

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*_).

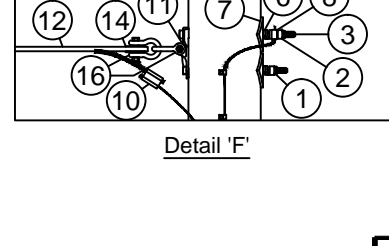
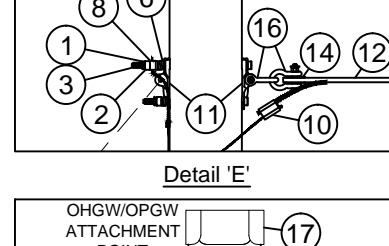
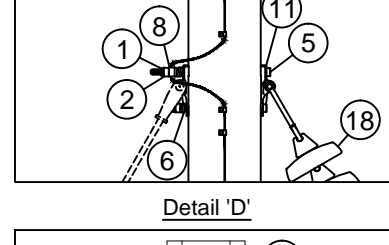
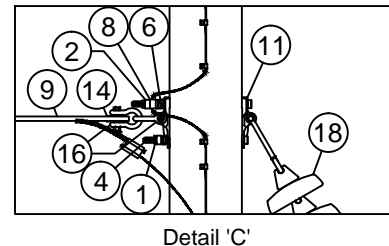
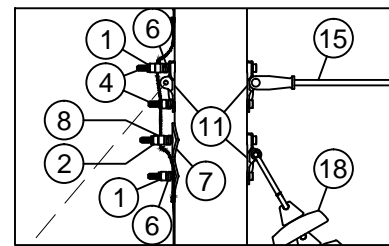
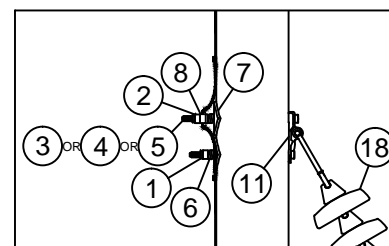
NOTE A: OTHER STANDARD DRAWINGS REQUIRED:
 TD FOUNDATION & BACKFILL
 TG GROUND WIRE & GROUND ROD DETAILS
 TH GUYING ASSEMBLIES
 TK MARKINGS
 TR GUY ANCHORS

NOTE B: POLE DRILLING: ALL HOLES - 15/16" DIAMETER

NOTE C: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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 D: REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES.

NOTE E: GUYING ANGLES SHOWN ARE GUIDELINES. IF THE SPECIFIC FIELD CONDITIONS IN THE AREA WHERE THIS STRUCTURE IS INSTALLED DO NOT ACCOMMODATE THIS GUYING ARRANGEMENT THEN THE CHANGES TO THE GUYING ARRANGEMENT SHALL BE NOTED ON THE RESPECTIVE PLAN AND PROFILE DRAWING.



BILL OF MATERIAL (CU Type: POLE)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6DA3A
1	18	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
2	9	EA	6000273770	NUT SQ 7/8 BOLT GALV
3	4	EA	1035475016	BOLT SQ HEAD 7/8 X 16 W/ SQ NUT (NOTE C)
4	10	EA	1035475018	BOLT SQ HEAD 7/8 X 18 W/ SQ NUT (NOTE C)
5	4	EA	1035475020	BOLT SQ HEAD 7/8 X 20 W/ SQ NUT (NOTE C)
6	18	EA	6000274612	WASHER HELICAL (7/8")
7	8	EA	6000274880	WASHER 4" SQ CURVED (7/8")
8	9	EA	1036200007	CLMP GRND WIRE U-CLIP 15/16 H
9	3	EA	1036232100	CONN 1B W/SPCR
10	3	EA	6000113860	CONN COMP #2 SOL - 20M AWLD
11	14	EA	6000274040	PLT POLE EYE 15/16 H
12	4	EA	6000250970	GRIP PRFRMD GUY 20M AWLD
13	30	EA	6000252400	WIRE ALWD GUY 20M
14	4	EA	1010145540	THMBL ROLLER 2-3/4" DIA 15/16" H
15	1	EA	6000251620	FIBERGLASS GUY STRAIN INSULATOR, 45", 21K
16	6	EA	1039220531	SHCKL ANCH 7/8" BNK 1-1/4" OPG, 40K
17	2	EA	6000820052	POLE TOPPER 19"

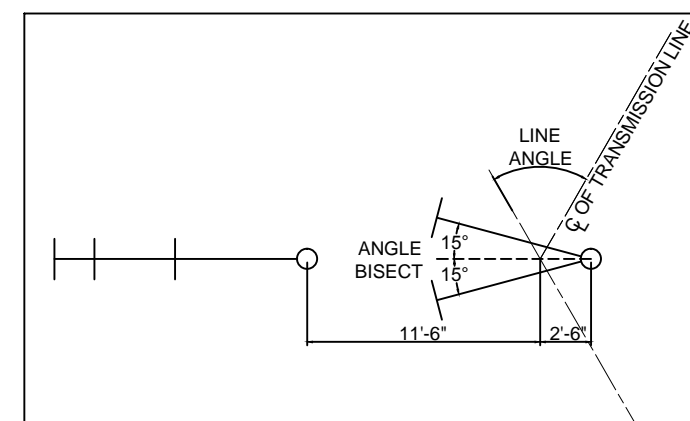
BILL OF MATERIAL (CU Type: INSO)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9P-D3-6
18	6 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (6 UNITS/STRING)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9Y-P3-D
18	6	EA	6000316439	INS POLY Y-BALL 30K 6 UNIT EQ.

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-TN6DA3A-B-H	(6) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	(2) TS-S1A1-B	TP-W-TS-G-H
C*M-TN6DA3A-B-O	(6) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	(2) TS-S1A1-B	TO-W-TS-G-O
C*M-TN6DA3A-B-S	(6) - 477 ACSR 18/1	(1) - 36 SPEC. FIBER OPGW	(2) TS-S1A1-B	TO-W-TS-G-S
C*M-TN6DA3A-X-H	(6) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	(2) TS-S1A1-X	TP-W-TS-G-H
C*M-TN6DA3A-X-O	(6) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	(2) TS-S1A1-X	TO-W-TS-G-O
C*M-TN6DA3A-X-S	(6) - 795 ACSR 26/7	(1) - 36 SPEC. FIBER OPGW	(2) TS-S1A1-X	TO-W-TS-G-S

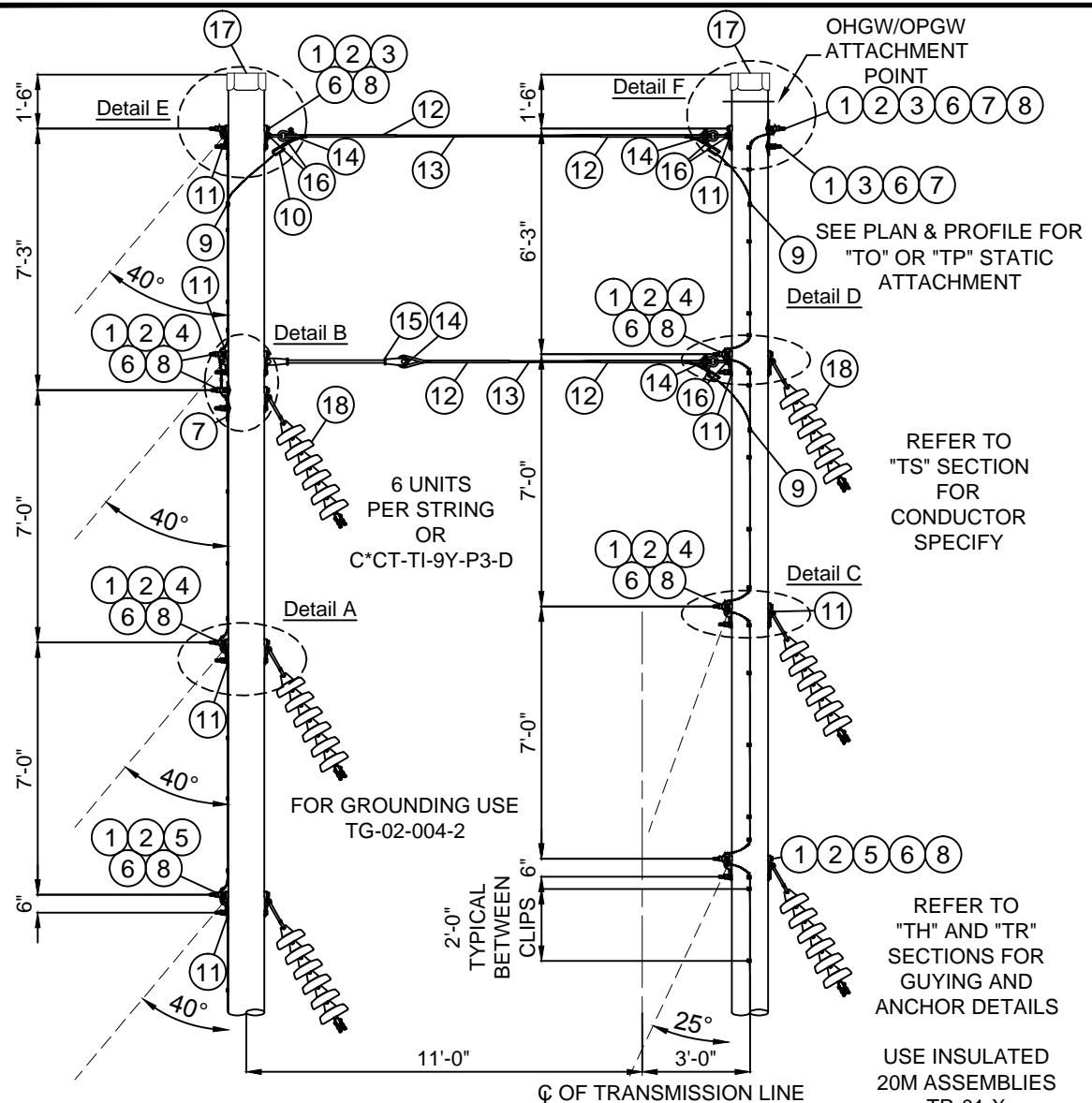


GUYING PLAN

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: NTS	
	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD		REVISION
		69kV DOUBLE POLE DOUBLE CIRCUIT		00
		ANGLE STRUCTURE - SUSPENSION - 10° TO 30°		DATE
		TYPE WB-CS		5/21/2015
Drwn. By: B. Franklin	Date Dr.: 11/21/2013	Checked By: Becken/Hart	Date Ck.: 3/05/2015	Approved By: Barry R. Hart
			Date App.: 3/19/2015	Sheet 1

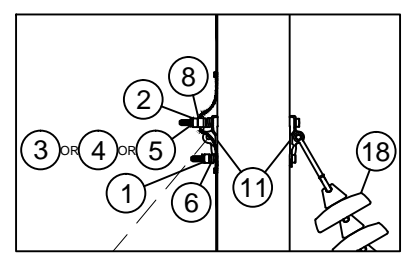
TM2.23.TN-6DA3A-X



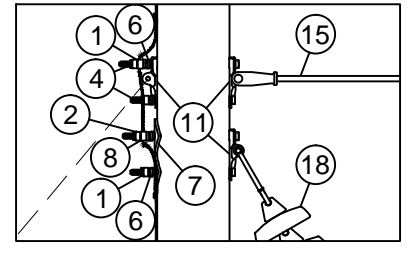
REFER TO "TS" SECTION FOR CONDUCTOR SPECIFY

REFER TO "TH" AND "TR" SECTIONS FOR GUYING AND ANCHOR DETAILS

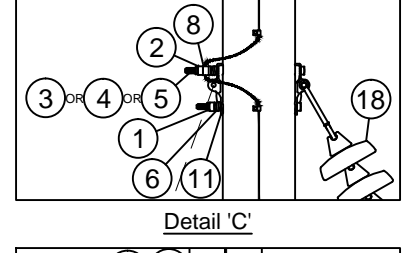
USE INSULATED 20M ASSEMBLIES TR-01-X



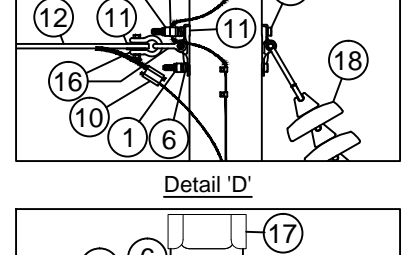
Detail 'A'



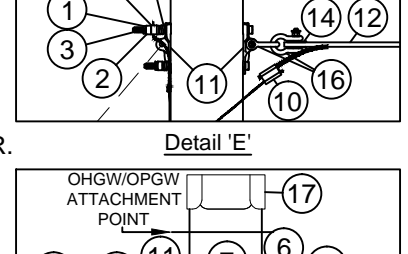
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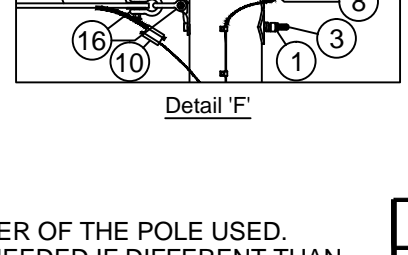
Detail 'C'



Detail 'D'



Detail 'E'



Detail 'F'

BILL OF MATERIAL (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6DA5A
1	18	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
2	9	EA	6000273770	NUT SQ 7/8 BOLT GALV
3	4	EA	1035475016	BOLT SQ HEAD 7/8 X 16 W/ SQ NUT (NOTE C)
4	10	EA	1035475018	BOLT SQ HEAD 7/8 X 18 W/ SQ NUT (NOTE C)
5	4	EA	1035475020	BOLT SQ HEAD 7/8 X 20 W/ SQ NUT (NOTE C)
6	18	EA	6000274612	WASHER HELICAL (7/8")
7	4	EA	6000274880	WASHER 4" SQ CURVED (7/8")
8	9	EA	1036200007	CLMP GRND WIRE U-CLIP 15/16 H
9	3	EA	1036232100	CONN 1B W/SPCR
10	3	EA	6000113860	CONN COMP #2 SOL - 20M AWLD
11	16	EA	6000274040	PLT POLE EYE 15/16 H
12	4	EA	6000250970	GRIP PRFRMD GUY 20M AWLD
13	30	EA	6000252400	WIRE ALWD GUY 20M
14	4	EA	1010145540	THMBL ROLLER 2-3/4" DIA 15/16" H
15	1	EA	6000251620	FIBERGLASS GUY STRAIN INSULATOR, 45", 21K
16	6	EA	1039220531	SHCKL ANCH 7/8" BNK 1-1/4" OPG, 40K
17	2	EA	6000820052	POLE TOPPER 19"

BILL OF MATERIAL (CU Type: INSO)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9P-D3-6
18	6 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (6 UNITS/STRING)
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9Y-P3-D
18	6	EA	6000316439	INS POLY Y-BALL 30K 6 UNIT EQ.

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-TN6DA5AA-B-H	(6) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	(2) TS-S4A1-B	TP-W-TS-G-H
C*M-TN6DA5AA-B-O	(6) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	(2) TS-S4A1-B	TO-W-TS-G-O
C*M-TN6DA5AA-B-S	(6) - 477 ACSR 18/1	(1) - 36 SPEC. FIBER OPGW	(2) TS-S4A1-B	TO-W-TS-G-S
C*M-TN6DA5AA-X-H	(6) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	(2) TS-S4A1-X	TP-W-TS-G-H
C*M-TN6DA5AA-X-O	(6) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	(2) TS-S4A1-X	TO-W-TS-G-O
C*M-TN6DA5AA-X-S	(6) - 795 ACSR 26/7	(1) - 36 SPEC. FIBER OPGW	(2) TS-S4A1-X	TO-W-TS-G-S

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*_).

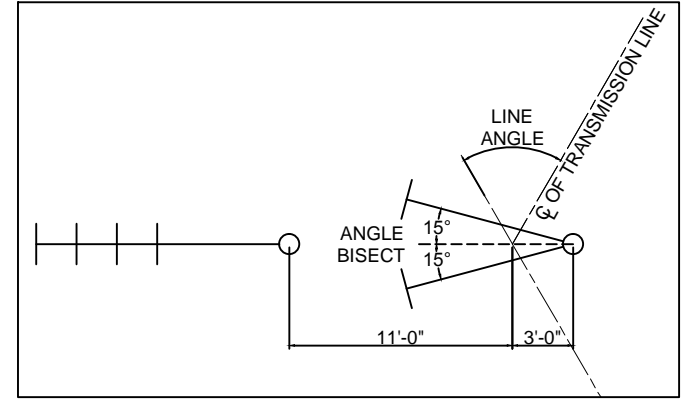
- NOTE A: OTHER STANDARD DRAWINGS REQUIRED:
- TD FOUNDATION & BACKFILL
 - TG GROUND WIRE & GROUND ROD DETAILS
 - TH GUYING ASSEMBLIES
 - TK MARKINGS
 - TR GUY ANCHORS

NOTE B: POLE DRILLING: ALL HOLES - 15/16" DIAMETER

NOTE C: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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 D: REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES.

NOTE E: GUYING ANGLES SHOWN ARE GUIDELINES. IF THE SPECIFIC FIELD CONDITIONS IN THE AREA WHERE THIS STRUCTURE IS INSTALLED DO NOT ACCOMMODATE THIS GUYING ARRANGEMENT THEN THE CHANGES TO THE GUYING ARRANGEMENT SHALL BE NOTED ON THE RESPECTIVE PLAN AND PROFILE DRAWING.

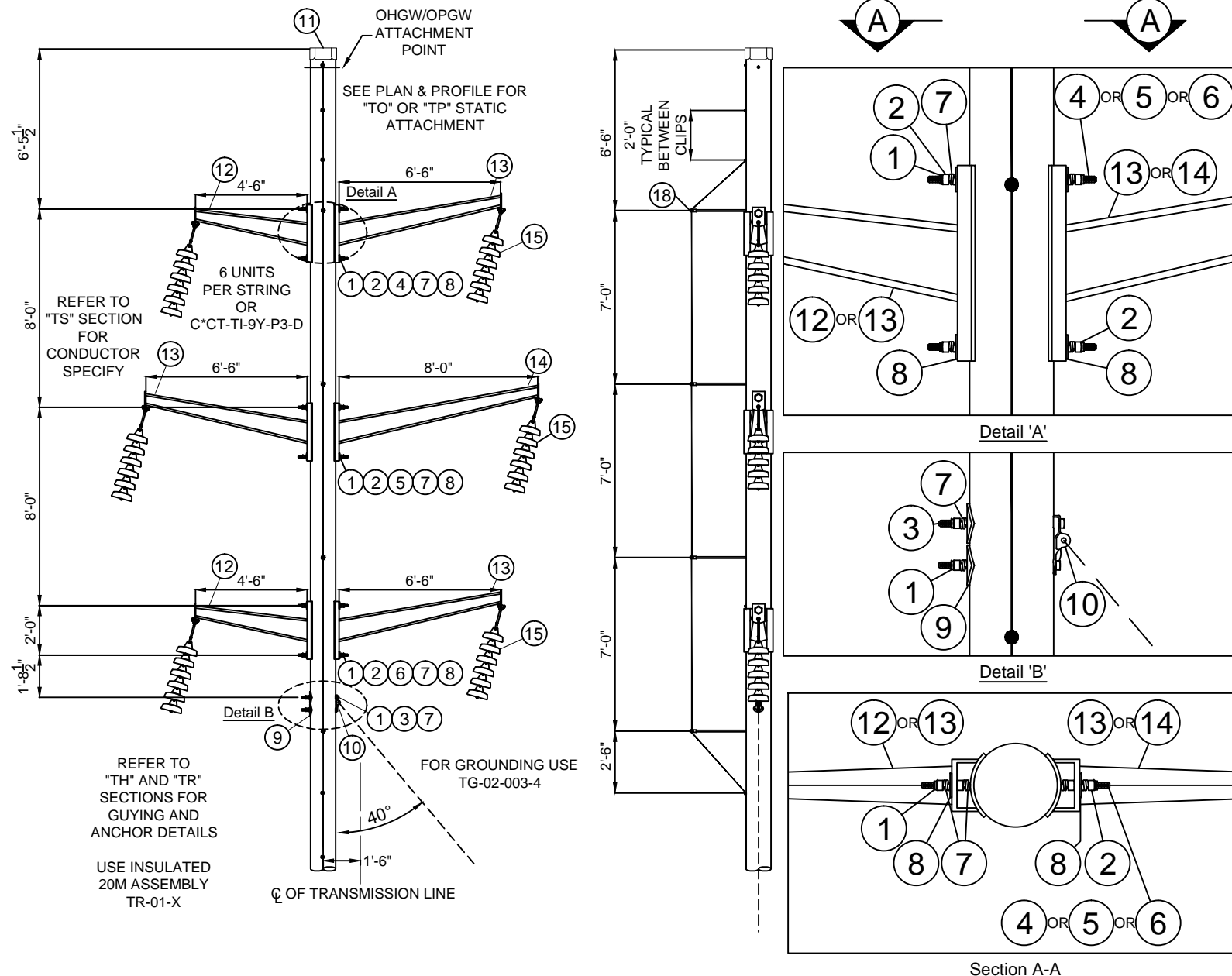


GUYING PLAN

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Contact Engineering Standards - Transmission Section for the creation of new standards and CUs. Drawing Scale: NTS

	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69kV DOUBLE POLE DOUBLE CIRCUIT ANGLE STRUCTURE - SUSPENSION - 30° TO 50° TYPE WB-DS	REVISION
			00
Drwn. By: B. Franklin	Date Dr.: 10/30/2013	Checked By: Becken/Hart	Date Ck.: 3/05/2015
Approved By: Barry R. Hart	Date App.: 3/12/2015	TM2.23.TN-6DA5A-X	
			Sheet 1



BILL OF MATERIAL (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6DASA
1	14	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
2	6	EA	6000273770	NUT SQ 7/8" BOLT GALV
3	2	EA	1035475028	BOLT SQ HEAD 7/8 X 28 W/ SQ NUT (NOTE C)
4	2	EA	6000272458	BOLT STUD 7/8 X 24 W/ 3 SQ NUTS (NOTE C)
5	2	EA	6000272460	BOLT STUD 7/8 X 26 W/ 3 SQ NUTS (NOTE C)
6	2	EA	6000272462	BOLT STUD 7/8 X 28 W/ 3 SQ NUTS (NOTE C)
7	26	EA	6000274612	WASHER HELICAL (7/8")
8	12	EA	1000946500	WASHER 4" SQ. FLAT (7/8")
9	2	EA	6000274880	WASHER 4" SQ. CURVED (7/8")
10	1	EA	6000274040	PLT POLE EYE 15/16 H
11	1	EA	6000820052	POLE TOPPER 19"

BILL OF MATERIAL (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*TT-9S-D-ZZ84
12	2	EA	6000617074	ARM DAVIT STEEL 4'-6"
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*TT-9S-D-ZZ87
13	3	EA	6000617058	ARM DAVIT STEEL 6'-6"
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*TT-9S-D-ZZ08
14	1	EA	6000617063	ARM DAVIT STEEL 8'-0"

BILL OF MATERIAL (CU Type: INSO)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9P-D3-6
15	6 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (6 UNITS/STRING)
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9Y-P3-D
15	6	EA	6000316439	INS POLY Y-BALL 30K 6 UNIT EQ.

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-TN6DASA-B-H	(6) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	(2) TS-S1A1-B	TP-W-TS-G-H
C*M-TN6DASA-B-O	(6) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	(2) TS-S1A1-B	TO-W-TS-G-O
C*M-TN6DASA-B-S	(6) - 477 ACSR 18/1	(1) - 36 SPEC. FIBER OPGW	(2) TS-S1A1-B	TO-W-TS-G-S
C*M-TN6DASA-X-H	(6) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	(2) TS-S1A1-X	TP-W-TS-G-H
C*M-TN6DASA-X-O	(6) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	(2) TS-S1A1-X	TO-W-TS-G-O
C*M-TN6DASA-X-S	(6) - 795 ACSR 26/7	(1) - 36 SPEC. FIBER OPGW	(2) TS-S1A1-X	TO-W-TS-G-S

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*_).

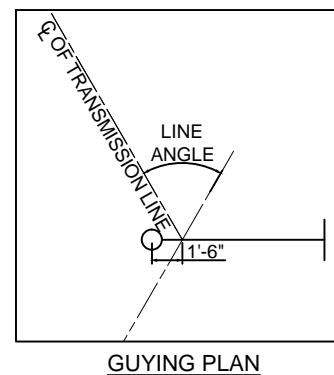
- NOTE A: OTHER STANDARD DRAWINGS REQUIRED:
- TD FOUNDATION & BACKFILL
 - TG GROUND WIRE & GROUND ROD DETAIL
 - TH GUYING ASSEMBLIES
 - TK MARKINGS
 - TR GUY ANCHORS

NOTE B: POLE DRILLING: ALL HOLES - 15/16" DIAMETER

NOTE C: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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 D: REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES.

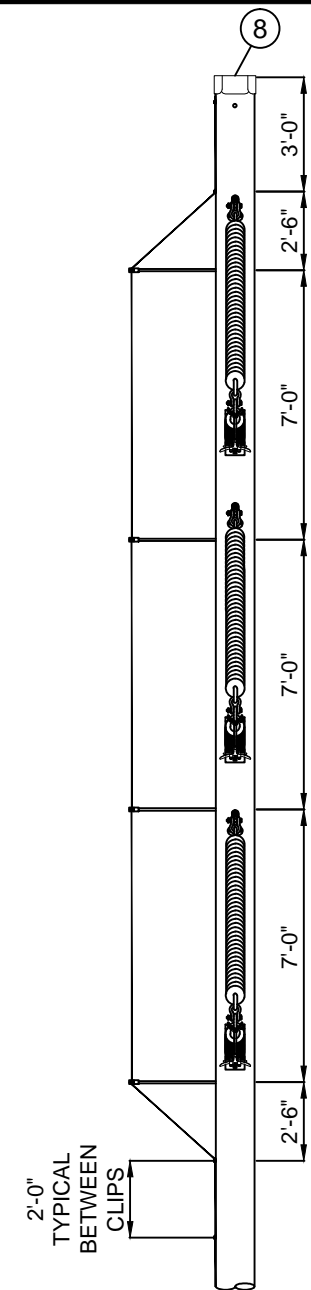
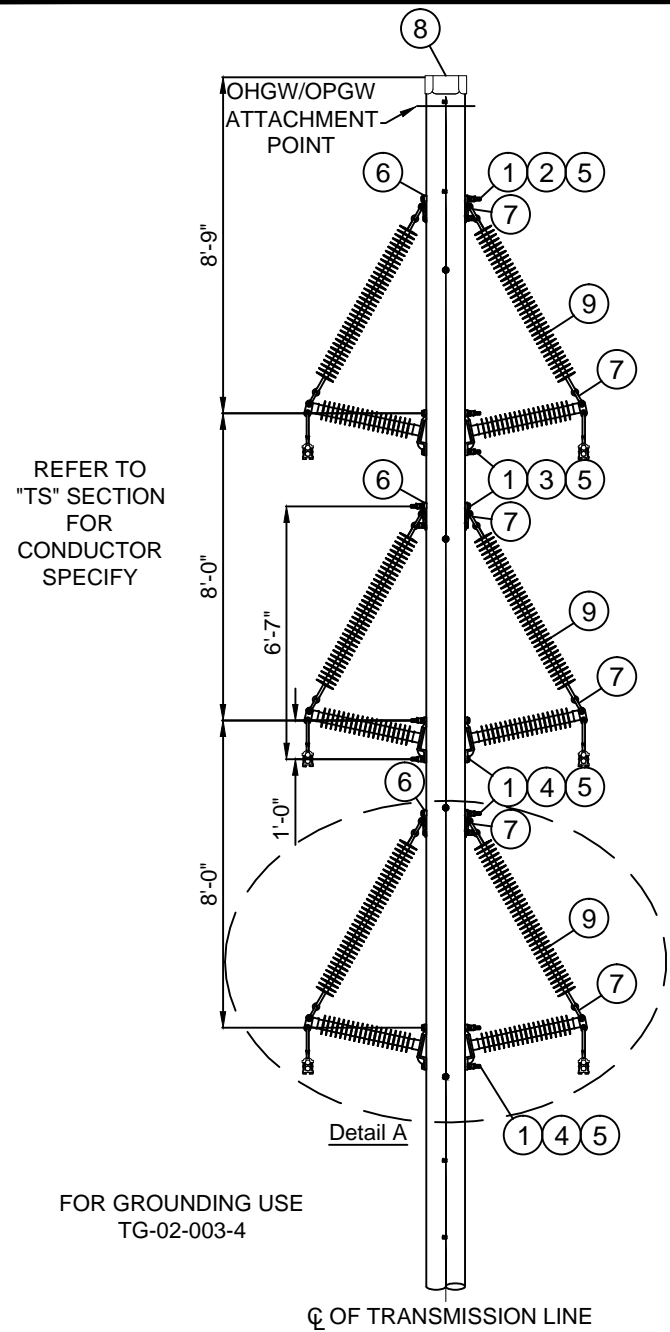
NOTE E: GUYING ANGLES SHOWN ARE GUIDELINES. IF THE SPECIFIC FIELD CONDITIONS IN THE AREA WHERE THIS STRUCTURE IS INSTALLED DO NOT ACCOMMODATE THIS GUYING ARRANGEMENT THEN THE CHANGES TO THE GUYING ARRANGEMENT SHALL BE NOTED ON THE RESPECTIVE PLAN AND PROFILE DRAWING.



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: NTS

	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69kV SINGLE POLE DOUBLE CIRCUIT SUSPENSION ANGLE STRUCTURE - UP TO 10° TYPE WB-BS	REVISION 00 DATE 5/21/2015
	Drwn. By: B. Franklin Date Dr.: 11/21/2013 Checked By: Becken/Hart Date Ck.: 2/12/2015 Approved By: Barry R. Hart Date App.: 5/19/2015	TM2.23.TN-6DASA-X	Sheet 1



SEE PLAN & PROFILE FOR "TO" OR "TP" STATIC ATTACHMENT

REFER TO "TS" SECTION FOR CONDUCTOR SPECIFY

FOR GROUNDING USE TG-02-003-4

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

NOTE B: POLE DRILLING: ALL HOLES - 15/16" DIAMETER

NOTE C: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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.

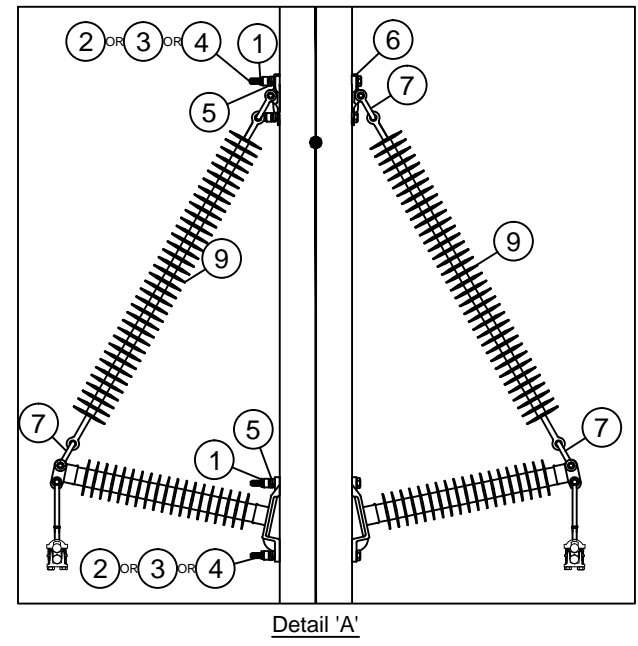
NOTE D: REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES.

