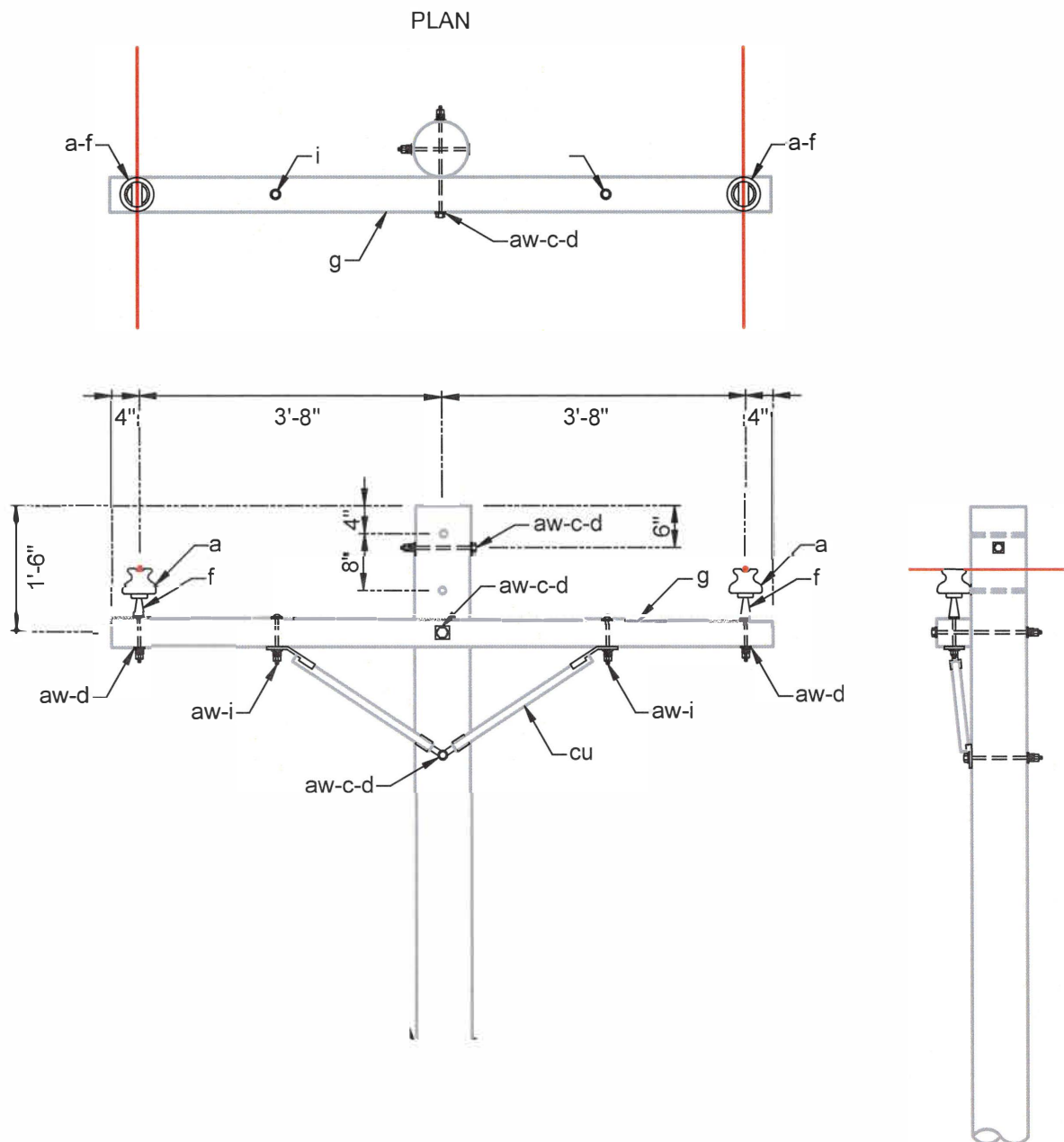




ITEM	No.	MATERIAL	ITEM	No.	MATERIAL
a	2	Insulator, pin type	i	2	Bolt, carriage, 1/2" x 6"
aw	7	Spring washer			
c	3	Bolt, machine, 5/8" x required length			
cm	1	Spool insulator			
cu	2	Brace, wood, 36", medium duty			
d	7	Washer, square 2-1/4"			
f	2	Pin, crossman, steel			
g	1	Crossarm			

DESIGN LIMITS

Max. transverse load: 500 lbs. per conductor.

