STABILISED EARTH WALL(9)

LEFT SIDE (DEVELOP FROM BACK SIDE) S=1:200  
Toll Plaza Approach road (STA. 2+390~2+760)



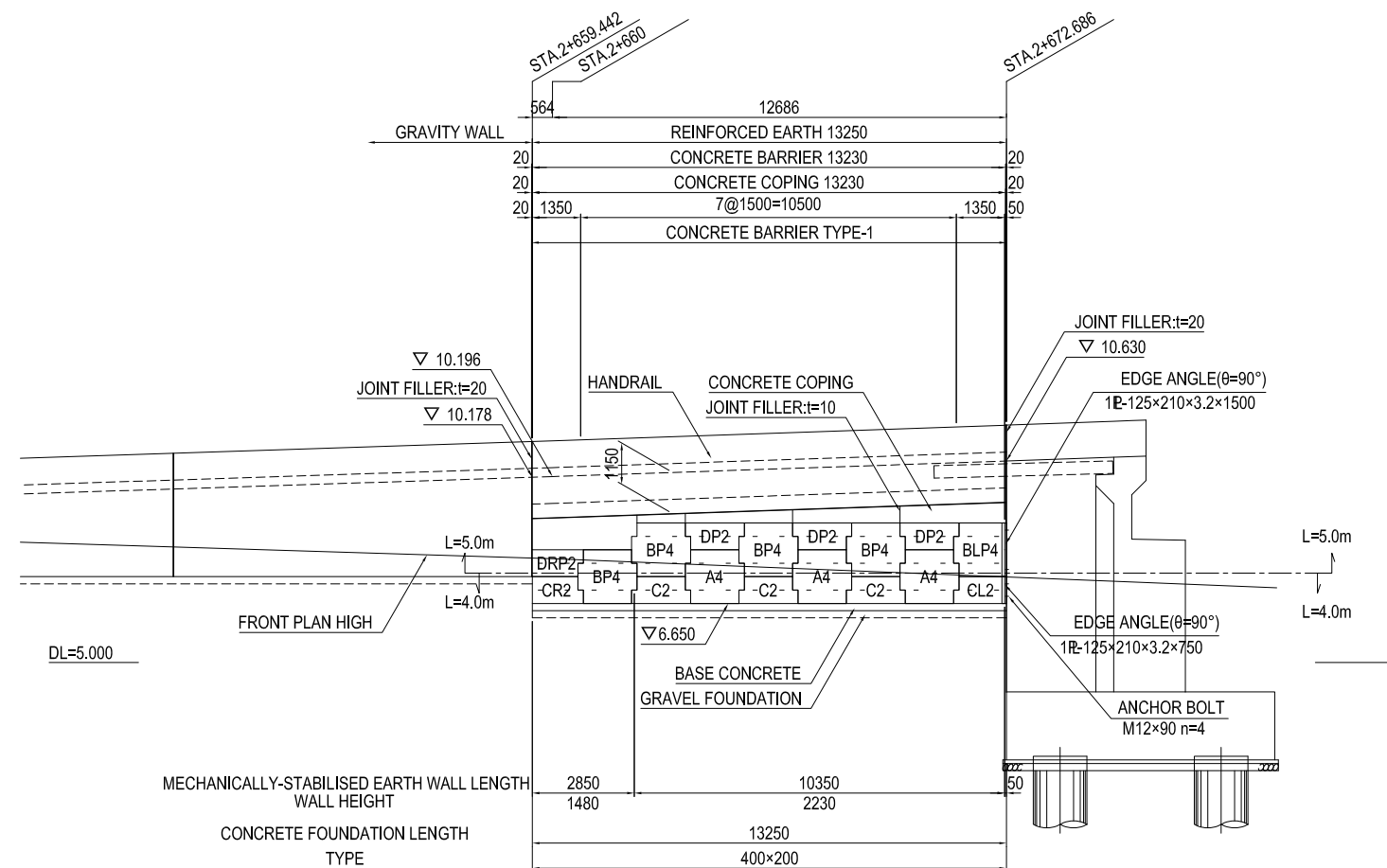
- NOTE)
- 1) The mark "L" indicates the length of steel strip determined by the stability calculation.
  - 2) Wall length indicates the length of wall surface.

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(9)	PACKAGE	
				PREPARED BY	J.TSUCHIYA			15 Jun. 2017	2
				CHECKED BY	T. HAYAKAWA			20 Jun. 2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun. 2017	P2-RD-4080

# MECHANICALLY STABILISED EARTH WALL(10)

LEFT SIDE (DEVELOP FROM BACK SIDE) S=1:200

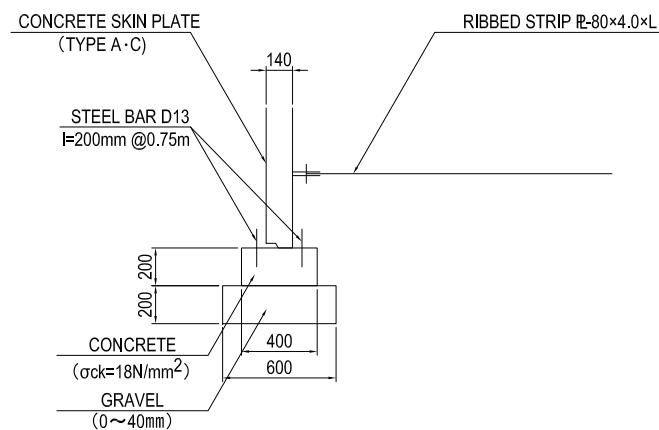
Main Load (STA. 2+600~2+672.686)



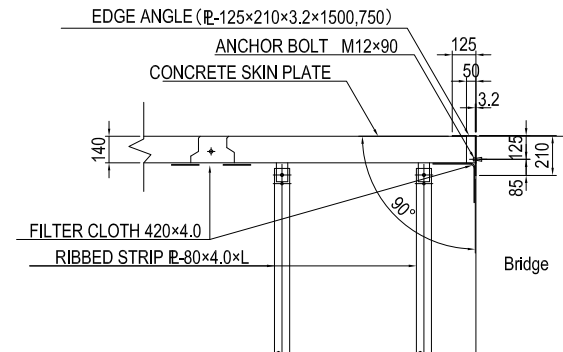
NOTE)

- 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=1:40



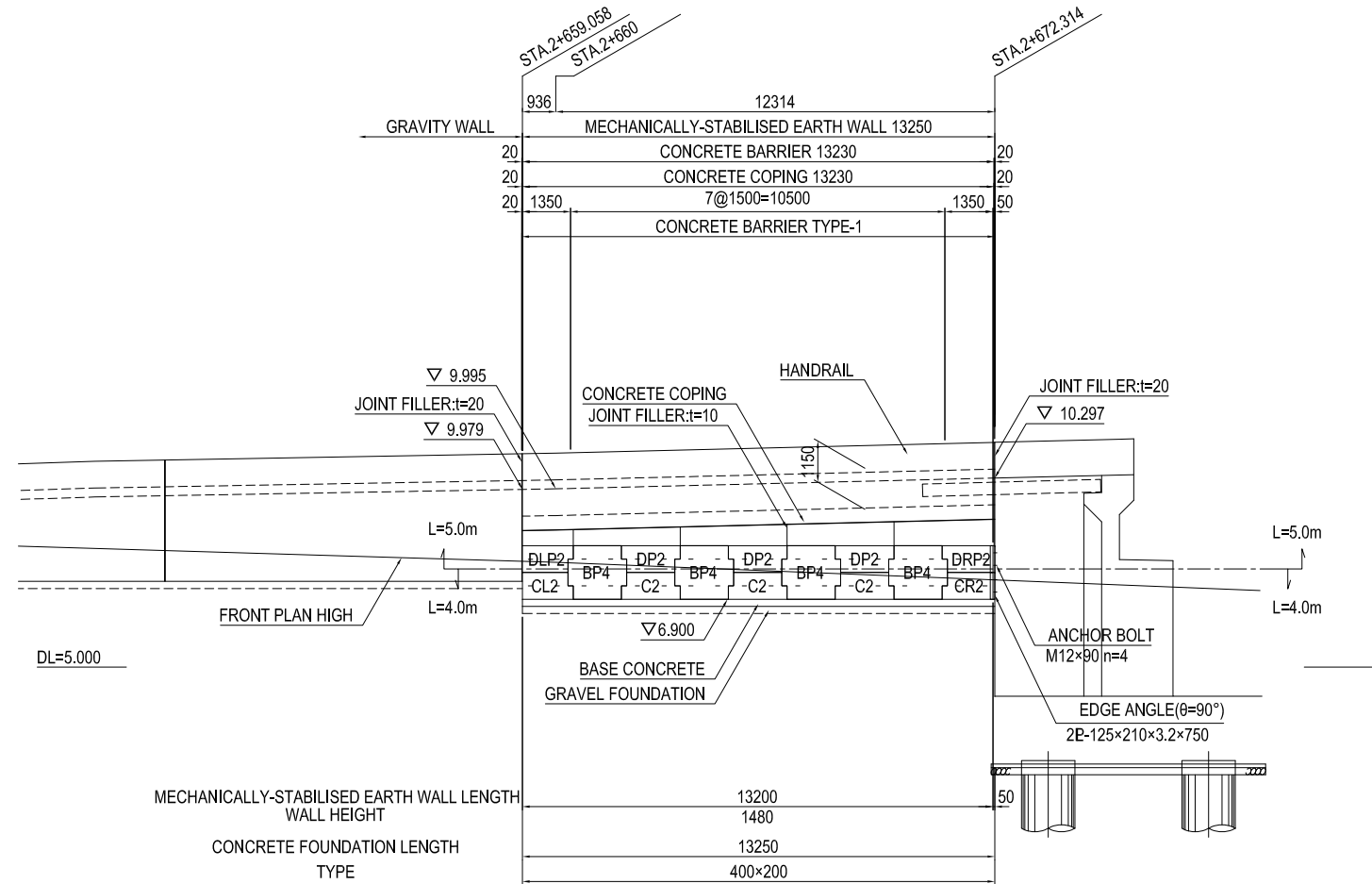
## EDGE DETAIL DRAWING S=1:40



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(10)	PACKAGE	
				PREPARED BY	J.TSUCHIYA	土屋 潤		15 Jun. 2017	2
				CHECKED BY	T. HAYAKAWA	平川 知那		20 Jun. 2017	DWG No.
				APPROVED BY	Y. SANO	佐野 祐一		21 Jun. 2017	P2-RD-4090

# MECHANICALLY STABILISED EARTH WALL(11)

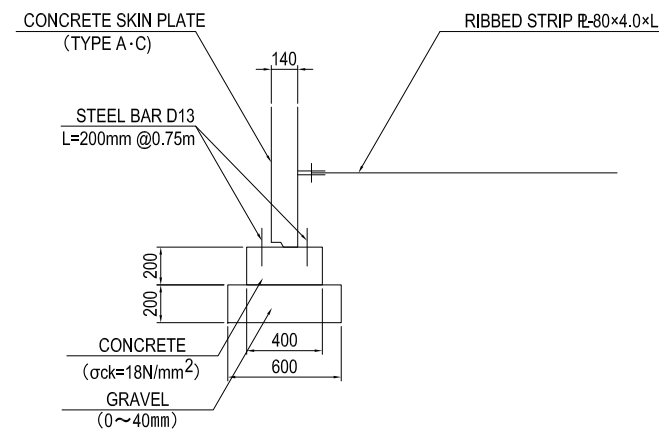
RIGHT SIDE S=1:200  
Main road (STA. 2+600~2+672.314)



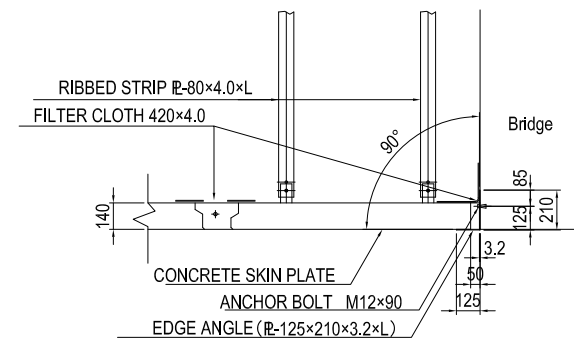
NOTE)

- 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=1:40



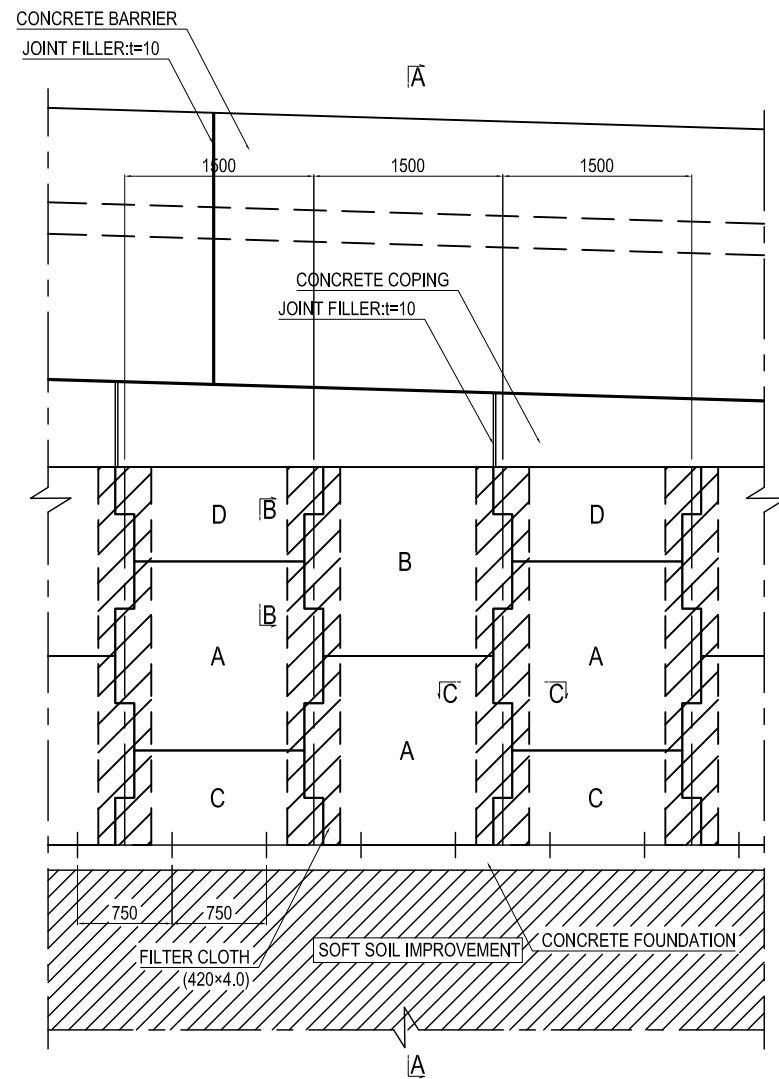
EDGE DETAIL DRAWING S=1:40



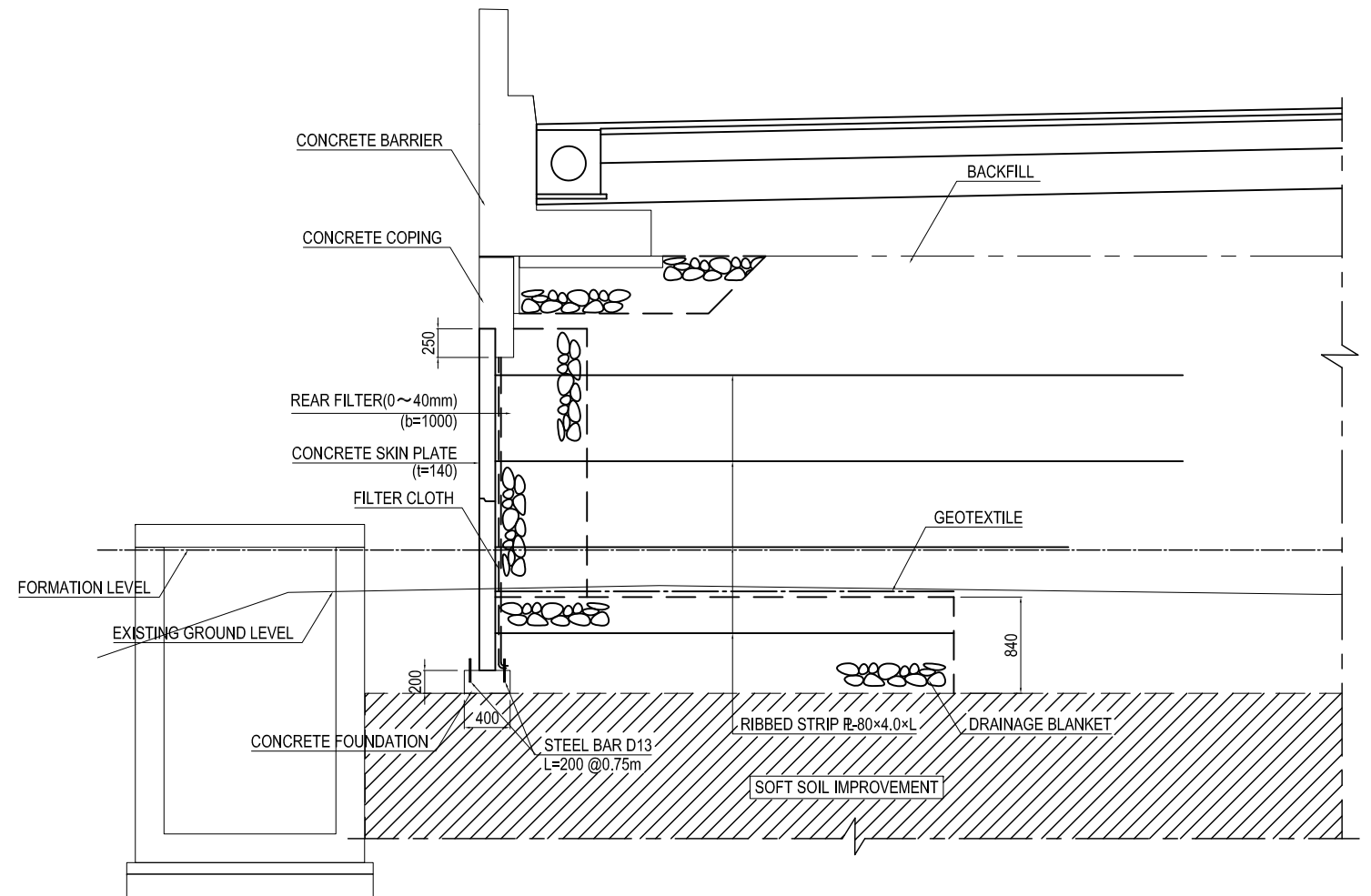
<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI 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</td> <td>J.TSUCHIYA</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	J.TSUCHIYA	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;">                     MECHANICALLY STABILISED EARTH WALL(11)                 </td> <td style="text-align: center;">2</td> </tr> <tr> <td style="text-align: center;">DWG No.</td> </tr> <tr> <td style="text-align: center;">P2-RD-4100</td> </tr> </table>	DRAWING TITLE	PACKAGE	MECHANICALLY STABILISED EARTH WALL(11)	2	DWG No.	P2-RD-4100
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	PACKAGE																						
MECHANICALLY STABILISED EARTH WALL(11)	2																						
	DWG No.																						
	P2-RD-4100																						

# DETAIL OF MECHANICALLY STABILISED EARTH WALL(1)

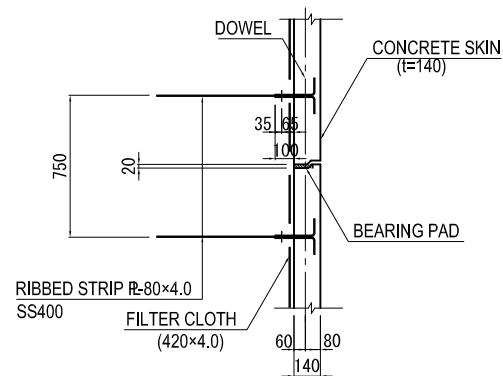
SKIN ARRANGEMENT S=1:60



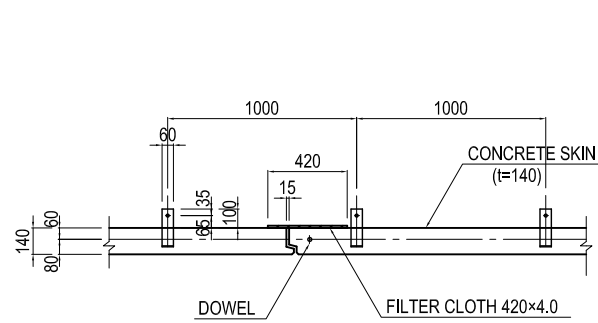
A-A CROSS SECTION S=1:60



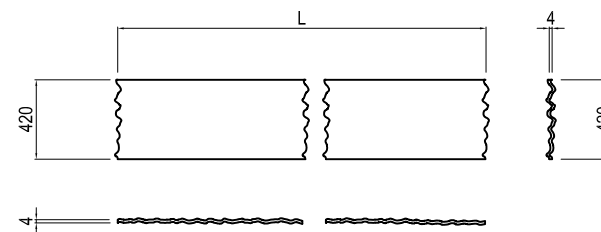
B-B CROSS SECTION S=1:40



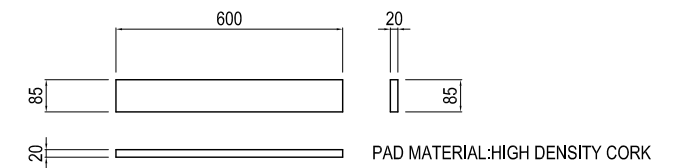
C-C CROSS SECTION S=1:40



FILTER CLOTH S=1:40



BEARING PAD 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
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

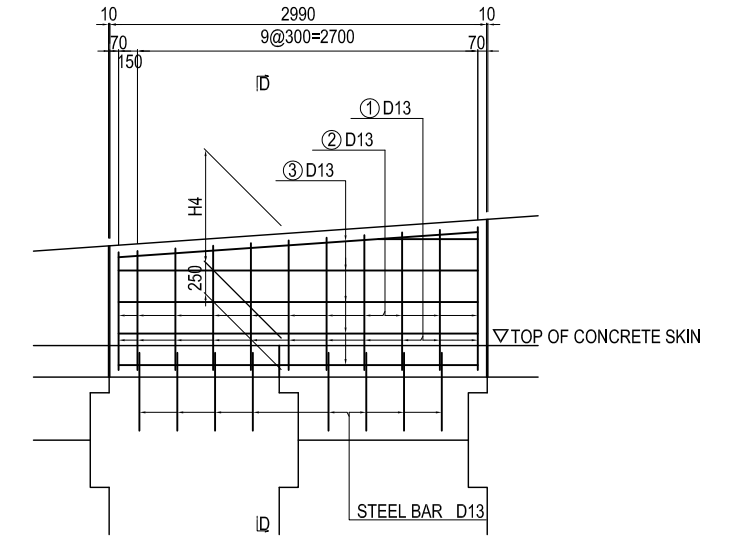
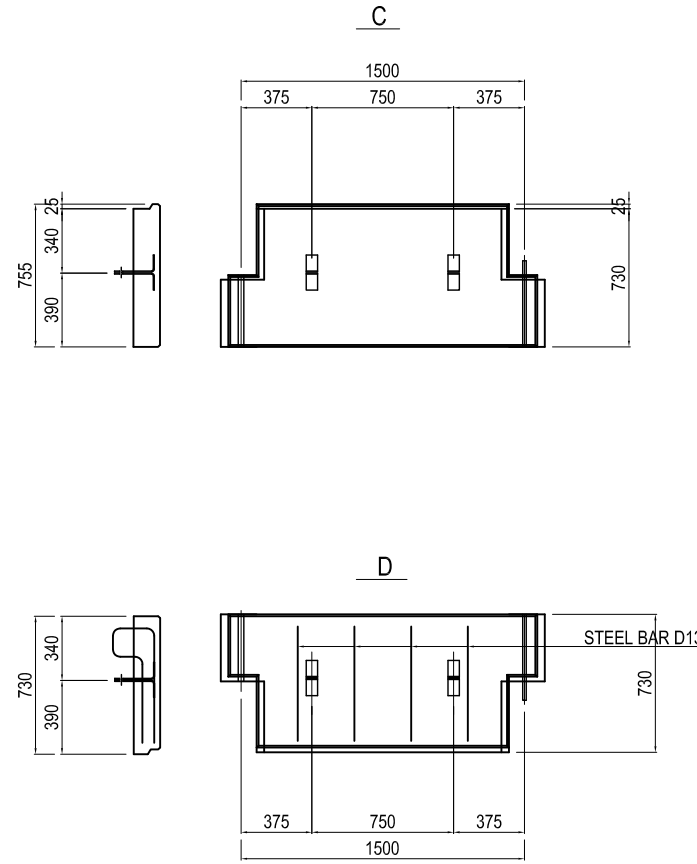
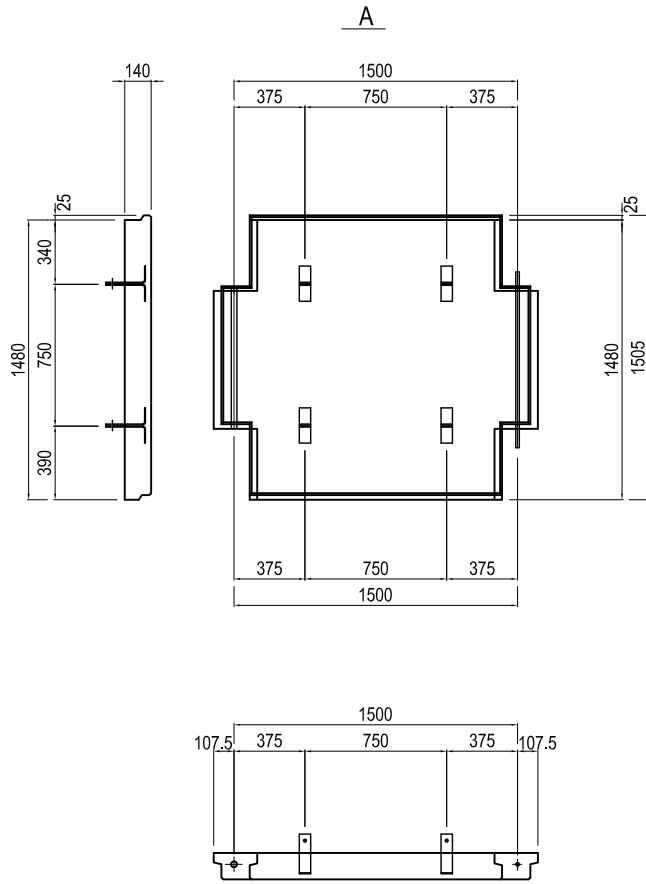
DRAWING TITLE  
DETAIL OF MECHANICALLY STABILISED EARTH WALL(1)

PACKAGE  
2  
DWG No.  
P2-RD-4110

# DETAIL OF MECHANICALLY STABILISED EARTH WALL(2)

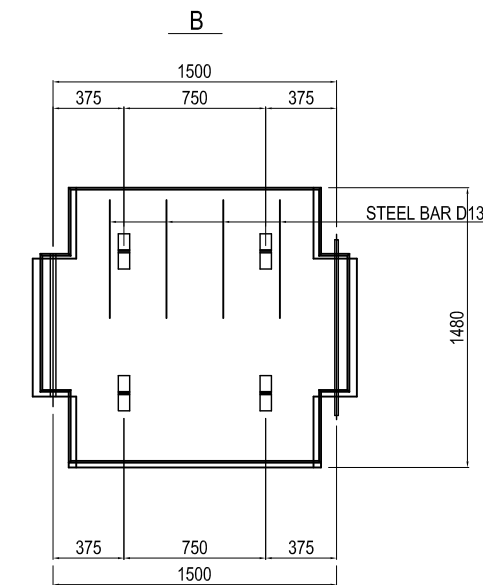
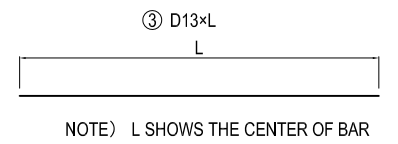
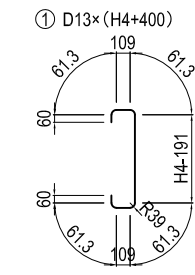
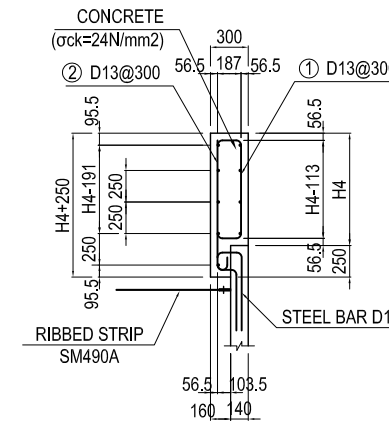
TYPE OF CONCRETE SKIN S=1:40

COPING REINFORCEMENT S=1:60

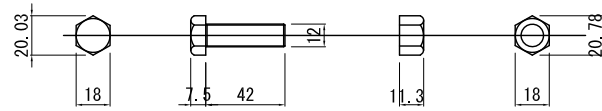


D-D CROSSSECTION

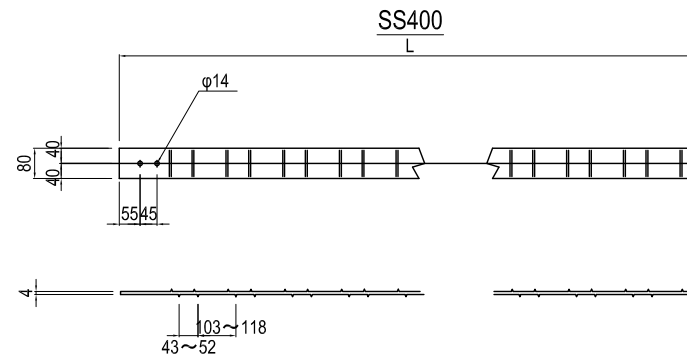
BAR SCHEDULING



BOLT NUT (M12×40) S=1:4



RIBBED STRIP 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.

