

ROAD INVESTMENT DEPARTMENT  
MINISTRY OF PUBLIC WORKS, URBANIZATION AND HABITAT

BASIC DESIGN ON THE PROJECT FOR  
REHABILITATION OF BRIDGES ON ARTERIAL  
NATIONAL ROADS IN THE REPUBLIC OF GUINEA

JAPAN INTERNATIONAL COOPERATION AGENCY  
KATAHIRA & ENGINEERS INTERNATIONAL

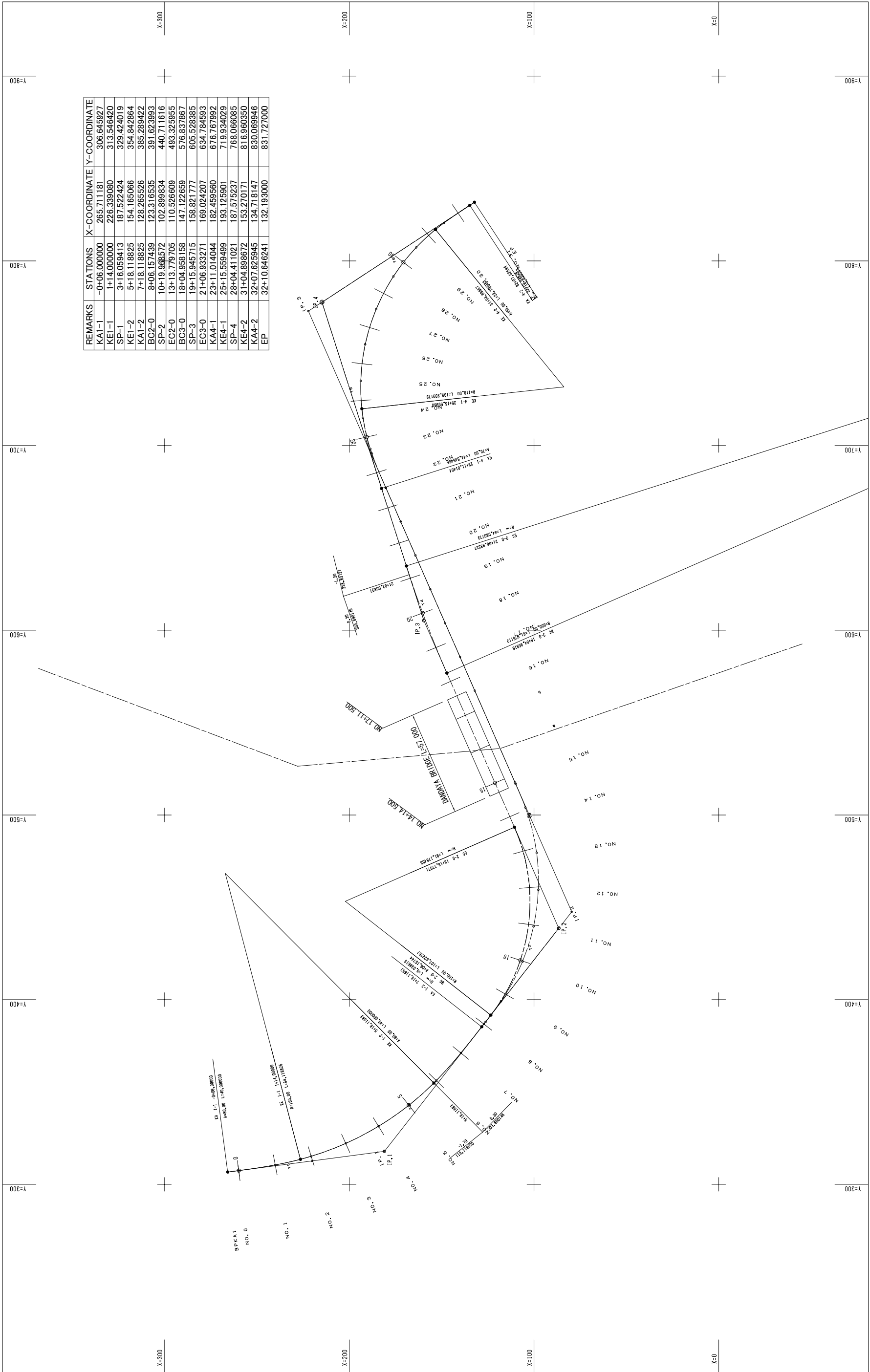
TITLE: DANDA YABOUGE  
LOCATION MAP

SCALE:

DRAWING No.  
D-1

2

# COORDINATION DRAWING (DANDAYA BRIDGE)



ROAD INVESTMENT DEPARTMENT  
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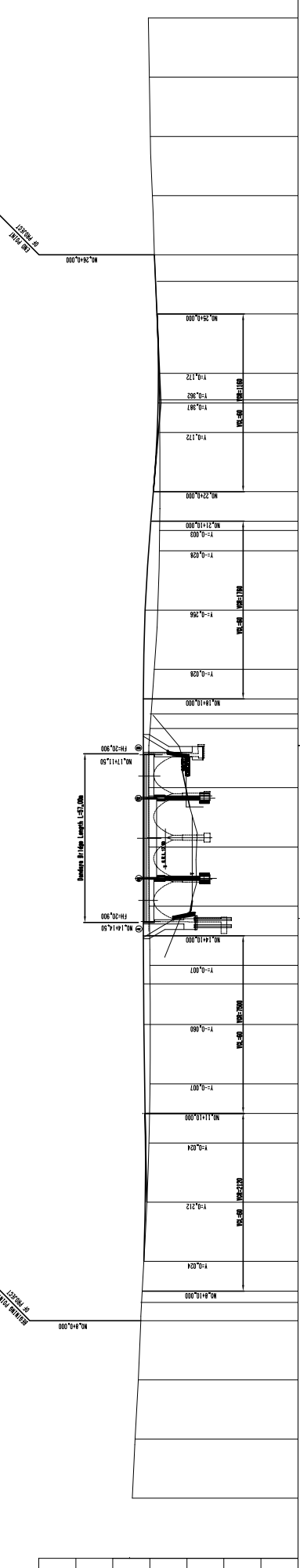
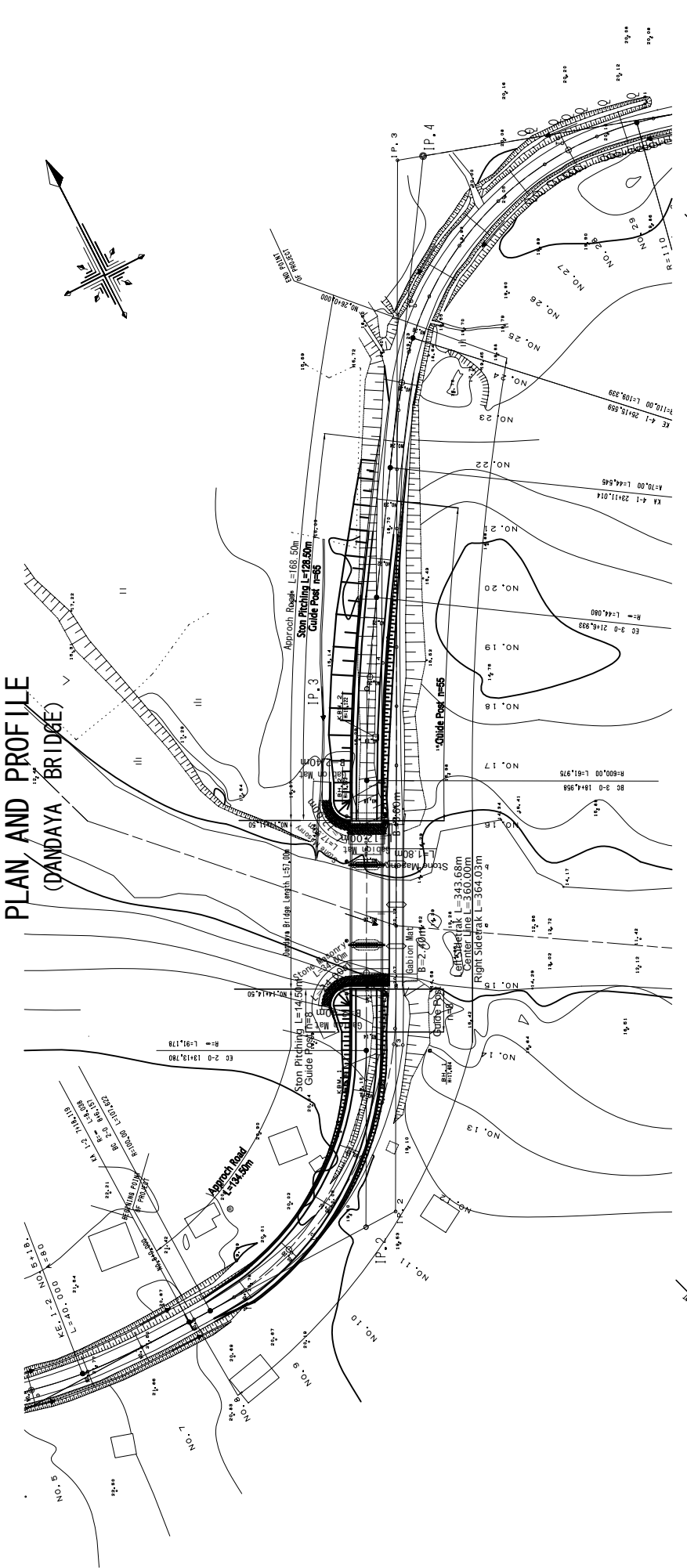
JAPAN INTERNATIONAL COOPERATION AGENCY  
KATAHIRA & ENGINEERS INTERNATIONAL

TITLE : DANDAYA BRIDGE  
COORDINATION DRAWING

SCALE :  
S=1:1000

DRAWING No :  
D-2

# PLAN AND PROFILE (DANDAYA BRIDGE)



VERTICAL ALIGNMENT	PAVEMENT HEIGHT	GROUND HEIGHT	INTERVAL	STATION	HORIZONTAL CURVATURE	SUPER ELEVATION
				NO. 5		3.000
				NO. 6		3.000
				NO. 7		3.000
				NO. 8		3.000
				NO. 9		3.000
				NO. 10		3.000
				NO. 11		3.000
				NO. 12		3.000
				NO. 13		3.000
				NO. 14		3.000
				NO. 15		3.000
				NO. 16		3.000
				NO. 17		3.000
				NO. 18		3.000
				NO. 19		3.000
				NO. 20		3.000
				NO. 21		3.000
				NO. 22		3.000
				NO. 23		3.000
				NO. 24		3.000
				NO. 25		3.000
				NO. 26		3.000
				NO. 27		3.000
				NO. 28		3.000
				NO. 29		3.000
				NO. 30		3.000

**ROAD INVESTMENT DEPARTMENT**  
**MINISTRY OF PUBLIC WORKS, URBANIZATION AND HABITAT**

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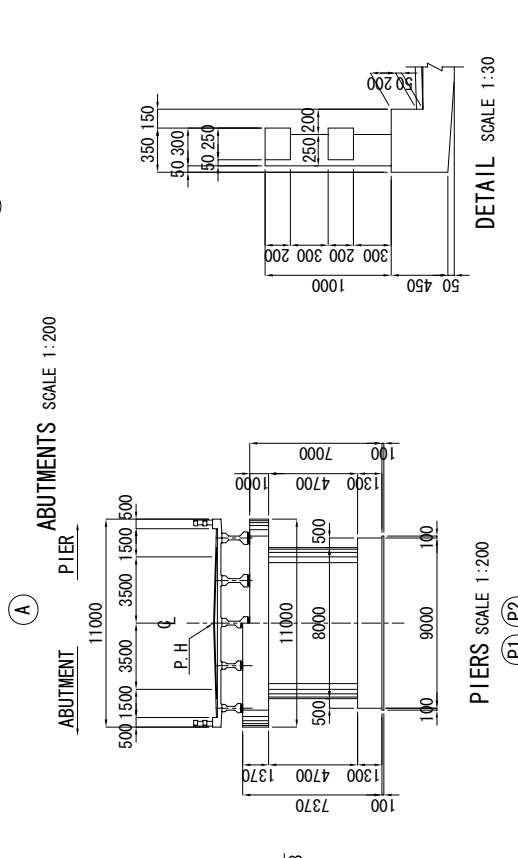
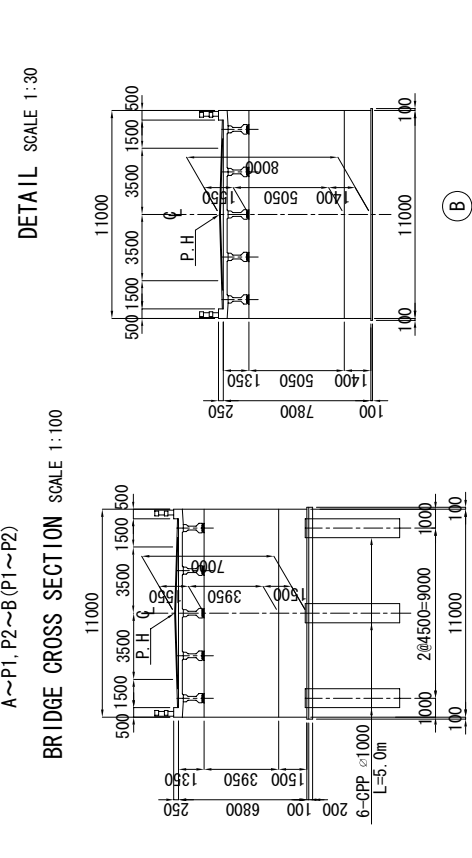
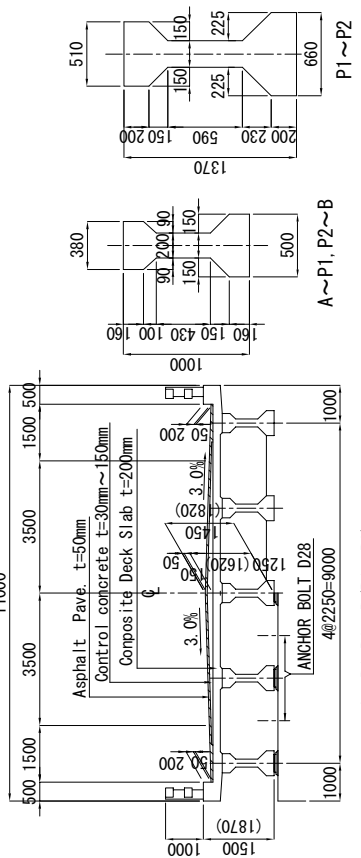
**JAPAN INTERNATIONAL COOPERATION AGENCY  
 KATAHIRA & ENGINEERS INTERNATIONAL**

