

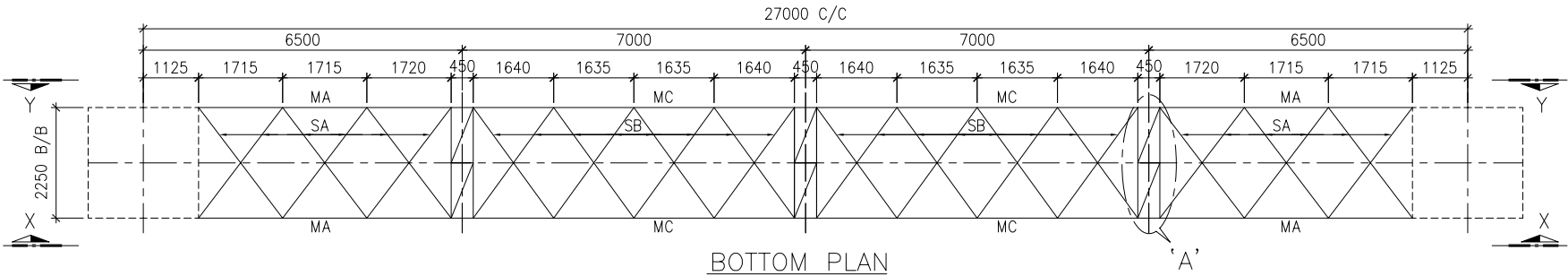
TB-2-DC-271-618-019-A
DRAWING No.

GIRDER MKD.	ANGEL SIZE AND NO. OF BOLTS	MA	MC	SA	SB	UA	UB	UC	UD	SV	WH	WK	YC	YD	YH
G1	ANGEL SIZE	L110x110x10	L130x130x12	L90x90x6	L90x90x6	L90x90x6	L60x60x5	L75x75x5	L50x50x5	L45x45x5	L75x75x6	L45x45x5	L65x65x5	L45x45x5	L45x45x5
	NO. OF BOLTS	10	15	05	05	04	03	02	02	02	03	01	01	01	01

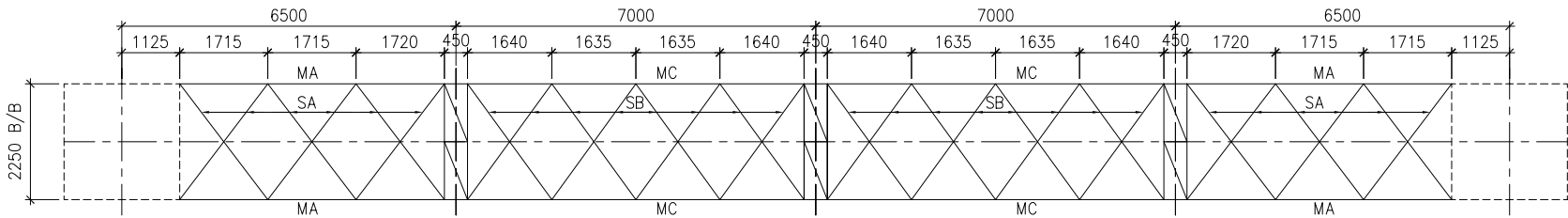
HIGHLIGHT:—
SPAN OF GIRDER 27.00 M. (C/C)
SPAN OF GIRDER 24.75 M. (CLEAR)
CROSS SECTION OF GIRDER 2.25 M. x 1.50 M.

LEGEND:—
GIRDER MARKED 'G1' IS A GIRDER OF SPAN 27.0 M.
SUPPORTING THREE PHASES WITH CONDUCTOR TENSION OF 6.0T EACH UNDER NORMAL CONDITIONS AND 9.0T EACH UNDER SHORT CIRCUIT CONDITION WITHOUT DEAVIATION OF CONDUCTORS.

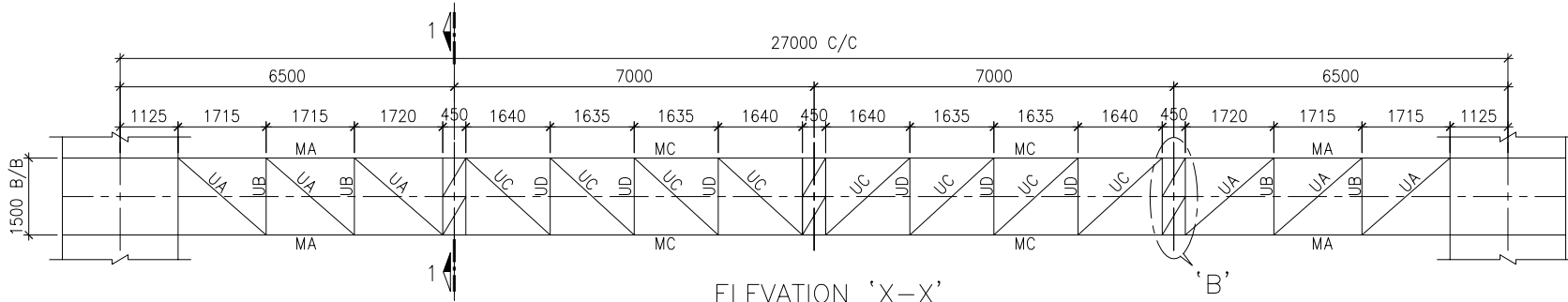
NOTES:—
1 ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
2 ALL UN-NOTED MEMBER ARE ISA L45 x 45 x 5
3 ALL ANGLE SECTIONS USED ARE EQUAL ANGLES.
4 ALL DIMENSIONS ARE CENTER LINE DIMENSION UNLESS NOTED OTHERWISE
5 ALL CONNECTIONS BOLT SHALL BE 16mm DIA BOLT



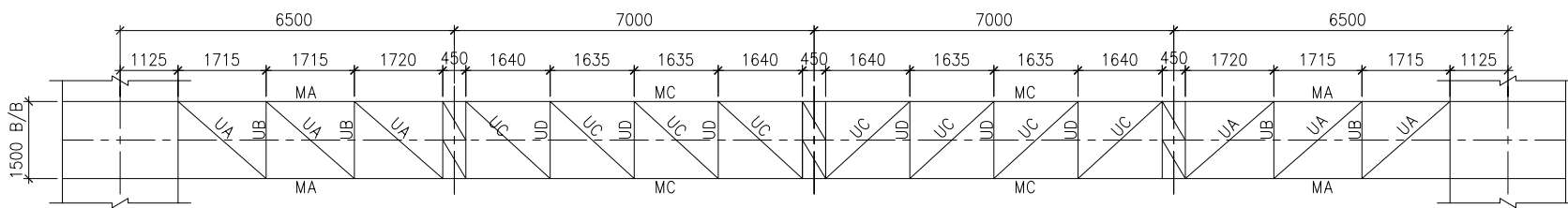
BOTTOM PLAN



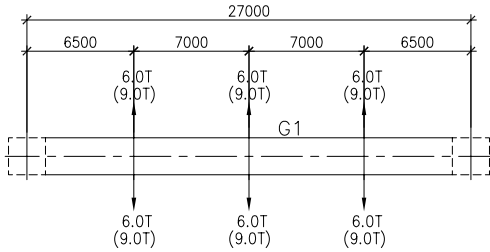
TOP PLAN



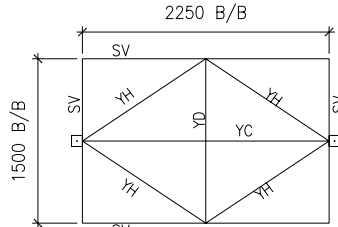
ELEVATION 'X-X'



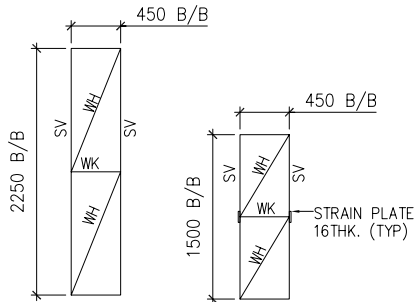
ELEVATION 'Y-Y'



KEY PLAN



SECTION '1-1'



DETAIL-A

DETAIL-B

ANNEXURE TO DESIGN DOC.
TB-DC-271-618-019 REV. R-0.

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COMPUTER DRG. PATH NAME :
0638-SY-TB-DC-271-618-019-A.dwg

REF. DRG. No.

SIGN. & DATE

INVENTORY No.

REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
		CHECKED			CHECKED			CHECKED
		APPROVED			APPROVED			APPROVED
ZONE			ZONE			ZONE		



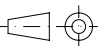
CUSTOMER :	NTPC LIMITED
PROJECT :	3x660 MW BARH STPP (400/132 KV SWITCHYARD)
NTPC DRG. No.	9558-3-572-PVE-U-019-A



BHARAT HEAVY ELECTRICALS LIMITED
TRANSMISSION BUSINESS GROUP

PREPARED BY:—
SHAH & TALATI
Consulting Engineers
3-B KIRTI TOWERS, TILAK ROAD
VADODARA 390 001
PHONE : 2427726 / 2427729
FAX : (0265) 2420537
E-MAIL : design@shahntalati.com

DEPT. : TBEM
CODE : 422



SCALE
1:135
CARD CODE

TITLE : SCOPE DRAWING FOR
400KV BEAM MKD. G1.

	NAME	SIGN.	DATE
DRAWN	BHARAT		30.11.2006
CHECKED			
APPROVED			

DRG. No. TB-DC-271-618-019-A	REV. R-0
SHEET NO. — 1	NEXT SHEET — —

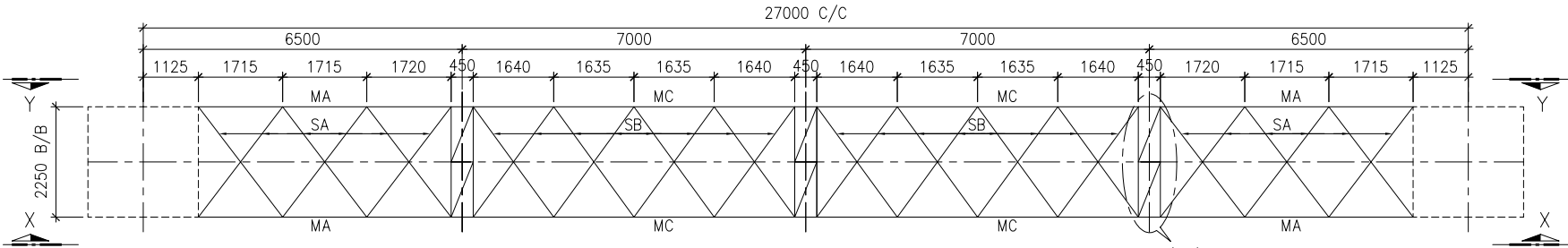
TB-2-DC-271-618-020-A
DRAWING No.

GIRDER MKD.	ANGEL SIZE AND NO. OF BOLTS	MA	MC	SA	SB	UA	UB	UC	UD	SV	WH	WK	YC	YD	YH
G2	ANGEL SIZE	L110x110x10	L130x130x10	L90x90x6	L75x75x6	L90x90x6	L60x60x5	L75x75x5	L50x50x5	L45x45x5	L75x75x6	L45x45x5	L65x65x5	L45x45x5	L45x45x5
	NO. OF BOLTS	10	13	05	03	04	03	02	02	02	03	01	01	01	01

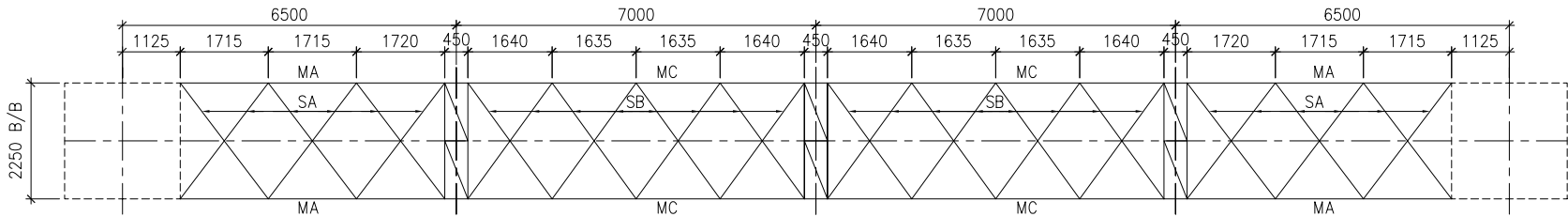
HIGHLIGHT: -
SPAN OF GIRDER 27.00 M. (C/C)
SPAN OF GIRDER 24.75 M. (CLEAR)
CROSS SECTION OF GIRDER 2.25 M. x 1.50 M.

LEGEND: -
GIRDER MARKED 'G2' IS A GIRDER OF SPAN 27.0 M. SUPPORTING THREE PHASES WITH CONDUCTOR TENSION OF 4.0T EACH UNDER NORMAL CONDITIONS AND 6.0T EACH UNDER SHORT CIRCUIT CONDITION WITH 30 DEGREE DEAVATION IN PLAN & 20 DEGREE DEAVATION IN ELEVATION OF CONDUCTORS.

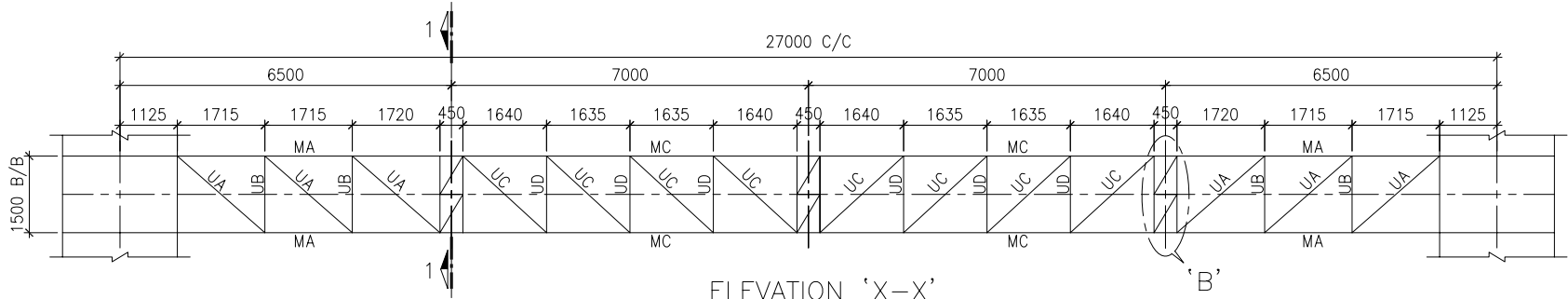
NOTES: -
1 ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
2 ALL UN-NOTED MEMBER ARE ISA L45 x 45 x 5
3 ALL ANGLE SECTIONS USED ARE EQUAL ANGLES.
4 ALL DIMENSIONS ARE CENTER LINE DIMENSION UNLESS NOTED OTHERWISE
5 ALL CONNECTIONS BOLT SHALL BE 16mm DIA BOLT



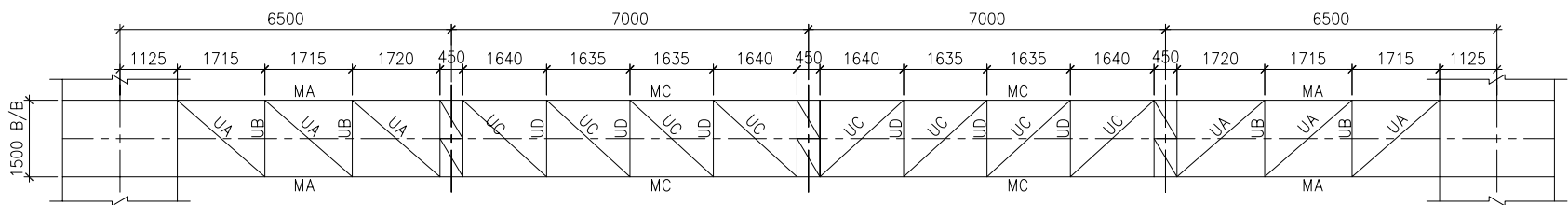
BOTTOM PLAN



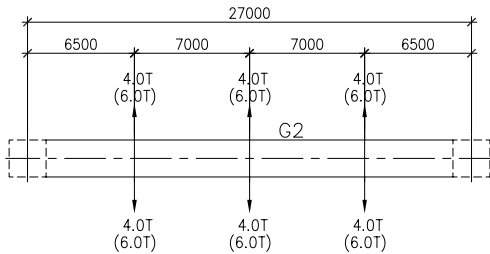
TOP PLAN



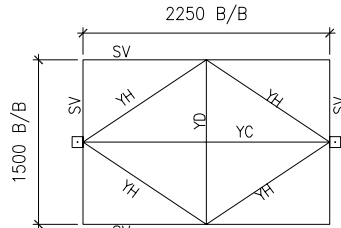
ELEVATION 'X-X'



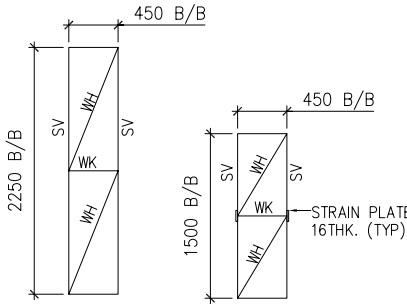
ELEVATION 'Y-Y'



KEY PLAN



SECTION '1-1'



DETAIL-A

DETAIL-B

ANNEXURE TO DESIGN DOC.
TB-DC-271-618-020 REV. R-0.