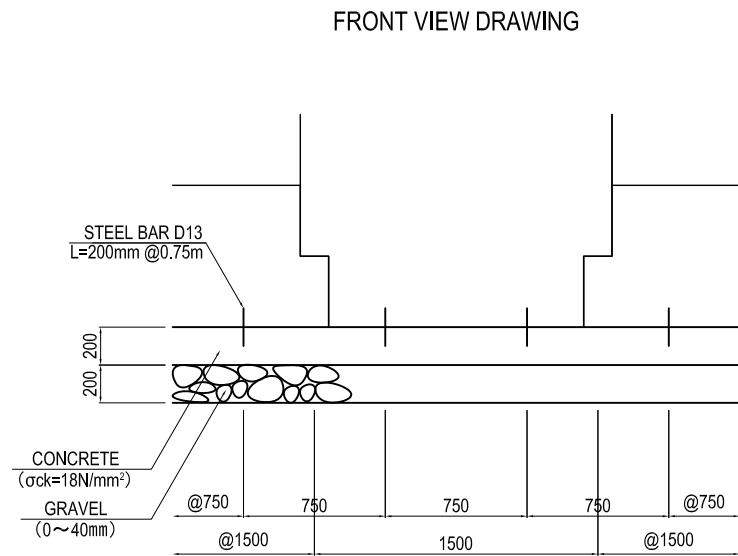
	NAME	SIGNATURE	DATE
PREPARED BY	J.TSUCHIYA		15 Jun. 2017
CHECKED BY	T. HAYAKAWA		20 Jun. 2017
APPROVED BY	Y. SANO		21 Jun. 2017

DRAWING TITLE  
DETAIL OF MECHANICALLY STABILISED EARTH WALL(2)

PACKAGE  
2  
DWG No.  
P2-RD-4120

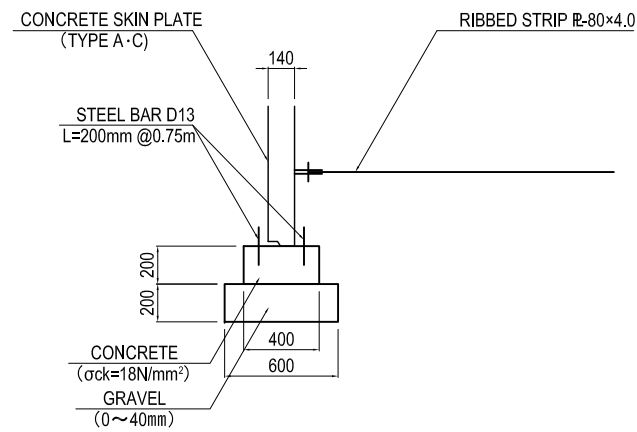
# DETAIL OF MECHANICALLY STABILISED EARTH WALL(3)

CONCRETE FOUNDATION DRAWING S=1:40



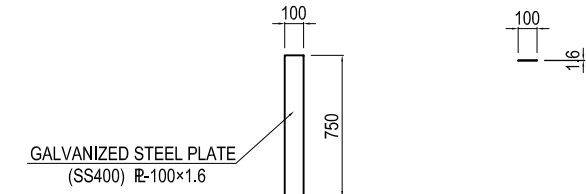
NOTE) 1. FOUNDATION WORK OF TOP FINISH:TROWEL FINISH

CROSS SECTION



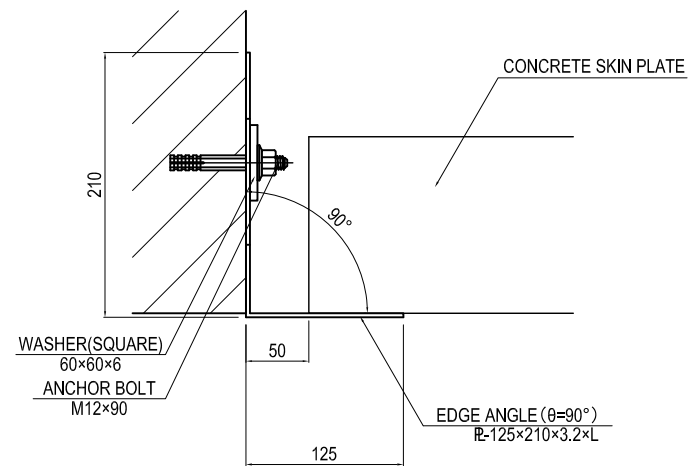
GALVANIZED STEEL PLATE S=1:40

FRONT VIEW DRAWING CROSS SECTION



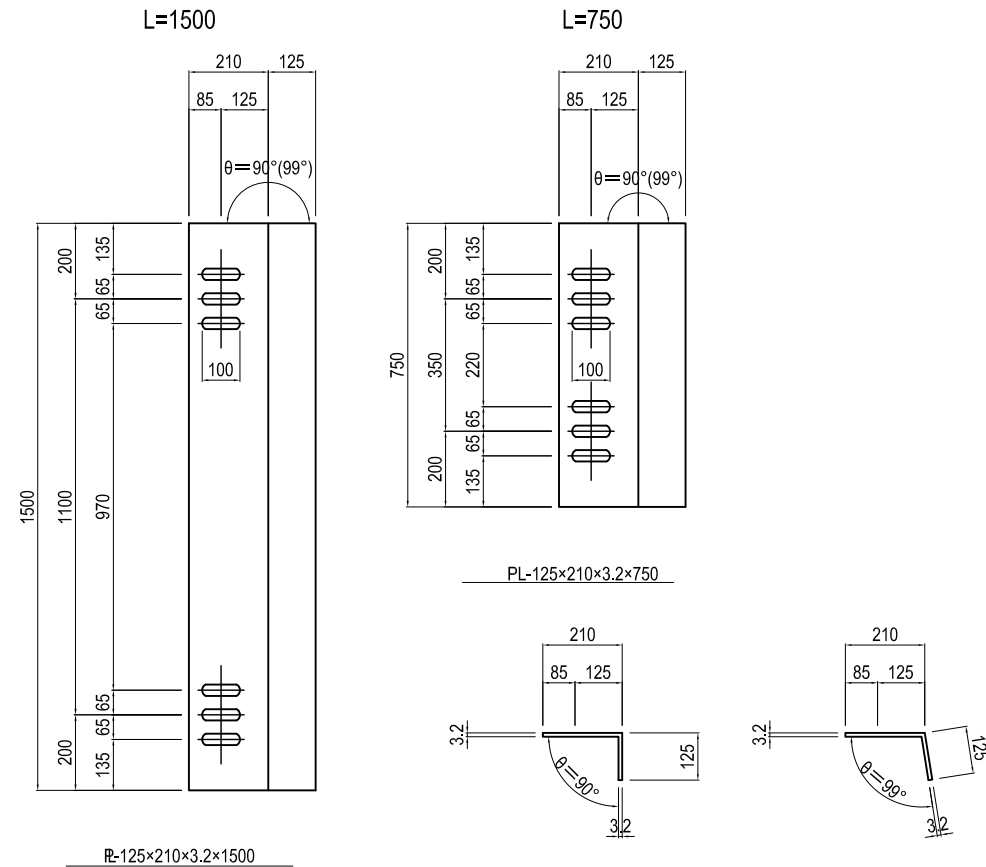
## EDGE DETAIL DRAWING

CROSS SECTION S=1:6



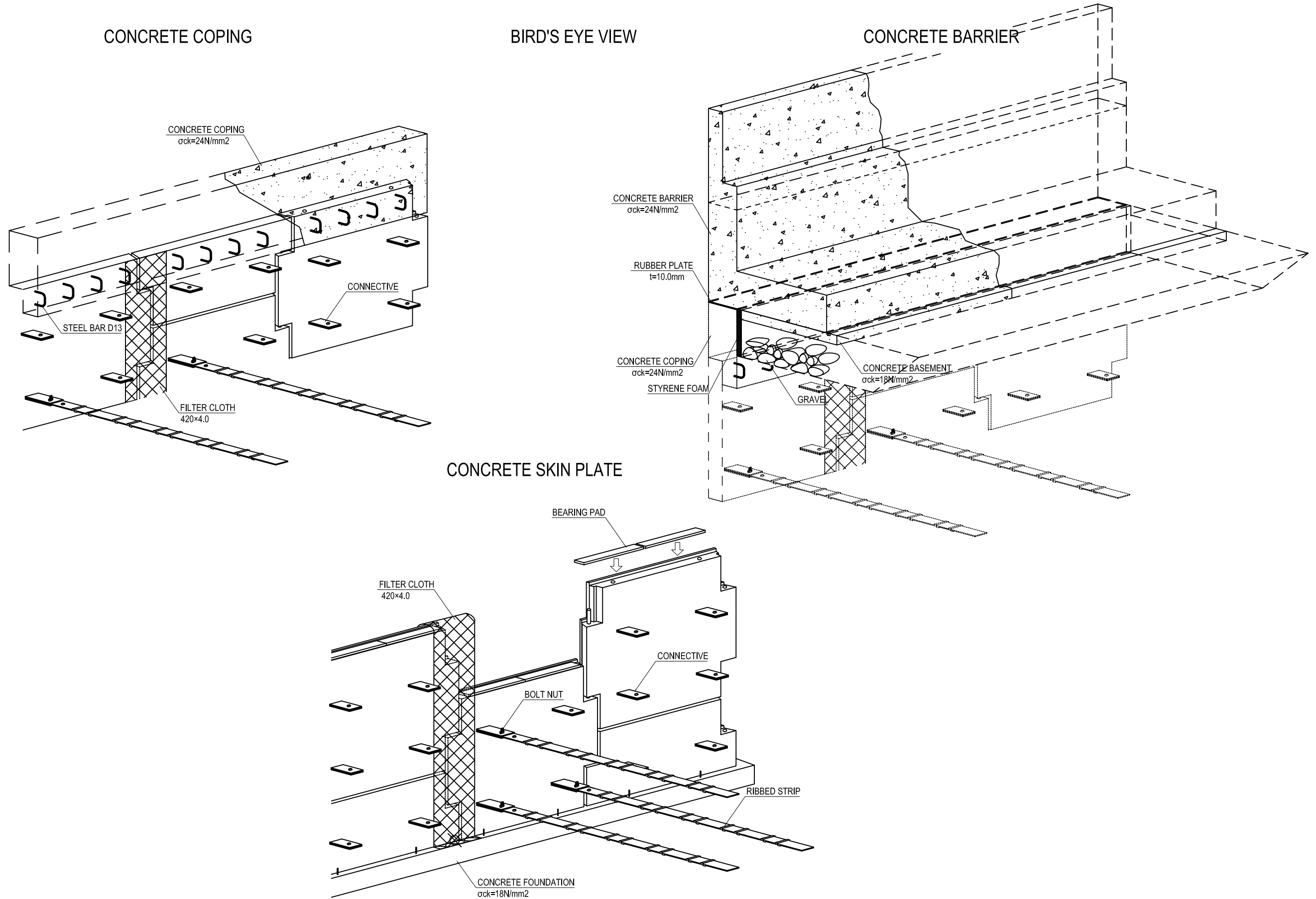
NOTE) 1. BOLT IT IS USED TWO PER ONE EDGE ANGLE

EDGE ANGLE BRACKET S=1:20



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.	J.TSUCHIYA	土屋 潤	15 Jun. 2017	DETAIL OF MECHANICALLY STABILISED EARTH WALL(3)	2
				T. HAYAKAWA	平川 知那	20 Jun. 2017		DWG No.
				Y. SANO	佐野 祐一	21 Jun. 2017		P2-RD-4130

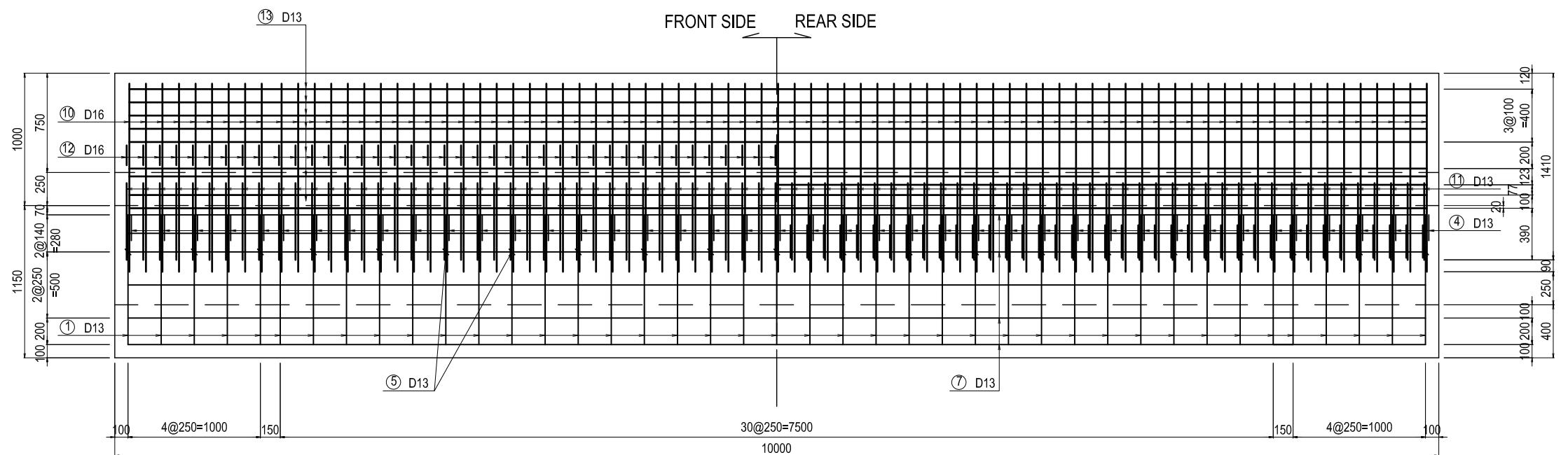
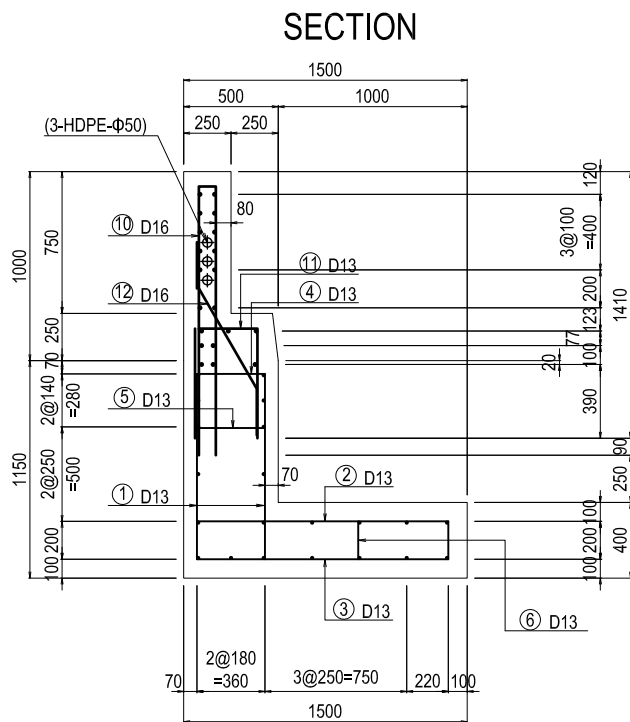
# DETAIL OF MECHANICALLY STABILISED EARTH WALL(4)



# HANDRAIL ON MECHANICALLY STABILISED EARTH WALL(1) S=1:40 (TYPE-1)

## BREST WALL

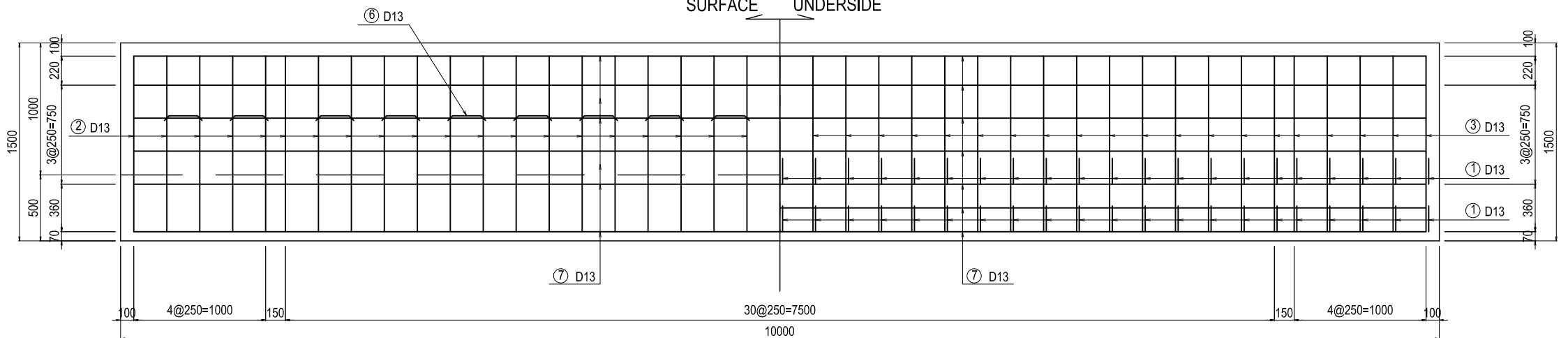
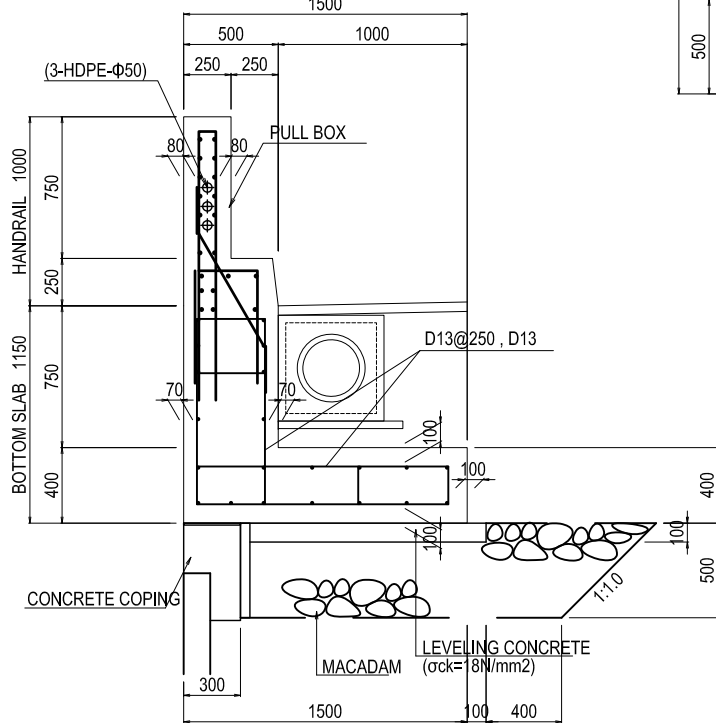
FRONT SIDE REAR SIDE



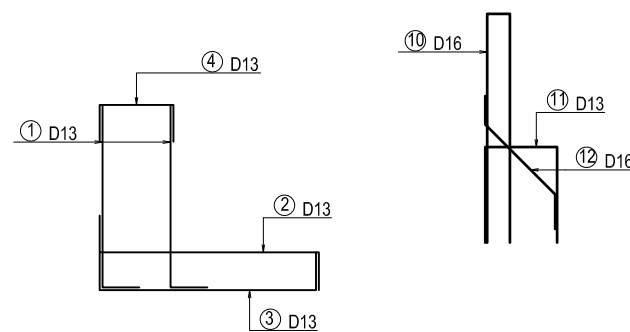
## BOTTOM SLAB

SURFACE UNDERSIDE

## SETTING



## BAR ASSEMBLING



PROJECT NAME  
DETAILED DESIGN ON  
BAGO RIVER BRIDGE  
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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

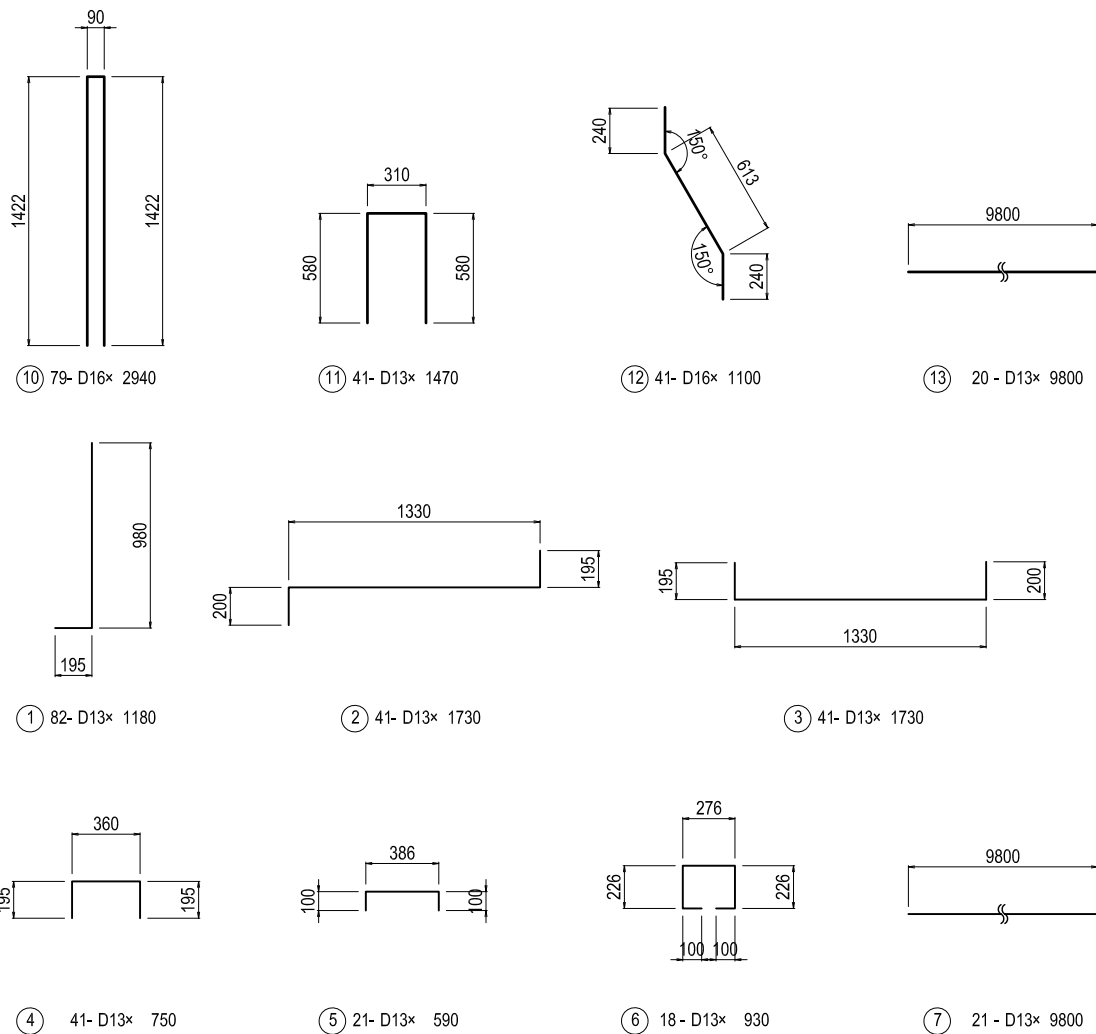
DRAWING TITLE  
HANDRAIL ON  
MECHANICALLY STABILISED EARTH WALL(1)

PACKAGE  
2  
DWG No.  
P2-RD-4150



# HANDRAIL ON MECHANICALLY STABILISED EARTH WALL(2) (TYPE-1)

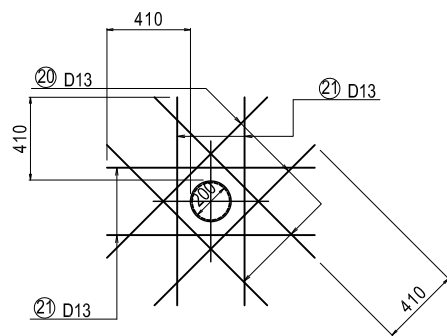
## BAR SCHEDULING



### LIST OF REINFORCEMENT (per10.0m)

NAME	DIAMETER	LENGTH (mm)	NUMBER (本)	UNIT WEIGHT (kg/m)	WEIGHT/BAR (kg)	WEIGHT (kg)	REMARKS
<b>HANDRAIL</b>							
10	D16	2940	79	1.560	4.59	363	
11	D13	1470	41	0.995	1.46	60	U
12	D16	1100	41	1.560	1.72	71	∩
13	D13	9800	20	0.995	9.75	195	—
<b>BOTTOM SLAB</b>							
1	D13	1180	82	0.995	1.17	96	└┘
2	D13	1730	41	0.995	1.72	71	└┘
3	D13	1730	41	0.995	1.72	71	└┘
4	D13	750	41	0.995	0.75	31	└┘
5	D13	590	21	0.995	0.59	12	└┘
6	D13	930	18	0.995	0.93	17	└┘
7	D13	9800	21	0.995	9.75	205	—
						D16	434 kg
						D13	758 kg
						total	1192 kg

### φ200 BOX WITHOUT REINFORCEMENT VIEW

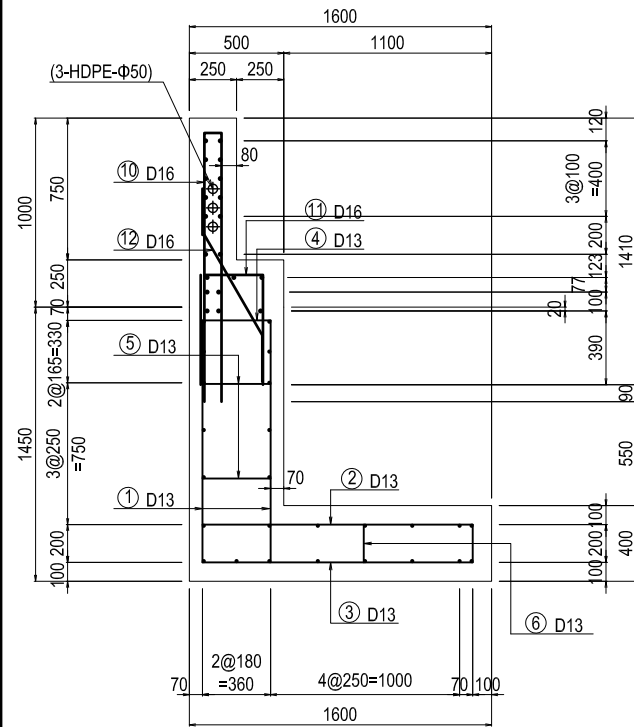


### LIST OF REINFORCEMENT (per 1 place)

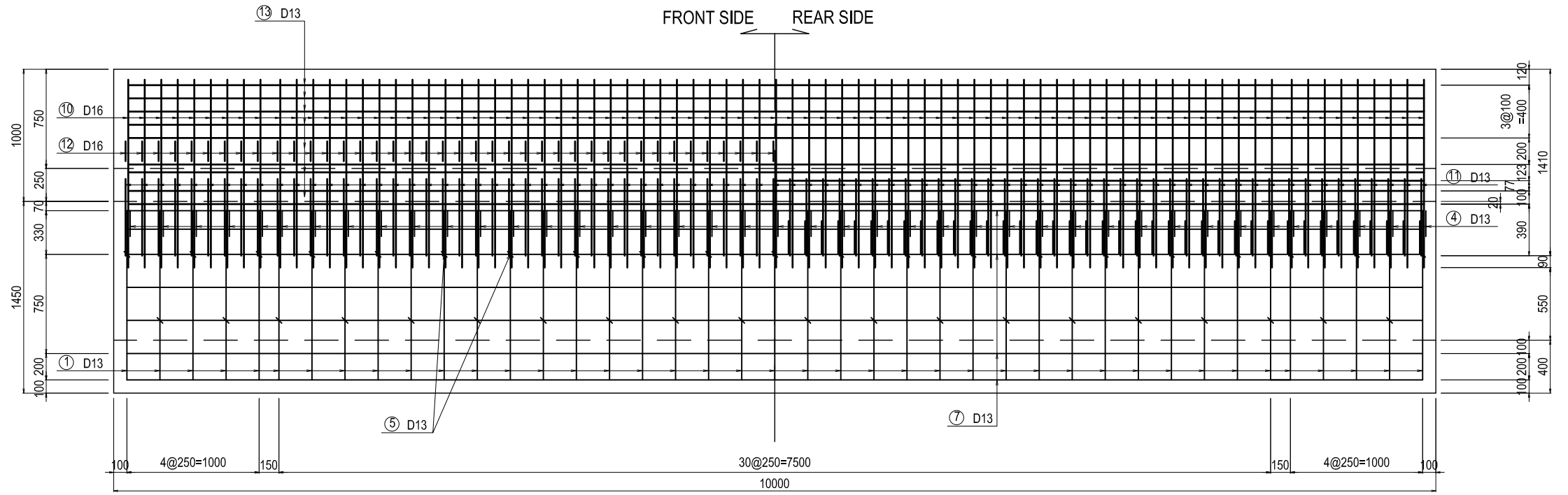
NAME	DIAMETER	LENGTH (mm)	NUMBER (nos.)	UNIT WEIGHT (kg/m)	WEIGHT/BAR (kg)	WEIGHT (kg)	REMARKS
<b>HANDRAIL</b>							
20	D13	1200	8	0.995	1.19	10	└┘
21	D13	1100	8	0.995	1.09	9	—
						D13	19 kg
						total	19 kg

# HANDRAIL ON MECHANICALLY STABILISED EARTH WALL(3) S=1:20 (TYPE-2) BREST WALL

## SECTION

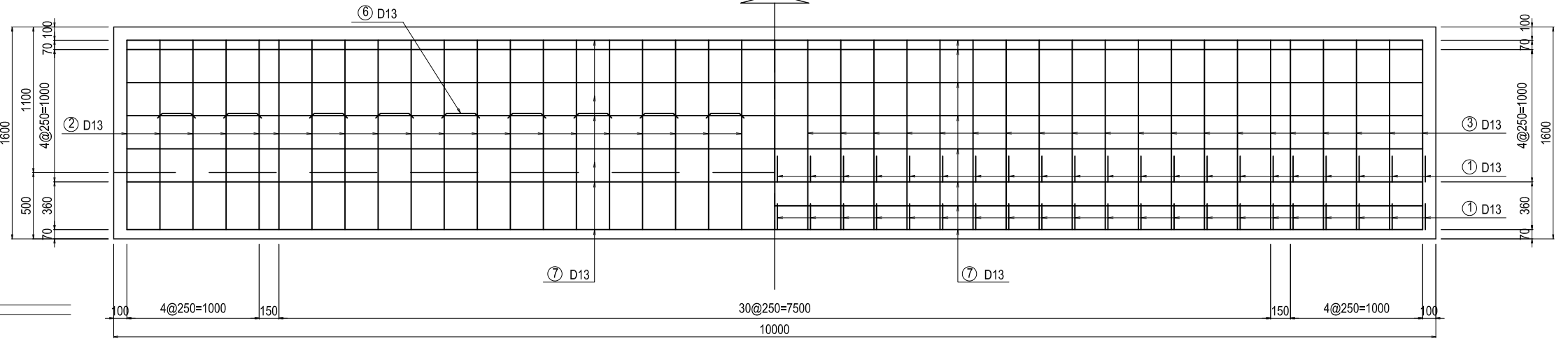


## FRONT SIDE REAR SIDE

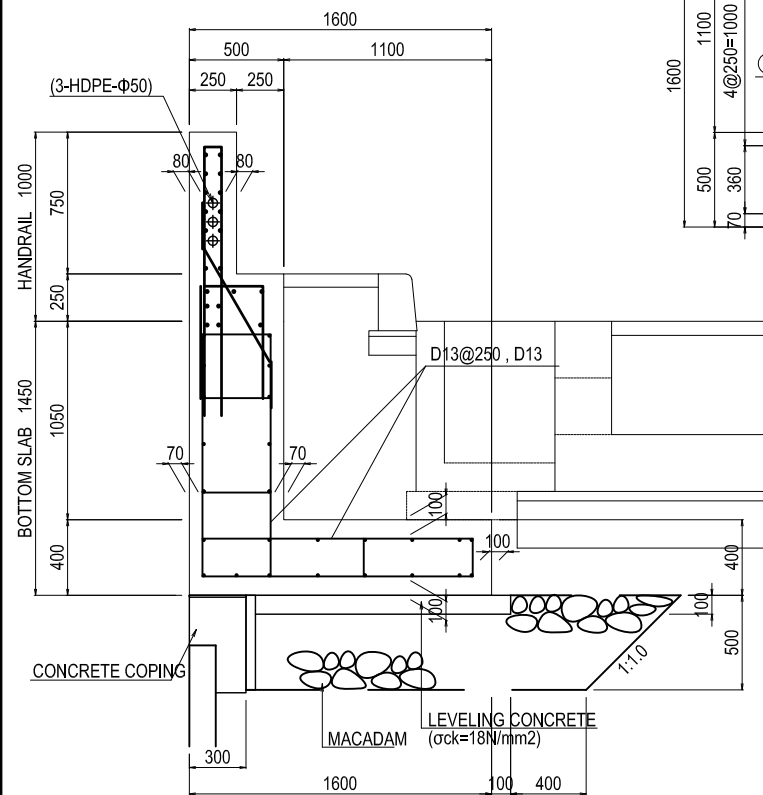


## BOTTOM SLAB

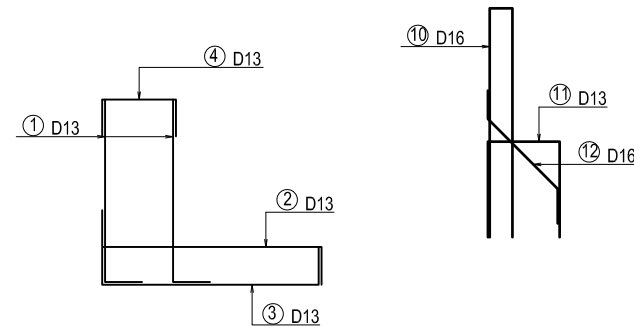
### SURFACE UNDERSIDE



## SETTING



## BAR ASSEMBLING



PROJECT NAME  
DETAILED DESIGN ON  
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METROPOLITAN EXPRESSWAY COMPANY LIMITED  
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NIPPON ENGINEERING CONSULTANTS CO., LTD.