BILL OF MATERIAL (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6DBPG
1	12	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
2	2	EA	1035475016	BOLT SQ HEAD 7/8 X 16 W/ SQ NUT (NOTE C)
3	4	EA	1035475018	BOLT SQ HEAD 7/8 X 18 W/ SQ NUT (NOTE C)
4	6	EA	1035475020	BOLT SQ HEAD 7/8 X 20 W/ SQ NUT (NOTE C)
5	12	EA	6000274612	WASHER HELICAL (7/8")
6	6	EA	6000274040	PLT POLE EYE 15/16 H
7	12	EA	1039220531	SHCKL ANCH 7/8 BNK 1-1/4 OPNG
8	1	EA	6000820052	POLE TOPPER 19"

BILL OF MATERIAL (CU Type: INSO)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-6Y-BP
9	6	EA	6000310230	INS 69KV 2.5" POLYMER BRACED POST ASSY

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

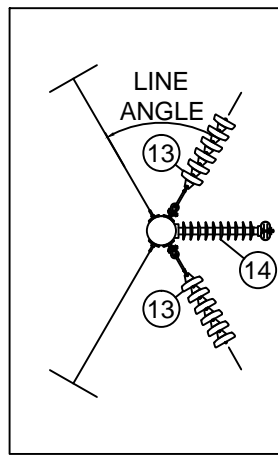
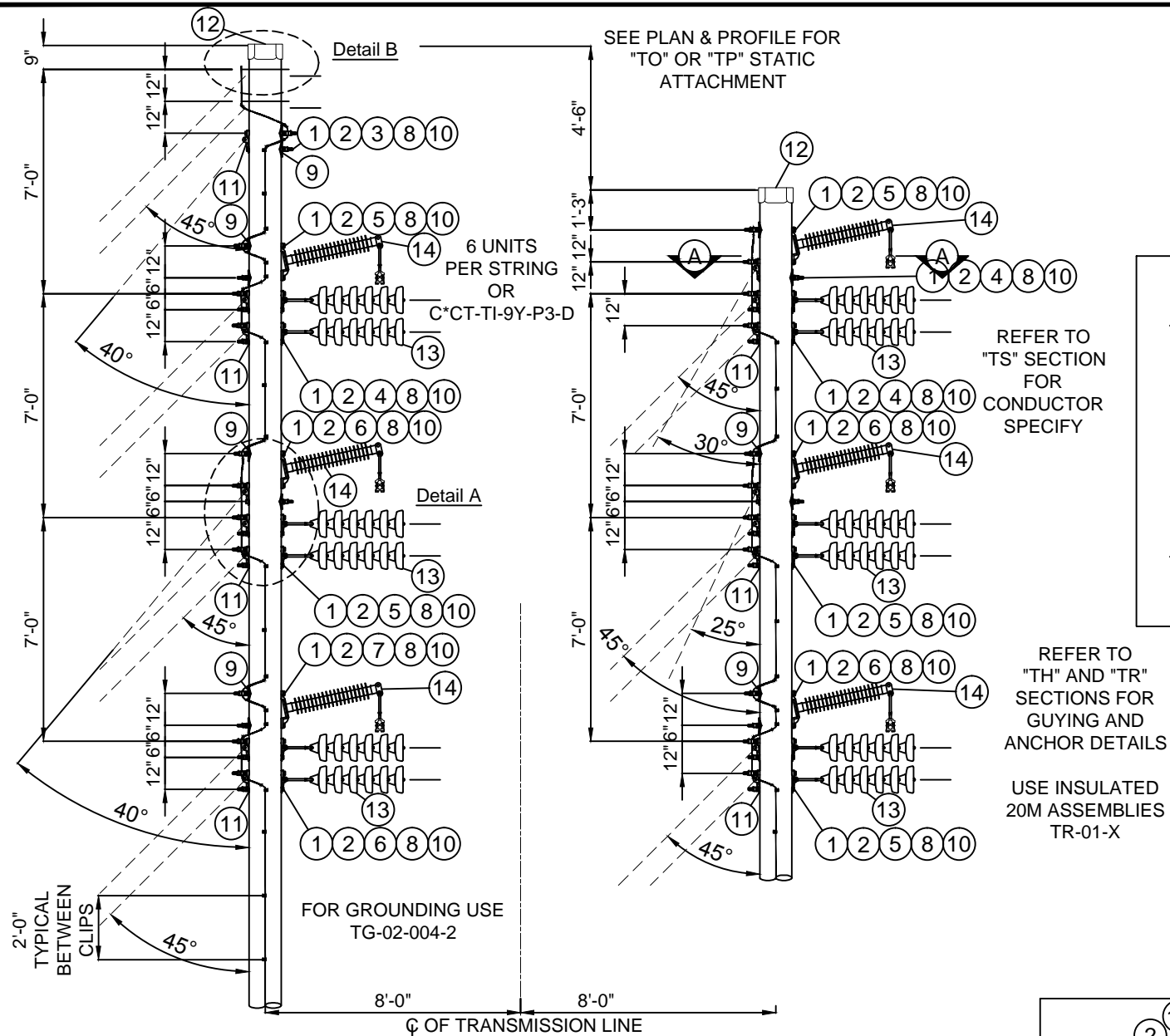
CU MACRO	CONDUCTOR	STATIC	COND SPECIFY	STATIC SPECIFY
C*M-TN6DBPG-B-H	(6) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	(2) TS-B1A1-B	TP-W-TS-G-H
C*M-TN6DBPG-B-O	(6) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	(2) TS-B1A1-B	TO-W-TS-G-O
C*M-TN6DBPG-B-S	(6) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	(2) TS-B1A1-B	TO-W-TS-G-S
C*M-TN6DBPG-X-H	(6) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	(2) TS-B1A1-X	TP-W-TS-G-H
C*M-TN6DBPG-X-O	(6) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	(2) TS-B1A1-X	TO-W-TS-G-O
C*M-TN6DBPG-X-S	(6) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	(2) TS-B1A1-X	TO-W-TS-G-S



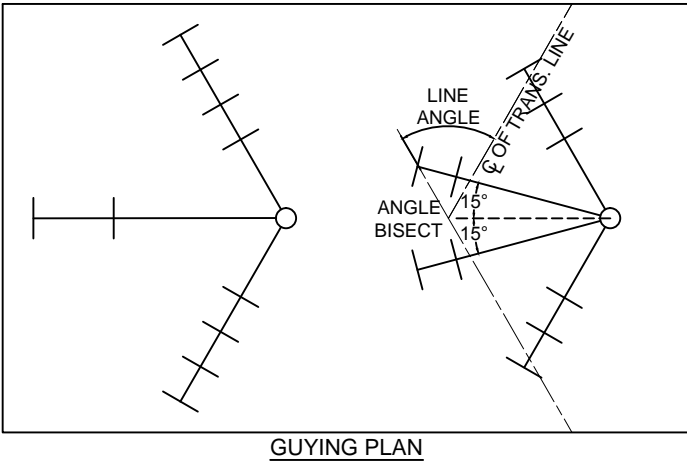
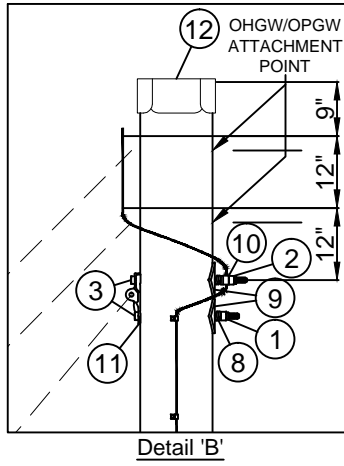
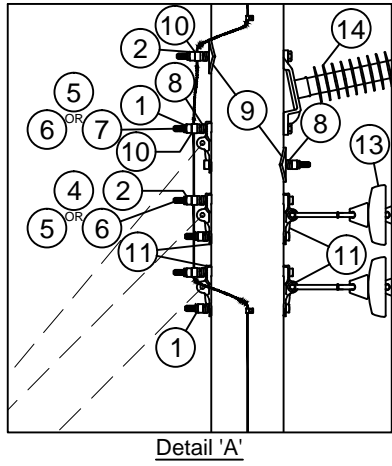
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Contact Engineering Standards - Transmission Section for the creation of new standards and CUs. Drawing Scale: 1" = 5'

	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69KV SINGLE POLE DOUBLE CIRCUIT TANGENT STRUCTURE - BRACED POST TYPE DCBP-XS	REVISION
			00
Drwn. By: B. Franklin	Date Dr.: 11/21/2012	Checked By: Becken/Hart	Date Ck.: 2/12/2015
Approved By: Barry R. Hart	Date App.: 5/19/2015	TM2.23.TN-6DBPG-X	
			Sheet 1



REFER TO "TH" AND "TR" SECTIONS FOR GUYING AND ANCHOR DETAILS
 USE INSULATED 20M ASSEMBLIES TR-01-X



BILL OF MATERIAL (CU Type: POLE)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6DDJK
1	41	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
2	22	EA	6000273770	NUT SQ 7/8 BOLT GALV
3	5	EA	1035475018	BOLT SQ HEAD 7/8 X 18 W/ SQ NUT (NOTE D)
4	8	EA	1035475020	BOLT SQ HEAD 7/8 X 20 W/ SQ NUT (NOTE D)
5	12	EA	1035475022	BOLT SQ HEAD 7/8 X 22 W/ SQ NUT (NOTE D)
6	14	EA	1035475024	BOLT SQ HEAD 7/8 X 24 W/ SQ NUT (NOTE D)
7	4	EA	1035475026	BOLT SQ HEAD 7/8 X 26 W/ SQ NUT (NOTE D)
8	41	EA	6000274612	WASHER HELICAL (7/8")
9	14	EA	6000274880	WASHER 4" SQ. CURVED (7/8")
10	22	EA	1036200007	CLMP GRND WIRE U-CLIP 15/16 H
11	28	EA	6000274040	PLT POLE EYE 15/16 H
12	2	EA	6000820052	POLE TOPPER 19"

BILL OF MATERIAL (CU Type: INSO)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9P-D3-6
13	12 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (6 UNITS/STRING)
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9Y-P3-D
13	12	EA	6000316439	INS POLY Y-BALL 30K 6 UNIT EQ.
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-6Y-HC
14	6	EA	6000310218	INS 69KV 2.5" POLYMER POST

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-TN6DDJKF-B-H	(6) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	(2) TS-N2S1L1-B	TP-W-AD-G-H
C*M-TN6DDJKF-B-O	(6) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	(2) TS-N2S1L1-B	TO-W-AD-G-O
C*M-TN6DDJKF-B-S	(6) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	(2) TS-N2S1L1-B	TO-W-AD-G-S
C*M-TN6DDJKF-X-H	(6) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	(2) TS-N2S1L1-X	TP-W-AD-G-H
C*M-TN6DDJKF-X-O	(6) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	(2) TS-N2S1L1-X	TO-W-AD-G-O
C*M-TN6DDJKF-X-S	(6) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	(2) TS-N2S1L1-X	TO-W-AD-G-S

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 DETAILS
 TH GUYING ASSEMBLIES
 TK MARKINGS
 TR GUY ANCHORS

NOTE B: POLE DRILLING: ALL HOLES - 15/16" DIAMETER

NOTE C: OUTSIDE POLE IS 5' LONGER THAN INSIDE POLE

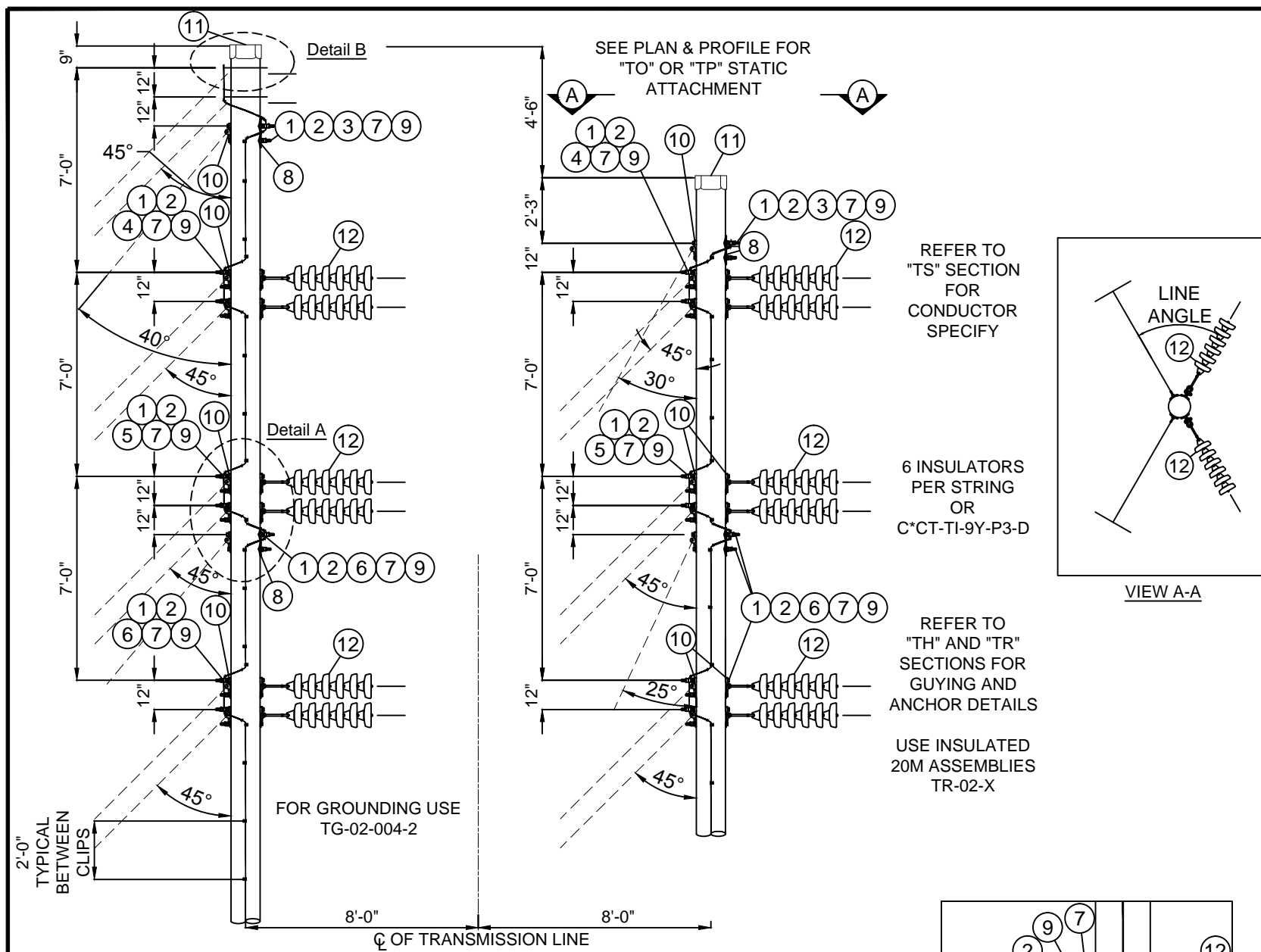
NOTE D: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL DIAMETER OF THE POLE USED. SUBSTITUTE MATERIAL ID (MID) ON THE WORK ORDER COMPONENTS PAGE FOR THE LENGTH NEEDED IF DIFFERENT THAN THE GENERIC LENGTH SHOWN IN THE BILL OF MATERIALS. CONTACT ENGINEERING STANDARDS - TRANSMISSION SECTION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

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

NOTE F: GUYING ANGLES SHOWN ARE GUIDELINES. IF THE SPECIFIC FIELD CONDITIONS IN THE AREA WHERE THIS STRUCTURE IS INSTALLED DO NOT ACCOMMODATE THIS GUYING ARRANGEMENT THEN THE CHANGES TO THE GUYING ARRANGEMENT SHALL BE NOTED ON THE RESPECTIVE PLAN AND PROFILE DRAWING.

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: NTS	
	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69KV DOUBLE POLE DOUBLE CIRCUIT DEADEND STRUCTURE - 30° TO 60° TYPE WB-ES	REVISION
			00
			DATE
			5/21/2015
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:
B. Franklin	11/04/2013	Becken/Hart	2/12/2015
Approved By:	Date App.:	TM2.23.TN-6DDJK-X	
Barry R. Hart	5/19/2015	Sheet 1	

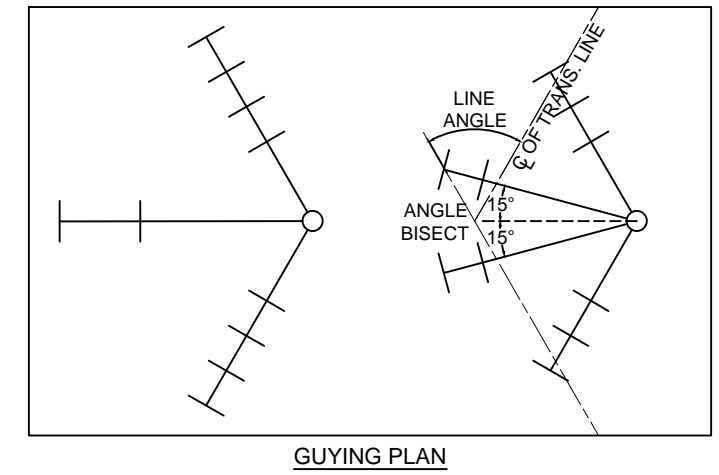
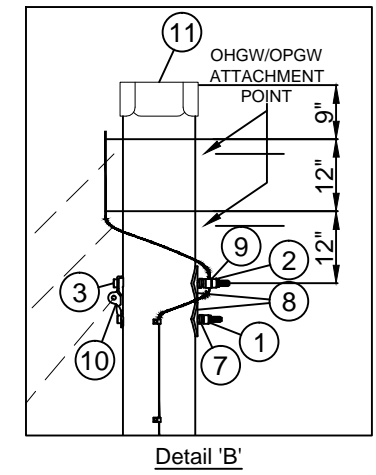
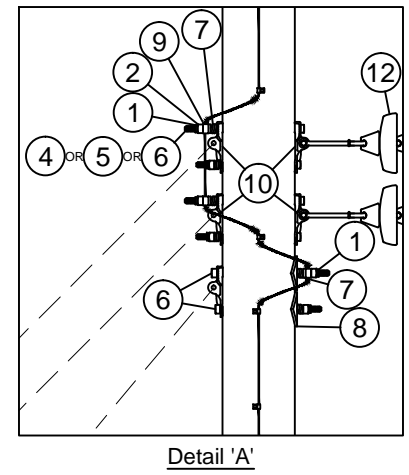


BILL OF MATERIAL (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6DDOA
1	32	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
2	16	EA	6000273770	NUT SQ 7/8 BOLT GALV
3	4	EA	1035475016	BOLT SQ HEAD 7/8 X 18 W/ SQ NUT (NOTE D)
4	8	EA	1035475020	BOLT SQ HEAD 7/8 X 20 W/ SQ NUT (NOTE D)
5	8	EA	1035475022	BOLT SQ HEAD 7/8 X 22 W/ SQ NUT (NOTE D)
6	12	EA	1035475024	BOLT SQ HEAD 7/8 X 24 W/ SQ NUT (NOTE D)
7	32	EA	6000274612	WASHER HELICAL (7/8")
8	8	EA	6000274880	WASHER 4" SQ. CURVED (7/8")
9	16	EA	1036200007	CLMP GRND WIRE U-CLIP 15/16 H
10	28	EA	6000274040	PLT POLE EYE 15/16 H
11	2	EA	6000820052	POLE TOPPER 19"

BILL OF MATERIAL (CU Type: INSO)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9P-D3-6
12	12 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (6 UNITS/STRING)
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9Y-P3-D
12	12	EA	6000316439	INS POLY Y-BALL 30K 6 UNIT EQ.

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-TN6DDOAC-B-H	(6) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	(2) TS-N2L1-B	TP-W-AD-G-H
C*M-TN6DDOAC-B-O	(6) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	(2) TS-N2L1-B	TO-W-AD-G-O
C*M-TN6DDOAC-B-S	(6) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	(2) TS-N2L1-B	TO-W-AD-G-S
C*M-TN6DDOAC-X-H	(6) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	(2) TS-N2L1-X	TP-W-AD-G-H
C*M-TN6DDOAC-X-O	(6) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	(2) TS-N2L1-X	TO-W-AD-G-O
C*M-TN6DDOAC-X-S	(6) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	(2) TS-N2L1-X	TO-W-AD-G-S



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 DETAILS
 - TH GUYING ASSEMBLIES
 - TK MARKINGS
 - TR GUY ANCHORS

NOTE B: POLE DRILLING: ALL HOLES - 15/16" DIAMETER

NOTE C: OUTSIDE POLE IS 5' LONGER THAN INSIDE POLE.

NOTE D: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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.

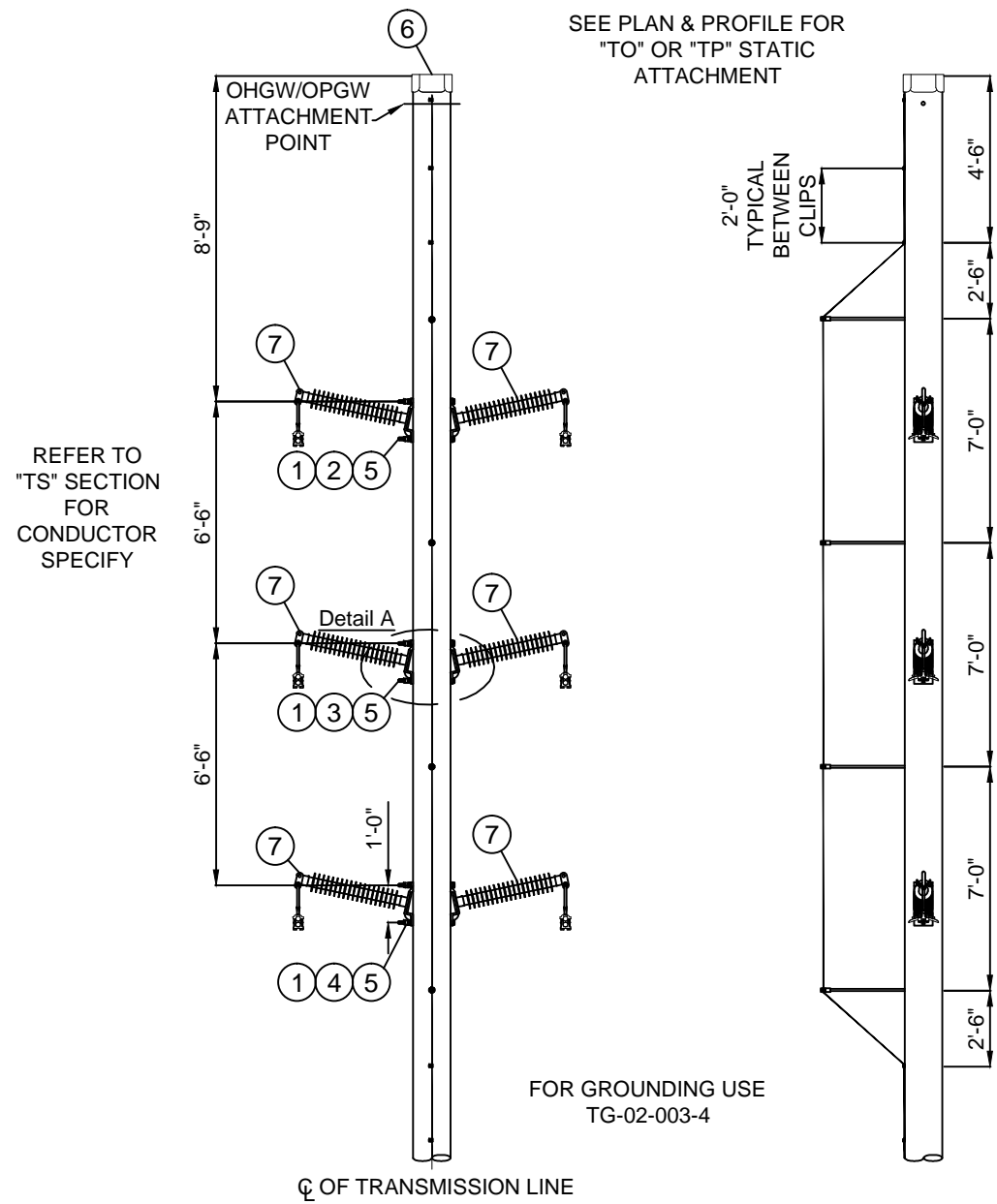
NOTE E: REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES.

NOTE F: GUYING ANGLES SHOWN ARE GUIDELINES. IF THE SPECIFIC FIELD CONDITIONS IN THE AREA WHERE THIS STRUCTURE IS INSTALLED DO NOT ACCOMMODATE THIS GUYING ARRANGEMENT THEN THE CHANGES TO THE GUYING ARRANGEMENT SHALL BE NOTED ON THE RESPECTIVE PLAN AND PROFILE DRAWING.

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" = 5'

	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69kv DOUBLE POLE DOUBLE CIRCUIT DEADEND STRUCTURE - 60° AND GREATER TYPE WB-FS	REVISION
			00
			DATE
			5/21/2015
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:
B. Franklin	11/04/2013	Becken/Hart	3/05/2015
Approved By:	Date App.:	TM2.23.TN-6DDOA-X	
Barry R. Hart	5/19/2015	Sheet 1	

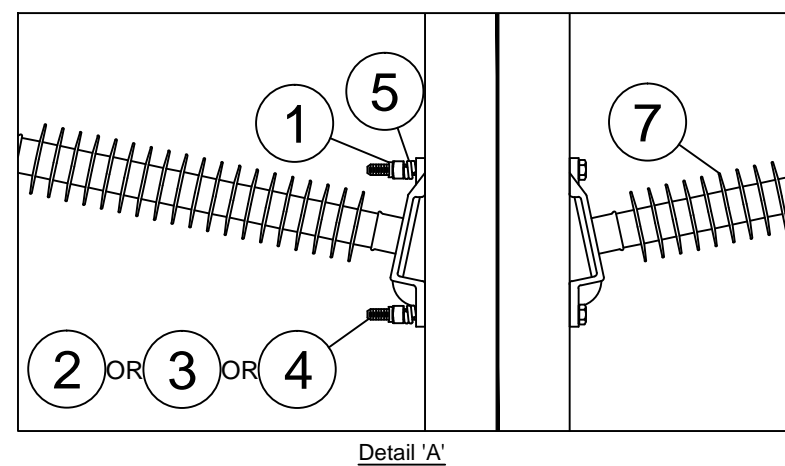


BILL OF MATERIAL (CU Type: POLE)					
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6DTPF	
1	6	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV	
2	2	EA	1035475016	BOLT SQ HEAD 7/8 X 16 W/ SQ NUT (NOTE C)	
3	2	EA	1035475018	BOLT SQ HEAD 7/8 X 18 W/ SQ NUT (NOTE C)	
4	2	EA	1035475020	BOLT SQ HEAD 7/8 X 20 W/ SQ NUT (NOTE C)	
5	6	EA	6000274612	WASHER HELICAL (7/8")	
6	1	EA	6000820052	POLE TOPPER 19"	

BILL OF MATERIAL (CU Type: INSO)					
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-6Y-HC	
7	6	EA	6000310218	INS 69KV 2.5" POLYMER POST	

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-TN6DTPF-B-H	(6) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	(2) TS-B1A1-B	TP-W-TS-G-H
C*M-TN6DTPF-B-O	(6) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	(2) TS-B1A1-B	TO-W-TS-G-O
C*M-TN6DTPF-B-S	(6) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	(2) TS-B1A1-B	TO-W-TS-G-S
C*M-TN6DTPF-X-H	(6) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	(2) TS-B1A1-X	TP-W-TS-G-H
C*M-TN6DTPF-X-O	(6) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	(2) TS-B1A1-X	TO-W-TS-G-O
C*M-TN6DTPF-X-S	(6) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	(2) TS-B1A1-X	TO-W-TS-G-S



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

NOTE B: POLE DRILLING: ALL HOLES - 15/16" DIAMETER

NOTE C: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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.

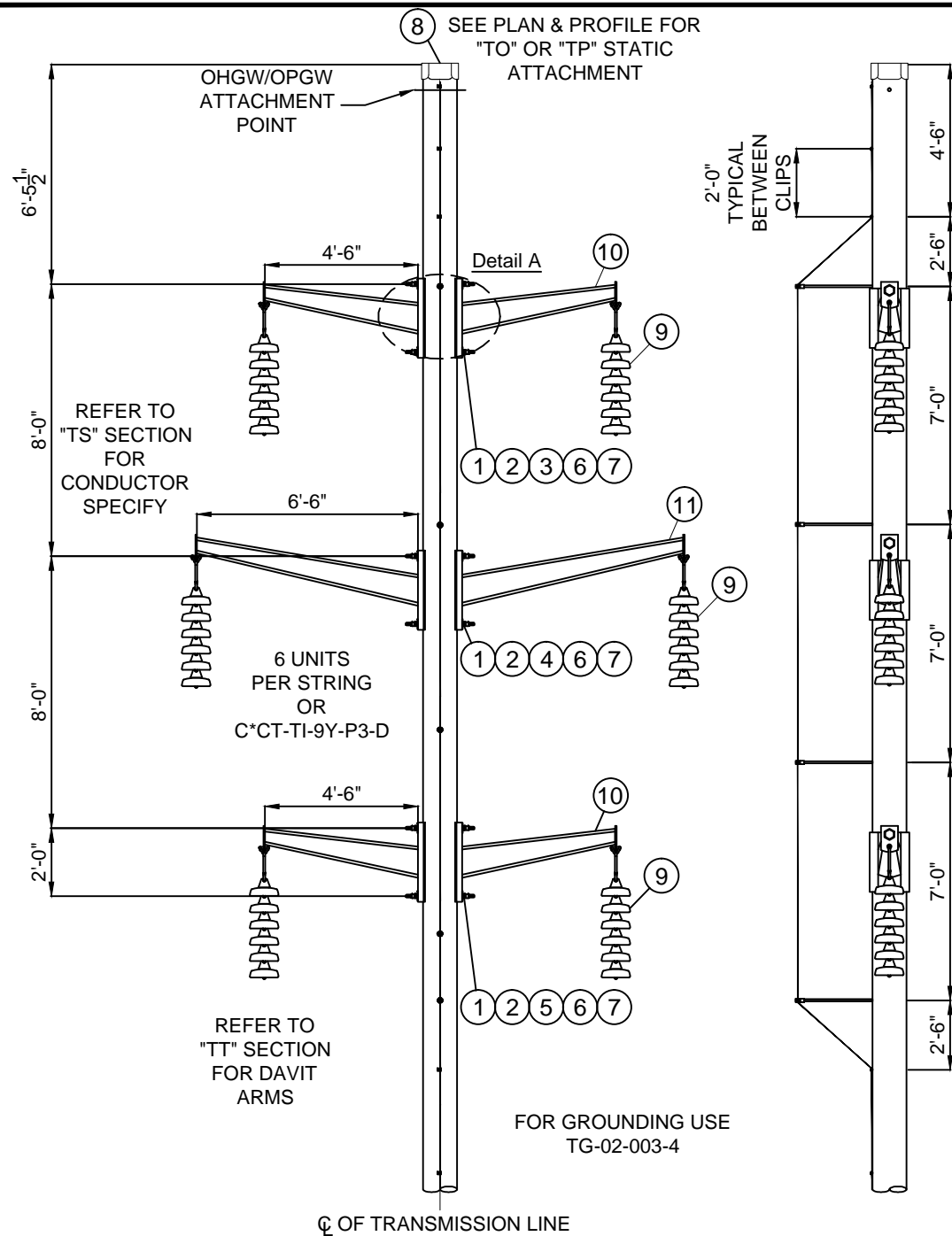
NOTE D: REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES.

NOTE E: THIS STRUCTURE SHALL NOT BE USED TO SUPPORT A BUNDLED CONDUCTOR CONFIGURATION.

