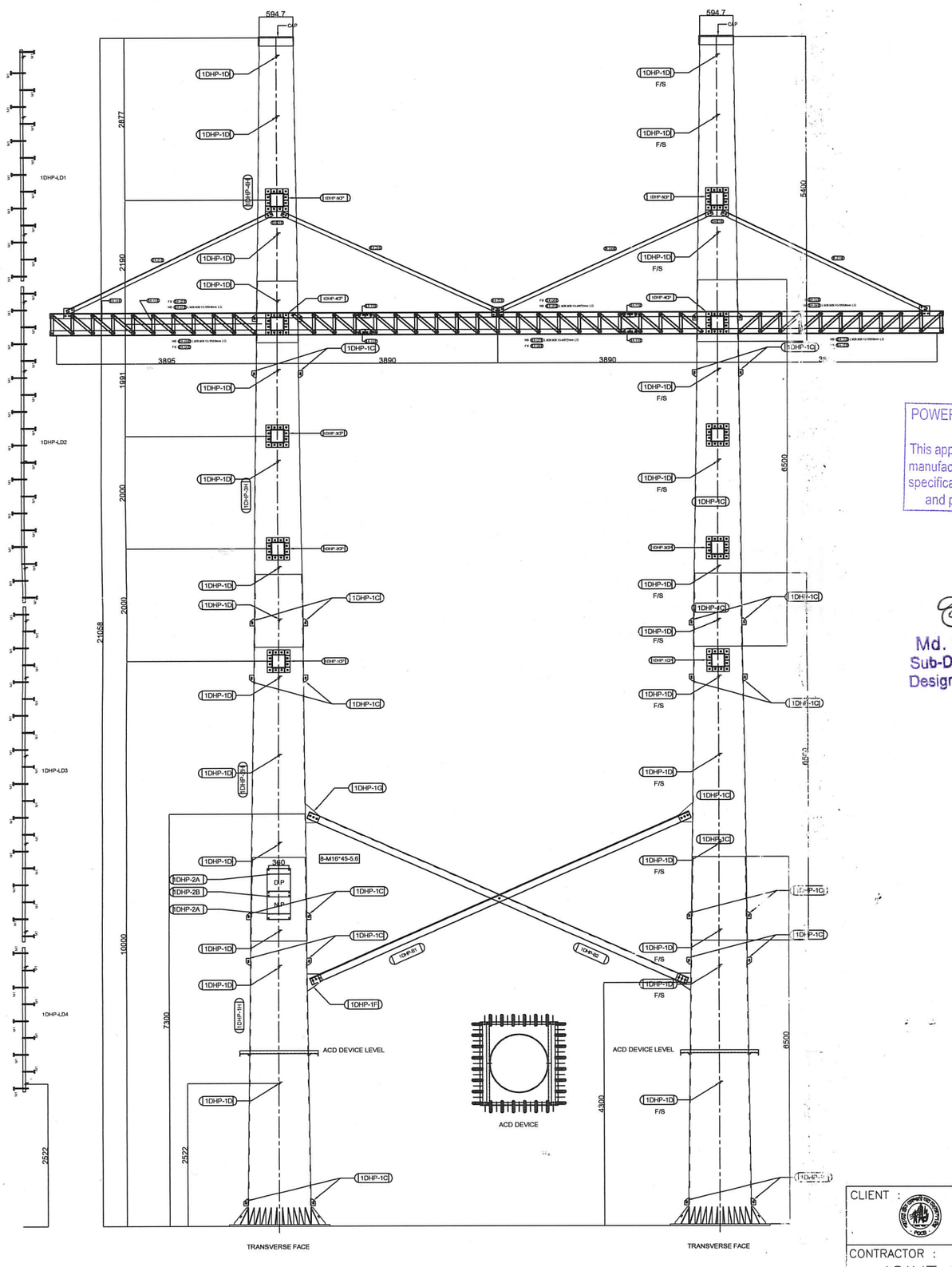
TECHNICAL AND ECONOMICAL CONDITIONS FOR POLE DESIGN

POLE TYPE	DEVIATION ANGLE	WIND SPAN (m)	WEIGHT SPAN (m) (max/min)
1DHP(16 sided) Tension	90°	97.32	136/0
1DHP(16 sided) Terminal	40°	97.32	136/0

NOTE:

THE STANDARDS FOR MATERIAL, FABRICATION, WORKMENSHIP, GALVANIZING, WELDING, INSPECTION, ETC.

1. MATERIAL SPECIFICATION:
   A) FOR POLE, MATERIAL GRADE IS S355JR.
   B) FOR BASE PLATE, MATERIAL GRADE IS S355JR.
   C) FOR CROSS ARM MATERIAL GRADE ARE S355JR AND S275JR.
2. ANCHOR BOLT IS 5.6 GRADE;
   CROSS ARM CONNECTING BOLT GRADE 8.8.
3. GALVANIZING AS PER BSEN 1461:2009.
4. BOLTS AS PER ISO 898-1:2009; NUTS AS PER ISO 4034; WASHER AS PER DIN 127.
5. ALL DIMENSIONS ARE IN MM.
6. ALL MATERIALS ARE MILD STEEL IF NOT STATED OTHERWISE.
7. MARK NUMBER WITH "H" ALPHABET INDICATES HIGH TENSILE STEEL.
8. ALL STRUCTURAL WELDING SHOULD BE CARRIED OUT ACCORDING TO BSEN 61011-1 AND 2.



POWER GRID COMPANY OF BANGLADESH LTD
APPROVED
This appreval is general only and does not release the manufacturer/contractor/supplier from compliance with specification and standards for design. Workmanship and performance as stipulated in the contract.

Md. Shoeb Hasan
Sub-Divisional Engineer
Design & Quality Control
PGCB Ltd.

(Engr. S. M. Zafrul Hasan)
Superintending Engineer (TLD)
Design & QC, PGCB, Dhaka.

20 AUG 2017

JOINT VENTURE OF ZTT AND SINOTEC

CLIENT :	POWER GRID COMPANY OF BANGLADESH LIMITED (PGCB)
CONTRACTOR :	JOINT VENTURE OF ZTT & SINOTEC
MANUFACTURER :	CONFIDENCE™ Steel Limited

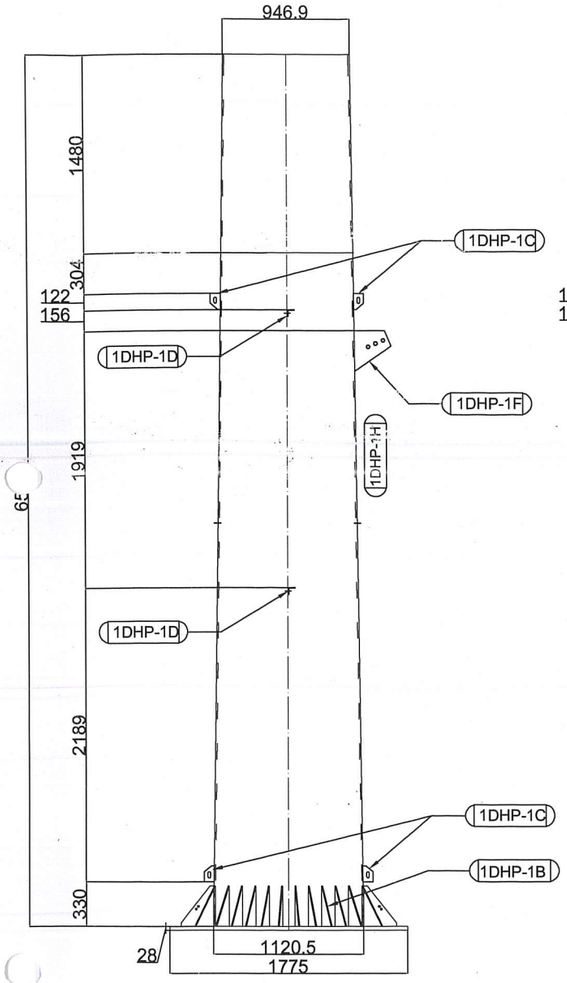
TITLE:

DESIGN, SUPPLY, ERECTION, TESTING AND COMMISSIONING OF ISHURDI–ROOPPUR 132KV DOUBLE CIRCUIT TRANSMISSION LINE ON TURNKEY BASIS

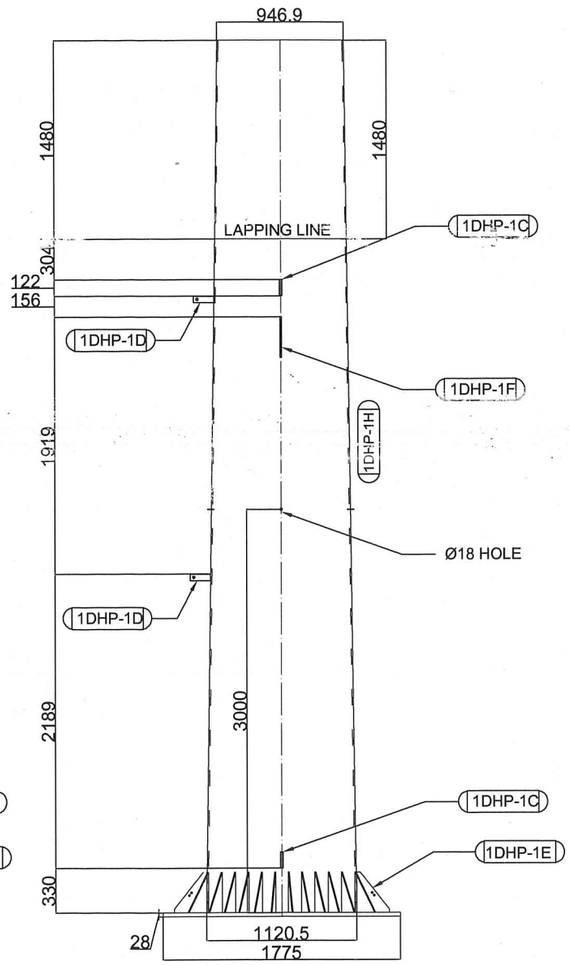
DRAWN	CHECKED	APPROVED	POLE TYPE:	SCALE
MIZANUR	M.R.C		1DHP	N.T.S

Drawing Name: 1DHP CROSS ARM Erection Drawing

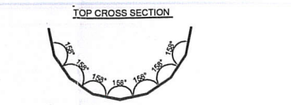
DATE	Dwg: No:	SHT. NO.	REV :
08.08.17	CSL/ZTT–SINOTEC/SD/1DHP	1/15	0

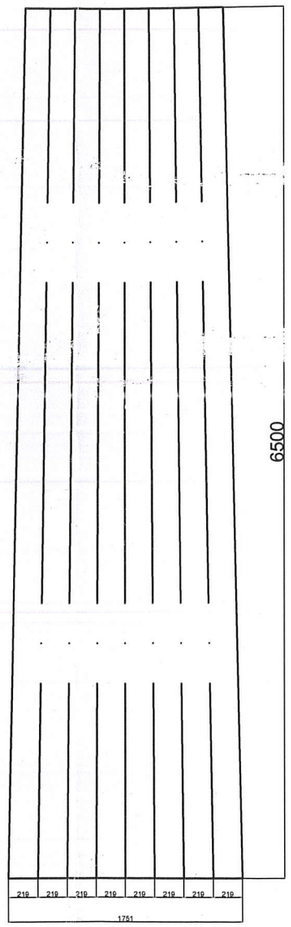


TRANS. FACE



LONGS. FACE





BOTTOM CROSS SECTION



POLE BODY- (1DHP-1H)
(PL 1751X10 THK- 6500 LG)
QTY : 2PCS

BILL OF MATERIAL

Sl/ No	Mark no	Qty/Pole	Grade	Size	Pole Size			Wt/pc	Total Wt. (kg)
					Length	Top Dia	Bottom Dia		
1	1DHP-1H	1	S355JR	PL 10 THK	6500	946.9	1120.5	1786.90	1786.90
2	1DHP-1AH	1	S355JR	PL 28 THK	1775			692.51	692.51
3	1DHP-1B	30	S275JR	PL 260X8 THK	297			4.85	145.48
4	1DHP-1C	4	S275JR	PL 120X20 THK	75			0.88	3.53
5	1DHP-1D	2	S275JR	L 50X6	150			0.10	0.20
6	1DHP-1E	2	S275JR	PL 260X8 THK	297			4.85	9.70
7	1DHP-1F	2	S275JR	PL 275X10 THK	304			6.56	13.13
8	BOLT	3	5.6	M24	55			0.00	0.00
								Total=	**2651.45**
								TOTAL WEIGHT (INCLUDING 3.5%GALV)=	**2744.25**

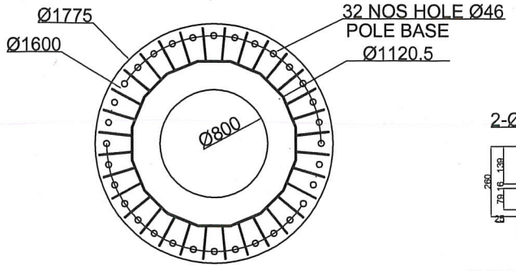
POWER GRID COMPANY OF BANGLADESH LTD
APPROVED
This appreval is general only and does not release the manufacturer/contractor/supplier from compliance with specification and standards for design. Workmanship and performance as stipulated in the contract.