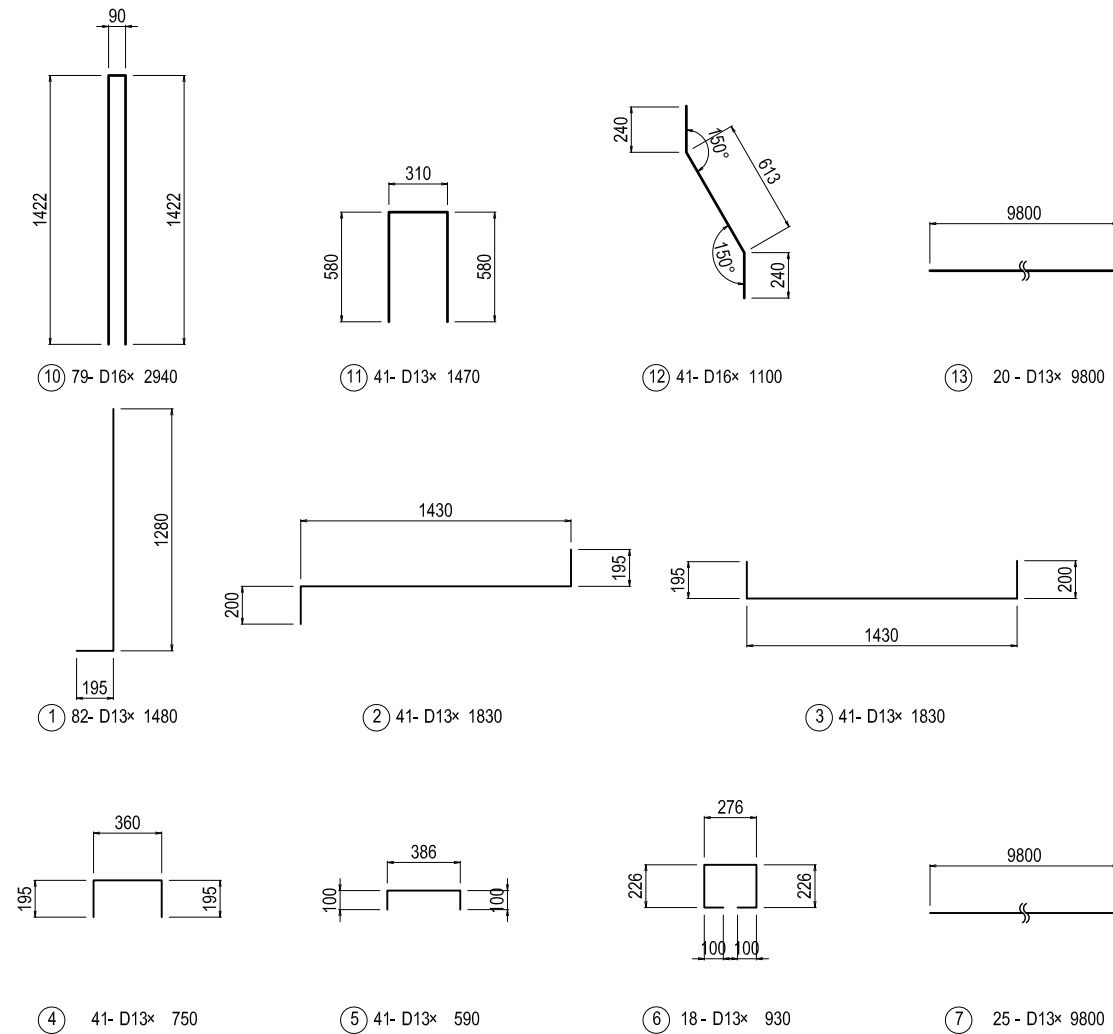
	NAME	SIGNATURE	DATE
PREPARED BY	J.TSUCHIYA	土屋 潤	15 Jun. 2017
CHECKED BY	T. HAYAKAWA	平川 知那	20 Jun. 2017
APPROVED BY	Y. SANO	佐野 祐一	21 Jun. 2017

DRAWING TITLE  
HANDRAIL ON  
MECHANICALLY STABILISED EARTH WALL(3)

PACKAGE  
2  
DWG No.  
P2-RD-4170

# HANDRAIL ON MECHANICALLY STABILISED EARTH WALL(4) (TYPE-2)

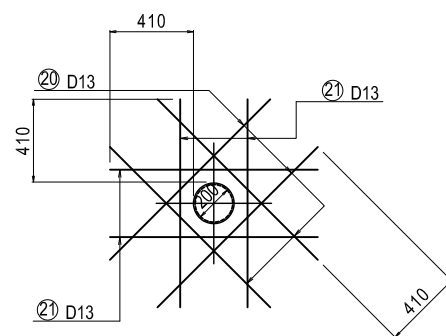
## BAR SCHEDULING



LIST OF REINFORCEMENT (per10.0m)

NAME	PIANETER	LENGTH (mm)	NUMBER (nos.)	UNIT WEIGHT (kg/m)	WEIGHT/BAR (kg)	WEIGHT (kg)	REMARKS
<b>HANDRAIL</b>							
10	D16	2940	79	1.560	4.59	363	
11	D13	1470	41	0.995	1.46	60	□
12	D16	1100	41	1.560	1.72	71	~
13	D13	9800	20	0.995	9.75	195	—
<b>BOTTOM SLAB</b>							
1	D13	1480	82	0.995	1.47	121	┘
2	D13	1830	41	0.995	1.82	75	┘
3	D13	1830	41	0.995	1.82	75	┘
4	D13	750	41	0.995	0.75	31	□
5	D13	590	41	0.995	0.59	24	□
6	D13	930	18	0.995	0.93	17	□
7	D13	9800	25	0.995	9.75	244	—
						D16	434 kg
						D13	842 kg
						total	1276 kg

### φ200 BOX WITHOUT REINFORCEMENT VIEW

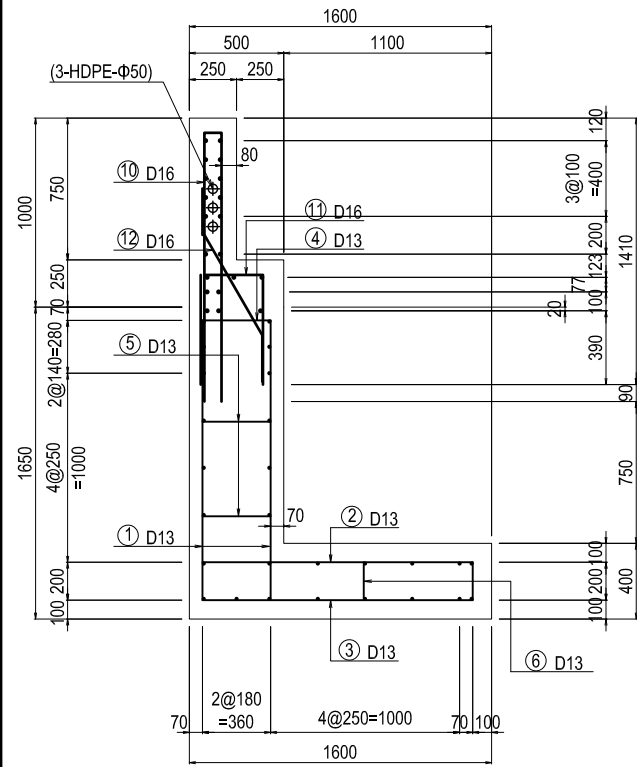


LIST OF REINFORCEMENT (per 1 place)

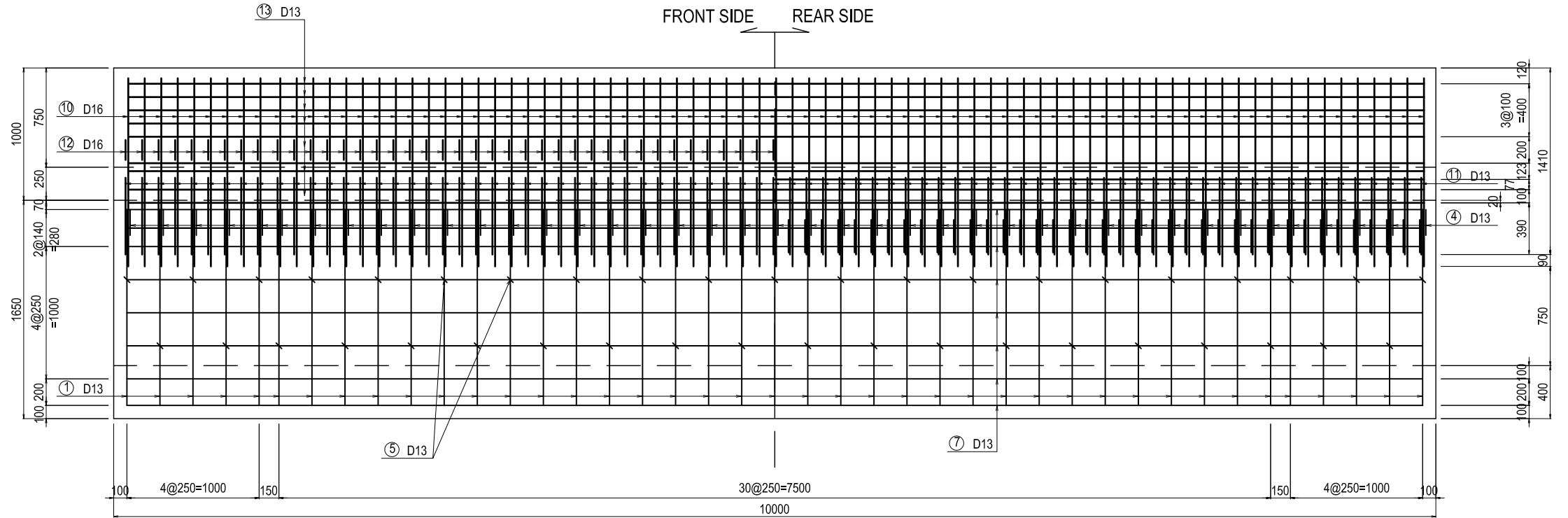
NAME	PIANETER	LENGTH (mm)	NUMBER (nos.)	UNIT WEIGHT (kg/m)	WEIGHT/BAR (kg)	WEIGHT (kg)	REMARKS
<b>HANDRAIL</b>							
20	D13	1200	8	0.995	1.19	10	┘
21	D13	1100	8	0.995	1.09	9	—
						D13	19 kg
						total	19 kg

# HANDRAIL ON MECHANICALLY STABILISED EARTH WALL(5) S=1:20 (TYPE-3) BREST WALL

## SECTION

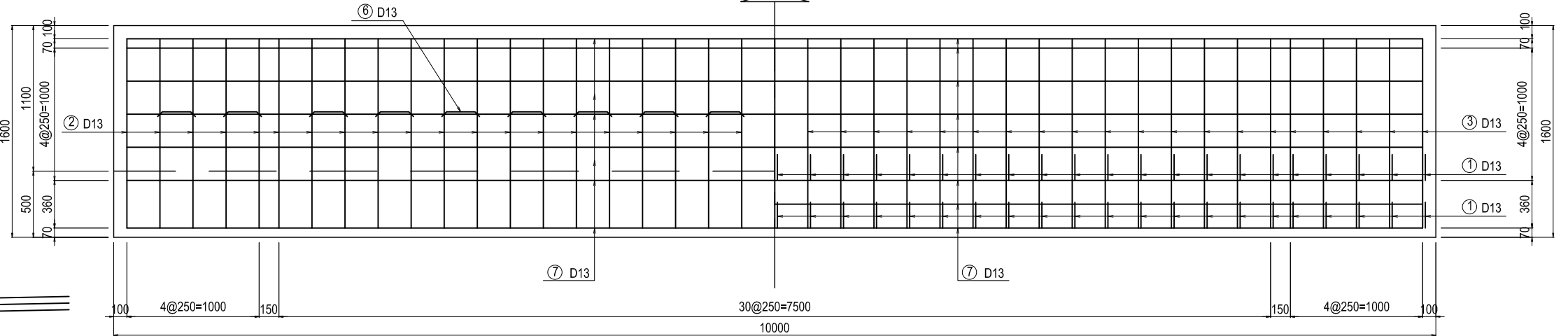


## FRONT SIDE REAR SIDE

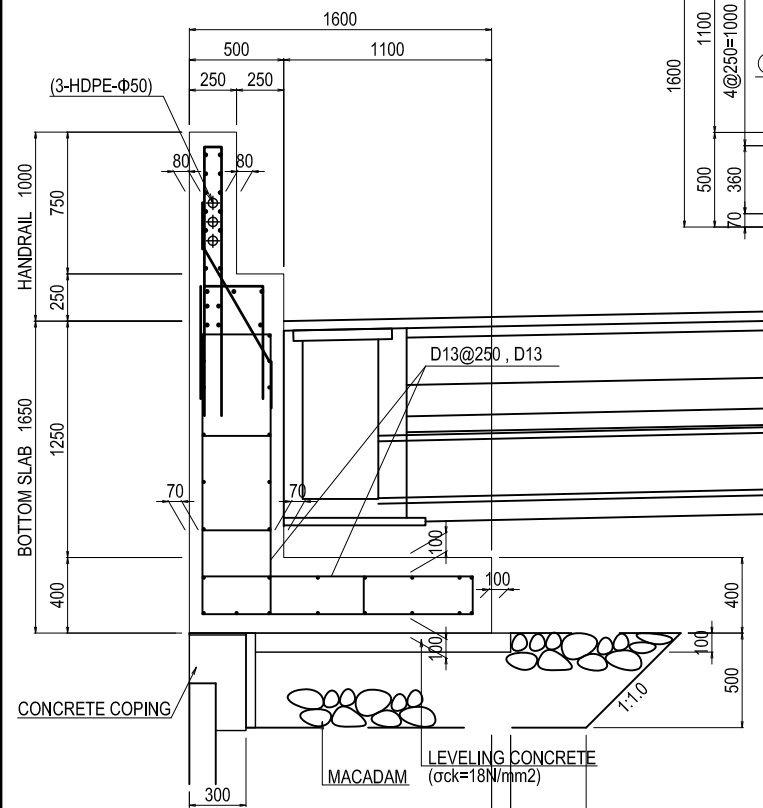


## BOTTOM SLAB

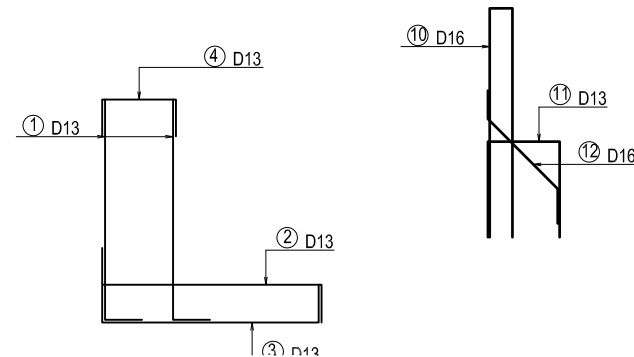
### SURFACE UNDERSIDE



## SETTING



## BAR ASSEMBLING



PROJECT NAME  
DETAILED DESIGN ON  
BAGO RIVER BRIDGE  
CONSTRUCTION PROJECT

FINANCED BY  
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COOPERATION AGENCY

COUNTERPART  
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NIPPON ENGINEERING CONSULTANTS CO., LTD.

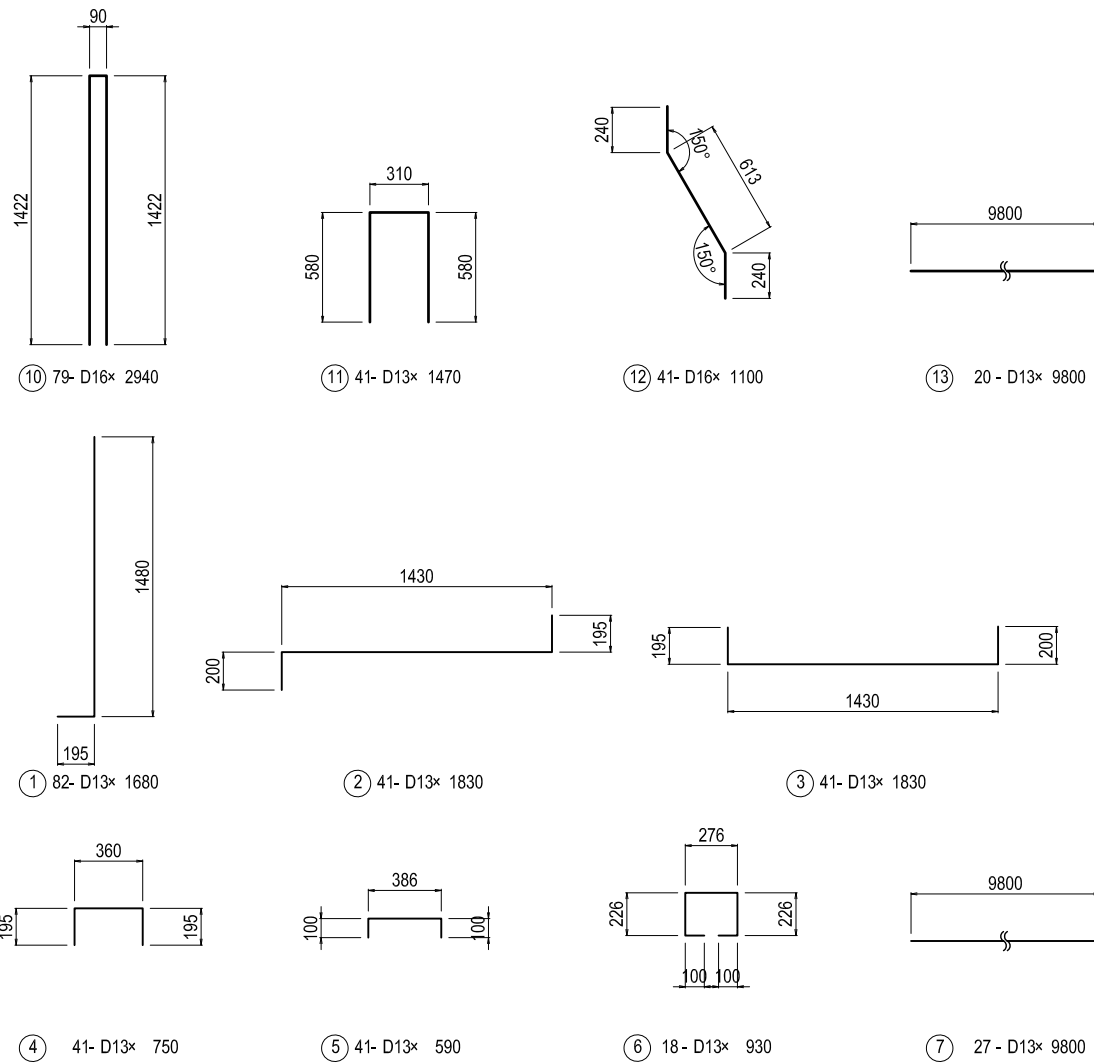
	NAME	SIGNATURE	DATE
PREPARED BY	J.TSUCHIYA		15 Jun. 2017
CHECKED BY	T. HAYAKAWA		20 Jun. 2017
APPROVED BY	Y. SANO		21 Jun. 2017

DRAWING TITLE  
HANDRAIL ON  
MECHANICALLY STABILISED EARTH WALL(5)

PACKAGE  
2  
DWG No.  
P2-RD-4190

# HANDRAIL ON MECHANICALLY STABILISED EARTH WALL(6) (TYPE-3)

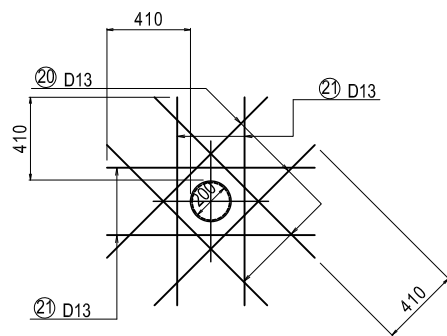
## BAR SCHEDULING



LIST OF REINFORCEMENT (per10.0m)

NAME	PIANETER	LENGTH (mm)	NUMBER (nos.)	UNIT WEIGHT (kg/m)	WEIGHT/BAR (kg)	WEIGHT (kg)	REMARKS
<b>HANDRAIL</b>							
10	D16	2940	79	1.560	4.59	363	
11	D13	1470	41	0.995	1.46	60	□
12	D16	1100	41	1.560	1.72	71	∩
13	D13	9800	20	0.995	9.75	195	—
<b>BOTTOM SLAB</b>							
1	D13	1680	82	0.995	1.67	137	┘
2	D13	1830	41	0.995	1.82	75	┘
3	D13	1830	41	0.995	1.82	75	┘
4	D13	750	41	0.995	0.75	31	┘
5	D13	590	41	0.995	0.59	24	┘
6	D13	930	18	0.995	0.93	17	□
7	D13	9800	27	0.995	9.75	263	—
						D16	434 kg
						D13	877 kg
						total	1311 kg

## φ200 BOX WITHOUT REINFORCEMENT VIEW



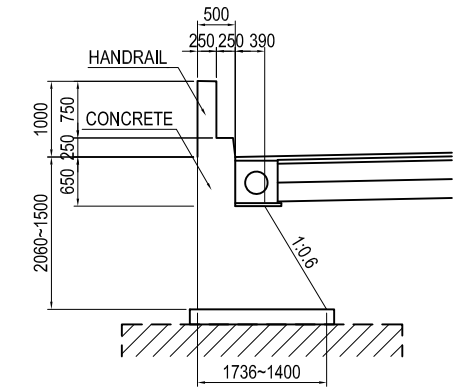
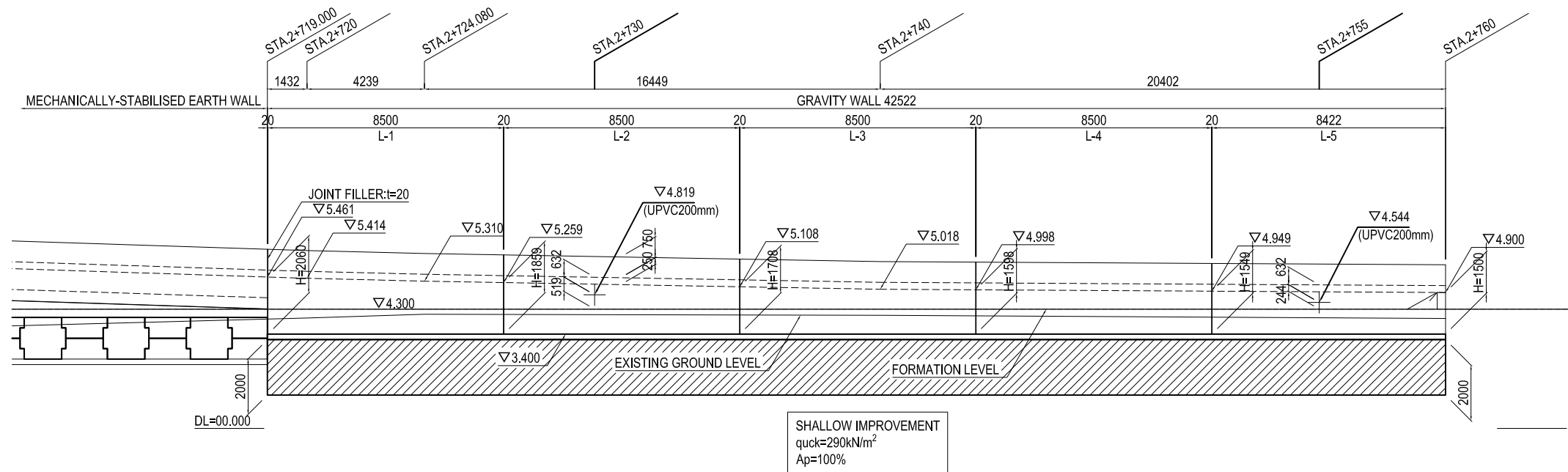
LIST OF REINFORCEMENT (per 1 place)

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

# GRAVITY WALL(1)

LEFT SIDE(DEVELOP FROM BACK SIDE) S=1:200  
Toll Plaza~Approach road(STA.2+720~2+760)

FIGURE OF CROSS SECTION S=1:50

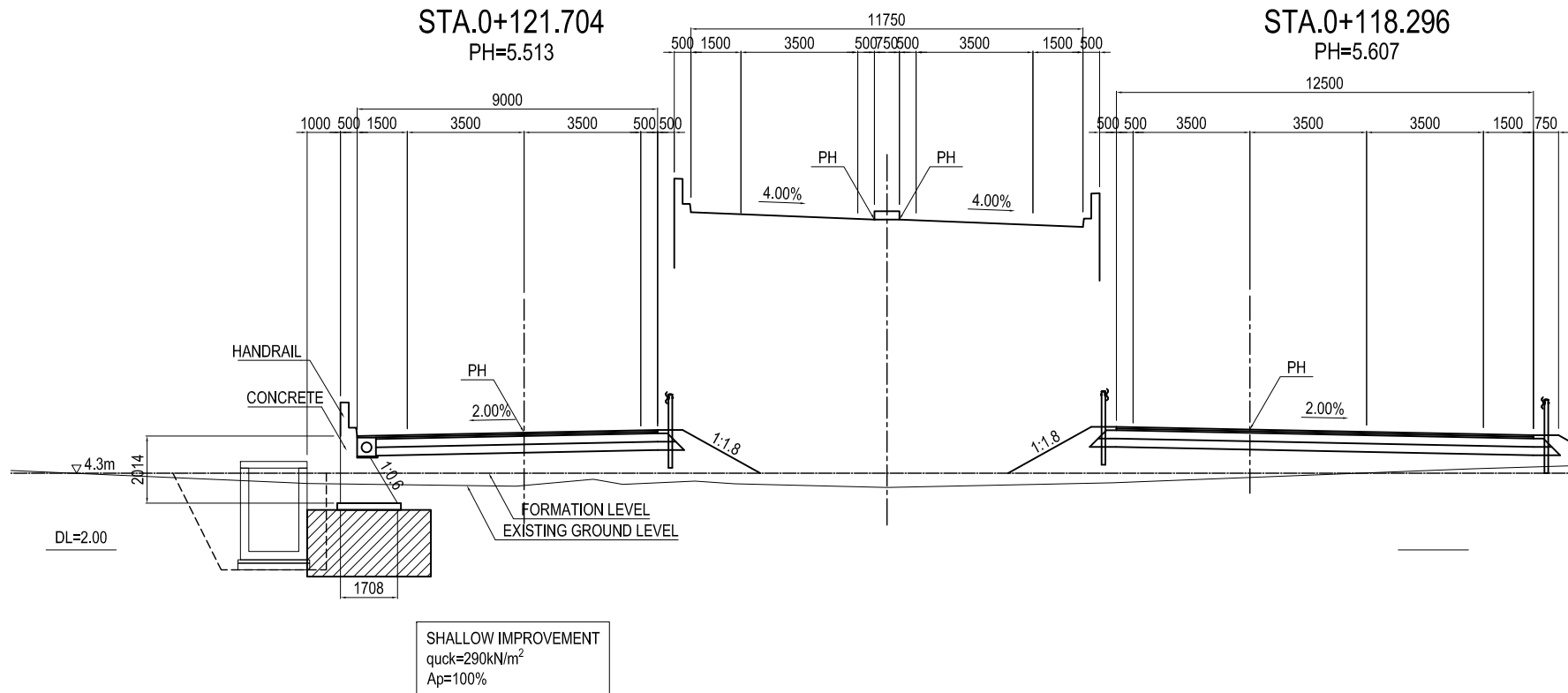


CROSS SECTION S=1:200

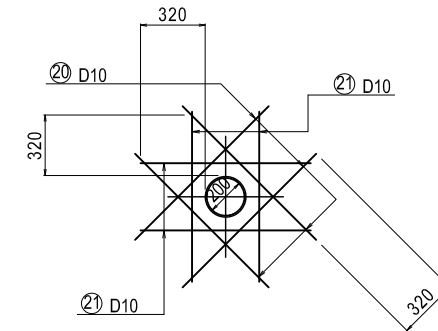
STA.2+720  
GH=3.87  
PH=11.900

STA.0+121.704  
PH=5.513

STA.0+118.296  
PH=5.607



φ200 BOX WITHOUT REINFORCEMENT VIEW



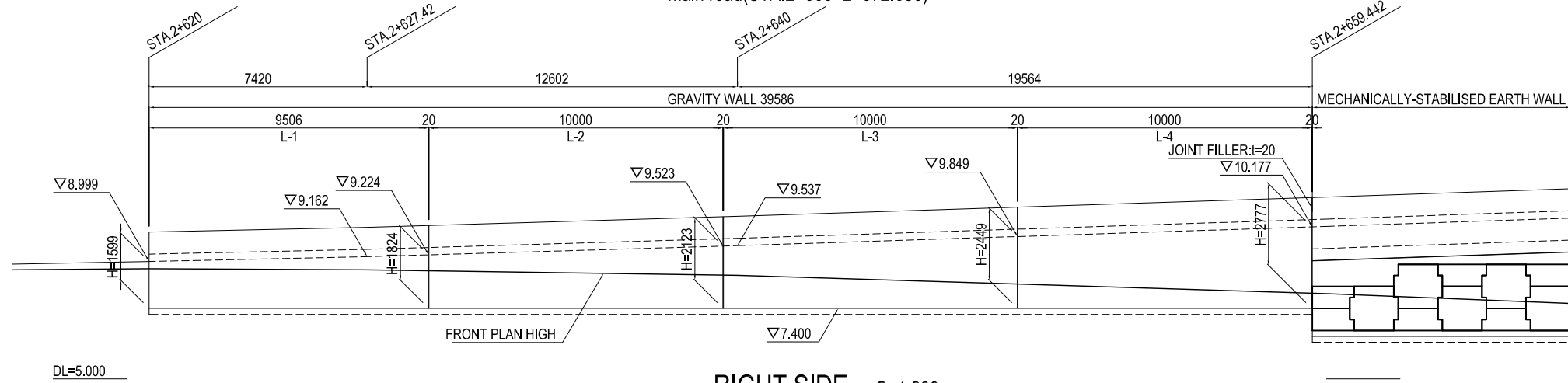
LIST OF REINFORCEMENT (per 1 place)

NAME	PIANETER	LENGTH (mm)	NUMBER (nos.)	UNIT WEIGHT (kg/m)	WEIGHT/BAR (kg)	WEIGHT (kg)	REMARKS
HANDRAIL							
20	D10	1000	8	0.560	0.56	4	
21	D10	900	8	0.560	0.50	4	
						D13	8 kg
						total	8 kg

# GRAVITY WALL(2)

## LEFT SIDE(DEVELOP FROM BACK SIDE) S=1:200

Main road(STA.2+600~2+672.686)



## RIGHT SIDE S=1:200

Main road(STA.2+600~2+672.314)

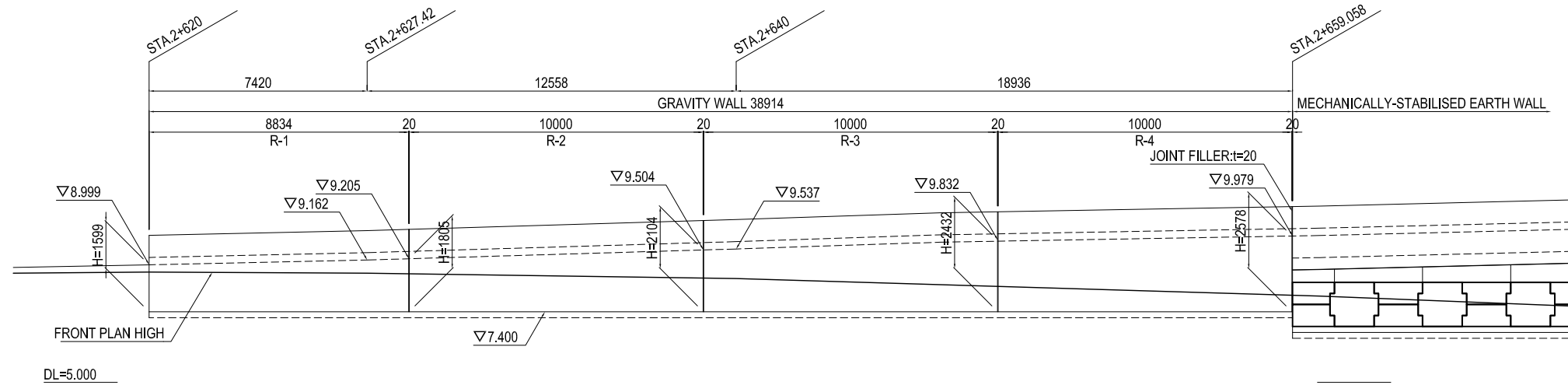
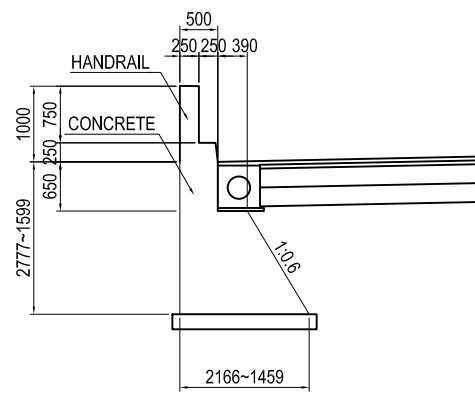
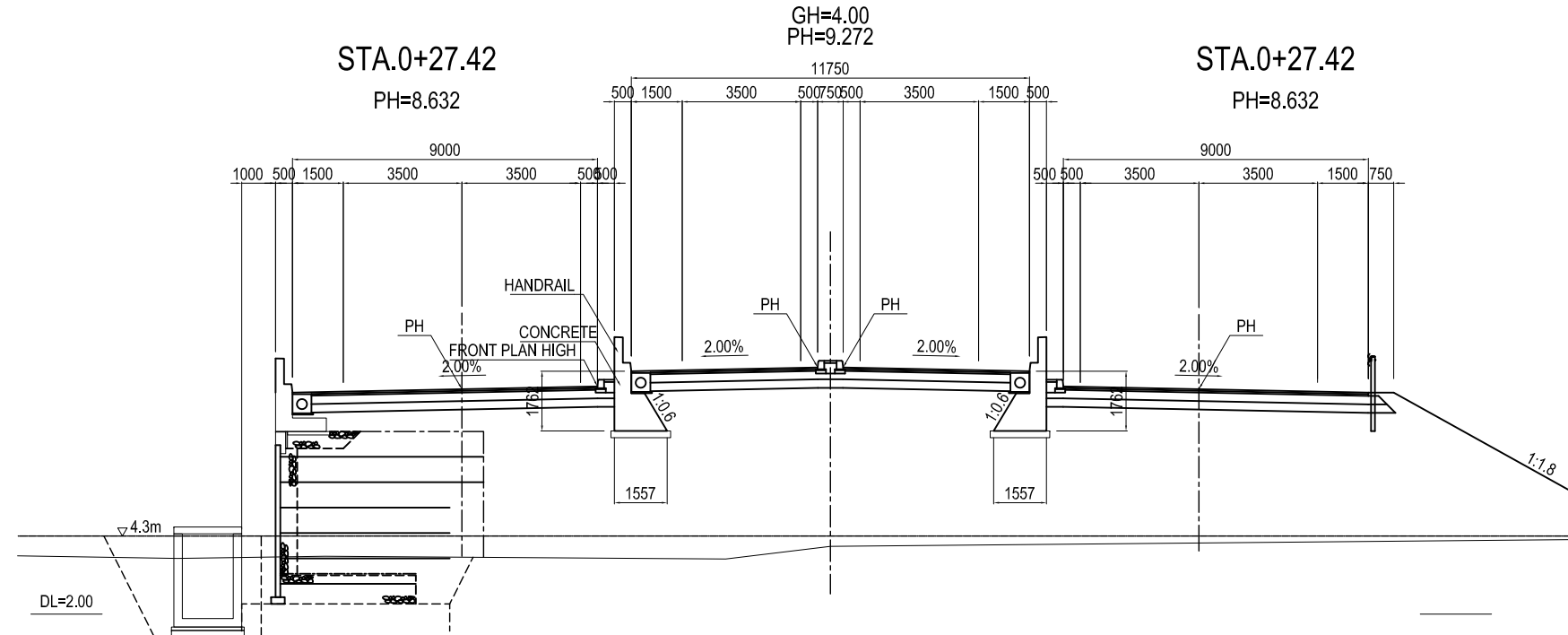


FIGURE OF CROSS SECTION S=1:50



## CROSS SECTION S=1:200

STA.2+627.42



PROJECT NAME  
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 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

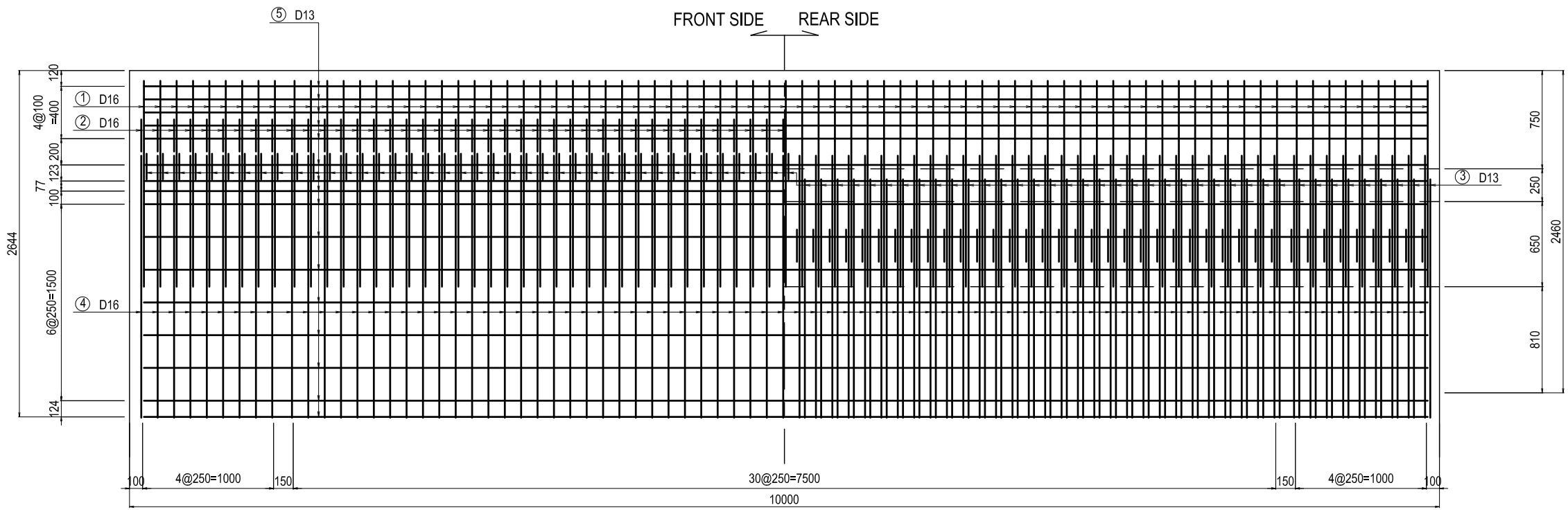
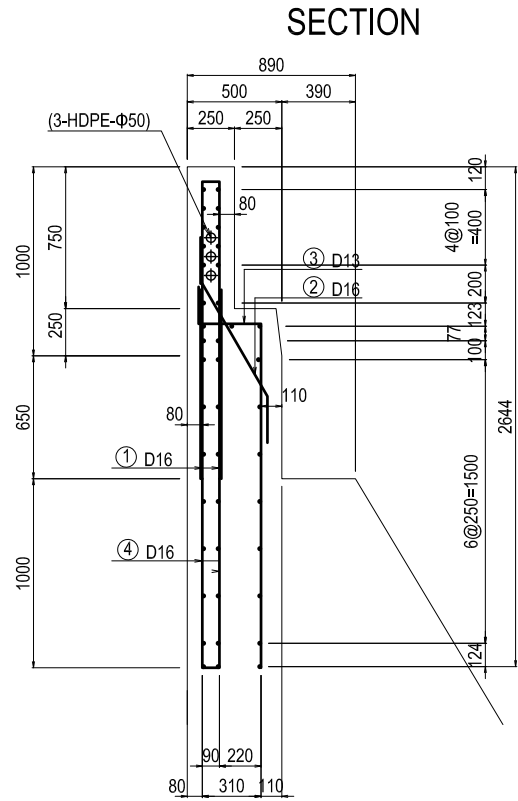
DRAWING TITLE  
GRAVITY WALL(2)

