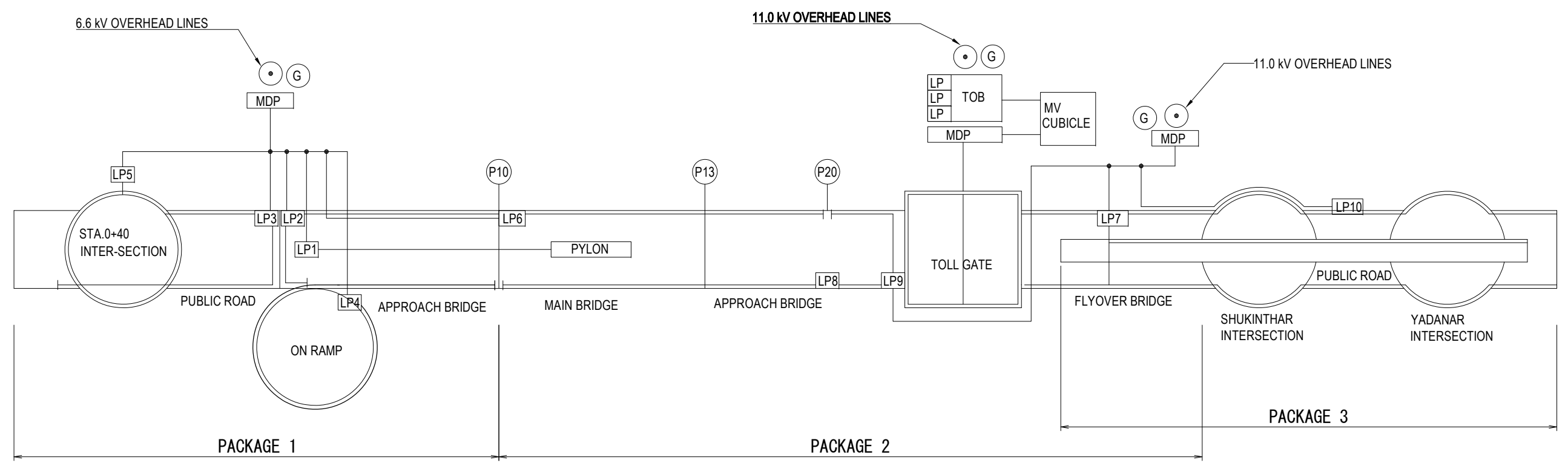
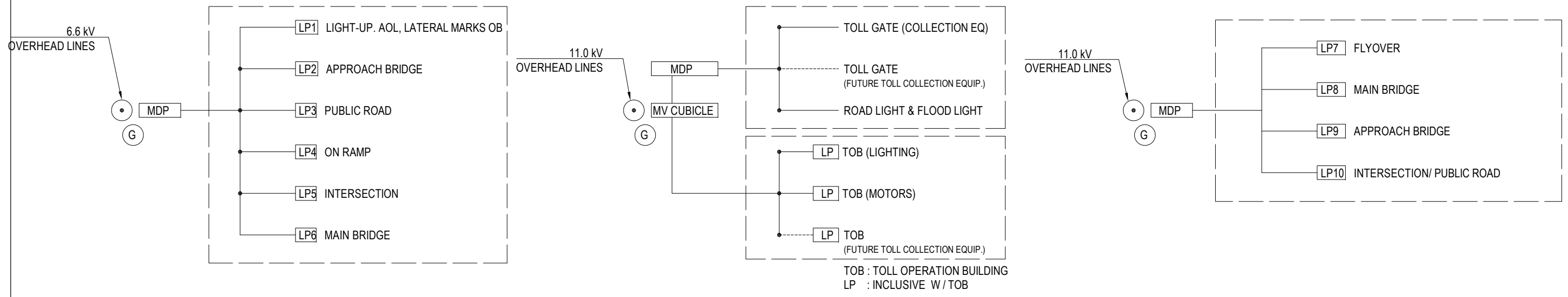


D. LIGHTING

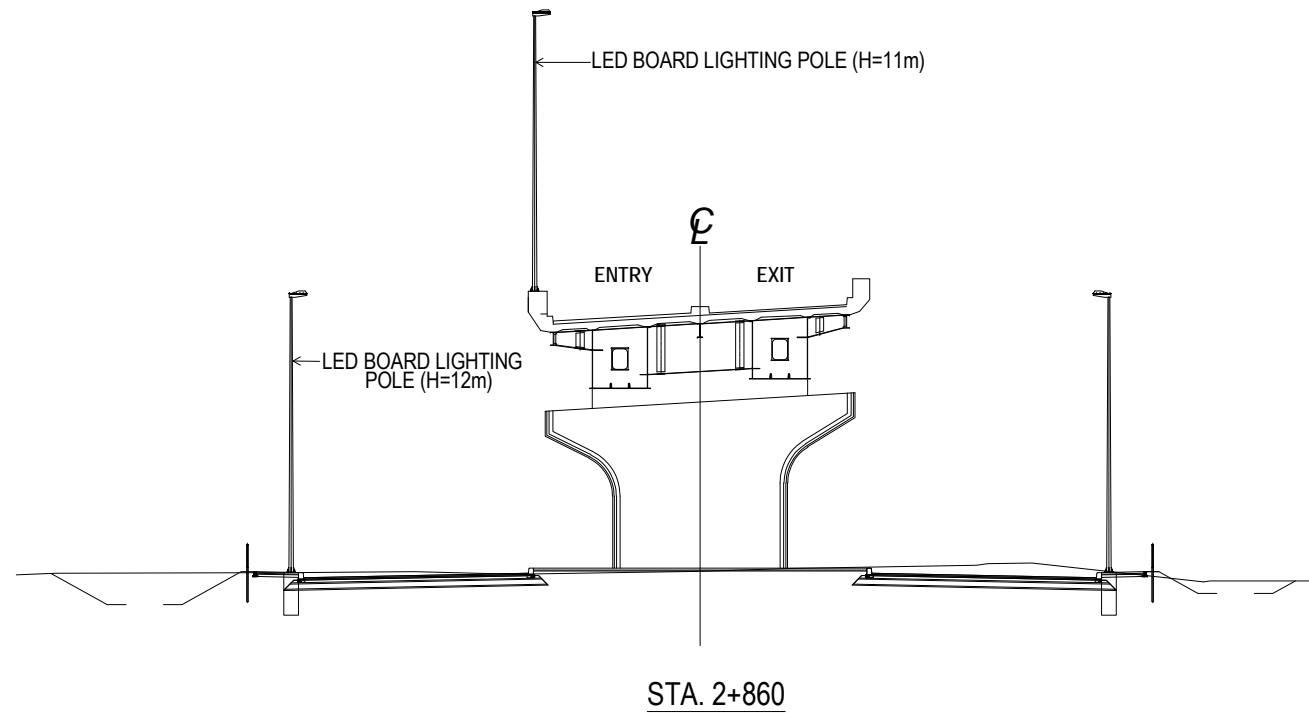
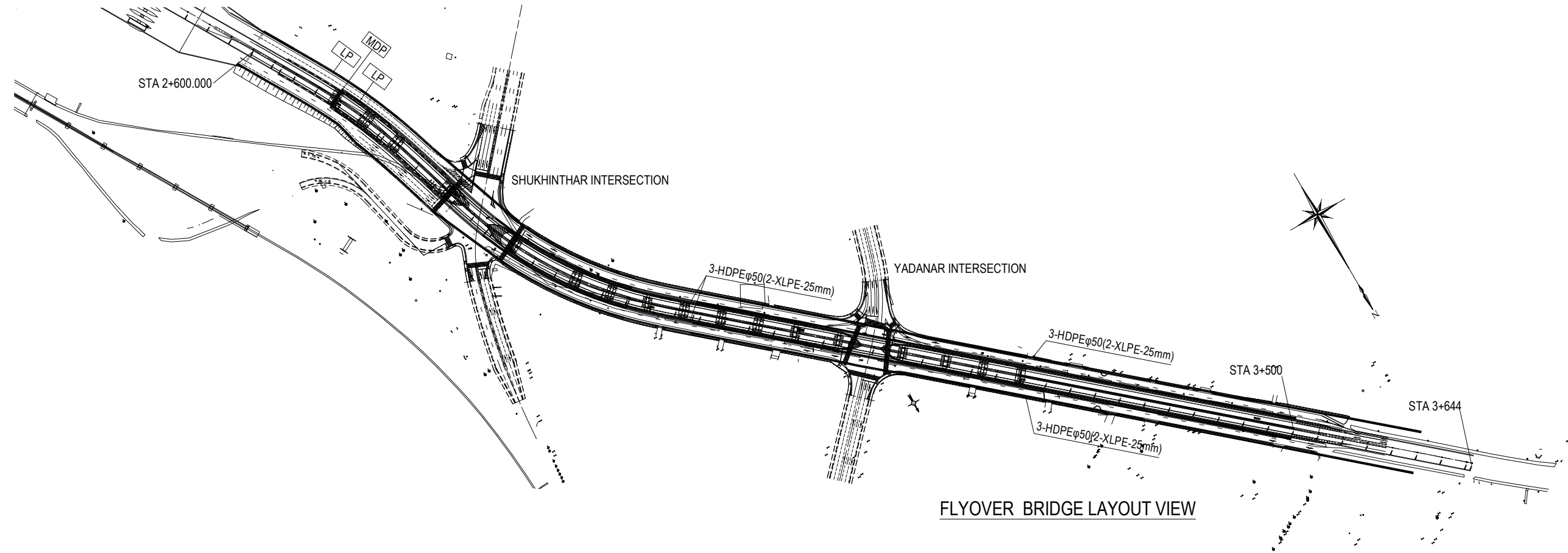
TYPICAL POWER DISTRIBUTION PLAN



POWER DISTRIBUTION DIAGRAM

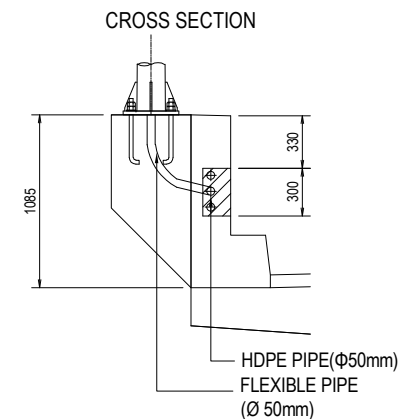
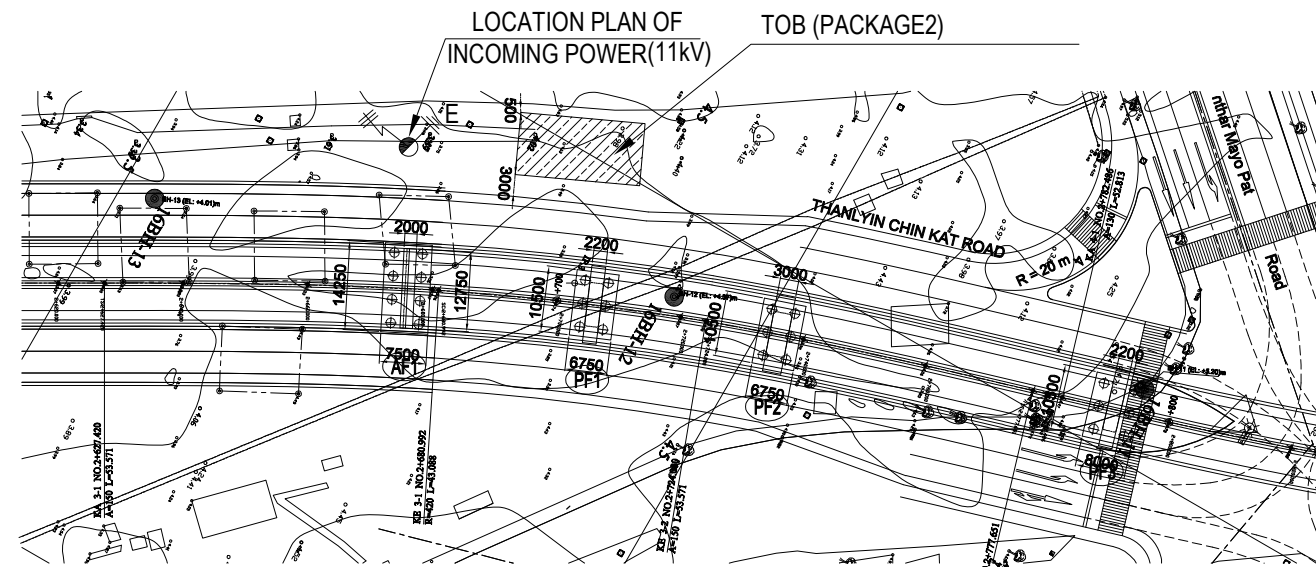
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TYPICAL POWER DISTRIBUTION PLAN	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	3
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P3-EL-0001

TYPICAL WIRING PLAN

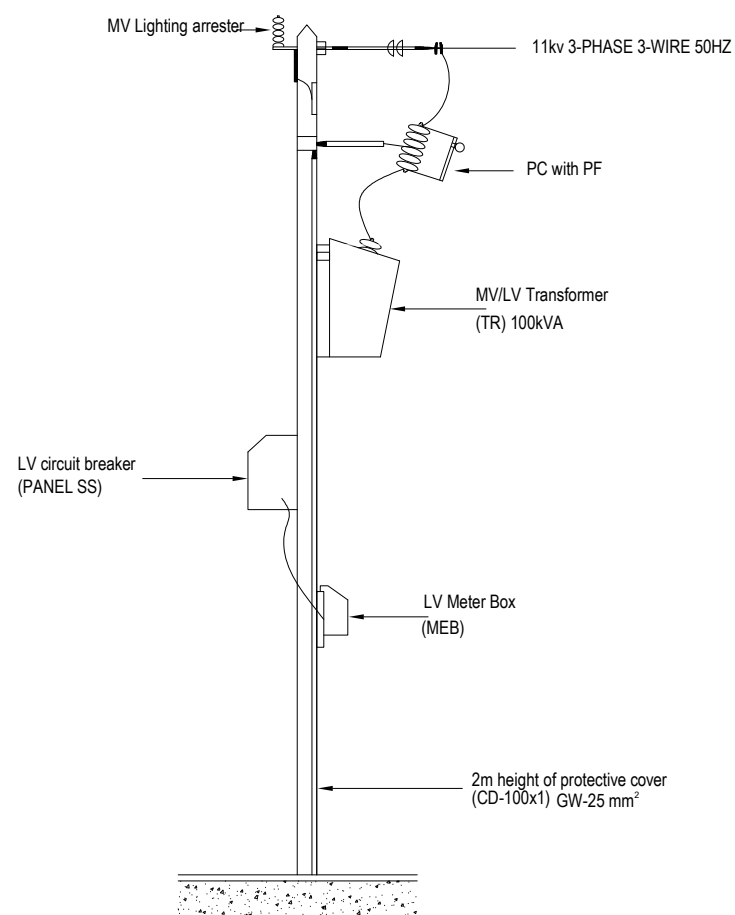


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE	
				PREPARED BY	K. MORIMATA				29 Sep. 2017
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017
				APPROVED BY	Y. SANO				6 Oct. 2017
							TYPICAL WIRING PLAN FOR FLYOVER BRIDGE	3	
								DWG No.	
								P3-EL-0002	

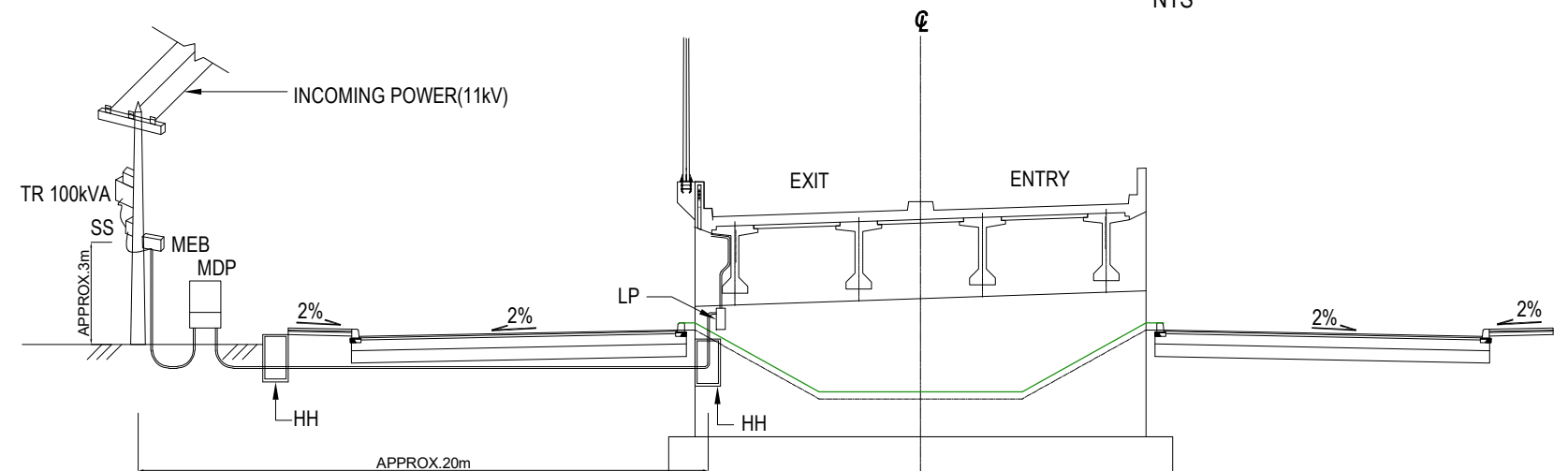
(REFERENCE) INCOMING POWER RECEIVING FOR ROAD LIGHTING



PIPING LAYOUT IN CONCRETE BARRIER
NTS

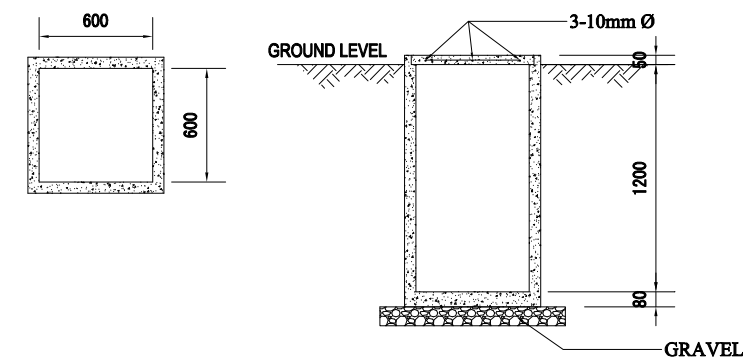


OUTLINE OF INCOMING RECEIVING



CONCEPTUAL PLAN BETWEEN MDP AND LIGHTING POLE AT AF1

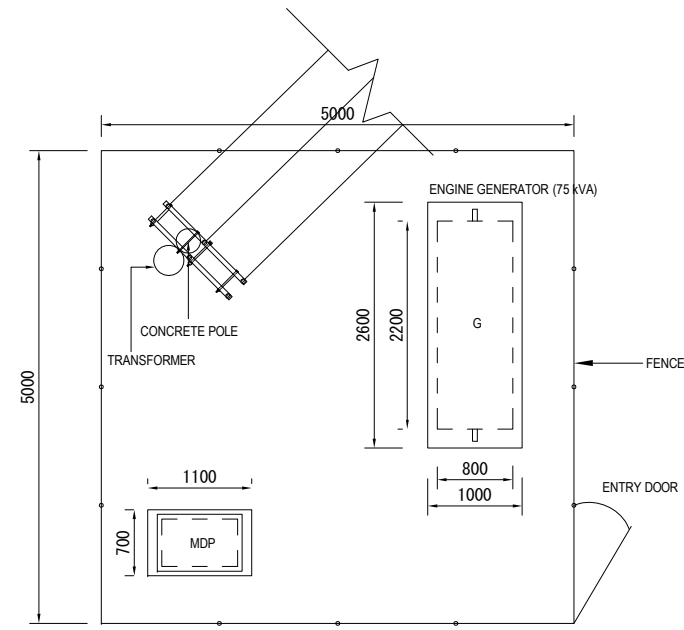
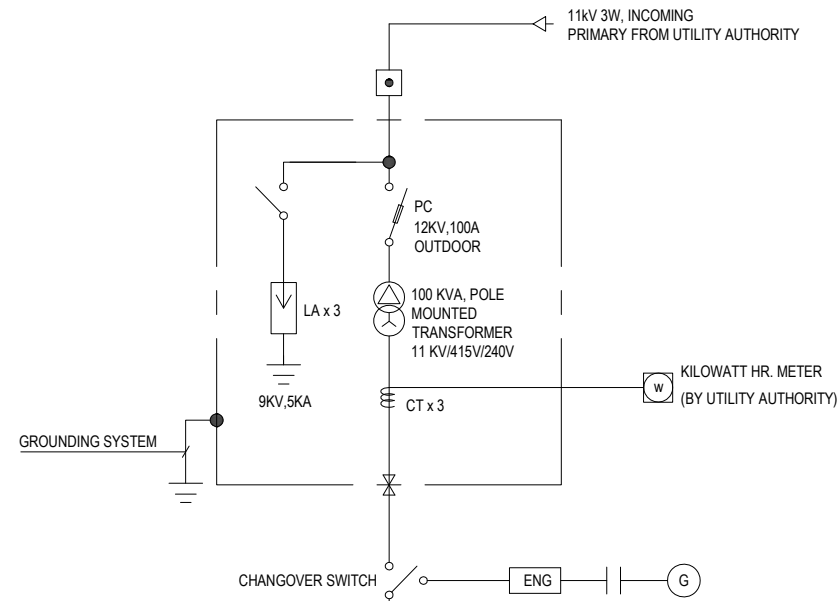
NOTE : THE CONCEPTUAL POWER SUPPLY TO MDP IS ONLY PUPOSE OF CONST ESTIMATION IN THE DESIGN STAGE.



TYPICAL DETAIL OF HAND HOLE

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	NAME PREPARED BY K. MORIMATA CHECKED BY T. HAYAKAWA APPROVED BY Y. SANO	SIGNATURE 	DATE 29 Sep. 2017 3 Oct. 2017 6 Oct. 2017	DRAWING TITLE (REFERENCE) INCOMING POWER RECEIVING FOR ROAD LIGHTING	PACKAGE 3 DWG No. P3-EL-0003
---	--	---	---	--	---------------	--	--	---------------------------------------

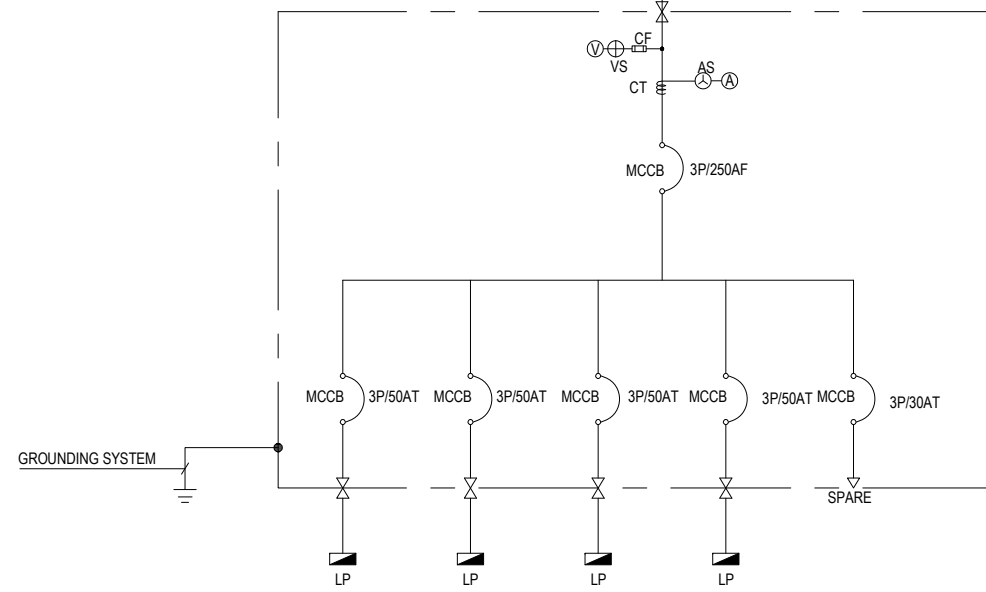
TYPICAL MV SITE SUBSTATION



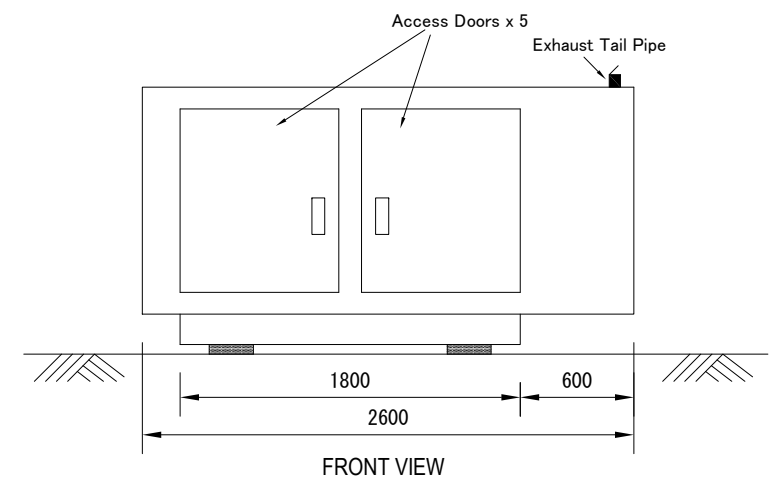
SITE LAYOUT OF INCOMING POWER STATION S=1:80

LEGEND

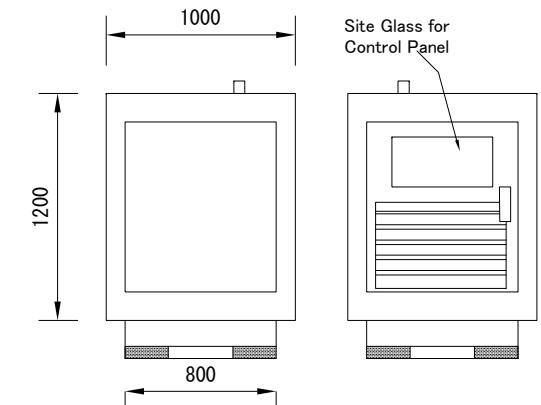
- ☐ - LIGHTING PANEL
- - MOLD-CASE CIRCUIT BREAKER (MCCB)
- ⊕ - GROUNDING
- ⊗ - KILOWATT HR.METER
- ⊗ - POWER TRANSFORMER
- - PRIMARY CUTOFF (PC) WITH POWER FUSE (PF)
- - LIGHTING ARRESTER (LA)
- ⊗ - GENERATOR
- ENG - ENGINE
- AS - AMMETER CHANGE OVER SWITCH
- CF - CURRENT FUSE
- VS - VOLTAGE CHANGE OVER SWITCH
- CT - CURRENT TRANSFORMER
- MDP - MAIN DISTRIBUTION PANEL
- PF - POWER FUSE



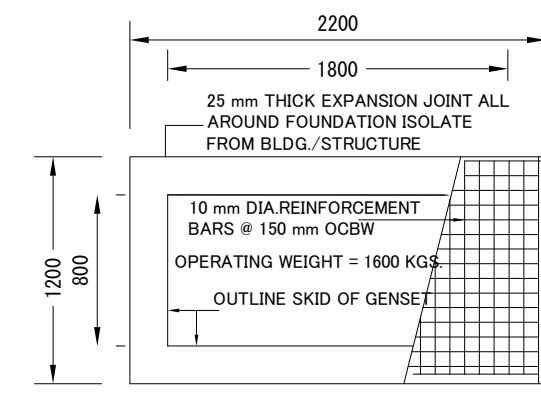
SINGLE LINE DIAGRAM



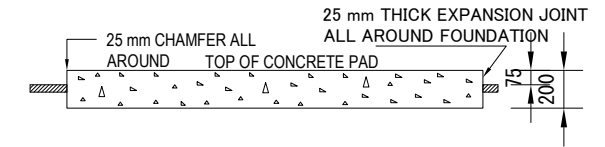
FRONT VIEW



SIDE VIEW



TOP VIEW

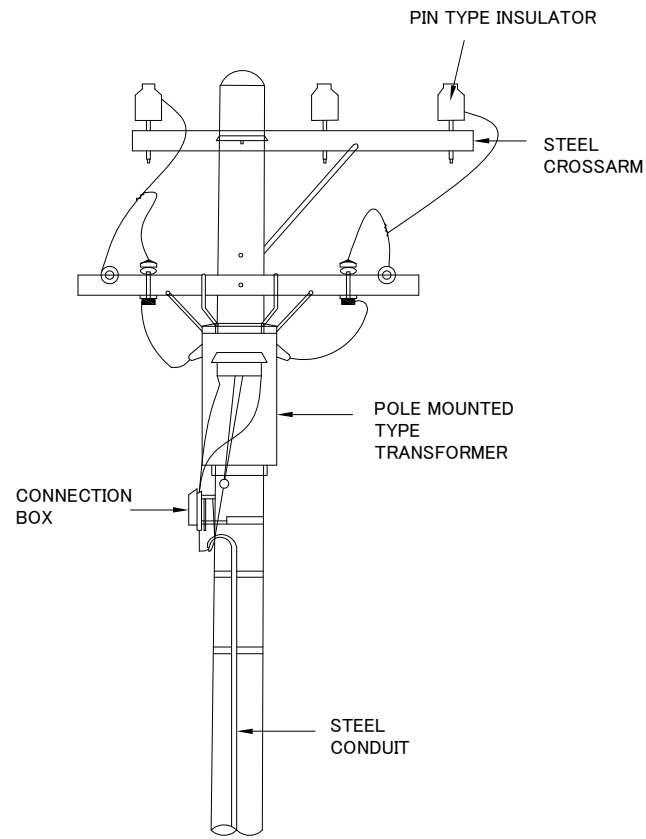


CONCRETE FOUNDATION

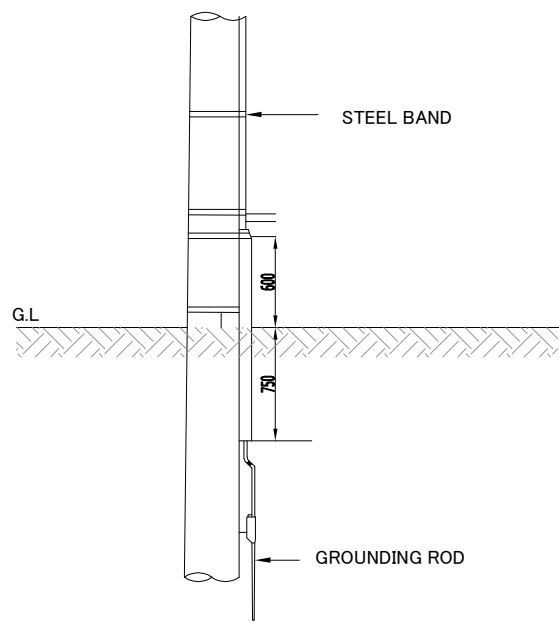
REFERENCE LAYOUT OF ENGINE GENERATOR S=1:40

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TYPICAL MV SITE SUBSTATION	PACKAGE
				PREPARED BY	K. MORIMATA	29 Sep. 2017		3
				CHECKED BY	T. HAYAKAWA	3 Oct. 2017		DWG No.
				APPROVED BY	Y. SANO	6 Oct. 2017		P3-EL-0004

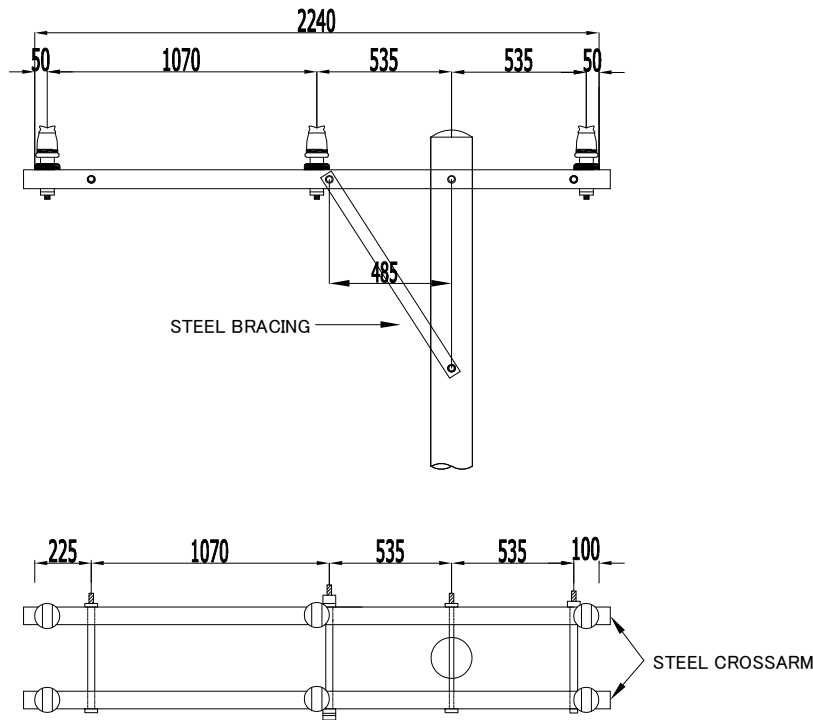
TYPICAL ELECTRIC POLE ASSEMBLING (11kv)



TYPICAL POLE ASSEMBLING FOR
POLE MOUNTED TRANSFORMER

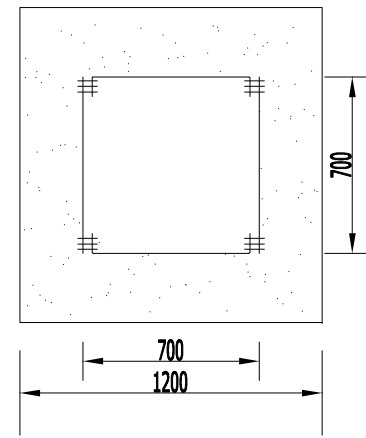


TYPICAL GROUNDING SYSTEM

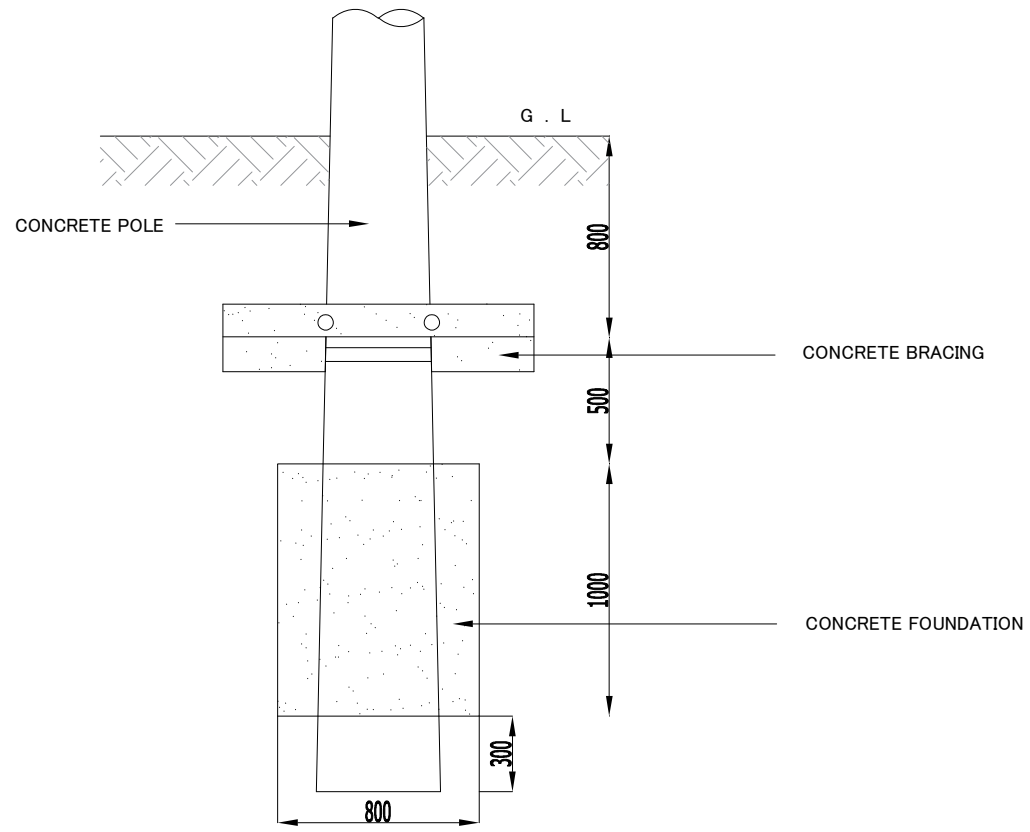
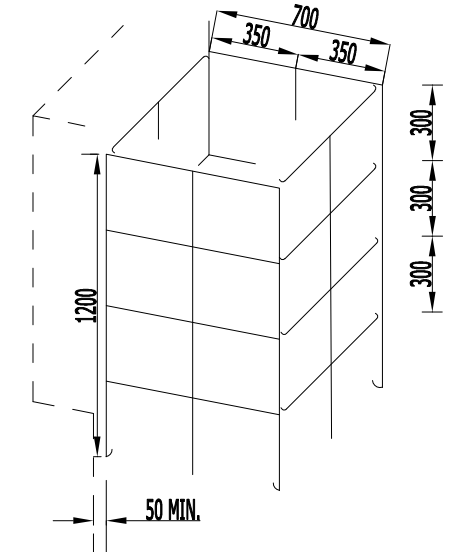


TYPICAL POLE ASSEMBLING FOR
EXTENDED OVERHEAD LINES

UNIT: mm



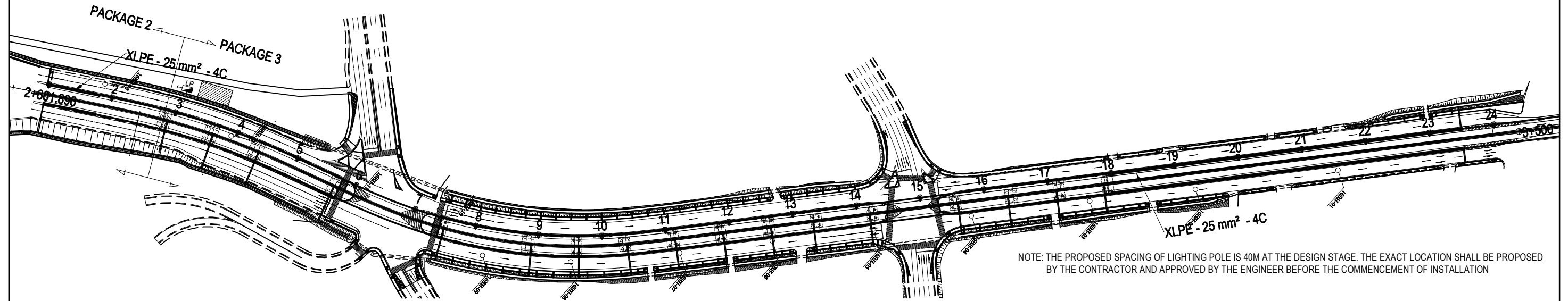
TYPICAL CONCRETE FOUNDATION
AND RE-BAR ARRANGEMENT



TYPICAL POLE CONCRETE BRACING

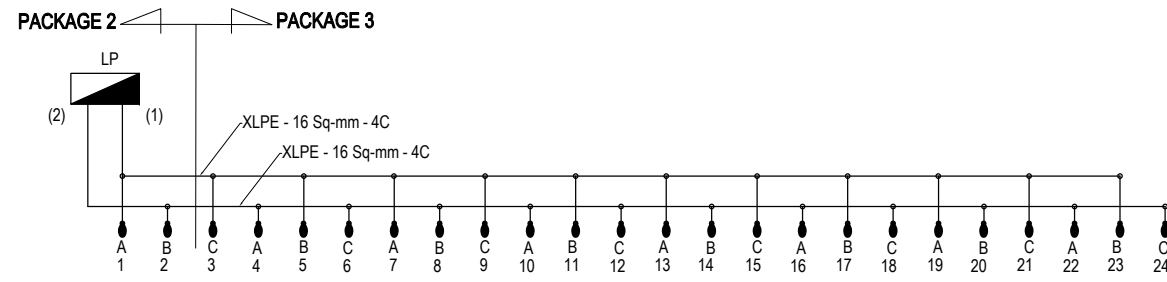
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE			
				PREPARED BY	K. MORIMATA				29 Sep. 2017	TYPICAL ELECTRIC POLE ASSEMBLING	3
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017		DWG No.
				APPROVED BY	Y. SANO				6 Oct. 2017		P3-EL-0005

TYPICAL LIGHTING PLAN FOR FLYOVER BRIDGE



NOTE: THE PROPOSED SPACING OF LIGHTING POLE IS 40M AT THE DESIGN STAGE. THE EXACT LOCATION SHALL BE PROPOSED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER BEFORE THE COMMENCEMENT OF INSTALLATION

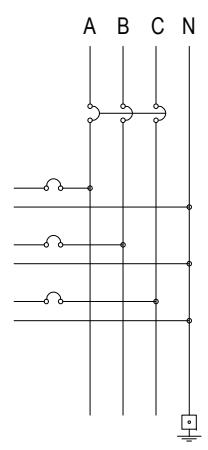
LIGHTING PLAN FOR FLYOVER BRIDGE



WIRING DIAGRAM

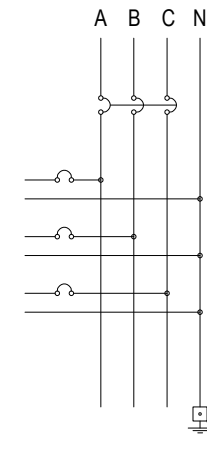
CKT = LP (1)

DESCRIPTION	CONNECTED LOAD (VA)			CKT, BRK, SIZE, WP			
	TOTAL	A	B	C	P	AF	AT
FLYOVER	165	165			1	25	15
	165			165			
	165		165				
	165	165					
	165			165			
	165		165				
	165	165					
	165			165			
	165		165				
	165	165					
	165			165			
	165		165				
	165	165					
	165			165			
SPARE	1,000				3		
SUBTOTAL	2,980	660	660	660		25	15



