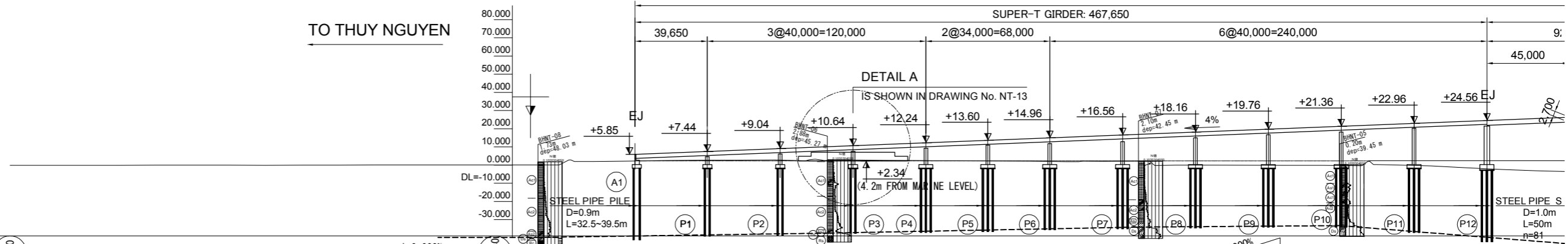


NGUYEN TRAI BRIDGE

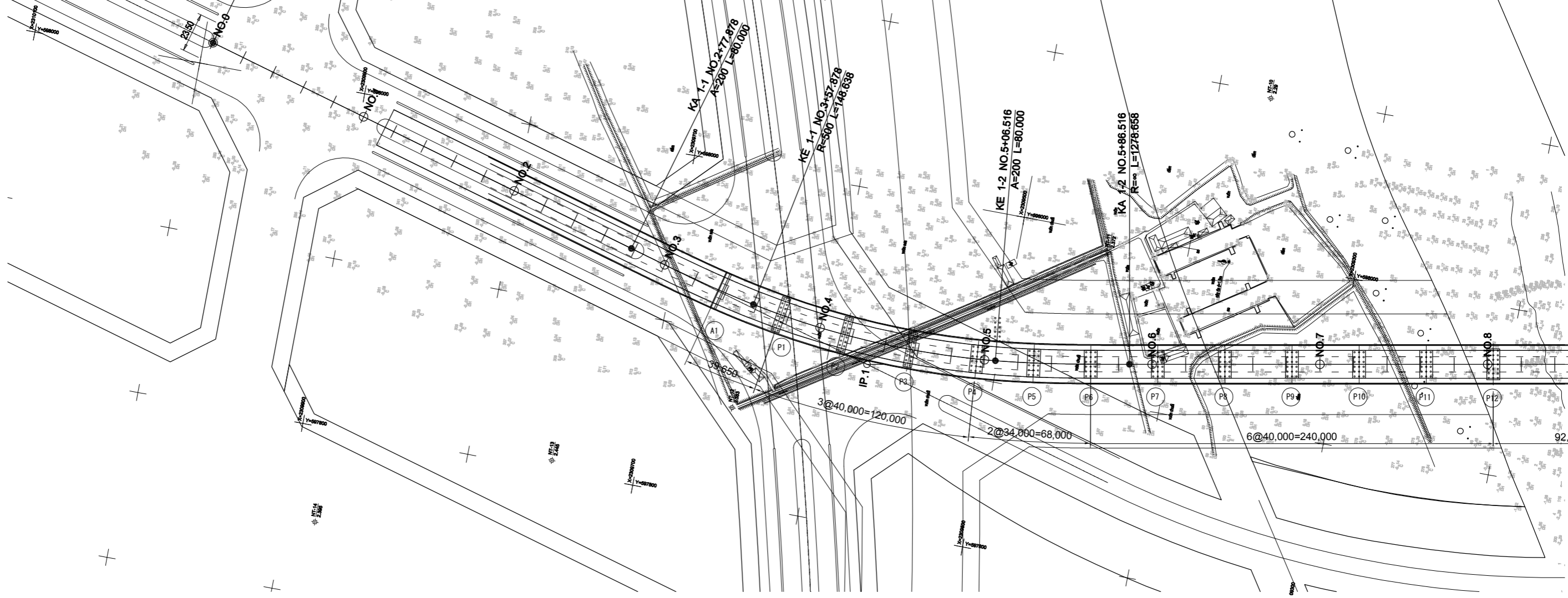
GENERAL VIEW OF MAIN BRIDGE (1)

ELEVATION S=1:2,500



GRADIENT	2.340		i=0.000% L=247.500		2.340																																																																									
PROPOSED HEIGHT	0.000	-0.160	4.200	4.206	4.313	4.521	4.553	4.800	0.120	4.926	0.110	0.096	0.090	2.020	5.433	2.220	6.073	2.480	6.755	2.508	6.840	2.680	7.640	2.750	8.440	2.830	9.240	3.029	10.040	2.810	10.840	2.640	11.640	2.480	12.440	2.460	12.701	2.400	13.240	2.280	14.040	2.160	14.840	1.860	15.640	1.880	15.901	2.120	16.440	2.180	17.240	0.000	18.040	-0.060	18.840	-0.070	19.640	-0.080	20.440	-0.130	21.240	-0.310	22.040	0.080	22.840	-0.480	23.640	-1.490	24.440	-2.480	25.240	-3.150	26.040					
GROUND LEVEL	0.000	-0.160	-0.120	-0.080	-0.050	-0.020	-0.070	-0.100	-0.060	0.000	0.050	0.060	0.030	0.030	0.120	0.110	0.096	0.090	2.020	5.433	2.220	6.073	2.480	6.755	2.508	6.840	2.680	7.640	2.750	8.440	2.830	9.240	3.029	10.040	2.810	10.840	2.640	11.640	2.480	12.440	2.460	12.701	2.400	13.240	2.280	14.040	2.160	14.840	1.860	15.640	1.880	15.901	2.120	16.440	2.180	17.240	0.000	18.040	-0.060	18.840	-0.070	19.640	-0.080	20.440	-0.130	21.240	-0.310	22.040	0.080	22.840	-0.480	23.640	-1.490	24.440	-2.480	25.240	-3.150	26.040
DISTANCE	0.000	20.000	40.000	60.000	80.000	100.000	120.000	140.000	160.000	180.000	200.000	220.000	240.000	260.000	277.878	280.000	294.000	300.000	320.000	340.000	357.878	360.000	380.000	400.000	420.000	440.000	460.000	480.000	500.000	506.516	520.000	540.000	560.000	580.000	586.516	600.000	620.000	640.000	660.000	680.000	700.000	720.000	740.000	760.000	780.000	800.000	820.000	840.000																														
STATION	BP	+20.000	+40.000	+60.000	+80.000	NO.1	+20.000	+40.000	+60.000	+80.000	NO.2	+20.000	+40.000	+60.000	KA 1-1	+277.878	+280.000	+294.000	+300.000	+320.000	+340.000	KE 1-1	+357.878	+360.000	+380.000	NO.4	+400.000	+420.000	+440.000	+460.000	+480.000	NO.5	+500.000	KE 1-2	+506.516	+520.000	+540.000	+560.000	+580.000	KA 1-2	+586.516	+600.000	+620.000	+640.000	+660.000	+680.000	NO.7	+700.000	+720.000	+740.000	+760.000	+780.000	NO.8	+800.000	+820.000	+840.000																						

PLAN S=1:2,500



PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



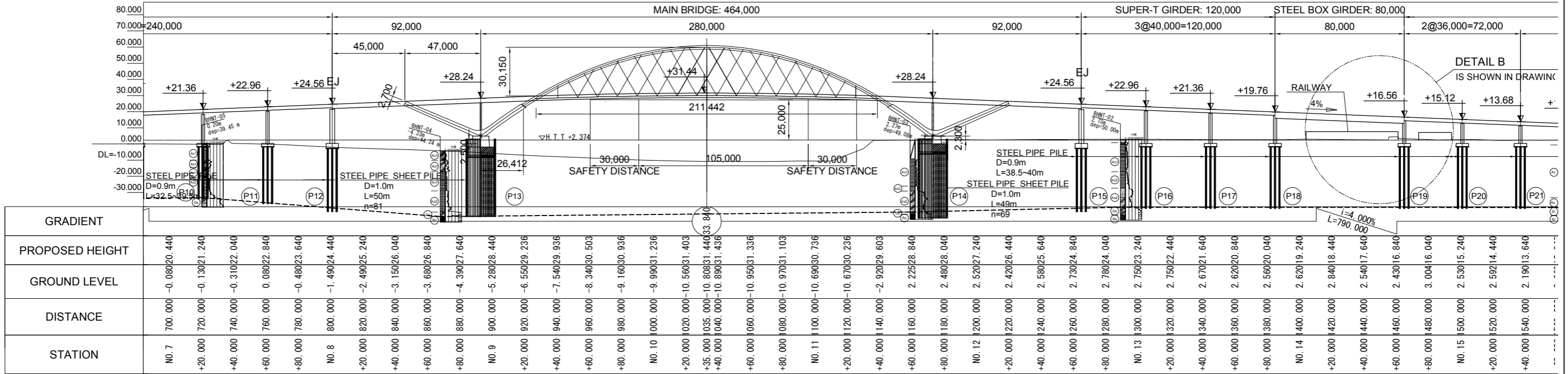
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

DRAWING TITLE: GENERAL VIEW OF MAIN BRIDGE (1)
DRAWING No. NT-01 SCALE 1:2,500

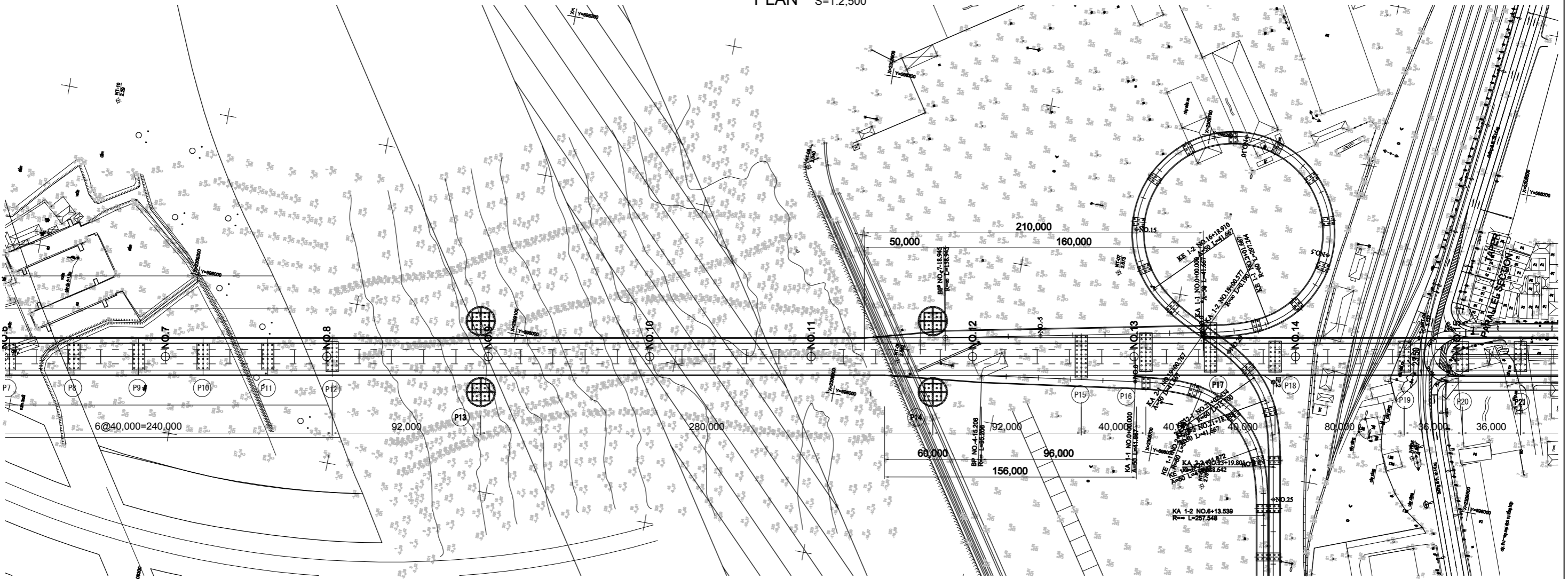
Rev No.

GENERAL VIEW OF MAIN BRIDGE (2)

ELEVATION S=1:2,500



PLAN S=1:2,500



PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT

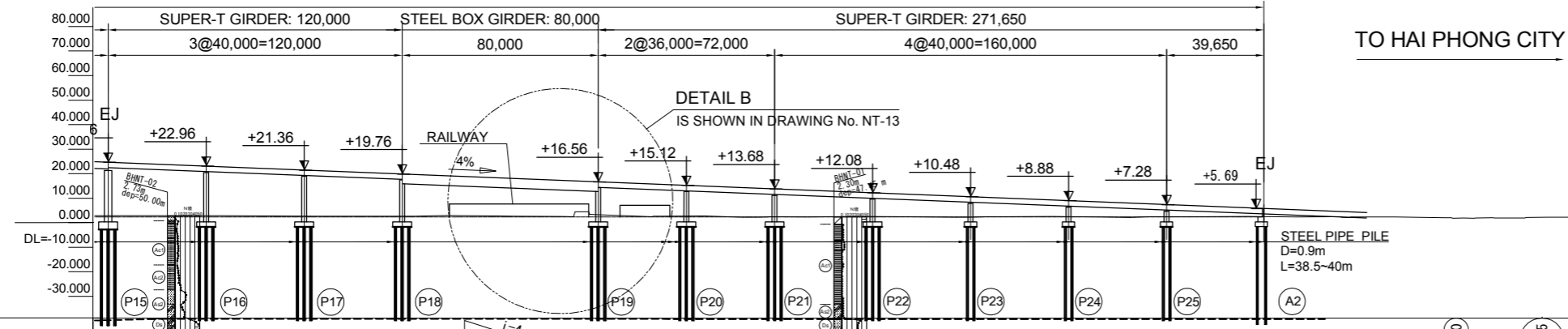


JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

DRAWING TITLE: GENERAL VIEW OF MAIN BRIDGE (2)				Rev No.
DRAWING No.	NT-02	SCALE	1:2,500	

GENERAL VIEW OF MAIN BRIDGE (3)

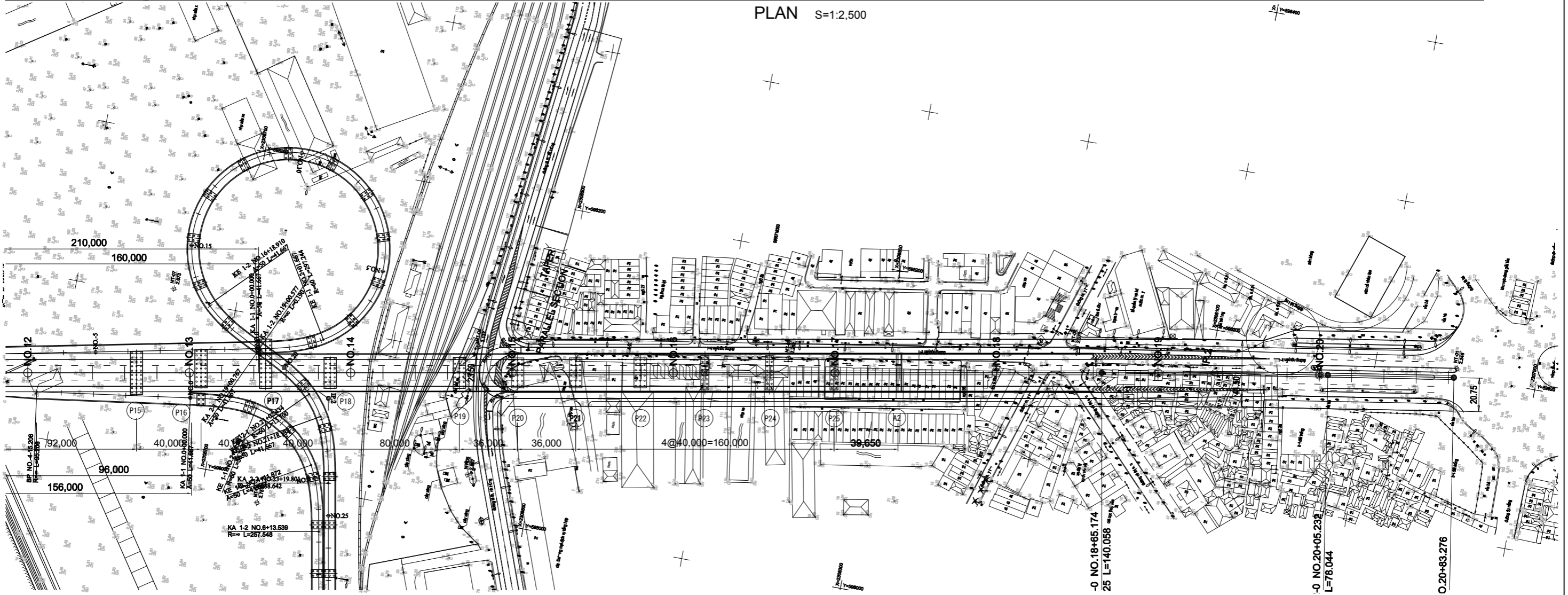
ELEVATION S=1:2,500



TO HAI PHONG CITY

GRADIENT	i=4.000% L=790.000		2.240		2.065																																										
PROPOSED HEIGHT	2.750	2.780	2.750	2.750	2.670	2.620	2.840	2.540	2.430	3.004	2.530	2.592	2.190	2.260	2.450	2.360	2.190	2.410	2.480	2.250	2.320	2.350	2.430	2.270	2.100	2.250	1.970	1.804	1.898	2.111	2.140	2.120	2.090	1.960	1.950	1.810	2.140	2.140	2.150	2.160	2.140	2.140	2.140	2.088	2.058		
GROUND LEVEL	2.750	2.780	2.750	2.750	2.670	2.620	2.840	2.540	2.430	3.004	2.530	2.592	2.190	2.260	2.450	2.360	2.190	2.410	2.480	2.250	2.320	2.350	2.430	2.270	2.100	2.250	1.970	1.804	1.898	2.111	2.140	2.120	2.090	1.960	1.950	1.810	2.140	2.140	2.150	2.160	2.140	2.140	2.140	2.088	2.058		
DISTANCE	280.000	280.000	300.000	320.000	340.000	360.000	400.000	440.000	480.000	480.000	500.000	520.000	540.000	560.000	580.000	600.000	620.000	640.000	660.000	680.000	700.000	720.000	740.000	760.000	780.000	800.000	820.000	825.000	840.000	860.000	865.174	880.000	900.000	920.000	940.000	960.000	980.000	2000.000	2005.232	2020.000	2040.000	2060.000	2080.000	2088.998	2098.998		
STATION	+60.000	+80.000	NO. 13	+20.000	+40.000	+60.000	+80.000	NO. 14	+20.000	+40.000	+60.000	+80.000	NO. 15	+20.000	+40.000	+60.000	+80.000	NO. 16	+20.000	+40.000	+60.000	+80.000	NO. 17	+20.000	+40.000	+60.000	+80.000	+25.000	+40.000	+60.000	NO. 18	+20.000	+40.000	+60.000	+80.000	+20.000	+40.000	+60.000	+80.000	+20.000	+40.000	+60.000	+80.000	+20.000	+40.000	+60.000	+80.000

PLAN S=1:2,500



PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

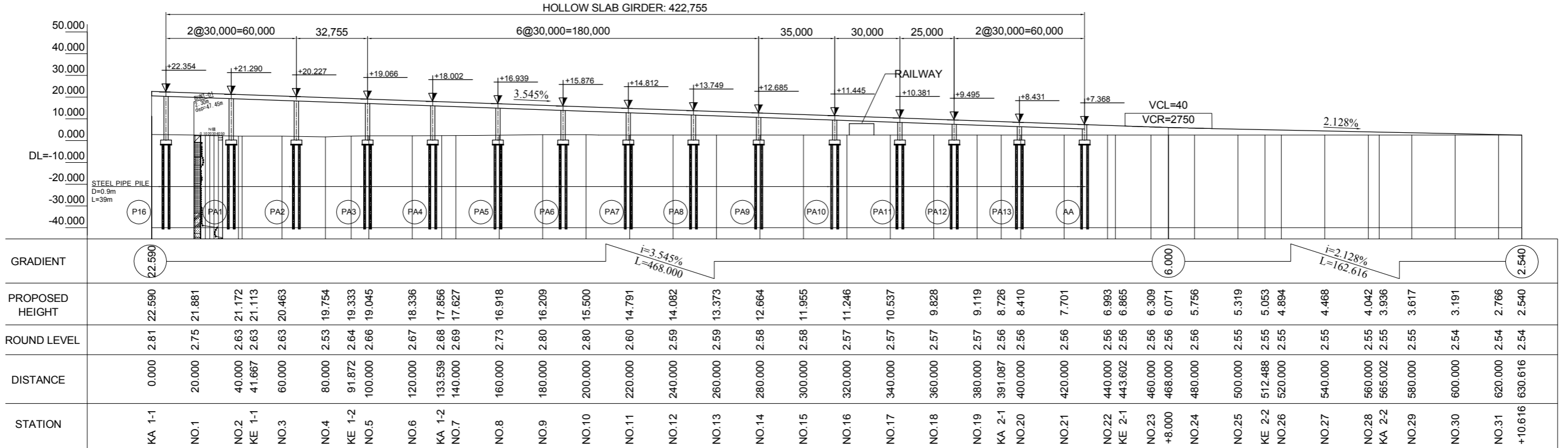
DRAWING TITLE: GENERAL VIEW OF MAIN BRIDGE (3)

Rev No.

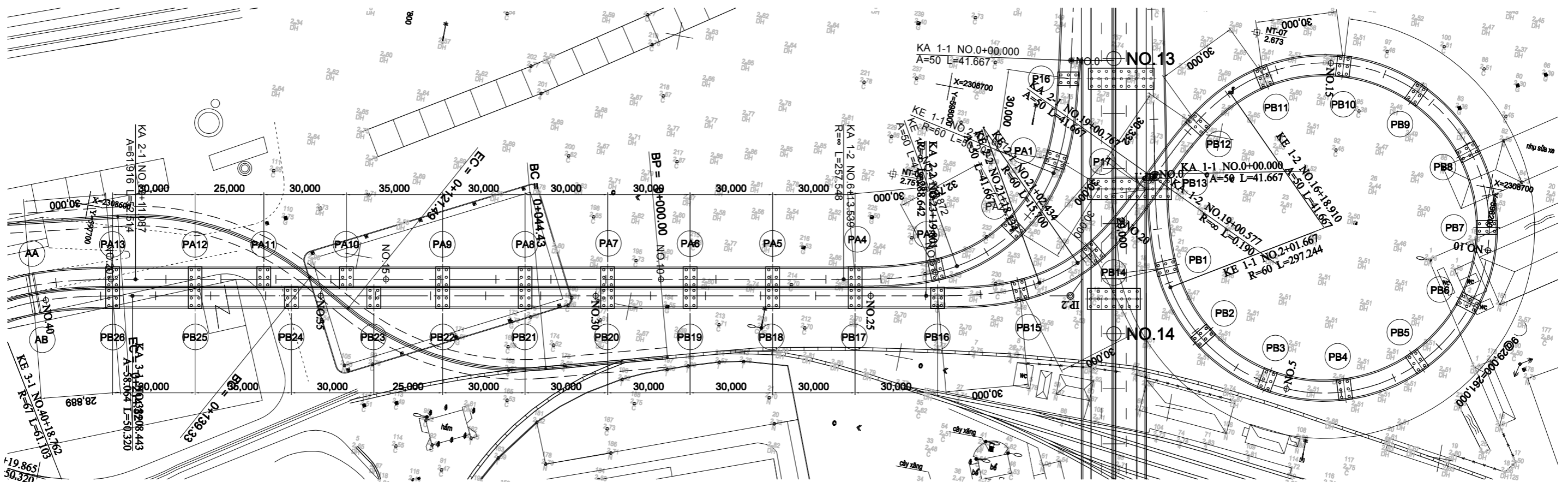
DRAWING No. NT-03 SCALE 1:2,500

GENERAL VIEW OF SOUTH IC RAMP A

ELEVATION S=1:1,500



PLAN S=1:1,500



PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



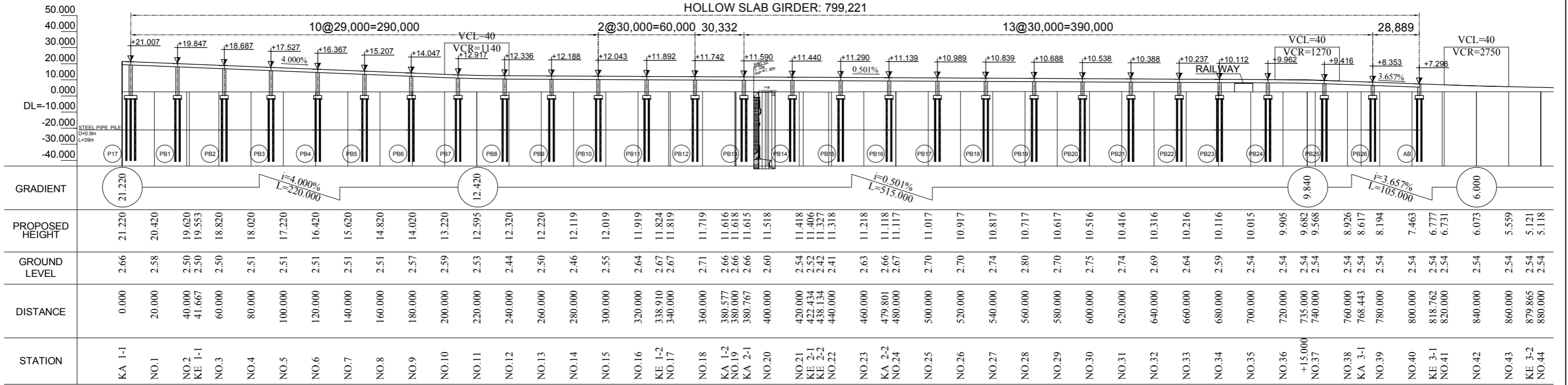
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