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" = 5'

	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69KV SINGLE POLE DOUBLE CIRCUIT TANGENT STRUCTURE - HORIZONTAL POST TYPE DCLP-XS	REVISION 00 DATE 5/21/2015
	Drwn. By: B. Franklin Date Dr.: 11/21/2013	Checked By: Becken/Hart Date Ck.: 3/05/2015	Approved By: Barry R. Hart Date App.: 3/12/2015



BILL OF MATERIAL (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6DTS*
1	12	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
2	6	EA	6000273770	NUT SQ 7/8" BOLT GALV
3	2	EA	6000272458	BOLT STUD 7/8 X 24 W/ 3 SQ NUTS (NOTE C)
4	2	EA	6000272460	BOLT STUD 7/8 X 26 W/ 3 SQ NUTS (NOTE C)
5	2	EA	6000272462	BOLT STUD 7/8 X 28 W/ 3 SQ NUTS (NOTE C)
6	24	EA	6000274612	WASHER HELICAL (7/8")
7	12	EA	1000946500	WASHER 4" SQ FLAT (7/8")
8	1	EA	6000820052	POLE TOPPER 19"

BILL OF MATERIAL (CU Type: INSO)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9P-D3-6
9	6 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (6 UNITS/STRING)

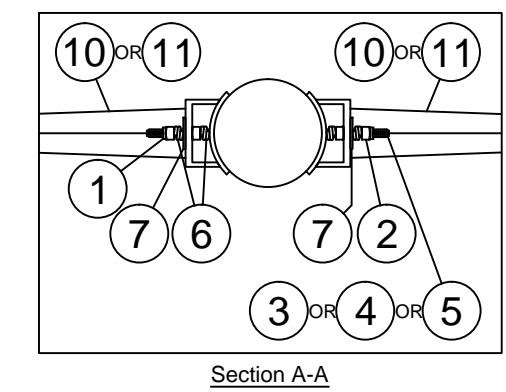
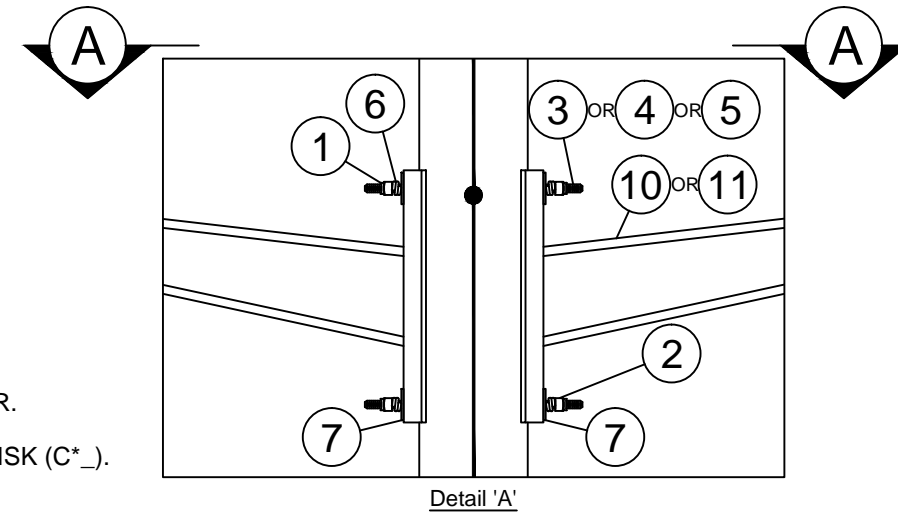
BILL OF MATERIAL (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9Y-P3-D
9	6	EA	6000316439	INS POLY Y-BALL 30K 6 UNIT EQ.

BILL OF MATERIAL (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*TT-9S-D-ZZ84
10	4	EA	6000617074	ARM DAVIT STEEL 4'-6"

BILL OF MATERIAL (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*TT-9S-D-ZZ87
11	2	EA	6000617058	ARM DAVIT STEEL 6'-6"

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-TN6DTS-A-B-H	(6) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	(2) TS-S1A1-B	TP-W-TS-G-H
C*M-TN6DTS-A-B-O	(6) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	(2) TS-S1A1-B	TO-W-TS-G-O
C*M-TN6DTS-A-B-S	(6) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	(2) TS-S1A1-B	TO-W-TS-G-S
C*M-TN6DTS-A-X-H	(6) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	(2) TS-S1A1-X	TP-W-TS-G-H
C*M-TN6DTS-A-X-O	(6) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	(2) TS-S1A1-X	TO-W-TS-G-O
C*M-TN6DTS-A-X-S	(6) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	(2) TS-S1A1-X	TO-W-TS-G-S



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

NOTE B: POLE DRILLING: ALL HOLES - 15/16" DIAMETER

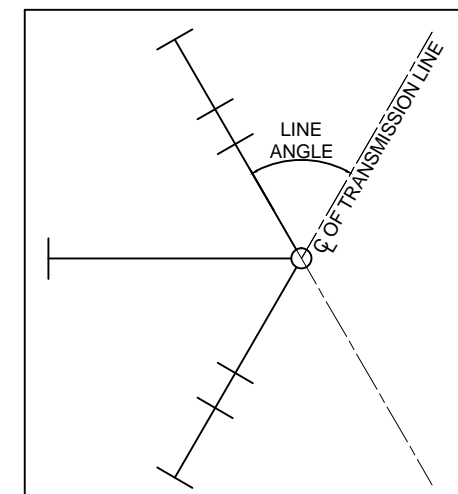
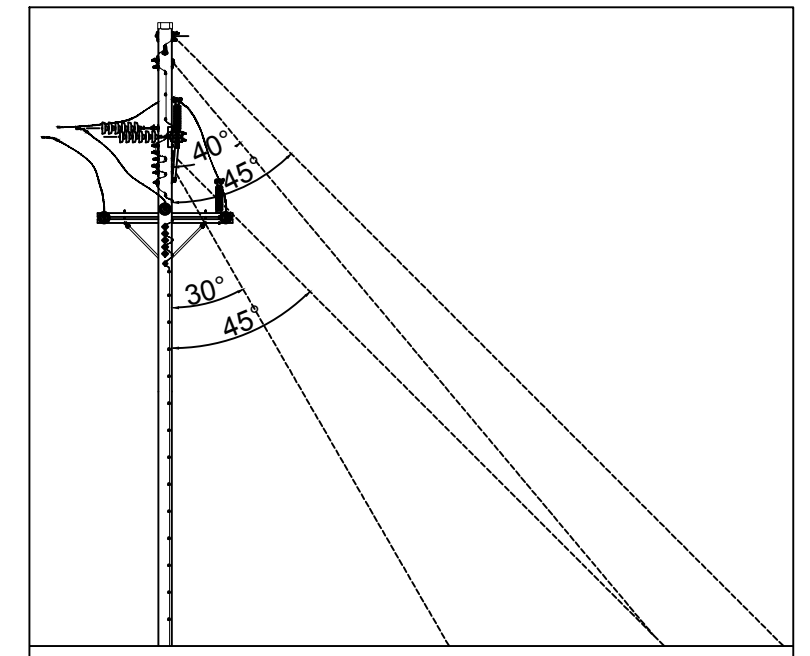
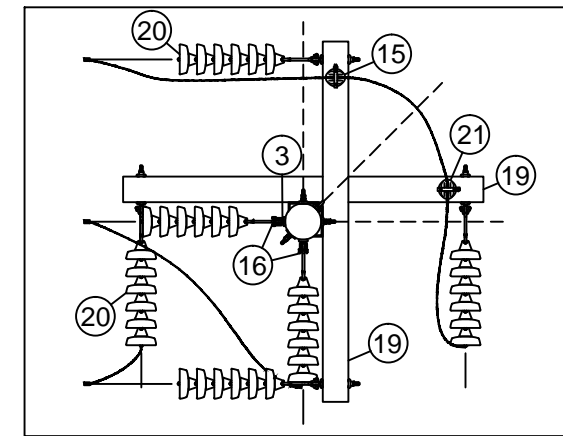
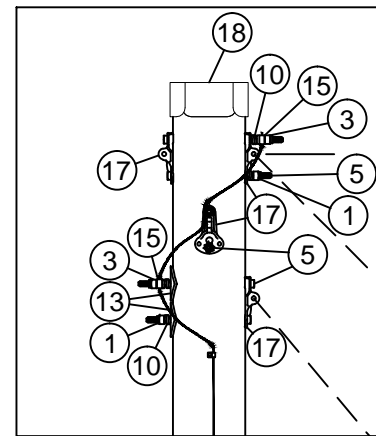
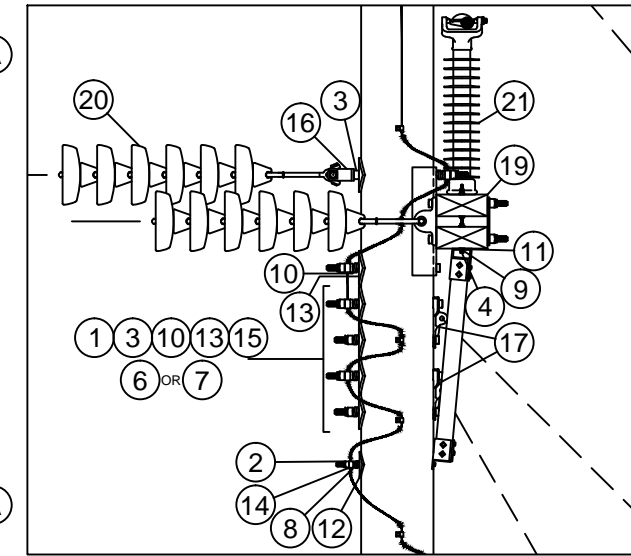
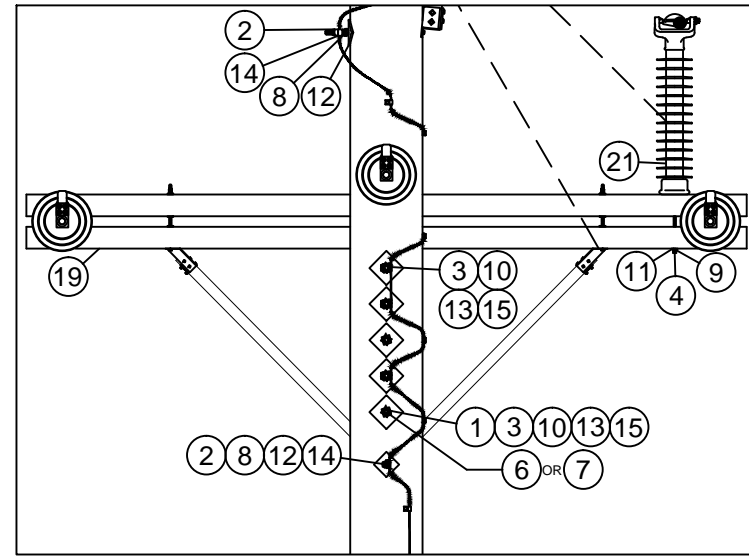
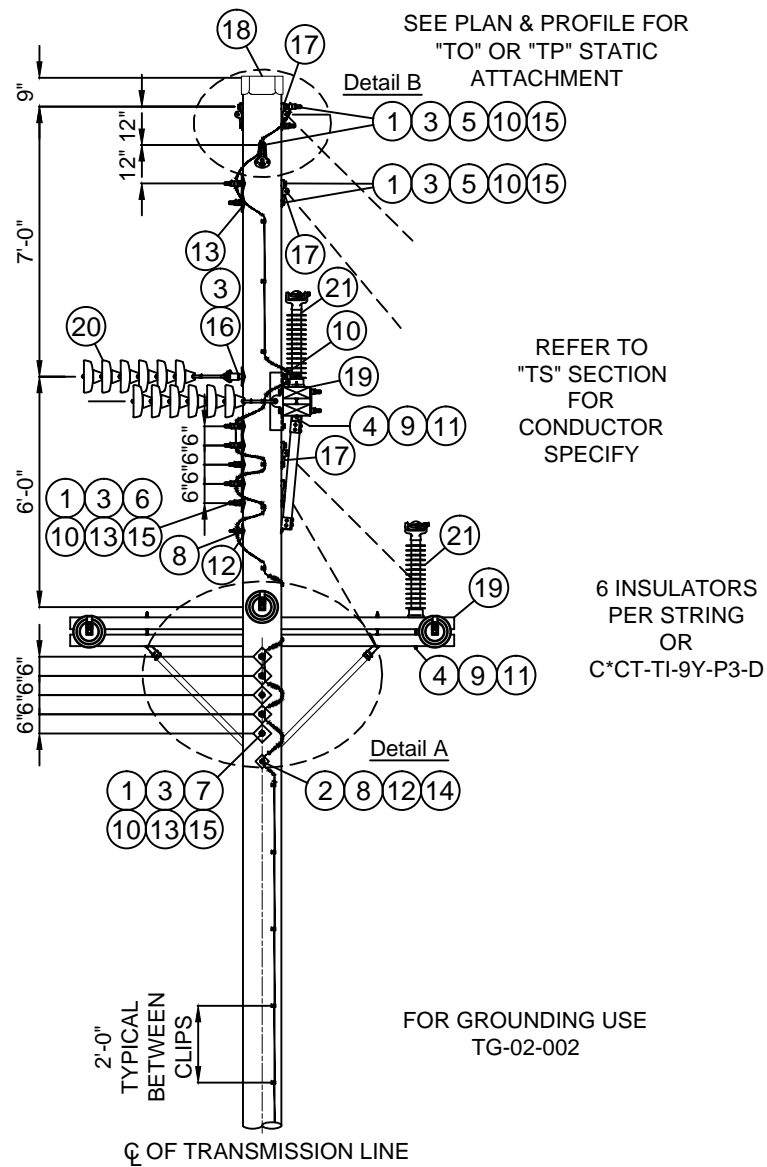
NOTE C: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL DIAMETER OF THE POLE USED. SUBSTITUTE MATERIAL ID (MID) ON THE WORK ORDER COMPONENTS PAGE FOR THE LENGTH NEEDED IF DIFFERENT THAN THE GENERIC LENGTH SHOWN IN THE BILL OF MATERIALS. CONTACT ENGINEERING STANDARDS - TRANSMISSION SECTION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

NOTE D: 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" = 5'

	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69KV SINGLE POLE DOUBLE CIRCUIT TANGENT STRUCTURE - SUSPENSION INSULATORS TYPE WB-AS	REVISION
			00
Drwn. By: B. Franklin Date Dr.: 10/30/2013 Checked By: Becken/Hart Date Ck.: 2/12/2015 Approved By: Barry R. Hart Date App.: 5/19/2015			DATE
TM2.23.TN-6DTS-A-X			5/21/2015
			Sheet 1



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 DETAILS
 TK MARKINGS
 TH GUYING ASSEMBLIES
 TR GUY ANCHORS

NOTE B: POLE DRILLING: 5/8" BOLT - 11/16" DIAMETER HOLE
 7/8" BOLT - 15/16" DIAMETER HOLE

NOTE C: FOR ALL TENSIONS HIGHER THAN 4000# THIS STRUCTURE IS A FALSE DEADEND

NOTE D: THIS STRUCTURE IS INTENDED FOR SPECIAL APPLICATIONS WHERE THIS IS THE ONLY CONFIGURATION APPLICABLE TO THE SITUATION. CONTACT ENGINEERING STANDARDS-TRANSMISSION SECTION PRIOR TO USE.

NOTE E: DEPENDING ON THE LINE ANGLE AND THE CLEARANCE BETWEEN THE GUYS AND THE CONDUCTORS THE GUYING ANGLE MAY DIFFER SLIGHTLY AT THE DISCRETION OF THE DESIGNER.

NOTE F: GUYING ANGLES SHOWN ARE GUIDELINES. IF THE SPECIFIC FIELD CONDITIONS IN THE AREA WHERE THIS STRUCTURE IS INSTALLED DO NOT ACCOMMODATE THIS GUYING ARRANGEMENT THEN THE CHANGES TO THE GUYING ARRANGEMENT SHALL BE NOTED ON THE RESPECTIVE PLAN AND PROFILE DRAWING.

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" = 5'	
	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69KV SINGLE POLE SINGLE CIRCUIT - SPEC. APPLICATIONS ONLY DEADEND BUCKARM STRUCTURE - 50° TO 100° TYPE BN-JS	
		Drwn. By: B. Franklin Date Dr.: 11/21/2013	Checked By: Becken/Hart Date Ck.: 2/12/2015
TM2.23.TN-6HBAK-X			Sheet 1

BILL OF MATERIAL (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6HBAK
1	14	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
2	2	EA	1000911700	NUT SQ 5/8 BOLT GALV
3	13	EA	6000273770	NUT SQ 7/8 BOLT GALV
4	2	EA	1035474012	BOLT SQ HEAD 3/4 X 12 W/ SQ NUT (NOTE A)
5	6	EA	1035475016	BOLT SQ HEAD 7/8 X 18 W/ SQ NUT (NOTE A)
6	4	EA	1035475020	BOLT SQ HEAD 7/8 X 20 W/ SQ NUT (NOTE A)
7	4	EA	1035475022	BOLT SQ HEAD 7/8 X 22 W/ SQ NUT (NOTE A)
8	2	EA	6000274600	WASHER HELICAL (5/8")
9	2	EA	6000274610	WASHER HELICAL (3/4")
10	18	EA	6000274612	WASHER HELICAL (7/8")
11	2	EA	6000274840	WASHER 3-1/2" FLAT ROUND (3/4")
12	2	EA	6000274821	WASHER 3" SQ CURVED (5/8")
13	14	EA	6000274880	WASHER 4" SQ. CURVED (7/8")
14	2	EA	1036200005	CLMP GRND WIRE U-CLIP 11/16 H
15	11	EA	1036200007	CLMP GRND WIRE U-CLIP 15/16 H
16	2	EA	6000272870	CLEVIS DEADEND, 15/16 H, BNK, 25K
17	9	EA	6000274040	PLT POLE EYE 15/16 H
18	1	EA	6000820052	POLE TOPPER 19"

BILL OF MATERIAL (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-9W-A-OU10
19	2	EA	6000740590	HUGHES DEADEND ASSEMBLY 2892-D (NOTE 2)

BILL OF MATERIAL (CU Type: INSO)					
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9P-D3-6	
20	6 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (6 UNITS/STRING)	
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9Y-P3-D	
20	6	EA	6000316439	INS POLY Y-BALL 30K 6 UNIT EQ.	
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-6Y-V2	
21	2	EA	6000310215	INS POLYMER VERTICAL POST 69KV	
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-TN6HBAKF-B-H		(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	TS-N2P1L1-B	TP-W-DE-G-H
C*M-TN6HBAKF-B-O		(3) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	TS-N2P1L1-B	TO-W-DE-G-O
C*M-TN6HBAKF-B-S		(3) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	TS-N2P1L1-B	TO-W-DE-G-S
C*M-TN6HBAKF-X-H		(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	TS-N2P1L1-X	TP-W-DE-G-H
C*M-TN6HBAKF-X-O		(3) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	TS-N2P1L1-X	TO-W-DE-G-O
C*M-TN6HBAKF-X-S		(3) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	TS-N2P1L1-X	TO-W-DE-G-S


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

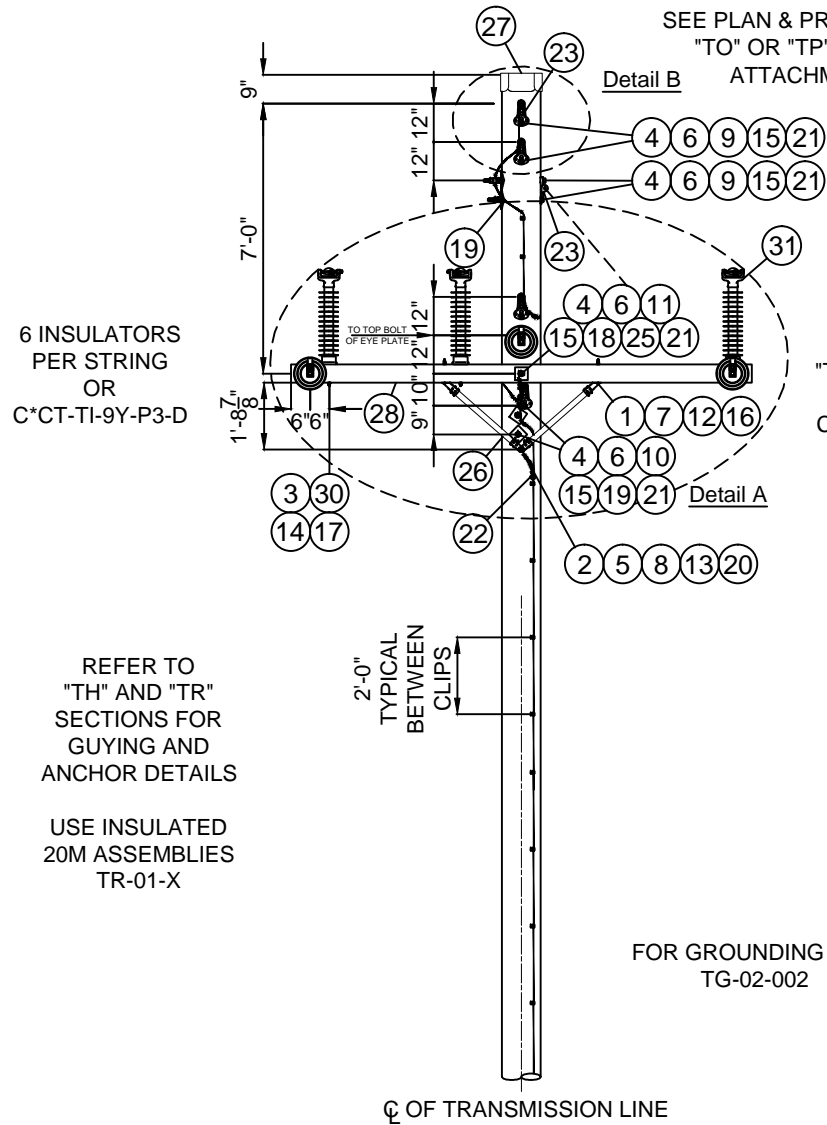
FOR CORRECT CU: SUBSTITUTE 5 FOR NYSEG, 6 FOR CMP OR 9 FOR RG&E IN PLACE OF ASTERISK (C*_).

NOTE A: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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 B: THE HUGHES BROTHERS 2892-D DEADEND ASSEMBLY INCLUDES ALL MOUNTING HARDWARE, BOLTS, ETC. IN ORDER TO CONNECT THE ARM ASSEMBLY AND THE BRACE ASSEMBLY TO THE STRUCTURE WITH THE EXCEPTION OF SQUARE WASHERS AND HELICAL WASHERS.

NOTE 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: 1" = 5'
	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD		REVISION
		69kv SINGLE POLE SINGLE CIRCUIT - SPEC. APPLICATIONS ONLY		00
		DEADEND BUCKARM STRUCTURE - 50° TO 100°		DATE
		TYPE BN-JS		5/21/2015
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:
B. Franklin	11/21/2013	Becken/Hart	2/12/2015	Barry R. Hart
			Date App.:	5/19/2015
TM2.23.TN-6HBAK-X				Sheet 2



6 INSULATORS
PER STRING
OR
C*CT-TI-9Y-P3-D

REFER TO
"TH" AND "TR"
SECTIONS FOR
GUYING AND
ANCHOR DETAILS

USE INSULATED
20M ASSEMBLIES
TR-01-X

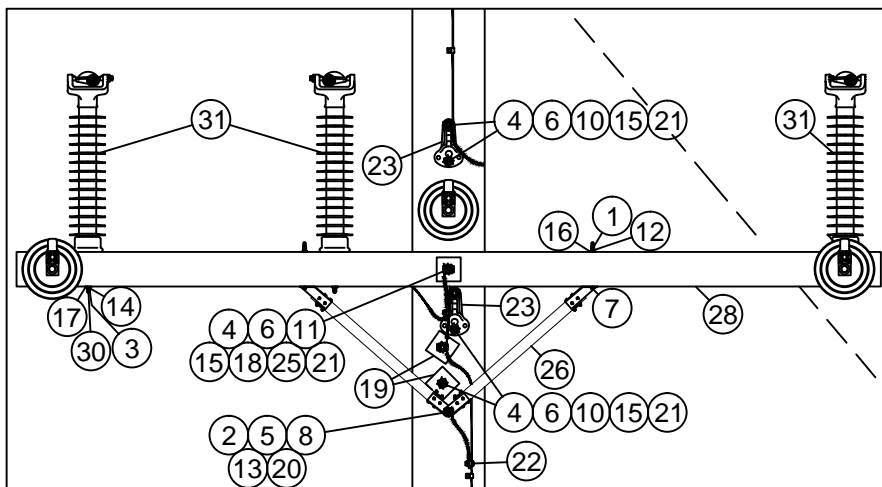
FOR GROUNDING USE
TG-02-002

CL OF TRANSMISSION LINE

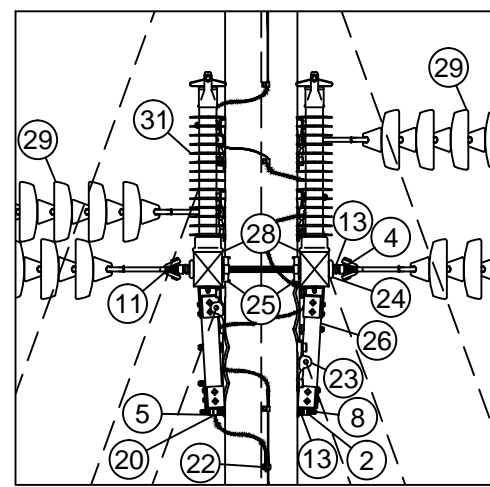
SEE PLAN & PROFILE FOR
"TO" OR "TP" STATIC
ATTACHMENT

Detail B

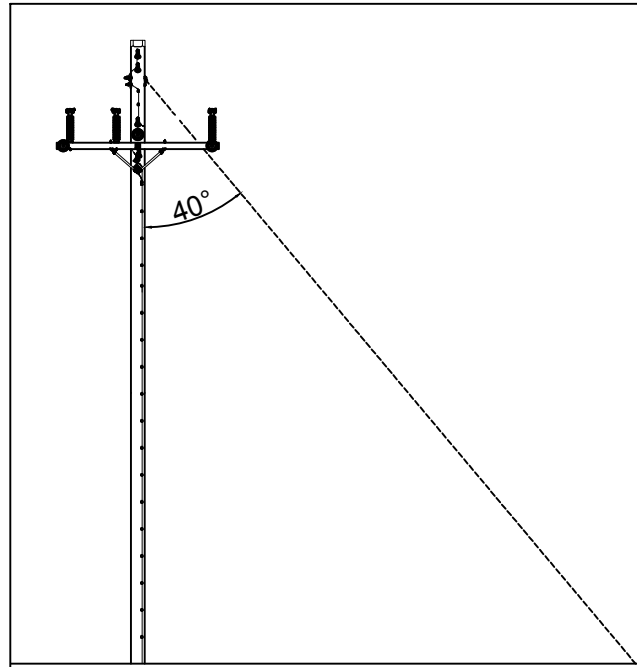
REFER TO
"TS" SECTION
FOR
CONDUCTOR
SPECIFY



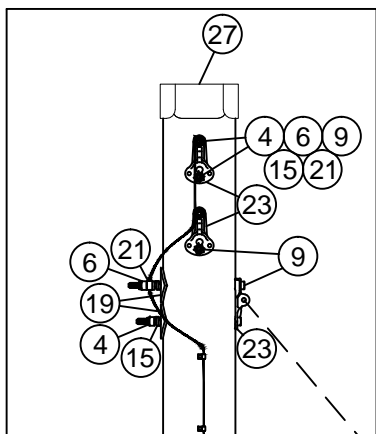
Detail 'A'



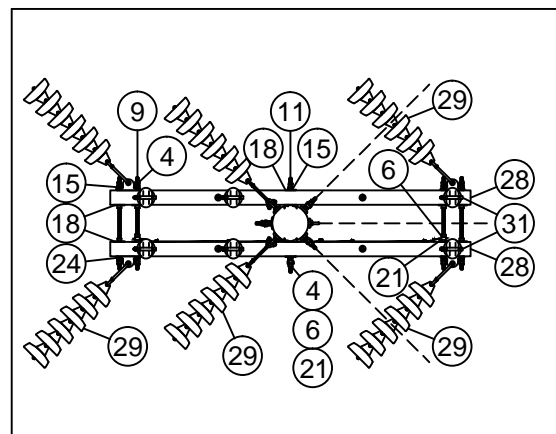
View A-A



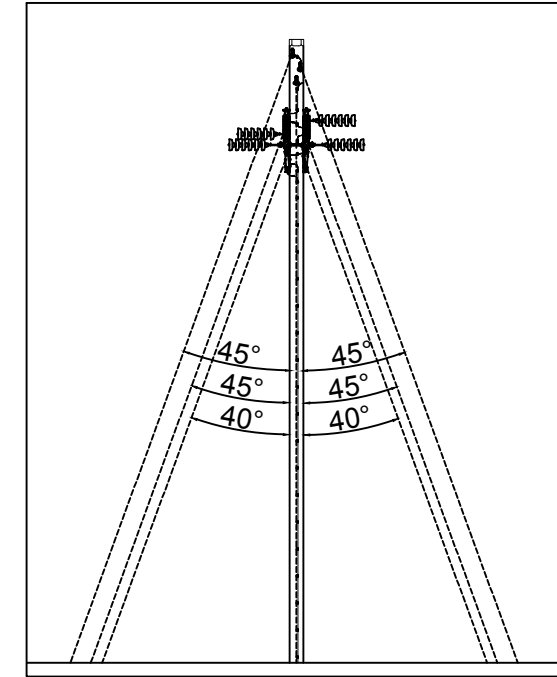
GUYING
FRONT VIEW



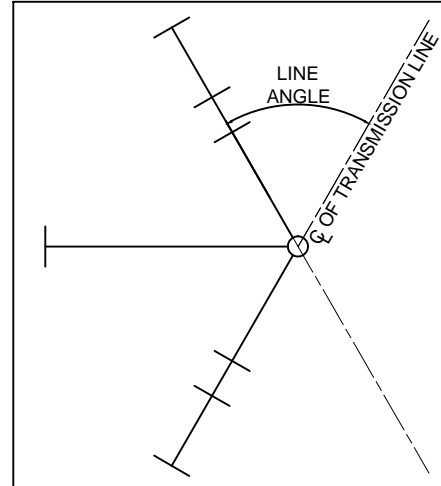
Detail 'B'



Plan View
SCALE: 1" = 5'



GUYING
SIDE VIEW



GUYING PLAN

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 DETAILS
- TK MARKINGS
- TH GUYING ASSEMBLIES
- TR GUY ANCHORS

NOTE B: POLE DRILLING: 5/8" BOLT - 11/16" DIAMETER HOLE
3/4" BOLT - 13/16" DIAMETER HOLE
7/8" BOLT - 15/16" DIAMETER HOLE

NOTE C: FOR TENSIONS OVER 2500# AT NESC HEAVY THIS STRUCTURE IS A FALSE DEADEND.

NOTE D: DEPENDING ON THE LINE ANGLE AND THE CLEARANCE BETWEEN THE GUYS AND THE CONDUCTORS THE GUYING ANGLE MAY DIFFER AT THE DISCRETION OF THE DESIGNER.

NOTE E: GUYING ANGLES SHOWN ARE GUIDELINES. IF THE SPECIFIC FIELD CONDITIONS IN THE AREA WHERE THIS STRUCTURE IS INSTALLED DO NOT ACCOMMODATE THIS GUYING ARRANGEMENT THEN THE CHANGES TO THE GUYING ARRANGEMENT SHALL BE NOTED ON THE RESPECTIVE PLAN AND PROFILE DRAWING.