PACKAGE  
2  
DWG No.  
P2-RD-4220

# HANDRAIL ON GRAVITY WALL S=1:40

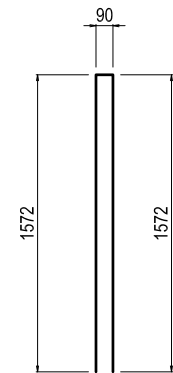
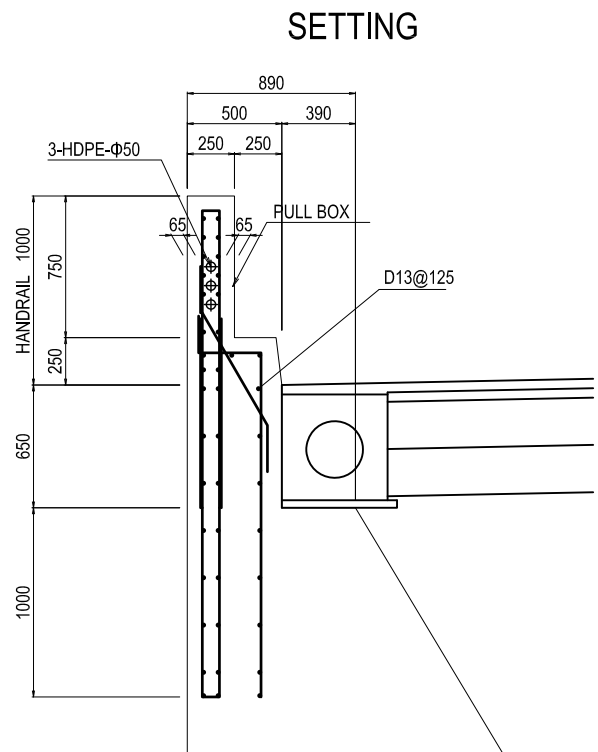
## BREST WALL

FRONT SIDE REAR SIDE

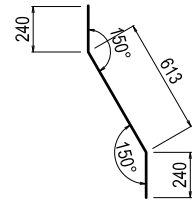


BAR SCHEDULING

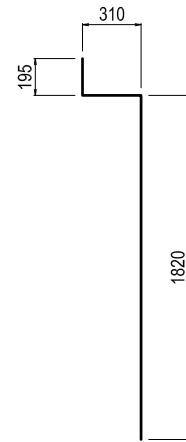
BAR ASSEMBLING



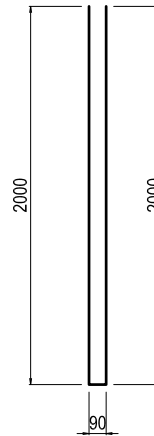
① 79- D16 x 3240



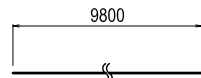
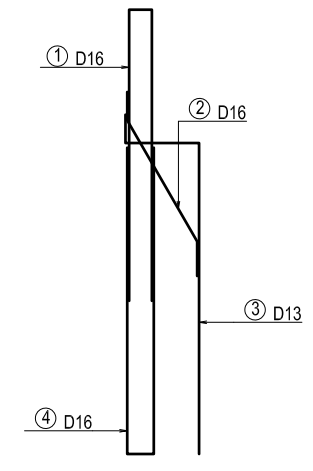
② 79- D16 x 1100



③ 79- D13 x 2330



④ 79- D16 x 4090



⑤ 41- D13 x 9800

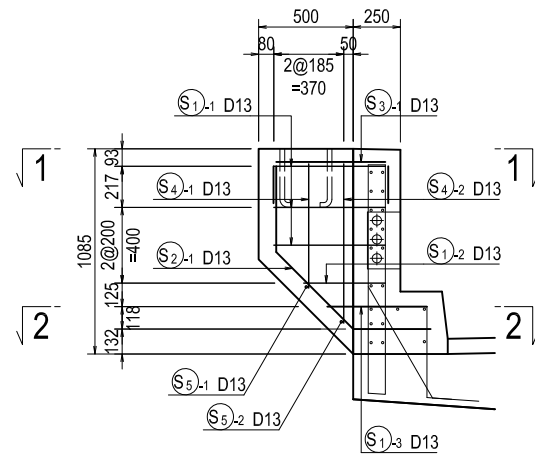
LIST OF REINFORCEMENT (per10.0m)

NAME	DIAMETER	LENGTH (mm)	NUMBER (本)	UNIT WEIGHT (kg/m)	WEIGHT/BAR (kg)	WEIGHT (kg)	REMARKS
HANDRAIL							
1	D16	3240	79	1.560	5.05	399	
2	D16	1100	79	1.560	1.72	136	
3	D13	2330	79	0.995	2.32	183	
4	D16	4090	79	1.560	6.33	500	
5	D13	9800	41	0.995	9.75	400	
						D16	1035 kg
						D13	583 kg
total						1618	kg

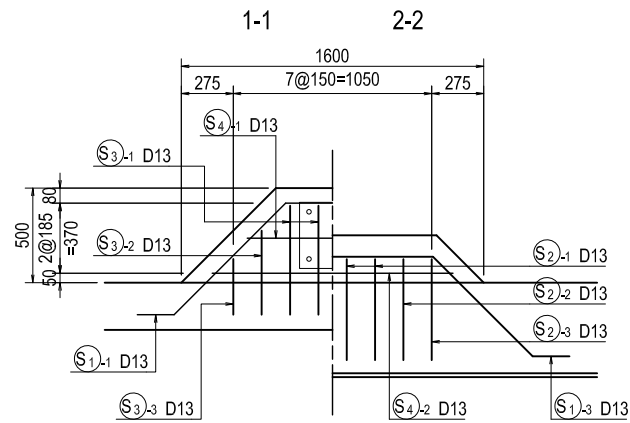


# DETAIL OF LIGHTING FOUNDATION

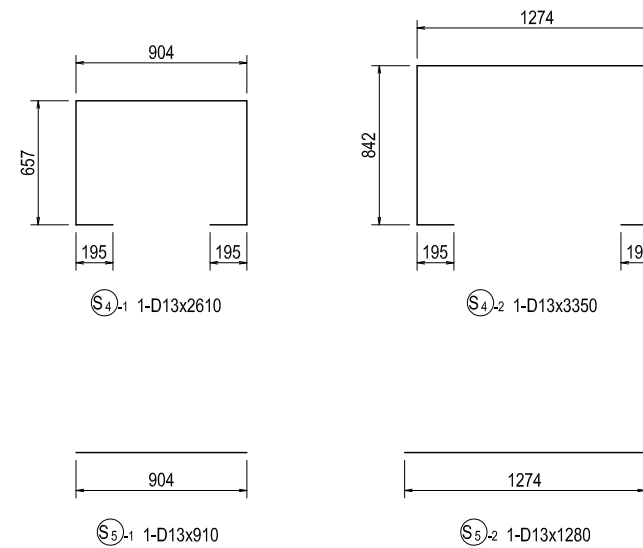
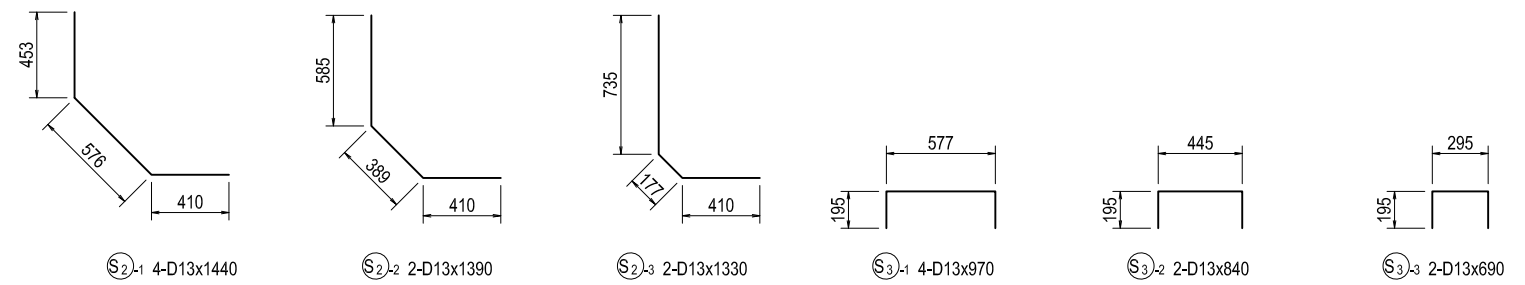
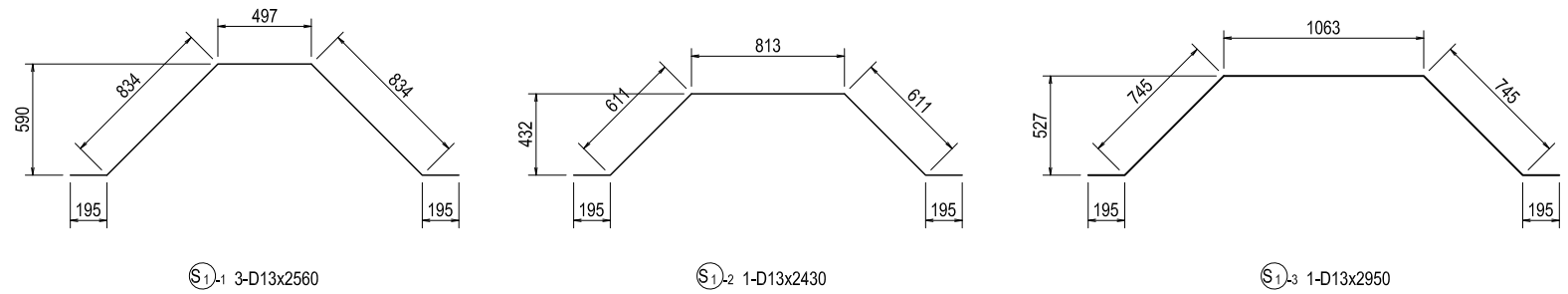
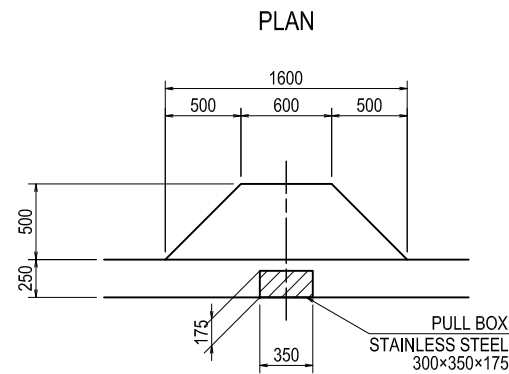
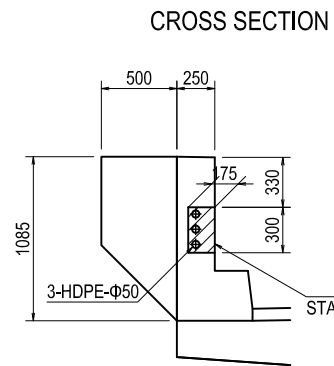
**CROSS SECTION S=1:40**



**PLAN S=1:40**



**PULLBOX DETAIL S=1:50**

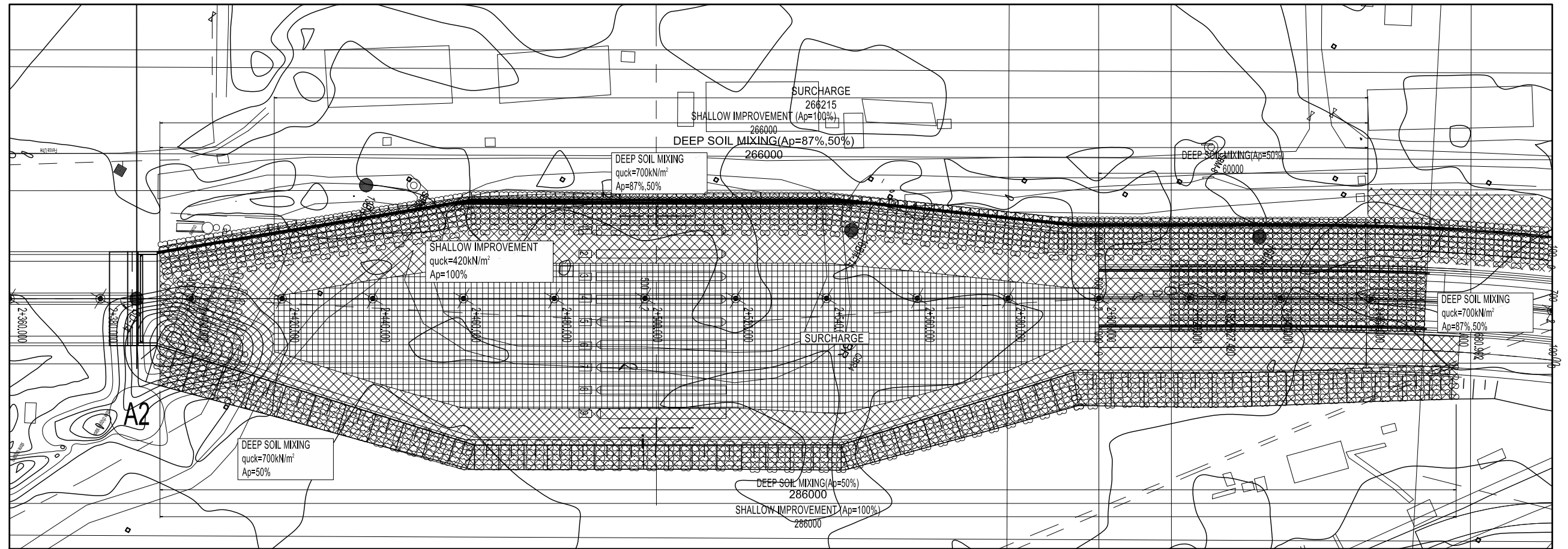


**BAR LIST**

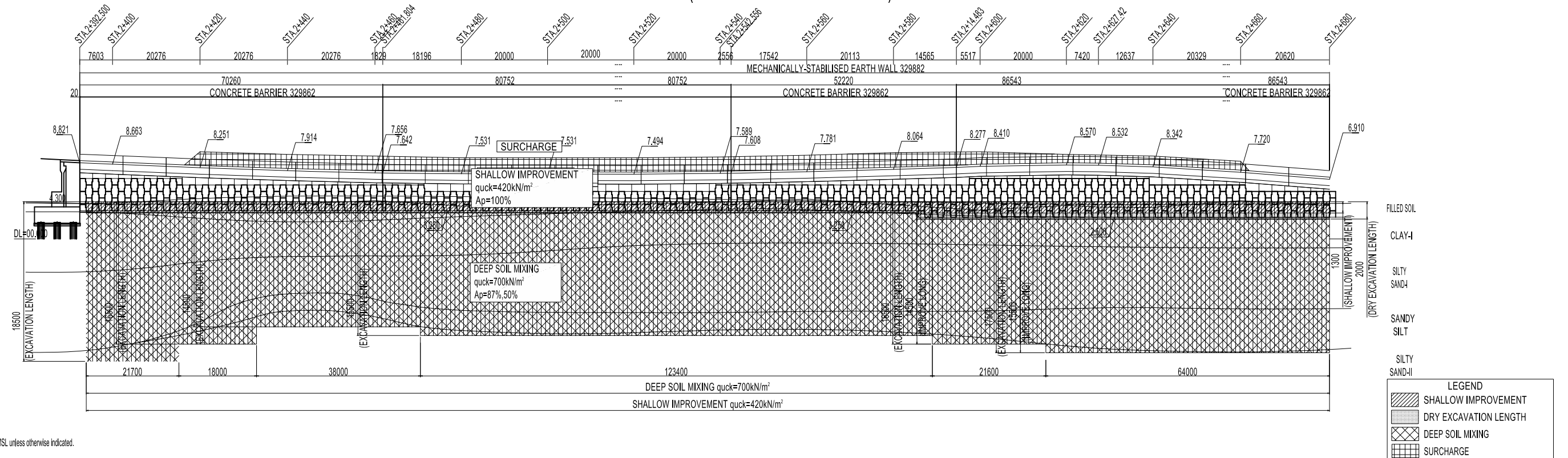
REBAR NO.	DIA (mm)	LENGTH (mm)	NUMBER	UNIT WEIGHT (kg/m)	WEIGHT/ONE (kg)	WEIGHT (kg)	REMARKS
S 1 -1	D13	2560	3	0.995	2.55	8	
S 1 -2	D13	2430	1	0.995	2.42	2	
S 1 -3	D13	2950	1	0.995	2.94	3	
S 2 -1	D13	1440	4	0.995	1.43	6	
S 2 -2	D13	1390	2	0.995	1.38	3	
S 2 -3	D13	1330	2	0.995	1.32	3	
S 3 -1	D13	970	4	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	

# SOFT SOIL IMPROVEMENT MEASURES(1) PLAN

S=1:1000



## PROFILE V=1:500 H=1:1000 LEFT SIDE(Develop FROM BACK SIDE)

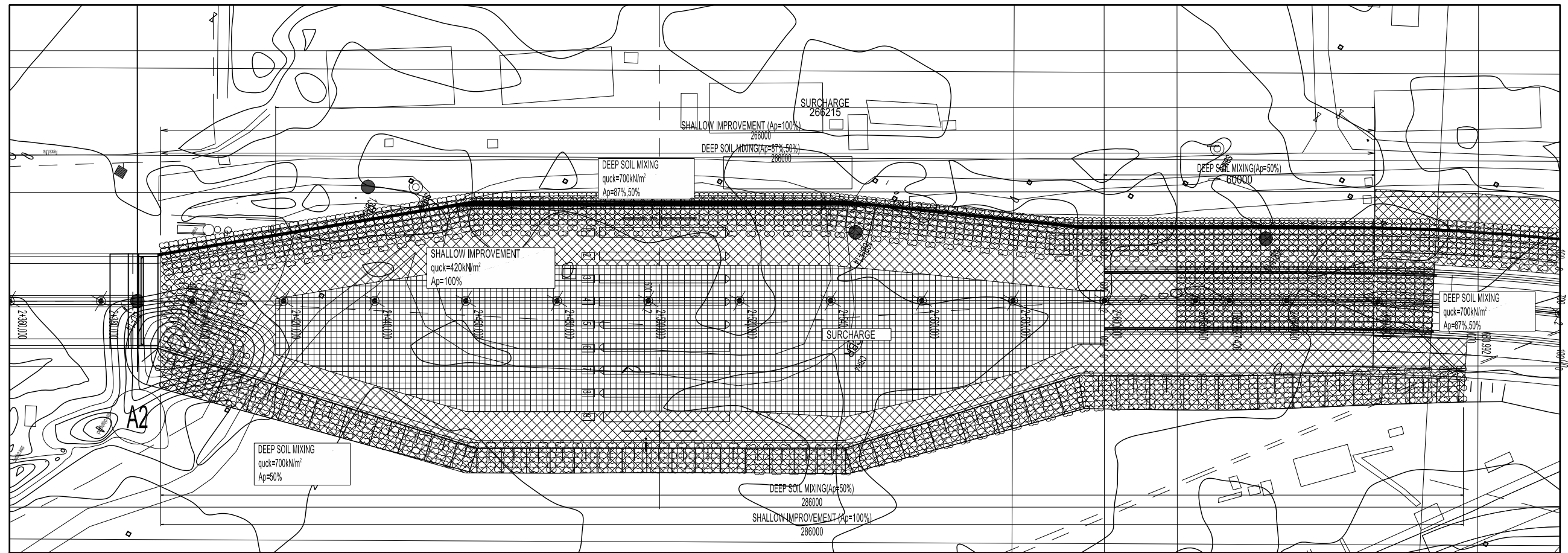


Elevation represents above MSL, unless otherwise indicated.

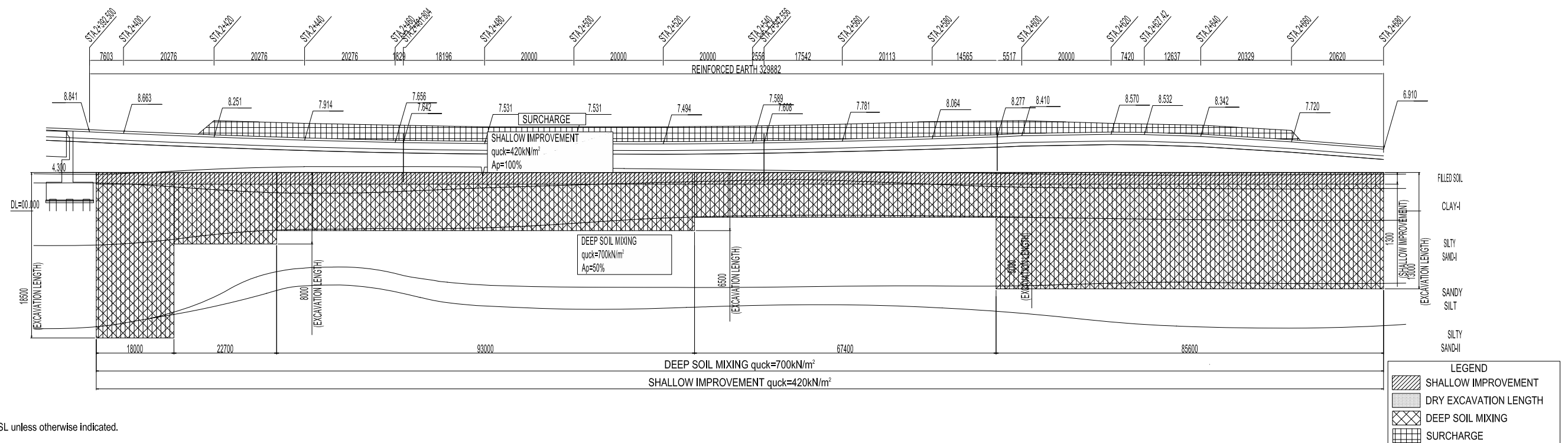
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME 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 SOFT SOIL IMPROVEMENT MEASURES(1)	PACKAGE 2 DWG No. P2-RD-5000
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# SOFT SOIL IMPROVEMENT MEASURES(2)

PLAN S=1:1000



PROFILE RIGHT SIDE  
V=1:500  
H=1:1000

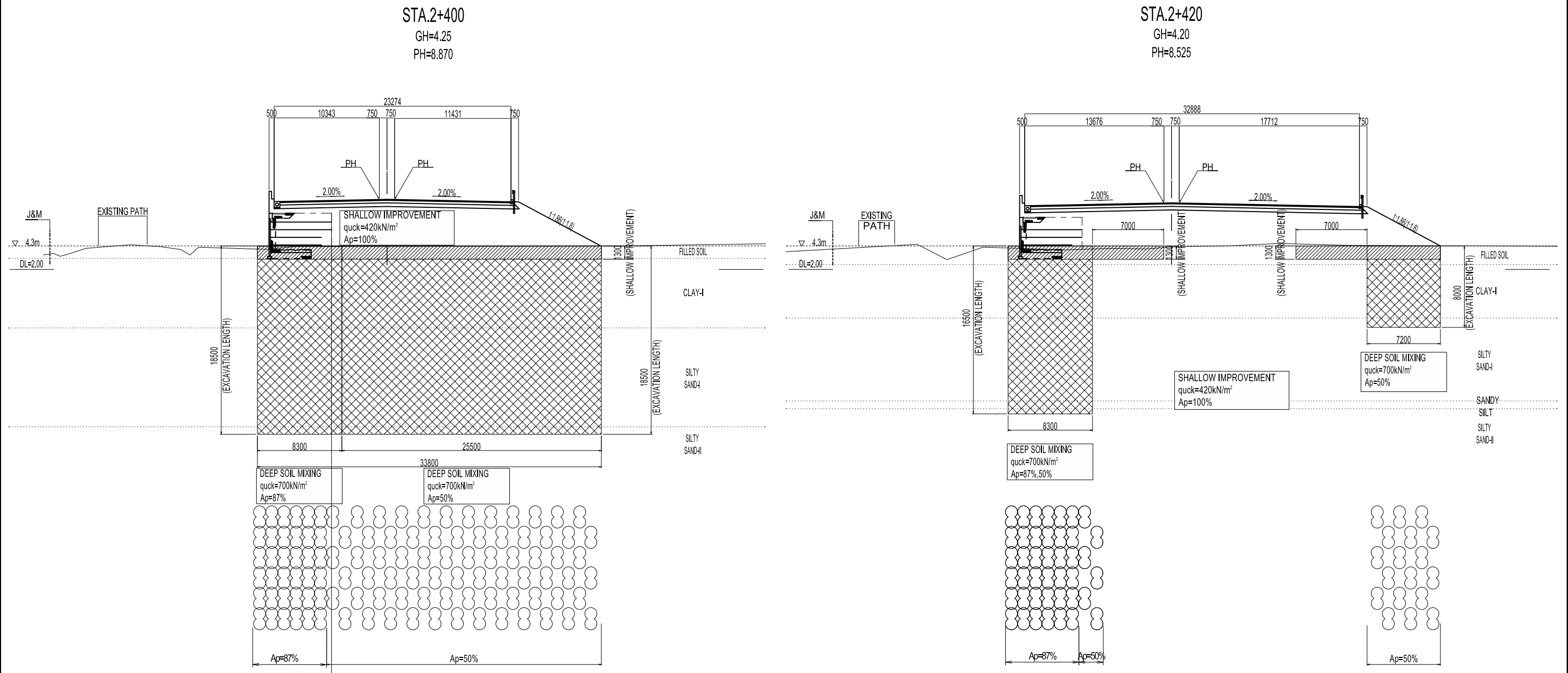


Elevation represents above MSL unless otherwise indicated.

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 SOFT SOIL IMPROVEMENT MEASURES(2)	PACKAGE 2 DWG No. P2-RD-5010
				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(1)

S=1:400



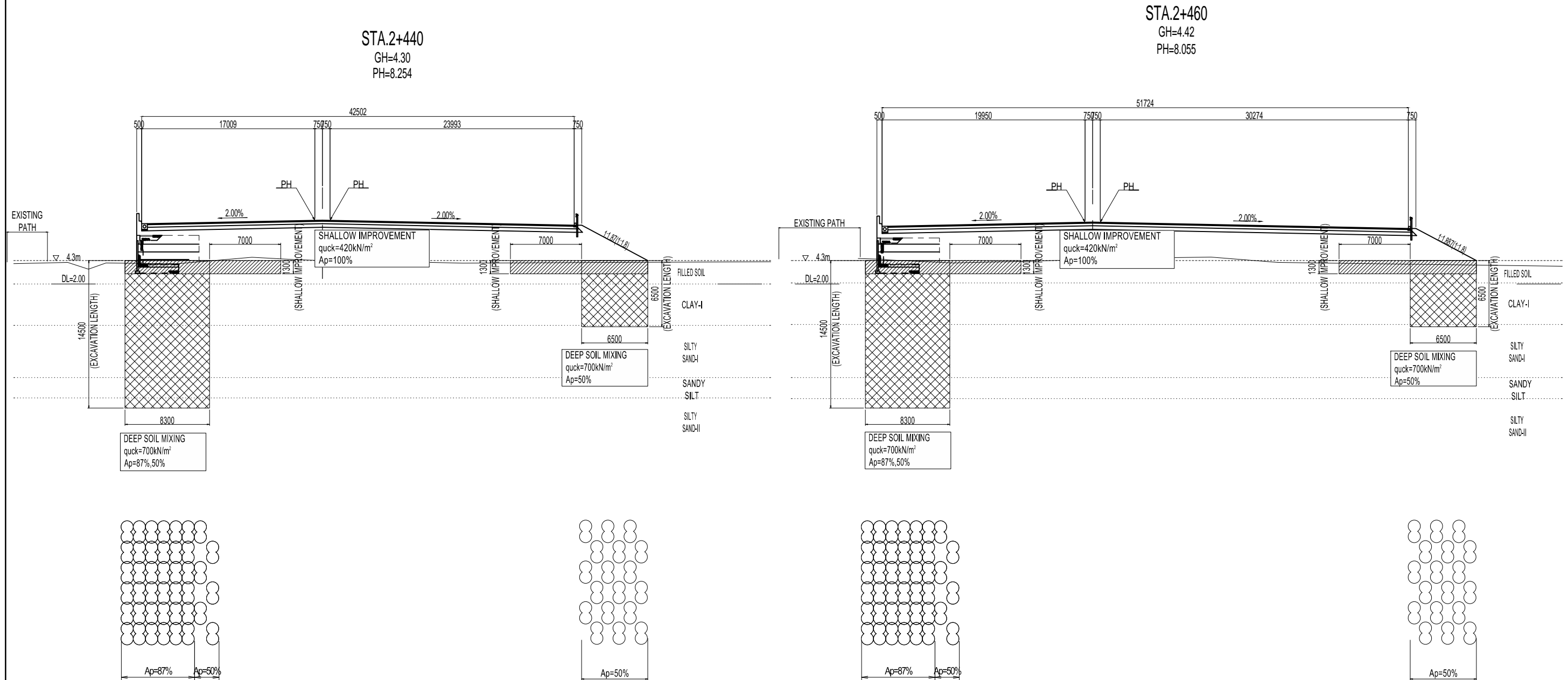
Elevation represents above MSL unless otherwise indicated.

LEGEND	
	SHALLOW IMPROVEMENT
	DRY EXCAVATION LENGTH
	DEEP SOIL MIXING
	SURCHARGE

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(1)	2
				T. HAYAKAWA		3 Oct. 2017		DWG No.
				Y. SANO		6 Oct. 2017		P2-RD-5020

# CROSS SECTION OF DEEP MIXING(2)

S=1:400



Elevation represents above MSL unless otherwise indicated.

LEGEND	
	SHALLOW IMPROVEMENT
	DRY EXCAVATION LENGTH
	DEEP SOIL MIXING
	SURCHARGE

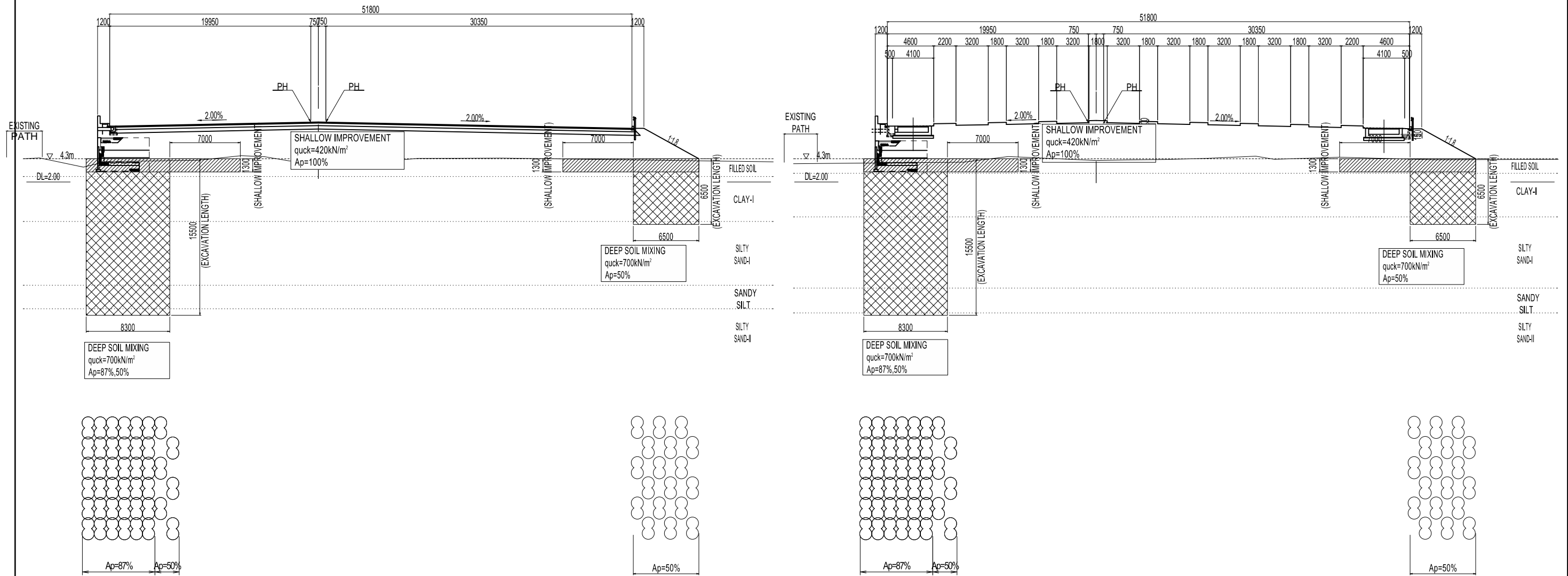
PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL 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(2)	2
				T. HAYAKAWA		3 Oct. 2017		DWG. No.
				Y. SANO		6 Oct. 2017		P2-RD-5030

# CROSS SECTION OF DEEP MIXING(3)

S=1:400

STA.2+480  
GH=4.04  
PH=7.930

STA.2+500  
GH=4.14  
PH=7.879



Elevation represents above MSL unless otherwise indicated.