**TITLE: DANDAYA BRIDGE**  
**PLAN AND PROFILE**

**SCALE:**  
 H=1:1000  
 V=1: 400

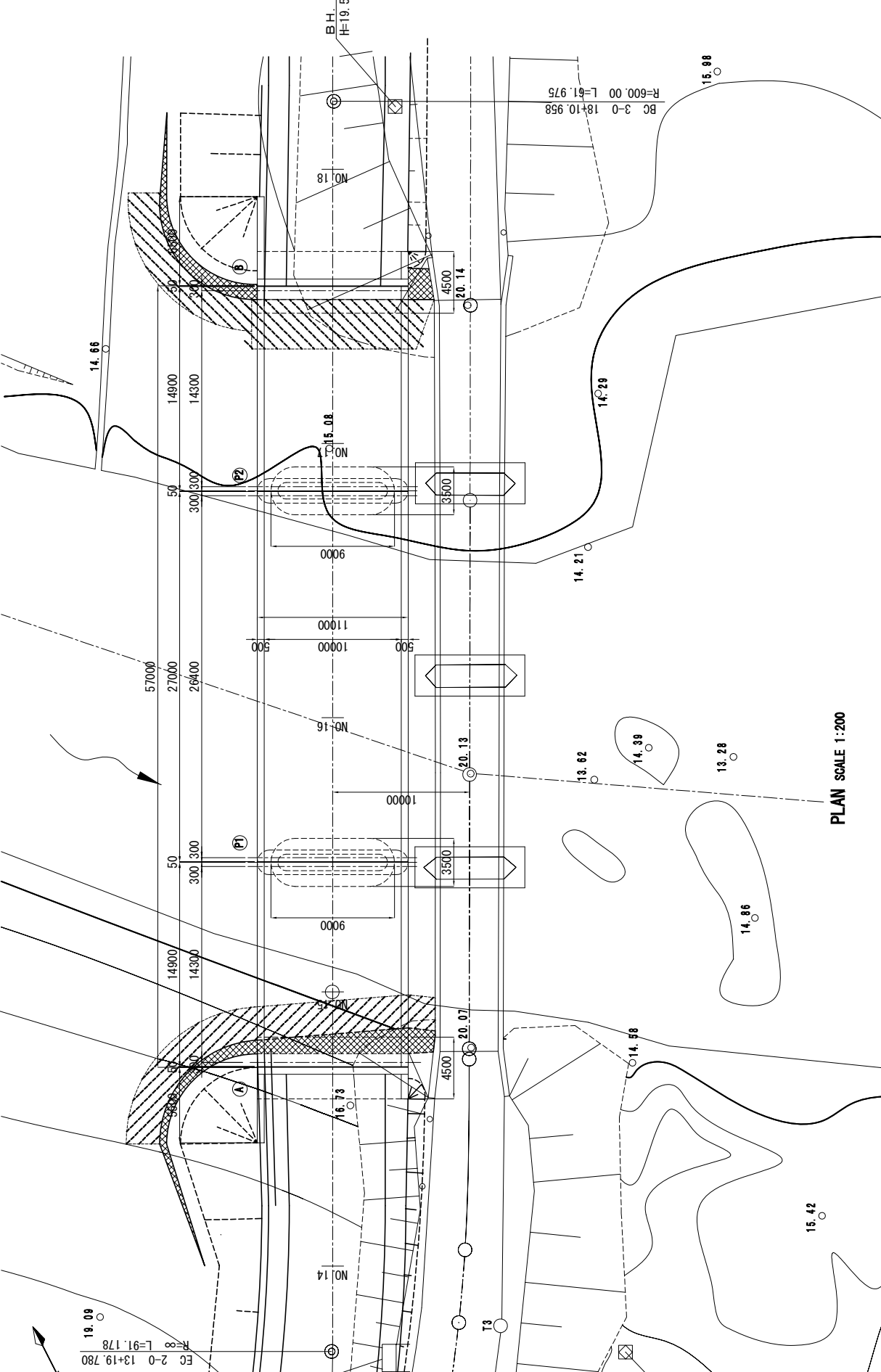
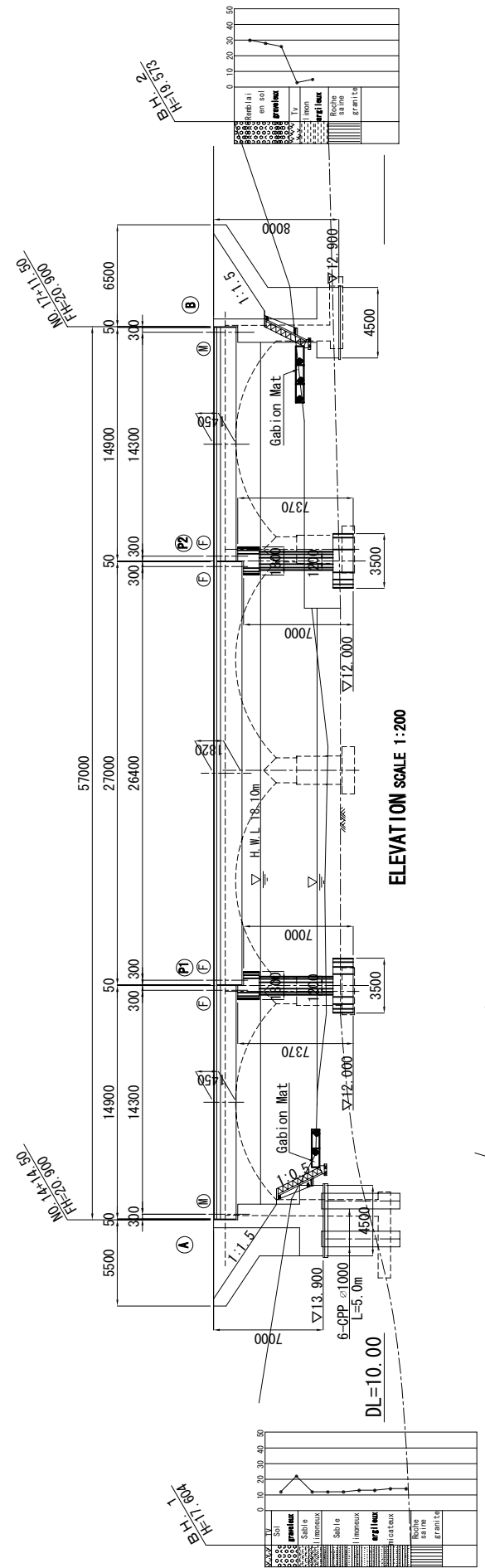
**DRAWING No:**  
 D-3

# GENERAL VIEW OF DANDAYA BRIDGE



DESIGN CRITERIA

ROAD CLASS	NATIONAL ROAD
DESIGN SPEED	V=50km/h
TYPE OF SUPERSTRUCTURE	3-SPAN CONNECTING PC-COMPOSITE GIRDER
BRIDGE LENGTH	57,000m
SPAN LENGTH	14,300m + 26,400m + 14,300m
LIVE LOAD	BPEL 91 A-LIVE ROAD (FRENCH)
ROADWAY WIDTH	LIVE LOAD TYPE-B(JAPAN)
SHOULDER WIDTH	2 x 3,500m = 7,000m
CROSS SLOPE	3%
SEISMIC COEFFICIENT	kh=0.100
GIRDER CON.	$\sigma_{ck}=36N/mm^2$
CROSS BEAM CON.	$\sigma_{ck}=30N/mm^2$
SLAB, CROSS	$\sigma_{ck}=24N/mm^2$
WIRE FOR PC	$f_{py}=1600N/mm^2$
REINFORCEMENT	$f_y=295N/mm^2$ (SD295)
SUB STRUCTURE CON.	$\sigma_{ck}=24N/mm^2$
DESIGN STANDARD	SPECIFICATION FOR HIGHWAY BRIDGES JAPAN ASSOCIATION I~V (MARCH-2002)



TITLE: GENERAL VIEW OF DANDAYA BRIDGE

SCALE: S=1:200

DRAWING No: D-4

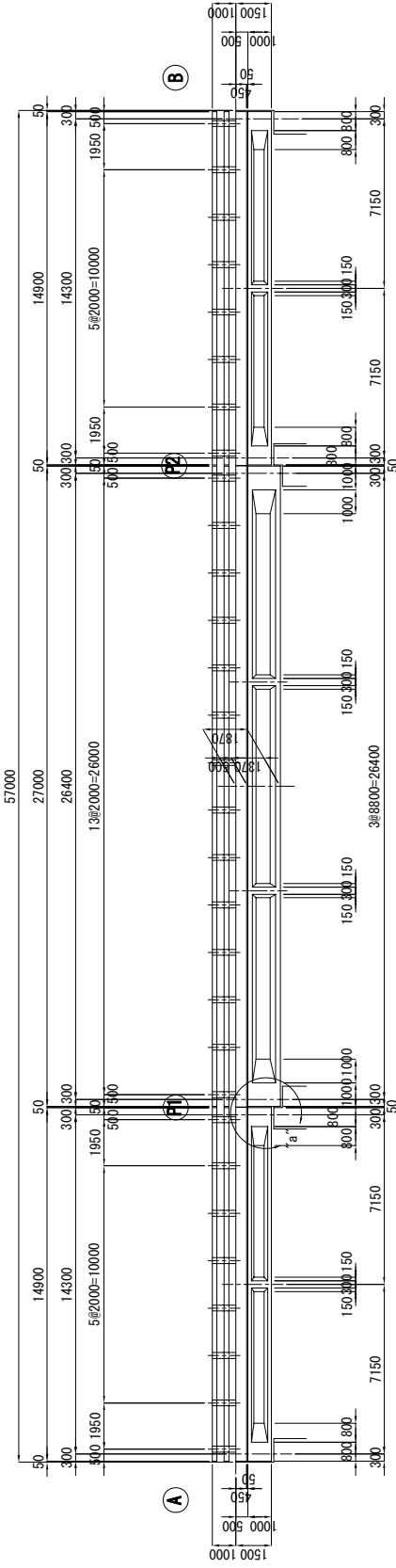
JAPAN INTERNATIONAL COOPERATION AGENCY  
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BASIC DESIGN ON THE PROJECT FOR  
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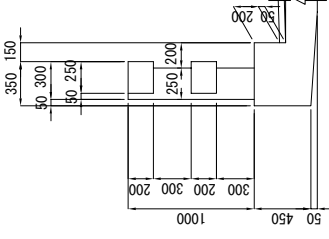
ROAD INVESTMENT DEPARTMENT  
MINISTRY OF PUBLIC WORKS, URBANIZATION AND HABITAT

# STRUCTURE DRAWING OF SUPERSTRUCTURE (DANDAYA BRIDGE)

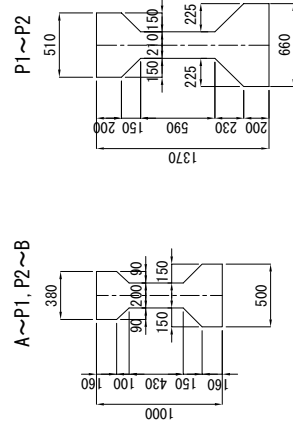
ELEVATION SCALE 1:150



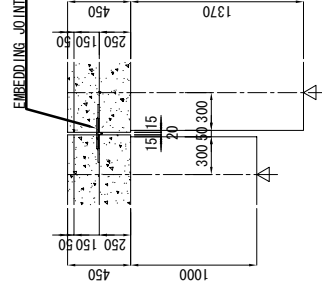
DETAIL OF RAILING SCALE 1:30



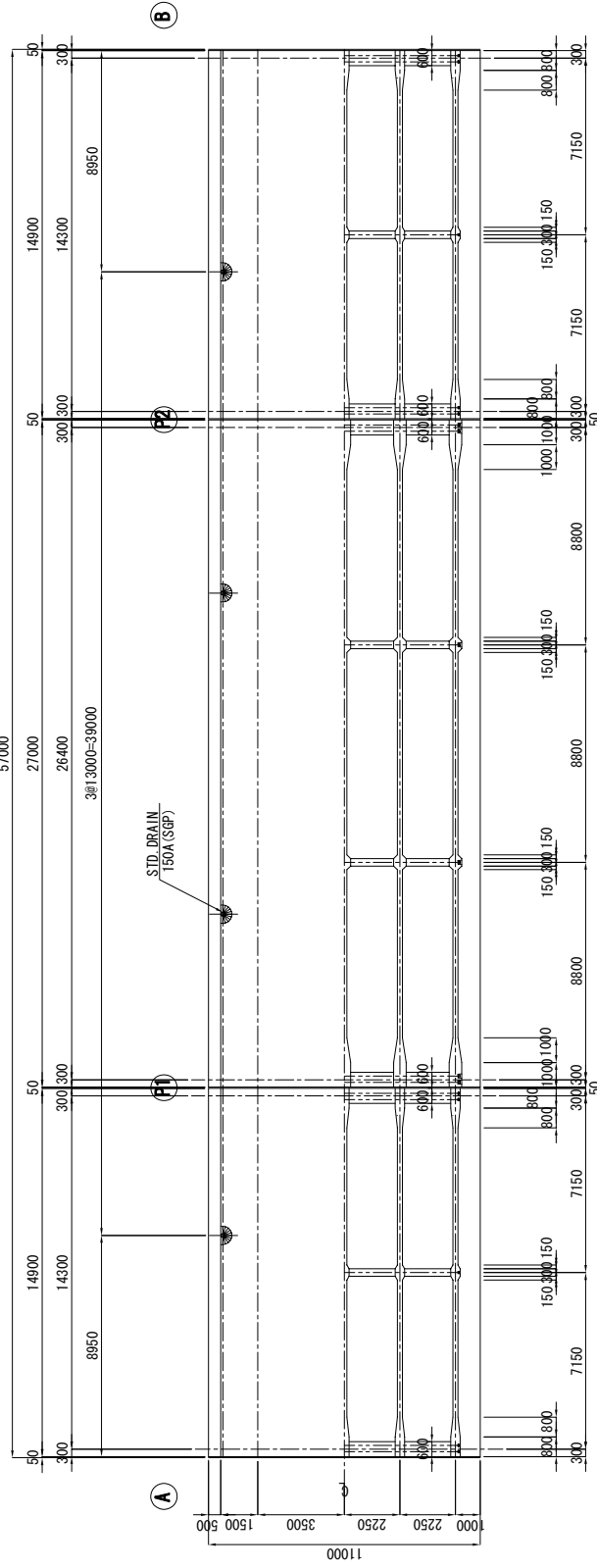
DETAIL OF GIRDER SCALE 1:30



"a" DETAIL SCALE 1:30

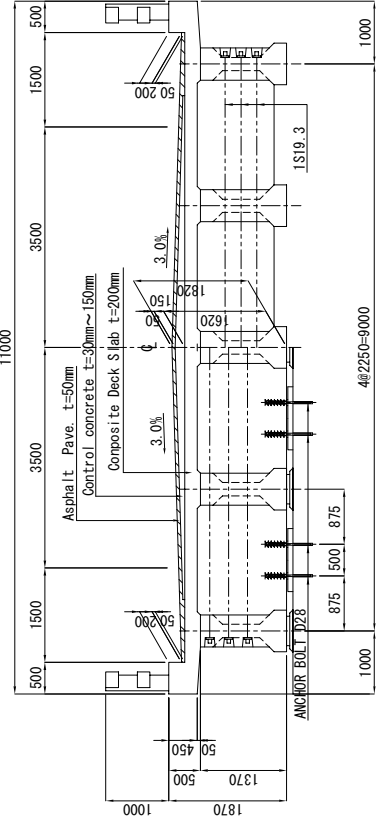


PLAN SCALE 1:150

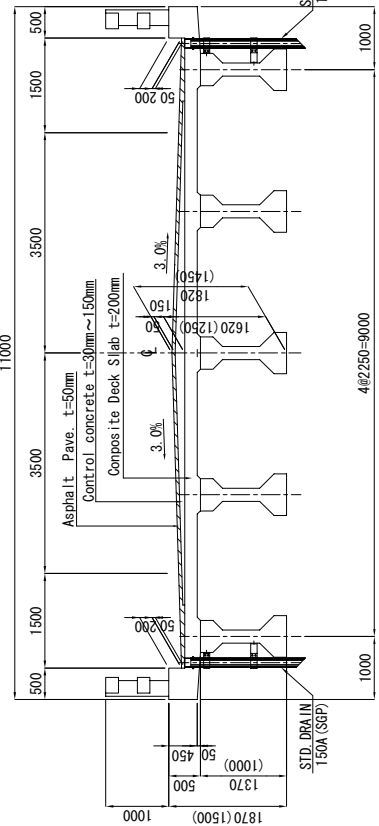


BRIDGE CROSS SECTION SCALE 1:60

P1~P2  
END MIDDLE



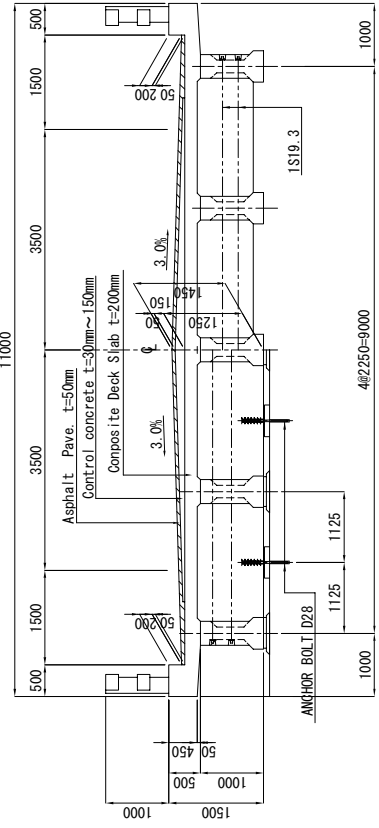
P1~P2 (A~P1, P2~B)  
STANDARD



MIDDLE

A~P1, P2~B

END



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JAPAN INTERNATIONAL COOPERATION AGENCY  
KATAHIRA & ENGINEERS INTERNATIONAL