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" = 5'

	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69KV SINGLE POLE SINGLE CIRCUIT - SPEC. APPLICATIONS ONLY DEADEND STRUCTURE ON CROSSARMS- 20° TO 50° TYPE BN-DEAS	REVISION
			00
Drwn. By: B. Franklin	Date Dr.: 10/29/2013	Checked By: Becken/Hart	Date Ck.: 2/12/2015
Approved By: Barry R. Hart	Date App.: 5/19/2015	TM2.23.TN-6HDAK-X	
			Sheet 1

BILL OF MATERIAL (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6HDAK
1	4	EA	1000910500	NUT LCK MF SQ 1/2 BOLT GALV
2	2	EA	1000910600	NUT LCK MF SQ 5/8 BOLT GALV
3	6	EA	1000910700	NUT LCK MF SQ 3/4 BOLT GALV
4	19	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
5	1	EA	1000911700	NUT SQ 5/8 BOLT GALV
6	10	EA	6000273770	NUT SQ 7/8 BOLT GALV
7	4	EA	6000272053	BOLT SQ HEAD 1/2 X 7 W/ SQ NUT (NOTE A)
8	1	EA	192163	BOLT DA 5/8 X 16 W/ 4 NUTS (NOTE A)
9	6	EA	1035475016	BOLT SQ HEAD 7/8 X 16 W/ SQ NUT (NOTE A)
10	8	EA	1035475022	BOLT SQ HEAD 7/8 X 22 W/ SQ NUT (NOTE A)
11	5	EA	6000272460	BOLT DA 7/8 X 26 W/ 4 NUTS (NOTE A)
12	4	EA	6000274590	WASHER HELICAL (1/2")
13	2	EA	6000274600	WASHER HELICAL (5/8")
14	2	EA	6000274610	WASHER HELICAL (3/4")
15	24	EA	6000274612	WASHER HELICAL (7/8")
16	4	EA	6000274808	WASHER 2" FLAT ROUND (1/2")
17	6	EA	6000274840	WASHER 3-1/2" FLAT ROUND (3/4")
18	10	EA	1000946500	WASHER 4" SQ. ROUND (7/8")
19	6	EA	6000274880	WASHER 4" SQ. CURVED (7/8")
20	1	EA	1036200005	CLMP GRND WIRE U-CLIP 11/16 H
21	10	EA	1036200007	CLMP GRND WIRE U-CLIP 15/16 H
22	3	EA	1036232100	CONN 1B W/SPCR
23	10	EA	6000274040	PLT POLE EYE 15/16 H
24	4	EA	6000274505	DEAD END TEE, 60K
25	2	EA	1036470025	GRID, TMBR CNCTR, 4-1/8 SQ 15/16 H
26	2	EA	6000740330	CROSSARM BRACES WOOD, 35" LONG (1 PAIR)
27	1	EA	6000820052	POLE TOPPER 19"

BILL OF MATERIAL (CU Type: INSO)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9P-D3-6
29	6 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (6 UNITS/STRING)
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9Y-P3-D
29	6	EA	6000316439	INS POLY Y-BALL 30K 6 UNIT EQ.
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-6Y-V2 (6 CU's)
30	1	EA	1035469027	PIN INSULATOR LONG W/ NUT & WASHER
31	1	EA	6000310215	INS POLYMER VERTICAL POST 69KV

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-TN6HDAKF-B-H	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	TS-N2P2L1-B	TP-W-DE-G-H
C*M-TN6HDAKF-B-O	(3) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	TS-N2P2L1-B	TO-W-DE-G-O
C*M-TN6HDAKF-B-S	(3) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	TS-N2P2L1-B	TO-W-DE-G-S
C*M-TN6HDAKF-X-H	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	TS-N2P2L1-X	TP-W-DE-G-H
C*M-TN6HDAKF-X-O	(3) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	TS-N2P2L1-X	TO-W-DE-G-O
C*M-TN6HDAKF-X-S	(3) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	TS-N2P2L1-X	TO-W-DE-G-S


BILL OF MATERIAL (CU Type: XARM)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TT-9F-C-BB12
28	2 CUs	EA	6000740560	DOUBLE CROSSARM FIBERGLASS, 2 PIN 4-3/4" X 5-3/4" X 12FT

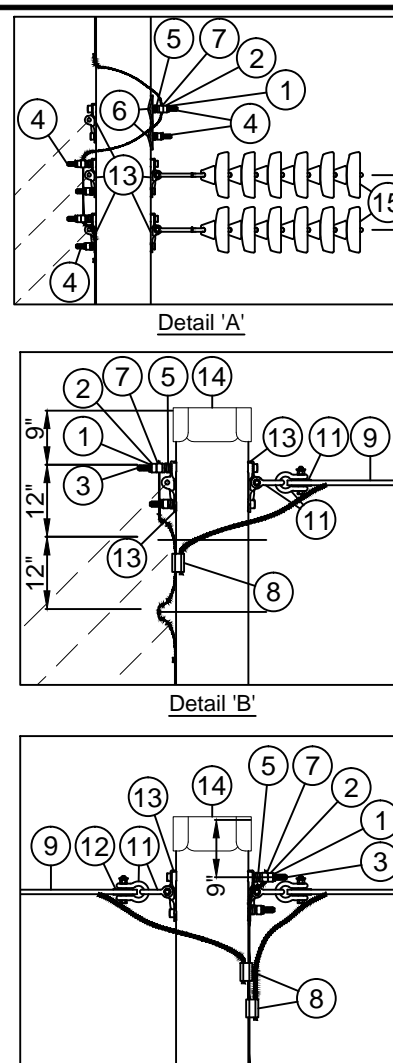
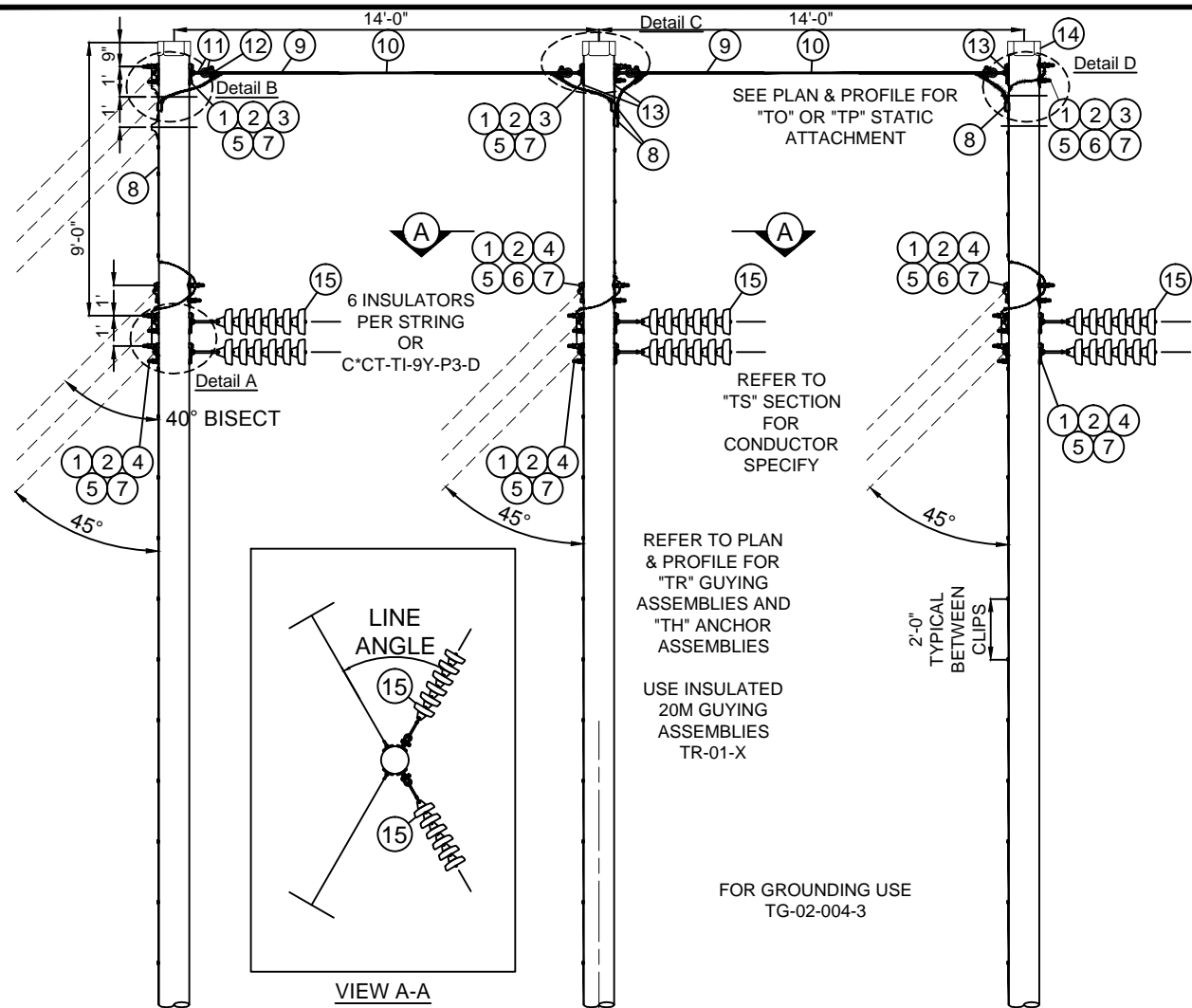
CU FUNCTION: TL69 FOR 35KV & 46KV, TG69 FOR 69KV THRU 344KV, T345 FOR 345KV & GREATER.

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

NOTE A: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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 B: REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES.

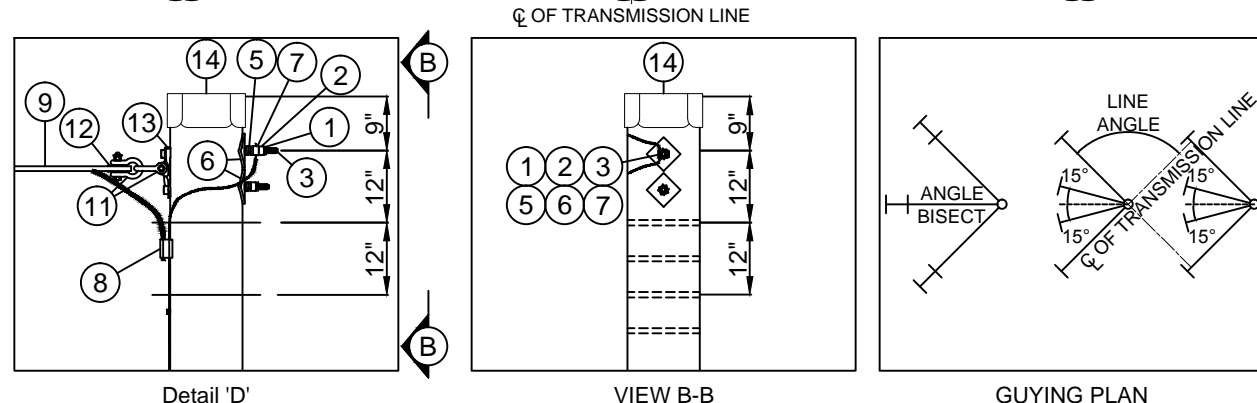
THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY				
Contact Engineering Standards - Transmission Section for the creation of new standards and CUs.			Drawing Scale: 1" = 5'	
	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69kv SINGLE POLE SINGLE CIRCUIT - SPEC. APPLICATIONS ONLY DEADEND STRUCTURE ON CROSSARMS- 20° TO 50° TYPE BN-DEAS		REVISION 00
				DATE 5/21/2015
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By: Date App.:
B. Franklin	10/29/2013	Becken/Hart	2/12/2015	Barry R. Hart 5/19/2015
				TM2.23.TN-6HDAK-X Sheet 2



BILL OF MATERIAL (CU Type: POLE)				
CU: C*PT-TN-6HDOA				
ITEM NO.	QTY.	UOM	IUSA MID	
1	24	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
2	12	EA	6000273770	NUT SQ 7/8 BOLT GALV
3	6	EA	1035475018	BOLT SQ HEAD 7/8 X 18 W/ SQ NUT (NOTE C)
4	18	EA	1035475020	BOLT SQ HEAD 7/8 X 20 W/ SQ NUT (NOTE C)
5	24	EA	6000274612	WASHER HELICAL (7/8")
6	8	EA	6000274880	WASHER 4" SQ CURVED (7/8")
7	12	EA	1036200007	CLMP GRND WIRE U-CLIP 15/16 H
8	4	EA	6000113858	CONN COMP #2 SOL - 20M AWLD
9	4	EA	6000250970	GRIP PRFRMD GUY 20M AWLD
10	30	EA	6000252400	WIRE ALWD GUY 20M
11	8	EA	1039220531	SHCKL ANCH 7/8 BNK 1-1/4 OPNG
12	4	EA	1010145540	THMBL ROLLER 2-3/4" DIA 15/16" H
13	20	EA	6000274040	PLT POLE EYE 15/16 H
14	3	EA	6000820052	POLE TOPPER 19"

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

BILL OF MATERIAL (CU Type: INSO)				
CU: C*CT-TI-9P-D3-6				
ITEM NO.	QTY.	UOM	IUSA MID	
15	6 CUs	EA	6000310768	INS SUS CL52-3 20K M&E BRN (6 UNITS/STRING)
CU: C*CT-TI-9Y-P3-D				
ITEM NO.	QTY.	UOM	IUSA MID	
15	6	EA	6000316439	INS POLY Y-BALL 30K 6 UNIT EQ.



CU MACRO	CONDUCTOR	STATIC	COND SPECIFY	STATIC SPECIFY
C*M-TN6HDOAC-B-H	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	TS-N2L1-B	TP-W-AD-G-H
C*M-TN6HDOAC-B-O	(3) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	TS-N2L1-B	TP-W-AD-G-O
C*M-TN6HDOAC-B-S	(3) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	TS-N2L1-B	TP-W-AD-G-S
C*M-TN6HDOAC-B-H2	(3) - 477 ACSR 18/1	(2) - 7#7 (7/16") AWLD	TS-N2L1-B	TP-W-AU-G-H TP-W-AD-G-H
C*M-TN6HDOAC-B-HO	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD (1) - 36 FIBER OPGW	TS-N2L1-B	TP-W-AU-G-H TP-W-AD-G-O
C*M-TN6HDOAC-B-HS	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD (1) - 36 FIBER SPEC. OPGW	TS-N2L1-B	TP-W-AU-G-H TP-W-AD-G-S
C*M-TN6HDOAC-X-H	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	TS-N2L1-X	TP-W-AD-G-H
C*M-TN6HDOAC-X-O	(3) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	TS-N2L1-X	TP-W-AD-G-O
C*M-TN6HDOAC-X-S	(3) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	TS-N2L1-X	TP-W-AD-G-S
C*M-TN6HDOAC-X-H2	(3) - 795 ACSR 26/7	(2) - 7#7 (7/16") AWLD	TS-N2L1-X	TP-W-AU-G-H TP-W-AD-G-H
C*M-TN6HDOAC-X-HO	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD (1) - 36 FIBER OPGW	TS-N2L1-X	TP-W-AU-G-H TP-W-AD-G-O
C*M-TN6HDOAC-X-HS	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD (1) - 36 FIBER SPEC. OPGW	TS-N2L1-X	TP-W-AU-G-H TP-W-AD-G-S

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
 TH GUYING ASSEMBLIES
 TK MARKINGS
 TR GUY ANCHORS

NOTE B: POLE DRILLING: ALL HOLES - 15/16" DIAMETER

NOTE C: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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.

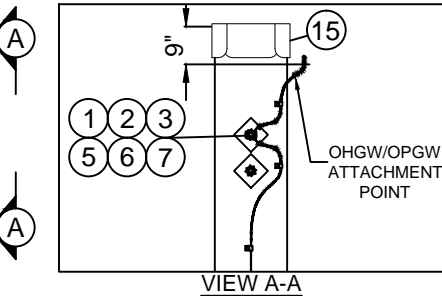
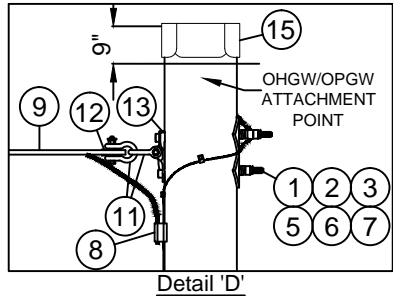
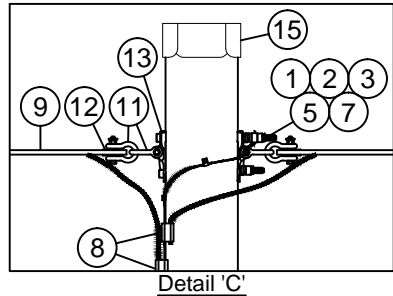
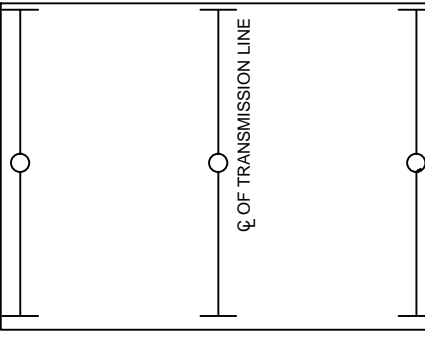
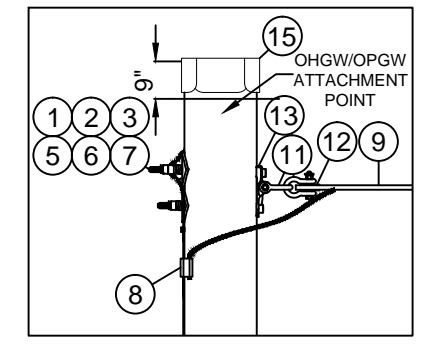
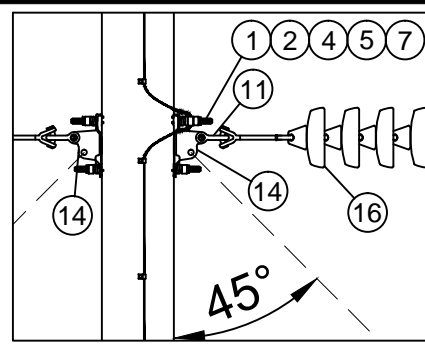
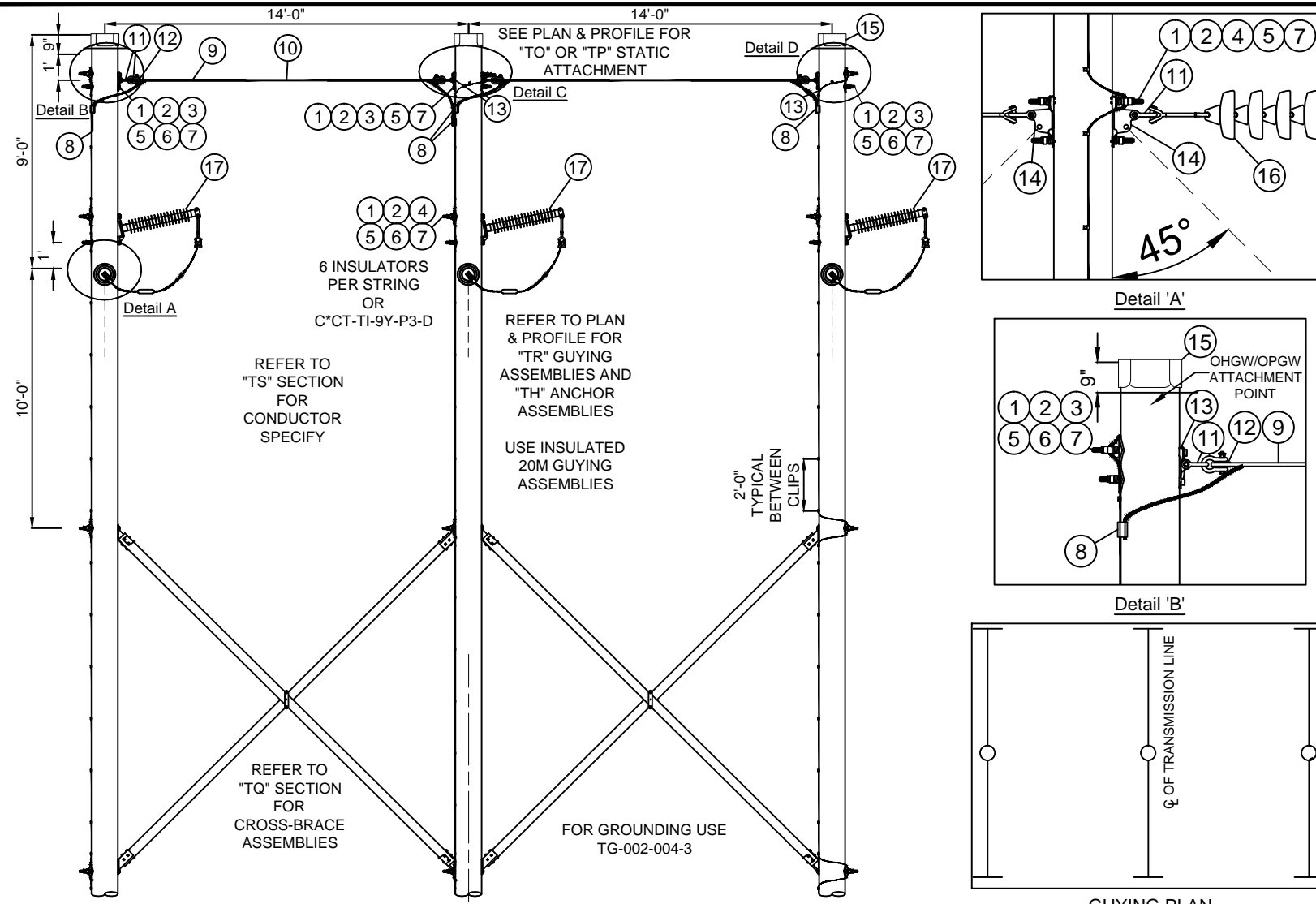
NOTE D: REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES.

NOTE E: GUYING ANGLES SHOWN ARE GUIDELINES. IF THE SPECIFIC FIELD CONDITIONS IN THE AREA WHERE THIS STRUCTURE IS INSTALLED DO NOT ACCOMMODATE THIS GUYING ARRANGEMENT THEN THE CHANGES TO THE GUYING ARRANGEMENT SHALL BE NOTED ON THE RESPECTIVE PLAN AND PROFILE DRAWING.

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" = 6'

	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69kV H-FRAME SINGLE CIRCUIT ANGLE DEADEND STRUCTURE - 60° AND GREATER TYPE BN-DBS	REVISION
			00
Drwn. By: B. Franklin	Date Dr.: 10/25/2013	Checked By: Becken/Hart	DATE
Date Ck.: 2/12/2015	Approved By: Barry R. Hart	Date App.: 5/18/2015	5/21/2015
TM2.23.TN-6HDOA-X			Sheet 1



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
 TH GUYING ASSEMBLIES
 TK MARKINGS
 TQ CROSS-BRACE INSTALLATION
 TR GUY ANCHORS

NOTE B: POLE DRILLING: ALL HOLES - 15/16" DIAMETER

NOTE C: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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 D: REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES.

NOTE E: GUYING ANGLES SHOWN ARE GUIDELINES. IF THE SPECIFIC FIELD CONDITIONS IN THE AREA WHERE THIS STRUCTURE IS INSTALLED DO NOT ACCOMMODATE THIS GUYING ARRANGEMENT THEN THE CHANGES TO THE GUYING ARRANGEMENT SHALL BE NOTED ON THE RESPECTIVE PLAN AND PROFILE DRAWING.

BILL OF MATERIAL (CU Type: POLE)

CU: C*PT-TN-6HHYK				
ITEM NO.	QTY.	UOM	IUSA MID	
1	18	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
2	9	EA	6000273770	NUT SQ 7/8 BOLT GALV
3	6	EA	1035475016	BOLT SQ HEAD 7/8 X 16 W/ SQ NUT (NOTE C)
4	12	EA	1035475022	BOLT SQ HEAD 7/8 X 22 W/ SQ NUT (NOTE C)
5	18	EA	6000274612	WASHER HELICAL (7/8")
6	10	EA	6000274880	WASHER 4" SQ CURVED (7/8")
7	9	EA	1036200007	CLMP GRND WIRE U-CLIP 15/16 H
8	4	EA	6000113858	CONN COMP #2 SOL - 20M AWLD
9	4	EA	6000250970	GRIP PRFRMD GUY 20M AWLD
10	40	EA	6000252400	WIRE ALWD GUY 20M
11	14	EA	1039220531	SHCKL ANCH 7/8 BNK 1-1/4 OPNG
12	4	EA	1010145540	THMBL ROLLER 2-3/4" DIA 15/16" H
13	4	EA	6000274040	PLT POLE EYE 15/16 H
14	6	EA	6000274044	DOUBLE PLT POLE EYE 15/16 H
15	3	EA	6000820052	POLE TOPPER 19"

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

BILL OF MATERIAL (CU Type: INSO)

CU: C*CT-TI-9P-D3-6				
ITEM NO.	QTY.	UOM	IUSA MID	
16	6 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (6 UNITS/STRING)

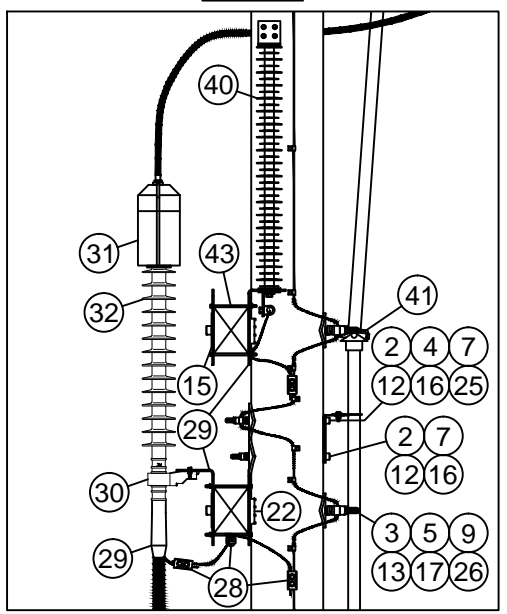
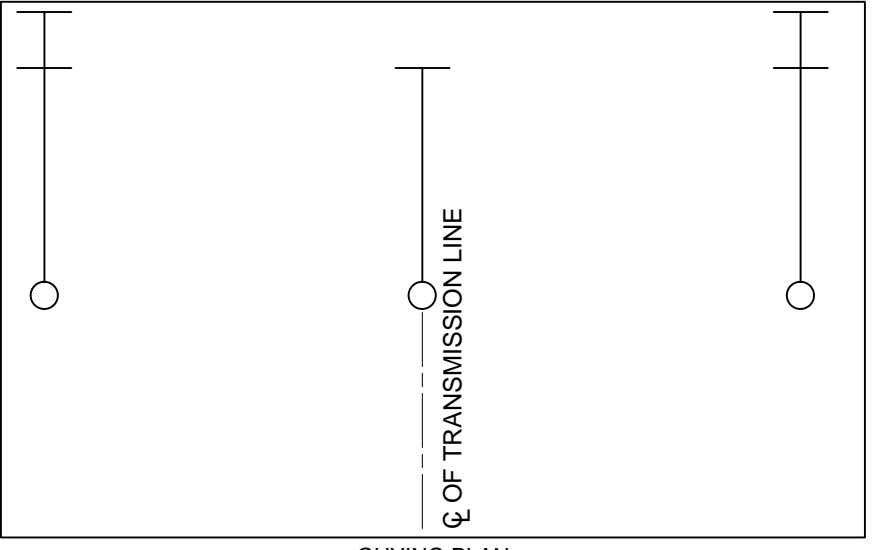
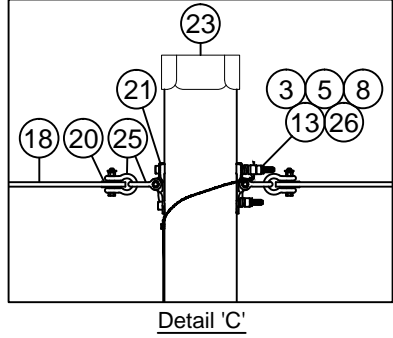
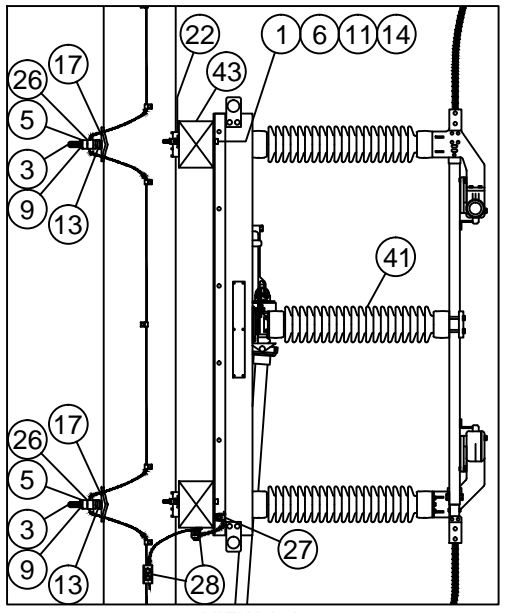
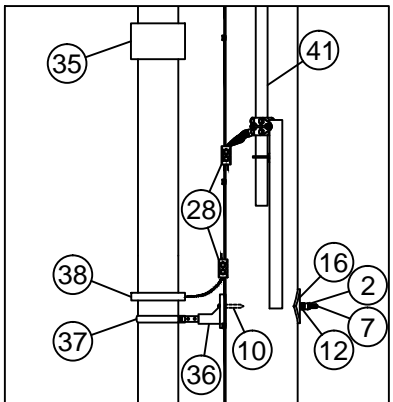
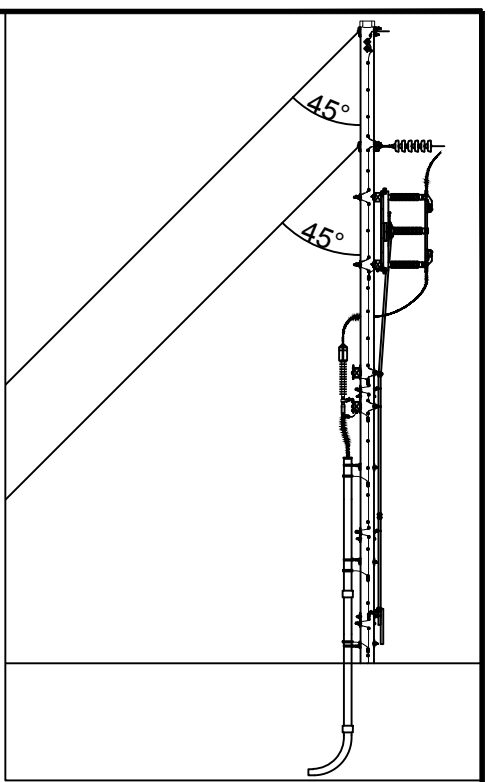
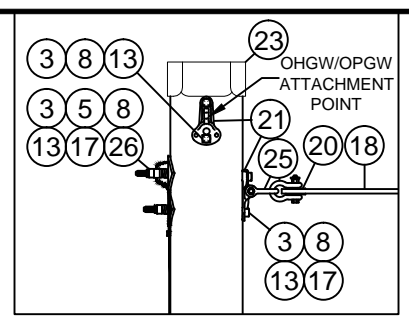
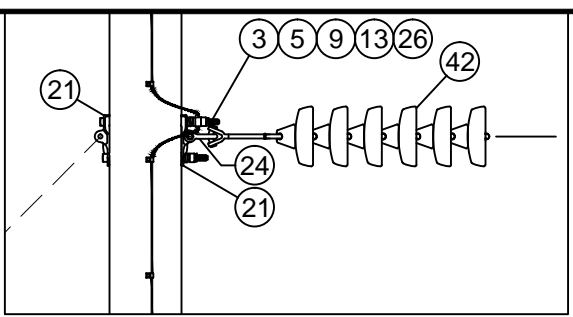
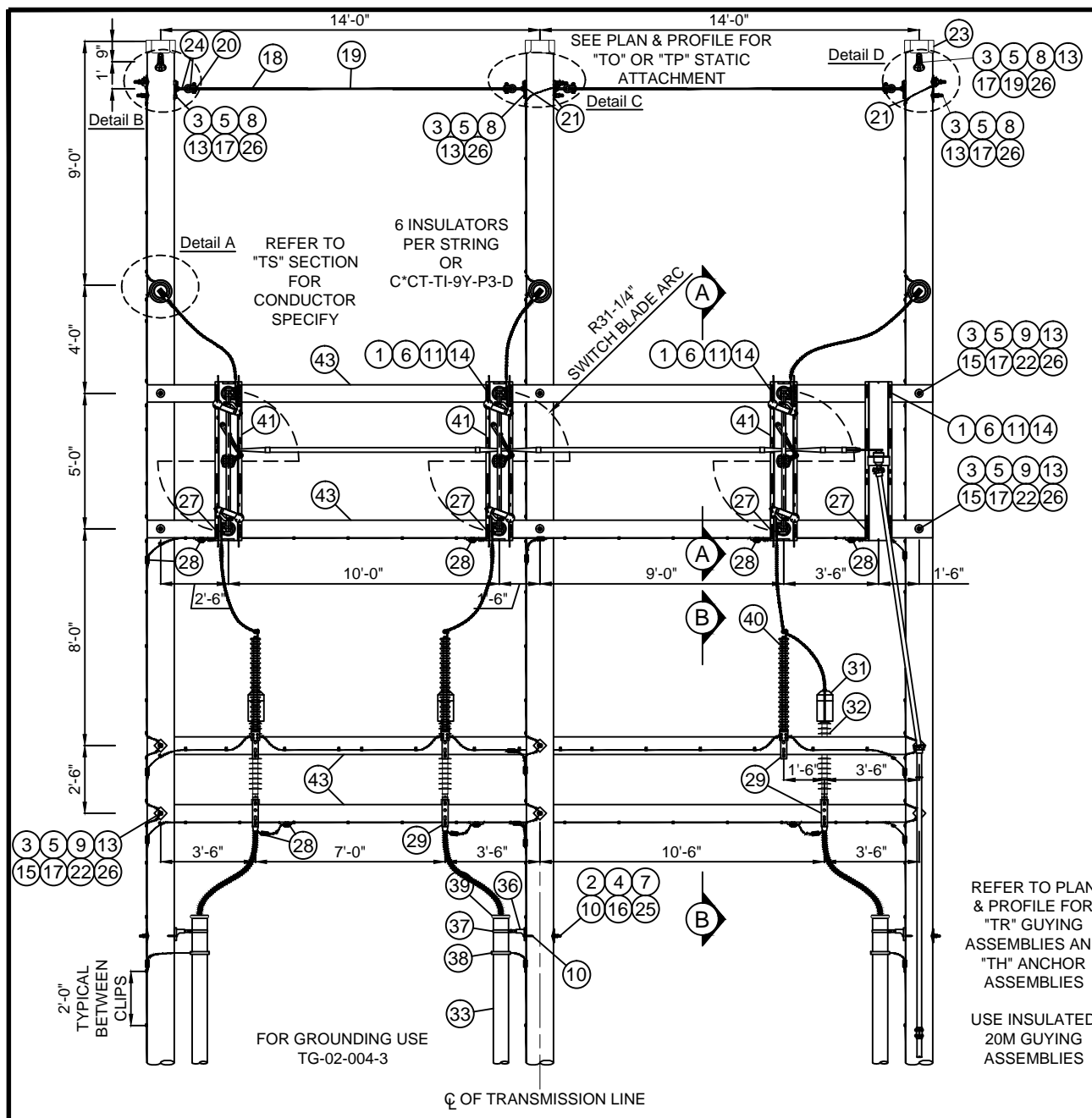
CU: C*CT-TI-9Y-P3-D				
ITEM NO.	QTY.	UOM	IUSA MID	
16	6	EA	6000316439	INS POLY Y-BALL 30K 6 UNIT EQ.