Md. Shoeb Hasan
Sub-Divisional Engineer
Design & Quality Control
PGCB Ltd.

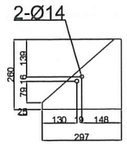
(Engr. S. M. Zafrul Hasan)
Superintending Engineer (TLD)
Design & QC, PGCB, Dhaka.

20 AUG 2017

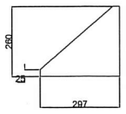
NOTE FOR WELDING:
Length of Weld leg,L = 6mm
Length of Weld Throat,T= 4.24mm
Welding Strength, Fu= 510 MPa



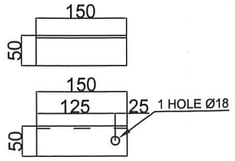
BASE PLATE (PL Ø1775X28H THK) (1DHP-1AH)
Outer dia=1775mm, Inner dia=800mm
QTY : 1 PCS



GUSSET PLATE-(1DHP-1E)
PL 260X8THK -297 LG
QTY:2 PCS

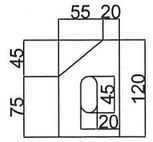


GUSSET PLATE-(1DHP-1B)
PL 260X8THK -297 LG
QTY:30 PCS

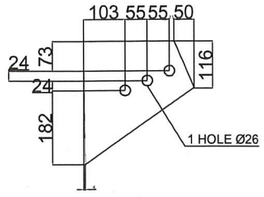


LADDER CLEAT- (1DHP-1D)
(L 50X50X6THK- 150 LG)
QTY : 2PCS

JOINT VENTURE OF ZTT AND SINOTEC



LIFTING CLEAT- (1DHP-1C)
(PL 120X20THK- 75 LG)
QTY : 4PCS



GUSSET- (1DHP-1F)
(PL 275X10THK- 304 LG)
QTY : 2PCS

NOTE:

THE STANDARDS FOR MATERIAL, FABRICATION, WORKMENSHIP, GALVANIZING, WELDING, INSPECTION, ETC.

1. MATERIAL SPECIFICATION:
   A) FOR POLE, MATERIAL GRADE IS S355JR.
   B) FOR BASE PLATE, MATERIAL GRADE IS S355JR.
   C) FOR CROSS ARM MATERIAL GRADE ARE S355JR AND S275JR.
2. ANCHOR BOLT IS 5.6 GRADE;
   CROSS ARM CONNECTING BOLT GRADE 8.8.
3. GALVANIZING AS PER BSEN 1461:2009.
4. BOLTS AS PER ISO 898-1:2009; NUTS AS PER ISO 4034; WASHER AS PER DIN 127.
5. ALL DIMENSIONS ARE IN MM.
6. ALL MATERIALS ARE MILD STEEL IF NOT STATED OTHERWISE.
7. MARK NUMBER WITH "H" ALPHABET INDICATES HIGH TENSILE STEEL.
8. ALL STRUCTURAL WELDING SHOULD BE CARRIED OUT ACCORDING TO BSEN 61011-1 AND 2.

CLIENT : POWER GRID COMPANY OF BANGLADESH LIMITED (PGCB)

CONTRACTOR : JOINT VENTURE OF ZTT & SINOTEC

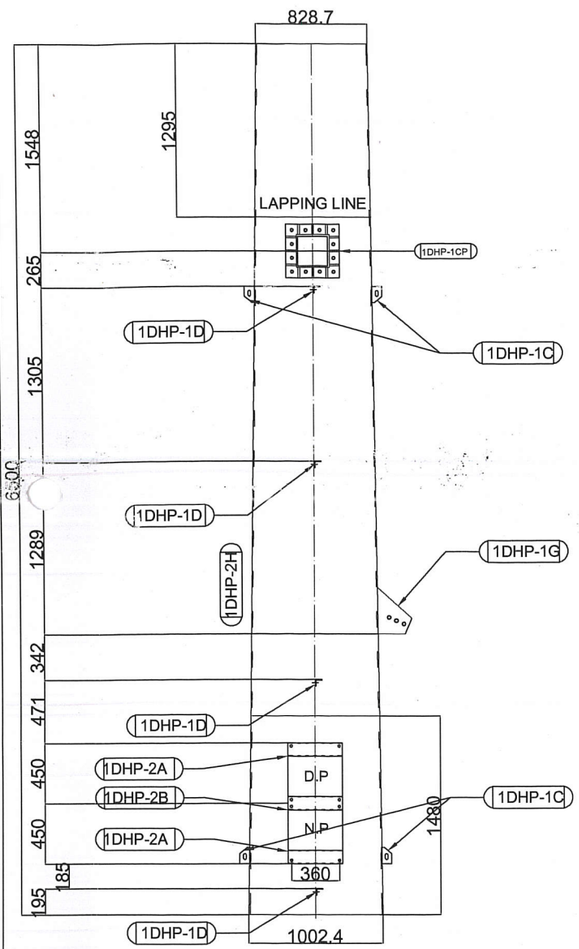
MANUFACTURER : CONFIDENCE™ Steel Limited

TITLE:
DESIGN, SUPPLY, ERECTION, TESTING AND COMMISSIONING OF ISHURDI–ROOPPUR 132KV DOUBLE CIRCUIT TRANSMISSION LINE ON TURNKEY BASIS

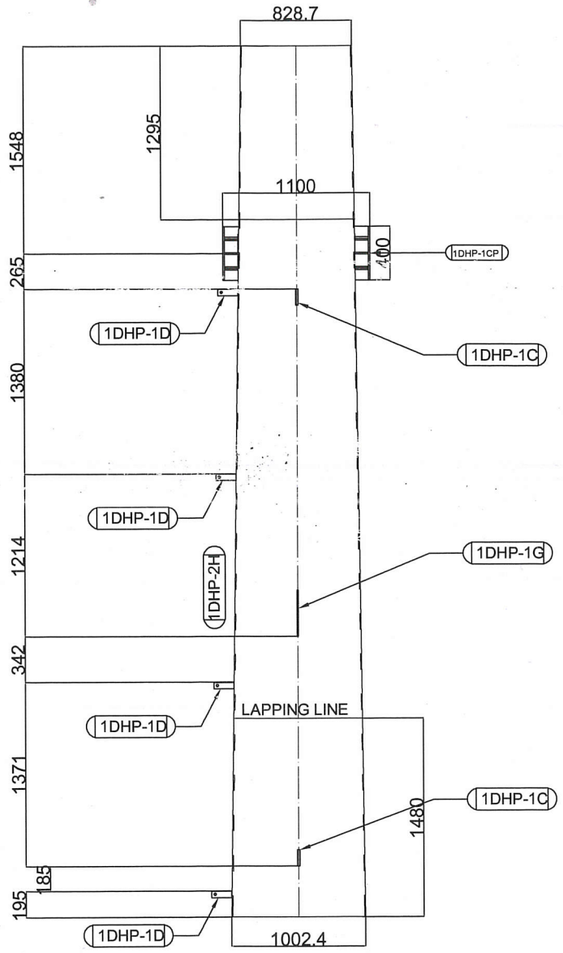
DRAWN	CHECKED	APPROVED	POLE TYPE:	SCALE
M.S.S	M.R.C		1DHP	N.T.S

Drawing Name: 1DHP Erection Drawing (POLE SECTION – 01)

DATE	Dwg No:	SHT. NO.	REV :
08.08.17	CSL/ZTT–SINOTEC/SD/1DHP	2/15	0



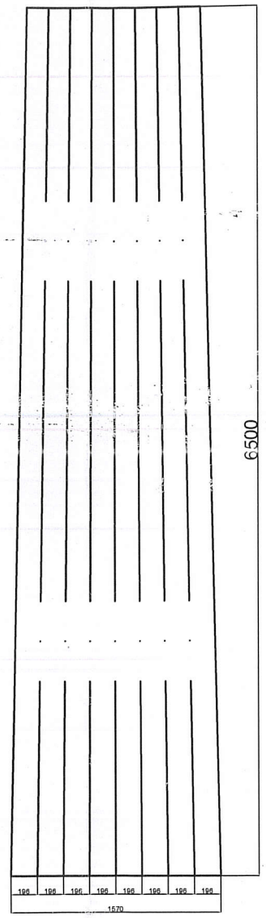
TRANS. FACE



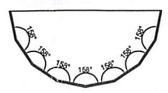
LONGS. FACE

TOP CROSS SECTION





BOTTOM CROSS SECTION



POLE BODY- (1DHP-2H)
(PL 1570X8 THK- 6500 LG)
QTY : 2PCS

BILL OF MATERIAL

Sl/ No	Mark no	Qty/Pole	Grade	Size	Pole Size			Wt/pc	Total Wt. (kg)
					Length	Top Dia	Bottom Dia		
1	1DHP-2H	1	S355JR	PL 8 THK	6500	828.7	1002.4	1281.75	1281.75
2	1DHP-1C	4	S275JR	PL 120X20 THK	75			0.88	3.53
3	1DHP-1D	4	S275JR	L 50X6	150			0.10	0.41
4	1DHP-1G	2	S275JR	PL 275X10 THK	304			6.56	13.13
5	1DHP-2A	2	S275JR	CH100X50X5	410			1.94	3.88
6	1DHP-2B	1	S275JR	CH100X50X5	410			1.94	1.94
7	1DHP-1CP	1	S275JR	PL 400X12 THK	400			15.07	15.07
8	BOLT	8	5.6	M16	40			0.13	1.04
9	BOLT	3	5.6	M24	55			0.00	0.00
								Total=	**1320.75**
								TOTAL WEIGHT (INCLUDING 3.5%GALV)=	**1366.97**

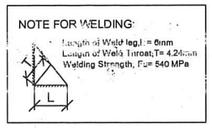
POWER GRID COMPANY OF BANGLADESH LTD
APPROVED
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Md. Shoeb Hasan
Sub-Divisional Engineer
Design & Quality Control
PGCB Ltd.

(Engr. S. M. Zafrul Hasan)
Superintending Engineer (TLD)
Design & QC, PGCB, Dhaka.

20 AUG 2017

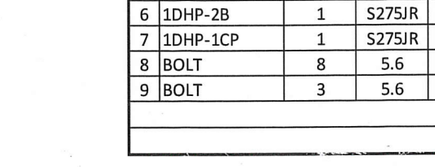
NOTE FOR WELDING:



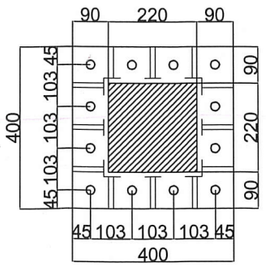
NOTE:

THE STANDARDS FOR MATERIAL, FABRICATION, WORKMENSHIP, GALVANIZING, WELDING, INSPECTION, ETC.

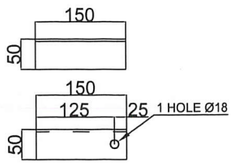
1. MATERIAL SPECIFICATION:
   A) FOR POLE, MATERIAL GRADE IS S355JR.
   B) FOR BASE PLATE, MATERIAL GRADE IS S355JR.
   C) FOR CROSS ARM MATERIAL GRADE ARE S355JR AND S275JR.
2. ANCHOR BOLT IS 5.6 GRADE;
   CROSS ARM CONNECTING BOLT GRADE 8.8.
3. GALVANIZING AS PER BSEN 1461:2009.
4. BOLTS AS PER ISO 898-1:2009; NUTS AS PER ISO 4034; WASHER AS PER DIN 127.
5. ALL DIMENSIONS ARE IN MM.
6. ALL MATERIALS ARE MILD STEEL IF NOT STATED OTHERWISE.
7. MARK NUMBER WITH "H" ALPHABET INDICATES HIGH TENSILE STEEL.
8. ALL STRUCTURAL WELDING SHOULD BE CARRIED OUT ACCORDING TO BSEN 61011-1 AND 2.



