

SECTION 3

POLES

POLES – GENERAL

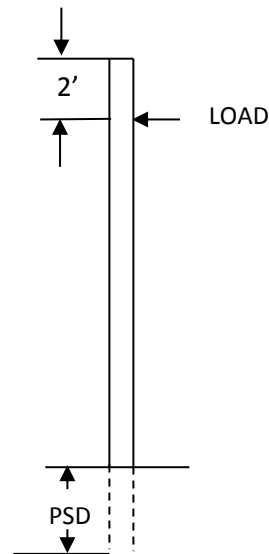
Wood poles will generally be Southern Yellow Pine (SYP), machine peeled and full length preservative treated with chromated copper arsenate (CCA). Alternate wood species are: Douglas-fir, Western Red Cedar, and Red Pine. Copper naphthenate (CuNap) may be considered as an alternate preservative treatment.

POLE – STRENGTH RATING

Wood poles are rated by class; the classes generally used for distribution poles are from class 1 to class 5 with the lower number being the stronger pole. When higher strength poles are required due to increased loading from attachments or longer span lengths, pole classes H1 to H6 may be used.

Pole specifications state that a pole must withstand the loads, as indicated below, applied two feet from the top of the pole with the pole installed or secured at the standard pole setting depth (PSD).

Pole Class	Breaking Load (lbs.)
H4	8,700
H3	7,500
H2	6,400
H1	5,400
1	4,500
2	3,700
3	3,000
4	2,400
5	1,900



DATE: May 1, 2018	DISTRIBUTION STANDARDS	
DRAWN: C. Rose		
REV.:	POLES – GENERAL	
DATE:		
	APPROVED BY:	STANDARD NO. 3-1
	DATE:	

POLE LENGTH (ft)	POLE CLASS	CIRCUMFERENCE			POLE SETTING DEPTH (ft)	APP. WEIGHT (LBS)	DESIGN WORKING LOAD (ft-lb)
		TOP (in)	6FT FROM BUTT (in)	GROUND LINE (in)			
30	4	21	29.5	29.9	5		36,200
30	5	19	27.5	27.9	5		28,800
35	3	23	34.0	34.2	5.5		54,000
35	4	21	31.5	31.7	5.5		41,900
40	3	23	36.0	36.0	6		61,300
40	4	21	33.5	33.5	6		48,000
45	2	25	40.5	40.3	6.5		85,900
45	3	23	37.5	37.3	6.5		65,900
50	2	25	42.0	41.6	7		91,700
50	3	23	39.0	38.6	7		70,600
55	2	25	43.5	42.9	7.5		97,500
55	3	23	40.5	40.0	7.5		75,400
60	1	27	48.0	47.2	8		130,500
60	2	25	45.0	44.3	8		103,500
65	1	27	49.5	48.5	8.5		137,800
65	2	25	46.5	45.6	8.5		109,600



457 NORTH SOUND RD.
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DATE: May 1, 2018

DRAWN: C. Rose

REV.:

DATE:

DISTRIBUTION STANDARDS

SYP WOOD POLE DIMENSIONS

APPROVED BY:

DATE:

STANDARD NO.

3-2

WOOD POLES – SPECIFICATIONS

Circumference – The minimum circumference at the top and at 6 feet from the butt, is specified on page 3-2; the maximum circumference at 6 feet from the butt shall not be greater than the specified minimum by more than 7 inches or 20%, whichever is greater.

Butt Marking – The following markings shall be stamped or branded legibly to the butt of each pole:

- (a) the suppliers name or trademark
- (b) the species of wood and
- (c) the class and length

Side Markings – All poles shall be marked legibly and permanently before treatment; the marking shall include the following:

- (a) Supplier’s code and treatment plant.
- (b) Class and length.
- (c) Species of wood.
- (d) Year of treatment
- (e) Preservative treatment used.

