

## POLES & TIMBERS

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A-38-02	1 - 4	WOOD POLES BY SPECIES DIMENSIONS & MASS	C/C/A/-	
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### *SaskPower* - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. <b>PP</b>	<b>INDEX</b>
<b>L MOEN</b>	<b>P PATEL</b>	CHKD. <b>LM</b>	
		<b>2022-02-17</b>	
DATE OF ISSUE: <b>2022-08-15</b>		DRAWING NO: <b>A-38-INDEX</b>	SHEET <b>1 of 1</b>   REV. <b>T</b>

## POLES & TIMBERS

### POLES

1. THE STANDARD SUPPORT FOR AN OVERHEAD DISTRIBUTION LINE IS A SINGLE WOOD POLE STRUCTURE NORMALLY GUYED FOR DEFLECTIONS AND DEADENDS.
2. WOOD POLES ARE NORMALLY FULL LENGTH TREATED WESTERN RED CEDAR, JACK PINE OR LODGEPOLE PINE PURCHASED ACCORDING TO THE SPC SPECIFICATIONS.
3. TABLES ARE PLACED, AS NEEDED, IN OTHER SECTIONS OF THIS MANUAL FOR SELECTION OF POLE CLASS TO SUIT THE REQUIRED APPLICATION. THESE ARE BASED ON THE STRENGTH OF WESTERN RED CEDAR, SINCE THIS SPECIES HAS THE LEAST STRENGTH FOR A GIVEN CLASS OF THE TYPES PURCHASED.
4. DIMENSIONS FOR POLES GIVEN ON DRAWING A-38-02 ARE MINIMUM VALUES GIVEN BY STANDARDS.

### POLE SETTING & BACKFILLING

1. POLE SETTING DEPTHS ARE GIVEN ON DRAWINGS A-38-02 SHEETS 1 & 2. A TOLERANCE OF  $\pm 0.1\text{m}$  IS ALLOWABLE.
2. HOLE DIAMETERS SHALL BE AS SMALL AS PRACTICAL AND STILL ALLOW TAMPING FOR THE FULL DEPTH OF THE HOLE. THOROUGHLY TAMP THE BACKFILL IN LAYERS USING A TAMPING ROD, OR A POWER TAMPER IF NECESSARY TO CONSOLIDATE THE BACKFILL. REMOVE ANY WATER IN THE HOLE.
3. BACKFILLING IN WINTER SHOULD NOT BE DONE WITH FROZEN LUMPS OF SOIL. IF LUMPS CANNOT BE BROKEN UP BEFORE BACKFILLING, THEN WELL GRADED CRUSHED ROCK (19-35mm SIZE) BACKFILL SHOULD BE USED. DO NOT BACKFILL WITH SNOW OR ICE.
4. WELL GRADED CRUSHED ROCK (19-35mm SIZE) SHOULD BE USED IN AREAS WITH "POOR" SOIL SUCH AS SOFT OR WET CLAY, SANDY SOILS WITH HIGH WATER TABLE OR ANY AREA WITH A HISTORY OF POLE LEANING OR SETTLING.
5. USE WELL GRADED CRUSHED ROCK (19-35mm SIZE) FOR SETTING STRUCTURES FOR UNGUYED DEFLECTIONS.
6. WHEN CRUSHED ROCK IS USED, IT SHOULD BE A MINIMUM RADIAL THICKNESS OF 100mm AROUND THE POLE. ALSO, IT IS IMPERATIVE THAT THE AREA, FROM GROUND LINE TO 600mm DOWN, IS SOIL TO ALLOW FUTURE TESTING OF POLE AND TO REDUCE POLE DECAY.
7. ON SLOPES OR HILLSIDES THE DEPTH OF THE HOLE SHALL BE MEASURED FROM THE LOWEST SIDE OF THE OPENING.
8. CHECK FOR BURIED FACILITIES BEFORE DRILLING FOR NEW OR RELOCATED POLES OR SETTING ANCHORS.
9. POLES SHOULD BE SET A MINIMUM OF 10m FROM PLANNED OR EXISTING CULVERTS TO ALLOW IMPROVED OPERATION OF MACHINERY IN THE RIGHT OF WAY.

<b>SaskPower</b> - DISTRIBUTION STANDARDS				
	APPROVAL	DESIGN CHK	DRN.	<b>GENERAL INFORMATION</b>
			CHKD.	
	DATE OF ISSUE: <b>2011-04-01</b>		DRAWING NO: <b>A-38-00</b>	<b>SHEET 1 of 2</b>
				<b>REV. B</b>

**CROSSARMS**

- 1. TANGENT CROSSARMS ARE NORMAL 4" x 5" x 10' (CODE 1 29 10) LAMINATED FIR. ACTUAL DIMENSIONS OF THE FIR ARM ARE SLIGHTLY LARGER THAN THE LAMINATED ARM.
- 2. DEADEND CROSSARM ARMS ARE NOMINAL 6" x 6" x 9' (CODE 1 29 39) LAMINATED FIR. ACTUAL DIMENSIONS OF THE FIR ARM ARE SLIGHTLY LARGER THAN THE LAMINATED ARM.

**MISCELLANEOUS WOOD PRODUCTS**

ALL WOOD PRODUCTS USED IN CONTACT WITH THE EARTH MUST BE TREATED WITH AN APPROVED PRESERVATIVE. IF THE TIMBERS THAT ARE NOT STOCK CODED ARE PLANNED ON BEING USED, FIRST PROVIDE DISTRIBUTION ENGINEERING WITH INFORMATION ON THE PRESERVATIVE TO DETERMINE ITS SUITABILITY.

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<b>SaskPower - DISTRIBUTION STANDARDS</b>			
APPROVAL	DESIGN CHK	DRN.	<b>GENERAL INFORMATION</b>
		CHKD.	
DATE OF ISSUE: <b>2011-04-01</b>		DRAWING NO: <b>A-38-00</b>	<b>SHEET 2 of 2</b>   REV. <b>A</b>

LENGTH m (ft)	CLASS				
	1	2	3	4	5
10.7 (35)	N/A	N/A	N/A	1 62 04	N/A
12.2 (40)	1 63 01	1 63 02	1 63 03	1 63 04	1 63 05
13.7 (45)	1 64 01	1 64 02	1 64 03	1 64 04	1 64 05
15.2 (50)	1 65 01	1 65 02	1 65 03	1 65 04	N/A
16.8 (55)	1 66 01	1 66 02	1 66 03	1 66 04	N/A
18.3 (60)	1 67 01	1 67 02	1 67 03	1 67 04	N/A

**SaskPower** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. <b>JDA</b>	POLES – STOCK CODE NUMBERS
<b>L. MOEN</b>	<b>J. ARSENAULT</b>	CHKD. <b>LM</b>	
		<b>2019-02-21</b>	
DATE OF ISSUE: <b>2020/02/12</b>		DRAWING NO: <b>A-38-01</b>	<b>SHEET 1 of 1</b>   REV. <b>C</b>

POLE LENGTH m (ft)	POLE CLASS	SETTING DEPTH m	MINIMUM DIAMETER - mm			CHANGE OF DIAMETER mm/m OF POLE HEIGHT	POLE MASS kg
			POLE TOP	GROUND LINE	POLE BUTT		
9.1 (30)	5	1.7	153	243	264	12.2	170
9.1 (30)	4	1.7	169	266	288	13.1	194
9.1 (30)	3	1.7	185	285	308	13.5	227
10.7 (35)	5	1.8	153	261	283	12.2	219
10.7 (35)	4	1.8	169	280	303	12.5	249
10.7 (35)	3	1.8	185	306	330	13.6	288
10.7 (35)	2	1.8	204	325	349	13.6	330
10.7 (35)	1	1.8	220	344	369	13.9	376
12.2 (40)	5	1.8	153	277	298	11.9	273
12.2 (40)	4	1.8	169	296	318	12.2	306
12.2 (40)	3	1.8	185	321	345	13.2	352
12.2 (40)	2	1.8	204	344	368	13.5	408
12.2 (40)	1	1.8	220	366	391	14.1	464
13.7 (45)	5	2.0	153	290	314	11.8	330
13.7 (45)	4	2.0	169	310	334	12.0	370
13.7 (45)	3	2.0	185	335	361	12.8	424
13.7 (45)	2	2.0	204	357	383	13.1	485
13.7 (45)	1	2.0	220	382	410	13.9	555
15.2 (50)	5	2.1	153	302	326	11.4	395
15.2 (50)	4	2.1	169	321	346	11.6	435
15.2 (50)	3	2.1	185	350	376	12.6	498
15.2 (50)	2	2.1	204	372	399	12.8	577
15.2 (50)	1	2.1	220	397	425	13.5	657
16.8 (55)	5	2.3	153	310	335	10.8	470
16.8 (55)	4	2.3	169	335	361	11.5	512
16.8 (55)	3	2.3	185	360	388	12.1	579
16.8 (55)	2	2.3	204	385	414	12.5	664
16.8 (55)	1	2.3	220	410	441	13.2	759
18.3 (60)	4	2.4	169	347	373	11.2	589
18.3 (60)	3	2.4	185	369	396	11.6	659
18.3 (60)	2	2.4	204	397	426	12.2	757
18.3 (60)	1	2.4	220	425	456	12.9	867

**EXAMPLE:** CALCULATION OF THE MINIMUM DIAMETER 1.1m BELOW POLE TOP FOR 9.1m / 5 POLE  
 $D = 153(\text{mm}) + 1.1(\text{m}) \times 12.2 (\text{mm/m}) = 166.4 (\text{mm})$

**SASKPOWER - DISTRIBUTION STANDARDS**

APPROVAL <b>L MOEN</b>	DESIGN CHK <b>S JEAN</b>	DRN. <b>SJ</b> CHKD. <b>LM</b> <b>2021-10-27</b>	<b>WESTERN RED CEDAR POLES DIMENSION &amp; MASS</b>
DATE OF ISSUE: <b>2022-01-10</b>		DRAWING NO: <b>A-38-02</b>	
		<b>SHEET 1 OF 4</b>	<b>REV. C</b>

POLE LENGTH m (ft)	POLE CLASS	SETTING DEPTH m	MINIMUM DIAMETER - mm			CHANGE OF DIAMETER mm/m OF POLE HEIGHT	POLE MASS kg
			POLE TOP	GROUND LINE	POLE BUTT		
9.1 (30)	5	1.7	153	237	256	11.3	225
9.1 (30)	4	1.7	169	256	276	11.8	272
9.1 (30)	3	1.7	185	278	300	12.6	309
10.7 (35)	5	1.8	153	251	271	11.1	299
10.7 (35)	4	1.8	169	271	291	11.4	352
10.7 (35)	3	1.8	185	293	315	12.2	406
10.7 (35)	2	1.8	204	312	334	12.2	472
10.7 (35)	1	1.8	220	337	361	13.2	537
12.2 (40)	5	1.8	153	267	287	11.0	372
12.2 (40)	4	1.8	169	286	307	11.3	426
12.2 (40)	3	1.8	185	309	330	11.9	494
12.2 (40)	2	1.8	204	331	353	12.2	572
12.2 (40)	1	1.8	220	357	380	13.2	644
13.7 (45)	5	2.0	153	278	299	10.7	441
13.7 (45)	4	2.0	169	297	319	11.0	508
13.7 (45)	3	2.0	185	322	346	11.8	581
13.7 (45)	2	2.0	204	345	369	12.0	671
13.7 (45)	1	2.0	220	370	396	12.8	780
15.2 (50)	5	2.1	153	290	312	10.5	538
15.2 (50)	4	2.1	169	312	335	10.9	590
15.2 (50)	3	2.1	185	337	362	11.6	676
15.2 (50)	2	2.1	204	362	388	12.1	771
15.2 (50)	1	2.1	220	385	411	12.6	907
16.8 (55)	5	2.3	153	300	324	10.2	599
16.8 (55)	4	2.3	169	323	347	10.6	676
16.8 (55)	3	2.3	185	348	374	11.2	771
16.8 (55)	2	2.3	204	370	396	11.5	898
16.8 (55)	1	2.3	220	395	423	12.1	1043
18.3 (60)	4	2.4	169	334	359	10.4	762
18.3 (60)	3	2.4	185	359	386	11.0	880
18.3 (60)	2	2.4	204	382	408	11.2	1034
18.3 (60)	1	2.4	220	410	439	12.0	1211

