ABBREVIATIONS

AMP	AMPERE
A	CLOTHOID PARAMETER
AC	ALTERNATING CURRENT
AC	ASPHALT CONCRETE
AD	ABSOLUTE DIFFERENCE
AIFB	ASPHALT–IMPREGNATED FIBERBOARD
APPR	APPROACH
ASPH	ASPHALT
BC	BOX CULVERT
BOR	BORING
BR	BRIDGE
BRG	BEARING
BVCS	BEGINING OF VERTICAL CURVE STATION
BVCE	BEGINING OF VERTICAL CURVE ELEVATION
C/C	CENTER TO CENTER
CB	CATCH BASIN
CIP	CAST–IN–PLACE
CL	CENTERLINE
CM	CENTIMETER
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CS	CIRCULAR CURVE TO SPIRAL CURVE
CU.M	CUBIC METER
CJ	CONSTRUCTION JOINT
CWB	COUNTER WEIGHT BERM
DC	DRAINAGE CATCH BASIN
DFL	DESIGN FLOOD LEVEL
DI	DRAINAGE INLET
DIA or ø	DIAMETER
DL	DATUM LINE
DO	DRAINAGE OUTLET
DS	DRAINAGE SIDE DITCH
DSP	DEEP SETTLEMENT PLATE
DW	MOTARED RUBBLE PAVED WATERWAY
DWG	DRAWING
E	EASTING
EB	EAST BOUND
ELEV(EL)	ELEVATION
EGL	EXISTING GROUND LEVEL
EP	END POINT
EQ	EQUAL
EXC	EXCAVATION
EXP	EXPANSION
EVCS	ENDING OF VERTICAL CURVE STATION
EVCE	ENDING OF VERTICAL CURVE ELEVATION
F	FILL
F	FIXED
FF	FACE TO FACE
FG	FINISHED GRADE
FR	FRONTAGE ROAD
GF	GUARD FENCE
GIR	GIRDER
GL	GROUND LEVEL
GR	GUARD RAIL
Have	AVERAGE HEIGHT
H.W.L	HIGH WATER LEVEL
HWY	HIGHWAY
G1,G2	GRADIENT
INV	INVERT
JT	JOINT
K	VERTICAL CURVE COEFICIENT
kg	KILOGRAM
km	KILOMETER
kph	KILOMETER PER HOUR
L	LEFT
L	LENGTH
LA	LAND ACQUISITION
L.M	LINEAR METER
LT	LEFT SIDE OF ALIGNMENT
L.V.C	LENGTH OF VERTICAL CURVE
M	METER
M^2, M2	SQUARE METER
M^3, M3	CUBIC METER
MAX	MAXIMUM
MIN	MINIMUM
MM	MILLIMETER
MO	MIDDLE ORDINATE
N	NORTHING
NA, N/A	NOT APPLICABLE
NB	NORTH BOUND
NC	NORMAL CROWN
NGL	NATURAL GROUND LEVEL
NH	NATIONAL HIGHWAY
NO	NUMBER
NTS	NOT TO SCALE
OGL	ORIGINAL GROUND LEVEL
OV	OVER BRIDGE
P	PIPE CULVERT
PC	BEGINING POINT OF SIMPLE CURVE
P.C	PRESTRESSED CONCRETE
PCCP	PORTLAND CEMENT CONCRETE PAVEMENT
PH	PLAN HEIGHT
PI	POINT OF HORIZONTAL INTERSECTION
PR	PROVINCIAL ROAD
PRC	POINT OF REVERSE CURVE
PT	ENDPOINT OF SIMPLE CURVE
PVD	PREFABRICATED VERTICAL DRAIN
PVI	POINT OF VERTICAL INTERSECTION
P.W	PARAPET WALL
R	RIGHT
R	RADIUS OF CIRCULAR CURVE
R.C	REINFORCED CONCRETE
R.C.B.C	REINFORCED CONCRETE BOX CULVERT
R.C.P.C	REINFORCED CONCRETE PIPE CULVERT
RERD	RELOCATION OF ROAD
REWY	RELOCATION OF WATERWAY
R.O.W	RIGHT OF WAY
RP	RADIUS POINT
RT	RIGHT SIDE OF ALIGNMENT
RW	RETAINING WALL
SB	SOUTH BOUND
SC	SPIRAL CURVE TO CIRCULAR CURVE
SD	SIDE DICTH
SDBT	SAND BLANKET
SM	STONE MANSORY
SP	SLOPE PROTECTION
SQ.M	SQUARE METER
SSP	SURFACE SETTLEMENT PLATE
ST	SPIRAL CURVE TO TANGENT
STA	STATION
STRUC	STRUCTURE
STS	SPIRAL TO SPIRAL POINT
SURG	SUR–CHARGE
SV	SUPERVISION
T	THICKNESS
TS	TANGENT TO SPIRAL
TYP	TYPICAL
V	DESIGN SPEED IN kph
VOLT	VOLTAGE
VC	VERTICAL CURVE
W	WIDTH
WB	WEST BOUND
WHM	WATT HOUR METER
X	EASTING COORDINATE IN METERS
Y	NORTHING COORDINATE IN METERS
@	AT
&	AND
%	PERCENT

MINISTRY OF PUBLIC WORKS AND TRANSPORT
Cnr Norodom Blvd & St 106, Phnom Penh, Kingdom Cambodia
Tel : (855) 23 426099 - Fax : (855) 23 426098