LEGEND	
	SHALLOW IMPROVEMENT
	DRY EXCAVATION LENGTH
	DEEP SOIL MIXING
	SURCHARGE

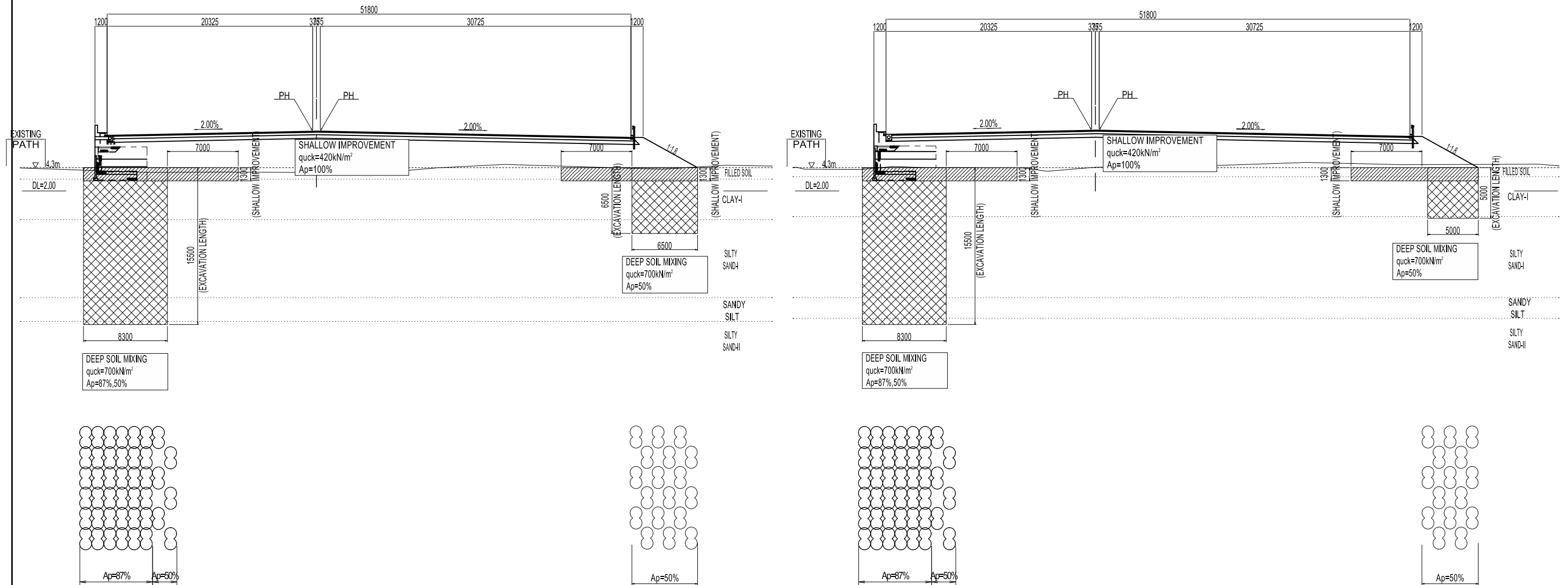
PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL 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(3)	2
				T. HAYAKAWA		3 Oct. 2017		DWG No.
				Y. SANO		6 Oct. 2017		P2-RD-5040

# CROSS SECTION OF DEEP MIXING(4)

S=1:400

STA.2+520  
GH=3.82  
PH=7.900

STA.2+540  
GH=4.35  
PH=7.995



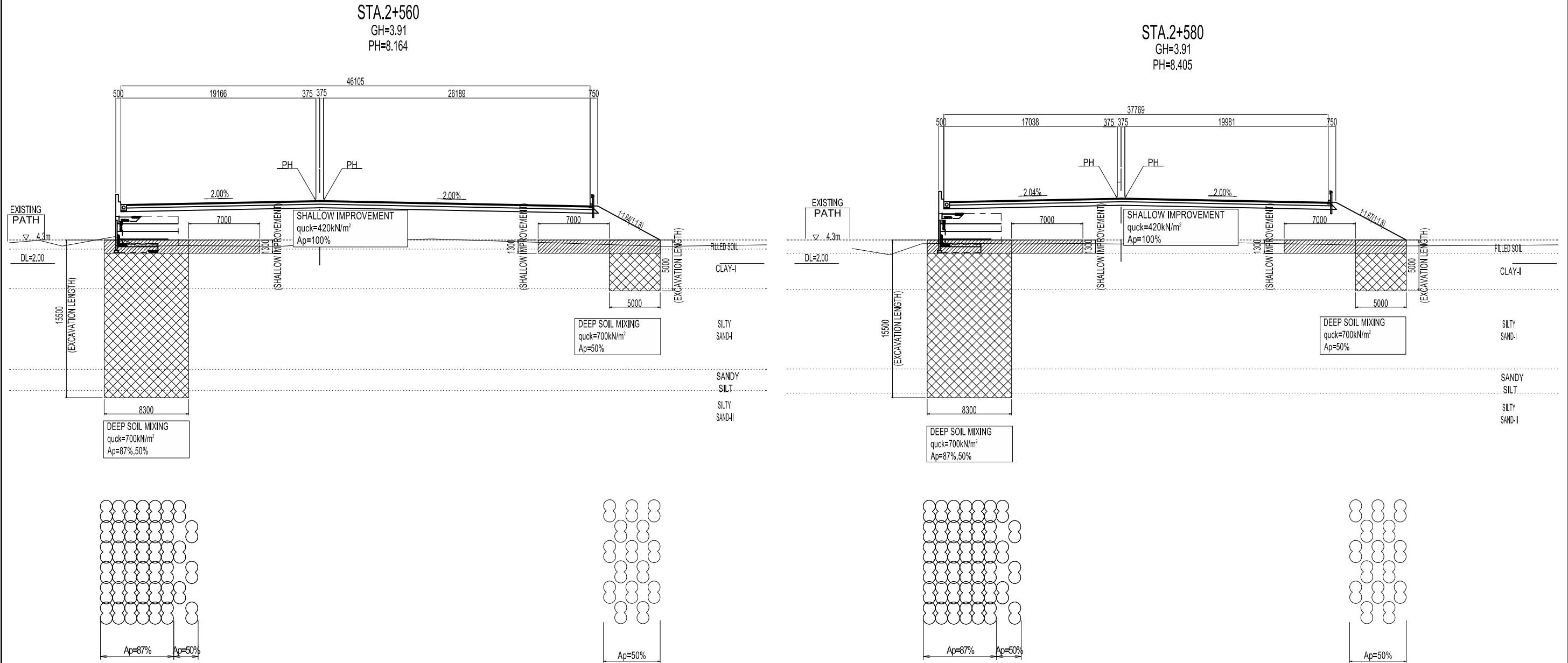
Elevation represents above MSL unless otherwise indicated.

LEGEND	
	SHALLOW IMPROVEMENT
	DRY EXCAVATION LENGTH
	DEEP SOIL MIXING
	SURCHARGE

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(4)	2
				T. HAYAKAWA		3 Oct. 2017		DWG No.
				Y. SANO		6 Oct. 2017		P2-RD-5050

# CROSS SECTION OF DEEP MIXING(5)

S=1:400



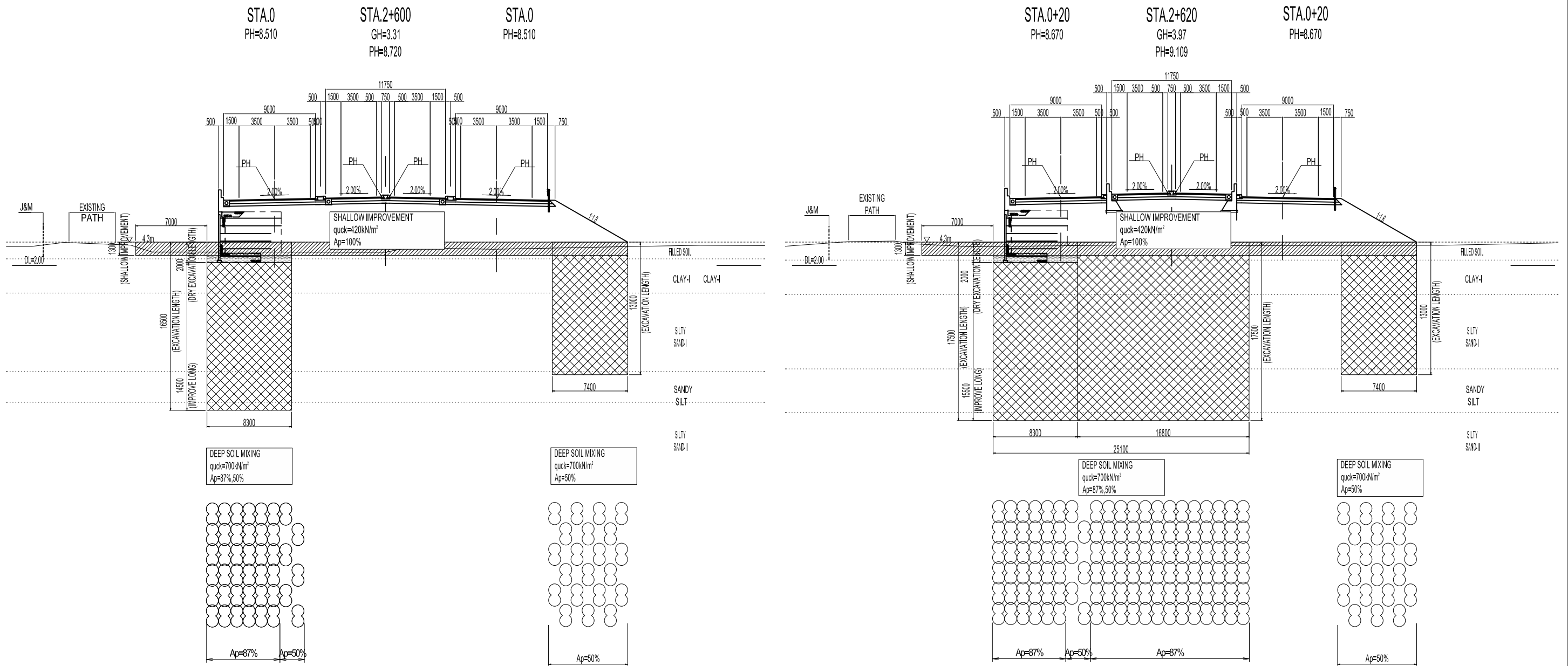
Elevation represents above MSL, unless otherwise indicated.

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 <b>CROSS SECTION OF DEEP MIXING(5)</b>	PACKAGE 2 DWG No. P2-RD-5060	
				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(6)

S-1:400



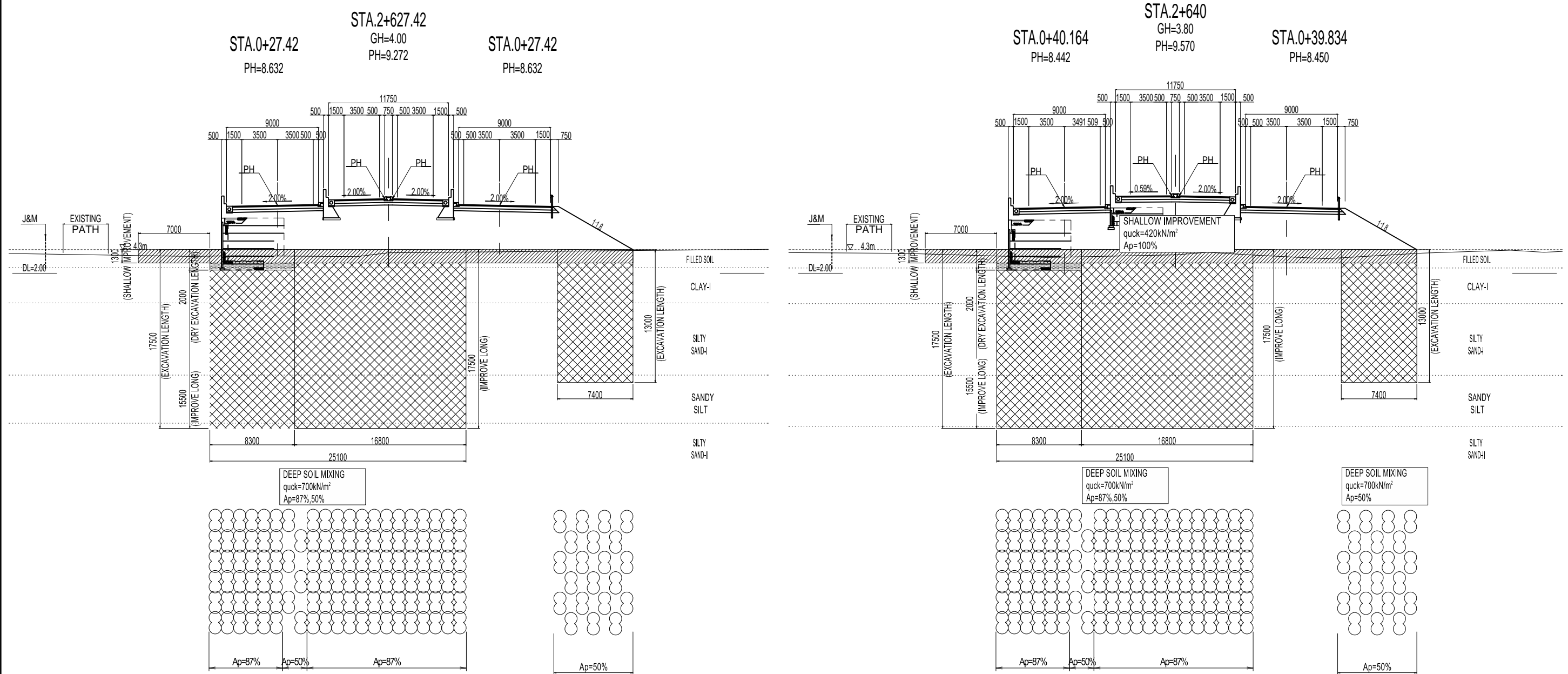
Elevation represents above MSL, unless otherwise indicated.

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	CROSS SECTION OF DEEP MIXING(6)	2
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017		DWG No.
				APPROVED BY	Y. SANO				6 Oct. 2017		R2-RD-5070

# CROSS SECTION OF DEEP MIXING(7)

S=1:400



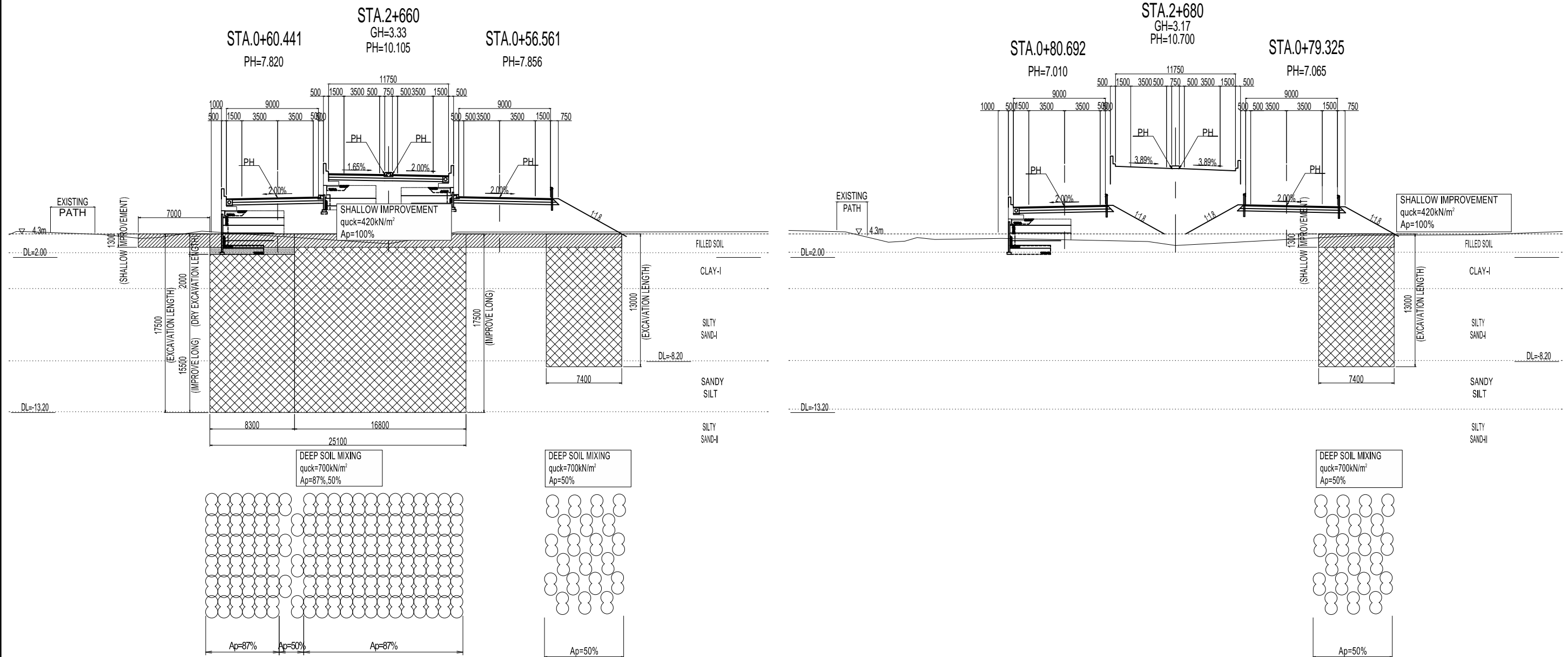
Elevation represents above MSL unless otherwise indicated.

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	CROSS SECTION OF DEEP MIXING(7)	2
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017		DWG No.
				APPROVED BY	Y. SANO				6 Oct. 2017		P2-RD-5080

# CROSS SECTION OF DEEP MIXING(8)

S=1:400



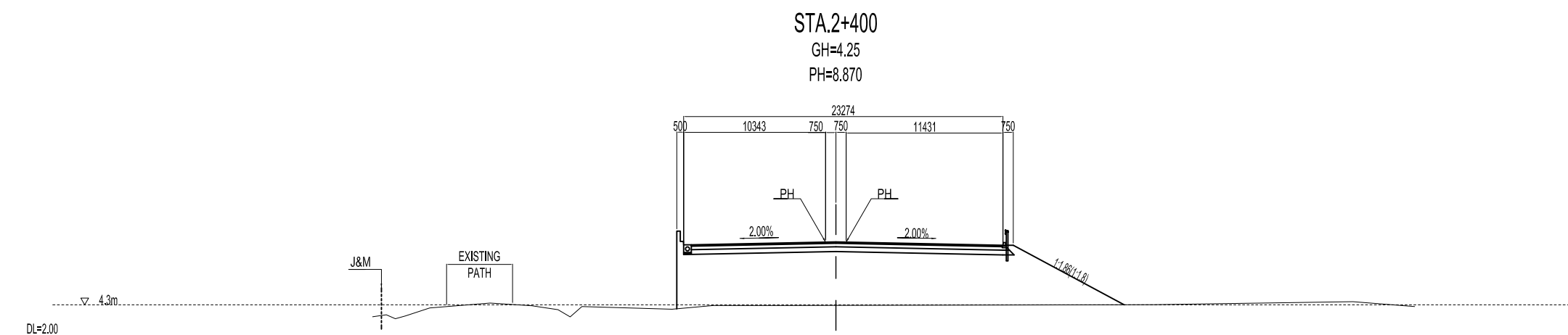
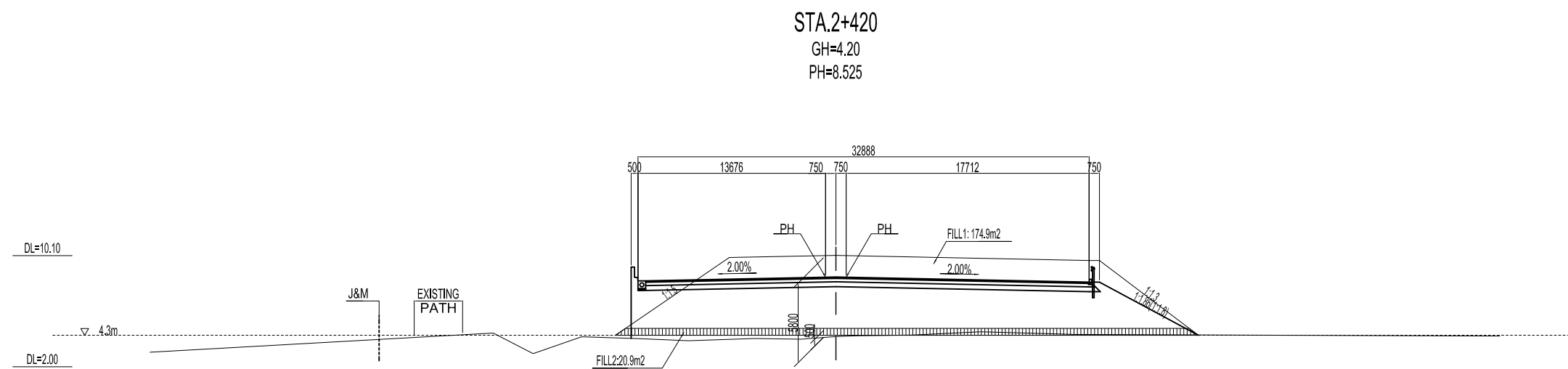
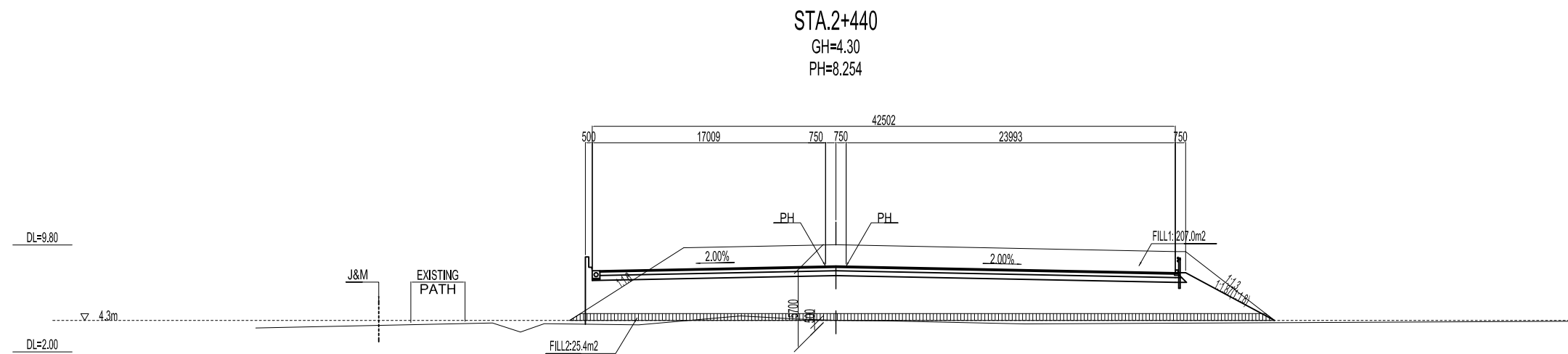
Elevation represents above MSL unless otherwise indicated.

LEGEND	
	SHALLOW IMPROVEMENT
	DRY EXCAVATION LENGTH
	DEEP SOIL MIXING
	SURCHARGE

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(8)	2
				T. HAYAKAWA		3 Oct. 2017		DWG No.
				Y. SANO		6 Oct. 2017		P2-RD-5090

# CROSS SECTION OF SURCHARGE(1)

S=1:400



Elevation represents above MSL unless otherwise indicated.

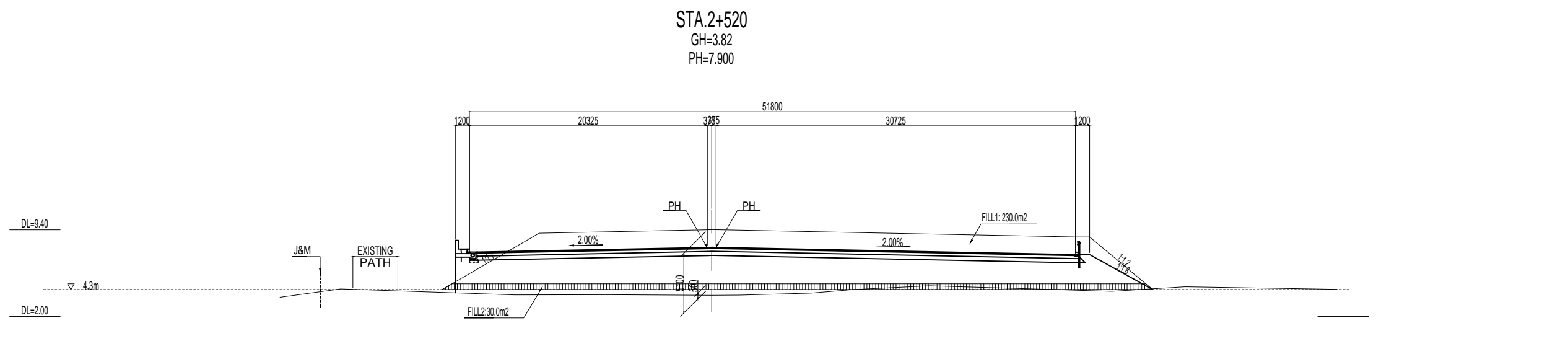
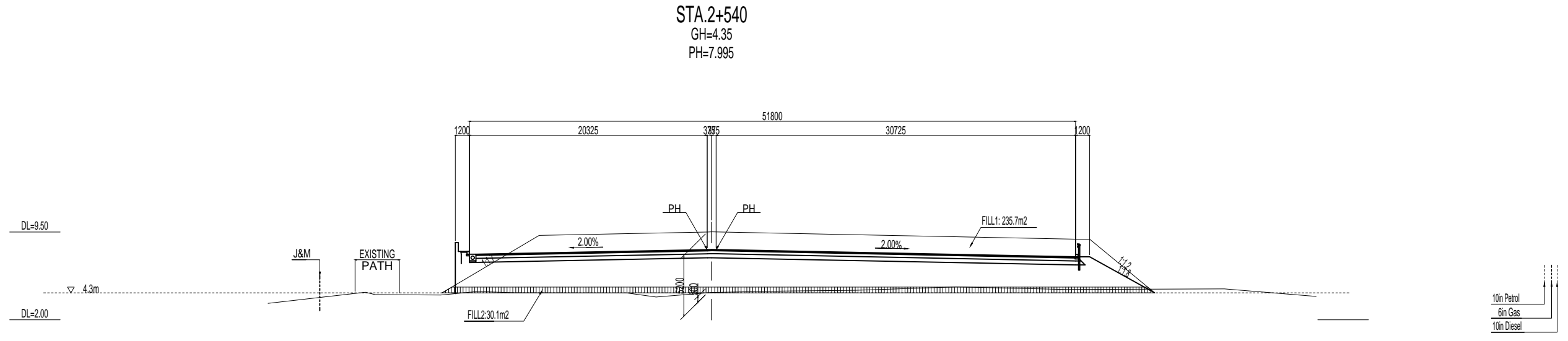
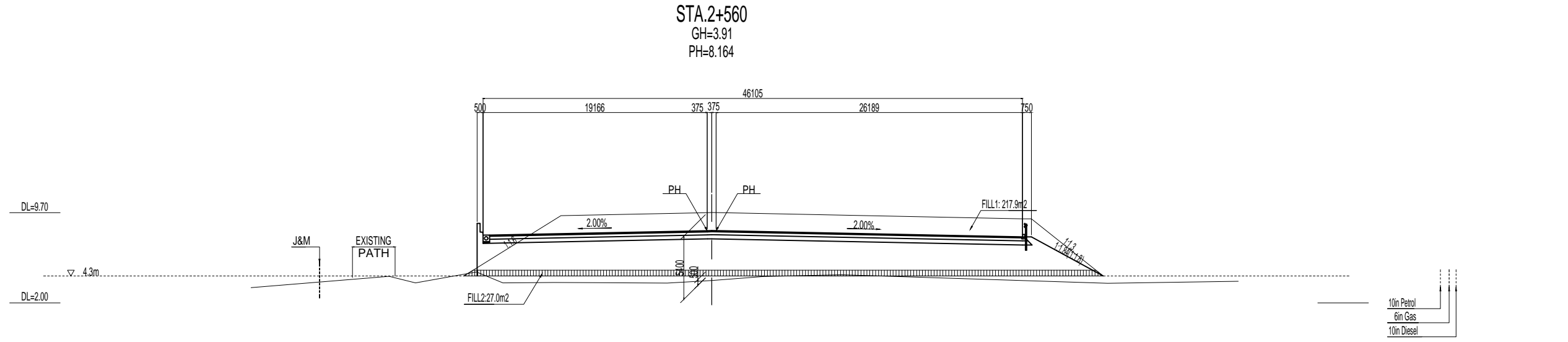
LEGEND  
SAND MAT

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(1)	PACKAGE	
				PREPARED BY	R. HOSOKAWA			29 Sept. 2017	2
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P2-RD-5100



# CROSS SECTION OF SURCHARGE(3)

S=1:400



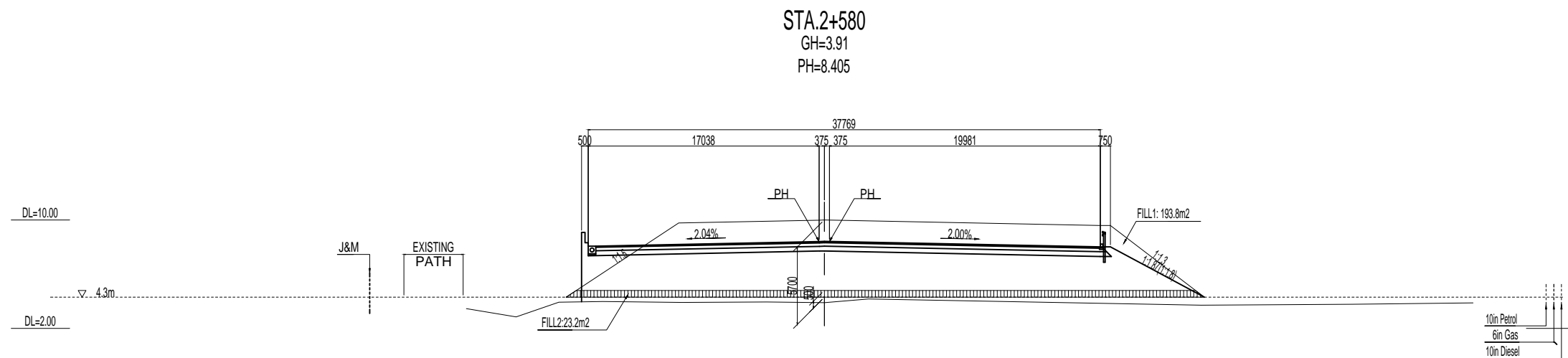
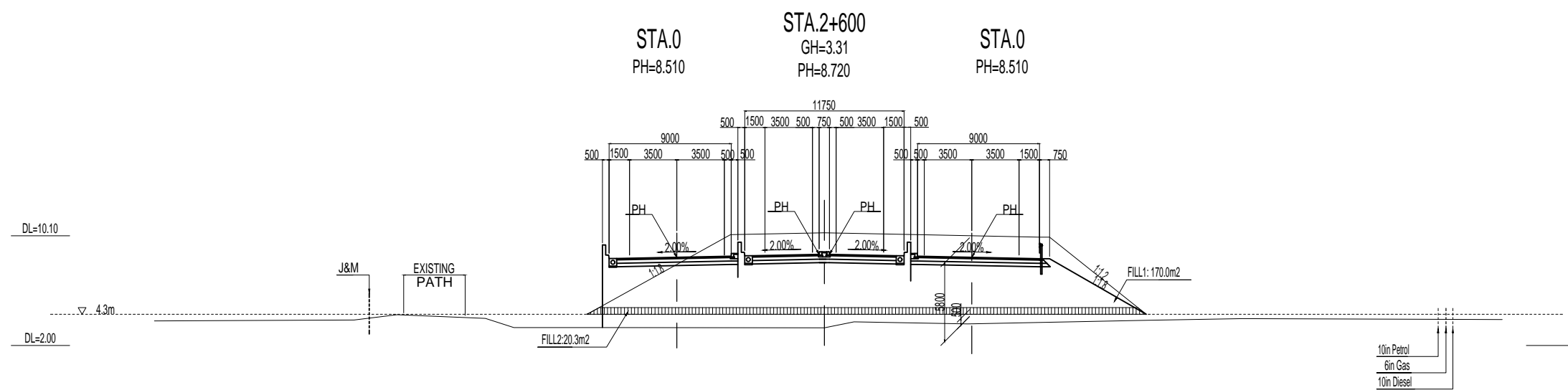
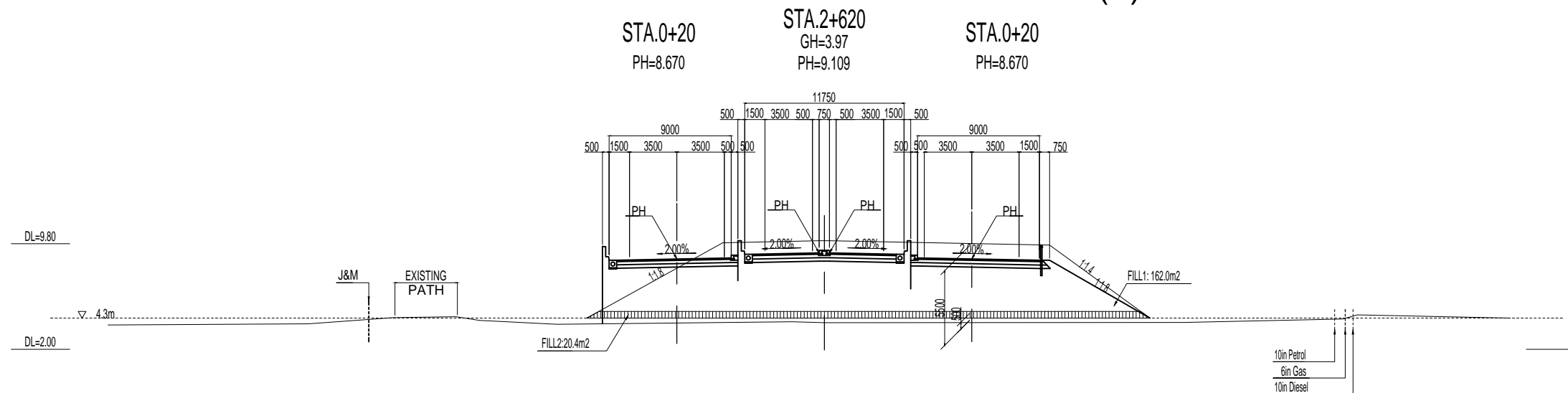
Elevation represents above MSL unless otherwise indicated.