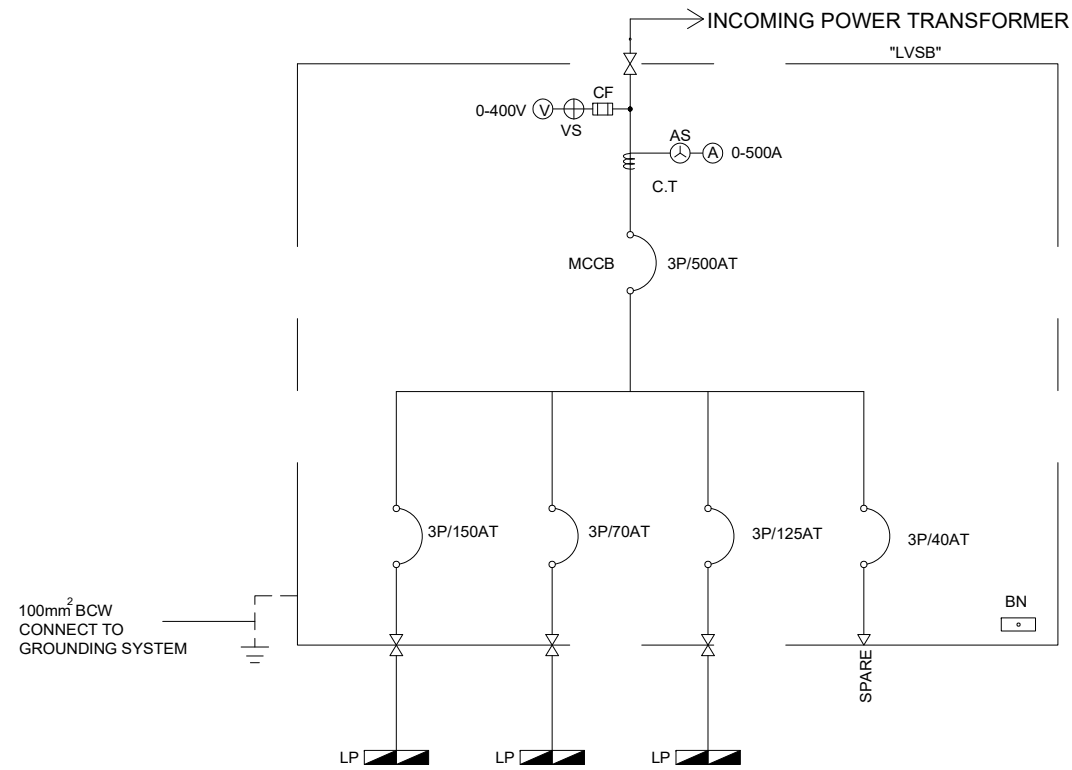
CKT = LP (2)

DESCRIPTION	CONNECTED LOAD (VA)			CKT, BRK, SIZE, WP			
	TOTAL	A	B	C	P	AF	AT
FLYOVER	165		165		1	25	15
	165	165					
	165			165			
	165		165				
	165	165					
	165			165			
	165		165				
	165	165					
	165			165			
	165		165				
	165	165					
	165			165			
	165		165				
	165	165					
	165			165			
SPARE	1,000				3		
SUBTOTAL	2,980	660	660	660		25	15

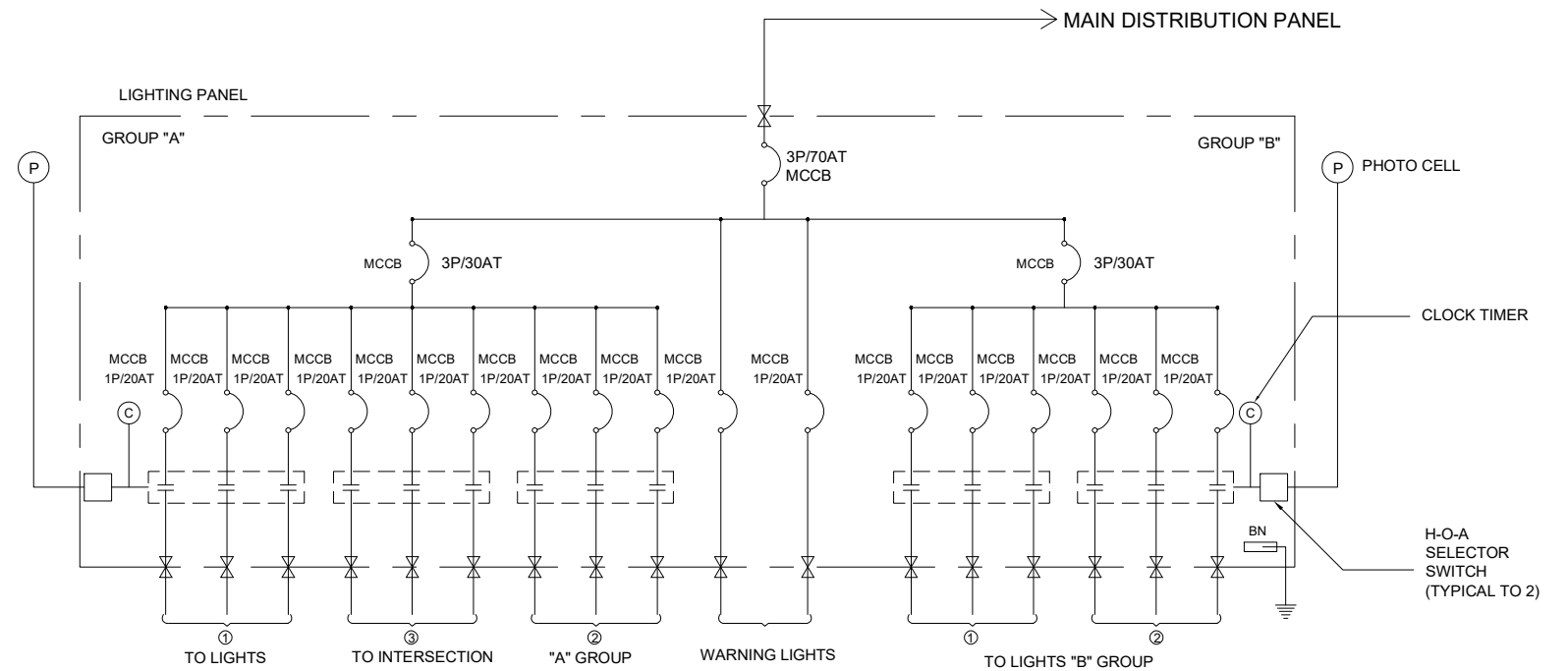


LOAD SCHEDULE

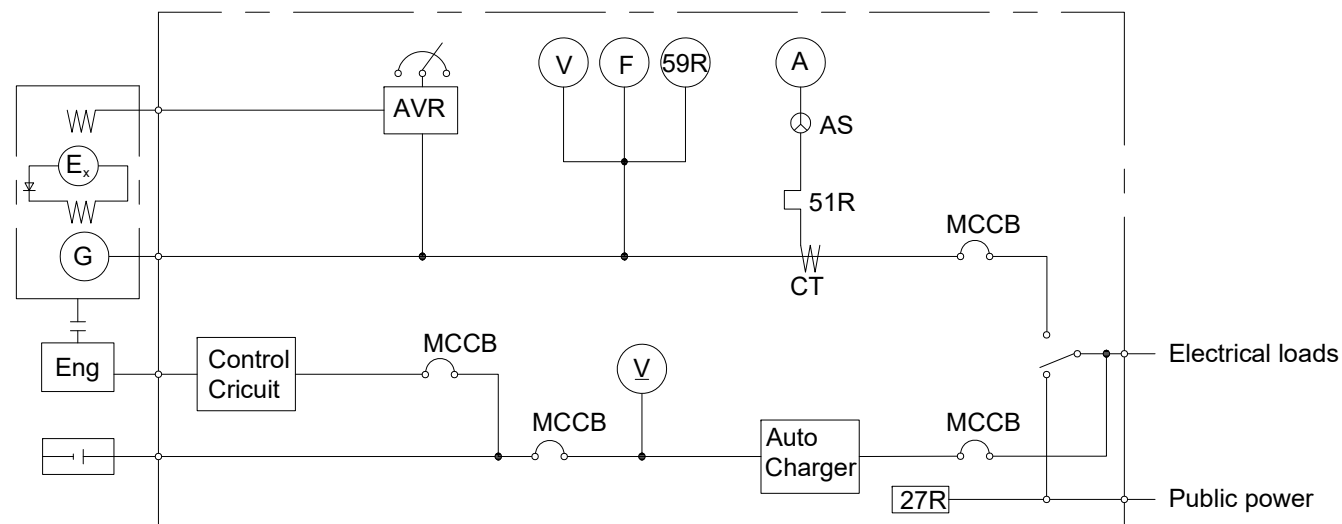
(REFERENCE) SINGLE LINE DIAGRAM FOR PANELS



SINGLE LINE DIAGRAM FOR MAIN DISTRIBUTION PANEL



SINGLE LINE DIAGRAM FOR LIGHTING PANEL

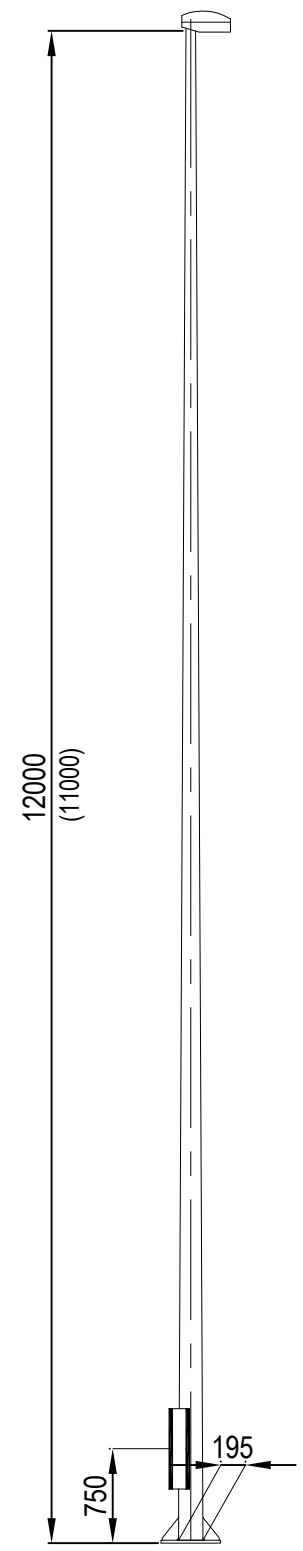


SINGLE LINE DIAGRAM FOR ENGINE GENERATOR CONTROL PANEL

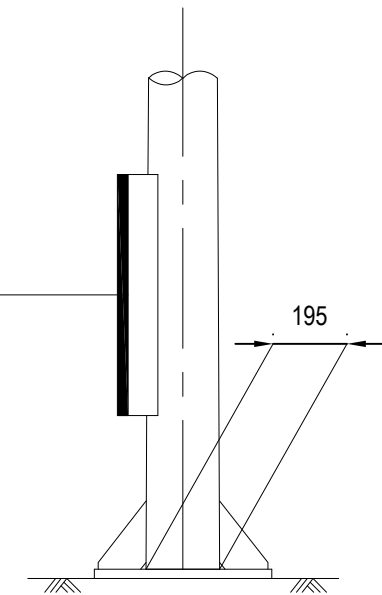
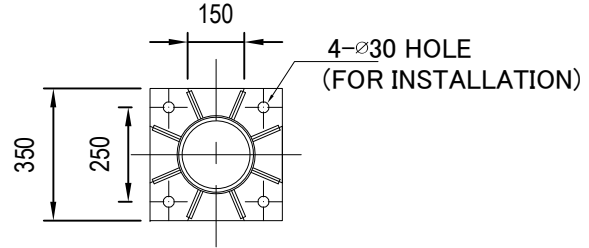
LEGEND

- | | | | |
|----|--------------------------------|-----|-------------------------------|
| | : MOLD-CASE CIRCUIT BREAKER | | : DIESEL ENGINE |
| AT | : AMPERE TRIPPING | | : GENERATOR |
| | : GROUNDING | | : EXITER |
| | : CONTACTOR | | : AMPERE METER |
| VS | : VOLTMETER CHANGE OVER SWITCH | | : VOLTAGE METER |
| AS | : AMMETER CHANGOVER SWITCH | | : FREQUENCY METER |
| CT | : CURRENT TRANSFORMER | | : BATTERY |
| | | | : AUTOMATIC VOLTAGE LEGULATOR |
| | | 27R | : LOW VOLTAGE RELAY |
| | | 59G | : OVER VOLTAGE |
| | | 51R | : OVERCURRENT RELAY |

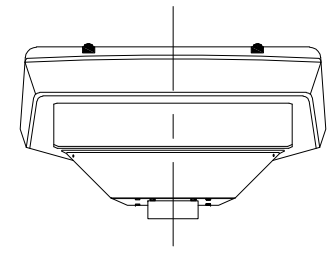
TYPICAL LED LUMINAIR AND POLE



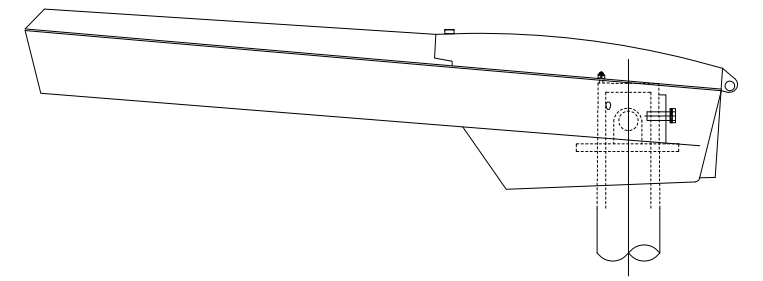
NOTE: () : FOR FLYOVER
OUTLINE OF LIGHTING POLE



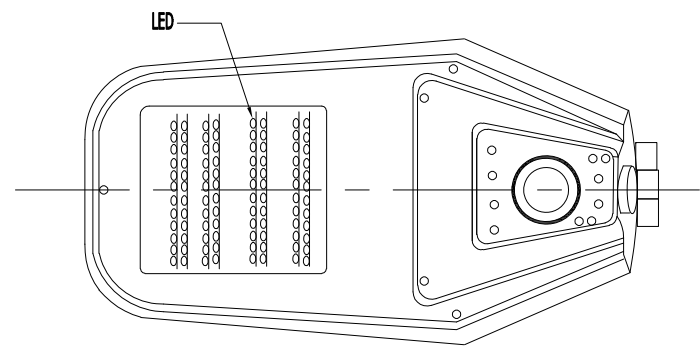
MAINTENANCE OPENING
REFERENCE FOR LIGHTING POLE
 NTS



FRONT VIEW



SIDE VIEW

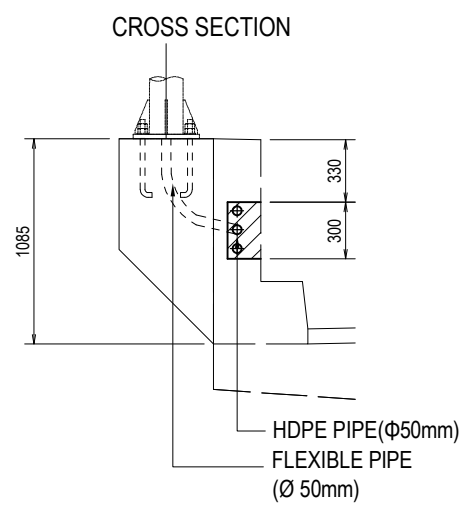
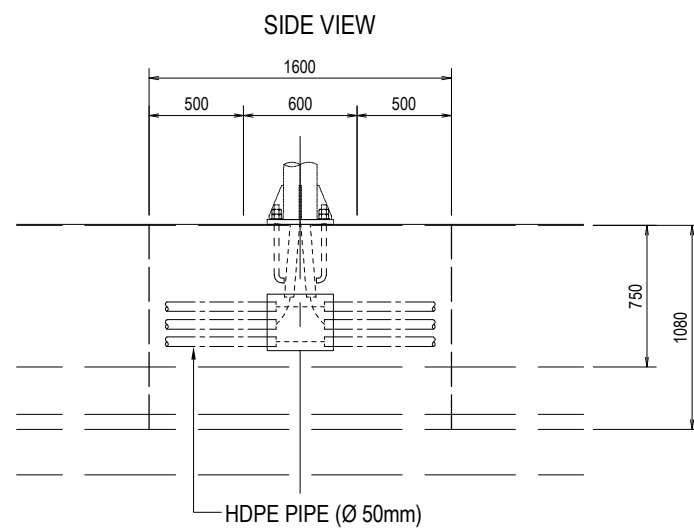
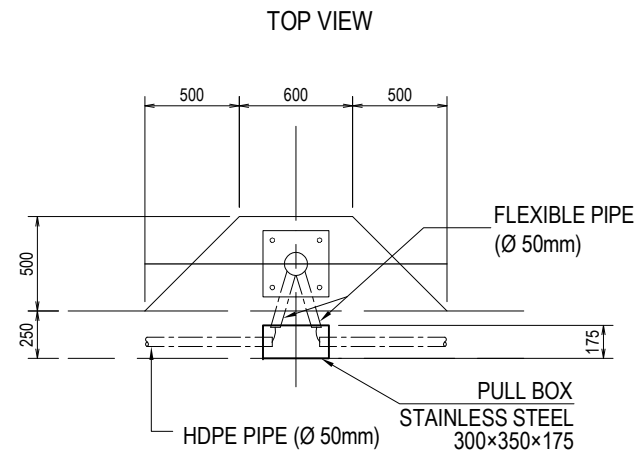


FACE VIEW

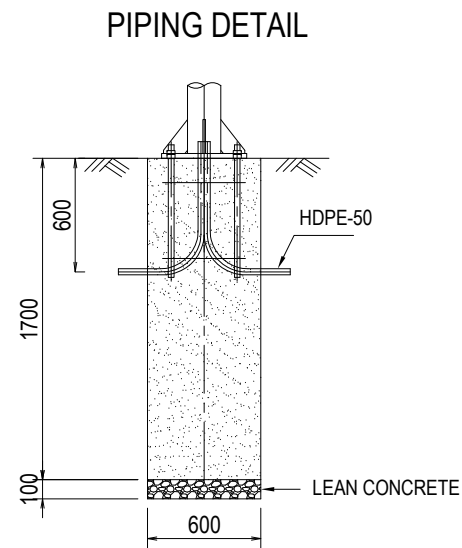
REFERENCE FOR LED LUMINAIR
 NTS

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TYPICAL LED LUMINAIR AND POLE	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	3
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P3-EL-0009

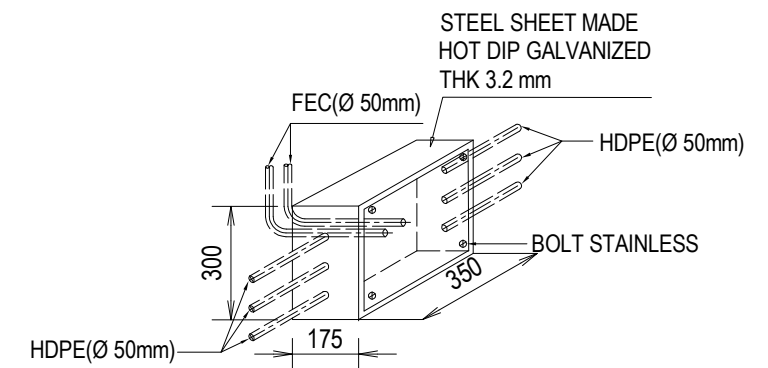
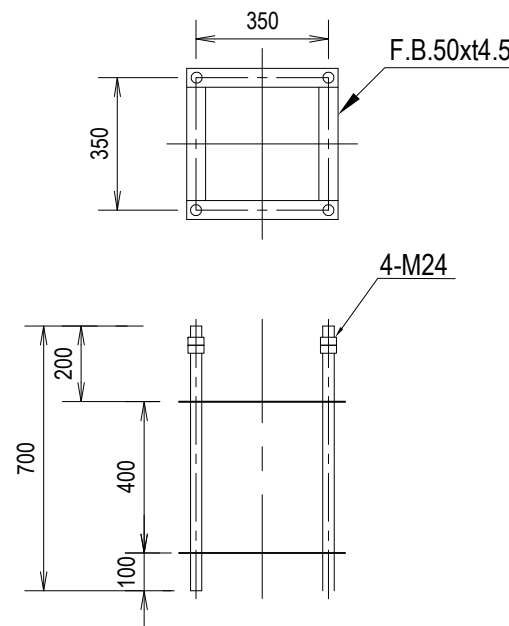
TYPICAL FOUNDATION DETAILS FOR LIGHTING POLE



FLYOVER BRIDGE S=1:40



DETAIL OF ANCHOR BOLT

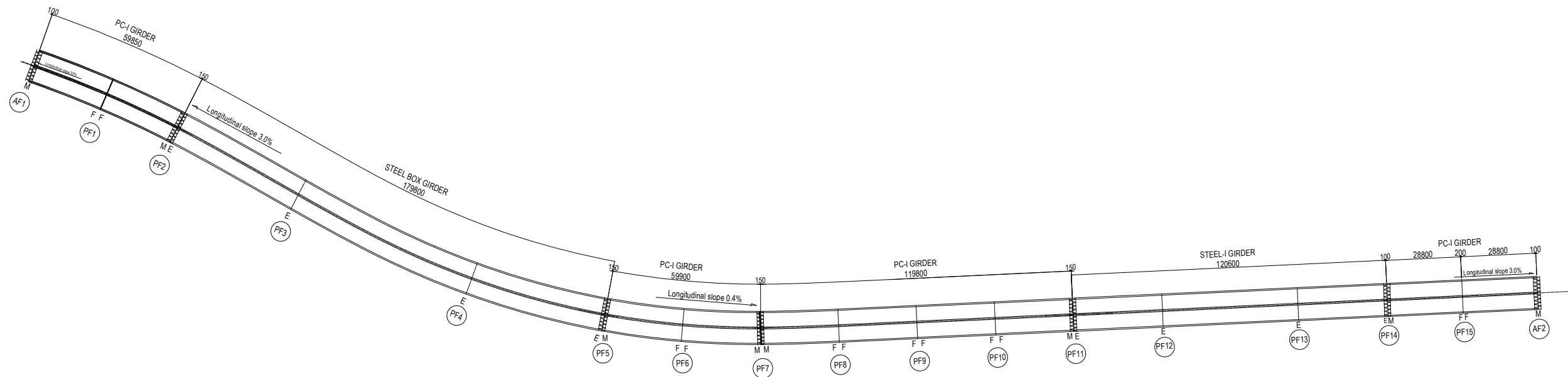


PULL BOX S=1:20

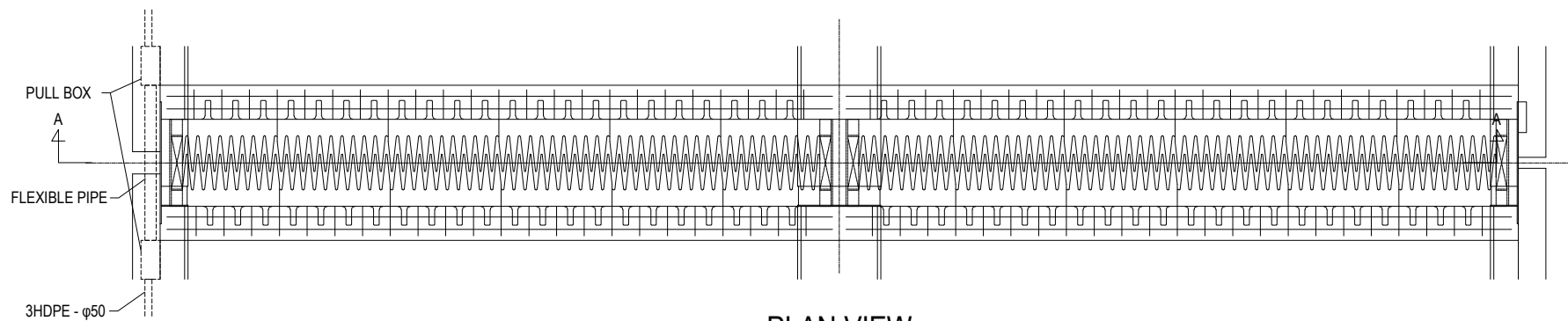
FOR THANLYIN CHIN KAT ROAD LIGHTING POLE S=1:20

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE			
				PREPARED BY	K. MORIMATA				29 Sep. 2017	TYPICAL FOUNDATION DETAILS FOR LIGHTING POLE	3
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017		DWG No.
				APPROVED BY	Y. SANO				6 Oct. 2017		P3-EL-0010

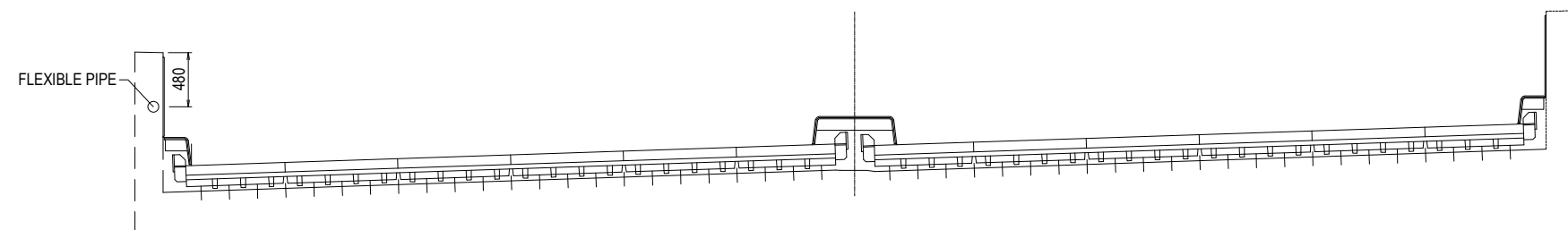
(REFERENCE) INSTALLATION DETAIL FOR FLEXIBLE PIPE



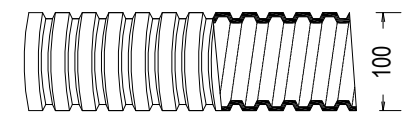
LAYOUT OF EXPANSION JOINTS



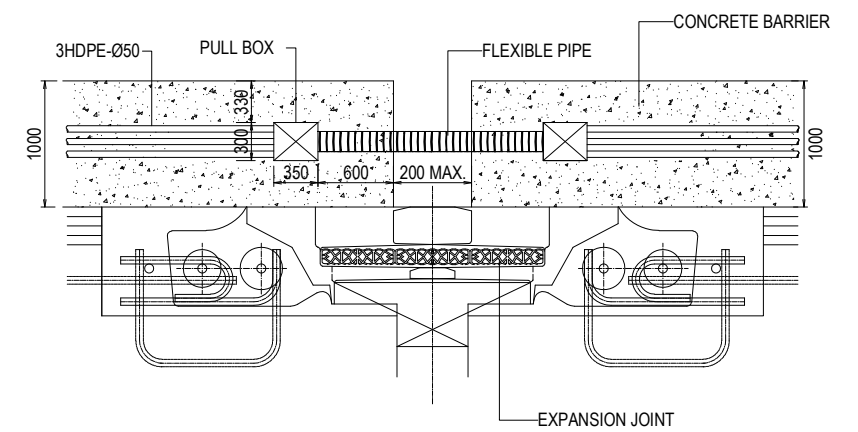
PLAN VIEW S=1:60



A-A SECTION S=1:60



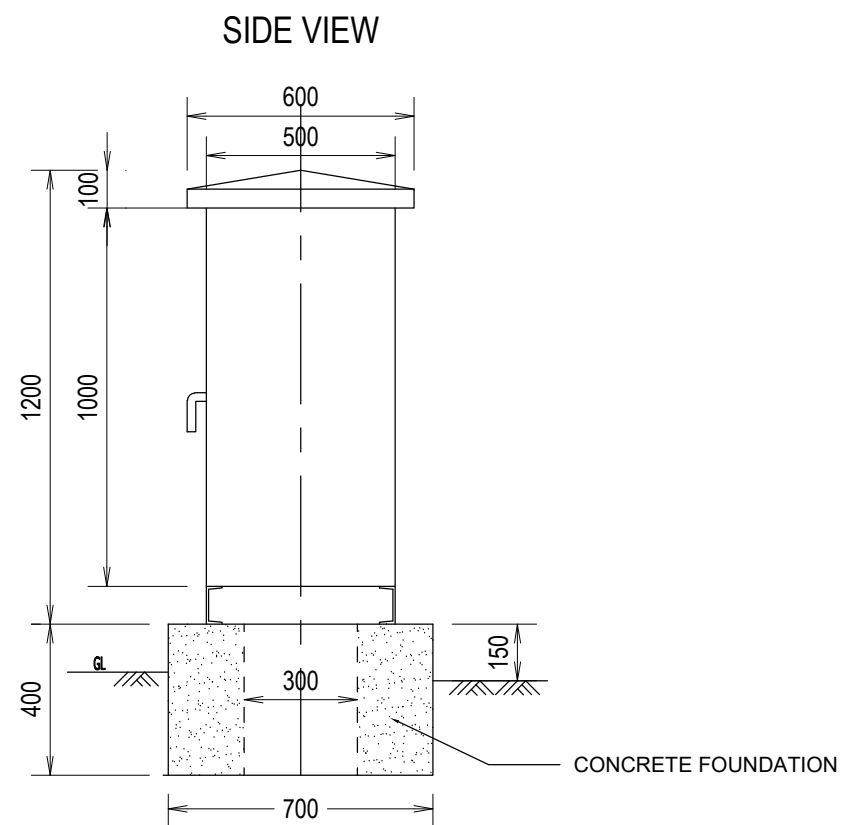
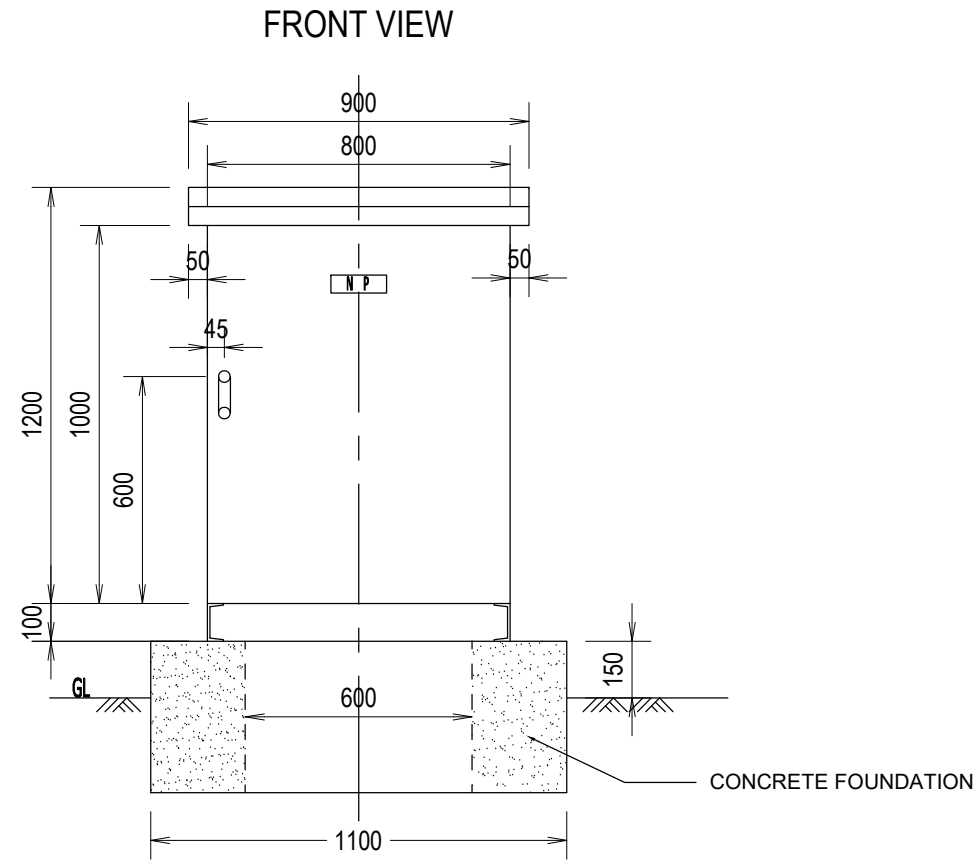
DIAMETER OF FLEXIBLE PIPE



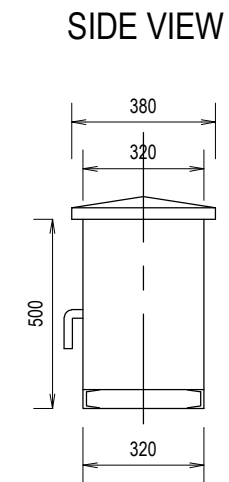
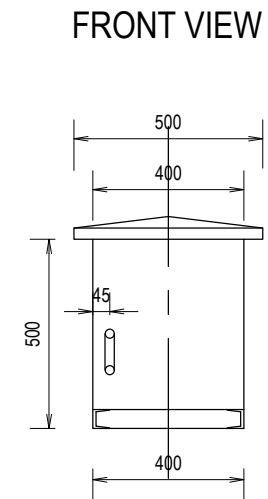
TYPICAL INSTALLATION DETAIL OF FLEXIBLE PIPE S=1:60

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) INSTALLATION DETAIL FOR FLEXIBLE PIPE	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	3
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P3-EL-0011

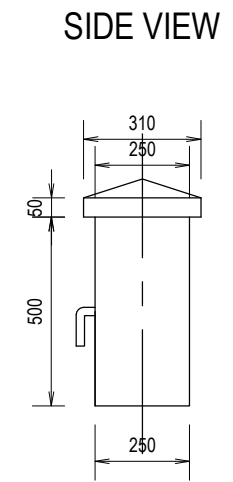
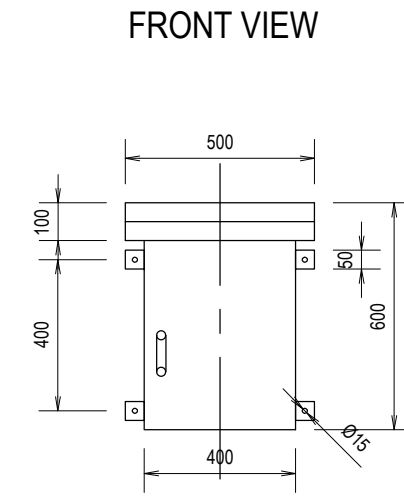
(REFERENCE) OUTLINE OF ELECTRIC PANELS



MAIN DISTRIBUTION PANEL S=1:20



LIGHTING PANEL S=1:20



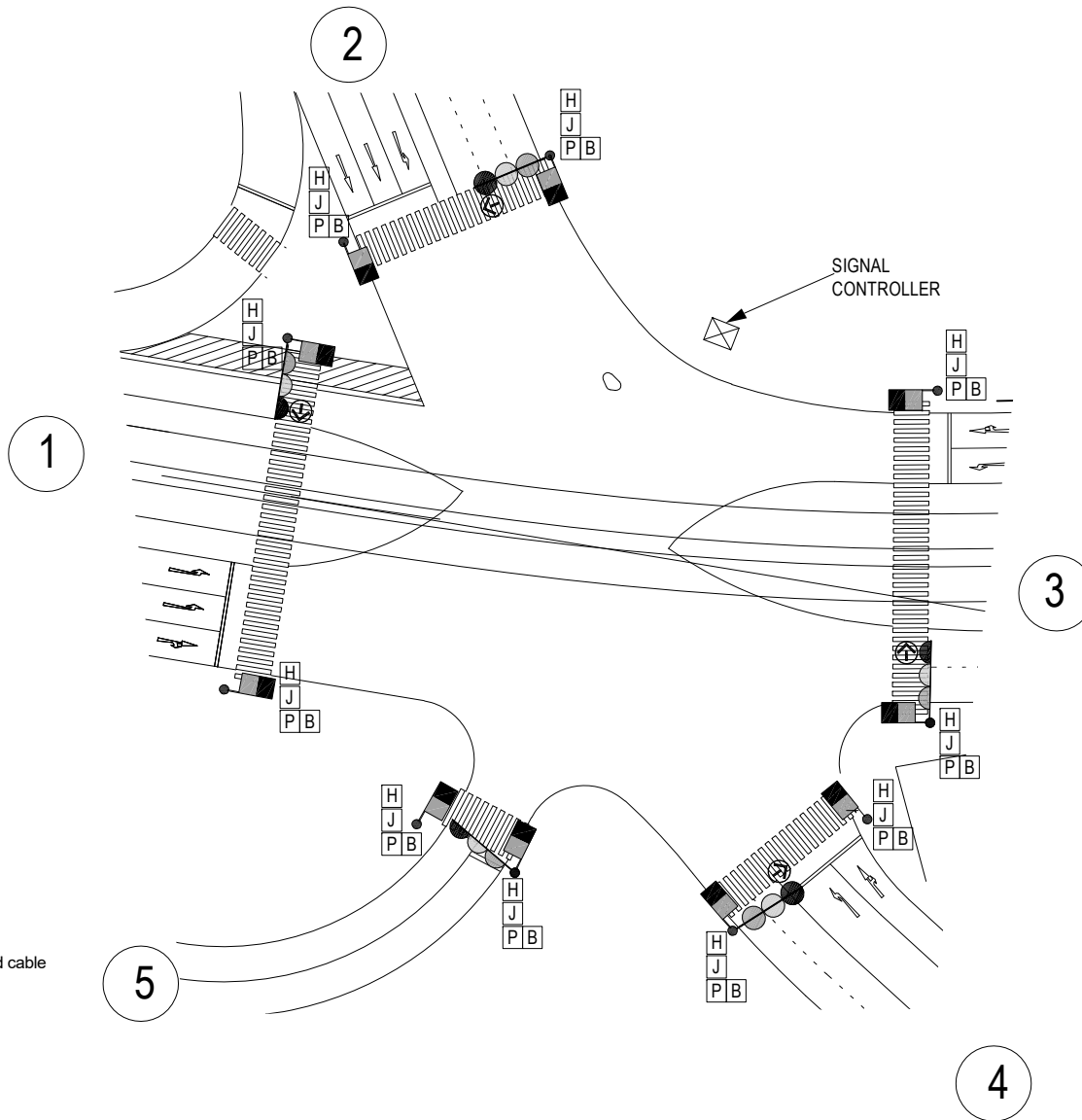
POLE MOUNTED TYPE BOX S=1:20

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE	
				PREPARED BY	K. MORIMATA				29 Sep. 2017
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017
				APPROVED BY	Y. SANO				6 Oct. 2017
(REFERENCE) OUTLINE OF ELECTRIC PANELS							3	DWG No.	
								P3-EL-0012	

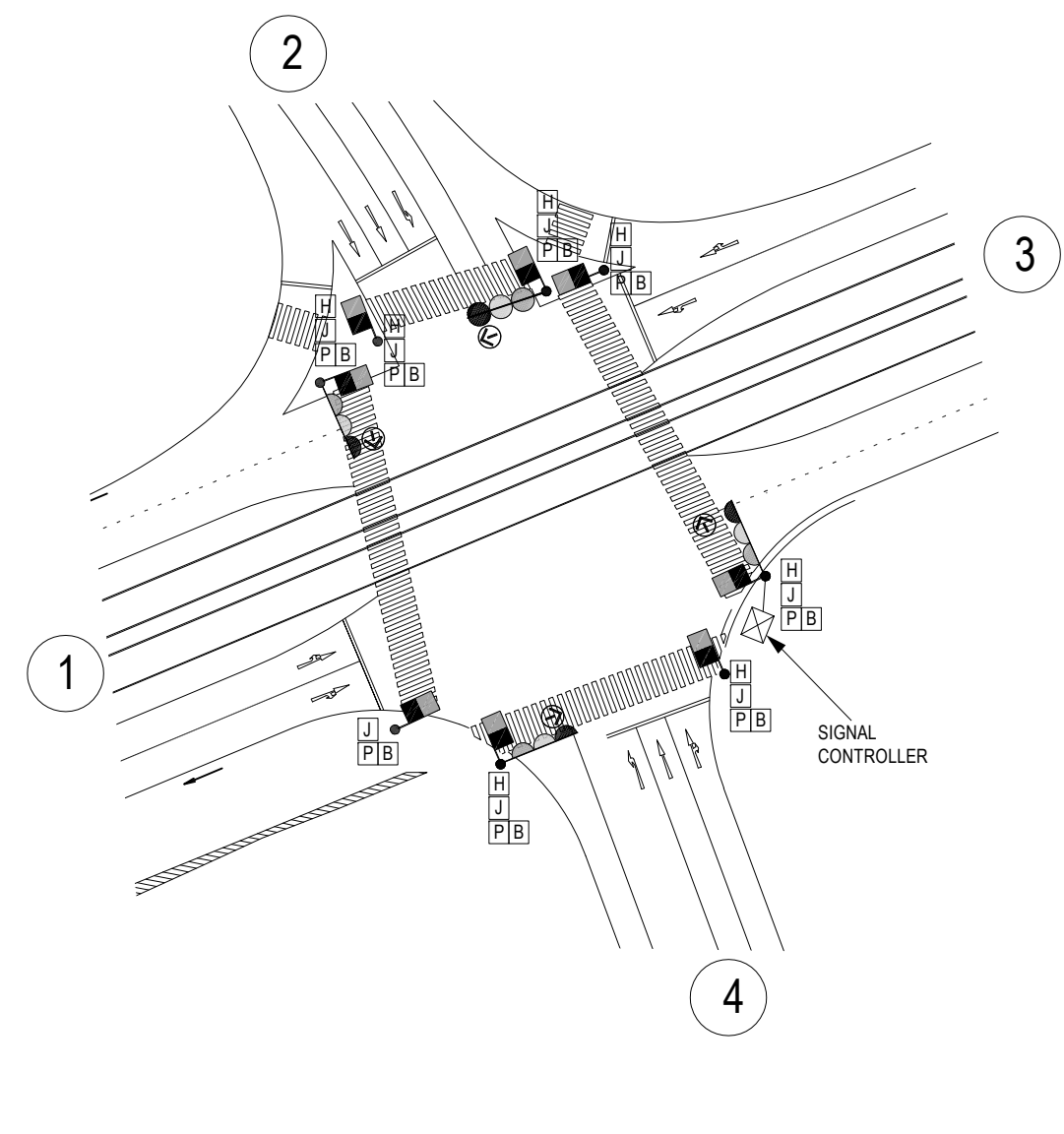
TYPICAL TRAFFIC SIGNAL CONTROL SYSTEM PLAN FOR INTERSECTION

LEGEND

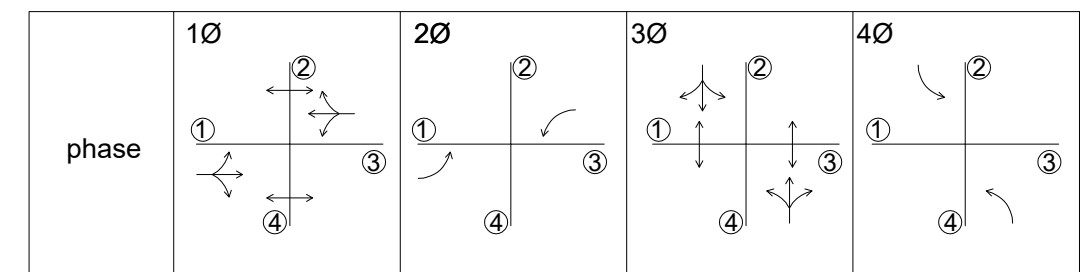
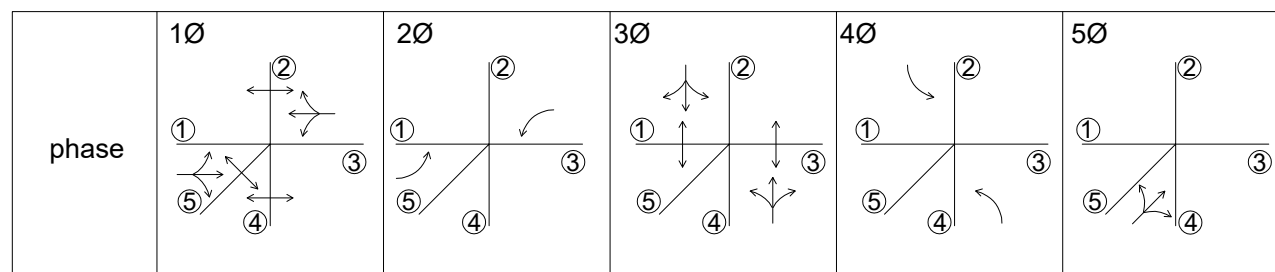
- : Concrete pole
- : Steel pole
- ⊠ : Traffic signal controller
- ◐ : Vehicle traffic signal
- ➔ : Arrow sign traffic signal
- : Pedestrian signal
- ▢ P B : Push-button switch
- ▢ J : Junction box
- ▢ S : Power supply box
- ▢ P : Pull box
- ▢ H : Hand hole
- ⬆ : Raising underground pipe
- ⚡ : Cable
- : Underground piping
- SVV : Control -use vinyl insulated vinyl sheathed cable
- IV : Indoor PVC
- E : Grounding