THE STUDY ON THE ROAD NETWORK DEVELOPMENT IN THE KINGDOM OF CAMBODIA

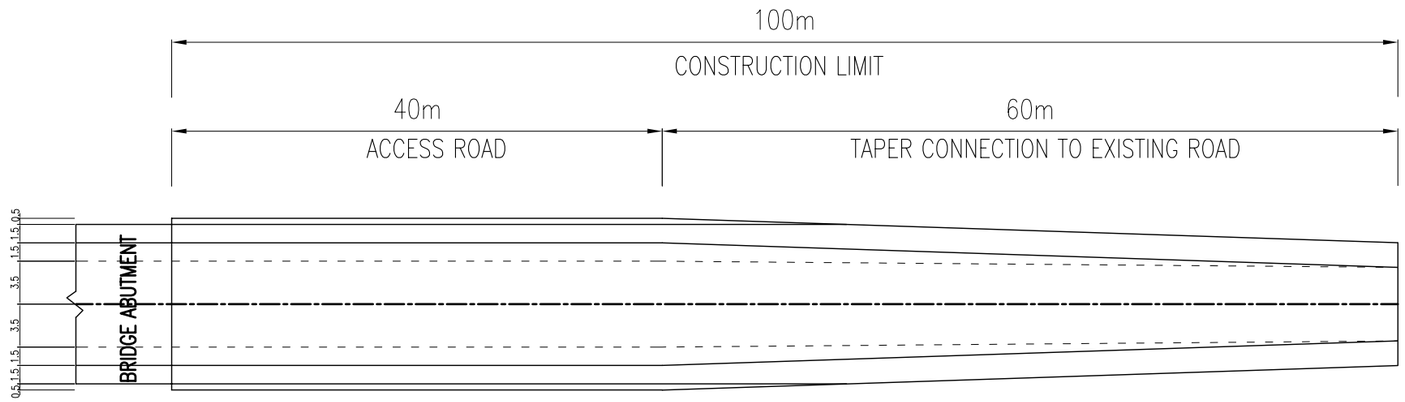
PRE–FEASIBILITY STUDY ON URGENT BRIDGE REHABILITATION

JAPAN INTERNATIONAL COOPERATION AGENCY
NIPPON KOEI CO., LTD. &
KATAHIRA & ENGINEERS INTERNATIONAL

TITLE : ABBREVIATIONS

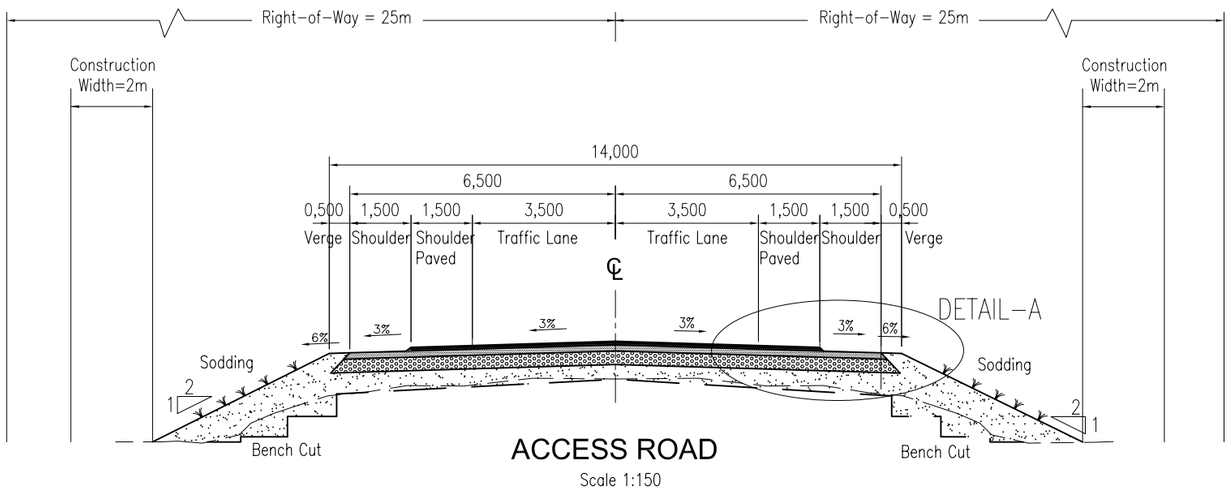
SCALE NTS

DRAWING No : B–03

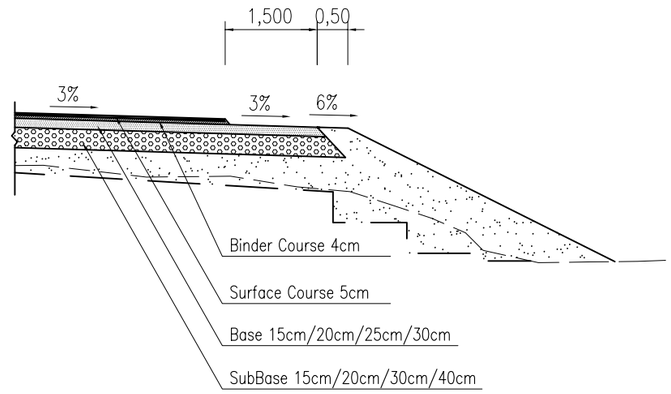


Note: Dimensions are in M
Scale 1:500

Bridge No	Asphalt Concrete		Base	Subbase
	Surface	Binder		
1	4 cm	5 cm	25 cm	30 cm
2	4 cm	5 cm	20 cm	30 cm
3	4 cm	5 cm	15 cm	20 cm
4	4 cm	5 cm	30 cm	40 cm
5	4 cm	5 cm	30 cm	40 cm
6	4 cm	5 cm	30 cm	40 cm
7	4 cm	5 cm	30 cm	40 cm
8	4 cm	5 cm	15 cm	15 cm