LEGEND	
	SAND MAT

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>CROSS SECTION OF SURCHARGE(3)</b>	PACKAGE	
				PREPARED BY	R. HOSOKAWA			29 Sept. 2017	2
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG. No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P2-RD-5120

# CROSS SECTION OF SURCHARGE(4)

S=1:400



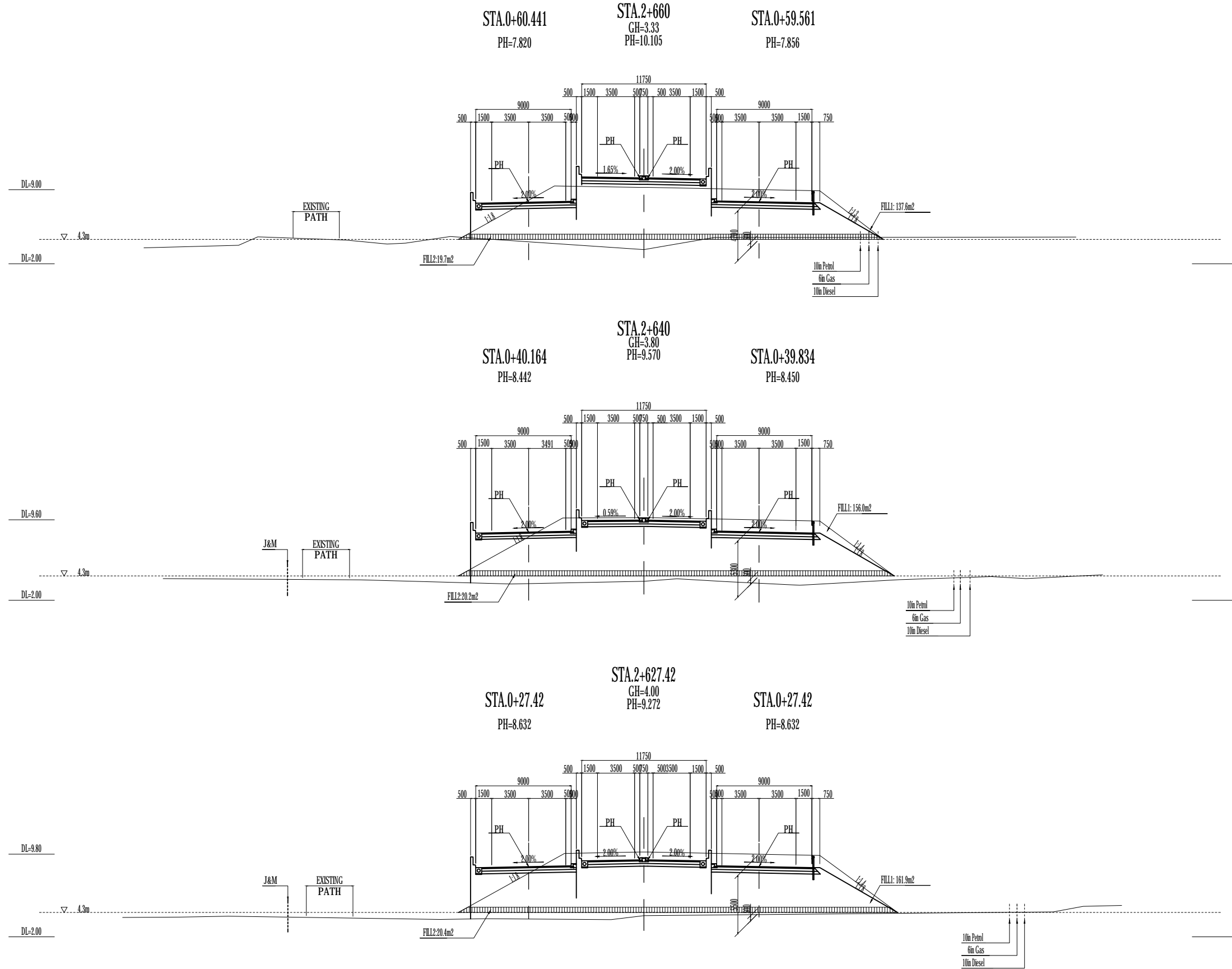
Elevation represents above MSL unless otherwise indicated.

LEGEND	
	SAND MAT

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>CROSS SECTION OF SURCHARGE(4)</b>	PACKAGE	
				PREPARED BY	R. HOSOKAWA			29 Sept. 2017	2
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P2-RD-5130

# CROSS SECTION OF SURCHARGE(5)

S=1:400



Elevation represents above MSL unless otherwise indicated.

LEGEND
SAND MAT

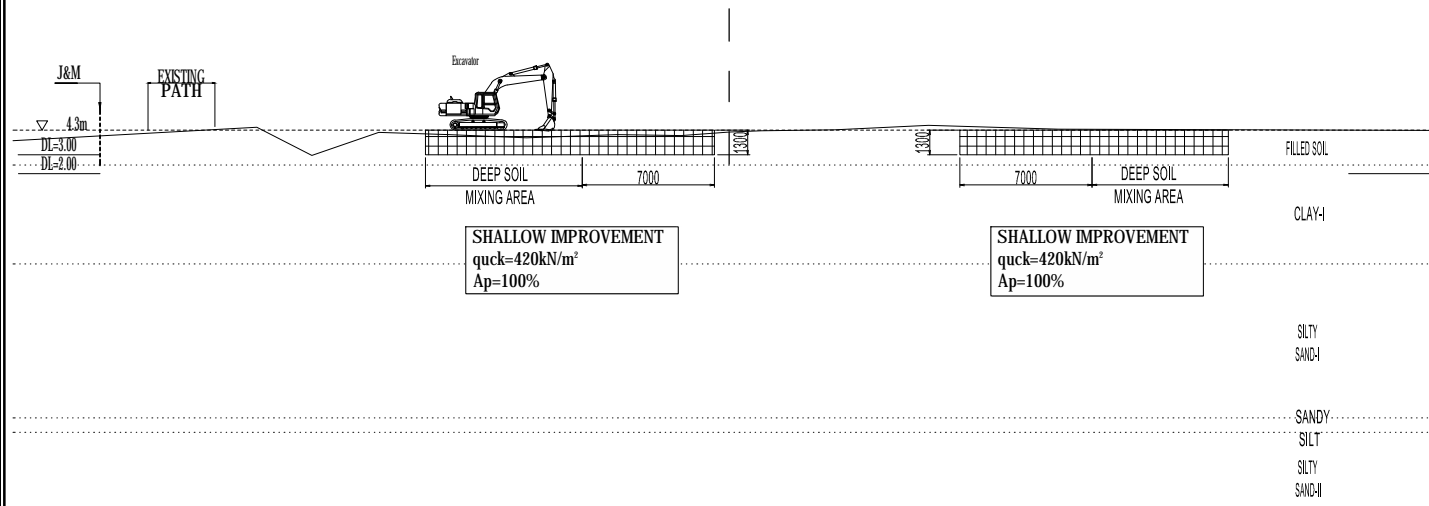
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION OF SURCHARGE(5)	PACKAGE 2 DWG. No. P2-RD-5140	
				PREPARED BY	R. HOSOKAWA				29 Sept. 2017
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017
				APPROVED BY	Y. SANO				6 Oct. 2017



**(REFERENCE) CONSTRUCTION PROCEDURE(1)** S=1:400

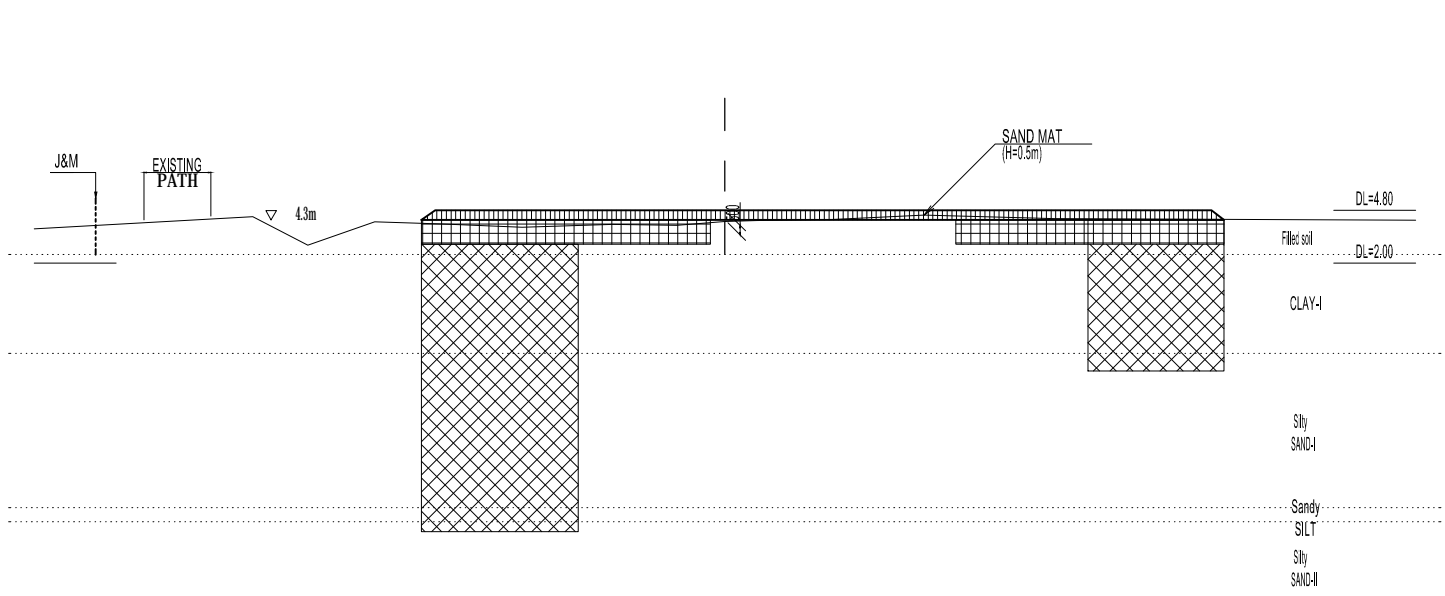
**1.CONSTRUCTION OF SHALLOW IMPROVEMENT**

**STA.2+420**  
GH=4.20  
PH=8.525



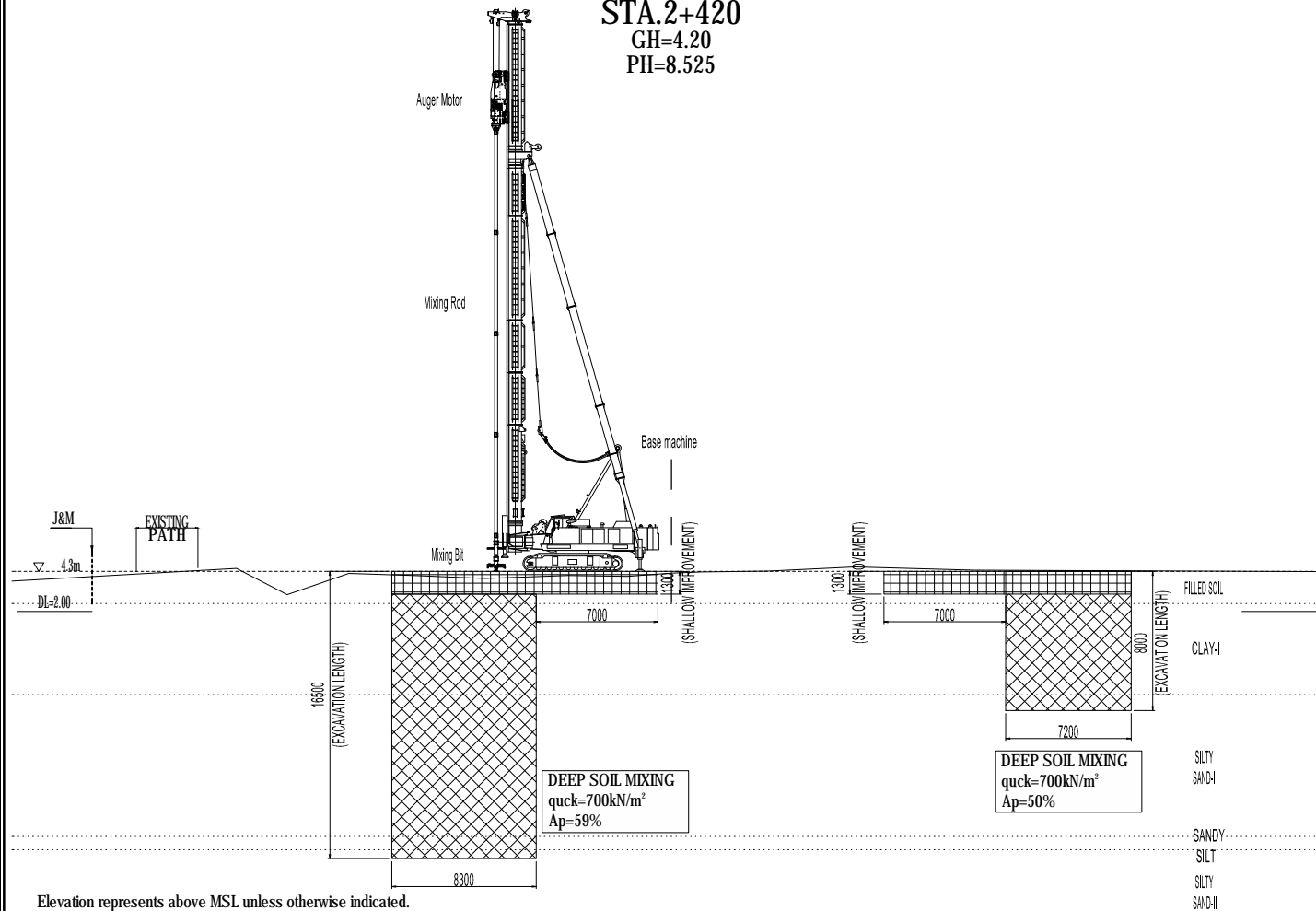
**3.CONSTRUCTION OF SAND MAT**

**STA.2+420**  
GH=4.20  
PH=8.525

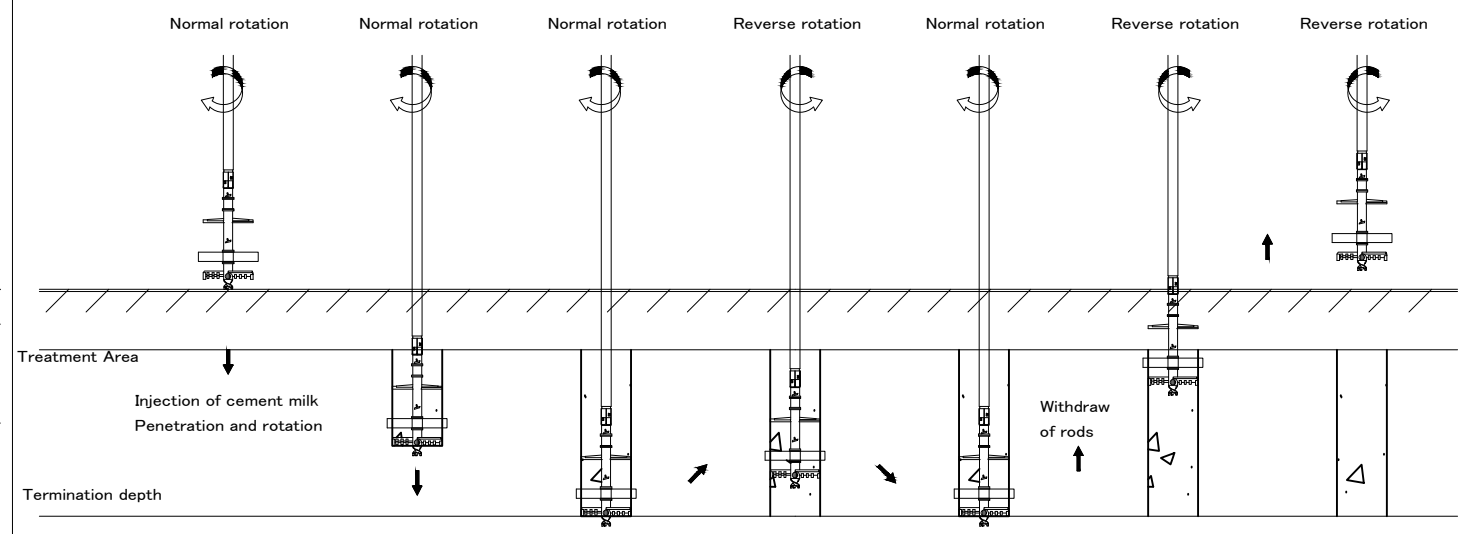


**2.CONSTRUCTION OF DEEP SOIL MIXING**

**STA.2+420**  
GH=4.20  
PH=8.525



**CONSTRUCTION CYCLE**



	SAND MAT
	DEEP SOIL MIXING
	SURCHARGE

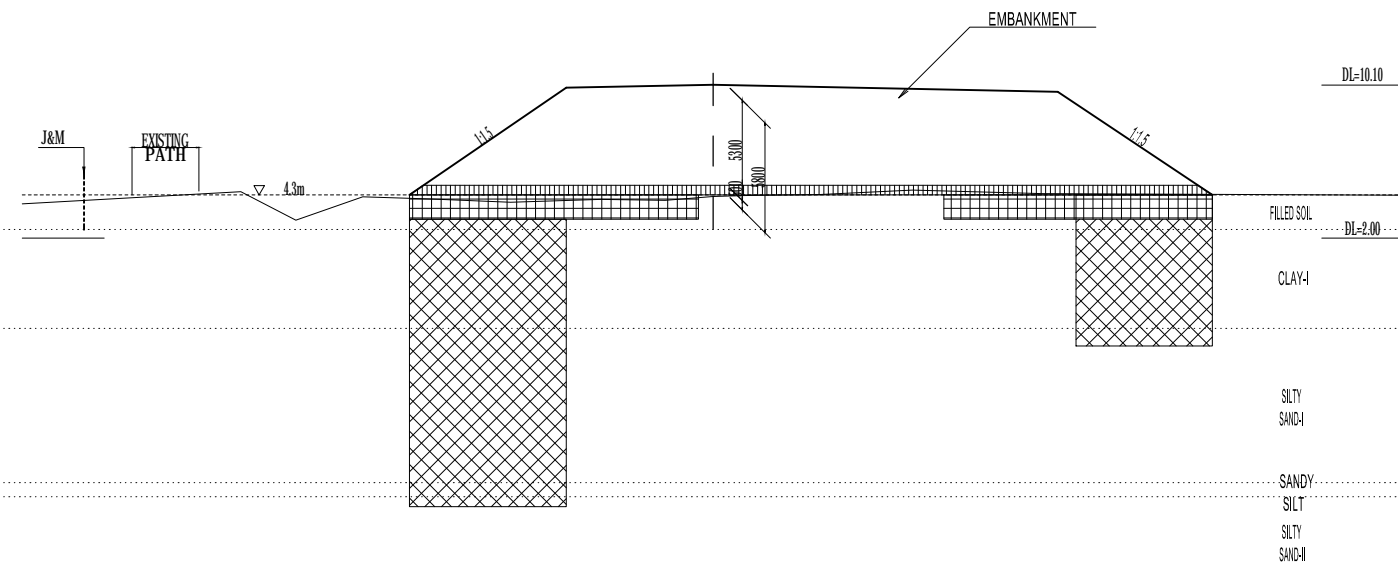
Elevation represents above MSL unless otherwise indicated.

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 (REFERENCE) CONSTRUCTION PROCEDURE(1)	PACKAGE 2 DWG No. P2-RD-5150	
				PREPARED BY	R. HOSOKAWA				29 Sept. 2017
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017
				APPROVED BY	Y. SANO				6 Oct. 2017

(REFERENCE) CONSTRUCTION PROCEDURE(2) S=1:400

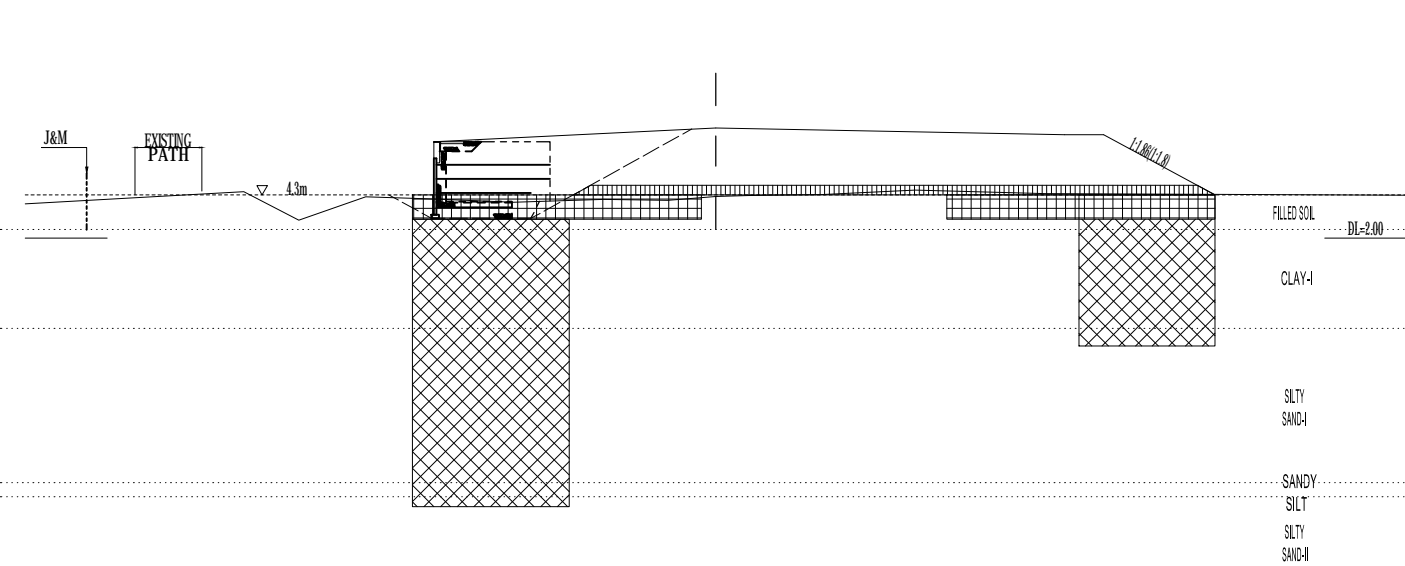
4. EMBANKMENT CONSTRUCTION

STA.2+420  
GH=4.20  
PH=8.525



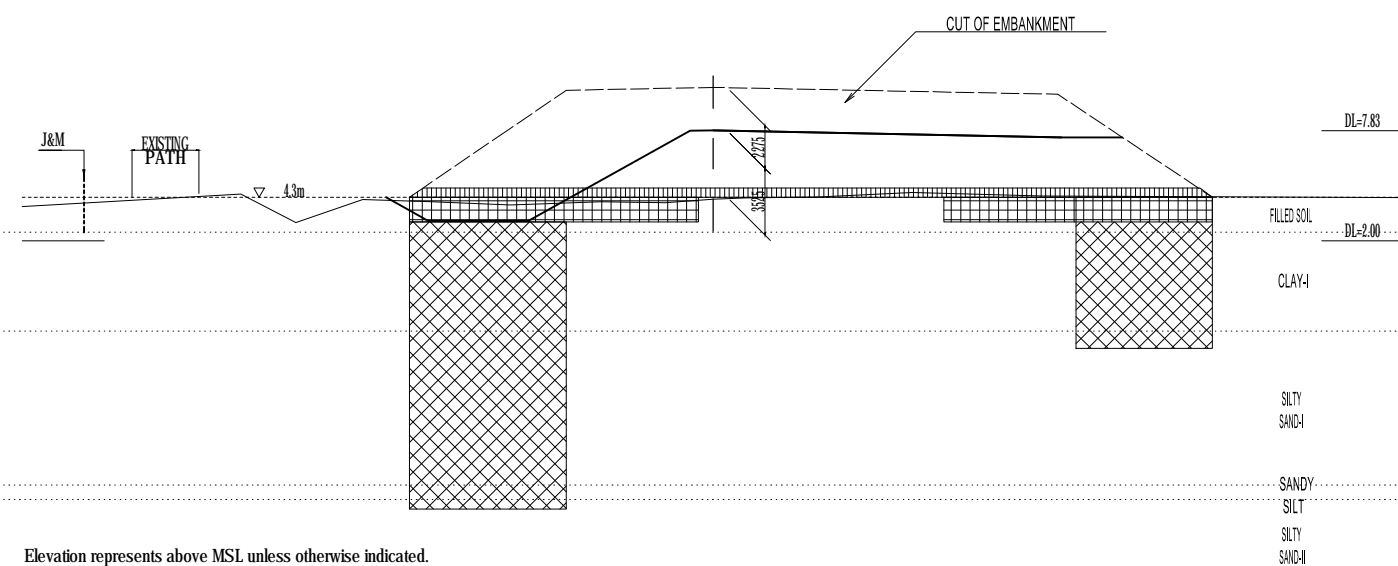
6. CONSTRUCTION OF MECHANICALLY-STABILISED EARTH WALL

STA.2+420  
GH=4.20  
PH=8.525



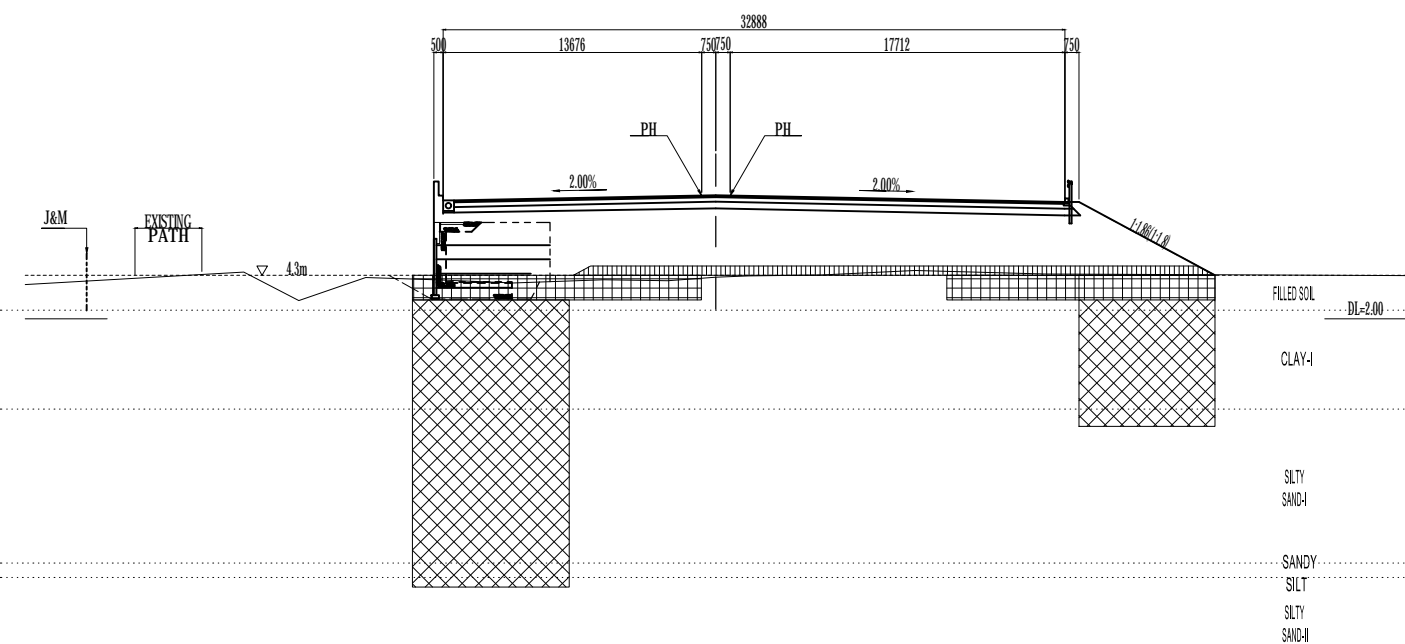
5. CUT OF EMBANKMENT

STA.2+420  
GH=4.20  
PH=8.525



7. PAVING WORK ETC.

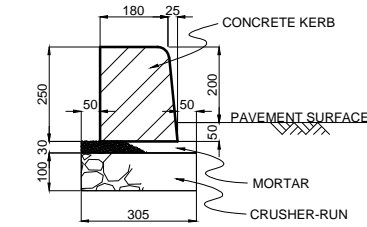
STA.2+420  
GH=4.20  
PH=8.525



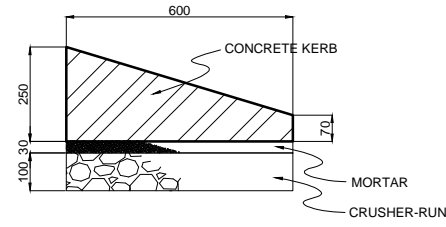
Elevation represents above MSL unless otherwise indicated.

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JICA JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) CONSTRUCTION PROCEDURE(2)	PACKAGE	
				PREPARED BY	R. HOSOKAWA	細川 亮介		29 Sept. 2017	2
				CHECKED BY	T. HAYAKAWA	早川 知寿		3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO	佐野 雅一		6 Oct. 2017	P2-RD-5160

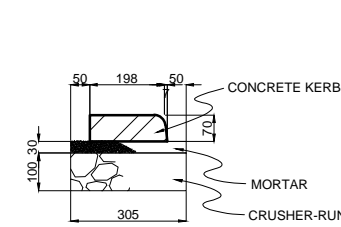
DETAILS OF KERB SCALE = 1:20



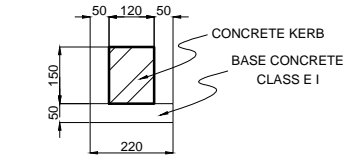
CONCRETE KERB TYPE A-1



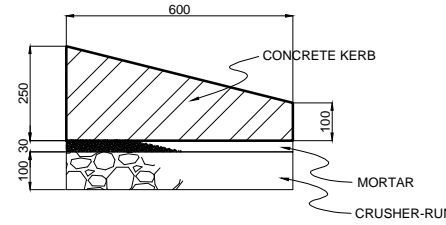
CONCRETE KERB TYPE A-2  
TRANSITION BLOCK BETWEEN  
TYPE A-1 AND TYPE A-3



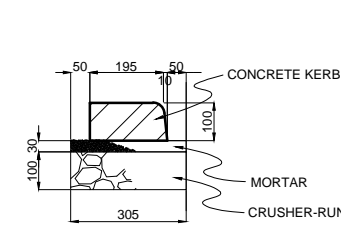
CONCRETE KERB TYPE A-3



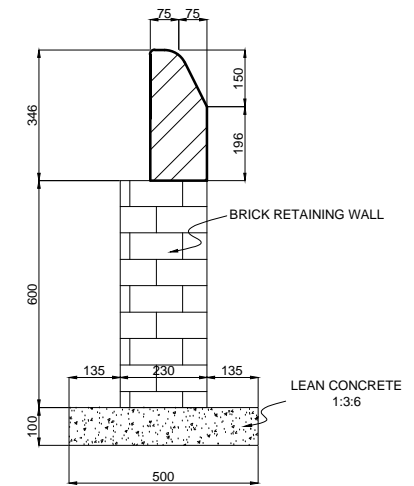
CONCRETE KERB TYPE C



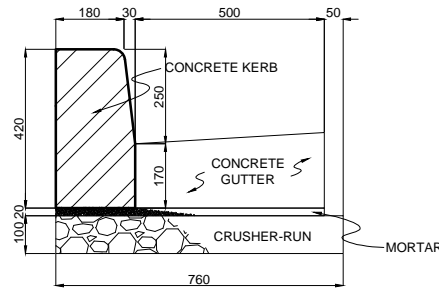
CONCRETE KERB TYPE A-4  
TRANSITION BLOCK BETWEEN  
TYPE A-1 AND TYPE A-5



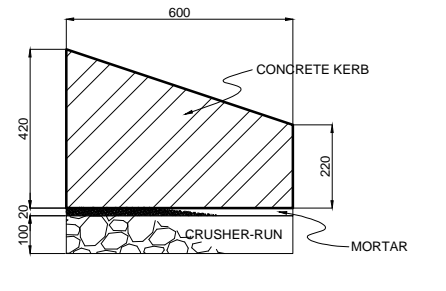
CONCRETE KERB TYPE A-5



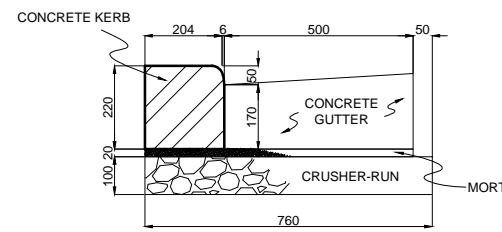
CONCRETE KERB TYPE D



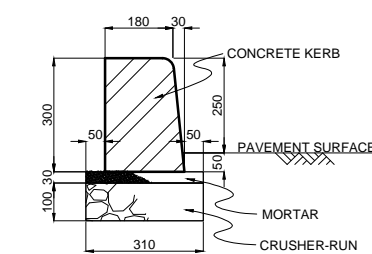
CONCRETE KERB TYPE B-1



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)

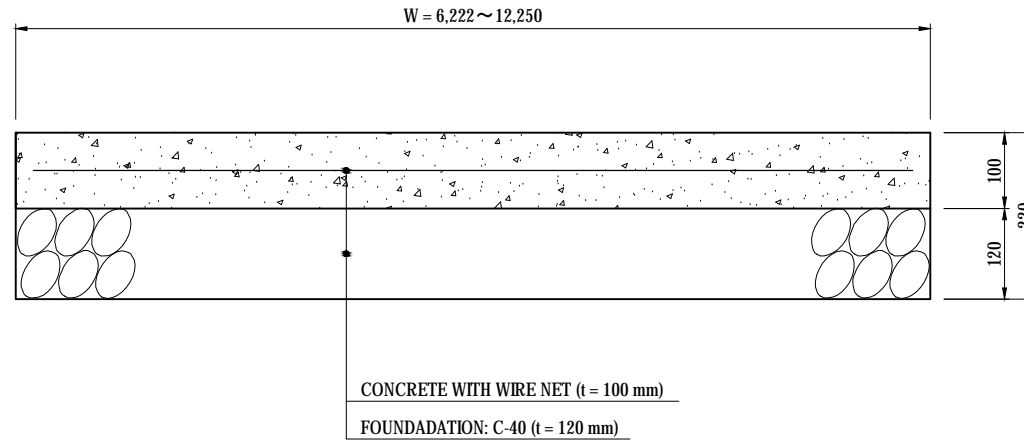
TYPE	A-1	A-2	A-3	A-4	A-5	B-1	B-2	B-3
DIMENSION	180/205×H250×L600	180/205×H250 198/205×H70 ×L600	198/205×H70×L600	180/205×H250 195/205×H100 ×L600	195/205×H100×L600	180/210×H420×L600	180/210×H420 204/210×H220 ×L600	204/210×H220×L600
CONCRETE	CLASS E I	CLASS E I	CLASS E I	CLASS E I	CLASS E I	CLASS E I	CLASS 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>	-