PLAN OF TRAFFIC SIGNAL SYSTEM FOR SHUKHINTHAR I/S



PLAN OF TRAFFIC SIGNAL SYSTEM FOR YADANAR I/S



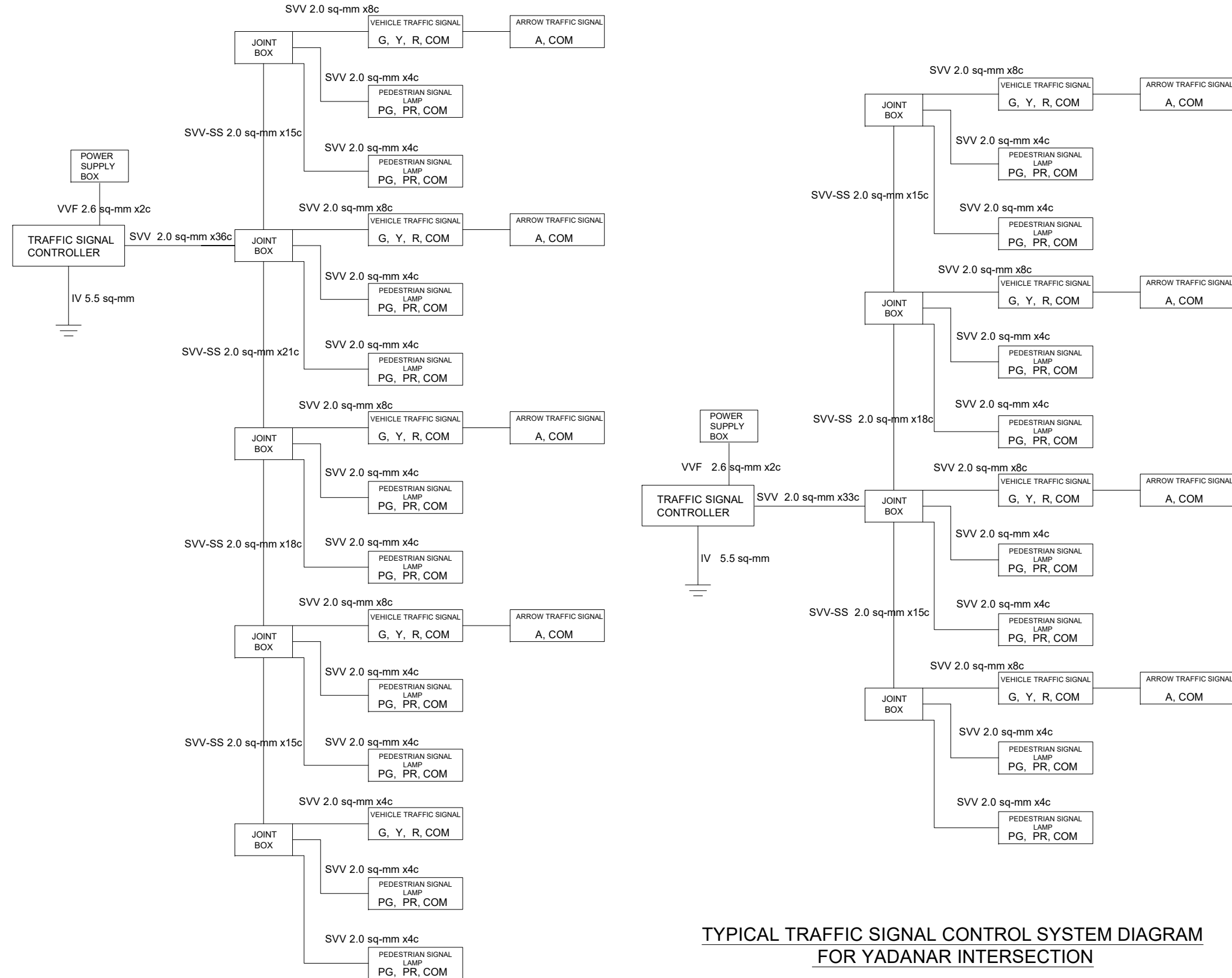
VEHICLE AND PEDESTRIAN PHASING DIAGRAM

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TYPICAL TRAFFIC SIGNAL CONTROL SYSTEM PLAN FOR INTERSECTIONS	PACKAGE
				PREPARED BY	K. MORIMATA	29 Sep. 2017		3
				CHECKED BY	T. HAYAKAWA	3 Oct. 2017		DWG No.
				APPROVED BY	Y. SANO	6 Oct. 2017		P3-EL-0013

TYPICAL TRAFFIC SIGNAL CONTROL SYSTEM DIAGRAM

LEGND

- G : Vehicle traffic signal : Green light
- Y : Vehicle traffic signal : Yellow light
- R : Vehicle traffic signal : Red light
- A : Arrow traffic signal : Green light
- PG : Pedestrian signal lamp : Green light
- PR : Pedestrian signal lamp : Red light
- COM : Common for all indication

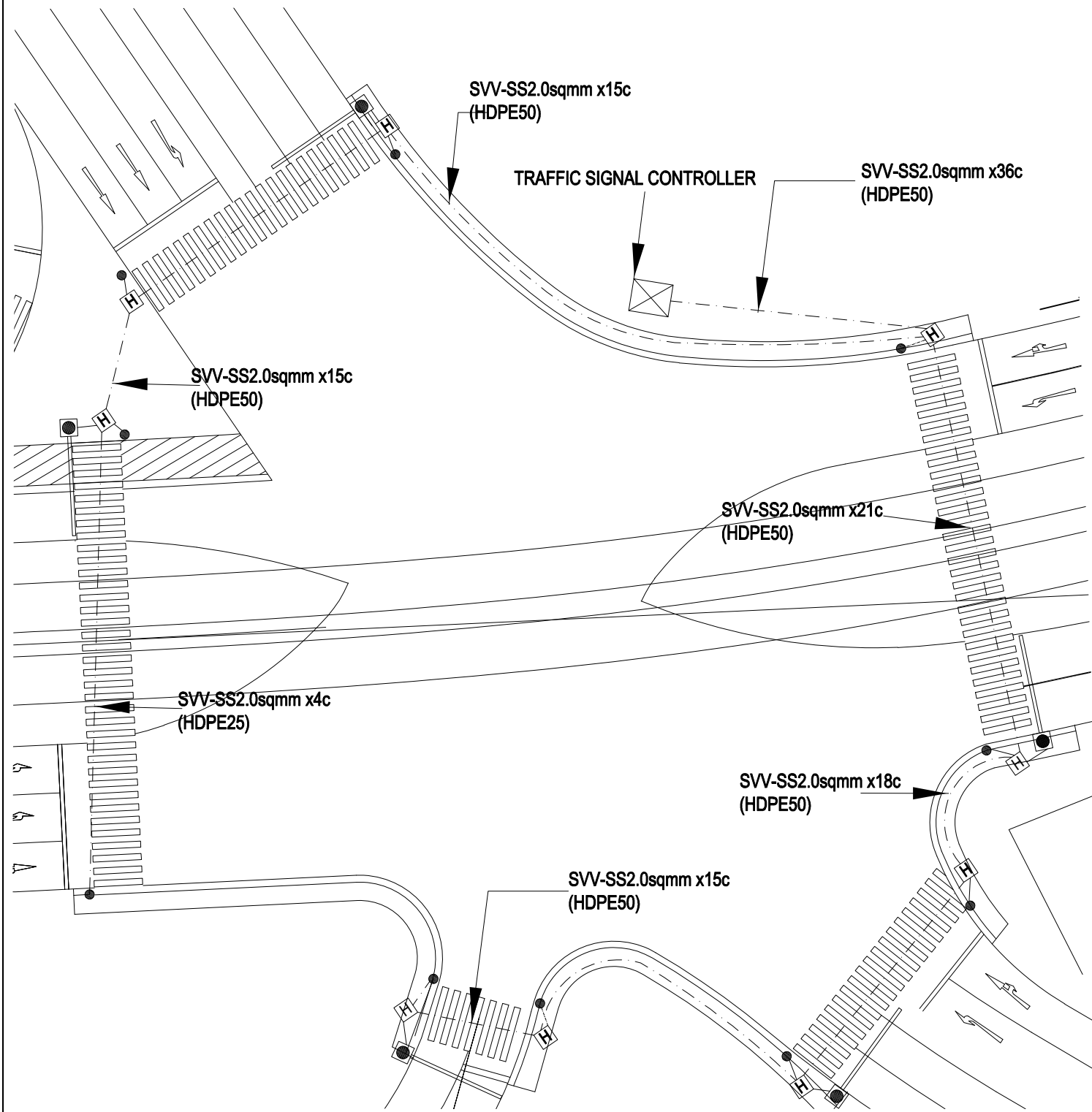


TYPICAL TRAFFIC SIGNAL CONTROL SYSTEM DIAGRAM FOR SHUKHINTHAR INTERSECTION

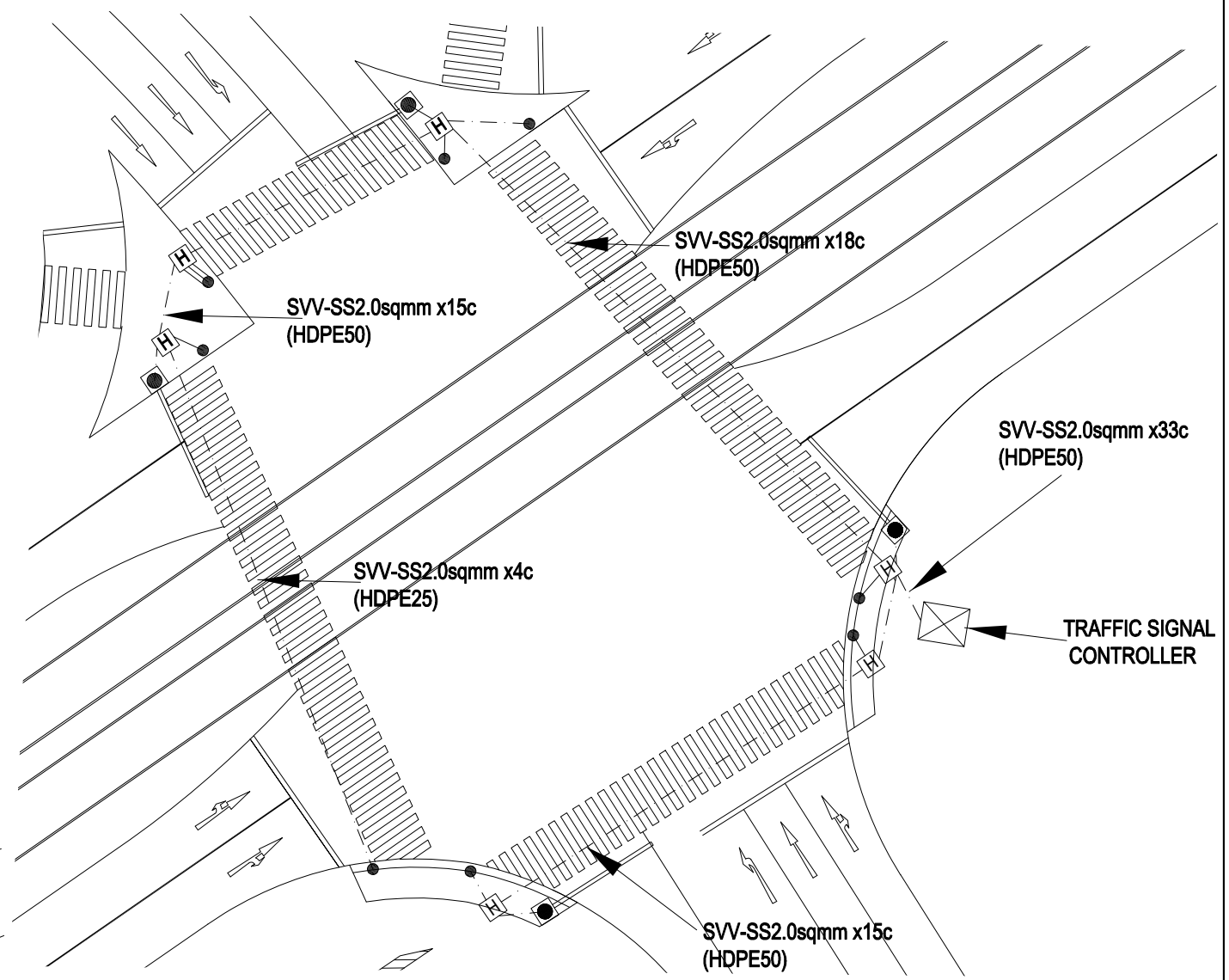
TYPICAL TRAFFIC SIGNAL CONTROL SYSTEM DIAGRAM FOR YADANAR INTERSECTION

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE			
				PREPARED BY	K. MORIMATA				29 Sep. 2017	TYPICAL TRAFFIC SIGNAL CONTROL SYSTEM DIAGRAM	3
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017		DWG No.
				APPROVED BY	Y. SANO				6 Oct. 2017		P3-EL-0014

TYPICAL UNDERGROUND WIRING PLAN FOR INTERSECTION



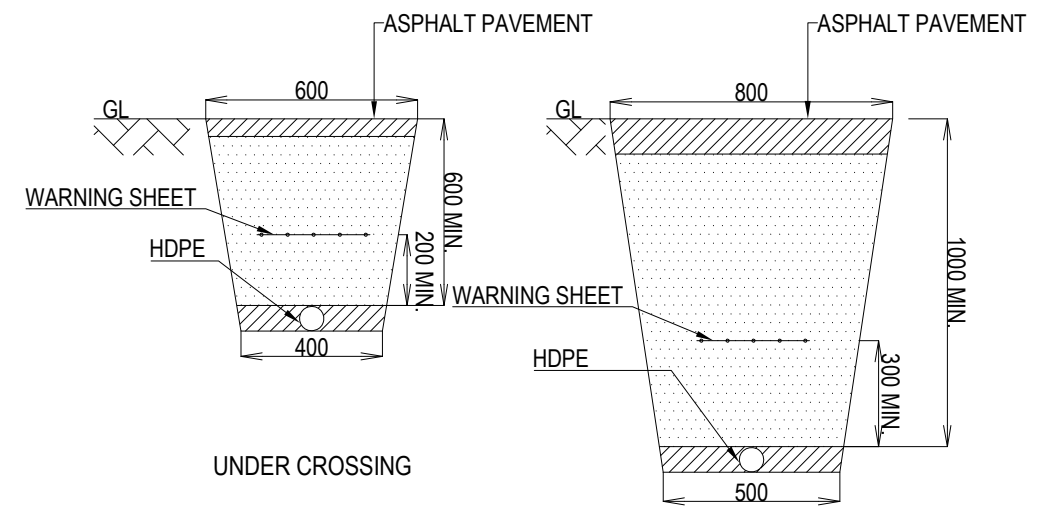
UNDERGROUND WIRING PLAN SHUKHINTHAR I/S
1:400



UNDERGROUND WIRING PLAN YADANAR I/S
1:400

LEGEND

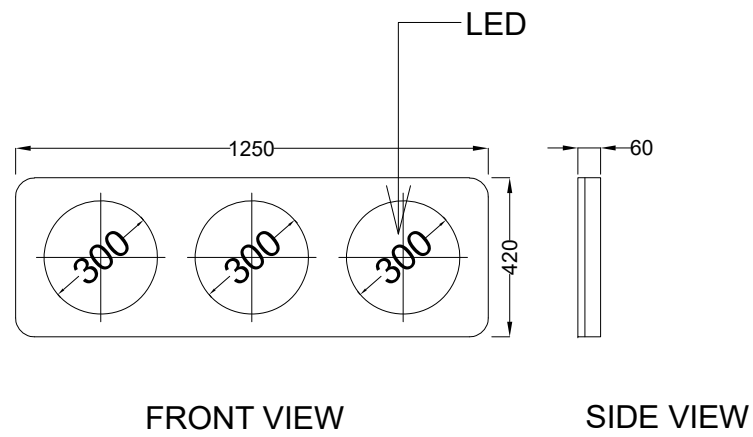
- : Base mounted pole signal head pole (with arm)
- : Pedestrian signal head pole (with push-button)
- : Underground wiring



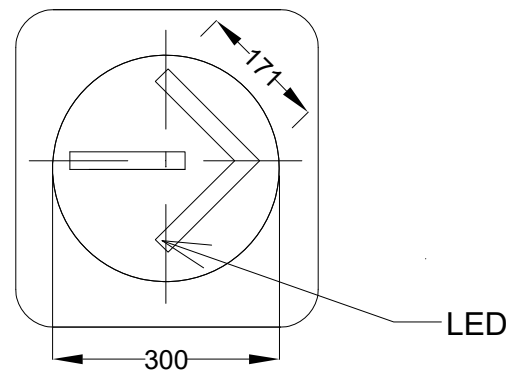
UNDERGROUND WIRING DEPTH 1:20

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TYPICAL UNDERGROUND WIRING PLAN FOR INTERSECTION	PACKAGE
				PREPARED BY	K. MORIMATA	29 Sep. 2017		3
				CHECKED BY	T. HAYAKAWA	3 Oct. 2017		DWG No.
				APPROVED BY	Y. SANO	6 Oct. 2017		P3-EL-0015

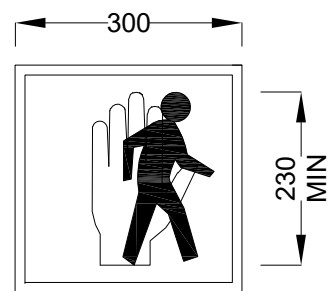
(REFERENCE) TRAFFIC SIGNAL HEAD AND POLES



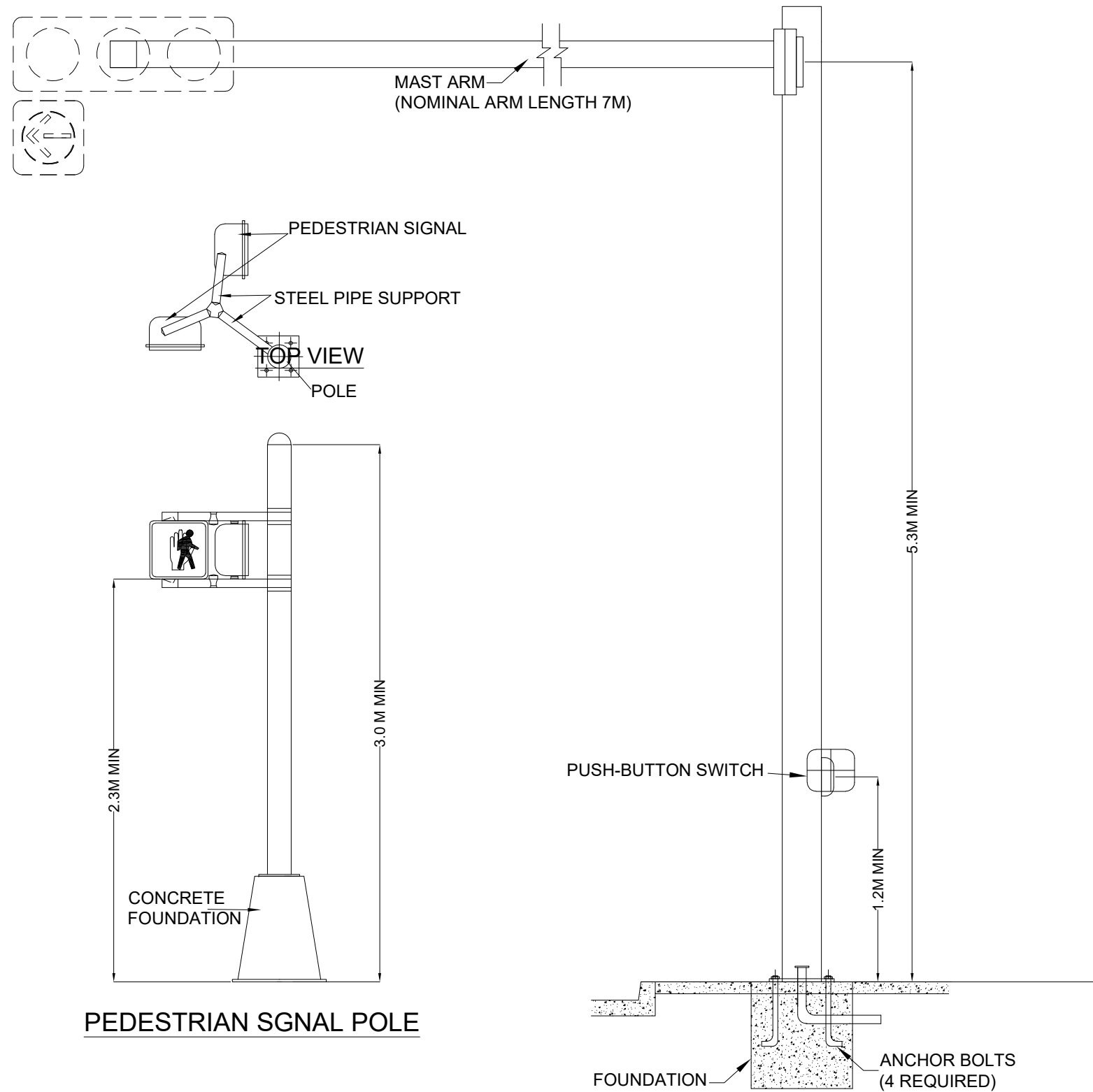
FRONT VIEW SIDE VIEW
TYPICAL SIGNAL HEAD S=1:20



TYPICAL ARROW SIGNAL DETAIL S=1:10



TYPICAL PEDESTRIAN SIGNAL S=1:10

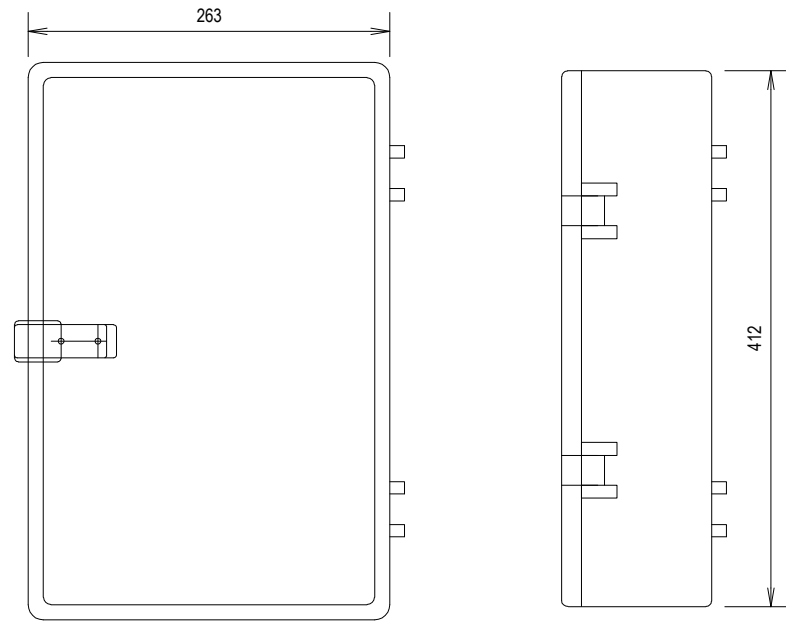


PEDESTRIAN SIGNAL POLE

TRAFFIC SIGNAL HEAD POLE

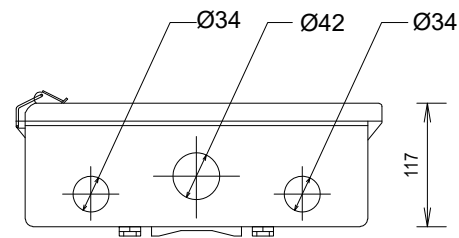
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) TRAFFIC SIGNAL HEAD AND POLES	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	3
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P3-EL-0016

(REFERENCE) OUTLINE OF TRAFFIC SIGNAL CONTROLLER AND JUNCTION BOX



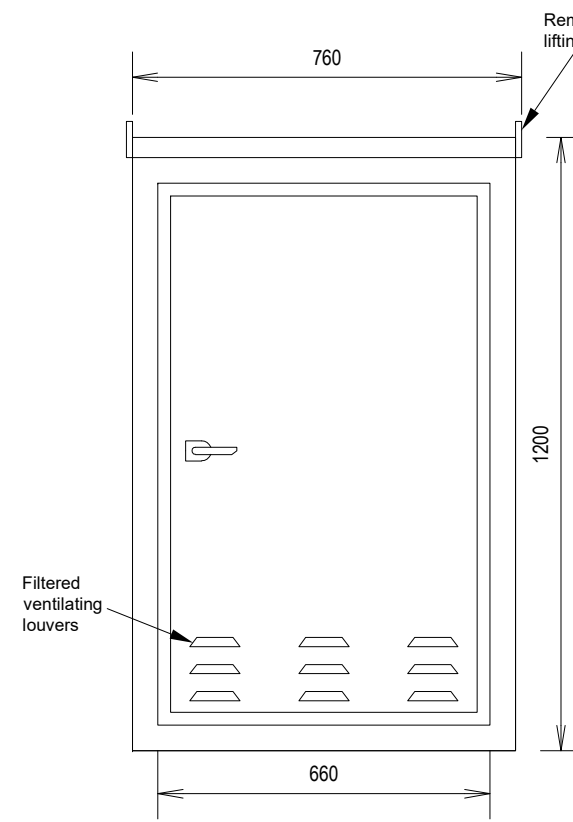
FRONT VIEW
UNIT : mm

SIDE VIEW
UNIT : mm

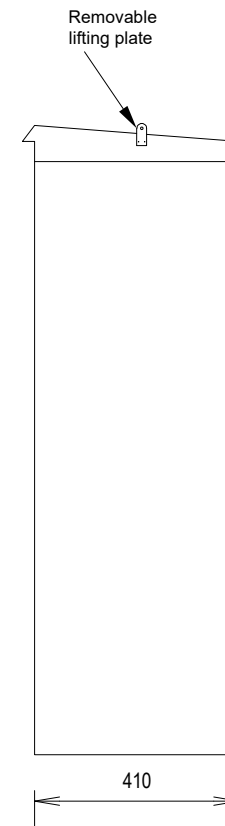


BOTTOM VIEW
UNIT : mm

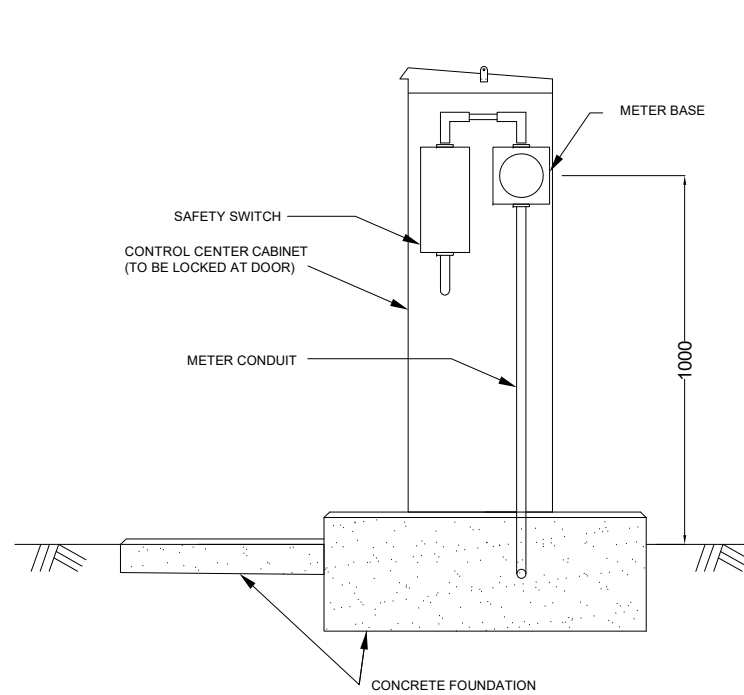
TYPICAL OUTLINE OF JUNCTION BOX
NTS



FRONT VIEW

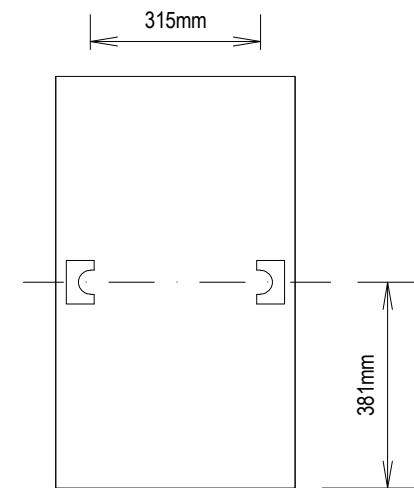


SIDE VIEW



SIDE VIEW

UNIT : mm



TYPICAL TRAFFIC SIGNAL CONTROLLER

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) OUTLINE OF TRAFFIC SIGNAL CONTROLLER AND JUNCTION BOX	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	3
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P3-EL-0017

QUANTITY TABLE OF LIGHTING AND ELECTRICAL WORKS (REFERENCE DRAWING)

QUANTITY OF ROAD LIGHTING SYSTEM

Item Description	Unit	Total
Lighting Pole Type A (Mounted Type, H=11m)	No.	22.0
Lighting Pole Type B (H=12m)	No.	42.0
LED Lamp (140W)	No.	64.0
LED Lamp (150W)	No.	4.0
HID Lamp (400W)	No.	5.0
Lighting Panel Type A (17 lines)	No.	2.0
Pull Box Type A (300 x 350 x 175)	No.	36.0
Grounding System	No.	9.0
4 Core/XLPE 35 sq. mm Electric Wire Cable	m	550.0
4 Core/XLPE 25 sq. mm Electric Wire Cable	m	6,268.0
HDPE Pipe (50mm dia.)	m	7,380.0
FEP Pipe (100mm dia.)	m	54.0
Steel Conduit (10mm dia.)	m	150.0
Handhole (600 x 600 x 1200)	No.	17.0
MV Site Substation (11kV)	L.S.	1.0

QUANTITY OF TRAFFIC SIGNAL CONTROL SYSTEM

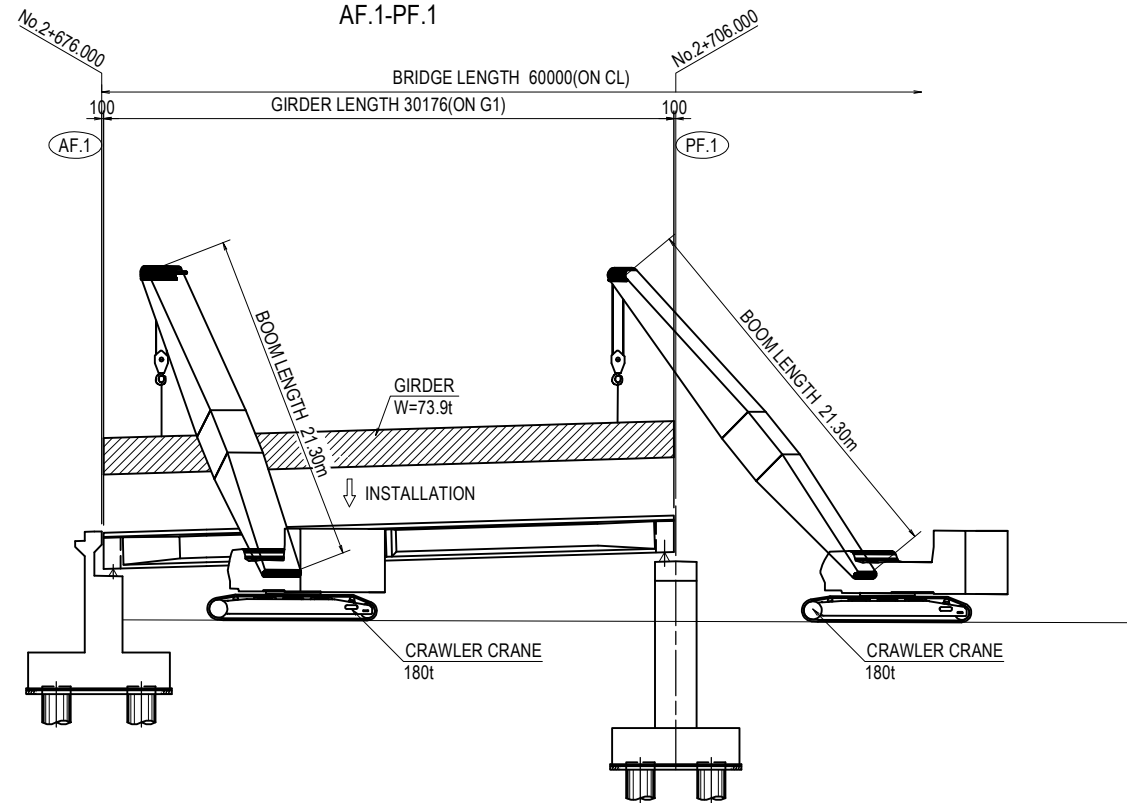
Item Description	Unit	Total
Traffic Signal Pole	No.	9.0
Pedestrian Signal Pole	No.	9.0
Traffic Signal Head	No.	12.0
Arrow Signal Head	No.	8.0
Pedestrian Signal Head and Push Button	No.	18.0
Handhole (600 x 600 x 800)	No.	15.0
Traffic Signal Controller	No.	2.0
HDPE Pipe (50mm dia.)	m	309.0
HDPE Pipe (25mm dia.)	m	208.0
SVV-SS 2.0 sq.mm x 4c	m	77.0
SVV-SS 2.0 sq.mm x 15c	m	157.0
SVV-SS 2.0 sq.mm x 18c	m	69.0
SVV-SS 2.0 sq.mm x 21c	m	32.0
SVV-SS 2.0 sq.mm x 33c	m	10.0
SVV-SS 2.0 sq.mm x 36c	m	35.0
SVV 2.0 sq.mm x 4c	m	302.0
SVV 2.0 sq.mm x 8c	m	162.0

E. REFERENCE DRAWING

(REFERENCE) ERECTION PLAN FOR PC-I GIRDER (AF1-PF2) (1)

PROFILE S=1:400

AF.1-PF.1



CRAWLER CRANE 180t

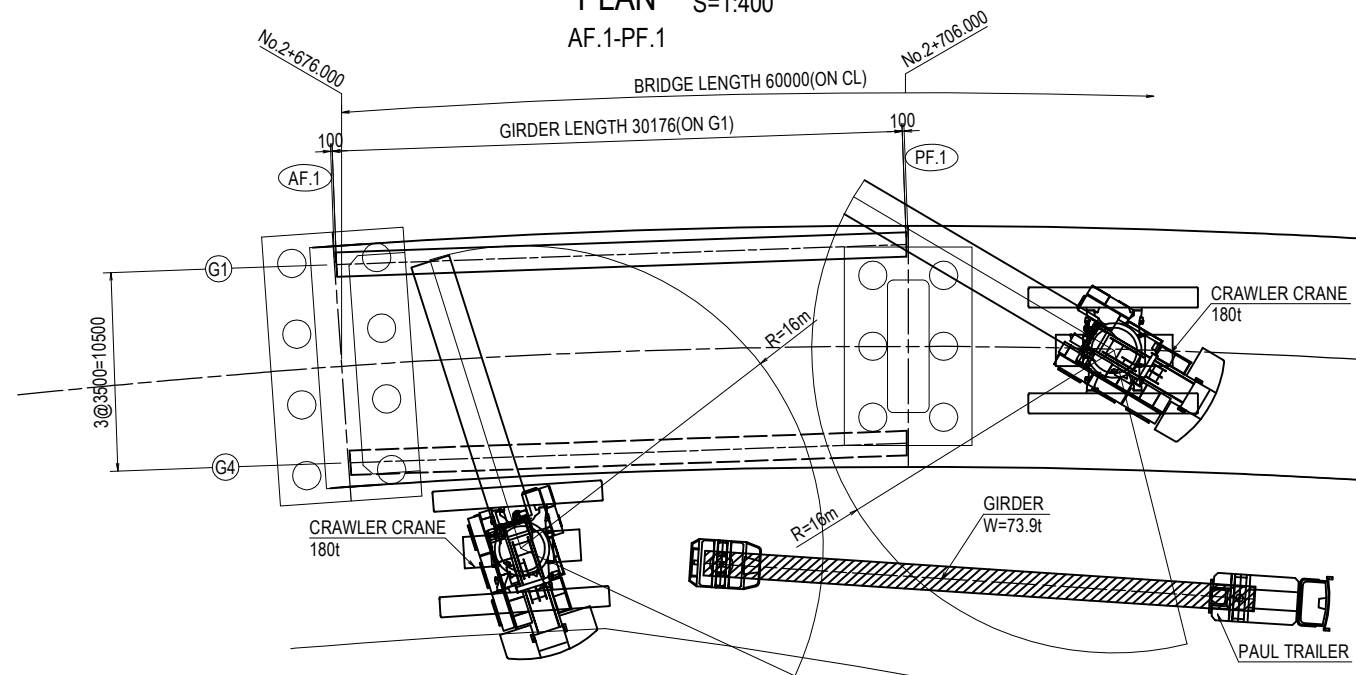
RATED LOAD TABLE		(UNIT:ton)		
WORKING RADIUS(m)	BOOM LENGTH(m)	ALL AROUND		
		18.30	21.30	24.40
14.00	21.30	47.70	47.60	47.40
16.00	21.30	40.20	40.10	39.90
18.00	—	—	34.40	34.20
20.00	—	—	30.10	29.80
22.00	—	—	—	26.50

TERMS OF USE

- * COUNTER WEIGHT FITTED
- * HOOK WEIGHT & HANGING FIXTURE WEIGHT W=(1.2t)
- * WEIGHT GIRDER W=73.9t /NUMBER
- * OPERATIONAL RANGE

PLAN S=1:400

AF.1-PF.1



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	Y. SUZUKI		14 Jul. 2017
CHECKED BY	T. HAYAKAWA		20 Jul. 2017
APPROVED BY	Y. SANO		25 Jul. 2017

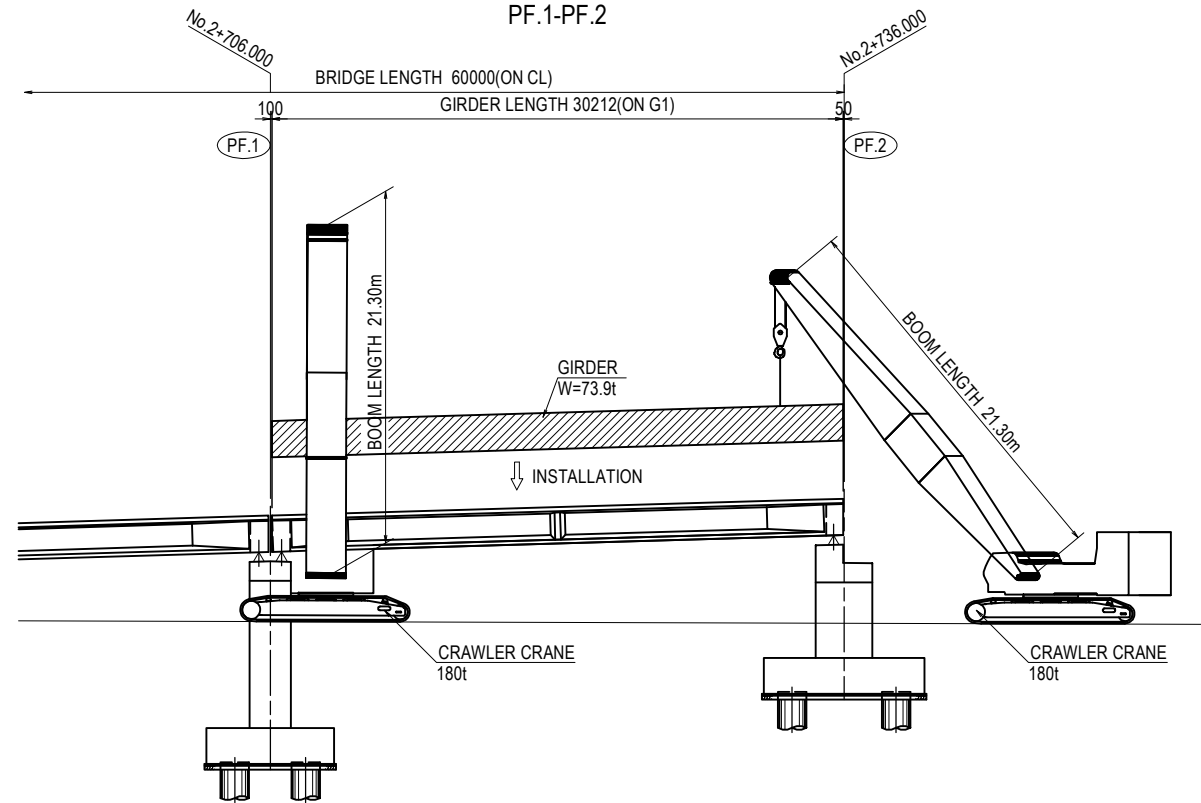
DRAWING TITLE
(REFERENCE) ERECTION PLAN FOR PC-I GIRDER
(AF1-PF2) (1)

