

POLE AND FOUNDATION STRENGTHS

POLE DATA				POLE STRENGTH		FOUNDATION STRENGTH						DEFLECTION
POLE TYPE (LINE)	LENGTH OF POLE metres	LENGTH IN GROUND metres	MATERIAL SECTION mm	MAX PERMISSIBLE (KN) FORCE AT TOP OF POLE		EQUIVALENT POLE TOP LOADING (KN) - REFER NOTES 2 & 3						DEFLECTION AT TOP OF POLE AT MAX PERMISSIBLE LOAD STRONG DIR. (mm)
				STRONG DIRECTION	WEAK DIRECTION	SOIL GP 1 (GOOD)		SOIL GP 2 (MED)		SOIL GP 3 (POOR)		
						FD D=610	FD D=770	FD D=610	FD D=770	FD D=610	FD D=770	
9A	9.0	1.7	100 X 50 PFC	5.5	1.8	13.7	17.2	8.9	11.4	4.4	5.5	198
9B	9.0	1.7	150 X 75 PFC	11.1	5.7	13.7	17.2	8.9	11.4	4.4	5.5	130
9C	9.0	1.7	200 X 75 PFC	14.5	9.7	13.7	17.2	8.9	11.4	4.4	5.5	132
10.5A	10.5	1.8	100 X 50 PFC	5.3	1.5	13.7	17.2	8.9	11.4	4.4	5.5	300
10.5B	10.5	1.8	150 X 75 PFC	10.7	4.7	13.7	17.2	8.9	11.4	4.4	5.5	218
10.5C	10.5	1.8	200 X 75 PFC	14.0	8.1	13.7	17.2	8.9	11.4	4.4	5.5	220
10.5D	11.85	3.15	250 X 90 PFC	32.5	14.5	-	83.6	-	54.2	-	27.1	109
12B	12.0	2.0	150 X 75 PFC	10.5	4.1	16.6	20.9	11.0	13.9	5.5	6.9	267
12C	12.0	2.0	200 X 75 PFC	13.7	7.1	16.6	20.9	11.0	13.9	5.5	6.9	269
12D	13.15	3.15	250 X 90 PFC	28.8	12.6	-	75.2	-	48.8	-	24.4	139
13.5B	13.5	2.1	150 X 75 PFC	11.5	3.6	16.9	21.5	11.1	14.0	5.5	6.9	338
13.5C	13.5	2.1	200 X 75 PFC	14.9	6.2	16.9	21.5	11.1	14.0	5.5	6.9	339
13.5D	14.55	3.15	250 X 90 PFC	25.7	11.1	-	67.8	-	44	-	22	176
16.5	16.5	3.15	250 X 90 PFC	21.6	10.1	-	58.1	-	38.3	-	19.3	278
SERVICE	9.1	1.7	100NB X 4.5TH	0.66	0.66	D=230 3.8	-	D=230 2.5	-	D=230 1.2	-	
SERVICE A	9.1	1.8	114.3X4.5 CHS	0.9	0.9	5.8	-	3.9	-	1.9	-	249
SERVICE B	7.6	1.6	114.3X4.5 CHS	1.1	1.1	4.9	-	3.2	-	1.6	-	169
STREET LIGHT	9.1	1.7	150NB X 4.9TH	1.7	1.7	D=450 7.5	-	D=450 5.0	-	D=450 2.5	-	
STREET LIGHT 'B'	10.7	1.7	150NB X 4.9TH	1.07	1.07	8.2	10.5	5.5	7	2.73	3.5	
STREET LIGHT 'C'	10.7	1.7	150NB X 4.9TH	4.9	4.9							
13.5 UC	13.5	2.0	150 UC 37	4.3	1.9	14.3	-	9.5	-	4.7	-	491

WIND LOADS

POLE DATA	
WIND LOAD ON POLE AT TOP (N) @1200 MPa	
STRONG DIRECTION	WEAK DIRECTION
438	534
657	732
876	732
522	652
783	893
1044	893
1305	1380
900	1037
1280	1037
1500	1653
1026	1287
1368	1287
1710	1730
2003	1869
501	501
411	411
1063	1118

CROSSARM STRENGTHS AND DEFLECTION

CROSSARM DATA			CROSSARM STRENGTH		DEFLECTION
CROSSARM TYPE	STOCK CODE	MATERIAL SECTION (mm)	MAX PERMISSIBLE FORCE AT THE END OF CROSSARM (KN)		DEFLECTION AT MAX FORCE (mm)
			STRONG DIRECTION	WEAK DIRECTION	STRONG DIRECTION
ITEM 1 - SERVICE	9589	125 X 65 PFC	9.8	3.6	4.0
ITEM 2 - SERVICE	9571	125 X 65 PFC	9.4	3.0	7.2
ITEM 3 - SERVICE	9555	100 X 50 PFC	11.0	3.3	2.1
11/22 KV STANDARD	9597	125 X 65 PFC	10.5	3.3	2.1
22KV TERMINATION	9605	150 X 75 PFC	18.8	5.6	4.9
22KV RURAL	9613	125 X 65 PFC	9.2	2.9	7.5

NOTES:

- SOIL RUPTURE INTENSITY - THE WORST EXPECTED CONDITIONS SHOULD BE USED WHEN ESTIMATING THE STRENGTH OF POLE FOOTINGS FOR SOILS WHICH ARE DEFINED AS FOLLOWS:-
 - * SOIL GROUP 1(GOOD BEARING 300kPa/M)WELL COMPACTED ROCK SOIL, HARD CLAY AND WELL BONDED SAND AND GRAVEL WITH GOOD SURFACE WATER DRAINAGE AND FOOTING NORMALLY ABOVE WATERTABLE.
 - * SOIL GROUP 2(MED. BEARING 200kPa/M)COMPACT MEDIUM CLAY, WELL BONDED SANDY LOAM, BONDED SAND AND GRAVEL WITH REASONABLE SURFACE WATER DRAINAGE.
 - * SOIL GROUP 3(POOR BEARING 100kPa/M)SOFT CLAY, POOR COMPACTED SAND AND SOILS THAT TEND TO ABSORB LARGE AMOUNTS OF WATER, PROVIDED THESE DO NOT DEVELOP INTO SLUSH.
- MAXIMUM PERMISSIBLE POLE TOP FORCE EQUALS 50% OF PERMANENT DEFORMING FORCE (DOES NOT INCLUDE WIND LOADING ON POLE).
- REFER DRAWING S01-04-01-17 FOR USE OF STAYS WHERE DESIGN POLE TOP LOADING EXCEEDS FOOTING OR POLE STRENGTH, AND FOR POLE WIND LOADS.

1	SUPERSEDED	A.T.	DEC'12	B.C.	B.C.
NO	DESCRIPTION	DRN	DATE	CKD	APPD
AMENDMENTS					



DES	M. BOCK	POWER STANDARD DRAWING		
DRN	R. INNES	DESIGN DATA POLES, CROSSARMS & FOUNDATION STRENGTHS		
CKD	M. BOCK			
APPD	F. ROBSON			
SCALE	no scale			
ISSUED	DEC'99	A3	DRAWING NUMBER	S01-04-01-19
ALL DIM.	IN mm			
DRAFTING STANDARD TO A.S.1100			CAD PRODUCT - DO NOT AMEND MANUALLY	