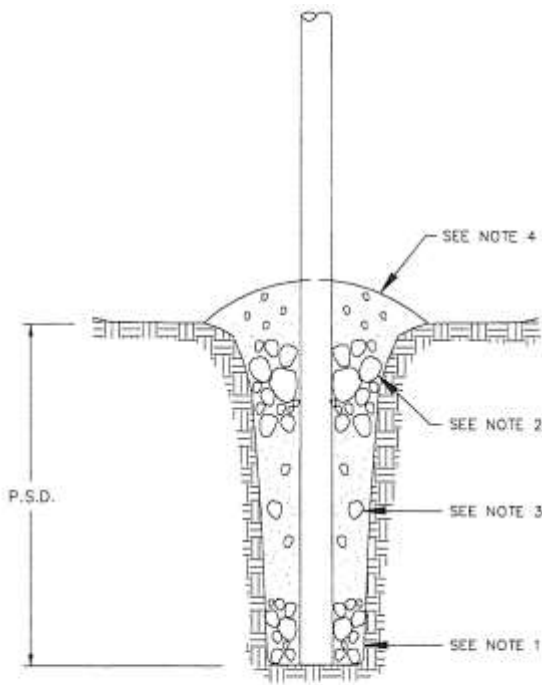
The bottom of the marking shall be located at 10 feet (+/- 2 inches) from the butt for poles up to and including 50 feet in length, and at 14 feet (+/- 2 inches) from the butt for poles 55 feet and over in length.

Ordering – Poles should be ordered In accordance with the following information:

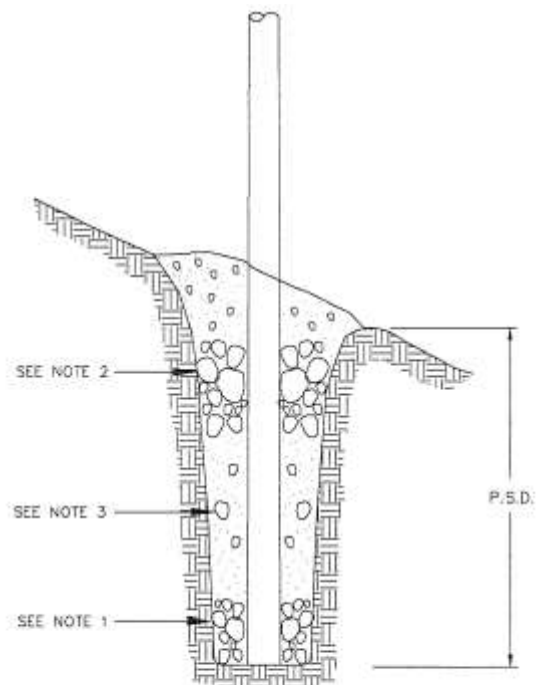
- Quantity
- Length
- Class
- Species
- Type of peeling or shaving
- Preservative
- Type of treatment
- Net retention of preservative
- Standards and references



DATE: May 1, 2018	DISTRIBUTION STANDARDS	
DRAWN: C. Rose		
REV.:	WOOD POLE SPECIFICATIONS	
DATE:		
	APPROVED BY:	STANDARD NO. 3-3
	DATE:	



LEVEL TERRAIN



SIDE HILL TERRAIN

NOTES:

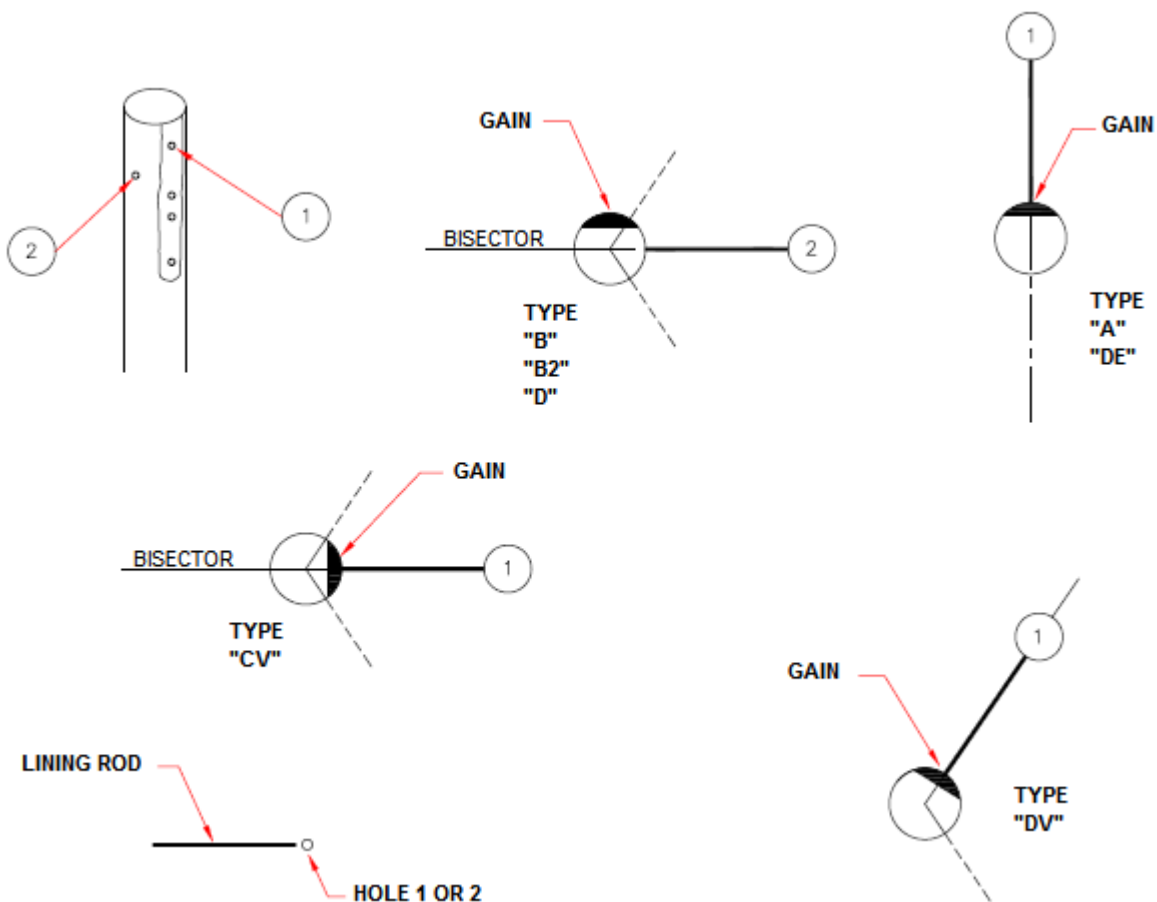
1. POLES SHALL HAVE A FOOTING OF 9" OF ROCK.
2. POLES SHALL HAVE A COLLAR OF 9" OF ROCK.
3. FILL SHALL BE PLACED IN 9" LAYERS AND TAMPED.
4. EXCESS FILL SHALL BE MOUNDED AROUND THE POLE; IN BUILT UP OR RESIDENTIAL AREAS MOUND ABOUT 8" OF EXCESS FILL AROUND THE POLE AND REMOVE THE REMAINDER FROM THE SITE.
5. POLE HOLE DEPTHS SHALL BE IN ACCORDANCE WITH THE CHART FOR POLE SETTING DEPTH. (BLASTED HOLES REQUIRE THE SAME SETTING DEPTH.)
6. FOR POLES LOCATED IN WET AREAS OR WHERE POOR SOIL CONDITIONS EXIST, PARTICULARLY TANGENT STRUCTURES (TYPE A). IT IS RECOMMENDED THAT THE POLE SETTING DEPTH BE INCREASED BY ONE FOOT.
7. FILL SHALL BE DRY; UNSUITABLE FILL SUCH AS WET MARL SHALL NOT BE USED BUT REPLACED WITH DRY FILL.
8. POLE HOLES CONTAINING WATER SHALL BE PUMPED DRY BEFORE PLANTING THE POLE AND PLACING THE BACKFILL; WHERE THIS IS IMPRACTICAL USE ROCK FOR BACKFILL.
9. HOLES DUG WITH A BACKHOE SHALL ALWAYS BE DUG WITH THE LINE AND THE BUCKET SIZE LIMITED TO 20" IN WIDTH.
10. METHODS FOR INCREASING POLE STABILITY ARE SHOWN ON PAGE 3-6.

POLE SETTING DEPTH	
POLE LENGTH (FT)	SETTING DEPTH (FT)
30	5'-0"
35	5'-6"
40	6'-0"
45	6'-6"
50	7'-0"
55	7'-6"
60	8'-0"
65	8'-6"

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DATE: May 2, 2018
DRAWN: C. Rose
REV.:
DATE:

DISTRIBUTION STANDARDS	
POLE INSTALLATION DETAILS	
APPROVED BY:	STANDARD NO. 3-4
DATE:	