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COMPUTER DRG. PATH NAME :
0638-SY-TB-DC-271-618-020-A.dwg

REF. DRG. No.

SIGN. & DATE

INVENTORY No.

REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
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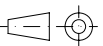
CUSTOMER :	NTPC LIMITED
PROJECT :	3x660 MW BARH STPP (400/132 KV SWITCHYARD)
NTPC DRG. No.	9558-3-572-PVE-U-020-A



BHARAT HEAVY ELECTRICALS LIMITED
TRANSMISSION BUSINESS GROUP

PREPARED BY:-
SHAH & TALATI
Consulting Engineers
3-B KIRTI TOWERS, TILAK ROAD
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FAX : (0265) 2420537
E-MAIL : design@shahntalati.com

DEPT. : TBEM
CODE : 422



SCALE
1:135

CARD CODE

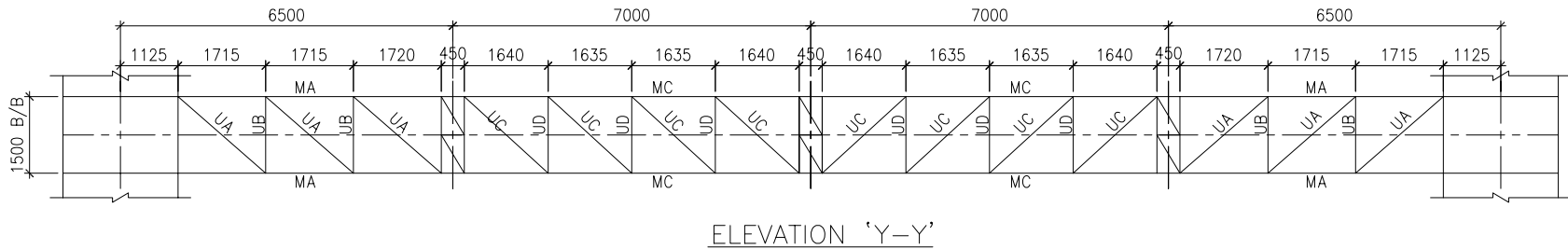
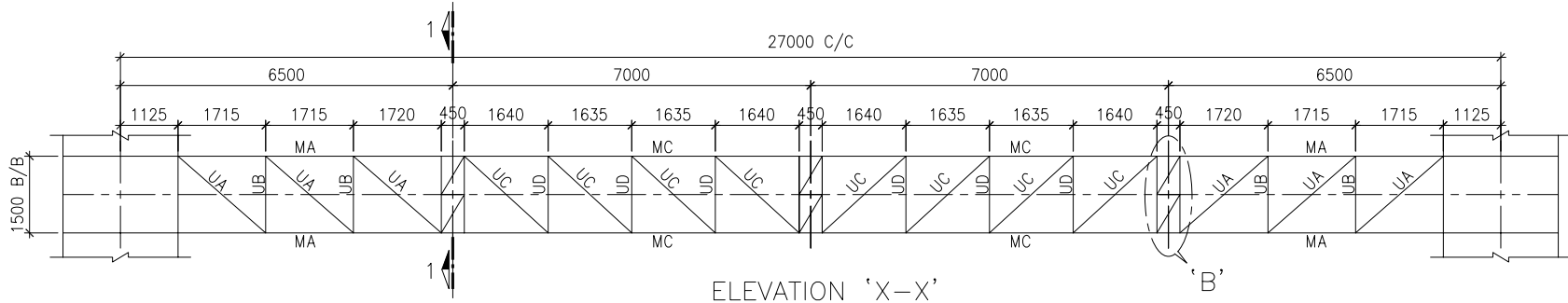
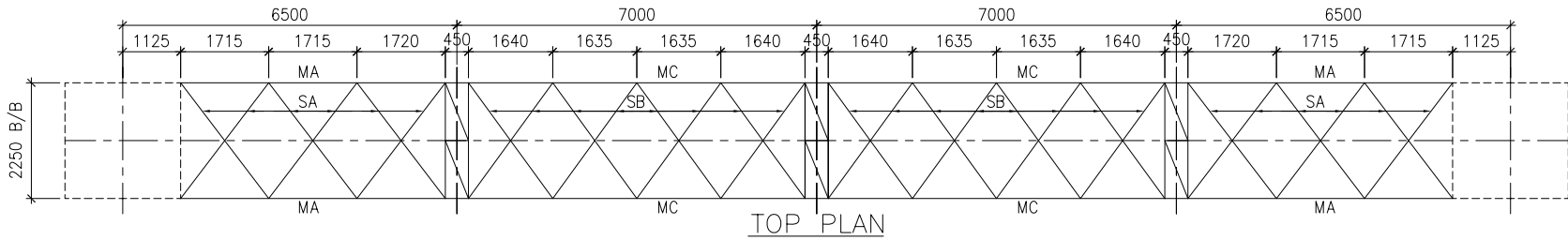
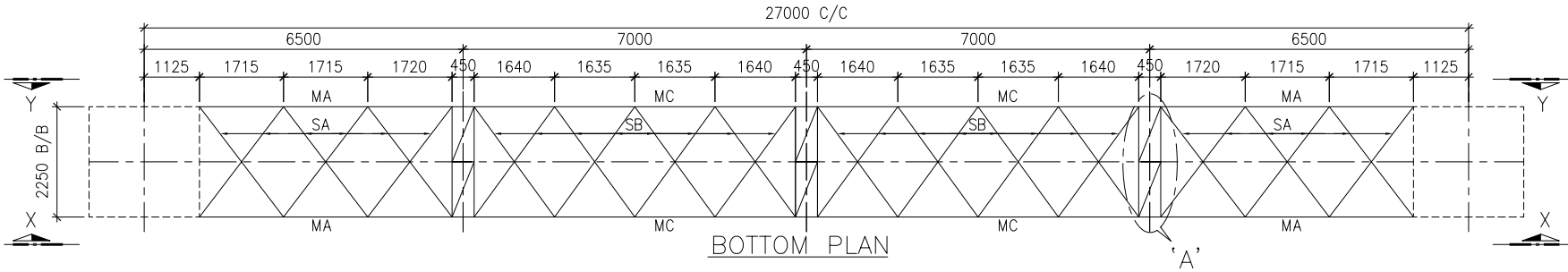
TITLE : SCOPE DRAWING FOR
400kV BEAM MKD. G2.

	NAME	SIGN.	DATE
DRAWN	BHARAT		30.11.2006
CHECKED			
APPROVED			

DRG. No.	REV.
TB-DC-271-618-020-A	R-0
SHEET NO. - 1	NEXT SHEET - -

TB-2-DC-271-618-021-A
DRAWING No.

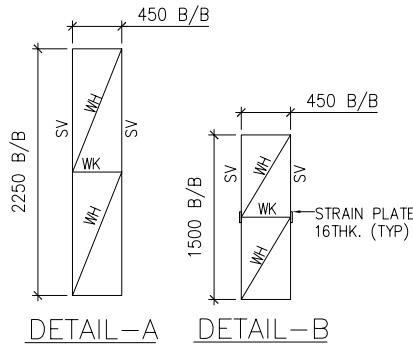
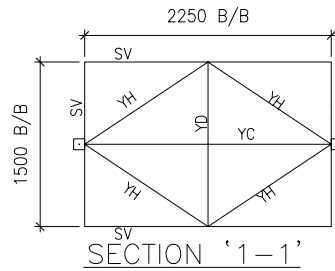
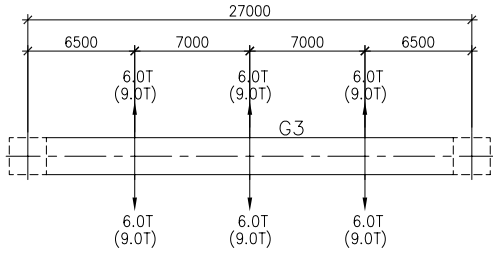
GIRDER MKD.	ANGEL SIZE AND NO. OF BOLTS	MA	MC	SA	SB	UA	UB	UC	UD	SV	WH	WK	YC	YD	YH
G3	ANGEL SIZE	L130x130x10	L150x150x12	L90x90x8	L90x90x6	L90x90x6	L60x60x5	L75x75x6	L50x50x6	L45x45x5	L75x75x6	L45x45x5	L65x65x5	L45x45x5	L45x45x5
	NO. OF BOLTS	13	18	06	05	04	03	02	02	02	03	01	01	01	01



HIGHLIGHT:-
SPAN OF GIRDER 27.00 M. (C/C)
SPAN OF GIRDER 24.75 M. (CLEAR)
CROSS SECTION OF GIRDER 2.25 M. x 1.50 M.

LEGEND:-
GIRDER MARKED 'G3' IS A GIRDER OF SPAN 27.0 M. SUPPORTING THREE PHASES WITH CONDUCTOR TENSION OF 6.0T EACH UNDER NORMAL CONDITIONS AND 9.0T EACH UNDER SHORT CIRCUIT CONDITION WITH 30 DEGREE DEAVATION IN PLAN & 20 DEGREE DEAVATION IN ELEVATION OF CONDUCTORS.

NOTES:-
1 ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
2 ALL UN-NOTED MEMBER ARE ISA L45 x 45 x 5
3 ALL ANGLE SECTIONS USED ARE EQUAL ANGLES.
4 ALL DIMENSIONS ARE CENTER LINE DIMENSION UNLESS NOTED OTHERWISE
5 ALL CONNECTIONS BOLT SHALL BE 16mm DIA BOLT



ANNEXURE TO DESIGN DOC.
TB-DC-271-618-021 REV. R-0.

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COMPUTER DRG. PATH NAME :
0638-SY-TB-DC-271-618-021-A.dwg

REF. DRG. No.
SIGN. & DATE
INVENTORY No.

REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
		CHECKED			CHECKED			CHECKED
		APPROVED			APPROVED			APPROVED
ZONE			ZONE			ZONE		



CUSTOMER : NTPC LIMITED
PROJECT : 3x660 MW BARH STPP (400/132 KV SWITCHYARD)
NTPC DRG. No. 9558-3-572-PVE-U-021-A



BHARAT HEAVY ELECTRICALS LIMITED
TRANSMISSION BUSINESS GROUP

PREPARED BY:-
SHAH & TALATI
Consulting Engineers
3-B KIRTI TOWERS, TILAK ROAD
VADODARA - 390 001
PHONE : 2427726 / 2427729
FAX : (0265) 2420537
E-MAIL : design@shahntalati.com

DEPT. : TBEM
CODE : 422
TITLE : SCOPE DRAWING FOR
400KV BEAM MKD. G3.

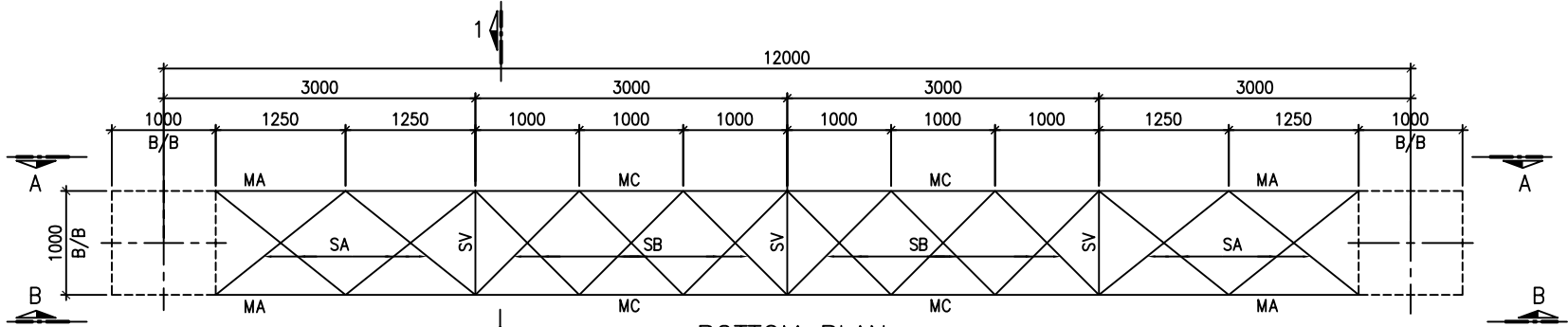
SCALE 1:135
CARD CODE

	NAME	SIGN.	DATE
DRAWN	BHARAT		30.11.2006
CHECKED			
APPROVED			
DRG. No.	TB-DC-271-618-021-A		
SHEET NO. - 1	NEXT SHEET - -		

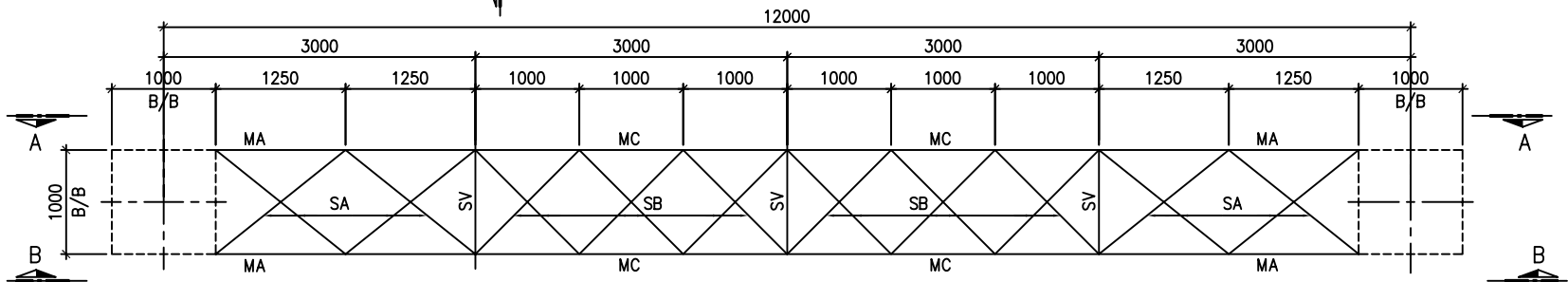
FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN MM.)

TB-2-DC-271-618-022-A
DRAWING No.

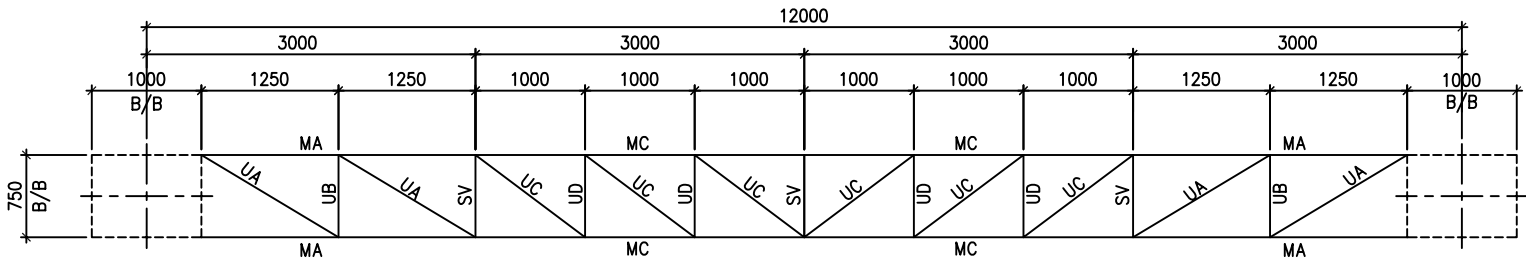
BEAM MKD.	ANGEL SIZE AND NO. OF BOLTS	MA	MC	SA	SB	UA	UB	UC	UD	SV	YC	YD	YH
G4	ANGEL SIZE	L90x90x8	L110x110x8	L75x75x5	L60x60x5	L60x60x5	L45x45x5	L45x45x5	L45x45x5	1150x50x5	L45x45x5	L45x45x5	L45x45x5
	NO. OF BOLTS	07	09	04	03	03	02	02	02	01	01	01	01



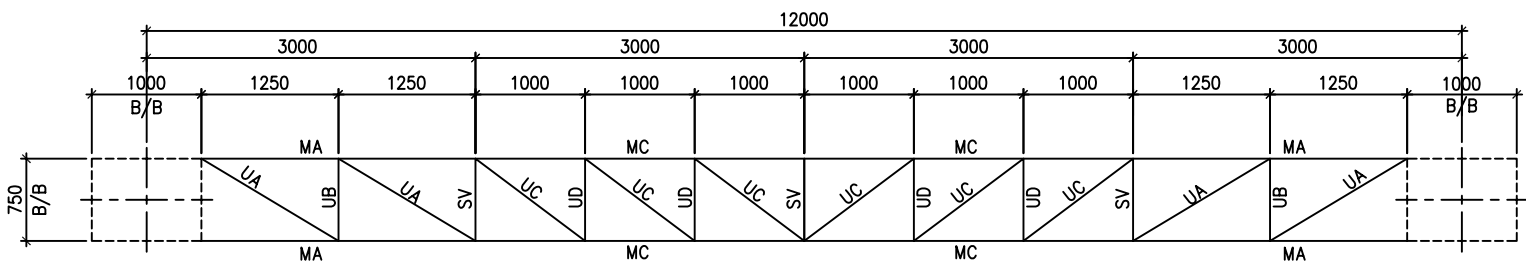
BOTTOM PLAN



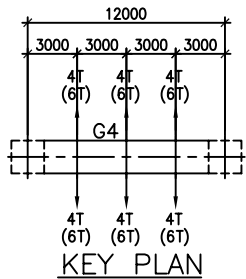
TOP PLAN



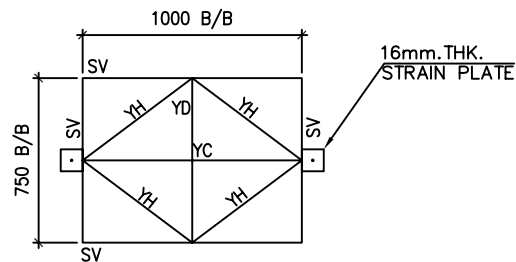
ELEVATION A-A



ELEVATION B-B



KEY PLAN



SECTION '1-1'

HIGHLIGHT:-
SPAN OF GIRDER 12.0 M. (C/C)
SPAN OF GIRDER 11 M. (CLEAR)
CROSS SECTION OF GIRDER 0.75 M. x 1.0 M.