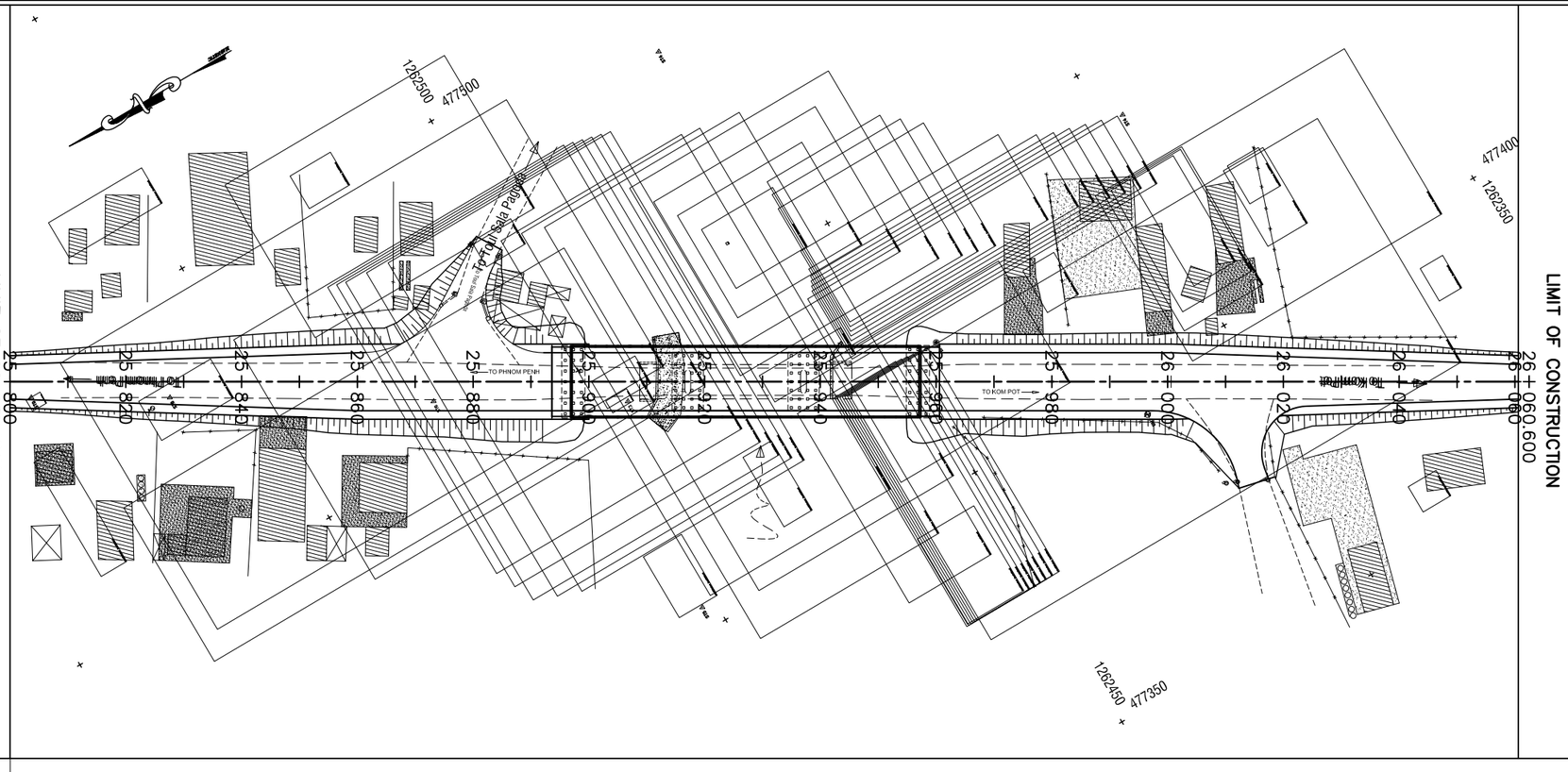


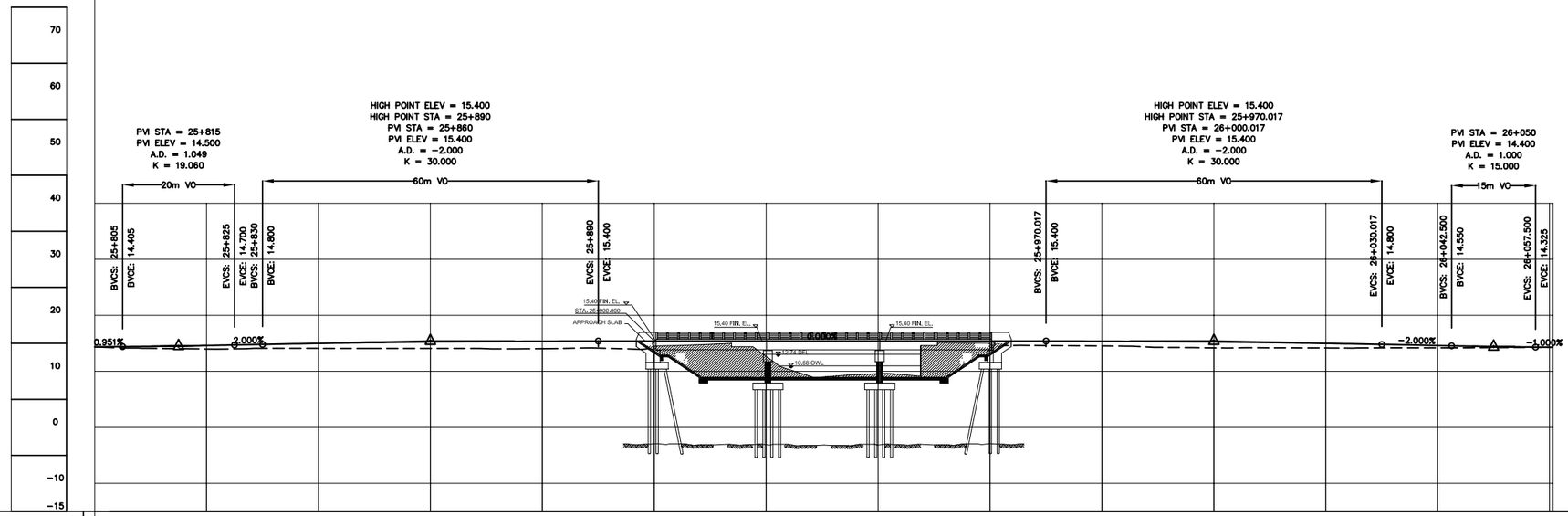
ACCESS ROAD
Scale 1:150



DETAIL-A
Scale 1:100

MINISTRY OF PUBLIC WORKS AND TRANSPORT Cnr Norodom Blvd & St 106, Phnom Penh, Kingdom Cambodia Tel : (855) 23 426099 - Fax : (855) 23 426098	THE STUDY ON THE ROAD NETWORK DEVELOPMENT IN THE KINGDOM OF CAMBODIA PRE-FEASIBILITY STUDY ON URGENT BRIDGE REHABILITATION	JAPAN INTERNATIONAL COOPERATION AGENCY NIPPON KOEI CO., LTD. & KATAHIRA & ENGINEERS INTERNATIONAL	TITLE : TYPICAL ROAD CROSS SECTION	SCALE AS SHOWN	DRAWING No : B-04	





PROPOSED HEIGHT	14.357	14.607	14.983	15.250	15.383	15.400	15.400	15.400	15.400	15.383	15.250	14.984	14.600	14.300 14.294