PACKAGE
3
DWG No.
P3-REF-0001

(REFERENCE) ERECTION PLAN FOR PC-I GIRDER (AF1-PF2) (2)

PROFILE S=1:400

PF.1-PF.2



CRAWLER CRANE 180t

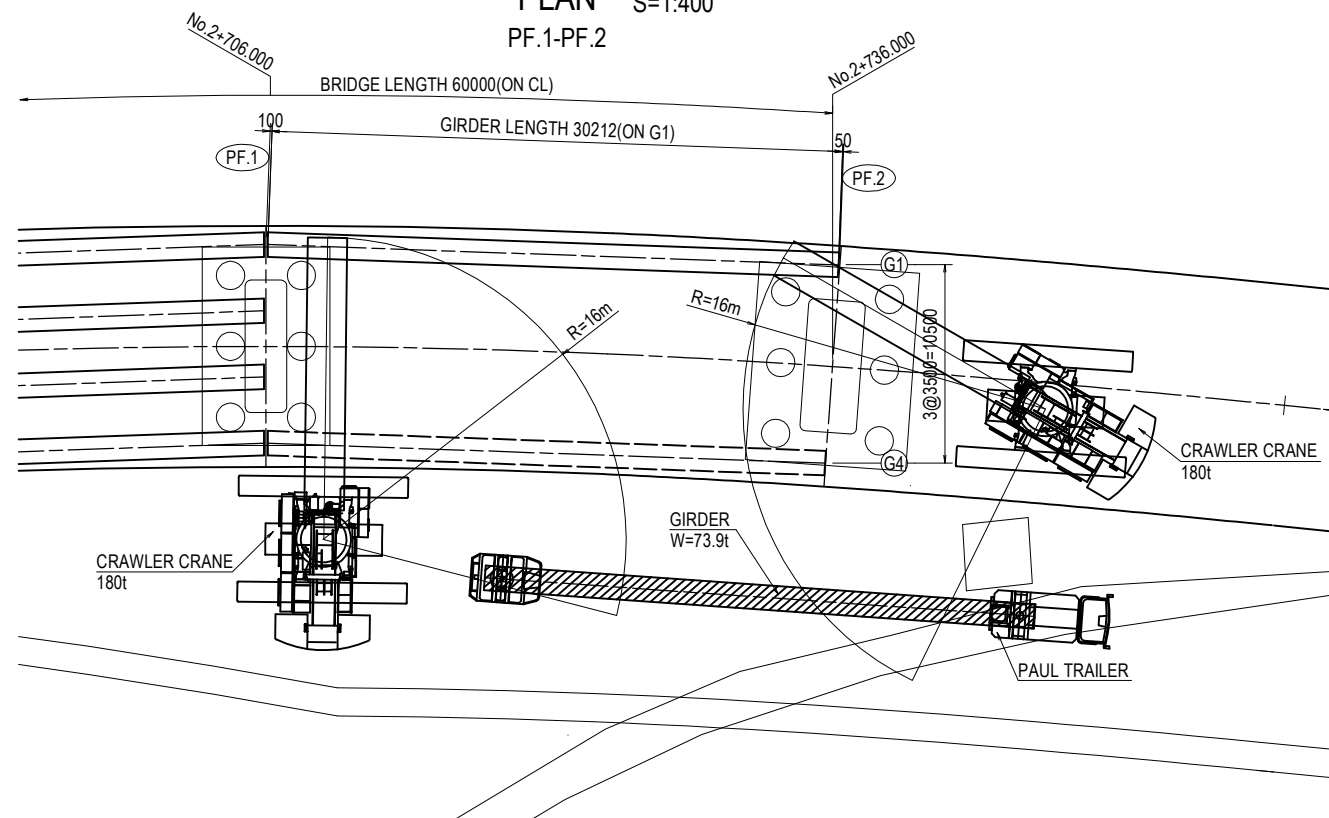
RATED LOAD TABLE		(UNIT:ton)		
WORKING RADIUS(m)	BOOM LENGTH(m)	ALL AROUND		
		18.30	21.30	24.40
14.00	47.70	47.60	47.40	
16.00	40.20	40.10	39.90	
18.00	—	34.40	34.20	
20.00	—	30.10	29.80	
22.00	—	—	26.50	

TERMS OF USE

- * COUNTER WEIGHT FITTED
- * HOOK WEIGHT & HANGING FIXTURE WEIGHT W=(1.2t)
- * WEIGHT GIRDER W=73.9t /NUMBER
- * OPERATIONAL RANGE

PLAN S=1:400

PF.1-PF.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	SIGNATURE	DATE
PREPARED BY	Y. SUZUKI		14 Jul. 2017
CHECKED BY	T. HAYAKAWA		20 Jul. 2017
APPROVED BY	Y. SANO		25 Jul. 2017

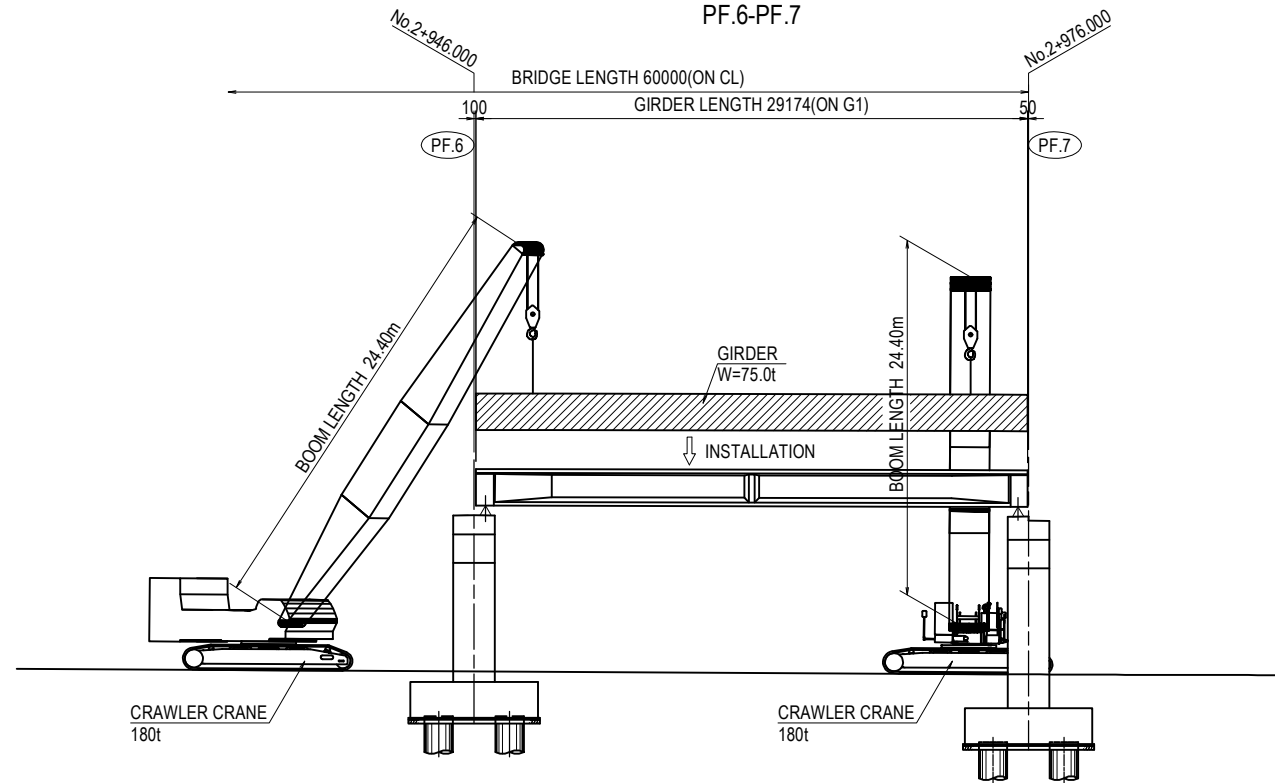
DRAWING TITLE
(REFERENCE) ERECTION PLAN FOR PC-I GIRDER
(AF1-PF2) (2)

PACKAGE
3
DWG No.
P3-REF-0002

(REFERENCE) ERECTION PLAN FOR PC-I GIRDER (PF5-PF7) (1)

PROFILE S=1:400

PF.6-PF.7



CRAWLER CRANE 180t

RATED LOAD TABLE (UNIT:ton)

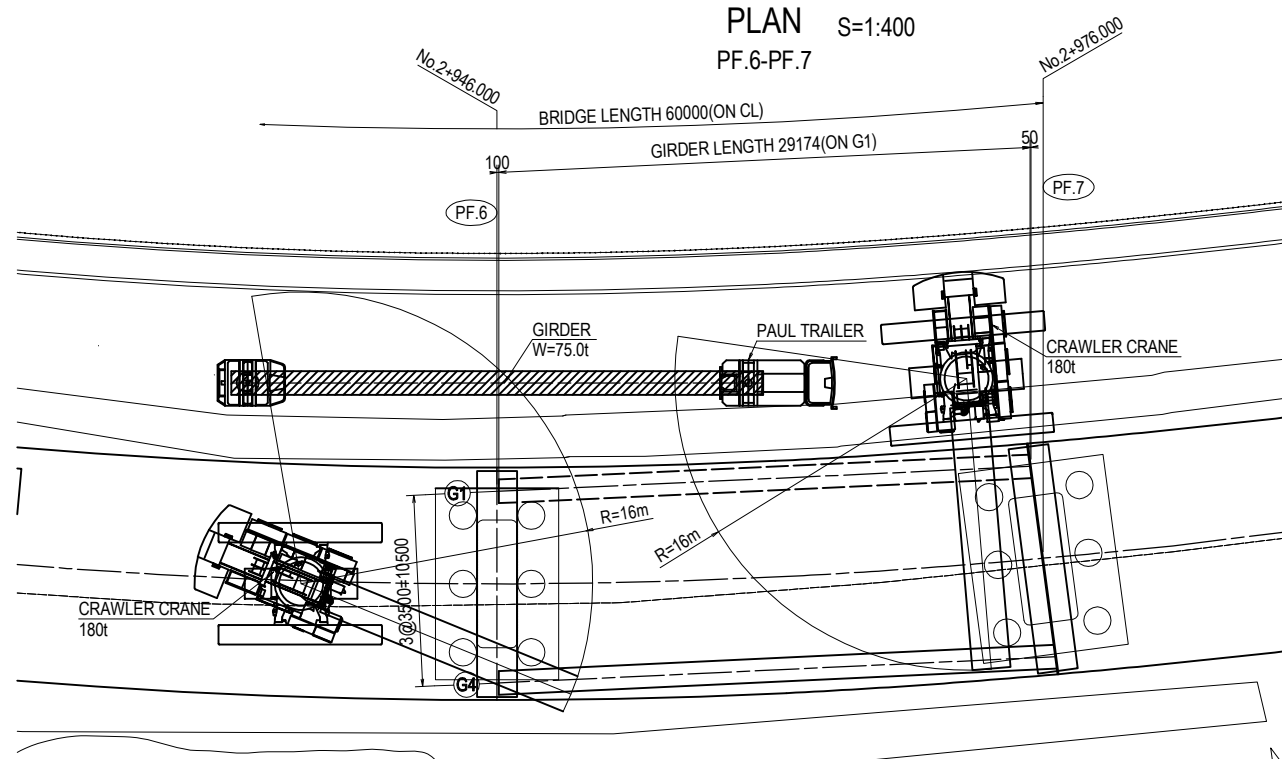
WORKING RADIUS(m)	BOOM LENGTH(m)	ALL AROUND		
		18.30	21.30	24.40
14.00	47.70	47.60	47.40	
16.00	40.20	40.10	39.90	
18.00	—	34.40	34.20	
20.00	—	30.10	29.80	
22.00	—	—	26.50	

TERMS OF USE

- * COUNTER WEIGHT FITTED
- * HOOK WEIGHT & HANGING FIXTURE WEIGHT W=(1.2t)
- * WEIGHT GIRDER W=75.0t /NUMBER
- * OPERATIONAL RANGE

PLAN S=1:400

PF.6-PF.7

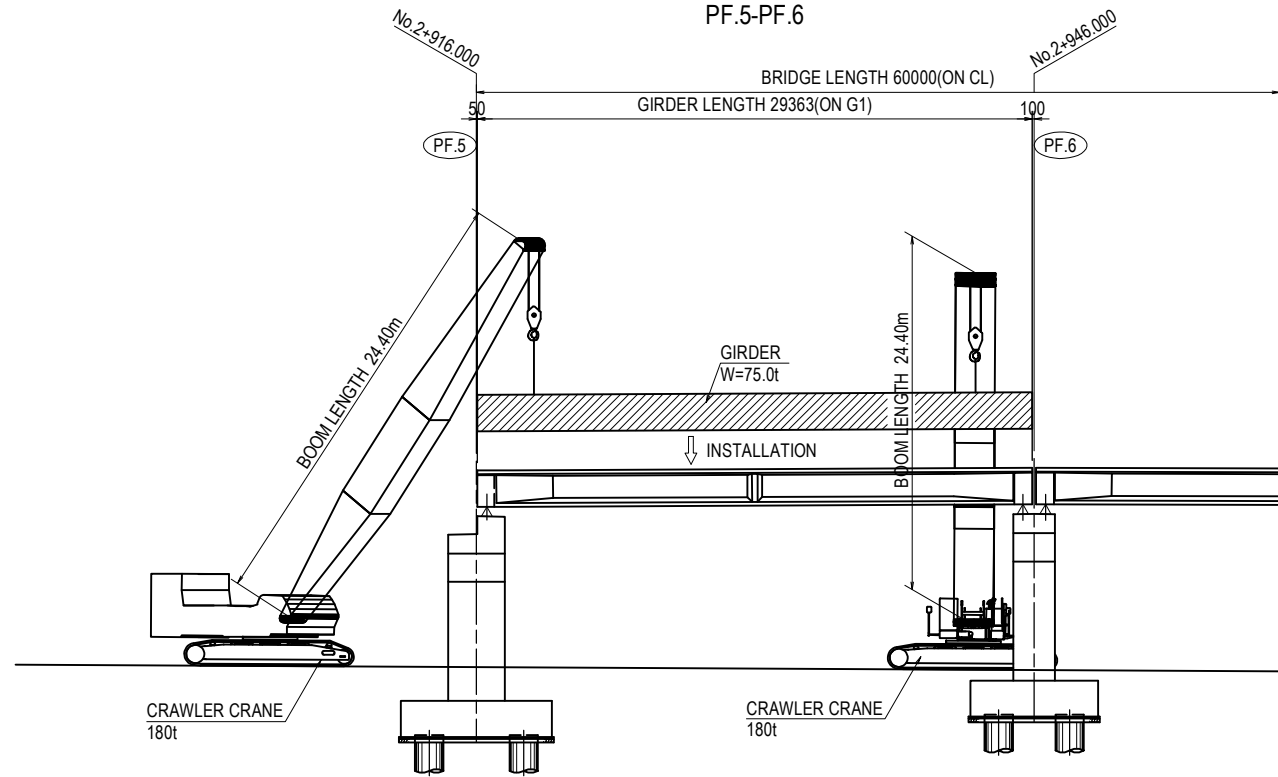


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) ERECTION PLAN FOR PC-I GIRDER (PF5-PF7) (1)	PACKAGE	
				PREPARED BY	Y. SUZUKI			14 Jul. 2017	3
				CHECKED BY	T. HAYAKAWA			20 Jul. 2017	DWG No.
				APPROVED BY	Y. SANO			25 Jul. 2017	P3-REF-0003

(REFERENCE) ERECTION PLAN FOR PC-I GIRDER (PF5-PF7) (2)

PROFILE S=1:400

PF.5-PF.6



CRAWLER CRANE 180t

RATED LOAD TABLE (UNIT:ton)

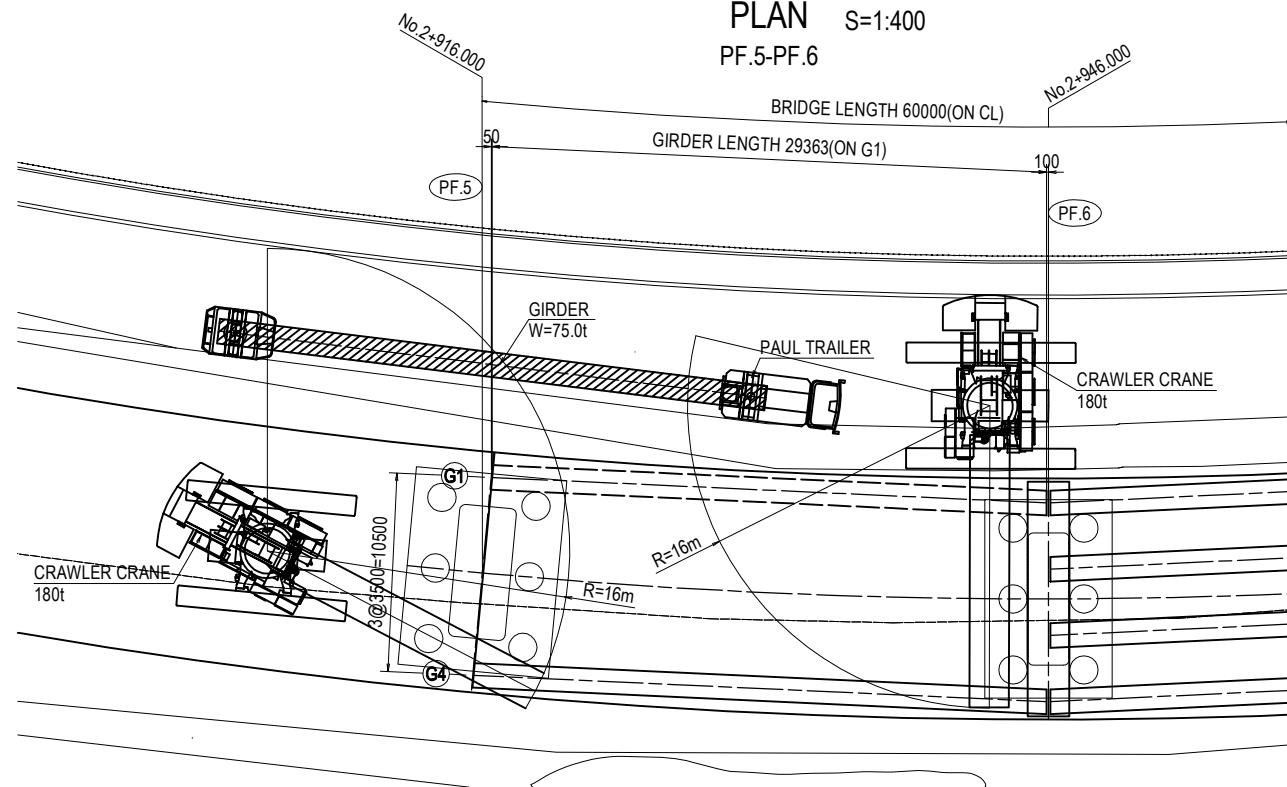
WORKING RADIUS(m)	BOOM LENGTH(m)	ALL AROUND		
		18.30	21.30	24.40
14.00	24.40	47.70	47.60	47.40
16.00	24.40	40.20	40.10	39.90
18.00	—	—	34.40	34.20
20.00	—	—	30.10	29.80
22.00	—	—	—	26.50

TERMS OF USE

- * COUNTER WEIGHT FITTED
- * HOOK WEIGHT & HANGING FIXTURE WEIGHT W=(1.2t)
- * WEIGHT GIRDER W=75.0t /NUMBER
- * OPERATIONAL RANGE

PLAN S=1:400

PF.5-PF.6



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	Y. SUZUKI	<i>Y. Suzuki</i>	14 Jul. 2017
CHECKED BY	T. HAYAKAWA	<i>T. Hayakawa</i>	20 Jul. 2017
APPROVED BY	Y. SANO	<i>Y. Sano</i>	25 Jul. 2017

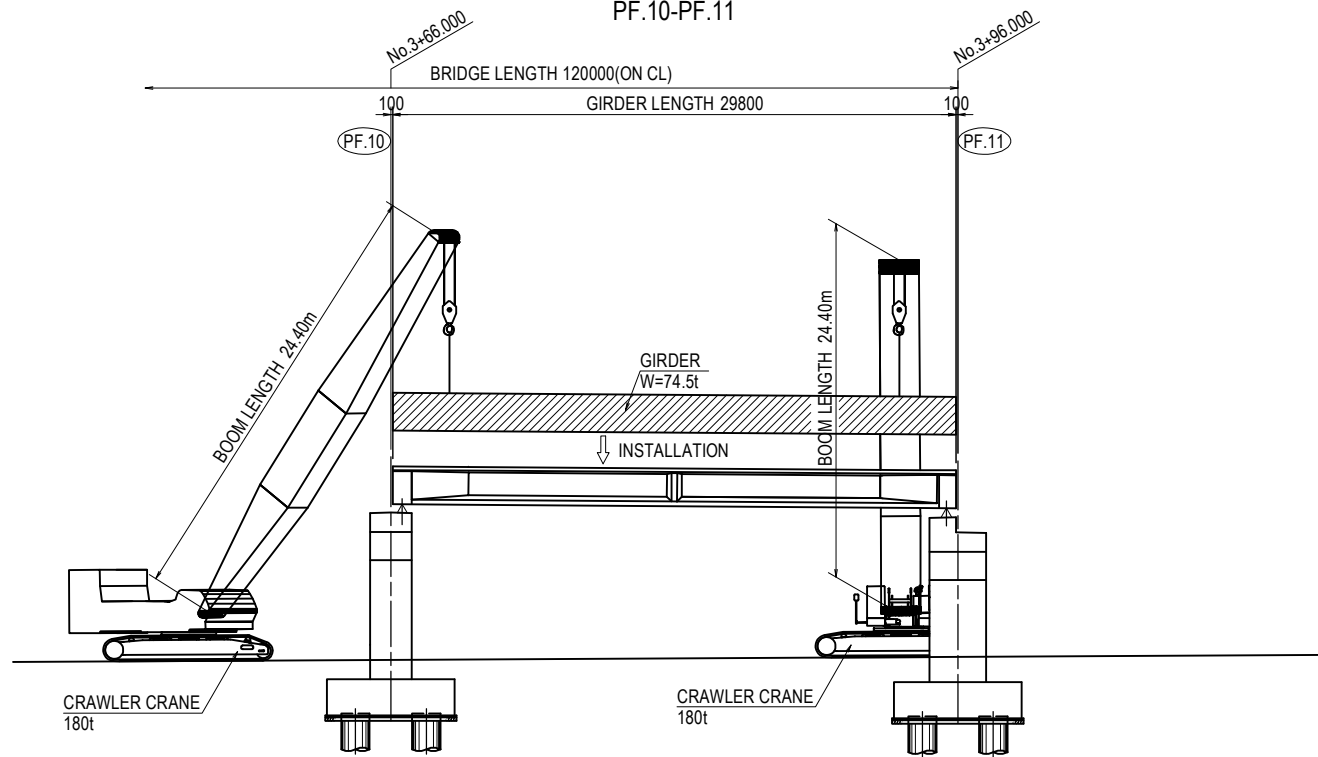
DRAWING TITLE
(REFERENCE) ERECTION PLAN FOR PC-I GIRDER
(PF5-PF7) (2)

PACKAGE
3
DWG No.
P3-REF-0004

(REFERENCE) ERECTION PLAN FOR PC-I GIRDER (PF7-PF11) (1)

PROFILE S=1:400

PF.10-PF.11



CRAWLER CRANE 180t

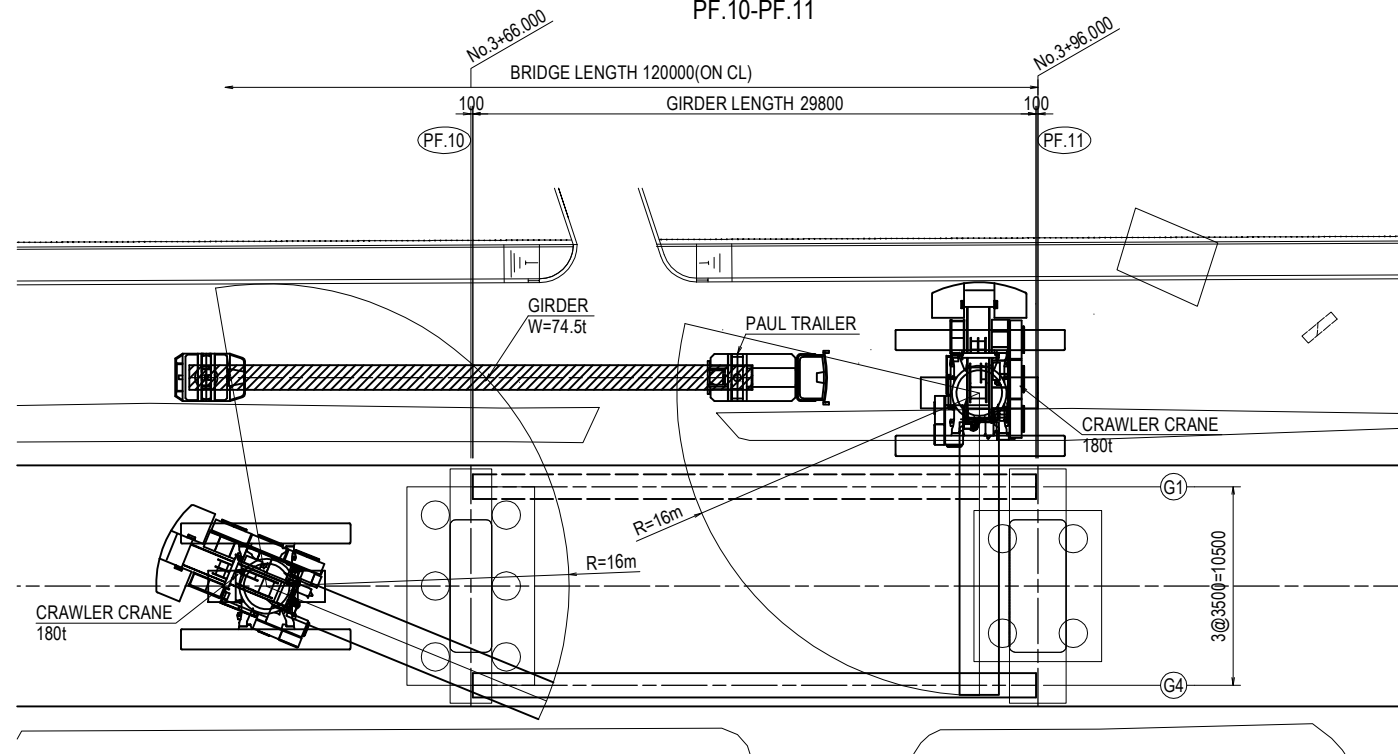
RATED LOAD TABLE		(UNIT:ton)		
WORKING RADIUS(m)	BOOM LENGTH(m)	ALL AROUND		
		18.30	21.30	24.40
14.00	24.40	47.70	47.60	47.40
16.00	24.40	40.20	40.10	39.90
18.00	—	—	34.40	34.20
20.00	—	—	30.10	29.80
22.00	—	—	—	26.50

TERMS OF USE

- * COUNTER WEIGHT FITTED
- * HOOK WEIGHT & HANGING FIXTURE WEIGHT W=(1.2t)
- * WEIGHT GIRDER W=74.5t /NUMBER
- * OPERATIONAL RANGE

PLAN S=1:400

PF.10-PF.11

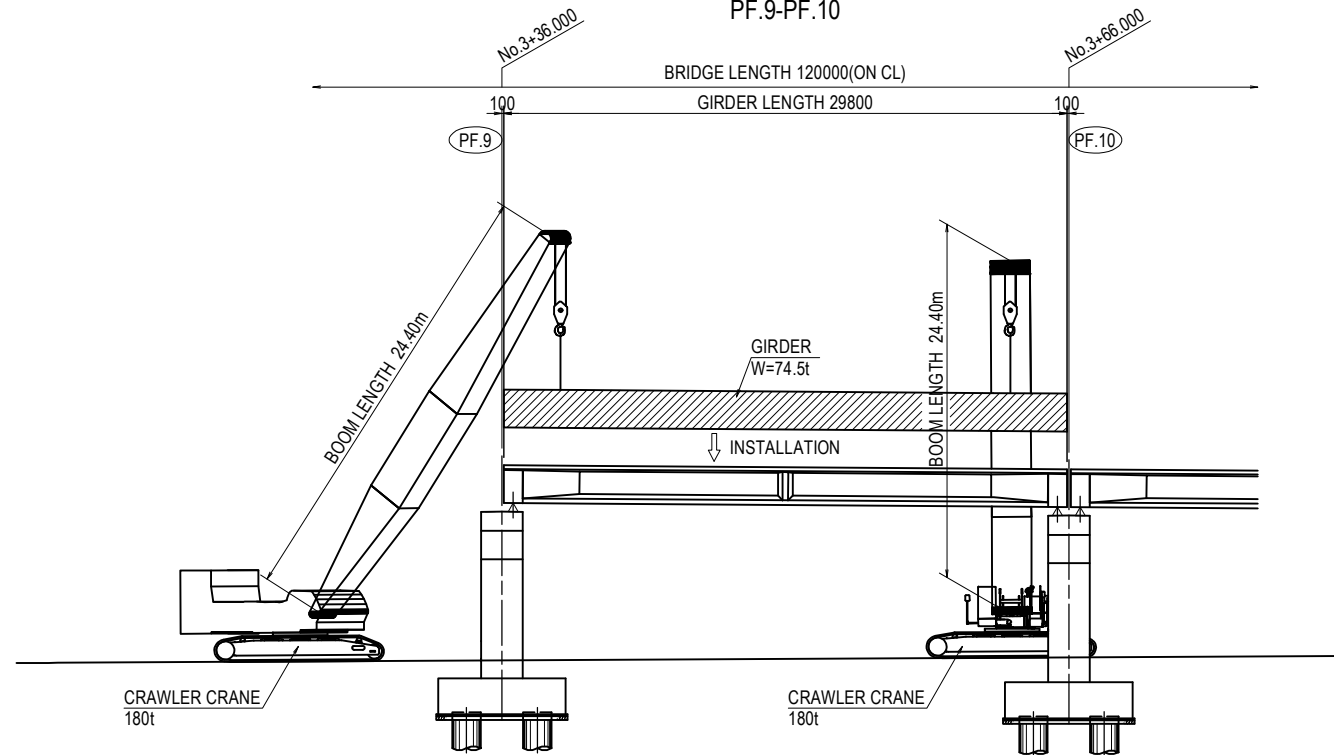


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) ERECTION PLAN FOR PC-I GIRDER (PF7-PF11) (1)	PACKAGE	
				PREPARED BY	Y. SUZUKI			14 Jul. 2017	3
				CHECKED BY	T. HAYAKAWA			20 Jul. 2017	DWG No.
				APPROVED BY	Y. SANO			25 Jul. 2017	P3-REF-0005

(REFERENCE) ERECTION PLAN FOR PC-I GIRDER (PF7-PF11) (2)

PROFILE S=1:400

PF.9-PF.10



CRAWLER CRANE 180t

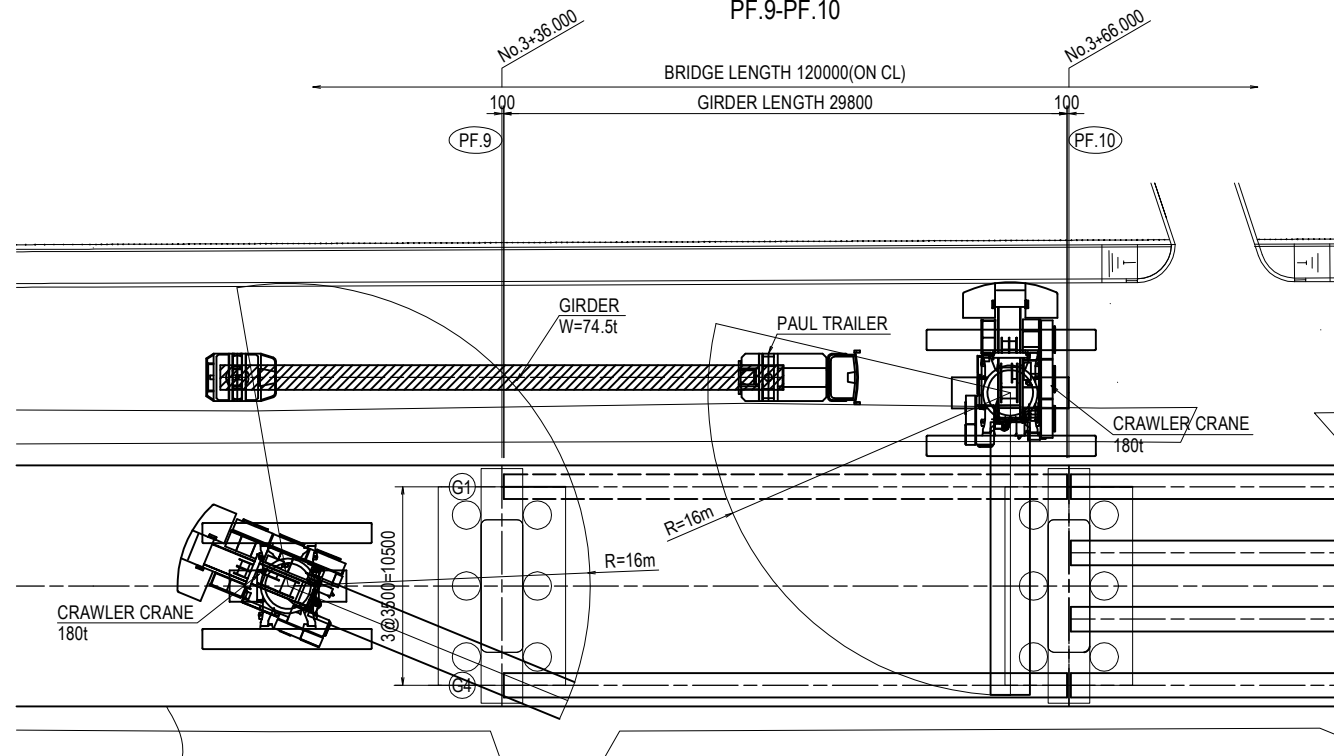
RATED LOAD TABLE		(UNIT:ton)		
WORKING RADIUS(m)	BOOM LENGTH(m)	ALL AROUND		
		18.30	21.30	24.40
14.00	47.70	47.60	47.40	
16.00	40.20	40.10	39.90	
18.00	—	34.40	34.20	
20.00	—	30.10	29.80	
22.00	—	—	26.50	

TERMS OF USE

- * COUNTER WEIGHT FITTED
- * HOOK WEIGHT & HANGING FIXTURE WEIGHT W=(1.2t)
- * WEIGHT GIRDER W=74.5t /NUMBER
- * OPERATIONAL RANGE

PLAN S=1:400

PF.9-PF.10

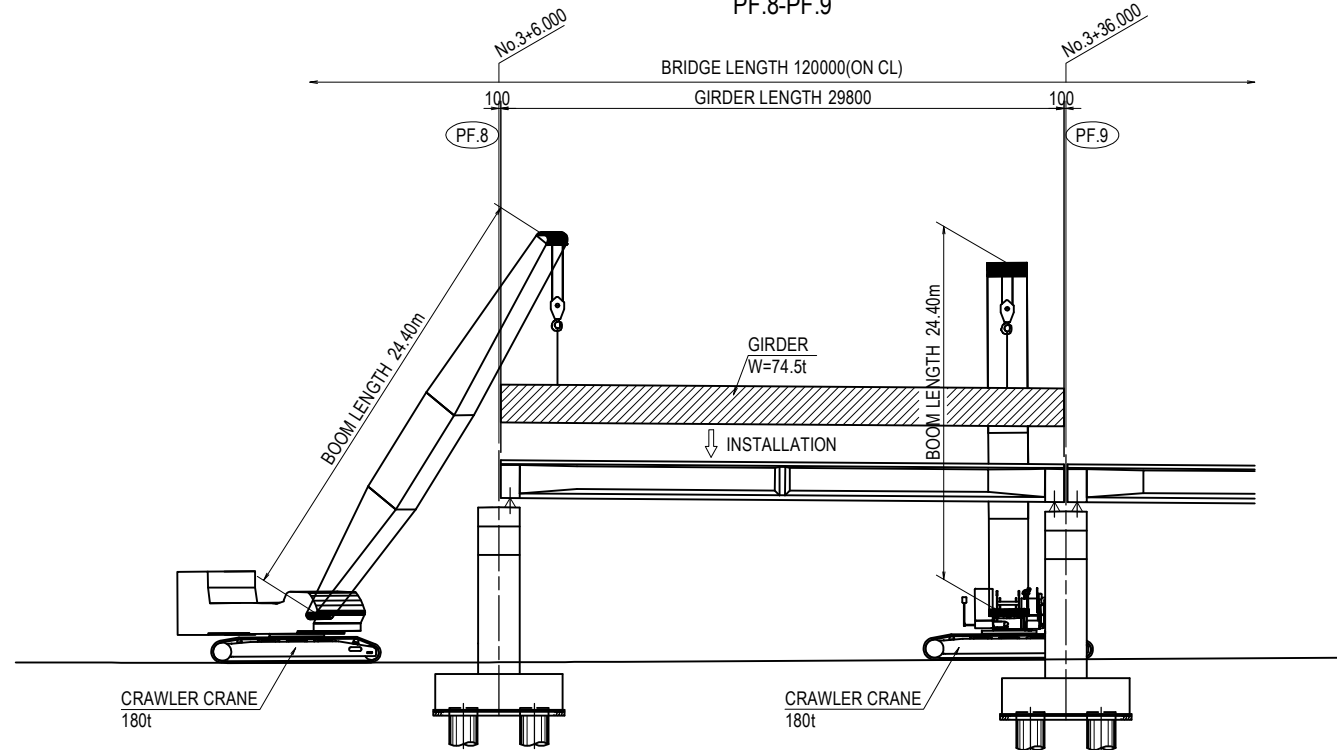


PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	Y. SUZUKI	<i>[Signature]</i>	14 Jul. 2017	(REFERENCE) ERECTION PLAN FOR PC-I GIRDER (PF7-PF11) (2)	3
				T. HAYAKAWA	<i>[Signature]</i>	20 Jul. 2017		DWG No.
				Y. SANO	<i>[Signature]</i>	25 Jul. 2017		P3-REF-0006

(REFERENCE) ERECTION PLAN FOR PC-I GIRDER (PF7-PF11) (3)

PROFILE S=1:400

PF.8-PF.9



CRAWLER CRANE 180t

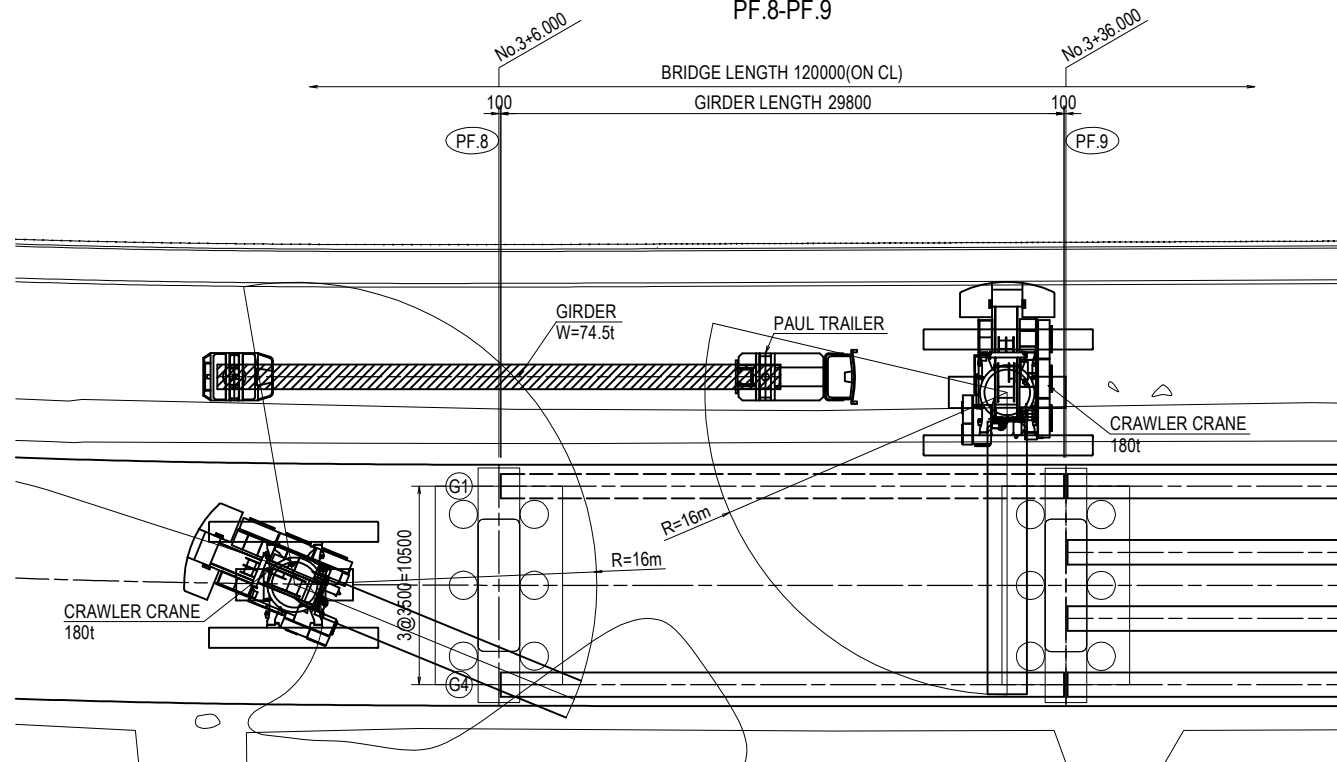
RATED LOAD TABLE		(UNIT:ton)		
WORKING RADIUS(m)	BOOM LENGTH(m)	ALL AROUND		
		18.30	21.30	24.40
14.00	47.70	47.60	47.40	
16.00	40.20	40.10	39.90	
18.00	—	34.40	34.20	
20.00	—	30.10	29.80	
22.00	—	—	26.50	