TITLE: DANDAYA BRIDGE

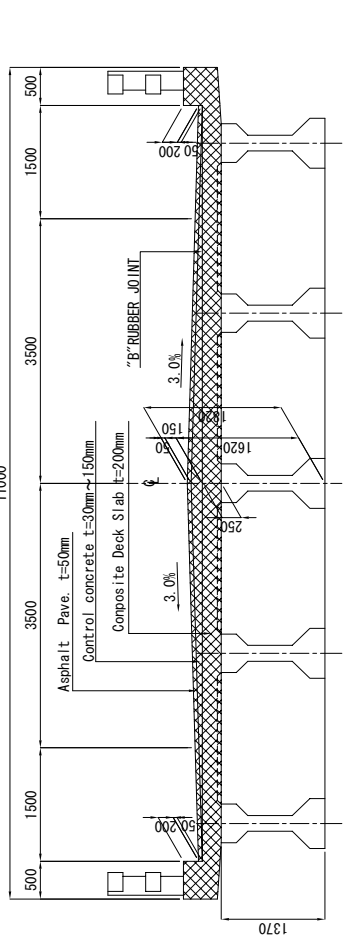
STRUCTURE DRAWING OF SUPERSTRUCTURE

SCALE:  
S=1:150

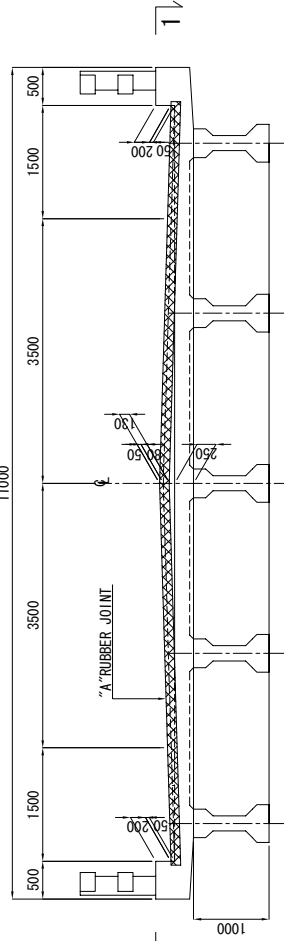
DRAWING No:  
D-5

# DETAILS OF EXPANSION JOINT AND DRAINAGE (DANDAYA BRIDGE)

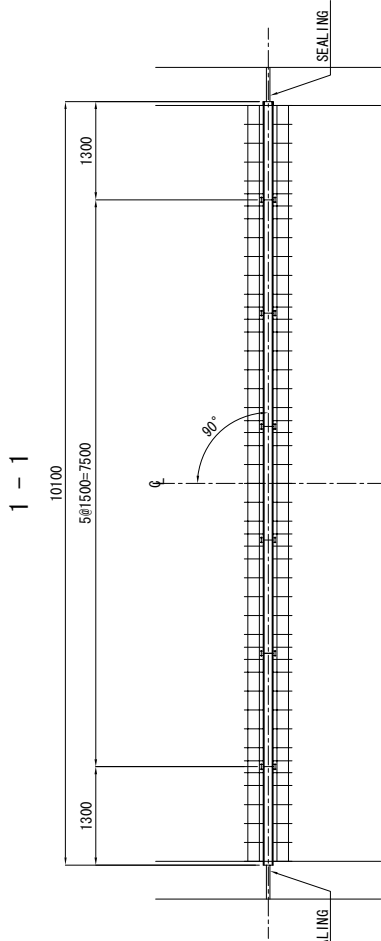
(P1), (P2) SECTION SCALE 1:50



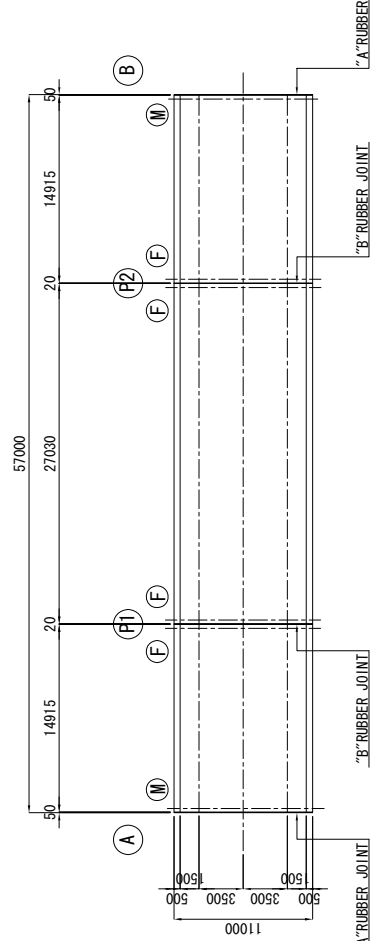
(A), (B) SECTION SCALE 1:50



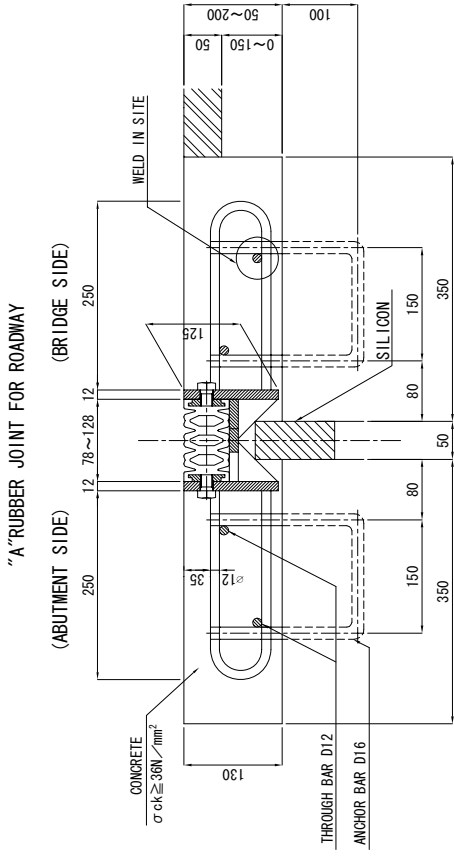
(A), (B) PLAN SCALE 1:50



MARKING DIAGRAM SCALE 1:300

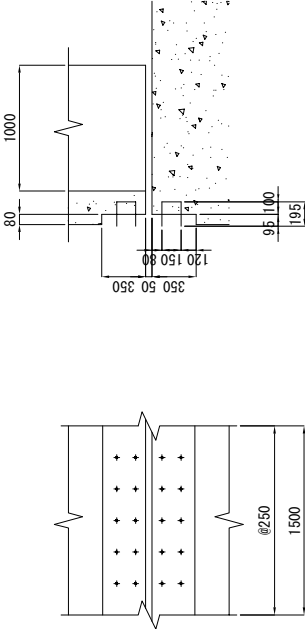


CROSS SECTION SCALE 1:5

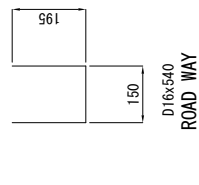


EXPANSION RANGE=50mm

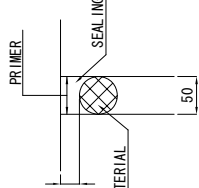
ANCHOR BAR UNDER CONCRETE SCALE 1:30



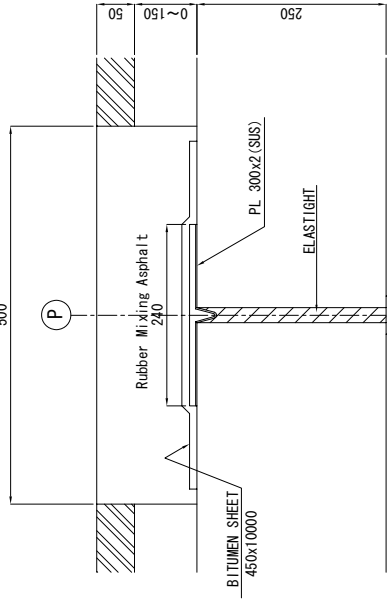
ANCHOR BAR SCALE 1:10



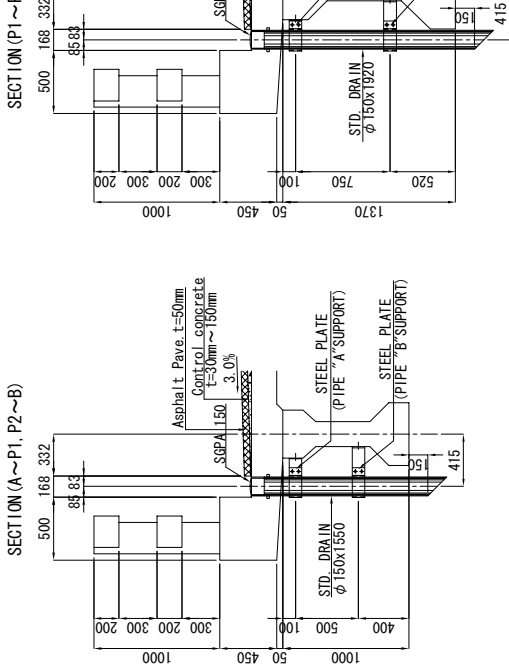
SEALING SCALE 1:5



'B' EMBEDDING JOINT

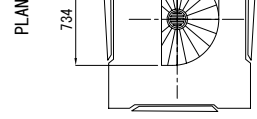


DRAINAGE SCALE 1:30

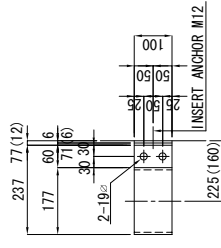


SECTION (A~P1, P2~B)

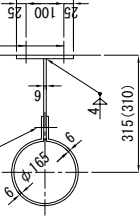
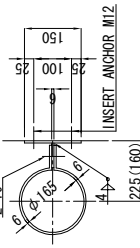
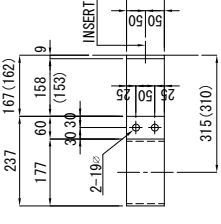
SECTION (P1~P2)



'A' (C) SUPPORT SCALE 1:10



'B' (D) SUPPORT SCALE 1:10



- 2-PL 100x6x651 (SS400)
- 1-PL 100x6x131 (66) (SS400)
- 1-PL 100x6x150
- 2-BN M16x40 (SS400)
- 2-INSERT ANCHOR M12 (SS400)

- 2-PL 100x6x651 (SS400)
- 1-PL 100x6x218 (213) (SS400)
- 1-PL 100x6x150
- 2-BN M16x40 (SS400)
- 2-INSERT ANCHOR M12 (SS400)

'A' MATERIAL OF EXPANSION JOINT

MATERIAL	QUALITY	QUANTITY		REMARKS
		(A)	(B) TOTAL	
RUBBER JOINT	SS400 COMPOSITE RUBBER	10.10 m	10.10 m	20.2 m ROADWAY
SEALING	SILICON	1.8 liter	1.8 liter	3.6 liter ROADWAY

'A' ANCHOR BAR

SIZE	QUANTITY		WEIGHT		REMARKS
	(A)	(B) TOTAL	EACH	TOTAL	
D16x540	82	82	0.852 kg	138 kg	ROADWAY

'B' EMBEDDING MIXING OF EXPANSION JOINT

EMBEDDING MIXING	QUALITY	QUANTITY		REMARKS
		(P1)	(P2) TOTAL	
BITUMEN SHEET	450x10000	4.50 m <sup>2</sup>	4.50 m <sup>2</sup>	9.0 m <sup>2</sup> ROADWAY
SUS PL	(300x2x10000) x T930kg/m <sup>3</sup> x2	47.6 kg	47.6 kg	95.2 kg ROADWAY
ELASTIGHT	t=20	2.5 m <sup>2</sup>	2.5 m <sup>2</sup>	5.0 m <sup>2</sup> ROADWAY

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TITLE : DANDAYA BRIDGE

SCALE :  
S=1:5

DRAWING No:  
D-6

DETAILS OF EXPANSION JOINT AND DRAINAGE

JAPAN INTERNATIONAL COOPERATION AGENCY  
KATAHIRA & ENGINEERS INTERNATIONAL

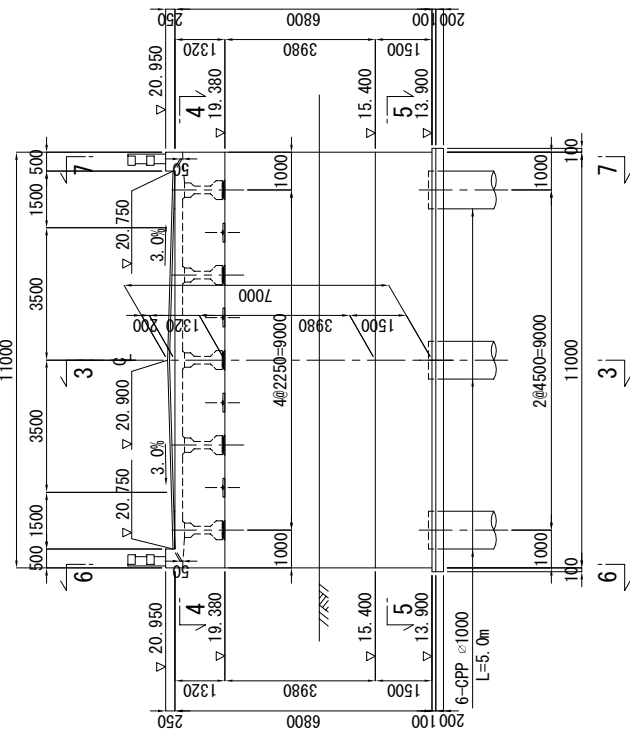
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ROAD INVESTMENT DEPARTMENT  
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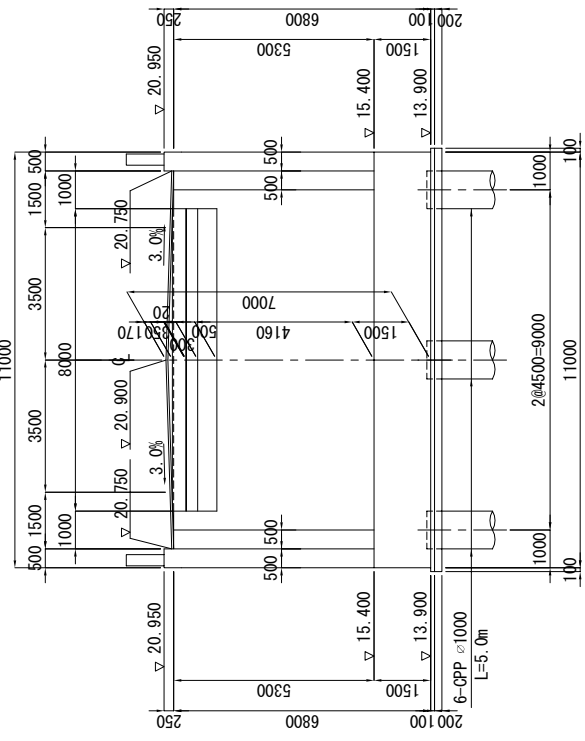
# STRUCTURE DRAWING OF A ABUTMENT (DANDAYA BRIDGE)

SCALE 1:100

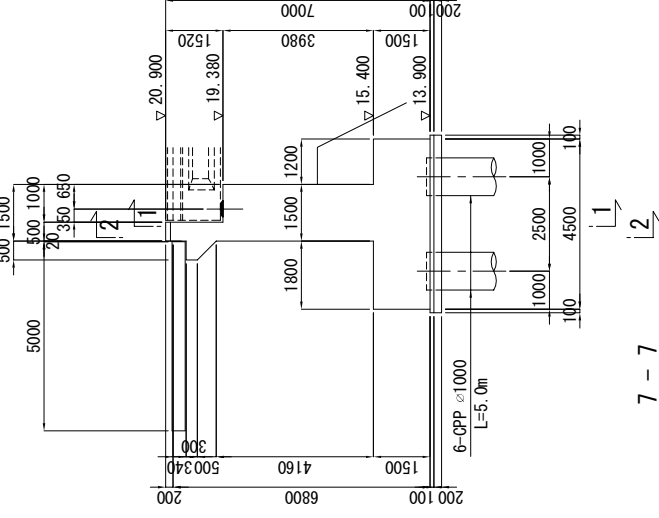
1 - 1



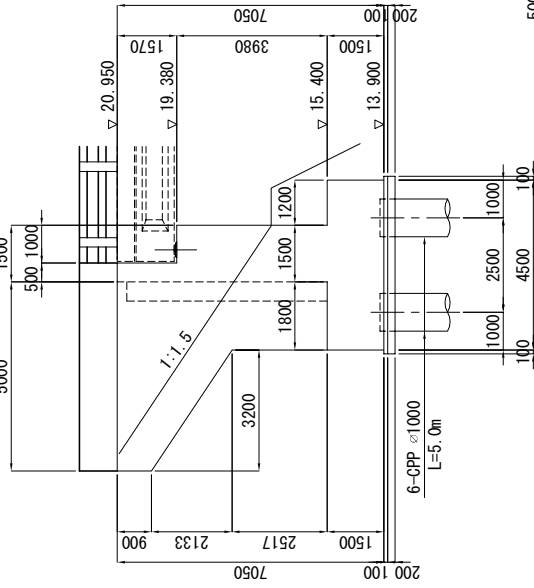
2 - 2



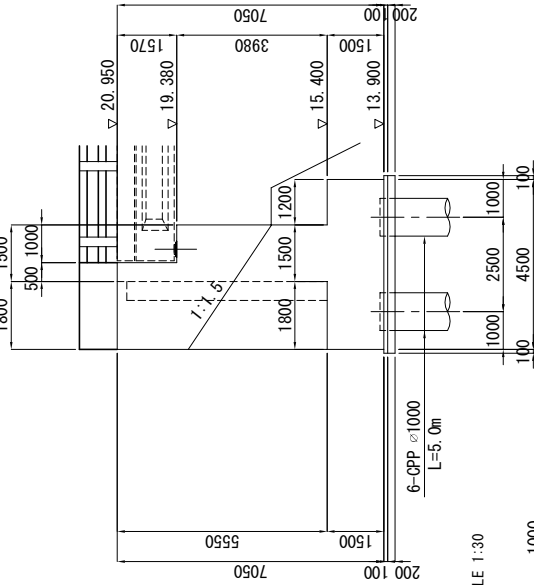
3 - 3



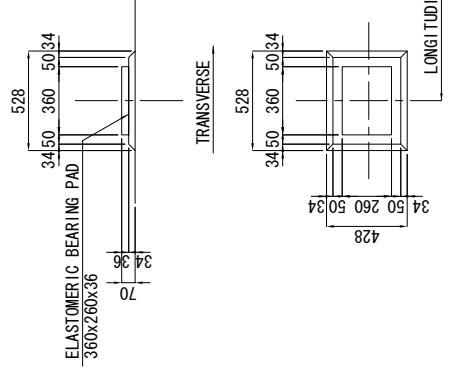
6 - 6



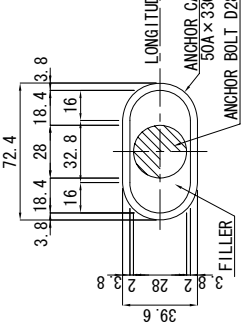
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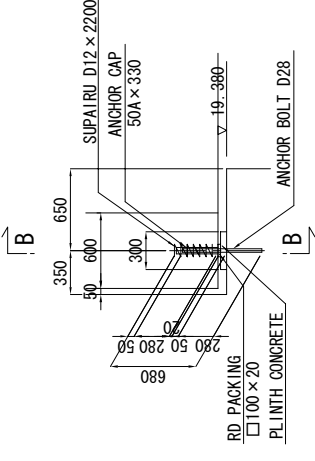
DETAILS SCALE 1:20