**EXAMPLE:** CALCULATION OF THE MINIMUM DIAMETER 1.1m BELOW POLE TOP FOR 9.1m / 5 POLE  
 $D = 153(\text{mm}) + 1.1(\text{m}) \times 11.3(\text{mm/m}) = 165.4(\text{mm})$

**SASKPOWER - DISTRIBUTION STANDARDS**

APPROVAL <b>L MOEN</b>	DESIGN CHK <b>S JEAN</b>	DRN. <b>SJ</b> CHKD. <b>LM</b> <b>2021-10-27</b>	<b>JACK &amp; LODGEPOLE PINE POLES DIMENSIONS &amp; MASS</b>
DATE OF ISSUE: <b>2022-01-10</b>		DRAWING NO: <b>A-38-02</b>	
		<b>SHEET 2 OF 4</b>	<b>REV. C</b>

POLE LENGTH m (ft)	POLE CLASS	SETTING DEPTH m	MINIMUM DIAMETER - mm			CHANGE OF DIAMETER mm/m OF POLE HEIGHT	POLE MASS kg
			POLE TOP	GROUND LINE	POLE BUTT		
9.1 (30)	5	1.7	153	237	256	11.3	250
9.1 (30)	4	1.7	169	256	276	11.8	296
9.1 (30)	3	1.7	185	278	300	12.6	347
10.7 (35)	5	1.8	153	251	271	11.1	325
10.7 (35)	4	1.8	169	271	291	11.4	379
10.7 (35)	3	1.8	185	293	315	12.2	439
10.7 (35)	2	1.8	204	312	334	12.2	508
10.7 (35)	1	1.8	220	337	361	13.2	595
12.2 (40)	5	1.8	153	267	287	11.0	401
12.2 (40)	4	1.8	169	286	307	11.3	461
12.2 (40)	3	1.8	185	309	330	11.9	533
12.2 (40)	2	1.8	204	331	353	12.2	617
12.2 (40)	1	1.8	220	357	380	13.2	717
13.7 (45)	5	2.0	153	278	299	10.7	508
13.7 (45)	4	2.0	169	297	319	11.0	550
13.7 (45)	3	2.0	185	322	346	11.8	630
13.7 (45)	2	2.0	204	345	369	12.0	726
13.7 (45)	1	2.0	220	370	396	12.8	842
15.2 (50)	5	2.1	153	290	312	10.5	544
15.2 (50)	4	2.1	169	312	335	10.9	639
15.2 (50)	3	2.1	185	337	362	11.6	731
15.2 (50)	2	2.1	204	362	388	12.1	836
15.2 (50)	1	2.1	220	385	411	12.6	982
16.8 (55)	5	2.3	153	300	324	10.2	636
16.8 (55)	4	2.3	169	323	347	10.6	731
16.8 (55)	3	2.3	185	348	374	11.2	835
16.8 (55)	2	2.3	204	370	396	11.5	974
16.8 (55)	1	2.3	220	395	423	12.1	1129
18.3 (60)	4	2.4	169	334	359	10.4	831
18.3 (60)	3	2.4	185	359	386	11.0	951
18.3 (60)	2	2.4	204	382	408	11.2	1118
18.3 (60)	1	2.4	220	410	439	12.0	1310

**EXAMPLE:** CALCULATION OF THE MINIMUM DIAMETER 1.1m BELOW POLE TOP FOR 9.1m / 5 POLE  
 $D = 153(\text{mm}) + 1.1(\text{m}) \times 11.3 (\text{mm/m}) = 165.4 (\text{mm})$

**SASKPOWER - DISTRIBUTION STANDARDS**

APPROVAL <b>L MOEN</b>	DESIGN CHK <b>S JEAN</b>	DRN. <b>SJ</b> CHKD. <b>LM</b> <b>2021-10-27</b>	<b>RED PINE WOOD POLES DIMENSIONS &amp; MASS</b>
DATE OF ISSUE: <b>2022-01-10</b>		DRAWING NO: <b>A-38-02</b>	
		<b>SHEET 3 OF 4</b>	<b>REV. A</b>

POLE LENGTH m (ft)	POLE CLASS	SETTING DEPTH m	MINIMUM DIAMETER - mm			CHANGE OF DIAMETER mm/m OF POLE HEIGHT	POLE MASS kg
			POLE TOP	GROUND LINE	POLE BUTT		
9.1 (30)	5	1.7					
9.1 (30)	4	1.7					
9.1 (30)	3	1.7					
10.7 (35)	5	1.8					
10.7 (35)	4	1.8					
10.7 (35)	3	1.8					
10.7 (35)	2	1.8					
10.7 (35)	1	1.8					
12.2 (40)	5	1.8					
12.2 (40)	4	1.8					
12.2 (40)	3	1.8					
12.2 (40)	2	1.8					
12.2 (40)	1	1.8					
13.7 (45)	5	2.0					
13.7 (45)	4	2.0					
13.7 (45)	3	2.0					
13.7 (45)	2	2.0					
13.7 (45)	1	2.0					
15.2 (50)	5	2.1					
15.2 (50)	4	2.1					
15.2 (50)	3	2.1					
15.2 (50)	2	2.1					
15.2 (50)	1	2.1					
16.8 (55)	5	2.3					
16.8 (55)	4	2.3					
16.8 (55)	3	2.3					
16.8 (55)	2	2.3					
16.8 (55)	1	2.3					
18.3 (60)	4	2.4					
18.3 (60)	3	2.4					
18.3 (60)	2	2.4					
18.3 (60)	1	2.4					

**EXAMPLE:** CALCULATION OF THE MINIMUM DIAMETER 1.1M BELOW POLE TOP FOR 9.1m / 5 POLE  
 $D = 154(\text{mm}) + 1.1(\text{m}) \times 12.1(\text{mm/m}) = 167.3(\text{mm})$

**SASKPOWER - DISTRIBUTION STANDARDS**

APPROVAL

DESIGN CHK

DRN. **QS**

**L MOEN**

**Q. SUN**

CHKD. **LM**

**FUTURE WOOD SPECIES**

**2018-03-13**

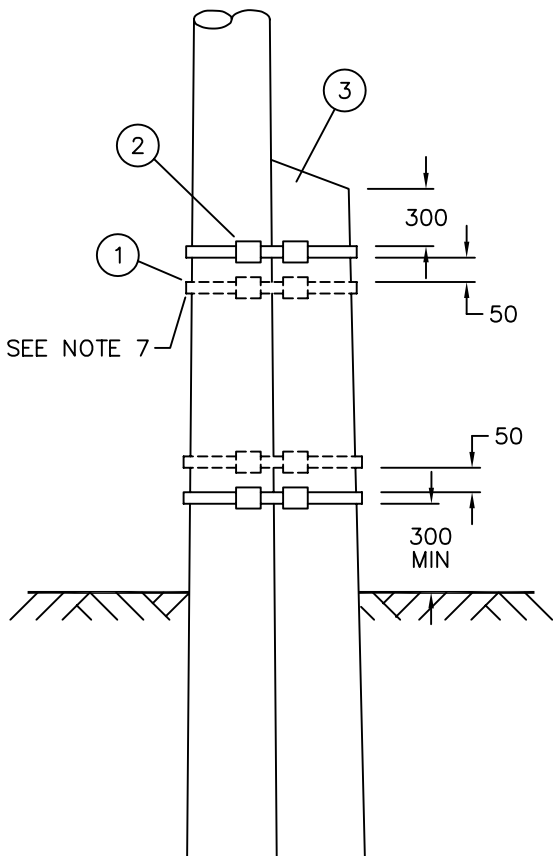
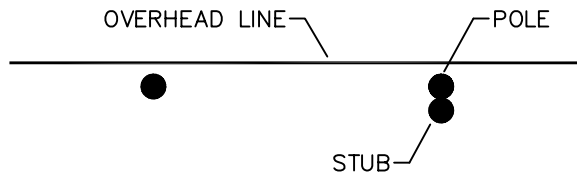
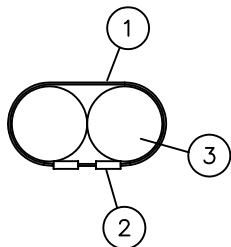
DATE OF ISSUE: **2022-01-10**

DRAWING NO: **A-38-02**

**SHEET 4 OF 4**

REV. -





NO.	QUANTITY		CODE NO.	DESCRIPTION
	A	B		
1	2	4	1-03-25	STRAPPING GALVANIZED 2" x .05" x 7'-0"
2	4	8	1-79-00	SEALS CRIMP DOUBLE
3	1	1	1-8X-XX	STUB POLE(SEE NOTE 1)
A - FOR TANGENT STRUCTURE B - FOR CORNER STRUCTURE				

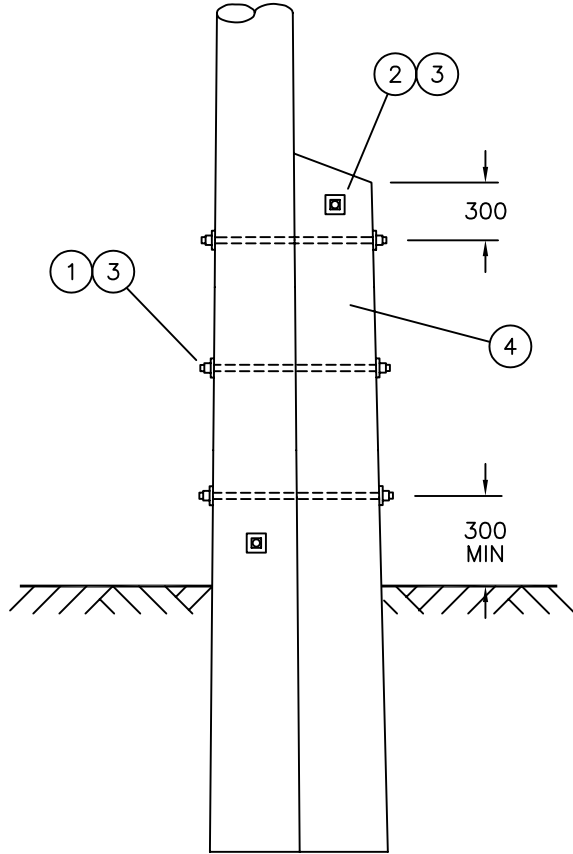
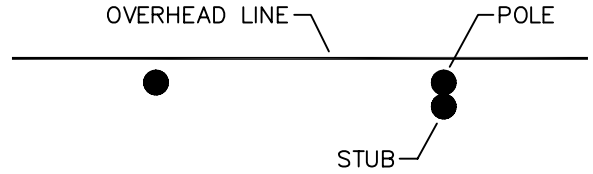
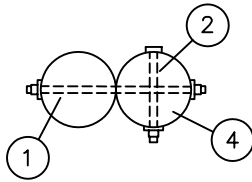
NOTE:

1. SEE DRAWING A-38-04 FOR STUB SIZES.
2. STUBS SHALL BE POSITIONED ACROSS LINE.
3. ON TWO POLE STRUCTURES PUT STUBS ON THE OUTSIDE.
4. BOTTOM BAND MUST BE ABOVE ROTTED PORTION.
5. SEAL HAS TO COVER END OF BANDS.
6. SET SAME DEPTH LENGTH OF STUB AS FOR ORIGINAL POLE.
7. TWO SETS OF BANDS TO BE USED AT CORNER STRUCTURE.
8. THE FOLLOWING POLES ARE NOT TO BE STUBBED:  
 TRANSFORMER, OCR, FUSE, TAP-OFF, SWITCHES, DISCONNECTS,  
 RAILROAD OR PIPELINE CROSSINGS AND DEADENDS.