TERMS OF USE

- * COUNTER WEIGHT FITTED
- * HOOK WEIGHT & HANGING FIXTURE WEIGHT W=(1.2t)
- * WEIGHT GIRDER W=74.5t /NUMBER
- * OPERATIONAL RANGE

PLAN S=1:400

PF.8-PF.9

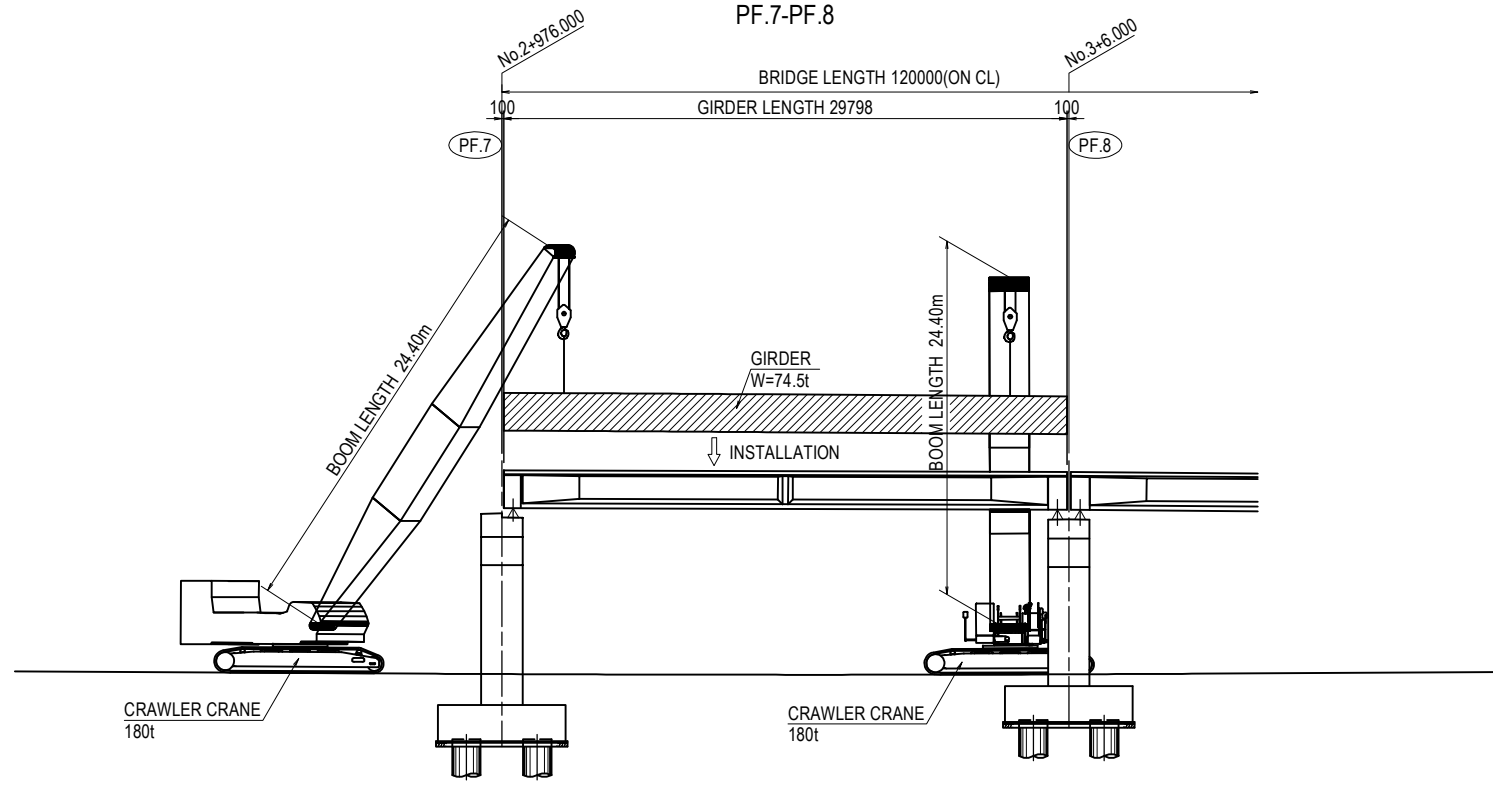


PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	Y. SUZUKI	<i>Y. Suzuki</i>	14 Jul. 2017	(REFERENCE) ERECTION PLAN FOR PC-I GIRDER (PF7-PF11) (3)	3
				T. HAYAKAWA	<i>T. Hayakawa</i>	20 Jul. 2017		DWG No.
				Y. SANO	<i>Y. Sano</i>	25 Jul. 2017		P3-REF-0007

(REFERENCE) ERECTION PLAN FOR PC-I GIRDER (PF7-PF11) (4)

PROFILE S=1:400

PF.7-PF.8



CRAWLER CRANE 180t

RATED LOAD TABLE (UNIT:ton)

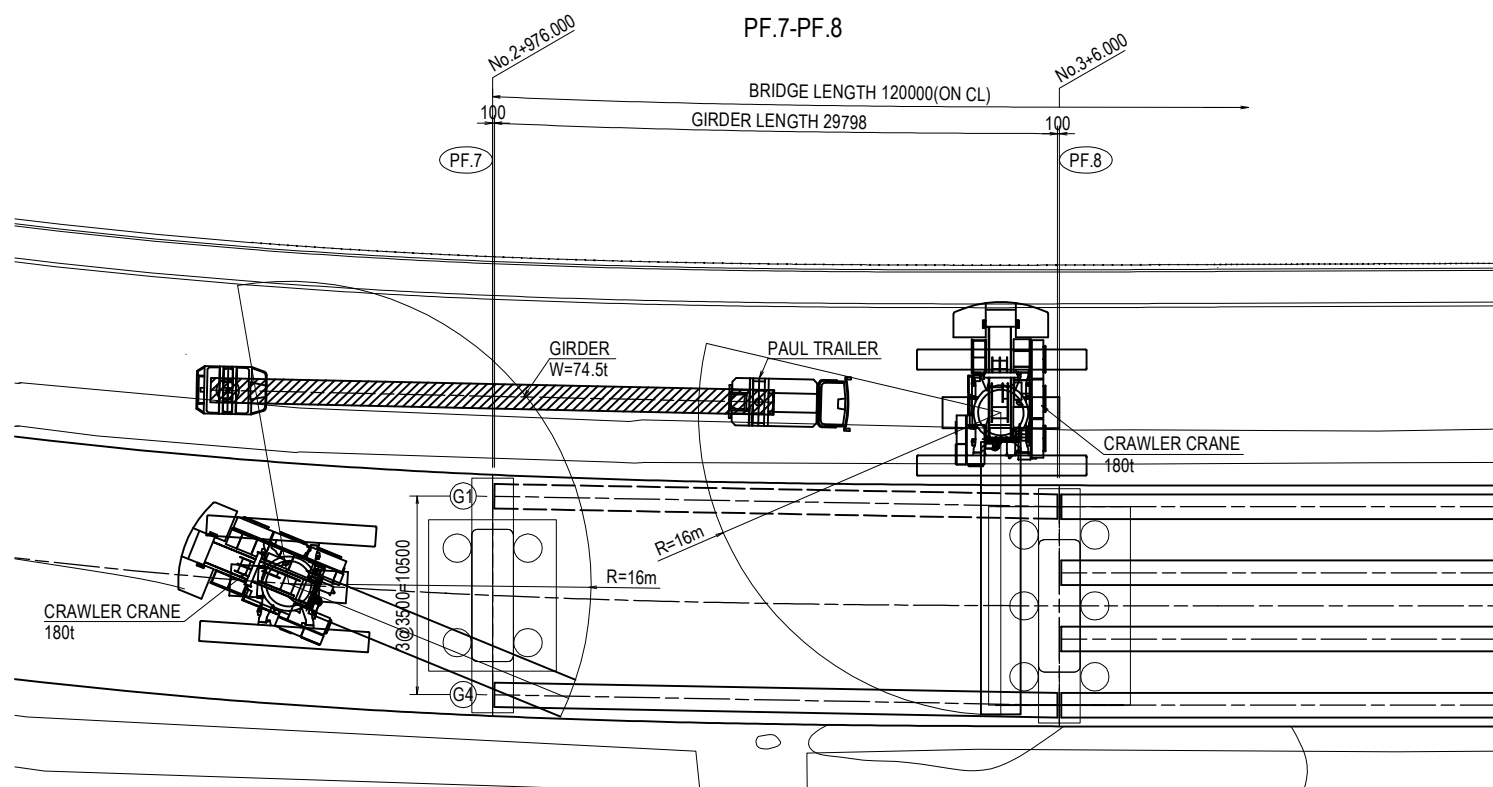
WORKING RADIUS(m)	BOOM LENGTH(m)	ALL AROUND		
		18.30	21.30	24.40
14.00	47.70	47.60	47.40	
16.00	40.20	40.10	39.90	
18.00	—	34.40	34.20	
20.00	—	30.10	29.80	
22.00	—	—	26.50	

TERMS OF USE

- * COUNTER WEIGHT FITTED
- * HOOK WEIGHT & HANGING FIXTURE WEIGHT W=(1.2t)
- * WEIGHT GIRDER W=74.5t /NUMBER
- * OPERATIONAL RANGE

PLAN S=1:400

PF.7-PF.8



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	Y. SUZUKI		14 Jul. 2017
CHECKED BY	T. HAYAKAWA		20 Jul. 2017
APPROVED BY	Y. SANO		25 Jul. 2017

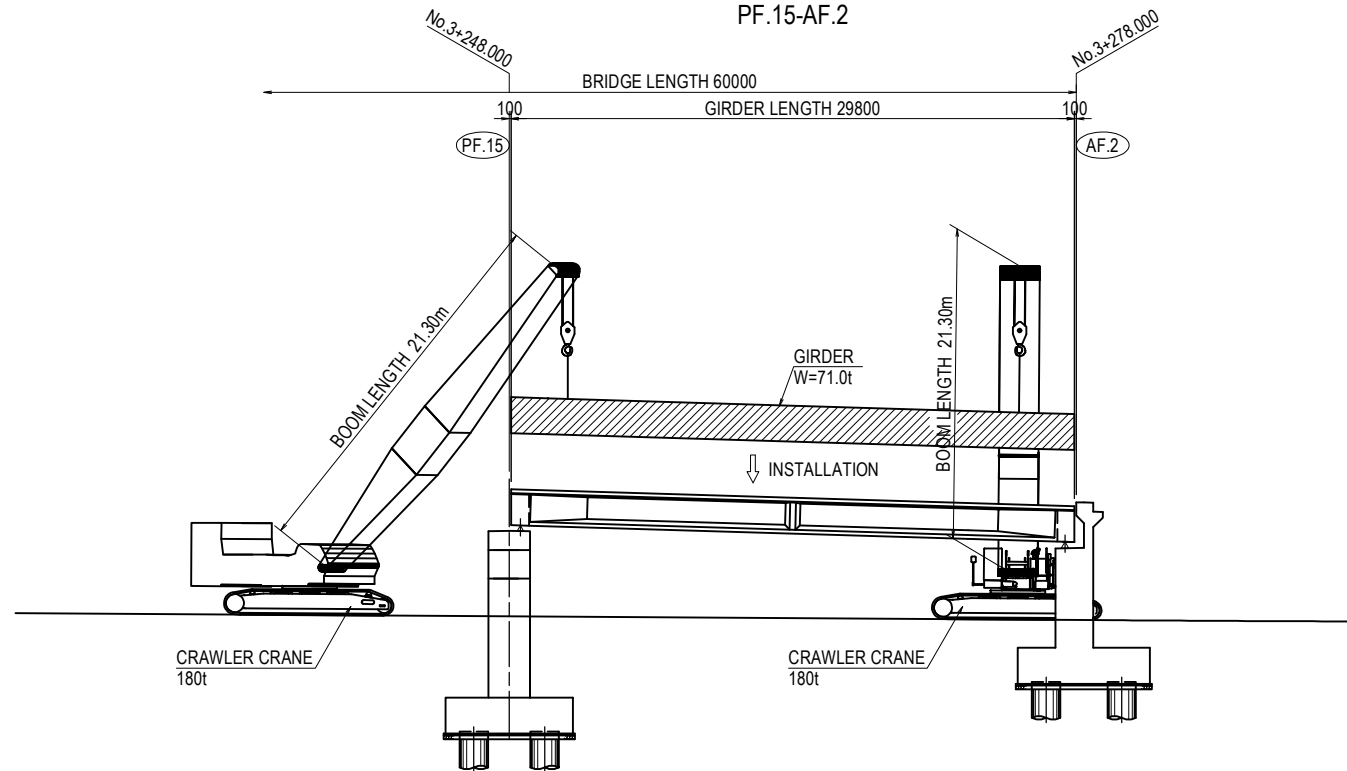
DRAWING TITLE
(REFERENCE) ERECTION PLAN FOR PC-I GIRDER
(PF7-PF11) (4)

PACKAGE
3
DWG No.
P3-REF-0008

ERECTION PLAN FOR PC-I GIRDER (PF14-AF2) (REFERENCE) (1)

PROFILE S=1:400

PF.15-AF.2



CRAWLER CRANE 180t

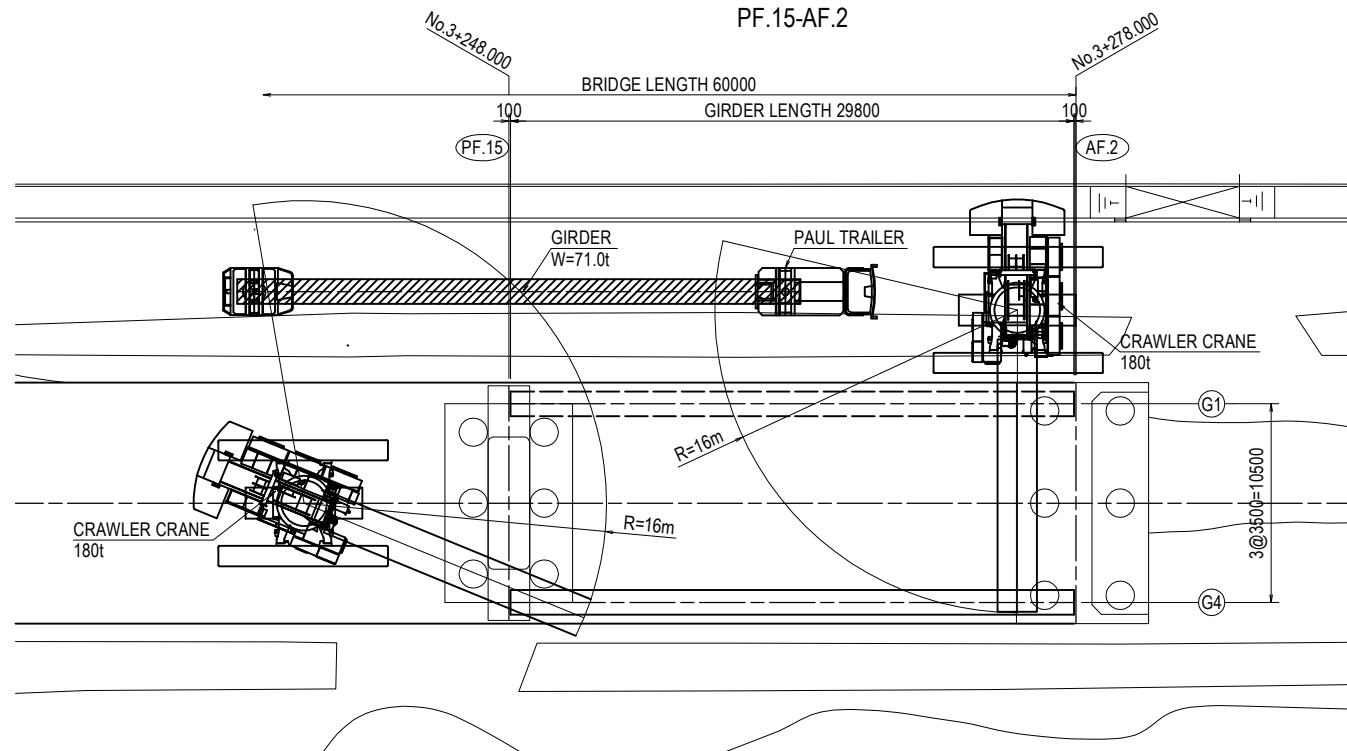
RATED LOAD TABLE		(UNIT:ton)		
WORKING RADIUS(m)	BOOM LENGTH(m)	ALL AROUND		
		18.30	21.30	24.40
14.00	47.70	47.60	47.40	
16.00	40.20	40.10	39.90	
18.00	—	34.40	34.20	
20.00	—	30.10	29.80	
22.00	—	—	26.50	

TERMS OF USE

- * COUNTER WEIGHT FITTED
- * HOOK WEIGHT & HANGING FIXTURE WEIGHT W=(1.2t)
- * WEIGHT GIRDER W=71.0t /NUMBER
- * OPERATIONAL RANGE

PLAN S=1:400

PF.15-AF.2

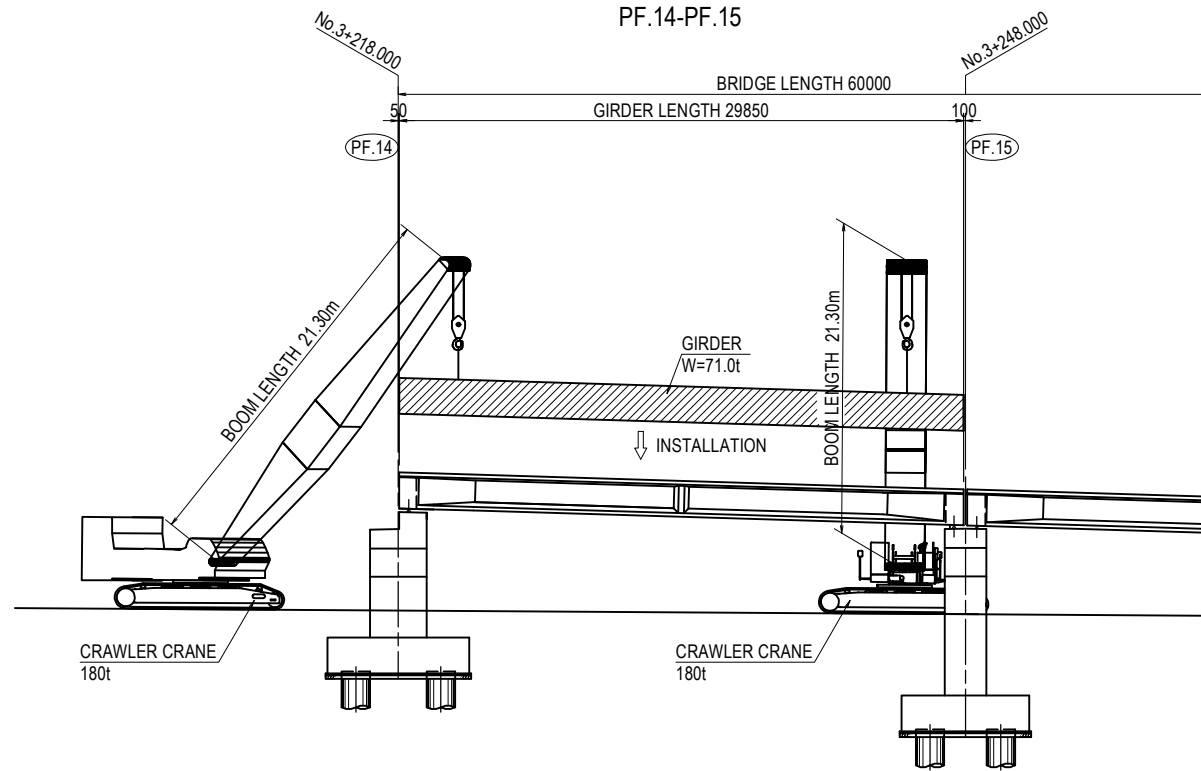


<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME Y. SUZUKI T. HAYAKAWA Y. SANO	SIGNATURE 	DATE 14 Jul. 2017 20 Jul. 2017 25 Jul. 2017	DRAWING TITLE (REFERENCE) ERECTION PLAN FOR PC-I GIRDER (PF14-AF2) (1)	PACKAGE 3 DWG No. P3-REF-0009
--	---	--	---	---	-----------------------	--	--	--

(REFERENCE) ERECTION PLAN FOR PC-I GIRDER (PF14-AF2) (2)

PROFILE S=1:400

PF.14-PF.15



CRAWLER CRANE 180t

RATED LOAD TABLE (UNIT:ton)

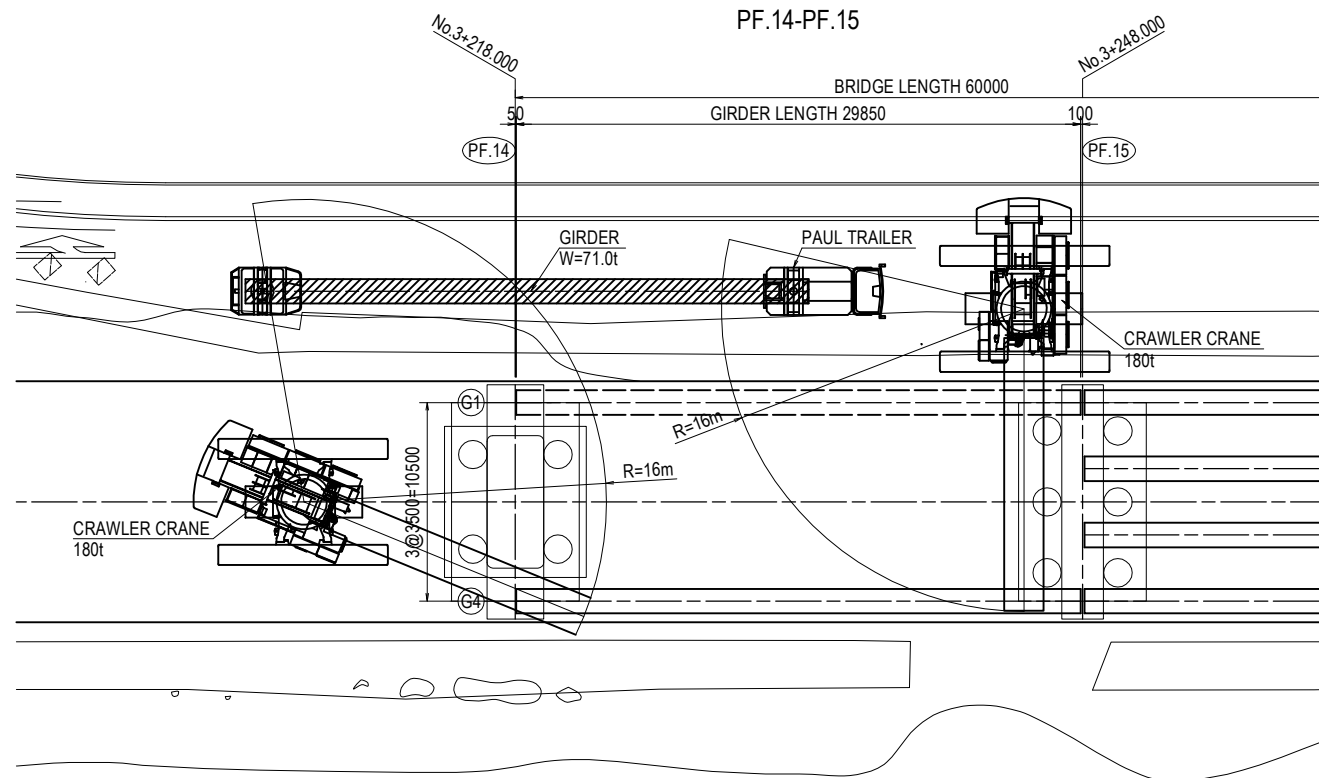
WORKING RADIUS(m)	BOOM LENGTH(m)	ALL AROUND		
		18.30	21.30	24.40
14.00	14.00	47.70	47.60	47.40
16.00	16.00	40.20	40.10	39.90
18.00	18.00	—	34.40	34.20
20.00	20.00	—	30.10	29.80
22.00	22.00	—	—	26.50

TERMS OF USE

- * COUNTER WEIGHT FITTED
- * HOOK WEIGHT & HANGING FIXTURE WEIGHT W=(1.2t)
- * WEIGHT GIRDER W=71.0t /NUMBER
- * OPERATIONAL RANGE

PLAN S=1:400

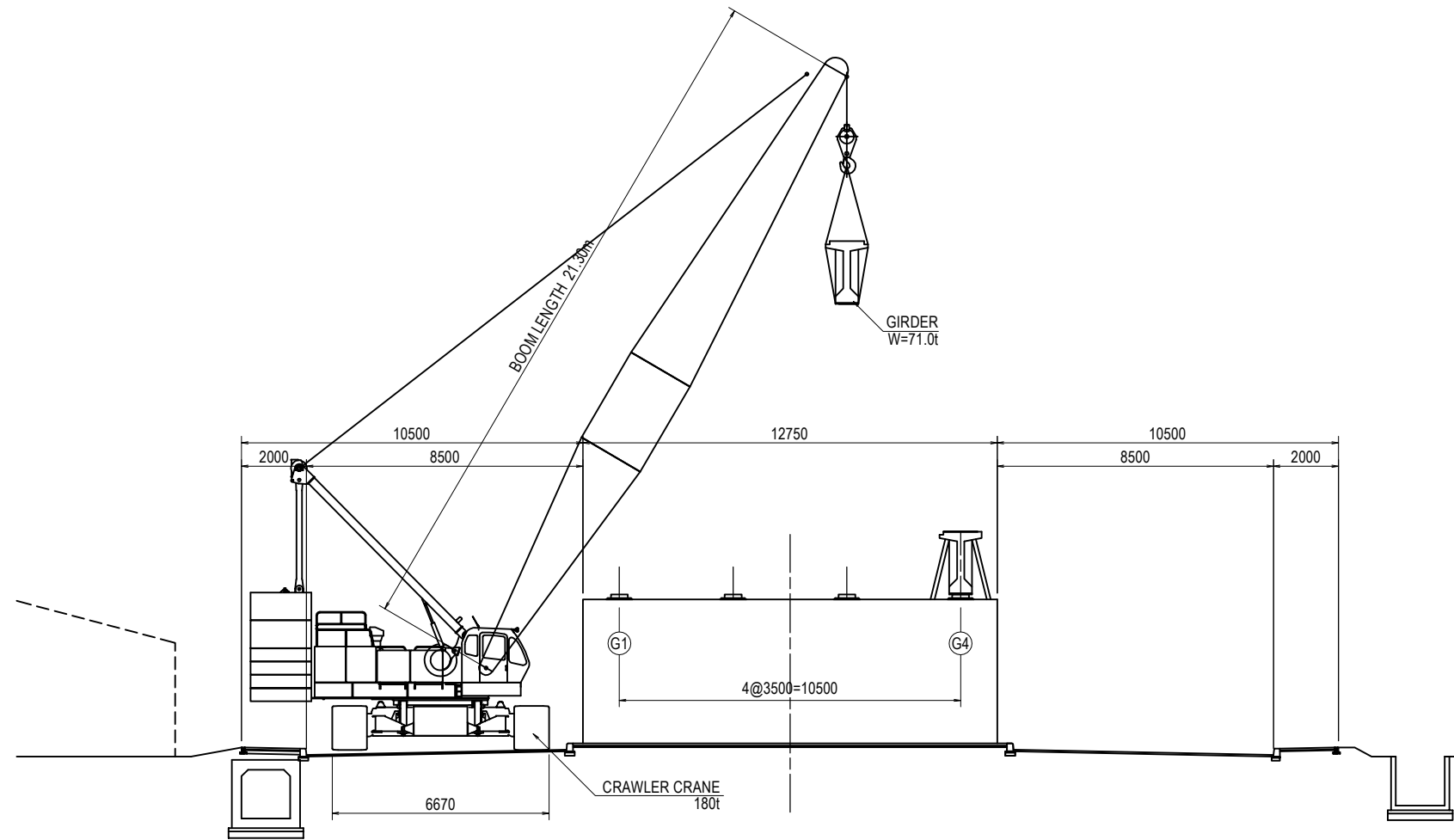
PF.14-PF.15



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) ERECTION PLAN FOR PC-I GIRDER (PF14-AF2) (2)	PACKAGE	
				PREPARED BY	Y. SUZUKI			14 Jul. 2017	3
				CHECKED BY	T. HAYAKAWA			20 Jul. 2017	DWG No.
				APPROVED BY	Y. SANO			25 Jul. 2017	P3-REF-0010

(REFERENCE) ERECTION PLAN OF CROSS SECTION FOR PC-I GIRDER

CROSS SECTION S=1:200



CRAWLER CRANE 180t

RATED LOAD TABLE (UNIT:ton)

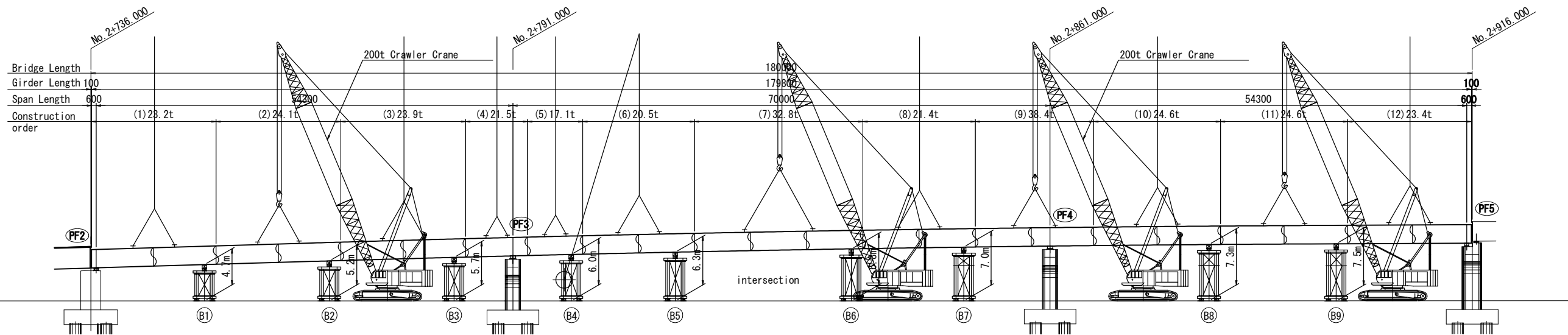
WORKING RADIUS(m)	BOOM LENGTH(m)	ALL AROUND		
		18.30	21.30	24.40
14.00	47.70	47.60	47.40	47.40
16.00	40.20	40.10	39.90	39.90
18.00	—	34.40	34.20	34.20
20.00	—	30.10	29.80	29.80
22.00	—	—	26.50	26.50

TERMS OF USE
 * COUNTER WEIGHT FITTED
 * HOOK WEIGHT & HANGING FIXTURE WEIGHT W=(1.2t)
 * WEIGHT GIRDER W=71.0t /NUMBER
 * OPERATIONAL RANGE

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) ERECTION PLAN OF CROSS SECTION FOR PC-I GIRDER	PACKAGE	
				PREPARED BY	Y. SUZUKI			14 Jul. 2017	3
				CHECKED BY	T. HAYAKAWA			20 Jul. 2017	DWG No.
				APPROVED BY	Y. SANO			25 Jul. 2017	P3-REF-0011

(REFERENCE)ERECTION PLAN FOR STEEL BOX GIRDE(PF2-PF5) S=1:600

SIDE VIEW



Bridge Length 100
Girder Length 100
Span Length 600
Construction order

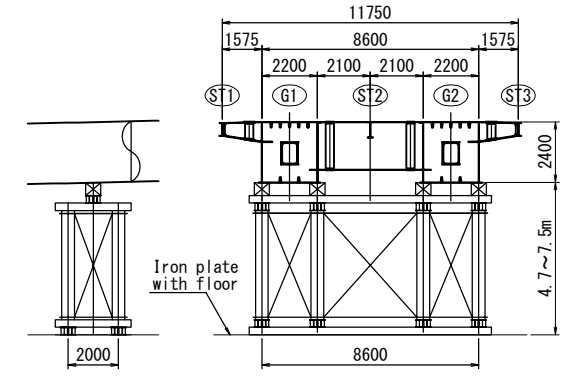
200tCRAWLER CRANE

Working Radius (m)	Boom Length (m)		
	L= 33.5 m	L= 36.6 m	
14.0	71.9 t	71.8 t	
16.0	59.8 t	59.7 t	
18.0	50.9 t	50.8 t	
20.0	44.2 t	44.1 t	>38.4t+1.2t=39.6t
22.0	39.0 t	38.8 t	>32.8t+1.2t=34.0t
24.0	34.7 t	34.6 t	

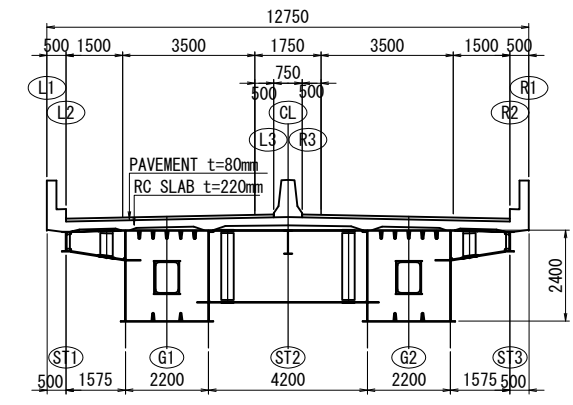
(Hook Weight 1.20 t)

- Procedure of Erection
1. Preparation work
 2. Install Bents
 3. Bearing Setting
 4. Erection
 - 1) Field Preassembling of Girders
 - 2) Erection of Girders by Crawler Crane
Install in order from Block (1) to (12)
 5. Scaffolding work
 6. Tightening the bolts
 7. Demolition of the Bents
 8. Installation of Bearing
 9. Demolition of Scaffold
 10. Clearance of Site

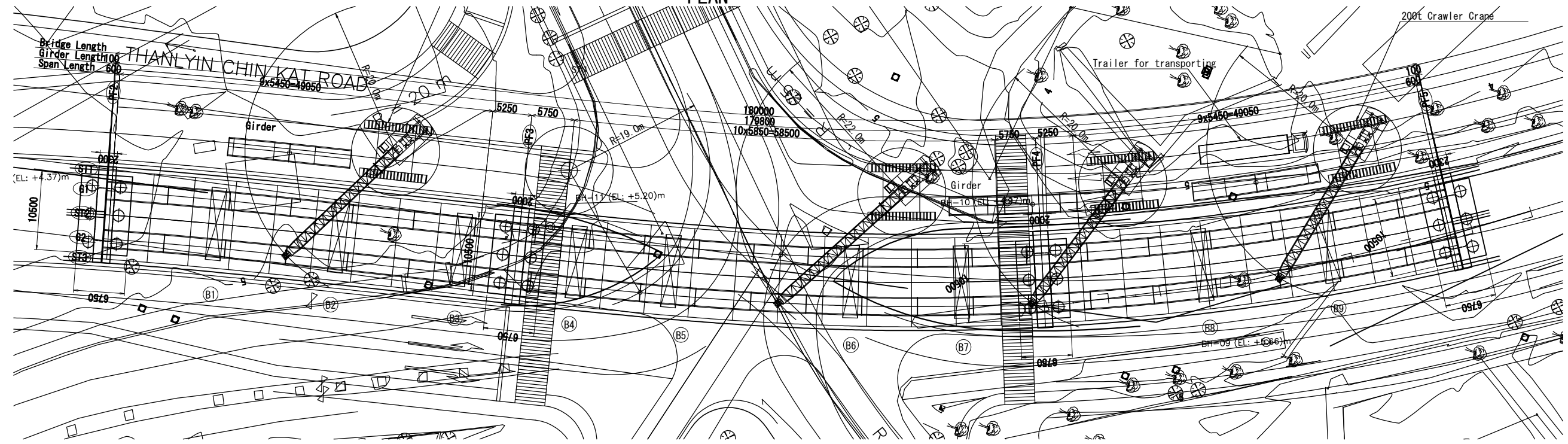
TEMPORARY SUPPORT S=1:300



SECTION S=1:200

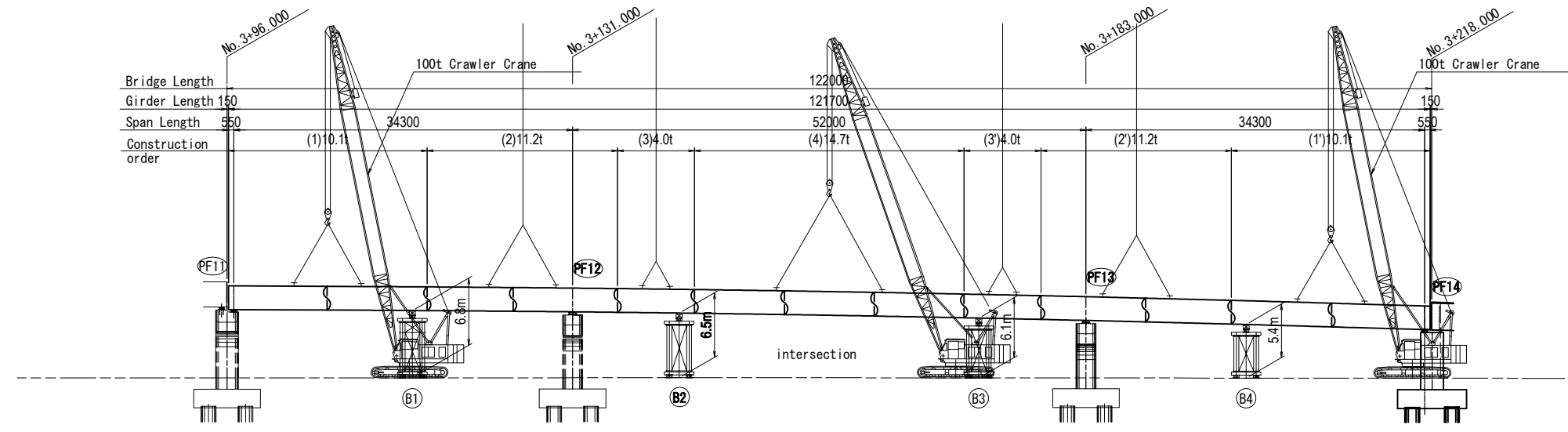


PLAN



(REFERENCE) ERECTION PLAN FOR STEEL-I GIRDER (PF11-PF14) S=1:600

SIDE VIEW



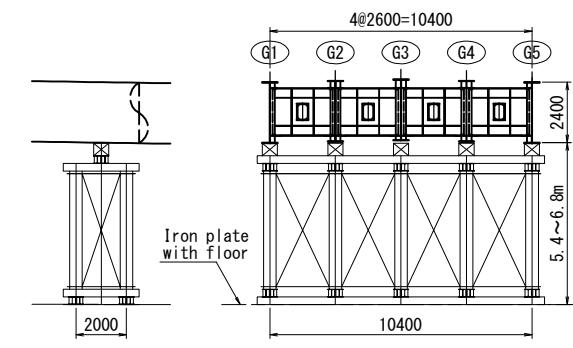
100t CRAWLER CRANE

Working Radius (m)	Boom length (m)	
	L= 34.0 m	L= 37.0 m
14.0	26.7 t	26.5 t
16.0	22.2 t	22.1 t
18.0	19.0 t	18.8 t
20.0	16.4 t	16.3 t
22.0	14.4 t	14.3 t
24.0	12.8 t	12.7 t

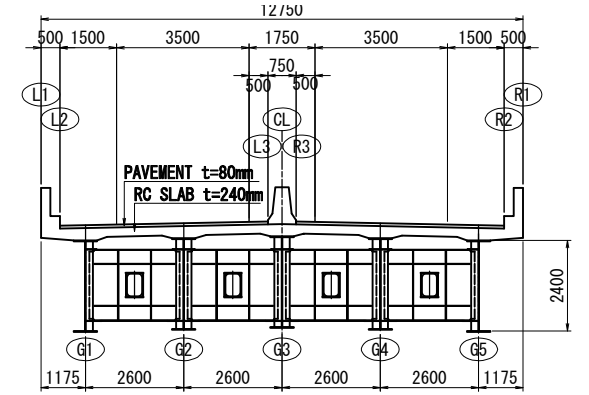
>14.7t+0.5t=15.2t
(Hook Weight 0.50 t)

- Procedure of Erection
1. Preparation work
 2. Install Bents
 3. Bearing Setting
 4. Erection
 - 1) Field Preassembling of Girders
 - 2) Erection of Girders by Crawler Crane
 - Install in order from Block(1) to(3)
 - Taking down the last Block (4)
 - 3) Scaffolding work
 - 4) tightening the bolts
 5. Demolition of the Bents
 6. Installation of Bearing
 7. Demolition of Scaffold
 8. Clearance of Site

