

**BILL OF MATERIAL (Type of CU: POLE)**

CU: C*PT-TV-3IHDA				
ITEM NO.	QTY.	UOM	IUSA MID	
1	11	EA	1000910800	NUT LCK MF SQ 7/8" BOLT GALV
2	4	EA	1000910900	NUT LCK MF SQ 1" BOLT GALV
3	15	EA	6000273770	NUT SQ 7/8" BOLT GALV
4	2	EA	1000912000	NUT SQ 1" BOLT GALV
5	2	EA	1035475014	BOLT SQ HEAD 7/8 X 14 W/ SQ NUT (NOTE F)
6	4	EA	1035475020	BOLT SQ HEAD 7/8 X 20 W/ SQ NUT (NOTE F)
7	2	EA	6000272610	BOLT STUD, GALV., 1 X 30 W/ 2 SN (NOTE F)
8	2	EA	6000270300	BOLT BENT, GALV., 7/8 X 7-1/2 W/SN & LOCKNUT
9	1	EA	6000270301	BOLT STUD, BENT, GALV., 7/8 X 10 W/ 2 SN & LOCKNUTS
10	2	EA	6000272300	BOLT DRILLED, GALV., 7/8 X 4-3/4 W/SN & COTTER PIN
11	10	EA	6000274612	WASHER HELICAL (7/8")
12	4	EA	6000274614	WASHER HELICAL (1")
13	6	EA	6000274880	WASHER 4" SQ CURVED (7/8")
14	4	EA	6000274844	WASHER 4" SQ FLAT (1")
15	3	EA	6000274380	PLATE XARM SPACER ASSEMBLY HVY DUTY (NOTE G)
16	2	EA	6000274505	DEAD END TEE, 60K
17	2	EA	6000273225	GAIN GRID, 4" X 6-3/4", BONDING F/ 1" BOLTS
18	4	EA	6000273255	GAIN GRID, 4" X 6-3/4", XARM BONDING F/ 1" BOLTS
19	2	EA	6000273231	GAIN GRID, 4-1/2" X 9", BONDING F/ 7/8 BOLTS
20	2	EA	6000250966	GRIP PRFRMD GUY 7#8 AWLD
21	30	FT	6000205428	WIRE ALWD GUY 7#8
22	2	EA	1010145562	THMBL ROLLER 3-1/4" DIA 1-1/16" H
23	1	EA	6000274527	TURNBUCKLE, 7/8 X 27 (+/- 6 IN), JAW-ROD, 30K
24	2	EA	6000272872	CLEVIS, DEADEND, 6-3/4 IN LENGTH, 25K
25	2	EA	6000740125	BRACE TENSION, ADJUSTABLE, 198 IN, 30K
26	2	EA	6000740175	BRACE VEE, 198 IN, 30K
27	2	EA	6000272990	CLIP TWISTED, GALV. 1/2" THICK, 32° BEND ANGLE
28	9	EA	1036200007	CLMP GRND WIRE U-CLIP 15/16" H
29	2	EA	1036200008	CLMP GRND WIRE U-CLIP 1-1/16" H
30	2	EA	6000113887	CONN COMP #2 SOL - 19#8 AWLD
31	15	EA	6000113712	WISE, PAR GROOVE GRND CNCTR BRZ, NO. 2 AWG CWLD
32	2	EA	6000820052	POLE TOPPER 19"

**BILL OF MATERIAL (Type of CU: XARM)**

CU: C*PT-TT-3L-C-QD89				
ITEM NO.	QTY.	UOM	IUSA MID	
33	1 CU	EA	6000740781	DOUBLE CROSSARM, LAMINATED WOOD, 5-1/8" X 7-1/2" X 53' 2-1/2"

**BILL OF MATERIAL (Type of CU: INSO)**

CU: C*CT-TI-9P-D3-18				
ITEM NO.	QTY.	UOM	IUSA MID	
34	3 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (18 UNITS/STRING)
CU: C*CT-TI-3Y-P3-P				
ITEM NO.	QTY.	UOM	IUSA MID	
34	3 CUs	EA	6000313011	INS POLY Y-BALL 30K 18 UNIT EQ. W/COR RING

CU FUNCTION: TL69 FOR 35KV & 46KV, TG69 FOR 69KV THRU 344KV, T345 FOR 345KV & GREATER.

FOR CORRECT CU: SUBSTITUTE 5 FOR NYSEG, 6 FOR CMP OR 9 FOR RG&E IN PLACE OF ASTERISK (C\* ).

NOTE A: OTHER STANDARD DRAWINGS REQUIRED:  
 TD FOUNDATION & BACKFILL  
 TG GROUND WIRE & GROUND ROD DETAIL  
 TK MARKINGS  
 TQ CROSS-BRACE ASSEMBLIES

NOTE B: POLE DRILLING: 7/8" BOLT - 15/16" DIAMETER HOLE  
 1" BOLT - 1-1/16" DIAMETER HOLE

NOTE C: TO LOCATE THIS HOLE ASSEMBLE CROSSARM, BRACES AND ASSOCIATED HARDWARE POSITION BRACES AGAINST POLE AND MARK POLE FOR DRILLING AT HOLES IN DEAD END TEE AND HOLE IN END PLATE.

NOTE D: TO SEAT SPIKE GRIDS ASSEMBLE ARMS, BRACES AND OTHER REQUIRED HARDWARE. HAND TIGHTEN TO ENSURE FIT. USE HYDRAULIC TOOLS TO SEAT GRIDS PROPERLY.

NOTE E: STRUCTURES USING 100' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES, REFER TO SECTION TQ FOR ADDITIONAL CROSS BRACE ASSEMBLY.