EXISTING HEIGHT	14.092	13.978	14.101	14.087	14.040	14.116	10.891	9.661	14.572	14.526	14.184	13.983	14.019	14.012
STATION	25+800	25+820	25+840	25+860	25+880	25+900	25+920	25+940	25+960	25+980	26+000	26+020	26+040	26+060 26+061

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THE STUDY ON THE ROAD NETWORK DEVELOPMENT IN THE KINGDOM OF CAMBODIA

PRE−FEASIBILITY STUDY ON URGENT BRIDGE REHABILITATION

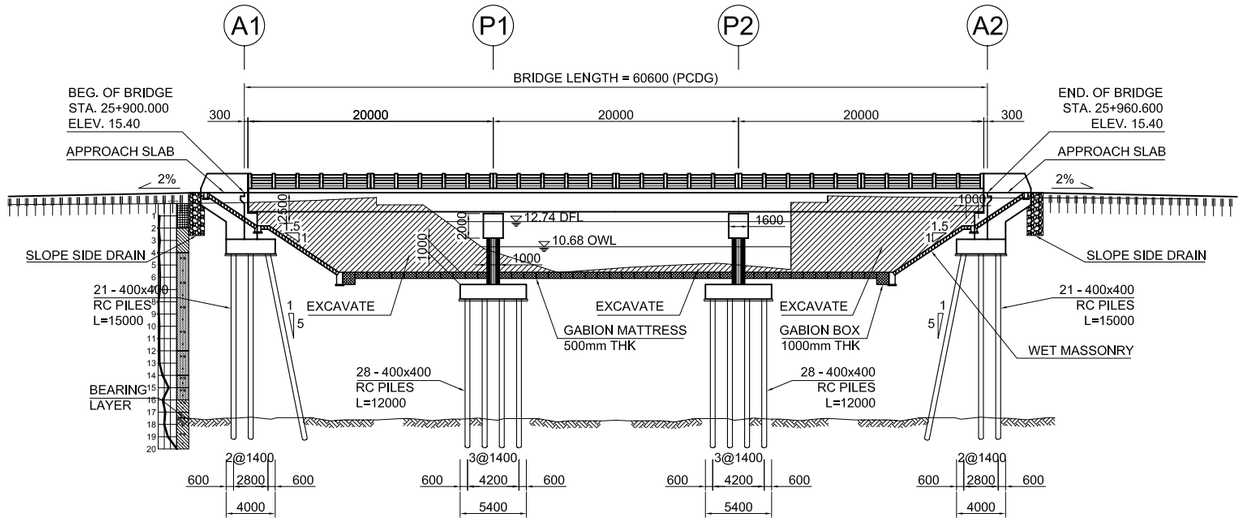
JAPAN INTERNATIONAL COOPERATION AGENCY

NIPPON KOEI CO., LTD. &
KATAHIRA & ENGINEERS INTERNATIONAL

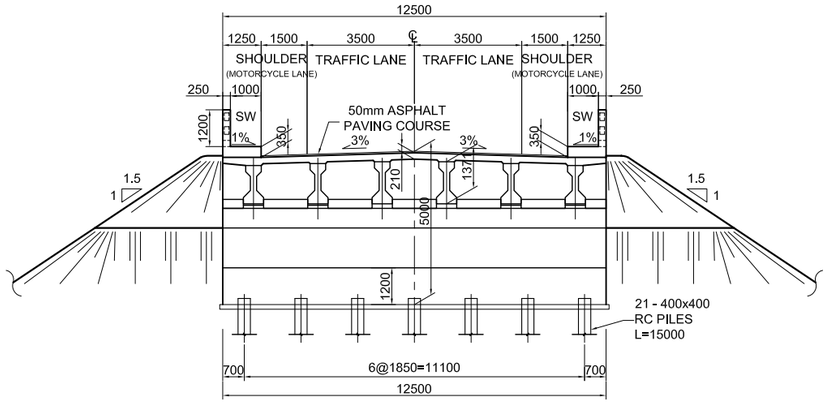
TITLE :
BRIDGE No.1 NR−3 STA.25+900.000
ACCESS ROAD
PLAN AND PROFILE