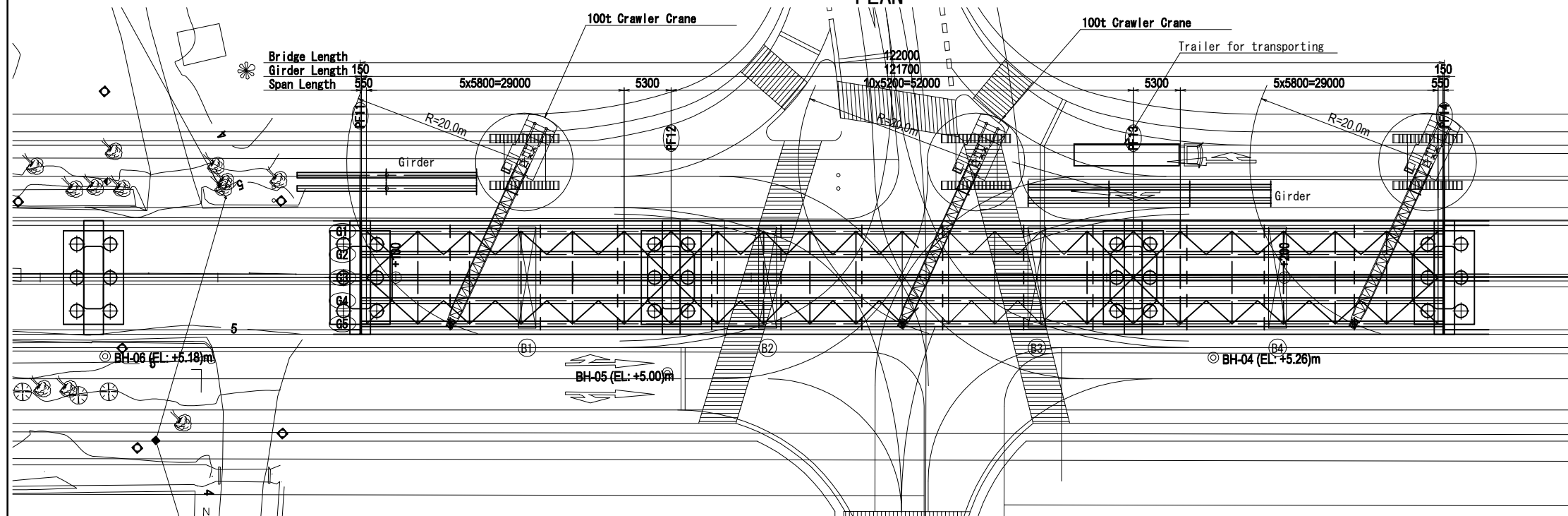
TEMPORARY SUPPORT S=1:300



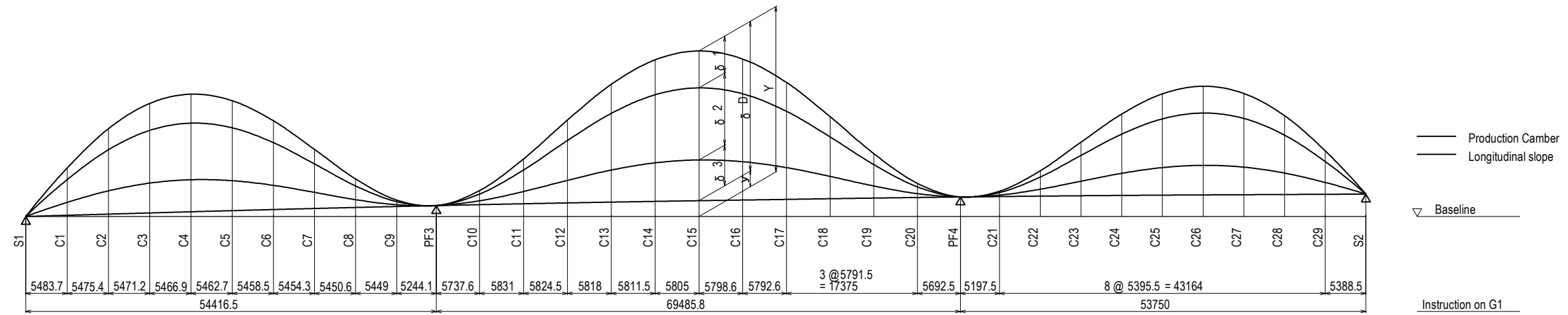
SECTION S=1:200



PLAN



(REFERENCE) CAMBER ARRANGEMENT OF MAIN GIRDER(PF2-PF5)



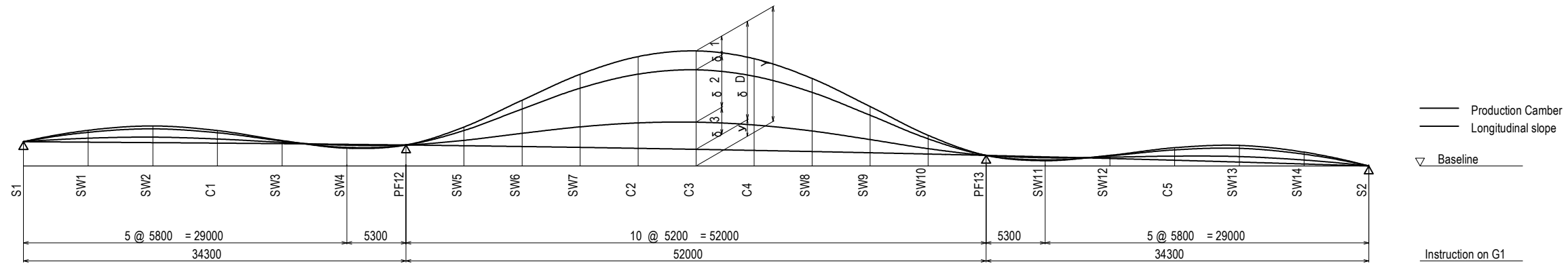
Camber table

		S1	C1	C2	C3	C4	C5	C6	C7	C8	C9	PF3	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	PF4	C21	C22	C23	C24	C25	C26	C27	C28	C29	S2	(単位 mm)
G1	δ 1	0	9	17	22	23	22	17	12	6	1	0	3	9	16	23	28	30	28	23	16	9	3	0	1	5	11	16	20	21	20	16	9	0	
	δ 2	0	17	32	41	43	41	33	22	11	2	0	5	17	31	44	52	55	52	43	30	16	5	0	2	9	20	30	37	40	37	29	16	0	
	δ 3	0	10	18	23	25	23	19	13	6	1	0	3	10	18	25	30	32	30	25	17	9	3	0	1	5	11	17	21	23	21	17	9	0	
	δ D	0	37	67	85	92	86	69	46	22	5	0	11	35	65	92	110	117	110	91	64	35	11	0	4	20	42	63	79	85	79	61	34	0	
	Y	0	155	310	465	620	770	916	1057	1192	1321	1440	1564	1683	1794	1899	1997	2088	2173	2259	2350	2434	2511	2580	2638	2693	2742	2785	2822	2854	2881	2908	2936	2963	
G2	δ 1	0	9	16	21	22	21	17	11	5	1	0	3	9	17	24	29	31	29	24	17	9	3	0	1	5	11	17	21	23	21	17	9	0	
	δ 2	0	17	30	39	42	39	32	21	10	2	0	5	17	32	46	55	58	55	45	32	17	5	0	2	10	21	32	40	43	40	31	17	0	
	δ 3	0	10	17	22	24	23	18	12	6	1	0	3	10	18	26	31	33	31	26	18	10	3	0	1	6	12	18	23	25	23	18	10	0	
	δ D	0	35	64	83	89	83	67	44	21	4	0	12	36	67	96	115	122	115	95	66	36	11	0	4	21	44	68	84	91	85	66	37	0	
	Y	0	172	344	516	688	865	1042	1214	1379	1539	1688	1845	1999	2148	2290	2425	2554	2676	2784	2875	2959	3036	3105	3168	3218	3267	3310	3347	3379	3406	3434	3461	3488	
Y	0	207	408	599	777	948	1109	1258	1400	1544	1688	1856	2035	2215	2386	2540	2676	2791	2880	2941	2994	3047	3105	3168	3239	3311	3377	3432	3470	3491	3500	3497	3488		

記号説明

- δ 1 : Steel weight
- δ 2 : Slab + Haunch + Buried formwork
- δ 3 : Pavement + Wall height column + Median strip + Concentrated load
- δ D : Dead load total
- y : Longitudinal slope
- Y : Production Camber

(REFERENCE) CAMBER ARRANGEMENT OF MAIN GIRDER (PF11-PF14)



Camber table

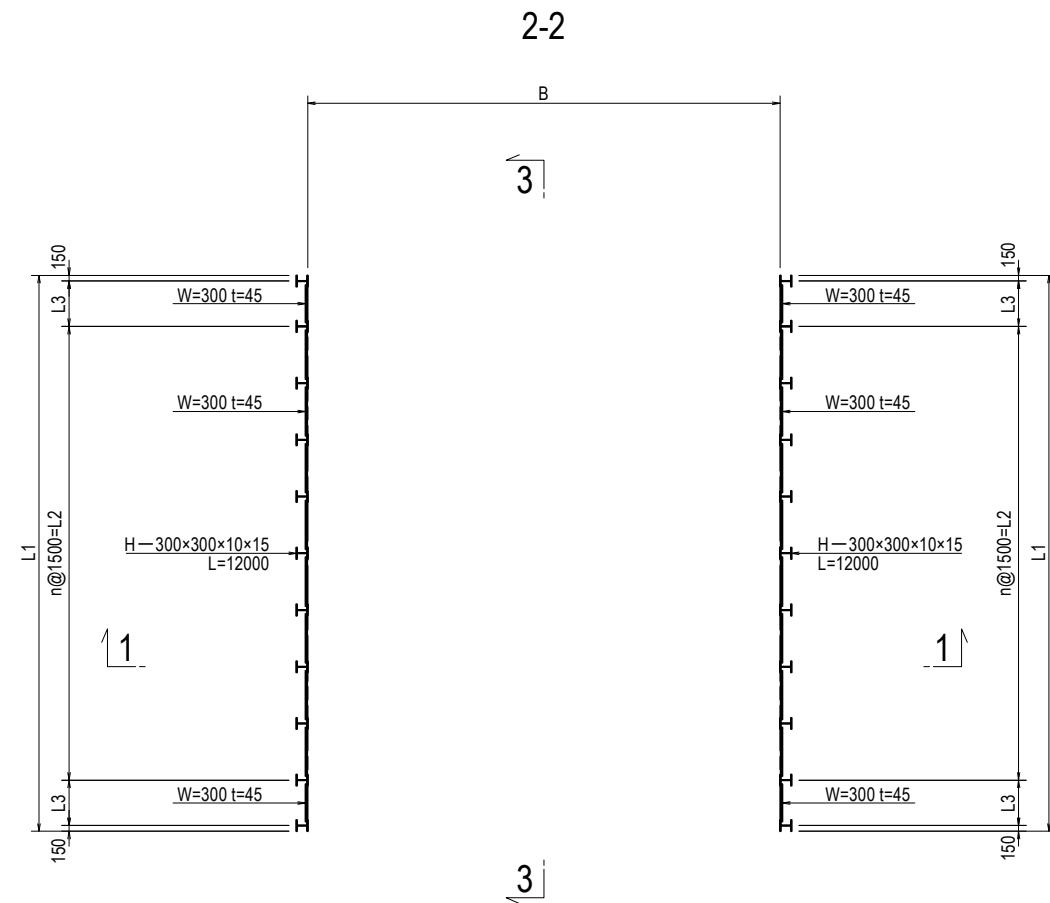
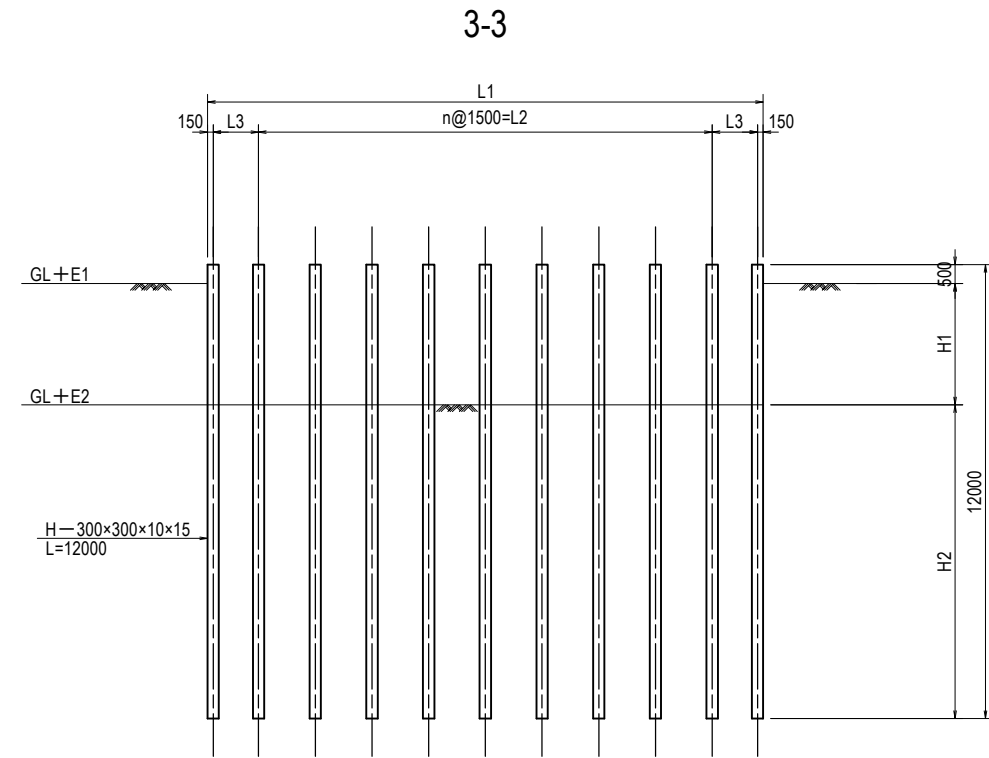
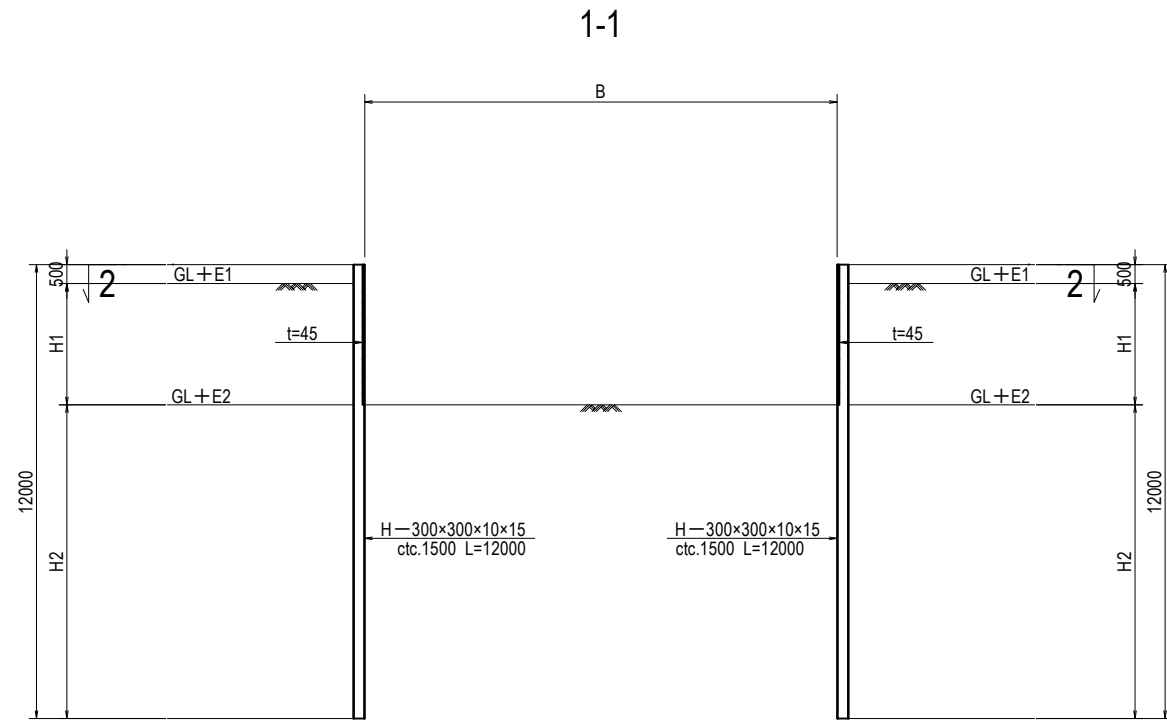
		S1	SW1	SW2	C1	SW3	SW4	PF12	SW5	SW6	SW7	C2	C3	C4	SW8	SW9	SW10	PF13	SW11	SW12	C5	SW13	SW14	S2	(単位 mm)
G1	δ 1	0	2	2	2	0	-1	0	3	7	11	14	15	14	11	7	3	0	-1	0	2	2	2	0	
	δ 2	0	5	6	5	1	-2	0	8	19	30	38	41	38	30	19	8	0	-2	1	5	6	5	0	
	δ 3	0	3	4	3	1	-1	0	4	10	16	20	21	20	16	10	4	0	-1	1	3	4	3	0	
	δ D	0	9	13	10	2	-3	0	15	36	57	71	77	71	57	36	15	0	-3	2	10	13	9	0	
	y	2172	2130	2089	2045	1995	1936	1876	1811	1739	1662	1578	1488	1392	1290	1181	1067	946	816	667	510	346	174	0	
Y	2172	2139	2102	2055	1997	1933	1876	1825	1775	1719	1649	1565	1463	1347	1217	1081	946	813	670	520	359	183	0		
G2	δ 1	0	2	2	2	0	-1	0	3	7	11	14	15	14	11	7	3	0	-1	0	2	2	2	0	
	δ 2	0	4	6	5	1	-2	0	8	19	30	38	41	38	30	19	8	0	-2	1	5	6	4	0	
	δ 3	0	2	2	2	0	-1	0	4	9	15	19	21	19	15	9	4	0	-1	0	2	2	2	0	
	δ D	0	8	11	9	2	-3	0	14	35	56	71	76	71	56	35	14	0	-3	2	9	11	8	0	
	y	2172	2130	2089	2045	1995	1936	1876	1811	1739	1662	1578	1488	1392	1290	1181	1067	946	816	667	510	346	174	0	
Y	2172	2138	2100	2054	1997	1933	1876	1825	1775	1718	1649	1564	1463	1346	1216	1081	946	813	669	519	357	182	0		
G3	δ 1	0	2	2	2	0	-1	0	3	7	11	14	15	14	11	7	3	0	-1	0	2	2	2	0	
	δ 2	0	4	6	5	1	-2	0	8	19	30	38	41	38	30	19	8	0	-2	1	5	6	4	0	
	δ 3	0	2	3	2	0	-1	0	4	10	15	19	20	19	15	10	4	0	-1	0	2	3	2	0	
	δ D	0	8	11	8	2	-3	0	15	36	57	71	76	71	57	36	15	0	-3	2	8	11	8	0	
	y	2172	2130	2089	2045	1995	1936	1876	1811	1739	1662	1578	1488	1392	1290	1181	1067	946	816	667	510	346	174	0	
Y	2172	2138	2100	2054	1997	1933	1876	1825	1775	1718	1649	1564	1463	1346	1216	1081	946	813	669	519	357	182	0		
G4	δ 1	0	2	2	2	0	-1	0	3	7	11	14	15	14	11	7	3	0	-1	0	2	2	2	0	
	δ 2	0	4	6	5	1	-2	0	8	19	30	38	41	38	30	19	8	0	-2	1	5	6	4	0	
	δ 3	0	2	2	2	0	-1	0	4	9	15	19	21	19	15	9	4	0	-1	0	2	2	2	0	
	δ D	0	8	11	9	2	-3	0	14	35	56	71	76	71	56	35	14	0	-3	2	9	11	8	0	
	y	2172	2130	2089	2045	1995	1936	1876	1811	1739	1662	1578	1488	1392	1290	1181	1067	946	816	667	510	346	174	0	
Y	2172	2138	2100	2054	1997	1933	1876	1825	1775	1718	1649	1564	1463	1346	1216	1081	946	813	669	519	357	182	0		
G5	δ 1	0	2	2	2	0	-1	0	3	7	11	14	15	14	11	7	3	0	-1	0	2	2	2	0	
	δ 2	0	5	6	5	1	-2	0	8	19	30	38	41	38	30	19	8	0	-2	1	5	6	5	0	
	δ 3	0	3	4	3	1	-1	0	4	10	16	20	21	20	16	10	4	0	-1	1	3	4	3	0	
	δ D	0	9	13	10	2	-3	0	15	36	57	71	77	71	57	36	15	0	-3	2	10	13	9	0	
	y	2172	2130	2089	2045	1995	1936	1876	1811	1739	1662	1578	1488	1392	1290	1181	1067	946	816	667	510	346	174	0	
Y	2172	2139	2102	2055	1997	1933	1876	1825	1775	1719	1649	1565	1463	1347	1217	1081	946	813	670	520	359	183	0		

記号説明

- δ 1 : Steel weight
- δ 2 : Slab + Haunch
- δ 3 : Pavement + Wall height column + Median strip + Concentrated load
- δ D : Dead load total
- y : Longitudinal slope
- Y : Production Camber

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) CAMBER ARRANGEMENT OF MAIN GIRDER (PF11-PF14)	PACKAGE
				PREPARED BY	Y. SUZUKI	14 Jul. 2017		3
				CHECKED BY	T. HAYAKAWA	20 Jul. 2017		DWG No.
				APPROVED BY	Y. SANO	25 Jul. 2017		P3-REF-0015

(REFERENCE) DETAIL OF TEMPORARY RETAINING WALL FOR BRIDGE FOUNDATION S=1:200



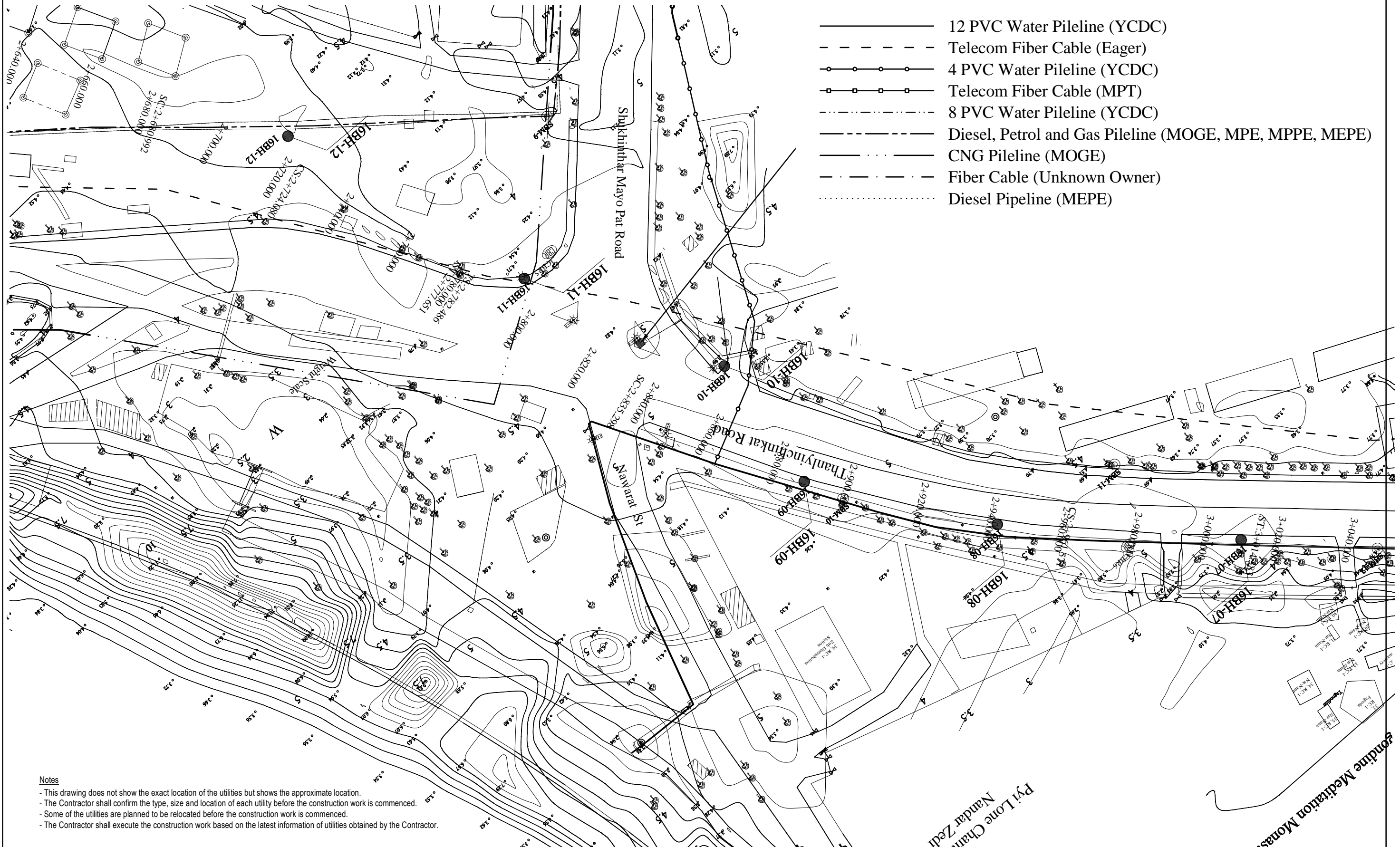
AXIS	E1(m)	E2(m)	H1(mm)	H2(mm)	L1(mm)	L2(mm)	L3(mm)	n	B(mm)
PF.3	5.000	1.792	3208	8292	14700	12000	1200	8	12500
PF.4	4.807	1.579	3228	8272	11000	9000	850	6	12500
PF.5	4.511	1.244	3267	8233	12300	12000	-	8	12500
PF.6	4.350	1.137	3213	8287	11000	9000	850	6	12500
PF.8	4.178	0.884	3294	8206	11800	9000	1250	6	12500
PF.9	4.334	1.070	3264	8236	11000	9000	850	6	12500
PF.10	4.495	1.255	3240	8260	11700	9000	1200	6	12500
PF.15	4.434	1.230	3204	8296	11800	9000	1250	6	12500
AF.2	4.241	0.980	3261	8239	11300	9000	1000	6	14750

AXIS	SPECIFICATION	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	WEIGHT (t)
PF.3	H-300x300x10x15	264.0	93.0	24.552
PF.4	H-300x300x10x15	216.0	93.0	20.088
PF.5	H-300x300x10x15	216.0	93.0	20.088
PF.6	H-300x300x10x15	216.0	93.0	20.088
PF.8	H-300x300x10x15	216.0	93.0	20.088
PF.9	H-300x300x10x15	216.0	93.0	20.088
PF.10	H-300x300x10x15	216.0	93.0	20.088
PF.15	H-300x300x10x15	216.0	93.0	20.088
AF.2	H-300x300x10x15	216.0	93.0	20.088

AXIS	SPECIFICATION	GROSS AREA (m ²)
PF.3	W=300,t=45	109.015
PF.4	W=300,t=45	82.016
PF.5	W=300,t=45	92.668
PF.6	W=300,t=45	81.686
PF.8	W=300,t=45	89.538
PF.9	W=300,t=45	82.808
PF.10	W=300,t=45	87.516
PF.15	W=300,t=45	87.414
AF.2	W=300,t=45	84.999

(REFERENCE) EXISTING UNDERGROUND UTILITIES LAYOUT (1)

S=1:1000



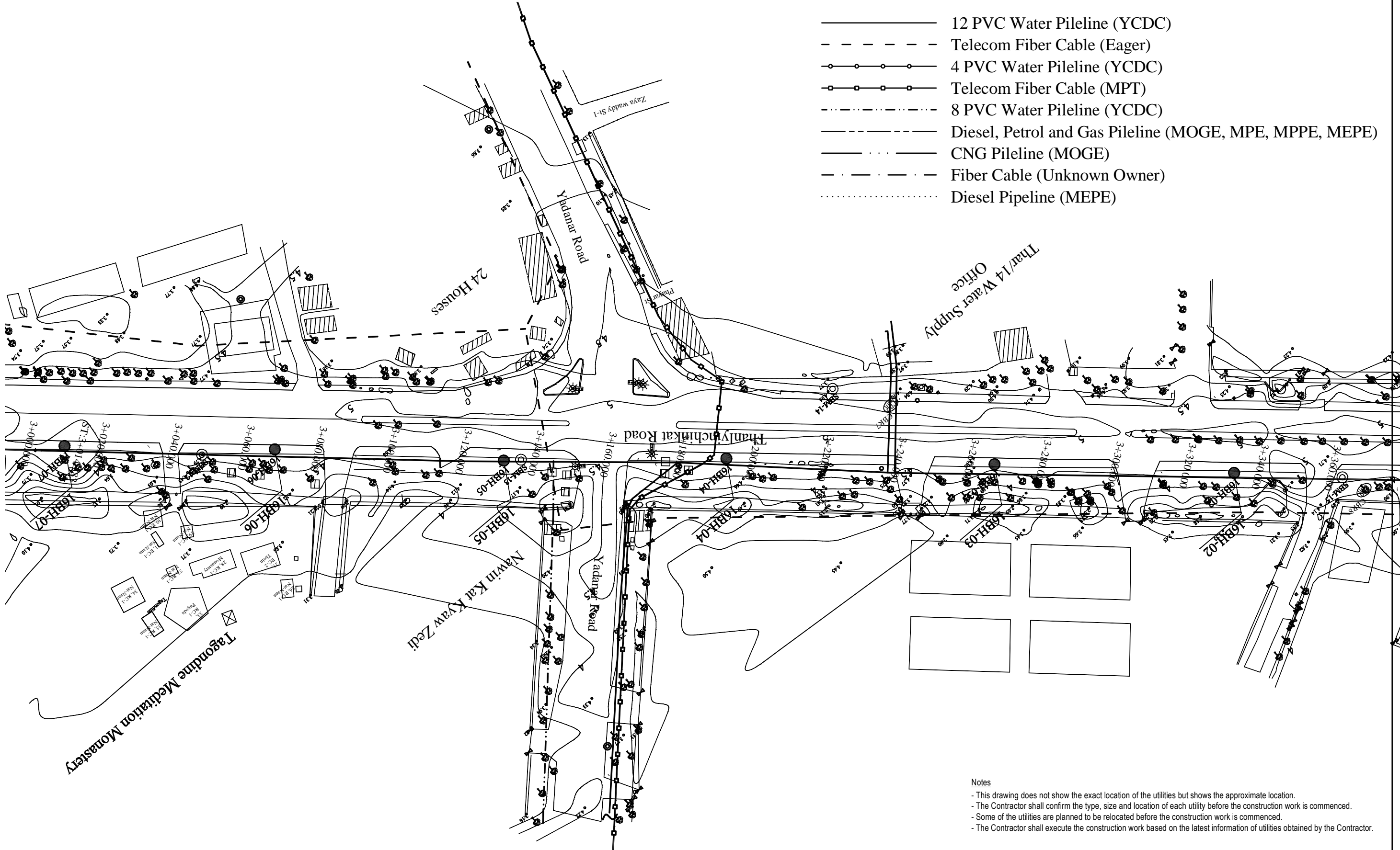
Notes
 - This drawing does not show the exact location of the utilities but shows the approximate location.
 - The Contractor shall confirm the type, size and location of each utility before the construction work is commenced.
 - Some of the utilities are planned to be relocated before the construction work is commenced.
 - The Contractor shall execute the construction work based on the latest information of utilities obtained by the Contractor.

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) EXISTING UNDERGROUND UTILITIES LAYOUT (1)	PACKAGE	
				PREPARED BY	T. OGUNI			14 Jul. 2017	3
				CHECKED BY	T. HAYAKAWA			20 Jul. 2017	DWG No.
				APPROVED BY	Y. SANO			25 Jul. 2017	P3-REF-0017

(REFERENCE) EXISTING UNDERGROUND UTILITIES LAYOUT (2)

S=1:1000

- 12 PVC Water Pipeline (YCDC)
- - - - - Telecom Fiber Cable (Eager)
- 4 PVC Water Pipeline (YCDC)
- Telecom Fiber Cable (MPT)
- · - · - · - 8 PVC Water Pipeline (YCDC)
- · — · — · — Diesel, Petrol and Gas Pipeline (MOGE, MPE, MPPE, MEPE)
- · · · · · CNG Pipeline (MOGE)
- · - · - · - Fiber Cable (Unknown Owner)
- Diesel Pipeline (MEPE)



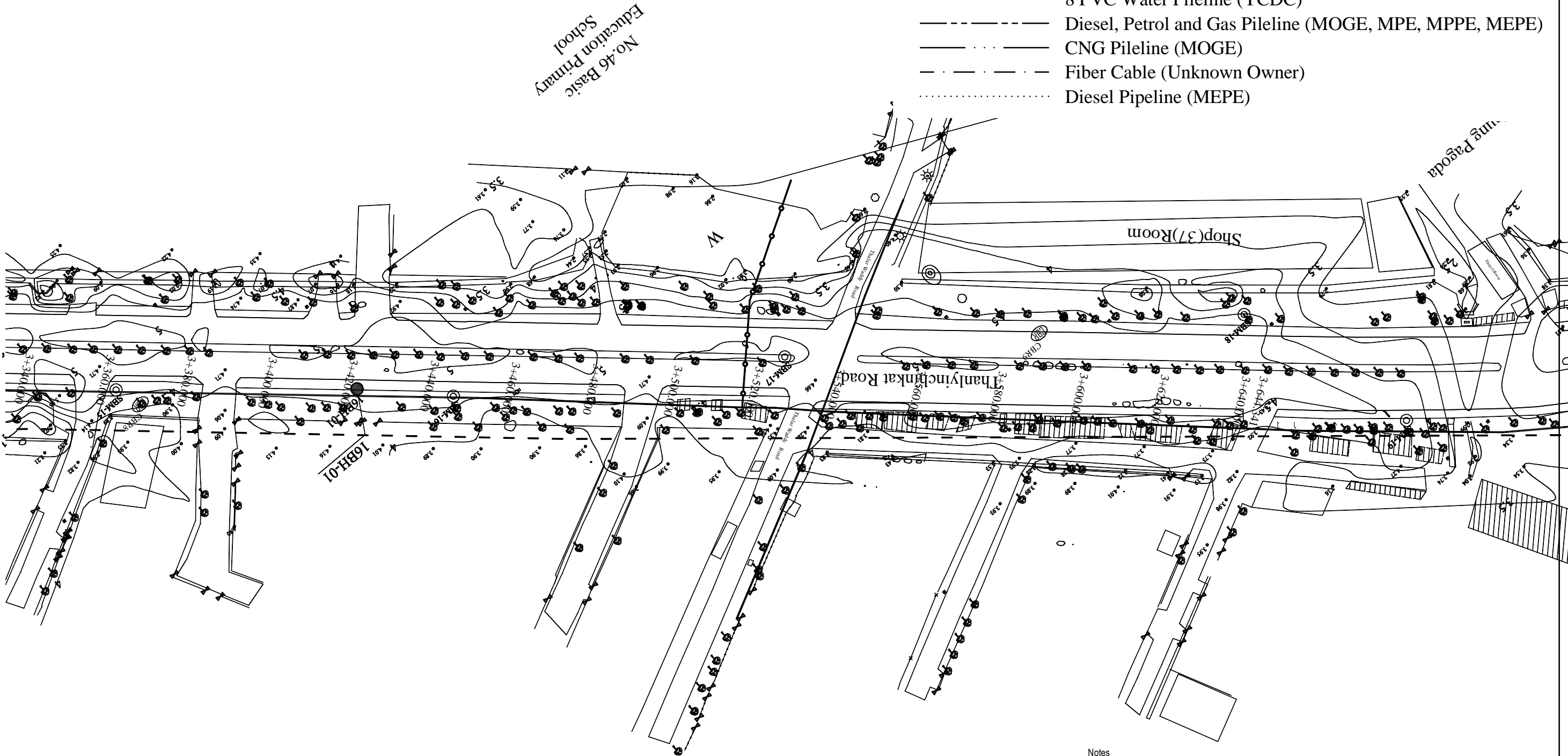
Notes
 - This drawing does not show the exact location of the utilities but shows the approximate location.
 - The Contractor shall confirm the type, size and location of each utility before the construction work is commenced.
 - Some of the utilities are planned to be relocated before the construction work is commenced.
 - The Contractor shall execute the construction work based on the latest information of utilities obtained by the Contractor.

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) EXISTING UNDERGROUND UTILITIES LAYOUT (2)	PACKAGE 3 DWG No. P3-REF-0018	
				PREPARED BY	T. OGUNI				14 Jul. 2017
				CHECKED BY	T. HAYAKAWA				20 Jul. 2017
				APPROVED BY	Y. SANO				25 Jul. 2017

(REFERENCE) EXISTING UNDERGROUND UTILITIES LAYOUT (3)

S=1:1000

- 12 PVC Water Pipeline (YCDC)
- - - - - Telecom Fiber Cable (Eager)
- 4 PVC Water Pipeline (YCDC)
- Telecom Fiber Cable (MPT)
- · - · - · - 8 PVC Water Pipeline (YCDC)
- Diesel, Petrol and Gas Pipeline (MOGE, MPE, MPPE, MEPE)
- CNG Pipeline (MOGE)
- · - · - · - Fiber Cable (Unknown Owner)
- Diesel Pipeline (MEPE)

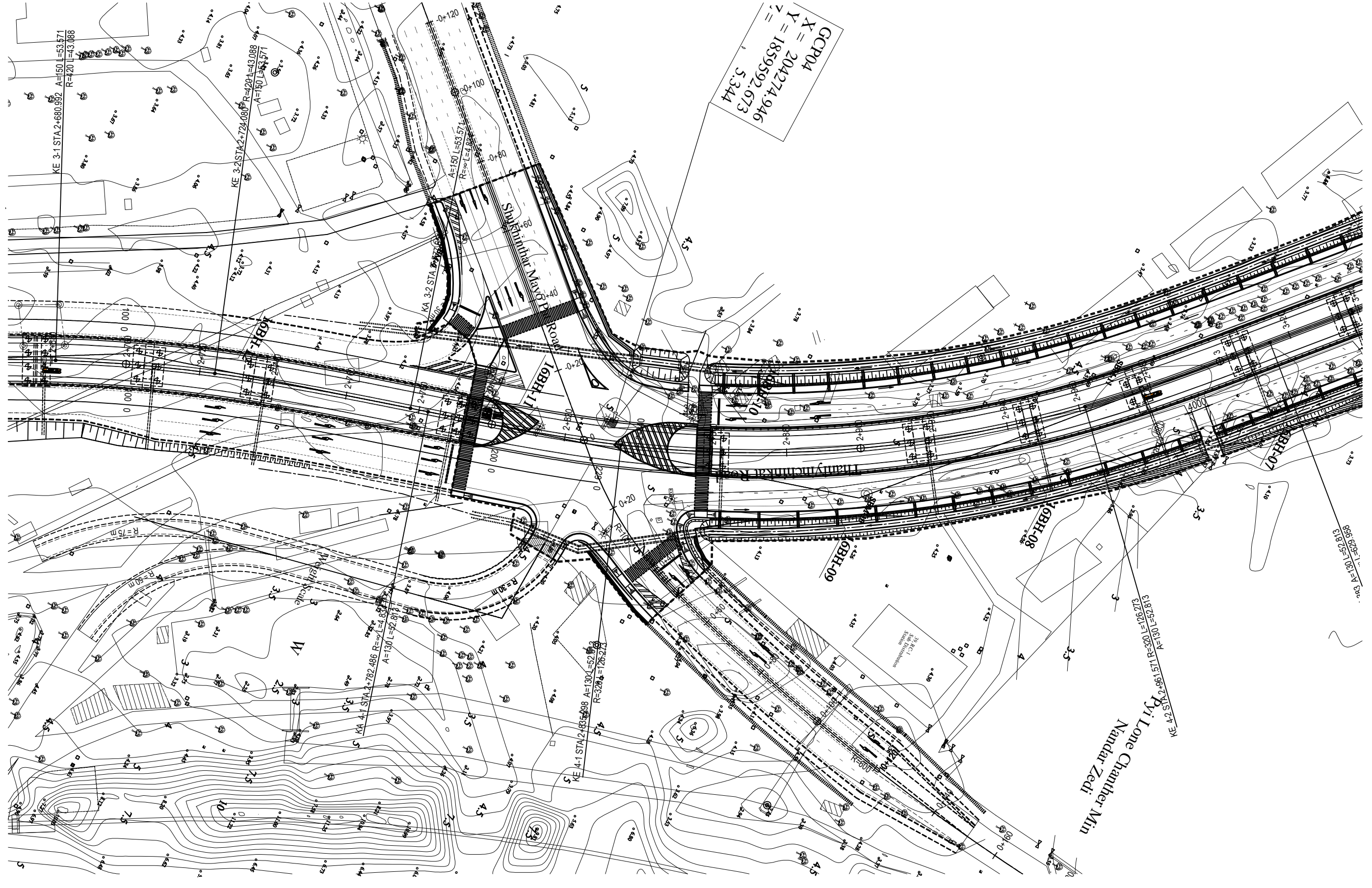


Notes

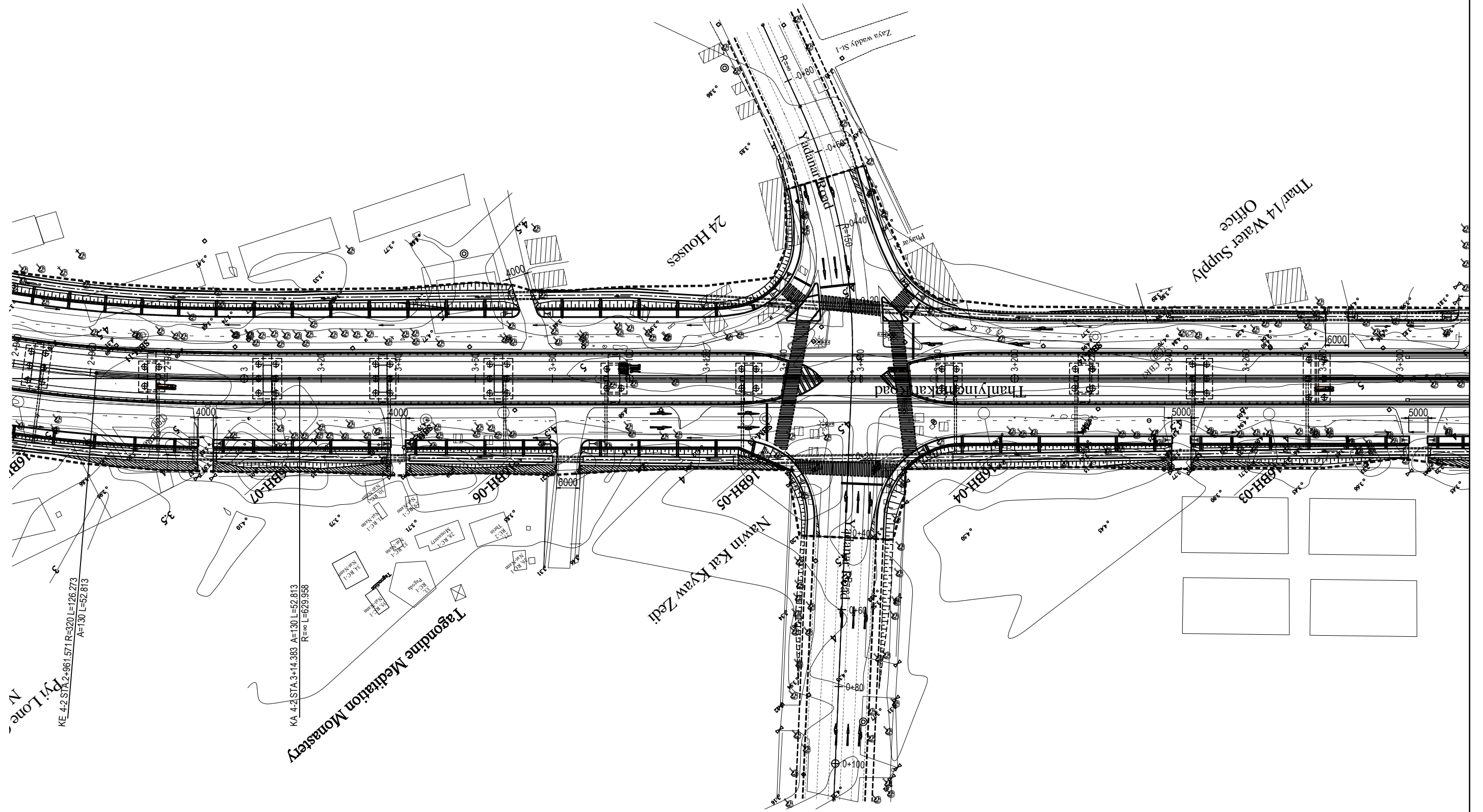
- This drawing does not show the exact location of the utilities but shows the approximate location.
- The Contractor shall confirm the type, size and location of each utility before the construction work is commenced.
- Some of the utilities are planned to be relocated before the construction work is commenced.
- The Contractor shall execute the construction work based on the latest information of utilities obtained by the Contractor.