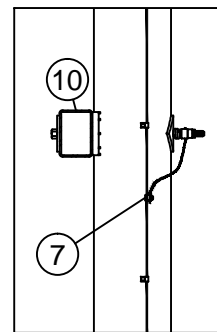
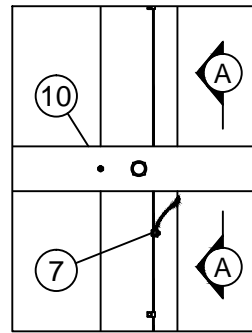
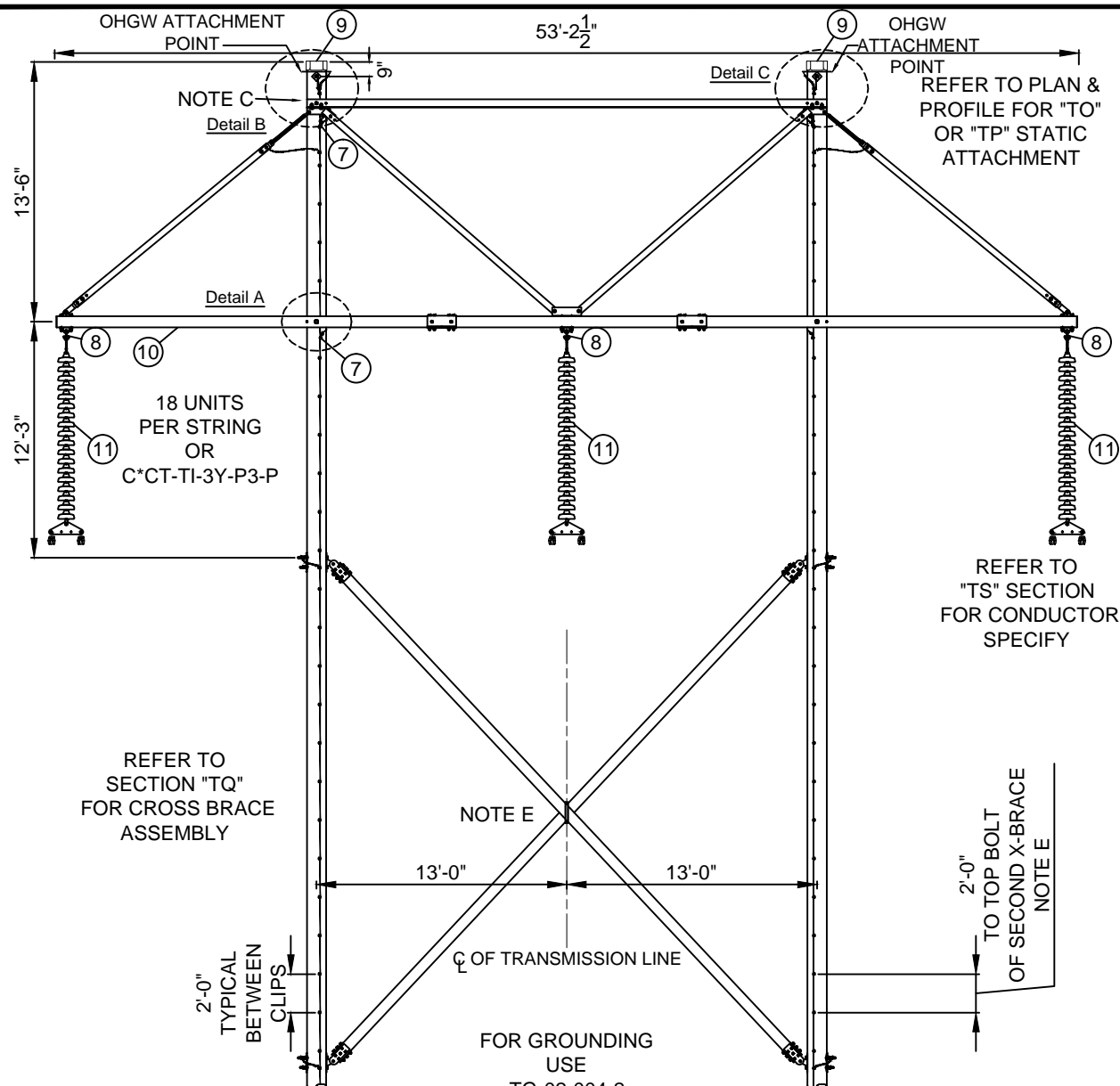
NOTE F: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE DIAMETER OF THE POLE USED. SUBSTITUTE MATERIAL ID (MID) ON THE WORK ORDER COMPONENTS PAGE FOR THE LENGTH NEEDED IF DIFFERENT THAN THE GENERIC LENGTH SHOWN IN THE BILL OF MATERIALS. CONTACT SYSTEM ENGINEERING - TRANSMISSION SECTION IF YOU NEED ASSISTANCE.

NOTE G: MOUNTING BOLTS, NUTS AND WASHERS ARE PROVIDED WITH THE SPACER ASSEMBLY.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

Contact Engineering Standards - Transmission Section for the creation of new standards and CUs. Drawing Scale: 1" = 10'

	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 345KV H-FRAME SINGLE CIRCUIT - MAINTENANCE ONLY TANGENT H-FRAME - BUNDLED CONDUCTOR CMP TYPE EAR-1	REVISION 00 DATE 5/21/2015
	Drwn. By: B. Franklin Date Dr.: 10/01/2013 Checked By: Becken/Hart Date Ck.: 3/05/2015 Approved By: Barry R. Hart Date App.: 4/16/2015	<b>TM2.23.TV-3IHDA-X</b>	Sheet 1



Section A-A

**BILL OF MATERIAL (Type of CU: POLE)**

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TV-3IHTA
1	2	EA	1000910800	NUT LCK MF SQ 7/8" BOLT GALV
2	2	EA	6000273770	NUT SQ 7/8" BOLT GALV
3	2	EA	1035475014	BOLT SQ HEAD 7/8 X 14 W/ SQ NUT (NOTE F)
4	2	EA	6000274612	WASHER HELICAL (7/8")
5	4	EA	6000274880	WASHER 4" SQ CURVED (7/8")
6	2	EA	1036200007	CLMP GRND WIRE U-CLIP 15/16" H
7	10	EA	6000113712	WISE, PAR GROOVE GRND CNCTR BRZ, NO. 2 AWG CWLD
8	3	EA	1039220531	SHCKL ANCH 7/8 BNK 1-1/4 OPNG
9	2	EA	6000820052	POLE TOPPER 19"

**BILL OF MATERIAL (Type of CU: XARM)**

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TT-3S-A-FC53
10	1 CU	EA	1036235452	SINGLE CROSSARM, STEEL, 7" X 7" X 53"

**BILL OF MATERIAL (Type of CU: INSO)**

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9P-D3-18
11	3 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (18 UNITS/STRING)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-3Y-P3-P
11	3	EA	6000313011	INS POLY Y-BALL 30K 18 UNIT EQ. W/COR RING