SCALE: N.T.S. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED

SASKATCHEWAN POWER CORP. - DISTRIBUTION ENGINEERING STANDARDS

DRN. <i>B</i>	DESIGN CHK.	SAFETY APP.	APPROVAL	POLE STUBBING - PREFERRED METHOD
CHKD. <i>FTK</i>	DATE	DATE	DATE	
DATE 86-11-24	DATE	DATE	DATE	
DATE OF ISSUE 87-02-01	DRAWING NO. A-38-03		SHEET 1 OF 2	REV. 0



NO.	QUAN.	CODE NO.	DESCRIPTION
1	3	1-09-2X	BOLT D.A. 5/8" (LENGTH AS REQ'D)
2	2	1-13-14	BOLT MACHINE 5/8" x 14"
3	10	1-93-42	WASHER 2 1/4" x 2 1/4"
4	1	1-8X-XX	STUB POLE (SEE NOTE 1)

NOTE:

1. SEE DRAWING A-38-04 FOR STUB SIZES.
2. USE ON TANGENT STRUCTURES ONLY.
3. STUBS SHALL BE POSITIONED ACROSS LINE.
4. ON TWO POLE STRUCTURES PUT STUBS ON THE OUTSIDE.
5. BOTTOM BOLT MUST BE ABOVE ROTTED PORTION.
6. SET SAME DEPTH LENGTH OF STUB AS FOR ORIGINAL POLE.

SCALE: N.T.S. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED

SASKATCHEWAN POWER CORP. - DISTRIBUTION ENGINEERING STANDARDS

DRN. <i>B</i>	DESIGN CHK.	SAFETY APP.	APPROVAL	POLE STUBBING - EMERGENCY METHOD
CHKD. <i>FTK</i>	DATE	DATE	DATE	
DATE 86-11-25	DATE	DATE	DATE	
DATE OF ISSUE 87-02-01	DRAWING NO. A-38-03		SHEET 2 OF 2	REV. 0

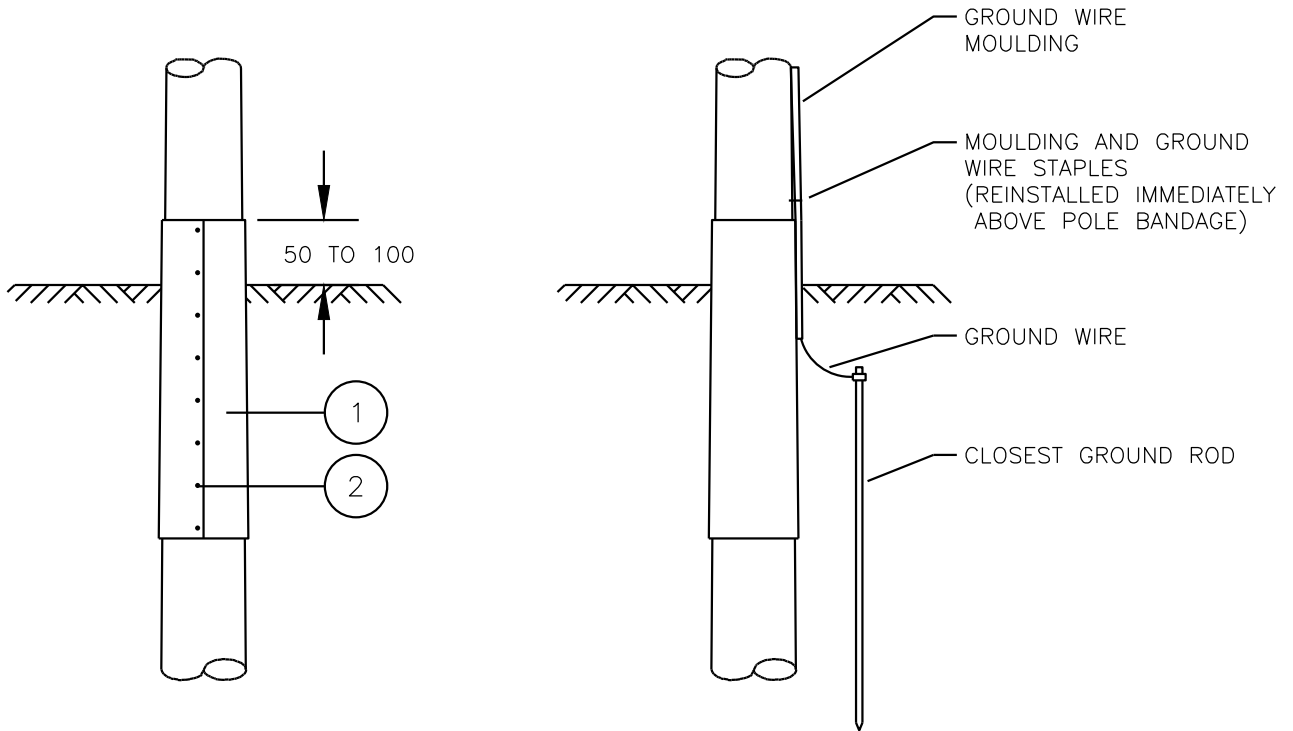
STUB SIZING CHART

POLE CLASS	POLE LENGTH (m)						
	9.1	10.7	12.2	13.7	15.2	16.8	18.3
1				1-89-13	1-89-13	1-89-15	1-89-19
2				1-89-13	1-89-13	1-89-15	1-89-19
3			1-88-11	1-88-13	1-88-13	1-88-15	1-88-19
4		1-88-11	1-88-11	1-88-13	1-88-13		
5		1-87-11	1-87-11	1-88-13			
6	1-87-11	1-87-11					

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SASKATCHEWAN POWER CORP. – DISTRIBUTION ENGINEERING STANDARDS

DRN. <i>B</i>	DESIGN CHK.	SAFETY APP.	APPROVAL	POLE STUB SELECTION CHARTS
CHKD. <i>FTK</i>				
DATE 86-11-24	DATE	DATE	DATE	
DATE OF ISSUE 87-02-01	DRAWING NO. A-38-04		SHEET 1 OF 1	REV. 0



ITEM	CODE NO.	QTY.	DESCRIPTION	POLE CLASS/LENGTH
1	10 137 036	1 EA/POLE	POLE WRAP-36"	5/35', 5/40', 5/45'
1	10 137 042	1 EA/POLE	POLE WRAP-42"	4/40', 4/45'
2	PURCHASE LOCALLY	8 EA/POLE	ROOFING NAIL-1 1/2"	ALL

NOTES:

1. ALL RE-USABLE SALVAGED POLES SHALL BE TREATED.

SCALE: N.T.S. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE INDICATED

APPROVED FOR CONSTRUCTION

**SaskPower** – DISTRIBUTION STANDARDS

APPROVAL L.MOEN	DESIGN CHK. B.GEBHART	DRN.D.REDEKOPP CHKD. 2019-09-04	EXTERIOR TREATMENT OF POLES	
DATE OF ISSUE	2020-12-18	DRAWING NO. A-38-05		

**BILL OF MATERIAL**

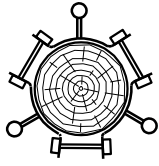
ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	1 01 28	4	ROCK ANCHOR – VERTICAL
2	1 01 29	1/2 KIT	GROUT – 2 COMPONENT (W/SUB ZERO)
3	5 640 002	1	TRI ANCHOR ROCK SET SIGNS
			<p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>1. THIS BOM CONTAINS MATERIAL FOR THE TYPICAL 4 ANCHOR INSTALLATION.</li> <li>2. ADD 1 ANCHOR AND 1/10 KIT OF GROUT FOR THE 5 ANCHOR INSTALLATION AND REMOVE THOSE SAME QUANTITIES FOR THE 3 ANCHOR INSTALLATION.</li> <li>3. DOES NOT INCLUDE POLE.</li> </ol>

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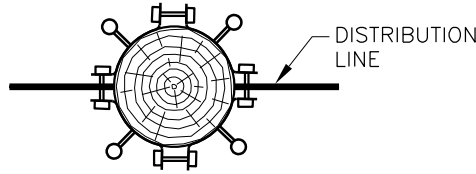
**SaskPower - DISTRIBUTION STANDARDS**

APPROVAL <b>L MOEN</b>	DESIGN CHK <b>P PATEL</b>	DRN. <b>PP</b> CHKD. <b>LM</b>	<b>POLE ROCK SETS</b>
		<b>2021-06-22</b>	
DATE OF ISSUE: <b>2022-01-10</b>		DRAWING NO: <b>A-38-06</b>	<b>SHEET 1 OF 3</b>   REV. <b>D</b>

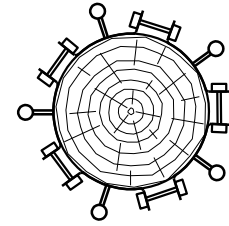
VERTICAL (SPA-2V) POLE ROCK SET



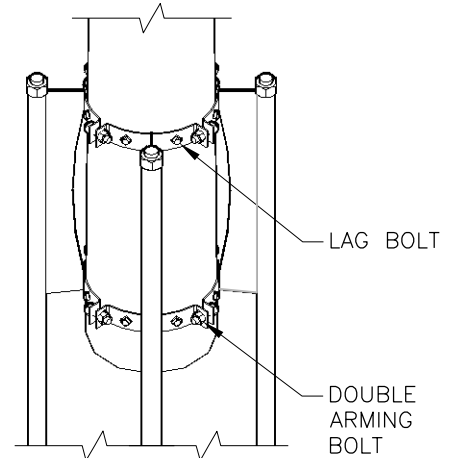
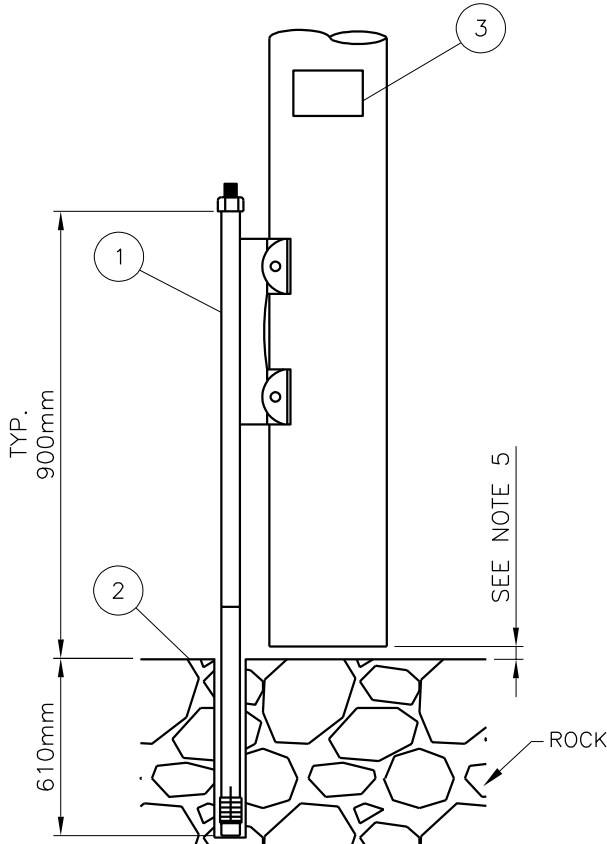
3 ANCHOR CONFIGURATION



4 ANCHOR CONFIGURATION



5 ANCHOR CONFIGURATION



ISOMETRIC  
N.T.S.

