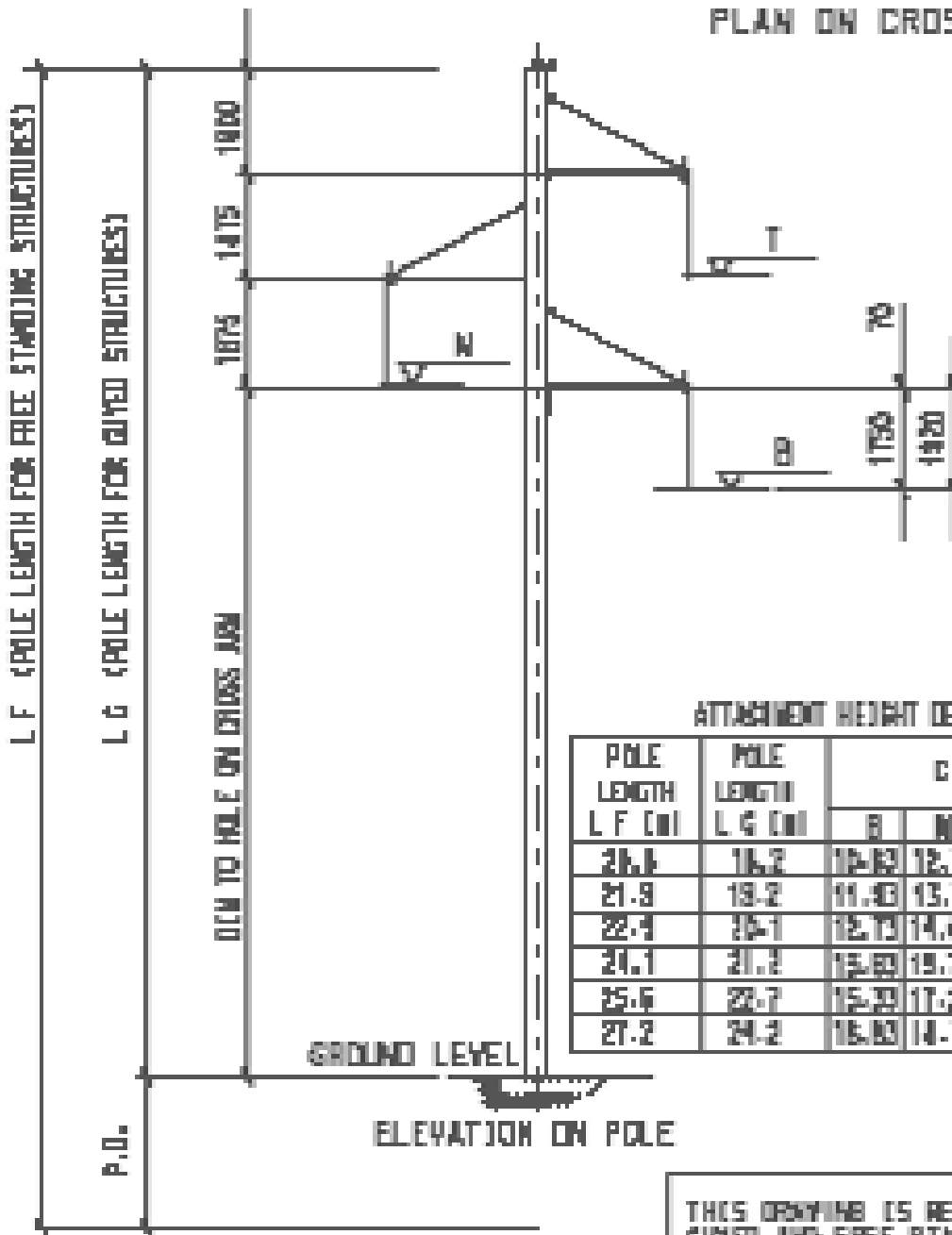


STRUCTURE LENGTH	•SL	•PD	BOT CAH	MID CAH	TOP CAH	ADSS FAH
27,0m	23,7m	3,3m	11,835m	15,835m	19,835m	7,885m
28,0m	24,6m	3,4m	12,735m	16,735m	20,735m	8,785m
29,0m	25,5m	3,5m	13,635m	17,635m	21,635m	9,685m
30,0m	26,4m	3,6m	14,535m	18,535m	22,535m	10,585m

50kN MONO-POLE DOUBLE CIRCUIT INTERMEDIATE SUSPENSION STRUCTURE
 REGULAR DODECAGON (TWELVE-SIDED) SHAPED SHAFT
 (6 x "TERN" ACSR PHASE CONDUCTORS; 1 X "KINGBIRD" ACSR SHIELD-WIRE; 1 X 24-CORE ADSS)



PLAN ON CROSS ARM ANGLES



ATTACHMENT HEIGHT DETAIL

POLE LENGTH L.F. (m)	POLE LENGTH L.G. (m)	C J I S (m)				P.O.D. mm
		B	M	T	E/T	
20.4	16.2	10.63	12.7	14.58	18.2	2.6
21.9	17.2	11.43	13.7	15.58	19.2	2.7
22.9	18.1	12.13	14.4	16.48	20.1	2.8
24.1	19.2	13.03	15.7	17.58	21.2	2.9
25.6	20.7	14.03	17.2	19.08	22.1	2.9
27.2	22.2	15.03	18.7	20.58	24.2	3.0

THIS DRAWING IS RELEVANT FOR GUYED AND FREE STANDING STRUCTURES

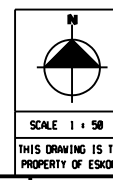
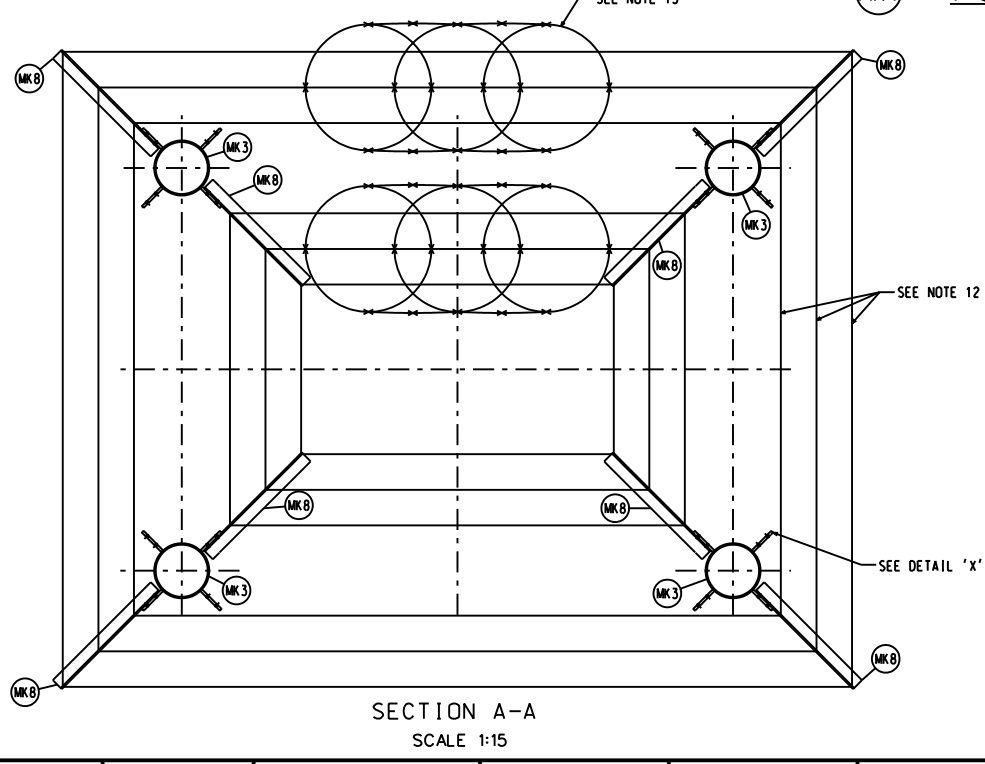
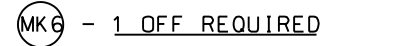
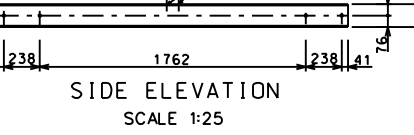
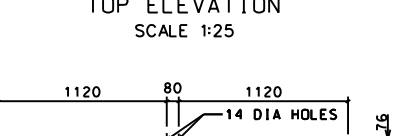
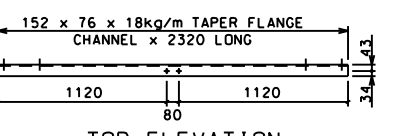
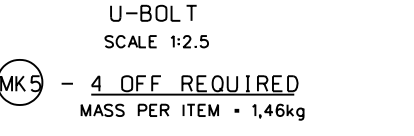
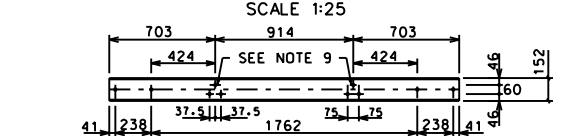
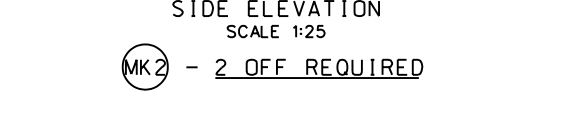
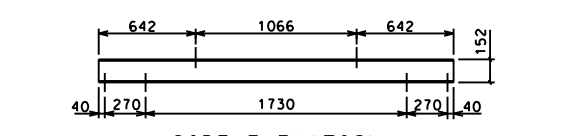
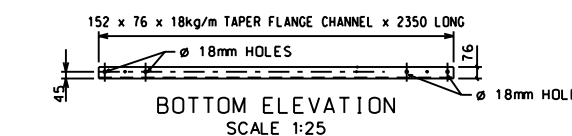
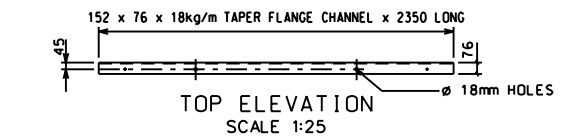
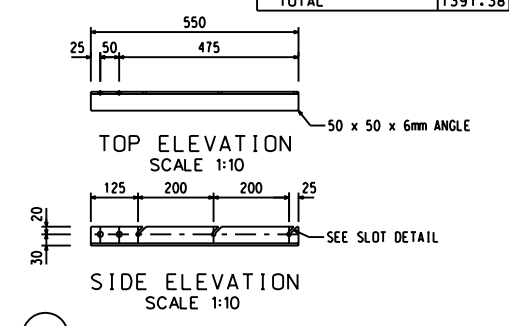
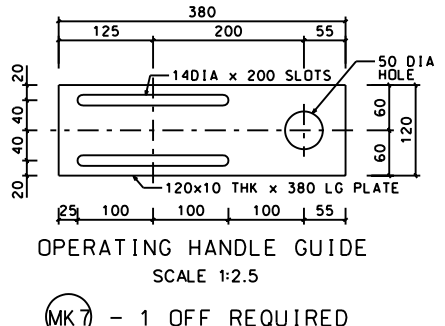
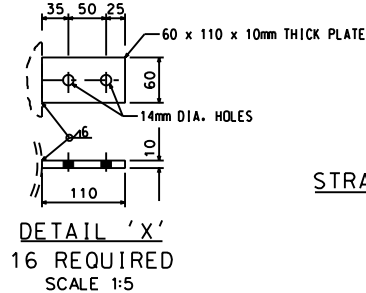
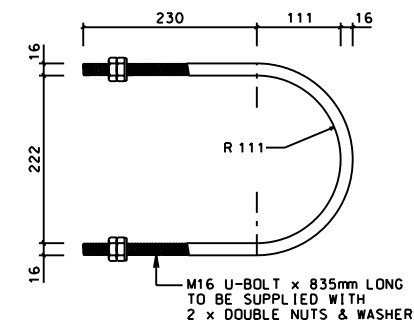
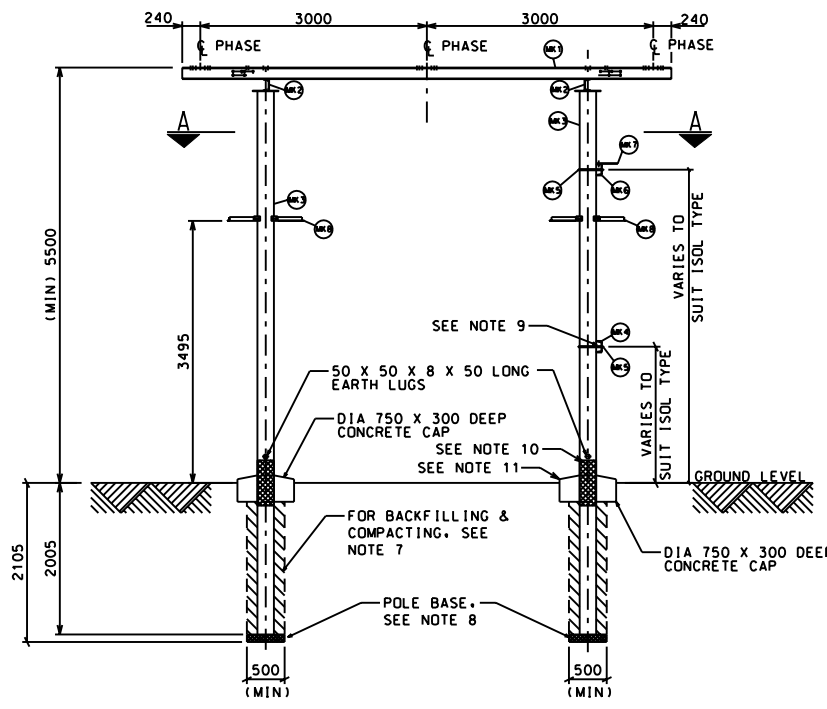
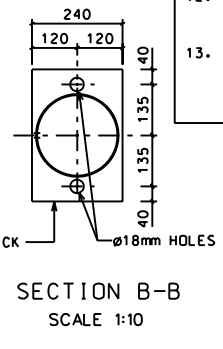
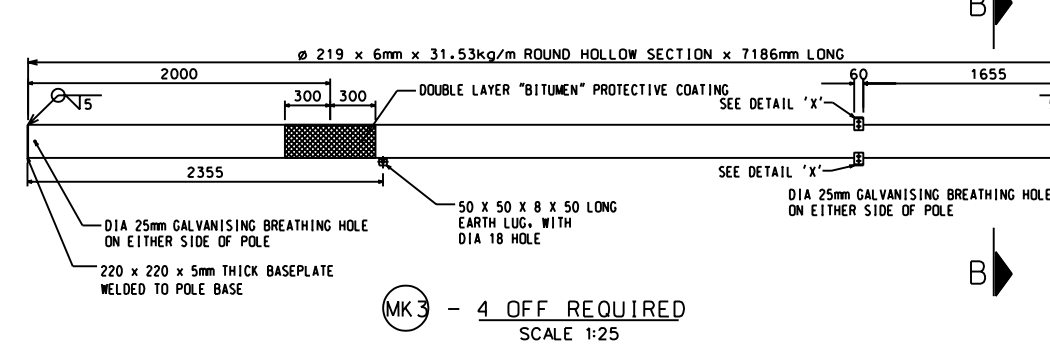
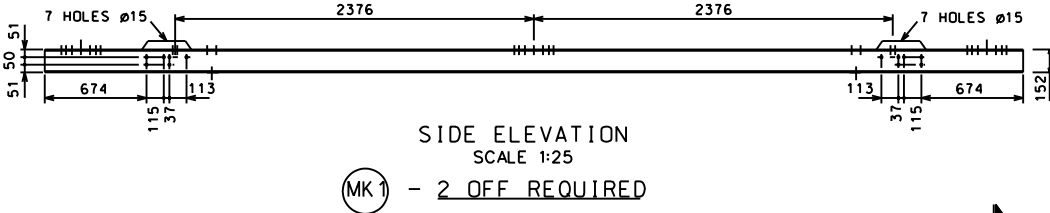
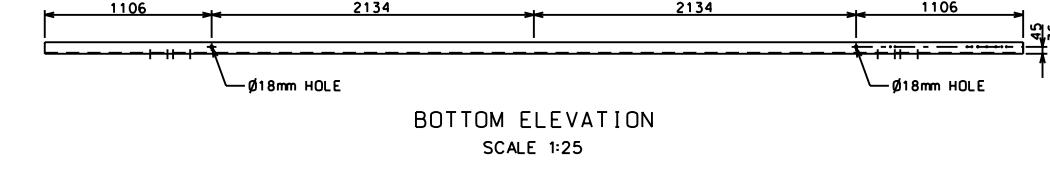
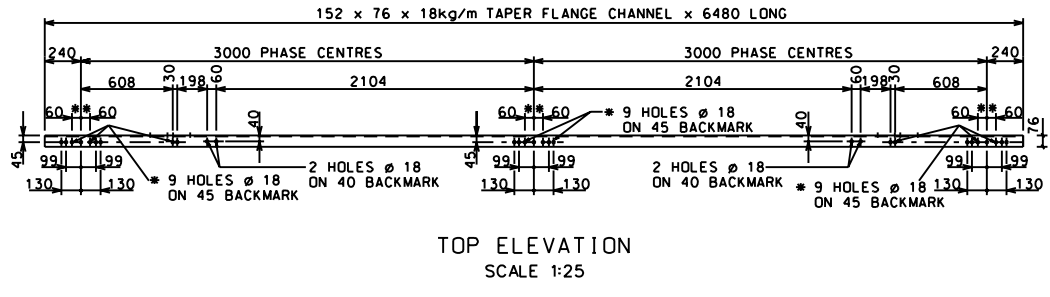
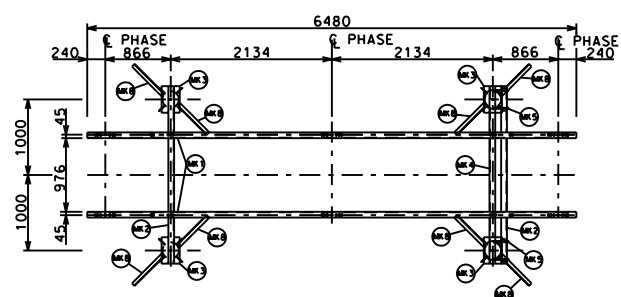
NO.	REV.	DATE	DESCRIPTION	BY	CHECKED	DATE	APPROVED