DRAWING TITLE: GENERAL VIEW OF SOUTH IC RAMP A				Rev No.
DRAWING No.	NT-04	SCALE	1:1,500	

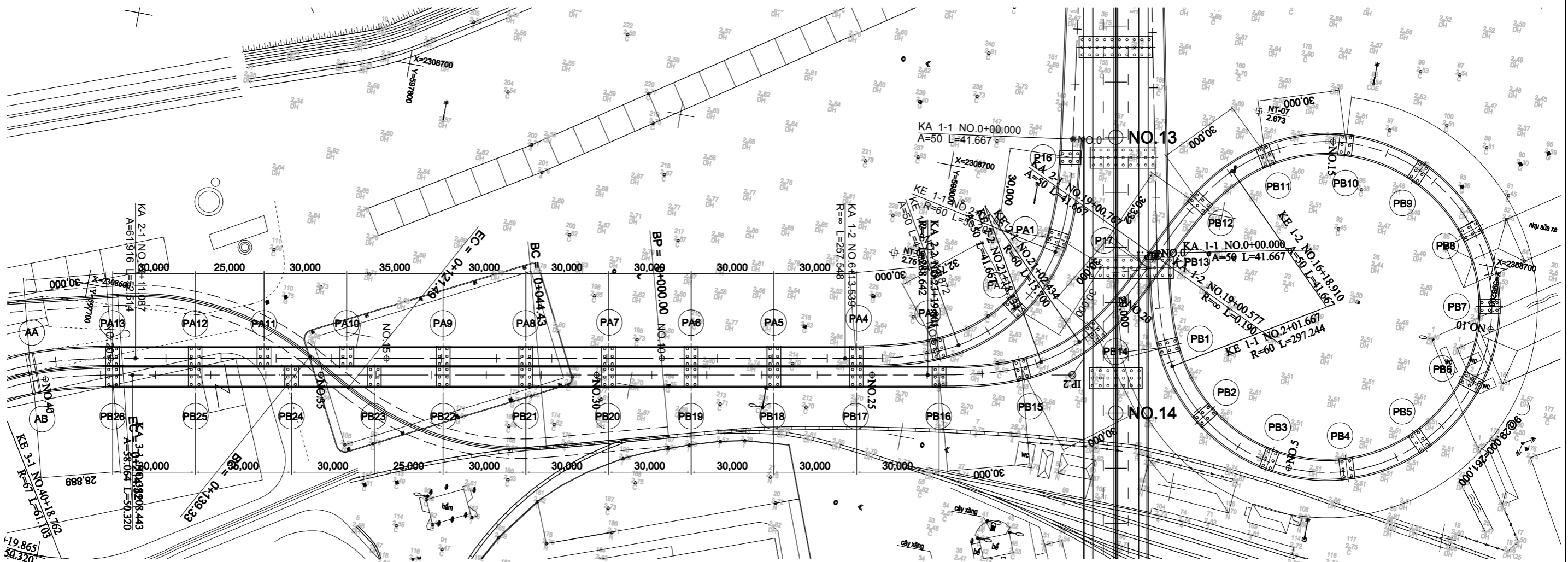
GENERAL VIEW OF SOUTH IC RAMP B

ELEVATION S=1:1,500

HOLLOW SLAB GIRDER: 799,221



PLAN S=1:1,500



PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT

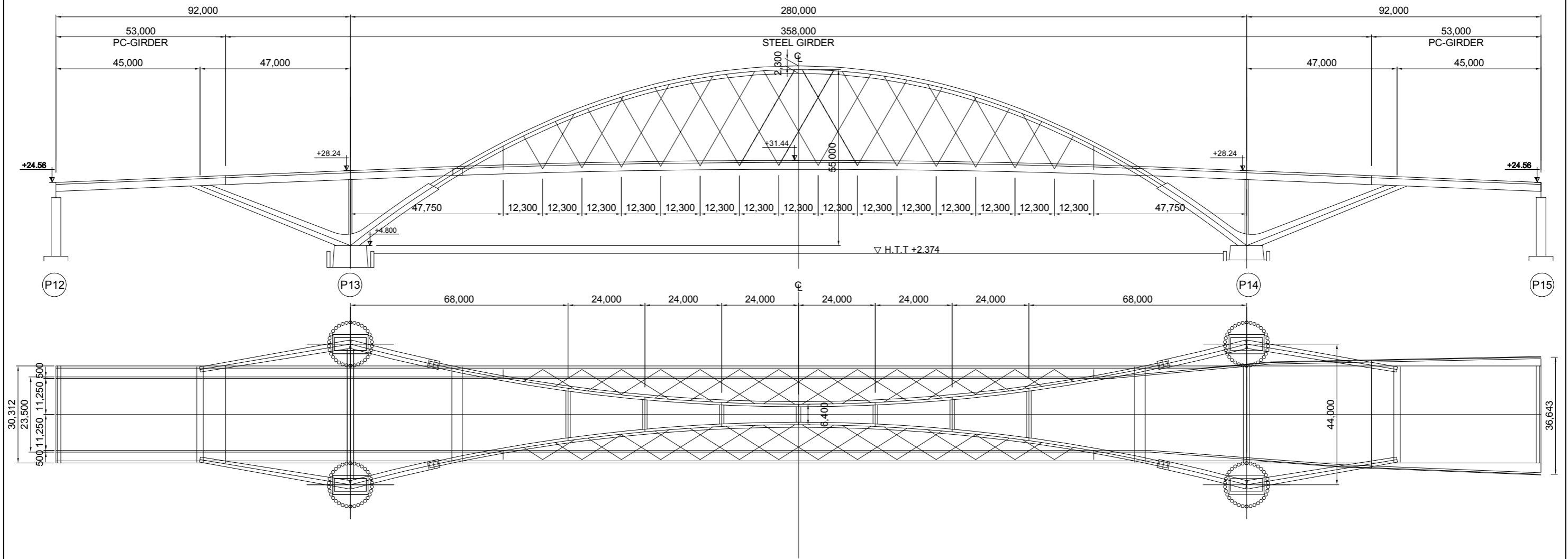


JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

DRAWING TITLE: GENERAL VIEW OF SOUTH IC RAMP B				Rev No.
DRAWING No.	NT-05	SCALE	1:1,500	

GENERAL VIEW OF ARCH BRIDGE

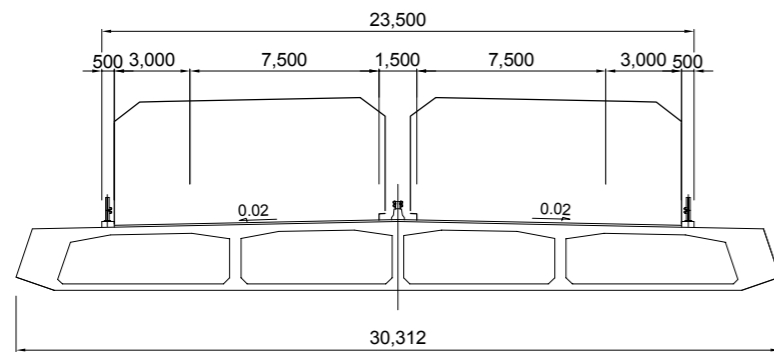
S=1:1,250



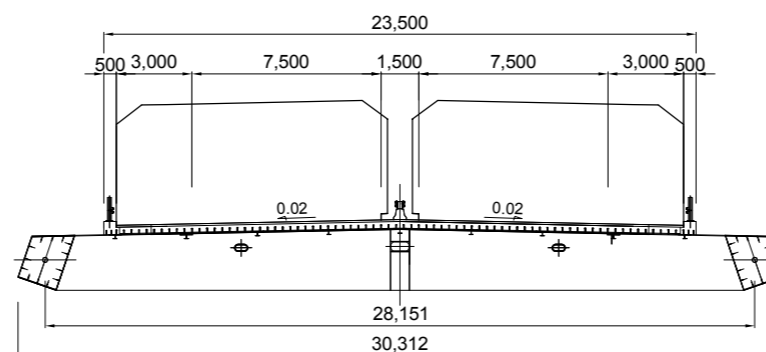
GIRDER CROSS SECTION

S=1:300

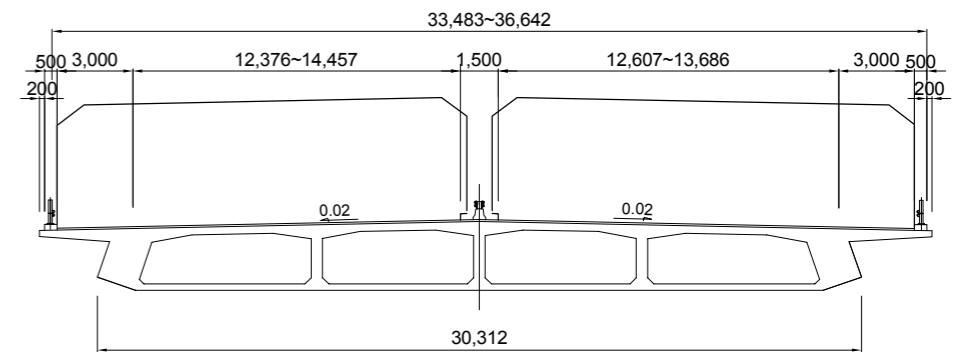
NORTH SIDE PC GIRDER



STEEL GIRDER



SOUTH SIDE PC GIRDER



PROJECT: PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.

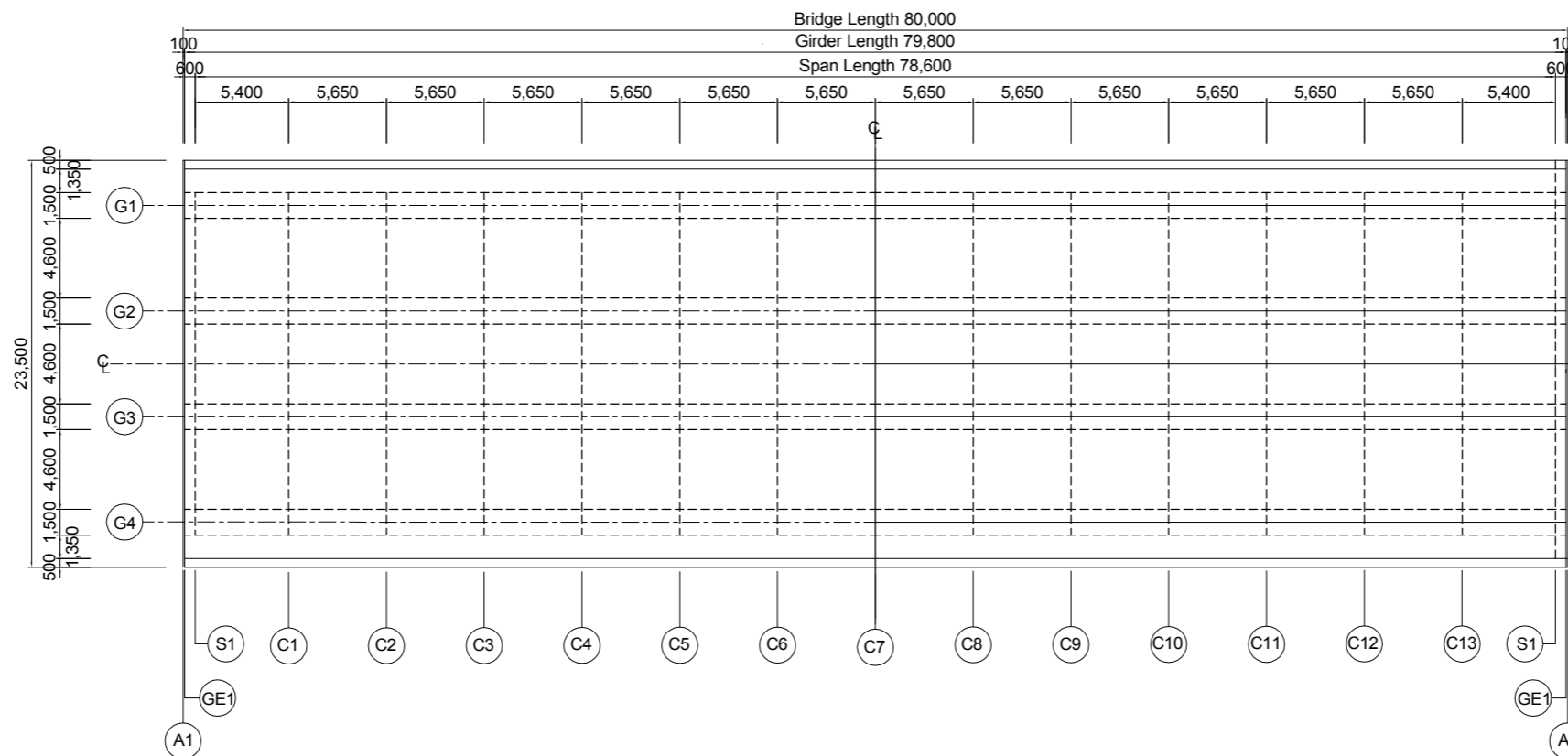
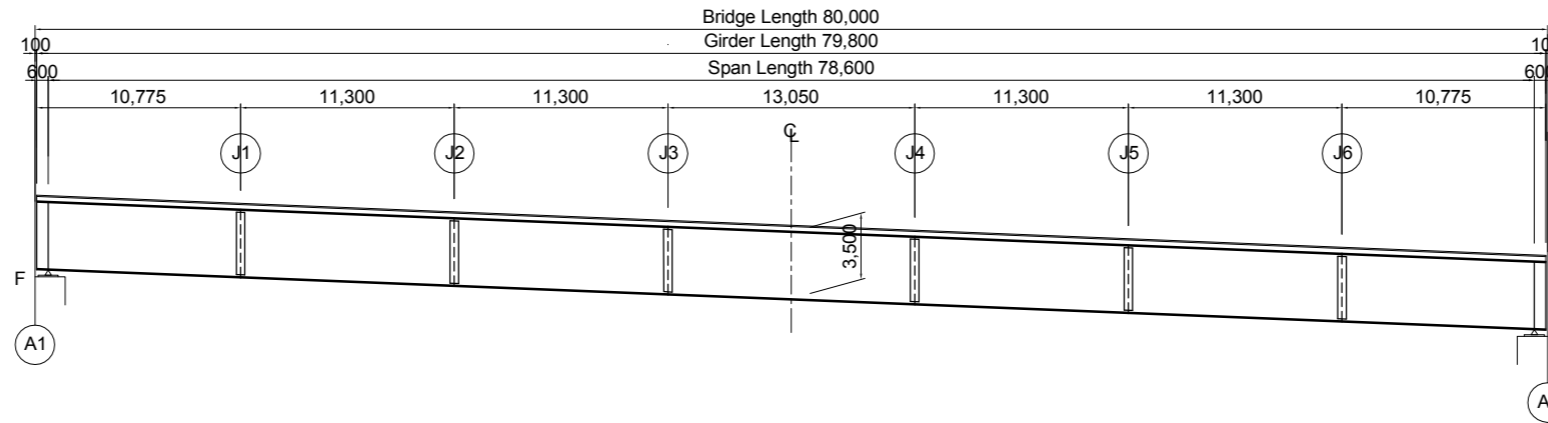
DRAWING TITLE:
GENERAL VIEW OF ARCH BRIDGE

Rev No.

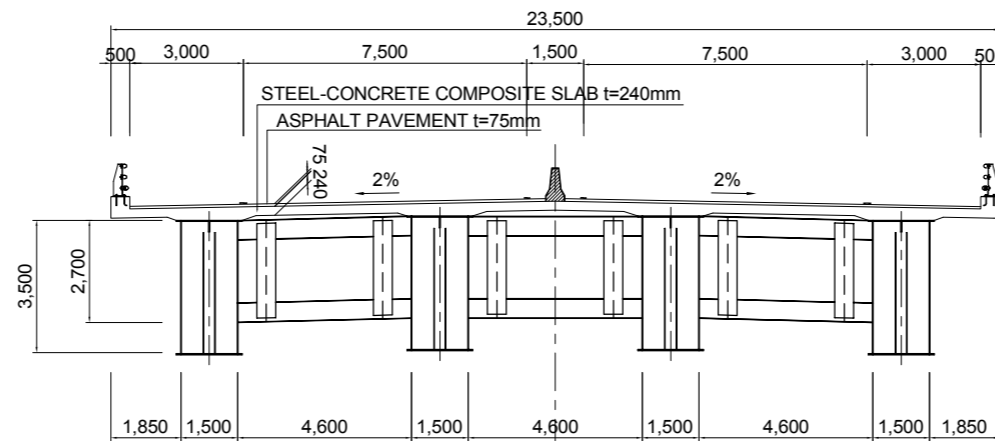
DRAWING No. NT-06 SCALE AS SHOWN

GENERAL VIEW OF RAILWAY OVERPASS

SIDE VIEW S=1:400



CROSS SECTION OF STEEL BOX GIRDER S=1:200



PROJECT: PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: Joint Venture of
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.

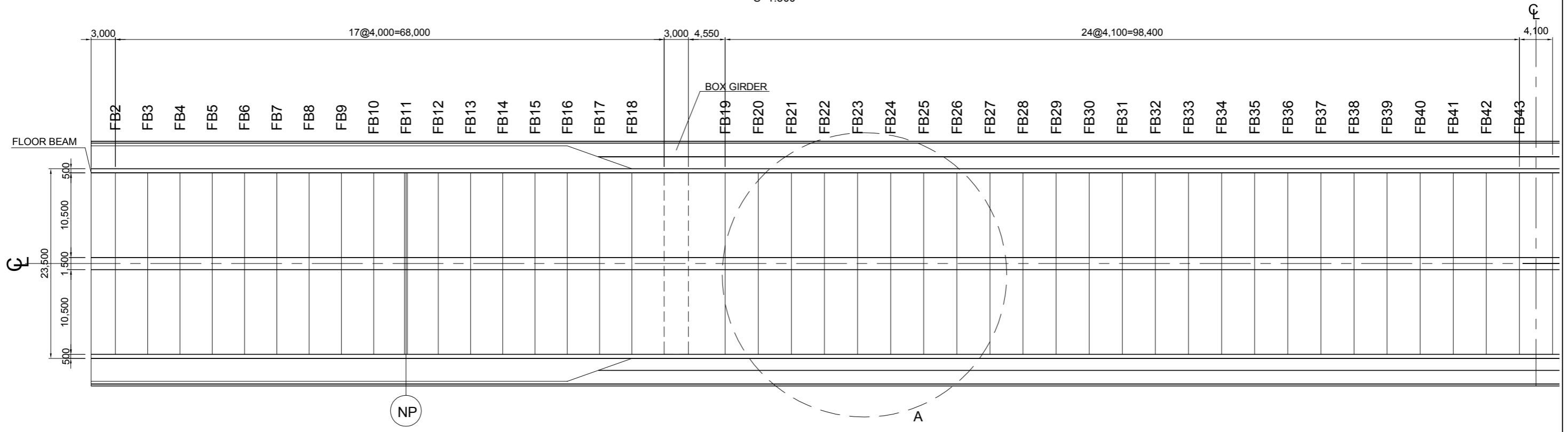
DRAWING TITLE:
GENERAL VIEW OF RAILWAY OVERPASS

Rev No.

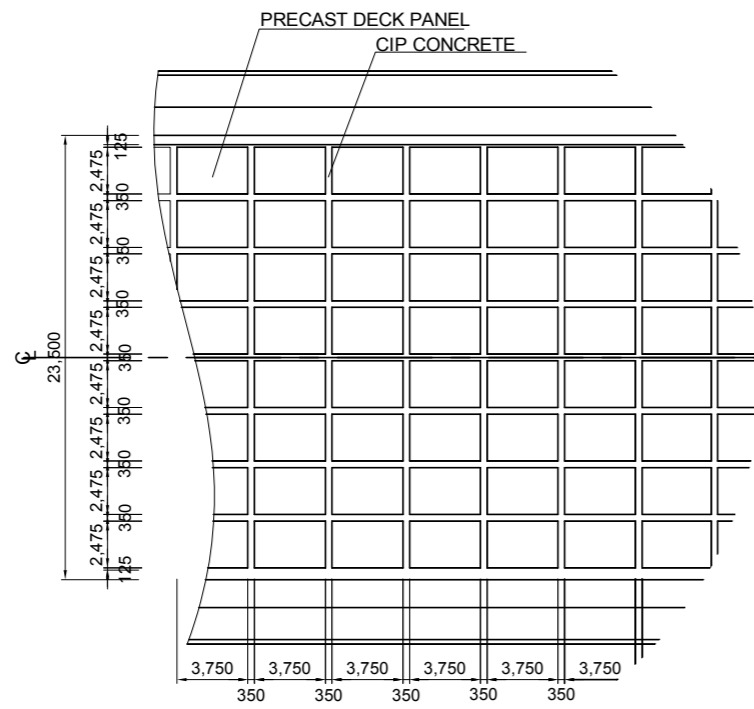
DRAWING No.	NT-07	SCALE	AS SHOWN
-------------	-------	-------	----------

STEEL GIRDER, PC-SLAB

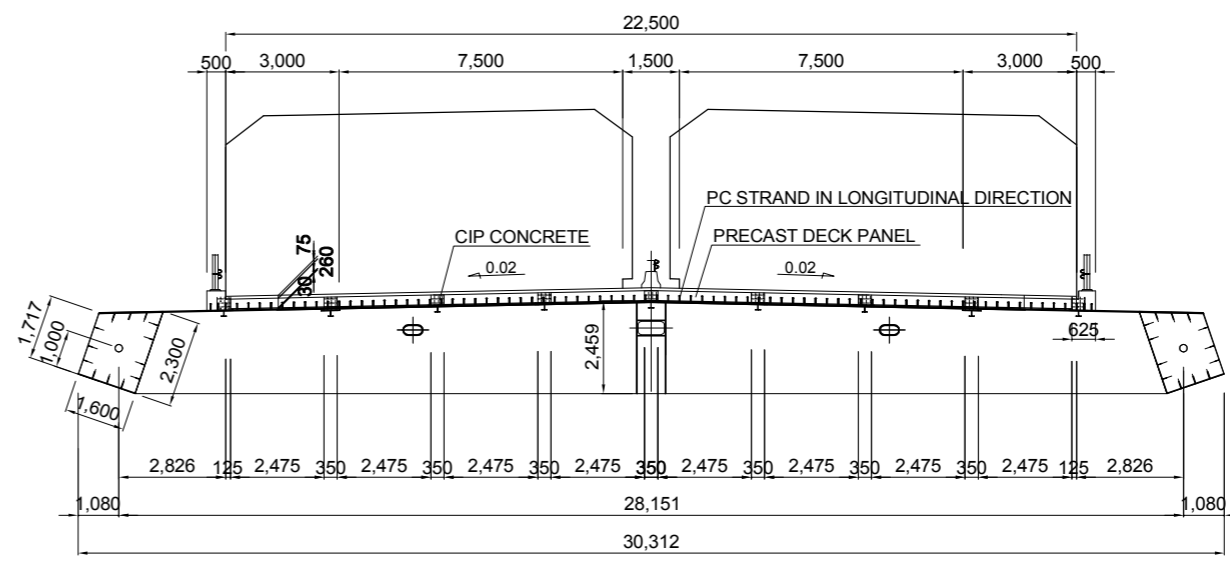
S=1:500



DETAIL A
S=1:400



CROSS SECTION
S=1:200



PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

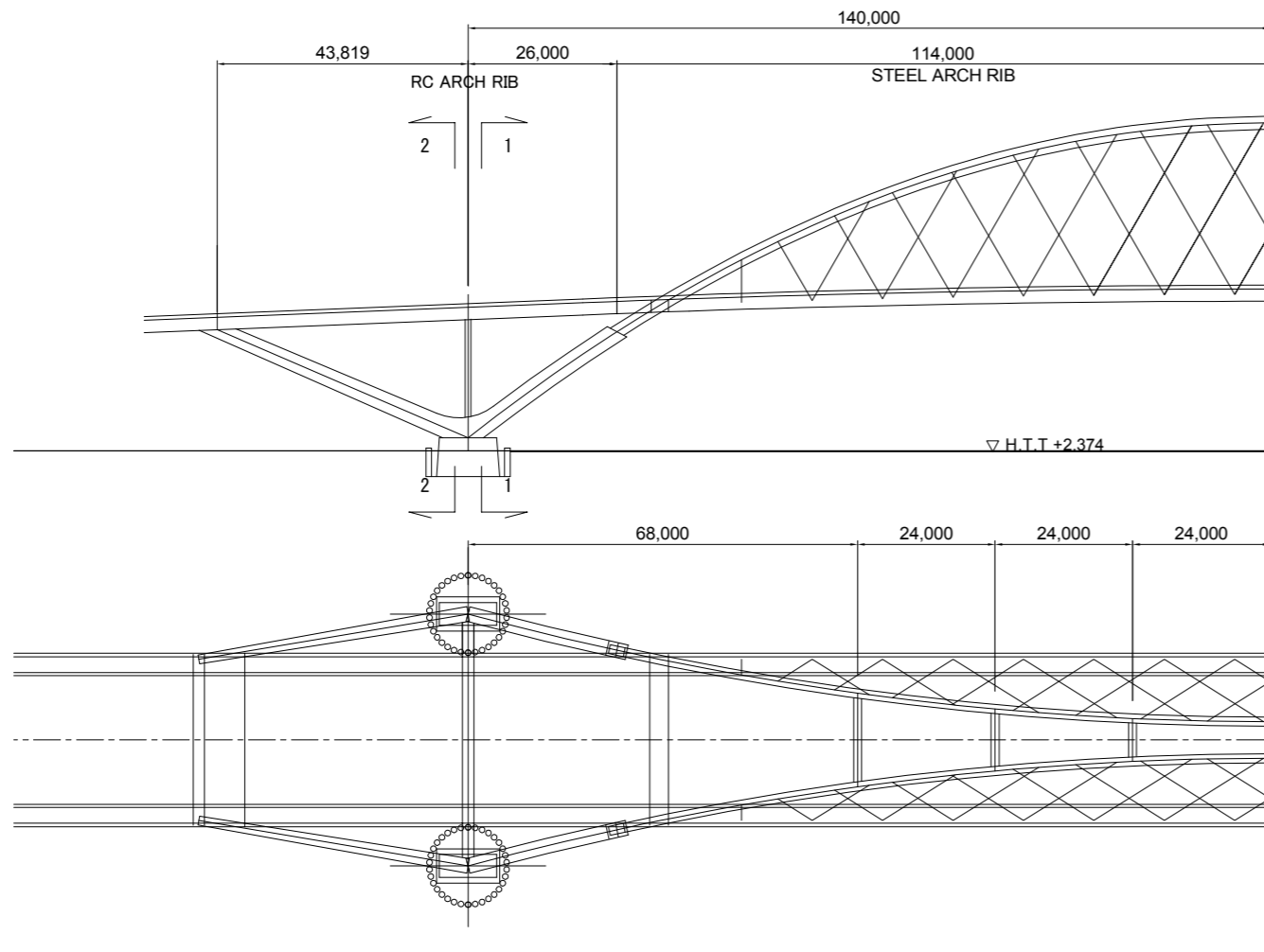
DRAWING TITLE: STEEL GIRDER, PC-SLAB

Rev No.