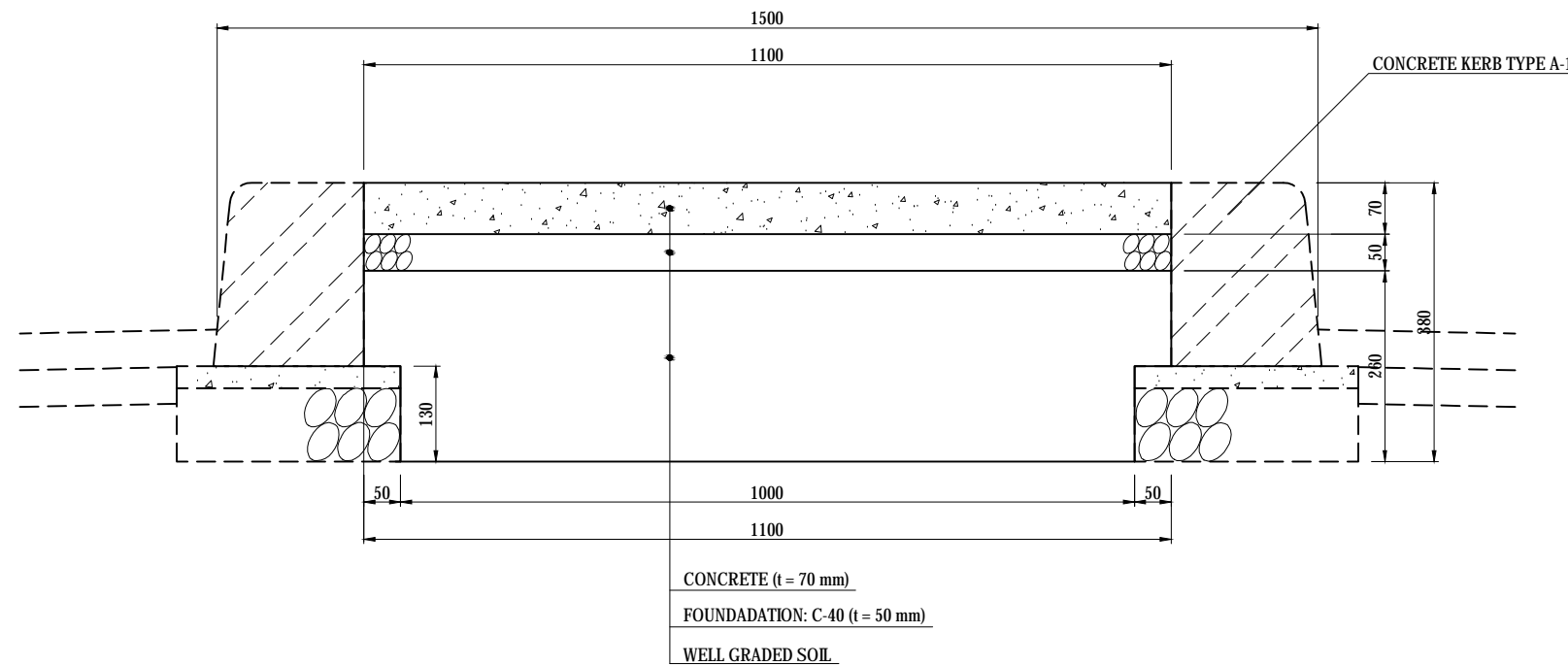
# DETAILS OF CONCRETE SEAL S=1:10

NOTE  
1. SPECIFICATION OF PLAIN CONCRETE SHOULD BE CLASS EI



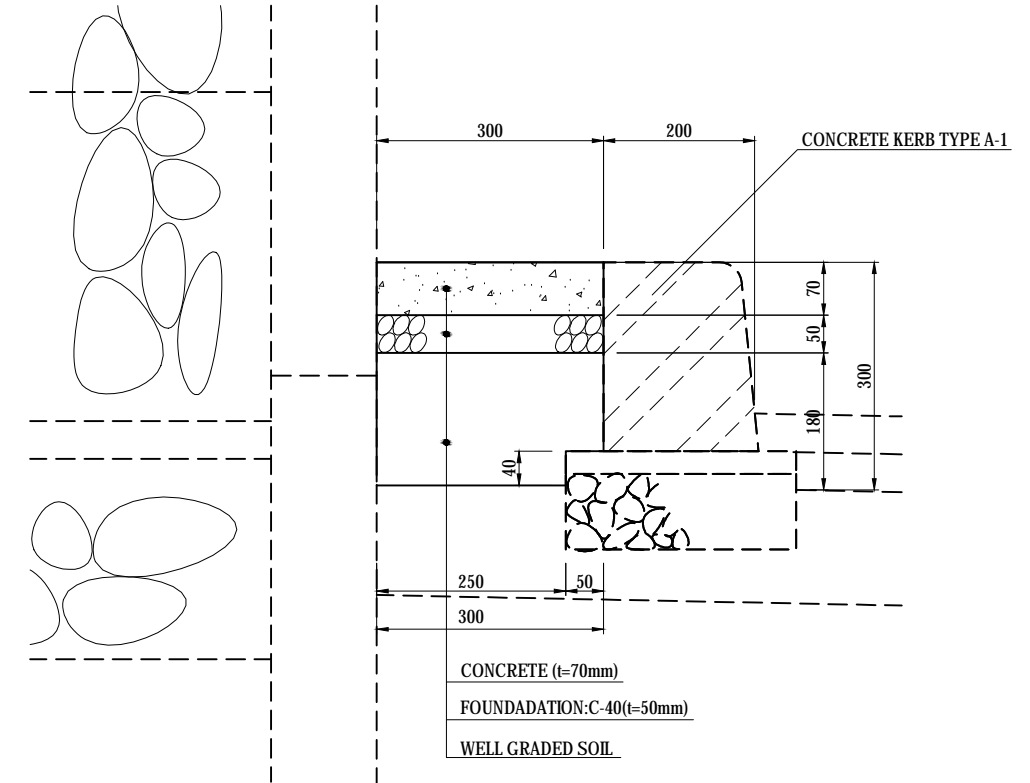
QUANTITY		PER 100 M
TITLE	SPECIFICATION	QUANTITY
CONCRETE	% B၈ a ခ်ၵိ %S	100.00 A
WIRE NET		100.00 A
FOUNDATION	t = 120	100.00 A

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



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

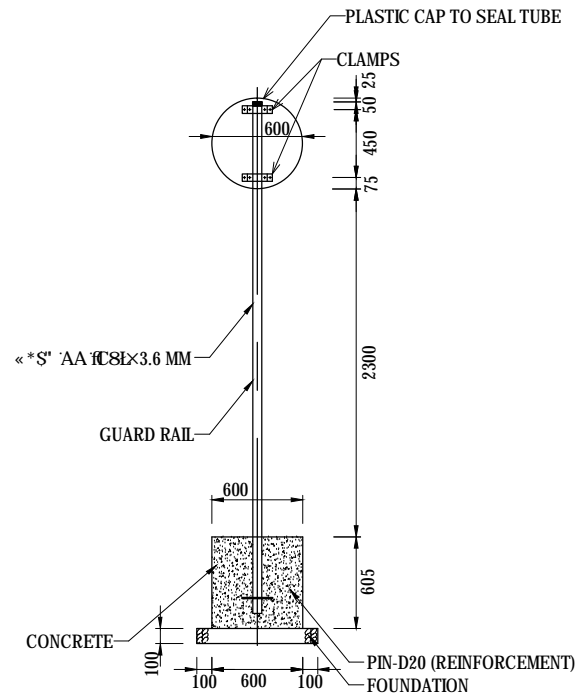
QUANTITY		PER 100 M
TITLE	SPECIFICATION	QUANTITY
CONCRETE	% B၈ a ခ်ၵိ +S	7.70 M
FOUNDATION	t = 50	110.00 M
WELL GRADED SOIL		27.30 M



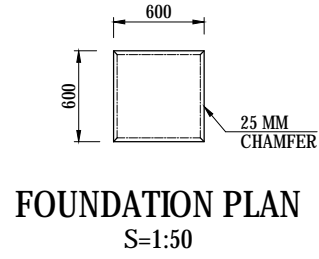
**MEDIAN TYPE B (t = 70 mm)  
MECHANICALLY STABILISED EARTH WALL/GRAVITY WALL SECTION**

QUANTITY		PER 100 M
TITLE	SPECIFICATION	QUANTITY
CONCRETE	% B၈ a ခ်ၵိ +S	2.10 M
FOUNDATION	t = 50	30.00 M
WELL GRADED SOIL		5.20 M

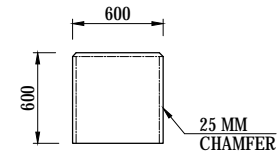
# DETAIL OF SIGNBOARD FOUNDATION AND POST



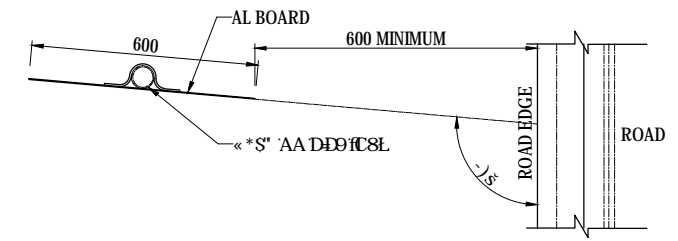
**SIGN POST**  
S=1:50



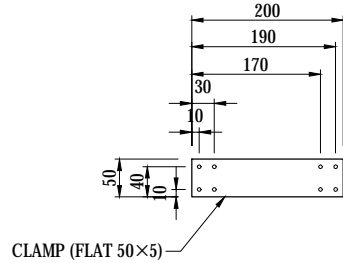
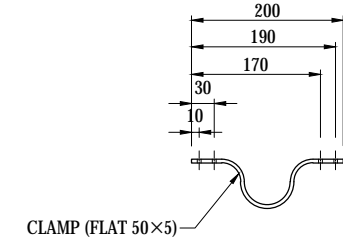
**FOUNDATION PLAN**  
S=1:50



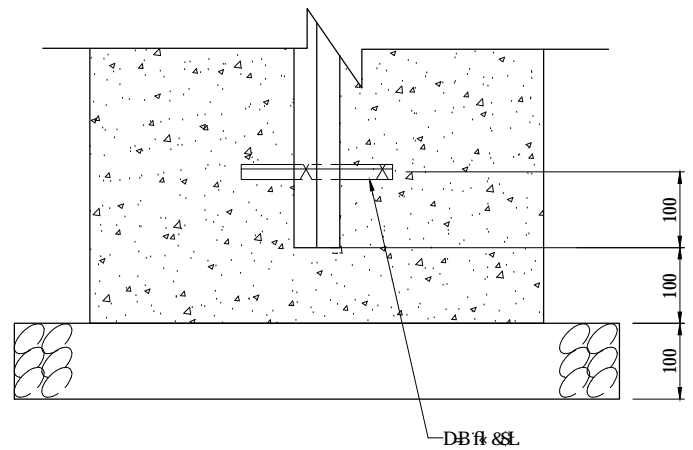
**FOUNDATION ELEVATION**  
S=1:50



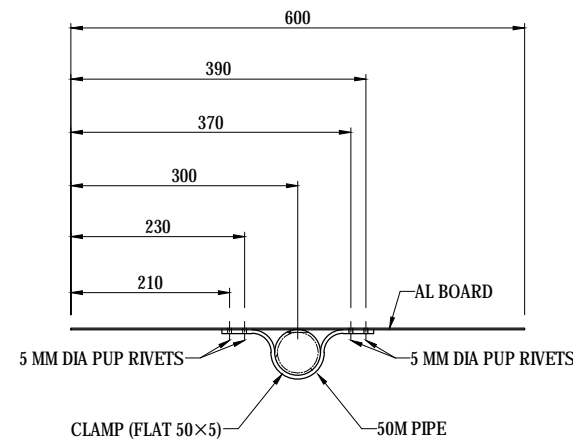
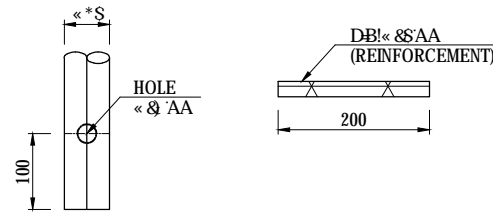
**TOP VIEW  
PLAN OF SIGN BOARD**  
S=1:20



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



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



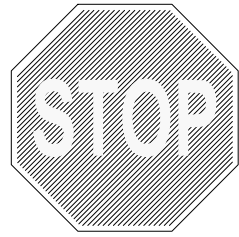
**CLAMP DETAILS-1**  
S=1:10

QUANTITY		PER 10 EACH	
TITLE	SPECIFICATION	QUANTITY	DESCRIPTION
SIGNBOARD	ALMINIUM: t = 2.0 MM	10 EACH	WIDE-ANGLE PRISM TYPE
POST	60.3x3380x3.6	10 EACH	COATING SPECIFICATION
CONCRETE	E I	8% A	
FOUNDATION	t = 100	*(S'A	
FORM		%(S'A	

NOTE  
1. SPECIFICATION OF PLAIN CONCRETE SHOULD BE CLASS EI

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 	NAME	SIGNATURE	DATE	DRAWING TITLE <b>DETAIL OF SIGNBOARD FOUNDATION AND POST</b>	PACKAGE
				PREPARED BY	K. TACHIBANA	15 JUNE 2017		2
				CHECKED BY	T. HAYAKAWA	20 JUNE 2017		DWG No.
				APPROVED BY	Y. SANO	21 JUNE 2017		P2-RD-6010

DETAIL OF SIGNBOARD



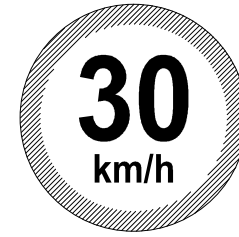
TS-1  
STOP  
ပုံစံအမျိုးအစား



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



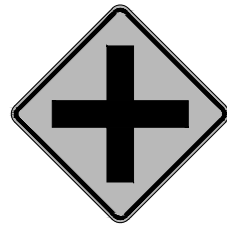
TS-3  
SPEED LIMIT 40 KM/H  
SIZE: 600 MM DIAMETER



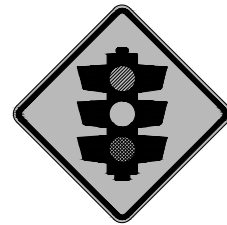
TS-4  
SPEED LIMIT 30 KM/H  
SIZE: 600 MM DIAMETER



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



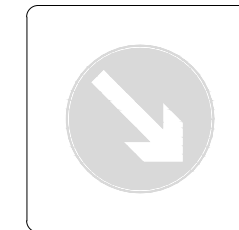
TS-6  
CROSS ROAD  
ပုံစံအမျိုးအစား



TS-7  
TRAFFIC SIGNAL  
ပုံစံအမျိုးအစား



TS-8  
PEDESTRIAN CROSSING  
ပုံစံအမျိုးအစား



TS-9  
KEEP RIGHT (THIS WAY)  
ပုံစံအမျိုးအစား



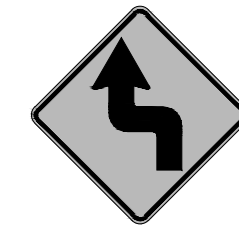
TS-10  
SLOW DOWN  
ပုံစံအမျိုးအစား



TS-11  
SCHOOL ZONE  
ပုံစံအမျိုးအစား



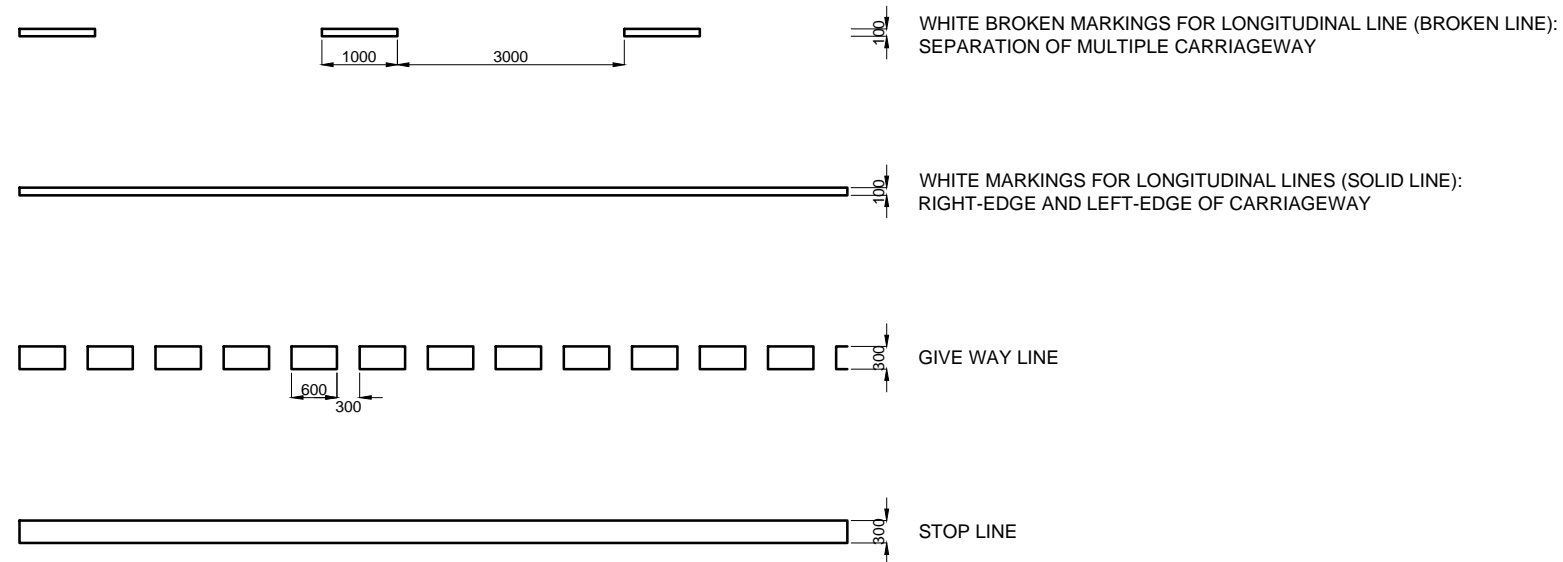
TS-12  
REVERSE TURN (RIGHT)  
ပုံစံအမျိုးအစား



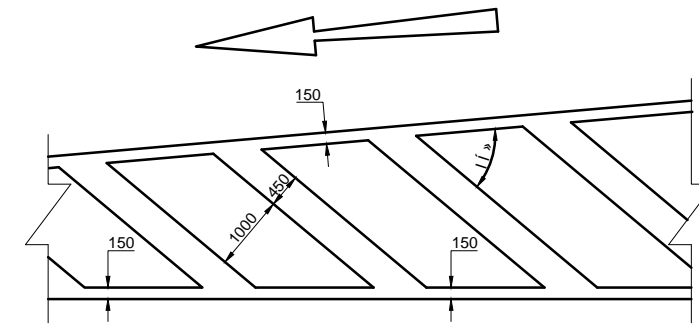
TS-13  
REVERSE TURN (LEFT)  
ပုံစံအမျိုးအစား

COLORS: BLACK RED YELLOW GREEN WHITE LIGHT BLUE

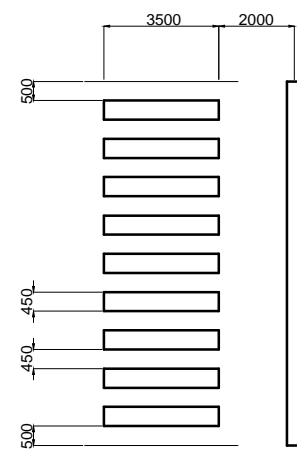
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DETAIL OF SIGNBOARD	PACKAGE	
				PREPARED BY	K. TACHIBANA			15 JUNE 2017	2
				CHECKED BY	T. HAYAKAWA			20 JUNE 2017	DWG No.
				APPROVED BY	Y. SANO			21 JUNE 2017	P2-RD-6020



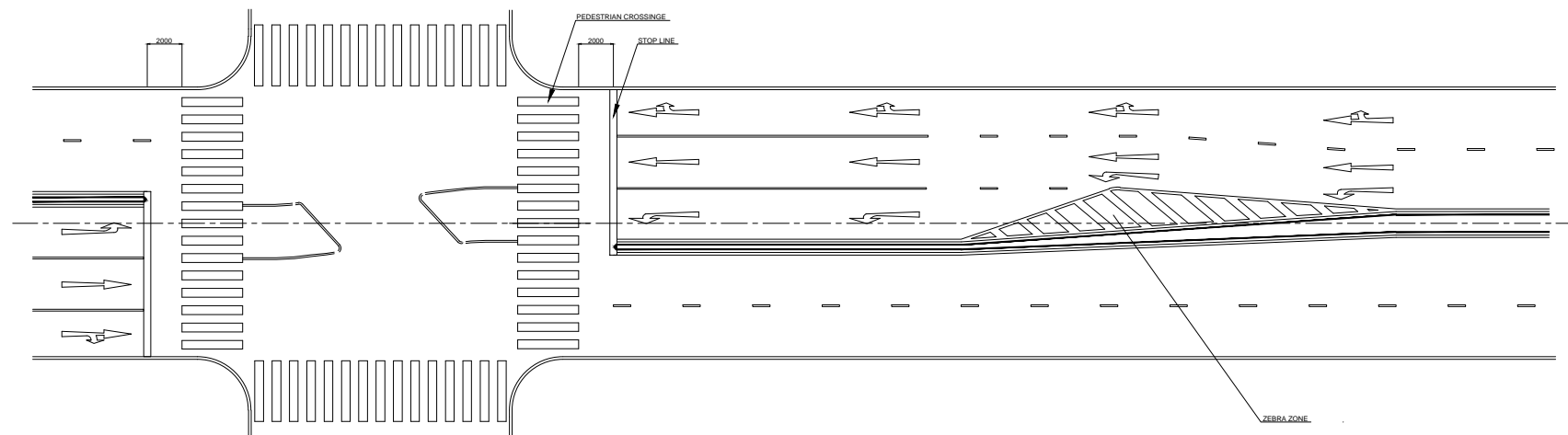
LINE MARKINGS SCALE = 1:100



ZEBRA ZONE SCALE = 1:100

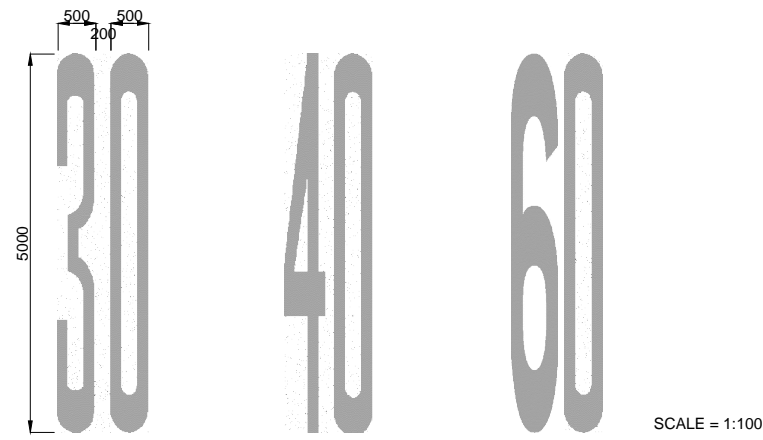


DETAILED ARRANGEMENT OF PEDESTRIAN CROSSING AND STOP LINE SCALE = 1:200

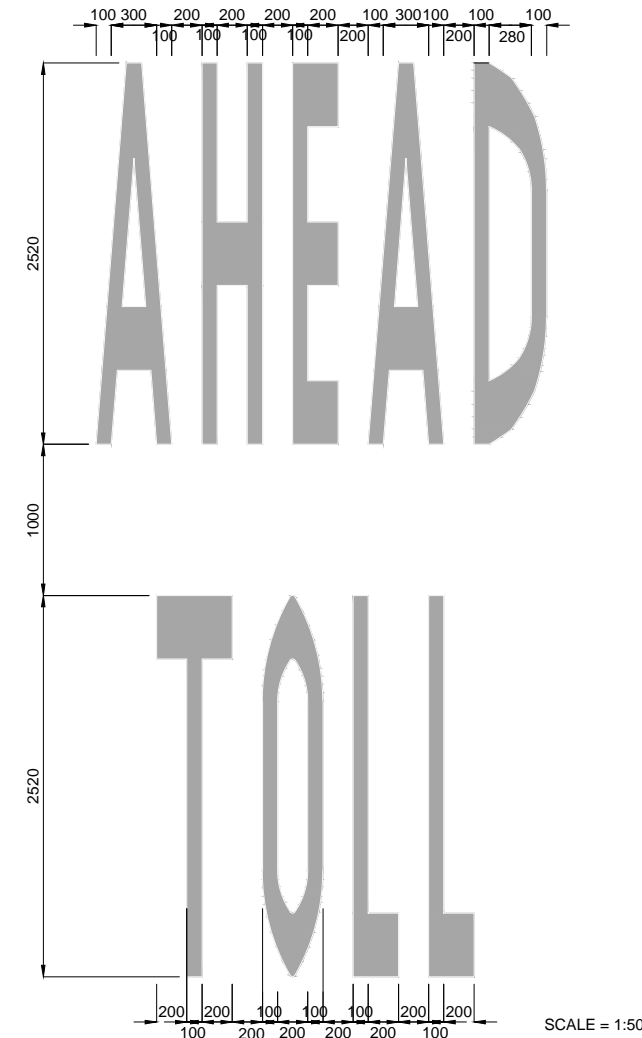


PAVEMENT MARKINGS AT CROSS ROAD NO SCALE

PROJECT NAME <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 	NAME	SIGNATURE	DATE	DRAWING TITLE <b>ROAD MARKING DETAILS (1)</b>	PACKAGE	
				PREPARED BY	K. TACHIBANA			15 JUNE 2017	2
				CHECKED BY	T. HAYAKAWA			20 JUNE 2017	DWG No.
				APPROVED BY	Y. SANO			21 JUNE 2017	P2-RD-6080

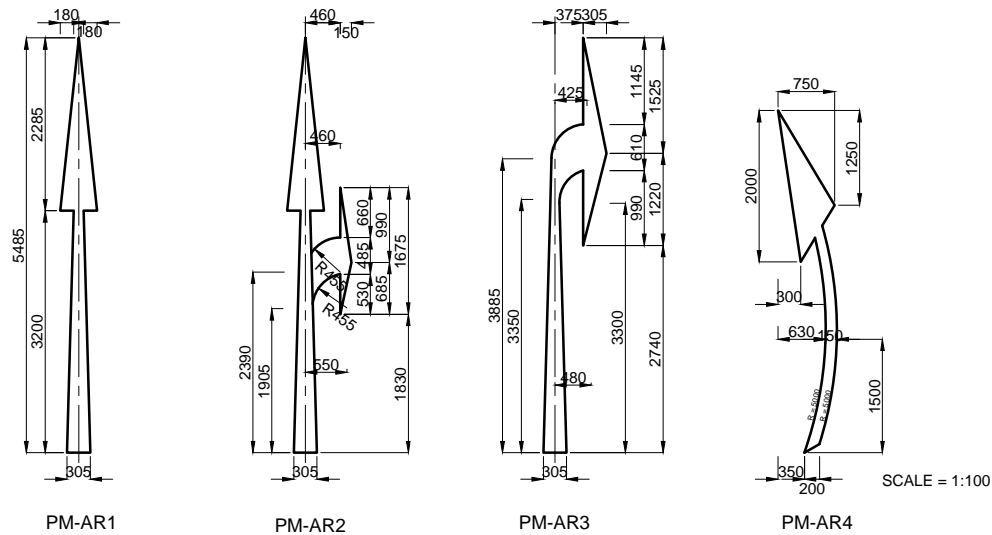


PM-1 SPEED LIMIT 30 KM/H    PM-2 SPEED LIMIT 40 KM/H    PM-3 SPEED LIMIT 60 KM/H



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

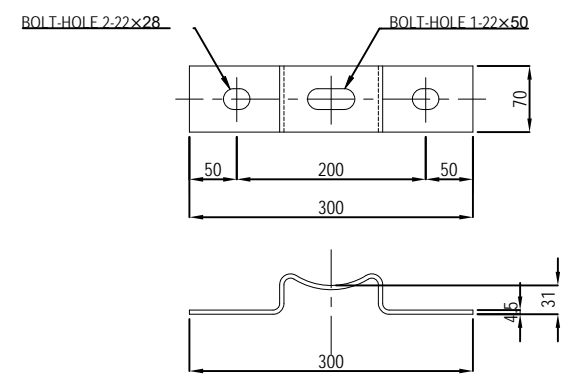
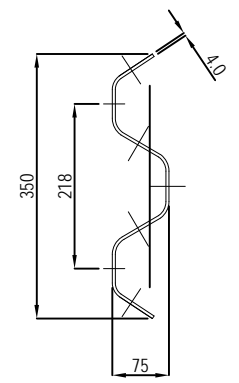
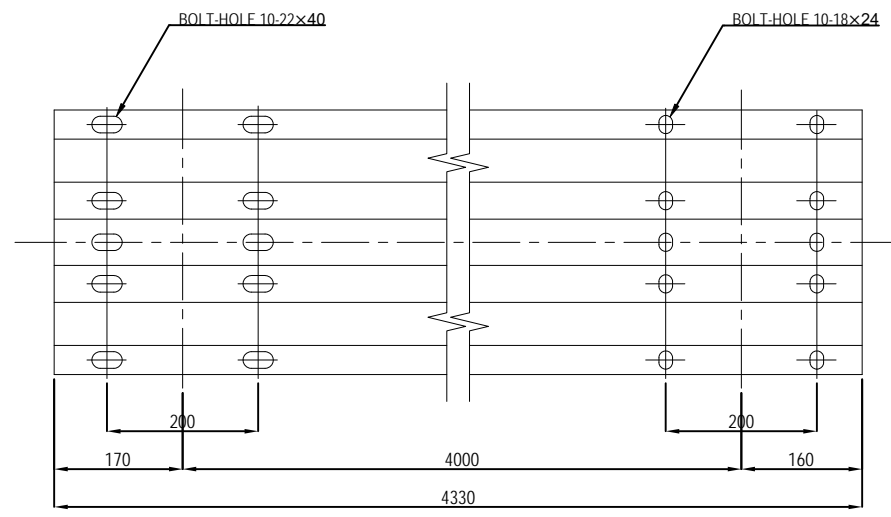
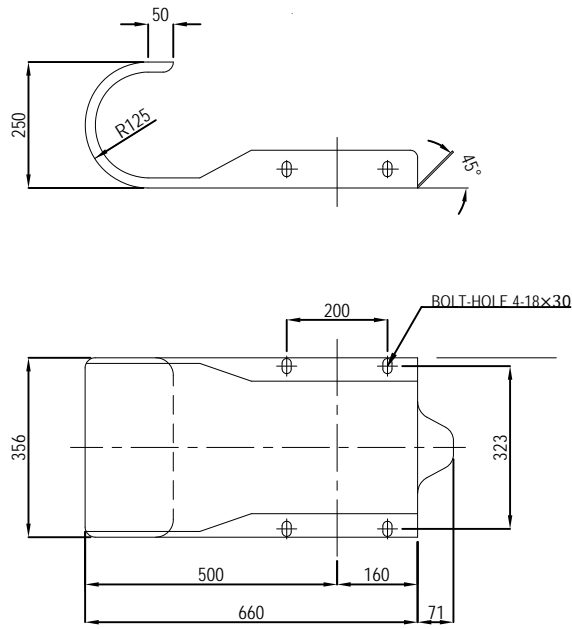
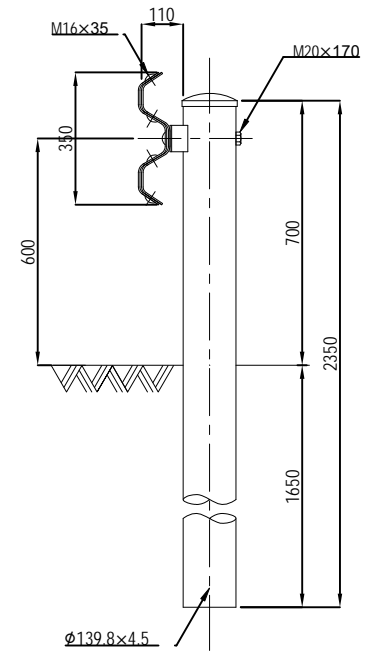
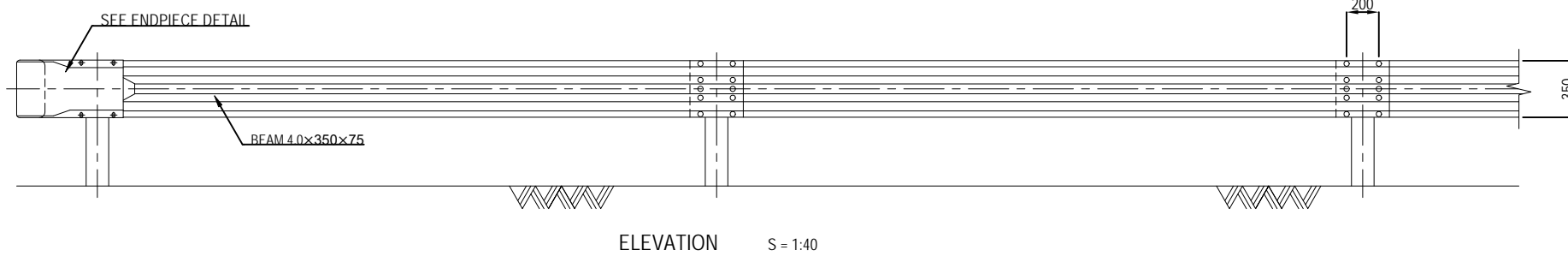
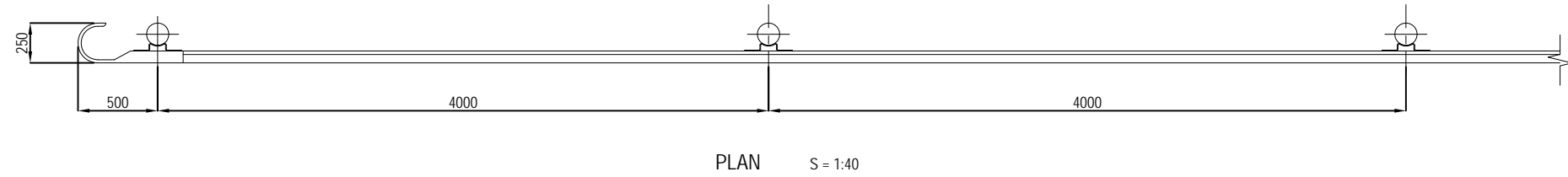


ARROW MARKS  
REFERENCE SHALL BE MADE TO  
DRAWING NO. PWD(RD)/SD91/8-2  
ROAD AND TRANSPORTATION DIVISION,  
PUBLIC WORKS DEPARTMENT

PROJECT NAME <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>ROAD MARKING DETAILS (2)</b>	PACKAGE	
				PREPARED BY	K. TACHIBANA			15 JUNE 2017	2
				CHECKED BY	T. HAYAKAWA			20 JUNE 2017	DWG No.
				APPROVED BY	Y. SANO			21 JUNE 2017	P22-RD-6090