DISTRIBUTION TECHNOLOGY
132KV SUSPENSION X-ARM
GENERAL ARRANGEMENT FOR
SINGLE STEEL POLE STRUCTURE

- NOTES:**
- STEELWORK, BOLTS, NUTS & WASHERS TO BE HOT DIPPED GALVANISED AS PER SABS ISO 1461 & SABS 10240 1997.
 - ALL HOLES 18 DIA. FOR M16 BOLTS UNLESS OTHERWISE INDICATED.
 - MOUNTING BOLTS SECURING EQUIPMENT TO STRUCTURES, TO BE SUPPLIED BY ELECTRICAL EQUIPMENT CONTRACTOR/ERECTOR.
 - ANY SUPPORT STEELWORK REQUIRED ADDITIONAL TO WHAT IS SHOWN ON THIS DRAWING IS TO BE SUPPLIED BY ISOLATOR MANUFACTURER.
 - ALL STEELWORK FABRICATED, ERECTED & LEVELLED TO A TOLERANCE OF + 1.5mm
 - ALL PARTS TO BE CLEARLY STAMPED WITH ITEM MARK NO. BEFORE GALVANISING.
 - HOLES FOR ISOLATOR SUPPORT STRUCTURE LEGS TO BE BACKFILLED WITH 8:1 SOIL/CEMENT MIXTURE, SLIGHTLY WATERED AND THOROUGHLY COMPACTED IN LAYERS NOT EXCEEDING 300mm IN THICKNESS.
 - ISOLATOR SUPPORT STRUCTURE LEGS TO BE LEVELLED WITH DIA 500 x 100 THICK REINFORCED CONCRETE POLE BASIS TO DWG. 7.18/18481 REV 7, PROVIDED IN BOTTOM OF POLE HOLES.
 - ISOLATOR OPERATING HANDLE SUPPORT BRACKET ITEM MK4 TO BE DRILLED TO SUIT ISOLATOR TYPE TO BE INSTALLED.
 - STRUCTURE SUPPORT MK3 TO BE TREATED WITH A DOUBLE COAT BITUMIN CORROSION PROTECTION AT INDICATED POSITION.
 - DIA. 750 x 500mm DEEP, 15 MPa CONCRETE COLLARS TO BE CAST AROUND STRUCTURE LEGS AS INDICATED. CONCRETE COLLAR TOPS TO BE BEVELLED MIN. 25mm.
 - 3 x 4mm CLASS 'A' HEAVY GALVANISED STRAIN WIRES TO BE STRAINED THROUGH ANTI-CLIMBING SUPPORT ANGLE SLOTS ALL ROUND.
 - DIA. 500mm COILS FLAT WRAP RAZOR WIRE TO BE TIED TO ANTI-CLIMBING STRAIN WIRE AT 400mm INTERVALS WITH 2mm CLASS 'A' GALVANISED WIRE TIES, WITH MIN. 3 TWISTS AT EACH TIE. FLAT WRAP RAZOR COILS TO A MIN. 30% OVERLAP AT EACH COIL.

BOLT SCHEDULE					
MK.	DIA.	LENGTH	No.OFF	WASHERS-No.OFF	MASS (kg)
A	M16	40	4	BEVELLED 16 OFF	0.667
B	M16	40	8	FLAT 8 OFF	1.078
C	M12	40	2	FLAT 2 OFF	1.078
D	M12	25	16	FLAT 16 OFF	0.73

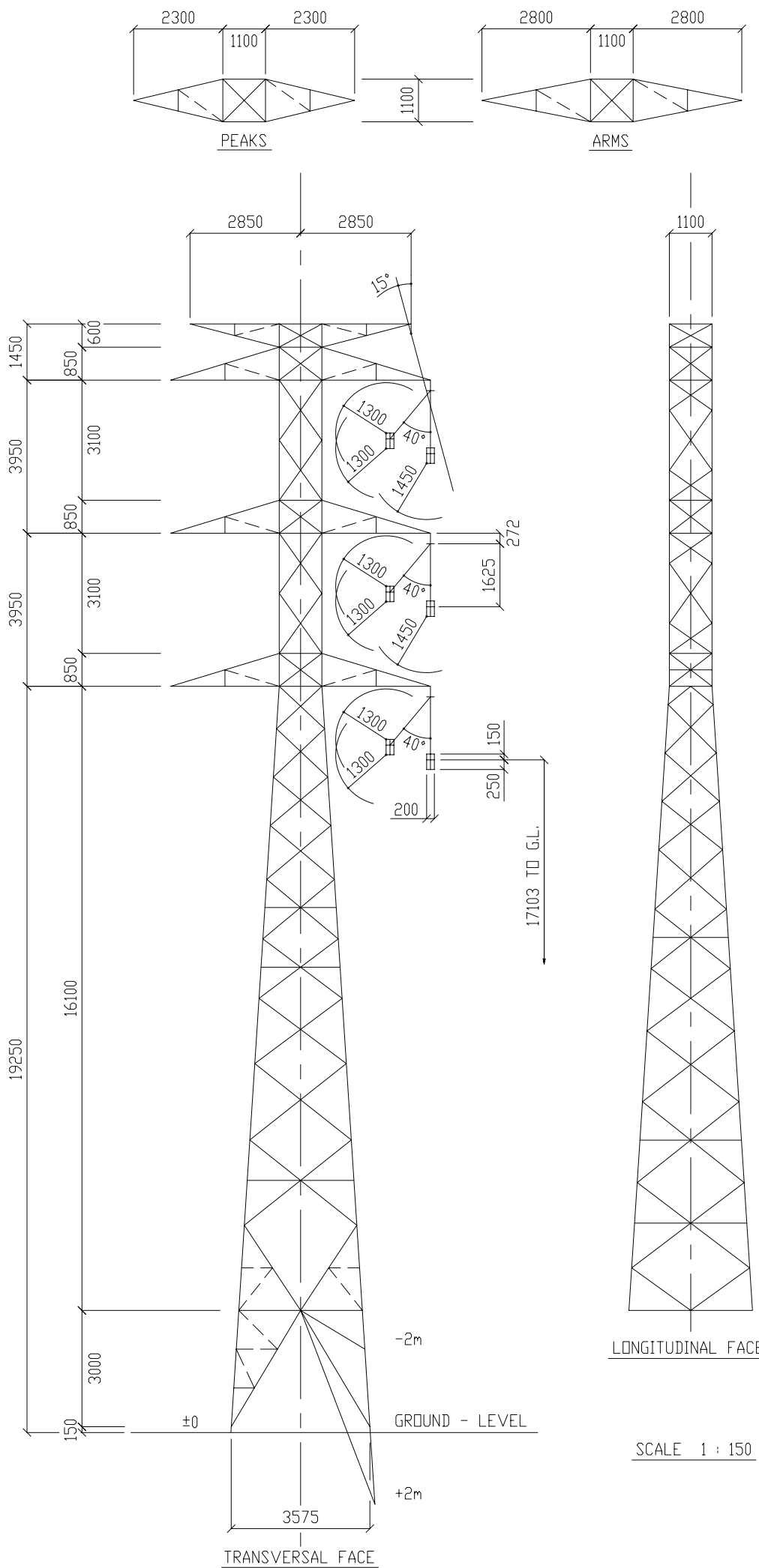
MASS (kg)		
STRUCTURE	BOLTS	TOTAL
1336.99	8.31	1345.30
ZINC + 3.5%		46.08
TOTAL		1391.38



PRELIMINARY - AWAITING REVISION 5 APPROVAL

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	ANTI-CLIMBING SUPPORT & DETAIL ADDED	FDS	P v/d H		02/07/07	
4	ITEMS MK 4, MK 5, MK 6 & MK 7 DETAILS CORRECTED	FDS	P v/d H	R.L.	17/01/06	
3	EARTH LUGS, BITUMEN LAYER & CONCRETE CAPS ADDED	FDS	P v/d H	R.L.		
2	ITEMS 6 & 7 ADDED	IAM	P v/d H	R.L.		
1	DRAWING RENAMED AND CORRECTED	IAM	P v/d H	P.P.		