SCALE
1:1000

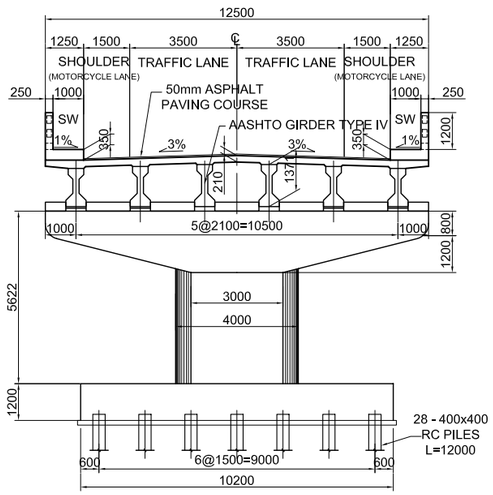
DRAWING No :
B−05



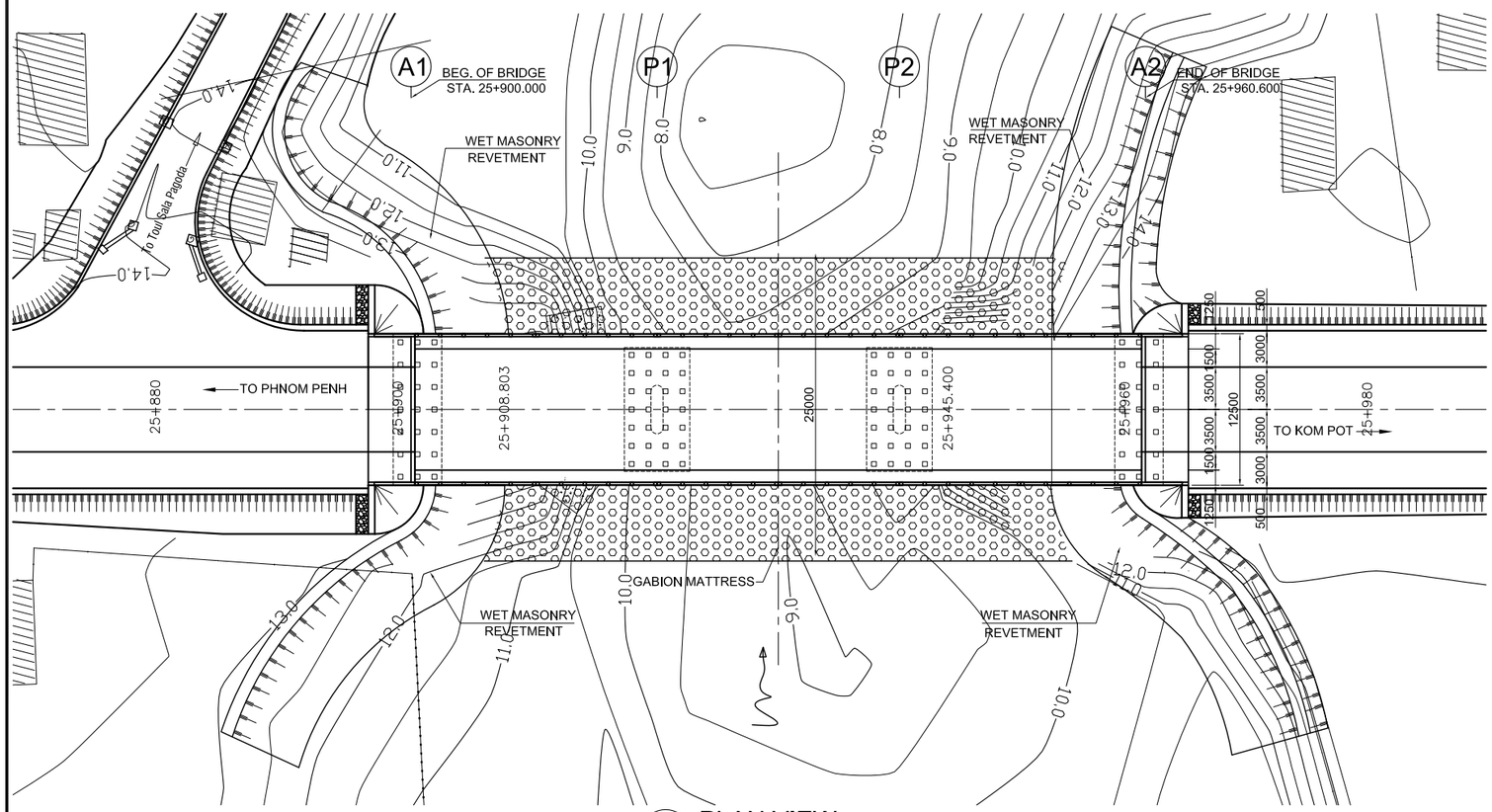
1 BRIDGE ELEVATION
SCALE: 1:500



3 ABUTMENT SECTION
SCALE: 1:200



4 PIER SECTION
SCALE: 1:200



2 PLAN VIEW
SCALE: 1:500

GENERAL NOTES:

1. BASIC DESIGN SPECIFICATION : "CAMBODIAN BRIDGE DESIGN STANDARD (CBDS), CAM PW. 04.102.99, MPWT, 2003".
2. MATERIALS
   2.1 CONCRETE STRENGTHS SHALL BE :

TYPE	MEMBER	28TH DAY COMPRESSIVE STRENGTH (MPa)
1. REINFORCED CONCRETE	DECK SLAB, RAILINGS, SIDEWALK, RC GIRDERS, DIAPHRAGMS, COPING BEAMS, PIER COLUMNS, FOOTING, PILE CAP, RC DRIVEN PILES, RC CAST-IN-PLACE PILES, ABUTMENT	32
2. PRESTRESSED CONCRETE	PRESTRESSED CONCRETE BEAMS (AASHTO TYPE)	42
3. LEAN CONCRETE	LEAN CONCRETE BELOW FOOTING	18

   2.2 REINFORCING STEEL
   YIELD STRENGTH FOR REINFORCING BARS (ASTM A615) SHALL BE:
   PLAIN, Fy = 250MPa
   DEFORMED, Fy =400 MPa
   2.3 PRESTRESSING STEEL SHALL BE 7-WIRE ASTM A416 fp = 1860 MPa.
   2.4 BRIDGE BEARING SHALL BE ELASTOMERIC TYPE WITH HARDNESS OF DURO 60.
3. SLOPE PROTECTION FOR BRIDGE SHALL BE WET MASONRY TYPE WITH BOULDER SIZE GREATER THAN 200MM.
4. THE RIVER SECTION (WATERWAY) SHALL BE CLEARED OF ALL OBSTRUCTION INCLUDING EXISTING OLD BRIDGE STRUCTURES. EXISTING BRIDGE AND OTHER STRUCTURES SHALL BE DEMOLISHED AND REMOVED FROM THE RIVER WATERWAY.

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PRE-FEASIBILITY STUDY ON URGENT BRIDGE REHABILITATION

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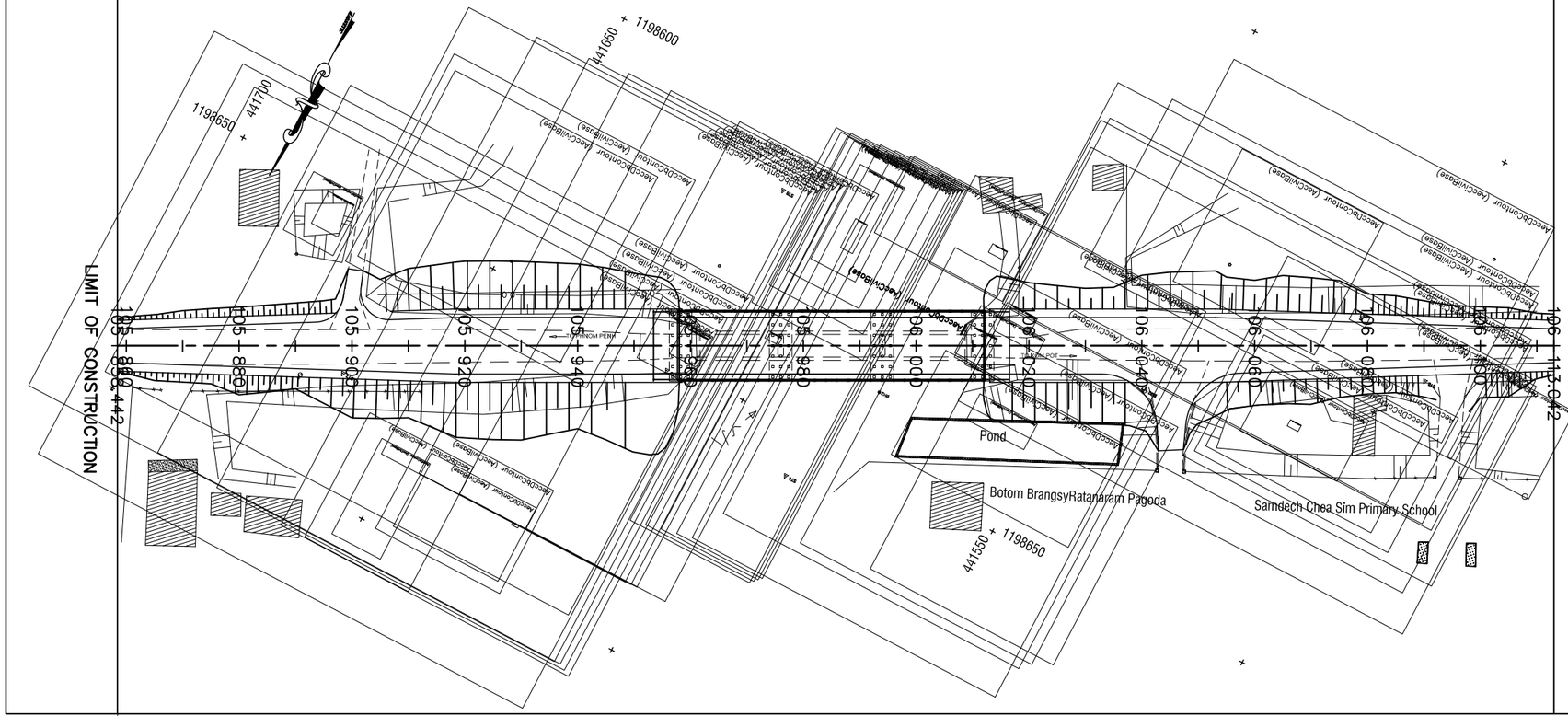
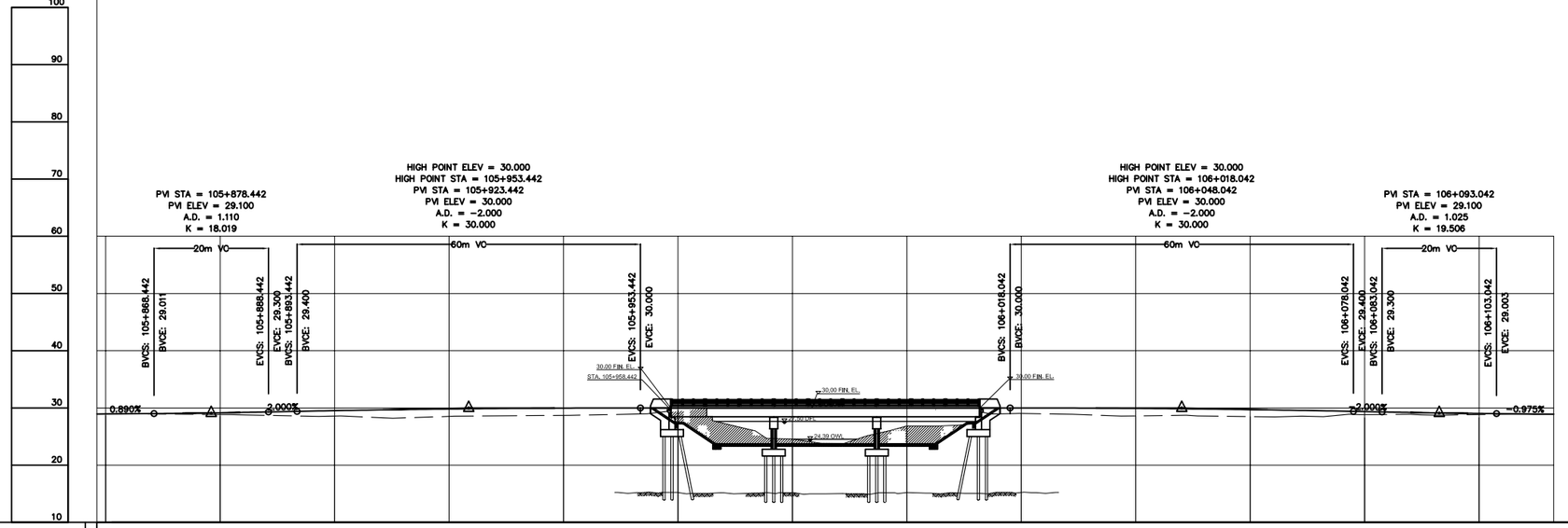
NIPPON KOEI CO., LTD. &
KATAHIRA & ENGINEERS INTERNATIONAL