LEGEND:-
BEAM MARKED 'G4' IS A BEAM OF SPAN 12.0 M.
SUPPORTING THREE PHASES WITH CONDUCTOR TENSION OF 4T EACH UNDER NORMAL CONDITIONS AND 6T EACH UNDER SHORT CIRCUIT CONDITION WITHOUT DEVIATION OF CONDUCTOR.

NOTES:-
1 ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
2 ALL UN-NOTED MEMBER ARE ISA L45 x 45 x 5
3 ALL ANGLE SECTIONS USED ARE EQUAL ANGLES.
4 ALL DIMENSIONS ARE CENTER LINE DIMENSION UNLESS NOTED OTHERWISE
5 ALL CONNECTIONS BOLT SHALL BE 16mm DIA BOLT

ANNEXURE TO DESIGN DOC.
TB-DC-271-618-022 REV. R-2.

एन टी पी सी
NTPC

CUSTOMER : NTPC LIMITED
PROJECT : 3x660 MW BARH STPP (400/132 KV SWITCHYARD)
NTPC DRG. No. 9558-3-572-PVE-U-022-A

बीएसईएल
BHEL

BHARAT HEAVY ELECTRICALS LIMITED
TRANSMISSION BUSINESS GROUP

PREPARED BY:-
SHAH & TALATI
Consulting Engineers
3-B KIRTI TOWERS, TILAK ROAD
VADODARA 390 001
PHONE : 2427726 / 2427729
FAX : (0265) 2420537
E-MAIL : design@shahntalati.com

DEPT. : TBEM
CODE : 422
SCALE 1:135
CARD CODE
TITLE : SCOPE DRAWING FOR
132KV BEAM MKD. G4.

	NAME	SIGN.	DATE
DRAWN	BHARAT		21.11.2006
CHECKED			
APPROVED			
DRG. No.	TB-DC-271-618-022-A		REV. R-0
SHEET NO. - 1	NEXT SHEET - -		

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COMPUTER DRG. PATH NAME :
0638-SY-TB-DC-271-618-022-A.dwg

INVENTORY No. SIGN. & DATE REF. DRG. No.

REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
		CHECKED			CHECKED			CHECKED
		APPROVED			APPROVED			APPROVED
ZONE			ZONE			ZONE		

FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN MM.)

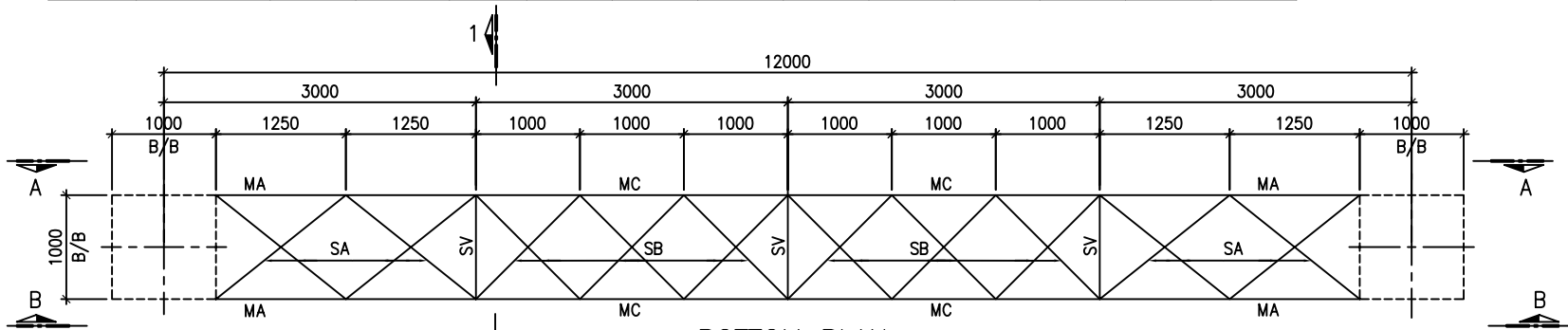
TB-2-DC-271-618-023-A
DRAWING No.

BEAM MKD.	ANGEL SIZE AND NO. OF BOLTS	MA	MC	SA	SB	UA	UB	UC	UD	SV	YC	YD	YH
G5	ANGEL SIZE	L110x110x8	L130x130x10	L75x75x5	L60x60x5	L60x60x5	L45x45x5	L50x50x5	L45x45x5	7T50x50x5	L45x45x5	L45x45x5	L45x45x5
	NO. OF BOLTS	09	13	04	03	03	02	02	02	01	01	01	01

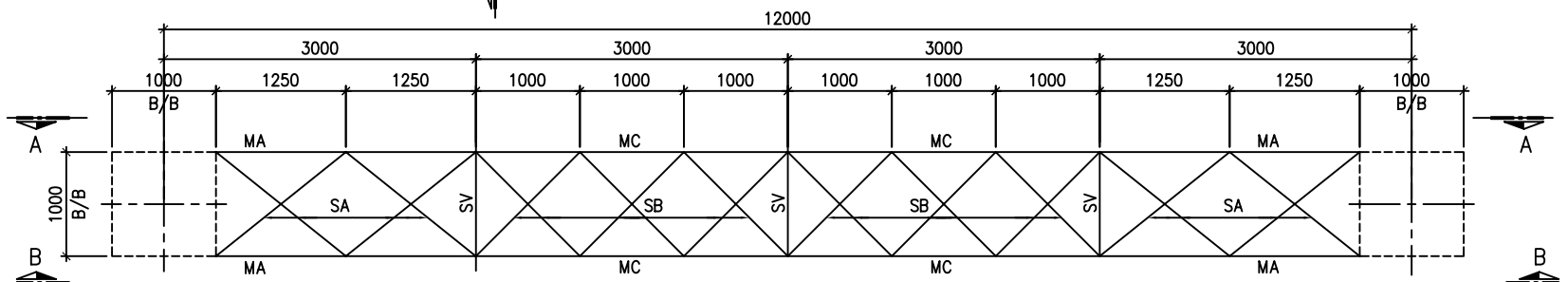
HIGHLIGHT:-
SPAN OF GIRDER 12.0 M. (C/C)
SPAN OF GIRDER 11 M. (CLEAR)
CROSS SECTION OF GIRDER 0.75 M. x 1.0 M.

LEGEND:-
BEAM MARKED 'G5' IS A BEAM OF SPAN 16.0 M.
SUPPORTING THREE PHASES WITH CONDUCTOR TENSION OF 4T EACH UNDER NORMAL CONDITIONS AND 6T EACH UNDER SHORT CIRCUIT CONDITION WITH DEVIATION OF CONDUCTOR.

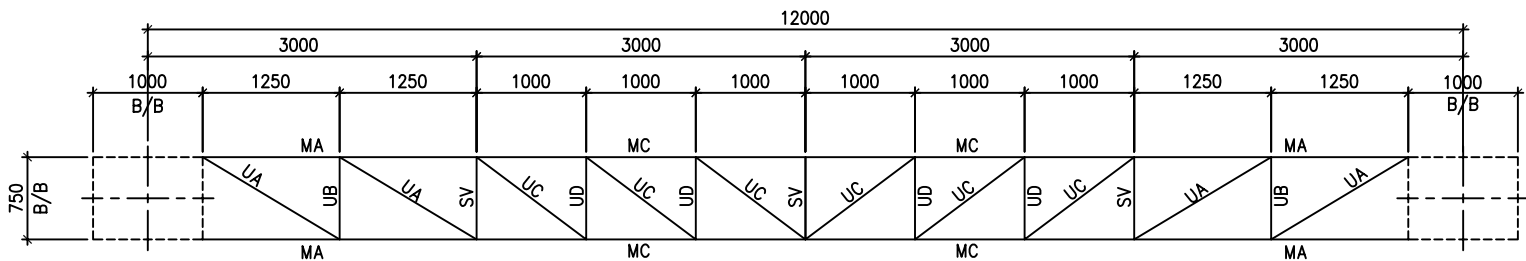
NOTES:-
1 ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
2 ALL UN-NOTED MEMBER ARE ISA L45 x 45 x 5
3 ALL ANGLE SECTIONS USED ARE EQUAL ANGLES.
4 ALL DIMENSIONS ARE CENTER LINE DIMENSION UNLESS NOTED OTHERWISE
5 ALL CONNECTIONS BOLT SHALL BE 16mm DIA BOLT



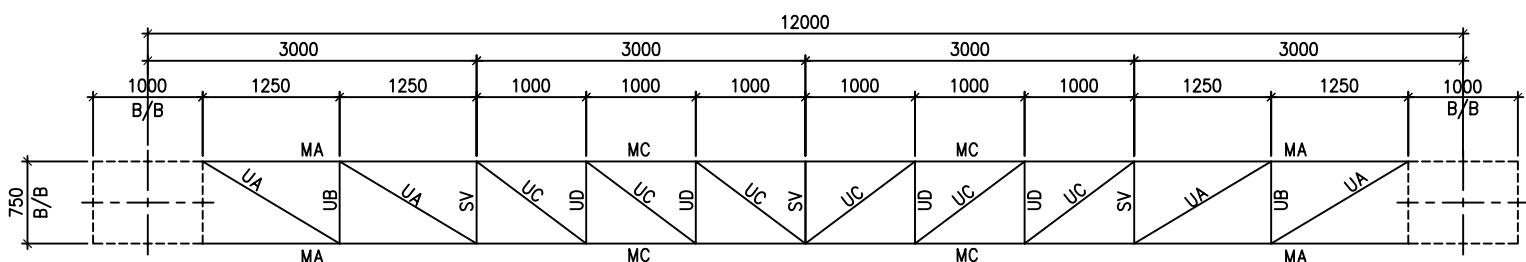
BOTTOM PLAN



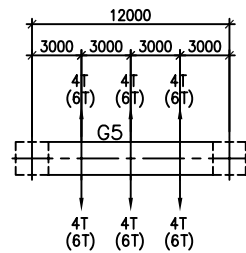
TOP PLAN



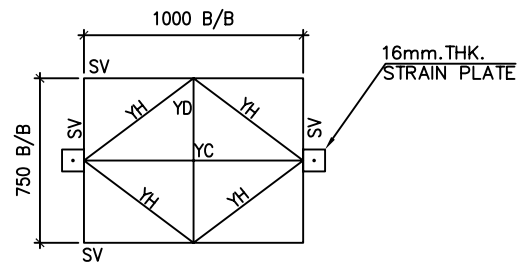
ELEVATION A-A



ELEVATION B-B



KEY PLAN



SECTION '1-1'

16mm.THK.
STRAIN PLATE



ANNEXURE TO DESIGN DOC.
TB-DC-271-618-023 REV. R-2.

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COMPUTER DRG. PATH NAME :
0638-SY-TB-DC-271-618-023-A.dwg

INVENTORY No. SIGN. & DATE REF. DRG. No.

REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
		CHECKED			CHECKED			CHECKED
		APPROVED			APPROVED			APPROVED
ZONE			ZONE			ZONE		

		CUSTOMER : NTPC LIMITED	
		PROJECT : 3x660 MW BARH STPP (400/132 KV SWITCHYARD)	
		NTPC DRG. No. 9558-3-572-PVE-U-023-A	
		BHARAT HEAVY ELECTRICALS LIMITED TRANSMISSION BUSINESS GROUP	
PREPARED BY:- SHAH & TALATI Consulting Engineers 3-B KIRTI TOWERS, TILAK ROAD VADODARA 390 001 PHONE : 2427726 / 2427729 FAX : (0265) 2420537 E-MAIL : design@shahntalati.com		DEPT. : TBEM CODE : 422 SCALE 1:135 CARD CODE	
TITLE : SCOPE DRAWING FOR 132KV BEAM MKD. G5.		DRG. No. TB-DC-271-618-023-A REV. R-0	
SHEET NO. - 1		NEXT SHEET - -	

DRAWING No.
TB-2-DC-271-618-024-A

TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	PA	PB	PC	PD	PE	PF	PG	GA	GB	GC	GD	GE	GF	GG	JA	JB	JC	JD
T1	ANGEL SIZE	L100x100x6	L100x100x6	L100x100x6	L110x110x8	L110x110x8	L130x130x10	L130x130x10	L60x60x5	L60x60x5	L60x60x5	L60x60x5	L60x60x5	L65x65x5	L65x65x5	L75x75x6	L75x75x6	L75x75x6	L75x75x5
	NO. OF BOLTS	04-DS	04-DS	04-DS	07-DS	07-DS	10-DS	10-DS	02	02	02	03	03	03	03	03	03	03	04

TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	JE	JF	JG	AA	AB	DA	DB
T1	ANGEL SIZE	L75x75x5	L75x75x5	L75x75x5	L75x75x6	L75x75x6	L60x60x5	L60x60x5
	NO. OF BOLTS	04	03	03	02	02	02	02

LEGEND: -

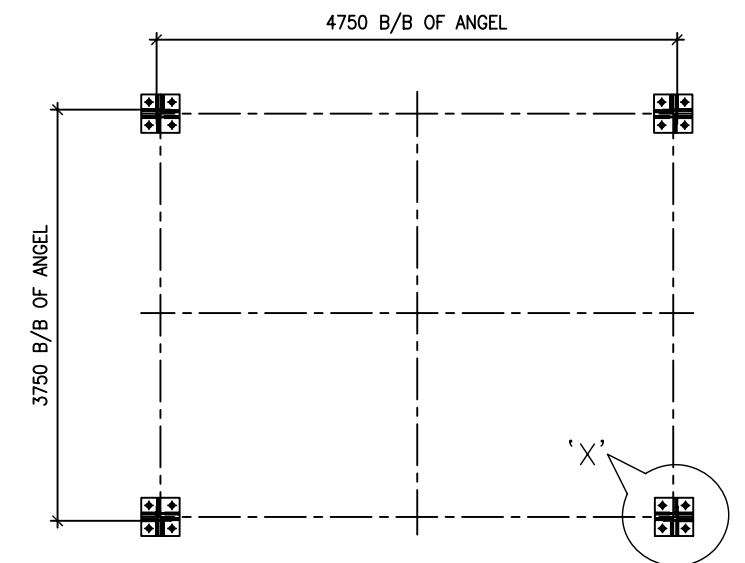
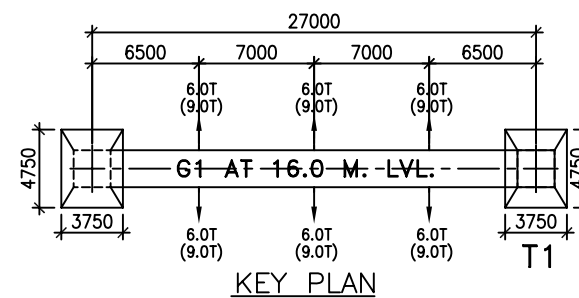
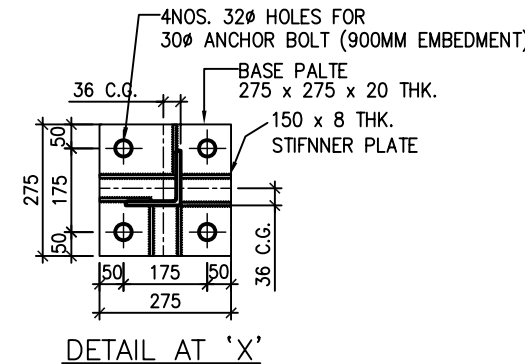
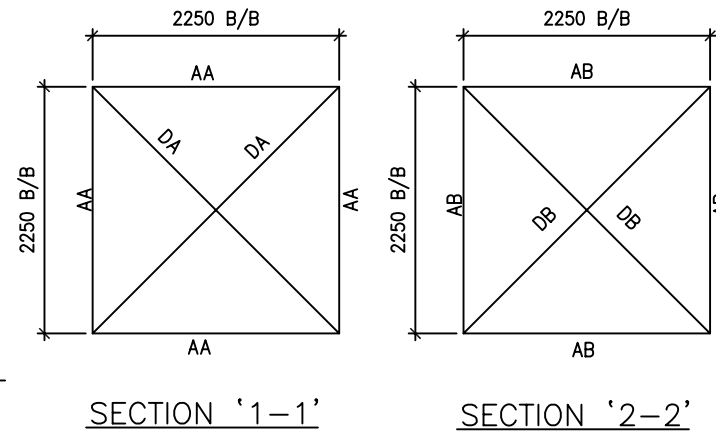
TOWER MARKED 'T1' IS A END TOWER WITH OUT PEAK SUPPORTING ONE GIRDER OF SPAN 27.0M. OF INTERMEDIATE GANTRY WITH CONDUCTOR TENSION OF 6.0T UNDER NORMAL CONDITION AND CONDUCTOR TENSION OF 9.0T UNDER SHORT CIRCUIT CONDITION WITHOUT DEVIATION.