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

CU MACRO	CONDUCTOR	STATIC	COND SPECIFY	STATIC SPECIFY
C*M-TV3IHTA-X2L2	(6) - 850.8 ACSR 45/7	(2) - 7#8 AWLD	TS-S2A2Y1-X	(2) TP-W-TS-G-L
C*M-TV3IHTA-X2LQ	(6) - 850.8 ACSR 45/7	(1) - 7#8 AWLD (1) - .472" 36 FIBER OPGW	TS-S2A2Y1-X	TP-W-TS-G-L TO-W-TS-G-Q
C*M-TV3IHTA-X2LR	(6) - 850.8 ACSR 45/7	(1) - 7#8 AWLD (1) - .602" 36 FIBER OPGW	TS-S2A2Y1-X	TP-W-TS-G-L TO-W-TS-G-R
C*M-TV3IHTA-12L2	(6) - 900 ACSR 54/7	(2) - 7#8 AWLD	TS-S2A2Y1-1	(2) TP-W-TS-G-L
C*M-TV3IHTA-12LQ	(6) - 900 ACSR 54/7	(1) - 7#8 AWLD (1) - .472" 36 FIBER OPGW	TS-S2A2Y1-1	TP-W-TS-G-L TO-W-TS-G-Q
C*M-TV3IHTA-12LR	(6) - 900 ACSR 54/7	(1) - 7#8 AWLD (1) - .602" 36 FIBER OPGW	TS-S2A2Y1-1	TP-W-TS-G-L TO-W-TS-G-R

CU FUNCTION: TL69 FOR 35KV & 46KV, TG69 FOR 69KV THRU 344KV, T345 FOR 345KV & GREATER.

FOR CORRECT CU: SUBSTITUTE 5 FOR NYSEG, 6 FOR CMP OR 9 FOR RG&E IN PLACE OF ASTERISK (C\* ).

NOTE A: OTHER STANDARD DRAWINGS REQUIRED:  
 TD FOUNDATION & BACKFILL  
 TG GROUND WIRE & GROUND ROD DETAIL  
 TK MARKINGS  
 TQ CROSS-BRACE ASSEMBLIES

NOTE B: POLE DRILLING: 7/8" BOLT - 15/16" DIAMETER HOLE  
 X-ARM BOLT - 1-5/16" DIAMETER HOLE

NOTE C: TO LOCATE THIS HOLE ASSEMBLE CROSSARM, BRACES AND ASSOCIATED HARDWARE POSITION BRACES AGAINST POLE AND MARK POLE FOR DRILLING AT HOLES IN DEAD END TEE AND HOLE IN END PLATE.

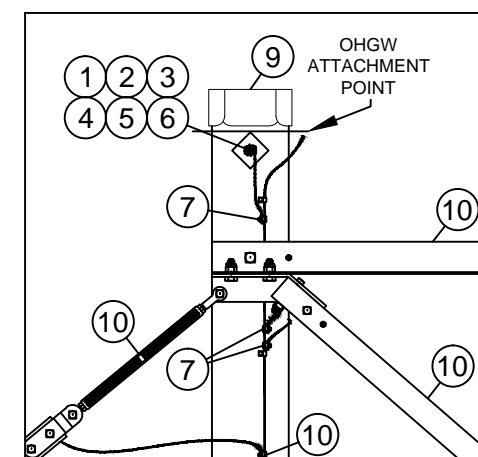
NOTE D: TO SEAT SPIKE GRIDS ASSEMBLE ARMS, BRACES AND OTHER REQUIRED HARDWARE. HAND TIGHTEN TO ENSURE FIT. USE HYDRAULIC TOOLS TO SEAT GRIDS PROPERLY.

NOTE E: STRUCTURES USING 100' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES, REFER TO SECTION TQ FOR ADDITIONAL CROSS BRACE ASSEMBLY.

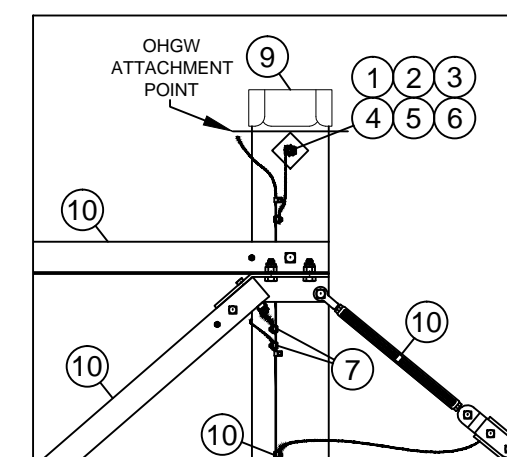
NOTE F: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE DIAMETER OF THE POLE USED. SUBSTITUTE MATERIAL ID (MID) ON THE WORK ORDER COMPONENTS PAGE FOR THE LENGTH NEEDED IF DIFFERENT THAN THE GENERIC LENGTH SHOWN IN THE BILL OF MATERIALS. CONTACT SYSTEM ENGINEERING - TRANSMISSION SECTION IF YOU NEED ASSISTANCE.

NOTE G: MOUNTING BOLTS, NUTS, WASHERS, GAINS, BONDING HARDWARE, BRACES AND CROSS-TIE ARE PROVIDED IN THE CROSSARM CU.

NOTE H: REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES.