Eskom Distribution		NORTH WESTERN REGION	
132kV SUB-TRANSMISSION LINES			
5,5m LINE ISOLATOR SUPPORT MOUNTED ON POLES			
SCALE	1:50	SET	SHEET
THIS DRAWING IS THE PROPERTY OF Eskom		D-FS-11757	01
DATE:	28/01/2002	REVISION	5
CHKD:	P. VO MEEVER		
DATE:	28/01/2002		
DRAWN:	PROPPIE		
DATE:	AUG 2001		



SCALE 1 : 150

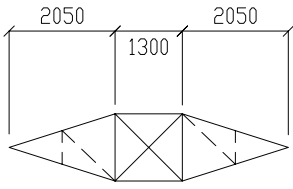
THIS DOCUMENT IS THE EXCLUSIVE PROPERTY OF
BABCOCK AND MAY NOT, WITHOUT BABCOCK
CONSENT BE UTILIZED OR COPIED, REPRODUCED,
TRANSMITTED OR COMMUNICATED TO A THIRD PARTY.

DATE:
DWG. No 2036

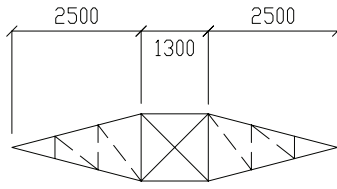
PROJECT: 132 KV. TRANSMISSION LINE
TITLE: SUSPENSION TOWER TYPE "245A"

Babcock Ntuthuko
Powerlines

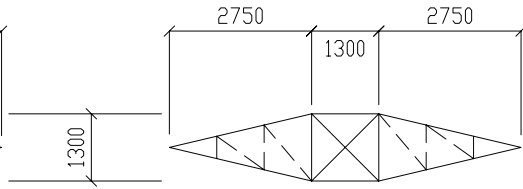




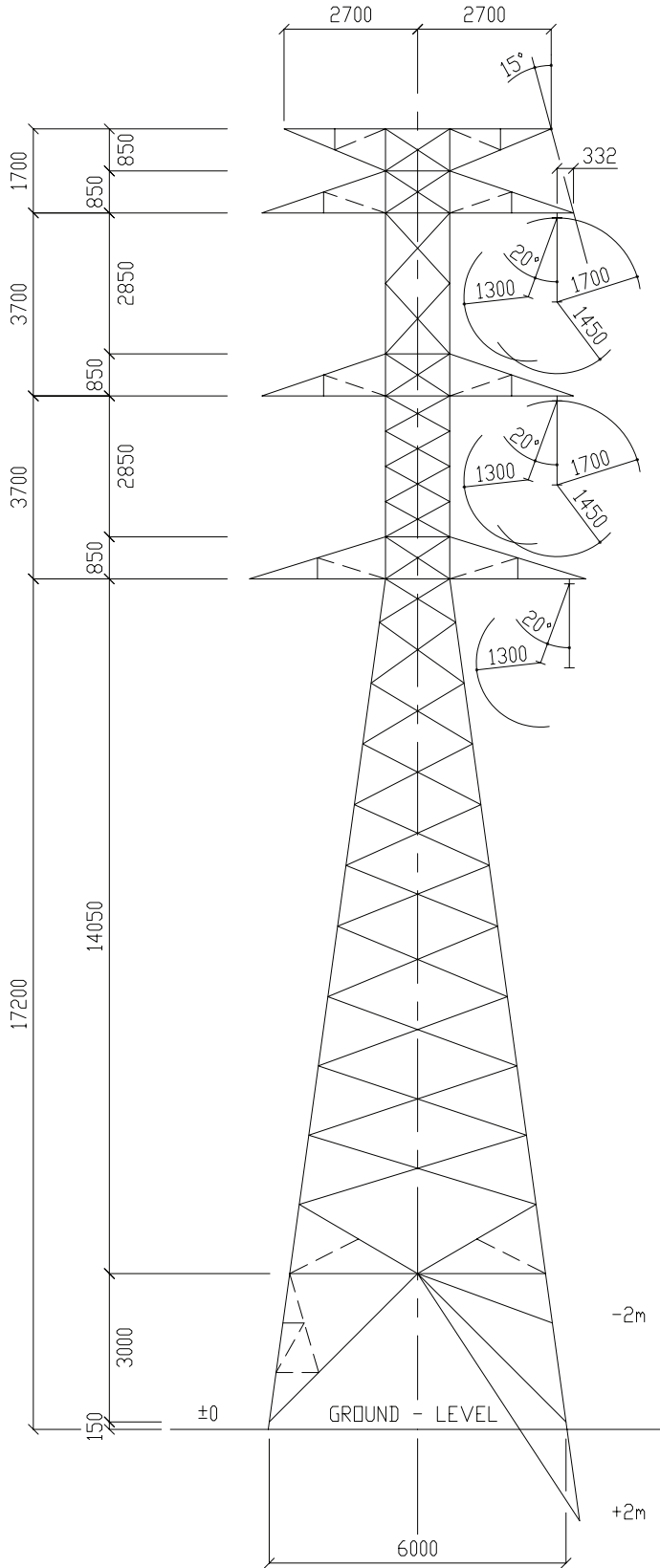
PEAKS



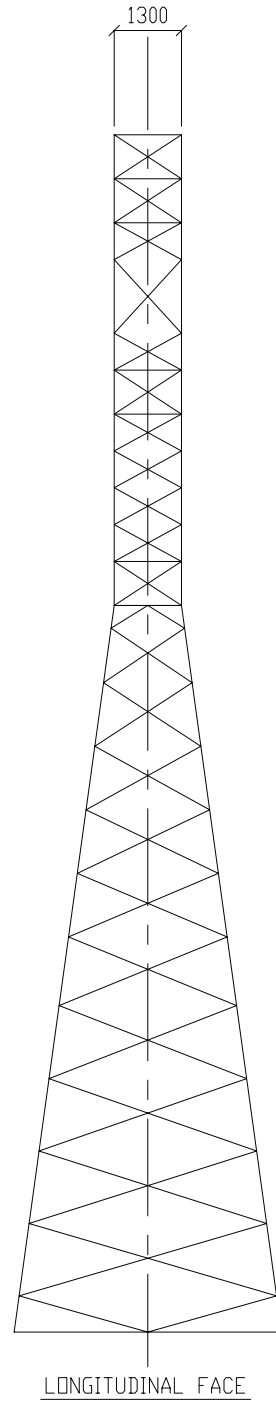
SECOND & THIRD ARMS



FIRST ARMS



TRANSVERSAL FACE



LONGITUDINAL FACE

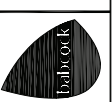
SCALE 1 : 150

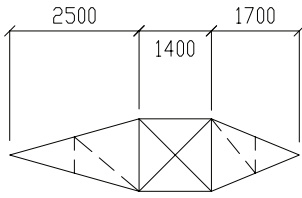
THIS DOCUMENT IS THE EXCLUSIVE PROPERTY OF
BABCOCK AND MAY NOT, WITHOUT BABCOCK
CONSENT BE UTILIZED OR COPIED, REPRODUCED,
TRANSMITTED OR COMMUNICATED TO A THIRD PARTY.

DATE:
DWG. No 2037

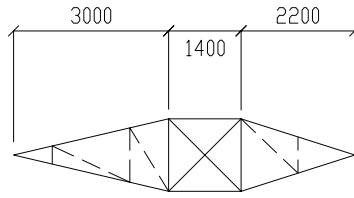
PROJECT: 132 KV. TRANSMISSION LINE
TITLE: 0°-15° ANGLE STRAIN TOWER TYPE "245B"

Babcock Ntuthuko
Powerlines

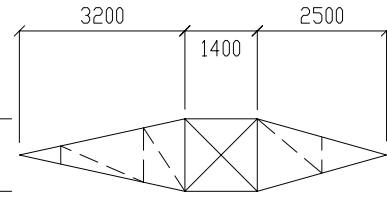
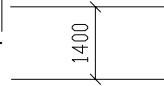




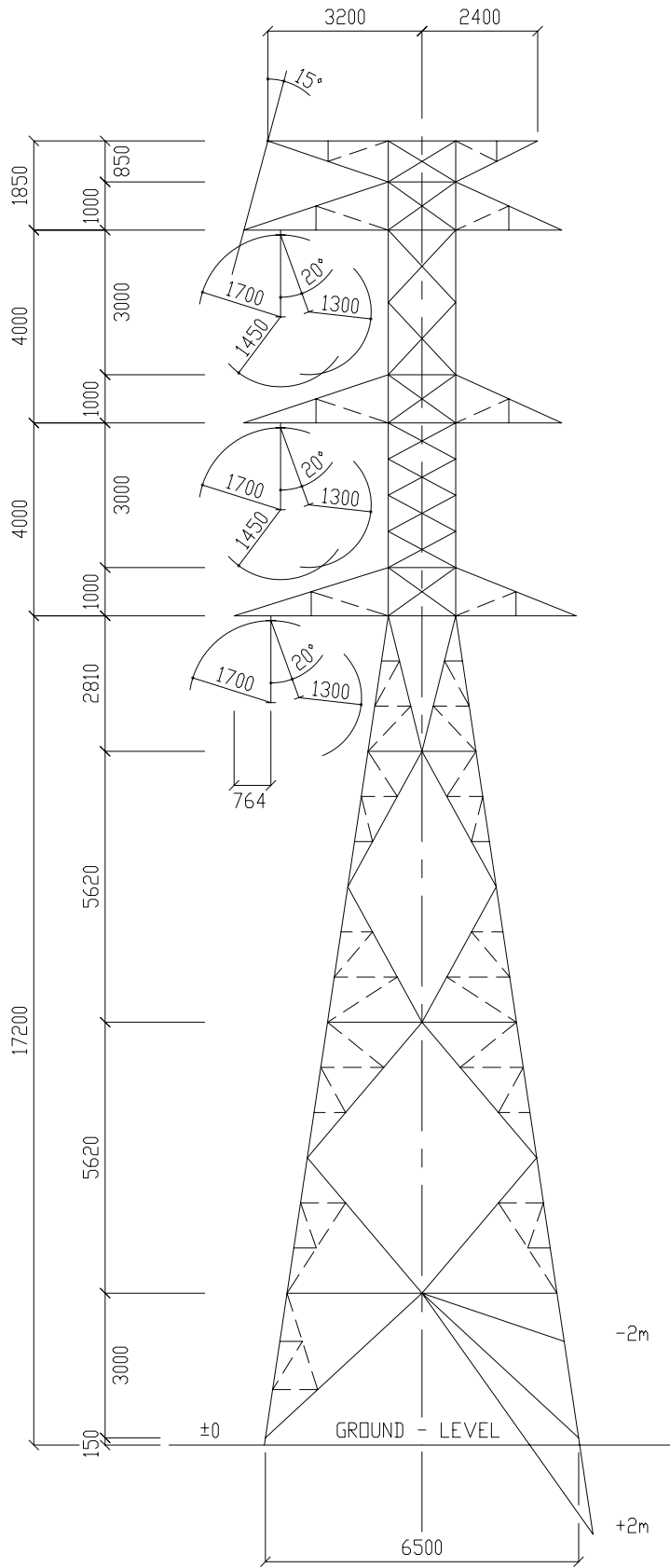
LONG & SHORT PEAK



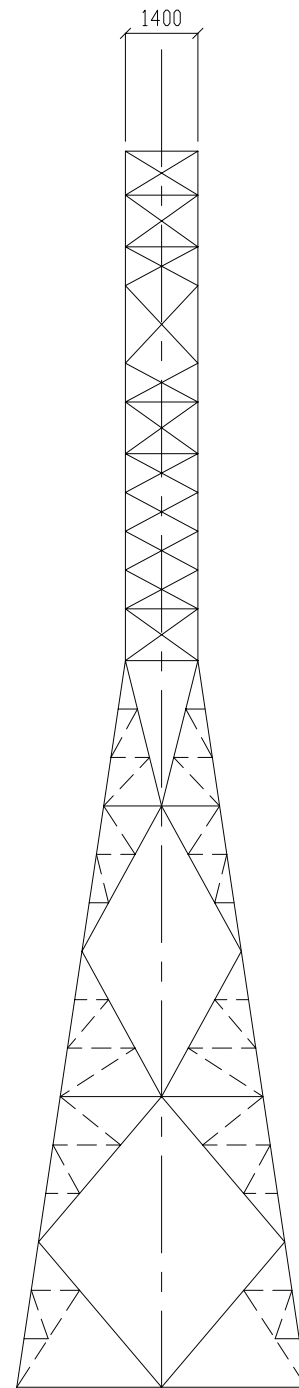
SECOND & THIRD LONG/SHORT ARM



FIRST LONG & SHORT ARM



TRANSVERSAL FACE



LONGITUDINAL FACE

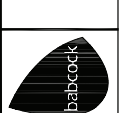
SCALE 1 : 150

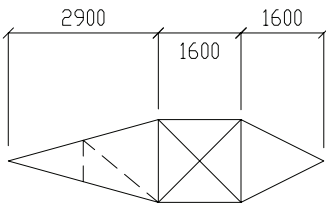
THIS DOCUMENT IS THE EXCLUSIVE PROPERTY OF
BABCOCK AND MAY NOT, WITHOUT BABCOCK
CONSENT BE UTILIZED OR COPIED, REPRODUCED,
TRANSMITTED OR COMMUNICATED TO A THIRD PARTY.