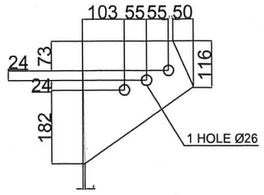
CLEAT- (1DHP-2A)
(CH100X50X5- 410 LG)
QTY : 02PCS



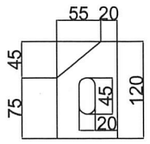
ARM CLEAT- (1DHP-1CP)
(400X12THK- 400 LG)
QTY : 1PCS



LADDER CLEAT- (1DHP-1D)
(L 50X50X6THK- 150 LG)
QTY : 4PCS

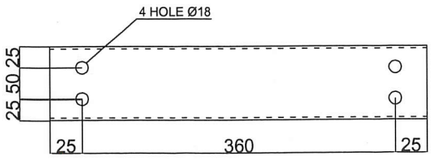


GUSSET- (1DHP-1G)
(PL 275X10THK- 304 LG)
QTY : 2PCS



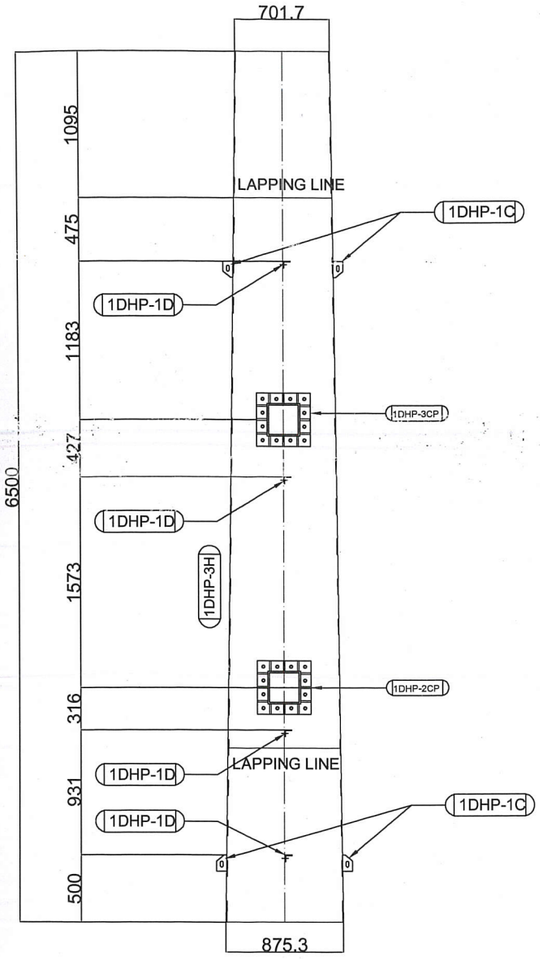
LIFTING CLEAT- (1DHP-1C)
(PL 120X20THK- 75 LG)
QTY : 4PCS

JOINT VENTURE OF ZTT AND SINOTEC

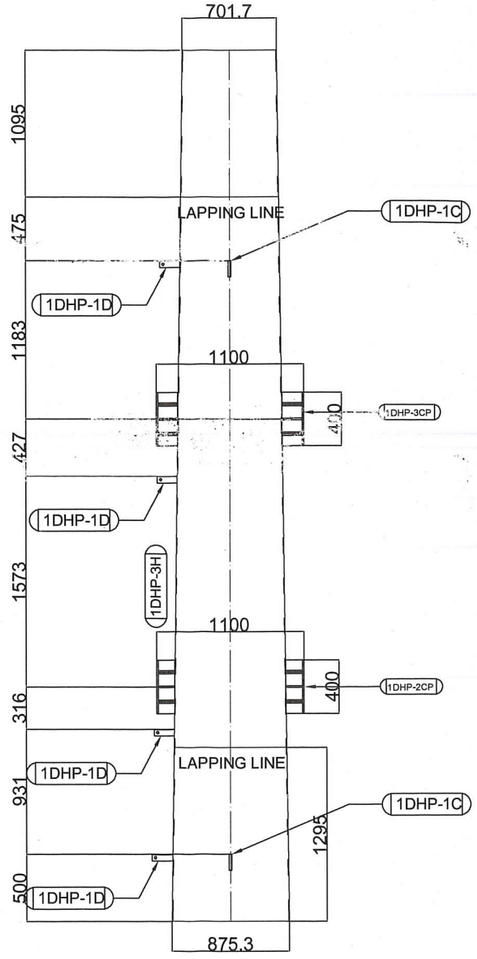


CLEAT- (1DHP-2B)
(CH100X50X5- 410 LG)
QTY : 01PCS

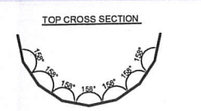
CLIENT :	POWER GRID COMPANY OF BANGLADESH LIMITED (PGCB)			
CONTRACTOR :	JOINT VENTURE OF ZTT & SINOTEC			
MANUFACTURER :	CONFIDENCE™ Steel Limited			
TITLE:	DESIGN, SUPPLY, ERECTION, TESTING AND COMMISSIONING OF ISHURDI–ROOPPUR 132KV DOUBLE CIRCUIT TRANSMISSION LINE ON TURNKEY BASIS			
DRAWN: M.S.S	CHECKED: M.R.C	APPROVED:	POLE TYPE: 1DHP	SCALE: N.T.S
Drawing Name: 1DHP Erection Drawing (POLE SECTION – 02)				
DATE: 08.08.17	Dwg No: CSL/ZTT–SINOTEC/SD/1DHP		SHT. NO. 3/15	REV : 0

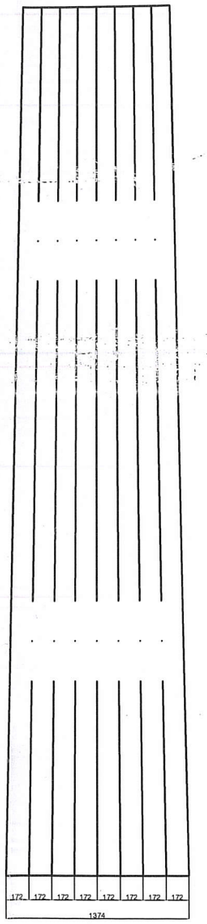


TRANS. FACE

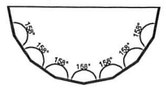


LONGS. FACE

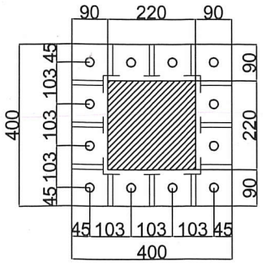




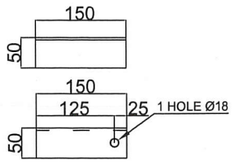
BOTTOM CROSS SECTION



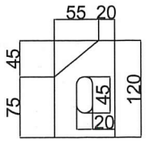
POLE BODY- (1DHP-3H)
(PL 1374X6 THK- 6500 LG)
QTY : 2PCS



ARM CLEAT- (1DHP-2CP & 3CP)
(400X12THK- 400 LG)
QTY : 1PCS



LADDER CLEAT- (1DHP-1D)
(L 50X50X6THK- 150 LG)
QTY : 4PCS



LIFTING CLEAT- (1DHP-1C)
(PL 120X20THK- 75 LG)
QTY : 4PCS

BILL OF MATERIAL

Sl/ No	Mark no	Qty/Pole	Grade	Size	Pole Size			Wt/pc	Total Wt. (kg)
					Length	Top Dia	Bottom Dia		
1	1DHP-3H	1	S355JR	PL 6 THK	6500	701.7	875.3	843.09	843.09
2	1DHP-1C	4	S275JR	PL 120X20 THK	75			0.88	3.53
3	1DHP-1D	4	S275JR	L 50X6	150			0.10	0.41
4	1DHP-2CP	1	S275JR	PL 400X12 THK	400			15.07	15.07
5	1DHP-3CP	1	S275JR	PL 400X12 THK	400			15.07	15.07
6	BOLT	0	5.6	M16	40			0.13	0.00
7	BOLT	0	5.6	M24	55			0.00	0.00
								Total=	**877.17**
								TOTAL WEIGHT (INCLUDING 3.5%GALV)=	**907.87**

POWER GRID COMPANY OF BANGLADESH LTD
APPROVED
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Md. Shoeb Hasan
Sub-Divisional Engineer
Design & Quality Control
PGCB Ltd.

(Engr. S. M. Zafrul Hasan)
Superintending Engineer (TLD)
Design & QC, PGCB, Dhaka.

20 AUG 2017

NOTE FOR WELDING:
Length of Weld leg,L = 6mm
Length of Weld Throat,T= 4.24mm
Welding Strength, Fu= 540 MPa

NOTE:

THE STANDARDS FOR MATERIAL, FABRICATION, WORKMENSHIP, GALVANIZING, WELDING, INSPECTION, ETC.

1. MATERIAL SPECIFICATION:
   A) FOR POLE, MATERIAL GRADE IS S355JR.
   B) FOR BASE PLATE, MATERIAL GRADE IS S355JR.
   C) FOR CROSS ARM MATERIAL GRADE ARE S355JR AND S275JR.
2. ANCHOR BOLT IS 5.6 GRADE;
   CROSS ARM CONNECTING BOLT GRADE 8.8.
3. GALVANIZING AS PER BSEN 1461:2009.
4. BOLTS AS PER ISO 898-1:2009; NUTS AS PER ISO 4034; WASHER AS PER DIN 127.
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7. MARK NUMBER WITH "H" ALPHABET INDICATES HIGH TENSILE STEEL.
8. ALL STRUCTURAL WELDING SHOULD BE CARRIED OUT ACCORDING TO BSEN 61011-1 AND 2.

JOINT VENTURE OF ZTT & SINOTEC

CLIENT : POWER GRID COMPANY OF BANGLADESH LIMITED (PGCB)

CONTRACTOR : JOINT VENTURE OF ZTT & SINOTEC

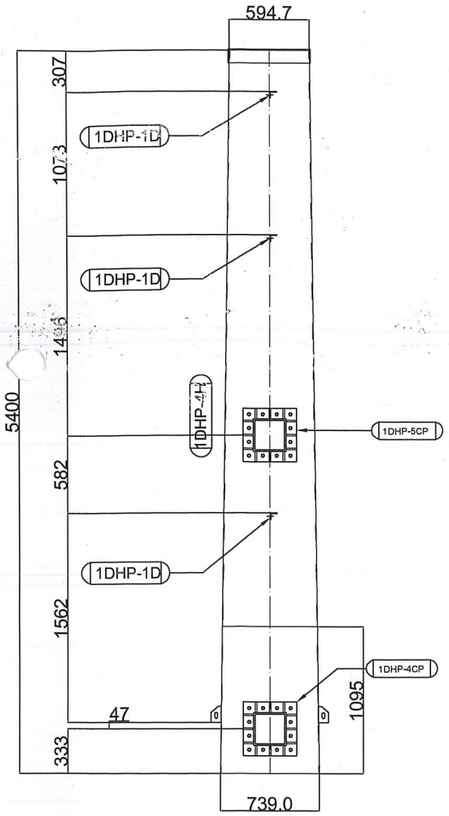
MANUFACTURER : CONFIDENCE Steel Limited

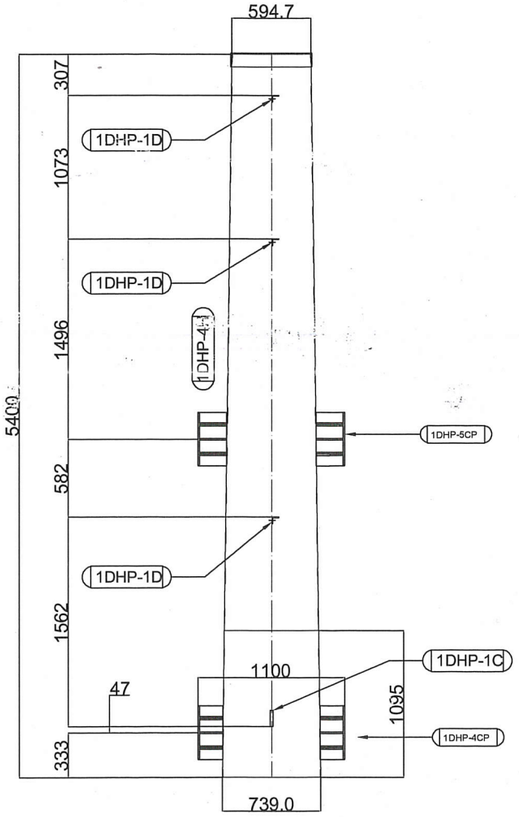
TITLE: DESIGN, SUPPLY, ERECTION, TESTING AND COMMISSIONING OF ISHURDI–ROOPPUR 132KV DOUBLE CIRCUIT TRANSMISSION LINE ON TURNKEY BASIS

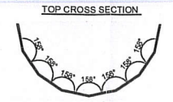
DRAWN	CHECKED	APPROVED	POLE TYPE:	SCALE
M.S.S	M.R.C		1DHP	N.T.S

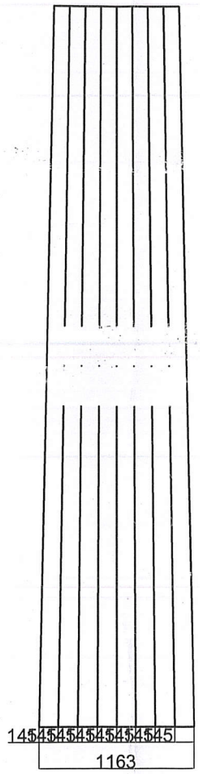
Drawing Name: 1DHP Erection Drawing (POLE SECTION – 03)

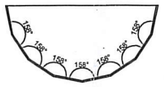
DATE	Dwg No:	SHT. NO.	REV :
08.08.17	CSL/ZTT–SINOTEC/SD/1DHP	4/15	0











POLE BODY- (1DHP-4H)
(PL 1163X4 THK- 5400 LG)
QTY : 2PCS

BILL OF MATERIAL

Sl/ No	Mark no	Qty/Pole	Grade	Size	Pole Size			Wt/pc	Total Wt. (kg)
					Length	Top Dia	Bottom Dia		
1	1DHP-4H	1	S355JR	PL 4 THK	5400	594.7	739	394.40	394.40
2	1DHP-1C	2	S275JR	PL 120X20 THK	75			0.88	1.77
3	1DHP-1D	3	S275JR	L 50X6	150			0.10	0.31
4	1DHP-4CP	1	S275JR	PL 400X12 THK	400			15.07	15.07
5	1DHP-5CP	1	S275JR	PL 400X12 THK	400			15.07	15.07
6	BOLT	0	5.6	M16	40			0.13	0.00
7	BOLT	0	5.6	M24	55			0.00	0.00
								Total=	**426.61**
								TOTAL WEIGHT (INCLUDING 3.5%GALV)=	**441.54**

POWER GRID COMPANY OF BANGLADESH LTD
APPROVED
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Md. Shoeb Hasan
Sub-Divisional Engineer
Design & Quality Control
PGCB Ltd.