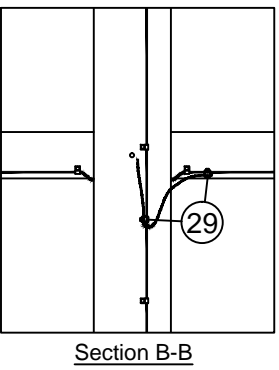
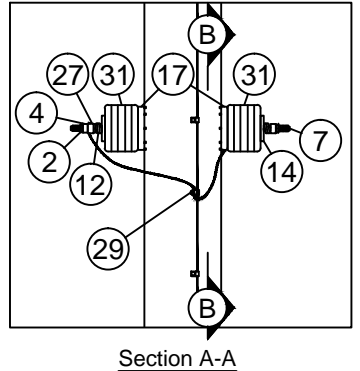
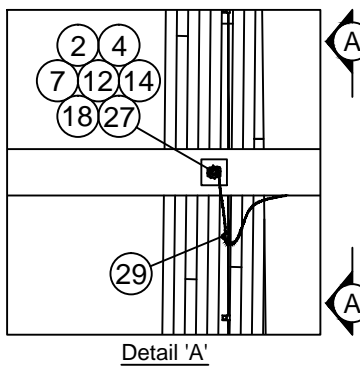
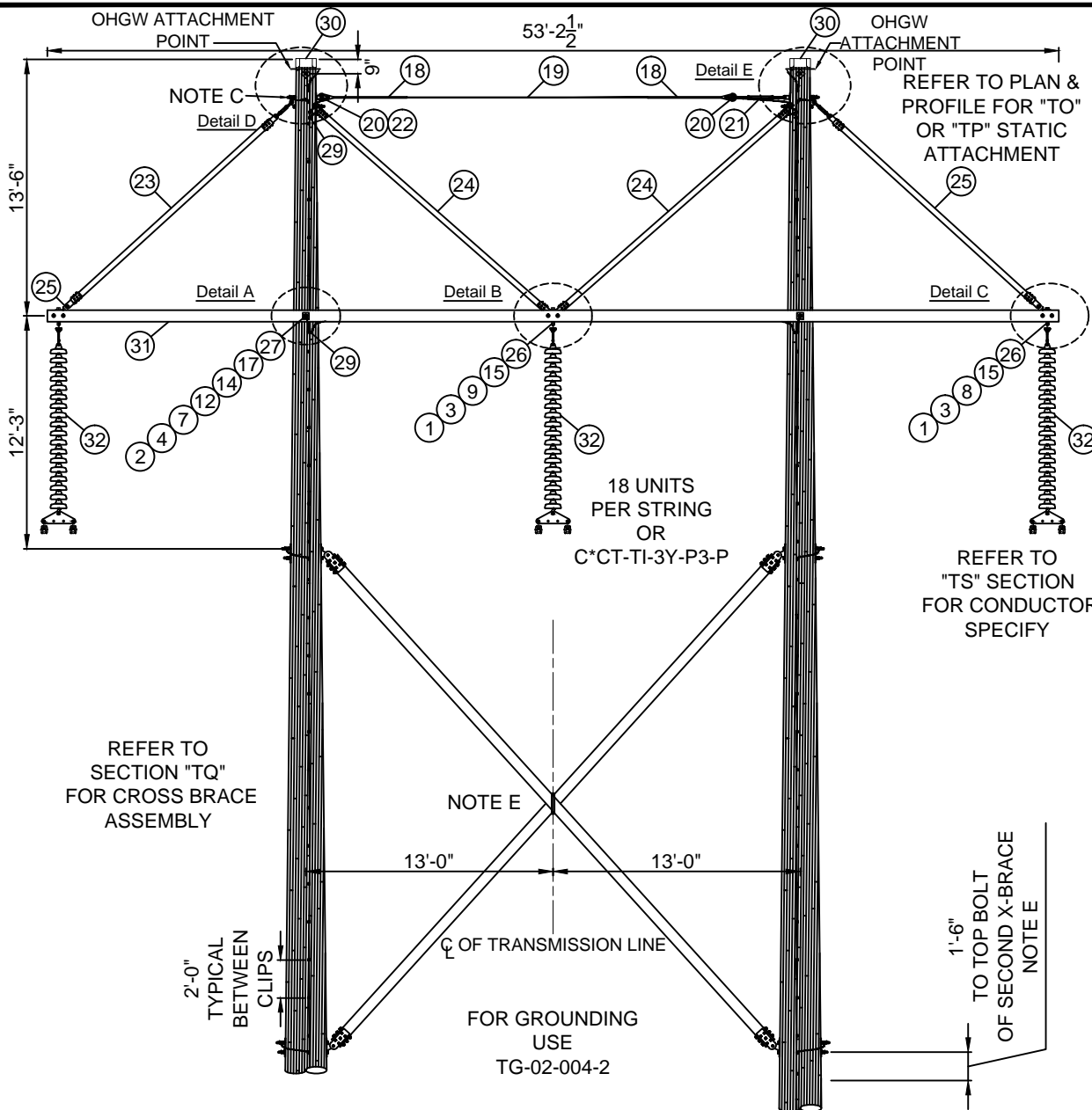
Detail 'B'



Detail 'C'

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Contact Engineering Standards - Transmission Section for the creation of new standards and CUs.			Drawing Scale: 1" = 10'	
	<b>TRANSMISSION CONSTRUCTION STANDARDS MANUAL</b>	<b>STRUCTURE STANDARDS - WOOD</b> 345KV H-FRAME SINGLE CIRCUIT - MAINTENANCE ONLY TANGENT H-FRAME - SINGLE STEEL CROSSARM - BUNDLED CONDUCTOR CMP TYPE EAR-1		REVISION 00 DATE 5/21/2015
		Drwn. By: B. Franklin Date Dr.: 10/01/2013	Checked By: Becken/Hart Date Ck.: 3/05/2015	Approved By: Barry R. Hart Date App.: 4/16/2015



**BILL OF MATERIAL (Type of CU: POLE)**

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TV-3KHDA
1	11	EA	1000910800	NUT LCK MF SQ 7/8" BOLT GALV
2	4	EA	1000910900	NUT LCK MF SQ 1" BOLT GALV
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11	10	EA	6000274612	WASHER HELICAL (7/8")
12	4	EA	6000274614	WASHER HELICAL (1")
13	6	EA	1000946500	WASHER 4" SQ FLAT (7/8")
14	4	EA	6000274844	WASHER 4" SQ FLAT (1")
15	3	EA	6000274380	PLATE XARM SPACER ASSEMBLY HVY DUTY (NOTE G)
16	2	EA	6000274505	DEAD END TEE, 60K
17	4	EA	6000273195	GAIN GRID, CROSSARM FOR LAM. WOOD
18	2	EA	6000250966	GRIP PRFRMD GUY 7#8 AWLD
19	30	FT	6000205428	WIRE ALWD GUY 7#8
20	2	EA	1010145562	THMBL ROLLER 3-1/4" DIA 1-1/16" H
21	1	EA	6000274527	TURNBUCKLE, 7/8 X 27 (+/- 6 IN), JAW-EYE, 30K
22	2	EA	6000272872	CLEVIS, DEADEND, 6-3/4 IN LENGTH, 25K
23	2	EA	6000740125	BRACE TENSION, ADJUSTABLE, 198 IN, 30K
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**BILL OF MATERIAL (Type of CU: INSO)**

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32	3 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (18 UNITS/STRING)
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-3Y-P3-P
32	3 CUs	EA	6000313011	INS POLY Y-BALL 30K 18 UNIT EQ. W/COR RING

CU FUNCTION: TL69 FOR 35KV & 46KV, TG69 FOR 69KV THRU 344KV, T345 FOR 345KV & GREATER.