DATE:
DWG. No 2038

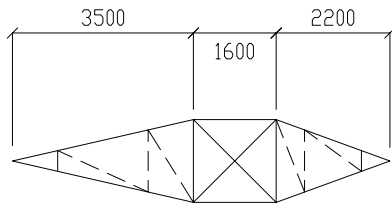
PROJECT: 132 KV. TRANSMISSION LINE
TITLE: 15°-35° ANGLE STRAIN TOWER TYPE "245C"

Babcock Ntuthuko
Powerlines

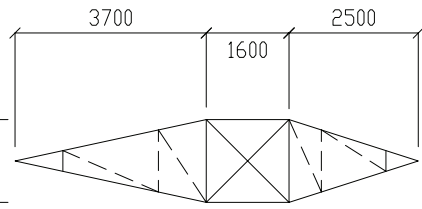
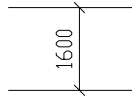




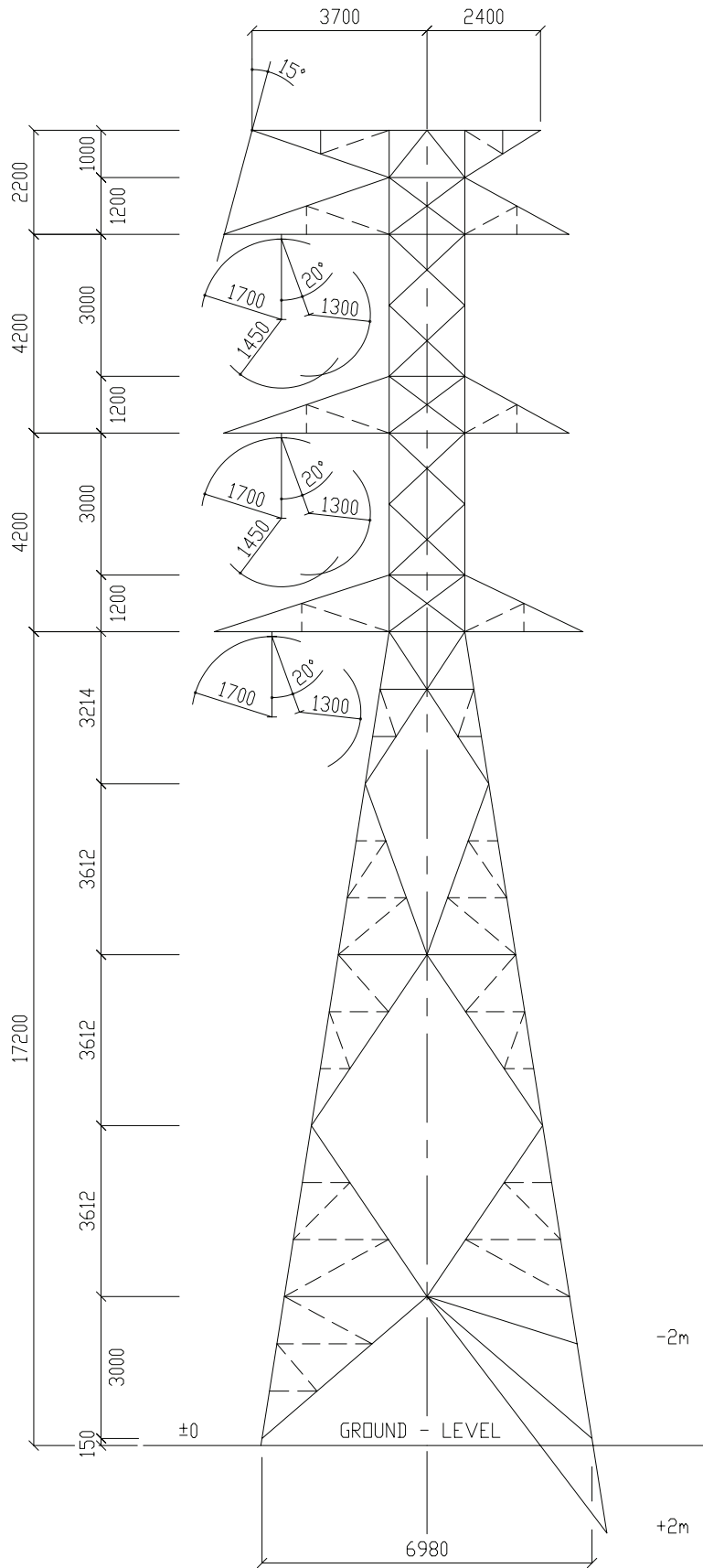
LONG & SHORT PEAK



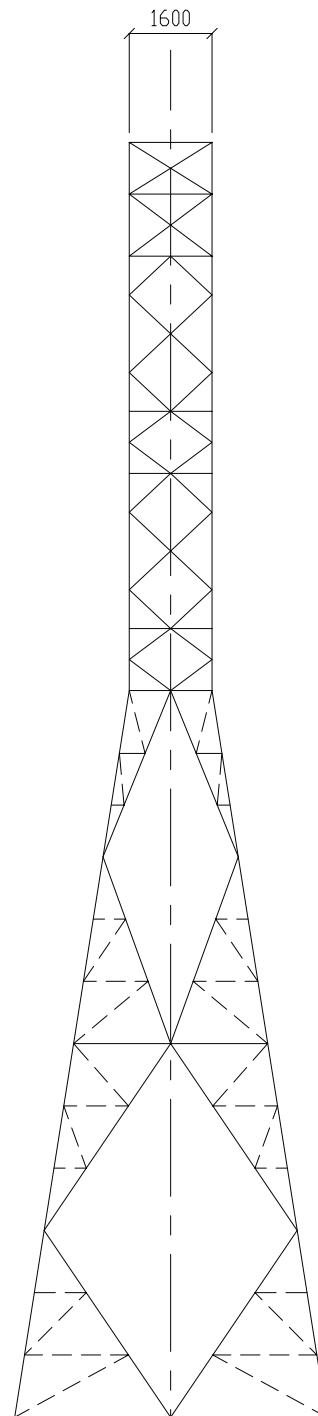
SECOND & THIRD LONG/SHORT ARM



FIRST LONG & SHORT ARM



TRANSVERSAL FACE



LONGITUDINAL FACE

SCALE 1 : 150

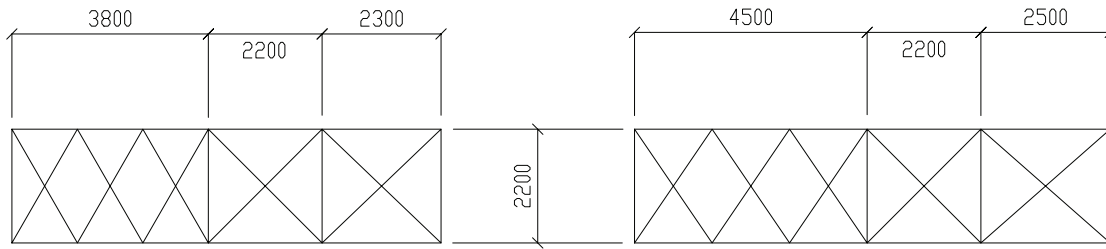
THIS DOCUMENT IS THE EXCLUSIVE PROPERTY OF
BABCOCK AND MAY NOT, WITHOUT BABCOCK
CONSENT BE UTILIZED OR COPIED, REPRODUCED,
TRANSMITTED OR COMMUNICATED TO A THIRD PARTY.

DATE:
DWG. No 2039

PROJECT: 132 KV. TRANSMISSION LINE
TITLE: 35°-60° A/S & 0° TERM. TOWER TYPE "245D"