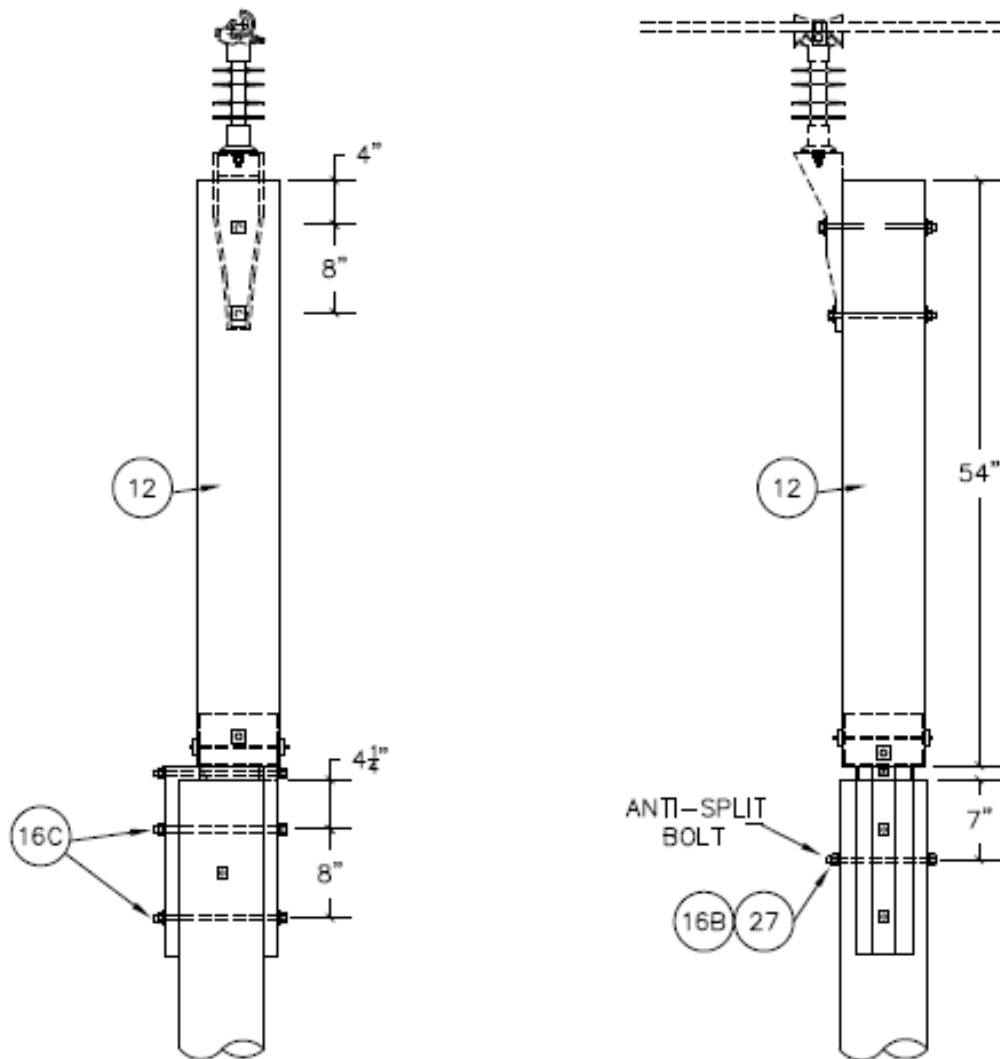


NOTES:

1. ALL NEW POLES ARE PRE-DRILLED, PRIOR TO PRESERVATIVE TREATMENT AS INDICATED ABOVE - THE DETAILED DIMENSIONS ARE TABULATED ON PAGE 8-4; ALL POLES ARE ALSO GAINED AT RIGHT ANGLES TO THE PRE-DRILLED HOLES.
2. THE ORIENTATION OF THE HOLES DURING INSTALLATION (PLANTING) IS OF PARTICULAR IMPORTANCE IN FRAMING THE POLES; THE ABOVE DIAGRAMS INDICATE THE LOCATION OF THE GAIN IN ASSOCIATION WITH THE LINE, THE LINE ANGLES AND THE STRUCTURE TYPE.
3. FOR STRUCTURE TYPE "A" & "DE" THE GAIN SHALL FACE THE LINE TANGENT; FOR STRUCTURE TYPE "DV" THE GAIN SHALL FACE ONE OF THE LINE TANGENTS; FOR STRUCTURES TYPE "CV" THE GAIN SHALL FACE THE BISECTOR OF THE LINE ANGLES; FOR STRUCTURES TYPE "B", "B2" & "D" THE GAIN SHALL BE PERPENDICULAR TO THE BISECTOR OF THE LINE ANGLES.
4. A BOLT, ROD, OR DOWEL SHOULD BE PLACED IN THE APPROPRIATE HOLE, AS INDICATED IN THE SKETCHES ABOVE, TO ASSIST THE POLE PLANTING CREW IN OBTAINING THE CORRECT ORIENTATION.