FOR CORRECT CU: SUBSTITUTE 5 FOR NYSEG, 6 FOR CMP OR 9 FOR RG&E IN PLACE OF ASTERISK (C\*\_).

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 TG GROUND WIRE & GROUND ROD DETAIL  
 TK MARKINGS  
 TQ CROSS-BRACE ASSEMBLIES

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 1" BOLT - 1-1/16" DIAMETER HOLE

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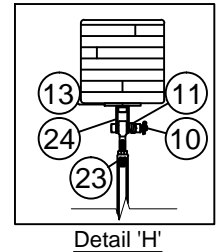
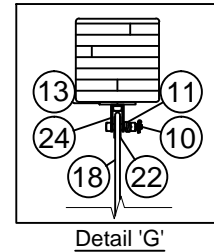
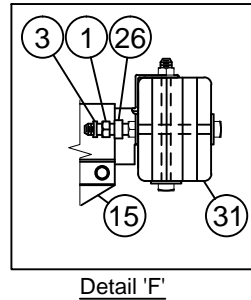
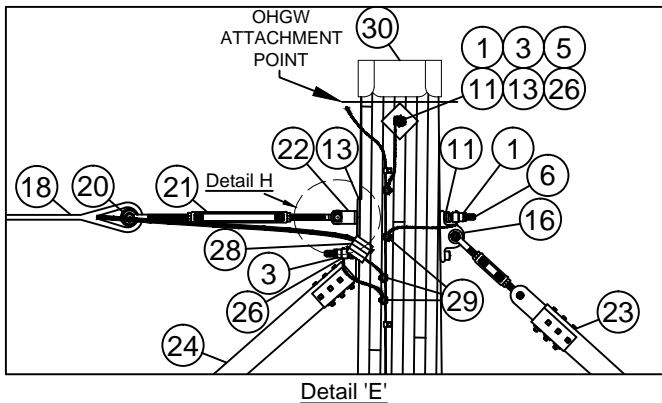
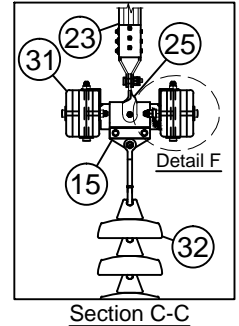
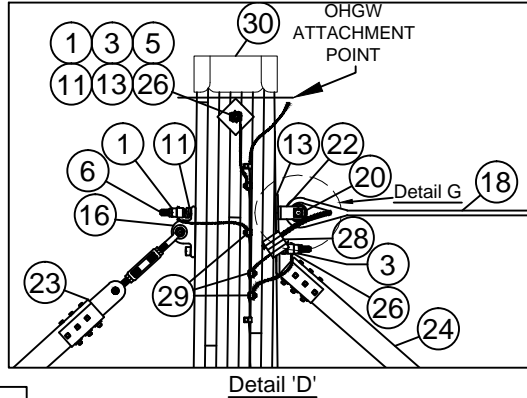
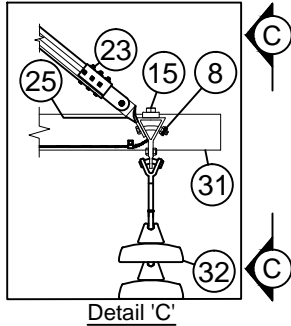
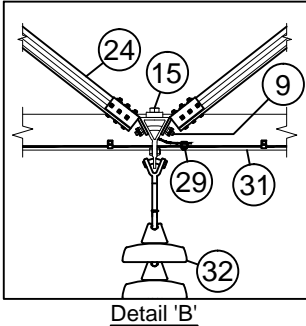
NOTE G: MOUNTING BOLTS, NUTS AND WASHERS ARE PROVIDED WITH THE SPACER ASSEMBLY.

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Contact Engineering Standards - Transmission Section for the creation of new standards and CUs.			Drawing Scale: 1" = 10'	
	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - LAMINATED WOOD 345KV H-FRAME SINGLE CIRCUIT - MAINTENANCE ONLY TANGENT H-FRAME - BUNDLED CONDUCTOR CMP TYPE EAR-1		REVISION 00
				DATE 5/21/2015
Drwn. By: B. Franklin	Date Dr.: 10/01/2013	Checked By: Becken/Hart	Date Ck.: 3/05/2015	Approved By: Barry R. Hart Date App.: 4/16/2015
TM2.23.TV-3KHDA-X				Sheet 1

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

CU MACRO	CONDUCTOR	STATIC	COND SPECIFY	STATIC SPECIFY
C*M-TV3KHDA-X2L2	(6) - 850.8 ACSR 45/7	(2) - 7#8 AWLD	TS-S2A2Y1-X	(2) TP-L-TS-G-L
C*M-TV3KHDA-X2LQ	(6) - 850.8 ACSR 45/7	(1) - 7#8 AWLD (1) - .472" 36 FIBER OPGW	TS-S2A2Y1-X	TP-L-TS-G-L TO-L-TS-G-Q
C*M-TV3KHDA-X2LR	(6) - 850.8 ACSR 45/7	(1) - 7#8 AWLD (1) - .602" 36 FIBER OPGW	TS-S2A2Y1-X	TP-L-TS-G-L TO-L-TS-G-R
C*M-TV3KHDA-12L2	(6) - 900 ACSR 54/7	(2) - 7#8 AWLD	TS-S2A2Y1-1	(2) TP-L-TS-G-L
C*M-TV3KHDA-12LQ	(6) - 900 ACSR 54/7	(1) - 7#8 AWLD (1) - .472" 36 FIBER OPGW	TS-S2A2Y1-1	TP-L-TS-G-L TO-L-TS-G-Q
C*M-TV3KHDA-12LR	(6) - 900 ACSR 54/7	(1) - 7#8 AWLD (1) - .602" 36 FIBER OPGW	TS-S2A2Y1-1	TP-L-TS-G-L TO-L-TS-G-R



CU FUNCTION: TL69 FOR 35KV & 46KV, TG69 FOR 69KV THRU 344KV, T345 FOR 345KV & GREATER.