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INSTALLATION CONSIDERATIONS

1. USE APPROPRIATE TEMPLATE FOR DRILLING OF HOLES. THE TEMPLATE STOCK CODES ARE:  
 DISTRIBUTION: 3 ANCHOR TEMPLATE - 1 01 21  
 4 ANCHOR TEMPLATE - 1 01 22  
 5 ANCHOR TEMPLATE - 1 01 23
2. EACH ANCHOR LEG INCLUDES 4 LAG BOLTS AND 2 DOUBLE ARMING BOLTS.
3. AFTER ANCHOR IS INSTALLED, HOLE IN ROCK TO BE SEALED WITH GROUT TO PREVENT WATER INGRESS AND ICE DAMAGE. TWO COMPONENT GROUT PACKAGE (1 01 29) INCLUDES SUB-ZERO COMPONENT FOR INSTALLATION AT TEMPERATURES BELOW -10°C DOWN TO -25°C. INSTALLATION SHALL NOT BE PERFORMED AT TEMPERATURES BELOW -25°C.
4. FOLLOW RECOMMENDATIONS OF ANCHOR AND GROUT MANUFACTURERS DURING INSTALLATION.
5. MAX ALLOWABLE GAP AT ANY POINT BETWEEN POLE BASE AND ROCK FACE IS 76mm. THE POLE MUST REST ON THE ROCK AT SOME POINT. IF FOR SOME REASON THIS CANNOT BE ACHIEVED, SOME POINT OF THE POLE BASE MUST BE WITHIN AT LEAST 19mm OF THE ROCK FACE.

<b>SaskPower</b> – DISTRIBUTION STANDARDS					
APPROVAL	DESIGN CHK.	DRN. D.REDEKOPP	POLE ROCK SETS		
L.MOEN	P.PATEL	CHKD.			
		2022-02-15			
DATE OF ISSUE	2022-08-15	DRAWING NO.	A-38-06	SHEET 2 of 3	REV. D

**CONVERSION TABLE OF ROCK SET POLES AND DIRECT BURIAL POLES**

<b>ROCK SET POLES (SPA-2V) AND DIRECT BURIAL POLES CONVERSION TABLE</b>					
<b>DIRECT BURIAL POLES</b>		<b>ROCK SETS POLES (SPA-2V)</b>			
		<b>SAME LENGTH (UNCUT POLE)</b>		<b>TOP CUT BACK 5'</b>	
(CLASS/ LENGTH)	REQUIRED MIN POLE BUTT CIRCUMFERENCE	(CLASS/ LENGTH)	# OF ROCK ANCHOR	(CLASS/ LENGTH)	# OF ROCK ANCHOR
ft (meter)	in (meter)	ft (meter)	#	ft (meter)	#
1/35 (10.7)	44.5 (1.13)	N/A	N/A	1/35 (10.7)	4/5
2/35 (10.7)	41.6 (1.06)	1/30 (9.1)	4	1/35 (10.7)	4
3/35 (10.7)	38.8 (0.99)	2/30 (9.1)	4	2/35 (10.7)	4
4/35 (10.7)	36.1 (0.92)	3/30 (9.1)	3/4	4/35 (10.7)	3/4
5/35 (10.7)	33.3 (0.85)	4/30 (9.1)	3/4	5/35 (10.7)	3/4
1/40 (12.2)	47.0 (1.19)	<b>H2/35 (10.7)*</b>	4/5	H1/40 (12.2)	4/5
2/40 (12.2)	44.1 (1.12)	1/35 (10.7)	4/5	1/40 (12.2)	4/5
3/40 (12.2)	41.1 (1.04)	2/35 (10.7)	4	2/40 (12.2)	4
4/40 (12.2)	38.2 (0.97)	3/35 (10.7)	4	3/40 (12.2)	4
5/40 (12.2)	35.3 (0.90)	4/35 (10.7)	3/4	5/40 (12.2)	3/4
1/45 (13.7)	49.2 (1.25)	H1/40 (12.2)	5	1/45 (13.7)	5
2/45 (13.7)	46.0 (1.17)	1/40 (12.2)	4/5	1/45 (13.7)	4/5
3/45 (13.7)	42.9 (1.09)	2/40 (12.2)	4/5	2/45 (13.7)	4/5
4/45 (13.7)	39.9 (1.01)	3/40 (12.2)	4	3/45 (13.7)	4
5/45 (13.7)	36.9 (0.94)	4/40 (12.20)	4	5/45 (13.7)	4
1/50 (15.2)	51.1 (1.30)	H1/45 (13.7)	5	1/50 (15.2)	5
2/50 (15.2)	47.9 (1.22)	1/45 (13.7)	5	2/50 (15.2)	4/5
3/50 (15.2)	44.6 (1.13)	2/45 (13.7)	4/5	3/50 (15.2)	4/5
4/50 (15.2)	41.4 (1.05)	3/45 (13.7)	4/5	4/50 (15.2)	4
5/50 (15.2)	38.3 (0.98)	5/45 (13.7)	4	5/45 (13.7)	4

**NOTES: TO MATCH STRENGTH OF CLASS 1/40 ft (12.2 m) DIRECT BURIED POLES, WESTERN RED CEDAR POLES IN H1/35 ft (10.7 m) ARE SUFFICIENT, OTHER SPECIES REQUIRE H2/35 ft (10.7 m).**

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**SaskPower - DISTRIBUTION STANDARDS**

APPROVAL	DESIGN CHK	DRN. <b>XZ</b>	<b>POLE ROCK SETS</b>
<b>M. ERETH</b>	<b>X. ZHANG</b>	CHKD.	
		<b>2015-02-03</b>	
DATE OF ISSUE: 2015/04/28	DRAWING NO: <b>A-38-06</b>	<b>SHEET 3 of 3</b>	REV. <b>A</b>

**BILL OF MATERIAL**

ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	1 03 25	2 KG	STRAPPING – GALV – 2" X .05" (45 KG/ROLL)
2	1 79 00	--	CRIMP SEAL – GALV – FOR 2" STRAPPING – 3" LONG
2	1 79 02	4	CRIMP SEAL – GALV – FOR 2" STRAPPING – 4-1/2" LONG
3	1 89 30	1	POLE STUB – STEEL 5/30-35', 6/30-45' (CPE-47-10)
3	1 89 40	1	POLE STUB – STEEL 3/35', 4/35-45', 5/40-50' (CPE-75-10)
3	1 89 50	1	POLE STUB – STEEL 1/35', 2/35-40', 3/40-50', 4/50-60' (CPE-108-11)
3	1 89 60	1	POLE STUB – STEEL 1/50-60', 2/60' (CPE-148-11)
4	1 89 52	1	POLE STUB SAFETY CAP – FOR 7" TO 10" WIDE STUB
5	7 69 62	0.04	SCREWS – WOOD – #10 – 1-1/2" (100/BOX)
<b>ITEMS BELOW ARE FOR BONDING STEEL STUB ON POLES WITH A GROUND WIRE</b>			

6	1 12 02	1	BOLT – MACHINE – GALVANIZED – 1/2" X 2"
7	1 93 22	1	WASHER – LOCK – 1/2" – SPRING TYPE
8	1 93 30	1	WASHER – ROUND – 1-3/8" X 9/16" HOLE
9	2 65 94	1	HYLUG – #4 SOL/STR – CU/AL
10	2 83 04	1 m	WIRE – COPPER – BARE – #4/7 STR
11	5 12 06	1	CRIMPIT – CU – 4C4

**NOTES**

1. SEE SHEET 3 FOR STUB SELECTION CHART AND STUBBING CRITERIA
2. DRAWING – 'AG' IS 'ABOVE GROUND', 'ED' IS 'EMBEDMENT DEPTH'. SEE CHART ON SHEET 3 FOR VALUES.
3. BANDS REQUIRE 2 SHORT SEALS (1 79 00) CRIMPED TWICE OR 1 LONG SEAL (1 79 02) CRIMPED 4 TIMES.

**SaskPower - DISTRIBUTION STANDARDS**

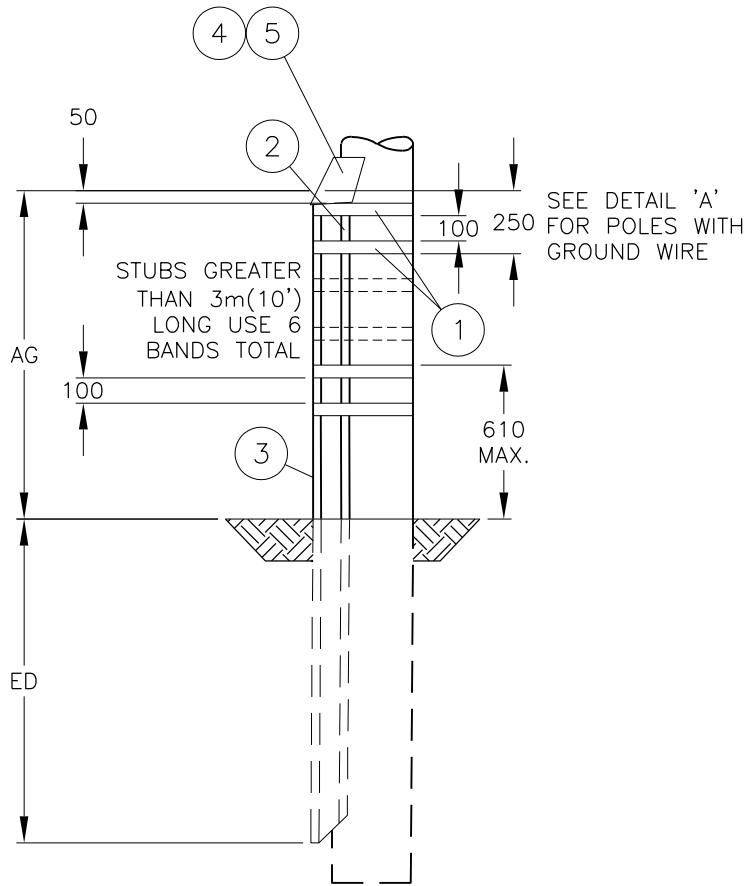
APPROVAL	DESIGN CHK	DRN. LM	<b>POLE STUBBING – STEEL STUB</b>
<b>L. MOEN</b>	<b>B. GEBHART</b>	CHKD. BG	
DATE OF ISSUE: <b>2020-12-18</b>		DRAWING NO: <b>A-38-07</b>	SHEET <b>1 of 3</b>
			REV. <b>A</b>

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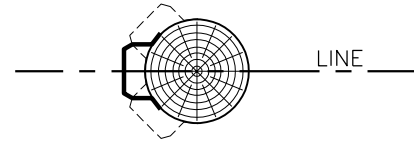


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TANGENT, TAP, AND DEFLECTION < 10°

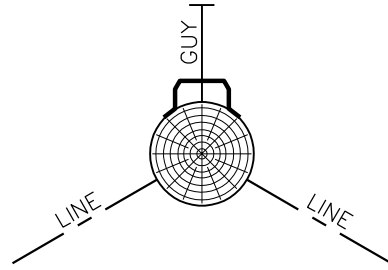


SEE DETAIL 'A'  
FOR POLES WITH  
GROUND WIRE

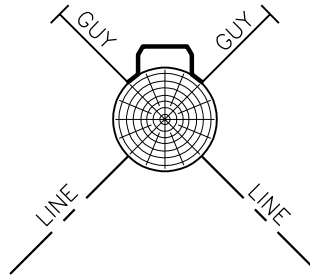


STUBS MAYBE ROTATED  
±45° TO AVOID  
OBSTRUCTIONS

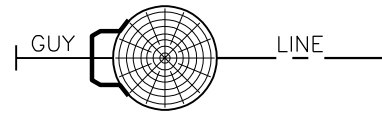
DEFLECTION 10°-30°



DEFLECTION CORNER > 30°



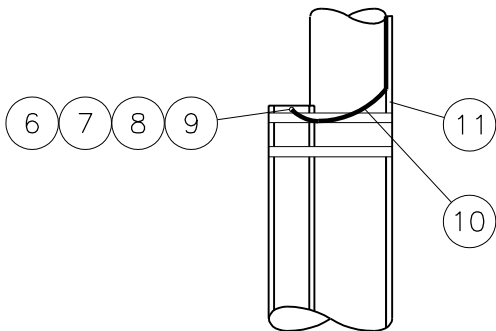
DEAD END POLE



GENERAL GUIDELINE:  
THE STEEL HUB SHOULD BE  
PLACED AS SHOWN BELOW



DETAIL-A



POLES WITH GROUND WIRE  
(SAFETY CAP SHOWN REMOVED)  
PLACE BANDS UNDER GROUND  
WIRE/MOULDING.