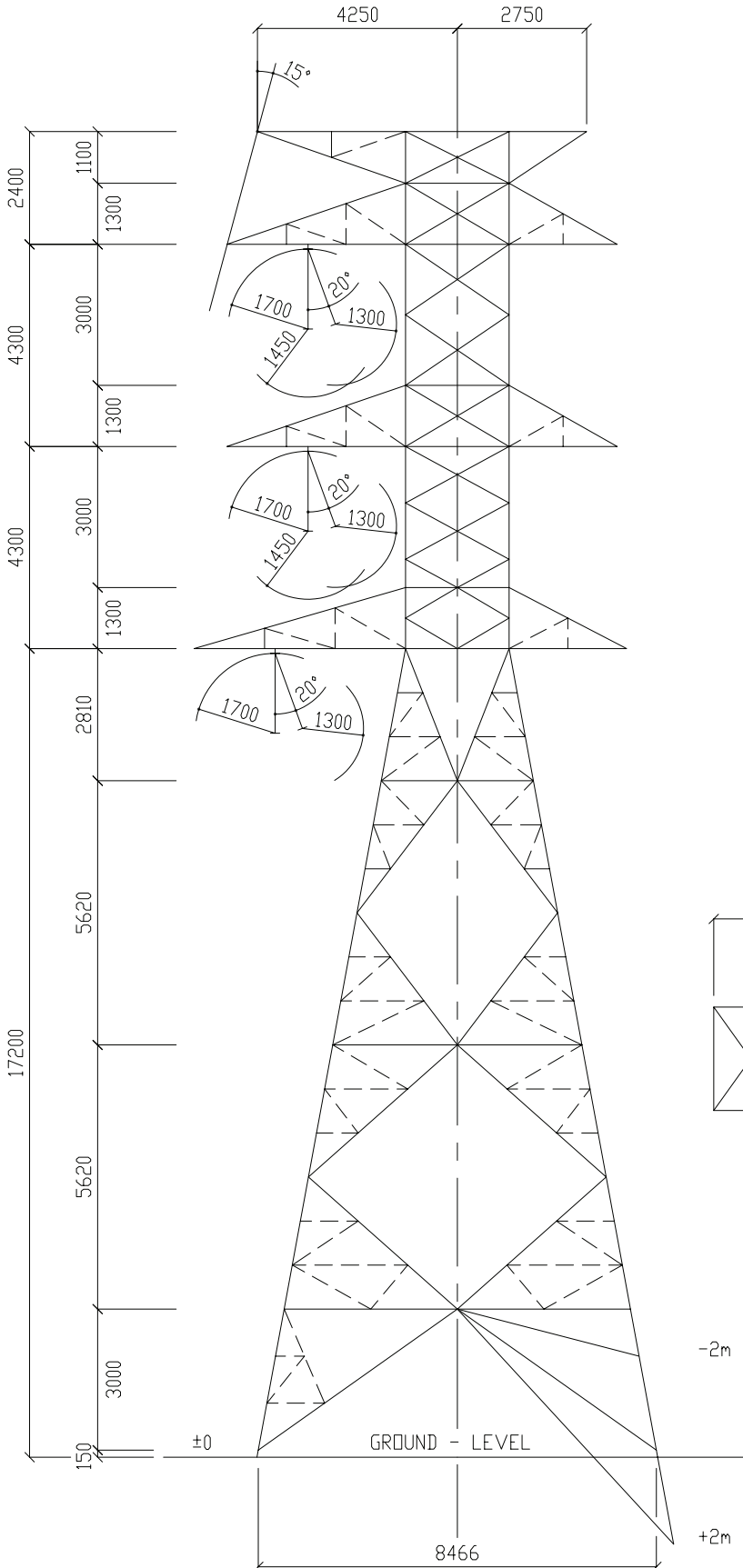
Babcock Ntuthuko
Powerlines



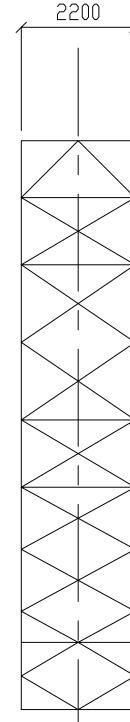


SECOND & THIRD LONG/SHORT ARM

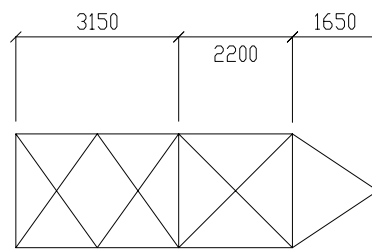
FIRST LONG & SHORT ARM



TRANSVERSAL FACE



LONGITUDINAL FACE



LONG & SHORT PEAK

SCALE 1 : 150

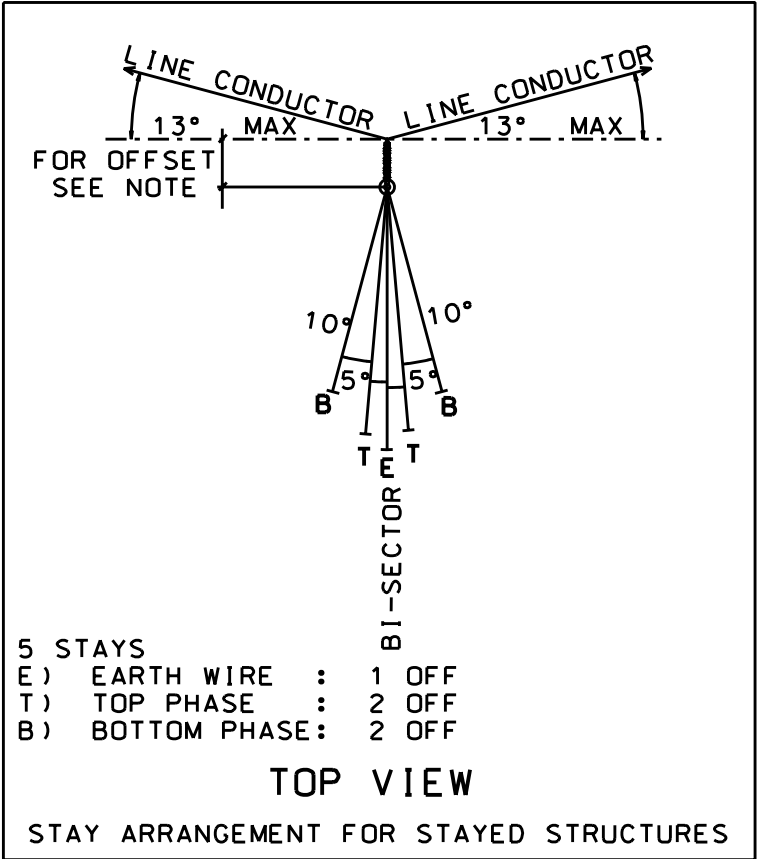
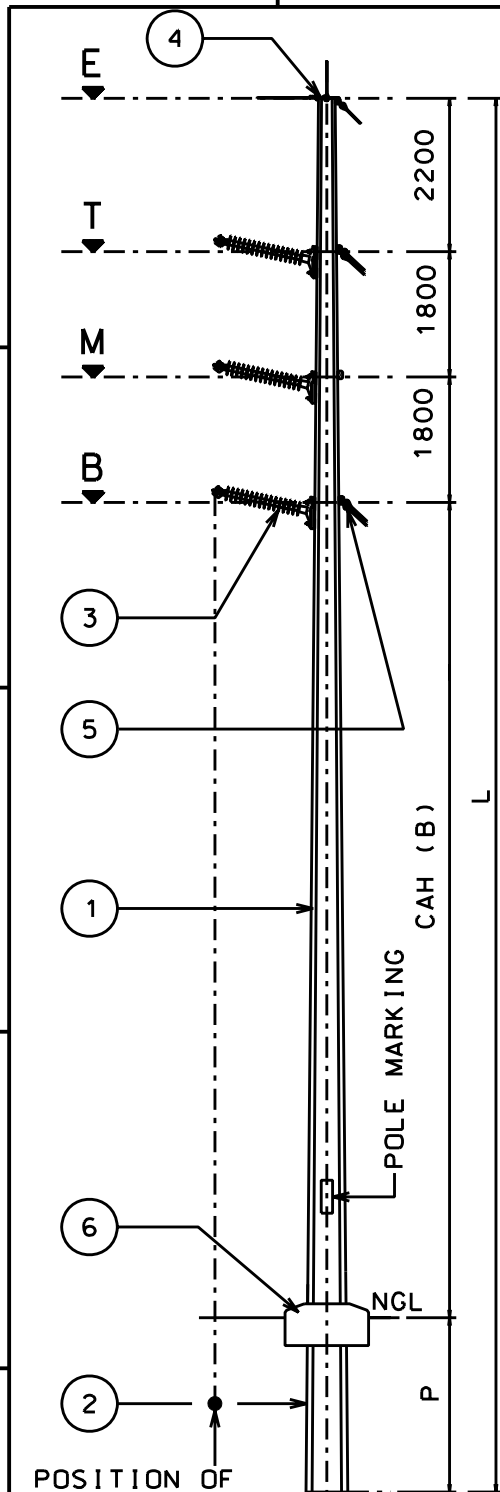
THIS DOCUMENT IS THE EXCLUSIVE PROPERTY OF
BABCOCK AND MAY NOT, WITHOUT BABCOCK
CONSENT BE UTILIZED OR COPIED, REPRODUCED,
TRANSMITTED OR COMMUNICATED TO A THIRD PARTY.

DATE:
DWG. No 2040

PROJECT: 132 KV. TRANSMISSION LINE
TITLE: 60°-90° A/S & 0°-35° TERM. TOWER TYPE "245E"

Babcock Ntuthuko
Powerlines





TIP LOAD = 23 kN

DESIGN REQUIREMENTS			C A H (m AGL)			
POLE LENGTH L	TIP LOAD (kN)	PLANTING DEPTH P	E	T	M	B
20	23	2.6	17.4	15.2	13.4	11.6
21	23	2.7	18.3	16.1	14.3	12.5
22	23	2.8	19.2	17.0	15.2	13.4
23	23	2.9	20.1	17.9	16.1	14.3
24	23	3.0	21.0	18.8	17.0	15.2

NOTE: POLE TO BE OFFSET 1500mm OUT OF LINE TOWARDS OUTSIDE OF BISECTOR AS SHOWN

2	DRG SHT UPDATED. REFERENCES REV'D. GENERAL REVISION	SLR	RAB	AB	MARCH 2004	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

Eskom
Distribution

AUTH: A BEKKER
 DATE: JAN 2004
 CHKD: RAB
 DATE: JAN 2004
 DRAWN: LMP
 DATE: NOV 1998

DISTRIBUTION TECHNOLOGY
 RETICULATION/SUB-TRANSMISSION LINES
 STAYED INTERMEDIATE ANGLE STRUCTURE
 GENERAL ARRANGEMENT (0-26°)

D-DT 7613


SET	SHEET	REVISION
2	1	2

A
B
C
D
E

A
B
C
D
E

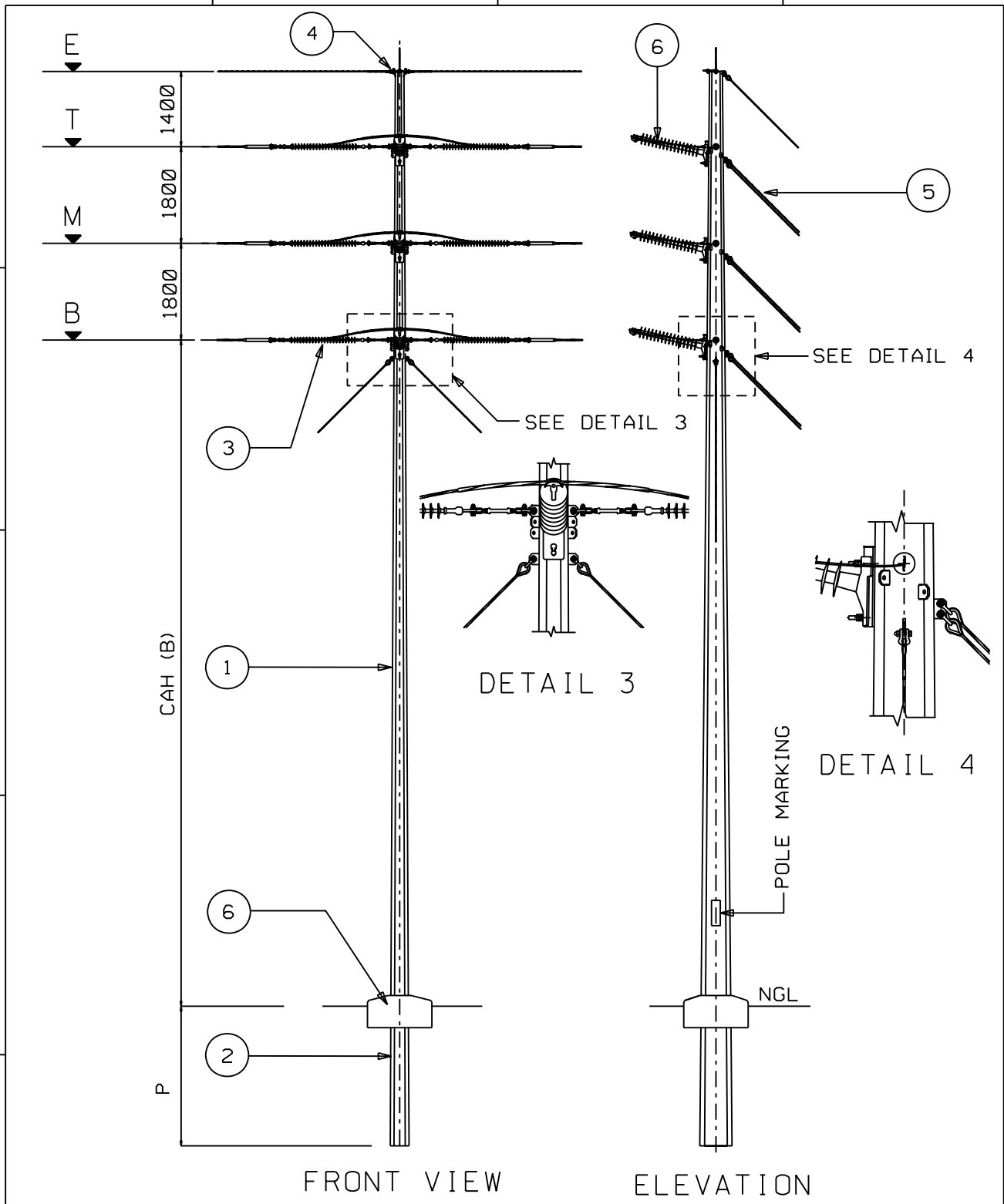
ITEM NO.	DESCRIPTION	D-DT NO.
	STRUCTURE	
	TYPE 259B	D-DT 7613
	MANUFACTURER: STRUCTATECH	
	TYPE 261B	D-DT 7613
	MANUFACTURER: CIS	
1	POLE LENGTH (BODY)	
	20m STEEL	D-DT 7102
	21m STEEL	D-DT 7102
	22m STEEL	D-DT 7102
	23m STEEL	D-DT 7102
	24m STEEL	D-DT 7102
2	FOUNDATION	
	TYPE 1 (300kPa)	D-DT 7852 SHT 2
	TYPE 2 (150kPa)	D-DT 7852 SHT 3
	TYPE 3 (100kPa)	D-DT 7852 SHT 4
	TYPE 4 (50kPa)	D-DT 7852 SHT 5
	ROCK & SOFT ROCK	D-DT 7852 SHT 1
3	INSULATOR ASSEMBLY	
	INTERMEDIATE ASSEMBLY	D-DT 7321
4	EARTH WIRE ASSEMBLIES	
	NON INSULATED	D-DT 7323
	INSULATED	D-DT 7324
5	CONCRETE CAP AND	D-DT 7857
	EARTHING DETAILS	

2	DRG SHT UPDATED. REFERENCES REV'D. GENERAL REVISION	SLR	RAB	AB	MARCH 2004	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

 AUTH: A BEKKER DATE: JAN 2004 CHKD: RAB DATE: JAN 2004 DRAWN: LMP DATE: NOV 1998	DISTRIBUTION TECHNOLOGY RETICULATION/SUB-TRANSMISSION LINES STAYED INTERMEDIATE ANGLE STRUCTURE REFERENCE TABLE (0-26°)		
	D-DT 7613		SET 2
	SHEET 2		REVISION 2
	SHEET 2		REVISION 2
	SHEET 2		REVISION 2

F

F



FRONT VIEW

ELEVATION

2	DRG SHT UPDATED. REFERENCES REVISED. GENERAL REVISION	SLR	RAB	AB	MARCH 2004	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

Eskom
Distribution

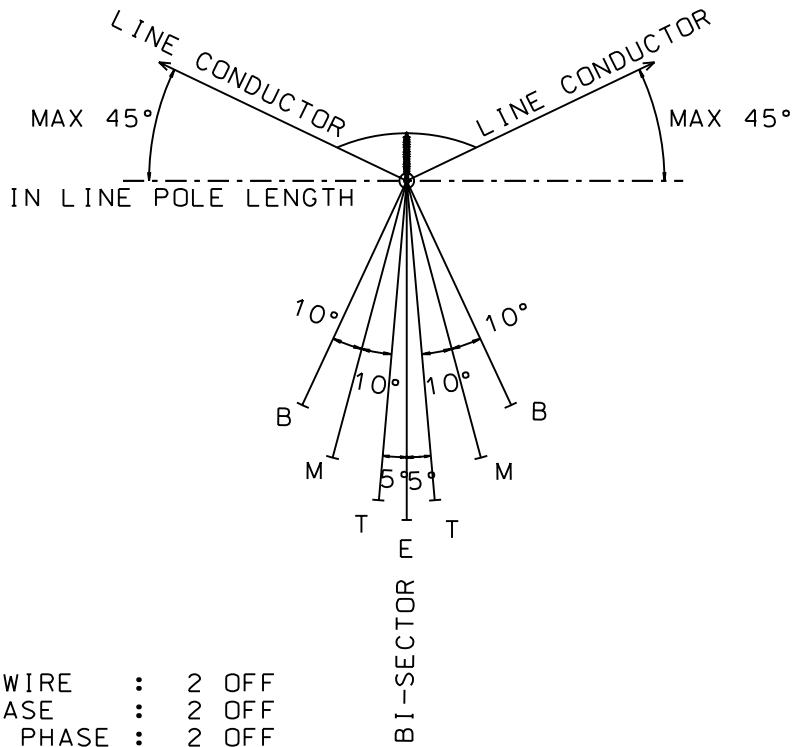
AUTH: A BEKKER
DATE: JAN 2004
CHKD: RAB
DATE: JAN 2004
DRAWN: LMP
DATE: NOV 1998

DISTRIBUTION TECHNOLOGY
RETICULATION/SUB-TRANSMISSION LINES
STAYED ANGLE STRAIN STRUCTURE
GENERAL ARRANGEMENT (0-90°)

D-DT 7615

SET	SHEET	REVISION
3	1	2

A



A

B

B

C

C

- 8 STAYS
- E) EARTH WIRE : 2 OFF
- T) TOP PHASE : 2 OFF
- M) MIDDLE PHASE : 2 OFF
- B) BOTTOM PHASE : 2 OFF

TOP VIEW

STAY ARRANGEMENT FOR STAYED STRUCTURES

D

D

DESIGN REQUIREMENTS			SCHEDULE FOR CONDUCTOR ATTACHMENT HEIGHTS			
POLE LENGTH L	TIP LOAD (kN)	PLANTING DEPTH P	C A H (m AGL)			
			E	T	M	B
18	23	2,0	16,0	14,6	12,8	11,0
19	23	2,0	17,0	15,6	13,8	12,0
20	23	2,0	18,0	16,6	14,8	13,0
21	23	2,0	19,0	17,6	15,8	14,0
22	23	2,0	20,0	18,6	16,8	15,0
23	23	2,0	21,0	19,6	17,8	16,0
24	23	2,0	22,0	20,6	18,8	17,0

E

E

2	DRG SHT UPDATED. REFERENCES REVISED. GENERAL REVISION	SLR	RAB	AB	MARCH 2004	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.