FOR CORRECT CU: SUBSTITUTE 5 FOR NYSEG, 6 FOR CMP OR 9 FOR RG&E IN PLACE OF ASTERISK (C\*\_).

REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES.

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Contact Engineering Standards - Transmission Section for the creation of new standards and CUs.

Drawing Scale: N/A



TRANSMISSION  
CONSTRUCTION  
STANDARDS  
MANUAL

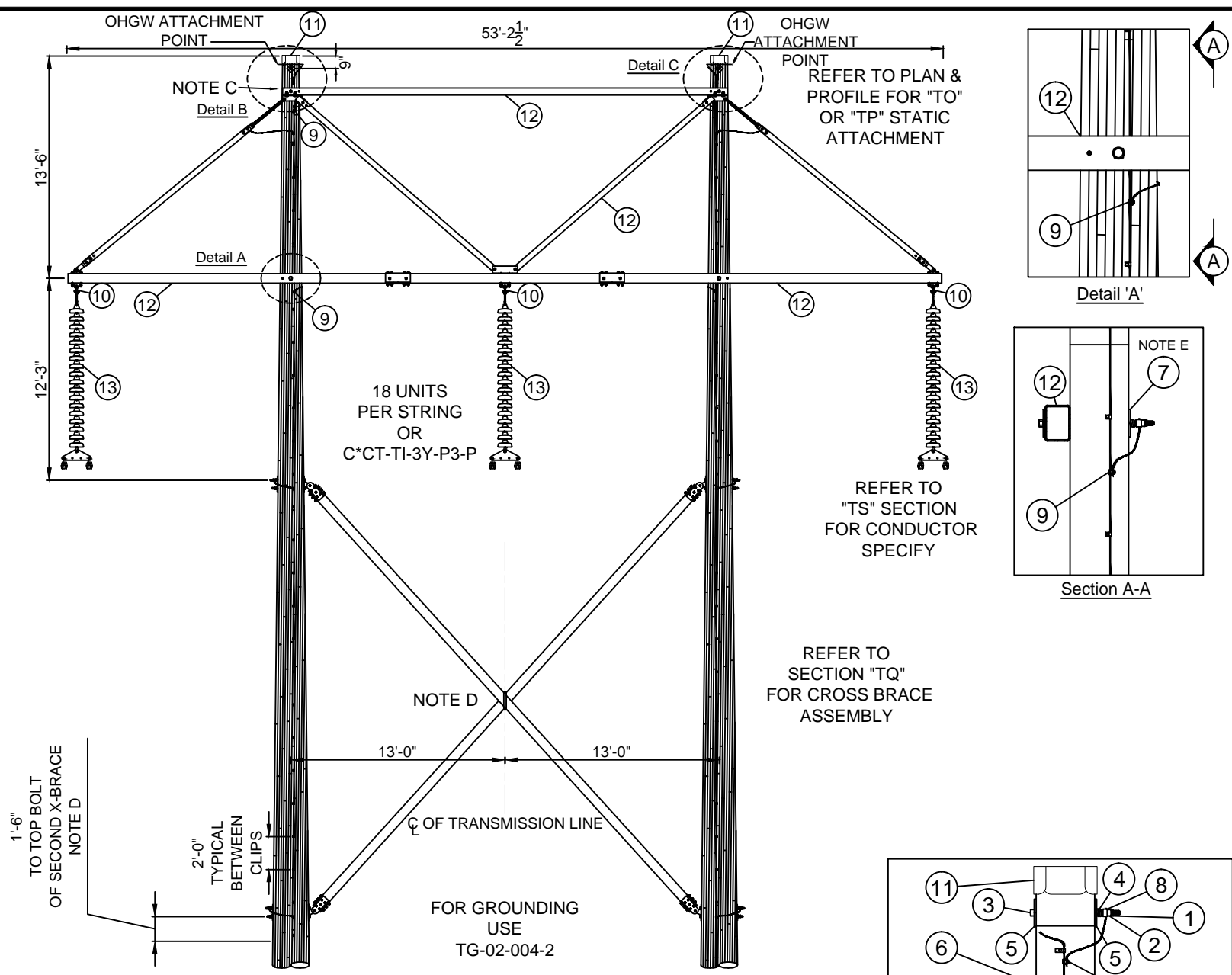
STRUCTURE STANDARDS - LAMINATED WOOD  
345kV H-FRAME SINGLE CIRCUIT - MAINTENANCE ONLY  
TANGENT H-FRAME - BUNDLED CONDUCTOR  
CMP TYPE EAR-1

REVISION
00
DATE
5/21/2015

Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:
B. Franklin	10/01/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/16/2015

TM2.23.TV-3KHDA-X

Sheet 2



**BILL OF MATERIAL (Type of CU: POLE)**

**CU: C\*PT-TV-3KHTA**

ITEM NO.	QTY.	UOM	IUSA MID	DESCRIPTION
1	2	EA	1000910800	NUT LCK MF SQ 7/8" BOLT GALV
2	2	EA	6000273770	NUT SQ 7/8" BOLT GALV
3	2	EA	1035475014	BOLT SQ HEAD 7/8 X 14 W/ SQ NUT (NOTE G)
4	2	EA	6000274612	WASHER HELICAL (7/8")
5	4	EA	1000946500	WASHER 4" SQ FLAT (7/8")
6	2	EA	6000274844	WASHER 4" SQ FLAT (1")
7	2	EA	6000274846	WASHER 4" SQ FLAT (1 1/4")
8	2	EA	1036200007	CLMP GRND WIRE U-CLIP 15/16" H
9	10	EA	6000113712	WISE, PAR GROOVE GRND CNCTR BRZ, NO. 2 AWG CWLD
10	3	EA	1039220531	SHCKL ANCH 7/8 BNK 1-1/4 OPNG
11	2	EA	6000820052	POLE TOPPER 19"

**BILL OF MATERIAL (Type of CU: XARM)**

**CU: C\*PT-TT-3S-A-FC53**

ITEM NO.	QTY.	UOM	IUSA MID	DESCRIPTION
12	1 CU	EA	1036235452	SINGLE CROSSARM, STEEL, 7" X 7" X 53"