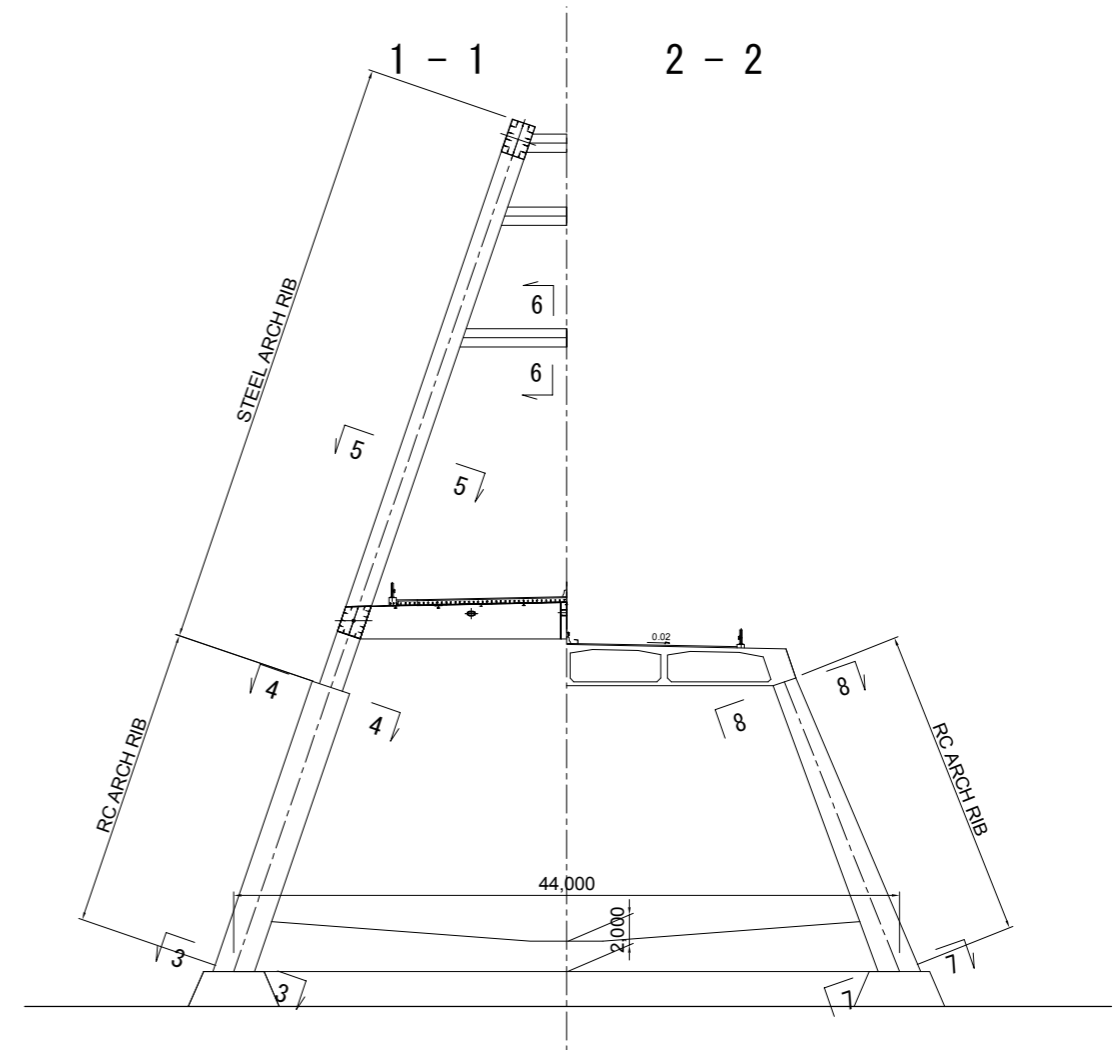
DRAWING No. NT-08 SCALE AS SHOWN

ARCH RIB

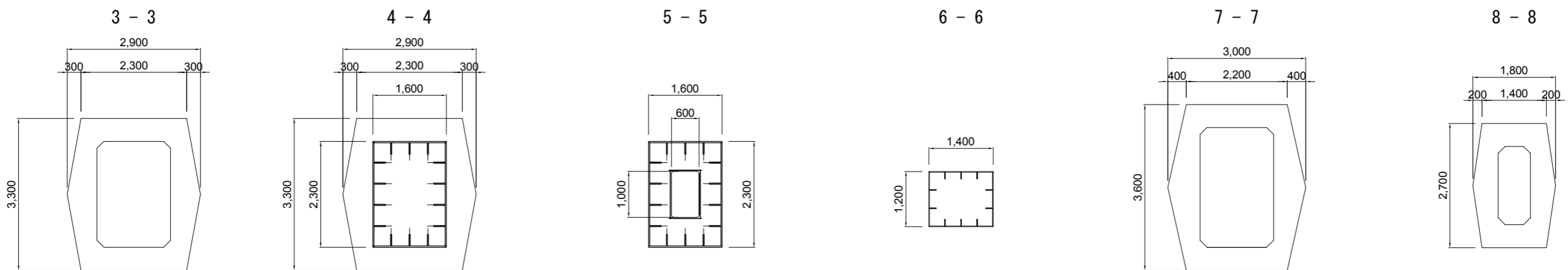
SIDE VIEW
S=1:1,250



CROSS SECTION
S=1:500



CROSS SECTION
S=1:100



PROJECT:
**PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT**



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS:
JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.

DRAWING TITLE:
ARCH RIB

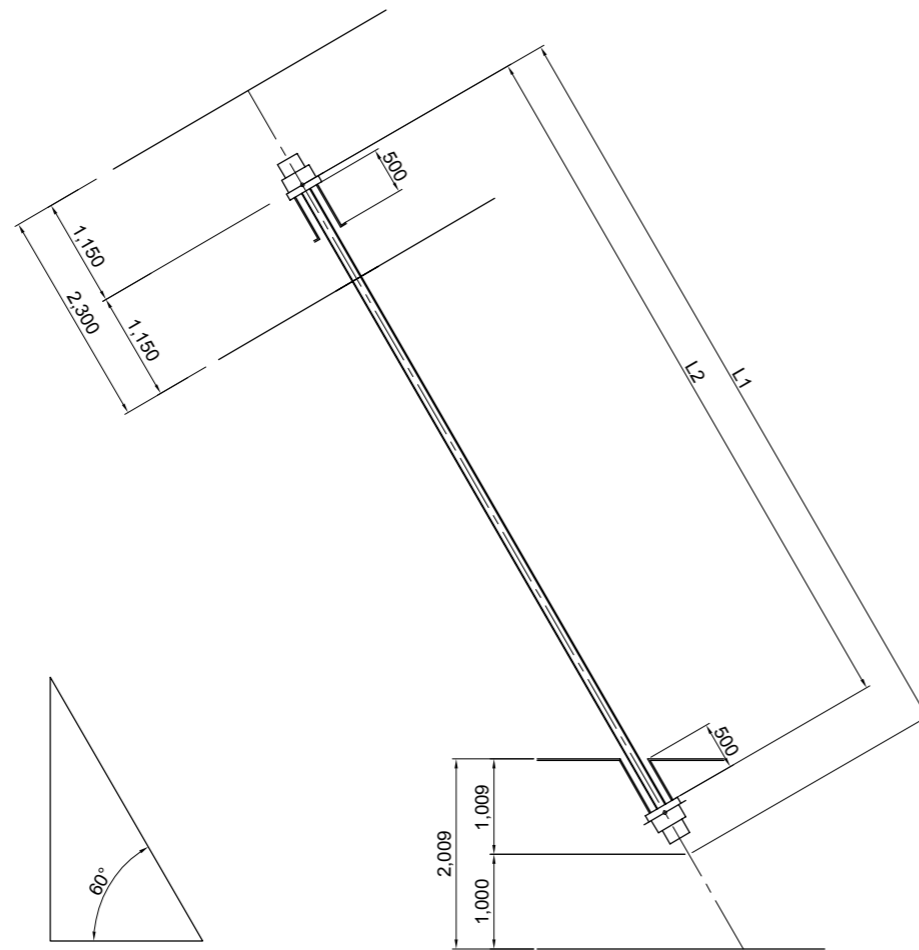
DRAWING No.	NT-09	SCALE	AS SHOWN
-------------	-------	-------	----------

Rev No.

CABLE

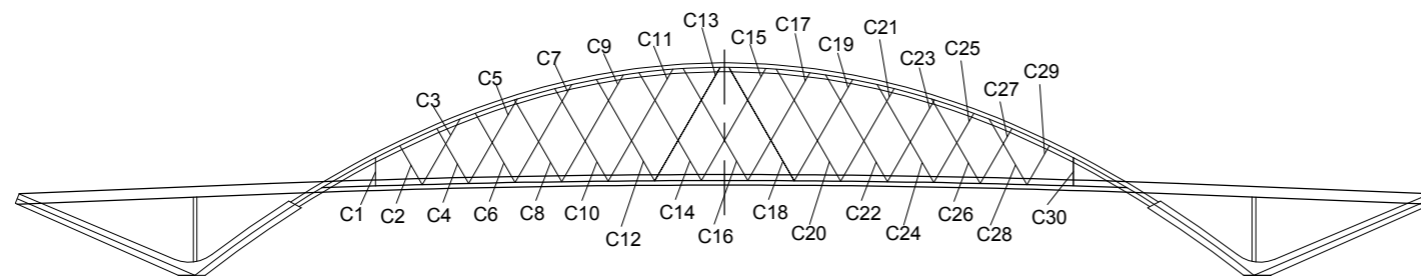
CABLE DETAILS

S=1:80



CABLE ARRANGE

S=1:2,000



CABLE DIMENSION

CABLE NO.	CABLE UNIT	FRACTURE INTENSITY	CABLE LENGTH L1 (M)	L2 (m)	θ (°)
C1	Φ 7x91	6,200	7.943	7.278	60
C2	Φ 7x91	6,200	12.475	11.809	60
C3	Φ 7x91	6,200	20.844	20.179	60
C4	Φ 7x91	6,200	17.548	16.883	60
C5	Φ 7x91	6,200	26.924	26.259	60
C6	Φ 7x91	6,200	22.122	21.457	60
C7	Φ 7x91	6,200	31.269	30.604	60
C8	Φ 7x91	6,200	26.156	25.491	60
C9	Φ 7x91	6,200	34.145	33.480	60
C10	Φ 7x91	6,200	29.603	28.938	60
C11	Φ 7x91	6,200	35.584	34.919	60
C12	Φ 7x91	6,200	32.407	31.742	60
C13	Φ 7x91	6,200	36.284	35.619	60
C14	Φ 7x91	6,200	34.507	33.842	60
C15	Φ 7x91	6,200	35.830	35.165	60
C16	Φ 7x91	6,200	35.830	35.165	60
C17	Φ 7x91	6,200	34.507	33.842	60
C18	Φ 7x91	6,200	36.284	35.619	60
C19	Φ 7x91	6,200	32.407	31.742	60
C20	Φ 7x91	6,200	35.584	34.919	60
C21	Φ 7x91	6,200	29.603	28.938	60
C22	Φ 7x91	6,200	34.145	33.480	60
C23	Φ 7x91	6,200	26.156	25.491	60
C24	Φ 7x91	6,200	31.269	30.604	60
C25	Φ 7x91	6,200	22.122	21.457	60
C26	Φ 7x91	6,200	26.924	26.259	60
C27	Φ 7x91	6,200	17.548	16.883	60
C28	Φ 7x91	6,200	20.844	20.179	60
C29	Φ 7x91	6,200	12.475	11.809	60
C30	Φ 7x91	6,200	7.943	7.278	60

PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

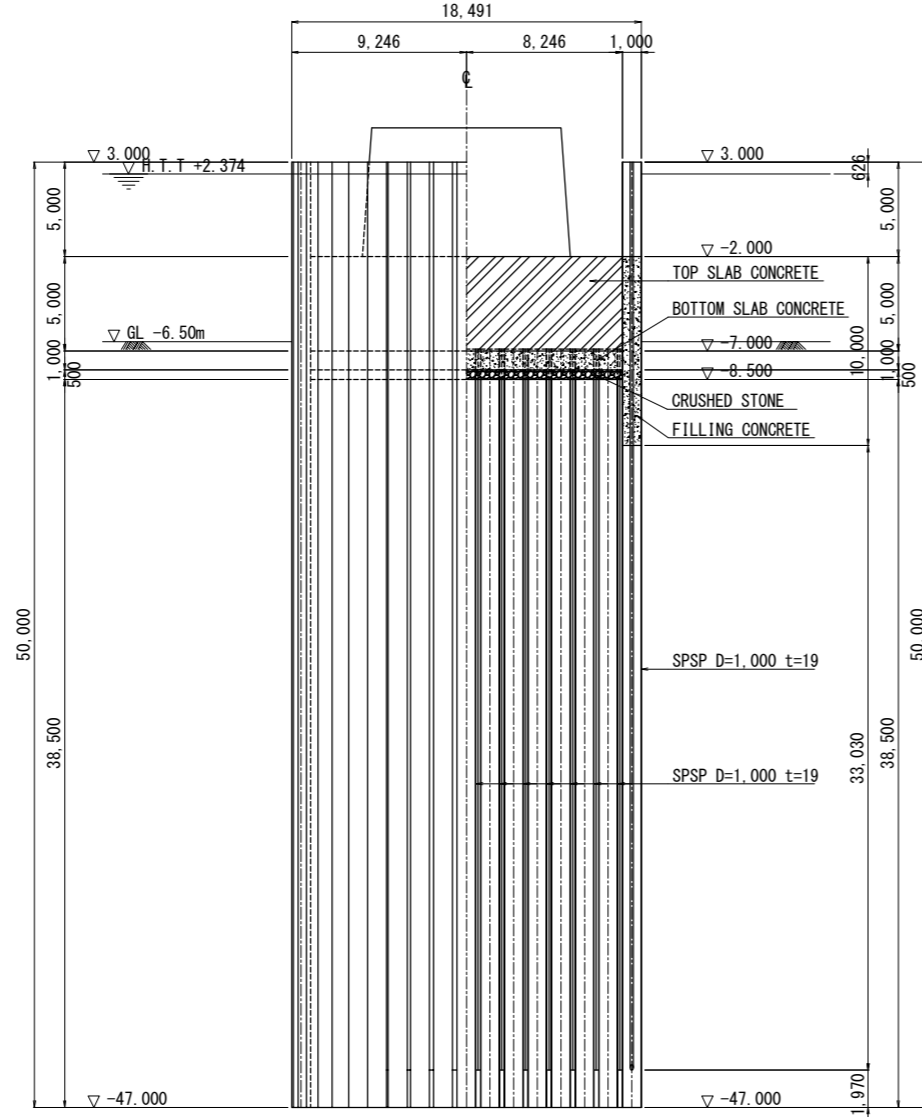
DRAWING TITLE: CABLE
 DRAWING No. NT-10 SCALE AS SHOWN
 Rev No.

FOUNDATION (P13)

S=1:400

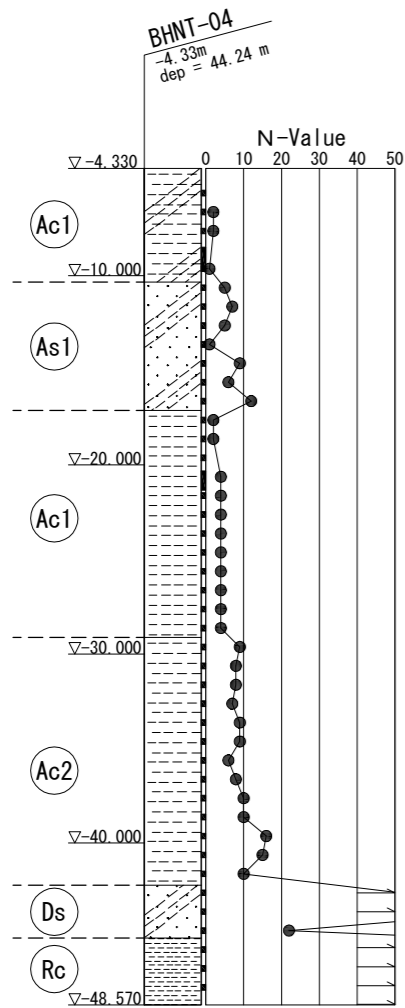
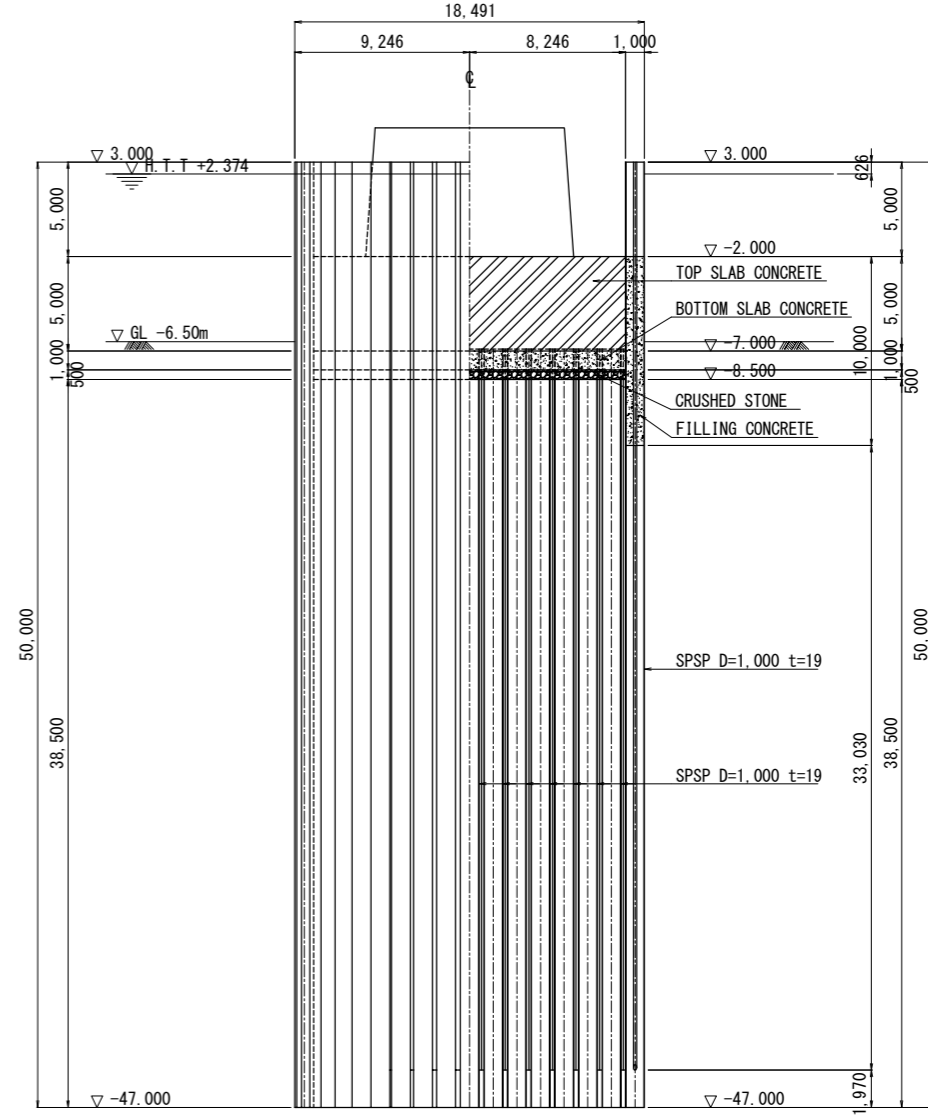
CROSS SECTION

1 - 1 2 - 2

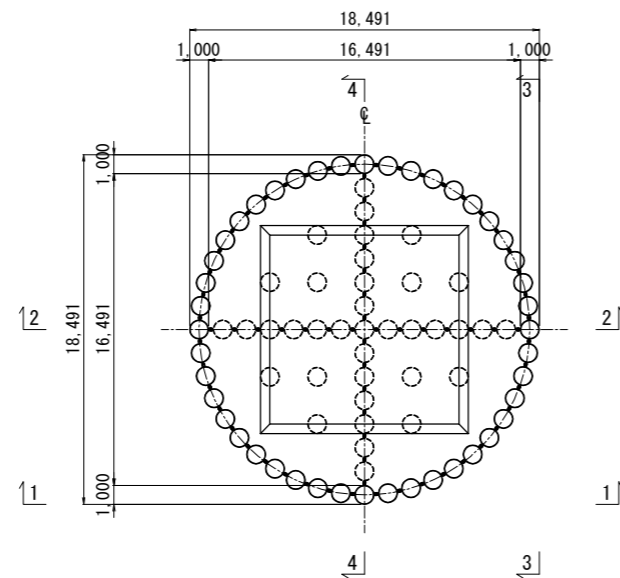


CROSS SECTION

3 - 3 4 - 4

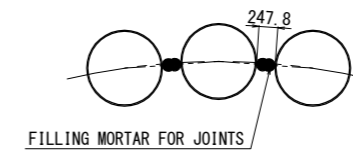


PLAN



DETAIL OF JOINTS

S=1:100



PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



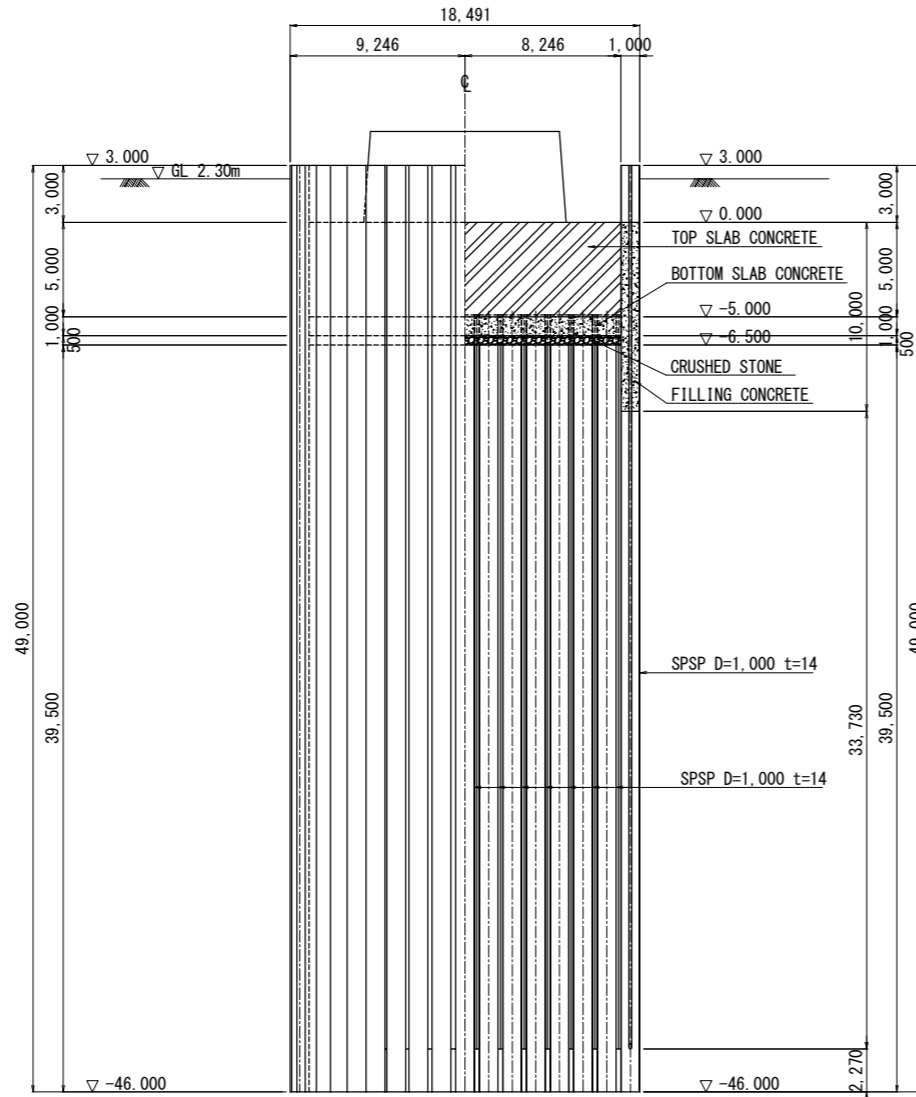
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

DRAWING TITLE: FOUNDATION (P13)				Rev No.
DRAWING No.	NT-11	SCALE	AS SHOWN	

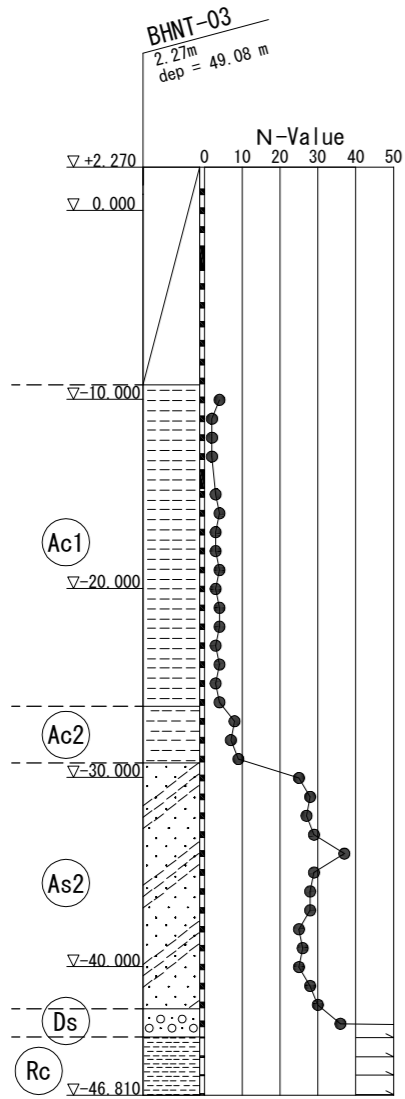
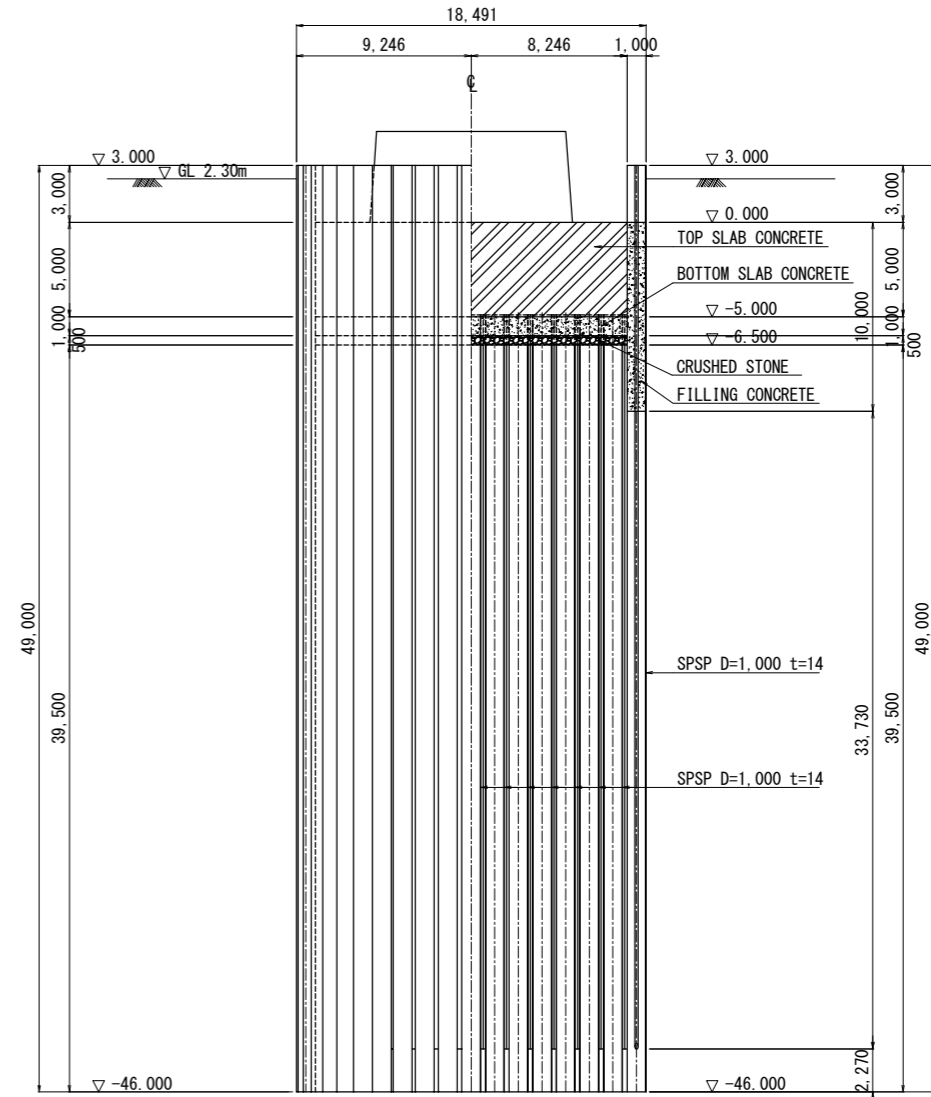
FOUNDATION (P14)

S=1:400

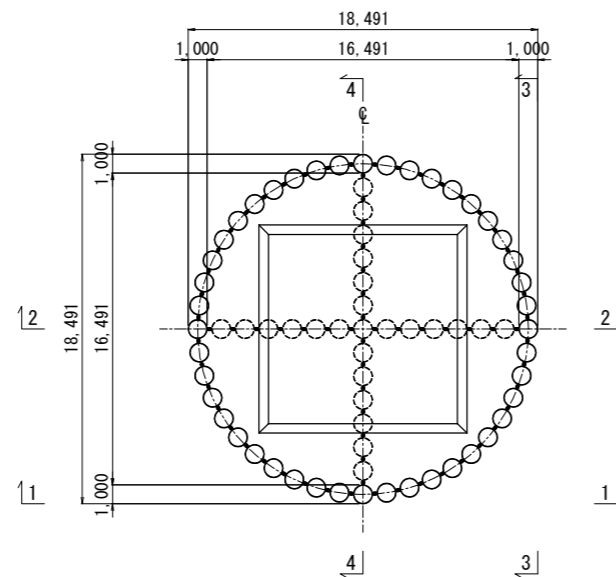
CROSS SECTION 1 - 1 2 - 2



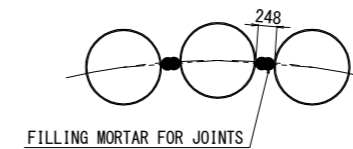
CROSS SECTION 3 - 3 4 - 4



PLAN



DETAIL OF JOINTS S=1:100



PROJECT: PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.