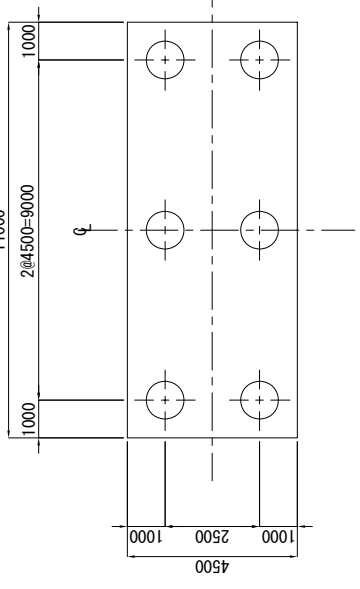
ANCHOR CAP SCALE 1:2  
Mov



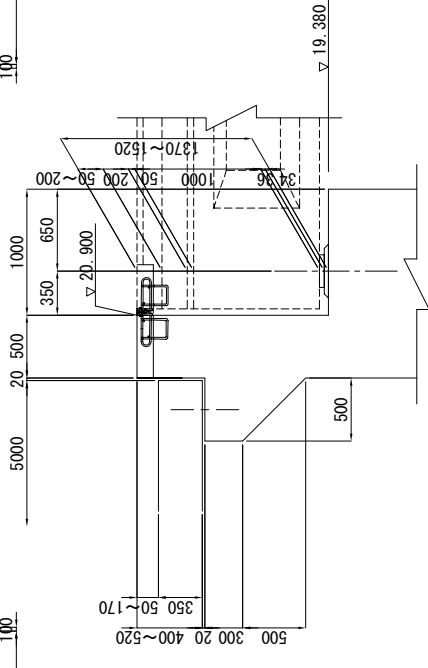
ANCHOR BOLT SCALE 1:30  
A - A



5 - 5



DETAILS SCALE 1:30



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KATAHIRA & ENGINEERS INTERNATIONAL

TITLE: DANDAYA BRIDGE  
STRUCTURE DRAWING OF A ABUTMENT

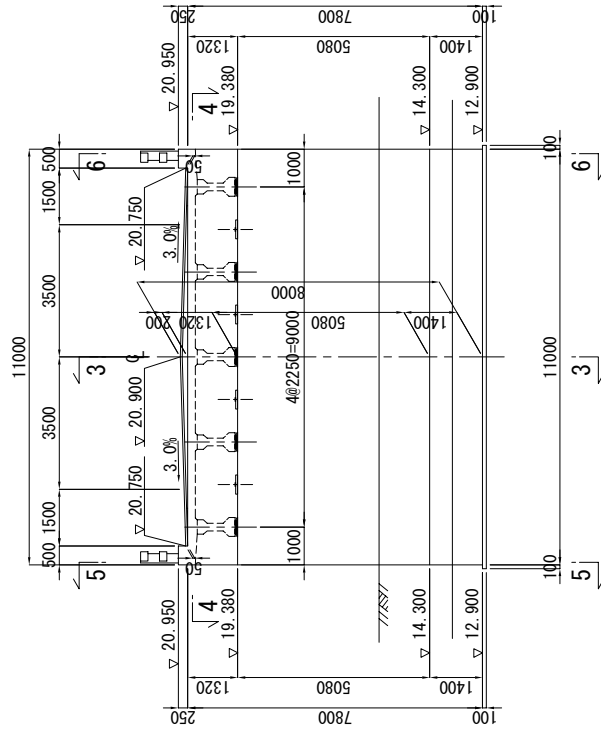
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S=1:100

DRAWING No:  
D-7

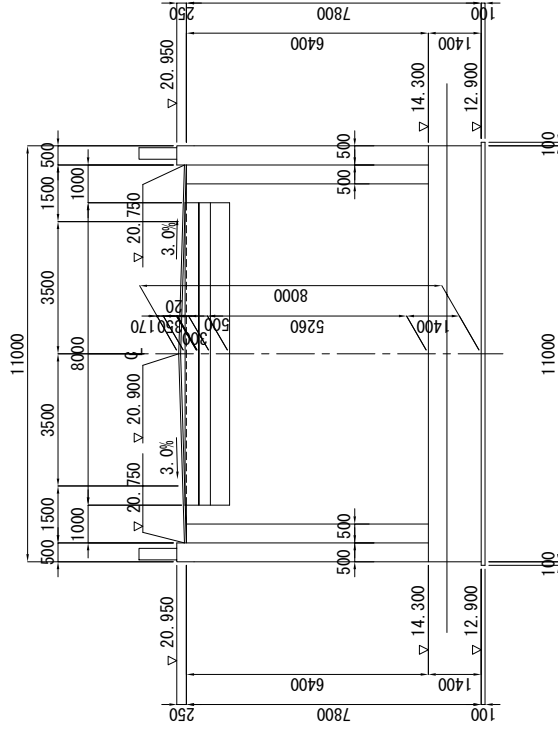
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SCALE 1:100

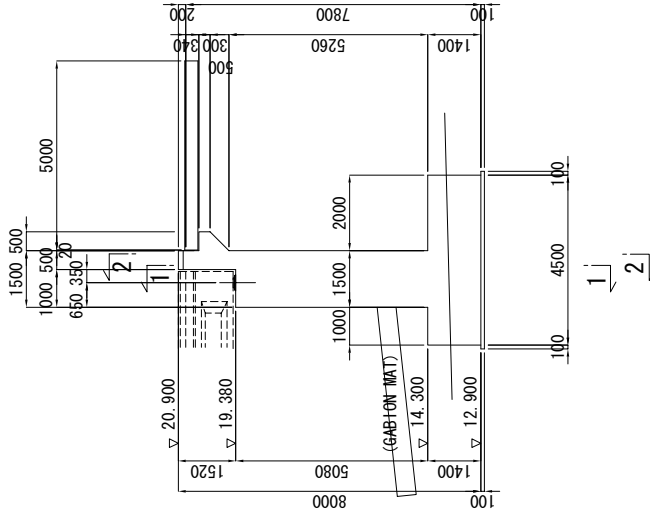
1 - 1



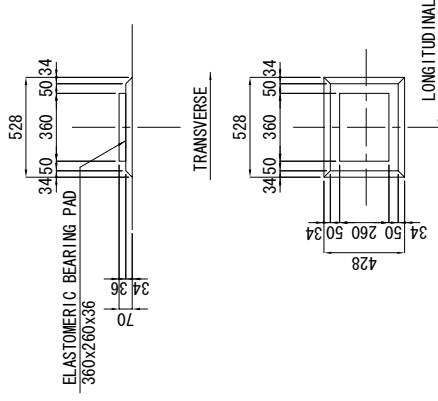
2 - 2



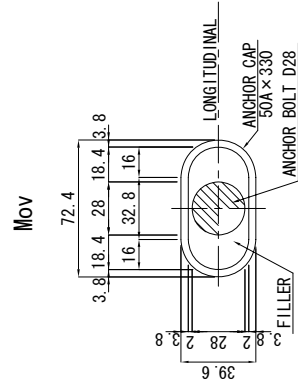
3 - 3



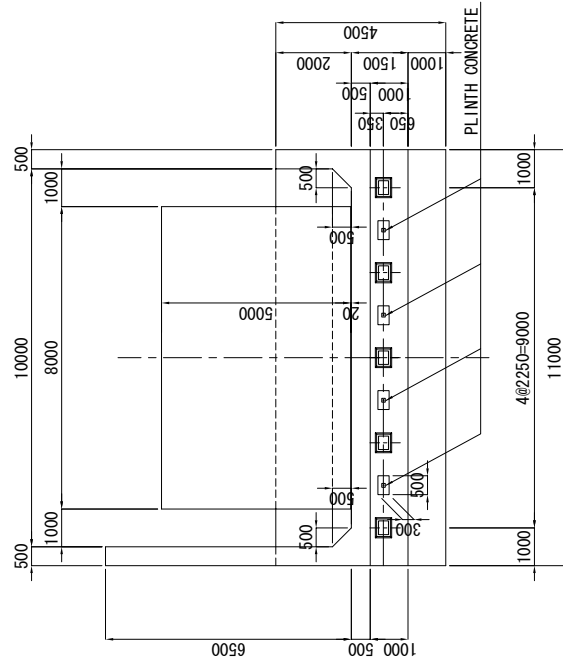
DETAILS SCALE 1:20



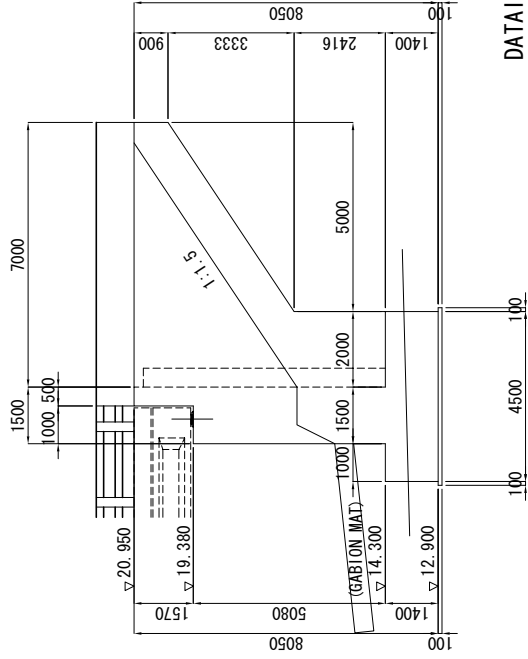
ANCHOR CAP SCALE 1:2



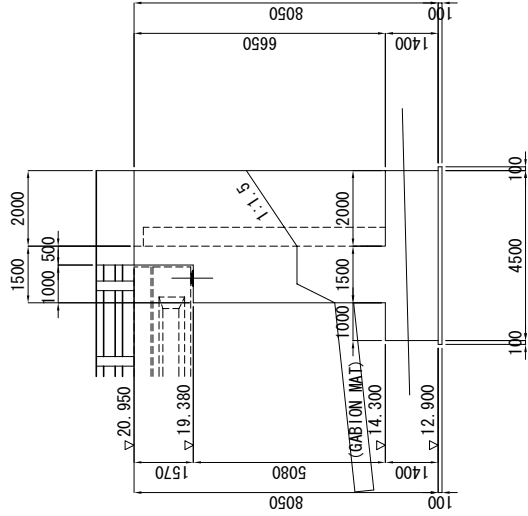
4 - 4



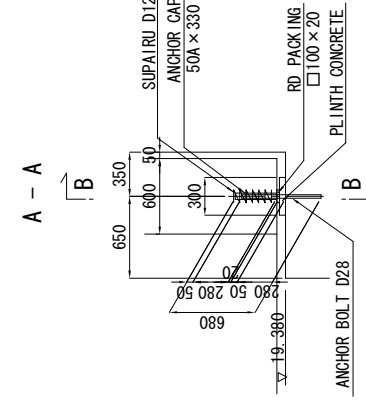
5 - 5



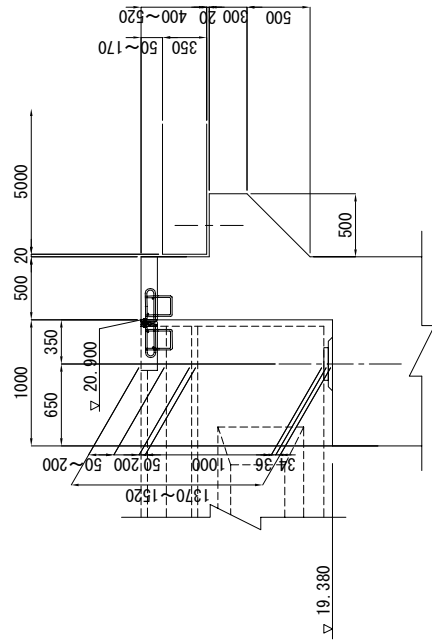
6 - 6



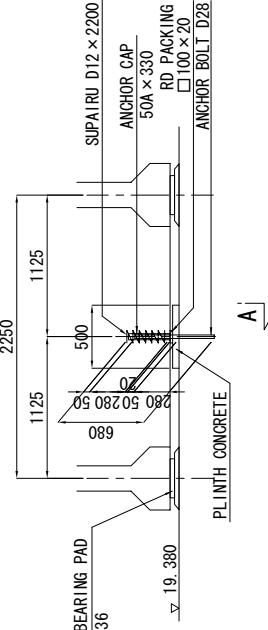
ANCHOR BOLT SCALE 1:30



DETAILS SCALE 1:30



B - B



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TITLE: DANDAYA BRIDGE  
STRUCTURE DRAWING OF B ABUTMENT

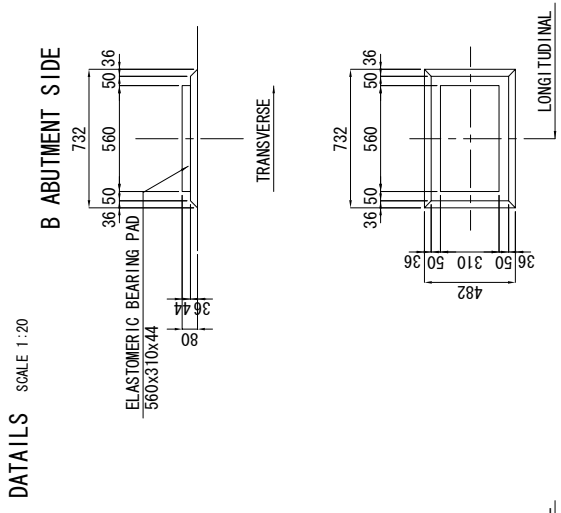
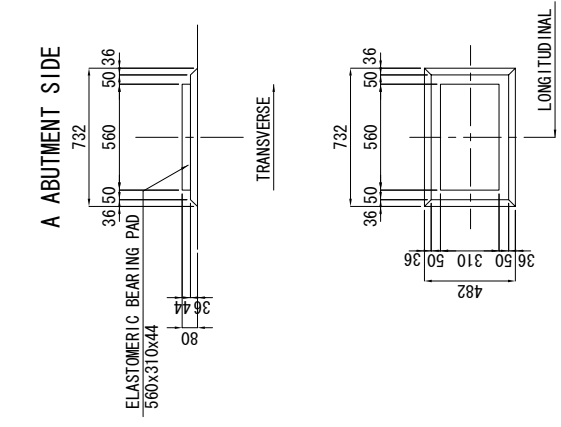
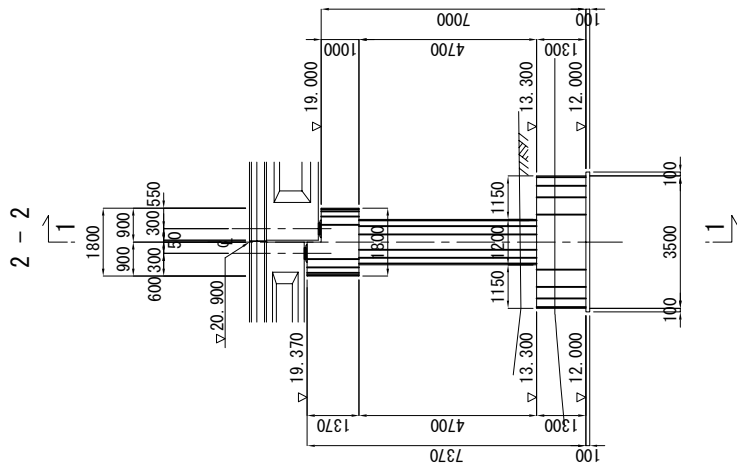
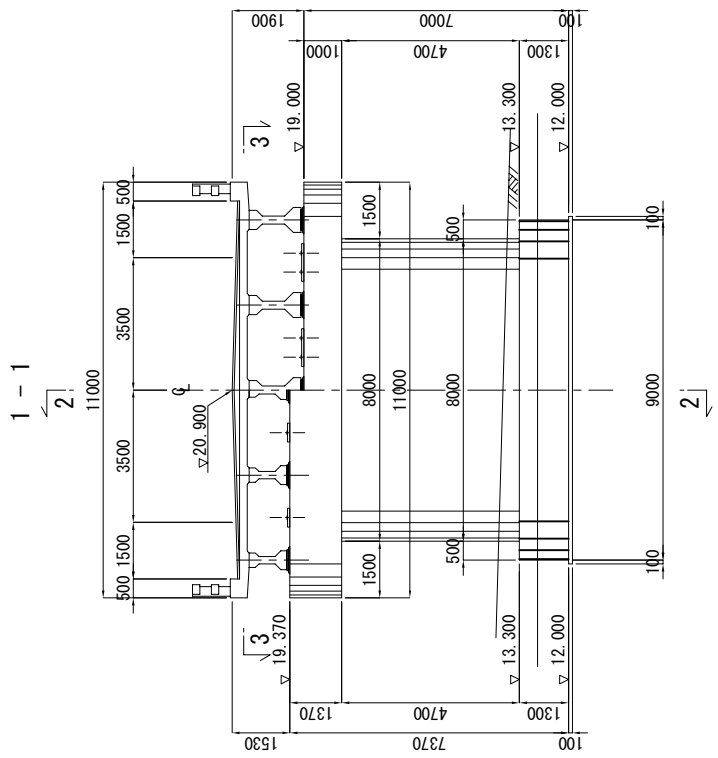
SCALE:  
S=1:100