**BILL OF MATERIAL (Type of CU: INSO)**

**CU: C\*CT-TI-9P-D3-18**

ITEM NO.	QTY.	UOM	IUSA MID	DESCRIPTION
13	3 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (18 UNITS/STRING)

**CU: C\*CT-TI-3Y-P3-P**

ITEM NO.	QTY.	UOM	IUSA MID	DESCRIPTION
13	3 CUs	EA	6000313011	INS POLY Y-BALL 30K 18 UNIT EQ. W/COR RING

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

CU MACRO	CONDUCTOR	STATIC	COND SPECIFY	STATIC SPECIFY
C*M-TV3KHTA-X2L2	(6) - 850.8 ACSR 45/7	(2) - 7#8 AWLD	TS-S2A2Y1-X	(2) TP-L-TS-G-L
C*M-TV3KHTA-X2LQ	(6) - 850.8 ACSR 45/7	(1) - 7#8 AWLD (1) - .472" 36 FIBER OPGW	TS-S2A2Y1-X	TP-L-TS-G-L TO-L-TS-G-Q
C*M-TV3KHTA-X2LR	(6) - 850.8 ACSR 45/7	(1) - 7#8 AWLD (1) - .602" 36 FIBER OPGW	TS-S2A2Y1-X	TP-L-TS-G-L TO-L-TS-G-R
C*M-TV3KHTA-12L2	(6) - 900 ACSR 54/7	(2) - 7#8 AWLD	TS-S2A2Y1-1	(2) TP-L-TS-G-L
C*M-TV3KHTA-12LQ	(6) - 900 ACSR 54/7	(1) - 7#8 AWLD (1) - .472" 36 FIBER OPGW	TS-S2A2Y1-1	TP-L-TS-G-L TO-L-TS-G-Q
C*M-TV3KHTA-12LR	(6) - 900 ACSR 54/7	(1) - 7#8 AWLD (1) - .602" 36 FIBER OPGW	TS-S2A2Y1-1	TP-L-TS-G-L TO-L-TS-G-R

CU FUNCTION: TL69 FOR 35KV & 46KV, TG69 FOR 69KV THRU 344KV, T345 FOR 345KV & GREATER.

FOR CORRECT CU: SUBSTITUTE 5 FOR NYSEG, 6 FOR CMP OR 9 FOR RG&E IN PLACE OF ASTERISK (C\* ).

NOTE A: OTHER STANDARD DRAWINGS REQUIRED:  
 TG GROUND WIRE & GROUND ROD DETAIL  
 TD FOUNDATION & BACKFILL  
 TK MARKINGS  
 TQ CROSS-BRACE ASSEMBLIES

NOTE B: POLE DRILLING: 7/8" BOLT - 15/16" DIAMETER HOLE  
 X-ARM BOLT - 1-5/16" DIAMETER HOLE

NOTE C: TO LOCATE THIS HOLE ASSEMBLE CROSSARM, BRACES AND ASSOCIATED HARDWARE POSITION BRACES AGAINST POLE AND MARK POLE FOR DRILLING AT HOLES IN DEAD END TEE AND HOLE IN END PLATE.

NOTE D: STRUCTURES USING 100' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES, REFER TO SECTION TQ FOR ADDITIONAL CROSS BRACE ASSEMBLY.

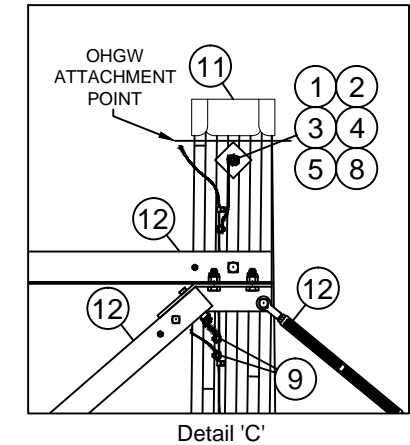
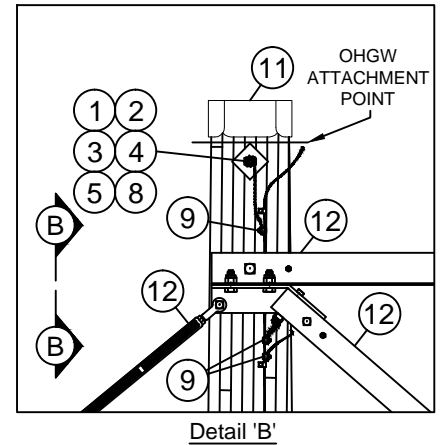
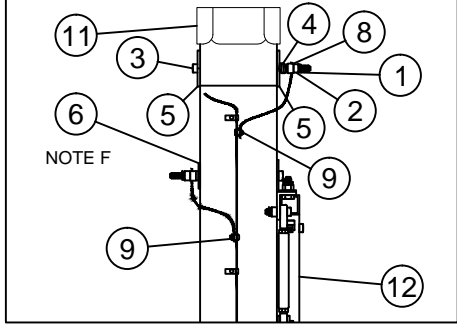
NOTE E: USE FLAT WASHER (ITEM #7) IN PLACE OF CURVED WASHER PROVIDED WITH STEEL CROSSARM CU.

NOTE F: USE FLAT WASHER (ITEM #6) IN PLACE OF CURVED WASHER PROVIDED WITH STEEL CROSSARM CU.

NOTE G: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE DIAMETER OF THE POLE USED. SUBSTITUTE MATERIAL ID (MID) ON THE WORK ORDER COMPONENTS PAGE FOR THE LENGTH NEEDED IF DIFFERENT THAN THE GENERIC LENGTH SHOWN IN THE BILL OF MATERIALS. CONTACT ENGINEERING STANDARDS - TRANSMISSION SECTION IF YOU NEED ASSISTANCE.

NOTE H: MOUNTING BOLTS, NUTS, WASHERS, GAINS, BONDING HARDWARE, BRACES AND CROSS-TIE ARE PROVIDED IN THE CROSSARM CU. DO NOT USE PROVIDED GAINS FOR LAMINATED POLES. DO NOT USE PROVIDED CURVED WASHER, USE FLAT WASHER (ITEM #6) IN PLACE PER DETAIL A ON SHEET 3.