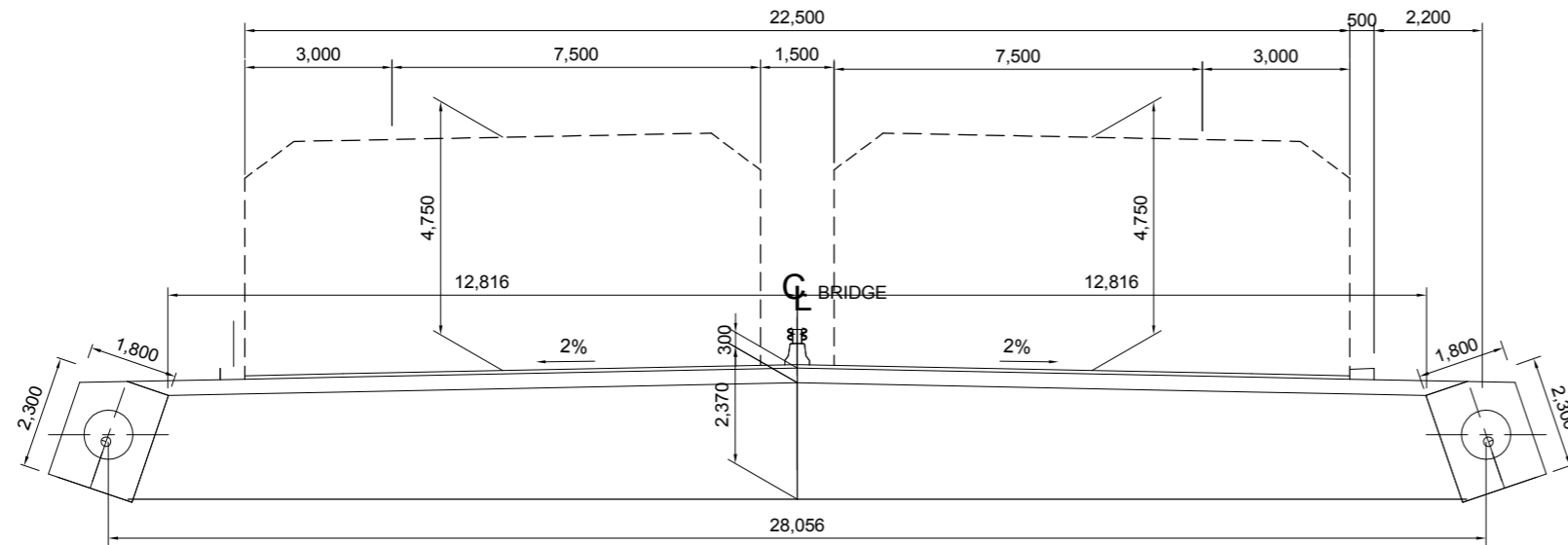
DRAWING TITLE:
FOUNDATION (P14)

Rev No.

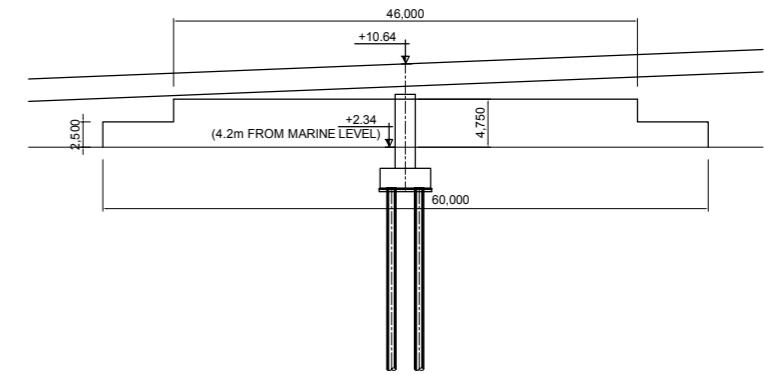
DRAWING No. NT-12 SCALE AS SHOWN

GIRDER OF APPROACH BRIDGE

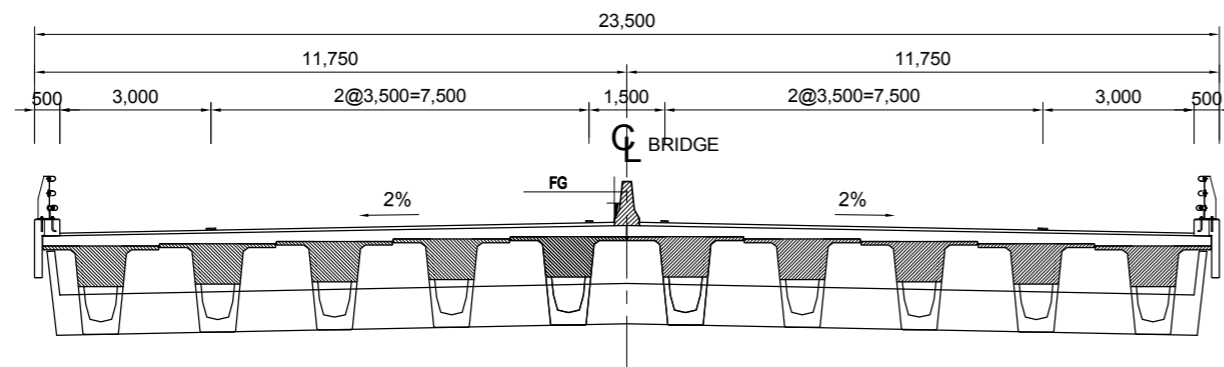
CROSS SECTION OF MAIN SPAN
S=1:150



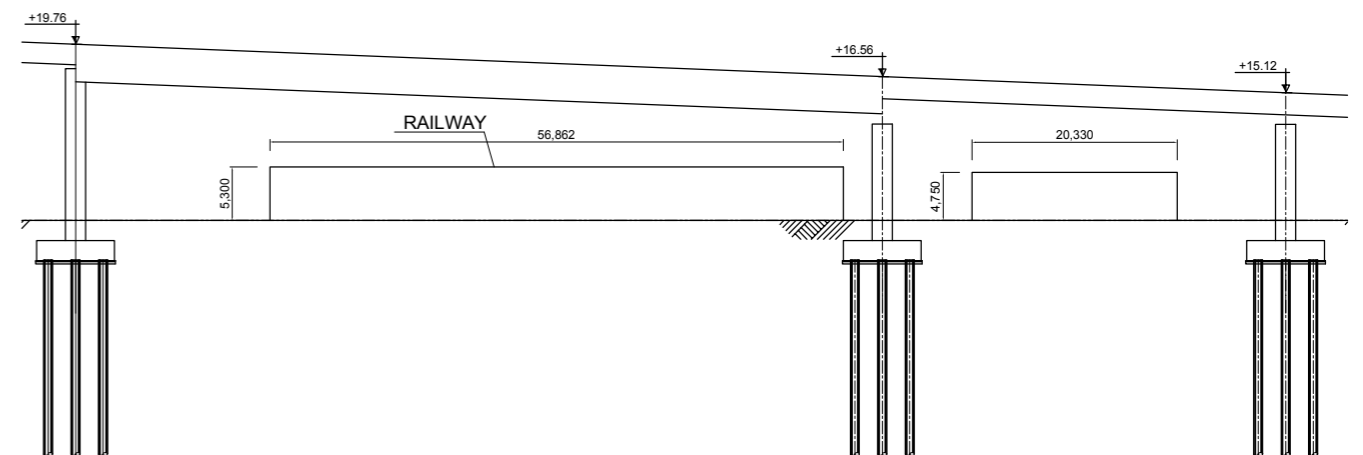
DETAIL A
S=1:500



CROSS SECTION VIADUCT
S=1:150



DETAIL B
S=1:500



PROJECT: PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.

DRAWING TITLE:
GIRDER OF APPROACH BRIDGE

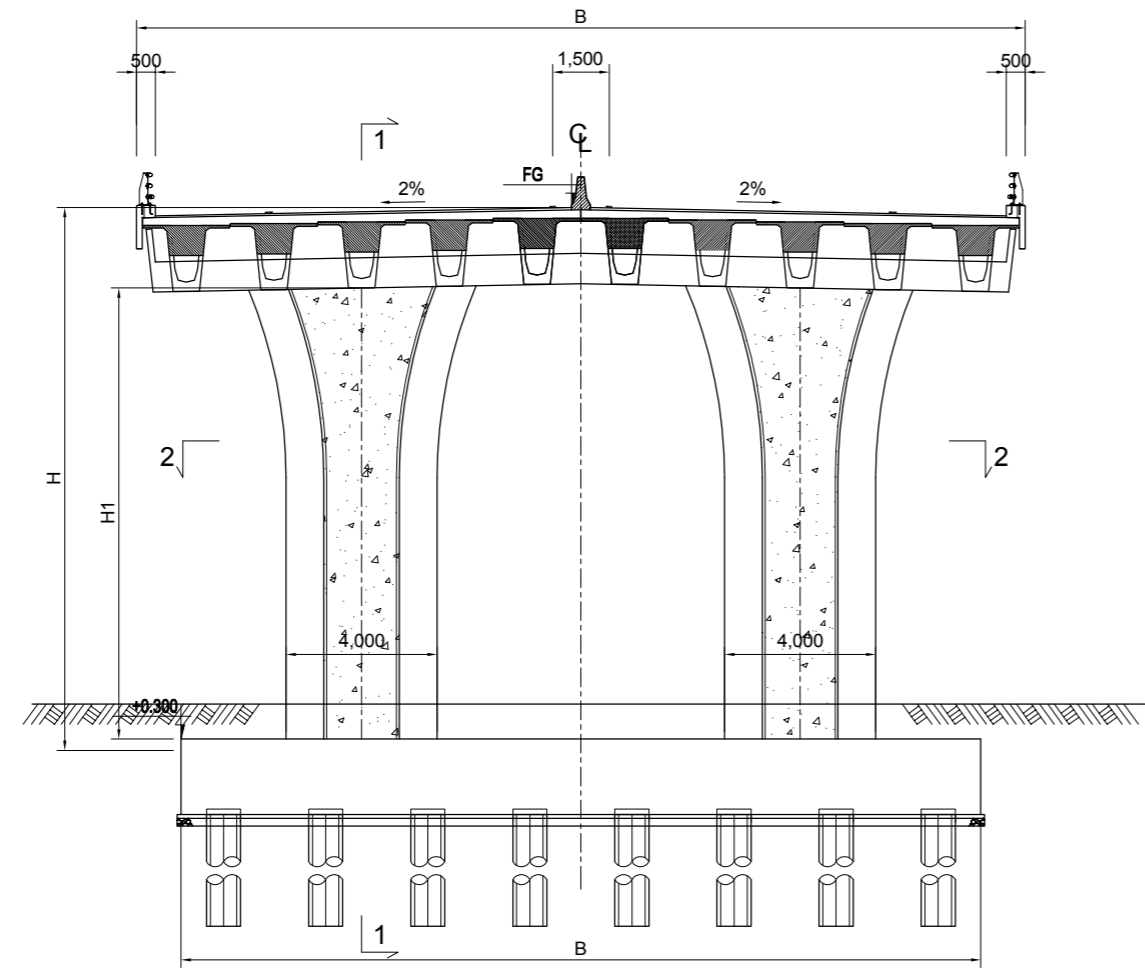
Rev No.

DRAWING No.	NT-13	SCALE	AS SHOWN
-------------	-------	-------	----------

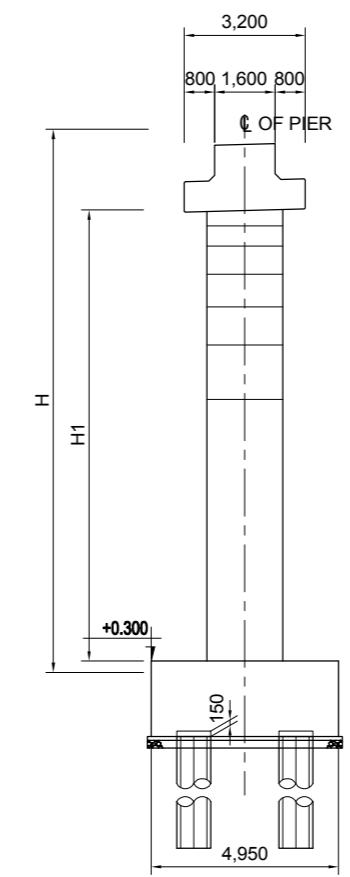
PIER OF APPROACH BRIDGE

S=1:200

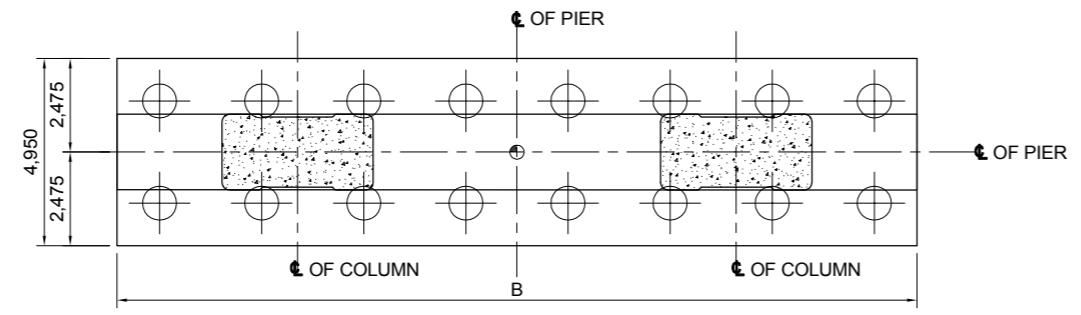
CROSS SECTION VIADUCT



SECTION 1 - 1



SECTION 2 - 2



PLAN OF HEADSTOCK

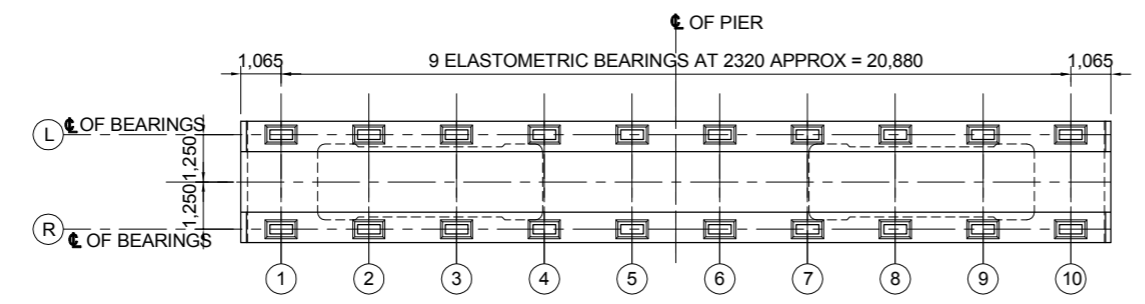


TABLE HEIGHT OF PIERS

PIER No.	H (m)	H1 (m)	PILE NUMBER
			n
P1	7.440	5.140	2 × 8=16
P2	9.040	6.740	2 × 8=16
P3	10.640	8.340	2 × 8=16
P4	12.240	9.940	3 × 6=18
P5	13.600	11.300	3 × 6=18
P6	14.960	12.660	3 × 6=18
P7	16.560	14.260	3 × 6=18
P8	18.160	15.860	3 × 6=18
P9	19.760	17.460	3 × 6=18
P10	21.360	19.060	3 × 6=18
P11	22.960	20.660	3 × 6=18
P16	22.960	20.700	3 × 11=33
P17	21.360	19.060	3 × 11=33
P18	19.760	17.460	3 × 7=21
P19	16.560	9.960	3 × 7=21
P20	15.120	8.520	3 × 6=18
P21	13.680	11.380	3 × 6=18
P22	12.080	9.780	3 × 6=18
P23	10.480	8.180	2 × 8=16
P24	8.880	6.580	2 × 8=16
P25	7.280	4.980	2 × 8=16

NOTE: BLINDING CONCRETE 100mm
CRUSHED STONE 200mm

PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



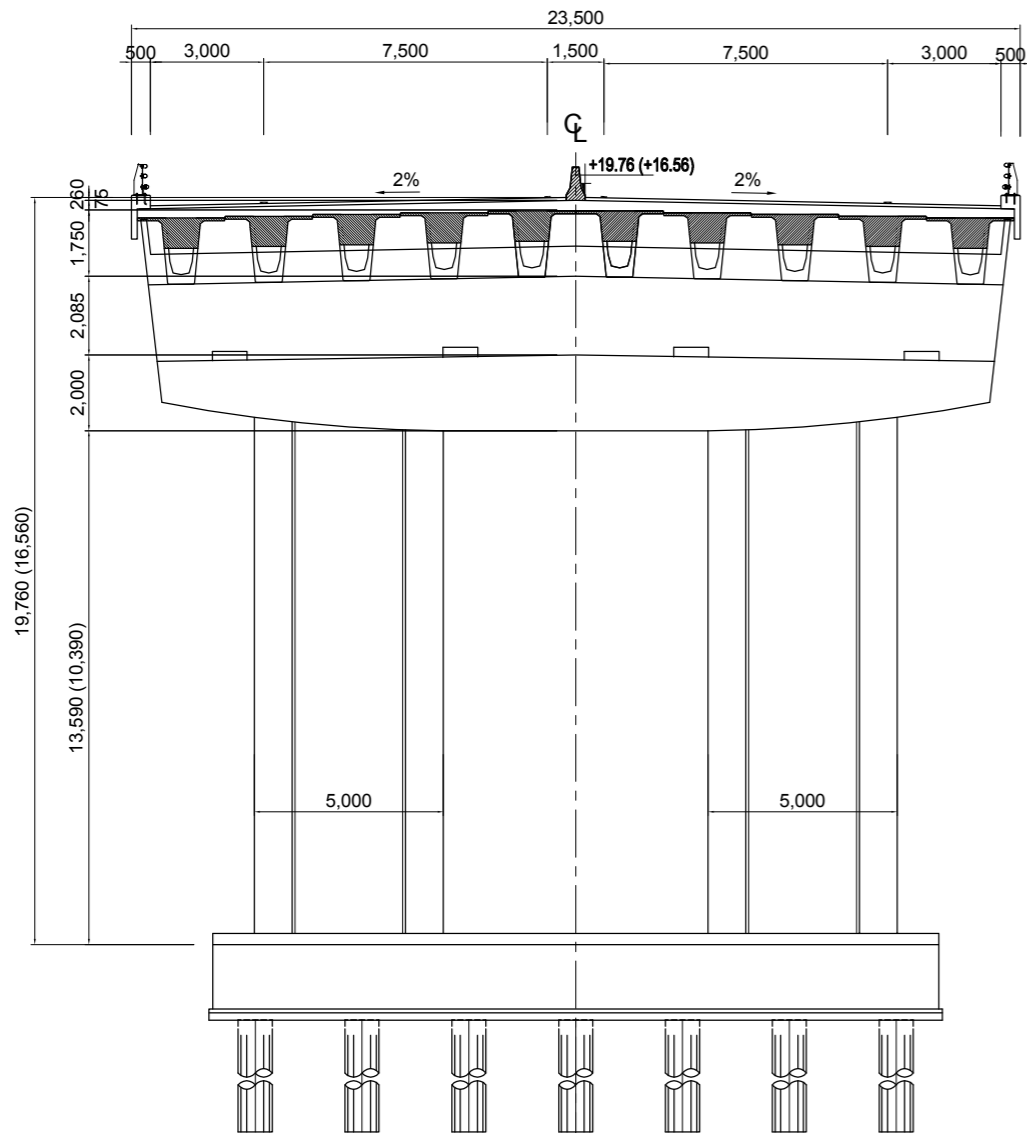
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

DRAWING TITLE: PIER OF APPROACH BRIDGE
DRAWING No. NT-14 SCALE 1:200

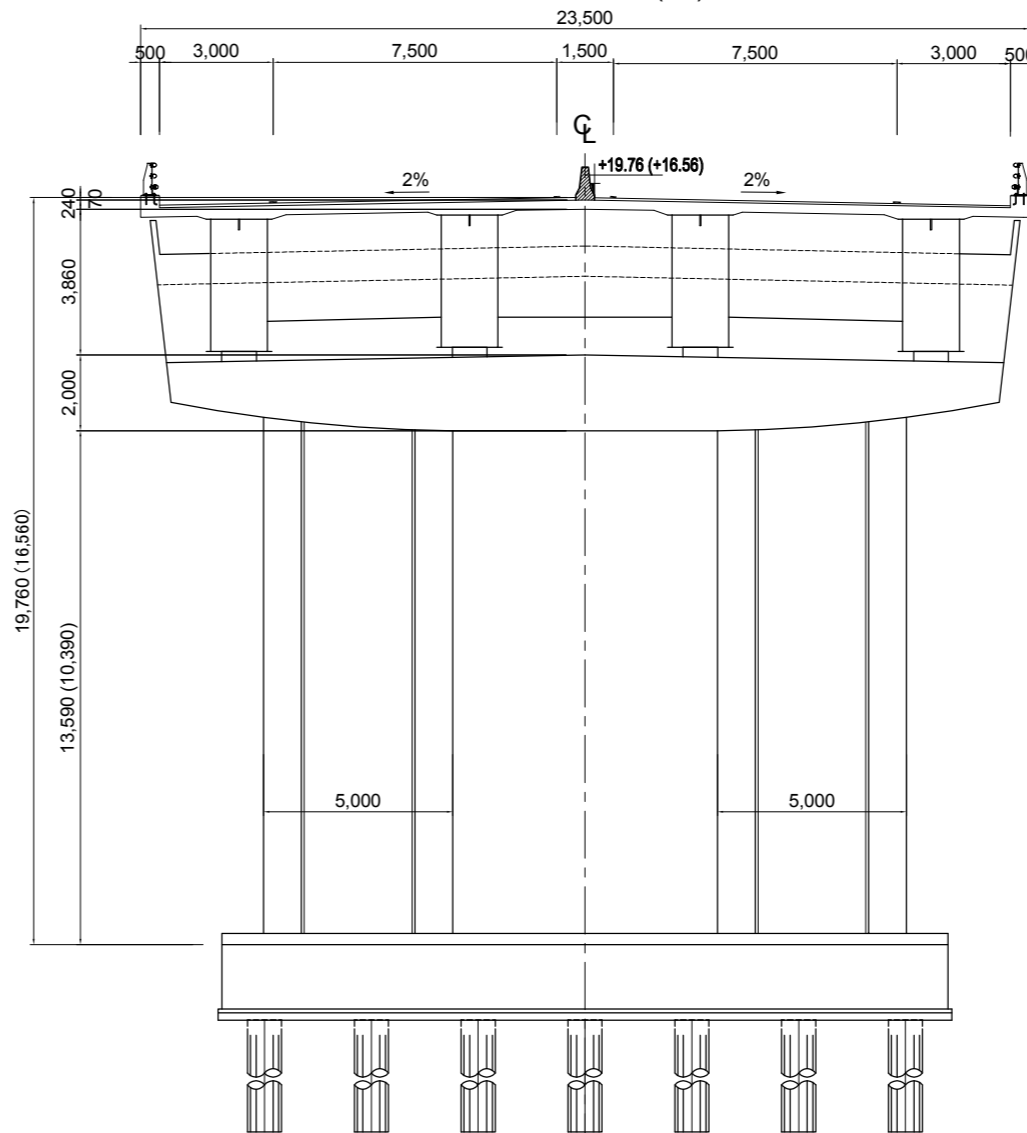
Rev No.

PIER OF RAILWAY OVERPASS S=1:200

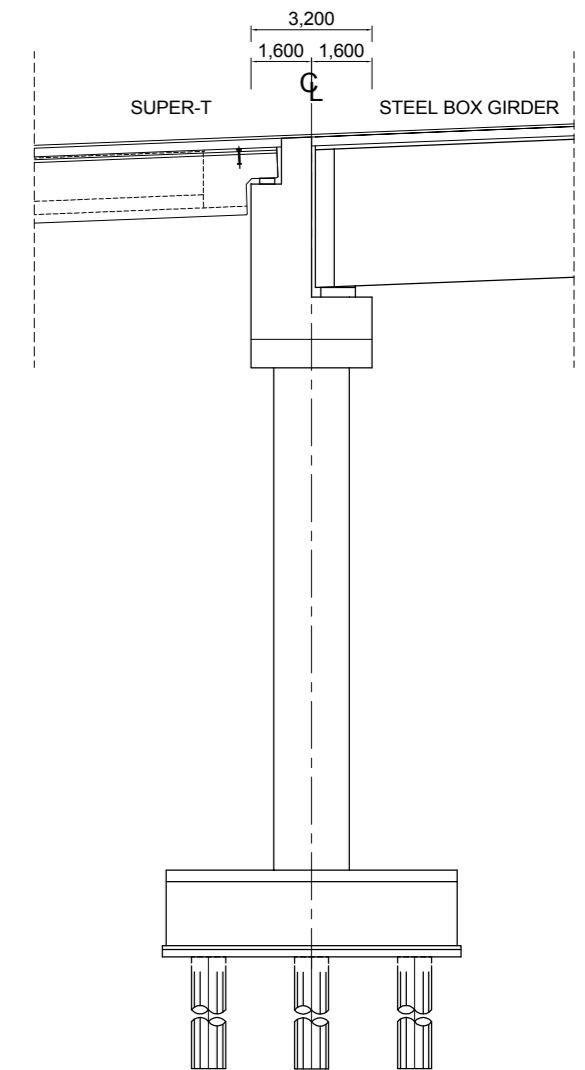
CROSS SECTION AT THE PIER P18 (P19)
ABUTMENT A1 (A2) SIDE



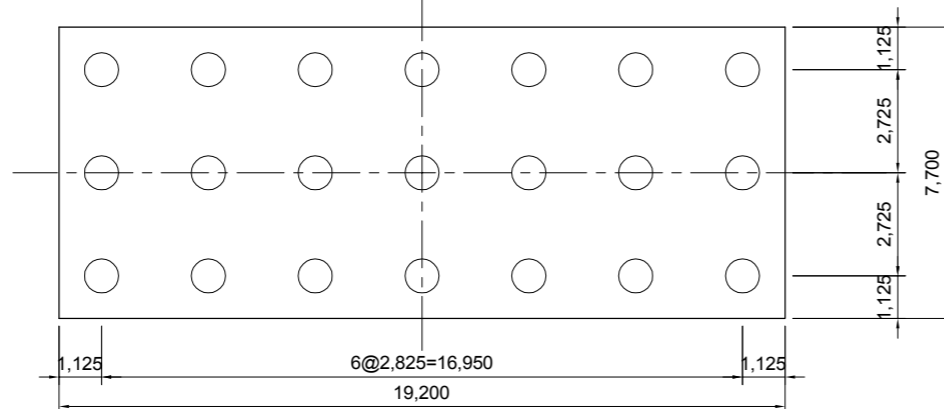
CROSS SECTION AT THE PIER P18 (P19)
ABUTMENT A2 (A1) SIDE



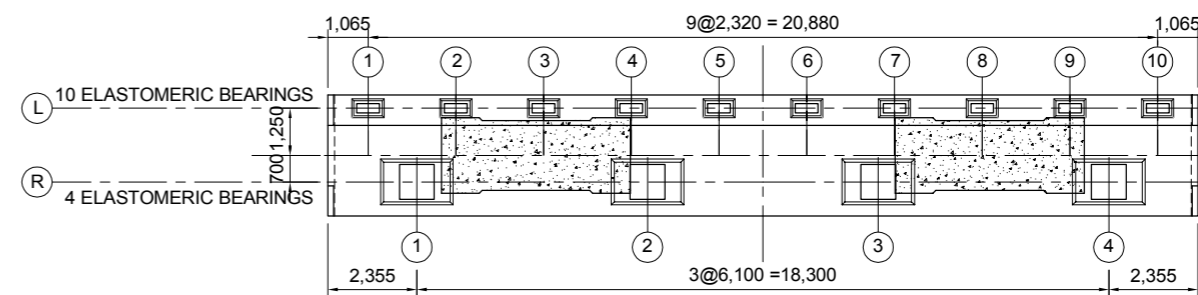
PROFILE PIER P18



PILE ARRANGEMENT
OF PIER



PLAN OF HEADSTOCK



NOTE: DIMENSION INSIDE PARENTHESES IS FOR PIER P19
BLINDING CONCRETE 100mm
CRUSHED STONE 200mm

PROJECT: PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.