TITLE :
BRIDGE No.1 NR-3 STA.25+900.000
GENERAL PLAN, ELEVATION, AND SECTION

SCALE
AS SHOWN

DRAWING No :
B-06





PROPOSED HEIGHT	28.922	28.936	29.151	29.524	29.814	29.970	30.000	30.000	30.000	29.999	29.920	29.707	29.361	29.035	28.905
EXISTING HEIGHT	28.658	28.659	28.529	28.577	28.483	28.698	29.627	23.875	26.680	29.027	28.604	28.481	28.273	28.305	
STATION	105+858	105+880	105+880	105+900	105+920	105+940	105+960	105+980	106+000	106+020	106+040	106+060	106+080	106+100	106+113

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THE STUDY ON THE ROAD NETWORK DEVELOPMENT IN THE KINGDOM OF CAMBODIA
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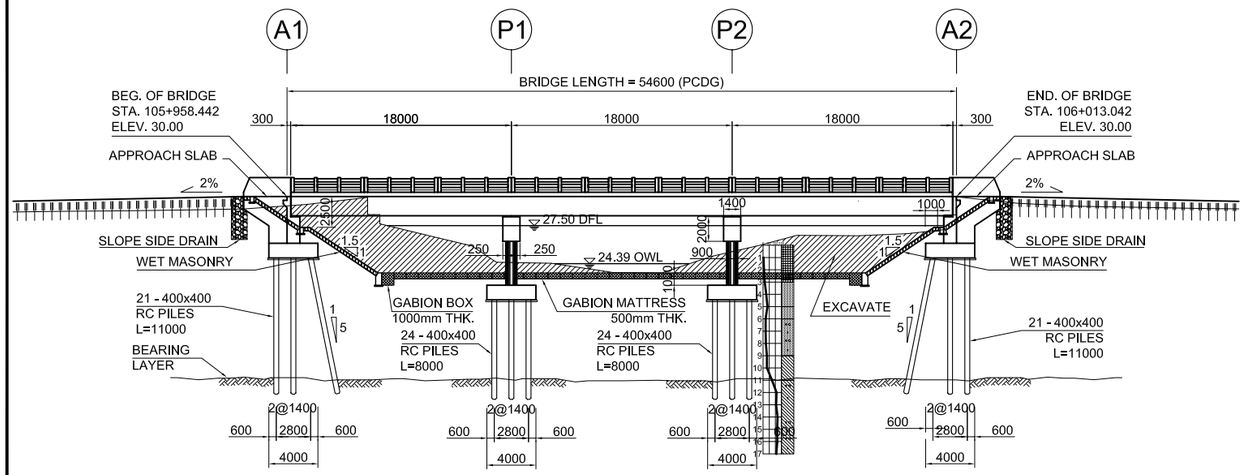
JAPAN INTERNATIONAL COOPERATION AGENCY
NIPPON KOEI CO., LTD. &
KATAHIRA & ENGINEERS INTERNATIONAL