F

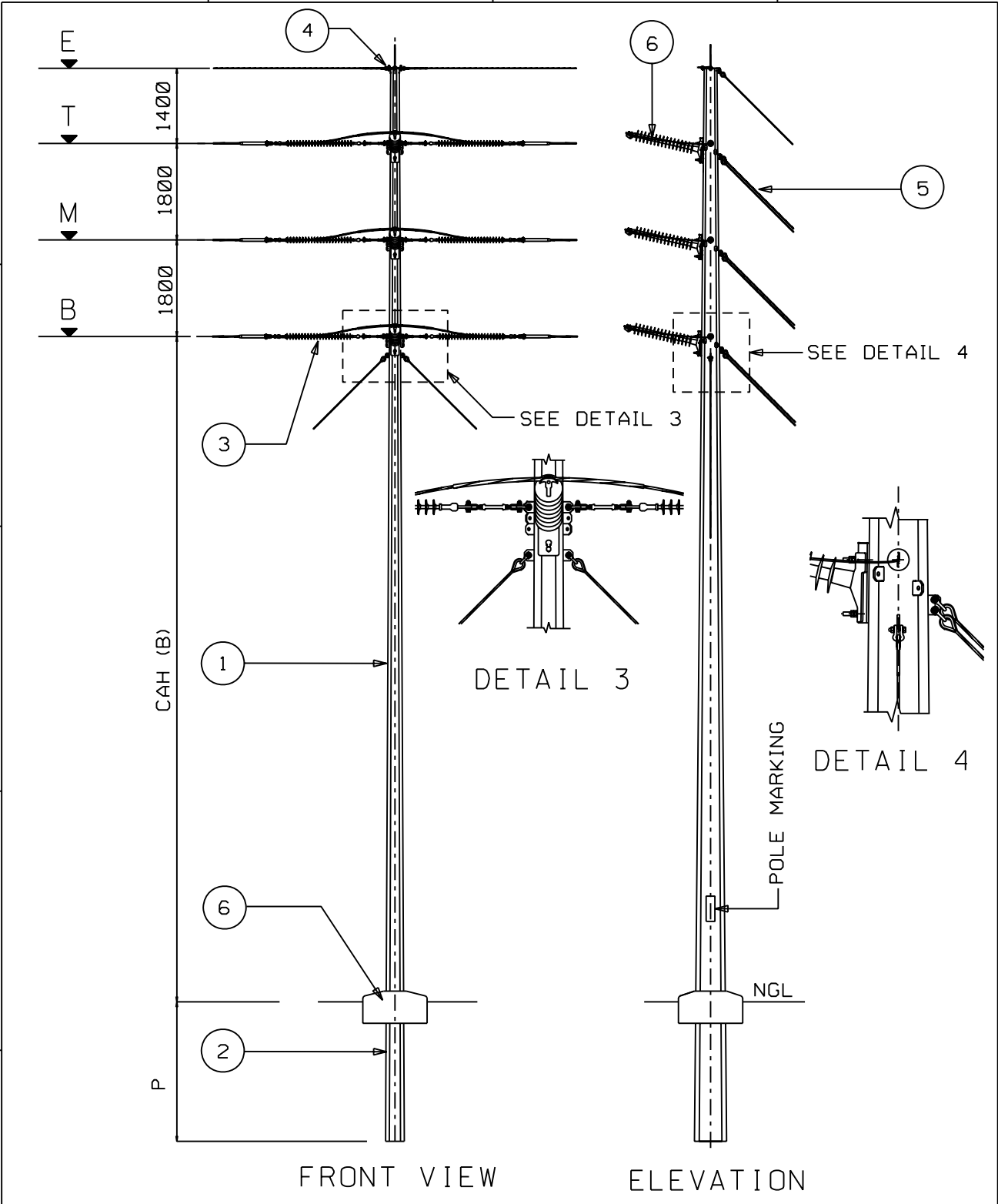
F

<p>Eskom Distribution</p> <p>AUTH: A BEKKER</p> <p>DATE: JAN 2004</p> <p>CHKD: RAB</p> <p>DATE: JAN 2004</p> <p>DRAWN: LMP</p> <p>DATE: NOV 1998</p>	DISTRIBUTION TECHNOLOGY RETICULATION/SUB-TRANSMISSION LINES STAYED ANGLE STRAIN STRUCTURE DESIGN CRITERIA & STAYS (0-90°)		
	D-DT 7615		
	SET	SHEET	REVISION
	3	2	2

ITEM NØ.	DESCRIPTION	D-DT NØ.
	STRUCTURE	
	TYPE 259D	D-DT 7615
	MANUFACTURER: STRUCTATECH	
	TYPE 261D	D-DT 7615
	MANUFACTURER: CIS	
1	POLE LENGTH (BODY)	
	18m STEEL	D-DT 7104
	19m STEEL	D-DT 7104
	20m STEEL	D-DT 7104
	21m STEEL	D-DT 7104
	22m STEEL	D-DT 7104
	23m STEEL	D-DT 7104
	24m STEEL	D-DT 7104
2	FOUNDATION	
	TYPE 1 (300kPa)	D-DT 7852 SHT 2
	TYPE 2 (150kPa)	D-DT 7852 SHT 3
	TYPE 3 (100kPa)	D-DT 7852 SHT 4
	TYPE 4 (50kPa)	D-DT 7852 SHT 5
	ROCK & SOFT ROCK	D-DT 7852 SHT 1
3	INSULATOR ASSEMBLY	
	STRAIN ASSEMBLY	D-DT 7311
4	EARTH WIRE ASSEMBLIES	
	STRAIN NON INSULATED	D-DT 7323
	STRAIN INSULATED	D-DT 7324
5	STAY ASSEMBLY/LOCATION	D-DT 7325/7346
6	JUMPER ASSEMBLY	D-DT 7321
7	CONCRETE CAP AND EARTHING	D-DT 7857

2	DRG SHT UPDATED. REFERENCES REVISED. GENERAL REVISION	SLR	RAB	AB	MARCH 2004	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

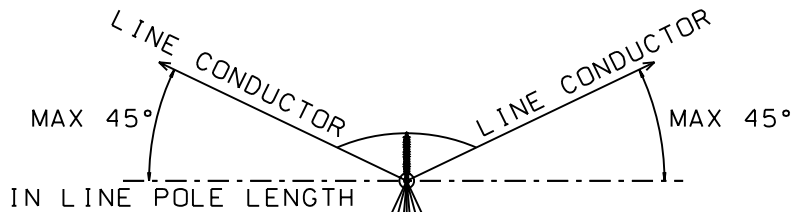
	<p align="center">DISTRIBUTION TECHNOLOGY RETICULATION/SUB-TRANSMISSION LINES STAYED ANGLE STRAIN STRUCTURE REFERENCE TABLE (0-90°)</p>					
	AUTH: A BEKKER					
	DATE: JAN 2004					
	CHKD: RAB					
	DATE: JAN 2004					
DRAWN: LMP	D-DT 7615			SET	SHEET	REVISION
DATE: NOV 1998				3	3	2



2	DRG SHT UPDATED. REFERENCES REVISED. GENERAL REVISION	SLR	RAB	AB	MARCH 2004	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

<p>Eskom Distribution</p> <p>AUTH: A BEKKER</p> <p>DATE: JAN 2004</p> <p>CHKD: RAB</p> <p>DATE: JAN 2004</p> <p>DRAWN: LMP</p> <p>DATE: NOV 1998</p>	<p>DISTRIBUTION TECHNOLOGY</p> <p>RETICULATION/SUB-TRANSMISSION LINES</p> <p>STAYED ANGLE STRAIN STRUCTURE</p> <p>GENERAL ARRANGEMENT (0-90°)</p>		
	<p>D-DT 7615</p>		
	SET	SHEET	REVISION
	3	1	2

A



A

B

B

- 8 STAYS
- E) EARTH WIRE : 2 OFF
- T) TOP PHASE : 2 OFF
- M) MIDDLE PHASE : 2 OFF
- B) BOTTOM PHASE : 2 OFF

BI-SECTOR

TOP VIEW

C

STAY ARRANGEMENT FOR STAYED STRUCTURES

D

D

DESIGN REQUIREMENTS			SCHEDULE FOR CONDUCTOR ATTACHMENT HEIGHTS			
POLE LENGTH L	TIP LOAD (kN)	PLANTING DEPTH P	C A H (m AGL)			
			E	T	M	B
18	23	2,0	16,0	14,6	12,8	11,0
19	23	2,0	17,0	15,6	13,8	12,0
20	23	2,0	18,0	16,6	14,8	13,0
21	23	2,0	19,0	17,6	15,8	14,0
22	23	2,0	20,0	18,6	16,8	15,0
23	23	2,0	21,0	19,6	17,8	16,0
24	23	2,0	22,0	20,6	18,8	17,0

E


E

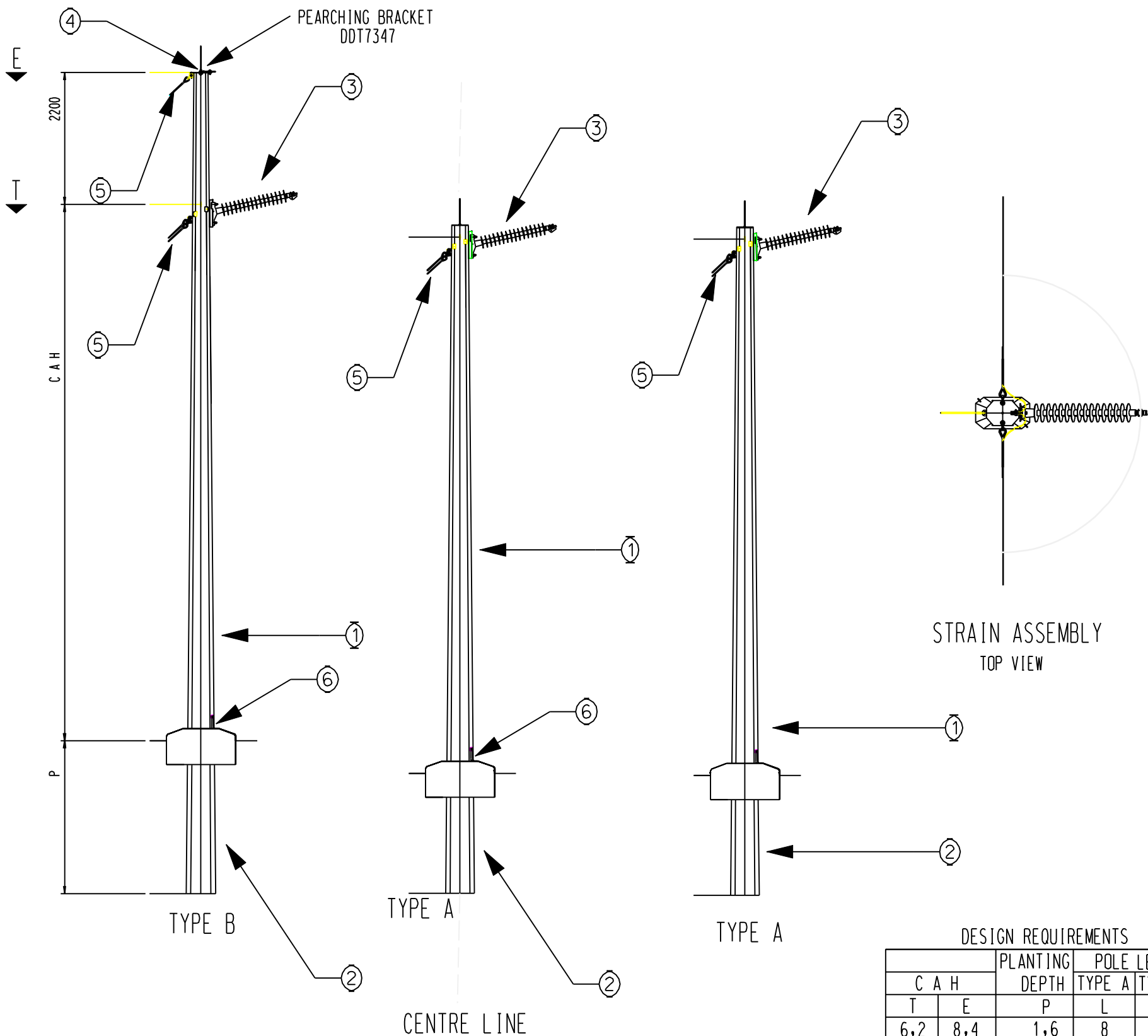
2	DRG SHT UPDATED. REFERENCES REVISED. GENERAL REVISION	SLR	RAB	AB	MARCH 2004	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

F

F

<p>AUTH: A BEKKER</p> <p>DATE: JAN 2004</p> <p>CHKD: RAB</p> <p>DATE: JAN 2004</p> <p>DRAWN: LMP</p> <p>DATE: NOV 1998</p>	DISTRIBUTION TECHNOLOGY RETICULATION/SUB-TRANSMISSION LINES STAYED ANGLE STRAIN STRUCTURE DESIGN CRITERIA & STAYS (0-90°)		
	D-DT 7615		SET
	3		SHEET
	2		REVISION
	2		2