DRAWING TITLE:
PIER OF RAILWAY OVERPASS

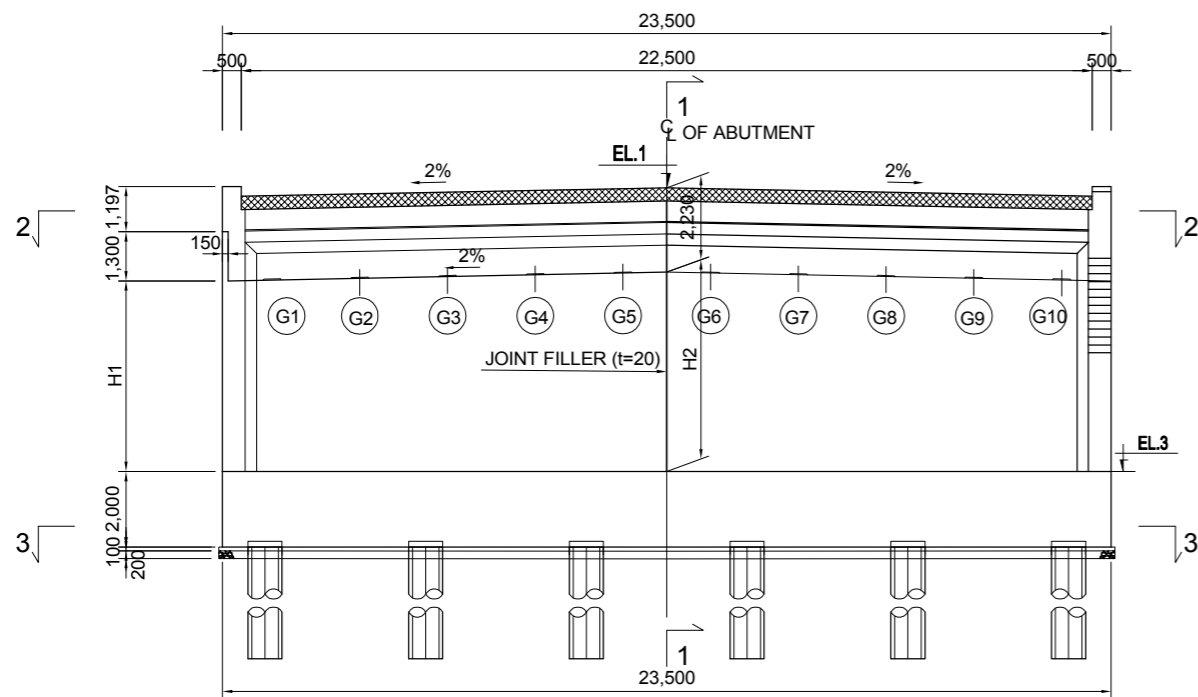
DRAWING No.	NT-15	SCALE	1:200
-------------	-------	-------	-------

Rev No.

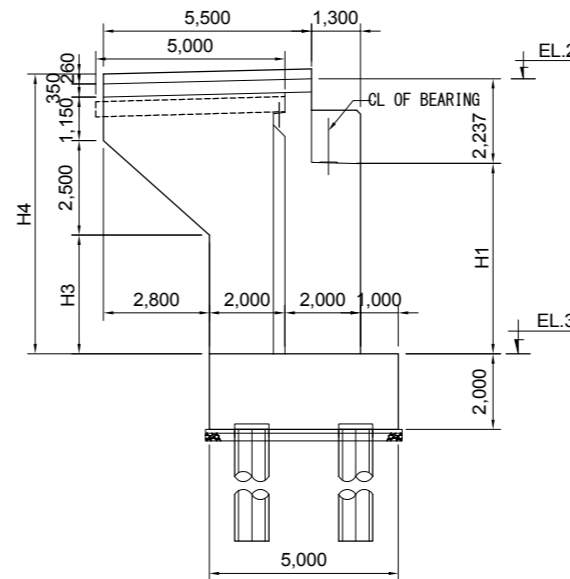
ABUTMENT OF APPROACH BRIDGE

S=1:200

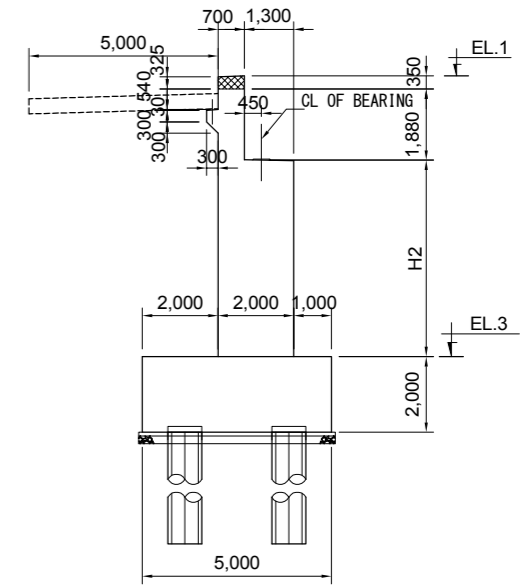
FRONT VIEW OF ABUTMENT



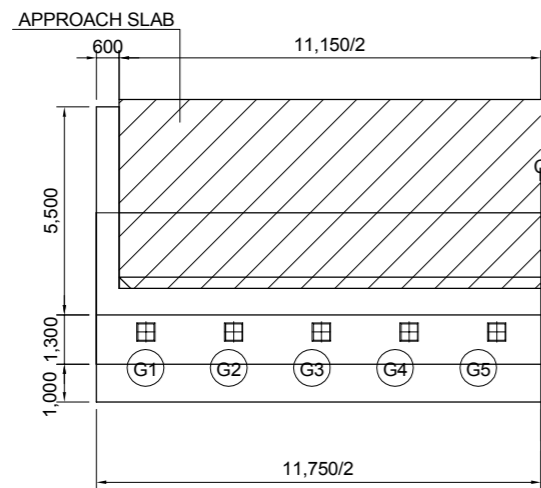
SIDE VIEW



SECTION 1-1



1/2 SECTION 2-2



1/2 SECTION 3-3

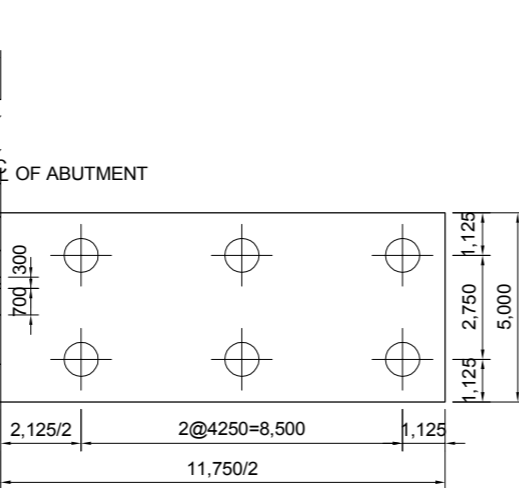


TABLE OF HEIGHT OF ABUTMENT

ABUTMENT	EL1	EL2	EL3	H1	H2	H3	H4
	m	m	m	m	m	m	m
A1	+5.85	5.625	+0.00	3.388	3.62	1.565	5.775
A2	+5.69	5.465	+0.00	3.228	3.46	1.405	5.615

NOTE: BLINDING CONCRETE 100mm
CRUSHED STONE 200mm

PROJECT: PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.

DRAWING TITLE:
ABUTMENT OF APPROACH BRIDGE

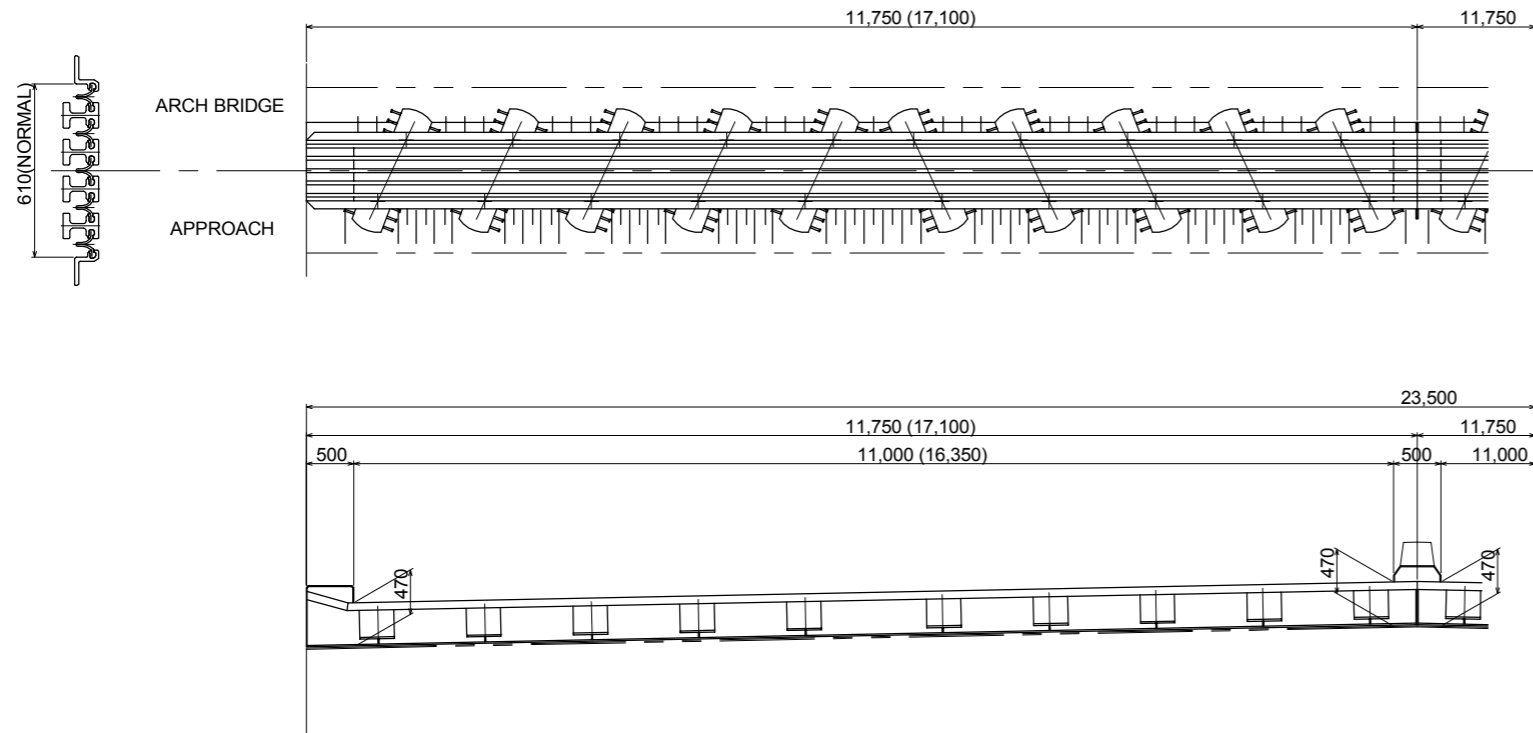
Rev No.

DRAWING No. NT-16 SCALE 1:200

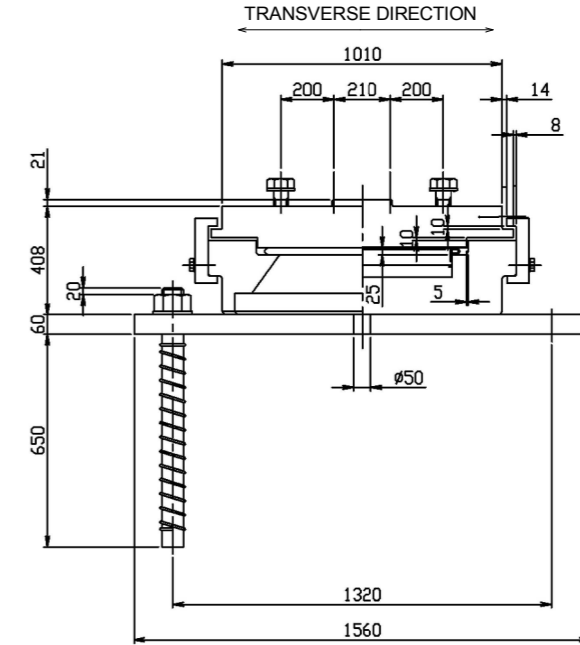
BEARING, EXPANSION JOINT

ASSEMBLY DRAWING, CROSS SECTION DRAWING

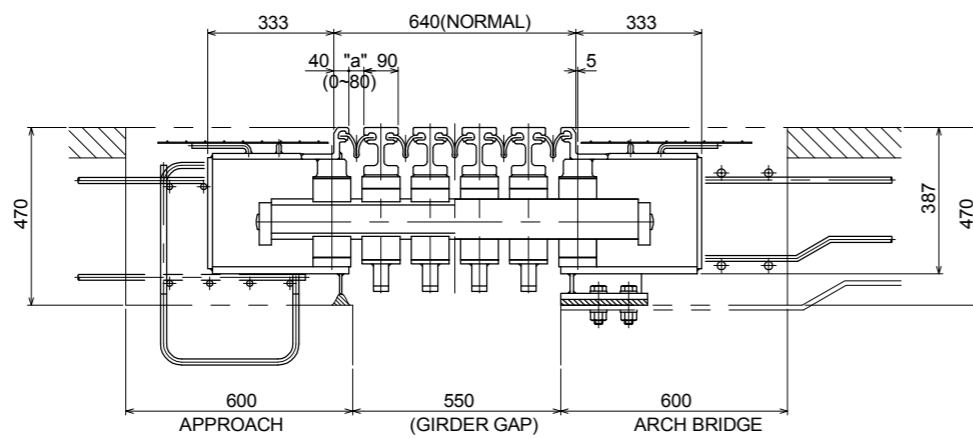
EXPANSION JOINT DETAILS
S=1:30



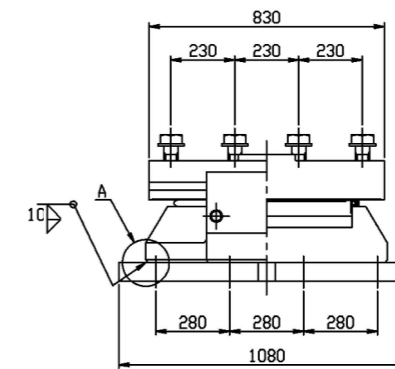
BEARING DETAILS
S=1:10



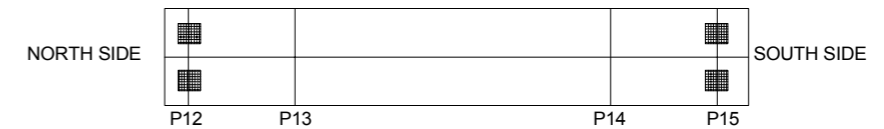
CROSS SECTION
S=1:20



LONGITUDINAL DIRECTION



LOCATION



NOTE:
BETWEEN () IS DIMENSION OF THE SOUTH SIDE

PROJECT: PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT

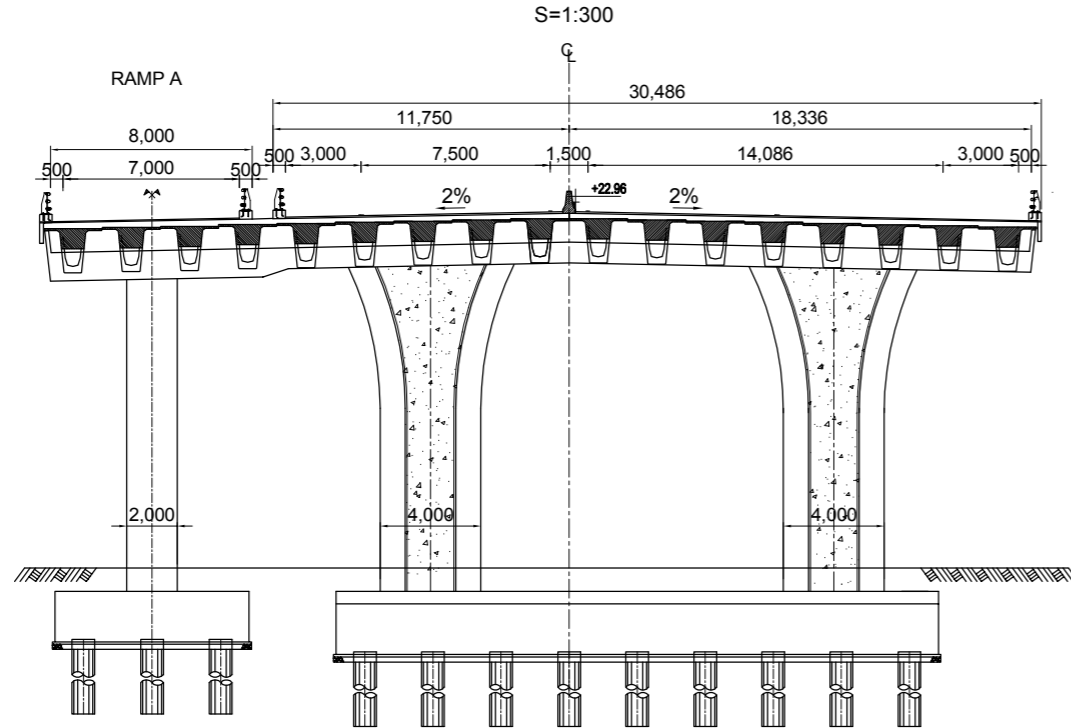


JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.

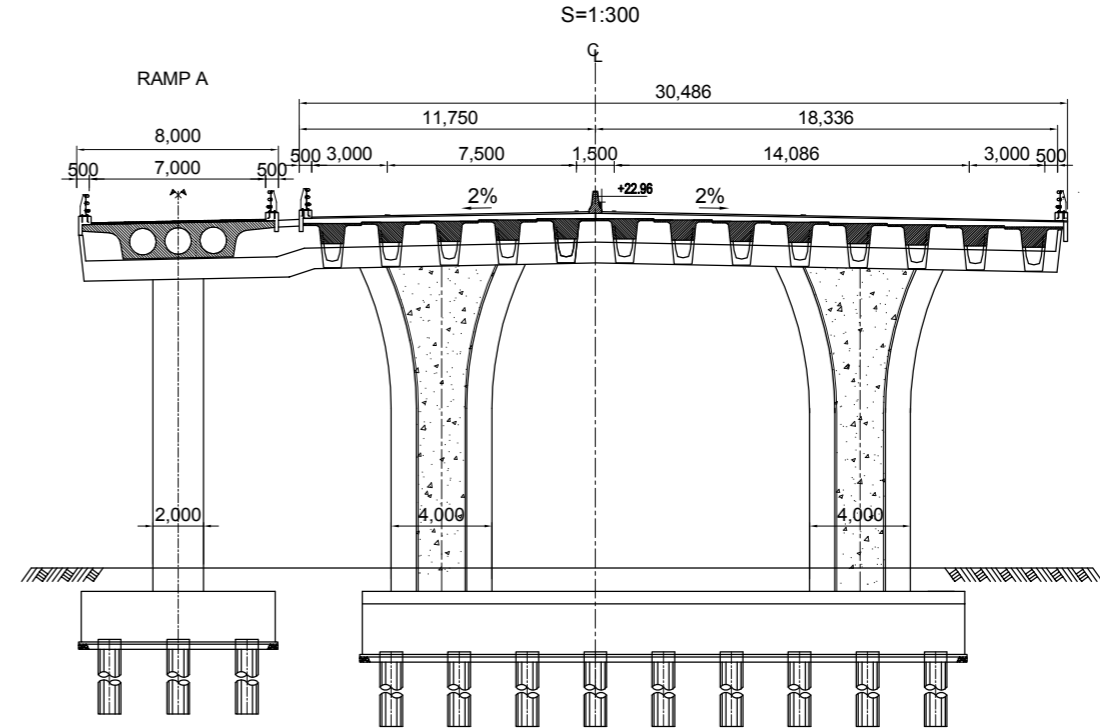
DRAWING TITLE:		BEARING, EXPANSION JOINT		Rev No.
DRAWING No.	NT-17	SCALE	AS SHOWN	

PIER AND ABUTMENT OF RAMP WAY A

CROSS SECTION AT PIER P16 (ABUTMENT A1 SIDE)



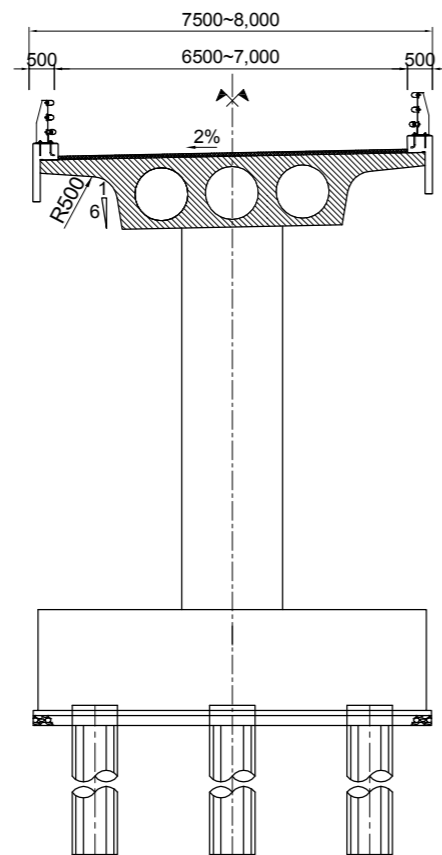
CROSS SECTION AT PIER P16 (ABUTMENT A2 SIDE)



CROSS SECTION OF RAMP WAY A

S=1:150

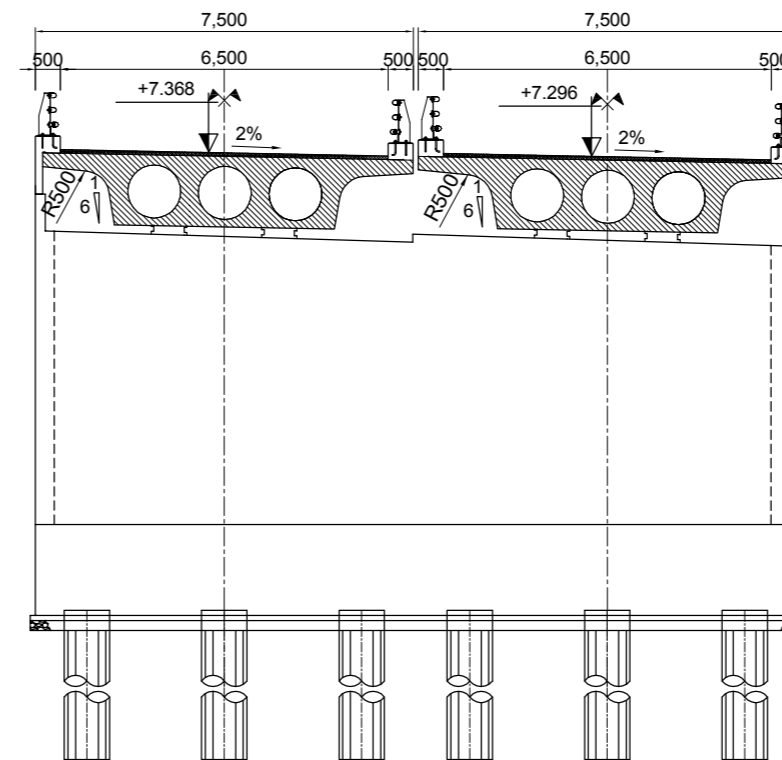
TYPICAL CROSS SECTION AT PIERS



CROSS SECTION AT ABUTMENT

RAMP WAY A

RAMP WAY B



PROJECT: PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.

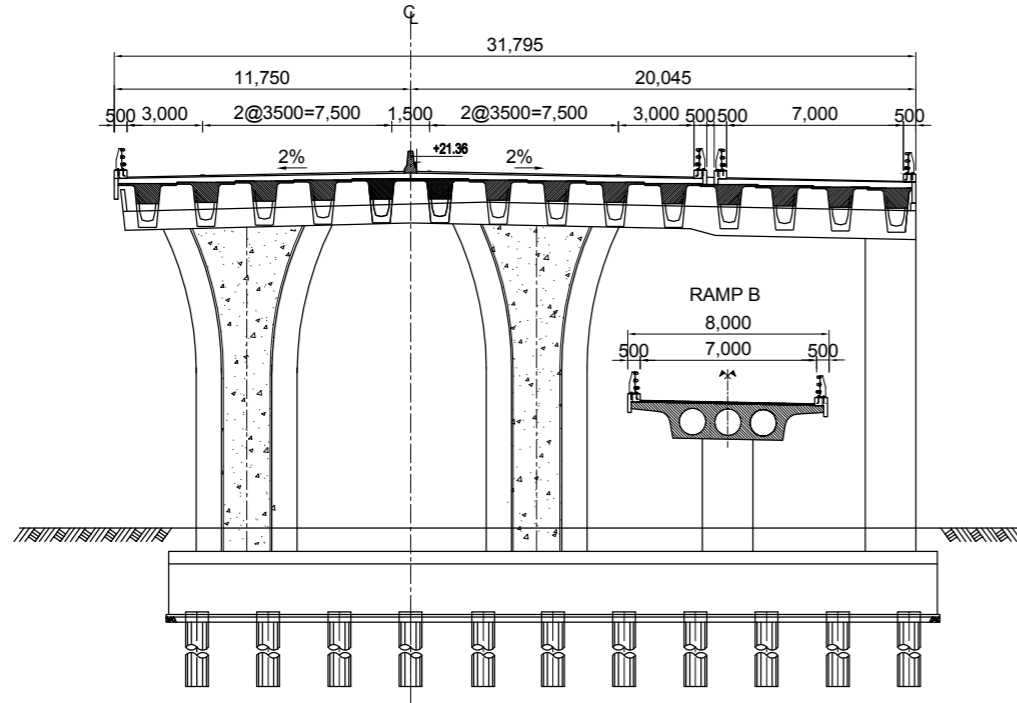
DRAWING TITLE:
PIER AND ABUTMENT OF RAMP WAY A

Rev No.