DRAWING No:  
D-8

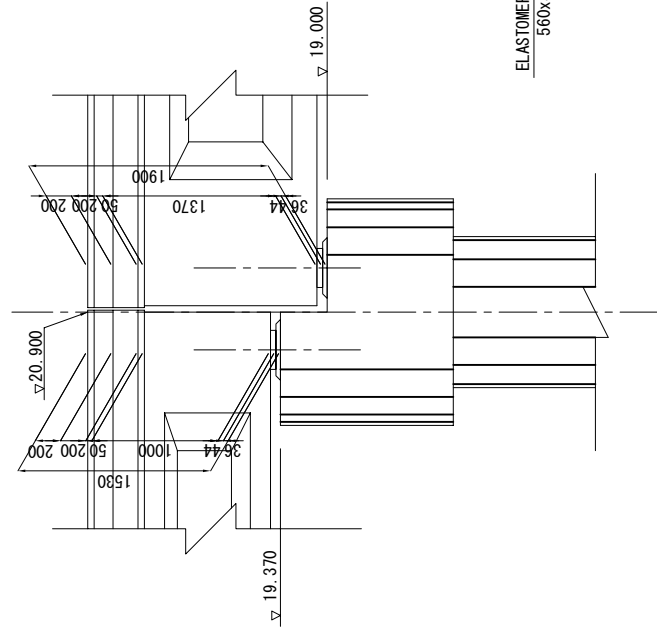


# STRUCTURE DRAWING OF P1 PIER (DANDAYA BRIDGE)

SCALE 1:100

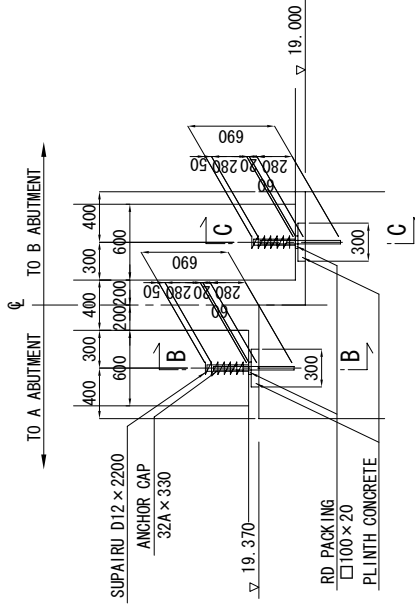


DETAILS SCALE 1:30



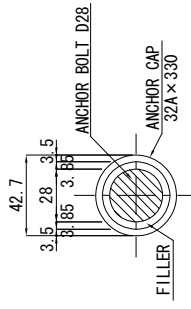
ANCHOR BOLT SCALE 1:30

A - A



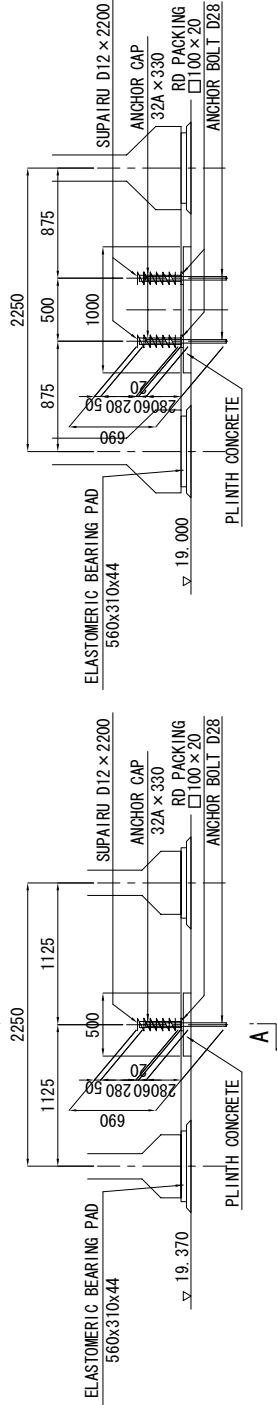
ANCHOR CAP SCALE 1:2

Fix



B - B

C - C



ROAD INVESTMENT DEPARTMENT  
MINISTRY OF PUBLIC WORKS, URBANIZATION AND HABITAT

BASIC DESIGN ON THE PROJECT FOR  
REHABILITATION OF BRIDGES ON ARTERIAL  
NATIONAL ROADS IN THE REPUBLIC OF GUINEA

JAPAN INTERNATIONAL COOPERATION AGENCY  
KATAHIRA & ENGINEERS INTERNATIONAL

TITLE: DANDAYA BRIDGE  
STRUCTURE DRAWING OF P1 PIER

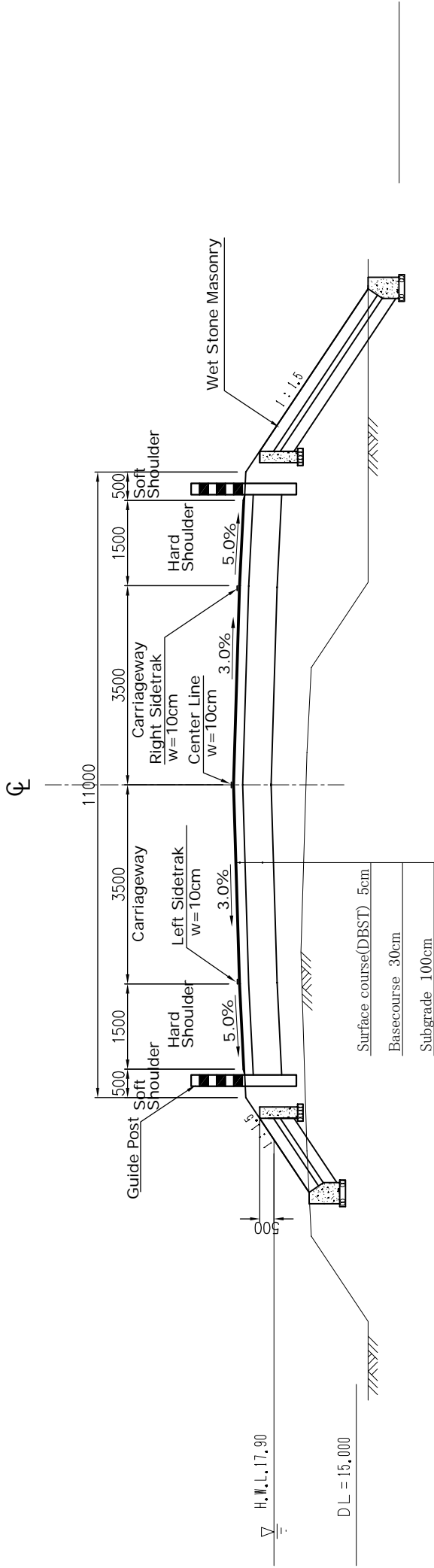
SCALE:  
S=1:100

DRAWING No:  
D-9

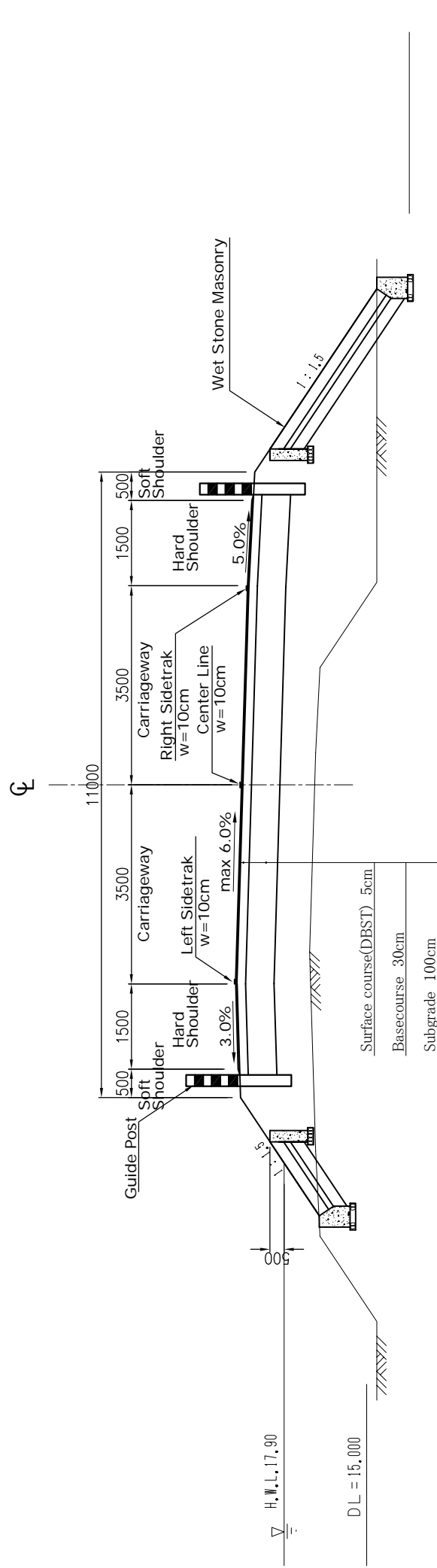


TYPICAL CROSS SECTION OF APPROACH ROAD  
(DANDAYA BRIDGE)

GENERAL SECTION



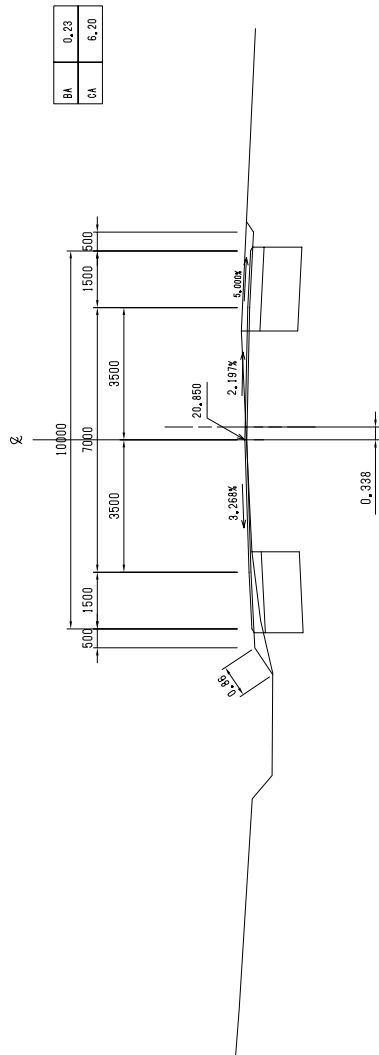
SUPERELEVATED SECTION



ROAD INVESTMENT DEPARTMENT MINISTRY OF PUBLIC WORKS, URBANIZATION AND HABITAT	BASIC DESIGN ON THE PROJECT FOR REHABILITATION OF BRIDGES ON ARTERIAL NATIONAL ROADS IN THE REPUBLIC OF GUINEA	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL	TITLE: DANDAYA BRIDGE TYPICAL CROSS SECTION OF APPROACH ROAD	SCALE: S=1:50	DRAWING No: D-11
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# CROSS SECTIONS OF ROAD ( 1 ) (DANDAYA BRIDGE)

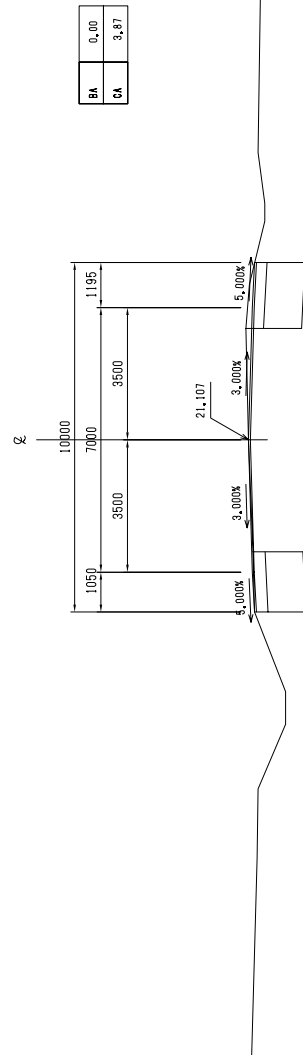
NO. 9+00.000  
FH=20.860  
GH=20.809



DL=15.00

BC 2-0(N0.8+06.157)