A	ITEM NØ.	DESCRIPTION	D-DT NØ.				
		STRUCTURE					
		TYPE 259D	D-DT 7615				
B		MANUFACTURER: STRUCTATECH					
		TYPE 261D	D-DT 7615				
		MANUFACTURER: CIS					
	1	POLE LENGTH (BODY)					
		18m STEEL	D-DT 7104				
		19m STEEL	D-DT 7104				
		20m STEEL	D-DT 7104				
		21m STEEL	D-DT 7104				
C		22m STEEL	D-DT 7104				
		23m STEEL	D-DT 7104				
		24m STEEL	D-DT 7104				
	2	FOUNDATION					
		TYPE 1 (300kPa)	D-DT 7852 SHT 2				
		TYPE 2 (150kPa)	D-DT 7852 SHT 3				
D		TYPE 3 (100kPa)	D-DT 7852 SHT 4				
		TYPE 4 (50kPa)	D-DT 7852 SHT 5				
		ROCK & SOFT ROCK	D-DT 7852 SHT 1				
	3	INSULATOR ASSEMBLY					
		STRAIN ASSEMBLY	D-DT 7311				
	4	EARTH WIRE ASSEMBLIES					
		STRAIN NON INSULATED	D-DT 7323				
E		STRAIN INSULATED	D-DT 7324				
	5	STAY ASSEMBLY/LOCATION	D-DT 7325/7346				
	6	JUMPER ASSEMBLY	D-DT 7321				
	7	CONCRETE CAP AND EARTHING	D-DT 7857				
	2		DRG SHT UPDATED. REFERENCES REVISED. GENERAL REVISION	SLR	RAB	AB	MARCH 2004
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	PROJECT NO.
F			DISTRIBUTION TECHNOLOGY RETICULATION/SUB-TRANSMISSION LINES STAYED ANGLE STRAIN STRUCTURE REFERENCE TABLE (0-90°)				
	AUTH: A BEKKER						
	DATE: JAN 2004						
	CHKD: RAB		D-DT 7615		SET	SHEET	REVISION
	DATE: JAN 2004				3	3	2
	DRAWN: LMP						
DATE: NOV 1998							
1	2	3	4 A4L				



NOTE:
 1 THESE 3 POLES CAN BE USED AS AN UNSTAYED INTERMEDIATE STRUCTURE (0°) OR A STAYED INTERMEDIATE ANGLE STRUCTURE (1-20°) OR A STAYED ANGLE STRAIN STRUCTURE (0-90°).

DESIGN REQUIREMENTS

C A H		PLANTING DEPTH P	POLE LENGTH	
T	E		TYPE A L	TYPE B L
6.2	8.4	1.6	8	10
7.1	9.3	1.7	9	11
8.0	10.2	1.8	10	12
8.9	11.1	1.9	11	13
9.8	12.0	2.0	12	14
10.7	12.9	2.1	13	15
11.6	13.8	2.2	14	16
12.5	14.7	2.3	15	17
13.4	15.6	2.4	16	18
14.3	16.5	2.5	17	19
15.2	17.4	2.6	18	20
16.1	18.3	2.7	19	21

REV	AUTH MAG	DATE DATUM	REVISION/REVISIES INDEX REF/INDEKSVERW	BY DEUR	CHKD NAGES	D-DT- REFERENCE DRAWINGS
DRG.TEK REGISTR				DISTRIBUTION TECHNOLOGY 88/132kV STEEL POLE 3-POLE STRAIN STRUCTURE (0-90°) GENERAL ARRANGEMENT		
CHKD NAGES						
DRAWN GETEKEN	LMP	22.11.1998	APPROVED	CAD.REF:	D-DT 7618	REV
SCALE SKAAL	NTS		FILE No.:			1

1

2

3

4

A

B

C

D

E

F

A

B

C

D

E

F

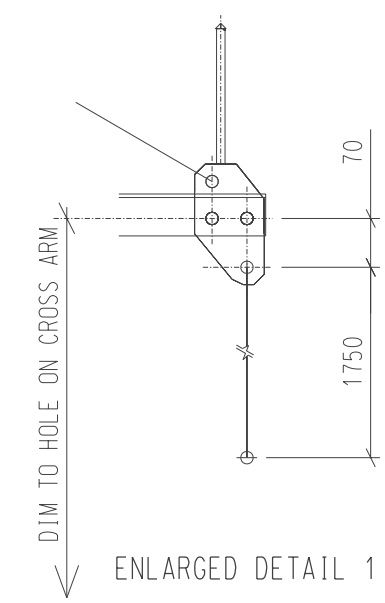
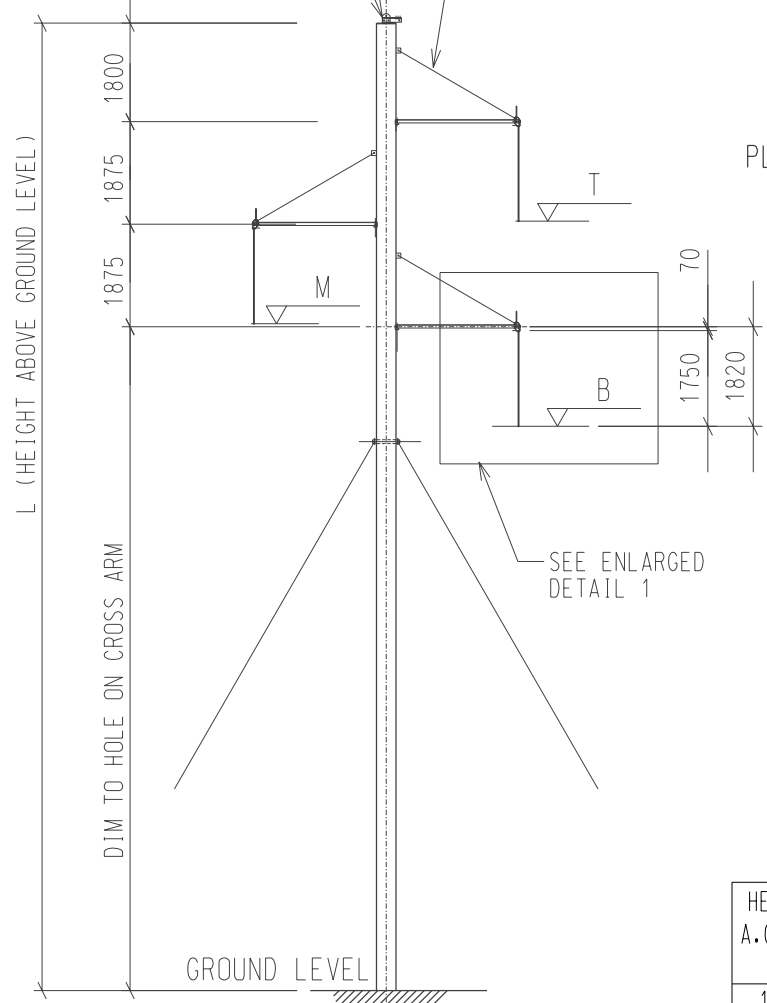
FOR EARTH BRACKET
DETAILS SEE DRAWING
No. D-DT 7331

FOR CROSS ARM
DETAILS SEE DRAWING
No. D-DT 7649/2

POLE MAY BE TUBULAR
OR COFFIN SHAPED

CHANNEL WELDED ONTO POLE
(SEE DRAWING No. D-DT 7649/3)

PLAN ON CROSS ARM ANGLES



GROUND LEVEL

ELEVATION ON POLE

THIS DRAWING IS RELEVANT FOR
GUYED AND FREESTANDING STRUCTURES

ATTACHMENT HEIGHT DETAIL

HEIGHT A.G.L.(m)	C A H (m)			
	L	B	M	T
18.2	10.80	12.675	14.55	18.2
19.2	11.80	13.675	15.55	19.2
20.1	12.70	14.575	16.45	20.1
21.2	13.80	15.675	17.55	21.2
22.7	15.30	17.175	19.05	22.7
24.2	16.80	18.675	20.55	24.2

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
---	---	---	---	---	---	---
---	---	---	---	---	---	---

AUTH:	A. BEKKER
DATE:	JULY 2002
CHKD:	B. BRANFIELD
DATE:	JUNE 2002
DRAWN:	S. LE ROUX
DATE:	JUNE 2002

DISTRIBUTION TECHNOLOGY RETICULATION/SUB-TRANSMISSION LINES SINGLE CIRCUIT GUYED INTERMEDIATE STEEL POLE - GENERAL ARRANGEMENT				
D-DT 7641		SET 4	SHEET 1	REVISION A

1

2

3

4 A4L

1

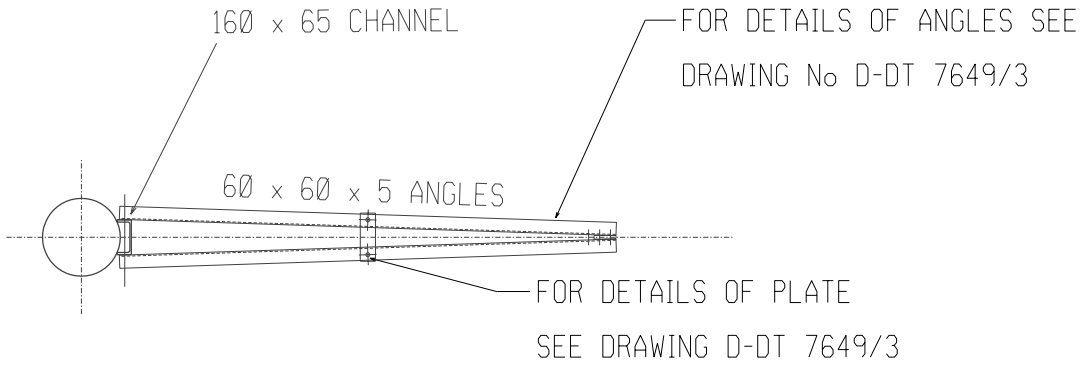
2

3

4

A

A



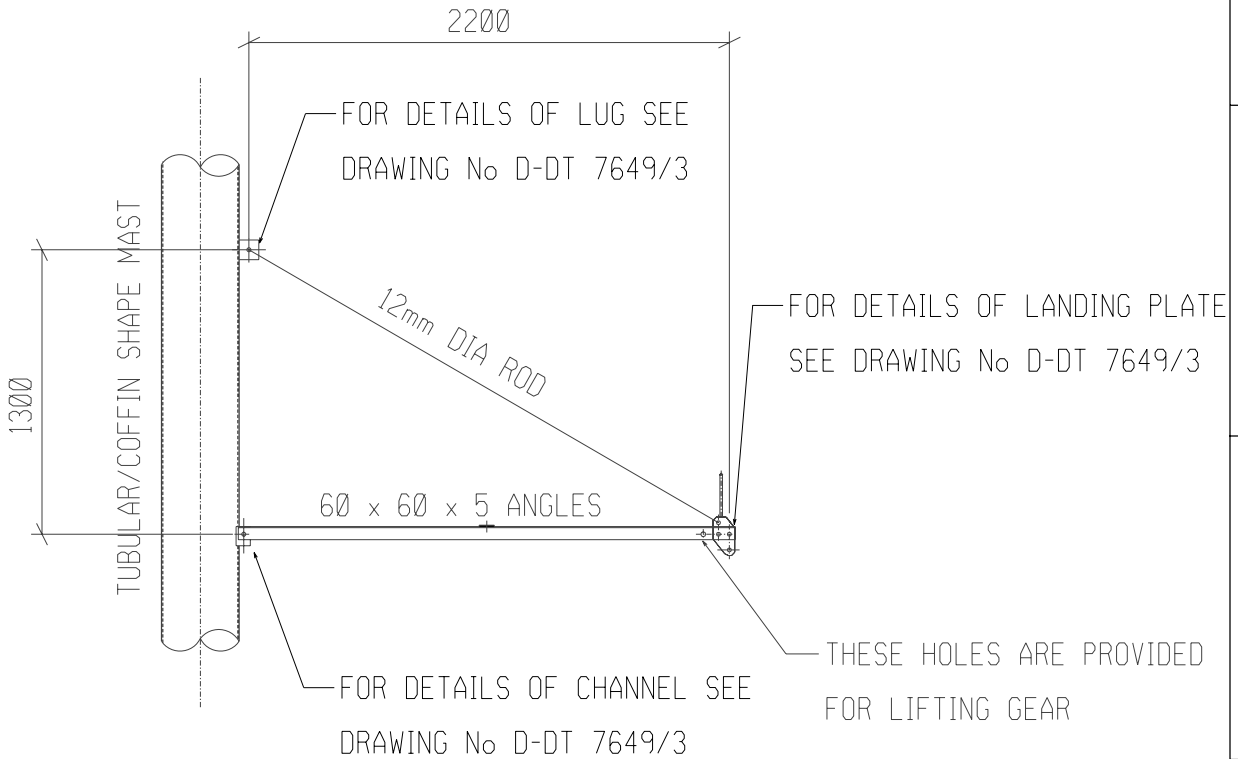
B

B

PLAN ON CROSS ARM ANGLES

C

C



D

D

ELEVATION ON CROSS ARM

NOTE:
ALL BOLTS USED TO BE
M16 GRADE 8.8 BOLTS

E

E

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
---	-----	---	---	---	--/--/---	-----
---	-----	---	---	---	--/--/---	-----