HIGHLIGHT: -

SPAN OF GIRDER 27.0 M.
HEIGHT OF GIRDER 16.00 M. (FROM FGL)
CONDUCTOR TENSION 6.0T (NC)
CONDUCTOR TENSION 9.0T (SCC)
CONDUCTOR DEVIATION 0 DEGREE
LOCATION END TOWER

NOTES: -

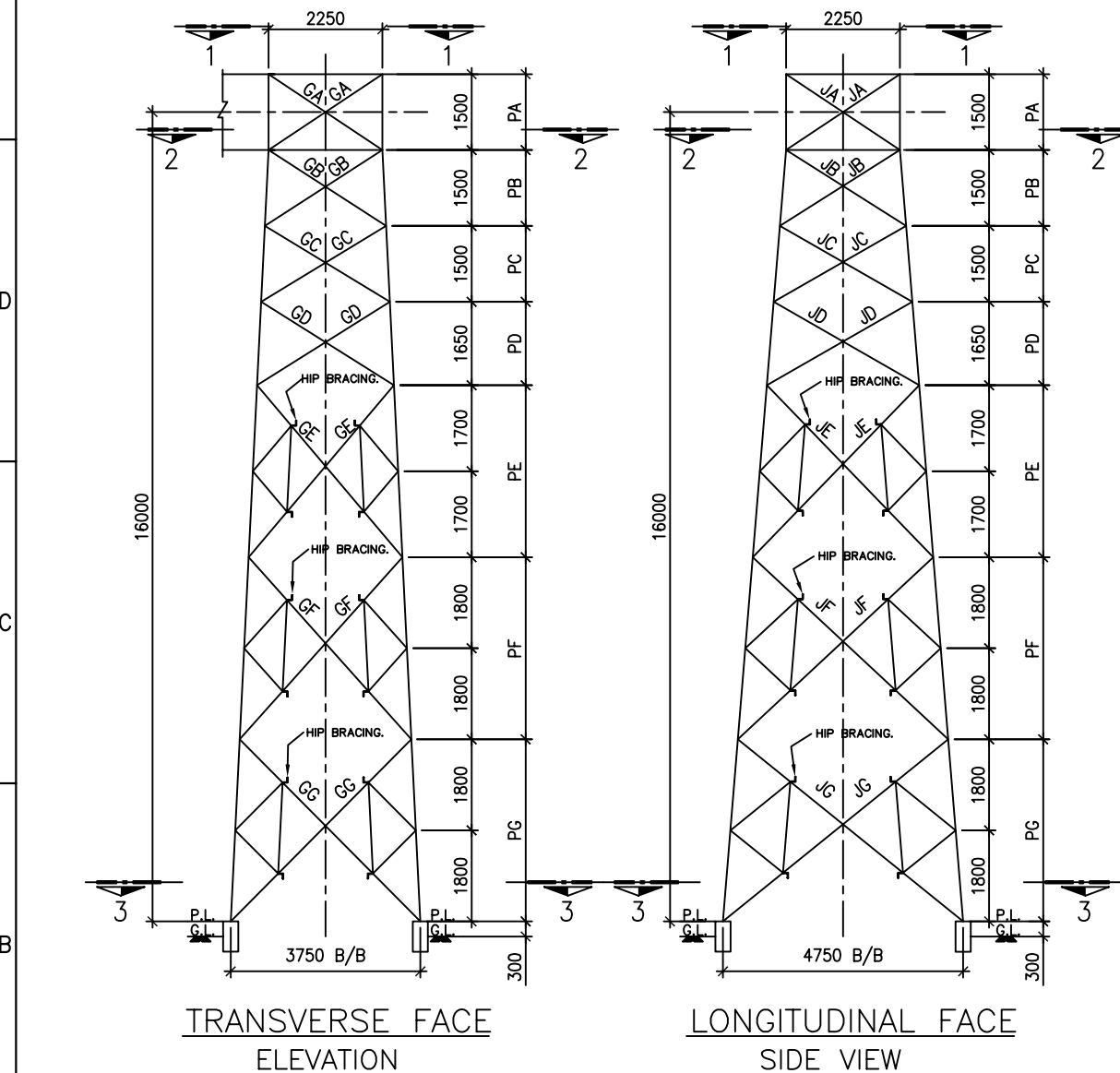
- 1 ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
- 2 ALL UN-NOTED MEMBER ARE ISA L45 x 45 x 5
- 3 ALL ANGLE SECTIONS USED ARE EQUAL ANGLES.
- 4 ALL DIMENSIONS ARE CENTER LINE DIMENSION UNLESS NOTED OTHERWISE
- 5 ALL CONNECTIONS BOLT SHALL BE 16mm DIA BOLT

FOUNDATION PLAN
SECTION '3-3'ANNEXURE TO DESIGN DOC.
TB-DC-271-618-024 REV. R-0.COPY RIGHT AND CONFIDENTIAL
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0638-SY-TB-DC-271-618-024-A.dwg

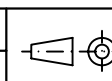
REF. DRG. No.

SIGN. & DATE

INVENTORY No.

TRANSVERSE FACE
ELEVATIONLONGITUDINAL FACE
SIDE VIEW

REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
		CHECKED			CHECKED			CHECKED
		APPROVED			APPROVED			APPROVED
ZONE			ZONE			ZONE		

एन टी पी सी
NTPCCUSTOMER : NTPC LIMITED
PROJECT : 3x660 MW BARH STPP (400/132 KV SWITCHYARD)
NTPC DRG. No. 9558-3-572-PVE-U-024-Aबीएसईएल
BHELBHARAT HEAVY ELECTRICALS LIMITED
TRANSMISSION BUSINESS GROUPPREPARED BY:-
SHAH & TALATI
Consulting Engineers
3-B KIRTI TOWERS, TILAK ROAD
VADODARA 390 001
PHONE : 2427726 / 2427729
FAX : (0265) 2420537
E-MAIL : design@shahntalati.comDEPT. : TBEM
CODE : 422SCALE
1:135

CARD CODE

TITLE : SCOPE DRAWING FOR
400kV TOWER MKD. T1.

	NAME	SIGN.	DATE
DRAWN	BHARAT		30.11.2006
CHECKED			
APPROVED			
DRG. No.	TB-DC-271-618-024-A		REV. R-0
SHEET NO. - 1	NEXT SHEET - -		

TB-2-DC-271-618-025-A

DRAWING No.

TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	PA	PB	PC	PD	PE	PF	PG	GA	GB	GC	GD	GE	GF	GG	JA	JB	JC	JD
T2	ANGEL SIZE	L110x110x8	L110x110x8	L110x110x8	L130x130x12	L130x130x12	L150x150x16	L150x150x16	L60x60x5	L60x60x5	L60x60x5	L60x60x5	L60x60x5	L65x65x5	L65x65x5	L90x90x6	L90x90x6	L90x90x6	L75x75x6
	NO. OF BOLTS	07-DS	07-DS	07-DS	10-DS	10-DS	13-DS	13-DS	02	02	02	03	03	03	03	04	04	04	04

TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	JE	JF	JG	AA	AB	DA	DB
T2	ANGEL SIZE	L75x75x6	L75x75x6	L75x75x6	L75x75x6	L75x75x6	L60x60x5	L60x60x5
	NO. OF BOLTS	04	03	03	02	02	02	02

LEGEND:-

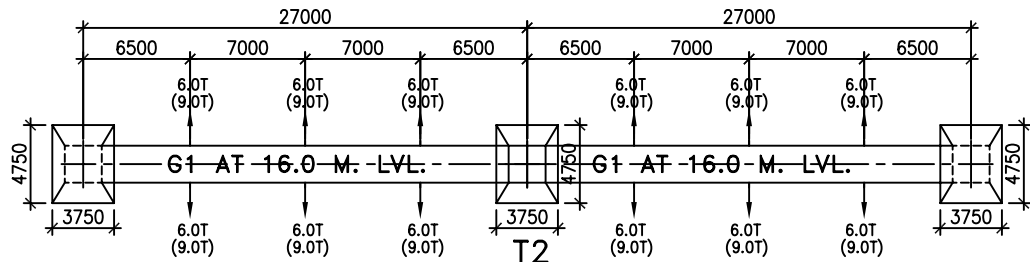
TOWER MARKED 'T2' IS A MIDDLE TOWER WITH OUT PEAK SUPPORTING TWO GIRDER OF SPAN 27.0M. OF INTERMEDIATE GANTRY WITH CONDUCTOR TENSION OF 6.0T UNDER NORMAL CONDITION AND CONDUCTOR TENSION OF 9.0T UNDER SHORT CIRCUIT CONDITION WITHOUT DEVIATION.

HIGHLIGHT:-

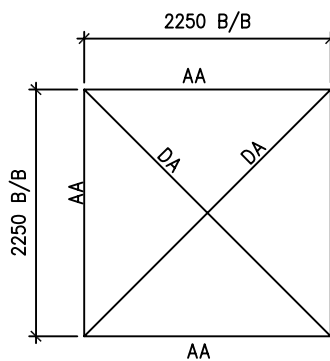
SPAN OF GIRDER 27.0 M.
HEIGHT OF GIRDER 16.00 M. (FROM FGL)
CONDUCTOR TENSION 6.0T (NC)
CONDUCTOR TENSION 9.0T (SCC)
CONDUCTOR DEVIATION 0 DEGREE
LOCATION MIDDLE TOWER

NOTES:-

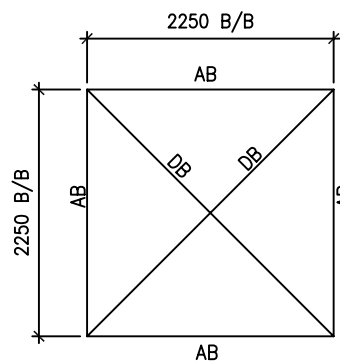
- 1 ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
- 2 ALL UN-NOTED MEMBER ARE ISA L45 x 45 x 5
- 3 ALL ANGLE SECTIONS USED ARE EQUAL ANGLES.
- 4 ALL DIMENSIONS ARE CENTER LINE DIMENSION UNLESS NOTED OTHERWISE
- 5 ALL CONNECTIONS BOLT SHALL BE 16mm DIA BOLT



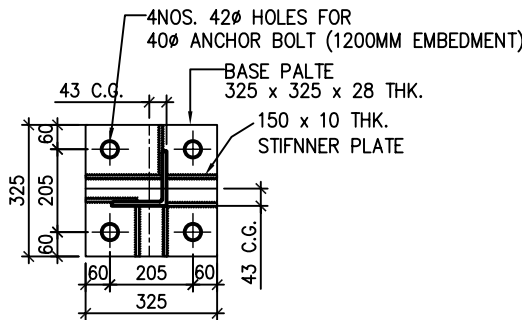
KEY PLAN



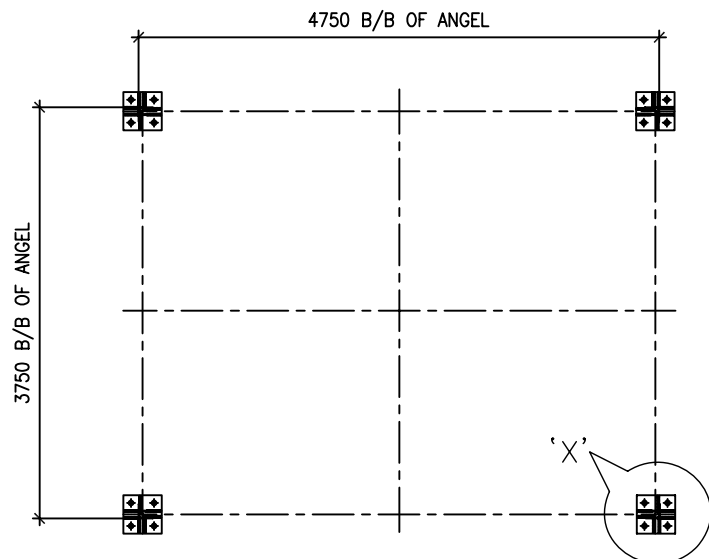
SECTION '1-1'



SECTION '2-2'



DETAIL AT 'X'



FOUNDATION PLAN
SECTION '3-3'

ANNEXURE TO DESIGN DOC.
TB-DC-271-618-025 REV. R-0.

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COMPUTER DRG. PATH NAME :
0638-SY-TB-DC-271-618-025-A.dwg

REF. DRG. No.
SIGN. & DATE
INVENTORY No.

TRANSVERSE FACE
ELEVATION

LONGITUDINAL FACE
SIDE VIEW

REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
		CHECKED			CHECKED			CHECKED
		APPROVED			APPROVED			APPROVED
ZONE			ZONE			ZONE		

CUSTOMER : NTPC LIMITED		PROJECT : 3x660 MW BARH STPP (400/132 KV SWITCHYARD)	
NTPC DRG. No. 9558-3-572-PVE-U-025-A			
BHARAT HEAVY ELECTRICALS LIMITED		NAME	SIGN.
TRANSMISSION BUSINESS GROUP		BHARAT	
PREPARED BY:-		DATE	
SHAH & TALATI			
Consulting Engineers			
3-B KIRTI TOWERS, TILAK ROAD			
VADODARA 390 001			
PHONE : 2427726 / 2427729			
FAX : (0265) 2420537			
E-MAIL : design@shahntalati.com			
DEPT. : TBEM		SCALE	CARD CODE
CODE : 422		1:135	
TITLE : SCOPE DRAWING FOR		DRG. No.	REV.
400kV TOWER MKD. T2.		TB-DC-271-618-025-A	R-0
		SHEET NO. - 1	NEXT SHEET - -

TB-2-71-DC-271-618-026-A
DRAWING No.

TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	PA	PB	PC	PD	PE	PF	PG	PH	PI	GA	GB	GC	GD	GE	GF	GG	GH	GI	JA	JB	JC	JD
T3/T3P	ANGEL SIZE	L75x75x6	L75x75x6	L100x100x8	L100x100x8	L100x100x8	L130x130x10	L130x130x10	L150x150x12	L150x150x12	L45x45x5	L45x45x5	L65x65x5	L65x65x5	L65x65x5	L60x60x5	L60x60x5	L65x65x5	L65x65x5	L45x45x5	L45x45x5	L75x75x5	L75x75x5
	NO. OF BOLTS	04	04	06-DS	06-DS	06-DS	10-DS	10-DS	12-DS	12-DS	01	01	02	02	02	03	03	03	03	01	01	03	03

TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	JE	JF	JG	JH	JI	AA	AB	AC	DA	DB	DC
T3/T3P	ANGEL SIZE	L75x75x5	L65x65x6	L65x65x6	L75x75x5	L75x75x5	L75x75x6	L75x75x6	L45x45x5	L60x60x5	L60x60x5	L45x45x5
	NO. OF BOLTS	03	03	03	03	03	02	02	01	02	02	01

LEGEND:-

TOWER MARKED 'T3/T3P' IS A END TOWER WITH OUT/ WITH PEAK SUPPORTING ONE GIRDER OF SPAN 27.0M. OF GANTRY WITH CONDUCTOR TENSION OF 4.0T UNDER NORMAL CONDITION AND CONDUCTOR TENSION OF 6.0T UNDER SHORT CIRCUIT CONDITION WITHOUT/WITH DEVIATION