(Engr. S. M. Zafrul Hasan)
Superintending Engineer (TLD)
Design & QC, PGCB, Dhaka.

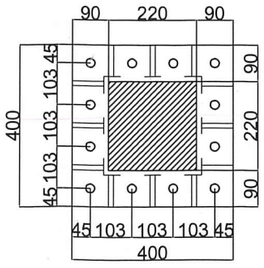
20 AUG 2017

NOTE FOR WELDING:
Length of Weld leg,L = 6mm
Length of Weld Throat,T= 4.24mm
Welding Electrode, Fu= 540 MPa

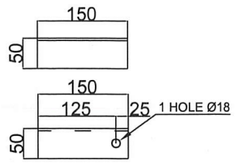
NOTE:

THE STANDARDS FOR MATERIAL, FABRICATION, WORKMENSHIP, GALVANIZING, WELDING, INSPECTION, ETC.

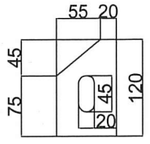
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ARM CLEAT- (1DHP-4CP & 5CP)
(400X12THK- 400 LG)
QTY : 1PCS



LADDER CLEAT- (1DHP-1D)
(L 50X50X6THK- 150 LG)
QTY : 3PCS



LIFTING CLEAT- (1DHP-1C)
(PL 120X20THK- 75 LG)
QTY : 4PCS

JOINT VENTURE OF ZTT AND SINOTEC

CLIENT : POWER GRID COMPANY OF BANGLADESH LIMITED (PGCB)

CONTRACTOR : JOINT VENTURE OF ZTT & SINOTEC

MANUFACTURER : CONFIDENCE™ Steel Limited

TITLE:
DESIGN, SUPPLY, ERECTION, TESTING AND COMMISSIONING OF ISHURDI–ROOPPUR 132KV DOUBLE CIRCUIT TRANSMISSION LINE ON TURNKEY BASIS

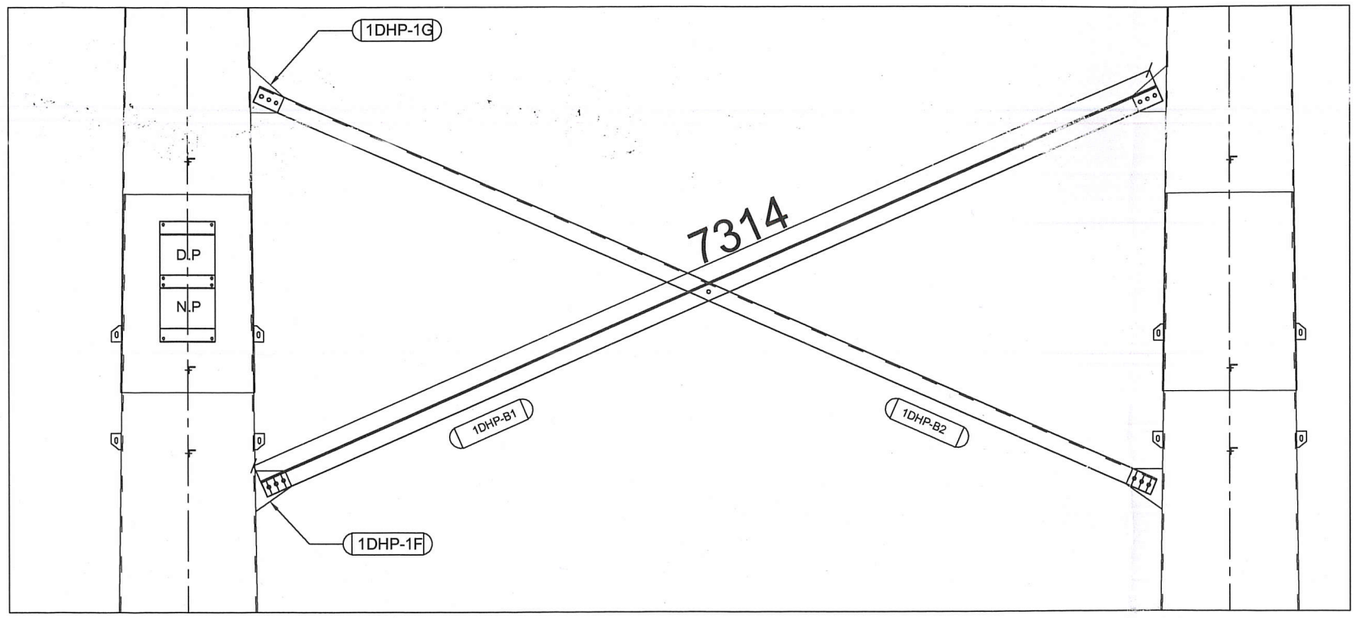
DRAWN	CHECKED	APPROVED	POLE TYPE:	SCALE
M.S.S	M.R.C		1DHP	N.T.S

Drawing Name: 1DHP Erection Drawing (POLE SECTION – 04)

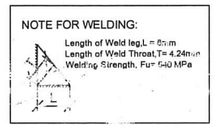
DATE	08.08.17	Dwg No: CSL/ZTT–SINOTEC/SD/1DHP	SHT. NO. 5/15	REV : 0

BILL OF MATRIAL

MARK NO.	QTY/TWR	SIZE	LENGTH	BREADTH	WT/MTR	WT/PCS	TOTAL WT
	PCS	MM	MM	MM	KG	KG	KG
1DHP- B1	1	125X125X10	7314	0	18.84	137.80	137.80
1DHP- B2	1	125X125X10	7314	0	18.84	137.80	137.80
						Total WEIGHT=	275.59
						TOTAL WEIGHT (INCLUDING 3.5% GALV.)=	285.2372



NOTE FOR WELDING:



NOTE:

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8. ALL STRUCTURAL WELDING SHOULD BE CARRIED OUT ACCORDING TO BSEN 61011-1 AND 2.

POWER GRID COMPANY OF BANGLADESH LTD
APPROVED
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Md. Shoeb Hasan
Sub-Divisional Engineer
Design & Quality Control
PGCB Ltd.

(Engr. S. M. Zafrul Hasan)
Superintending Engineer (TLD)
Design & QC, PGCB, Dhaka.

20 AUG 2017

JOINT VENTURE OF ZTT & SINOTEC

CLIENT : POWER GRID COMPANY OF BANGLADESH LIMITED (PGCB)

CONTRACTOR : JOINT VENTURE OF ZTT & SINOTEC

MANUFACTURER : CONFIDENCE™ Steel Limited

TITLE: DESIGN, SUPPLY, ERECTION, TESTING AND COMMISSIONING OF ISHURDI–ROOPPUR 132KV DOUBLE CIRCUIT TRANSMISSION LINE ON TURNKEY BASIS

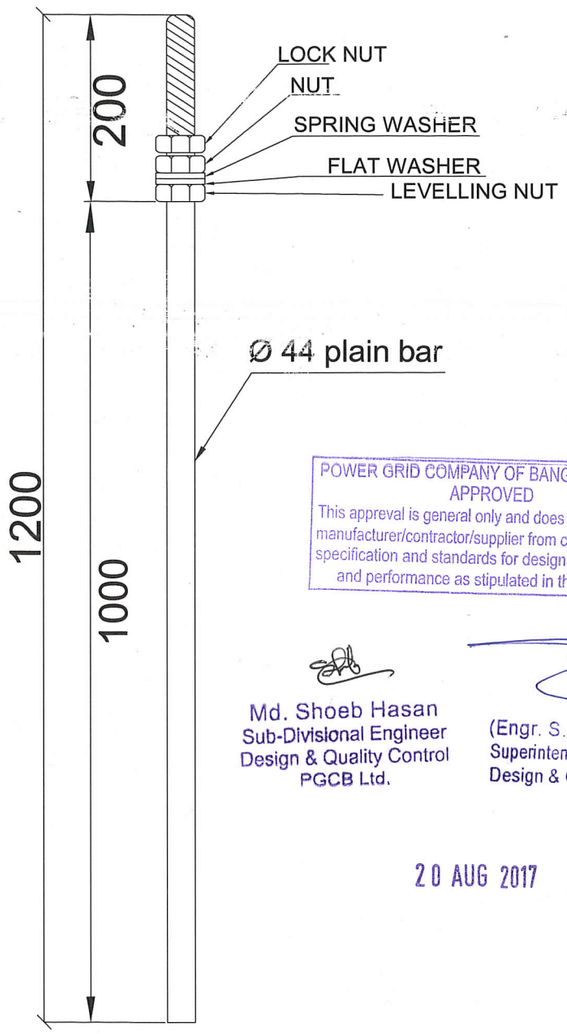
DRAWN	CHECKED	APPROVED	POLE TYPE:	SCALE
M.S.S	M.R.C		1DHP	N.T.S

Drawing Name: 1DHP Erection Drawing (BRACING ANGLE)

DATE	Dwg No:	SHT. NO.	REV :
08.08.17	CSL/ZTT–SINOTEC/SD/1DHP	6/15	0

BILL OF MATERIAL

Sl No	Mark No	Qty/Pole	Grade	Size	Length (mm)	Wt/pcs (KG)	Total Weight (KG)
1	1DHP-DBP	1	S275JR	PL1775X10	1775	247.32	247.32
2	ANCHOR BOLT	32	5.6	Ø44	1200	11.94	382.08
	NUT	32	5.6			0.59	18.88
	LEVELLING NUT	32	5.6			0.59	18.88
	LOCK NUT	32	5.6			0.59	18.88
	SPW	32	5.6			0.032	1.02
	PLW	32	5.6			0.036	1.15
						Total=	688.22
						TOTAL WEIGHT (INCLUDING 3.5%GALV)=	712.31



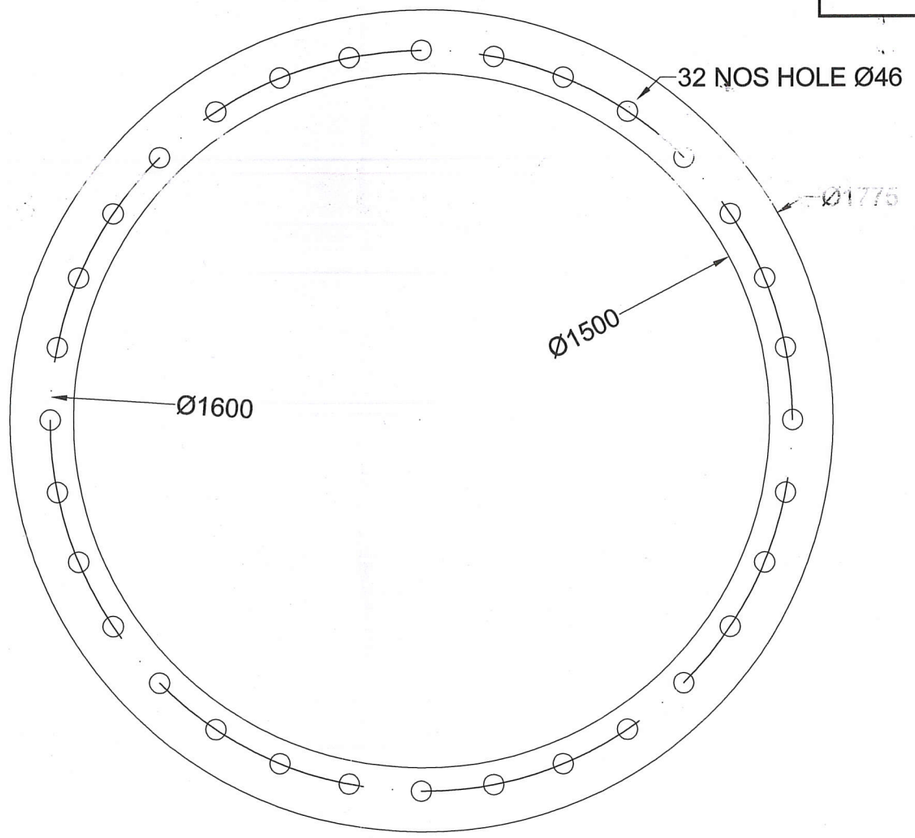
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Sub-Divisional Engineer
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Superintending Engineer (TLD)
Design & QC, PGCB, Dhaka.