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) EXISTING UNDERGROUND UTILITIES LAYOUT (3)	PACKAGE	
				PREPARED BY	T. OGUNI			14 Jul. 2017	3
				CHECKED BY	T. HAYAKAWA			20 Jul. 2017	DWG No.
				APPROVED BY	Y. SANO			25 Jul. 2017	P3-REF-0019

(REFERENCE) RIGHT OF WAY PLAN(1) S= 1:1000

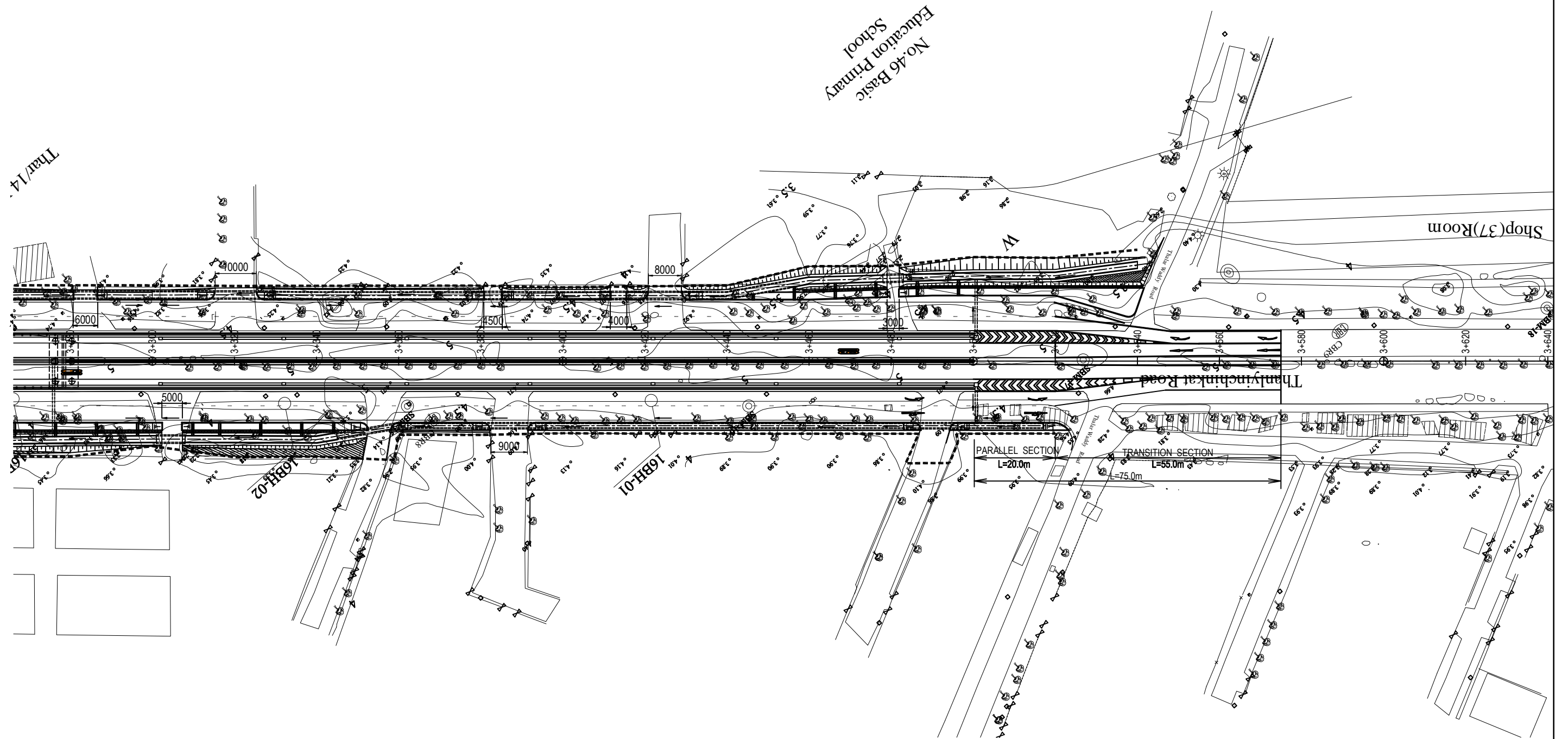


(REFERENCE) RIGHT OF WAY PLAN(2) S= 1:1000



<p>PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT</p>	<p>FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY</p>	<p>COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE</p>	<p>JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.</p>	<table border="1"> <thead> <tr> <th></th> <th>NAME</th> <th>SIGNATURE</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY</td> <td>K. TACHIBANA</td> <td></td> <td>14 Jul. 2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>20 Jul. 2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>25 Jul. 2017</td> </tr> </tbody> </table>		NAME	SIGNATURE	DATE	PREPARED BY	K. TACHIBANA		14 Jul. 2017	CHECKED BY	T. HAYAKAWA		20 Jul. 2017	APPROVED BY	Y. SANO		25 Jul. 2017	<p>DRAWING TITLE (REFERENCE) RIGHT OF WAY PLAN(2) S=1:1000</p>	<p>PACKAGE 3 DWG No. P3-REF-0021</p>
	NAME	SIGNATURE	DATE																			
PREPARED BY	K. TACHIBANA		14 Jul. 2017																			
CHECKED BY	T. HAYAKAWA		20 Jul. 2017																			
APPROVED BY	Y. SANO		25 Jul. 2017																			

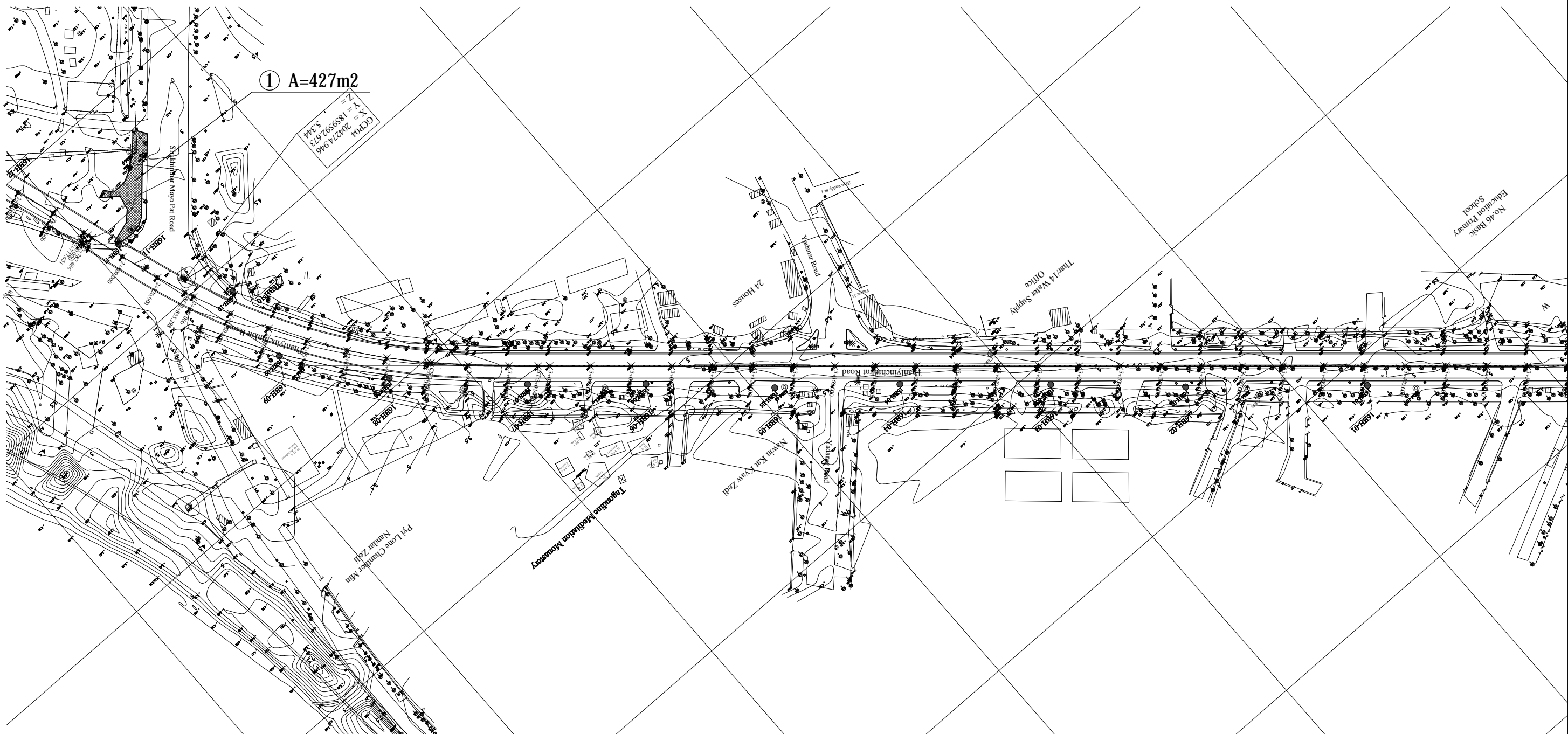
(REFERENCE) RIGHT OF WAY PLAN(3) S= 1:1000



PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) RIGHT OF WAY PLAN(3) S=1:1000	PACKAGE	
				PREPARED BY	K. TACHIBANA			14 Jul. 2017	3
				CHECKED BY	T. HAYAKAWA			20 Jul. 2017	DWG No.
				APPROVED BY	Y. SANO			25 Jul. 2017	P3-REF-0022

(REFERENCE) SITE CLEARING S= 1:1000

①	427 m ²
TOTAL	427 m ²



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	K. TACHIBANA	橋 馨	29 Sep. 2017
CHECKED BY	T. HAYAKAWA	平川 知平	3 Oct. 2017
APPROVED BY	Y. SANO	佐野 祐一	6 Oct. 2017

DRAWING TITLE
(REFERENCE) SITE CLEARING
S= 1:1000

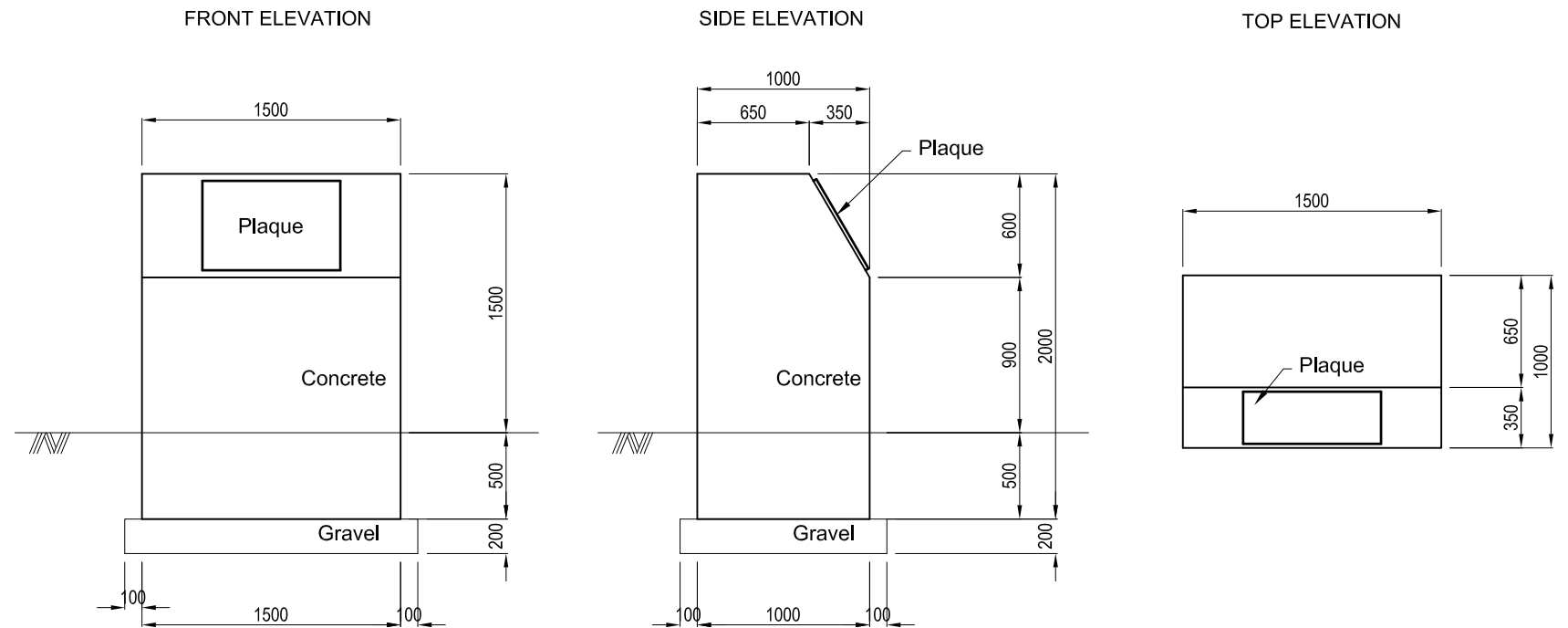
PACKAGE
3
DWG No.
P3-REF-0023

(REFERENCE) MONUMENT AND BRIDGE RECORD

MONUMENT



Note) Design & sentence shall be confirmed to the Engineer during construction period.



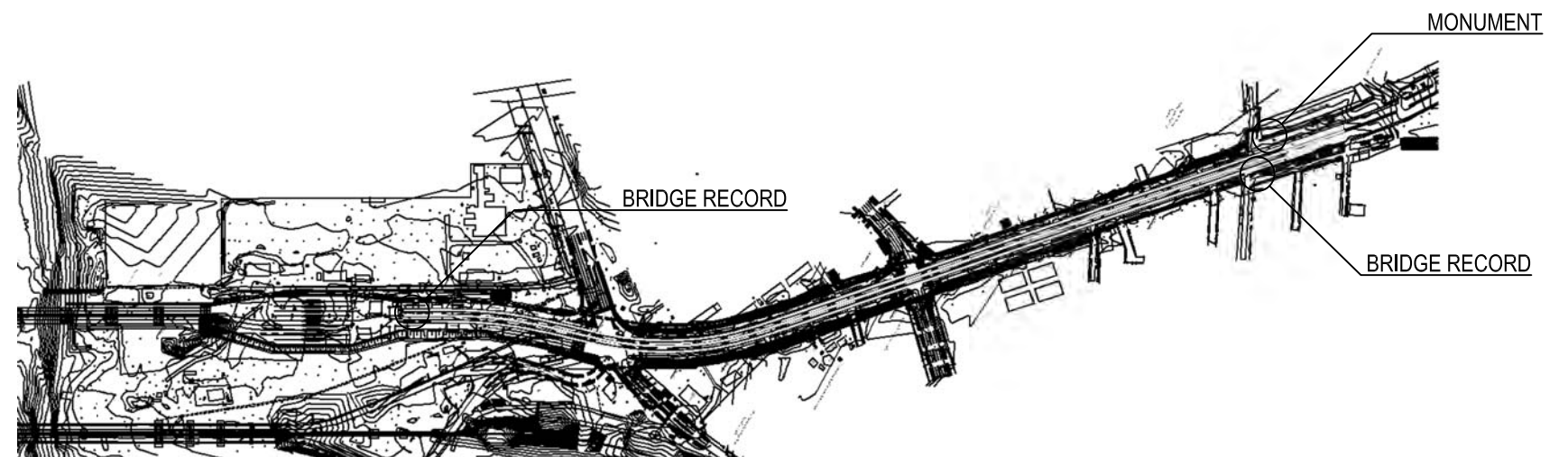
Note) Design and details of monument shall be confirmed to the Engineer during construction period.

BRIDGE RECORD



Note) Design & sentence shall be confirmed to the Engineer during construction period.

LOCATION



Note) Location for monument and bridge record shall be confirmed to the Engineer during construction period.

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.	T. HAYAKAWA		29 Sep. 2017	(REFERENCE) MONUMENT AND BRIDGE RECORD	3
				T. HAYAKAWA		3 Oct. 2017		DWG No.
				Y. SANO		6 Oct. 2017		P3-REF-0025

(REFERENCE) NETWORK PLAN

Primary Control Point By GPS

Point No	Easting	Northing	Elevation
GPS 01	205,842.773	1,857,184.685	5.698
GPS 011	205,760.156	1,857,254.692	5.543
GPS 02	205,321.737	1,857,693.657	4.426
GPS 021	205,410.480	1,857,584.129	4.262
GPS 03	204,535.795	1,859,088.346	4.115
GPS 031	204,453.920	1,859,180.786	3.874
GPS 04	204,274.946	1,859,592.673	5.344
GPS 041	204,205.987	1,859,475.724	5.066
GPS 05	203,521.369	1,860,268.348	4.914
GPS 051	203,458.184	1,860,271.486	5.105

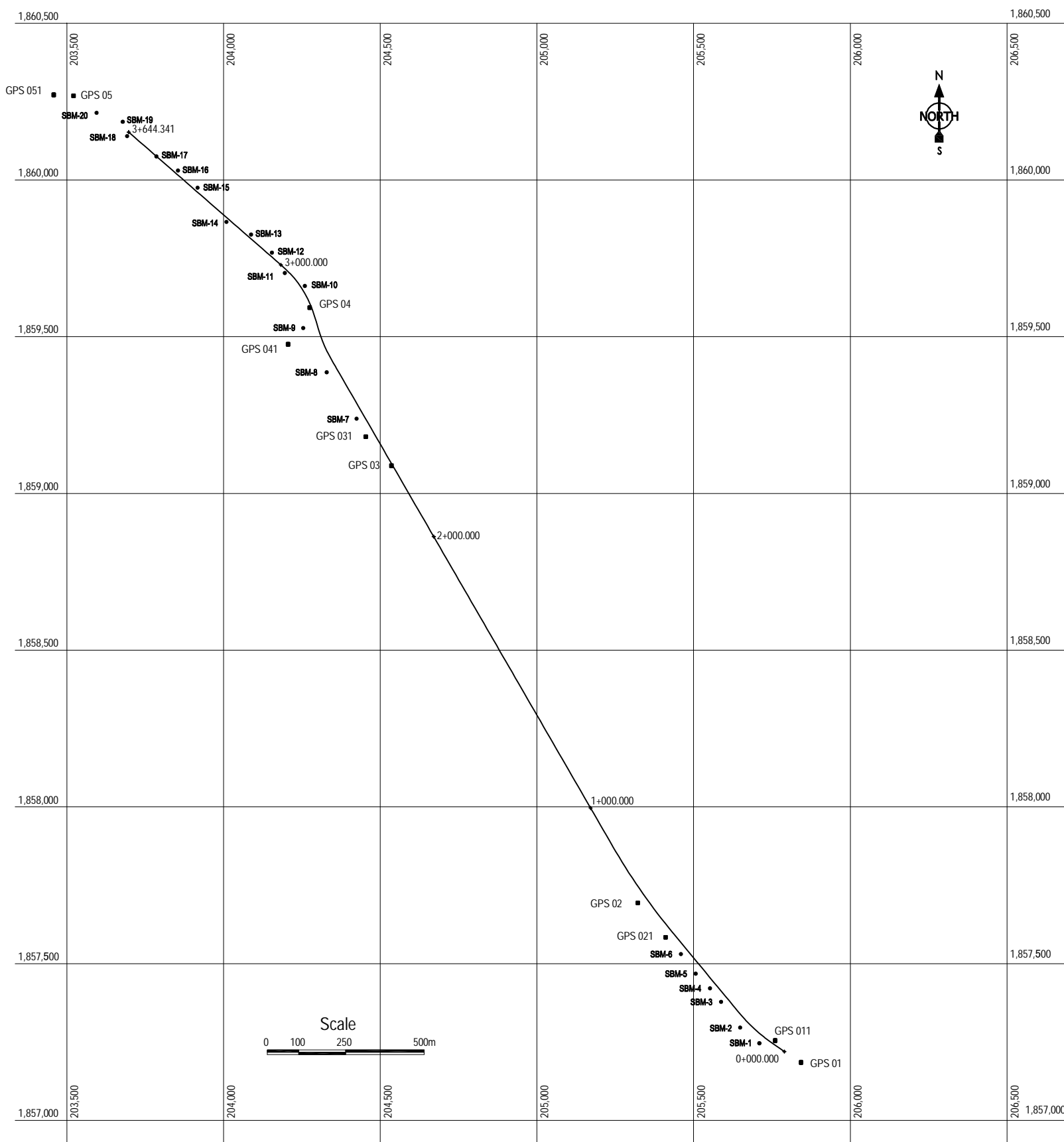
Secondary Control Point By TS

Point No	Easting	Northing	Elevation
SBM-1	205,709.674	1,857,245.921	4.664
SBM-2	205,648.458	1,857,295.972	3.968
SBM-3	205,587.614	1,857,378.019	4.452
SBM-4	205,552.160	1,857,421.174	4.242
SBM-5	205,506.509	1,857,467.950	4.582
SBM-6	205,459.429	1,857,530.545	4.476
SBM-7	204,424.427	1,859,238.491	4.324
SBM-8	204,329.282	1,859,386.470	4.361
SBM-9	204,254.242	1,859,527.666	4.472
SBM-10	204,259.481	1,859,662.039	5.476
SBM-11	204,195.472	1,859,703.336	4.441
SBM-12	204,154.484	1,859,768.248	4.809
SBM-13	204,087.886	1,859,825.931	4.820
SBM-14	204,009.411	1,859,866.246	4.668
SBM-15	203,917.301	1,859,975.432	4.711
SBM-16	203,854.596	1,860,030.075	4.662
SBM-17	203,785.802	1,860,075.169	5.150
SBM-18	203,692.328	1,860,139.951	4.536
SBM-19	203,678.453	1,860,185.673	4.496
SBM-20	203,595.035	1,860,214.212	4.526

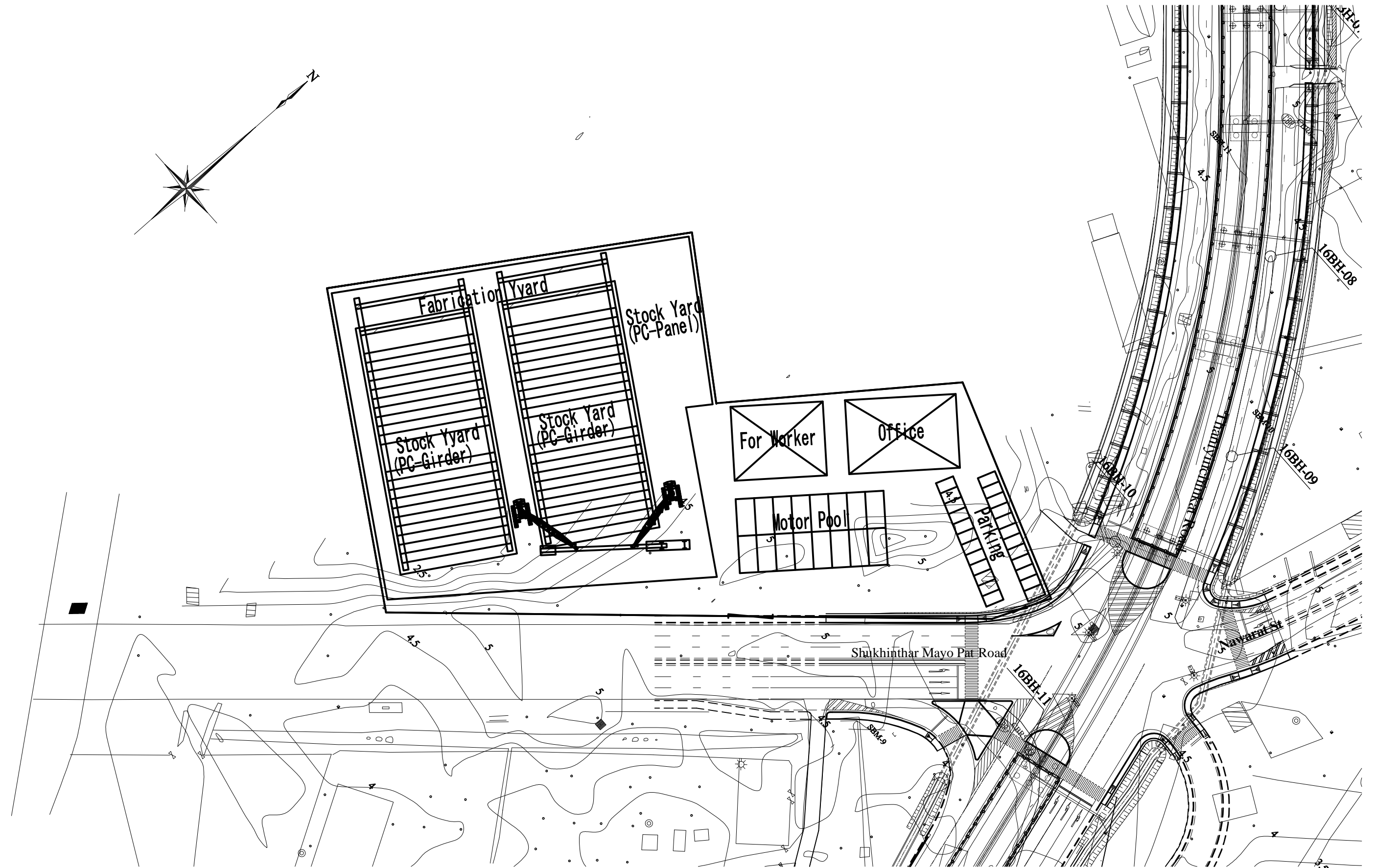
Elevation : Direct Leveling above Mean Sea Level

Existing Control Points from SD

Point No	Easting	Northing	Elevation
GCP 08	204,426.731	1,867,438.719	————
SD 2	197,289.025	1,863,904.781	————
BM76097	214,396.8	1,851,646.3	23.895



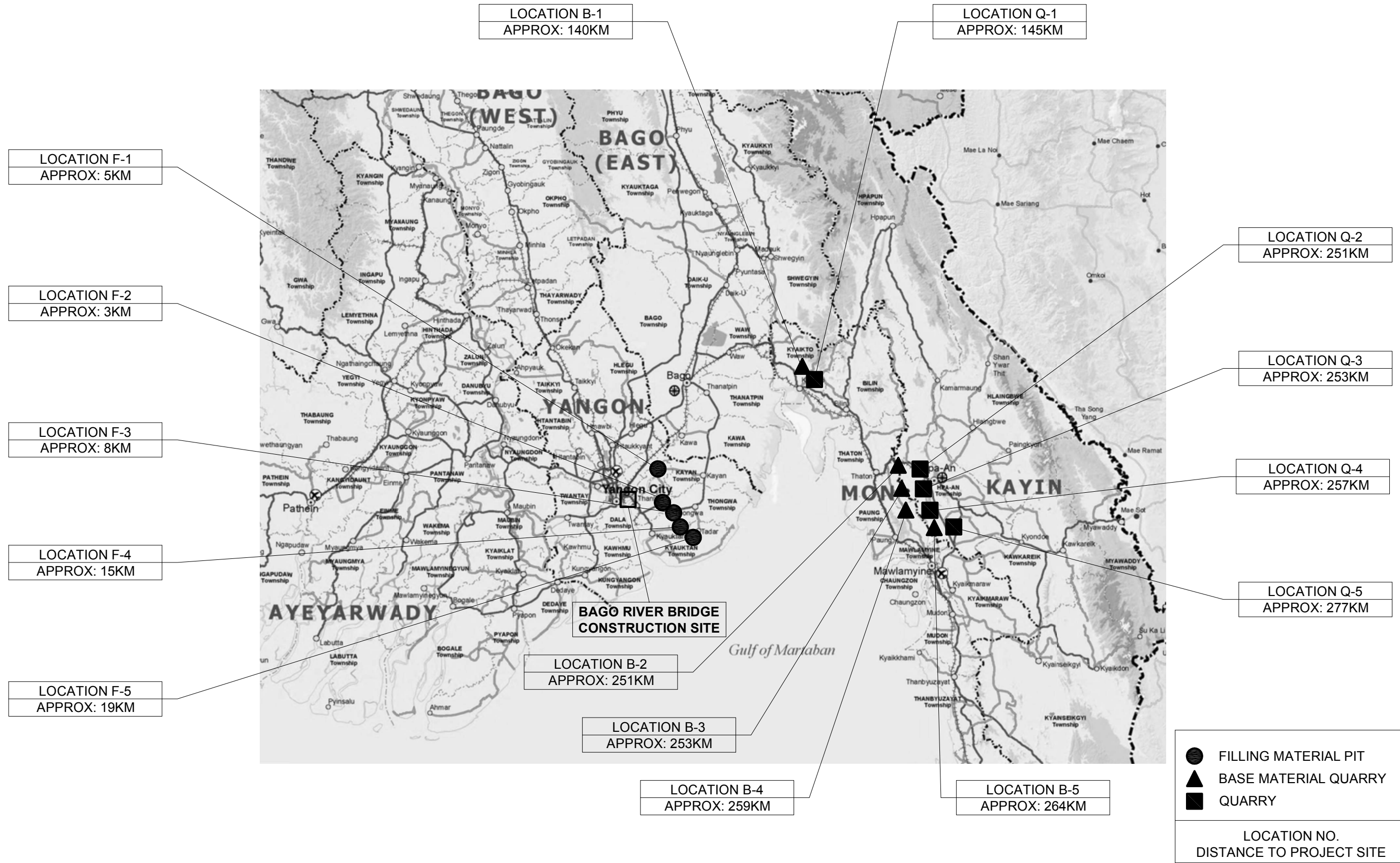
(REFERENCE) GENERAL LAYOUT OF CONSTRUCTION YARD



NOTE: The construction yard in this drawing is a candidate site. The Contractor shall confirm the availability of the construction yards to The Client.

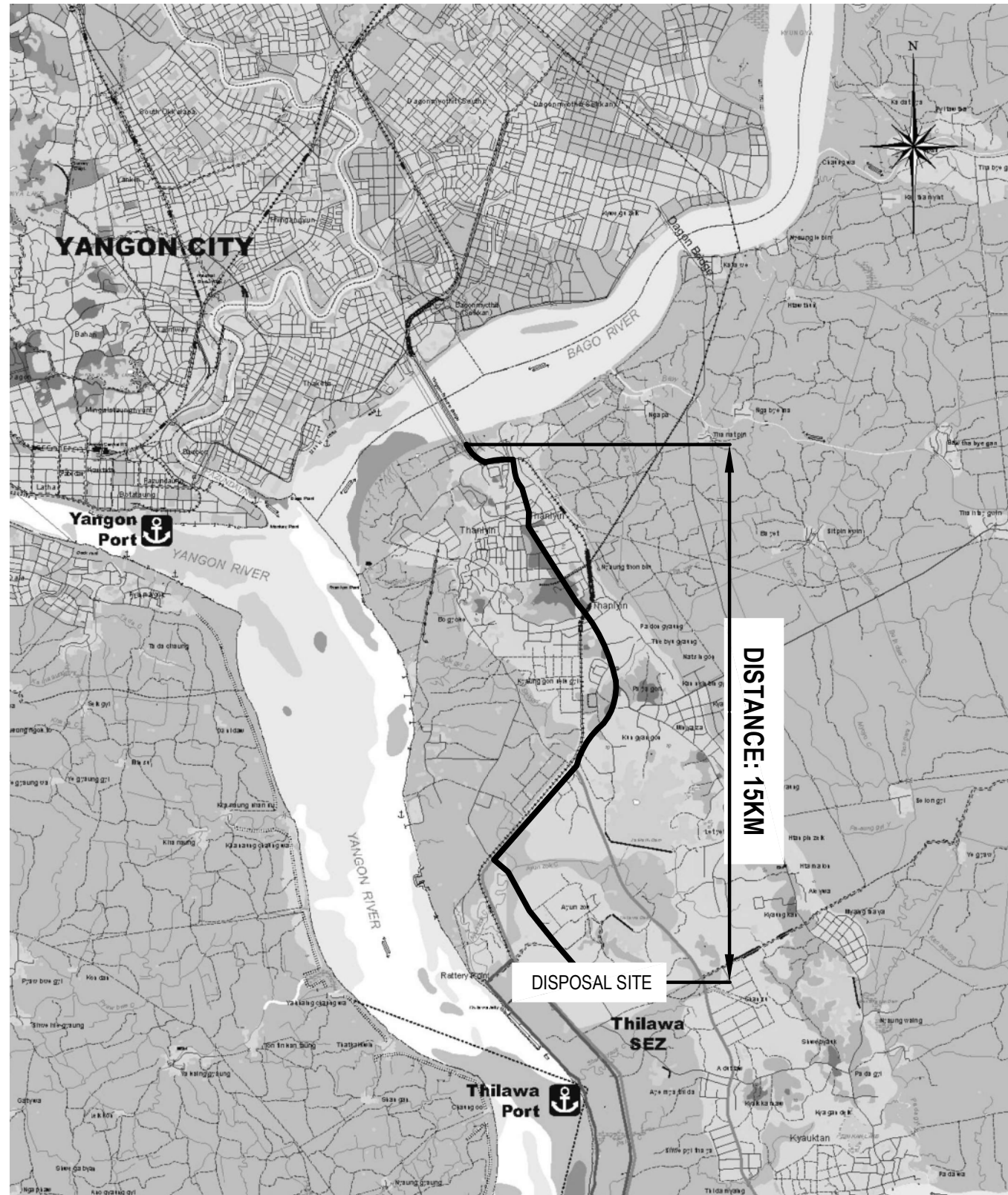
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.		NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) GENERAL LAYOUT OF CONSTRUCTION YARD	PACKAGE 3 DWG No. P3-REF-0027
				PREPARED BY	Y. SUZUKI		29 Sep. 2017		
				CHECKED BY	T. HAYAKAWA		3 Oct. 2017		
				APPROVED BY	Y. SANO		6 Oct. 2017		

(REFERENCE) QUARRY SITE LOCATION

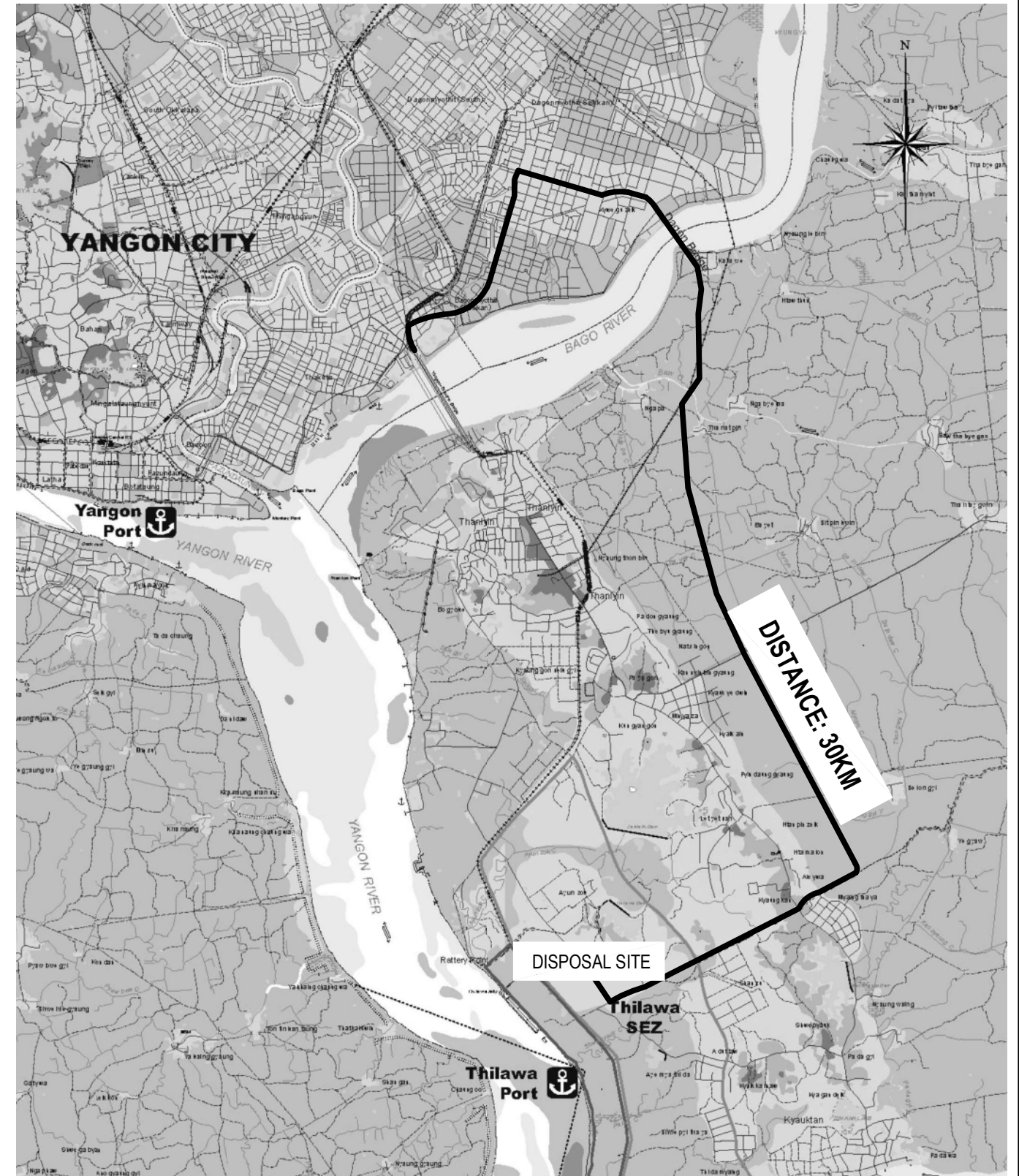


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) QUARRY SITE LOCATION	PACKAGE	
				PREPARED BY	T. HAYAKAWA			4 Aug.2017	3
				CHECKED BY	T. HAYAKAWA			14 Aug.2017	DWG No.
	APPROVED BY	Y. SANO		16 Aug.2017			P3-REF-1001		

(REFERENCE) LAND TRANSPORTATION ROUTE TO WASTE DISPOSAL SITE IN THILAWA SEZ



LAND ROUTE 1
FROM PACKAGE 1 TO DIPOSAL SITE

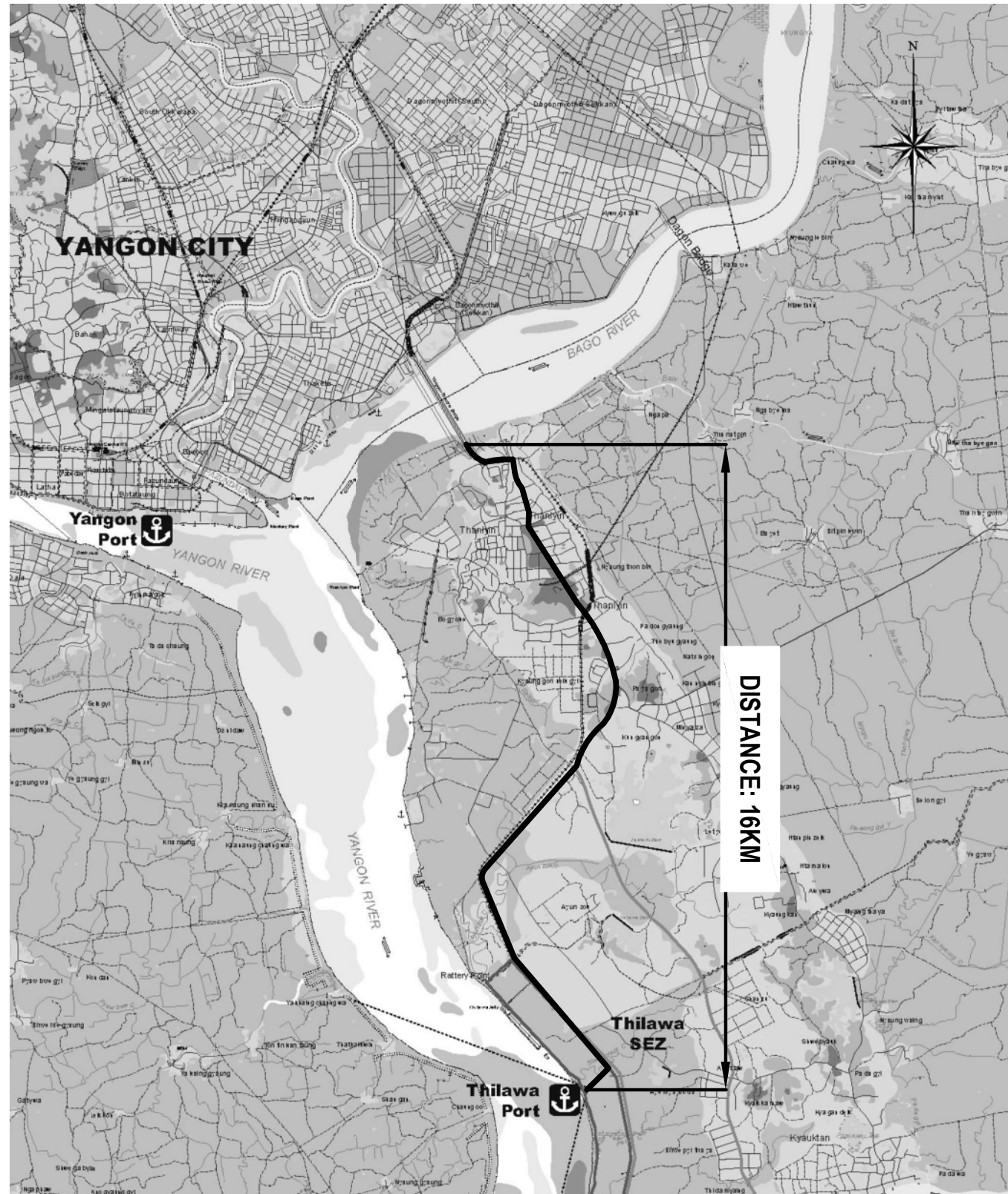


LAND ROUTE 2
FROM PACKAGE 2 & 3 TO DIPOSAL SITE

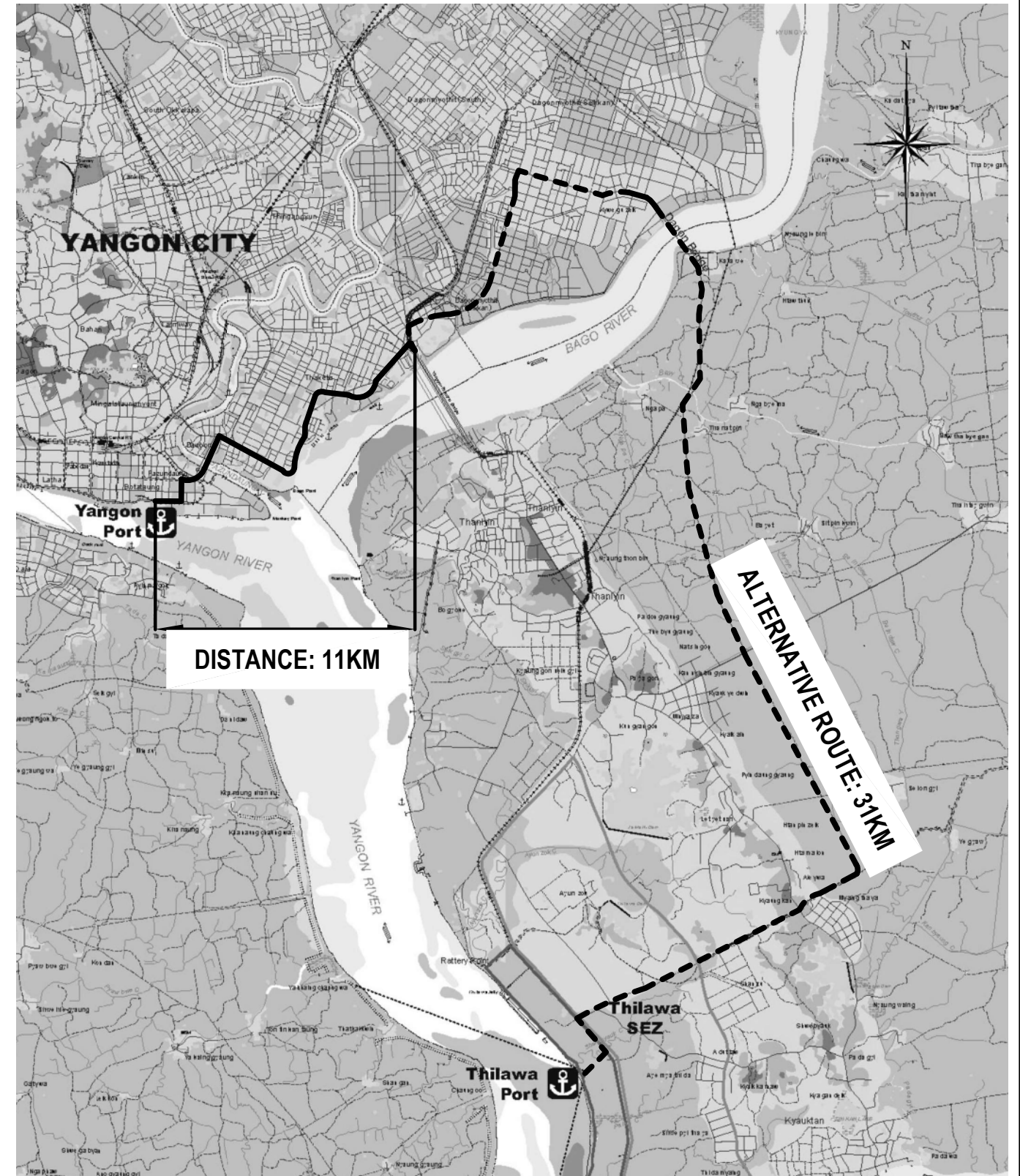
NOTE: The site shown in this drawing is a candidate for the waste disposal site. The contractor may change the waste disposal site according to Engineer's instruction.