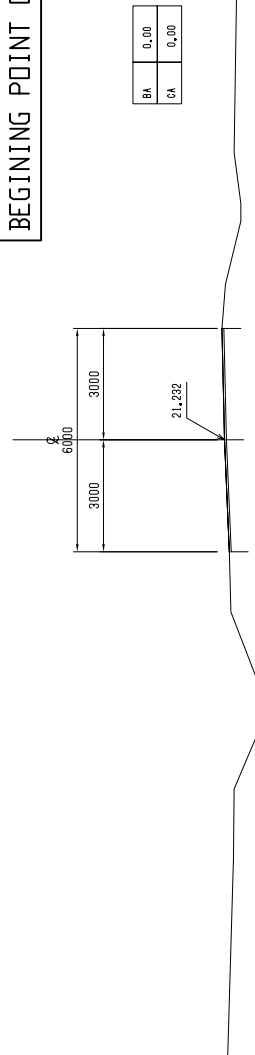
FH=21.107  
GH=21.107



DL=15.00

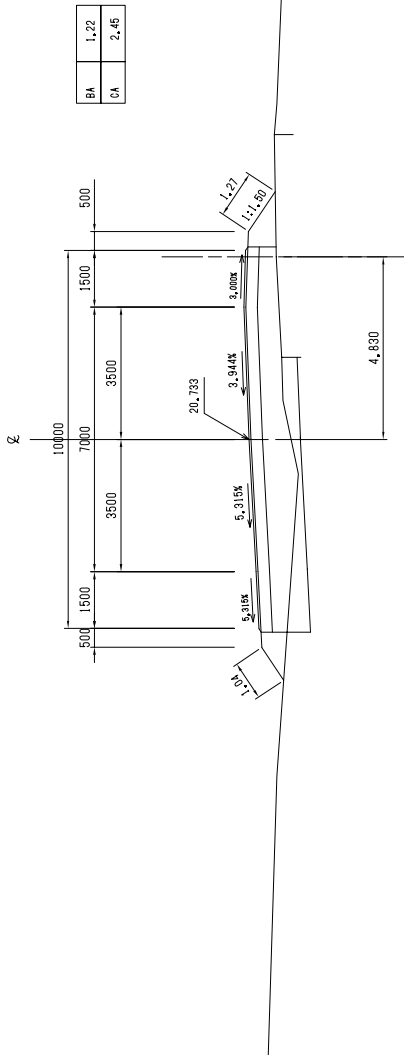
NO. 8+00.000  
FH=21.232  
GH=21.232

BEGINNING POINT OF PROJECT



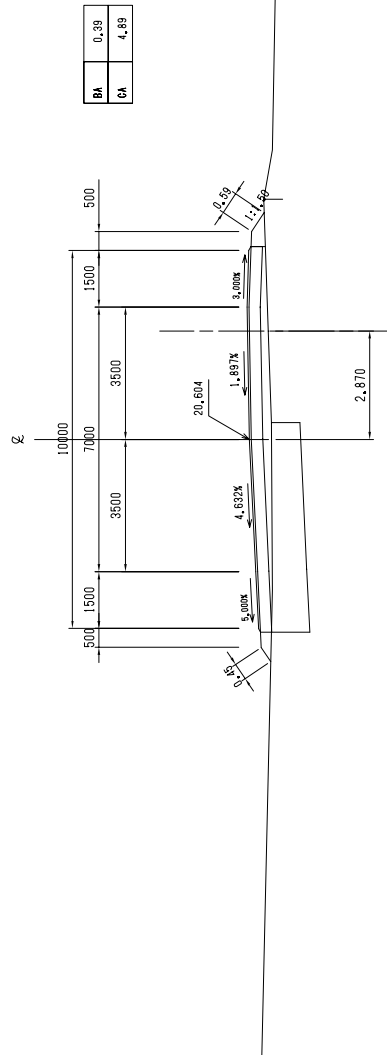
DL=15.00

NO. 12+00.000  
FH=20.733  
GH=19.62



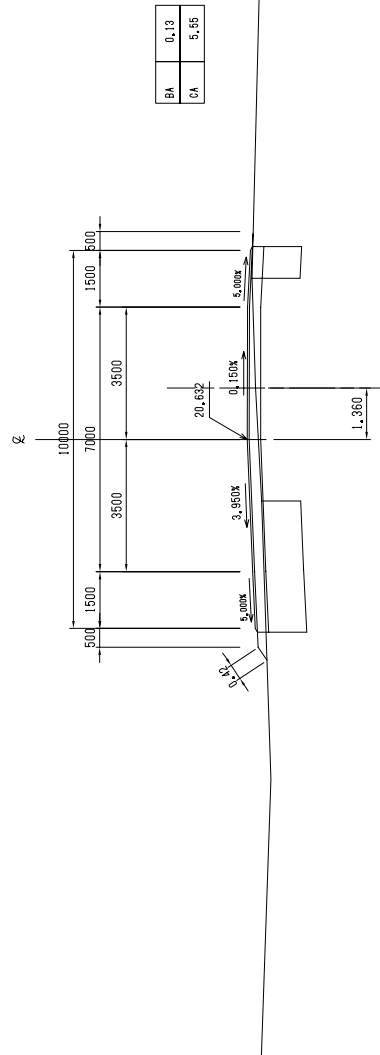
DL=15.00

NO. 11+00.000  
FH=20.604  
GH=20.02



DL=15.00

NO. 10+00.000  
FH=20.632  
GH=20.34



DL=15.00

ROAD INVESTMENT DEPARTMENT  
MINISTRY OF PUBLIC WORKS, URBANIZATION AND HABITAT

BASIC DESIGN ON THE PROJECT FOR  
REHABILITATION OF BRIDGES ON ARTERIAL  
NATIONAL ROADS IN THE REPUBLIC OF GUINEA

JAPAN INTERNATIONAL COOPERATION AGENCY  
KATAHIRA & ENGINEERS INTERNATIONAL

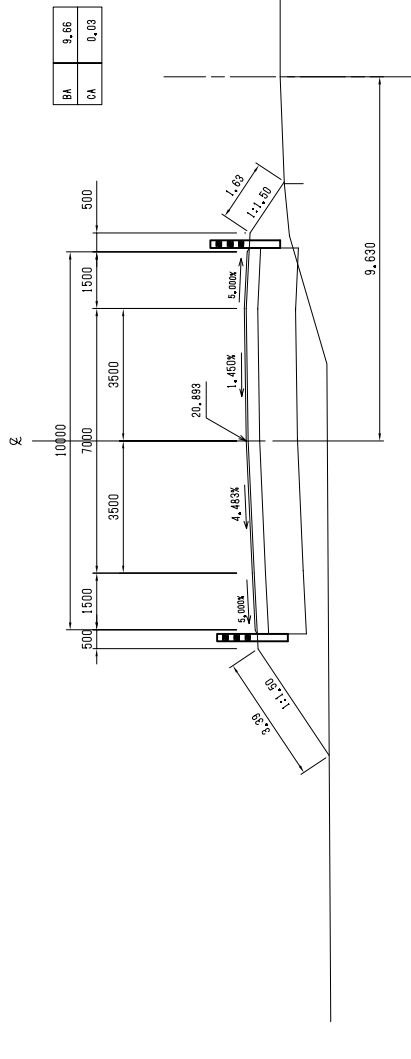
TITLE: DANDAYA BRIDGE  
CROSS SECTIONS OF ROAD ( 1 )  
(NO. 8+0.00 - NO. 12+0.00)

SCALE:  
S=1:100

DRAWING No:  
D-12

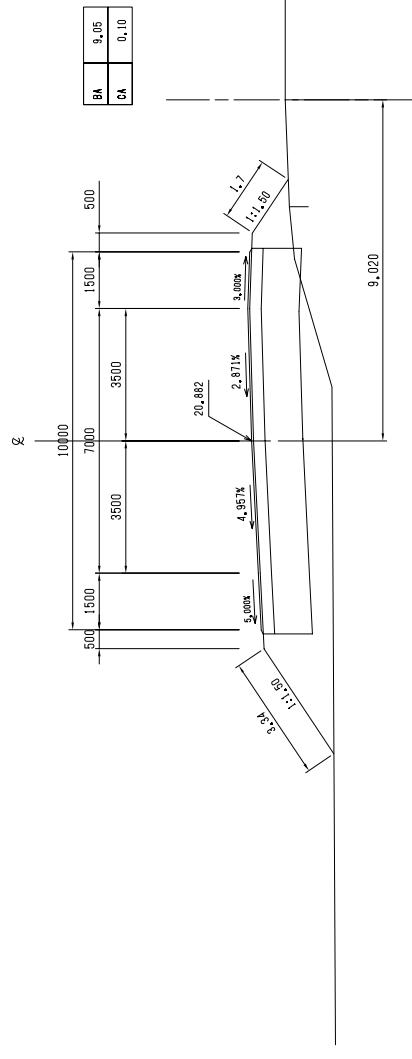
# CROSS SECTIONS OF ROAD (2) (DANDAYA BRIDGE)

NO. 14+00.000  
FH=20.893  
GH=18.71



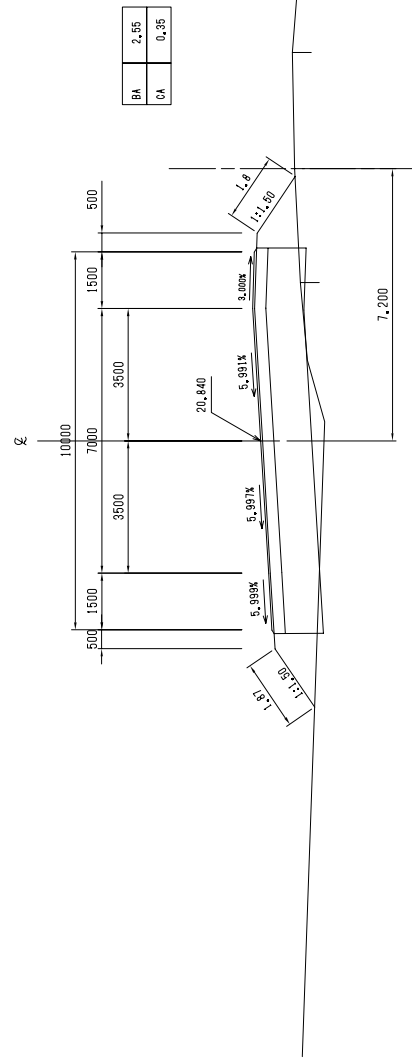
DL=15.00

EC 2-0(NO.13+13.779)  
FH=20.882  
GH=18.75



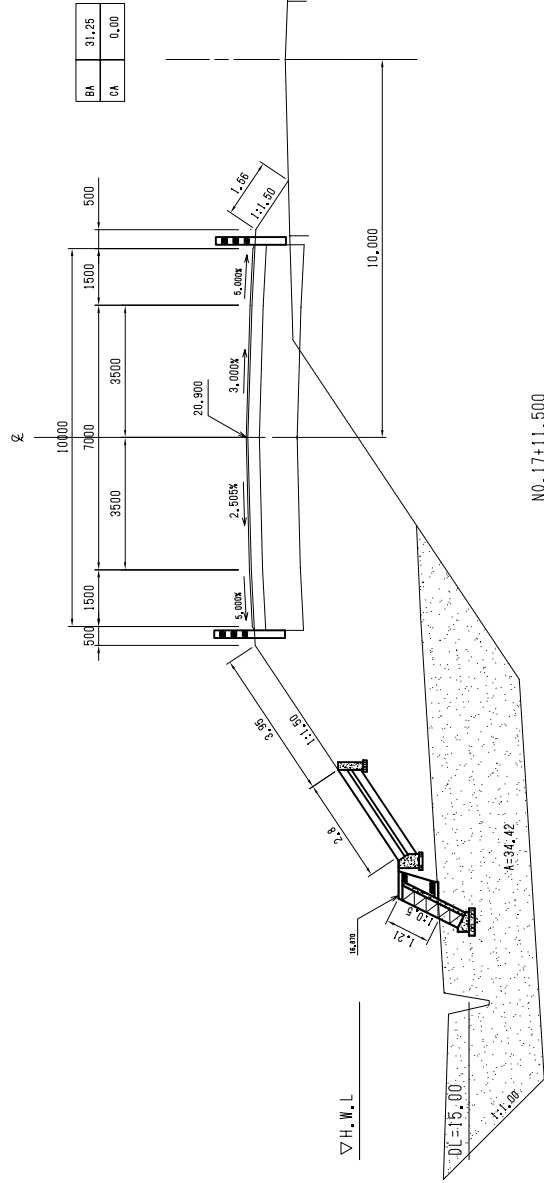
DL=15.00

NO. 13+00.000  
FH=20.840  
GH=19.16

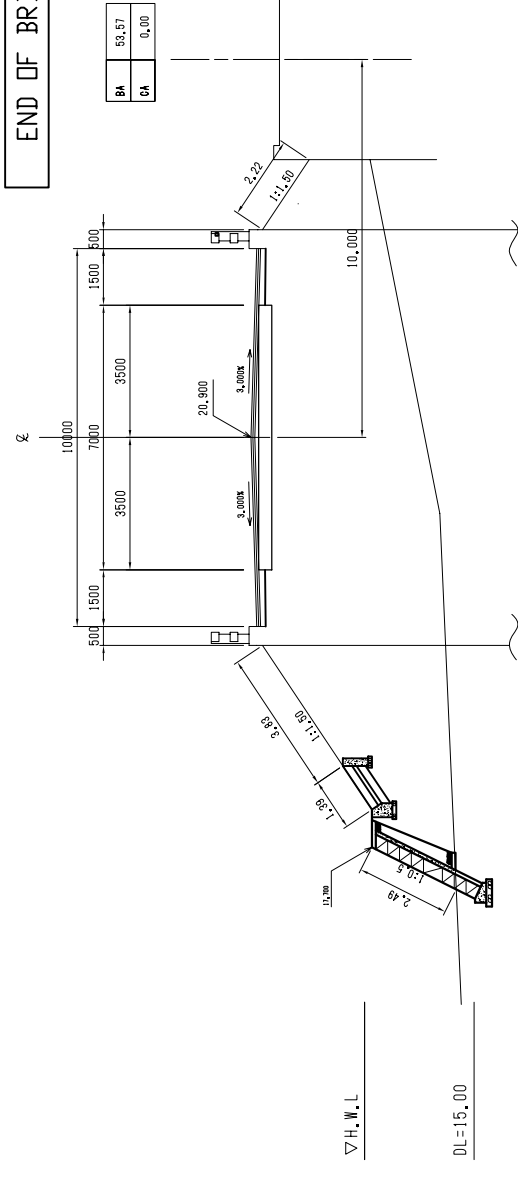


DL=15.00

NO. 18+00.000  
FH=20.900  
GH=17.95

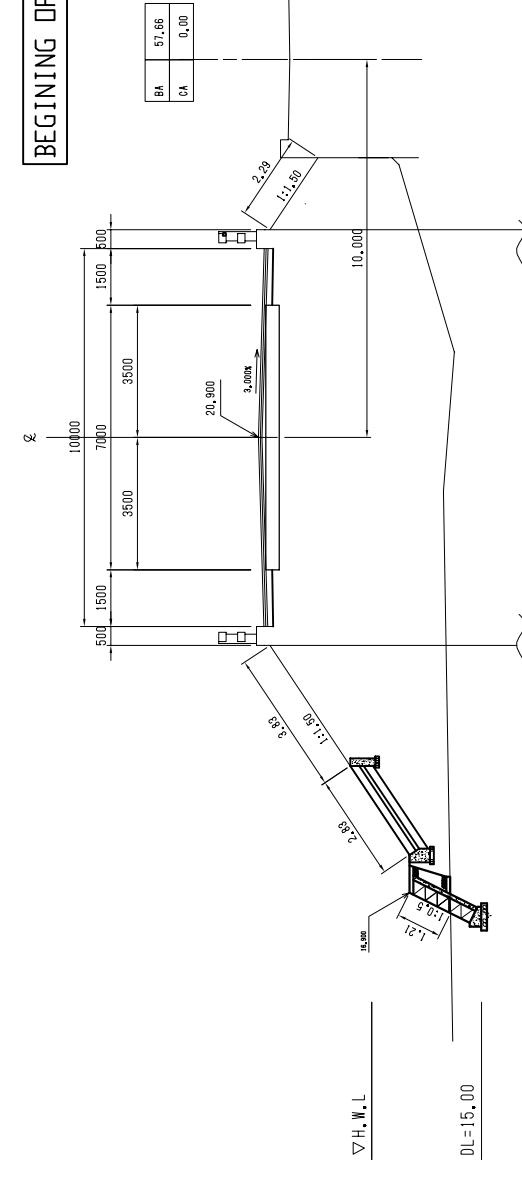


NO. 17+11.500  
FH=20.900  
GH=16.31



DL=15.00

NO. 14+14.500  
FH=20.900  
GH=15.89



DL=15.00

ROAD INVESTMENT DEPARTMENT  
MINISTRY OF PUBLIC WORKS, URBANIZATION AND HABITAT

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REHABILITATION OF BRIDGES ON ARTERIAL  
NATIONAL ROADS IN THE REPUBLIC OF GUINEA

JAPAN INTERNATIONAL COOPERATION AGENCY  
KATAHIRA & ENGINEERS INTERNATIONAL

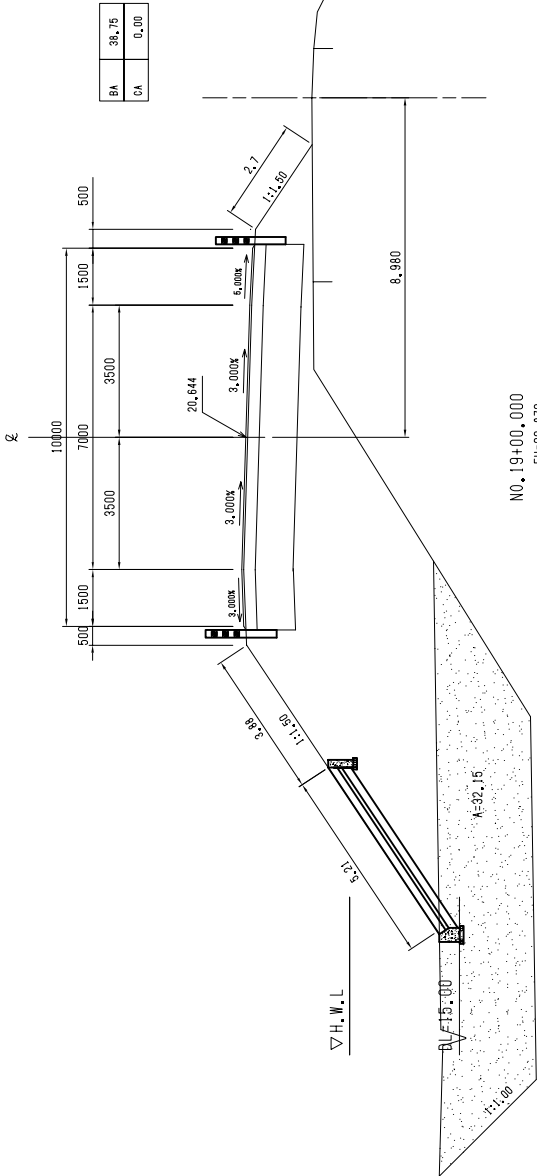
TITLE: DANDAYA BRIDGE  
CROSS SECTIONS OF ROAD (2)  
(NO. 13+0.00 - NO. 18+0.00)