**NOTES:**

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.

SCALE: N.T.S.

A38\_07\_02

**SaskPower** – DISTRIBUTION STANDARDS

APPROVAL L.MOEN	DESIGN CHK. L.MOEN	DRN.E.GOTANA CHKD.
DATE OF ISSUE <b>2020-12-18</b>		2020-10-06

POLE STUBBING – STEEL STUB

DRAWING NO. A-38-07	SHEET 2 of 3	REV. -
---------------------	--------------	--------

**STEEL STUB SELECTION CHART**

POLE CLASS	POLE LENGTH METERS(FEET)						
	9.1 (30)	10.7 (35)	12.2 (40)	13.7 (45)	15.2 (50)	16.8 (55)	18.3 (60)
1	1 89 50	1 89 50	1 89 50	1 89 50	1 89 50	1 89 60	1 89 60
2	1 89 40	1 89 50	1 89 50	1 89 50	1 89 50	1 89 50	1 89 60
3	1 89 40	1 89 40	1 89 50	1 89 50	1 89 50	1 89 50	1 89 50
4	1 89 30	1 89 40	1 89 40	1 89 40	1 89 50	1 89 50	1 89 50
5	1 89 30	1 89 30	1 89 40	1 89 40	1 89 40	--	--
6	1 89 30	1 89 30	1 89 30	1 89 30	--	--	--

**STEEL STUB EMBEDMENT DEPTH**

CODE	LENGTH	'AG' ABOVE GROUND	'ED' EMBEDMENT DEPTH
1 89 30	3.0m (10')	1.5 m (5')	1.5 m (5')
1 89 40	3.0m (10')	1.5 m (5')	1.5 m (5')
1 89 50	3.3m (11')	1.7 m (5.5')	1.7 m (5.5')

1. SELECTION CHART IS BASED ON CSA C22.3 NO. 1 - GRADE 2 CONSTRUCTION, TRANSVERSE LOADING FACTORS OF 1.1 FOR STEEL, 1.3 FOR WOOD.
2. GRADE 1 CONSTRUCTION LOADING FACTORS DICTATE A MUCH HEAVIER WOOD POLE INITIALLY, SO THE CHART IS APPLICABLE TO GRADE 1 CONSTRUCTION AS WELL.
3. MINIMUM 2" SHELL AT BOTTOM BANDS, CAN BE LESS AT GROUNDLINE. MINIMUM 3" SHELL BETWEEN BANDS.
4. ALL POLES TO BE STUBBED SHALL BE TREATED TO PREVENT FURTHER ROT OR DECAY.
5. THE BASIC STEEL STUBS ARE NOT FOR USE ON STRUCTURES WHERE THERE MAY BE UPLIFT. THIS INCLUDES BRACED H-FRAME STRUCTURES.
6. STUBS 3.3m LONG OR LONGER REQUIRE TWO EXTRA BANDS, ONE ABOVE BOTTOM BANDS, OTHER BELOW TOP BANDS.

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**SaskPower** - DISTRIBUTION STANDARDS

APPROVAL <b>L. MOEN</b>	DESIGN CHK <b>B. GEBHART</b>	DRN. <b>LM</b> CHKD. <b>BG</b>	<b>POLE STUBBING – STEEL STUB</b>
DATE OF ISSUE: <b>2020-12-18</b>	DRAWING NO: <b>A-38-07</b>	<b>SHEET 3 of 3</b>	

REV. **A**

**BILL OF MATERIAL**

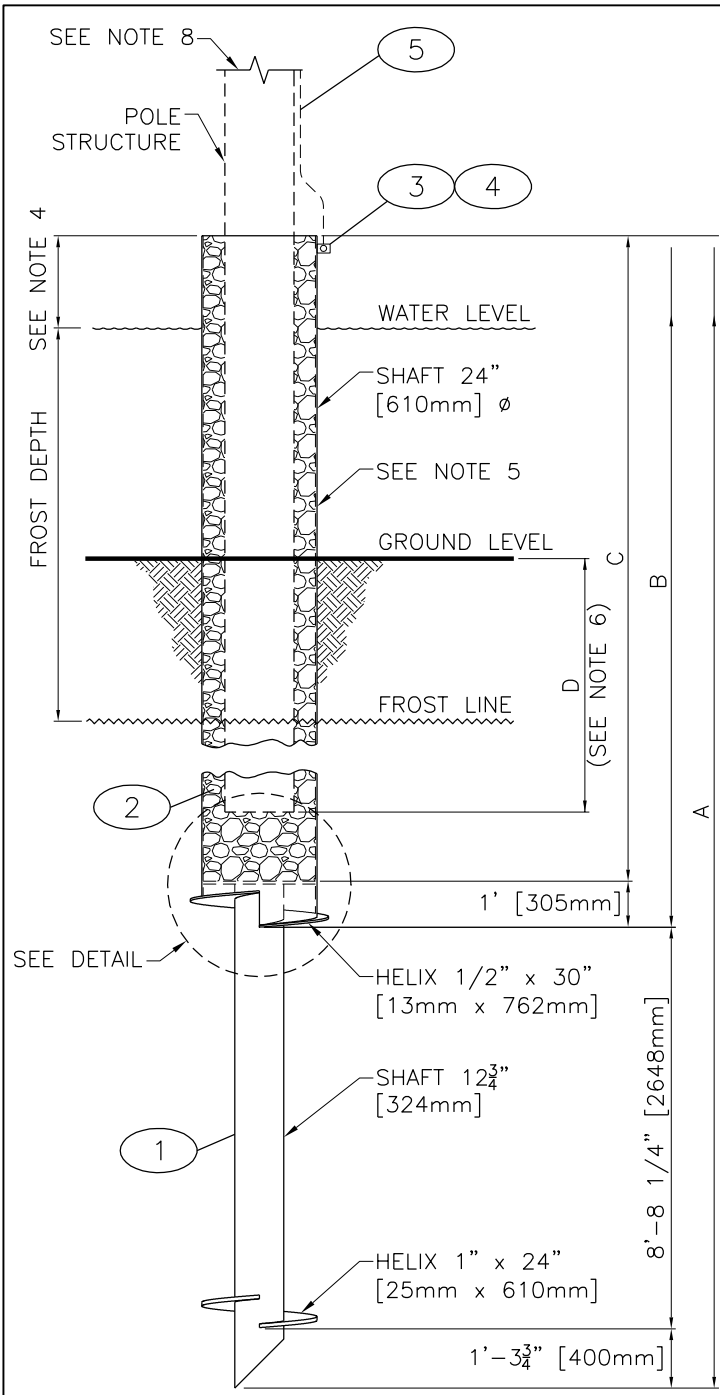
ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	NON STOCK	1	SCREW PILE-6.10m IN LENGTH (ALMITA #PIL-2400-375-10-B-001 OR EQUIVALENT)
1	NON STOCK	1	SCREW PILE-7.62m IN LENGTH (ALMITA #PIL-2400-375-15-B-003 OR EQUIVALENT)
1	NON STOCK	1	SCREW PILE-9.14m IN LENGTH (ALMITA #PIL-2400-375-20-B-002 OR EQUIVALENT)
2	PURCHASE LOCALLY	X	CRUSHED ROCK
3	1 14 03	1	BOLT-MACHINE – 3/4” x 3”
4	1 93 34	2	WASHER-ROUND – 2” x 13/16” HOLE
5	2 83 04	-	WIRE-COPPER - #4/7 STR

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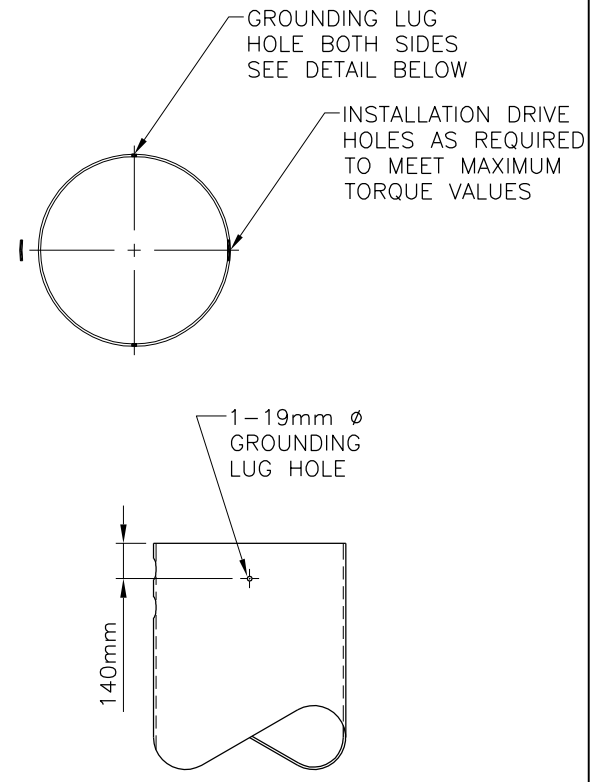
**SaskPower - DISTRIBUTION STANDARDS**

APPROVAL	DESIGN CHK	DRN. <b>ARU</b>	<b>SCREW PILE POLE FOUNDATION</b>
<b>L. MOEN</b>	<b>A. UHREN</b>	CHKD.	
		<b>2016-03-01</b>	
DATE OF ISSUE:	2016/05/04	DRAWING NO: <b>A-38-08</b>	<b>SHEET 1 OF 3</b>   REV. <b>B</b>

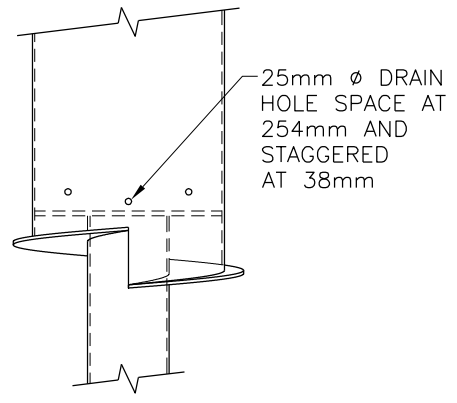
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**POLE BASE DETAIL (ELEVATION)**



**GROUNDING LUG HOLE DETAIL**



**LOWER SHAFT DETAIL**

**MATERIAL REQUIREMENTS;**

1. STRUCTURAL STEEL MEMBERS SHALL CONFORM TO CSA S16 (DESIGN OF STEEL STRUCTURES).
2. PIPE SHAFT - ASTM A252 GRADE 3 OR BETTER STEEL PIPE, SEAMLESS OR STRAIGHT WELDED.
3. CAP PILE AND HELIX PLATE - ASTM A36 OR CSA G40.20/G40.21 44W(300W) HOT ROLLED STRUCTURAL STEEL PLATE.
4. WELDING SHALL CONFORM TO CSA W59 AND CSA W47.1. WELD TENSILE STRENGTH = 485 MPA(70ksi).
5. THE SCREW PILES SHALL BE SUITABLY COATED AS TO PROTECT THE BASE METAL FROM CORROSION.
6. THE SUPPLIER SHALL PROVIDE ENGINEER STAMPED DRAWINGS THAT SHOW ALL INSTALL DETAILS INCLUDING REQUIRED TORQUE VALUES (MAXIMUM, EXPECTED, AND MINIMUM) AND MINIMUM AND MAXIMUM EMBEDMENT AT EACH SITUATION LISTED IN THE TABLE IN NOTE 3 ON SHEET 3.