CU: C*CT-TI-6Y-HC				
ITEM NO.	QTY.	UOM	IUSA MID	
17	3	EA	6000310218	INS 69KV 2.5" POLYMER POST

CU MACRO	CONDUCTOR	STATIC	COND SPECIFY	STATIC SPECIFY
C*M-TN6HHYKF-B-H	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	TS-N2S1L1-B	TP-W-UD-G-H
C*M-TN6HHYKF-B-O	(3) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	TS-N2S1L1-B	TO-W-UD-G-O
C*M-TN6HHYKF-B-S	(3) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	TS-N2S1L1-B	TO-W-UD-G-S
C*M-TN6HHYKF-B-H2	(3) - 477 ACSR 18/1	(2) - 7#7 (7/16") AWLD	TS-N2S1L1-B	(2) TP-W-UD-G-H
C*M-TN6HHYKF-B-HO	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD (1) - 36 FIBER OPGW	TS-N2S1L1-B	TP-W-UD-G-H TO-W-UD-G-O
C*M-TN6HHYKF-B-HS	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD (1) - 36 FIBER SPEC. OPGW	TS-N2S1L1-B	TP-W-UD-G-H TO-W-UD-G-S
C*M-TN6HHYKF-X-H	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	TS-N2S1L1-X	TP-W-UD-G-H
C*M-TN6HHYKF-X-O	(3) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	TS-N2S1L1-X	TO-W-UD-G-O
C*M-TN6HHYKF-X-S	(3) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	TS-N2S1L1-X	TO-W-UD-G-S
C*M-TN6HHYKF-X-H2	(3) - 795 ACSR 26/7	(2) - 7#7 (7/16") AWLD	TS-N2S1L1-X	(2) TP-W-UD-G-H
C*M-TN6HHYKF-X-HO	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD (1) - 36 FIBER OPGW	TS-N2S1L1-X	TP-W-UD-G-H TO-W-UD-G-O
C*M-TN6HHYKF-X-HS	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD (1) - 36 FIBER SPEC. OPGW	TS-N2S1L1-X	TP-W-UD-G-H TO-W-UD-G-S

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" = 6'		
	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69KV H-FRAME SINGLE CIRCUIT TANGENT DEADEND STRUCTURE TYPE BN-LDS			REVISION
					00
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:
B. Franklin	12/2/2013	Becken/Hart	2/12/2015	Barry R. Hart	5/18/2015
TM2.23.TN-6HHYK-X					Sheet 1



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 SWITCH MAT, GROUND WIRE & GROUND ROD DETAIL
 - TK MARKINGS
 - TH GUYING ASSEMBLIES
 - TR GUY ANCHORS

NOTE B: POLE DRILLING: 1/2" BOLT - 9/16" DIAMETER HOLE
 5/8" BOLT - 11/16" DIAMETER HOLE
 7/8" BOLT - 15/16" DIAMETER HOLE

NOTE C: INTERPHASE OPERATION PIPES ARE 1" IPS AND SHALL BE CUT TO FIT BY CONSTRUCTION CONTRACTOR.

NOTE D: GUYING ANGLES SHOWN ARE GUIDELINES. IF THE SPECIFIC FIELD CONDITIONS IN THE AREA WHERE THIS STRUCTURE IS INSTALLED DO NOT ACCOMMODATE THIS GUYING ARRANGEMENT THEN THE CHANGES TO THE GUYING ARRANGEMENT SHALL BE NOTED ON THE RESPECTIVE PLAN AND PROFILE DRAWING.

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" = 5'	
	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69kV H-FRAME SINGLE CIRCUIT DEADEND RISER STRUCTURE TYPE BN-DRS-SW		REVISION 00
				DATE 5/21/2015
Drwn. By: B. Franklin Date Dr.: 11/21/2013	Checked By: Becken/Hart	Date Ck.: 3/05/2015	Approved By: Barry R. Hart Date App.: 5/19/2015	TM2.23.TN-6HTDK-X Sheet 1

BILL OF MATERIAL (CU Type: POLE)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6HTDK
1	16	EA	1000910500	NUT LCK MF SQ 1/2 BOLT GALV
2	15	EA	1000910600	NUT LCK MF SQ 5/8 BOLT GALV
3	30	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
4	3	EA	1000911700	NUT SQ 5/8 BOLT GALV
5	20	EA	6000273770	NUT SQ 7/8 BOLT GALV
6	16	EA	6000272053	BOLT SQ HEAD 1/2 X 7 W/ SQ NUT (NOTE A)
7	15	EA	1035473026	BOLT SQ HEAD 5/8 X 26 W/ SQ NUT (NOTE A)
8	10	EA	1035475016	BOLT SQ HEAD 7/8 X 16 W/ SQ NUT (NOTE A)
9	20	EA	1035475022	BOLT SQ HEAD 7/8 X 22 W/ SQ NUT (NOTE A)
10	9	EA	1007420850	SCR LAG 1/2 X 3
11	16	EA	6000274590	WASHER HELICAL (1/2")
12	15	EA	6000274600	WASHER HELICAL (5/8")
13	30	EA	6000274612	WASHER HELICAL (7/8")
14	16	EA	6000274808	WASHER 2" FLAT ROUND (1/2")
15	12	EA	1000946500	WASHER 4" SQ FLAT (7/8")
16	15	EA	6000274821	WASHER 4" SQ CURVED (5/8")
17	18	EA	6000274880	WASHER 4" SQ CURVED (7/8")
18	4	EA	6000250970	GRIP PRFRMD GUY 20M AWLD
19	50	EA	6000252400	WIRE ALWD GUY 20M
20	4	EA	1010145540	THMBL ROLLER 2-3/4" DIA 15/16" H
21	14	EA	6000274040	PLT POLE EYE 15/16 H
22	12	EA	1036470025	GRID, TMBR CNCTR, 4-1/8 SQ 15/16 H
23	3	EA	6000820052	POLE TOPPER 19"

BILL OF MATERIAL (CU Type: SHLDO)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TN-6HTDK
24	11	EA	1039220531	SHCKL ANCH 7/8 BNK 1-1/4 OPNG
25	3	EA	1036200005	CLMP GRND WIRE U-CLIP 11/16 H
26	20	EA	1036200007	CLMP GRND WIRE U-CLIP 15/16 H
27	4	EA	1080066001	CONN GRD BRZ CAPTIVE BOLT
28	32	EA	6000113592	CONN 2B GRD BRZ
29	6	EA	6000620100	EQUIPMENT MTG CLMP
30	3	EA	6000620090	CABLE MTG BRCKT
31	3	EA	6000312878	WILDLIFE PROTECTOR
32	3	EA	6000215945	CABLE TERM SIL RUBBER COLD SHRINK
33	6	EA	6000230560	CONDUIT 6" X 10'-0" GALVANIZED
34	3	EA	90459	ELBOW RIGID CONDUIT 6" GALVANIZED
35	6	EA	X	COUPLING RIGID CONDUIT 6" GALVANIZED
36	9	EA	6000620105	STANDOFF BRCKT F/ (1) 6" RIGID CONDUIT
37	9	EA	6000620120	STRAP SS F/ 6" RIGID CONDUIT
38	9	EA	6000251050	CLMP GRD F/ 6" RIGID CONDUIT
39	3	EA	6000221535	GRIP RISER F/ 6" RIGID CONDUIT

BILL OF MATERIAL (CU Type: SHLDO)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TU-AR6-E072
40	3	EA	6000490472	INT CLASS LTG ARRSTR, 72KV

BILL OF MATERIAL (CU Type: SHLDO)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TU-SW6A1D-I
41	1	EA	6000640160	SWITCH AB, DBL BRK, 1200A LB, 69KV

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

BILL OF MATERIAL (CU Type: INSO)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9P-D3-6
42	3 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (6 UNITS/STRING)

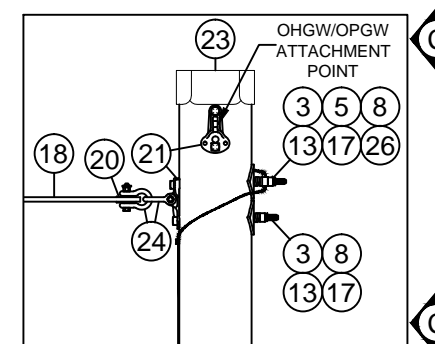
CU: C*CT-TI-9Y-P3-D

ITEM NO.	QTY.	UOM	IUSA MID	INS POLY Y-BALL 30K, 6 UNIT EQ.
42	3 CUs	EA	6000316439	

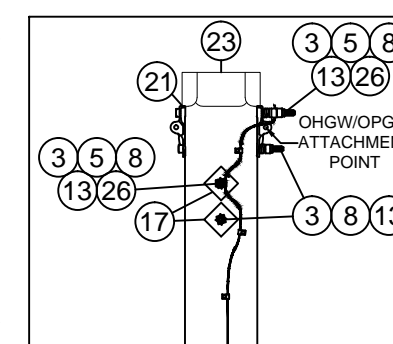
BILL OF MATERIAL (CU Type: XARM)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TT-6L-B-CE29
43	4 CUs	EA	6000740758	SINGLE CROSSARM LAMINATED WOOD, 4-3/4" X 5-3/4" X 29FT

CU MACRO	CONDUCTOR	STATIC	COND SPECIFY	STATIC SPECIFY
C*M-TN6HTDKF-B-H	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	TS-N1T3-B	TP-W-DE-G-H
C*M-TN6HTDKF-B-O	(3) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	TS-N1T3-B	TO-W-DE-G-O
C*M-TN6HTDKF-B-S	(3) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	TS-N1T3-B	TO-W-DE-G-S
C*M-TN6HTDKF-B-H2	(3) - 477 ACSR 18/1	(2) - 7#7 (7/16") AWLD	TS-N1T3-B	(2) TP-W-DE-G-H
C*M-TN6HTDKF-B-HO	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD (1) - 36 FIBER OPGW	TS-N1T3-B	TP-W-DE-G-H TO-W-DE-G-O
C*M-TN6HTDKF-B-HS	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD (1) - 36 FIBER SPEC. OPGW	TS-N1T3-B	TP-W-DE-G-H TO-W-DE-G-S
C*M-TN6HTDKF-X-H	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	TS-N1T3-X	TP-W-DE-G-H
C*M-TN6HTDKF-X-O	(3) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	TS-N1T3-X	TO-W-DE-G-O
C*M-TN6HTDKF-X-S	(3) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	TS-N1T3-X	TO-W-DE-G-S
C*M-TN6HTDKF-X-H2	(3) - 795 ACSR 26/7	(2) - 7#7 (7/16") AWLD	TS-N1T3-X	(2) TP-W-DE-G-H
C*M-TN6HTDKF-X-HO	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD (1) - 36 FIBER OPGW	TS-N1T3-X	TP-W-DE-G-H TO-W-DE-G-O
C*M-TN6HTDKF-X-HS	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD (1) - 36 FIBER SPEC. OPGW	TS-N1T3-X	TP-W-DE-G-H TO-W-DE-G-S



Detail 'D'



VIEW C-C

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: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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.

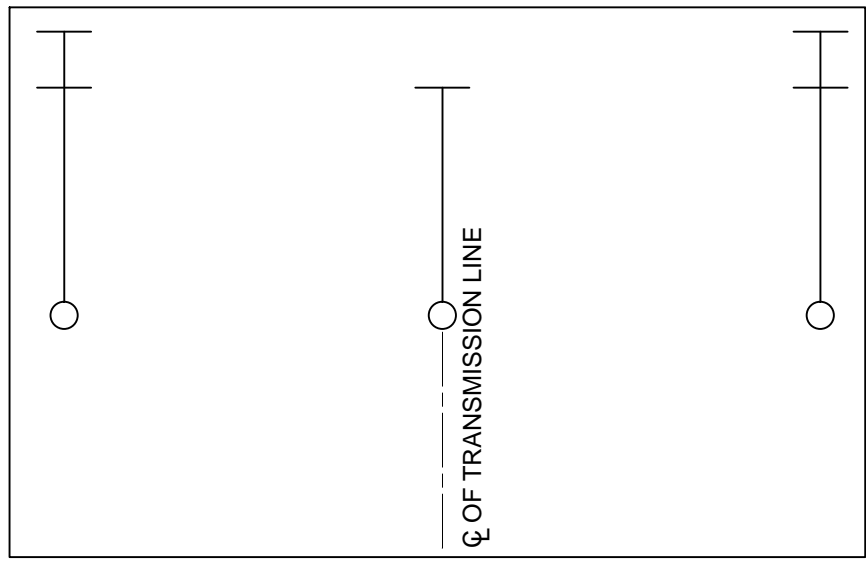
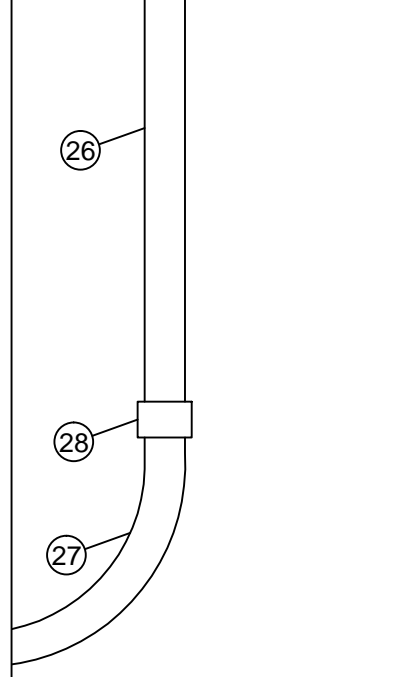
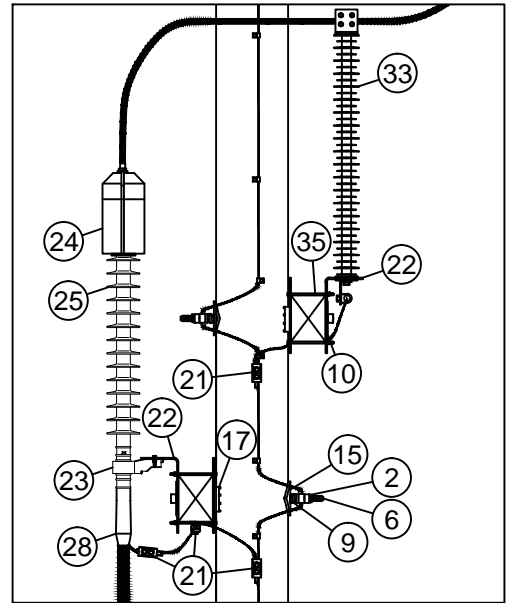
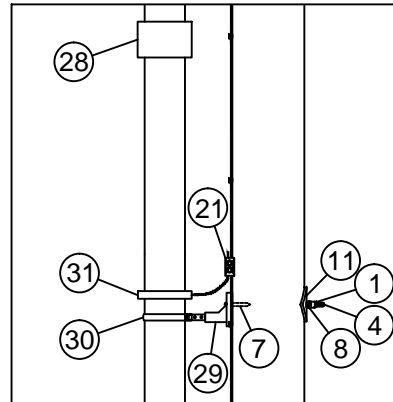
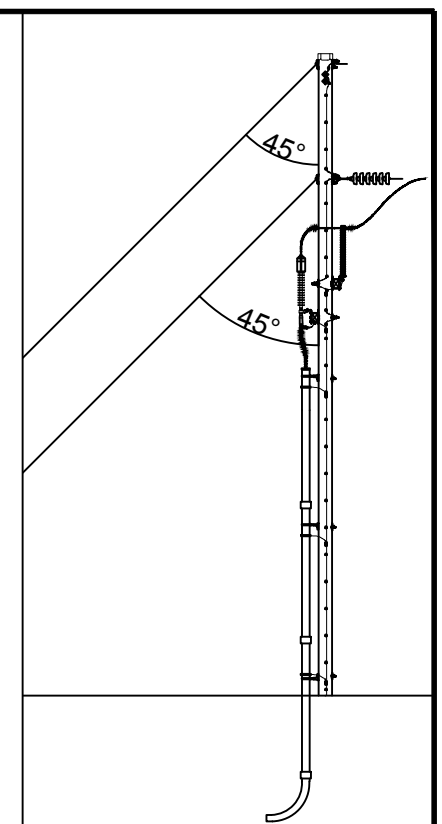
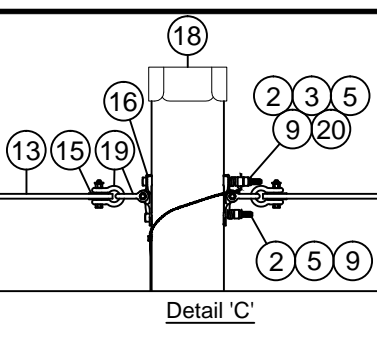
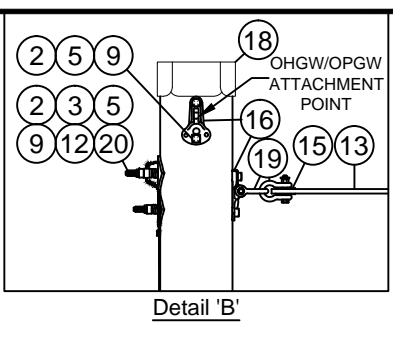
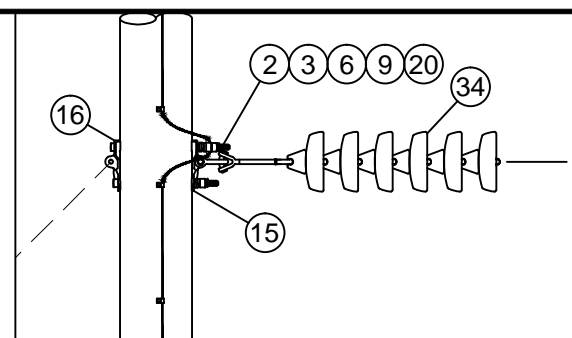
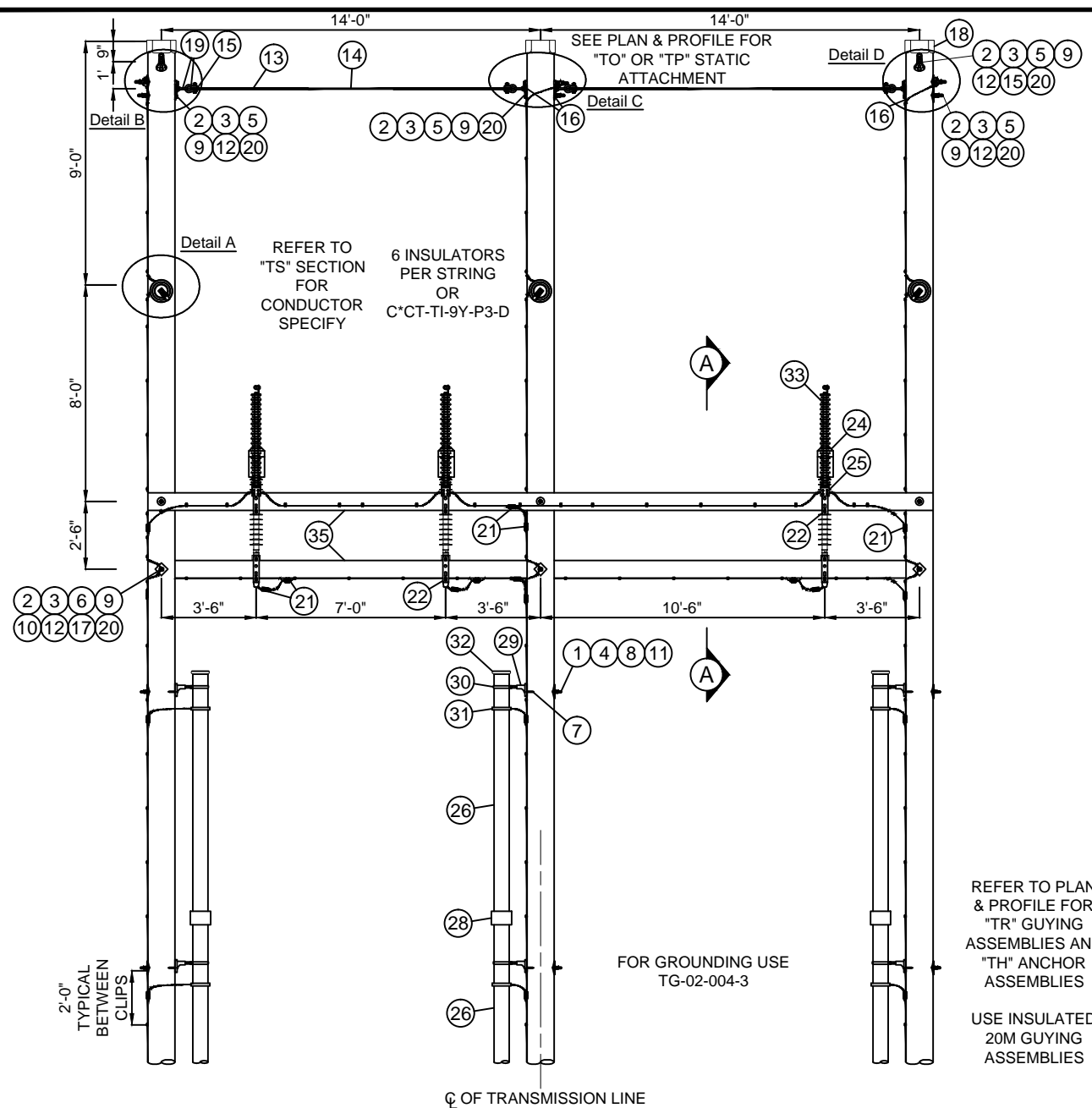
NOTE B: REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES

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" = 5'

	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69KV H-FRAME SINGLE CIRCUIT DEADEND RISER STRUCTURE TYPE BN-DRS-SW	REVISION
			00
			DATE
			5/21/2015
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:
B. Franklin	11/21/2013	Becken/Hart	3/05/2015
Approved By:	Date App.:	TM2.23.TN-6HTDK-X	
Barry R. Hart	5/19/2015	Sheet 2	



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
 - TH GUYING ASSEMBLIES
 - TR GUY ANCHORS

NOTE B: POLE DRILLING: 1/2" BOLT - 9/16" DIAMETER HOLE
 5/8" BOLT - 11/16" DIAMETER HOLE
 7/8" BOLT - 15/16" DIAMETER HOLE

NOTE C: GUYING ANGLES SHOWN ARE GUIDELINES. IF THE SPECIFIC FIELD CONDITIONS IN THE AREA WHERE THIS STRUCTURE IS INSTALLED DO NOT ACCOMMODATE THIS GUYING ARRANGEMENT THEN THE CHANGES TO THE GUYING ARRANGEMENT SHALL BE NOTED ON THE RESPECTIVE PLAN AND PROFILE DRAWING.

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" = 5'	
	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69kV H-FRAME SINGLE CIRCUIT DEADEND RISER STRUCTURE WITHOUT SWITCH TYPE BN-DRSB		REVISION 00
				DATE 5/21/2015
Drwn. By: B. Franklin Date Dr.: 10/30/2013	Checked By: Becken/Hart	Date Ck.: 2/12/2015	Approved By: Barry R. Hart Date App.: 5/19/2015	TM2.23.TN-6HTRK-X Sheet 1

BILL OF MATERIAL (CU Type: POLE)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6HTRK
1	9	EA	1000910600	NUT LCK MF SQ 5/8 BOLT GALV
2	22	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
3	14	EA	6000273770	NUT SQ 7/8 BOLT GALV
4	9	EA	1035473026	BOLT SQ HEAD 5/8 X 26 W/ SQ NUT (NOTE A)
5	10	EA	1035475016	BOLT SQ HEAD 7/8 X 16 W/ SQ NUT (NOTE A)
6	12	EA	1035475022	BOLT SQ HEAD 7/8 X 22 W/ SQ NUT (NOTE A)
7	9	EA	1007420850	SCR LAG 1/2 X 3
8	9	EA	6000274600	WASHER HELICAL (5/8")
9	22	EA	6000274612	WASHER HELICAL (7/8")
10	6	EA	1000946500	WASHER 4" SQ FLAT (7/8")
11	9	EA	6000274821	WASHER 4" SQ CURVED (5/8")
12	10	EA	6000274880	WASHER 4" SQ CURVED (7/8")
13	4	EA	6000250970	GRIP PRFRMD GUY 20M AWLD
14	50	EA	6000252400	WIRE ALWD GUY 20M
15	4	EA	1010145540	THMBL ROLLER 2-3/4" DIA 15/16" H
16	14	EA	6000274040	PLT POLE EYE 15/16 H
17	6	EA	1036470025	GRID, TMBR CNCTR, 4-1/8 SQ 15/16 H
18	3	EA	6000820052	POLE TOPPER 19"

BILL OF MATERIAL (CU Type: SHLDO)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TN-6HTRK
19	11	EA	1039220531	SHCKL ANCH 7/8 BNK 1-1/4 OPNG
20	14	EA	1036200007	CLMP GRND WIRE U-CLIP 15/16 H
21	23	EA	6000113592	CONN 2B GRD BRZ
22	6	EA	6000620100	EQUIPMENT MTG CLMP
23	3	EA	6000620090	CABLE MTG BRCKT
24	3	EA	6000312878	WILDLIFE PROTECTOR
25	3	EA	6000215945	CABLE TERM SIL RUBBER COLD SHRINK
26	9	EA	6000230560	CONDUIT 6" X 10'-0" GALVANIZED
27	3	EA	90459	ELBOW RIGID CONDUIT 6" GALVANIZED
28	9	EA	X	COUPLING RIGID CONDUIT 6" GALVANIZED
29	9	EA	6000620105	STANDOFF BRCKT F/ (1) 6" RIGID CONDUIT
30	9	EA	6000620120	STRAP SS F/ 6" RIGID CONDUIT
31	9	EA	6000251050	CLMP GRD F/ 6" RIGID CONDUIT
32	3	EA	6000221535	GRIP RISER F/ 6" RIGID CONDUIT

BILL OF MATERIAL (CU Type: SHLDO)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TU-AR6-E072
33	3	EA	6000490472	INT CLASS LTG ARRSTR, 72KV

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

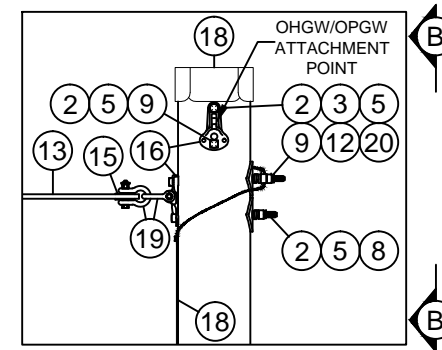
BILL OF MATERIAL (CU Type: INSO)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9P-D3-6
34	3 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (6 UNITS/STRING)
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9Y-P3-06
34	3 CUs	EA	6000316439	INS POLY Y-BALL 30K, 6 UNIT EQ.