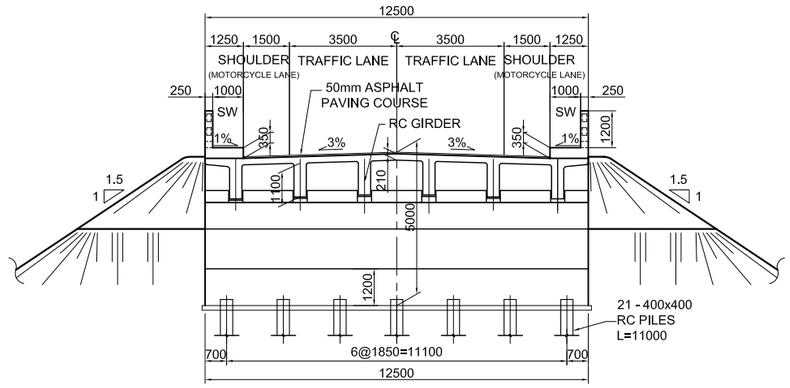
TITLE :
BRIDGE No.2 NR−3 STA.105+958.442
ACCESS ROAD
PLAN AND PROFILE

SCALE
1:1000

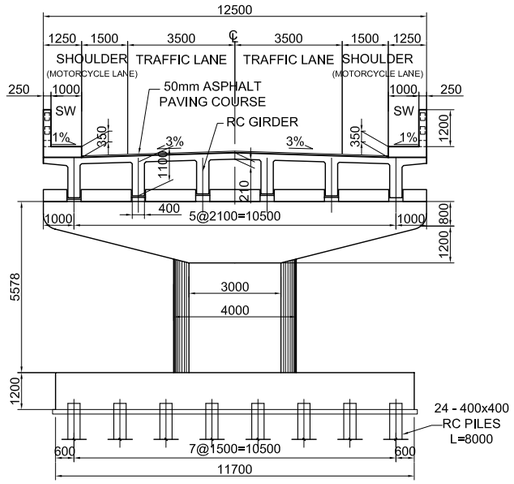
DRAWING No :
B−07



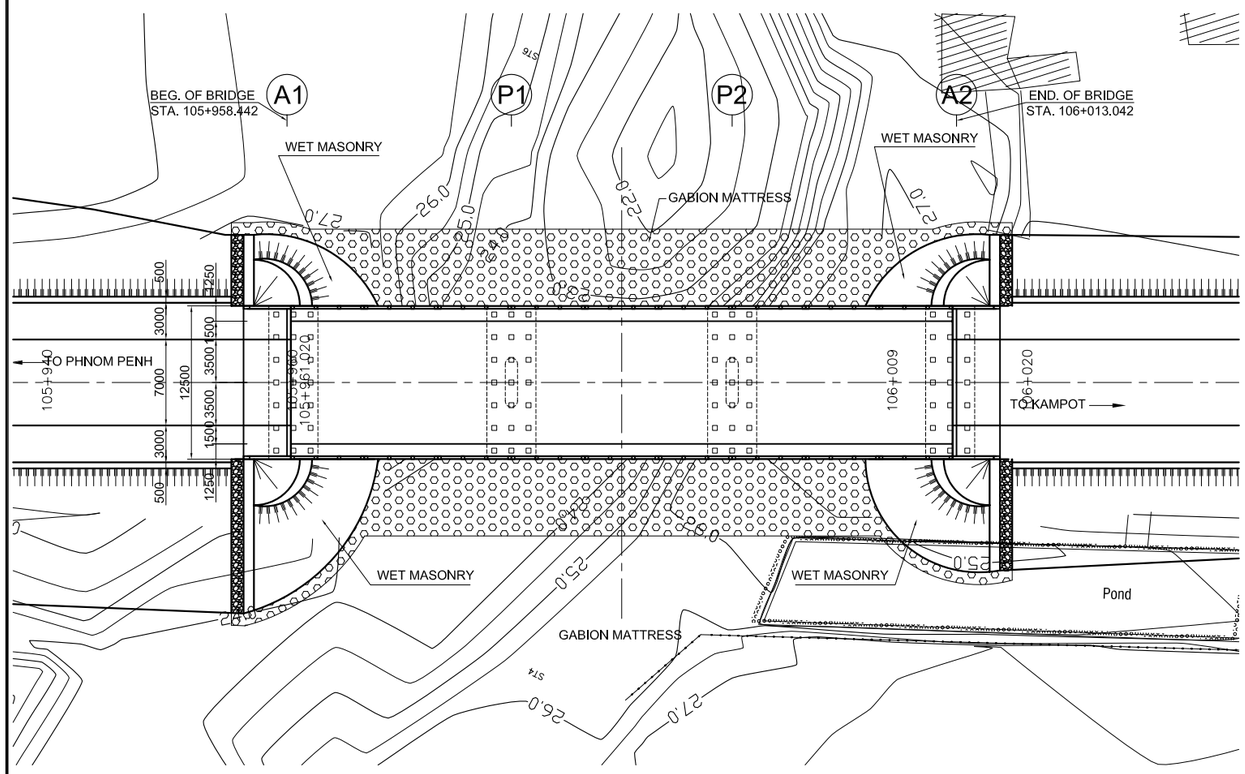
1 BRIDGE ELEVATION
SCALE: 1:500



3 ABUTMENT SECTION
SCALE: 1:200



4 PIER SECTION
SCALE: 1:200



2 PLAN VIEW
SCALE: 1:500

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TITLE :
BRIDGE No.2 NR-3 STA.105+958.442
GENERAL PLAN, ELEVATION, AND SECTION

SCALE
AS SHOWN

DRAWING No :
B-08