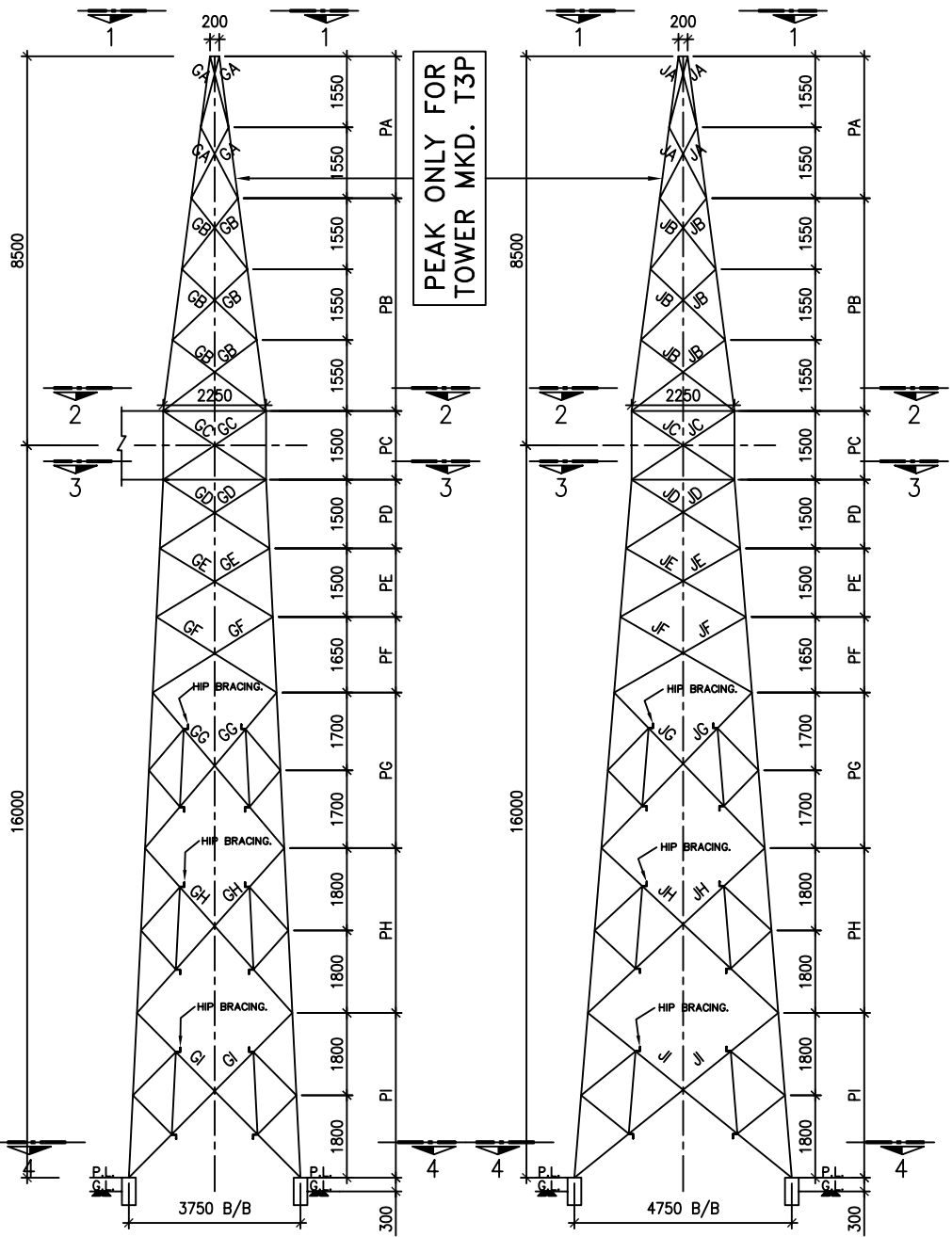
HIGHLIGHT:-

SPAN OF GIRDER 27.0 M.
HEIGHT OF GIRDER 16.00 M. (FROM FGL)
CONDUCTOR TENSION 4.0T (NC)
CONDUCTOR TENSION 6.0T (SCC)
CONDUCTOR DEVIATION 30 DEGREE IN PLAN
20 DEGREE IN ELEVATION
END TOWER

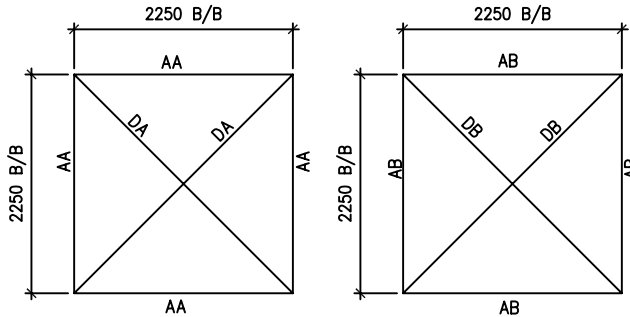
NOTES:-

- 1 ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
- 2 ALL UN-NOTED MEMBER ARE ISA L45 x 45 x 5
- 3 ALL ANGLE SECTIONS USED ARE EQUAL ANGLES.
- 4 ALL DIMENSIONS ARE CENTER LINE DIMENSION UNLESS NOTED OTHERWISE
- 5 ALL CONNECTIONS BOLT SHALL BE 16mm DIA BOLT

T3 = TOWER WITHOUT PEAK
T3P = TOWER WITH PEAK

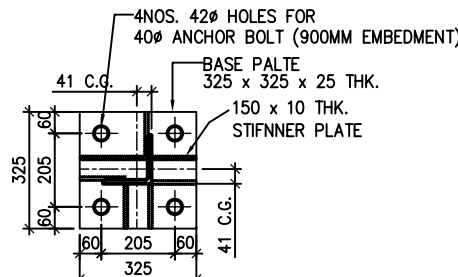


SECTION '1-1'

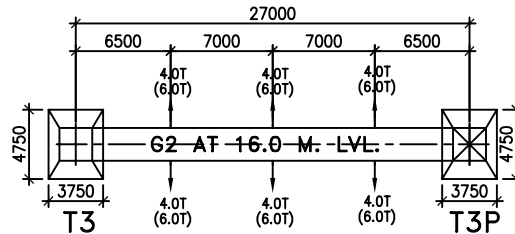


SECTION '2-2'

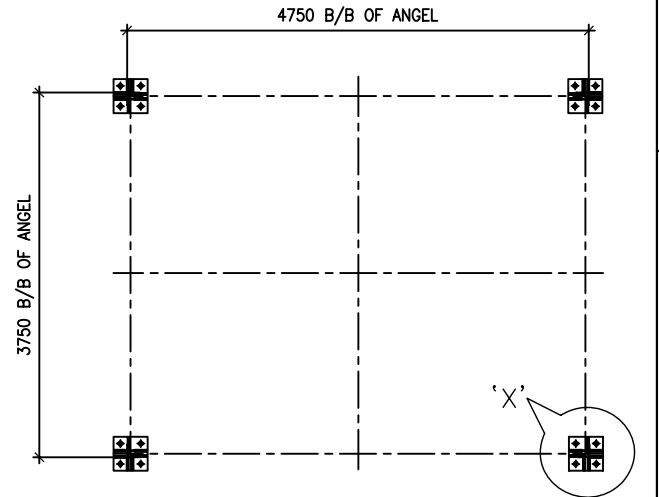
SECTION '3-3'



DETAIL AT 'X'



KEY PLAN



FOUNDATION PLAN
SECTION '4-4'

ANNEXURE TO DESIGN DOC.
TB-DC-271-618-026 REV. R-0.

	CUSTOMER :	NTPC LIMITED		
	PROJECT :	3x660 MW BARH STPP (400/132 KV SWITCHYARD)		
	NTPC DRG. No.	9558-3-572-PVE-U-026-A		
	BHARAT HEAVY ELECTRICALS LIMITED TRANSMISSION BUSINESS GROUP			
PREPARED BY:-	DEPT. : TBEM	SCALE	CARD CODE	
SHAH & TALATI Consulting Engineers	CODE : 422	1:135		
3-B KIRTI TOWERS, TILAK ROAD VADODARA 390 001 PHONE : 2427726 / 2427729 FAX : (0265) 2420537 E-MAIL : design@shahntalati.com	TITLE : SCOPE DRAWING FOR 400kV TOWER MKD. T3/T3P			DRG. No. TB-DC-271-618-026-A
SHEET NO. - 1			NEXT SHEET - -	

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COMPUTER DRG. PATH NAME :
0638-SY-TB-DC-271-618-026-A.dwg

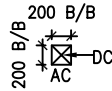
REF. DRG. No.
SIGN. & DATE
INVENTORY No.

REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
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ZONE			ZONE			ZONE		

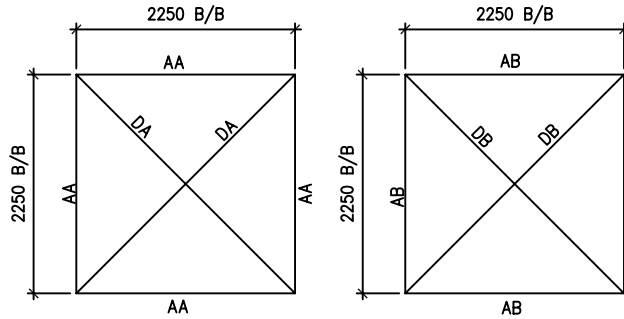
TB-2-DC-271-618-028-A
DRAWING No.

TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	PA	PB	PC	PD	PE	PF	PG	PH	PI	GA	GB	GC	GD	GE	GF	GG	GH	GI	JA	JB	JC	JD
T5	ANGEL SIZE	L75x75x6	L75x75x6	L100x100x10	L100x100x10	L100x100x10	L130x130x12	L130x130x12	L150x150x16	L150x150x16	L45x45x5	L45x45x5	L75x75x5	L75x75x5	L75x75x5	L65x65x5	L65x65x5	L75x75x5	L75x75x5	L45x45x5	L45x45x5	L75x75x6	L75x75x6
	NO. OF BOLTS	04	04	08-DS	08-DS	08-DS	10-DS	10-DS	13-DS	13-DS	01	01	03	03	03	03	03	04	04	01	01	03	03

TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	JE	JF	JG	JH	JI	AA	AB	AC	DA	DB	DC
T5	ANGEL SIZE	L75x75x6	L75x75x6	L75x75x6	L75x75x6	L75x75x6	L75x75x6	L75x75x6	L45x45x5	L60x60x5	L60x60x5	L45x45x5
	NO. OF BOLTS	03	04	04	03	03	02	02	01	02	02	01

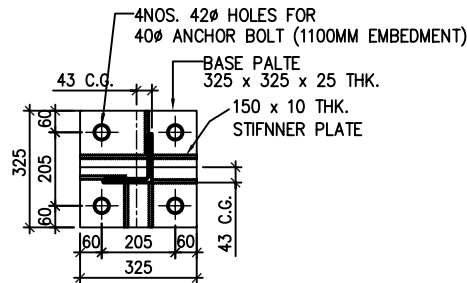


SECTION '1-1'

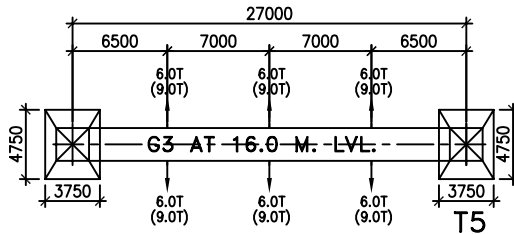


SECTION '2-2'

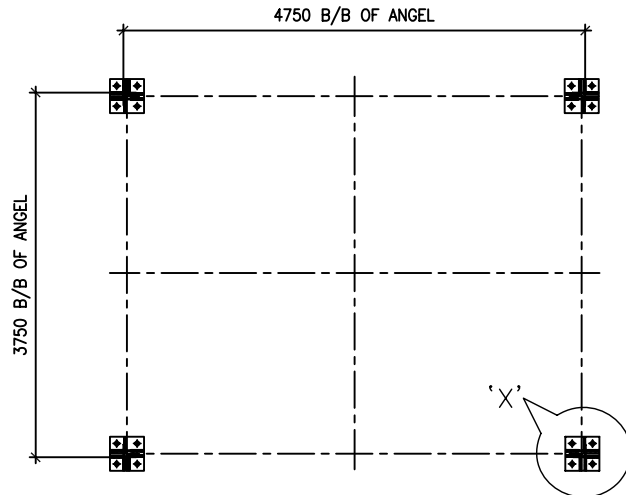
SECTION '3-3'



DETAIL AT 'X'



KEY PLAN



FOUNDATION PLAN
SECTION '4-4'

ANNEXURE TO DESIGN DOC.
TB-DC-271-618-028 REV. R-0.



CUSTOMER : NTPC LIMITED
PROJECT : 3x660 MW BARH STPP (400/132 KV SWITCHYARD)
NTPC DRG. No. 9558-3-572-PVE-U-028-A



BHARAT HEAVY ELECTRICALS LIMITED
TRANSMISSION BUSINESS GROUP

	NAME	SIGN.	DATE
DRAWN	BHARAT		30.11.2006
CHECKED			
APPROVED			

REV.	DATE	ALTERED	REV.	DATE	ALTERED
		CHECKED			CHECKED
		APPROVED			APPROVED

ZONE	DATE	ZONE	DATE	ZONE	DATE

PREPARED BY:-
SHAH & TALATI
Consulting Engineers
3-B KIRTI TOWERS, TILAK ROAD
VADODARA 390 001
PHONE : 2427726 / 2427729
FAX : (0265) 2420537
E-MAIL : design@shahntalati.com

DEPT. : TBEM
CODE : 422
SCALE : 1:135
CARD CODE

TITLE : SCOPE DRAWING FOR
400KV TOWER MKD. T5.

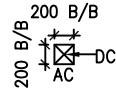
DRG. No. TB-DC-271-618-028-A	REV. R-0
SHEET NO. - 1	NEXT SHEET - -

FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN MM.)

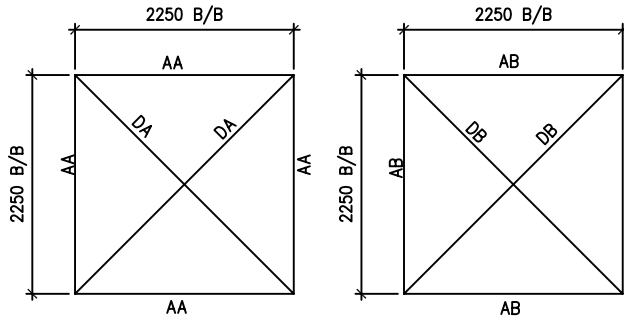
TB-2-DC-271-618-029-A
DRAWING No.

TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	PA	PB	PC	PD	PE	PF	PG	PH	PI	GA	GB	GC	GD	GE	GF	GG	GH	GI	JA	JB	JC	JD
T6	ANGEL SIZE	L75x75x6	L75x75x6	L130x130x10	L130x130x10	L130x130x10	L150x150x16	L150x150x16	L200x200x16	L200x200x16	L45x45x5	L45x45x5	L75x75x6	L75x75x6	L75x75x6	L75x75x6	L75x75x6	L75x75x6	L75x75x6	L45x45x5	L45x45x5	L90x90x6	L90x90x6
	NO. OF BOLTS	04	04	10-DS	10-DS	10-DS	13-DS	13-DS	18-DS	18-DS	01	01	03	03	03	04	04	04	04	01	01	04	04

TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	JE	JF	JG	JH	JI	AA	AB	AC	DA	DB	DC
T6	ANGEL SIZE	L90x90x6	L90x90x6	L90x90x6	L90x90x6	L90x90x6	L75x75x6	L75x75x6	L45x45x5	L60x60x5	L60x60x5	L45x45x5
	NO. OF BOLTS	04	05	05	04	04	02	02	01	02	02	01

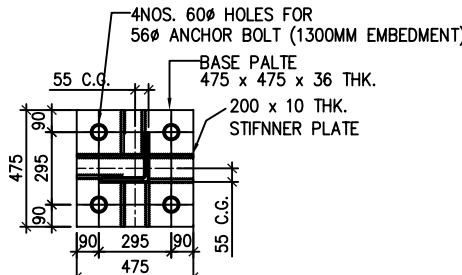


SECTION '1-1'

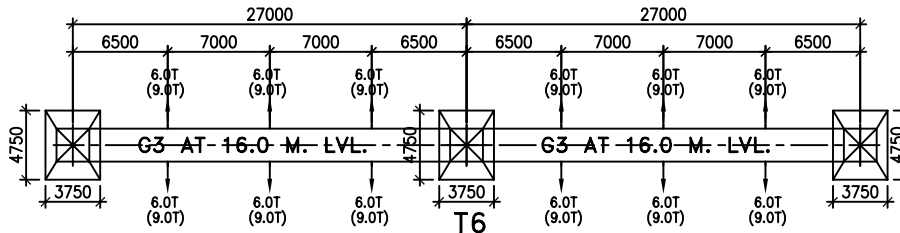


SECTION '2-2'

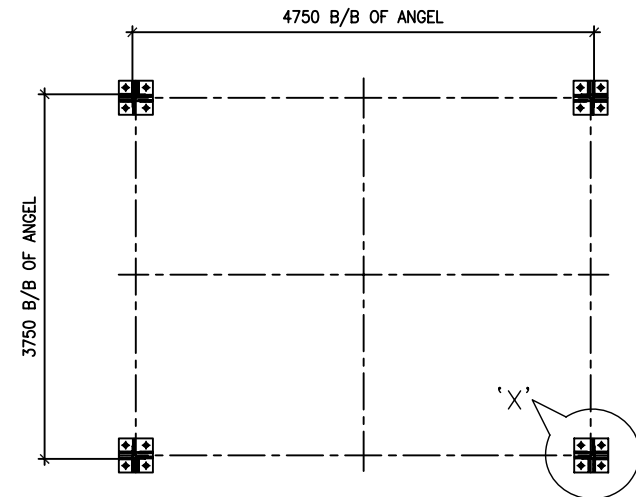
SECTION '3-3'



DETAIL AT 'X'



KEY PLAN



FOUNDATION PLAN
SECTION '4-4'

ANNEXURE TO DESIGN DOC.
TB-DC-271-618-029 REV. R-0.

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COMPUTER DRG. PATH NAME :
0638-SY-TB-DC-271-618-029-A.dwg

REF. DRG. No.

SIGN. & DATE

INVENTORY No.