INSTALLATION NOTES LOCATED ON SHEET 3.

<b>SaskPower</b> - DISTRIBUTION STANDARDS				
APPROVAL	DESIGN CHK.	DRN. N.KIM	<b>SCREW PILE POLE FOUNDATION</b>	
L.MOEN	A.UHREN	CHKD.		
		2016-04-20		
DATE OF ISSUE	2016/05/04	DRAWING NO. A-38-08	SHEET 2 of 3	REV. B

## INSTALLATION NOTES

1. THIS SCREW PILE IS DESIGNED FOR DISTRIBUTION POLES THAT ARE INSTALLED IN TROUBLE SPOTS OR LOTS OF STANDING WATER, WHEN RE-ROUTING IS IMPRACTICAL.
2. SCREW PILES TO BE VERTICAL +/- 2 DEGREES.
3. 'A' IS THE LENGTH OF THE SCREW PILE, 3 DIFFERENT LENGTHS ARE REQUIRED TO ACCOMMODATE VARIOUS GROUND WATER LEVELS:

WATER LEVEL ABOVE GROUND LINE	A	B	C
UP TO 0.61 m	6.10 m	3.05 m	2.74 m
UP TO 0.61 m	7.62 m	4.57 m	4.27 m
UP TO 0.61 m	9.14 m	6.10 m	5.79 m
UP TO 1.52 m	7.62 m	4.57 m	4.27 m
UP TO 1.52 m	9.14 m	6.10 m	5.79 m
UP TO 2.44 m	9.14 m	6.10 m	5.79 m

4. FINAL PILE ELEVATION ABOVE WATER LEVEL AT LEAST 0.61m DUE TO WATER LEVEL FLUCTUATION.
5. INSTALL CRUSHED ROCK INTO SCREW PILE CYLINDER TO ESTABLISH POLE SET DEPTH 'D' AND THEN FILL THE ANNULAR VOID BETWEEN POLE AND PILE WITH CRUSHED ROCK.
6. 'D' IS THE DISTANCE BETWEEN POLE BUTT TO GROUND LINE, D=10% OF POLE LENGTH + 0.61m, EXCEPT FOR 35ft POLES, D=10% OF POLE LENGTH + 0.762m.
7. THESE ARE INTENDED TO BE INSTALLED WITH SPECIALIZED EQUIPMENT BY A QUALIFIED CONTRACTOR.
8. POLE INSTALL NOT INCLUDED WITH THIS DRAWING. IN CONFIGURATOR, INCLUDE A-38-01 WITH THIS DRAWING.
9. IF MINIMUM INSTALL TORQUE HAS NOT BEEN REACHED BY THE TIME MAXIMUM DEPTH HAS BEEN REACHED, THE SCREW PILE WILL HAVE TO BE REMOVED AND A LONGER ONE USED.

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### **SaskPower** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. <b>ARU</b>	<b>SCREW PILE POLE FOUNDATION INSTALLATION NOTES</b>
<b>L. MOEN</b>	<b>A. UHREN</b>	CHKD.	
		<b>2016-04-19</b>	
DATE OF ISSUE:	2016/05/04	DRAWING NO: <b>A-38-08</b>	SHEET 3 of 3
			REV. <b>B</b>

**BILL OF MATERIAL**

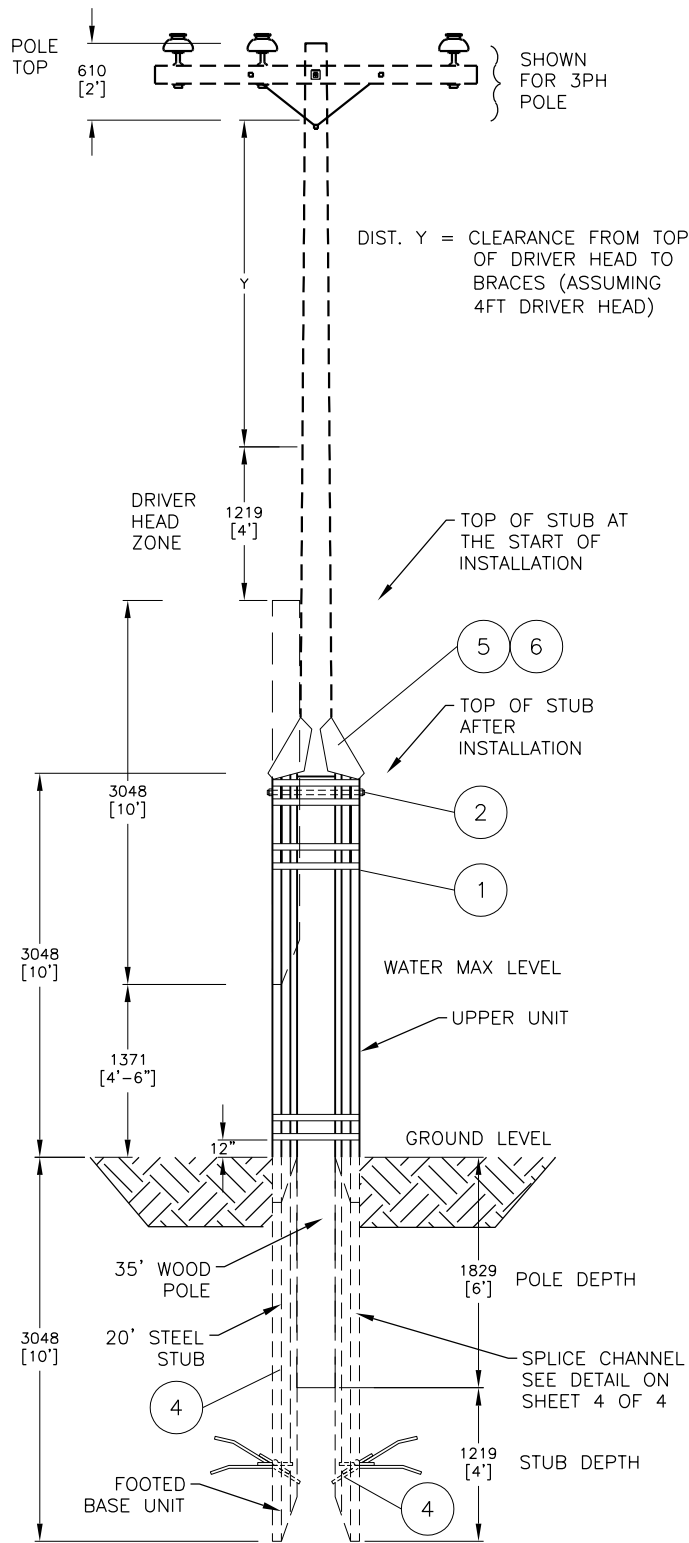
ITEM NO.	CODE NO.	QUANTITY				DESCRIPTION
		A	B	C	D	
1	1 03 25	3KG	3KG	3KG	3KG	STRAPPING – GALV – 2" X .05" (45 KG/ROLL)
2	1 09 20	1	1	1	1	BOLT – DOUBLE ARMING – 5/8" x 20"
3	1 79 02	6	6	6	6	CRIMP SEAL – GALV – FOR 2" STRAPPING – 4-1/2" LONG
4	1 89 70	2	-	-	-	STEEL STUB – 20 FEET (MEDIUM DUTY)
4	1 89 71	-	2	-	-	STEEL STUB – 30 FEET (MEDIUM DUTY)
4	1 89 75	-	-	2	-	STEEL STUB – 20 FEET (HEAVY DUTY)
4	7 89 76	-	-	-	2	STEEL STUB – 30 FEET (HEAVY DUTY)
5	1 89 52	2	2	2	2	POLE STUB SAFETY CAP – FOR 7" TO 10" WIDE STUB
6	7 69 62	0.08	0.08	0.08	0.08	SCREWS – WOOD – #10 – 1-1/2" (100/BOX)
						ITEMS BELOW ARE FOR BONDING STEEL STUB ON POLES WITH A GROUND WIRE
7	1 12 02	2	2	2	2	BOLT – MACHINE – GALVANIZED – 1/2" X 2"
8	1 93 22	2	2	2	2	WASHER – LOCK – 1/2" – SPRING TYPE
9	1 93 30	2	2	2	2	WASHER – ROUND – 1-3/8" X 9/16" HOLE
10	2 65 94	2	2	2	2	HYLUG – #4 SOL/STR – CU/AL
11	2 83 04	1.5 m	1.5 m	1.5 m	1.5 m	WIRE – COPPER – BARE – #4/7 STR
12	5 12 06	1	1	1	1	CRIMPIT – CU – 4C4
						<p><b>NOTE:</b></p> <ol style="list-style-type: none"> <li>BANDS REQUIRE 1 LONG SEAL (1 79 02) CRIMPED 4 TIMES.</li> <li>THIS STRUCTURE TO BE USED FOR: <ol style="list-style-type: none"> <li>STRUCTURES IN ≤ 4.5 FEET OF WATER.</li> <li>STRUCTURES IN POOR FOUNDATION SOIL CONDITIONS.</li> </ol> </li> <li>STOCK CODE 18970 c/w 1 X FOOTED BASE, 1 X SPLICE ASSEMBLY AND 1 X UPPER UNIT. COMPLETE UNIT.</li> <li>STOCK CODE 18971 c/w 1 X FOOTED BASE, 2 X SPLICE ASSEMBLY AND 2 X UPPER UNIT. COMPLETE UNIT.</li> <li>COLUMN A REFERS TO A 20' STEEL STUB INSTALLATION (MEDIUM DUTY).</li> <li>COLUMN B REFERS TO A 30' STEEL STUB INSTALLATION (MEDIUM DUTY).</li> <li>COLUMN C REFERS TO A 20' STEEL STUB INSTALLATION (HEAVY DUTY).</li> <li>COLUMN D REFERS TO A 30' STEEL STUB INSTALLATION (HEAVY DUTY).</li> </ol>

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**SaskPower** - DISTRIBUTION STANDARDS

APPROVAL	DESIGN CHK	DRN. PP	<b>DOUBLE STEEL STUB SPLICED POLE FOUNDATION REINFORCEMENT</b>
<b>L MOEN</b>	<b>P PATEL</b>	CHKD. LM	
		<b>2020-10-13</b>	
DATE OF ISSUE	<b>2022-01-10</b>	DRAWING NO. <b>A-38-09</b>	<b>SHEET 1 OF 4</b>   REV. C

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**POLE WITH 20' DOUBLE  
BIG FOOT STUB-STEEL  
2 SETS OF 2x10'**

SCALE: N.T.S.