SCALE:  
S=1:100

DRAWING No:  
D-13

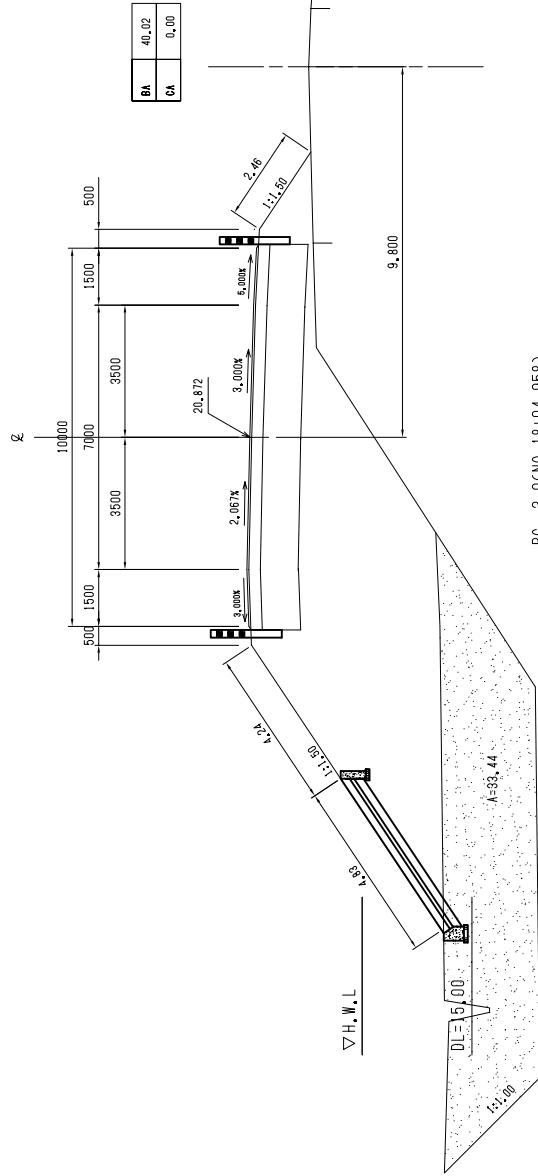
# CROSS SECTIONS OF ROAD (3) (DANDAYA BRIDGE)

NO. 20+00.000  
FH=20.644  
GH=17.73



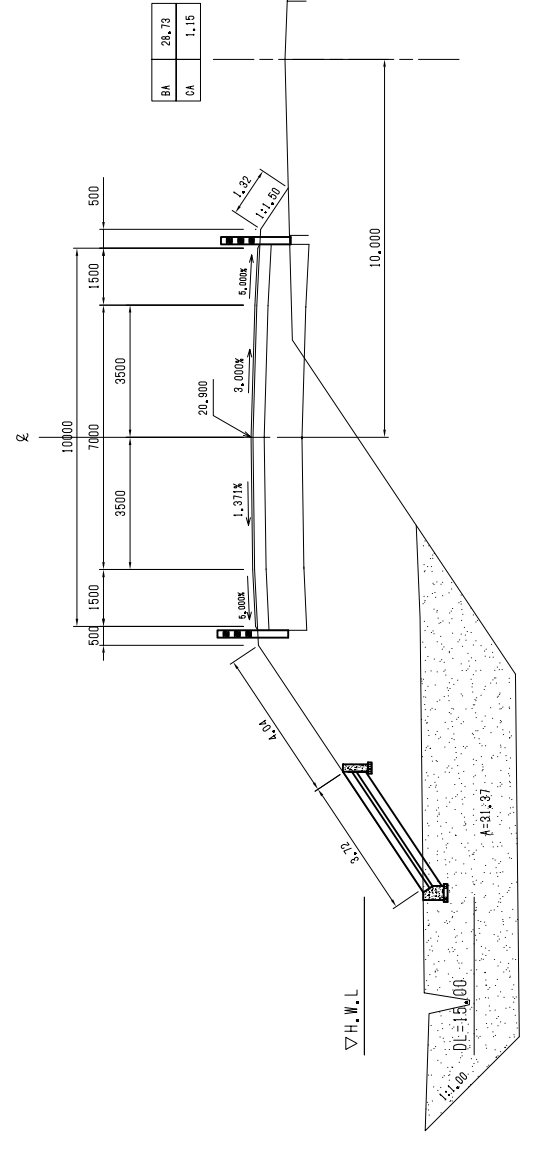
BA	38.75
CA	0.00

NO. 19+00.000  
FH=20.872  
GH=17.58



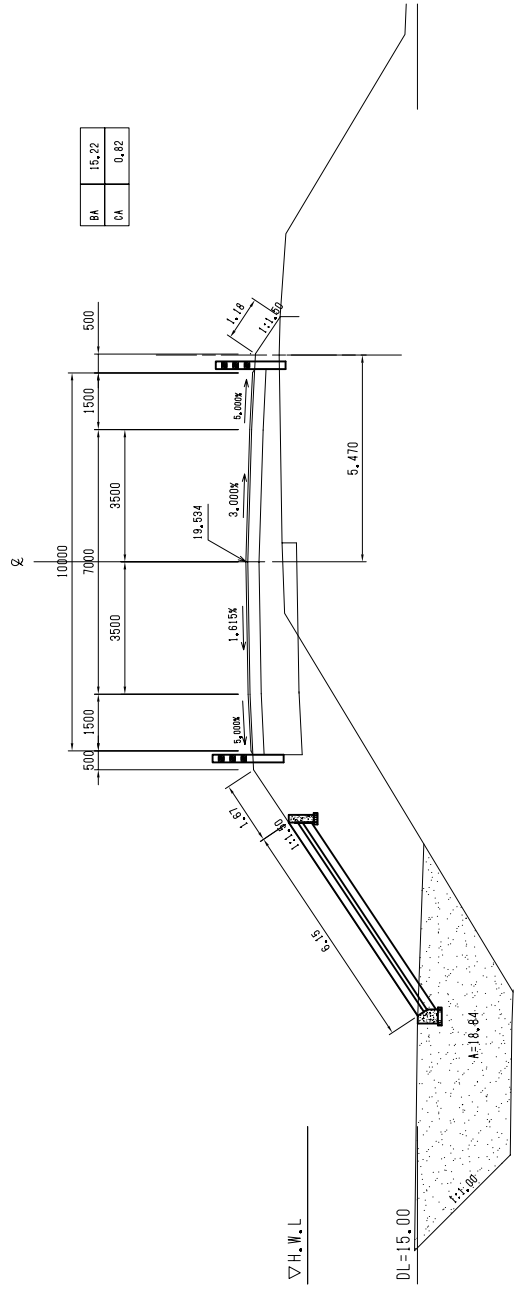
BA	40.02
CA	0.00

BC 3-0(NO. 18+04.956)  
FH=20.800  
GH=18.09



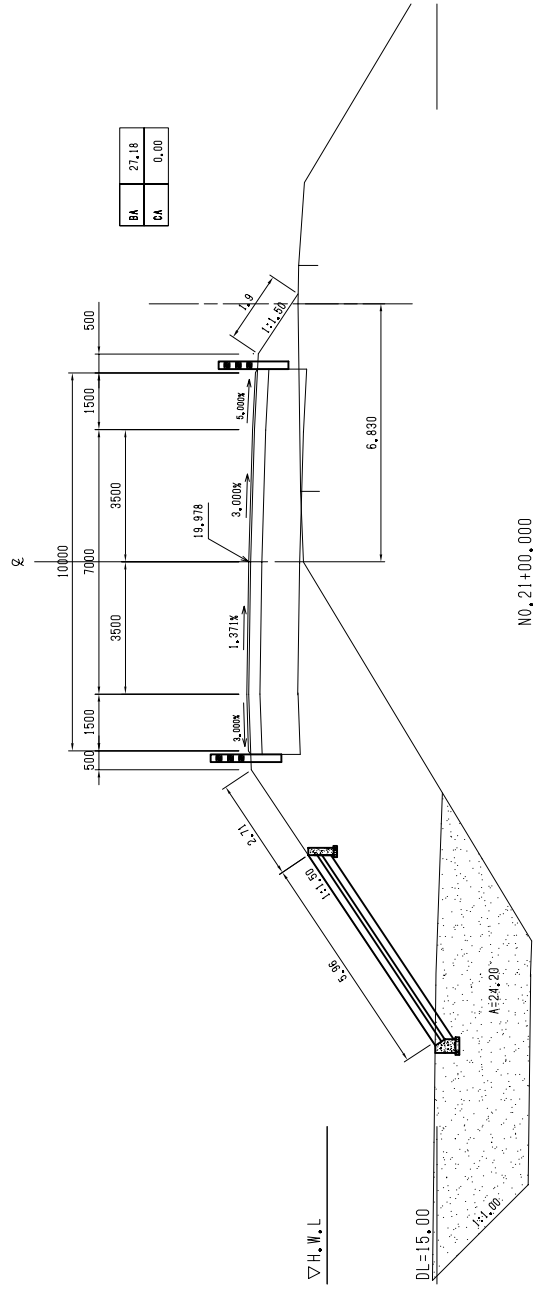
BA	28.73
CA	1.15

NO. 22+00.000  
FH=19.934  
GH=18.56



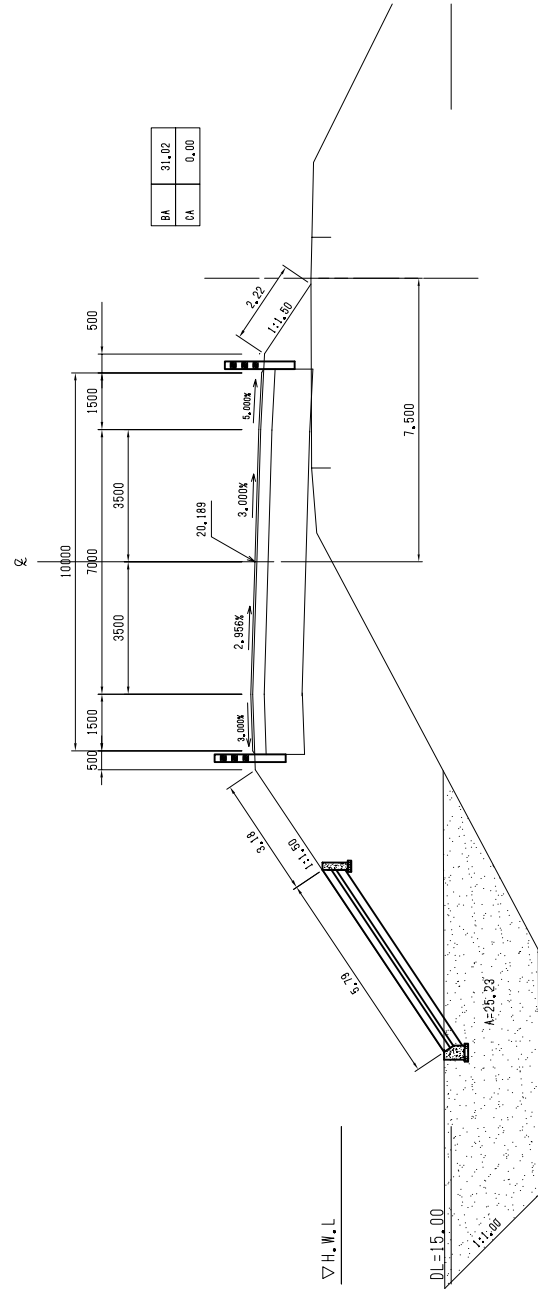
BA	15.22
CA	0.82

EC 3-0(NO. 21+06.933)  
FH=19.978  
GH=18.53



BA	27.18
CA	0.00

NO. 21+00.000  
FH=20.189  
GH=18.14



BA	31.02
CA	0.00

ROAD INVESTMENT DEPARTMENT  
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BASIC DESIGN ON THE PROJECT FOR  
REHABILITATION OF BRIDGES ON ARTERIAL  
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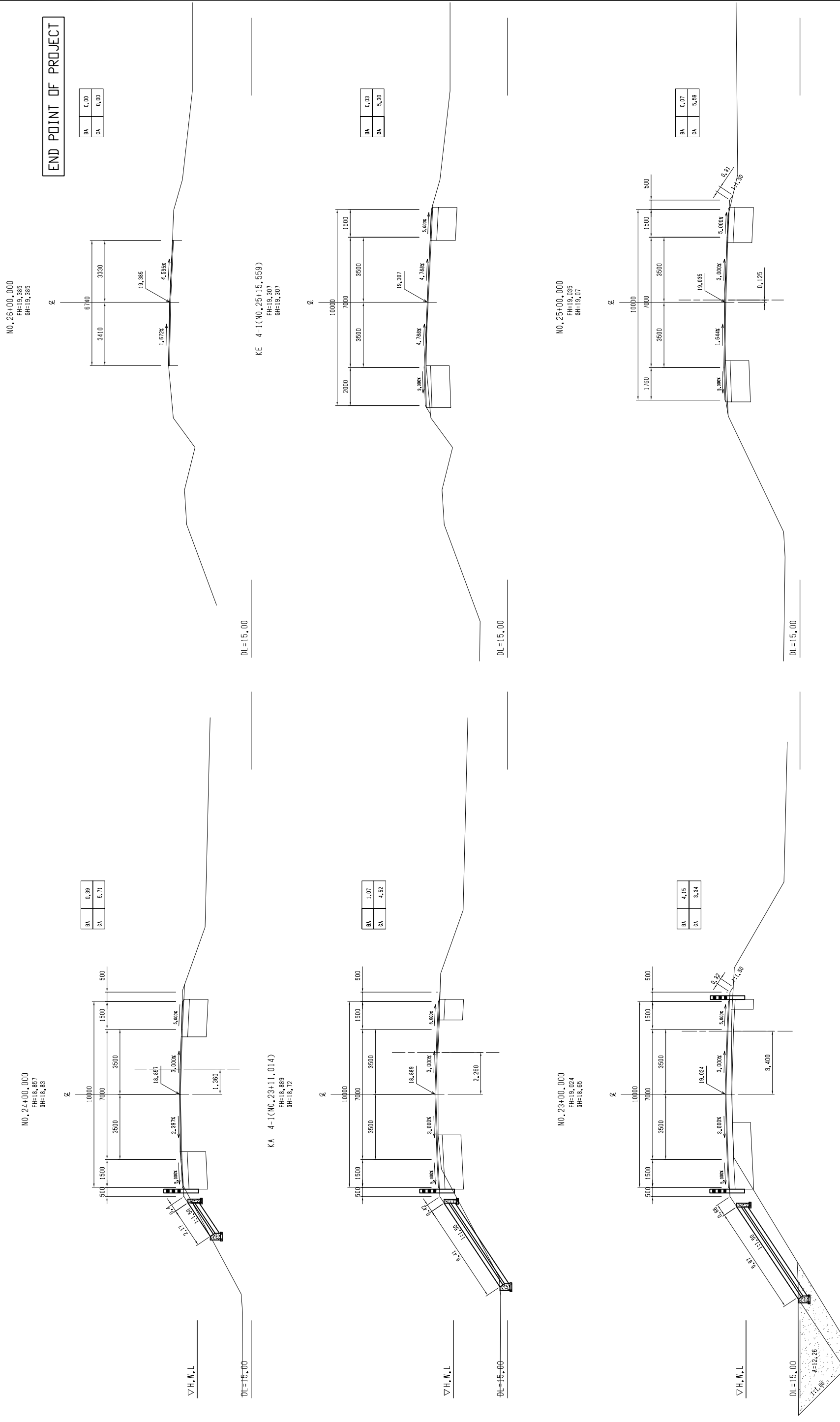
JAPAN INTERNATIONAL COOPERATION AGENCY  
KATAHIRA & ENGINEERS INTERNATIONAL

TITLE : DANDAYA BRIDGE  
CROSS SECTIONS OF ROAD (3)  
(NO. 18+4.958 - NO. 22+0.00)

SCALE :  
S=1:100

DRAWING No:  
D-14

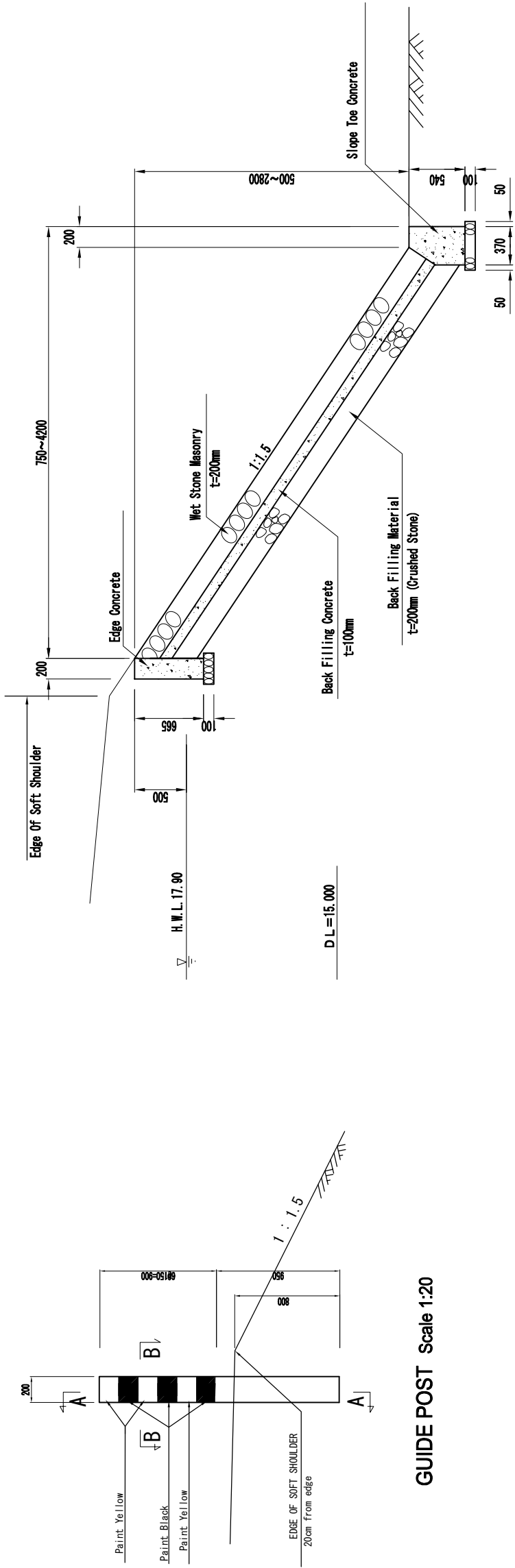
# CROSS SECTIONS OF ROAD ( 4 ) (DANDAYA BRIDGE)