20 AUG 2017

DETAIL OF ANCHOR BOLT
QTY= 32 PCS, Ø=44mm
5.6GRADE



Dummy Base plate (PL Ø1775X10mm THK)
(1DHP-DBP)
Outer dia=1775mm, Inner dia=1500mm

JOINT VENTURE OF ZTT & SINOTEC

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CLIENT : POWER GRID COMPANY OF BANGLADESH LIMITED (PGCB)

CONTRACTOR : JOINT VENTURE OF ZTT & SINOTEC

MANUFACTURER : CONFIDENCE™ Steel Limited

TITLE: DESIGN, SUPPLY, ERECTION, TESTING AND COMMISSIONING OF ISHURDI–ROOPPUR 132KV DOUBLE CIRCUIT TRANSMISSION LINE ON TURNKEY BASIS

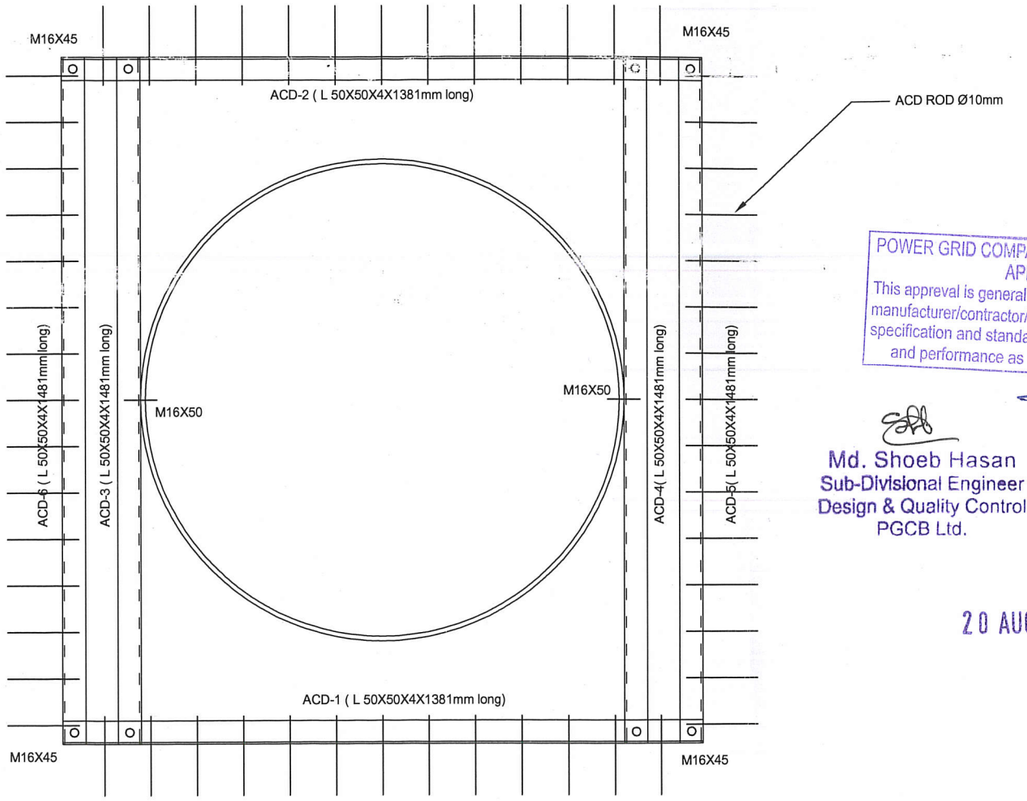
DRAWN	CHECKED	APPROVED	POLE TYPE:	SCALE
MIZANUR	M.R.C		1DHP	N.T.S

Drawing Name: 1DHP Erection Drawing

DATE	Dwg No:	SHT. NO.	REV :
08.08.17	CSL/ZTT–SINOTEC/SD/1DHP	8/15	0

BILL OF MATERIAL

Sl/ No	Mark no	Qty/Pole	Grade	Size	Length	Wt/pc	Total Wt. (kg)
1	1DHP-ACD 01	1	S275JR	L 50X6	1381	0.94	0.94
2	1DHP-ACD 02	1	S275JR	L 50X6	1381	0.94	0.94
3	1DHP-ACD 03	1	S275JR	L 50X6	1481	1.01	1.01
4	1DHP-ACD 04	1	S275JR	L 50X6	1481	1.01	1.01
5	1DHP-ACD 05	1	S275JR	L 50X6	1481	1.01	1.01
6	1DHP-ACD 06	1	S275JR	L 50X6	1481	1.01	1.01
7	1DHP-ACD ROD	56	S275JR	DIA 10	190	0.11	6.27
8	BOLT	8	5.6	M16	45	0.13	1.04
9	BOLT	2	5.6	M16	50	0.15	0.30
						Total=	**13.52**
						TOTAL WEIGHT (INCLUDING 3.5%GALV)=	**13.99**



ACD DEVICE

POWER GRID COMPANY OF BANGLADESH LTD
APPROVED
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Sub-Divisional Engineer
Design & Quality Control
PGCB Ltd.

(Engr. S. M. Zafrul Hasan)
Superintending Engineer (TLD)
Design & QC, PGCB, Dhaka.

20 AUG 2017

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JOINT VENTURE OF ZTT & SINOTEC

CLIENT : POWER GRID COMPANY OF BANGLADESH LIMITED (PGCB)

CONTRACTOR : JOINT VENTURE OF ZTT & SINOTEC

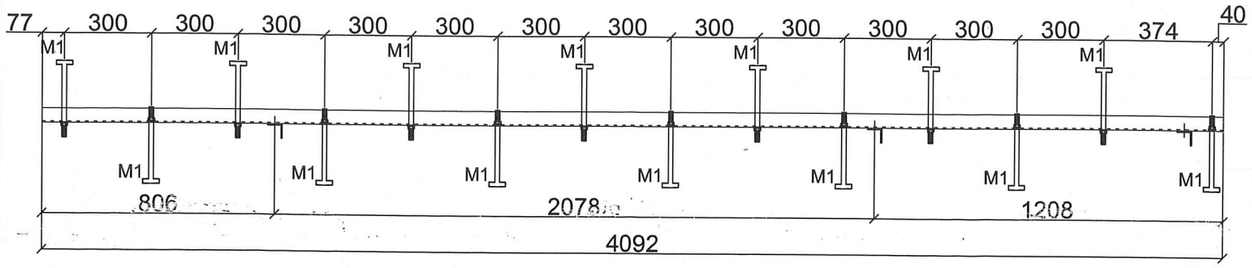
MANUFACTURER : CONFIDENCE™ Steel Limited

TITLE: DESIGN, SUPPLY, ERECTION, TESTING AND COMMISSIONING OF ISHURDI–ROOPPUR 132KV DOUBLE CIRCUIT TRANSMISSION LINE ON TURNKEY BASIS

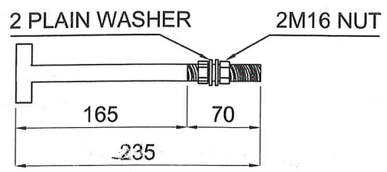
DRAWN	CHECKED	APPROVED	POLE TYPE:	SCALE
MIZANUR	M.R.C		1DHP	N.T.S

Drawing Name: ACD Device Erection Drawing

DATE	08.08.17	Dwg No: CSL/ZTT–SINOTEC/SD/1DHP	SHT. NO. 9/15	REV : 0

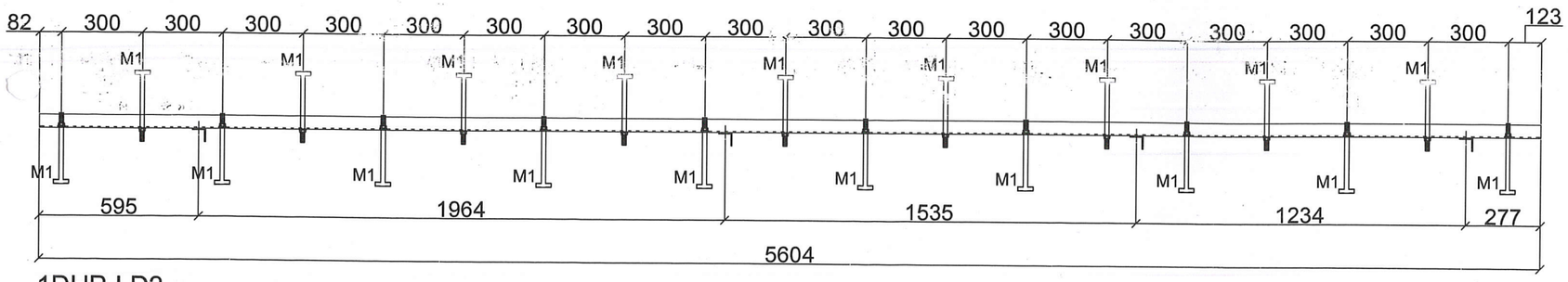


1DHP-LD1



Step Rod Detail

BILL OF MATERIAL							
Sl No	Mark No	Qty/Pole	Grade	Size	Length (mm)	Wt/pcs (KG)	Total Weight (KG)
1	1DHP-LD1H	1	S275JR	L50X50X6	1566	4.50	7.05
2	1DHP-LD2H	1	S275JR	L50X50X6	4566	4.50	20.55
3	1DHP-LD3H	1	S275JR	L50X50X6	4866	4.50	21.90
4	1DHP-LD4H	1	S275JR	L50X50X6	5166	4.50	23.25
5	1DHP-LD5H	1	S275JR	L50X50X6	4266	4.50	19.20
6	1DHP-LD6H	1	S275JR	L50X50X6	4866	4.50	21.90
7	1DHP-M1	90	5.6	ϕ16mm	235	0.371	33.42
8	BOLT	20	5.6	M16	45	0.141	2.82
9	NUT	200	5.6	M16		0.030	6.00
						Total=	156.07
						TOTAL WEIGHT (INCLUDING 3.5%GALV)=	161.53

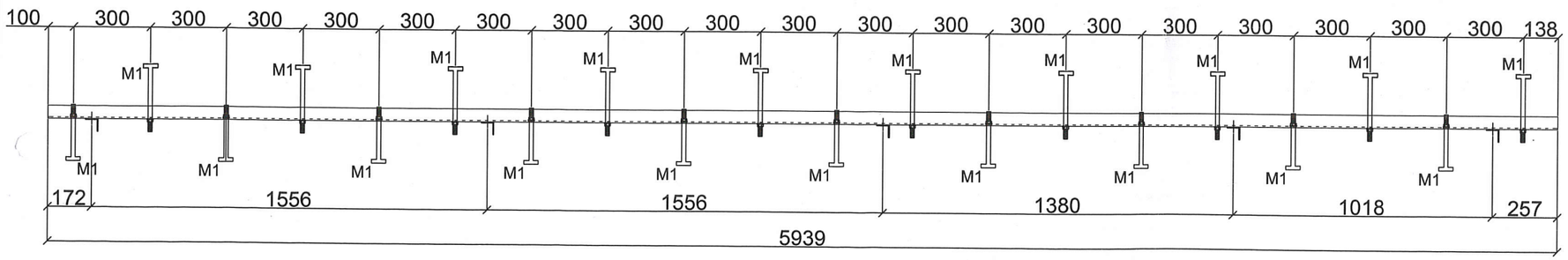


1DHP-LD2

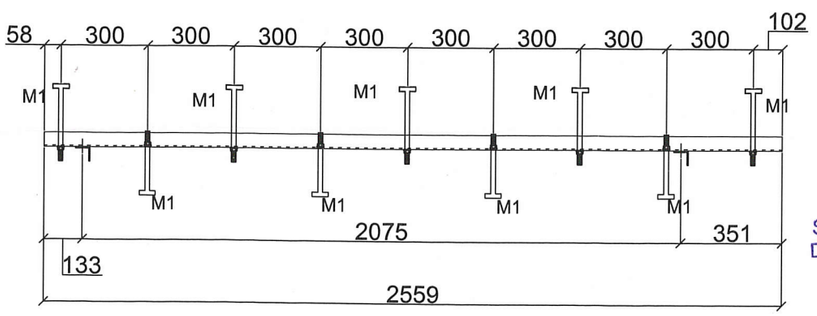
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1DHP-LD3



1DHP-LD4

POWER GRID COMPANY OF BANGLADESH LTD
APPROVED
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Md. Shoeb Hasan
Sub-Divisional Engineer
Design & Quality Control
PGCB Ltd.