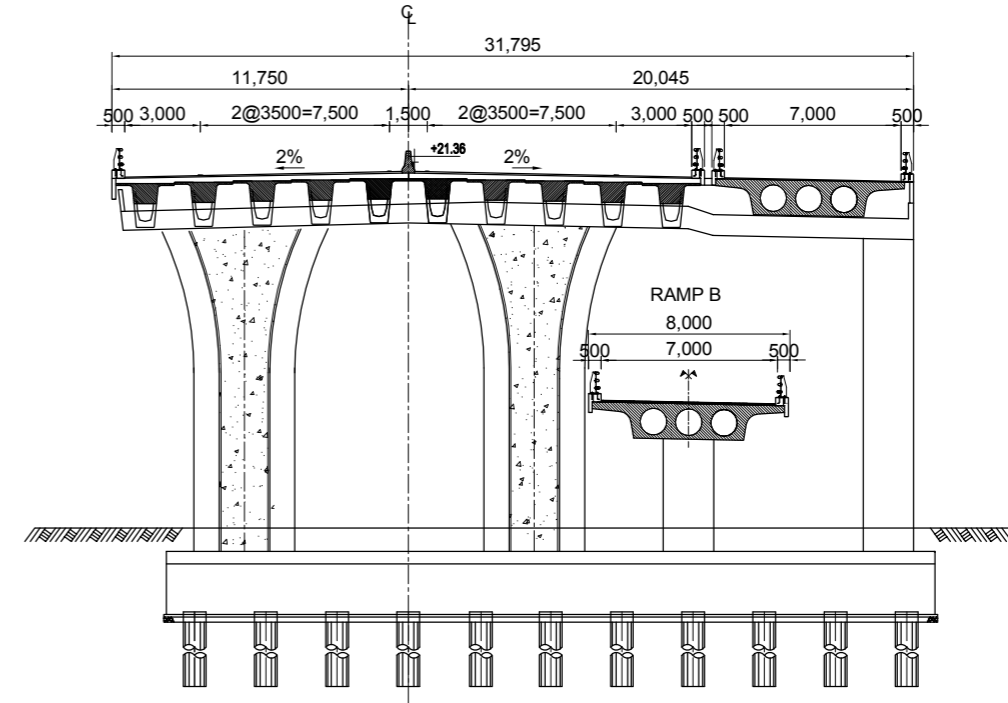
DRAWING No.	NT-18	SCALE	AS SHOWN
-------------	-------	-------	----------

PIER AND ABUTMENT OF RAMP WAY B

CROSS SECTION AT PIER 17 AND PB13 (ABUTMENT A1 SIDE)
S=1:300

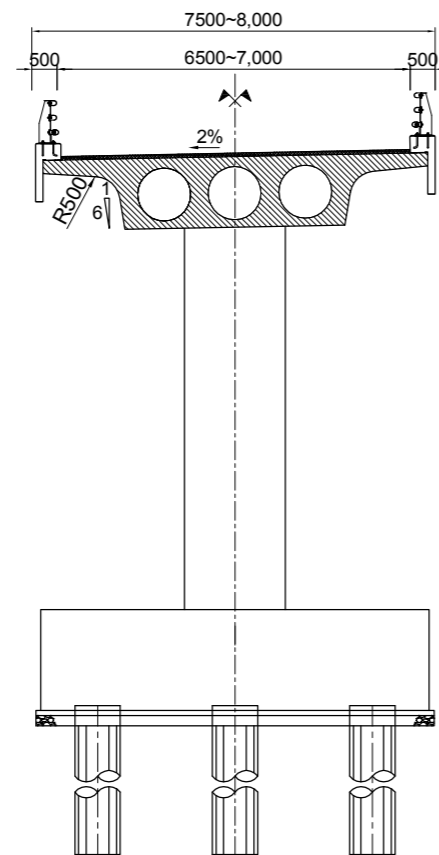


CROSS SECTION AT PIER 17 AND PB13 (ABUTMENT A2 SIDE)
S=1:300

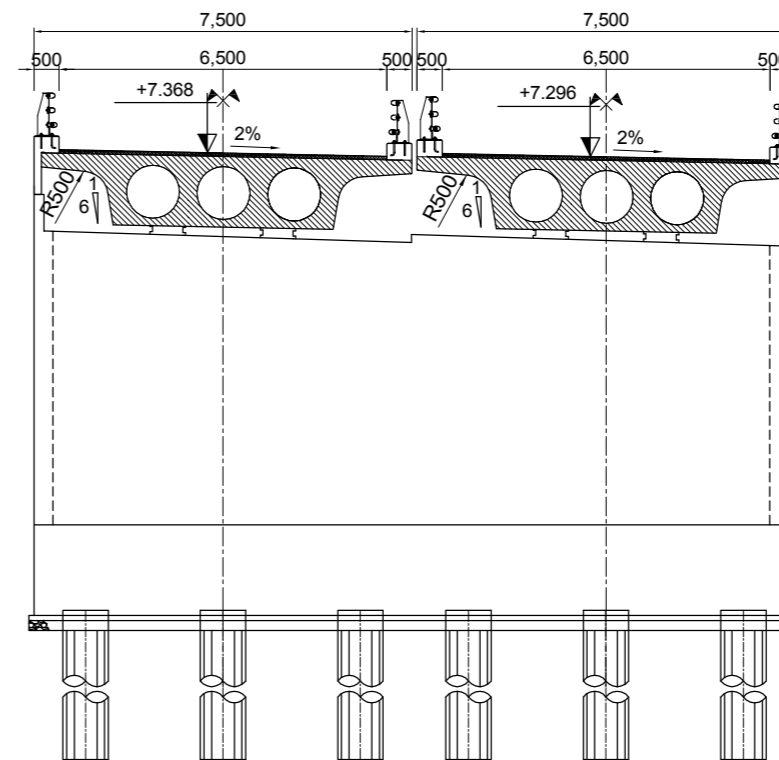


CROSS SECTION OF RAMP WAY B
S=1:150

TYPICAL CROSS SECTION AT PIERS



CROSS SECTION AT ABUTMENT
RAMP WAY A RAMP WAY B



PROJECT: PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS:
JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.

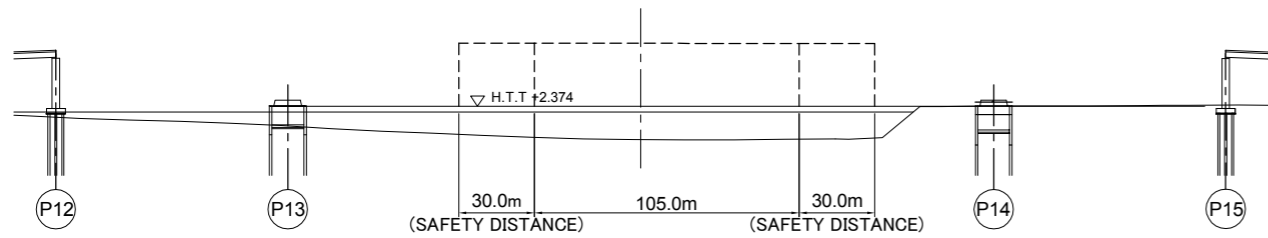
DRAWING TITLE:
PIER AND ABUTMENT OF RAMP WAY B

Rev No.

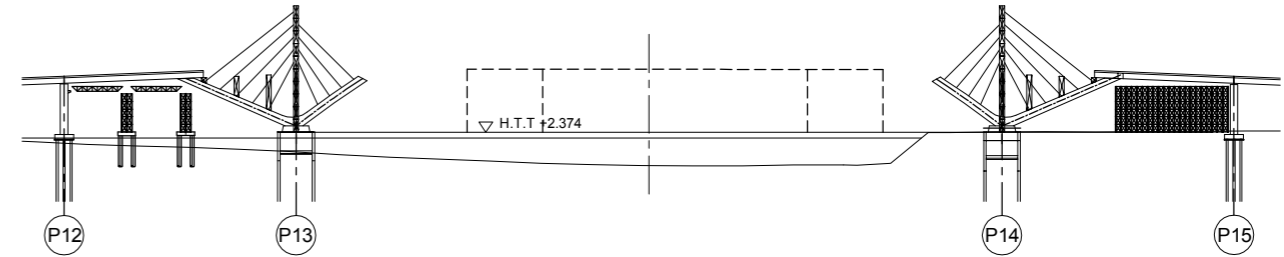
DRAWING No.	NT-19	SCALE	AS SHOWN
-------------	-------	-------	----------

CONSTRUCTION SEQUENCE OF ARCH BRIDGE (1)

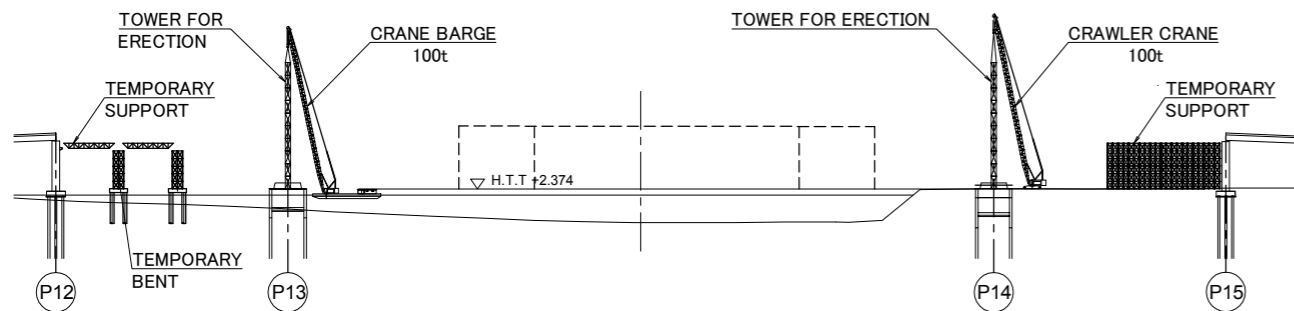
STEP-0: BEFORE CONSTRUCTION



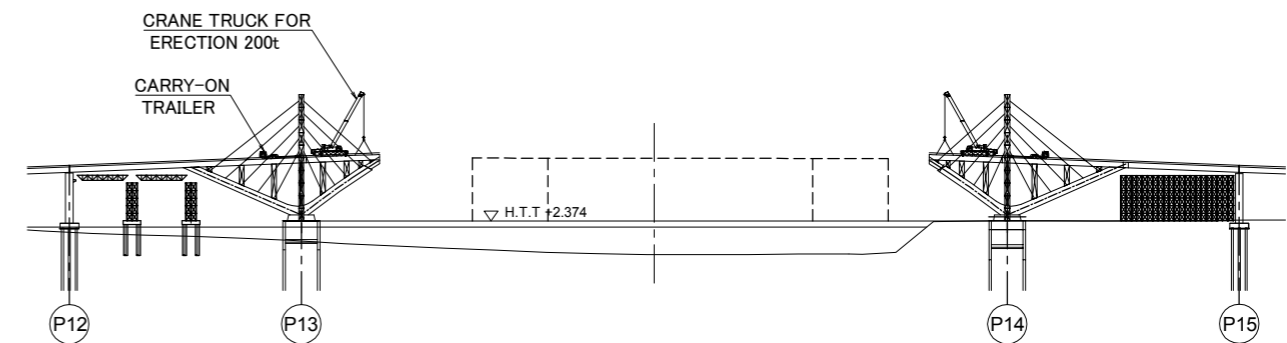
STEP-3: CONSTRUCTION OF SIDE SPAN PC GIRDER



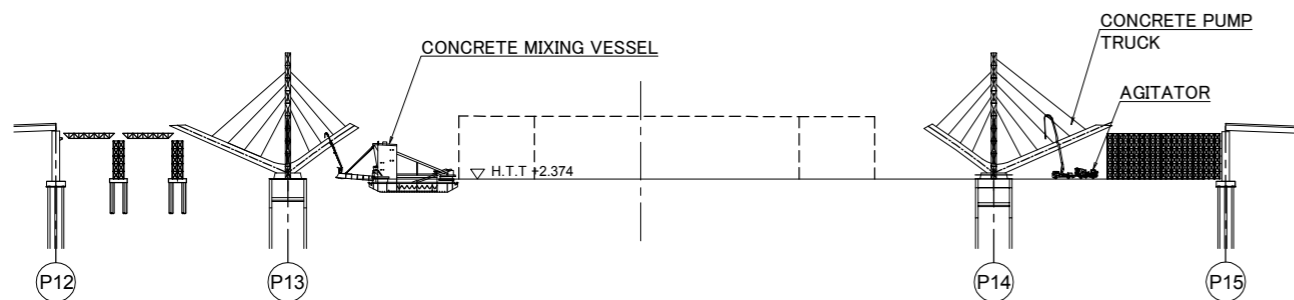
STEP-1: INSTALLATION OF PYLON FOR ERECTION OF ARCH RIB, AND TEMPORARY SUPPORT FOR PC STRUCTURE



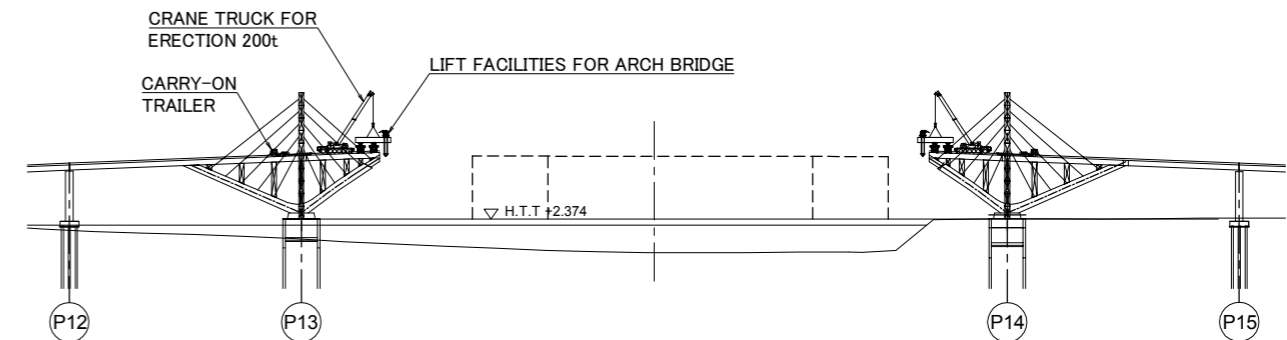
STEP-4: CONSTRUCTION OF THE UPPER PART OF STEEL STRUCTURE AND DISMANTLE OF TEMPORARY SUPPORT



STEP-2: CONSTRUCTION OF RC STRUCTURAL PARTS OF ARCH RIB



STEP-5: INSTALLATION OF LIFT FACILITIES FOR LARGE BLOCK OF ARCH



PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

DRAWING TITLE: CONSTRUCTION SEQUENCE OF ARCH BRIDGE (1)

Rev No.

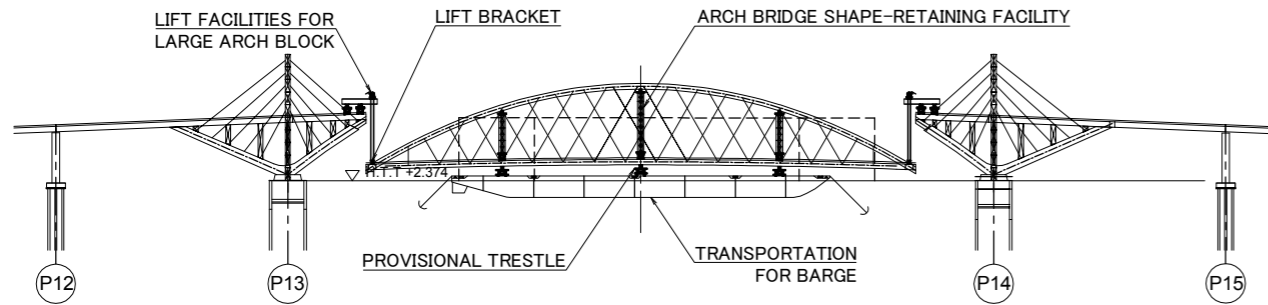
DRAWING No.

NT-20

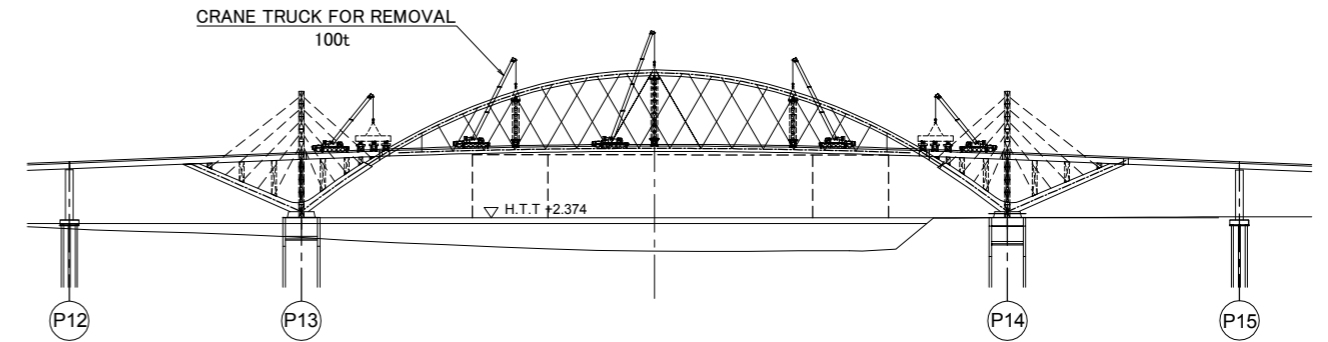
SCALE

CONSTRUCTION SEQUENCE OF ARCH BRIDGE (2)

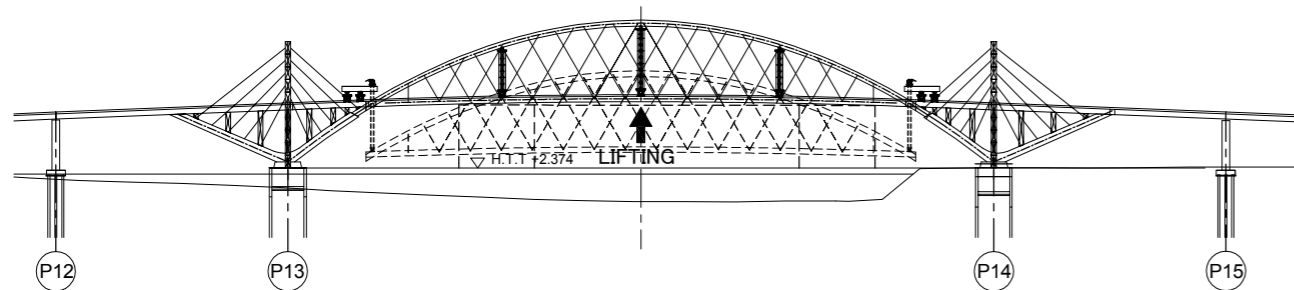
STEP-6 : CARRYING LARGE ARCH BLOCK BY BARGE AND LIFT LARGE ARCH BLOCK BY FACILITIES



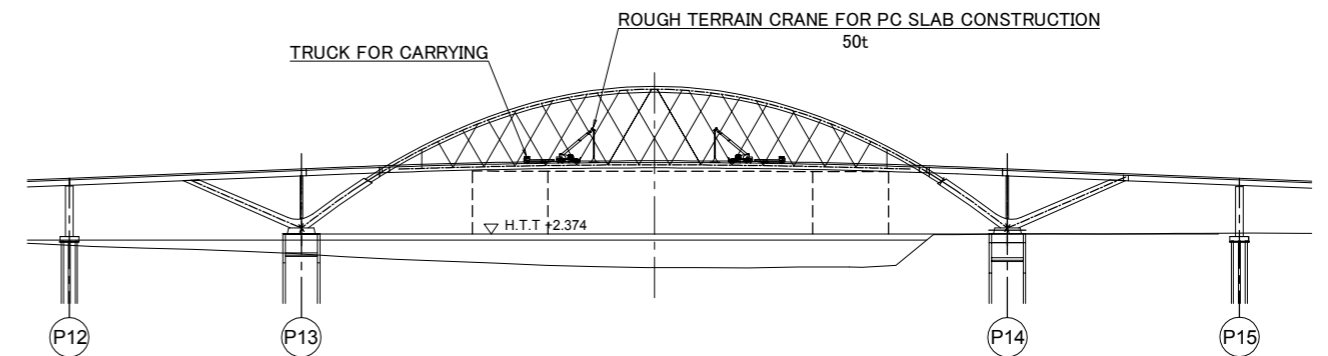
STEP-9 : REMOVAL OF SETTING BEAM, SHAPE-RETAINING FACILITIES, PROVISIONAL TRESTLE AND PYLON



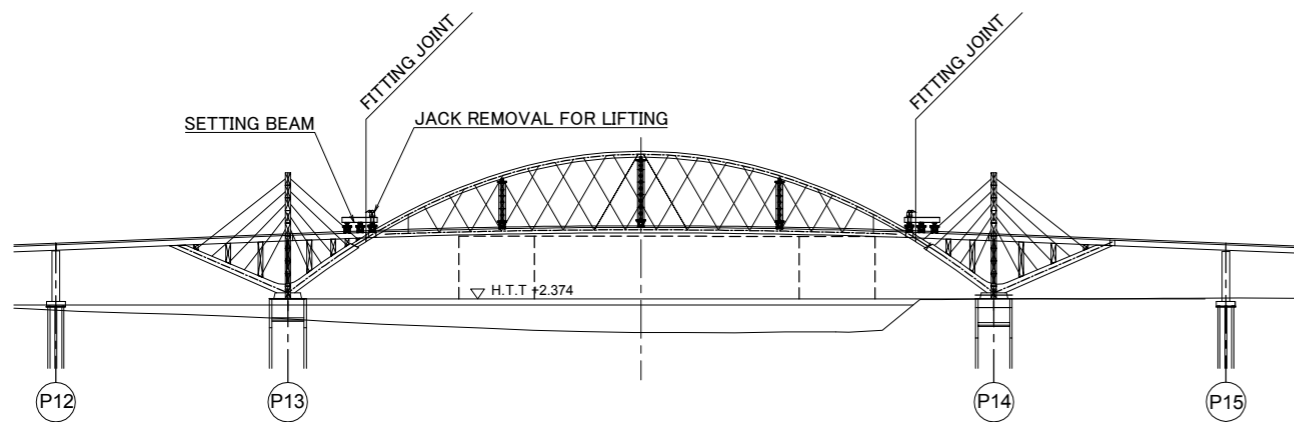
STEP-7 : LIFT LARGE ARCH BLOCK



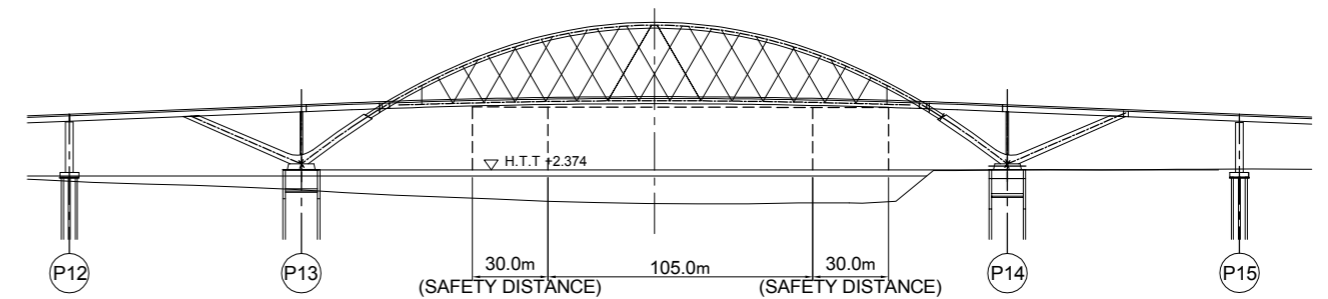
STEP-10 : PC SLAB CONSTRUCTION



STEP-8 : SET POSITION BY SETTING BEAM, FITTING JOINT, AND LIFTING JACK REMOVAL



STEP-11 : FINISH CONSTRUCTION



PROJECT:
**PREPARATORY SURVEY
 ON
 HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT**



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS:
 JOINT VENTURE OF
 CHODAI CO.,LTD.
 ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
 ALMEC VPI CO.,LTD.

DRAWING TITLE:
CONSTRUCTION SEQUENCE OF ARCH BRIDGE (2)

Rev No.

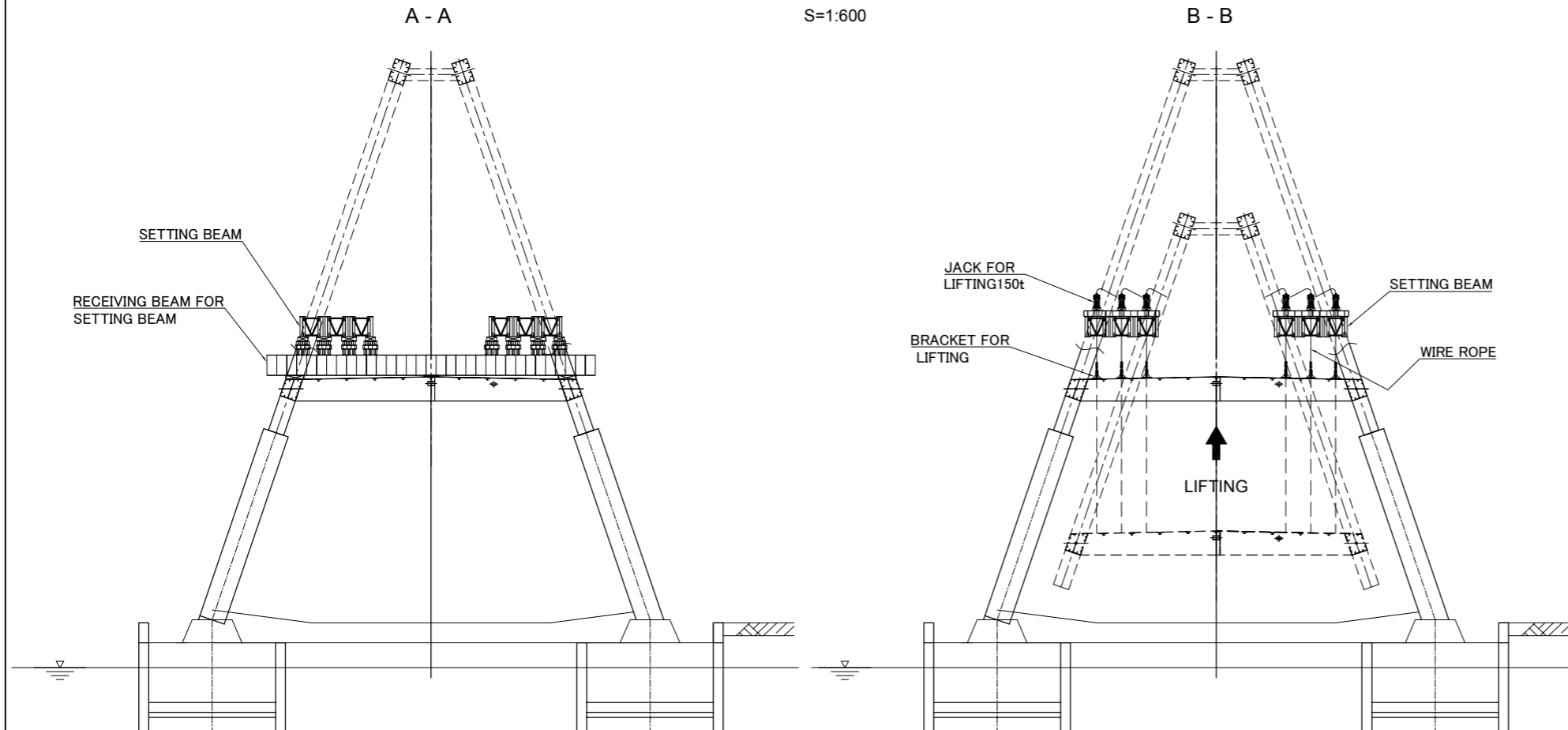
DRAWING No.