<p>PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT</p>	<p>FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY</p>	<p>COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE</p>	<p>JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.</p>	<table border="1"> <thead> <tr> <th></th> <th>NAME</th> <th>SIGNATURE</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>4 Aug.2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>14 Aug.2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>16 Aug.2017</td> </tr> </tbody> </table>		NAME	SIGNATURE	DATE	PREPARED BY	T. HAYAKAWA		4 Aug.2017	CHECKED BY	T. HAYAKAWA		14 Aug.2017	APPROVED BY	Y. SANO		16 Aug.2017	<p>DRAWING TITLE (REFERENCE) LAND TRANSPORTATION ROUTE TO WASTE DISPOSAL SITE IN THILAWA SEZ</p>	<p>PACKAGE 3 DWG No. P3-REF-1002</p>
	NAME	SIGNATURE	DATE																			
PREPARED BY	T. HAYAKAWA		4 Aug.2017																			
CHECKED BY	T. HAYAKAWA		14 Aug.2017																			
APPROVED BY	Y. SANO		16 Aug.2017																			

(REFERENCE) LAND TRANSPORTATION ROUTE FROM LANDING PORT



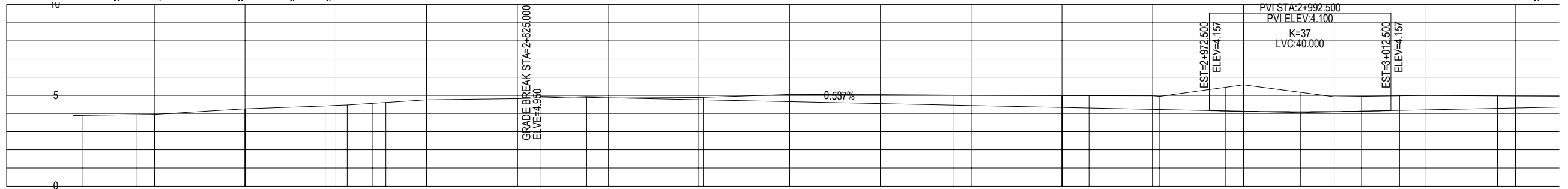
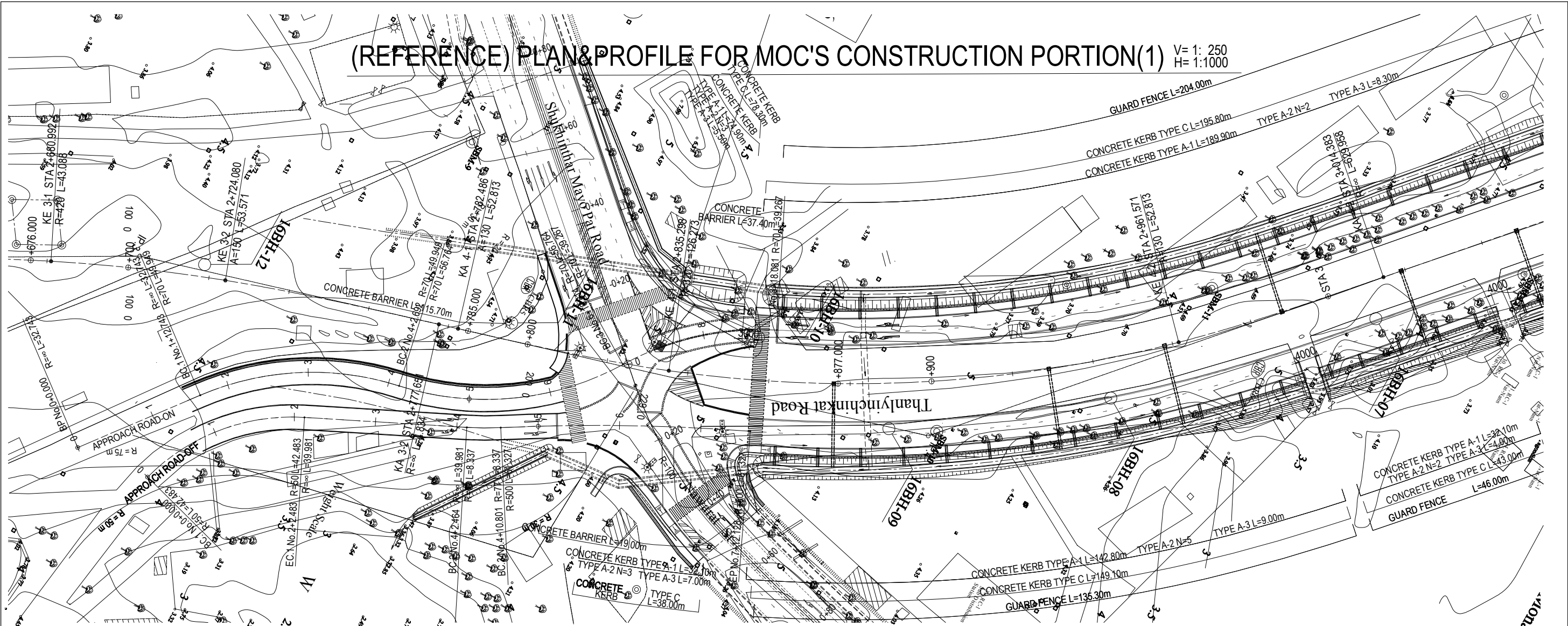
LAND ROUTE 1
FROM THILAWA PORT TO PACKAGE 1



LAND ROUTE 2
FROM YANGON PORT TO PACKAGE 2 & 3
(FROM THILAWA PORT TO PACKAGE 2 & 3)

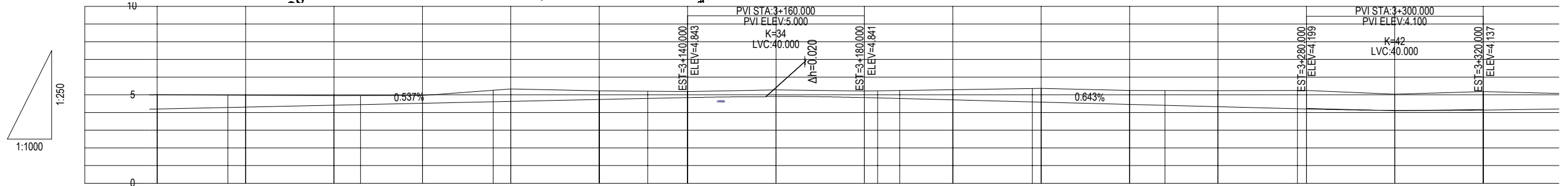
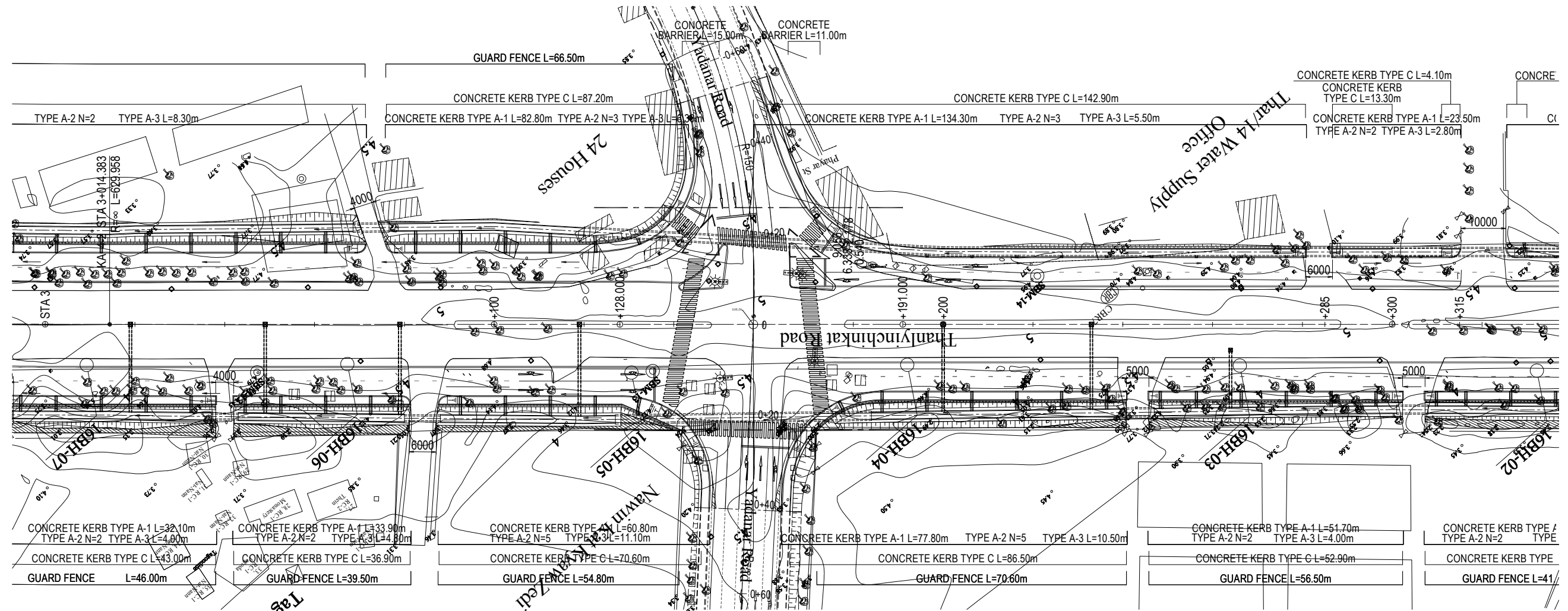
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) LAND TRANSPORTATION ROUTE FROM LANDING PORT	PACKAGE	
				PREPARED BY	T. HAYAKAWA			4 Aug.2017	3
				CHECKED BY	T. HAYAKAWA			14 Aug.2017	DWG No.
APPROVED BY	Y. SANO		16 Aug.2017		P3-REF-1003				

(REFERENCE) PLAN & PROFILE FOR MOC'S CONSTRUCTION PORTION(1) V= 1: 250
H= 1:1000



GRADE	PROPOSED HEIGHT	EXISTING HEIGHT	STATION	SUPER ELEVATION	CURVE ELEMENTS
		3.90	KE 3-2		L=53.571 A=150.000
		3.94	+736.000		
		3.95	+740.000		R=6 L=4.834
		4.26	+760.000		
		4.42	KA 3-2		A=130.000 L=52.813
		4.45	+780.000		
		4.47	KA 4-1		IP = IP.4 IA = 32-03.54 CL = 231.898 R=320.000 L=126.273
		4.56	+788.000		
		4.61	+791.000		A=130.000 L=52.813
		4.75	+800.000		
		4.82	+820.000		I=0.537% L=167.500
		4.86	+825.000		
		4.88	KE 4-1		A=130.000 L=52.813
		4.93	+840.000		
		4.91	+840.000		A=130.000 L=52.813
		4.89	+860.000		
		4.75	+861.000		A=130.000 L=52.813
		5.05	+880.000		
		5.04	+900.000		A=130.000 L=52.813
		5.02	+916.000		
		5.01	+920.000		A=130.000 L=52.813
		4.99	+940.000		
		4.99	+946.000		A=130.000 L=52.813
		4.98	+960.000		
		4.95	KE 4-2		A=130.000 L=52.813
		5.44	+976.000		
		5.58	+980.000		A=130.000 L=52.813
		5.17	+992.500		
		4.92	STA3		A=130.000 L=52.813
		4.95	+6.000		
		4.98	KA 4-2		A=130.000 L=52.813
		5.00	+20.000		
		4.98	+36.000		A=130.000 L=52.813
		4.97	+40.000		

(REFERENCE) PLAN&PROFILE FOR MOC'S CONSTRUCTION PORTION(2) V= 1: 250
H= 1:1000



GRADE	-0.537% L=167.500																0.643% L=140.000											
PROPOSED HEIGHT	4.198	4.284	4.305	4.413	4.445	4.520	4.606	4.628	4.735	4.794	4.843	4.881	4.911	4.841	4.822	4.790	4.719	4.697	4.584	4.468	4.404	4.327	4.211	4.168	4.119	4.137		
EXISTING HEIGHT	5.00	4.98	4.97	4.95	4.95	4.96	5.26	5.33	5.22	5.20	5.18	5.28	5.28	5.21	5.22	5.24	5.29	5.35	5.36	5.25	5.25	5.24	5.25	5.25	5.03	5.18		
STATION	+20.000	+36.000	+40.000	+60.000	+66.000	+80.000	+96.000	+100.000	+120.000	+131.000	+140.000	+160.000	+180.000	+183.000	+188.000	+200.000	+218.000	+220.000	+240.000	+248.000	+260.000	+278.000	+280.000	+300.000	+320.000			
SUPER ELEVATION	-																											
CURVE ELEMENTS	R=∞ L=629.958																											

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

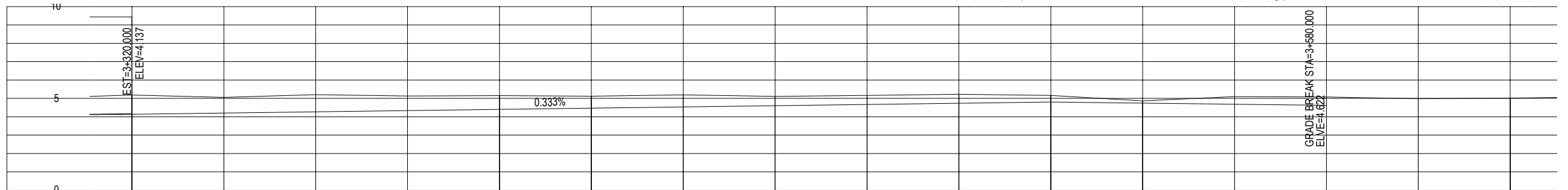
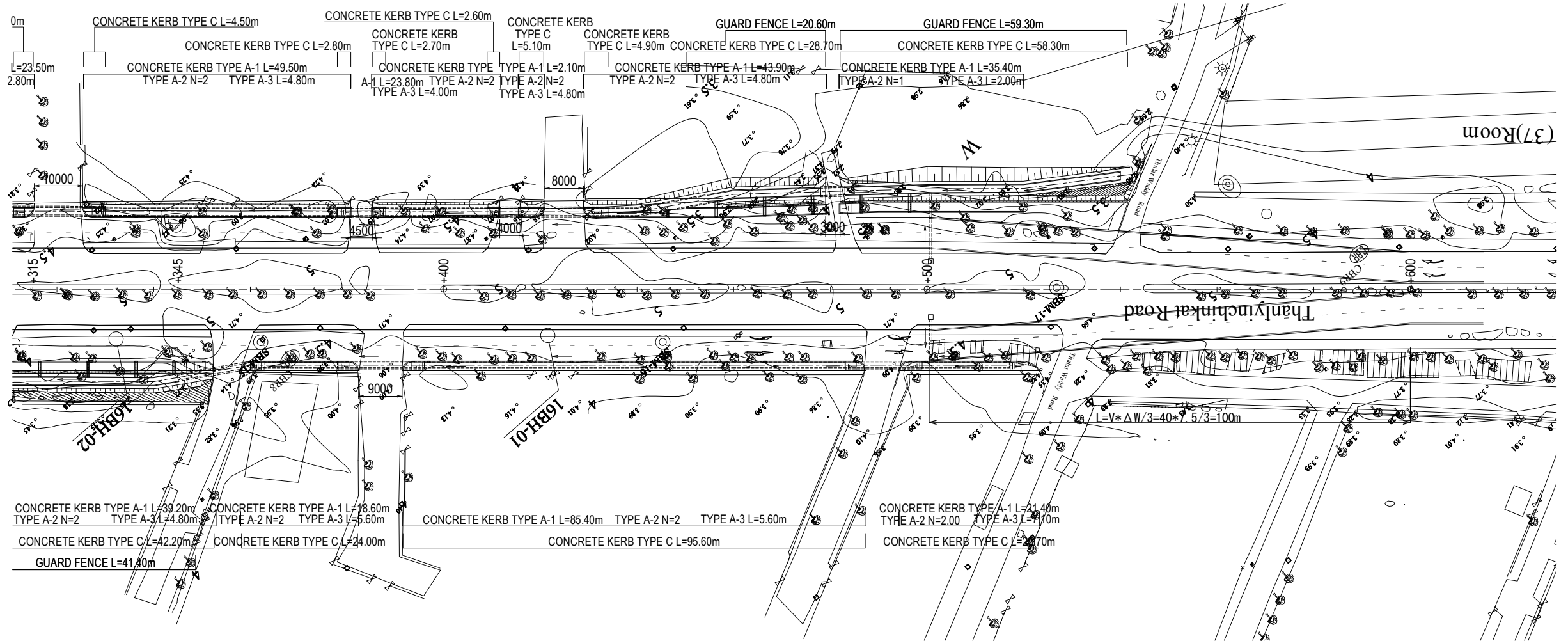
JICA STUDY TEAM
NIPPON KOEI CO., LTD.
ORIENTAL CONSULTANTS GLOBAL CO., LTD.
METROPOLITAN EXPRESSWAY COMPANY LIMITED
CHODAI CO., LTD.
NIPPON ENGINEERING CONSULTANTS CO., LTD.

	NAME	SIGNATURE	DATE
PREPARED BY	K. TACHIBANA		29 Sep. 2017
CHECKED BY	T. HAYAKAWA		3 Oct. 2017
APPROVED BY	Y. SANO		6 Oct. 2017

DRAWING TITLE
(REFERENCE) PLAN&PROFILE FOR
MOC'S CONSTRUCTION PORTION(2)
V= 1: 250, H= 1:1000

PACKAGE
3
DWG No.
P3-REF-2002

(REFERENCE) PLAN&PROFILE FOR MOC'S CONSTRUCTION PORTION(3) V= 1: 250
H= 1:1000



GRADE																
PROPOSED HEIGHT	4.137	4.203	4.270	4.336	4.403	4.469	4.535	4.602	4.668	4.735	4.802	4.742	4.682	4.622		
EXISTING HEIGHT	5.18	5.06	5.20	5.13	5.15	5.12	5.19	5.11	5.16	5.23	5.16	4.87	5.10	5.08	4.98	5.01
STATION	+320.000	+340.000	+360.000	+380.000	+400.000	+420.000	+440.000	+460.000	+480.000	+500.000	+520.000	+540.000	+560.000	+580.000	+600.000	+620.000
SUPER ELEVATION	-----															
CURVE ELEMENTS	R=∞ L=629.958															

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

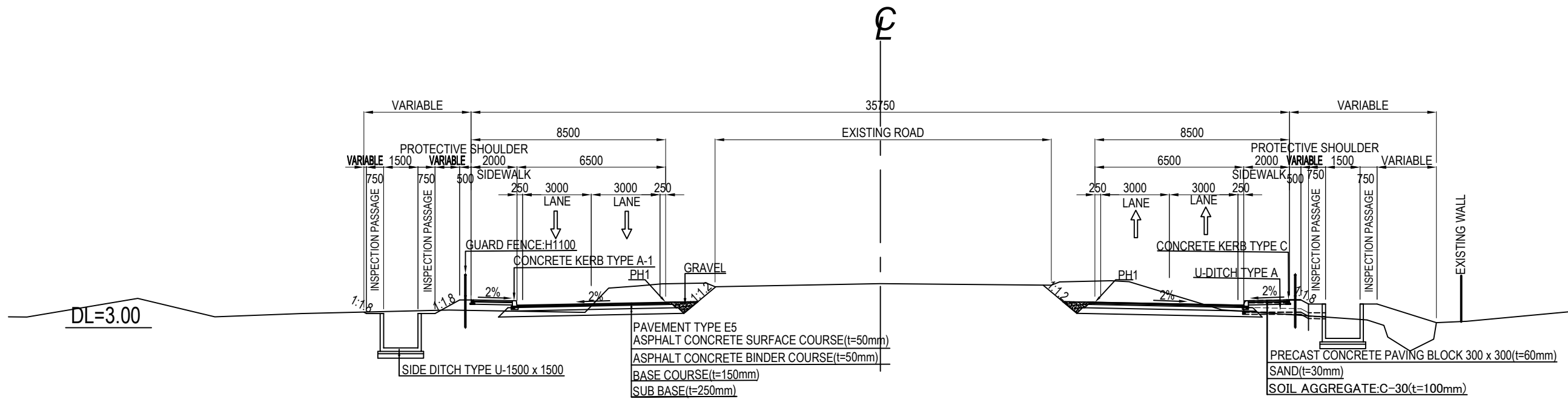
JICA STUDY TEAM
 NIPPON KOEI CO., LTD.
ORIENTAL CONSULTANTS GLOBAL CO., LTD.
METROPOLITAN EXPRESSWAY COMPANY LIMITED
CHODAI CO., LTD.
NIPPON ENGINEERING CONSULTANTS CO., LTD.

	NAME	SIGNATURE	DATE
PREPARED BY	K. TACHIBANA		29 Sep. 2017
CHECKED BY	T. HAYAKAWA		3 Oct. 2017
APPROVED BY	Y. SANO		6 Oct. 2017

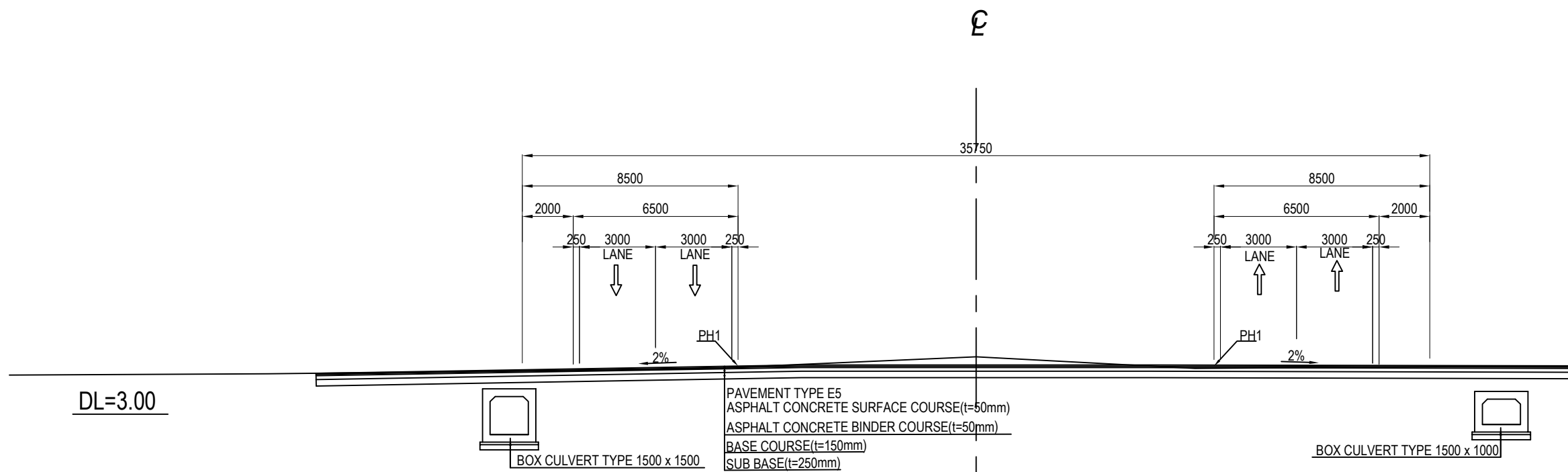
DRAWING TITLE
(REFERENCE) PLAN&PROFILE FOR
MOC'S CONSTRUCTION PORTION(3)
V= 1: 250,H= 1:1000

PACKAGE
3
DWG No.
P3-REF-2003

(REFERENCE) TYPICAL CROSS SECTION FOR MOC'S CONSTRUCTION PORTION (1) S=1:200



"SHUKHINTHAR INTERSECTION - YADANAR INTERSECTION" SECTION

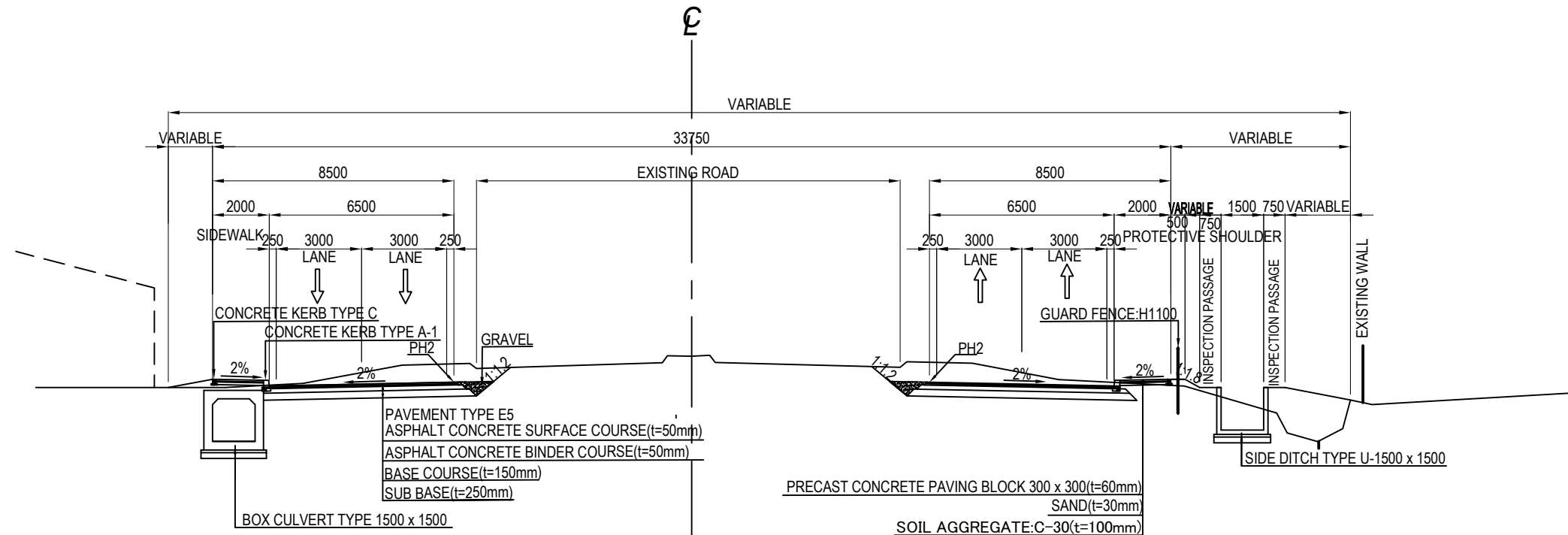


INTERSECTION

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JICA JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME PREPARED BY K. TACHIBANA CHECKED BY T. HAYAKAWA APPROVED BY Y. SANO	SIGNATURE [Signature] [Signature] [Signature]	DATE 29 Sep. 2017 3 Oct. 2017 6 Oct. 2017	DRAWING TITLE (REFERENCE) TYPICAL CROSS SECTION FOR MOC'S CONSTRUCTION PORTION(1) S=1:200	PACKAGE 3 DWG No. P0-REF-2004
---	--	---	--	---	--	--	---	--

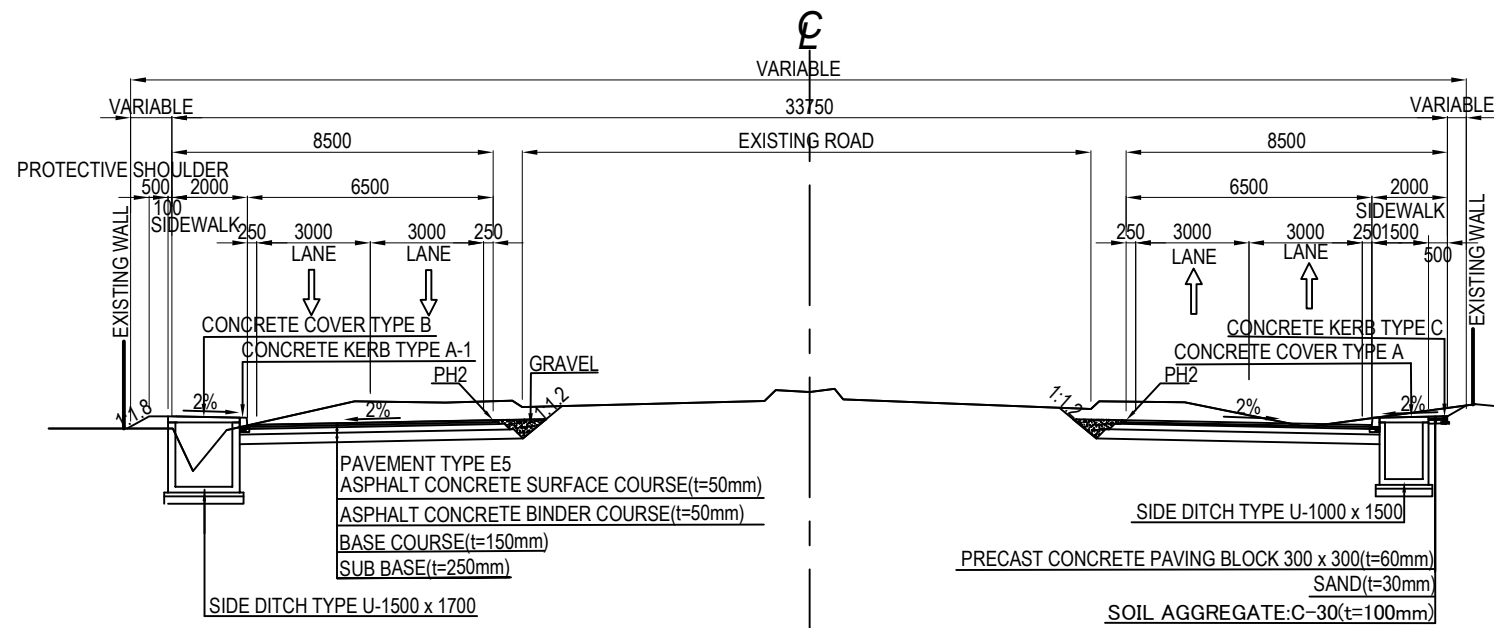
(REFERENCE) TYPICAL CROSS SECTION FOR MOC'S CONSTRUCTION PORTION (2) S=1:200

DL=3.00



"NEAR THE WATER SUPPLY OFFICE" SECTION

DL=3.00

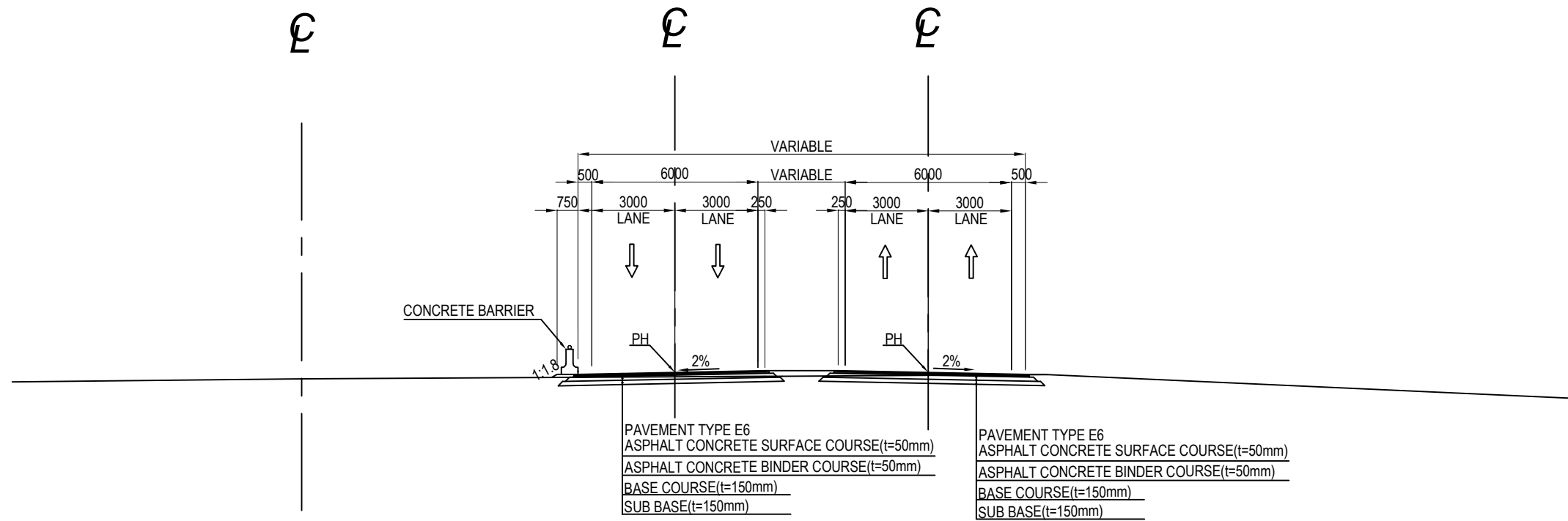


"MECHANICALLY-STABILISED EARTH WALL" SECTION

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	DRAWING TITLE (REFERENCE) TYPICAL CROSS SECTION FOR MOC'S CONSTRUCTION PORTION(2) S=1:200	PACKAGE	
				PREPARED BY	K. TACHIBANA	橋 馨		29 Sep. 2017	3
				CHECKED BY	T. HAYAKAWA	平川 知寿		3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO	佐野 祐一		6 Oct. 2017	P3-REF-2005

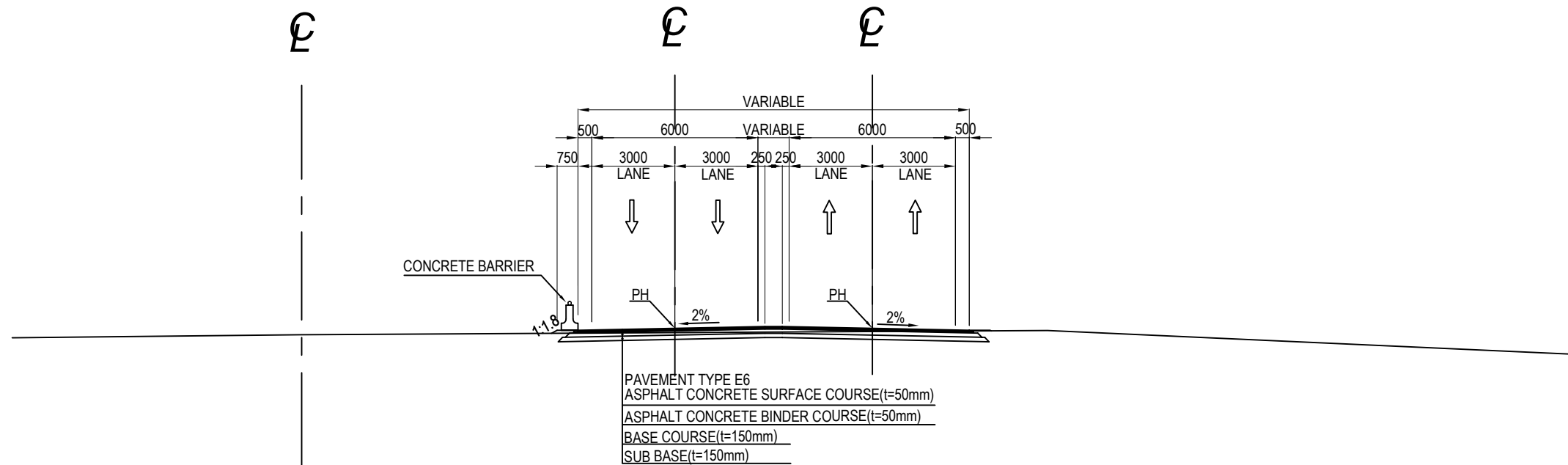
(REFERENCE) TYPICAL CROSS SECTION FOR MOC'S CONSTRUCTION PORTION (3) S=1:200

DL=3.00



"SHUKHINTHAR INTERSECTION TEMPORARY ROAD" SEPARATION SECTION

DL=3.00



"SHUKHINTHAR INTERSECTION TEMPORARY ROAD" SECTION

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.	K. TACHIBANA		29 Sep. 2017	(REFERENCE) TYPICAL CROSS SECTION FOR MOC'S CONSTRUCTION PORTION(3) S=1:200	3
				T. HAYAKAWA		3 Oct. 2017		DWG No.
				Y. SANO		6 Oct. 2017		P3-REF-2006