(Engr. S. M. Zafrul Hasa
Superintending Engineer (TL
Design & QC, PGCB, Dhak

20 AUG 2017

JOINT VENTURE OF ZTT & SINOTEC

CLIENT : POWER GRID COMPANY OF BANGLADESH LIMITED (PGCB)

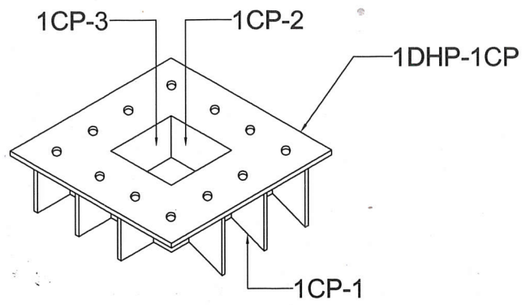
CONTRACTOR : JOINT VENTURE OF ZTT & SINOTEC

MANUFACTURER : CONFIDENCE™ Steel Limited

TITLE:

DESIGN, SUPPLY, ERECTION, TESTING AND COMMISSIONING OF ISHURDI–ROOPPUR 132KV DOUBLE CIRCUIT TRANSMISSION LINE ON TURNKEY BASIS

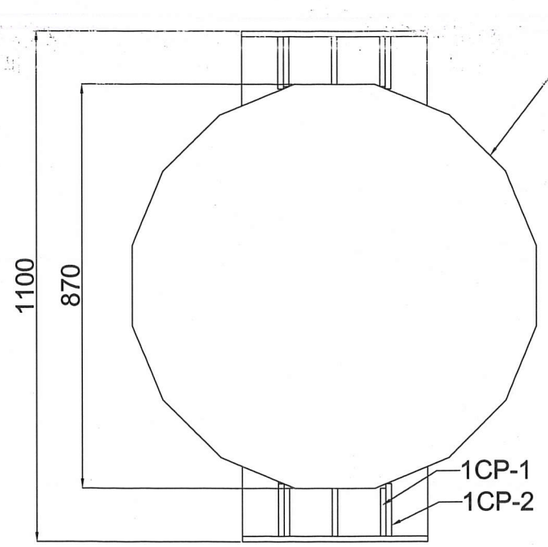
DRAWN	CHECKED	APPROVED	POLE TYPE	SCALE
M.S.S	M.R.C		1DHP	N.T.S
DRAWING NAME: 1DHP–LADDER ARRANGEMENT				
DATE	08.08.17	Dwg No: CSL/ZTT–SINOTEC/SD/1DHP	SHT.NO. 10/15	REV : 0



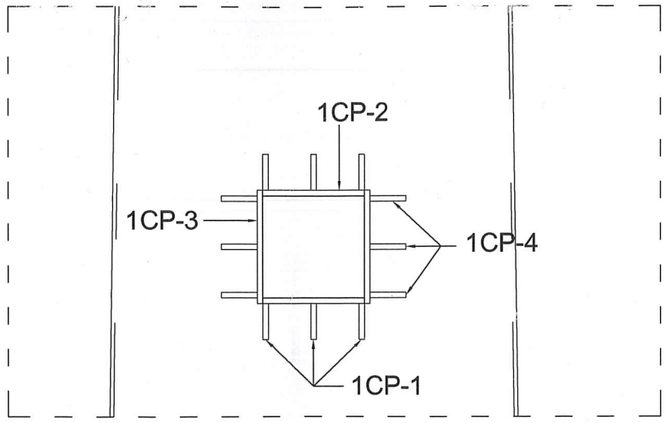
1DHP-1CP

BILL OF MATRIAL

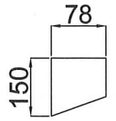
MARK NO.	QTY/TWR	SIZE	LENGTH	BREADTH	WT/MTR	WT/PCS	TOTAL WT
	PCS	MM	MM	MM	KG	KG	KG
1CP- 1	6	PL 12mm	78	103	94.20	0.76	4.54
1CP- 2	1	PL 12mm	220	103	94.20	2.13	2.13
1CP- 3	1	PL 12mm	244	113	94.20	2.60	2.60
1CP- 4	6	PL 12mm	78	150	94.20	1.10	6.61
						Total WEIGHT=	15.89



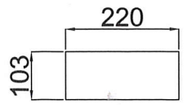
TOP VIEW FOR 1DHP-1CP



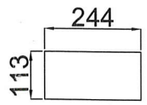
FRONT ELEVATION OF1DHP-1CP



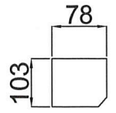
1CP-4 (PL 78X12X150)
QTY : 6 Pcs



1CP-2 (PL 220X12X103)
QTY : 02 Pcs



1CP-3 (PL 244X12X113)
QTY : 02 Pcs



1CP-1 (PL 78X12X103)
QTY : 6 Pcs

POWER GRID COMPANY OF BANGLADESH LTD
APPROVED
This appreval is general only and does not release the manufacturer/contractor/supplier from compliance with specification and standards for design. Workmanship and performance as stipulated in the contract.

Md. Shoeb Hasan
Sub-Divisional Engineer
Design & Quality Control
PGCB Ltd.

(Engr. S. M. Zafrul Hasan)
Superintending Engineer (TLD)
Design & QC, PGCB, Dhaka.

20 AUG 2017

JOINT VENTURE OF ZTT AND SINOTEC

NOTE:

THE STANDARDS FOR MATERIAL, FABRICATION, WORKMENSHIP, GALVANIZING, WELDING, INSPECTION, ETC.

1. MATERIAL SPECIFICATION:
   A) FOR POLE, MATERIAL GRADE IS S355JR.
   B) FOR BASE PLATE, MATERIAL GRADE IS S355JR.
   C) FOR CROSS ARM MATERIAL GRADE ARE S355JR AND S275JR.
2. ANCHOR BOLT IS 5.6 GRADE;
   CROSS ARM CONNECTING BOLT GRADE 8.8.
3. GALVANIZING AS PER BSEN 1461:2009.
4. BOLTS AS PER ISO 898-1:2009; NUTS AS PER ISO 4034; WASHER AS PER DIN 127.
5. ALL DIMENSIONS ARE IN MM.
6. ALL MATERIALS ARE MILD STEEL IF NOT STATED OTHERWISE.
7. MARK NUMBER WITH "H" ALPHABET INDICATES HIGH TENSILE STEEL.
8. ALL STRUCTURAL WELDING SHOULD BE CARRIED OUT ACCORDING TO BSEN 61011-1 AND 2.

CLIENT : POWER GRID COMPANY OF BANGLADESH LIMITED (PGCB)

CONTRACTOR : JOINT VENTURE OF ZTT & SINOTEC

MANUFACTURER : CONFIDENCE™ Steel Limited

TITLE: DESIGN, SUPPLY, ERECTION, TESTING AND COMMISSIONING OF ISHURDI–ROOPPUR 132KV DOUBLE CIRCUIT TRANSMISSION LINE ON TURNKEY BASIS

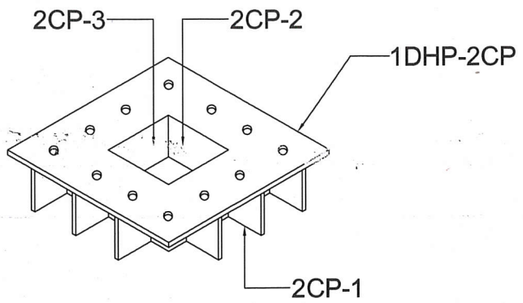
DRAWN	CHECKED	APPROVED	POLE TYPE:	SCALE
MIZANUR	M.R.C		1DHP	N.T.S

Drawing Name: 1CP DETAILS

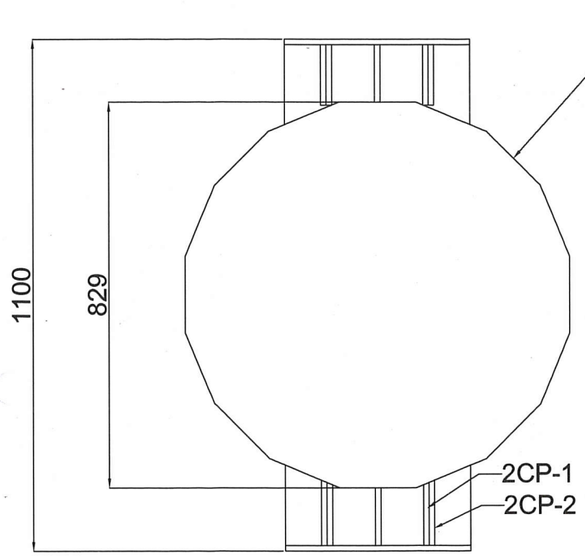
DATE	08.08.17	Dwg No: CSL/ZTT–SINOTEC/SD/1DHP	SHT. NO.11/15	REV : 0

BILL OF MATRIAL

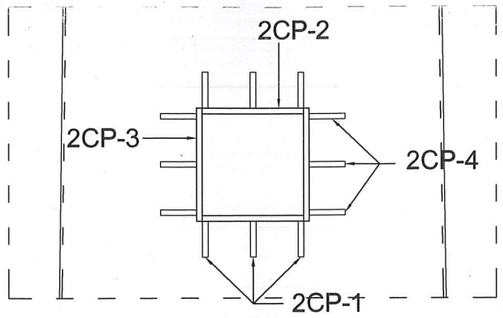
MARK NO.	QTY/TWR	SIZE	LENGTH	BREADTH	WT/MTR	WT/PCS	TOTAL WT
	PCS	MM	MM	MM	KG	KG	KG
2CP- 1	6	PL 12mm	78	123	94.20	0.90	5.42
2CP- 2	1	PL 12mm	220	123	94.20	2.55	2.55
2CP- 3	1	PL 12mm	244	135	94.20	3.10	3.10
2CP- 4	6	PL 12mm	78	172	94.20	1.26	7.58
						Total WEIGHT=	18.66



1DHP-2CP



TOP VIEW FOR 1DHP-2CP



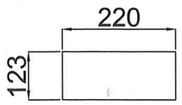
FRONT ELEVATION OF1DHP-2CP

POWER GRID COMPANY OF BANGLADESH LTD
APPROVED
This appreval is general only and does not release the manufacturer/contractor/supplier from compliance with specification and standards for design. Workmanship and performance as stipulated in the contract.

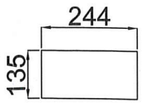
Md. Shoeb Hasan
Sub-Divisional Engineer
Design & Quality Control
PGCB Ltd.

(Engr. S. M. Zafrul Hasan)
Superintending Engineer (TLD)
Design & QC, PGCB, Dhaka.

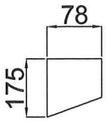
20 AUG 2017



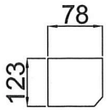
2CP-2 (PL 220X12X123)
QTY : 02 Pcs



2CP-3 (PL 244X12X135)
QTY : 02 Pcs



2CP-4 (PL 78X12X172)
QTY : 6 Pcs



2CP-1 (PL 78X12X123)
QTY : 6 Pcs

NOTE:

THE STANDARDS FOR MATERIAL, FABRICATION, WORKMENSHIP, GALVANIZING, WELDING, INSPECTION, ETC.

1. MATERIAL SPECIFICATION:
   A) FOR POLE, MATERIAL GRADE IS S355JR.
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2. ANCHOR BOLT IS 5.6 GRADE;
   CROSS ARM CONNECTING BOLT GRADE 8.8.
3. GALVANIZING AS PER BSEN 1461:2009.
4. BOLTS AS PER ISO 898-1:2009; NUTS AS PER ISO 4034; WASHER AS PER DIN 127.
5. ALL DIMENSIONS ARE IN MM.
6. ALL MATERIALS ARE MILD STEEL IF NOT STATED OTHERWISE.
7. MARK NUMBER WITH "H" ALPHABET INDICATES HIGH TENSILE STEEL.
8. ALL STRUCTURAL WELDING SHOULD BE CARRIED OUT ACCORDING TO BSEN 61011-1 AND 2.