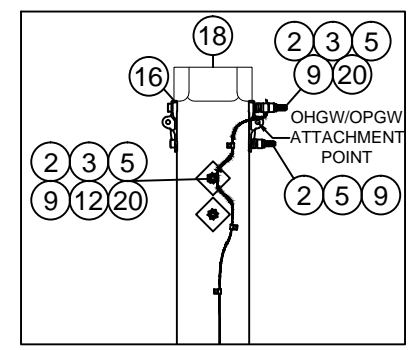
BILL OF MATERIAL (CU Type: XARM)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TT-6L-B-CE29
35	2 CUs	EA	6000740758	SINGLE CROSSARM LAMINATED WOOD, 4-3/4" X 5-3/4" X 29FT

CU MACRO	CONDUCTOR	STATIC	COND SPECIFY	STATIC SPECIFY
C*M-TN6HTRKF-B-H	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	T1-N1T1-B	TP-W-DE-G-H
C*M-TN6HTRKF-B-O	(3) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	T1-N1T1-B	TO-W-DE-G-O
C*M-TN6HTRKF-B-S	(3) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	T1-N1T1-B	TO-W-DE-G-S
C*M-TN6HTRKF-B-H2	(3) - 477 ACSR 18/1	(2) - 7#7 (7/16") AWLD	T1-N1T1-B	(2) TP-W-DE-G-H
C*M-TN6HTRKF-B-HO	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD (1) - 36 FIBER OPGW	T1-N1T1-B	TP-W-DE-G-H TO-W-DE-G-O
C*M-TN6HTRKF-B-HS	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD (1) - 36 FIBER SPEC. OPGW	T1-N1T1-B	TP-W-DE-G-H TO-W-DE-G-S
C*M-TN6HTRKF-X-H	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	T1-N1T1-X	TP-W-DE-G-H
C*M-TN6HTRKF-X-O	(3) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	T1-N1T1-X	TO-W-DE-G-O
C*M-TN6HTRKF-X-S	(3) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	T1-N1T1-X	TO-W-DE-G-S
C*M-TN6HTRKF-X-H2	(3) - 795 ACSR 26/7	(2) - 7#7 (7/16") AWLD	T1-N1T1-X	(2) TP-W-DE-G-H
C*M-TN6HTRKF-X-HO	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD (1) - 36 FIBER OPGW	T1-N1T1-X	TP-W-DE-G-H TO-W-DE-G-O
C*M-TN6HTRKF-X-HS	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD (1) - 36 FIBER SPEC. OPGW	T1-N1T1-X	TP-W-DE-G-H TO-W-DE-G-S



Detail 'D'



VIEW B-B

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

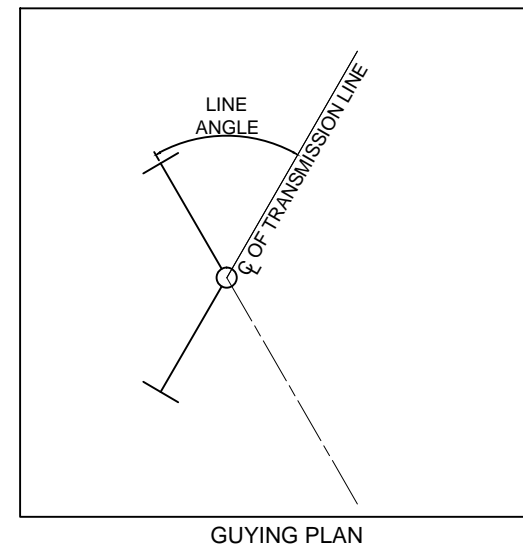
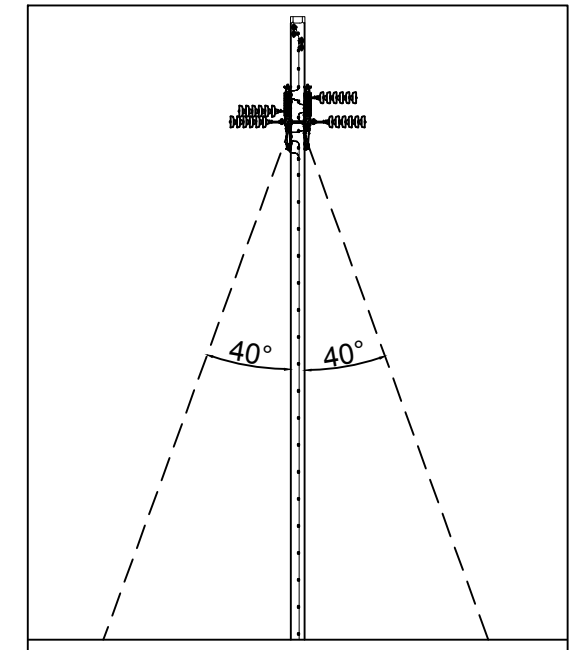
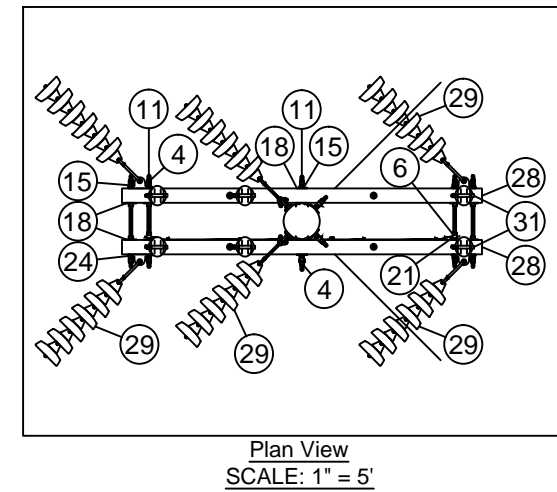
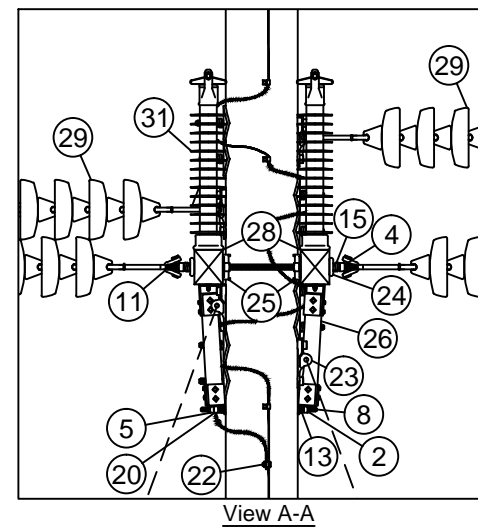
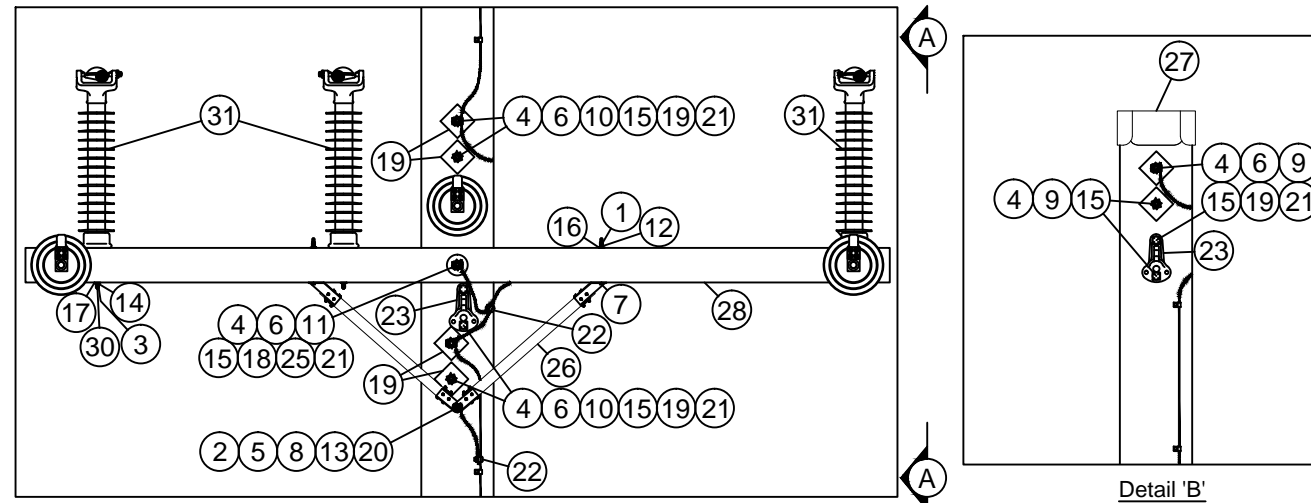
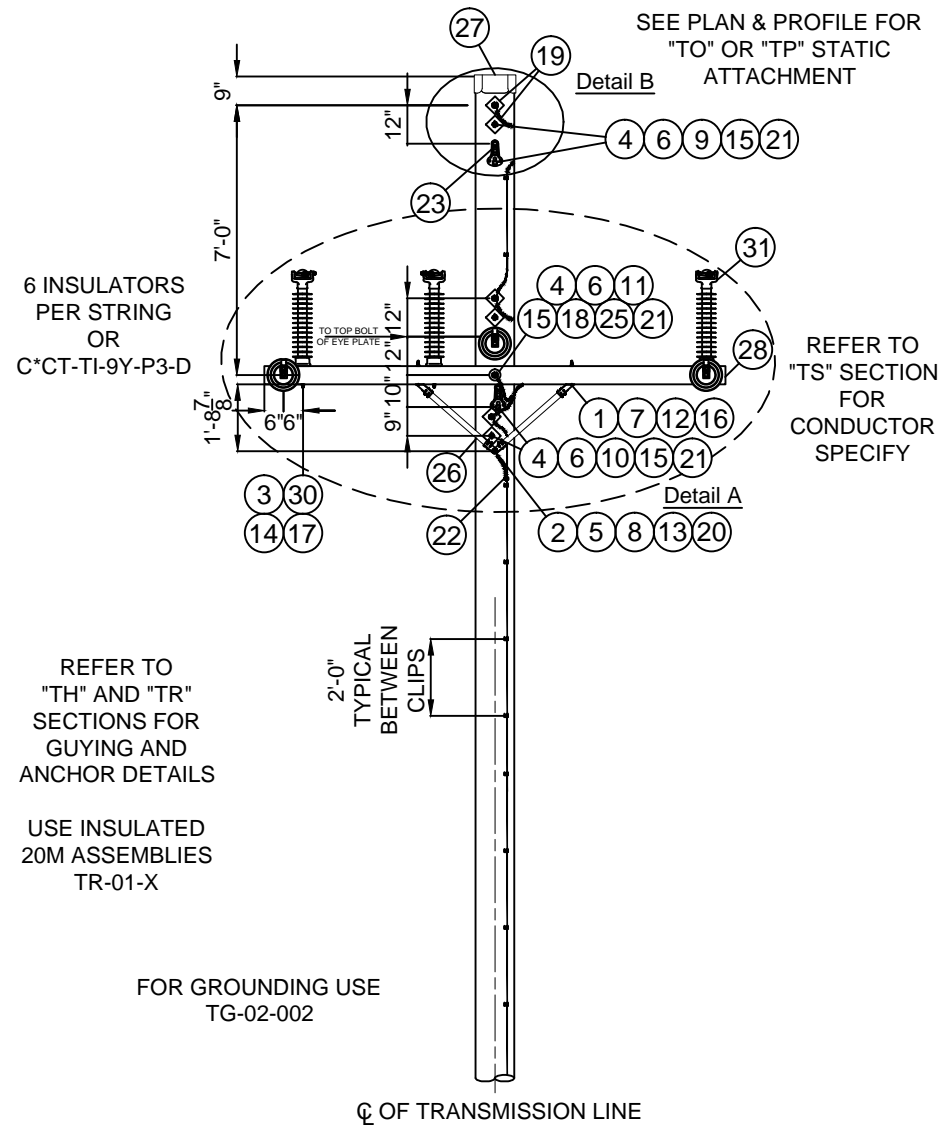
FOR CORRECT CU: SUBSTITUTE 5 FOR NYSEG, 6 FOR CMP OR 9 FOR RG&E IN PLACE OF ASTERISK (C*_).

NOTE A: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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 B: 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" = 5'	
	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69kV H-FRAME SINGLE CIRCUIT DEADEND RISER STRUCTURE WITHOUT SWITCH TYPE BN-DRSB			REVISION 00
					DATE 5/21/2015
Drwn. By: B. Franklin Date Dr.: 10/30/2013	Checked By: Becken/Hart	Date Ck.: 2/12/2015	Approved By: Barry R. Hart Date App.: 5/19/2015	TM2.23.TN-6HTRK-X Sheet 2	



NOTE A: OTHER STANDARD DRAWINGS REQUIRED:
 TD FOUNDATION & BACKFILL
 TG GROUND WIRE & GROUND ROD DETAILS
 TK MARKINGS
 TH GUYING ASSEMBLIES
 TR GUY ANCHORS

NOTE B: POLE DRILLING: 5/8" BOLT - 11/16" DIAMETER HOLE
 3/4" BOLT - 13/16" DIAMETER HOLE
 7/8" BOLT - 15/16" DIAMETER HOLE

NOTE C: THIS STRUCTURE IS A FALSE DEADEND.

NOTE D: THIS STRUCTURE IS TO BE USED IN SPECIAL APPLICATIONS ONLY.

NOTE E: GROUND WIRE SHALL BE INSTALLED ALONG THE ENTIRE LENGTH OF THE CROSSARM, CONTINUOUS FROM CONNECTIONS LOCATED AT EITHER END.

NOTE F: DEPENDING ON THE LINE ANGLE AND THE CLEARANCE BETWEEN THE GUYS AND THE CONDUCTORS THE GUYING ANGLE MAY DIFFER SLIGHTLY AT THE DISCRETION OF THE DESIGNER.

NOTE G: GUYING ANGLES SHOWN ARE GUIDELINES. IF THE SPECIFIC FIELD CONDITIONS IN THE AREA WHERE THIS STRUCTURE IS INSTALLED DO NOT ACCOMMODATE THIS GUYING ARRANGEMENT THEN THE CHANGES TO THE GUYING ARRANGEMENT SHALL BE NOTED ON THE RESPECTIVE PLAN AND PROFILE DRAWING.

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" = 5'



TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL

STRUCTURE STANDARDS - WOOD
69KV SINGLE POLE SINGLE CIRCUIT - SPEC. APPLICATIONS ONLY
DEADEND STRUCTURE ON CROSSARMS- 0° TO 20°
TYPE BN-HS

REVISION
00
DATE
5/21/2015

Drwn. By: B. Franklin
Date Dr.: 10/29/2013

Checked By: Becken/Hart

Date Ck.: 2/12/2015

Approved By: Barry R. Hart
Date App.: 5/19/2015

TM2.23.TN-6HTYK-X

Sheet 1

BILL OF MATERIAL (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6HTYK
1	4	EA	1000910500	NUT LCK MF SQ 1/2 BOLT GALV
2	2	EA	1000910600	NUT LCK MF SQ 5/8 BOLT GALV
3	6	EA	1000910700	NUT LCK MF SQ 3/4 BOLT GALV
4	17	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
5	1	EA	1000911700	NUT SQ 5/8 BOLT GALV
6	9	EA	6000273770	NUT SQ 7/8 BOLT GALV
7	4	EA	6000272053	BOLT SQ HEAD 1/2 X 7 W/ SQ NUT (NOTE A)
8	1	EA	192163	BOLT DA 5/8 X 16 W/ 4 NUTS (NOTE A)
9	4	EA	1035475016	BOLT SQ HEAD 7/8 X 16 W/ SQ NUT (NOTE A)
10	8	EA	1035475022	BOLT SQ HEAD 7/8 X 22 W/ SQ NUT (NOTE A)
11	5	EA	6000272460	BOLT DA 7/8 X 26 W/ 4 NUTS (NOTE A)
12	4	EA	6000274590	WASHER HELICAL (1/2")
13	2	EA	6000274600	WASHER HELICAL (5/8")
14	6	EA	6000274610	WASHER HELICAL (3/4")
15	22	EA	6000274612	WASHER HELICAL (7/8")
16	4	EA	6000274808	WASHER 2" FLAT ROUND (1/2")
17	6	EA	6000274840	WASHER 3-1/2" FLAT ROUND (3/4")
18	10	EA	1000946500	WASHER 4" SQ. FLAT (7/8")
19	12	EA	6000274880	WASHER 4" SQ. CURVED (7/8")
20	1	EA	1036200005	CLMP GRND WIRE U-CLIP 11/16 H
21	9	EA	1036200007	CLMP GRND WIRE U-CLIP 15/16 H
22	3	EA	1036232100	CONN 1B W/SPCR
23	7	EA	6000274040	PLT POLE EYE 15/16 H
24	4	EA	6000274505	DEAD END TEE, 60K
25	2	EA	1036470025	GRID, TMBR CNCTR, 4-1/8 SQ 15/16 H
26	2	EA	6000740330	CROSSARM BRACES WOOD, 35" LONG (1 PAIR)
27	1	EA	6000820052	POLE TOPPER 19"

BILL OF MATERIAL (CU Type: INSO)						
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9P-D3-6		
29	6 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (6 UNITS/STRING)		
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9Y-P3-D		
29	6 CUs	EA	6000316439	INS POLY Y-BALL 30K 6 UNIT EQ.		
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-6Y-V2 (6 CU's)		
30	1	EA	1035469027	PIN INSULATOR LONG W/ NUT & WASHER		
31	1	EA	6000310215	INS POLYMER VERTICAL POST 69KV		
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-TN6HTYKF-B-H		(3) - 477 ACSR 18/1		(1) - 7#7 (7/16") AWLD	TS-N2P2L1-B	TP-W-DE-G-H
C*M-TN6HTYKF-B-O		(3) - 477 ACSR 18/1		(1) - 36 FIBER OPGW	TS-N2P2L1-B	TO-W-DE-G-O
C*M-TN6HTYKF-B-S		(3) - 477 ACSR 18/1		(1) - 36 FIBER SPEC. OPGW	TS-N2P2L1-B	TO-W-DE-G-S
C*M-TN6HTYKF-X-H		(3) - 795 ACSR 26/7		(1) - 7#7 (7/16") AWLD	TS-N2P2L1-X	TP-W-DE-G-H
C*M-TN6HTYKF-X-O		(3) - 795 ACSR 26/7		(1) - 36 FIBER OPGW	TS-N2P2L1-X	TO-W-DE-G-O
C*M-TN6HTYKF-X-S		(3) - 795 ACSR 26/7		(1) - 36 FIBER SPEC. OPGW	TS-N2P2L1-X	TO-W-DE-G-S


BILL OF MATERIAL (CU Type: XARM)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TT-9F-C-BB12
28	2 CUs	EA	6000740560	DOUBLE CROSSARM FIBERGLASS, 2 PIN 4-3/4" X 5-3/4" X 12FT

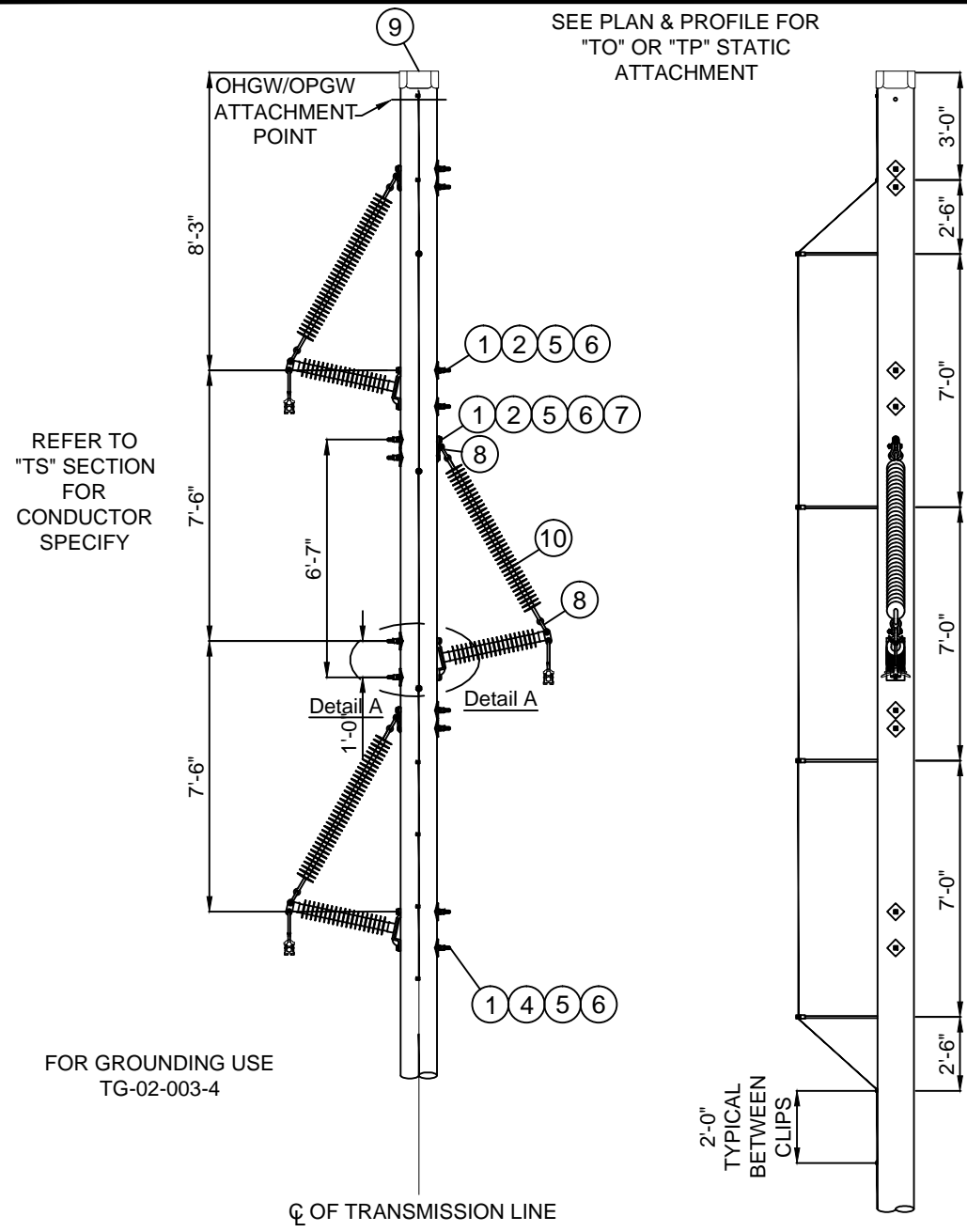
CU FUNCTION: TL69 FOR 35KV & 46KV, TG69 FOR 69KV THRU 344KV, T345 FOR 345KV & GREATER.

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

NOTE A: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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 B: 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" = 5'
	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69kv SINGLE POLE SINGLE CIRCUIT - SPEC. APPLICATIONS ONLY DEADEND STRUCTURE ON CROSSARMS- 0° TO 20° TYPE BN-HS		REVISION 00
				DATE 5/21/2015
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By: Date App.:
B. Franklin	10/29/2013	Becken/Hart	2/12/2015	Barry R. Hart 5/19/2015
TM2.23.TN-6HTYK-X				Sheet 2



REFER TO "TS" SECTION FOR CONDUCTOR SPECIFY

FOR GROUNDING USE TG-02-003-4

CL OF TRANSMISSION LINE

2'-0" TYPICAL BETWEEN CLIPS

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

NOTE B: POLE DRILLING: ALL HOLES - 15/16" DIAMETER

NOTE C: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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.

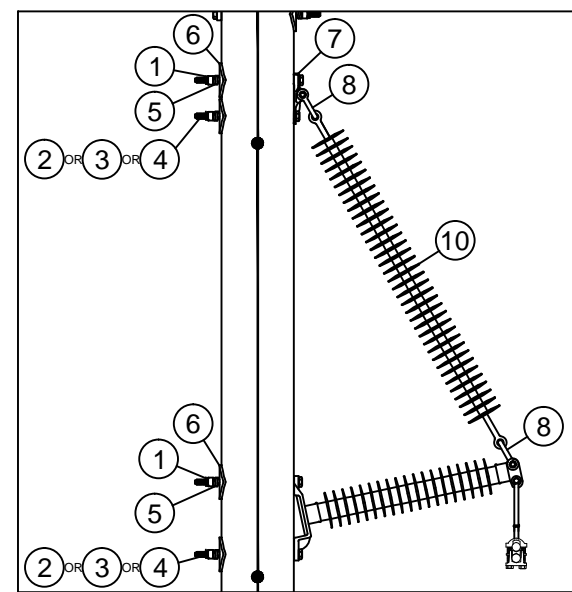
NOTE D: REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES.

BILL OF MATERIAL (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6SBPG
1	12	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
2	4	EA	1035475012	BOLT SQ HEAD 7/8 X 12 W/ SQ NUT (NOTE C)
3	4	EA	1035475014	BOLT SQ HEAD 7/8 X 14 W/ SQ NUT (NOTE C)
4	4	EA	1035475016	BOLT SQ HEAD 7/8 X 16 W/ SQ NUT (NOTE C)
5	12	EA	6000274612	WASHER HELICAL (7/8")
6	12	EA	6000274880	WASHER 4" SQ CURVED (7/8")
7	3	EA	6000274040	PLT POLE EYE 15/16 H
8	6	EA	1039220531	SHCKL ANCH 7/8 BNK 1-1/4 OPNG
9	1	EA	6000820052	POLE TOPPER 19"

BILL OF MATERIAL (CU Type: INSO)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-6Y-BP
10	3	EA	6000310230	INS 69kV 2.5" POLYMER BRACED POST ASSY

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-TN6SBPG-B-H	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	TS-S1A1-B	TP-W-TS-G-H
C*M-TN6SBPG-B-O	(3) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	TS-S1A1-B	TO-W-TS-G-O
C*M-TN6SBPG-B-S	(3) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	TS-S1A1-B	TO-W-TS-G-S
C*M-TN6SBPG-X-H	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	TS-S1A1-X	TP-W-TS-G-H
C*M-TN6SBPG-X-O	(3) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	TS-S1A1-X	TO-W-TS-G-O
C*M-TN6SBPG-X-S	(3) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	TS-S1A1-X	TO-W-TS-G-S

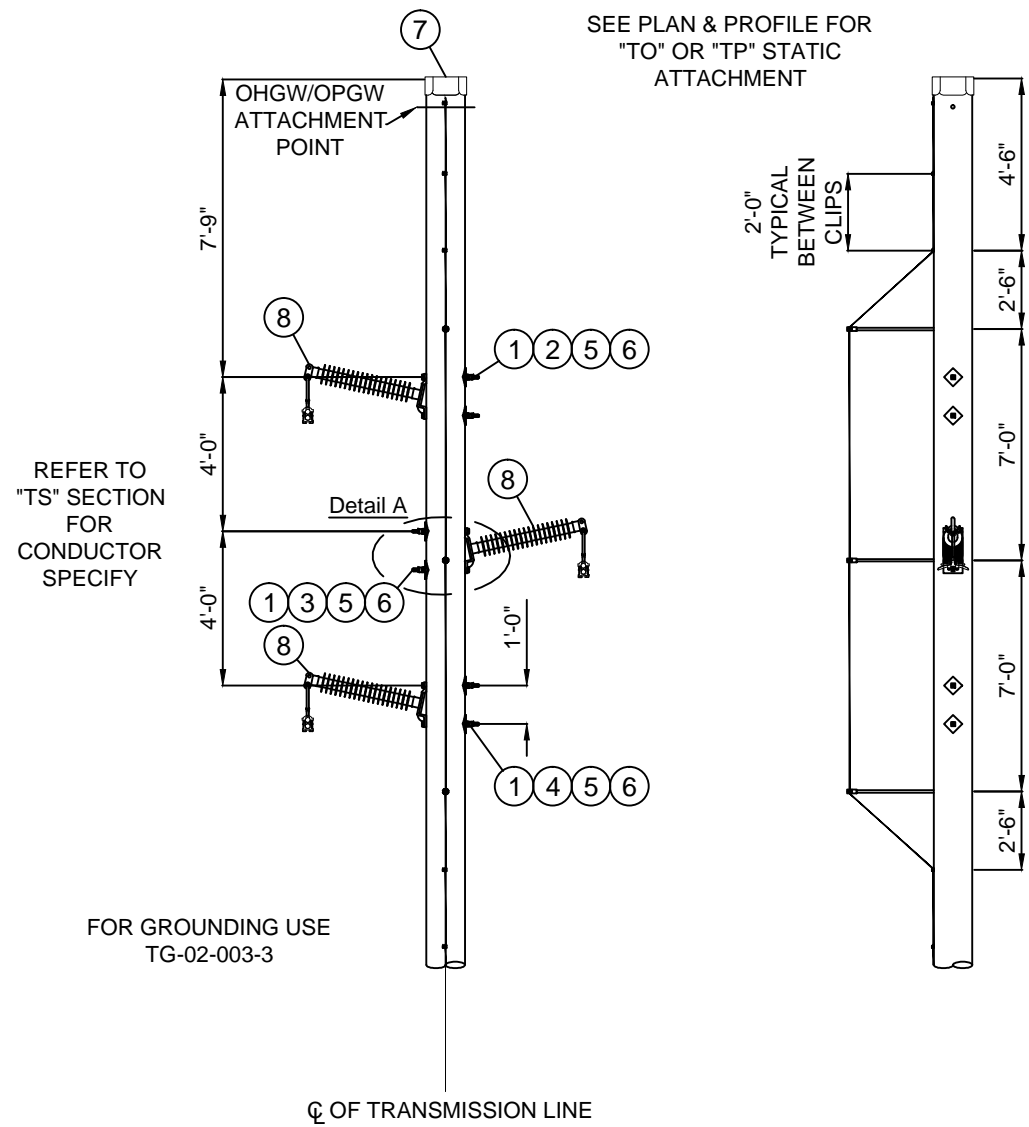


Detail 'A'

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" = 5'

	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69KV SINGLE POLE SINGLE CIRCUIT TANGENT STRUCTURE - BRACED POST TYPE BP-XS	REVISION
			00
			DATE
			5/21/2015
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:
B. Franklin	12/2/2013	Becken/Hart	3/05/2015
Approved By:	Date App.:	TM2.23.TN-6SBPG-X	
Barry R. Hart	3/12/2015	Sheet 1	

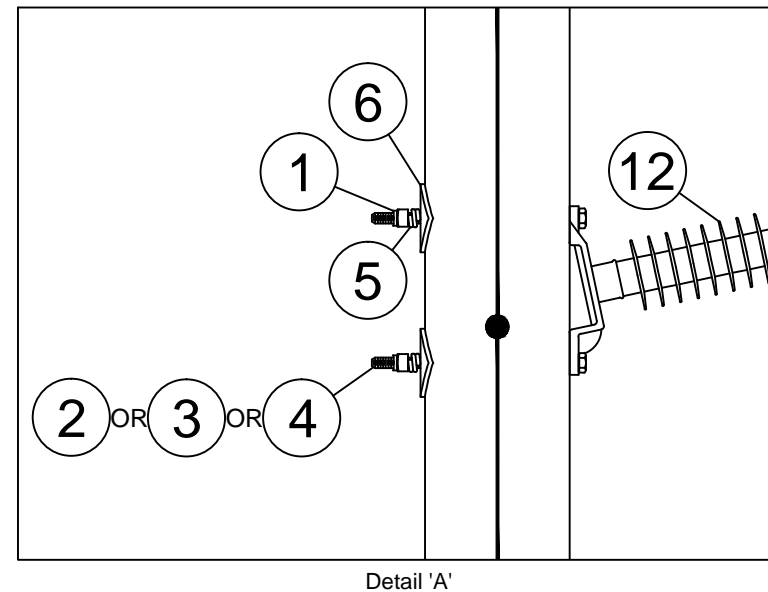


BILL OF MATERIAL (CU Type: POLE)						
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6STPF		
1	6	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV		
2	2	EA	1035475012	BOLT SQ HEAD 7/8 X 12 W/ SQ NUT (NOTE C)		
3	2	EA	1035475014	BOLT SQ HEAD 7/8 X 14 W/ SQ NUT (NOTE C)		
4	2	EA	1035475016	BOLT SQ HEAD 7/8 X 16 W/ SQ NUT (NOTE C)		
5	6	EA	6000274612	WASHER HELICAL (7/8")		
6	6	EA	6000274880	WASHER 4" SQ CURVED (7/8")		
7	1	EA	6000820052	POLE TOPPER 19"		

BILL OF MATERIAL (CU Type: INSO)						
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-6Y-HC		
8	3	EA	6000310218	INS 69KV 2.5" POLYMER POST		

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-TN6STPF-B-H	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	TS-S1A1-B	TP-W-TS-G-H
C*M-TN6STPF-B-O	(3) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	TS-S1A1-B	TO-W-TS-G-O
C*M-TN6STPF-B-S	(3) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	TS-S1A1-B	TO-W-TS-G-S
C*M-TN6STPF-X-H	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	TS-S1A1-X	TP-W-TS-G-H
C*M-TN6STPF-X-O	(3) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	TS-S1A1-X	TO-W-TS-G-O
C*M-TN6STPF-X-S	(3) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	TS-S1A1-X	TO-W-TS-G-S



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

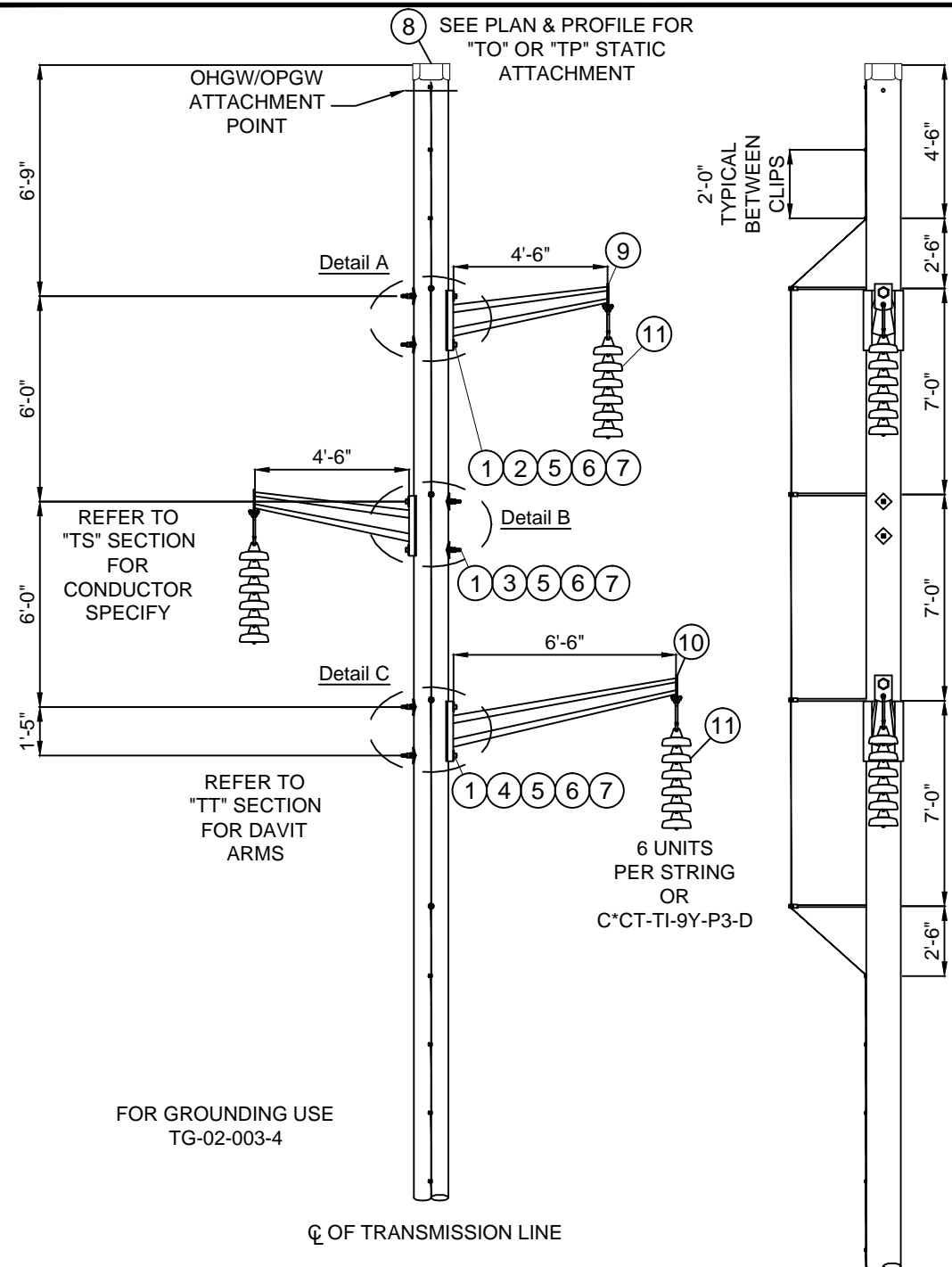
NOTE B: POLE DRILLING: ALL HOLES - 15/16" DIAMETER

NOTE C: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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 D: REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES.