SPLICED STUB LENGTH	POLE LENGTH	CLEARANCE Y
6.1m (20')	10.7m (35')	2.59m (8'-6")
6.1m (20')	12.2m (40')	4.12m (13'-6")
6.1m (20')	13.7m (45')	5.49m (18')
6.1m (20')	15.2m (50')	6.86m (22'-6")
6.1m (20')	16.8m (55')	8.24m (27')

**TABLE A**

SPLICED STUB LENGTH	POLE LENGTH	CLEARANCE Y
9.15m (30')	10.7m (35')	1.98m (6'-6")
9.15m (30')	12.2m (40')	3.5m (11'-6")
9.15m (30')	13.7m (45')	4.88m (16')
9.15m (30')	15.2m (50')	6.28m (20'-6")
9.15m (30')	16.8m (55')	7.62m (25')

**TABLE B**

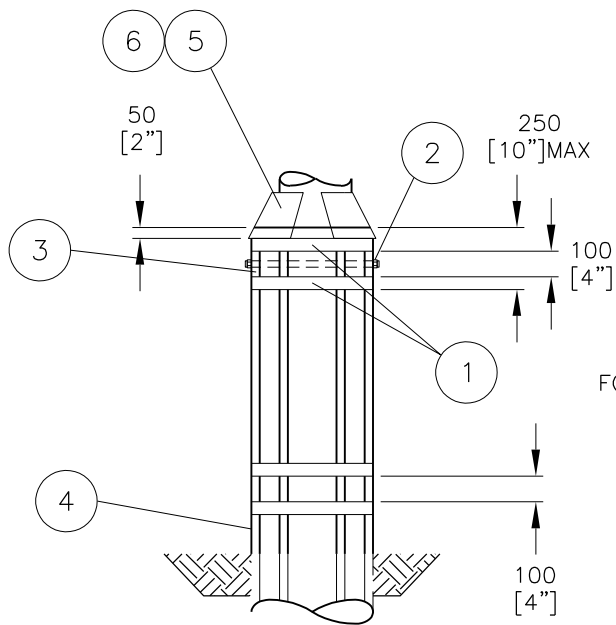
POLE LENGTH	CLASS 5	CLASS 4	CLASS 3	CLASS 2 & 1
10.7m (35')	MEDIUM	MEDIUM	MEDIUM	HEAVY
12.2m (40')	MEDIUM	MEDIUM	HEAVY	HEAVY
13.7m (45')	MEDIUM	HEAVY	HEAVY	HEAVY
15.2m (50')	MEDIUM	HEAVY	HEAVY	HEAVY
16.8m (55')	HEAVY	HEAVY	HEAVY	HEAVY

**TABLE C  
MEDIUM TO HEAVY STUBS**

**NOTES:**

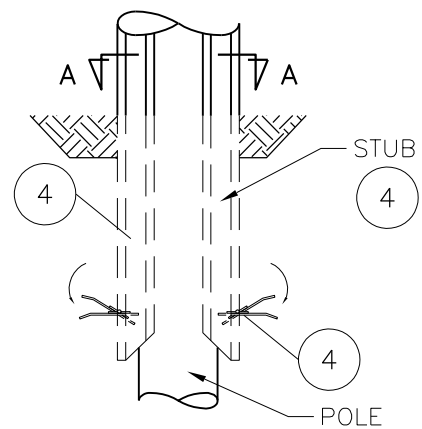
- FOR INSTALLING STUBS TO A POLE THAT HAS ALREADY BEEN BACKFILLED, ENSURE A RATCHET STRAP OR CHAIN IS TIGHTLY FASTENED AROUND THE STUB AND POLE NEAR TO GROUND LEVEL TO PREVENT VEERING WHEN DRIVING STUBS DOWN.
- ALL STUBS MUST BE INSTALLED WITH 50% ABOVE & BELOW GROUND LEVEL.
- FOR THE 30' STUB THE INSTALL DEPTH IS 5' DEEPER.
- FOR TABLE B ASSUME THAT 2' OF THE SECOND STUB IS ABOVE WATER/ICE LEVEL TO FACILITATE THE SECOND SPLICE CHANNEL INSTALLATION, BEFORE INSTALLED TO ITS ACTUAL DEPTH.
- BANDS ARE REQUIRED BELOW THE TOP OF STUB, AND 12" UP FROM GROUND LEVEL IF WATER IS BELOW 12", OTHERWISE PLACE DIRECTLY ABOVE WATER LEVEL. MIDDLE BAND SHALL BE PLACED HALFWAY BETWEEN TOP AND BOTTOM BAND.
- DIMENSIONS ARE IN MILLIMETERS UNTIL OTHERWISE NOTED.

<b>SaskPower</b> – DISTRIBUTION STANDARDS				
APPROVAL L.MOEN	DESIGN CHK. S.JEAN	DRN.D.REDEKOPP CHKD.	<b>DOUBLE STEEL STUB SPLICED POLE FOUNDATION REINFORCEMENT</b>	
DATE OF ISSUE <b>2022-01-10</b>		2021-07-07		
DRAWING NO. A-38-09		SHEET 2 of 4	REV. B	

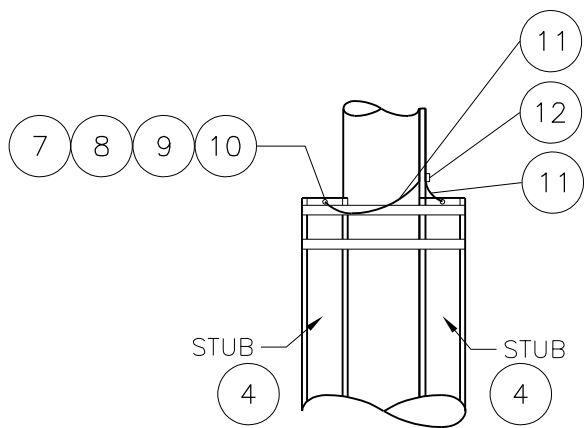


UPPER UNIT

SEE DETAIL 'A'  
FOR POLES WITH  
GROUND WIRE

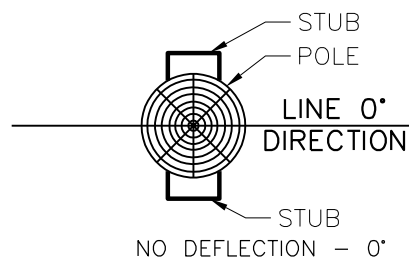


BIG FOOT STUB-UPLIFT &  
THRUST SYSTEM DETAIL  
FOOTED BASE UNIT



BONDING DETAIL-A

POLES WITH GROUND WIRE (SAFETY CAP  
SHOWN REMOVED) PLACE BANDS UNDER  
GROUND WIRE/MOULDING.



SECTION A-A

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.

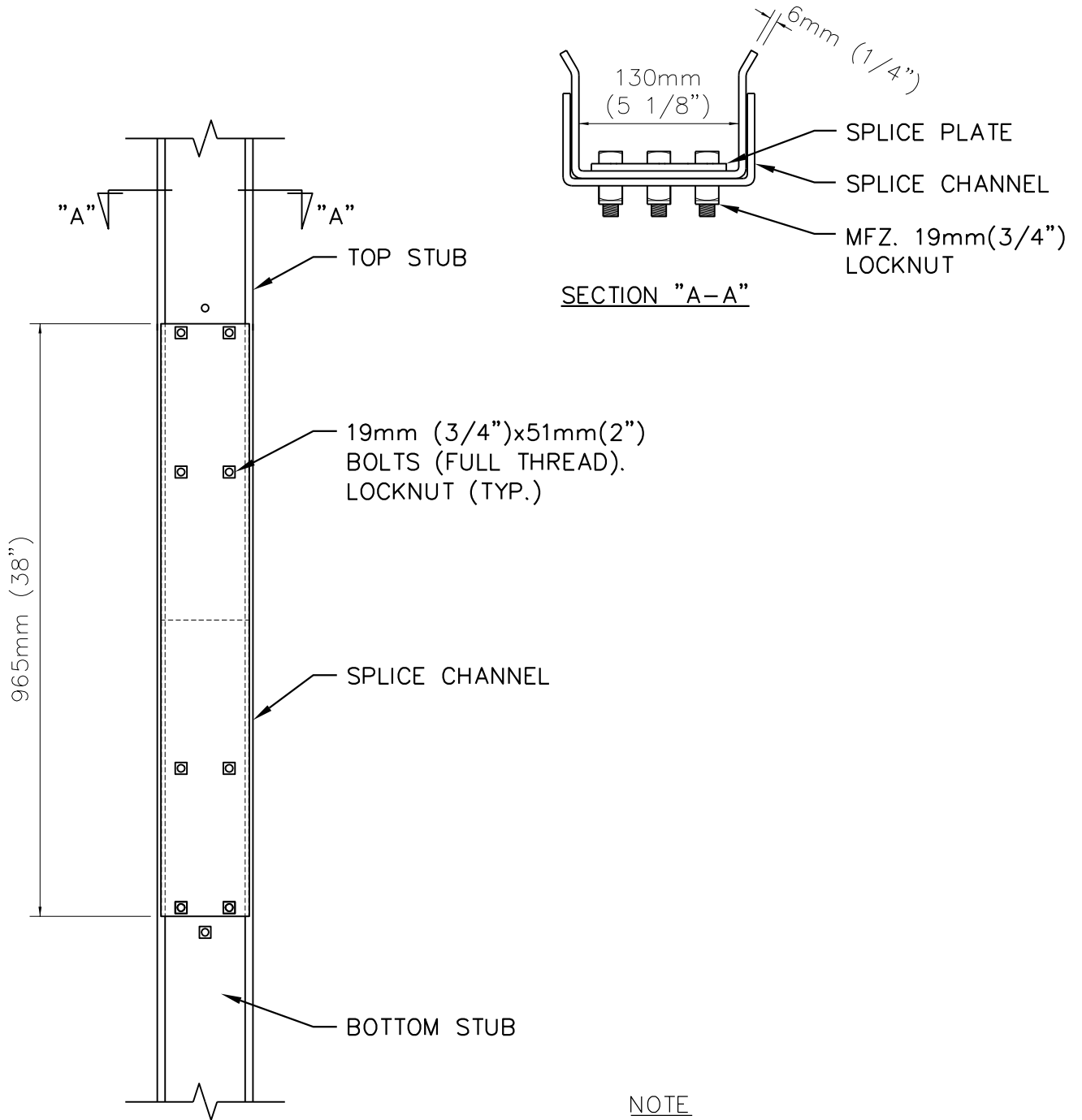
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**SaskPower** – DISTRIBUTION STANDARDS

APPROVAL L. MOEN	DESIGN CHK. S.JEAN	DRN.D.REDEKOPP CHKD. 2021-07-07	DOUBLE STEEL STUB SPLICED POLE FOUNDATION REINFORCEMENT
DATE OF ISSUE	2022-01-10	DRAWING NO. A-38-09	
		SHEET 3 of 4	REV. A



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DETAIL - SPLICE

NOTE

ITEM IS SHIPPED ASSEMBLED AND NEED TO BE DISASSEMBLED IN THE FIELD BEFORE CONSTRUCTION IN ORDER TO MAINTAIN LINE CLEARANCE.