NT-21

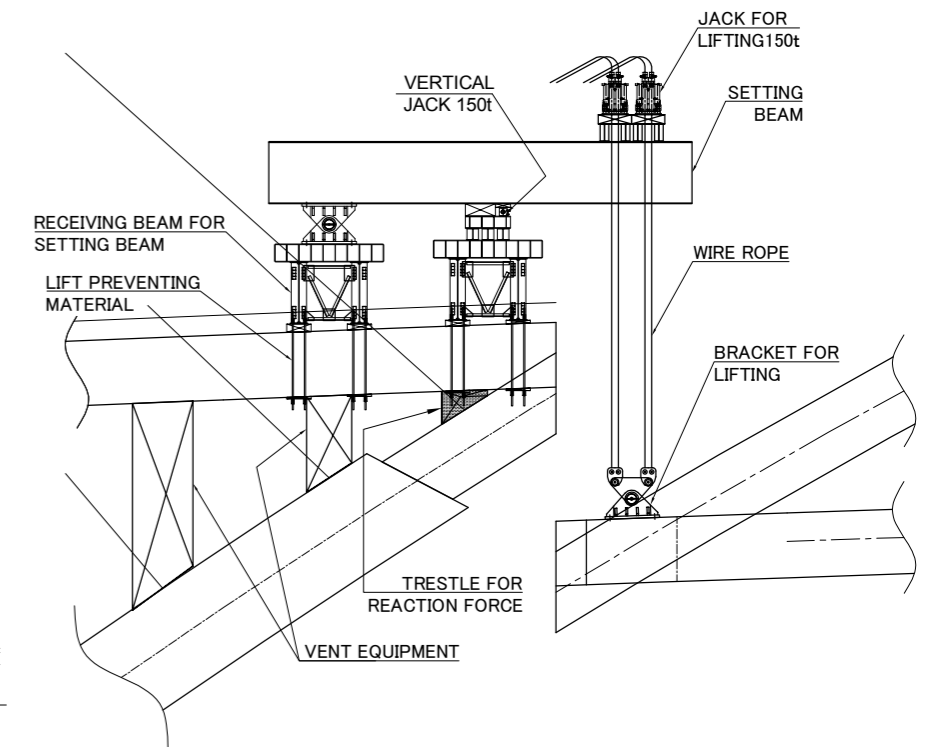
SCALE

CONSTRUCTION SEQUENCE OF ARCH BRIDGE (3)

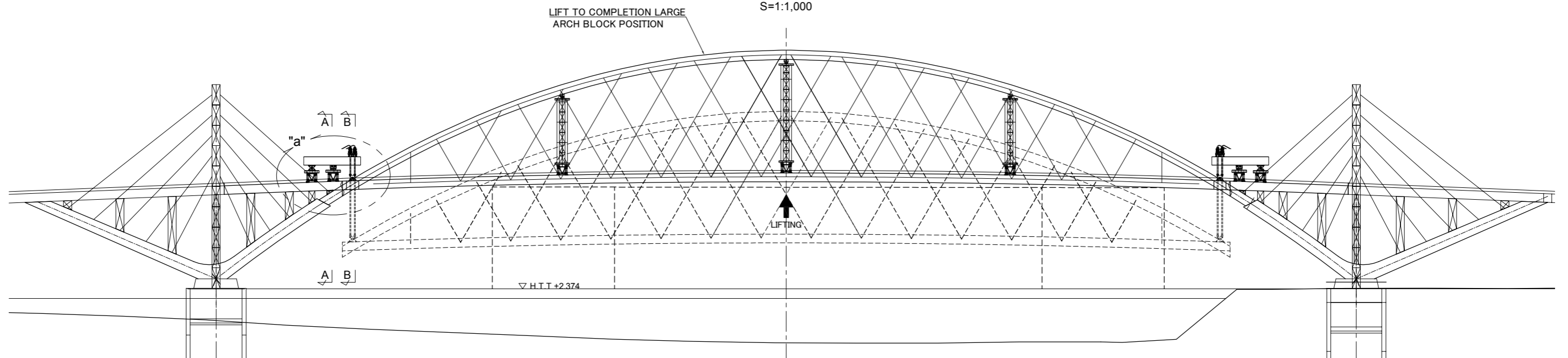
CROSS SECTION
S=1:600



"a" SECTION DETAIL
S=1:250



SIDE VIEW
S=1:1,000



PROJECT:
PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS:
JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.

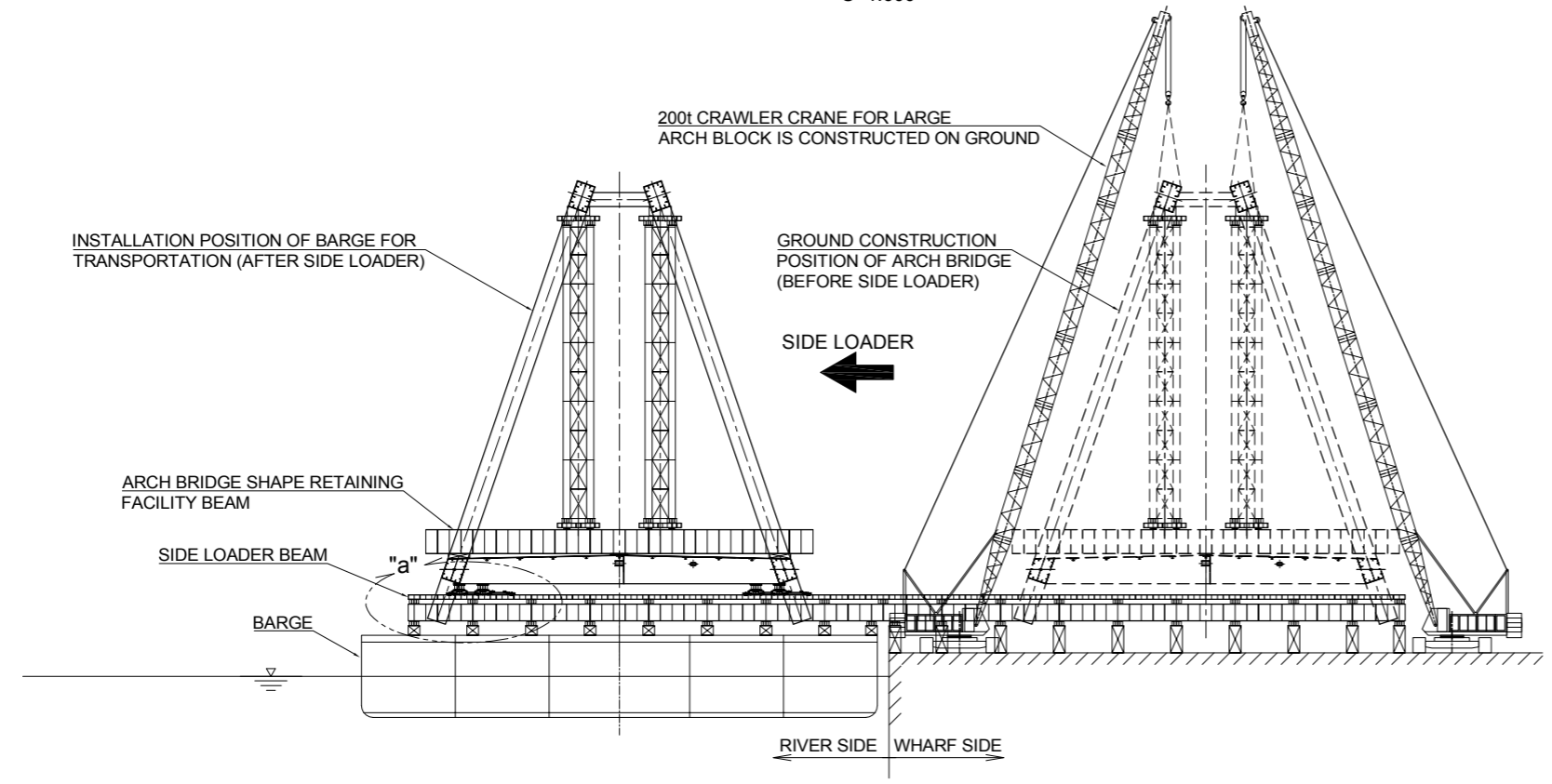
DRAWING TITLE:
CONSTRUCTION SEQUENCE OF ARCH BRIDGE (3)

Rev No.

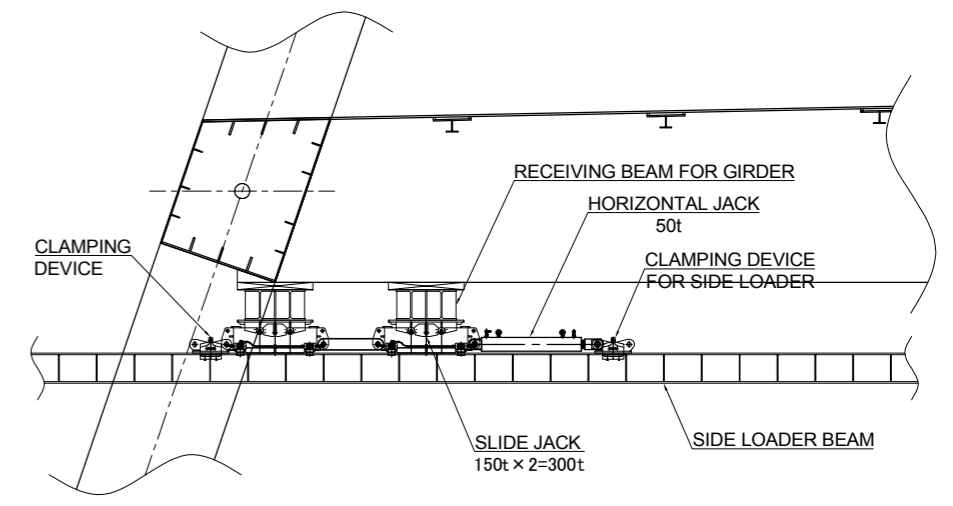
DRAWING No.	NT-22	SCALE	AS SHOWN
-------------	-------	-------	----------

CONSTRUCTION SEQUENCE OF ARCH BRIDGE (4)

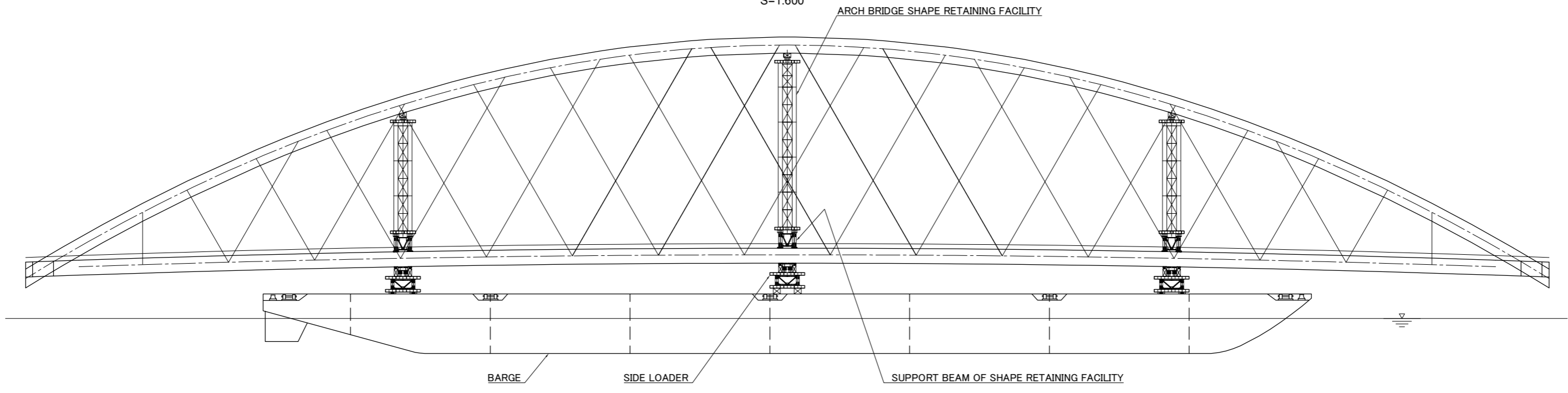
FRONT VIEW
S=1:600



" a " SECTION DETAIL
S=1:100



SIDE VIEW
S=1:600



PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



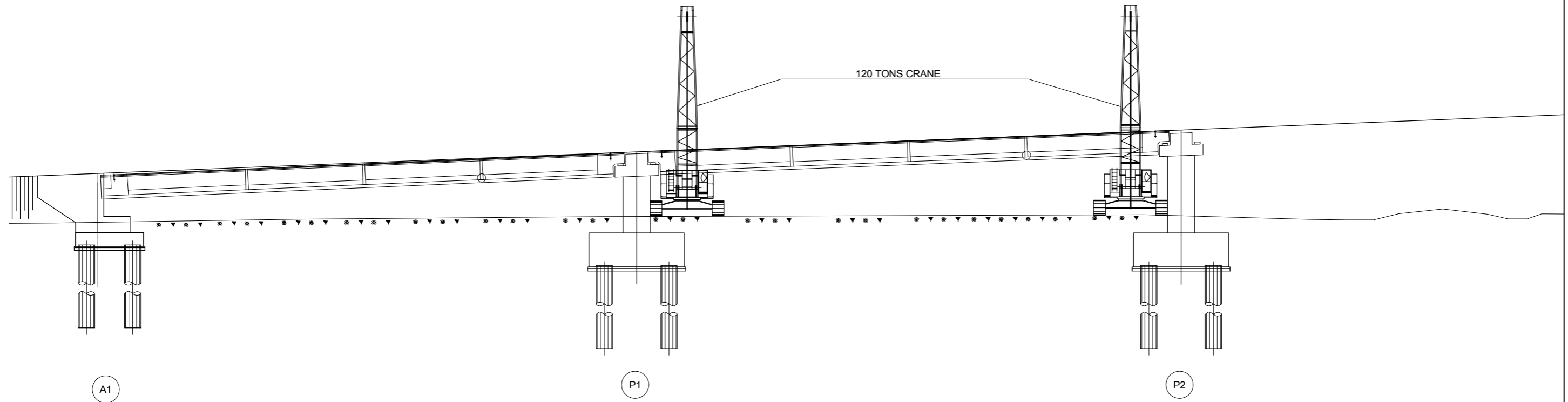
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

DRAWING TITLE: CONSTRUCTION SEQUENCE OF ARCH BRIDGE (4)
DRAWING No. NT-23 SCALE AS SHOWN

Rev No.

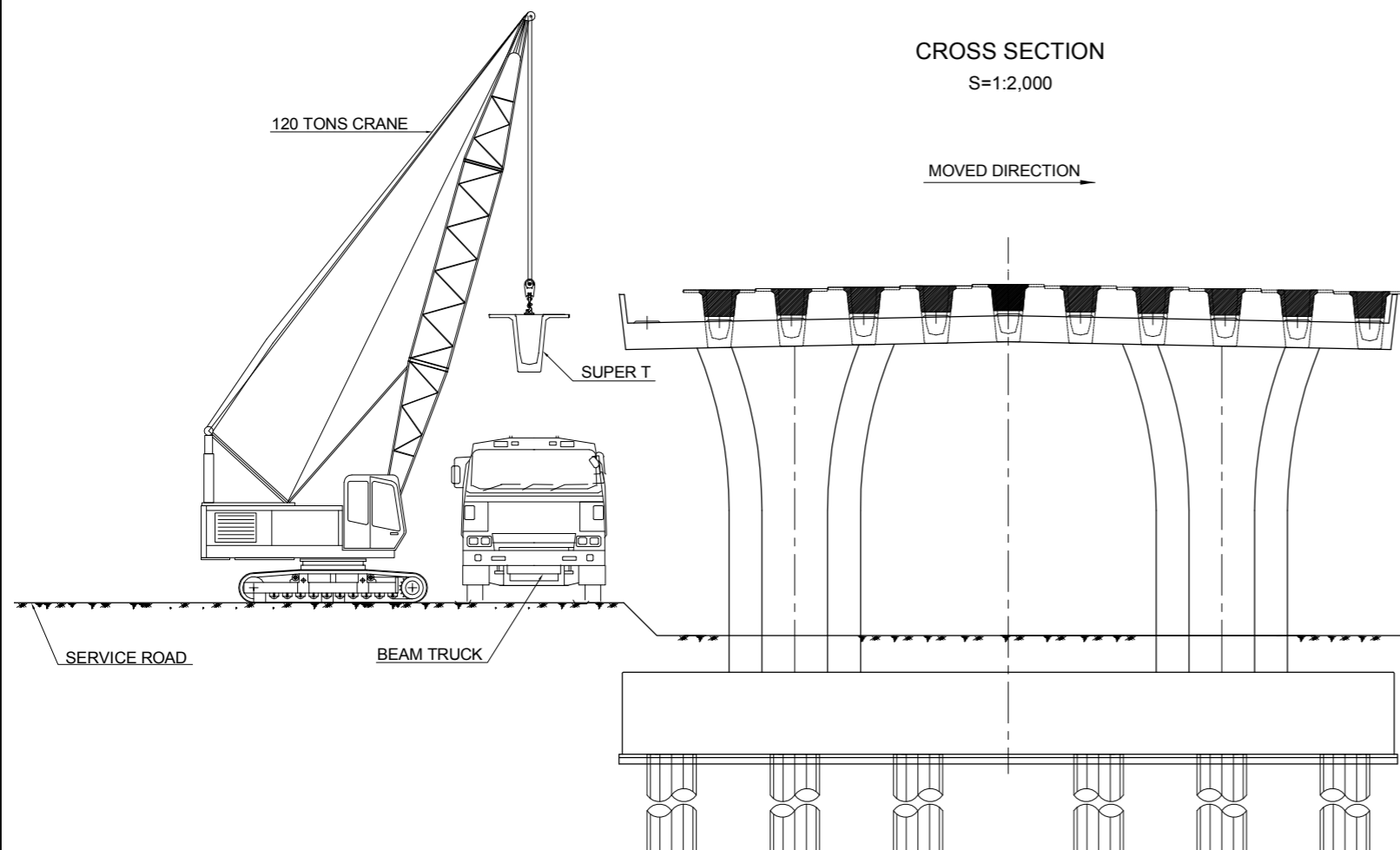
CONSTRUCTION SEQUENCE OF APPROACH BRIDGE (1)
SUPER T GIRDERS ERECTION USING TWO CRANES (FOR SPANS ON A1 TO P4 AND P23 TO A2)

S=1:300



CROSS SECTION

S=1:2,000



CONSTRUCTION STEPS

STEP-1 : SUPER T GIRDER ERECTION

- TRAILER TRANSPORTED SUPER T GIRDERS FROM SUPER T YARD TO ERECTION POSITION.
- TWO 120T CRANES STAND ON SERVICE ROAD LIFT SUPER T GIRDER SLOWLY AND PLACE IT ON EXTERIOR LEFT BEARING PAD.
- TRAILER MOVE AWAY ERECTION SITE FOR TRANSPORT OTHER SUPER T GIRDERS.
- TWO 120T CRANES LIFT SUPER T GIRDER FROM EXTERIOR BEARING PAD, MOVE AND PLACE IT ON INTERIOR PAD.

STEP-2 : DECK SLAB CONSTRUCTION.

- CROSSBEAMS / DIAPHRAGMS.
- DECK SLAB.
- LINK SLABS.
- PRECAST FASCIA PANELS.
- ASPHALTIC CONCRETE WEARING SURFACE.
- INSTALLATION OF MODULAR EXPANSION JOINTS.
- DECK DRAINAGE.

PROJECT:
 PREPARATORY SURVEY
 ON
 HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS:
 JOINT VENTURE OF
 CHODAI CO.,LTD.
 ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
 ALMEC VPI CO.,LTD.

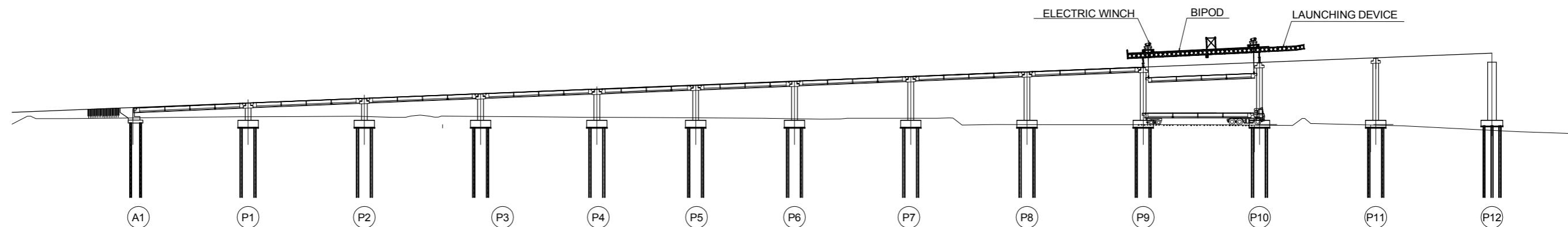
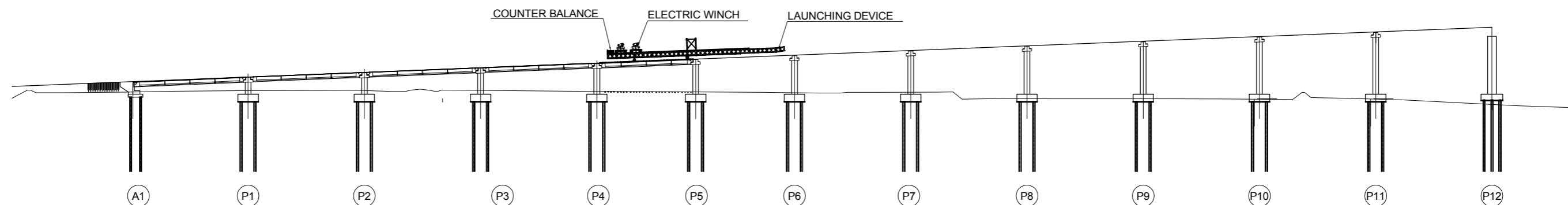
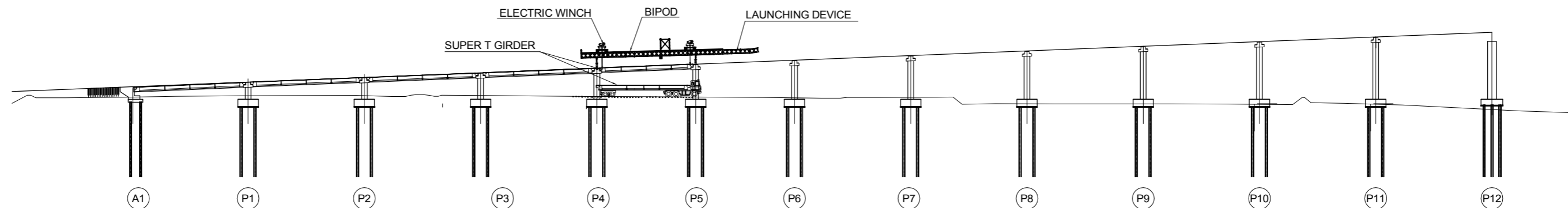
DRAWING TITLE:
 CONSTRUCTION SEQUENCE OF APPROACH BRIDGE (1)

Rev No.

DRAWING No.	NT-24	SCALE	AS SHOWN
--------------------	-------	--------------	----------

CONSTRUCTION SEQUENCE OF APPROACH BRIDGE (2)
CONSTRUCTION SEQUENCE OF APPROACH BRIDGE (FOR SPANS ON P4 TO P12 AND P15 TO P23)

S=1:1,500



PROJECT: PREPARATORY SURVEY
 ON
 HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 CONSULTANTS: JOINT VENTURE OF
 CHODAI CO.,LTD.
 ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
 ALMEC VPI CO.,LTD.

DRAWING TITLE:
 CONSTRUCTION SEQUENCE OF APPROACH BRIDGE (2)

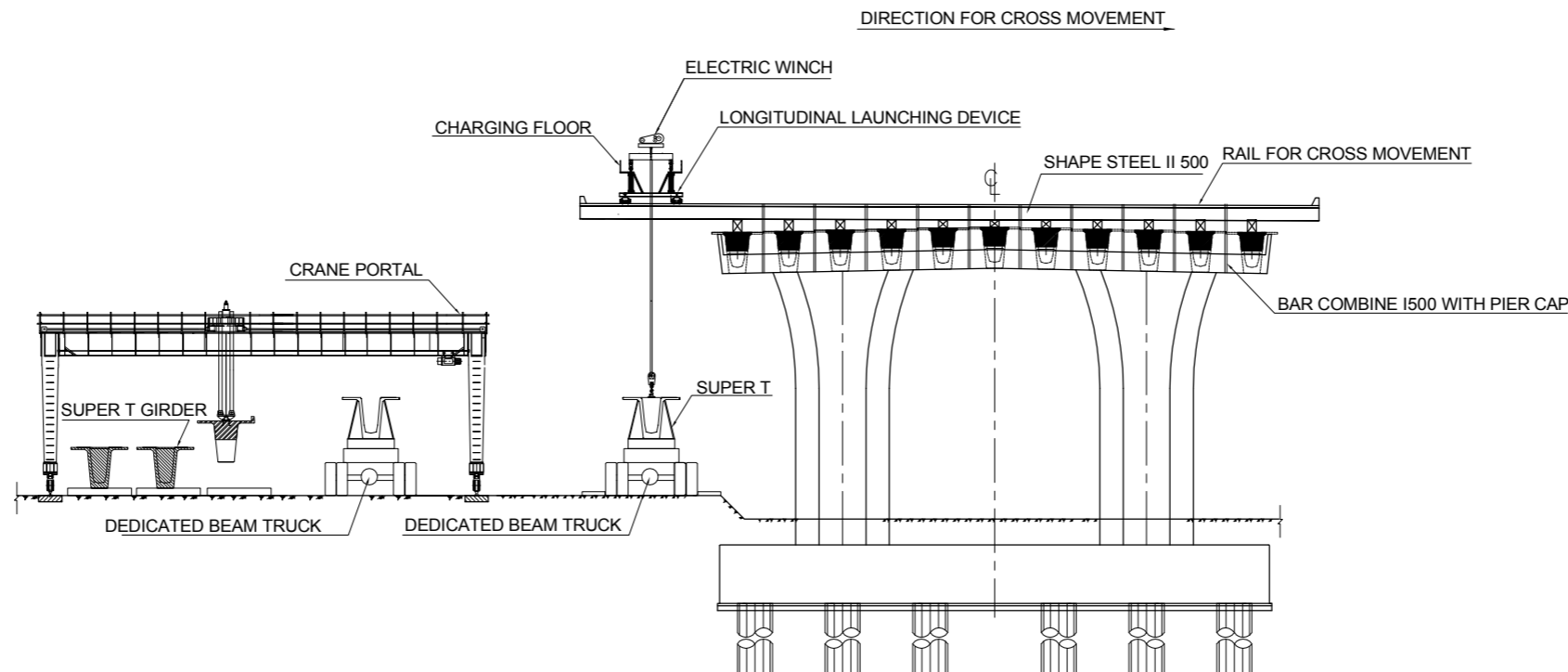
Rev No.