NOTE E: THIS STRUCTURE SHALL NOT BE USED TO SUPPORT A BUNDLED CONDUCTOR CONFIGURATION.

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" = 5'	
	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69KV SINGLE POLE SINGLE CIRCUIT TANGENT STRUCTURE - HORIZONTAL POST TYPE LP-XS			REVISION	
					00	
			DATE	5/21/2015		
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	Sheet 1
B. Franklin	12/2/2013	Becken/Hart	3/05/2015	Barry R. Hart	3/12/2015	TM2.23.TN-6STPF-X



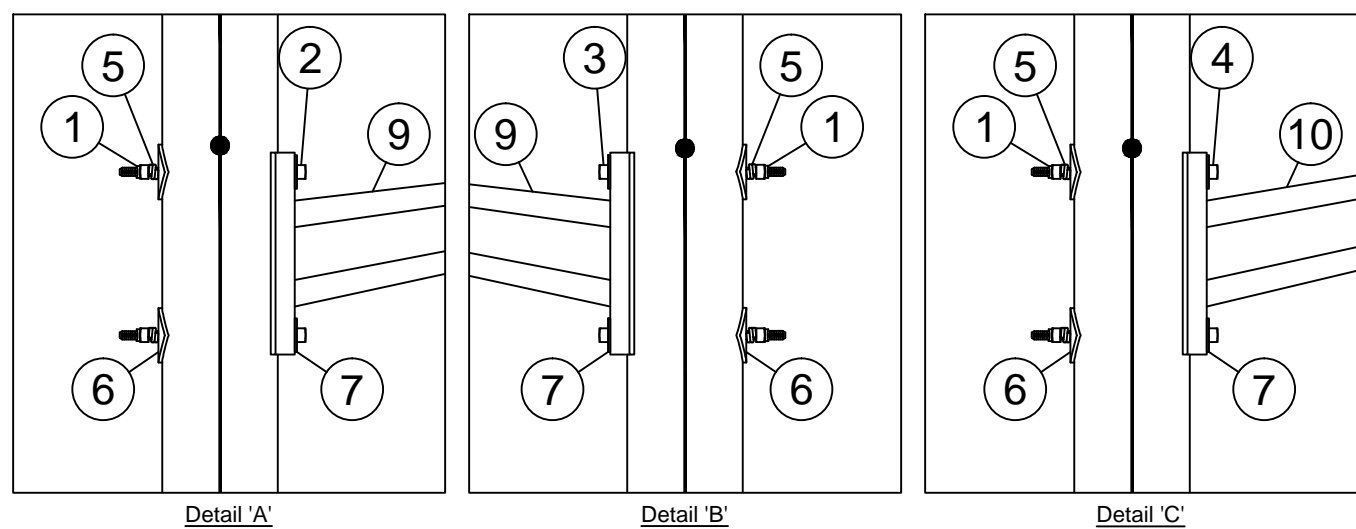
BILL OF MATERIAL (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-XSTS
1	6	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
2	2	EA	1035475024	BOLT SQ HEAD 7/8 X 24 W/ SQ NUT (NOTE C)
3	2	EA	1035475026	BOLT SQ HEAD 7/8 X 26 W/ SQ NUT (NOTE C)
4	2	EA	1035475028	BOLT SQ HEAD 7/8 X 28 W/ SQ NUT (NOTE C)
5	6	EA	6000274612	WASHER HELICAL (7/8")
6	6	EA	6000274880	WASHER 4" SQ CURVED (7/8")
7	6	EA	1000946500	WASHER 4" SQ FLAT (7/8")
8	1	EA	6000820052	POLE TOPPER 19"

BILL OF MATERIAL (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TT-9S-D-ZZ84
9	2	EA	6000617074	ARM DAVIT STEEL 4'-6"
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TT-9S-D-ZZ87
10	1	EA	6000617058	ARM DAVIT STEEL 6'-6"

BILL OF MATERIAL (CU Type: INSO)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9P-D3-6
11	3 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (6 UNITS/STRING)
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9Y-P3-D
11	3	EA	6000316439	INS POLY Y-BALL 30K 6 UNIT EQ.

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-TN6STSA-B-H	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	TS-S1A1-B	TP-W-TS-G-H
C*M-TN6STSA-B-O	(3) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	TS-S1A1-B	TO-W-TS-G-O
C*M-TN6STSA-B-S	(3) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	TS-S1A1-B	TO-W-TS-G-S
C*M-TN6STSA-X-H	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	TS-S1A1-X	TP-W-TS-G-H
C*M-TN6STSA-X-O	(3) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	TS-S1A1-X	TO-W-TS-G-O
C*M-TN6STSA-X-S	(3) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	TS-S1A1-X	TO-W-TS-G-S

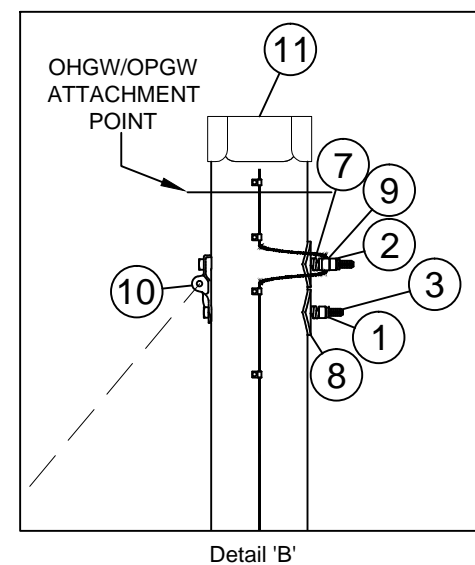
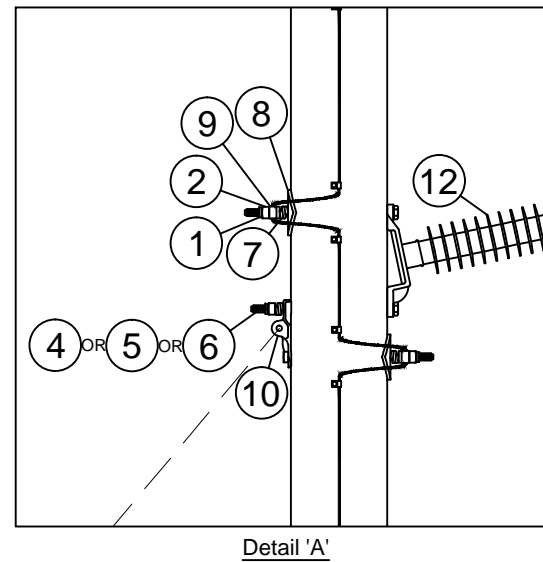
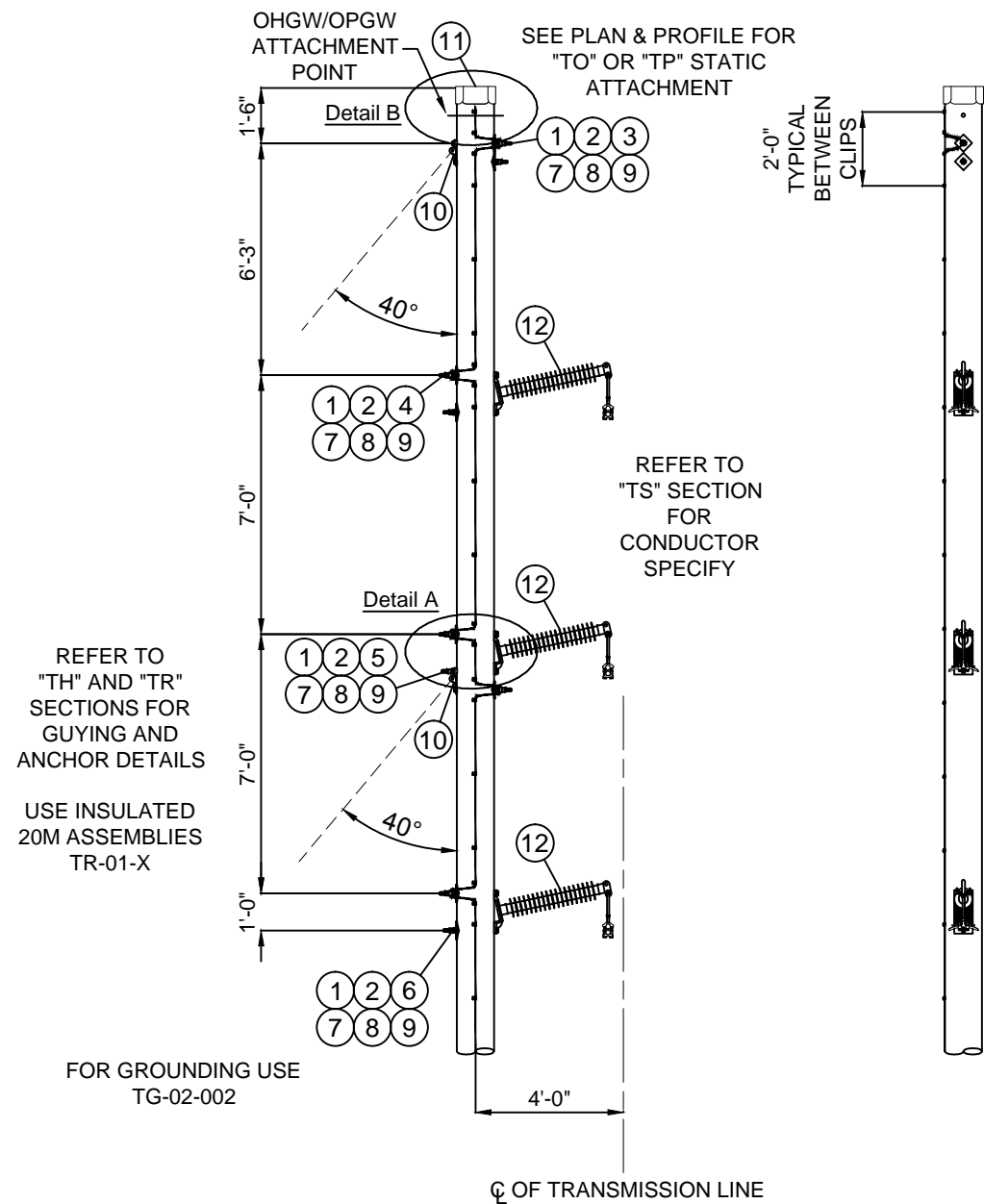


CU FUNCTION: TL69 FOR 35KV & 46KV, TG69 FOR 69KV THRU 344KV, T345 FOR 345KV & GREATER.
 FOR CORRECT CU: SUBSTITUTE 5 FOR NYSEG, 6 FOR CMP OR 9 FOR RG&E IN PLACE OF ASTERISK (C*_).
 NOTE A: OTHER STANDARD DRAWINGS REQUIRED:
 TD FOUNDATION & BACKFILL
 TG GROUND WIRE & GROUND ROD DETAIL
 TK MARKINGS
 NOTE B: POLE DRILLING: ALL HOLES - 15/16" DIAMETER
 NOTE C: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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 D: 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" = 5'

	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69KV SINGLE POLE SINGLE CIRCUIT TANGENT STRUCTURE - SUSPENSION INSULATORS TYPE BN-TS	REVISION 00 DATE 5/21/2015
	Drwn. By: B. Franklin Date Dr.: 12/2/2013 Checked By: Becken/Hart Date Ck.: 2/12/2015 Approved By: Barry R. Hart Date App.: 5/18/2015	TM2.23.TN-6STSA-X	Sheet 1



BILL OF MATERIAL (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6VAPF
1	9	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
2	5	EA	6000273770	NUT SQ 7/8 BOLT GALV
3	2	EA	1035475016	BOLT SQ HEAD 7/8 X 16 W/ SQ NUT (NOTE C)
4	2	EA	1035475018	BOLT SQ HEAD 7/8 X 18 W/ SQ NUT (NOTE C)
5	3	EA	1035475020	BOLT SQ HEAD 7/8 X 20 W/ SQ NUT (NOTE C)
6	2	EA	1035475022	BOLT SQ HEAD 7/8 X 22 W/ SQ NUT (NOTE C)
7	9	EA	6000274612	WASHER HELICAL (7/8")
8	6	EA	6000274880	WASHER 4" SQ CURVED (7/8")
9	5	EA	6000251031	CLMP GRND WIRE U-CLIP 15/16 H
10	2	EA	6000274040	PLT POLE EYE 15/16 H
11	1	EA	6000820052	POLE TOPPER 19"

BILL OF MATERIAL (CU Type: INSO)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-6Y-HC
12	3	EA	6000310218	INS 69kV 2.5" POLYMER POST

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-TN6VAPF-B-H	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	TS-S1A1-B	TP-W-TS-G-H
C*M-TN6VAPF-B-O	(3) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	TS-S1A1-B	TO-W-TS-G-O
C*M-TN6VAPF-B-S	(3) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	TS-S1A1-B	TO-W-TS-G-S
C*M-TN6VAPF-X-H	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	TS-S1A1-X	TP-W-TS-G-H
C*M-TN6VAPF-X-O	(3) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	TS-S1A1-X	TO-W-TS-G-O
C*M-TN6VAPF-X-S	(3) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	TS-S1A1-X	TO-W-TS-G-S

REFER TO "TH" AND "TR" SECTIONS FOR GUYING AND ANCHOR DETAILS

USE INSULATED 20M ASSEMBLIES TR-01-X

FOR GROUNDING USE TG-02-002

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*_).

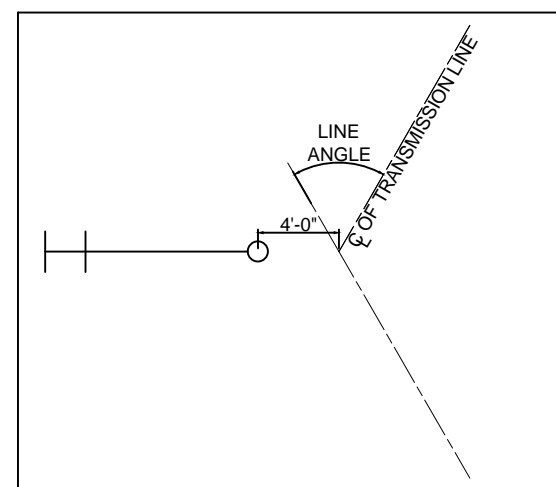
- NOTE A: OTHER STANDARD DRAWINGS REQUIRED:
- TD FOUNDATION & BACKFILL
 - TG GROUND WIRE & GROUND ROD DETAIL
 - TH GUYING ASSEMBLIES
 - TK MARKINGS
 - TR GUY ANCHORS

NOTE B: POLE DRILLING: ALL HOLES - 15/16" DIAMETER

NOTE C: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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.

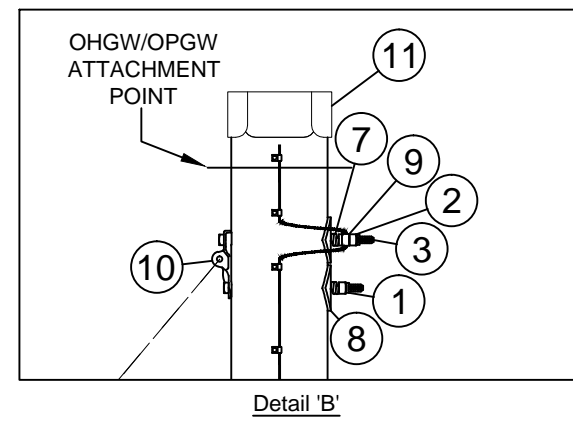
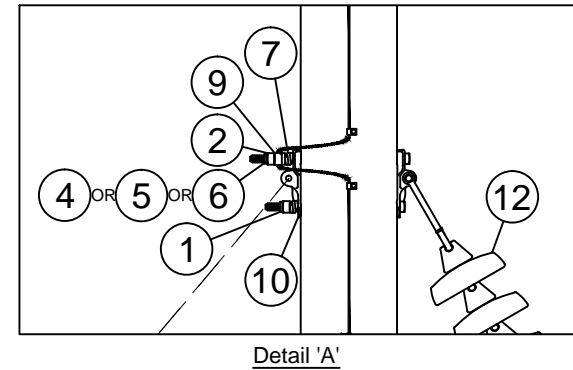
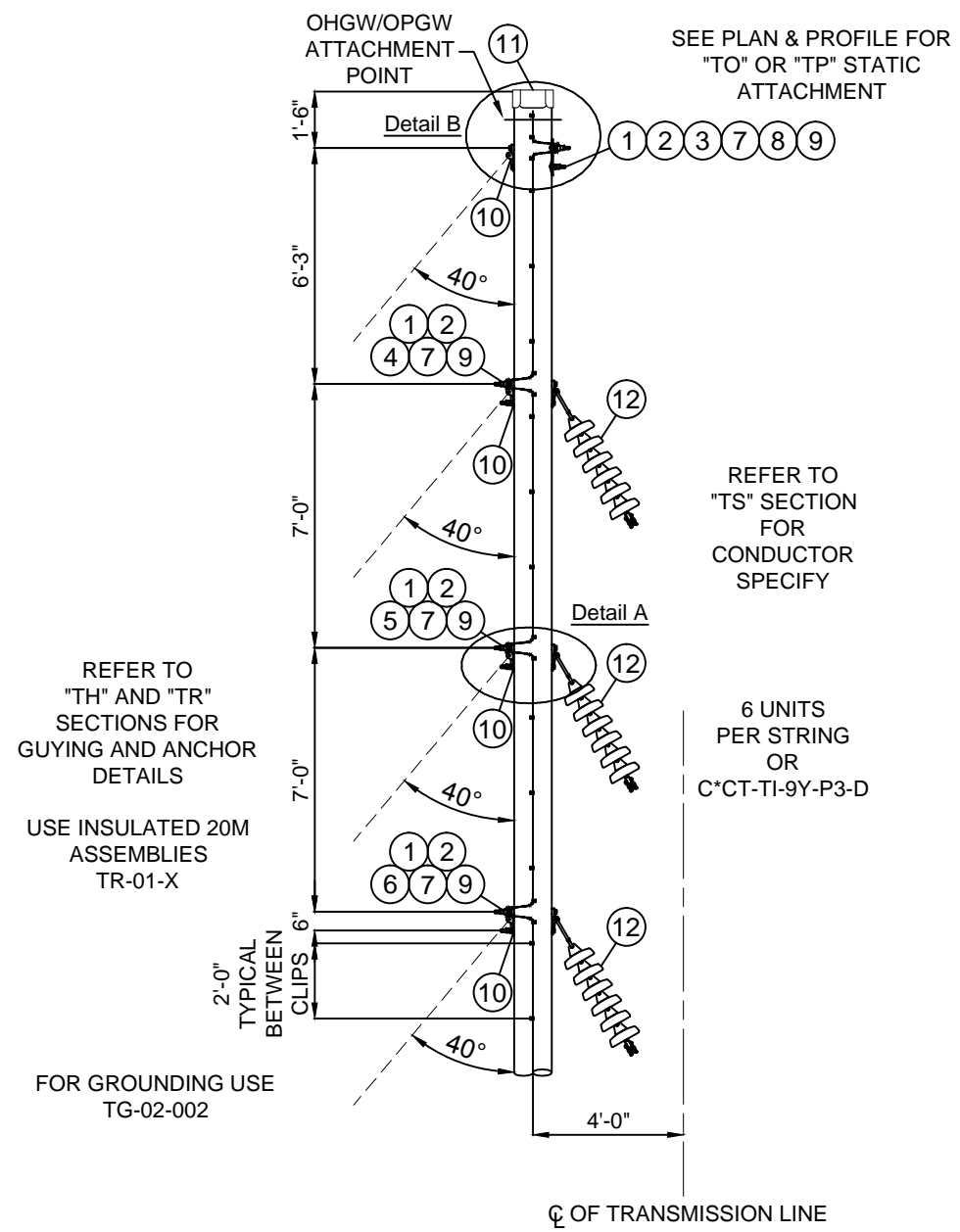
NOTE D: REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES.

NOTE E: GUYING ANGLES SHOWN ARE GUIDELINES. IF THE SPECIFIC FIELD CONDITIONS IN THE AREA WHERE THIS STRUCTURE IS INSTALLED DO NOT ACCOMMODATE THIS GUYING ARRANGEMENT THEN THE CHANGES TO THE GUYING ARRANGEMENT SHALL BE NOTED ON THE RESPECTIVE PLAN AND PROFILE DRAWING.



GUYING PLAN

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY					Drawing Scale: 1" = 5'
Contact Engineering Standards - Transmission Section for the creation of new standards and CUs.					
	TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23	STRUCTURE STANDARDS - WOOD			REVISION
		69KV SINGLE POLE SINGLE CIRCUIT			00
		ANGLE STRUCTURE - HORIZONTAL POST - 0° TO 10°			DATE
		TYPE LP-BS			5/21/2015
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:
B. Franklin	12/2/2013	Becken/Hart	3/05/2015	Barry R. Hart	5/18/2015
TN-6VAPF-X					Sheet 1

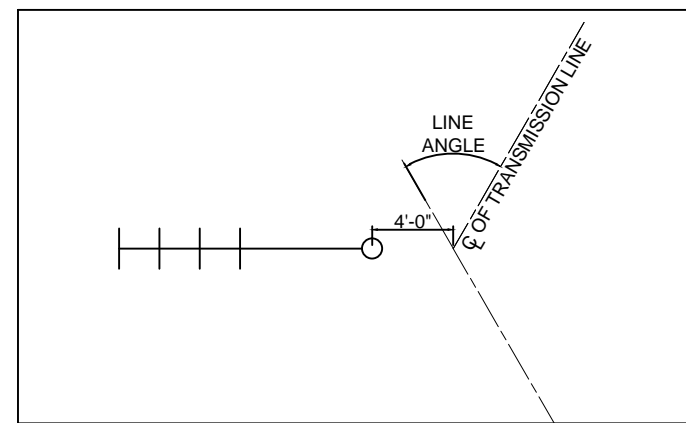


BILL OF MATERIAL (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6VASA
1	8	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
2	4	EA	6000273770	NUT SQ 7/8 BOLT GALV
3	2	EA	1035475016	BOLT SQ HEAD 7/8 X 16 W/ SQ NUT (NOTE C)
4	2	EA	1035475018	BOLT SQ HEAD 7/8 X 18 W/ SQ NUT (NOTE C)
5	2	EA	1035475020	BOLT SQ HEAD 7/8 X 20 W/ SQ NUT (NOTE C)
6	2	EA	1035475022	BOLT SQ HEAD 7/8 X 22 W/ SQ NUT (NOTE C)
7	8	EA	6000274612	WASHER HELICAL (7/8")
8	2	EA	6000274880	WASHER 4" SQ CURVED (7/8")
9	4	EA	1036200007	CLMP GRND WIRE U-CLIP 15/16 H
10	7	EA	6000274040	PLT POLE EYE 15/16 H
11	1	EA	6000820052	POLE TOPPER 19"

BILL OF MATERIAL (CU Type: INSO)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9P-D3-6
12	3 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (6 UNITS/STRING)
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9Y-P3-D
12	3	EA	6000316439	INS POLY Y-BALL 30K 6 UNIT EQ.

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-TN6VASA-B-H	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	TS-S1A1-B	TP-W-TS-G-H
C*M-TN6VASA-B-O	(3) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	TS-S1A1-B	TO-W-TS-G-O
C*M-TN6VASA-B-S	(3) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	TS-S1A1-B	TO-W-TS-G-S
C*M-TN6VASA-X-H	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	TS-S1A1-X	TP-W-TS-G-H
C*M-TN6VASA-X-O	(3) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	TS-S1A1-X	TO-W-TS-G-O
C*M-TN6VASA-X-S	(3) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	TS-S1A1-X	TO-W-TS-G-S



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 DETAILS
 - TH GUYING ASSEMBLIES
 - TK MARKINGS
 - TR GUY ANCHORS

NOTE B: POLE DRILLING: ALL HOLES - 15/16" DIAMETER

NOTE C: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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.

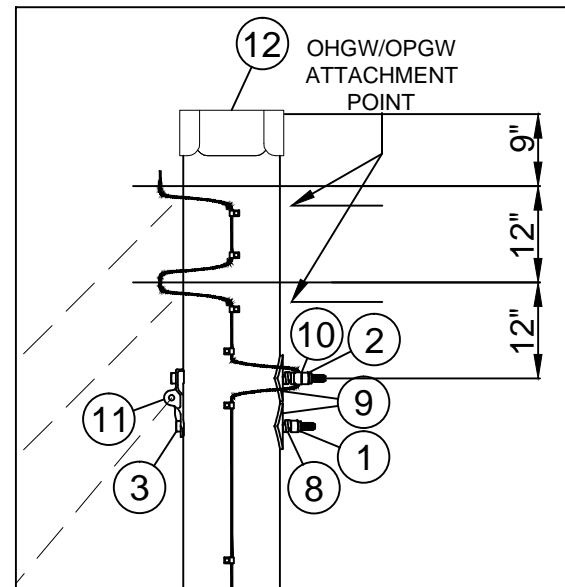
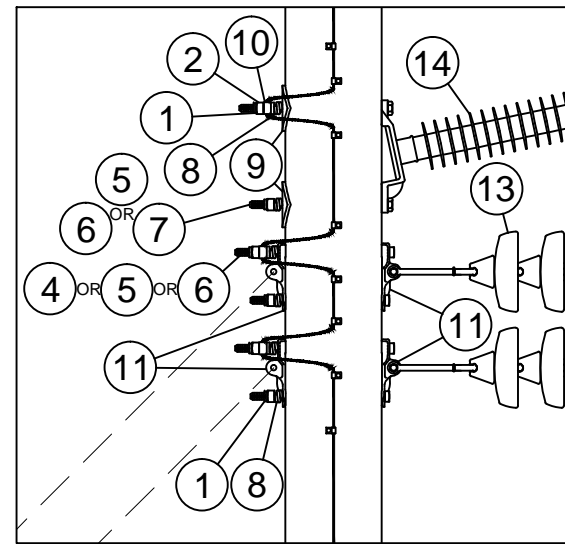
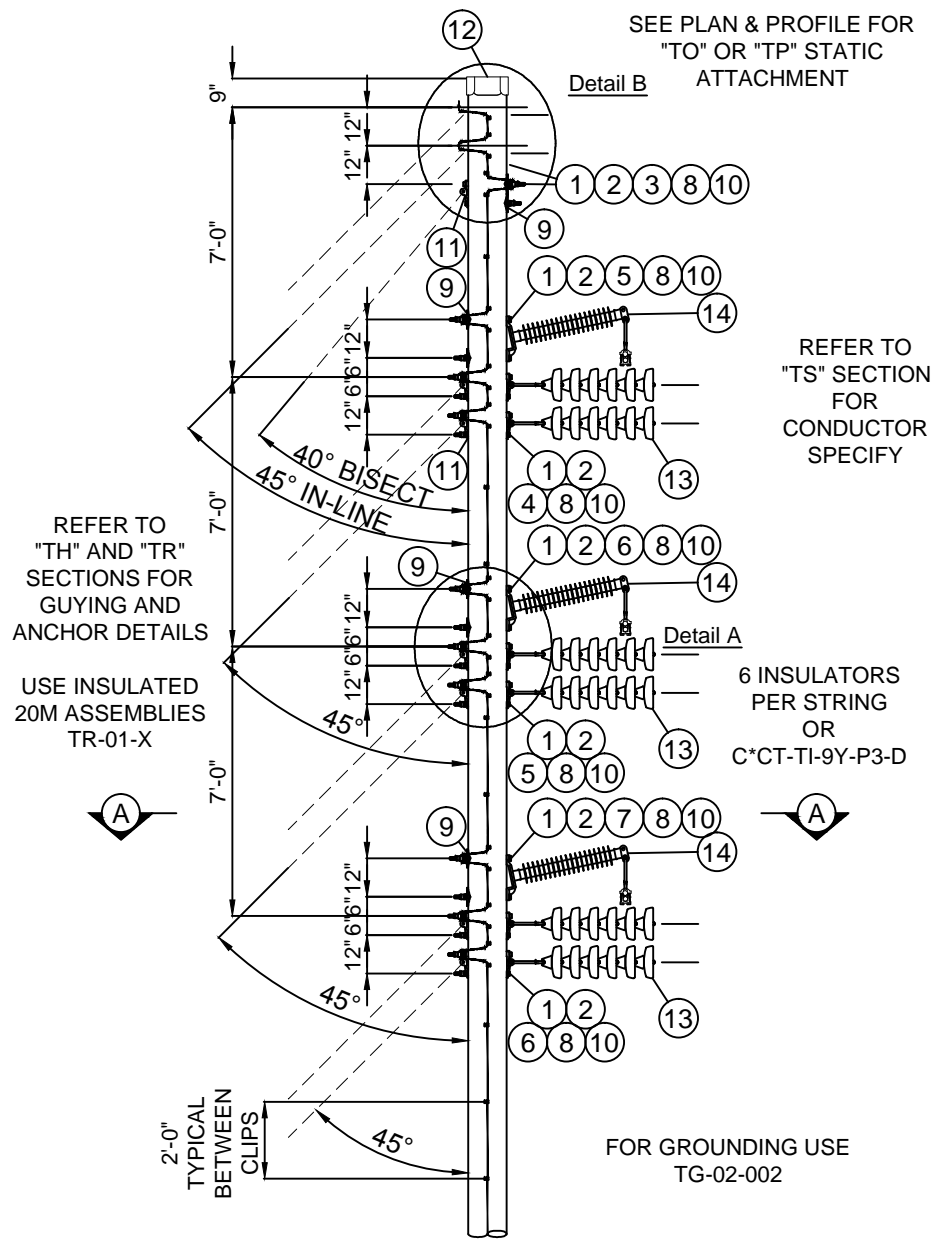
NOTE D: REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES.

NOTE E: GUYING ANGLES SHOWN ARE GUIDELINES. IF THE SPECIFIC FIELD CONDITIONS IN THE AREA WHERE THIS STRUCTURE IS INSTALLED DO NOT ACCOMMODATE THIS GUYING ARRANGEMENT THEN THE CHANGES TO THE GUYING ARRANGEMENT SHALL BE NOTED ON THE RESPECTIVE PLAN AND PROFILE DRAWING.