CLIENT : POWER GRID COMPANY OF BANGLADESH LIMITED (PGCB)

CONTRACTOR : JOINT VENTURE OF ZTT & SINOTEC

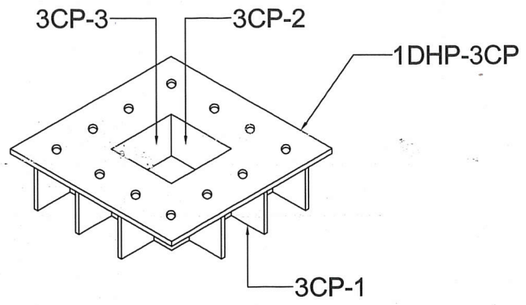
MANUFACTURER : CONFIDENCE Steel Limited

TITLE: DESIGN, SUPPLY, ERECTION, TESTING AND COMMISSIONING OF ISHURDI–ROOPPUR 132KV DOUBLE CIRCUIT TRANSMISSION LINE ON TURNKEY BASIS

DRAWN	CHECKED	APPROVED	POLE TYPE:	SCALE
MIZANUR	M.R.C		1DHP	N.T.S

Drawing Name: 2CP DETAILS

DATE	08.08.17	Dwg No: CSL/ZTT–SINOTEC/SD/1DHP	SHT. NO.12/15	REV : 0



1DHP-3CP

BILL OF MATRIAL

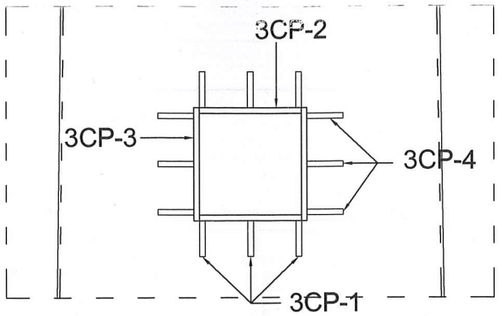
MARK NO.	QTY/TWR	SIZE	LENGTH	BREADTH	WT/MTR	WT/PCS	TOTAL WT
	PCS	MM	MM	MM	KG	KG	KG
3CP- 1	6	PL 12mm	78	150	94.20	1.10	6.61
3CP- 2	1	PL 12mm	220	150	94.20	3.11	3.11
3CP- 3	1	PL 12mm	244	163	94.20	3.75	3.75
3CP- 4	6	PL 12mm	78	200	94.20	1.47	8.82
						Total WEIGHT=	22.29

POWER GRID COMPANY OF BANGLADESH LTD
APPROVED
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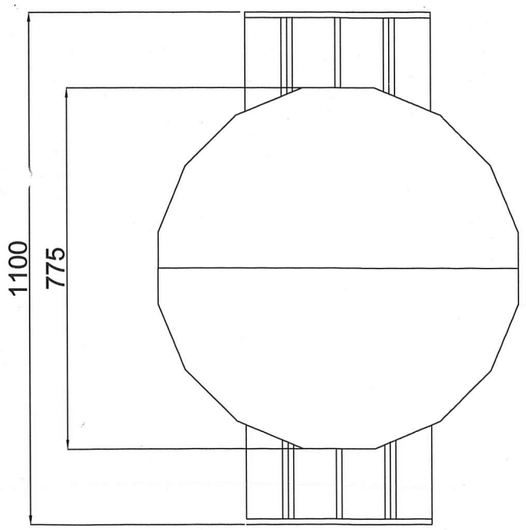
Md. Shoeb Hasan
Sub-Divisional Engineer
Design & Quality Control
PGCB Ltd.

(Engr. S. M. Zafrul Hasan)
Superintending Engineer (TLD)
Design & QC, PGCB, Dhaka.

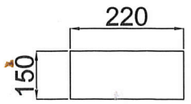
20 AUG 2017



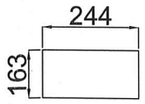
FRONT ELEVATION OF1DHP-3CP



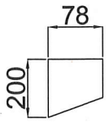
TOP VIEW FOR 1DHP-3CP



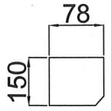
3CP-2 (PL 220X12X123)
QTY : 02 Pcs



3CP-3 (PL 244X12X163)
QTY : 02 Pcs



3CP-4 (PL 78X12X200)
QTY : 6 Pcs



3CP-1 (PL 78X12X150)
QTY : 6 Pcs

NOTE:

THE STANDARDS FOR MATERIAL, FABRICATION, WORKMENSHIP, GALVANIZING, WELDING, INSPECTION, ETC.

1. MATERIAL SPECIFICATION:
   A) FOR POLE, MATERIAL GRADE IS S355JR.
   B) FOR BASE PLATE, MATERIAL GRADE IS S355JR.
   C) FOR CROSS ARM MATERIAL GRADE ARE S355JR AND S275JR.
2. ANCHOR BOLT IS 5.6 GRADE;
   CROSS ARM CONNECTING BOLT GRADE 8.8.
3. GALVANIZING AS PER BSEN 1461:2009.
4. BOLTS AS PER ISO 898-1:2009; NUTS AS PER ISO 4034; WASHER AS PER DIN 127.
5. ALL DIMENSIONS ARE IN MM.
6. ALL MATERIALS ARE MILD STEEL IF NOT STATED OTHERWISE.
7. MARK NUMBER WITH "H" ALPHABET INDICATES HIGH TENSILE STEEL.
8. ALL STRUCTURAL WELDING SHOULD BE CARRIED OUT ACCORDING TO BSEN 61011-1 AND 2.

CLIENT : POWER GRID COMPANY OF BANGLADESH LIMITED (PGCB)

CONTRACTOR : JOINT VENTURE OF ZTT & SINOTEC

MANUFACTURER : CONFIDENCE™ Steel Limited

TITLE: DESIGN, SUPPLY, ERECTION, TESTING AND COMMISSIONING OF ISHURDI–ROOPPUR 132KV DOUBLE CIRCUIT TRANSMISSION LINE ON TURNKEY BASIS

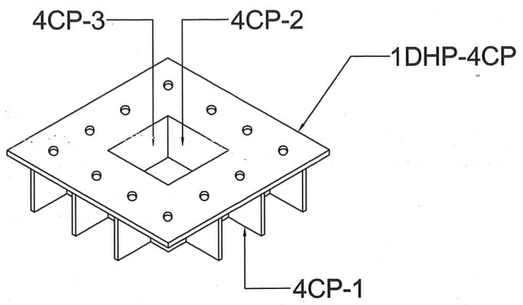
DRAWN	CHECKED	APPROVED	POLE TYPE:	SCALE
MIZANUR	M.R.C		1DHP	N.T.S

Drawing Name: 3CP DETAILS

DATE	08.08.17	Dwg No: CSL/ZTT–SINOTEC/SD/1DHP	SHT. NO.13/15	REV : 0

BILL OF MATRIAL

MARK NO.	QTY/TWR	SIZE	LENGTH	BREADTH	WT/MTR	WT/PCS	TOTAL WT
	PCS	MM	MM	MM	KG	KG	KG
4CP- 1	6	PL 12mm	78	173	94.20	1.27	7.63
4CP- 2	1	PL 12mm	220	173	94.20	3.59	3.59
4CP- 3	1	PL 12mm	244	188	94.20	4.32	4.32
4CP- 4	6	PL 12mm	78	237	94.20	1.74	10.45
						Total WEIGHT=	25.98



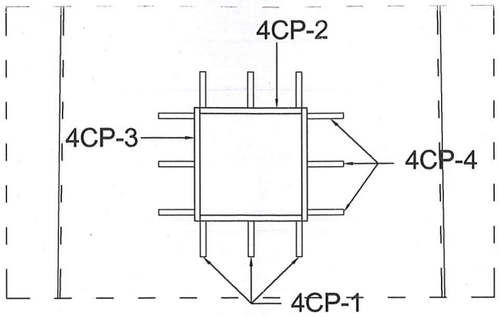
1DHP-4CP

POWER GRID COMPANY OF BANGLADESH LTD
APPROVED
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Md. Shoeb Hasan
Sub-Divisional Engineer
Design & Quality Control
PGCB Ltd.

(Engr. S. M. Zafrul Hasan)
Superintending Engineer (TLD)
Design & QC, PGCB, Dhaka.

20 AUG 2017



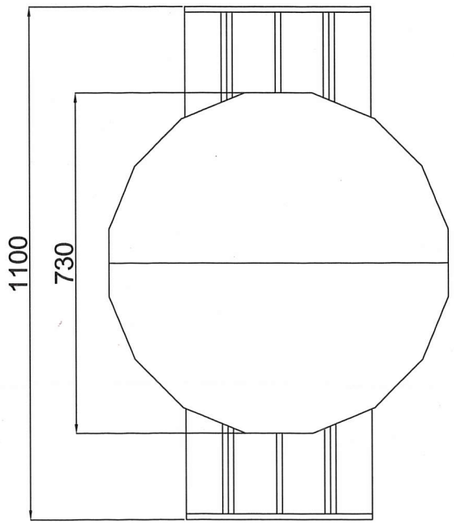
FRONT ELEVATION OF1DHP-4CP

JOINT VENTURE OF ZTT AND SINOTEC

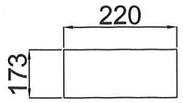
NOTE:

THE STANDARDS FOR MATERIAL, FABRICATION, WORKMENSHIP, GALVANIZING, WELDING, INSPECTION, ETC.

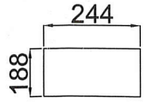
1. MATERIAL SPECIFICATION:
   A) FOR POLE, MATERIAL GRADE IS S355JR.
   B) FOR BASE PLATE, MATERIAL GRADE IS S355JR.
   C) FOR CROSS ARM MATERIAL GRADE ARE S355JR AND S275JR.
2. ANCHOR BOLT IS 5.6 GRADE;
   CROSS ARM CONNECTING BOLT GRADE 8.8.
3. GALVANIZING AS PER BSEN 1461:2009.
4. BOLTS AS PER ISO 898-1:2009; NUTS AS PER ISO 4034; WASHER AS PER DIN 127.
5. ALL DIMENSIONS ARE IN MM.
6. ALL MATERIALS ARE MILD STEEL IF NOT STATED OTHERWISE.
7. MARK NUMBER WITH "H" ALPHABET INDICATES HIGH TENSILE STEEL.
8. ALL STRUCTURAL WELDING SHOULD BE CARRIED OUT ACCORDING TO BSEN 61011-1 AND 2.



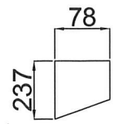
TOP VIEW FOR 1DHP-4CP



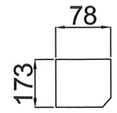
4CP-2 (PL 220X12X173)
QTY : 02 Pcs



4CP-3 (PL 244X12X188)
QTY : 02 Pcs

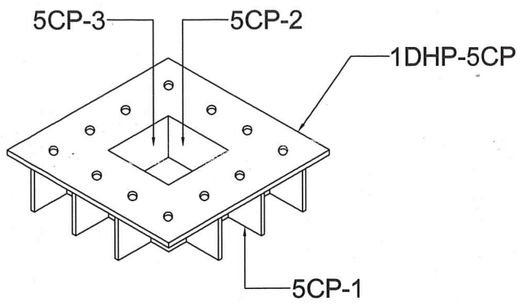


4CP-4 (PL 78X12X237)
QTY : 6 Pcs



4CP-1 (PL 78X12X173)
QTY : 6 Pcs

CLIENT : POWER GRID COMPANY OF BANGLADESH LIMITED (PGCB)				
CONTRACTOR : JOINT VENTURE OF ZTT & SINOTEC				
MANUFACTURER : CONFIDENCE™ Steel Limited				
TITLE: DESIGN, SUPPLY, ERECTION, TESTING AND COMMISSIONING OF ISHURDI–ROOPPUR 132KV DOUBLE CIRCUIT TRANSMISSION LINE ON TURNKEY BASIS				
DRAWN: MIZANUR	CHECKED: M.R.C	APPROVED:	POLE TYPE: 1DHP	SCALE: N.T.S
Drawing Name: 4CP DETAILS				
DATE: 08.08.17	Dwg No: CSL/ZTT–SINOTEC/SD/1DHP		SHT. NO.14/15	REV : 0



1DHP-5CP

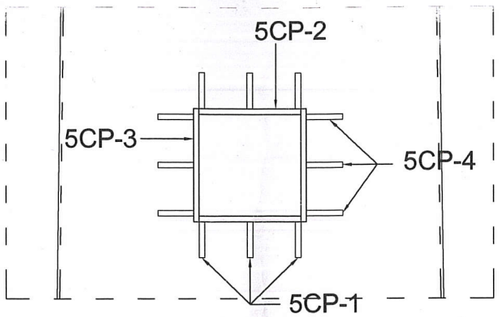
BILL OF MATRIAL							
MARK NO.	QTY/TWR	SIZE	LENGTH	BREADTH	WT/MTR	WT/PCS	TOTAL WT
	PCS	MM	MM	MM	KG	KG	KG
5CP- 1	6	PL 12mm	78	202	94.20	1.48	8.91
5CP- 2	1	PL 12mm	220	202	94.20	4.19	4.19
5CP- 3	1	PL 12mm	244	220	94.20	5.06	5.06
5CP- 4	6	PL 12mm	78	275	94.20	2.02	12.12
						Total WEIGHT=	30.27

POWER GRID COMPANY OF BANGLADESH LTD
APPROVED
This appreval is general only and does not release the manufacturer/contractor/supplier from compliance with specification and standards for design. Workmanship and performance as stipulated in the contract.

Md. Shoeb Hasan
Sub-Divisional Engineer
Design & Quality Control
PGCB Ltd.