DATE: May 2, 2018	DISTRIBUTION STANDARDS	
DRAWN: C. Rose		
REV.:	POLE PLANTING - ORIENTATION OF HOLES	
DATE:		
	APPROVED BY:	STANDARD NO.
	DATE:	
		3-5



NOTES:

1. POLE TOP EXTENSIONS ARE TO BE USED ONLY WHERE A POLE REPLACEMENT WOULD OTHERWISE BE NECESSARY, e.g., THEY SHOULD NOT BE USED ON NEW CONSTRUCTION.
2. INSTALL EXTENSION WITH MOUNTING BOLTS PERPENDICULAR TO DIRECTION OF CONDUCTOR.
3. POLE TOP EXTENSION MAY BE USED ON SERVICE POLES TO RAISE EXISTING SERVICES OR ON A SINGLE PHASE STRUCTURE.
4. EXTENSION SHOULD ONLY BE USED ON SINGLE PHASE TANGENT STRUCTURES WITH A MAXIMUM WIND SPAN OF 125 FEET.
5. INSTALL ANTI-SPLIT BOLT AS SHOWN TO PREVENT SPLITTING.
6. EXTENSIONS ARE PRE-DRILLED FOR POLE TOP BRACKET. HOLES FOR OTHER ATTACHMENTS MAY BE DRILLED IN FIELD.
7. POLE STRENGTH IS REDUCED APPROXIMATELY 20% WITH THE ADDITION OF A POLE TOP EXTENSION.

ITEM NO.	QUANTITY	MATERIAL	STOCK NO.
12	1	EXTENSION - FIBREGLASS POLE TOP	633-00031
16B	1	BOLT - MACH. 5/8 X 10" (ANTI SPLIT)	098-00014
16C	2	BOLT - MACH. 5/8 X 12"	098-00015
27	2	WASHER - SQUARE, 2 1/4"	973-00005



DATE: APRIL 2016

DRAWN: CC

REV:

DATE:

DISTRIBUTION STANDARDS

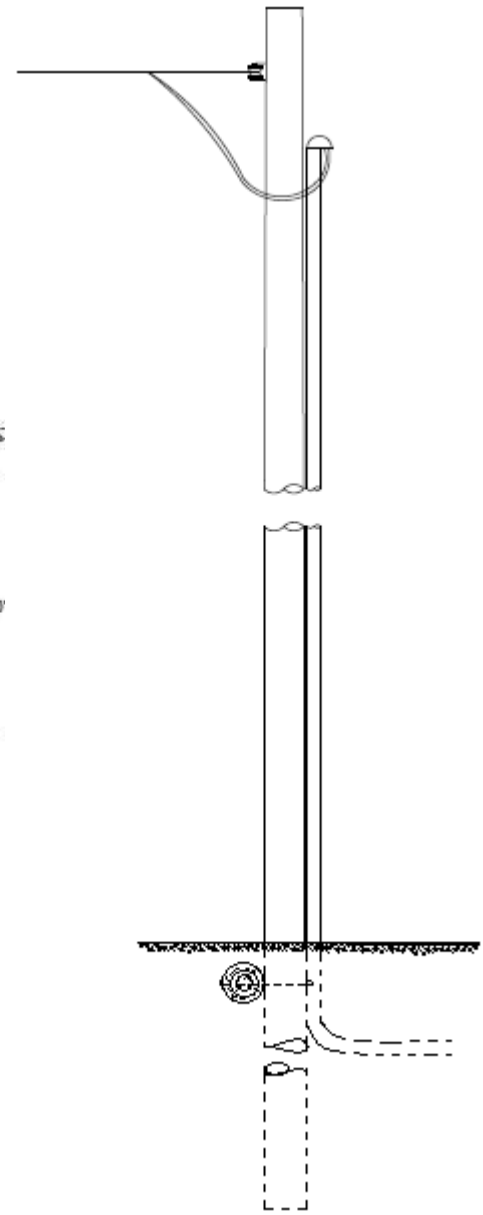
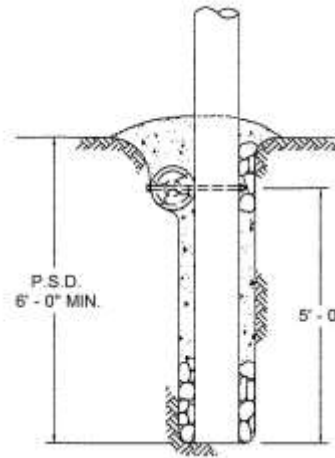
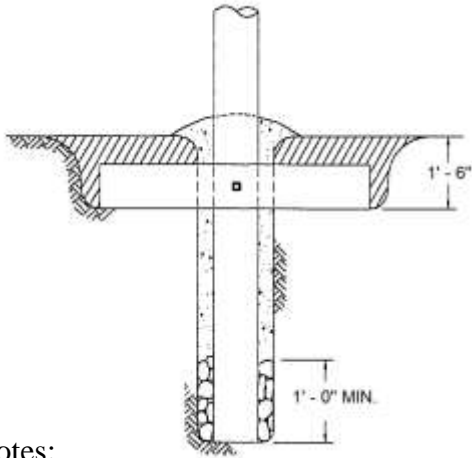
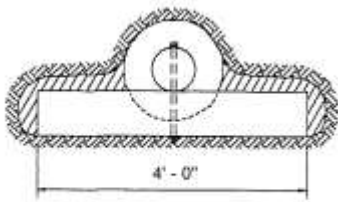
**FIBREGLASS POLE TOP EXTENSION
MOUNTING DETAILS**