<b>SaskPower</b> – DISTRIBUTION STANDARDS				
APPROVAL L.MOEN	DESIGN CHK. L.BAILEY	DRN. N.KIM CHKD. D.REID	DOUBLE STEEL STUB SPLICED POLE FOUNDATION REINFORCEMENT	
		2016-04-28		
DATE OF ISSUE	2016/05/04	DRAWING NO. A-38-09	SHEET 4 of 4	REV. -

**BILL OF MATERIAL**

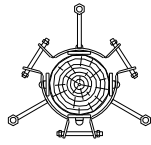
ITEM NO.	CODE NO.	QUANTITY	DESCRIPTION
1	1 01 28	4	<b>ROCK ANCHOR – VERTICAL</b>
2	1 01 29	1/2 KIT	<b>GROUT – 2 COMPONENT (W/SUB ZERO)</b>
3	5 640 002	1	<b>SIGN – TRI ANCHOR ROCK SET</b>
			<p><b>NOTES:</b></p> <p><b>1. THIS BOM CONTAINS MATERIAL FOR THE TYPICAL 4 ANCHOR INSTALLATION.</b></p> <p><b>2. ADD 1 ANCHOR AND 1/10 KIT OF GROUT FOR THE 5 ANCHOR INSTALLATION AND REMOVE THOSE SAME QUANTITIES FOR THE 3 ANCHOR INSTALLATION.</b></p> <p><b>3. DOES NOT INCLUDE POLE OR LEGACY ROCK SET.</b></p>

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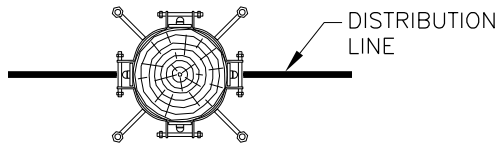
**SaskPower - DISTRIBUTION STANDARDS**

APPROVAL <b>L MOEN</b>	DESIGN CHK <b>S JEAN</b>	DRN. <b>SJ</b> CHKD. <b>LM</b>	LEGACY ROCK SET REPAIR
		<b>2021-07-06</b>	
DATE OF ISSUE: <b>2021-08-16</b>		DRAWING NO: <b>A-38-11</b>	SHEET 1 OF 3   REV. -

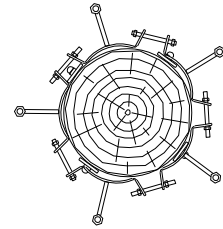
VERTICAL (SPA-2V) POLE ROCK SET



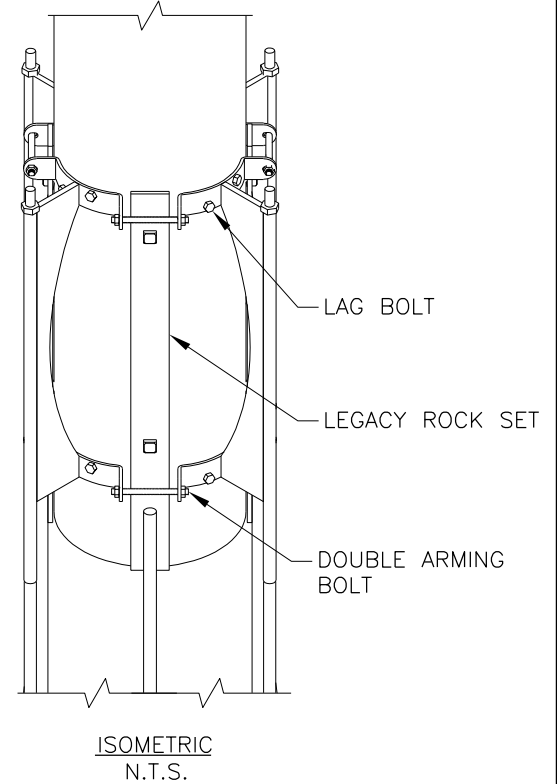
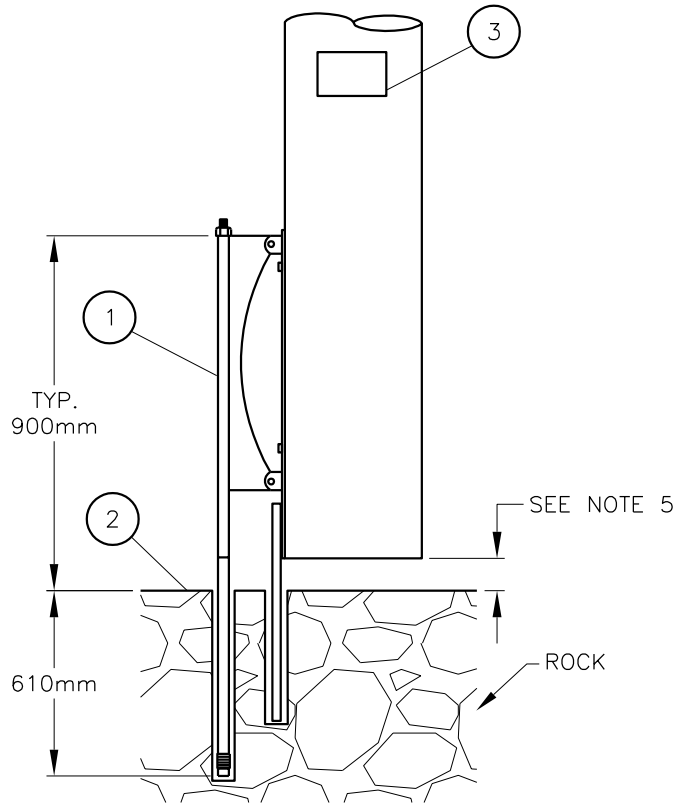
3 ANCHOR CONFIGURATION



4 ANCHOR CONFIGURATION



5 ANCHOR CONFIGURATION



INSTALLATION CONSIDERATIONS

1. USE APPROPRIATE TEMPLATE FOR DRILLING OF HOLES. THE TEMPLATE STOCK CODES ARE:  
 DISTRIBUTION: 3 ANCHOR TEMPLATE - 1 01 21  
 4 ANCHOR TEMPLATE - 1 01 22  
 5 ANCHOR TEMPLATE - 1 01 23
2. EACH ANCHOR LEG INCLUDES 4 LAG BOLTS AND 2 DOUBLE ARMING BOLTS.
3. FLAT IRON SHOULD BE AVOIDED IF POSSIBLE WHEN INSTALLING LAG BOLTS. IF FLAT IRON CAN NOT BE AVOIDED WITH LAG BOLT, DISREGARD LAG BOLT. UP TO 4 LAG BOLTS MAY BE OMITTED IF NECESSARY.
4. AFTER ANCHOR IS INSTALLED, HOLE IN ROCK TO BE SEALED WITH GROUT TO PREVENT WATER INGRESS AND ICE DAMAGE. TWO COMPONENT GROUT PACKAGE (1 01 29) INCLUDES SUB-ZERO COMPONENT FOR INSTALLATION AT TEMPERATURES BELOW -10°C DOWN TO -25°C. INSTALLATION SHALL NOT BE PERFORMED AT TEMPERATURES BELOW -25°C.
5. FOLLOW RECOMMENDATIONS OF ANCHOR AND GROUT MANUFACTURERS DURING INSTALLATION.
6. MAX ALLOWABLE GAP AT ANY POINT BETWEEN POLE BASE AND ROCK FACE IS 76mm. THE POLE MUST REST ON THE ROCK AT SOME POINT. IF FOR SOME REASON THIS CANNOT BE ACHIEVED, SOME POINT OF THE POLE MUST BE WITHIN AT LEAST 19mm OF THE ROCK FACE.

SCALE: N.T.S.

<b>SaskPower</b> – DISTRIBUTION STANDARDS			
APPROVAL L.MOEN	DESIGN CHK. P.PATEL	DRN.D.REDEKOPP CHKD. 2022-02-16	LEGACY ROCK SET REPAIR
DATE OF ISSUE	2022-08-15	DRAWING NO. A-38-11	
		SHEET 2 of 3	REV. A

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**CONVERSION TABLE OF ROCK SET POLES AND DIRECT BURIAL POLES**

<b>ROCK SET POLES (SPA-2V) AND DIRECT BURIAL POLES CONVERSION TABLE</b>					
<b>DIRECT BURIAL POLES</b>		<b>ROCK SETS POLES (SPA-2V)</b>			
		<b>SAME LENGTH (UNCUT POLE)</b>		<b>TOP CUT BACK 5'</b>	
(CLASS/ LENGTH)	REQUIRED MIN POLE BUTT CIRCUMFERENCE	(CLASS/ LENGTH)	# OF ROCK ANCHOR	(CLASS/ LENGTH)	# OF ROCK ANCHOR
ft (meter)	in (meter)	ft (meter)	#	ft (meter)	#
1/35 (10.7)	44.5 (1.13)	N/A	N/A	1/35 (10.7)	4/5
2/35 (10.7)	41.6 (1.06)	1/30 (9.1)	4	1/35 (10.7)	4
3/35 (10.7)	38.8 (0.99)	2/30 (9.1)	4	2/35 (10.7)	4
4/35 (10.7)	36.1 (0.92)	3/30 (9.1)	3/4	4/35 (10.7)	3/4
5/35 (10.7)	33.3 (0.85)	4/30 (9.1)	3/4	5/35 (10.7)	3/4
1/40 (12.2)	47.0 (1.19)	<b>H2/35 (10.7)*</b>	4/5	H1/40 (12.2)	4/5
2/40 (12.2)	44.1 (1.12)	1/35 (10.7)	4/5	1/40 (12.2)	4/5
3/40 (12.2)	41.1 (1.04)	2/35 (10.7)	4	2/40 (12.2)	4
4/40 (12.2)	38.2 (0.97)	3/35 (10.7)	4	3/40 (12.2)	4
5/40 (12.2)	35.3 (0.90)	4/35 (10.7)	3/4	5/40 (12.2)	3/4
1/45 (13.7)	49.2 (1.25)	H1/40 (12.2)	5	1/45 (13.7)	5
2/45 (13.7)	46.0 (1.17)	1/40 (12.2)	4/5	1/45 (13.7)	4/5
3/45 (13.7)	42.9 (1.09)	2/40 (12.2)	4/5	2/45 (13.7)	4/5
4/45 (13.7)	39.9 (1.01)	3/40 (12.2)	4	3/45 (13.7)	4
5/45 (13.7)	36.9 (0.94)	4/40 (12.20)	4	5/45 (13.7)	4
1/50 (15.2)	51.1 (1.30)	H1/45 (13.7)	5	1/50 (15.2)	5
2/50 (15.2)	47.9 (1.22)	1/45 (13.7)	5	2/50 (15.2)	4/5
3/50 (15.2)	44.6 (1.13)	2/45 (13.7)	4/5	3/50 (15.2)	4/5
4/50 (15.2)	41.4 (1.05)	3/45 (13.7)	4/5	4/50 (15.2)	4
5/50 (15.2)	38.3 (0.98)	5/45 (13.7)	4	5/45 (13.7)	4

**NOTES: TO MATCH STRENGTH OF CLASS 1/40 ft (12.2 m) DIRECT BURIED POLES, WESTERN RED CEDAR POLES IN H1/35 ft (10.7 m) ARE SUFFICIENT, OTHER SPECIES REQUIRE H2/35 ft (10.7 m).**

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**SaskPower - DISTRIBUTION STANDARDS**

APPROVAL	DESIGN CHK	DRN. <b>SJ</b>	<b>LEGACY ROCK SET REPAIR</b>
<b>L MOEN</b>	<b>S JEAN</b>	CHKD.	
		<b>2021-07-06</b>	
DATE OF ISSUE: <b>2021-08-16</b>	DRAWING NO: <b>A-38-11</b>	<b>SHEET 3 of 3</b>	REV. -