NOTE I: REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES.



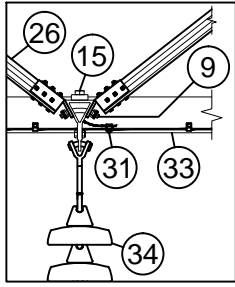
THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

Contact Engineering Standards - Transmission Section for the creation of new standards and CUs. Drawing Scale: 1" = 10'

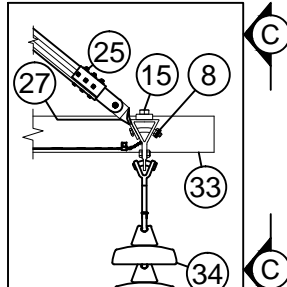
	<b>TRANSMISSION CONSTRUCTION STANDARDS MANUAL</b>	<b>STRUCTURE STANDARDS - LAMINATED WOOD</b> 345KV H-FRAME SINGLE CIRCUIT - MAINTENANCE ONLY TANGENT H-FRAME - SINGLE STEEL CROSSARM - BUNDLED CONDUCTOR CMP TYPE EAR-1	REVISION
			00
Drwn. By: B. Franklin	Date Dr.: 10/01/2013	Checked By: Becken/Hart	Date Ck.: 3/05/2015
Approved By: Barry R. Hart	Date App.: 4/16/2015	<b>TM2.23.TV-3KHTA-X</b>	
			Sheet 1

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

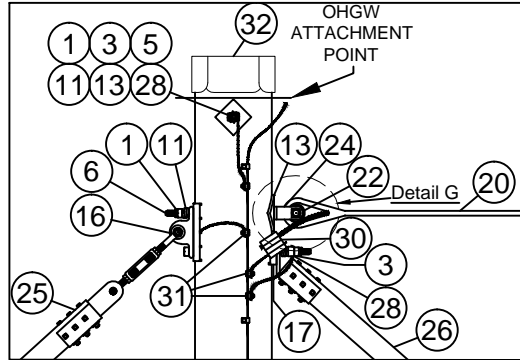
CU MACRO	CONDUCTOR	STATIC	COND SPECIFY	STATIC SPECIFY
C*M-TV3IHDA-X2L2	(6) - 850.8 ACSR 45/7	(2) - 7#8 AWLD	TS-S2A2Y1-X	(2) TP-W-TS-G-L
C*M-TV3IHDA-X2LQ	(6) - 850.8 ACSR 45/7	(1) - 7#8 AWLD (1) - .472" 36 FIBER OPGW	TS-S2A2Y1-X	TP-W-TS-G-L TO-W-TS-G-Q
C*M-TV3IHDA-X2LR	(6) - 850.8 ACSR 45/7	(1) - 7#8 AWLD (1) - .602" 36 FIBER OPGW	TS-S2A2Y1-X	TP-W-TS-G-L TO-W-TS-G-R
C*M-TV3IHDA-12L2	(6) - 900 ACSR 54/7	(2) - 7#8 AWLD	TS-S2A2Y1-1	(2) TP-W-TS-G-L
C*M-TV3IHDA-12LQ	(6) - 900 ACSR 54/7	(1) - 7#8 AWLD (1) - .472" 36 FIBER OPGW	TS-S2A2Y1-1	TP-W-TS-G-L TO-W-TS-G-Q
C*M-TV3IHDA-12LR	(6) - 900 ACSR 54/7	(1) - 7#8 AWLD (1) - .602" 36 FIBER OPGW	TS-S2A2Y1-1	TP-W-TS-G-L TO-W-TS-G-R



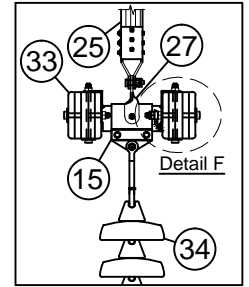
Detail 'B'



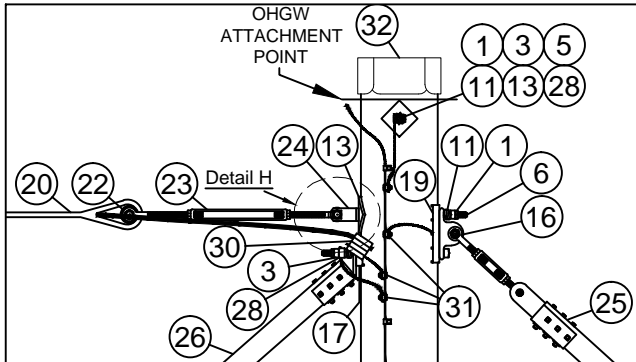
Detail 'C'



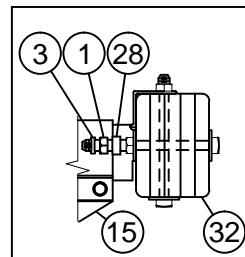
Detail 'D'



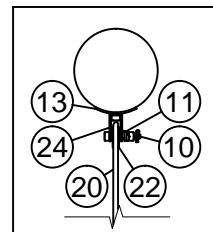
Section C-C



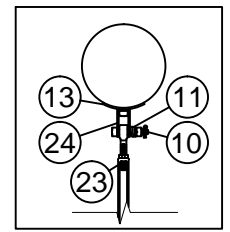
Detail 'E'



Detail 'F'



Detail 'G'



Detail 'H'

CU FUNCTION: TL69 FOR 35KV & 46KV, TG69 FOR 69KV THRU 344KV, T345 FOR 345KV & GREATER.

FOR CORRECT CU: SUBSTITUTE 5 FOR NYSEG, 6 FOR CMP OR 9 FOR RG&E IN PLACE OF ASTERISK (C\*\_).

REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

Contact Engineering Standards - Transmission Section for the creation of new standards and CUs.

Drawing Scale: N/A



TRANSMISSION  
CONSTRUCTION  
STANDARDS  
MANUAL

STRUCTURE STANDARDS - WOOD  
345kv H-FRAME SINGLE CIRCUIT - MAINTENANCE ONLY  
TANGENT H-FRAME - BUNDLED CONDUCTOR  
CMP TYPE EAR-1

REVISION
00
DATE
5/21/2015

Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:
B. Franklin	10/01/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/16/2015

TM2.23.TV-3IHDA-X

Sheet 2