APPROVED BY:

DATE :

STANDARD NO.

3-6



Notes:

1. A SELF-SUPPORTING STRUCTURE IS FOR SERVICE DROPS ONLY, SECONDARY AND PRIMARY INSTALLATIONS REQUIRE AN ANCHOR & GUY.
2. IN LOCATIONS WHERE THE GROUND CONDITIONS ARE POOR AND IT IS NOT PRACTICAL TO INSTALL A GUY, A LOG KEY CAN BE INSTALLED JUST BELOW THE GROUND TO INCREASE THE BEARING AREA AND INCREASE THE STRUCTURE RESISTANCE TO OVERTURNING.
3. THE KEY SHOULD BE 4'-0" IN LENGTH AND NOT LESS THAN 10" IN DIAMETER; TREATED TIMBER 8" X 8" X 4'-0" IS ALSO ACCEPTABLE.
4. WHEN DIGGING THE POLE HOLE AND INSTALLING THE STRUCTURE, THE FOLLOWING PROCEDURE SHOULD BE FOLLOWED:
 - a. DIG THE POLE HOLE TO A MINIMUM DEPTH OF 6'-0".
 - b. DIG TRENCH FOR SUPPORTING LOG TO A DEPTH OF 1'-6"; SPECIAL CARE MUST BE TAKEN IN DIGGING THIS TRENCH SINCE THE EFFECTIVENESS OF THE SUPPORTING LOG WILL DEPEND ON THE UNDISTURBED EARTH AT THE BACK OF THIS TRENCH. THE BACK OF THIS TRENCH SHOULD BE APPROXIMATELY 15 INCHES FROM THE CENTRE OF THE HOLE.
 - c. ATTACH THE SUPPORT LOG (KEY) TO THE POLE WITH A MACHINE BOLT, AT 5'-0" FROM THE BUTT.
 - d. INSTALL THE POLE, WITH THE SUPPORT LOG ATTACHED, SO THAT THE SUPPORT LOG IS INSTALLED TIGHTLY AGAINST THE BACK OF THE TRENCH.
 - e. PLACE A FOOTING (12") OF THOROUGHLY TAMPED ROCK. (WITH EXPERIENCE WE MAY FIND THAT THE POLE SHOULD BE INSTALLED A FEW INCHES OFF VERTICAL AND STRAIGHTENED AFTER THE FOOTING ECT. HAS BEEN INSTALLED.)
 - f. PLACE THE BACKFILL IN THOROUGHLY TAMPED LAYERS.
 - g. ALL OTHER INSTALLATION PROCEDURES SHOULD BE AS PER THE DETAILS ON PAGE 3-5, STANDARD POLE INSTALLATION DETAILS.



DATE: May 4, 2018
DRAWN: C. Rose
REV.:
DATE:

DISTRIBUTION STANDARDS	
SELF-SUPPORTING STRUCTURE	
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DATE:	