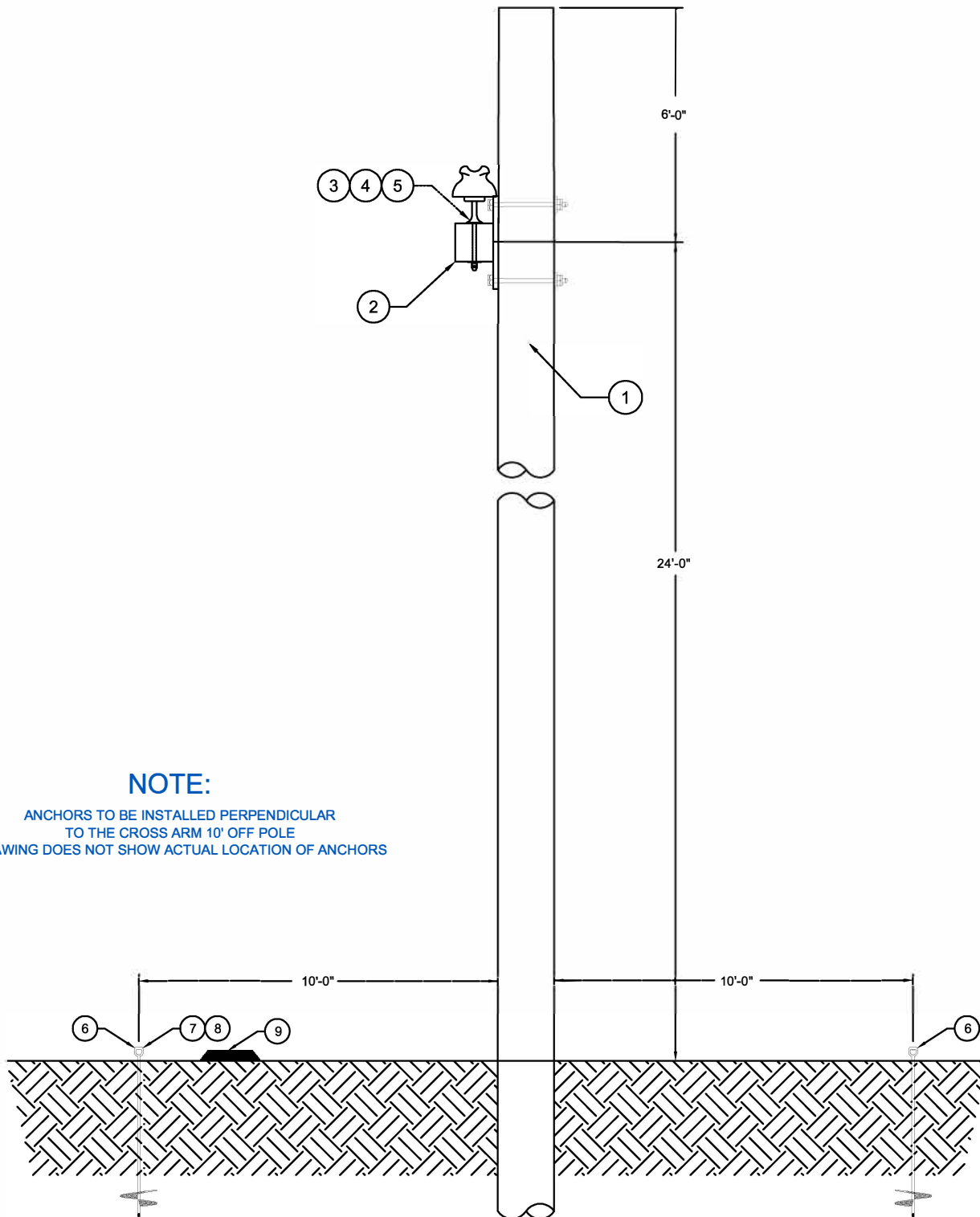
Max. line angle within load limits: 5°

12.5/7.2 kV PRIMARY, 2-PHASE
CROSSARM CONSTRUCTION
SINGLE PRIMARY SUPPORT

Hurtman Rescue

MMUA
Minnesota Municipal Utilities Association

Minnesota Rodeo



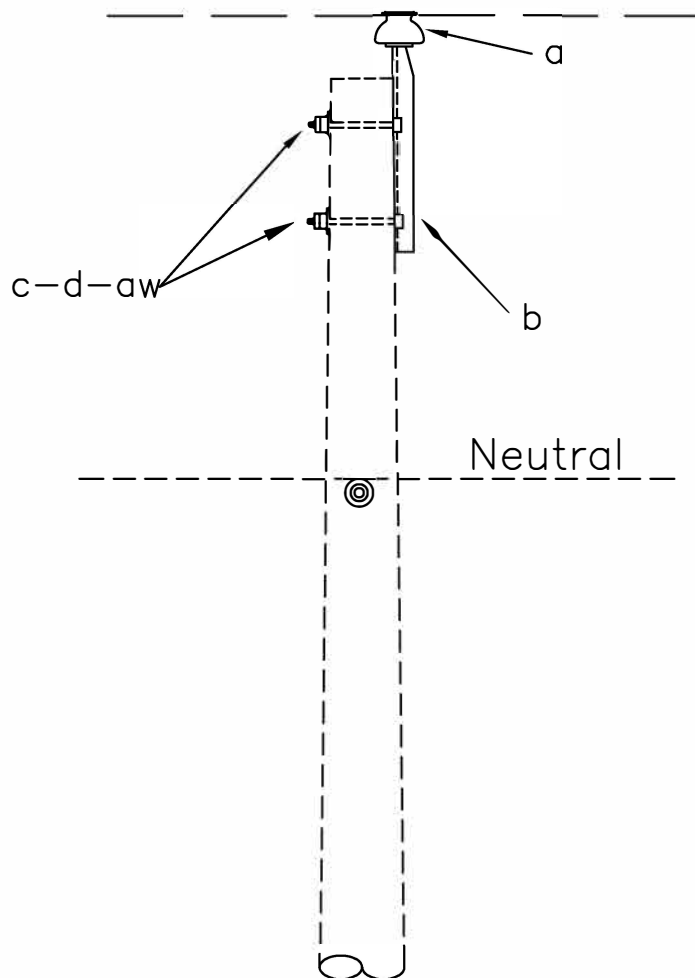
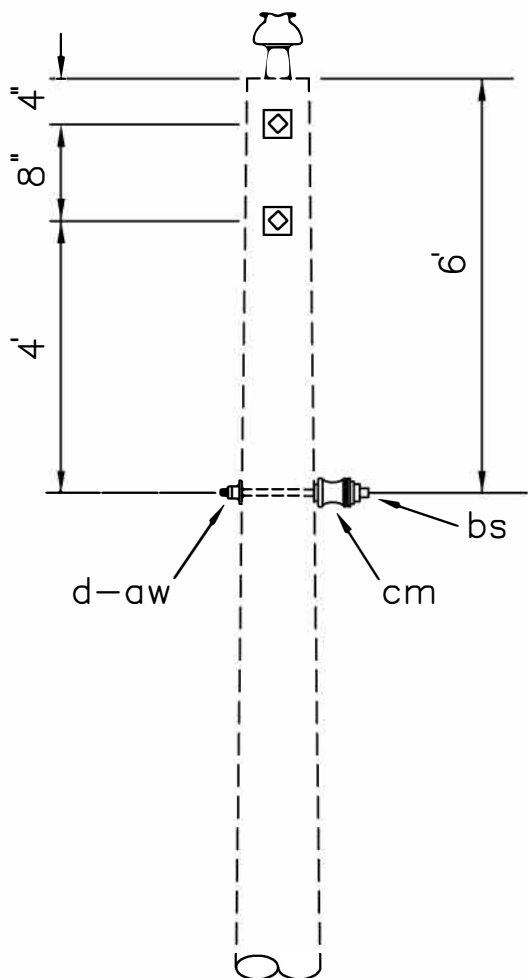
NOTE:

ANCHORS TO BE INSTALLED PERPENDICULAR
TO THE CROSS ARM 10' OFF POLE
DRAWING DOES NOT SHOW ACTUAL LOCATION OF ANCHORS

#	MATERIAL DESCRIPTION	QTY	VENDOR DESCRIPTION	#	MATERIAL DESCRIPTION	QTY	VENDOR DESCRIPTION
1	40' POLE	1		6	ANCHORS 6'	2	HUBBELL 10146
2	8' FIBERGLASS ARM	1	CROSSARM, PUI(TANGENT ASSEMBLY)	7	GUY WIRE 3/8" X 20' (PRE-ATTACHED)	1	NATIONAL STRAND 38GFEX7855C0500
3	MACHINE BOLT 5/8" X REQUIRED LENGTH	2		8	3/8" GUY PREFORM (PRE-ATTACHED)	1	PLP GDE1107
4	15 kV POLY INSULATOR	2	PLP IP-15-C	9	3/8" X 70' NYLON BRAIDED ROPE	1	
5	CROSSARM PINS	2	HUBBELL 883P				

3			
2			
1			
0			
REVISED	BY	APPR.	

Rope Toss Minnesota Lineworkers Rodeo



ITEM	MATERIAL	QTY	
a	Insulator, pin type (12.47/7.2 kV)	1	
b	Pin, pole top, 20"	1	
c	Bolt, machine, 5/8" x req'd length	2	
d	Washer, square 2 1/4"	3	
bs	Bolt, single, upset	1	
cm	Insulator, spool, 3"	1	



Minnesota Municipal Utilities Association

Single Phase Equipotential
Grounding

Minnesota Rodeo

1 - PHASE PRIMARY
12.47/7.2 kV

A1.1 (A1)