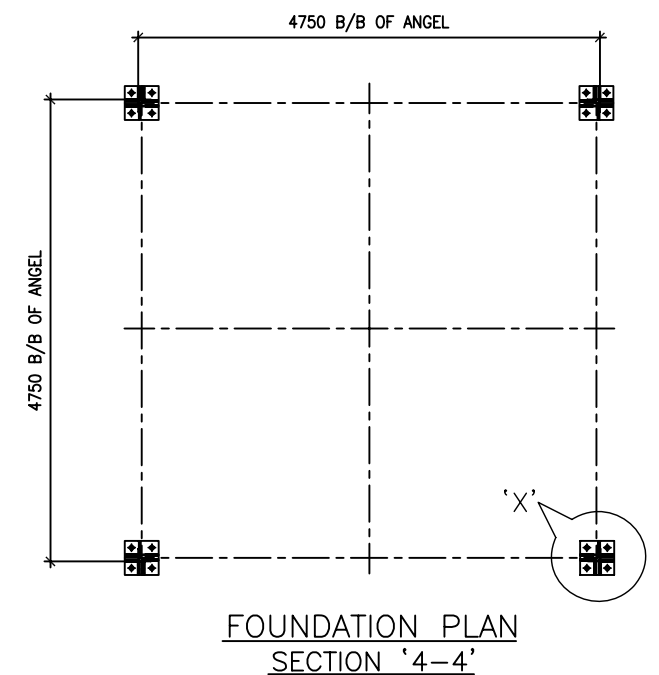
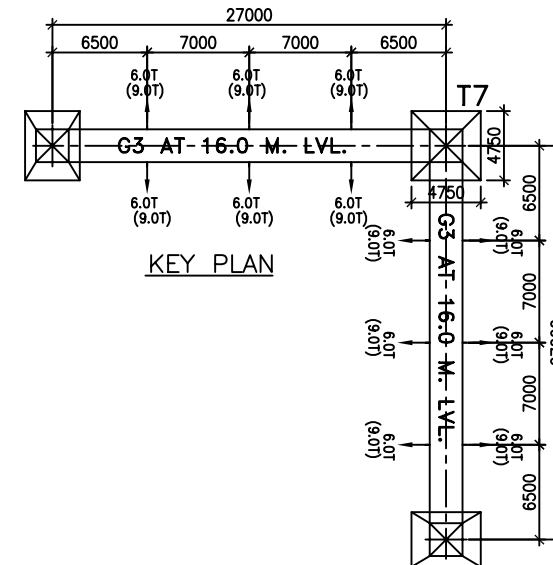
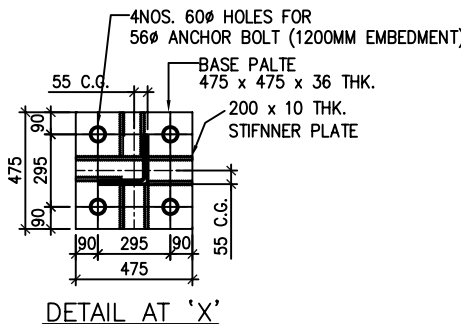
REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
		CHECKED			CHECKED			CHECKED
		APPROVED			APPROVED			APPROVED
ZONE			ZONE			ZONE		


	CUSTOMER :	NTPC LIMITED			
	PROJECT :	3x660 MW BARH STPP (400/132 KV SWITCHYARD)			
	NTPC DRG. No.	9558-3-572-PVE-U-029-A			
	BHARAT HEAVY ELECTRICALS LIMITED		NAME	SIGN.	DATE
	TRANSMISSION BUSINESS GROUP		DRAWN	BHARAT	30.11.2006
			CHECKED		
		APPROVED			
PREPARED BY:-	DEPT. : TBEM	SCALE	CARD CODE		
SHAH & TALATI	CODE : 422	1:135			
Consulting Engineers	TITLE : SCOPE DRAWING FOR 400kV TOWER MKD. T6.		DRG. No. TB-DC-271-618-029-A		
3-B KIRTI TOWERS, TILAK ROAD VADODARA 390 001			REV. R-0		
PHONE : 2427726 / 2427729					
FAX : (0265) 2420537					
E-MAIL : design@shahntalati.com					
SHEET NO. - 1		NEXT SHEET - -			

TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	JE	JF	JG	JH	JI	AA	AB	AC	DA	DB	DC
T7	ANGEL SIZE	L90x90x8	L90x90x6	L90x90x6	L90x90x6	L90x90x6	L75x75x6	L75x75x6	L45x45x5	L60x60x5	L60x60x5	L45x45x5
	NO. OF BOLTS	06	05	05	04	04	02	02	01	02	02	01

NOTES: -


- 1 ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
- 2 ALL UN-NOTED MEMBER ARE ISA L45 x 45 x 5
- 3 ALL ANGLE SECTIONS USED ARE EQUAL ANGLES.
- 4 ALL DIMENSIONS ARE CENTER LINE DIMENSION UNLESS NOTED OTHERWISE
- 5 ALL CONNECTIONS BOLT SHALL BE 16mm DIA BOLT



	CUSTOMER :	NTPC LIMITED
	PROJECT :	3x660 MW BARH STPP (400/132 KV SWITCHYARD)
	NTPC DRG. No.	9558-3-572-PVE-U-030-A

BHARAT HEAVY ELECTRICALS LIMITED
TRANSMISSION BUSINESS GROUP

	NAME	SIGN.	DATE
DRAWN	BHARAT		30.11.2006
CHECKED			
APPROVED			

DEPT. : TBEM		SCALE	CARD CODE
CODE : 422		1:135	

TITLE : SCOPE DRAWING FOR
400kV TOWER MKD. T7.

DRG. No. TB-DC-271-618-030-A		REV. R-0
SHEET NO. - 1	NEXT SHEET - -	

A	REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
			CHECKED			CHECKED			CHECKED
			APPROVED			APPROVED			APPROVED
	ZONE		ZONE		ZONE				

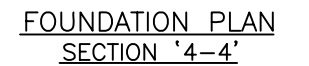
COMPUTER DRG. PATH NAME :
0638-SY-TB-DC-271-618-030-A.dwg


INVENTORY No.	SIGN. & DATE	REF. DRG. No.
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TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	JE	JF	JG	JH	JL	AA	AB	AC	DA	DB	DC
T8	ANGEL SIZE	L75x75x5	L65x65x6	L65x65x6	L75x75x5	L75x75x5	L75x75x6	L75x75x6	L45x45x5	L60x60x5	L60x60x5	L45x45x5
	NO. OF BOLTS	04	03	03	03	03	02	02	01	02	02	01

NOTES:—

- 1 ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
- 2 ALL UN-NOTED MEMBER ARE ISA L45 x 45 x 5
- 3 ALL ANGLE SECTIONS USED ARE EQUAL ANGLES.
- 4 ALL DIMENSIONS ARE CENTER LINE DIMENSION UNLESS NOTED OTHERWISE
- 5 ALL CONNECTIONS BOLT SHALL BE 16mm DIA BOLT



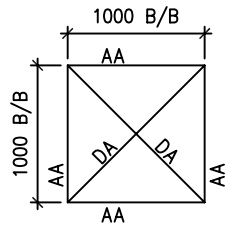
PREPARED BY:--	DEPT. : TBEM		SCALE	CARD CODE		
SHAH & TALATI Consulting Engineers	CODE : 422		1:135			
3-B KIRTI TOWERS, TILAK ROAD VADODARA 390 001 PHONE : 2427726 / 2427729 FAX : (0265) 2420537 E-MAIL : design@shahntalati.com	TITLE : SCOPE DRAWING FOR 400kV TOWER MKD. T8.			DRG. No. TB-DC-271-618-031-A		REV. R-0
				SHEET NO. — 1		NEXT SHEET — —

TB-2-DC-271-618-033-A

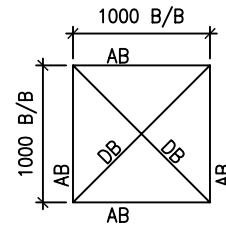
DRAWING No.

TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	PA	PB	PC	PD	PE	PF	PG	GA	GB	GC	GD	GE	GF	GG	JA	JB	JC
T9	ANGEL SIZE	L75x75x6	L75x75x6	L75x75x6	L90x90x8	L90x90x8	L90x90x8	L90x90x8	L45x45x5	L45x45x5	L45x45x5	L45x45x5	L45x45x5	L45x45x5	L45x45x5	L50x50x6	L50x50x6	L50x50x6
	NO. OF BOLTS	05	05	05	07	07	07	07	02	02	02	01	01	01	01	02	02	02

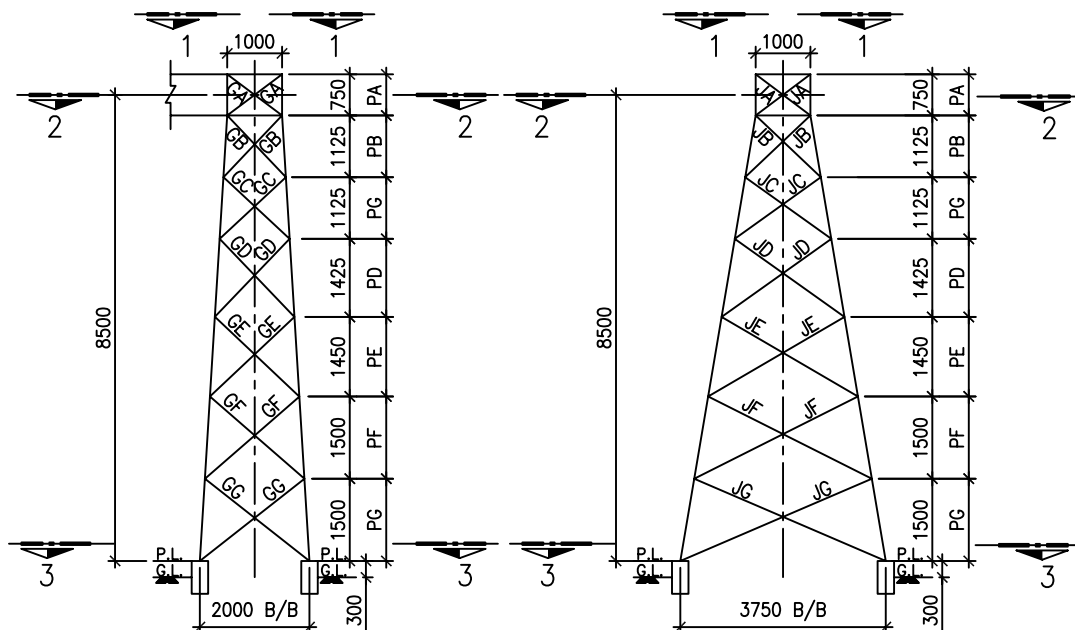
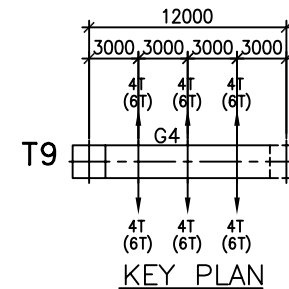
TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	JD	JE	JF	JG	AA	AB	DA	DB
T9	ANGEL SIZE	L60x60x5	L60x60x5	L65x65x5	L65x65x5	L75x75x6	L75x75x6	L50x50x5	L50x50x5
	NO. OF BOLTS	02	02	01	01	04	04	03	03



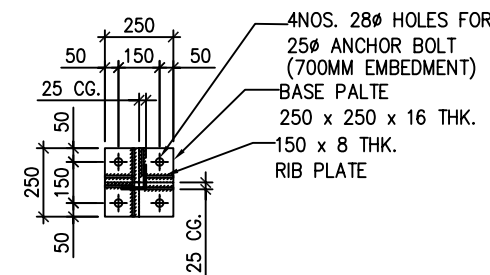
SECTION '1-1'



SECTION '2-2'

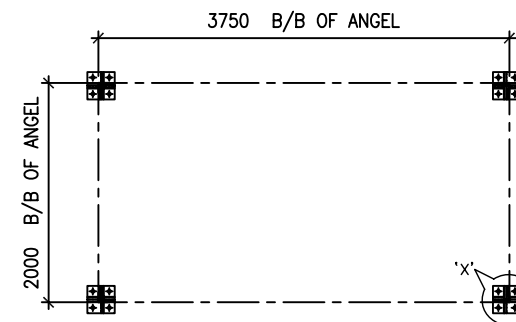
TRANSVERSE FACE
ELEVATIONLONGITUDINAL FACE
SIDE VIEW

KEY PLAN



DETAIL AT 'X'

BASE PLATE DETAILS

FOUNDATION PLAN
SECTION '3-3'

LEGEND:-

TOWER MARKED 'T9' IS A END TOWER WITHOUT PEAK
SUPPORTING ONE GIRDER OF SPAN 12.0M. OF
INTERMEDIATE GANTRY WITH CONDUCTOR TENSION OF 4T
UNDER NORMAL CONDITION AND CONDUCTOR TENSION OF
6T UNDER SHORT CIRCUIT CONDITION WITHOUT ANY
DEVIATION

HIGHLIGHT:-

SPAN OF GIRDER 12.0 M.
HEIGHT OF GIRDER 8.5 M.
HEIGHT OF TOWER 8.875 M.
CONDUCTOR TENSION 4T (NC)
CONDUCTOR TENSION 6T (SCC)
CONDUCTOR DEVIATION 0
LOCATION END TOWER

NOTES:-

- 1 ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
- 2 ALL UN-NOTED MEMBER ARE ISA L45 x 45 x 5
- 3 ALL ANGLE SECTIONS USED ARE EQUAL ANGLES.
- 4 ALL DIMENSIONS ARE CENTER LINE DIMENSION UNLESS NOTED OTHERWISE
- 5 ALL CONNECTIONS BOLT SHALL BE 16mm DIA BOLT

ANNEXURE TO DESIGN DOC.
TB-DC-271-618-033 REV. R-2.



CUSTOMER : NTPC LIMITED
PROJECT : 3x660 MW BARH STPP (400/132 KV SWITCHYARD)
NTPC DRG. No. 9558-3-572-PVE-U-033-A



BHARAT HEAVY ELECTRICALS LIMITED
TRANSMISSION BUSINESS GROUP

	NAME	SIGN.	DATE
DRAWN	BHARAT		21.11.2006
CHECKED			
APPROVED			

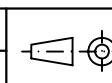
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		APPROVED			APPROVED

ZONE	DATE	ALTERED	ZONE	DATE	ALTERED
		CHECKED			CHECKED
		APPROVED			APPROVED

PREPARED BY:-
SHAH & TALATI
Consulting Engineers

3-B KIRTI TOWERS, TILAK ROAD
VADODARA 390 001
PHONE : 2427726 / 2427729
FAX : (0265) 2420537
E-MAIL : design@shahntalati.com

DEPT. : TBEM
CODE : 422



SCALE
1:135

CARD CODE

TITLE : SCOPE DRAWING FOR
132KV TOWER MKD. T9.

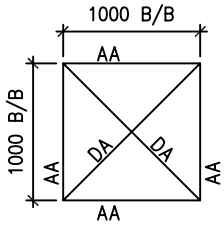
DRG. No.
TB-DC-271-618-033-A
REV.
R-0

SHEET NO. - 1
NEXT SHEET - -

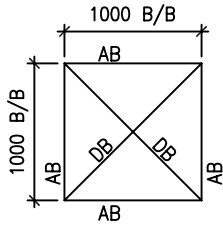
TB-2-2-DC-271-618-034-A
DRAWING No.

TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	PA	PB	PC	PD	PE	PF	PG	GA	GB	GC	GD	GE	GF	GG	JA	JB	JC
T10	ANGEL SIZE	L90x90x8	L90x90x8	L90x90x8	L100x100x10	L100x100x10	L110x110x10	L110x110x10	L45x45x5	L45x45x5	L45x45x5	L45x45x5	L45x45x5	L45x45x5	L45x45x5	L60x60x5	L60x60x5	L60x60x5
	NO. OF BOLTS	07	07	07	08 D.S.	08 D.S.	09 D.S.	09 D.S.	02	02	02	01	01	01	01	03	03	03

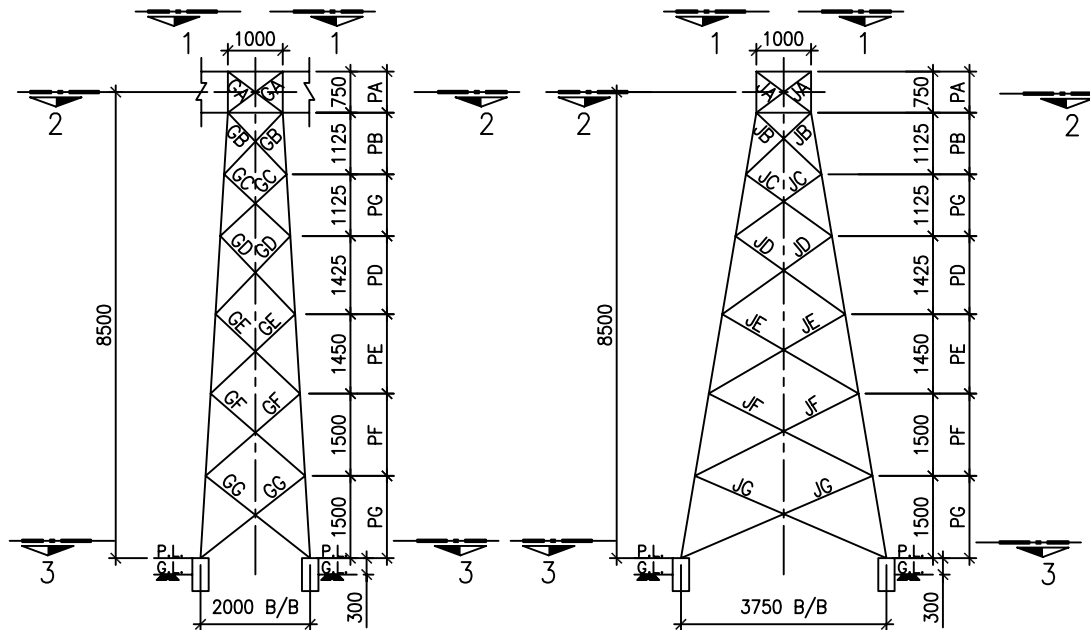
TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	JD	JE	JF	JG	AA	AB	DA	DB
T10	ANGEL SIZE	L60x60x5	L60x60x5	L65x65x5	L65x65x5	L75x75x6	L75x75x6	L50x50x5	L50x50x5
	NO. OF BOLTS	02	02	01	01	04	04	03	03