DRAWING No.	NT-25	SCALE	S=1:1,500
-------------	-------	-------	-----------

CONSTRUCTION SEQUENCE OF APPROACH BRIDGE (3)
CONSTRUCTION SEQUENCE OF APPROACH BRIDGE (FOR SPANS ON P4 TO P12 AND P15 TO P23)

S=1:3,000

CROSS SECTION OF SPAN CONSTRUCTION METHOD ON LAND



CONSTRUCTION STEPS

STEP-1

- INSTALLING RAIL OF CROSS LAUNCHING DEVICE ON PIER P4 - P5 AND P22 - P23.
- USE TWO 80T CRANE INSTALLING LAUNCHING DEVICE ON PIER P4 - P5 AND P22 - P23.
- USING BEAM TRUCK FOR CARRYING SUPER T GIRDER FROM CASTING YARD TO SPAN LOCATION.
- USING SYSTEM OF CROSS LAUNCHING DEVICE ON PIER FOR PUTTING GIRDERS ON SPAN LOCATION .
- JOINTING STARTER BAR OF DIAPHRAGM.

STEP-2

- AFTER LAUNCHING COMPLETELY SPAN P4 - P5 AND P22 - P23 INSTALLING RAIL OF CROSS LAUNCHING DEVICE ON PIER P5 - P6 AND P21 - P22.
- MOVING LAUNCHING TO SPAN P5 - P6 AND P21 - P22.

STEP-3

- USING BEAM TRUCK FOR CARRYING SUPER T GIRDER FROM CASTING YARD TO SPAN LOCATION.
- USING SYSTEM OF CROSS LAUNCHING DEVICE ON PIER FOR PUTTING GIRDERS ON SPAN LOCATION P5 - P6 AND P21 - P22.
- JOINTING STARTER BAR OF DIAPHRAGM.

STEP-4

- CARRY OUT THE NEXT STEPS LIKE STEP 2 & 3 TO INSTALL ALL OF GIRDERS OF SPAN FROM P6 - P7 VÀ P20 - P21.

STEP-5

- REMOVE LAUNCHING DEVICE.
- CONSTRUCTION DIAPHRAGM, CIP SLAB.
- COMPLETING RAILING, DRAINAGE SYSEM, ETC...

PROJECT:
 PREPARATORY SURVEY
 ON
 HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS:
 JOINT VENTURE OF
 CHODAI CO.,LTD.
 ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
 ALMEC VPI CO.,LTD.

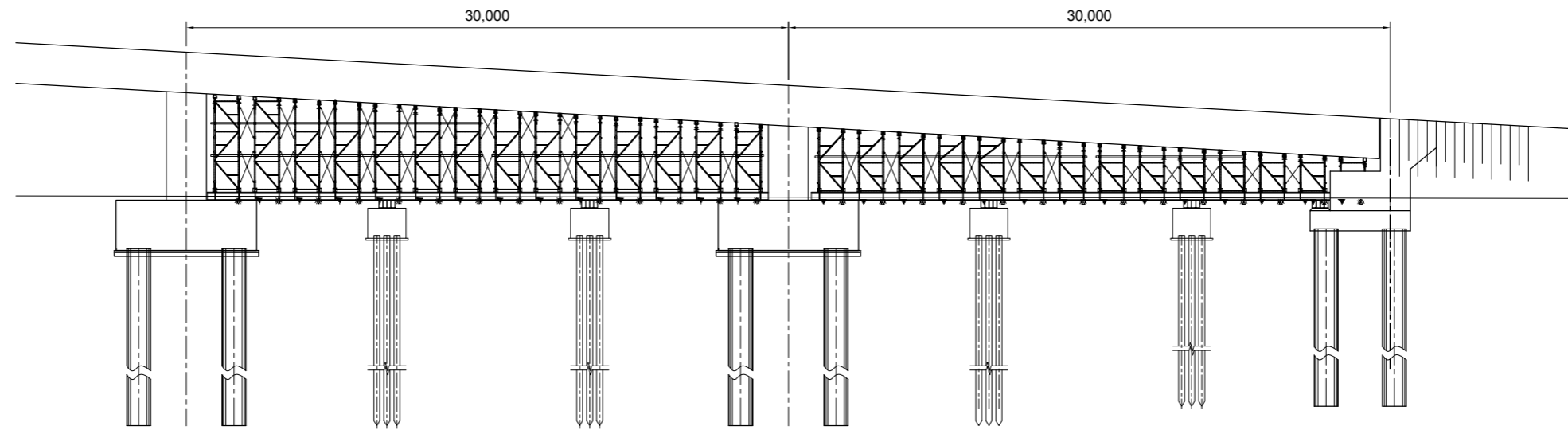
DRAWING TITLE:
 CONSTRUCTION SEQUENCE OF APPROACH BRIDGE (3)

Rev No.

DRAWING No.	NT-26	SCALE	S=1:3,000
--------------------	-------	--------------	-----------

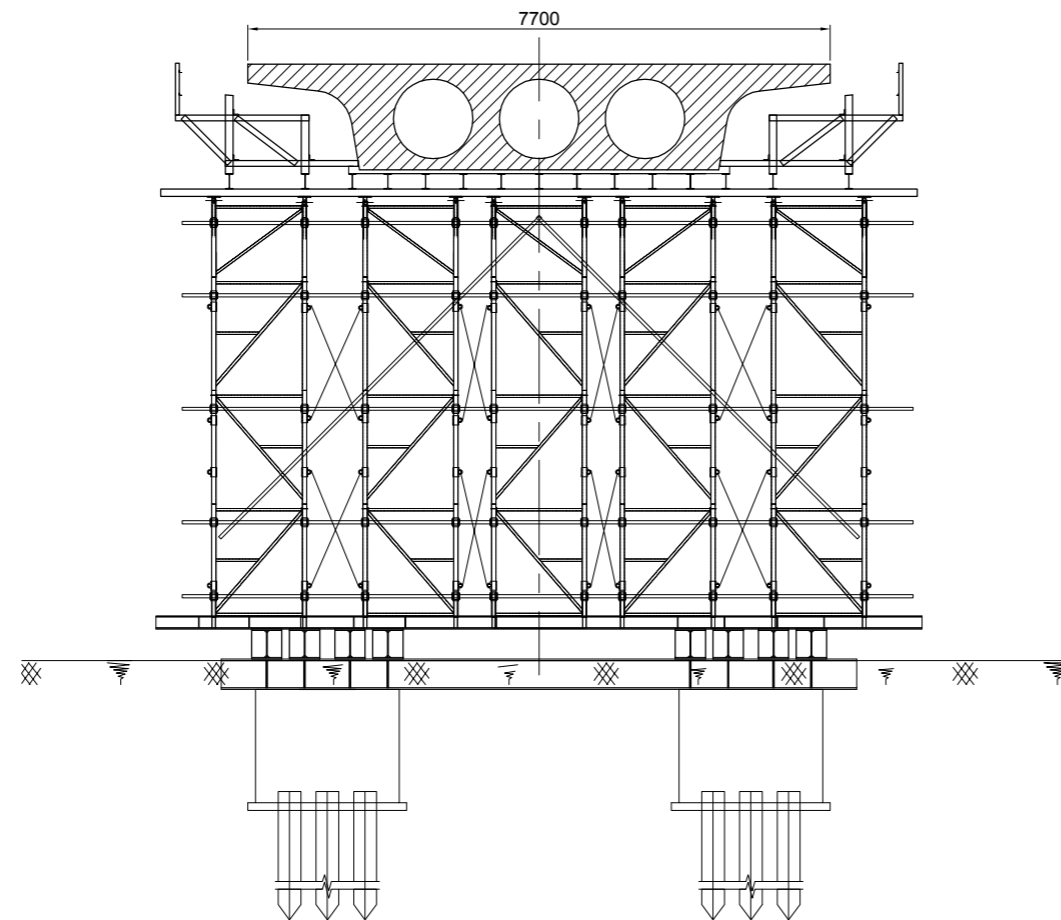
CONSTRUCTION SEQUENCE OF RAMP WAY

S=1:300



CROSS SECTION

S=1:100



ORDER OF CONSTRUCTION

- INSTALLING THE SCAFFOLDING.
- EXECUTING LOADING TEST OF THE SCAFFOLDING.
- INSTALLING FORMWORK, REINFORCEMENT AND POSTTENSIONING DUCTS.
- CASTING CONCRETE, CURING WORKS.
- PRESTRESSED STRANDS STRESSING AFTER CONCRETE HAS ACHIEVED TO CONCRETE STRENGTH PROVIDED IN TECHNICAL SPECCIFICATION.
- CONSTRUCTION OF REMAINING ABUTMENT PART.
- EXECUTING THE MISCELLANEOUS (RAILING, DRAINAGE, PAVEMENT...).
- PERFECTING TASKS.

PROJECT:
PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS:
JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.

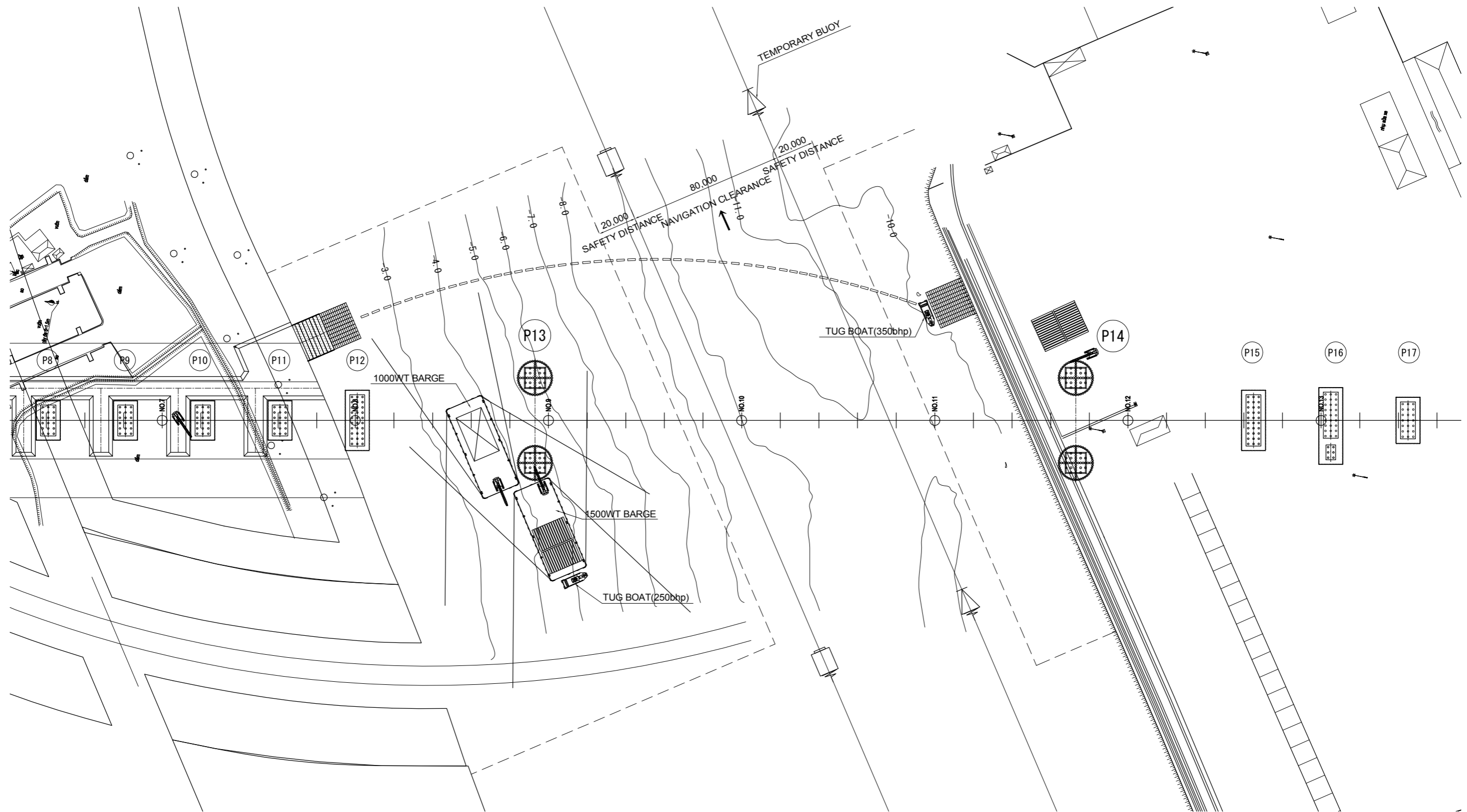
DRAWING TITLE:
CONSTRUCTION SEQUENCE OF RAMP WAY

Rev No.

DRAWING No.	NT-27	SCALE	AS SHOWN
-------------	-------	-------	----------

CONSTRUCTION SEQUENCE OF FOUNDATION (1)

S=1:2,000



PROJECT:
**PREPARATORY SURVEY
 ON
 HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT**



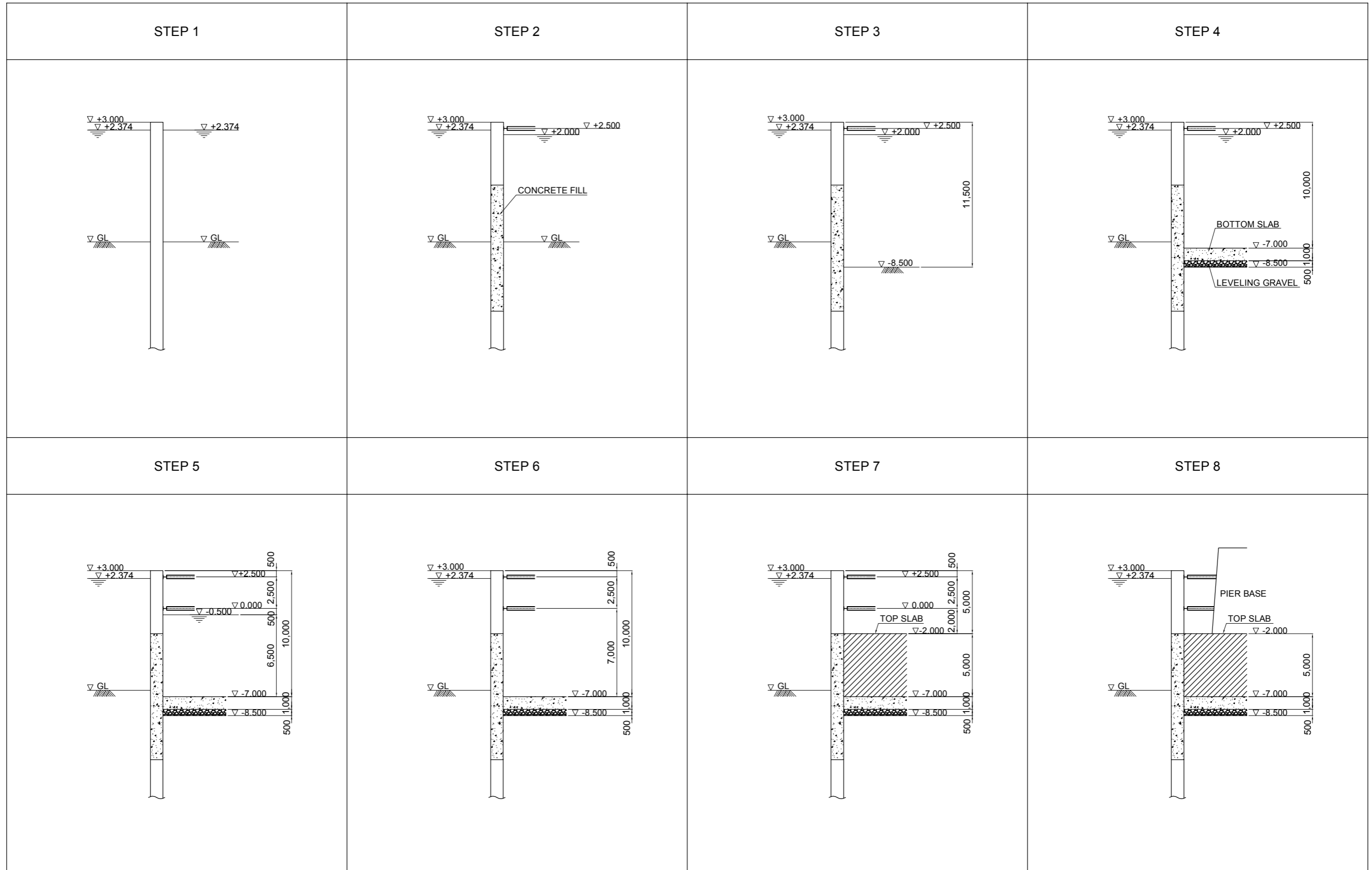
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 CONSULTANTS:
 JOINT VENTURE OF
 CHODAI CO.,LTD.
 ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
 ALMEC VPI CO.,LTD.

DRAWING TITLE:
CONSTRUCTION SEQUENCE OF FOUNDATION (1)

Rev No.

DRAWING No.	NT-28	SCALE	1:2,000
-------------	-------	-------	---------

CONSTRUCTION SEQUENCE OF FOUNDATION (2)



PROJECT: PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.

DRAWING TITLE:
CONSTRUCTION SEQUENCE OF FOUNDATION (2)

Rev No.

DRAWING No.

NT-29

SCALE

QUANTITIES OF SUPERSTRUCTURE

MAIN BRIDGE, RAILWAY FLYOVER

Item	Specifications	Unit	Quantity
MAIN BRIDGE (Arch Bridge, L=464m)			
Steel Structure	Structural Steel SM490Y	[ton]	4,718
	Erection weight of Large Block	[ton]	3,150
Cable $\sigma_t=1770$ [N/mm ²]	Length (Each Cable)	[m]	807
	Diameter of Wire	[mm]	7
	Nos of Wire/1 Cable	[Nos]	91
	Nos of Cable	[Nos]	30
	Weight	[ton]	55.9
Cast-in-place Concrete	Concrete C40 for Box Girder	[m ³]	2,650
	Concrete C40 for V Pier	[m ³]	1,660
	Concrete C25 for Sidework, Medium Block	[m ³]	90
	Concrete C40 for CIP fill Concrete Deck Panel	[m ³]	30
Pre-cast Concrete	Concrete C40 for Precast Concrete Deck Panel	[m ²]	6,455
	Concrete C25 for Precast Concrete Curb	[m ³]	464
Reinforcing Steel, PC strand	Reinforcement Steel Bars SD390 (Arch)	[ton]	925
	Prestressing strand SWPR7B S15.2B	[ton]	90
	Longitudinal Prestressing of Deck	[ton]	27
Bearing	POT Bearing	[Nos]	4
Expansion Joint	Modular Bridge Joint	[m]	55.2
RAILWAY FLYOVER			
Steel Structure	SM490Y, SM400	[ton]	1,069
Composite slab		[m ²]	1,880
Bearing	Elastomeric bearing	[Nos]	8
Expansion Joint	Length	[m]	47

APPROACH BRIDGE, RAMP WAY BRIDGE

Item	Specifications	Unit	N. Approach	S. Approach	Ramp-A	Ramp-B
			Super-T	Super-T	Hollow slab	Hollow slab
			L=467.65m	L=391.65m	L=422.755m	L=799.221m
Cast-in-place Concrete	Concrete C35	[m ³]	2,322	2,133	2,478	4,699
	Concrete C25	[m ³]	223	225	85	160
Pre-cast Concrete	Concrete C50 (for Super-T only)	[Nos]	120	111		
	Concrete C25	[m ³]	178	179	161	304
Reinforcing Steel	Rebar SD390 for Superstructure	[ton]	590	544	310	587
Bearing	Pot Bearing (for Super-T)	[Nos]	20	26		
	Elastomeric Bearing	[Nos]	220	196	12	20
Finger Type Joint	Length	[m]	24	24	32	48

PROJECT:
PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS:
JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.

DRAWING TITLE:
QUANTITIES OF SUPERSTRUCTURE

DRAWING No.

NT-30

SCALE

Rev No.

**QUANTITIES OF SUBSTRUCTURE
NGUYEN TRAI BRIDGE**

NORTH APPROACH BRIDGE

		A1	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	Sum	
Steel pipe pile	Nos. 900x12	Nos.	12	16	16	16	18	18	18	18	18	18	18	204	
	Pile Length	m	39.5	37.5	37	36	35.5	35	34	33.5	33	32.5	32.5	35.5	
	Total Pile Length	m	474	600	592	576	639	630	612	603	594	585	585	639	
	Unit weight of pile	ton/m	0.263	0.263	0.263	0.263	0.263	0.263	0.263	0.263	0.263	0.263	0.263	0.263	
	Weight	ton	124.6	157.7	155.6	151.4	167.9	165.6	160.8	158.5	156.1	153.7	153.7	167.9	1873.5
Pier, Abutment - Pier Height	Road Height	m	5.840	7.440	9.040	10.640	12.240	13.600	14.960	16.560	18.160	19.760	21.360	22.960	
	Girder Height	m	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	
	Top of Pile Cap	m	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	
	Pier height	m	3.5	5.1	6.7	8.3	9.9	11.3	12.7	14.3	15.9	17.5	19.1	20.7	
- Abutment	Concrete C30 for Abutment, wall t=2m	m3	213.1	-	-	-	-	-	-	-	-	-	-	-	
- Pier Column	Concrete C30 for Piers, 4mx2mx2	m3	-	82.2	107.8	133.4	159.0	180.8	202.6	228.2	253.8	279.4	305.0	330.6	
	Concrete C30 for Pier head	m3	-	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	3,530.5
- Pile Cap	Width	m	23.5	21.2	21.2	21.2	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	
	Length	m	5.0	5.0	5.0	5.0	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	
	Concrete C25 for Pile Cap	m3	235.0	212.0	212.0	212.0	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	2,916.1
	Concrete C10 for Blinding Concrete	m3	12.3	11.1	11.1	11.1	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	151.9
- Reinforcing Steel	Reinforcing Steel SD390	kg	44,812	39,012	41,572	44,132	51,056	53,232	55,408	57,968	60,528	63,088	65,648	68,208	644,664
Excavation in Cofferdam	Dim of Pile Cap +2.2m, Depth=4.3m	m3	1,128	1,035	1,035	1,035	1,093	1,093	1,093	1,093	1,093	1,093	1,093	12,973	
Excavation in Piles		m3	301.5	381.7	376.6	366.4	406.5	400.8	389.3	383.6	377.9	372.2	406.5	4,535	

SOUTH APPROACH BRIDGE

		P16	P17	P18	P19	P20	P21	P22	P23	P24	P25	A2	Sum	
Steel pipe pile	Nos. 900x12	Nos.	30	27	33	21	21	18	18	16	16	12	228	
	Pile Length	m	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	
	Total Pile Length	m	1,155	1,040	1,271	809	809	693	693	616	616	616	462	
	Unit weight of pile	ton/m	0.263	0.263	0.263	0.263	0.263	0.263	0.263	0.263	0.263	0.263	0.263	
	Weight	ton	303.5	273.2	333.9	212.5	212.5	182.1	182.1	161.9	161.9	161.9	121.4	2306.8
Pier, Abutment - Pier Height	Road Height	m	22.960	21.360	19.760	16.560	15.120	13.680	12.080	10.480	8.880	7.280	5.690	
	Girder Height	m	2.000	2.000	2.000	6.300	6.300	2.000	2.000	2.000	2.000	2.000	2.000	
	Top of Pile Cap	m	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	
	Pier Height	m	20.7	19.1	17.5	10.0	8.5	11.4	9.8	8.2	6.6	5.0	3.4	
- Abutment	Concrete C30 for Abutment, wall t=2m	m3	-	-	-	-	-	-	-	-	-	205.4	-	
- Pier Column	Concrete C30 for Piers, 4mx2mx2	m3	330.6	305.0	279.4	249.0	213.0	182.1	156.5	130.9	105.3	79.7	-	
	Concrete C30 for Pier head	m3	159.7	127.8	95.9	267.0	267.0	95.9	95.9	95.9	95.9	95.9	-	3,633.3
- Pile Cap	Width	m	26.6	24.85	30.5	19.2	19.2	18.5	18.5	21.2	21.2	21.2	23.5	
	Length	m	7.7	7.7	7.7	7.7	7.7	7.7	7.7	5.0	5.0	5.0	5.0	
	Concrete C25 for Pile Cap	m3	409.6	382.7	469.7	295.7	295.7	284.9	284.9	212.0	212.0	212.0	235.0	3,294.2
	Concrete C10 for Blinding Concrete	m3	21.2	19.8	24.3	15.3	15.3	14.8	14.8	11.1	11.1	11.1	12.3	171.1
- Reinforcing Steel	Reinforcing Steel SD390	kg	89,987	81,548	84,494	81,164	77,564	56,286	53,726	43,876	41,316	38,756	44,035	692,752
Excavation in Cofferdam	Dim of Pile Cap +2.2m, Depth=4.3m	m3	1,613	1,522	1,816	1,228	1,228	1,191	1,191	1,035	1,035	1,035	1,128	14,021
Excavation in Piles		m3	734.8	661.3	808.3	514.3	514.3	440.9	440.9	391.9	391.9	391.9	293.9	5,584

MAIN BRIDGE

		P12	P13	P14	P15	
Steel pipe pile	Nos. 900x12, 14, 19	Nos.	21	81	69	30
	Pile Length	m	39.5	40.1-50.0	39.1-49.0	39.5
	Total Pile Length	m	830	3,684	3,134	1,185
	Unit weight of pile	ton/m	0.263	0.460	0.340	0.263
	Weight	ton	218.0	1,694.5	1,065.4	311.4
Pier, Abutment - Pier Height	Road Height	m	24.560	-	-	24.560
	Girder Height	m	4.300	-	-	4.300
	Top of Pile Cap	m	0.300	-	-	0.300
	Pier Height	m	20.0	-	-	20.0
- Steel Pipe Sheet Pile (SPSP)	Top Slab, Concrete C25	m3	-	1,857.9	1,857.9	-
	Bottom Slab, Concrete C25	m3	-	193.1	193.1	-
	Filling Concrete in Steel Pile C20	m3	-	319.6	326.3	-
	Filling Concrete for Connection Joint C20	m3	-	76.3	74.1	-
- Pier Column	Concrete C30 for Piers, 5mx3mx2	m3	598.8	-	-	598.8
	Concrete C30 for Pier head	m3	172.96	-	-	268.96
- Pile Cap	Width	m	18.5	-	-	26.6
	Length	m	7.7	-	-	7.7
	Concrete C25 for Pile Cap	m3	427.4	-	-	614.5
	Concrete C10 for Blinding Concrete	m3	14.8	-	-	21.2
- Reinforcing Steel	Reinforcing Steel SD390	kg	102,615	-	-	121,326
Excavation in Cofferdam	Dim of Pile Cap +2.2m, Depth=4.3m	m3	1,191	-	-	1,613
Excavation in Piles		m3	527.7	-	-	753.9

RAMP WAY (Total quantities)

		Ramp A	Ramp B	
Steel pipe pile	Nos. 900x12	Nos.	90	162
	Pile Length	m	38.5	38.5
	Total Pile Length	m	3,465	6,237
	Unit weight of pile	ton/m	0.263	0.263
	Weight	ton	910.6	1,639.0
Pier, Abutment - Pier Height	Road Height	m	22.4-7.4	19.8-7.3
	Girder Height	m	1.400	1.400
	Top of Pile Cap	m	0.300	0.300
	Pier Height	m	20.7-5.7	19.8-7.3
- Abutment	Concrete C30 for Abutment, wall t=2m	m3	132.5	131.0
- Pier Column	Concrete C30 for Piers, φ2m	m3	599.9	872.0
	Concrete C30 for Pier head	m3	-	-
- Pile Cap	Width	m	7.7	7.7
	Length	m	5	5
	Concrete C25 for Pile Cap	m3	1,155	2,079
	Concrete C10 for Blinding Concrete	m3	61.6	110.9
- Reinforcing Steel	Reinforcing Steel SD390	kg	188,735	308,200
Excavation in Cofferdam	Dim of Pile Cap +2.2m, Depth=4.3m	m3	7,336	13,205
Excavation in Piles		m3	2,204	3,968

PROJECT:
PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS:
JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.

DRAWING TITLE:
QUANTITIES OF SUBSTRUCTURE

DRAWING No. NT-31 **SCALE**

Rev No.