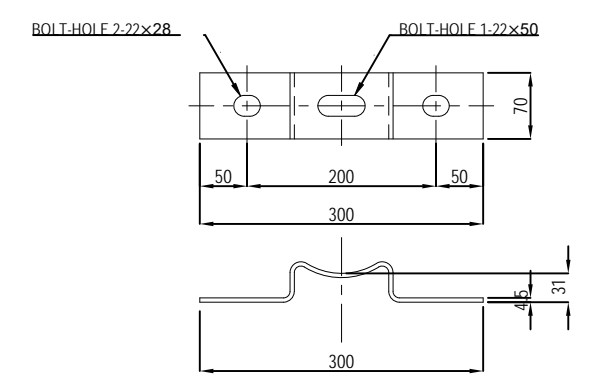
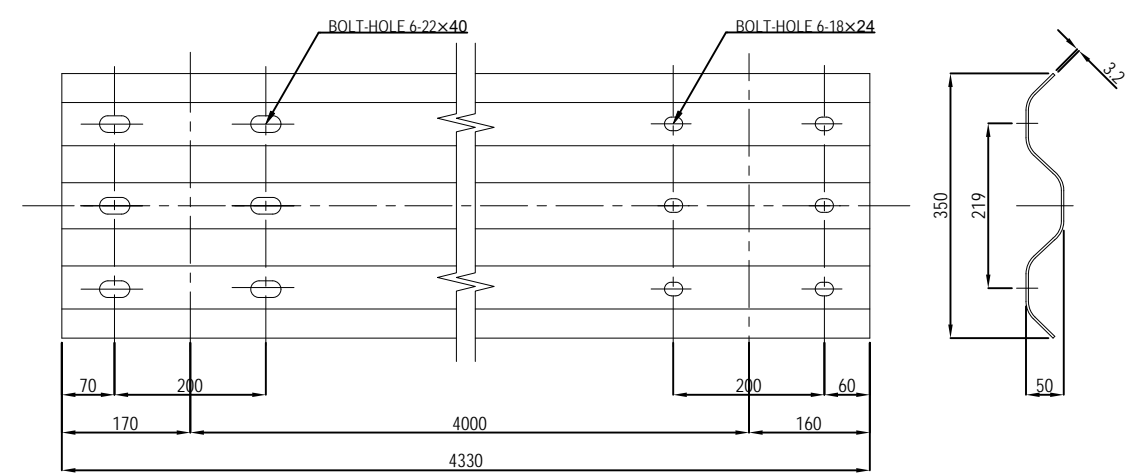
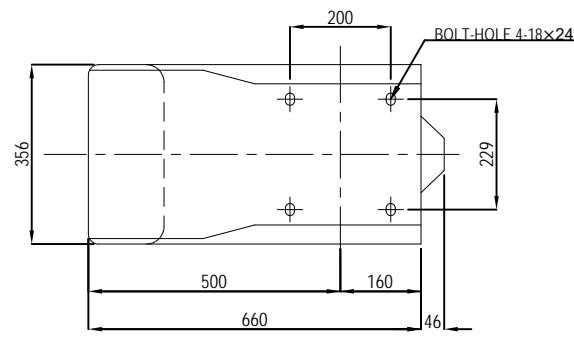
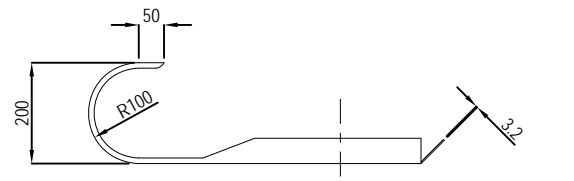
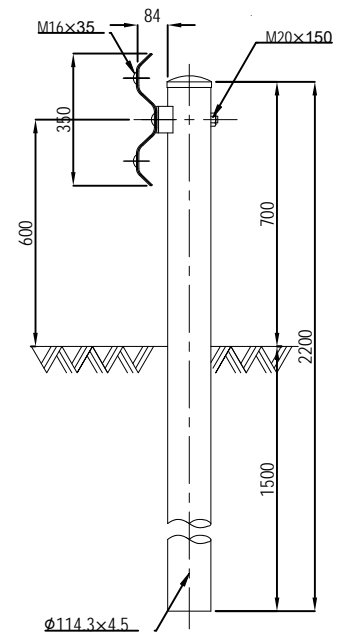
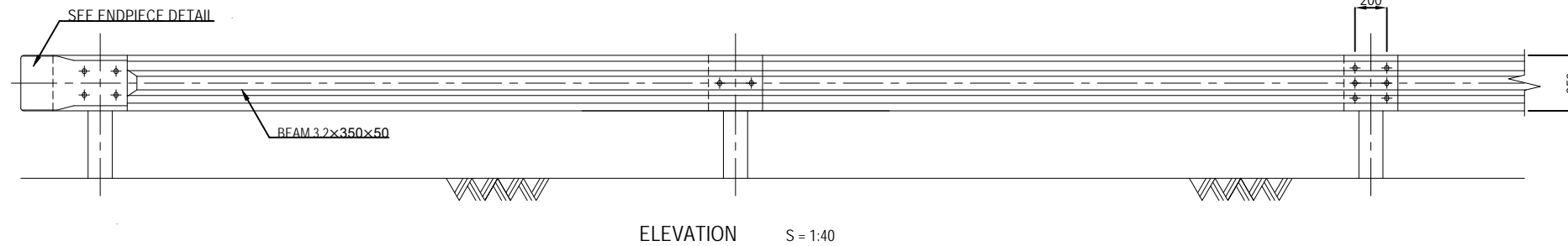
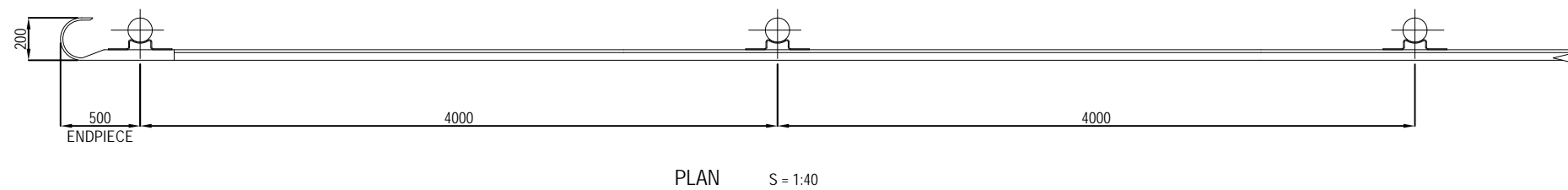


# GUARDRAIL TYPE-A (GR-A)



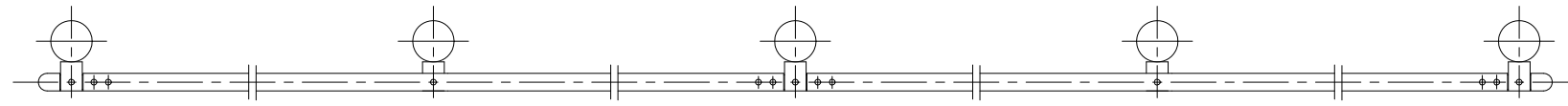
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN 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	2
				CHECKED BY	T. HAYAKAWA			20 JUNE 2017	DWG No.
				APPROVED BY	Y. SANO			21 JUNE 2017	P2-RD-6100

# GUARDRAIL TYPE-B (GR-B)

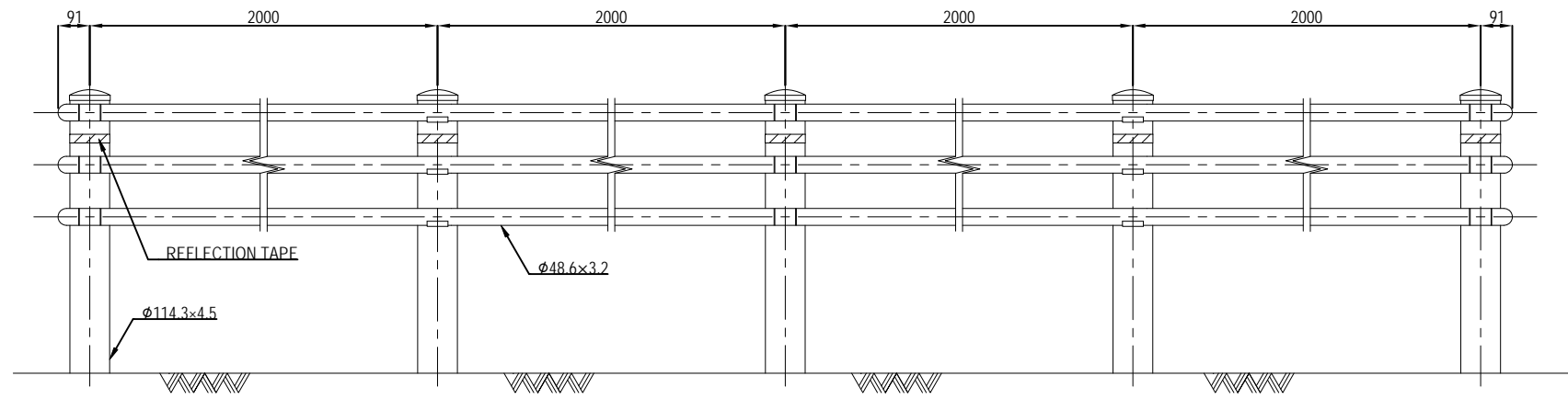


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DETAILS OF GUARDRAIL (2) TYPE-B	PACKAGE	
				PREPARED BY	E. YOKOTA			15 JUNE 2017	2
				CHECKED BY	T. HAYAKAWA			20 JUNE 2017	DWG No.
				APPROVED BY	Y. SANO			21 JUNE 2017	P2-RD-6110

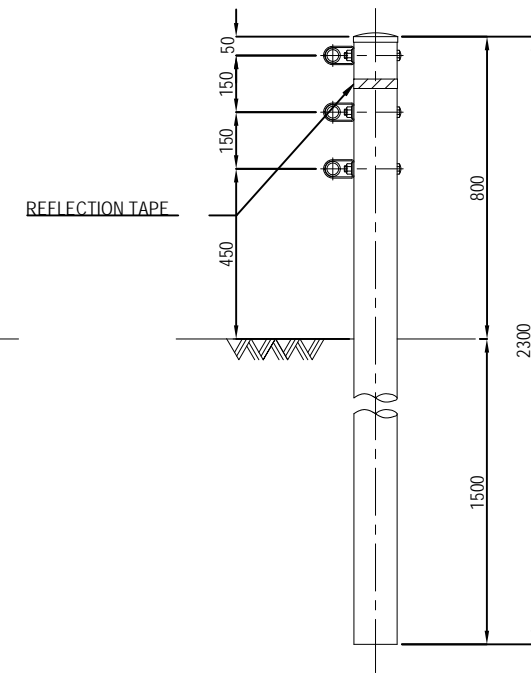
# GUARD PIPE TYPE-A (GP-A)



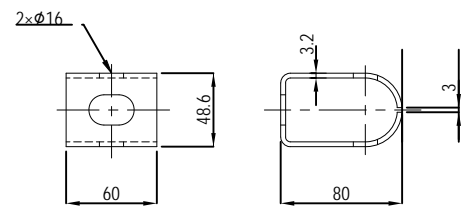
PLAN S = 1:20



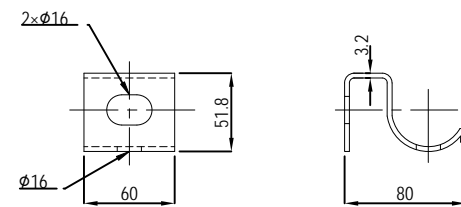
ELEVATION S = 1:20



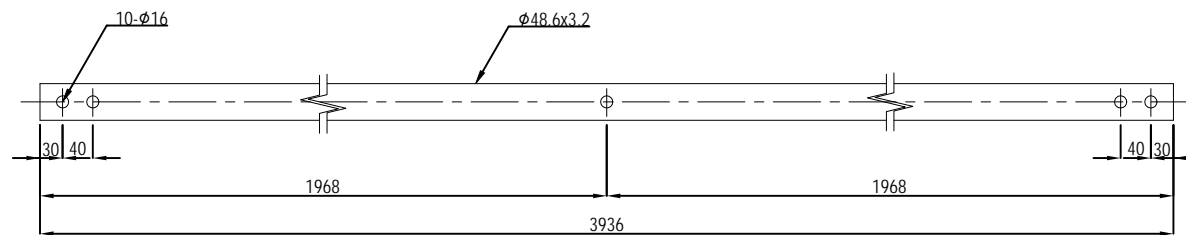
SECTION S = 1:20



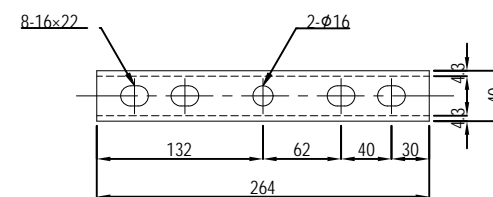
JOINT BLACKET S = 1:5



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.

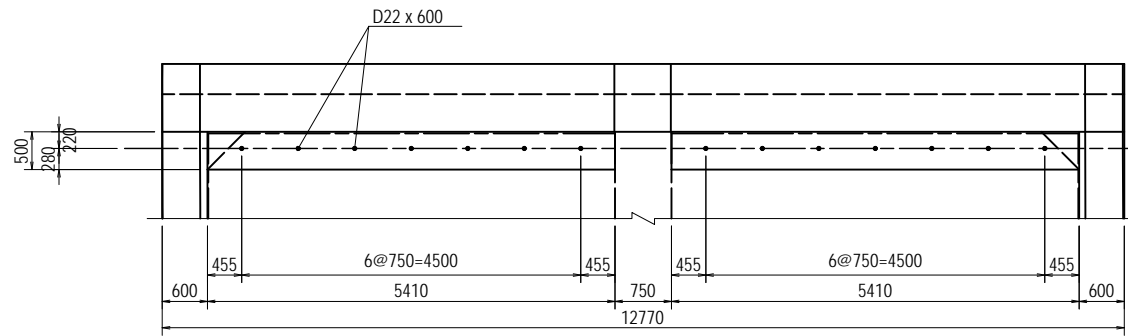
	NAME	SIGNATURE	DATE
PREPARED BY	E. YOKOTA		15 JUNE 2017
CHECKED BY	T. HAYAKAWA		20 JUNE 2017
APPROVED BY	Y. SANO		21 JUNE 2017

DRAWING TITLE  
DETAILS OF GUARD PIPE  
TYPE-A

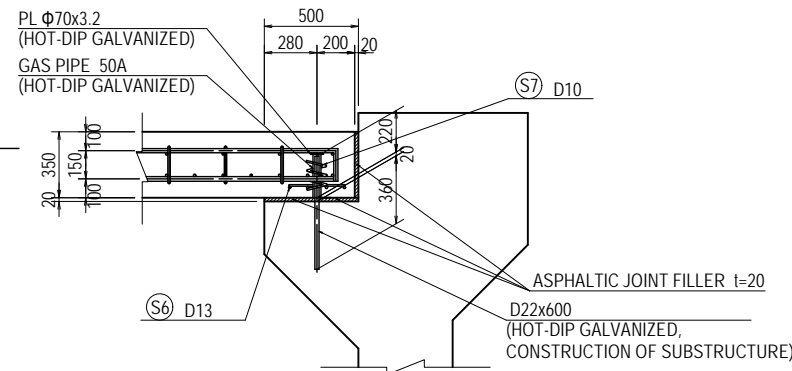
PACKAGE  
2  
DWG No.  
P2-RD-6120

# APPROACH CUSHION SLAB (AF1) BAR ARRANGEMENT OF AF1 ABUTMENT S=1:100

1-1



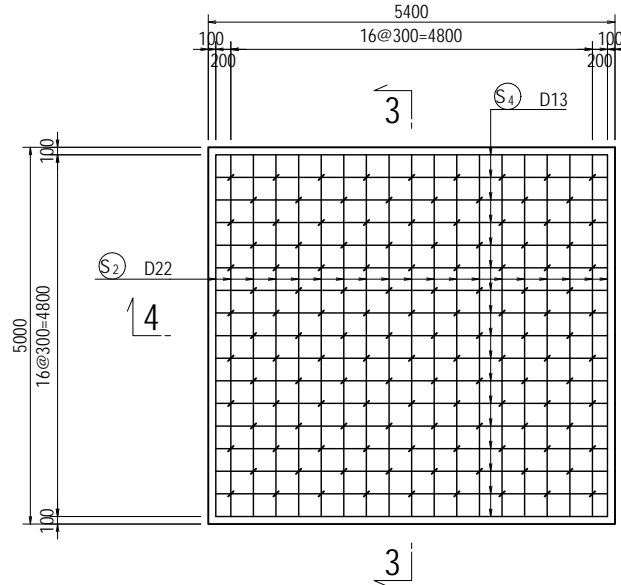
DETAIL OF PEDESTAL S=1:40



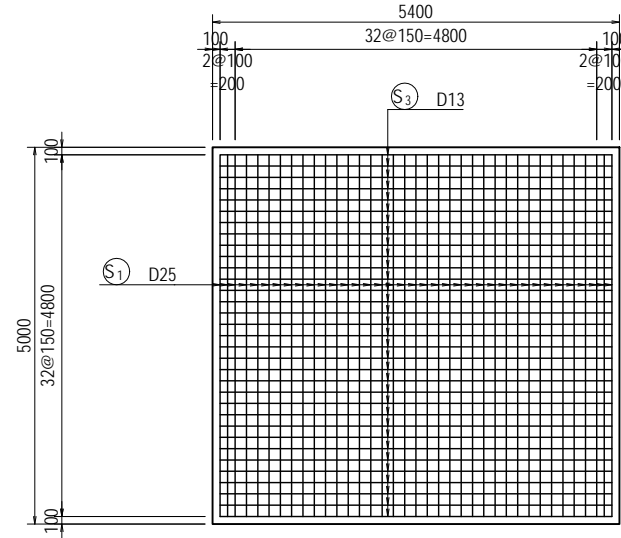
BAR LIST

REBAR NO.	DIA (mm)	LENGTH (mm)	NUMBER	UNIT WEIGHT (kg/m)	WEIGHT/ONE (kg)	WEIGHT (kg)	REMARKS
S 1	D25	4800	74	3.98	19.10	1413	
S 2	D22	5100	38	3.04	15.50	589	
S 3	D13	5200	66	0.995	5.17	341	
S 4	D13	5430	34	0.995	5.40	184	
S 5	D13	570	256	0.995	0.57	146	
S 6	D13	300	112	0.995	0.30	34	
S 7	D10	960	14	0.56	0.54	8	
						D25	1413 kg
						D22	589 kg
						D13	705 kg
						D10	8 kg
						TOTAL	2715 kg
GAS PIPE 50A			230	14	5.31	1.22	17
PL			Φ70x3.2	14		0.10	1

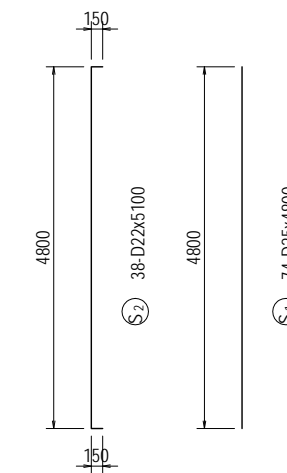
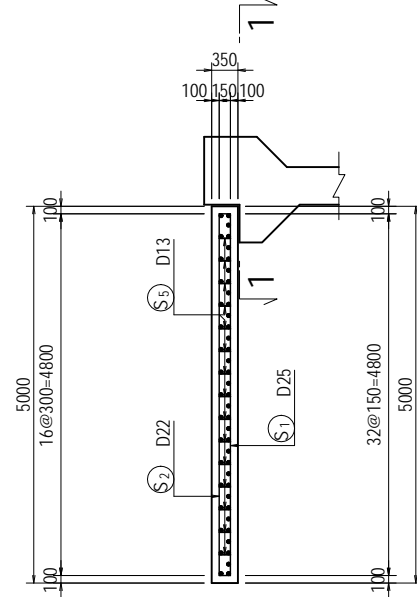
2-2



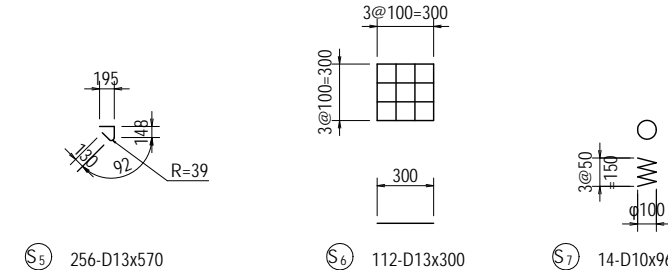
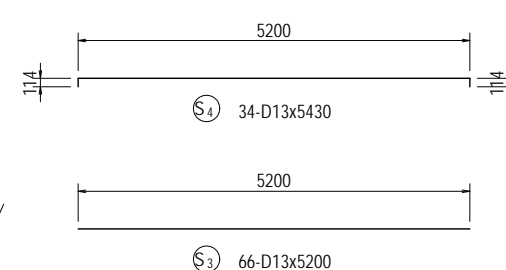
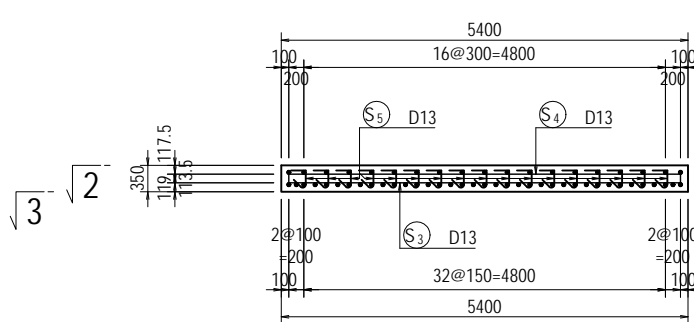
3-3



5-5



4-4



## (REFERENCE) QUANTITY TABLE OF ROAD (1)

Item	Description	Unit	Qty					
			Package2		Total			
			Main Road	Relocation Road				
<b>Road Structures</b>								
1. Earthworks	Excavation & Backfilling	Filling for Surcharge W>=4m	m3	48,516.300	-	48,516		
		Sand Mat for Surcharge W>=4m	m3	61,308.000	-	61,308		
		Filling W>=4m	Bulldozer	m3	37,398.800	-	37,399	
		Filling W<4m		m3	1,014.800	213.106	1,228	
		Cutting W>=4m	Bulldozer	m3	24,887.300	256.883	25,144	
		Back Fill of Wall W>=4m		m3	5,171.300	-	5,171	
	Trimming of Slope	Slope of Embankment		m2	2,527.354	-	2,527	
		Cut Slope		m2	-	-	-	
	Slope Protection	Sodding		m2	2,527.354	-	2,527	
	2. Pavement	Main Road, On-ramp & Relocation Road to Existing Thanlyin Bridge	Subgrade course	t=1000mm	m2	-	-	-
Subbase course			Aggregate, t=500mm		m2	-	-	-
			t=350mm		m2	14,194.670	-	14,195
			t=300mm		m2	-	-	-
			t=250mm		m2	-	-	-
			t=150mm		m2	-	1,208.849	1,209
Base course			Aggregate, t=250mm		m2	9,291.960	-	9,292
			t=150mm		m2	-	1,153.091	1,153
Prime Coat					m2	9,498.770	1,153.091	10,652
Surface Base			Coarse asphalt concrete, t=50mm		m2	9,498.770	1,115.919	10,615
Binder course			Coarse asphalt concrete, t=50mm		m2	-	-	-
Tack Coat					m2	9,739.690	1,115.919	10,856
Surface course			Fine asphalt concrete, t=50mm		m2	9,739.690	1,115.919	10,856
Toll Plaza			Subgrade course	Aggregate, t=350mm		m2	4,127.200	-
		Subbase course	Aggregate, t=250mm		m2	-	-	-
		Base course	Aggregate, t=100mm		m2	4,127.200	-	4,127
		Concrete	t=250mm $\sigma_{ck}=24N/mm$		m2	3,581.350	-	3,581
			t=250mm $\sigma_{ck}=18N/mm$		m2	38.320	-	38
			Attainment section $\sigma_{ck}=24N/mm$		m3	90.280	-	90
		Metal Lath	D6, 15000x15000 (3.11kg/m2)		kg	10,400.180	-	10,400
		Steel Bar	SS400 $\phi 28$ (round bar)		kg	3,274.600	-	3,275
			SD345 D22		kg	2,364.410	-	2,364
			SD345 D13		kg	21,262.170	-	21,262
			Joint Filleer(bituminous material) t=25mm		m2	43.040	-	43
			Asphalt Emulsion		t	0.804	-	1
		Star Sity Access Main Road	Sand Compacted	t=200mm		m2	-	-
Hard Core with Sand			t=500mm		m2	-	-	-
Plastic Sheet					m2	-	-	-
Lean concrete 1:3:6			t=80mm		m2	-	-	-
Concrete			t=200mm		m2	-	-	-
STEEL MESH			$\phi 10 @ 150mm/c$		kg	-	-	-
TRANSVERSE JOINT			PLAIN DOWEL BAR, $\phi 28$		kg	-	-	-
LONGITUDINAL JOINT			DEFORMED TIE BAR, D22		kg	-	-	-
Star Sity Access Side Walk		Sand Compacted	t=300mm		m2	-	-	-
		Hard Core with compacted sand	t=200mm		m2	-	-	-
		Expose Aggregate Finished Footpath	t=75mm		m2	-	-	-
		Soil Aggregate: C-30	t=100mm		m2	-	362.674	363
		Sand	t=30mm		m2	-	362.674	363
		Precast Concrete Paving Block	t=60mm		m2	-	362.674	363

## (REFERENCE) QUANTITY TABLE OF ROAD (2)

Item	Description	Unit	Qty			
			Package2		Total	
			Main Road	Relocation Road		
3. Soft Soil Treatment	Deep Mixing Method	Soil Cement Columns (Working Pile)including Field Test	lm	24,968.000	24,968	
		Soil Cement Colmuns(Preliminary Test Colums; Non-working Pile) including Field Test	lm	46.250	46	
		Solidifying material addition	unit addition(330kg/m3)	t	19,667.540	19,668
	Shallow Improvement		depth=2.0m (L=42.522m,W=3.708m)	m3	315.300	315
			depth=1.3m	m3	11,270.170	11,270
		Solidifying material addition	unit addition(230kg/m3)	t	2,592.140	2,592
	Solidifying material addition	unit addition(290kg/m3)	t	91.437	91	
4. Wall Structures	Mechanicaly Stabilised Earth Wall	Wall Area	Prefabricated Concrete Block	m2	1,036.560	1,037
		Strip	W=80mm,t=3mm	m	9,462.000	9,462
		Crushed Stone of Back Wall	C-40	m3	2,151.670	2,152
		Rising Concrete (Incrude Curb)	Concrete $\sigma_{ck}$ =24N/mm	m3	548.060	548
			Form	m2	2,289.920	2,290
			Steel Bar(SD345 D16)	kg	15,450.500	15,451
			Steel Bar(SD345 D13)	kg	32,512.100	32,512
			Steel Bar(SD345 D10)	kg	9,762.695	9,763
			Joint Filleer(bituminous material) t=20mm	m2	9.250	9
			Joint Filleer(bituminous material) t=10mm	m2	67.620	68
		Leveling Concrete	m3	-	-	
		Crushed Stone (C-40)	m3	-	-	
		Rubber Plate	t=10mm (10x300x600)	m2	106.800	107
		Base Concrete of Wall	Concrete $\sigma_{ck}$ =18N/mm	m3	95.970	96
	Form		m2	258.380	258	
	Geotextile		m2	1,319.530	1,320	
	Gravity Wall	Concrete		m3	288.700	289
		Form		m2	803.970	804
		Steel Bar	SD345 D16	kg	12,498.200	12,498
			SD345 D13	kg	7,040.600	7,041
		Joint	t=10mm	m2	24.673	25
Lighting Foundation		Concrete $\sigma_{ck}$ =24N/mm	m3	3.680	4	
		Form	m2	16.112	16	
Steel Bar(SD345 D13)		kg	0.320	-		

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 T. HAYAKAWA CHECKED BY T. HAYAKAWA APPROVED BY Y. SANO	SIGNATURE   	DATE 27 Nov. 2017 28 Nov. 2017 29 Nov. 2017	DRAWING TITLE (REFERENCE) QUANTITY TABLE OF ROAD(2)	PACKAGE 2 DWG No. P2-RD-7010
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## (REFERENCE) QUANTITY TABLE OF ROAD (3)

Item	Description	Unit	Qty			
			Package2		Total	
			Main Road	Relocation Road		
5. Miscellaneous	Concrete Kerb and Concrete Block	Concrete Kerb(typeA-1)				
		Concrete Kerb(typeA-2)				
		Concrete Kerb(typeA-3)				
		Concrete Kerb(typeA-4)				
		Concrete Kerb(typeA-5)				
		Concrete Kerb(typeB-1)				
		Concrete Kerb(typeB-2)				
		Concrete Kerb(typeB-3)				
		Concrete Kerb(typeC)				
		Concrete Kerb(typeD)				
	Concrete Kerb(type E)	m	95.347	-	95	
Guard-rail	Bridge type	m	-	-	-	
		Metal type(GR-A)	m	634.202	-	634
		Metal type(GR-Am)	m	-	-	-
		Metal type(GR-B)	m	-	-	-
Guard-pipe	Metal type(GP-A)	m	-	-	-	
Road Marking	unbroken ,white W=15cm	m	17.427	-	17	
	unbroken ,white W=8cm	m	-	-	-	
	unbroken ,white W=10cm	m	5,507.497	482.440	5,990	
	unbroken ,white W=30cm	m	10.500	3.522	14	
	unbroken ,white W=45cm	m	24.984	-	25	
	broken ,white W=8cm	m	-	-	-	
	broken ,white W=10cm	m	2,636.370	-	2,636	
	Speed Limit Marks	Nos	0	0	-	
Toll Ahead Marks	Nos	4	0	4		
Arrow Mark ,white	Nos	9	0	9		
Concrete Seal	Median Strip	W=1 5m	m	-	-	-
		W=0 75m	m	81.560	-	82
	Side Strip (Toll Plaza Section)	W=1 20m	m2	44.961	-	45
		Side Strip next to "Wall"	m	165.277	-	-
	Under Flyover Section (Thaketa Side)	W=Varied	m2	1,241.797	-	1,242
Signboard	Informatory Signboard Type A	Nos	-	-	-	
	Informatory Signboard Type B	Nos	-	-	-	
	Informatory Signboard Type C	Nos	-	-	-	
	Regulatory Signs	Nos	-	-	-	
	Warning Signs	Nos	-	-	-	
Approach Slab for Flyover Section (AF-1)	Concrete	$\sigma_{ck} = 24 \text{ N/mm}^2$	m3	18.900	-	19
	Form		m2	7.300	-	7
	Reinforcement Bar	SD345	t	2.715	-	3
	Rubber Bearing	t=20mm	m2	2.200	-	2
	Joint Material	t=20mm	m2	9.000	-	9
	Gas Pipe	Sgp40a	kg	17.000	-	17
Cap	$\phi 60 \times 3.2$	kg	2.000	-	2	

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 T. HAYAKAWA CHECKED BY T. HAYAKAWA APPROVED BY Y. SANO	SIGNATURE   	DATE 27 Nov. 2017 28 Nov. 2017 29 Nov. 2017	DRAWING TITLE (REFERENCE) QUANTITY TABLE OF ROAD(3)	PACKAGE 2 DWG No. P2-RD-7020
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## (REFERENCE) QUANTITY TABLE OF ROAD (4)

Item	Description	Unit	Qty			
			Package2		Total	
			Main Road	Relocation Road		
6. Drainage Structures	Open Ditches	Side Ditch Type U-300x300	m	26.207	-	26
		Side Ditch Type U-500x500	m	-	-	-
		Side Ditch Type U-800x800	m	-	-	-
		Side Ditch Type U-1000x1000	m	-	-	-
		Side Ditch Type U-1500x1500	m	-	-	-
		Side Ditch Type U-500x500 with Concrete Cover	m	-	-	-
		Side Ditch Type U-500x850 with Concrete Cover	m	-	-	-
		Side Ditch Type U-800x800 with Concrete Cover	m	-	-	-
		Side Ditch Type U-800x1000 with Concrete Cover	m	-	-	-
		Side Ditch Type U-1000x1000 with Concrete Cover	m	-	-	-
		Side Ditch Type U-1000x1500 with Concrete Cover	m	-	-	-
		Side Ditch Type U-1500x1500 with Concrete Cover	m	-	-	-
		Side Ditch Type U-1500x2500 with Concrete Cover	m	1,111.563	-	1,112
		Catch Basins/Pits, Inlets, Outlets, Manholes	Catch Pit (C=DITCH) Type A	Nos	32.000	-
	Catch Pit (C=DITCH) Type C		Nos	17.000	-	17
	Catch Pit (C=DITCH) Type D		Nos	2.000	-	2
	Catch Pit (C=DITCH) Type B		Nos	4.000	-	4
	Catch Pit 700 x 700 x 1050		Nos	-	-	-
	Catch Pit 700 x 700 x 1850		Nos	-	-	-
	Catch Pit 700 x 700 x 2250		Nos	-	-	-
	Catch Pit 1000 x 1000 x 1350		Nos	-	-	-
	Catch Pit 1200 x 1200 x 1600		Nos	-	-	-
	Catch Pit 600 x 600 x 1100		Nos	4.000	-	-
	Concrete Pipe Culverts	Concrete Pipe Culvert φ300 (CON. 360°) TYPE B	m	358.097	-	358
		Concrete Pipe Culvert φ300 (CON. 360°) TYPE A	m	102.064	-	102
		Concrete Pipe Culvert φ900 (CON. 360°)	m	-	-	-
	Concrete Box Culverts	Box Culvert Type 1000 x 1000	m	-	-	-
	Vertical Drain	Vertical Drain Type A UPVC Pipe φ200mm	m	66.151	-	66
		Vertical Drain Type A Joint (90° ) φ200mm	Nos	17.000	-	17
		Vertical Drain Type B U-Ditch Section A-A	m	2.550	-	3
Vertical Drain Type B U-Ditch Section B-B		m	13.858	-	14	
Vertical Drain Type B U-Ditch Section C-C		m	1.132	-	1	
Vertical Drain Type C UPVC Pipe φ150mm		m	-	-	-	
Drainage Outlet	Drainage Outlet Type A Left Side	L.S	-	-	-	
	Drainage Outlet Type A Right Side	L.S	-	-	-	
	Drainage Outlet Type A Flap Gate 1000 x 1000	Nos	-	-	-	
	Drainage Outlet Type B Left Side	L.S	1.000	-	1	
	Drainage Outlet Type B Right Side	L.S	1.000	-	1	
	Drainage Outlet Type B Flap Gate 2000 x 1500	Nos	2.000	-	2	