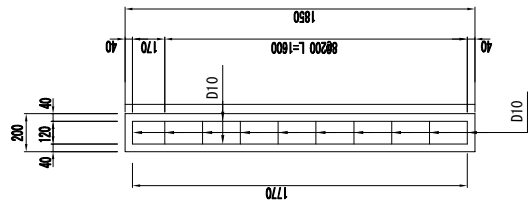
END POINT OF PROJECT

ROAD INVESTMENT DEPARTMENT MINISTRY OF PUBLIC WORKS, URBANIZATION AND HABITAT	BASIC DESIGN ON THE PROJECT FOR REHABILITATION OF BRIDGES ON ARTERIAL NATIONAL ROADS IN THE REPUBLIC OF GUINEA	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL	TITLE : DANDAYA BRIDGE CROSS SECTIONS OF ROAD ( 4 ) (NO. 18+4.958 - NO. 22+0.00)	SCALE : S=1:100	DRAWING No: D-15
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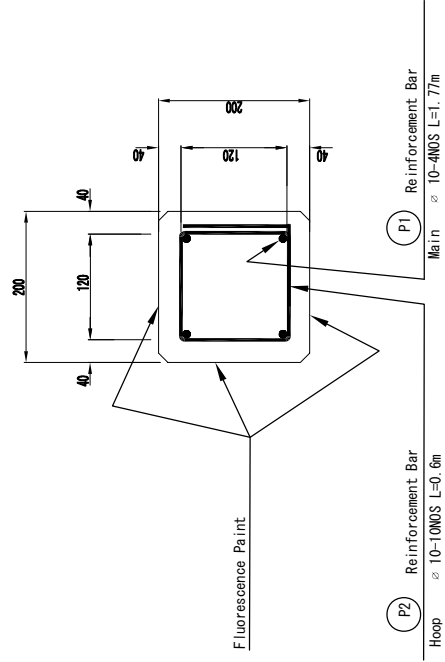
# GUIDE POST AND STON PITCHING (DANDAYA BRIDGE)



**GUIDE POST Scale 1:20**



**DETAIL A-A Scale 1:20**



**DETAIL B-B Scale 1:5**

## STON PITCHING Scale 1:25

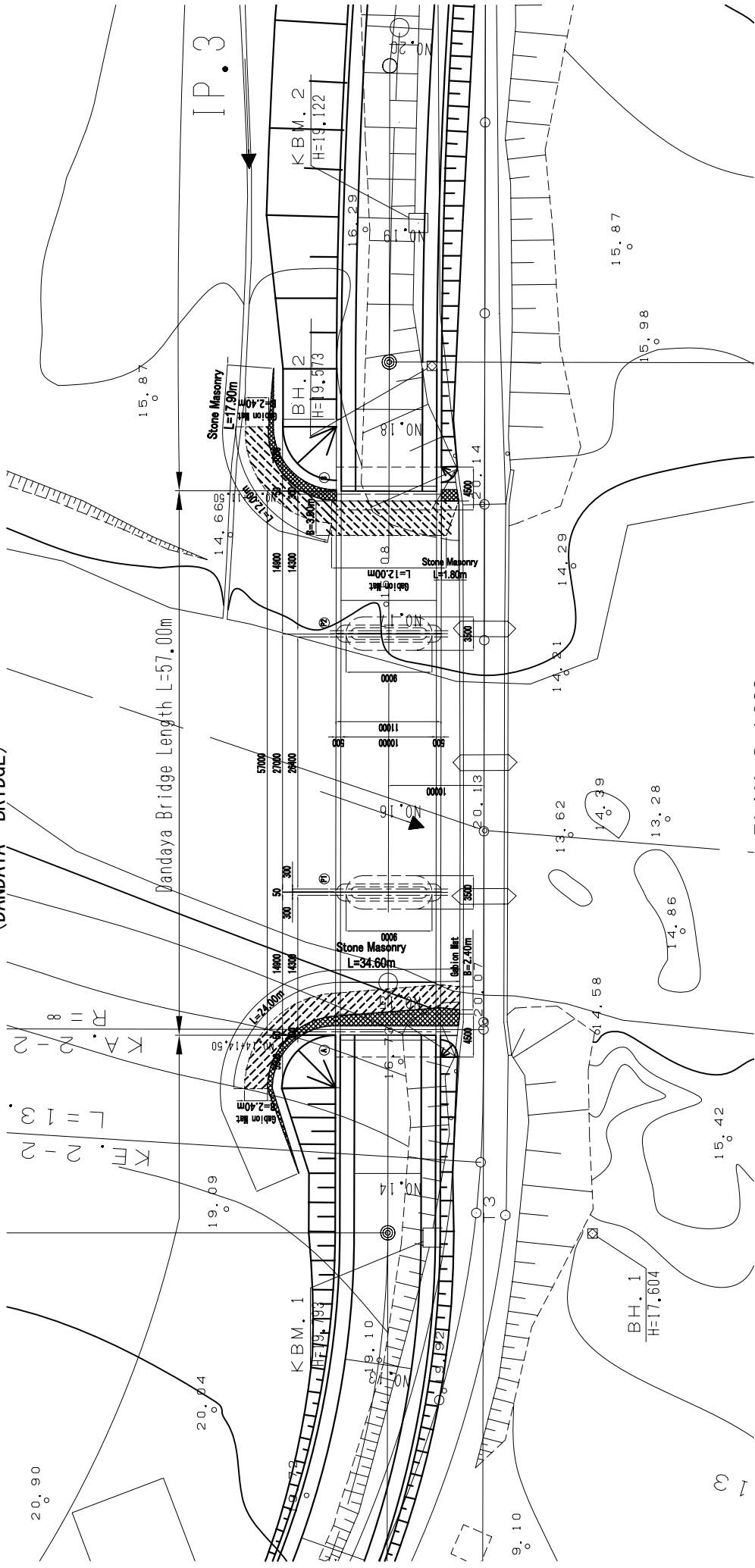
REBAR OF GUIDE POST (kg/one post)						
MARK	DIA-METER	LENGTH	NO.	WEIGHT/m	WEIGHT/ONE	REMARKS
		mm		kg/m	kg	
P <sub>1</sub>	D10	1770	4	0.616	1.090	4.4
P <sub>2</sub>	∅	600	10	∅	0.370	3.7
						8.1

### SCHEDULED LIST OF GUIDE POST

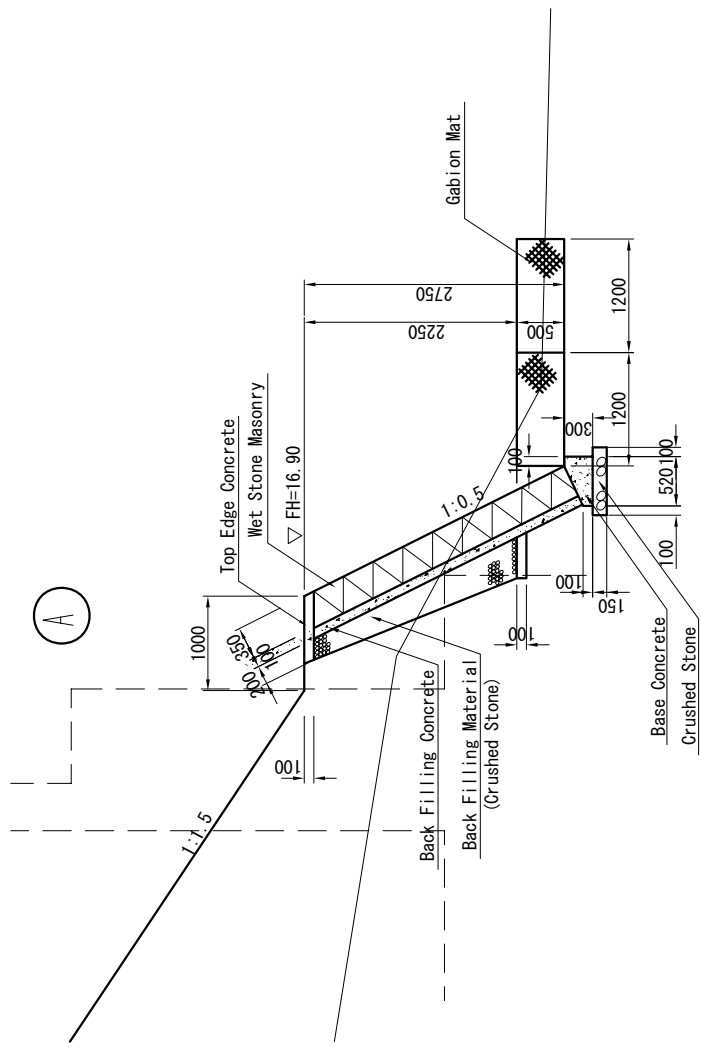
LEFT SIDE						RIGHT SIDE					
STATION	LENGTH (m)	Number (Nos.)	STATION	LENGTH (m)	Number (Nos.)						
14+0.0 to 24+0.0	143.0	72	14+0.0 to 23+0.0	123.0	62						
<b>TOTAL (Left + Right) = 72+62 = 134 Nos.</b>											
<b>NOTE: To be installed at the outer side of the curve at 2 meters interval</b>											



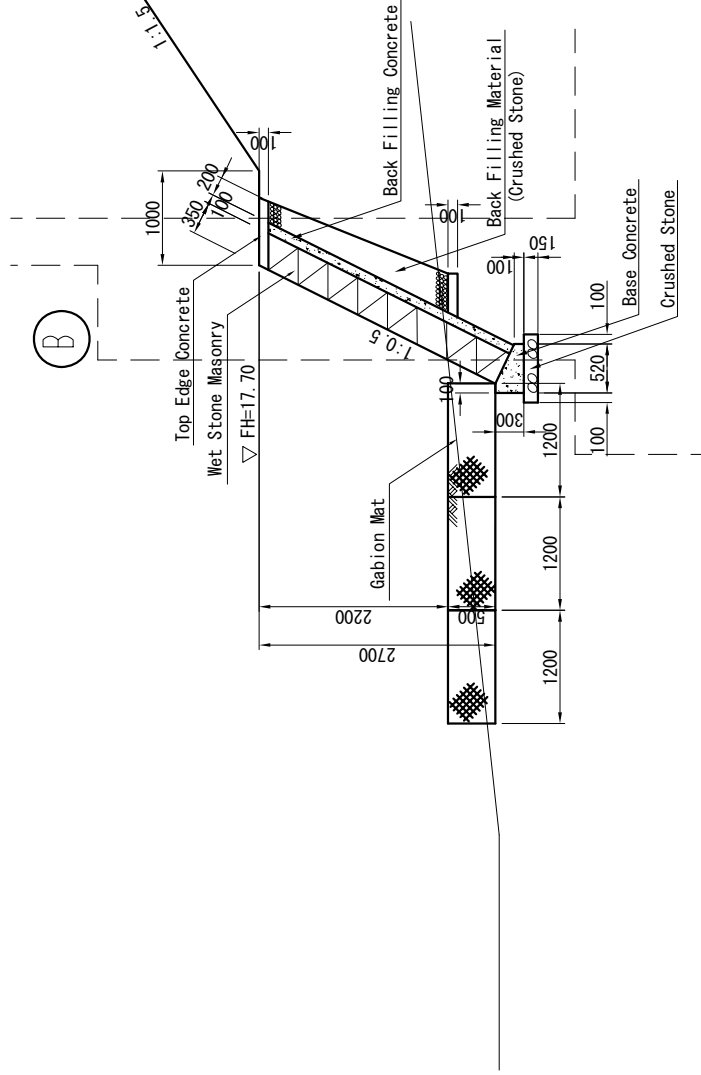
**DETAIL OF BANK AND RIVER BED  
(DANDAYA BRIDGE)**



PLAN S=1:300



A SIDE BANK CROSS SECTION S=1:40



B SIDE BANK CROSS SECTION S=1:40

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BASIC DESIGN ON THE PROJECT FOR  
REHABILITATION OF BRIDGES ON ARTERIAL  
NATIONAL ROADS IN THE REPUBLIC OF GUINEA

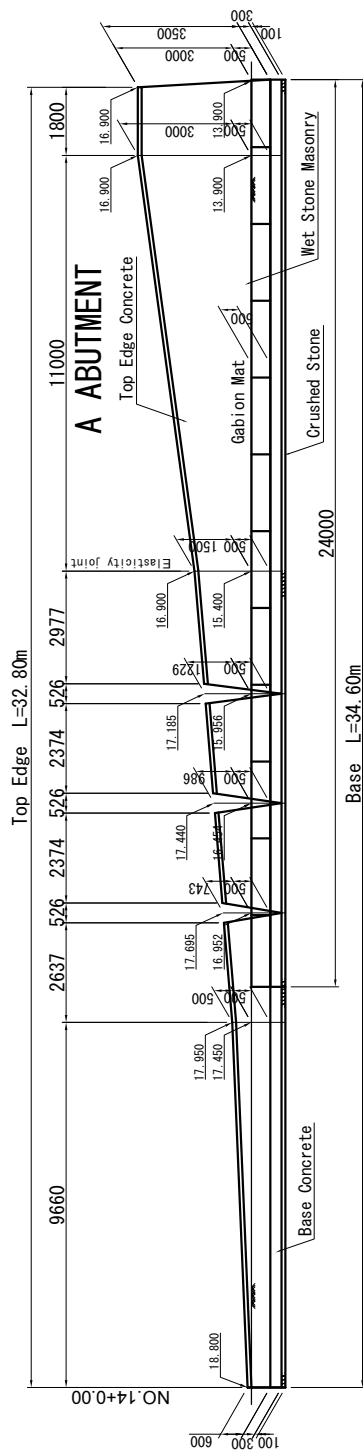
JAPAN INTERNATIONAL COOPERATION AGENCY  
KATAHIRA & ENGINEERS INTERNATIONAL

TITLE: DANDAYA BRIDGE  
DETAIL OF BANK RIVER BED

SCALE:  
AS SHOWN

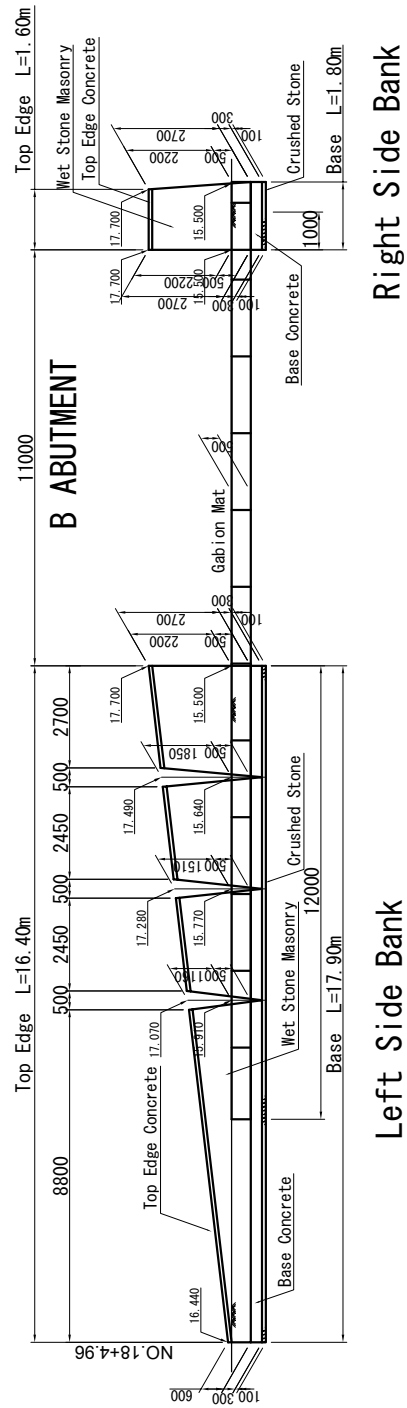
DRAWING No:  
D-17

ELEVATION OF WET STONEMASONRY  
(DANDAYA BRIDGE)



Left Side Bank

Right Side Bank



Left Side Bank

Right Side Bank

ROAD INVESTMENT DEPARTMENT  
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JAPAN INTERNATIONAL COOPERATION AGENCY  
KATAHIRA & ENGINEERS INTERNATIONAL

TITLE : DANDAYA BRIDGE  
ELEVATION OF WET STONEMASONRY

SCALE :  
S=1:100

DRAWING No:  
D-18