F

F

<p>Eskom Distribution</p> <p>AUTH: A. BEKKER</p> <p>DATE: JULY 2002</p> <p>CHKD: B. BRANFIELD</p> <p>DATE: JUNE 2002</p> <p>DRAWN: S. LE ROUX</p> <p>DATE: JUNE 2002</p>	<p>DISTRIBUTION TECHNOLOGY</p> <p>RETICULATION/SUB-TRANSMISSION LINES</p> <p>SINGLE CIRCUIT GUYED INTERMEDIATE</p> <p>STEEL POLE - LAYOUT OF CROSS ARM</p>						
	D-DT 7641				SET	SHEET	REVISION
					4	2	A

1

2

3

4 A4L

1

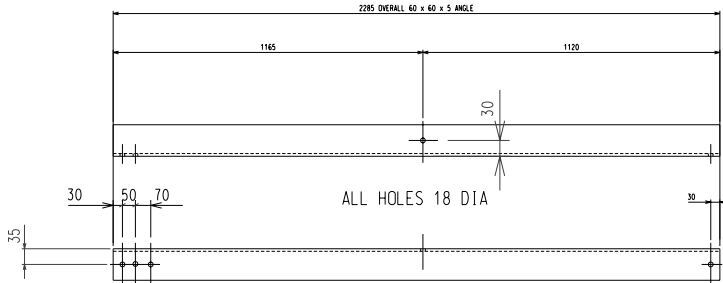
2

3

4

A

A

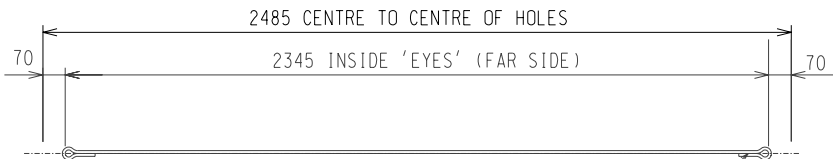


ONE ANGLE REQUIRED AS DRAWN
ONE ANGLE REQUIRED TO OPP HAND

NOTE:
ALL BOLTS USED
TO BE M16 GRADE
8.8 BOLTS

B

B

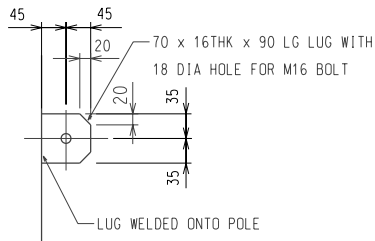


DETAIL OF 12mm DIA ROD

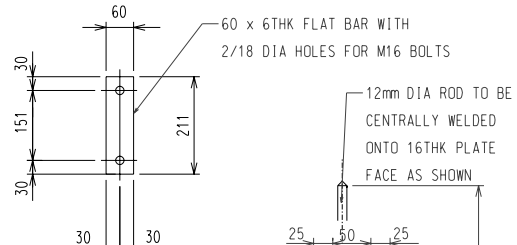
6mm FILLET WELD

C

C



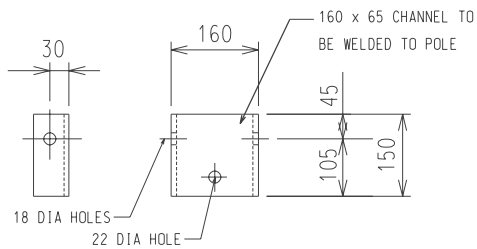
DETAIL OF LUG 'L1'



DETAIL OF PLATE 'P1'

D

D



DETAIL OF CHANNEL CONNECTION

100 x 16THK x 175LG LANDING
PLATE WITH 18 DIA HOLES FOR
M16 BOLTS

DETAIL OF LANDING PLATE

E

E

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
---	-----	---	---	---	---/---/---	-----
---	-----	---	---	---	---/---/---	-----

F

F



AUTH: A. BEKKER

DATE: JULY 2002

CHKD: B. BRANFIELD

DATE: JUNE 2002

DRAWN: S. LE ROUX

DATE: JUNE 2002

DISTRIBUTION TECHNOLOGY
RETICULATION/SUB-TRANSMISSION LINES
SINGLE CIRCUIT GUYED INTERMEDIATE
STEEL POLE - X-ARM FABRICATION DRAWING

D-DT 7641

SET	SHEET	REVISION
-----	-------	----------

4	3	A
---	---	---

1

2

3

4 A4L

1

2

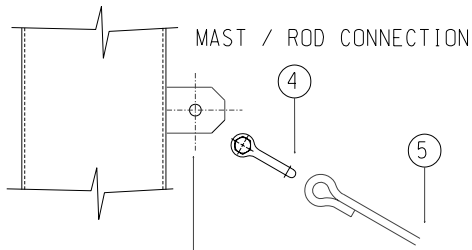
3

4

MASS OF CROSS ARM:
 ANGLES (Total) = 20 kg
 CONNECTIONS/PLATES = 10 kg
 BOLTS = 1 kg

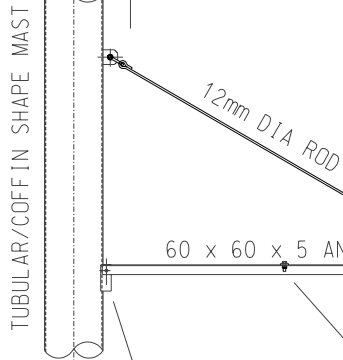
A

A

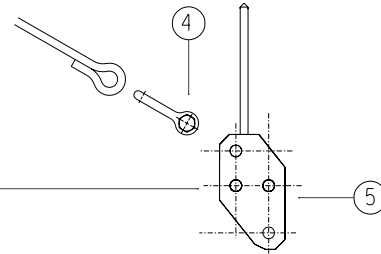


B

B

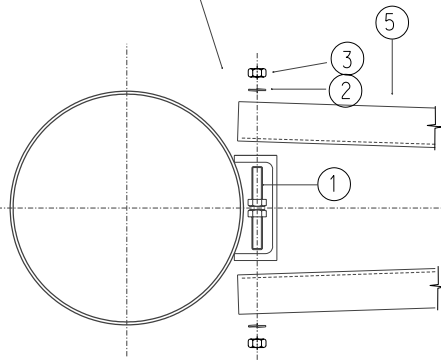


ROD / LANDING PLATE CONNECTION

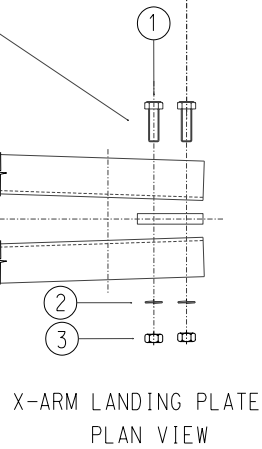
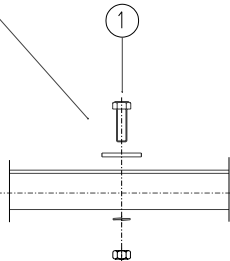


C

C



X-ARM STIFFENER PLATE
SIDE VIEW



D

D

REF	DESCRIPTION	DRAWING NO.
1	SET SCREW, M16 x 50 LG GRADE 8.8	
2	WASHER, SPRING, M16	
3	NUT, M16	
4	SHACKLE, D 120KN	D-DT 7017
5	SUSP. ARM ASSEMB, 132KV	

E

E

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
---	---	---	---	---	---	---
---	---	---	---	---	---	---

F

F

Eskom
Distribution

AUTH: A. BEKKER
 DATE: JULY 2002
 CHKD: B. BRANFIELD
 DATE: JUNE 2002
 DRAWN: S. LE ROUX
 DATE: JUNE 2002

DISTRIBUTION TECHNOLOGY
 RETICULATION/SUB-TRANSMISSION LINES
 SINGLE CIRCUIT GUYED INTERMEDIATE
 STEEL POLE - X-ARM FABRICATION DRAWING

D-DT 7641

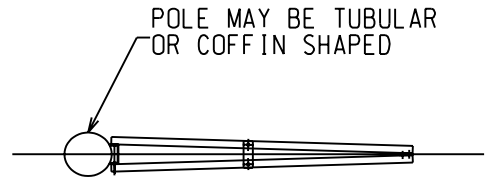
SET	SHEET	REVISION
4	4	A

1

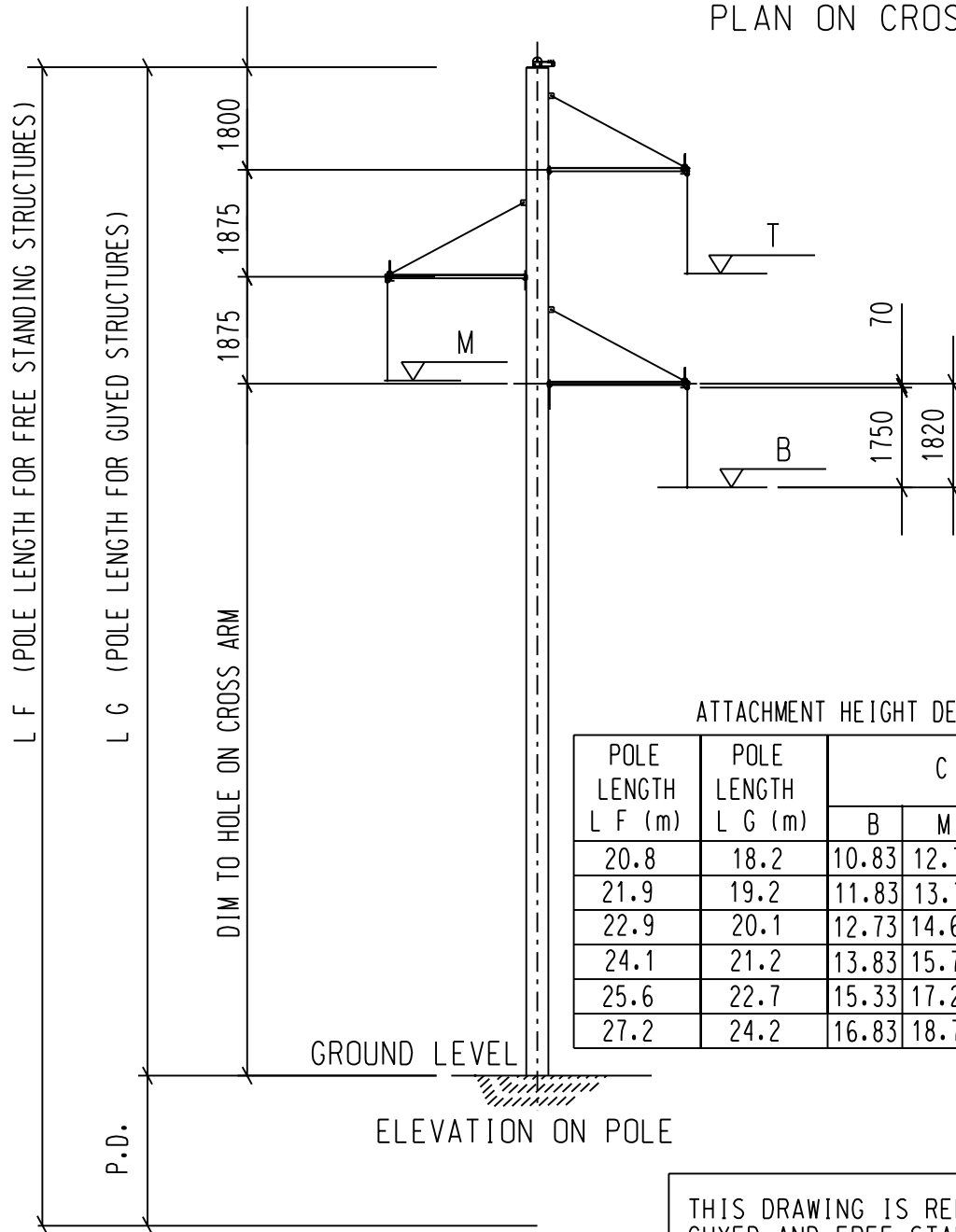
2

3

4 A4L



PLAN ON CROSS ARM ANGLES



ATTACHMENT HEIGHT DETAIL

POLE LENGTH L F (m)	POLE LENGTH L G (m)	C A H (m)				P.D. (m)
		B	M	T	E/W	
20.8	18.2	10.83	12.7	14.58	18.2	2.6
21.9	19.2	11.83	13.7	15.58	19.2	2.7
22.9	20.1	12.73	14.6	16.48	20.1	2.8
24.1	21.2	13.83	15.7	17.58	21.2	2.9
25.6	22.7	15.33	17.2	19.08	22.7	2.9
27.2	24.2	16.83	18.7	20.58	24.2	3.0

THIS DRAWING IS RELEVANT FOR GUYED AND FREE STANDING STRUCTURES

0	AB	15.03 2002	FIRST ISSUE/EERSTE UITREIKING	SLR	RAB		
REV	AUTH MAG	DATE DATUM	REVISION/REVISIES	BY DEUR	CHKD NAGES	D-DT -	REFERENCE DRAWINGS
DRG.TEK REGISTR							
CHKD NAGES	RAB	16.03 2002					
DRAWN GETEKEN	SLR	15.03 2002	APPROVED AB	CAD.REF:			REV
SCALE SKAAL	NTS		26/04/2002	FILE No.:			0

DISTRIBUTION TECHNOLOGY
132KV SUSPENSION X-ARM
GENERAL ARRANGEMENT FOR
SINGLE STEEL POLE STRUCTURE