(Engr. S. M. Zafrul Hasan)
Superintending Engineer (TLD)
Design & QC, PGCB, Dhaka.

20 AUG 2017



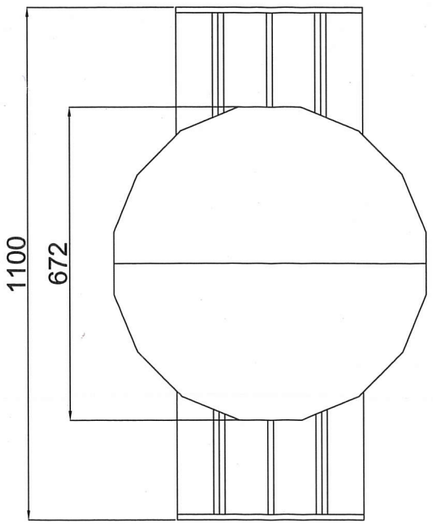
FRONT ELEVATION OF1DHP-4CP

JOINT VENTURE OF ZTT AND SINOTEC

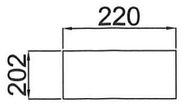
NOTE:

THE STANDARDS FOR MATERIAL, FABRICATION, WORKMENSHIP, GALVANIZING, WELDING, INSPECTION, ETC.

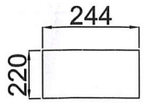
1. MATERIAL SPECIFICATION:
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   B) FOR BASE PLATE, MATERIAL GRADE IS S355JR.
   C) FOR CROSS ARM MATERIAL GRADE ARE S355JR AND S275JR.
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   CROSS ARM CONNECTING BOLT GRADE 8.8.
3. GALVANIZING AS PER BSEN 1461:2009.
4. BOLTS AS PER ISO 898-1:2009; NUTS AS PER ISO 4034; WASHER AS PER DIN 127.
5. ALL DIMENSIONS ARE IN MM.
6. ALL MATERIALS ARE MILD STEEL IF NOT STATED OTHERWISE.
7. MARK NUMBER WITH "H" ALPHABET INDICATES HIGH TENSILE STEEL.
8. ALL STRUCTURAL WELDING SHOULD BE CARRIED OUT ACCORDING TO BSEN 61011-1 AND 2.



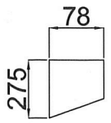
TOP VIEW FOR 1DHP-5CP



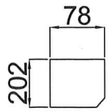
5CP-2 (PL 220X12X202)
QTY : 02 Pcs



5CP-3 (PL 244X12X220)
QTY : 02 Pcs

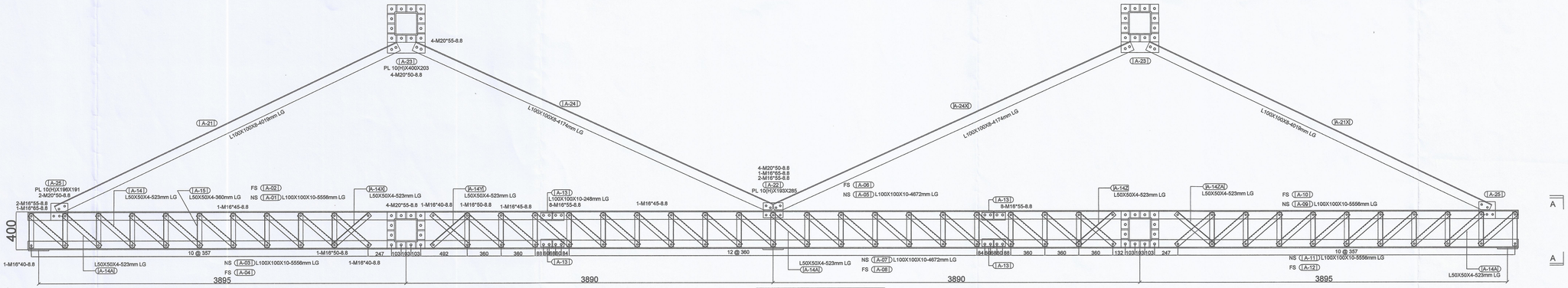


5CP-4 (PL 78X12X275)
QTY : 6 Pcs

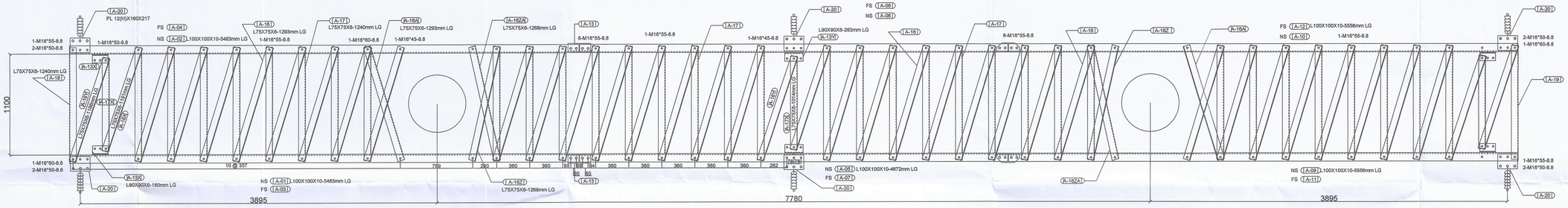


5CP-1 (PL 78X12X202)
QTY : 6 Pcs

CLIENT :	POWER GRID COMPANY OF BANGLADESH LIMITED (PGCB)			
CONTRACTOR :	JOINT VENTURE OF ZTT & SINOTEC			
MANUFACTURER :	CONFIDENCE™ Steel Limited			
TITLE:	DESIGN, SUPPLY, ERECTION, TESTING AND COMMISSIONING OF ISHURDI–ROOPPUR 132KV DOUBLE CIRCUIT TRANSMISSION LINE ON TURNKEY BASIS			
DRAWN: MIZANUR	CHECKED: M.R.C	APPROVED:	POLE TYPE: 1DHP	SCALE: N.T.S
Drawing Name: 5CP DETAILS				
DATE: 08.08.17	Dwg No: CSL/ZTT–SINOTEC/SD/1DHP		SHT. NO.15/15	REV : 0



FRONT & BACK ELEVATION



TOP & BOTTOM VIEW

POWER GRID COMPANY OF BANGLADESH LTD.
APPROVED WITH COMMENT
This approval is general only and does not release the manufacturer/contractor/supplier from compliance with specification and standards for design, Workmanship and performance as stipulated in the contract.

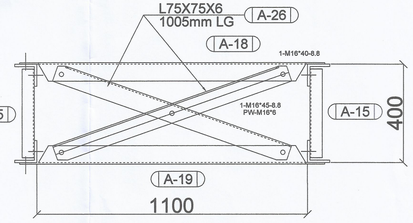
COMMENT: THIS APPROVAL SUPERSEDES EARLIER APPROVED DRAWING GIVEN VIDE PGCB LETTER NO: 27.21.0000.411.43.002.17.468 DATED 20.08.2017.

19.11.17
Assistant Engineer
Design & Quality Control
PGCB Ltd.

Md. Shoeb Hasan
Sub-Divisional Engineer
Design & Quality Control
PGCB Ltd.

(Engr. S. M. Zafrul Hasan)
Superintending Engineer (TLD)
Design & QC, PGCB, Dhaka.

19 NOV 2017



SECTION ON-AA

JOINT VENTURE OF ZTT AND SINOTEC

BILL OF MATRIAL

MARK NO.	QTY/TWR PCS	SIZE MM	LENGTH MM	BREADTH MM	WT/MTR KG	WT/PCS KG	TOTAL WT KG
1DHP-A 01	1	100X100X10	5556	0	15.00	83.34	83.34
1DHP-A 02	1	100X100X10	5556	0	15.00	83.34	83.34
1DHP-A 03	1	100X100X10	5556	0	15.00	83.34	83.34
1DHP-A 04	1	100X100X10	5556	0	15.00	83.34	83.34
1DHP-A 05	1	100X100X10	4672	0	15.00	70.08	70.08
1DHP-A 06	1	100X100X10	4672	0	15.00	70.08	70.08
1DHP-A 07	1	100X100X10	4672	0	15.00	70.08	70.08
1DHP-A 08	1	100X100X10	4672	0	15.00	70.08	70.08
1DHP-A 09	1	100X100X10	5483	0	15.00	82.25	82.25
1DHP-A 10	1	100X100X10	5483	0	15.00	82.25	82.25
1DHP-A 11	1	100X100X10	5483	0	15.00	82.25	82.25
1DHP-A 12	1	100X100X10	5483	0	15.00	82.25	82.25
1DHP-A 13	8	100X100X10	248	0	15.00	3.72	29.76
1DHP-A 13X	4	90X90X6	180	0	8.30	1.49	5.98
1DHP-A 13Y	2	90X90X6	263	0	8.30	2.18	4.37
1DHP-A 14	74	50X50X4	523	0	3.00	1.57	116.11
1DHP-A 14A	6	50X50X4	523	0	3.00	1.57	9.41
1DHP-A 14X	2	50X50X4	523	0	3.00	1.57	3.14
1DHP-A 14Y	2	50X50X4	523	0	3.00	1.57	3.14
1DHP-A 14Z	2	50X50X4	523	0	3.00	1.57	3.14
1DHP-A 14ZA	2	50X50X4	523	0	3.00	1.57	3.14
1DHP-A 15	78	50X50X4	360	0	3.00	1.08	84.24
1DHP-A 16	70	75X75X6	1293	0	6.85	8.86	619.99
1DHP-A 16A	4	75X75X6	1293	0	6.85	8.86	35.43
1DHP-A 16X	2	75X75X6	1191	0	6.85	8.16	16.32
1DHP-A 16Y	4	75X75X6	1186	0	6.85	8.12	32.50
1DHP-A 16Z	4	75X75X6	1268	0	6.85	8.69	34.74
1DHP-A 16ZA	4	75X75X6	1268	0	6.85	8.69	34.74
1DHP-A 17	73	75X75X6	1240	0	6.85	8.49	620.06
1DHP-A 17X	3	75X75X6	1014	0	6.85	6.95	20.84
1DHP-A 18	2	75X75X6	1240	0	6.85	8.49	16.99
1DHP-A 19	2	75X75X6	1240	0	6.85	8.49	16.99
1DHP-A 20	6	PL 12mm	160	217	94.20	3.27	19.62
1DHP-A 21	2	100X100X8	4019	0	12.20	49.03	98.06
1DHP-A 21X	2	100X100X8	4019	0	12.20	49.03	98.06
1DHP-A 22	2	PL 10mm(H)	193	285	78.50	4.32	8.64
1DHP-A 23	4	PL 10mm(H)	400	203	78.50	6.37	25.50
1DHP-A 24	2	100X100X8	4174	0	12.20	50.92	101.85
1DHP-A 24X	2	100X100X8	4174	0	12.20	50.92	101.85
1DHP-A 25	4	PL 10mm(H)	196	191	78.50	2.94	11.75
1DHP-A 26	4	75X75X6	1005	0	6.85	6.88	27.54
						Total WEIGHT=	3146.54
						TOTAL WEIGHT (INCLUDING 3.5% GALV.)=	3256.67

Sl No	Type	SIZE	Length	Qty/ Set	Qty/ Set (With 5%)	Wt./ Pcs (Kg)	Total Wt. (Kg)	REMARKS
1	M-20 (8.8)	M20	50	0	0	0.273	0.00	
2		M20	55	16	17	0.285	4.79	
3	M-20 (8.8)	M20	50	32	34	0.273	9.17	
4	M-16 (8.8)	M16	35	0	0	0.125	0.00	
5		M16	40	20	21	0.133	2.79	
6		M16	45	162	170	0.414	70.42	
7		M16	50	24	25	0.149	3.75	
8		M16	55	214	225	0.157	35.28	
9		M16	60	20	21	0.165	3.47	
10		M16	65	6	6	0.173	1.09	
11	Spring Washer	M20		48	50	0.015	0.76	
12		M24		0	0	0.026	0.00	
13		M16		446	468	0.009	4.21	
14	Plain Washer	M20		48	50	0.017	0.86	
15		M24		0	0	0.032	0.00	
16		M16		446	468	0.011	5.15	
						Total Nut-Bolts Weight (Black)=	141.74	KG

NOTE:

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CONTRACTOR : JOINT VENTURE OF ZTT & SINOTEC

MANUFACTURER : CONFIDENCE Steel Limited

TITLE: DESIGN, SUPPLY, ERECTION, TESTING AND COMMISSIONING OF ISHURDI–ROOPPUR 132KV DOUBLE CIRCUIT TRANSMISSION LINE ON TURNKEY BASIS

DRAWN	CHECKED	APPROVED	POLE TYPE:	SCALE
MIZANUR	M.R.C		1DHP	N.T.S

Drawing Name: 1DHP CROSS ARM Erection Drawing

DATE	Dwg No:	SHT. NO.	REV :
16.11.17	CSL/ZTT–SINOTEC/SD/1DHP	7/15	B