SECTION '1-1'

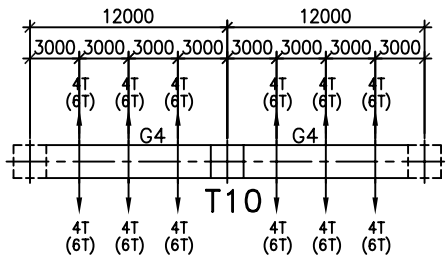


SECTION '2-2'

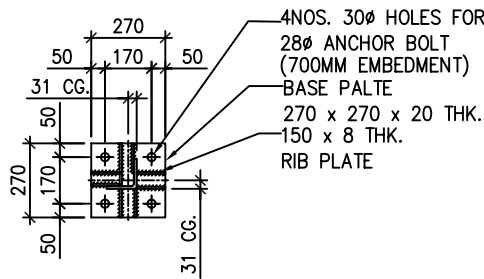


TRANSVERSE FACE
ELEVATION

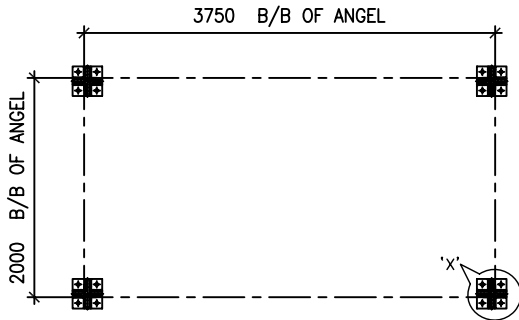
LONGITUDINAL FACE
SIDE VIEW



KEY PLAN



DETAIL AT 'X'
BASE PLATE DETAILS



FOUNDATION PLAN
SECTION '3-3'

LEGEND: -

TOWER MARKED 'T10' IS A MIDDLE TOWER WITHOUT PEAK SUPPORTING TWO GIRDER OF SPAN 12.0M. OF INTERMEDIATE GANTRY WITH CONDUCTOR TENSION OF 4T UNDER NORMAL CONDITION AND CONDUCTOR TENSION OF 6T UNDER SHORT CIRCUIT CONDITION WITHOUT ANY DEVIATION

HIGHLIGHT: -

SPAN OF GIRDER 12.0 M.
HEIGHT OF GIRDER 8.5 M.
HEIGHT OF TOWER 8.875 M.
CONDUCTOR TENSION 4T (NC)
CONDUCTOR TENSION 6T (SCC)
CONDUCTOR DEVIATION 0
LOCATION MIDDLE TOWER

NOTES: -

- 1 ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
- 2 ALL UN-NOTED MEMBER ARE ISA L45 x 45 x 5
- 3 ALL ANGLE SECTIONS USED ARE EQUAL ANGLES.
- 4 ALL DIMENSIONS ARE CENTER LINE DIMENSION UNLESS NOTED OTHERWISE
- 5 ALL CONNECTIONS BOLT SHALL BE 16mm DIA BOLT

ANNEXURE TO DESIGN DOC.
TB-DC-271-618-034 REV. R-2.

एन टी पी सी NTPC	CUSTOMER : NTPC LIMITED		
	PROJECT : 3x660 MW BARH STPP (400/132 KV SWITCHYARD)		
बीएसईएल BHEL	NTPC DRG. No. 9558-3-572-PVE-U-034-A		
	BHARAT HEAVY ELECTRICALS LIMITED TRANSMISSION BUSINESS GROUP		
PREPARED BY:- SHAH & TALATI Consulting Engineers 3-B KIRTI TOWERS, TILAK ROAD VADODARA 390 001 PHONE : 2427726 / 2427729 FAX : (0265) 2420537 E-MAIL : design@shahntalati.com	DEPT. : TBEM CODE : 422	SCALE 1:135	CARD CODE
TITLE : SCOPE DRAWING FOR 132KV TOWER MKD. T10.		DRG. No. TB-DC-271-618-034-A	REV. R-0
SHEET NO. - 1		NEXT SHEET - -	

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COMPUTER DRG. PATH NAME :
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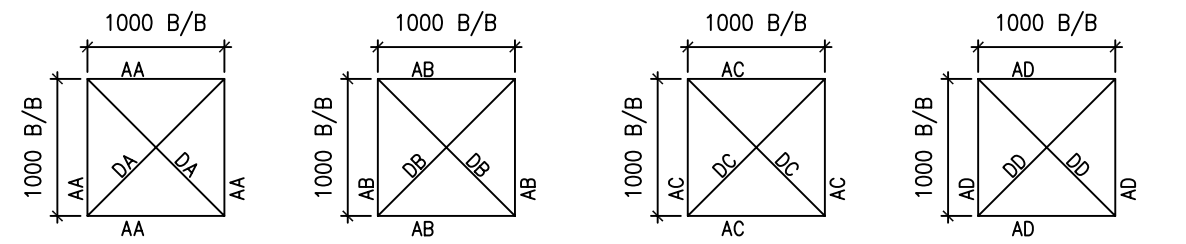
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REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
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ZONE			ZONE			ZONE		

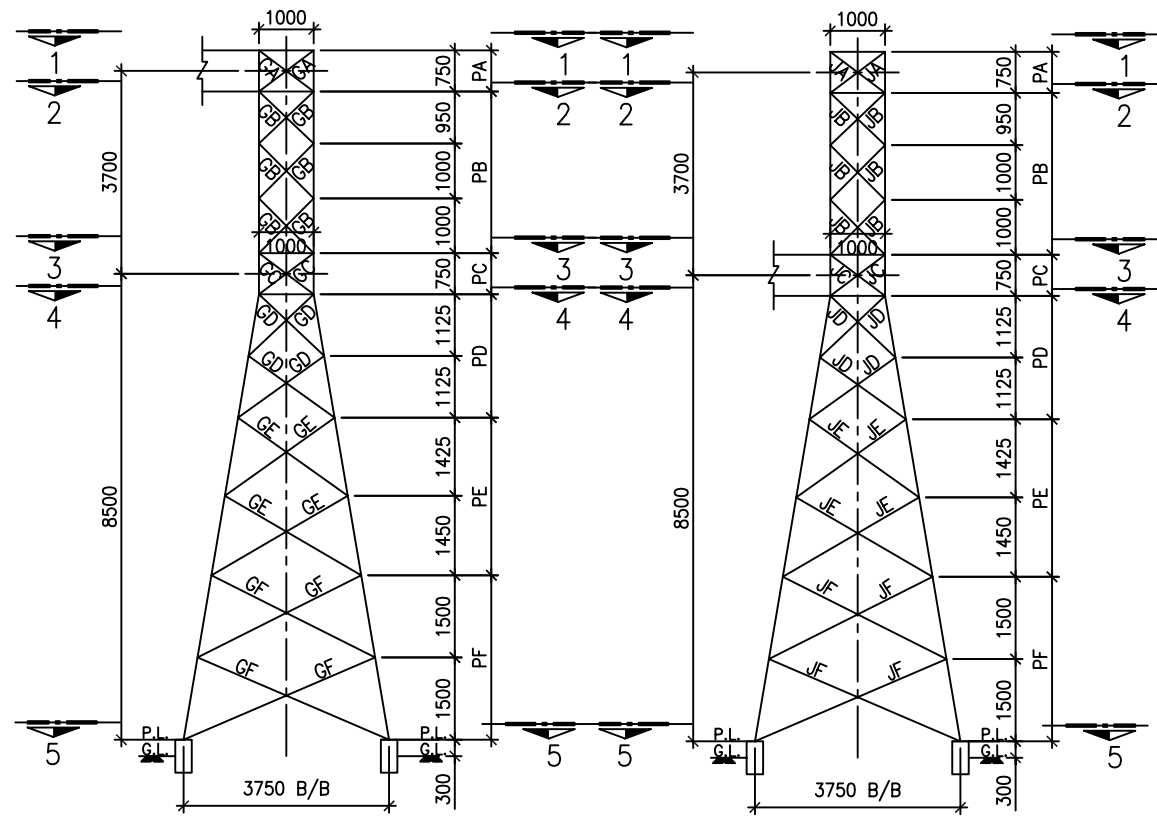
TB-2-DC-271-618-035-A
DRAWING No.

TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	PA	PB	PC	PD	PE	PF	GA	GB	GC	GD	GE	GF	JA	JB	JC
T11	ANGEL SIZE	L100x100x8	L100x100x8	L110x110x12	L110x110x12	L130x130x12	L130x130x12	L45x45x5	L45x45x5	L60x60x5	L60x60x5	L50x50x5	L65x65x5	L50x50x6	L50x50x6	L60x60x5
	NO. OF BOLTS	06 D.S.	06 D.S.	08 D.S.	08 D.S.	10 D.S.	10 D.S.	02	02	03	03	01	01	03	03	03

TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	JD	JE	JF	AA	AB	AC	AD	DA	DB	DC	DD
T11	ANGEL SIZE	L60x60x5	L50x50x5	L65x65x5	L75x75x6	L75x75x6	L75x75x6	L75x75x6	L50x50x5	L50x50x5	L50x50x5	L50x50x5
	NO. OF BOLTS	03	01	01	04	04	04	04	03	03	03	03

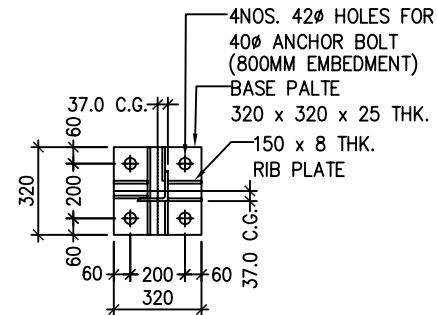


SECTION '1-1' SECTION '2-2' SECTION '3-3' SECTION '4-4'

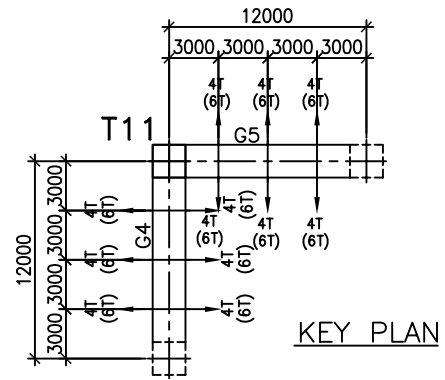


TRANSVERSE FACE
ELEVATION

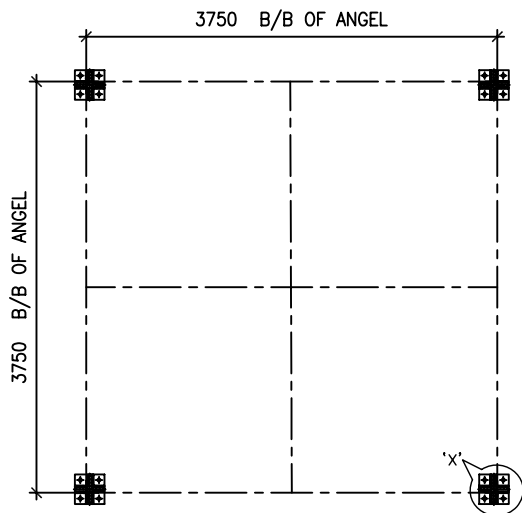
LONGITUDINAL FACE
SIDE VIEW



DETAIL AT 'X'
BASE PLATE DETAILS



KEY PLAN



FOUNDATION PLAN
SECTION '5-5'

LEGEND: -

TOWER MARKED 'T11' IS A CORNER TOWER WITHOUT PEAK SUPPORTING TWO GIRDER OF SPAN 12.0M. OF INTERMEDIATE GANTRY WITH CONDUCTOR TENSION OF 4T UNDER NORMAL CONDITION AND CONDUCTOR TENSION OF 6T UNDER SHORT CIRCUIT CONDITION WITHOUT/ WITH DEVIATION

HIGHLIGHT: -

SPAN OF GIRDER 12.0 M.
HEIGHT OF GIRDER 8.5 M. & 12.2 M.
HEIGHT OF TOWER 12.575 M.
CONDUCTOR TENSION 4T (NC)
CONDUCTOR TENSION 6T (SCC)
CONDUCTOR DEVIATION 0 & 30 DEG. IN PLAN
0 & 20 DEG. IN ELEVATION
CORNER TOWER

NOTES: -

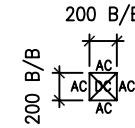
- 1 ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
- 2 ALL UN-NOTED MEMBER ARE ISA L45 x 45 x 5
- 3 ALL ANGLE SECTIONS USED ARE EQUAL ANGLES.
- 4 ALL DIMENSIONS ARE CENTER LINE DIMENSION UNLESS NOTED OTHERWISE
- 5 ALL CONNECTIONS BOLT SHALL BE 16mm DIA BOLT

ANNEXURE TO DESIGN DOC.
TB-DC-271-618-035 REV. R-2.

	CUSTOMER :	NTPC LIMITED				
	PROJECT :	3x660 MW BARH STPP (400/132 KV SWITCHYARD)				
	NTPC DRG. No.	9558-3-572-PVE-U-035-A				
	BHARAT HEAVY ELECTRICALS LIMITED TRANSMISSION BUSINESS GROUP			NAME	SIGN.	DATE
				DRAWN	BHARAT	21.11.2006
				CHECKED		
			APPROVED			
PREPARED BY:-	DEPT. : TBEM	SCALE	CARD CODE			
SHAH & TALATI Consulting Engineers	CODE : 422	1:135				
3-B KIRTI TOWERS, TILAK ROAD VADODARA 390 001 PHONE : 2427726 / 2427729 FAX : (0265) 2420537 E-MAIL : design@shahntalati.com				TITLE : SCOPE DRAWING FOR 132KV TOWER MKD. T11.		
				DRG. No. TB-DC-271-618-035-A		REV. R-0
				SHEET NO. - 1		NEXT SHEET - -

REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
		CHECKED			CHECKED			CHECKED
		APPROVED			APPROVED			APPROVED
ZONE			ZONE			ZONE		

TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	JD	JE	JF	AA	AB	DA	DB	AC	DC
T12	ANGEL SIZE	L60x60x5	L60x60x5	L65x65x5	L75x75x6	L75x75x6	L50x50x5	L50x50x5	L45x45x5	L45x45x5
	NO. OF BOLTS	02	02	01	05	05	03	03	01	01



4NOS. 42Ø HOLES FOR
40Ø ANCHOR BOLT
(1100MM EMBEDMENT)

BASE PLATE
325 x 325 x 25 THK.

150 x 10 THK.
RIB PLATE

42.0 C.G.

325
60 205 60
60 205 60
325
42.0 C.G.

LONGITUDINAL FACE
SIDE VIEW

A	REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
			CHECKED			CHECKED			CHECKED
			APPROVED			APPROVED			APPROVED
	ZONE			ZONE			ZONE		

<div>एन टी पी सी</div> <div>NTPC</div>		CUSTOMER : NTPC LIMITED							
		PROJECT : 3x660 MW BARH STPP (400/132 KV SWITCHYARD)							
		NTPC DRG. No. 9558-3-572-PVE-U-036-A							
<div>बीएचईएल</div> <div>BHEL</div>		BHARAT HEAVY ELECTRICALS LIMITED TRANSMISSION BUSINESS GROUP					NAME	SIGN.	DATE
						DRAWN	BHARAT		21.11.2006
						CHECKED			
				APPROVED					
PREPARED BY:-		DEPT. : TBEM		SCALE	CARD CODE				
SHAH & TALATI Consulting Engineers		CODE : 422		1:135					
3-B KIRTI TOWERS, TILAK ROAD VADODARA 390 001 PHONE : 2427726 / 2427729 FAX : (0265) 2420537 E-MAIL : design@shahntalati.com		TITLE : SCOPE DRAWING FOR 132kV TOWER MKD. T12.				DRG. No. TB-DC-271-618-036-A		REV. R-0	
						SHEET NO. - 1		NEXT SHEET - -	

NOTES: -

- 1 ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
- 2 ALL UN-NOTED MEMBER ARE ISA L45 x 45 x 5
- 3 ALL ANGLE SECTIONS USED ARE EQUAL ANGLES.
- 4 ALL DIMENSIONS ARE CENTER LINE DIMENSION UNLESS NOTED OTHERWISE
- 5 ALL CONNECTIONS BOLT SHALL BE 16mm DIA BOLT

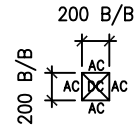
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INVENTORY No.	SIGN. & DATE	REF. DRG. No.
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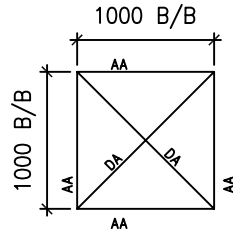
TB-2-DC-271-618-037-A
DRAWING No.

TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	PA	PB	PC	PD	PE	PF	GA	GB	GC	GD	GE	GF	JA	JB	JC
T13	ANGEL SIZE	L65x65x5	L110x110x12	L110x110x12	L150x150x12	L150x150x16	L150x150x16	L45x45x5	L60x60x5	L60x60x5	L60x60x5	L60x60x5	L65x65x5	L45x45x5	L65x65x5	L65x65x5
	NO. OF BOLTS	04	08 D.S.	08 D.S.	12 D.S.	13 D.S.	13 D.S.	02	03	03	02	02	02	02	04	04

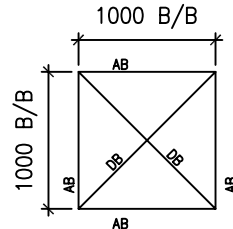
TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	JD	JE	JF	AA	AB	DA	DB	AC	DC
T13	ANGEL SIZE	L60x60x5	L65x65x5	L65x65x6	L75x75x6	L75x75x6	L50x50x5	L50x50x5	L45x45x5	L45x45x5
	NO. OF BOLTS	02	02	01	05	05	03	03	01	01



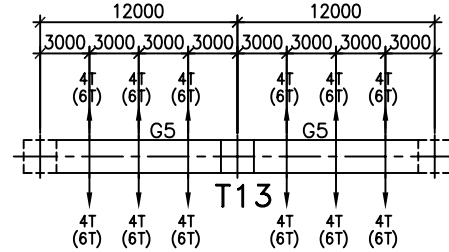
SECTION '1-1'



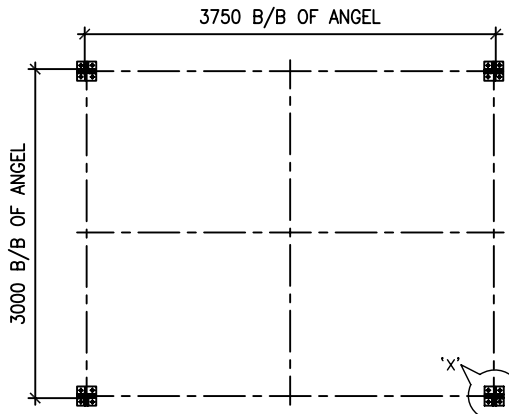
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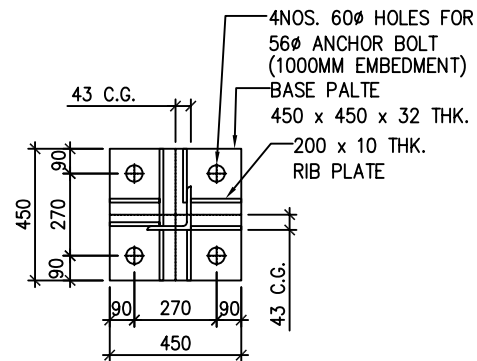
SECTION '3-3'



KEY PLAN



FOUNDATION PLAN
SECTION '4-4'



DETAIL AT 'X'
BASE PLATE DETAILS

LEGEND: -

TOWER MARKED 'T13' IS A MIDDLE TOWER WITH PEAK SUPPORTING TWO GIRDER OF SPAN 12.0M. OF INTERMEDIATE GANTRY WITH CONDUCTOR TENSION OF 4T UNDER NORMAL CONDITION AND CONDUCTOR TENSION OF 6T UNDER SHORT CIRCUIT CONDITION WITH 30 DEGREE DEVIATION IN PLAN & 20 DEGREE DEVIATION IN ELEVATION

HIGHLIGHT: -

SPAN OF GIRDER 12.0 M.
HEIGHT OF GIRDER 12.20 M.

CONDUCTOR TENSION 4T (NC)
CONDUCTOR TENSION 6T (SCC)
CONDUCTOR DEVIATION 30 DEGREE IN PLAN
20 DEGREE IN ELEVATION
LOCATION MIDDLE TOWER

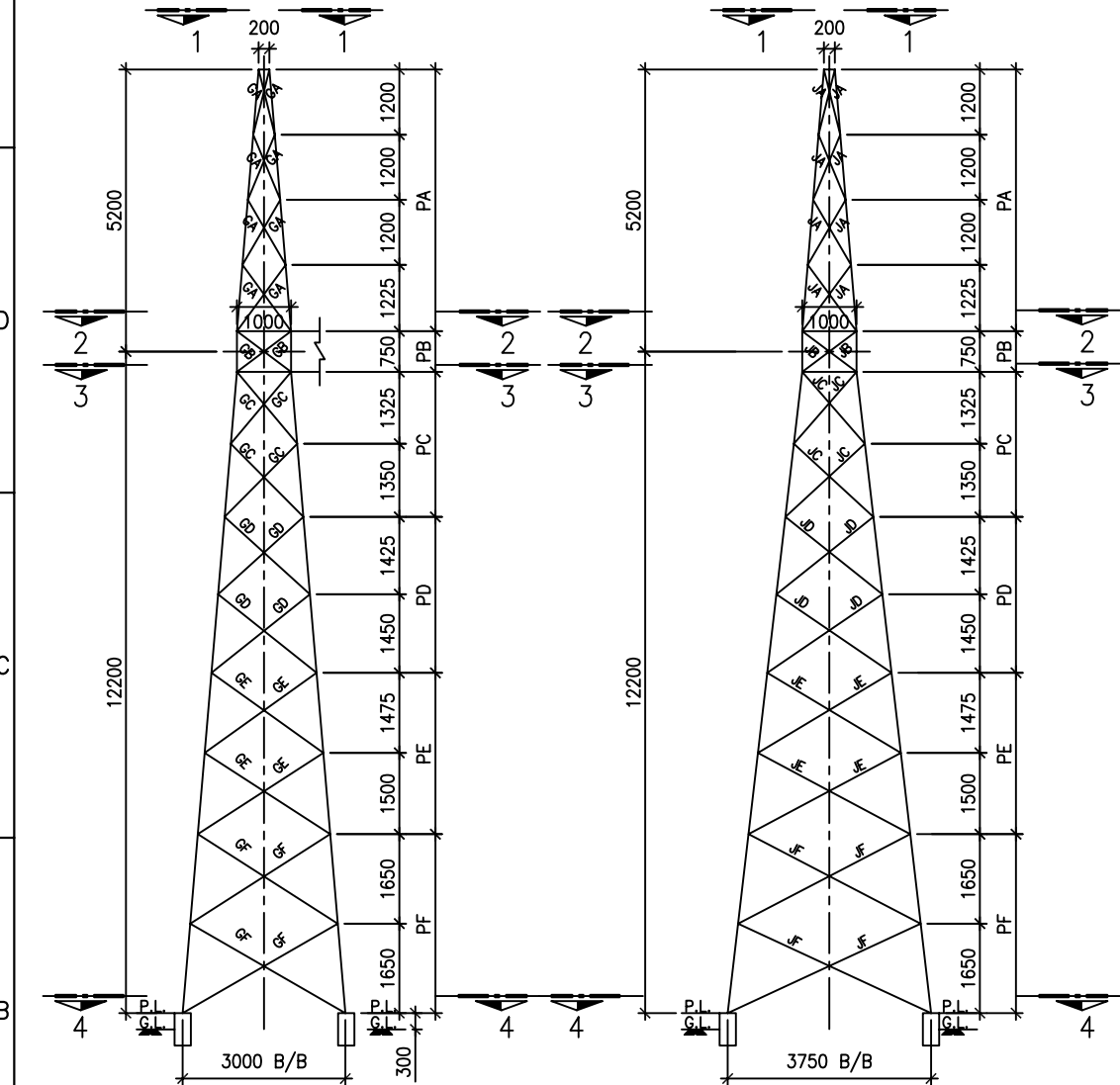
NOTES: -

- 1 ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
- 2 ALL UN-NOTED MEMBER ARE ISA L45 x 45 x 5
- 3 ALL ANGLE SECTIONS USED ARE EQUAL ANGLES.
- 4 ALL DIMENSIONS ARE CENTER LINE DIMENSION UNLESS NOTED OTHERWISE
- 5 ALL CONNECTIONS BOLT SHALL BE 16mm DIA BOLT

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COMPUTER DRG. PATH NAME :
0638-SY-TB-DC-271-618-037-A.dwg

REF. DRG. No.
SIGN. & DATE
INVENTORY No.



TRANSVERSE FACE
ELEVATION
LONGITUDINAL FACE
SIDE VIEW

REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
A		CHECKED			CHECKED			CHECKED
		APPROVED			APPROVED			APPROVED
ZONE			ZONE			ZONE		

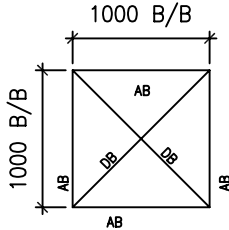
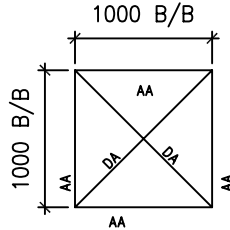
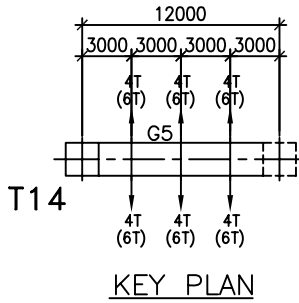
	CUSTOMER :	NTPC LIMITED		
	PROJECT :	3x660 MW BARH STPP (400/132 KV SWITCHYARD)		
	NTPC DRG. No.	9558-3-572-PVE-U-037-A		
	BHARAT HEAVY ELECTRICALS LIMITED TRANSMISSION BUSINESS GROUP			
PREPARED BY:- SHAH & TALATI Consulting Engineers 3-B KIRTI TOWERS, TILAK ROAD VADODARA 390 001 PHONE : 2427726 / 2427729 FAX : (0265) 2420537 E-MAIL : design@shahntalati.com	DEPT. : TBEM CODE : 422	SCALE 1:135	CARD CODE	
TITLE : SCOPE DRAWING FOR 132KV TOWER MKD. T13.				DRG. No. TB-DC-271-618-037-A
SHEET NO. - 1				REV. R-0
NEXT SHEET - -				

ANNEXURE TO DESIGN DOC.
TB-DC-271-618-037 REV. R-3.

TB-2-DC-271-618-038-A
DRAWING No.

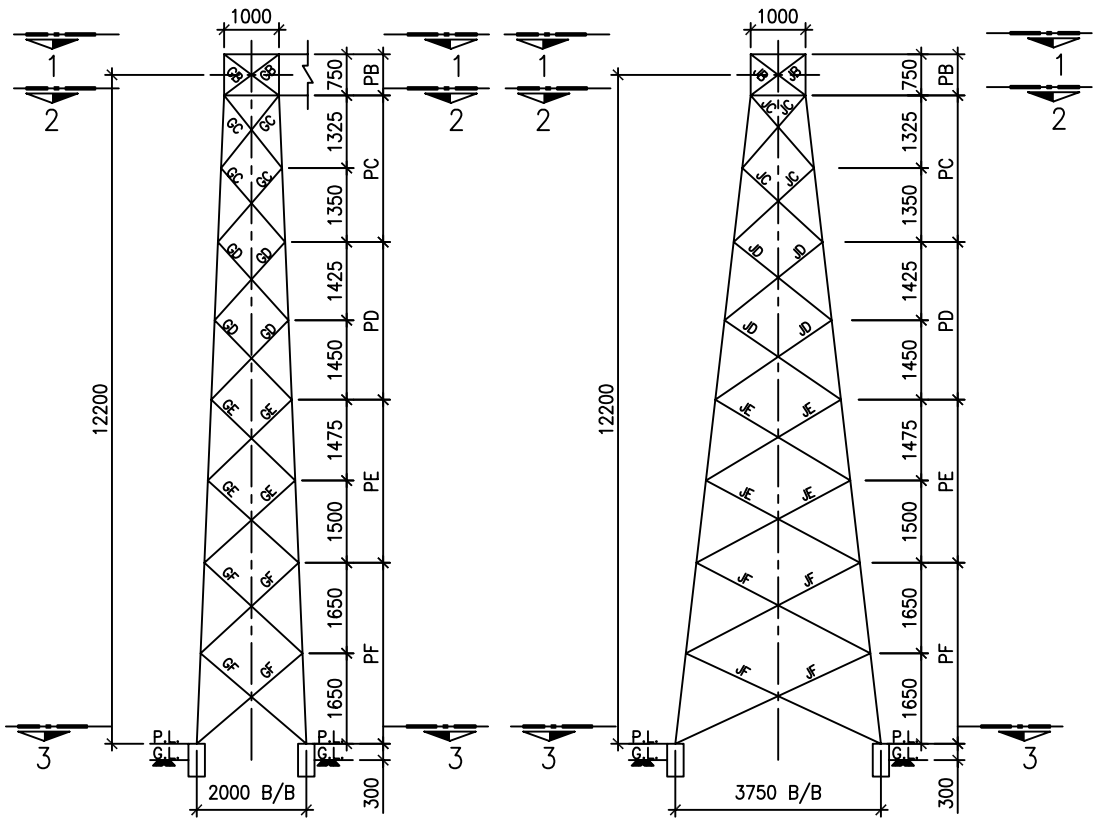
TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	PB	PC	PD	PE	PF	GB	GC	GD	GE	GF	JB	JC
T14	ANGEL SIZE	L90x90x8	L90x90x8	L100x100x10	L110x110x12	L130x130x12	L50x50x5	L50x50x5	L50x50x5	L50x50x5	L60x60x5	L60x60x5	L60x60x5
	NO. OF BOLTS	06 D.S.	06 D.S.	08 D.S.	8 D.S.	10 D.S.	02	02	02	02	02	03	03

TOWER MKD.	ANGEL SIZE AND NO. OF BOLTS	JD	JE	JF	AA	AB	DA	DB
T14	ANGEL SIZE	L60x60x5	L60x60x5	L65x65x5	L75x75x6	L75x75x6	L50x50x5	L50x50x5
	NO. OF BOLTS	02	02	01	05	05	03	03



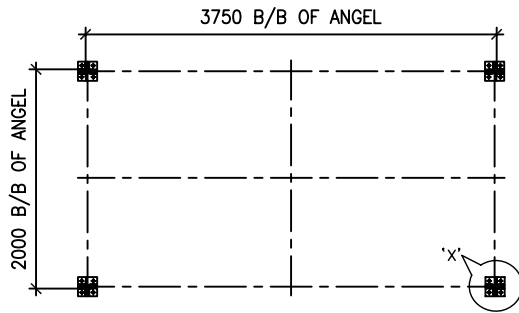
SECTION '1-1'

SECTION '2-2'

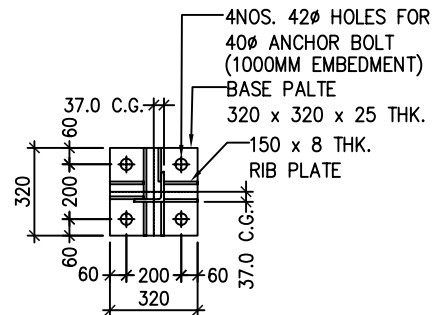


TRANSVERSE FACE
ELEVATION

LONGITUDINAL FACE
SIDE VIEW



FOUNDATION PLAN
SECTION '3-3'



DETAIL AT 'X'
BASE PLATE DETAILS

LEGEND:-
TOWER MARKED 'T14' IS A END TOWER WITH OUT PEAK SUPPORTING ONE GIRDER OF SPAN 12.0M. OF INTERMEDIATE GANTRY WITH CONDUCTOR TENSION OF 4T UNDER NORMAL CONDITION AND CONDUCTOR TENSION OF 6T UNDER SHORT CIRCUIT CONDITION WITH 30 DEGREE DEVIATION IN PLAN & 20 DEGREE DEVIATION IN ELEVATION

HIGHLIGHT:-
SPAN OF GIRDER 12.0 M.
HEIGHT OF GIRDER 12.20 M.
HEIGHT OF TOWER 17.40 M.
CONDUCTOR TENSION 4T (NC)
CONDUCTOR TENSION 6T (SCC)
CONDUCTOR DEVIATION 30 DEGREE IN PLAN
20 DEGREE IN ELEVATION
LOCATION END TOWER

NOTES:-
1 ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
2 ALL UN-NOTED MEMBER ARE ISA L45 x 45 x 5
3 ALL ANGLE SECTIONS USED ARE EQUAL ANGLES.
4 ALL DIMENSIONS ARE CENTER LINE DIMENSION UNLESS NOTED OTHERWISE
5 ALL CONNECTIONS BOLT SHALL BE 16mm DIA BOLT

ANNEXURE TO DESIGN DOC.
TB-DC-271-618-038 REV. R-2.

एन टी पी सी
NTPC

CUSTOMER : NTPC LIMITED
PROJECT : 3x660 MW BARH STPP (400/132 KV SWITCHYARD)
NTPC DRG. No. 9558-3-572-PVE-U-038-A

भारत भारत
BHEL

BHARAT HEAVY ELECTRICALS LIMITED
TRANSMISSION BUSINESS GROUP

	NAME	SIGN.	DATE
DRAWN	BHARAT		21.11.2006
CHECKED			
APPROVED			

REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
		CHECKED			CHECKED			CHECKED
		APPROVED			APPROVED			APPROVED
ZONE			ZONE			ZONE		

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DEPT. : TBEM
CODE : 422
SCALE 1:135
CARD CODE
TITLE : SCOPE DRAWING FOR
132kV TOWER MKD. T14.

DRG. No.
TB-DC-271-618-038-A
REV. R-0
SHEET NO. - 1
NEXT SHEET - -