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" = 5'

	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69KV SINGLE POLE SINGLE CIRCUIT ANGLE STRUCTURE - SUSPENSION - 10° TO 45° TYPE BN-NS	REVISION
			00
			DATE
			5/21/2015
Drwn. By: B. Franklin	Date Dr.: 12/2/2013	Checked By: Becken/Hart	Date Ck.: 3/05/2015
		Approved By: Barry R. Hart	Date App.: 5/18/2015
TM2.23.TN-6VASA-X			Sheet 1



BILL OF MATERIAL (CU Type: POLE)

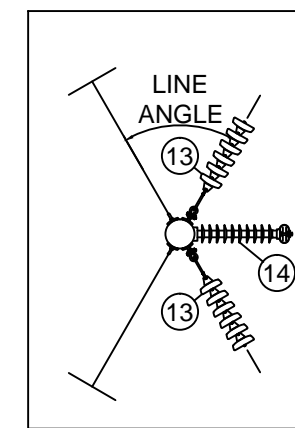
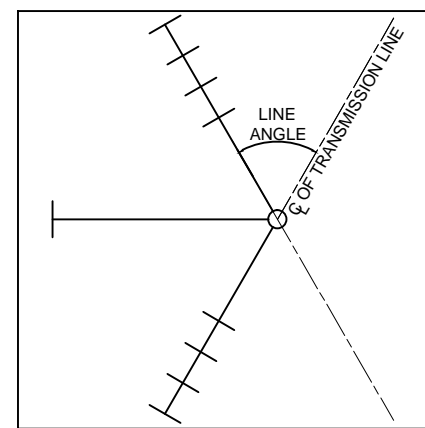
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6VDJK
1	20	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
2	10	EA	6000273770	NUT SQ 7/8 BOLT GALV
3	2	EA	1035475018	BOLT SQ HEAD 7/8 X 18 W/ SQ NUT (NOTE C)
4	4	EA	1035475020	BOLT SQ HEAD 7/8 X 20 W/ SQ NUT (NOTE C)
5	6	EA	1035475022	BOLT SQ HEAD 7/8 X 22 W/ SQ NUT (NOTE C)
6	6	EA	1035475024	BOLT SQ HEAD 7/8 X 24 W/ SQ NUT (NOTE C)
7	2	EA	1035475026	BOLT SQ HEAD 7/8 X 26 W/ SQ NUT (NOTE C)
8	20	EA	6000274612	WASHER HELICAL (7/8")
9	8	EA	6000274880	WASHER 4" SQ. CURVED (7/8")
10	10	EA	1036200007	CLMP GRND WIRE U-CLIP 15/16 H
11	13	EA	6000274040	PLT POLE EYE 15/16 H
12	1	EA	6000820052	POLE TOPPER 19"

BILL OF MATERIAL (CU Type: INSO)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9P-D3-6
13	6 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (6 UNITS/STRING)
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9Y-P3-D
13	6	EA	6000316439	INS POLY Y-BALL 30K 6 UNIT EQ.
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-6Y-HC
14	3	EA	6000310218	INS 69KV 2.5" POLYMER POST

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-TN6VDJKF-B-H	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	TS-N2S1L1-B	TP-W-AD-G-H
C*M-TN6VDJKF-B-O	(3) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	TS-N2S1L1-B	TO-W-AD-G-O
C*M-TN6VDJKF-B-S	(3) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	TS-N2S1L1-B	TO-W-AD-G-S
C*M-TN6VDJKF-X-H	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	TS-N2S1L1-X	TP-W-AD-G-H
C*M-TN6VDJKF-X-O	(3) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	TS-N2S1L1-X	TO-W-AD-G-O
C*M-TN6VDJKF-X-S	(3) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	TS-N2S1L1-X	TO-W-AD-G-S



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 DETAILS
 - TH GUYING ASSEMBLIES
 - TK MARKINGS
 - TR GUY ANCHORS

NOTE B: POLE DRILLING: ALL HOLES - 15/16" DIAMETER

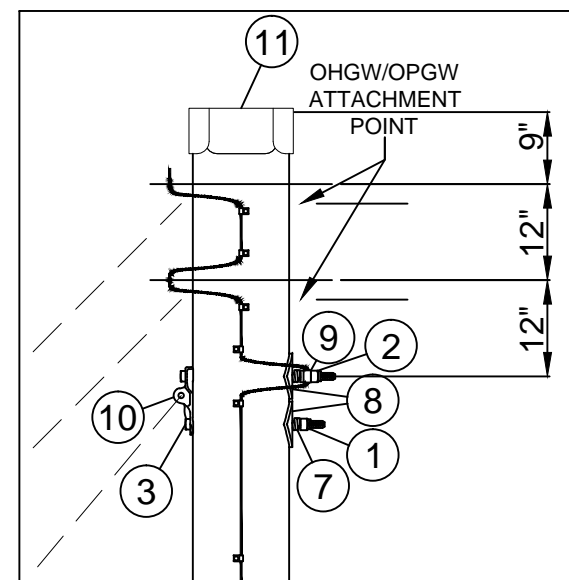
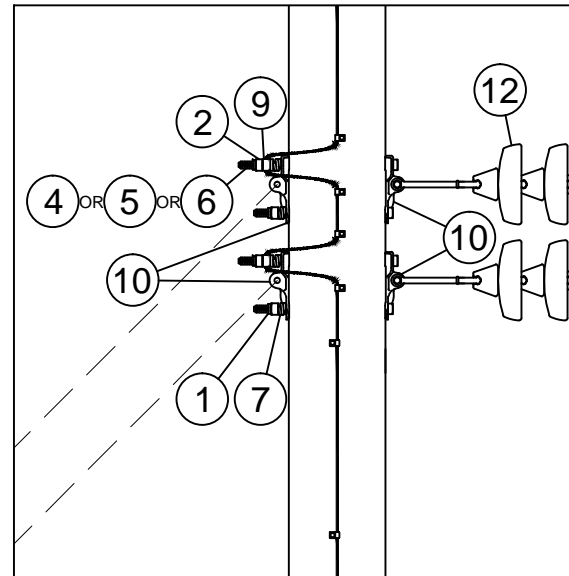
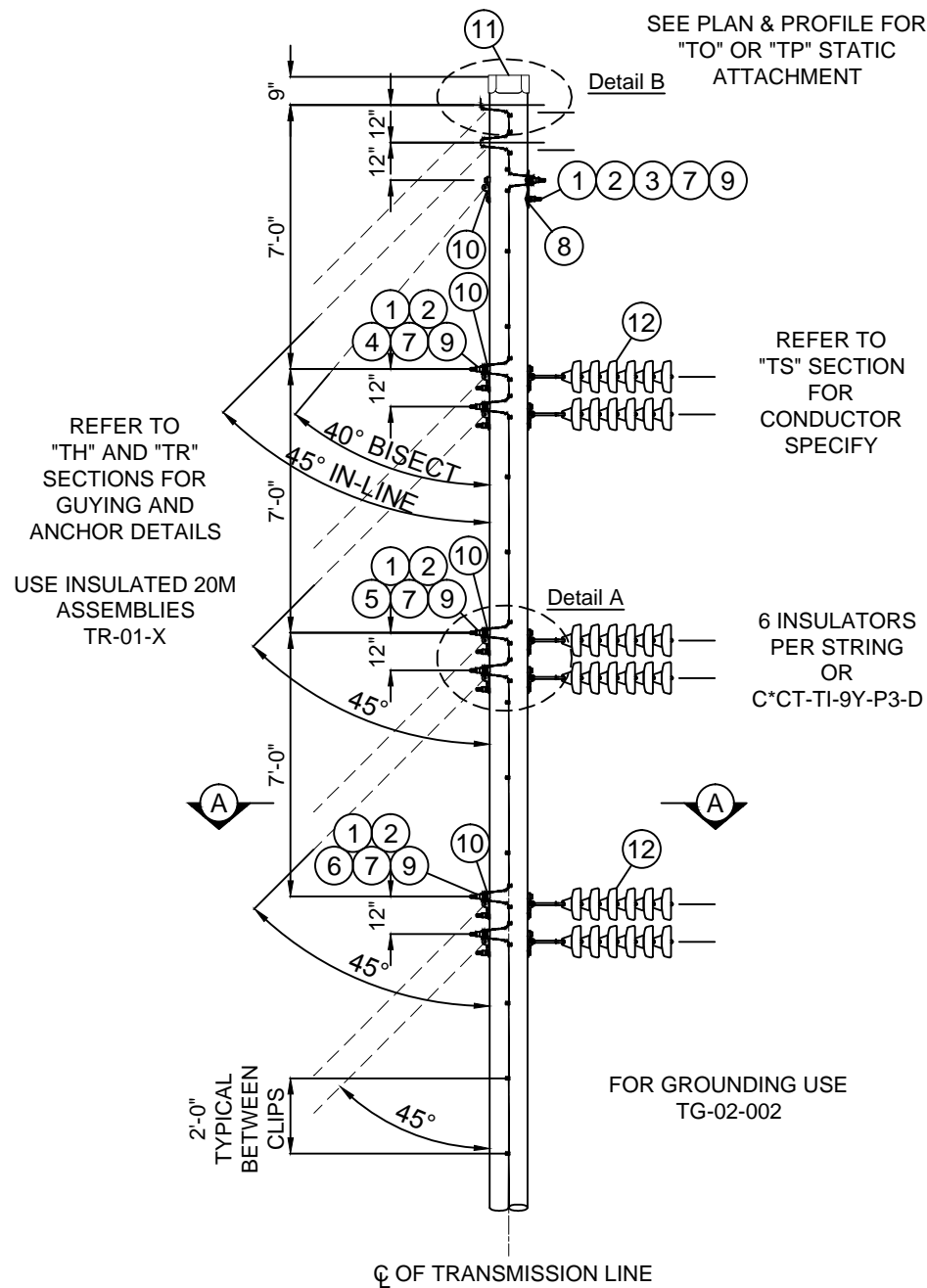
NOTE C: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL DIAMETER OF THE POLE USED. SUBSTITUTE MATERIAL ID (MID) ON THE WORK ORDER COMPONENTS PAGE FOR THE LENGTH NEEDED IF DIFFERENT THAN THE GENERIC LENGTH SHOWN IN THE BILL OF MATERIALS. CONTACT ENGINEERING STANDARDS - TRANSMISSION SECTION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

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

NOTE E: GUYING ANGLES SHOWN ARE GUIDELINES. IF THE SPECIFIC FIELD CONDITIONS IN THE AREA WHERE THIS STRUCTURE IS INSTALLED DO NOT ACCOMMODATE THIS GUYING ARRANGEMENT THEN THE CHANGES TO THE GUYING ARRANGEMENT SHALL BE NOTED ON THE RESPECTIVE PLAN AND PROFILE DRAWING.

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" = 5'	
	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69KV SINGLE POLE SINGLE CIRCUIT DEADEND STRUCTURE - 30° TO 60° TYPE BN-MS		REVISION 00
				DATE 5/21/2015
Drwn. By: B. Franklin Date Dr.: 12/2/2012	Checked By: Becken/Hart	Date Ck.: 2/12/2015	Approved By: Barry R. Hart Date App.: 5/18/2015	TM2.23.TN-6VDJK-X Sheet 1



BILL OF MATERIAL (CU Type: POLE)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6VDOA
1	14	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
2	7	EA	6000273770	NUT SQ 7/8 BOLT GALV
3	2	EA	1035475018	BOLT SQ HEAD 7/8 X 18 W/ SQ NUT (NOTE C)
4	4	EA	1035475020	BOLT SQ HEAD 7/8 X 20 W/ SQ NUT (NOTE C)
5	4	EA	1035475022	BOLT SQ HEAD 7/8 X 22 W/ SQ NUT (NOTE C)
6	4	EA	1035475024	BOLT SQ HEAD 7/8 X 24 W/ SQ NUT (NOTE C)
7	14	EA	6000274612	WASHER HELICAL (7/8")
8	2	EA	6000274880	WASHER 4" SQ. CURVED (7/8")
9	7	EA	1036200007	CLMP GRND WIRE U-CLIP 15/16 H
10	13	EA	6000274040	PLT POLE EYE 15/16 H
11	1	EA	6000820052	POLE TOPPER 19"

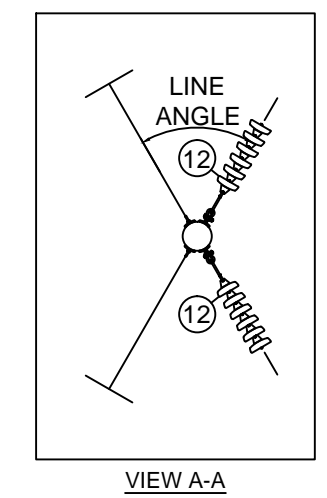
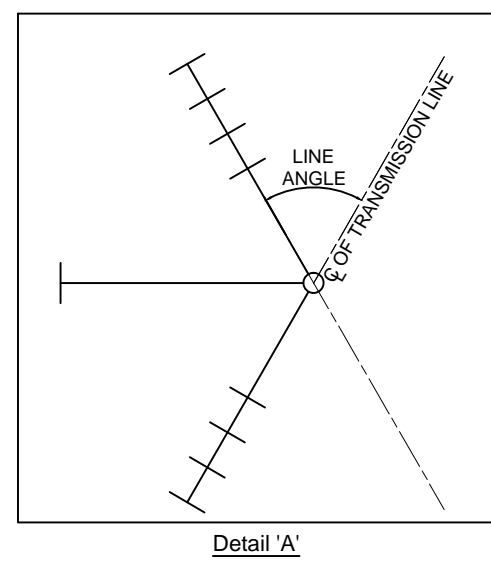
BILL OF MATERIAL (CU Type: INSO)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9P-D3-6
12	6 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (6 UNITS/STRING)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9Y-P3-D
12	6	EA	6000316439	INS POLY Y-BALL 30K 6 UNIT EQ.

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-TN6VDOAC-B-H	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	TS-N2L1-B	TP-W-AD-G-H
C*M-TN6VDOAC-B-O	(3) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	TS-N2L1-B	TO-W-AD-G-O
C*M-TN6VDOAC-B-S	(3) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	TS-N2L1-B	TO-W-AD-G-S
C*M-TN6VDOAC-X-H	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	TS-N2L1-X	TP-W-AD-G-H
C*M-TN6VDOAC-X-O	(3) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	TS-N2L1-X	TO-W-AD-G-O
C*M-TN6VDOAC-X-S	(3) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	TS-N2L1-X	TO-W-AD-G-S



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 DETAILS
 TH GUYING ASSEMBLIES
 TK MARKINGS
 TR GUY ANCHORS

NOTE B: POLE DRILLING: ALL HOLES - 15/16" DIAMETER

NOTE C: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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.

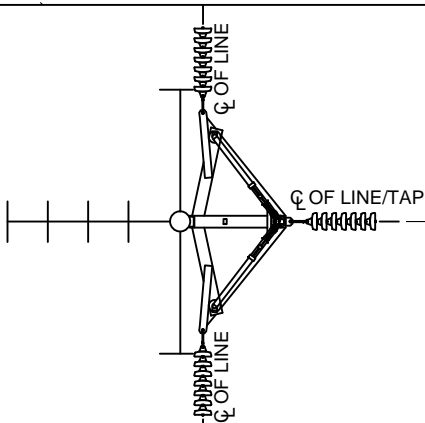
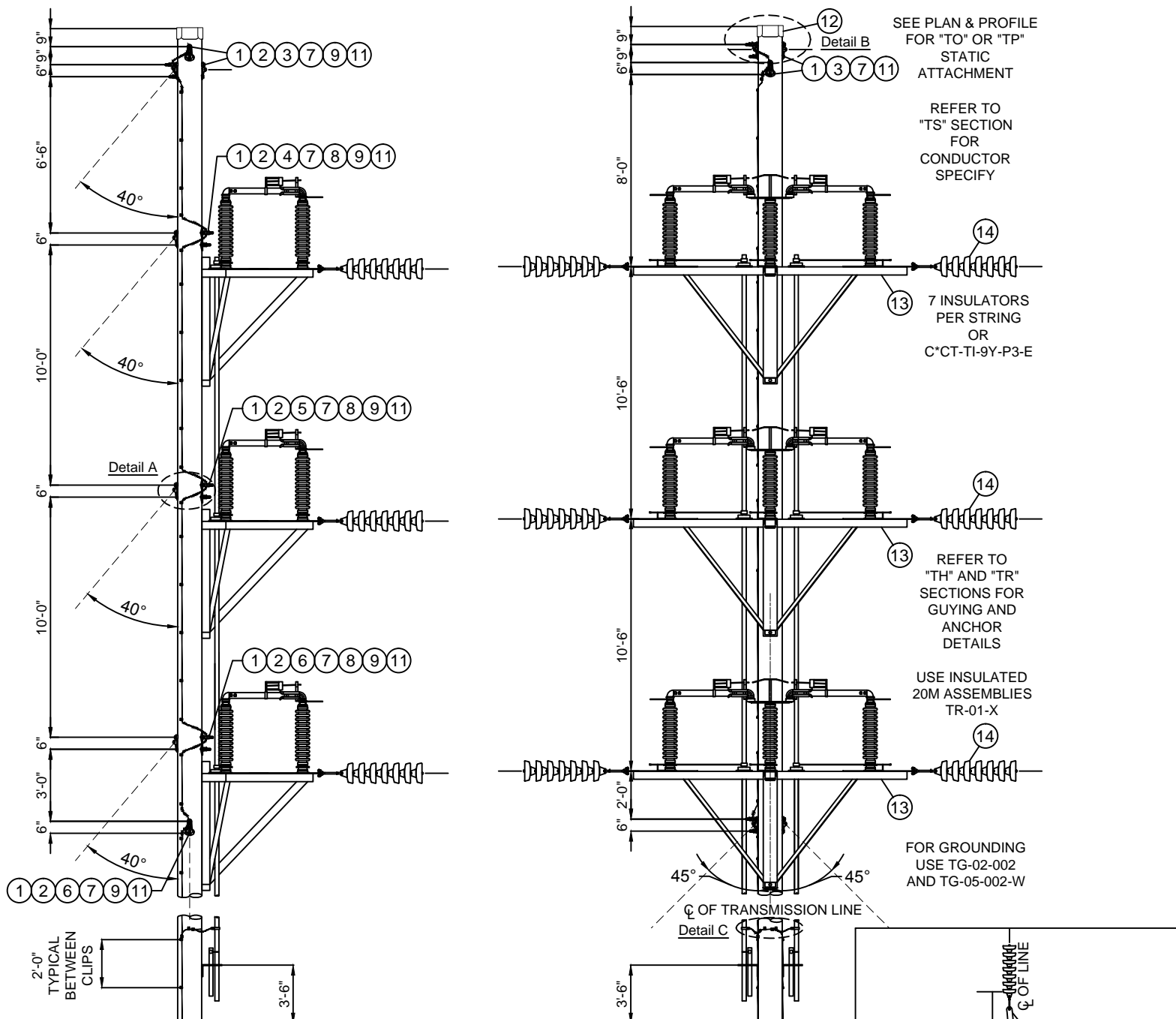
NOTE D: REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES.

NOTE E: GUYING ANGLES SHOWN ARE GUIDELINES. IF THE SPECIFIC FIELD CONDITIONS IN THE AREA WHERE THIS STRUCTURE IS INSTALLED DO NOT ACCOMMODATE THIS GUYING ARRANGEMENT THEN THE CHANGES TO THE GUYING ARRANGEMENT SHALL BE NOTED ON THE RESPECTIVE PLAN AND PROFILE DRAWING.

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" = 5'

	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69KV SINGLE POLE SINGLE CIRCUIT DEADEND STRUCTURE - 60° AND GREATER TYPE BN-OS	REVISION
			00
			DATE
			5/21/2015
Drwn. By: B. Franklin	Date Dr.: 12/2/2013	Checked By: Becken/Hart	Date Ck.: 2/12/2015
		Approved By: Barry R. Hart	Date App.: 5/18/2015
TM2.23.TN-6VDOA-X			Sheet 1



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 SWITCH MAT, GROUND WIRE & GROUND ROD DETAILS
 - TH GUY ASSEMBLIES
 - TK MARKINGS
 - TR GUY ANCHORS

NOTE B: POLE DRILLING: ALL HOLES - 15/16" DIAMETER

NOTE C: MAXIMUM LINE TENSION 5000# AT NESC HEAVY LOADING.

NOTE D: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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 E: SWITCH ASSEMBLY INCLUDES SWITCH FRAME, MOUNTING HARDWARE AND GROUND STRAP ASSEMBLIES FOR THE CONTROL PIPES.

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

NOTE G: GUYING ANGLES SHOWN ARE GUIDELINES. IF THE SPECIFIC FIELD CONDITIONS IN THE AREA WHERE THIS STRUCTURE IS INSTALLED DO NOT ACCOMMODATE THIS GUYING ARRANGEMENT THEN THE CHANGES TO THE GUYING ARRANGEMENT SHALL BE NOTED ON THE RESPECTIVE PLAN AND PROFILE DRAWING.

BILL OF MATERIAL (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TN-6VS2A
1	12	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV
2	6	EA	6000273770	NUT SQ 7/8 BOLT GALV
3	4	EA	1035475018	BOLT SQ HEAD 7/8 X 18 W/ SQ NUT (NOTE D)
4	2	EA	1035475020	BOLT SQ HEAD 7/8 X 20 W/ SQ NUT (NOTE D)
5	2	EA	1035475022	BOLT SQ HEAD 7/8 X 22 W/ SQ NUT (NOTE D)
6	4	EA	1035475024	BOLT SQ HEAD 7/8 X 24 W/ SQ NUT (NOTE D)
7	12	EA	6000274612	WASHER HELICAL (7/8")
8	6	EA	6000274880	WASHER 4" SQ. CURVED (7/8")
9	6	EA	6000251031	CLMP GRND WIRE U-CLIP 15/16 H
10	1	EA	1036232100	CONN 1B W/SPCR
11	9	EA	6000274040	PLT POLE EYE 15/16 H
12	1	EA	6000820052	POLE TOPPER 19"

BILL OF MATERIAL - 1200 AMP SWITCH (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TU-SW6D1S-I
13	1	EA	6000641192	SWITCH ASSY, 2-WAY, INTRPTR, 72.5KV, 1200 AMP (NOTE E)

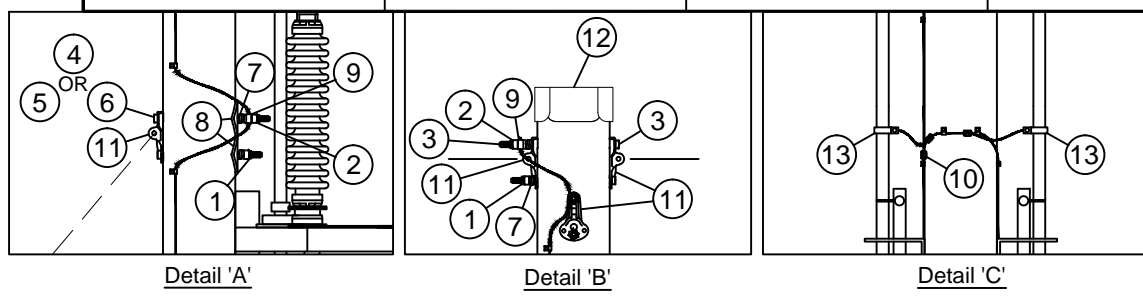
BILL OF MATERIAL - 2000 AMP SWITCH (CU Type: POLE)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*PT-TU-SW6D2S-I
13	1	EA	6000641194	SWITCH ASSY, 2-WAY, INTRPTR, 72.5KV, 2000 AMP (NOTE E)

BILL OF MATERIAL (CU Type: INSO)				
ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9P-D3-7
14	9 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (7 UNITS/STRING)

ITEM NO.	QTY.	UOM	IUSA MID	CU: C*CT-TI-9Y-P3-E
14	9	EA	6000316029	INS POLY Y-BALL 30K 7 UNIT EQ.

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

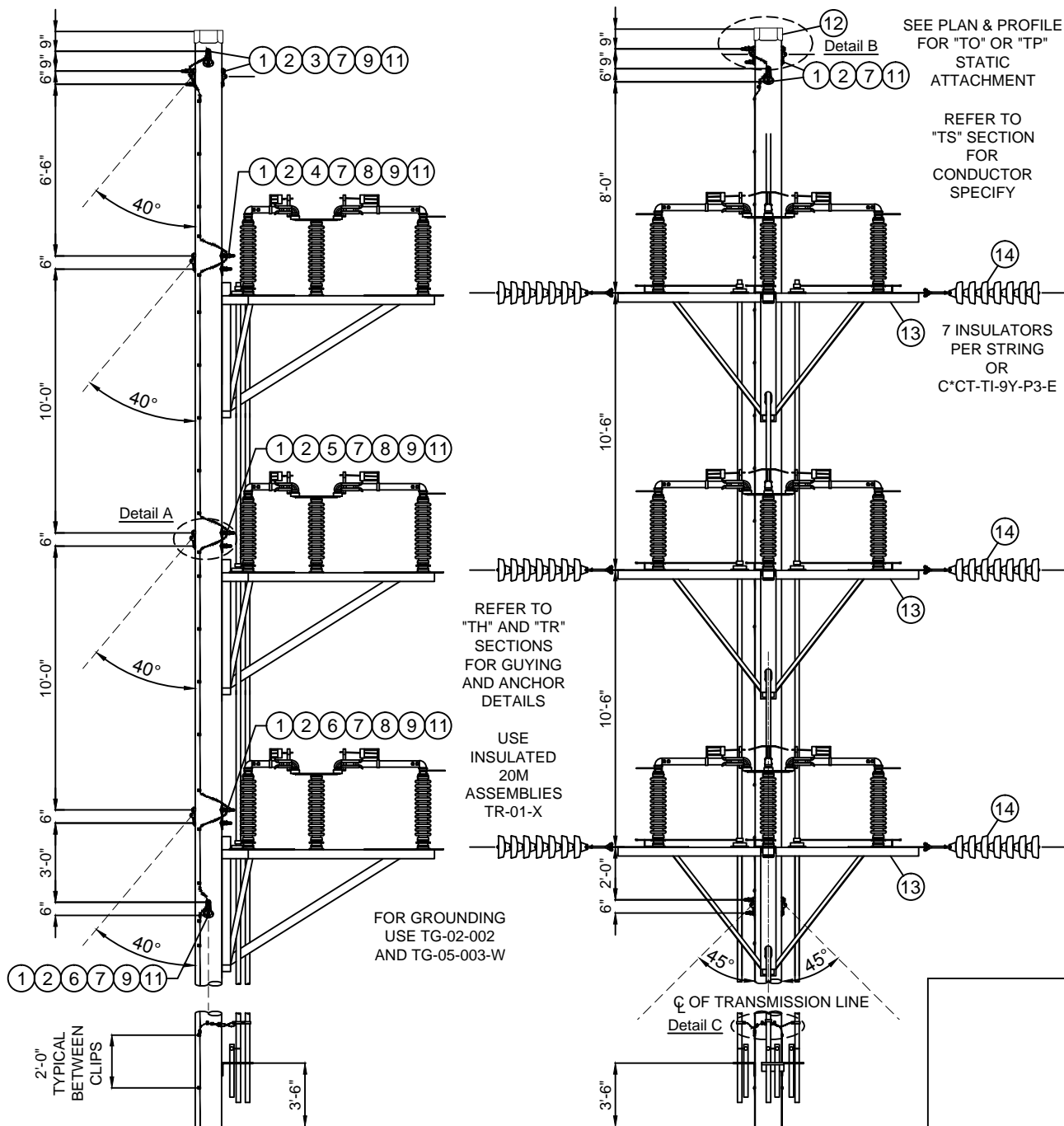
CU MACRO	CONDUCTOR	STATIC	COND SPECIFY	STATIC SPECIFY
C*M-TN6VS2AC-B-H	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	TS-N9T3-B	TP-W-DE-G-H TP-W-XD-G-H
C*M-TN6VS2AC-B-O	(3) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	TS-N9T3-B	TO-W-DE-G-O TO-W-XD-G-O
C*M-TN6VS2AC-B-S	(3) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	TS-N9T3-B	TO-W-DE-G-S TO-W-XD-G-S
C*M-TN6VS2AC-X-H	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	TS-N9T3-X	TP-W-DE-G-H TP-W-XD-G-H
C*M-TN6VS2AC-X-O	(3) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	TS-N9T3-X	TO-W-DE-G-O TO-W-XD-G-O
C*M-TN6VS2AC-X-S	(3) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	TS-N9T3-X	TO-W-DE-G-S TO-W-XD-G-S



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Contact Engineering Standards - Transmission Section for the creation of new standards and CUs. Drawing Scale: NTS

	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69KV SINGLE POLE SINGLE CIRCUIT 2-WAY SWITCH STRUCTURE TYPE 69KV GOAB	REVISION
			00
Drwn. By: B. Franklin	Date Dr.: 11/21/2013	Checked By: Becken/Hart	DATE
Date Ck.: 3/05/2015	Approved By: Barry R. Hart	Date App.: 5/18/2015	5/21/2015
TM2.23.TN-6VS2A-X			Sheet 1



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 SWITCH MAT, GROUND WIRE & GROUND ROD DETAILS
 - TH GUYING ASSEMBLIES
 - TK MARKINGS
 - TR GUY ANCHORS

NOTE B: POLE DRILLING: ALL HOLES - 15/16" DIAMETER

NOTE C: MAXIMUM LINE TENSION 5000# AT NESC HEAVY LOADING.

NOTE D: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE ACTUAL 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 E: SWITCH ASSEMBLY INCLUDES SWITCH FRAME, MOUNTING HARDWARE AND GROUND STRAP ASSEMBLIES FOR THE CONTROL PIPES.

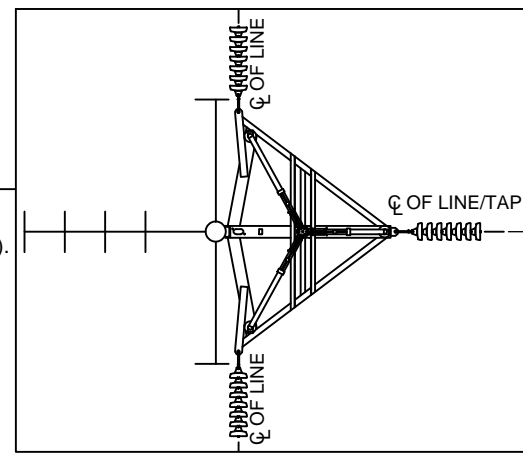
NOTE F: REFER TO SECTION "TS" FOR CONDUCTOR ASSEMBLIES.

NOTE G: GUYING ANGLES SHOWN ARE GUIDELINES. IF THE SPECIFIC FIELD CONDITIONS IN THE AREA WHERE THIS STRUCTURE IS INSTALLED DO NOT ACCOMMODATE THIS GUYING ARRANGEMENT THEN THE CHANGES TO THE GUYING ARRANGEMENT SHALL BE NOTED ON THE RESPECTIVE PLAN AND PROFILE DRAWING.

SEE PLAN & PROFILE FOR "TO" OR "TP" STATIC ATTACHMENT

REFER TO "TS" SECTION FOR CONDUCTOR SPECIFY

7 INSULATORS PER STRING OR C*CT-TI-9Y-P3-E



GUYING PLAN

BILL OF MATERIAL (CU Type: POLE)					
CU: C*PT-TN-6VS3A					
ITEM NO.	QTY.	UOM	IUSA MID		
1	12	EA	1000910800	NUT LCK MF SQ 7/8 BOLT GALV	
2	6	EA	6000273770	NUT SQ 7/8 BOLT GALV	
3	4	EA	1035475018	BOLT SQ HEAD 7/8 X 18 W/ SQ NUT (NOTE D)	
4	2	EA	1035475020	BOLT SQ HEAD 7/8 X 20 W/ SQ NUT (NOTE D)	
5	2	EA	1035475022	BOLT SQ HEAD 7/8 X 22 W/ SQ NUT (NOTE D)	
6	4	EA	1035475024	BOLT SQ HEAD 7/8 X 24 W/ SQ NUT (NOTE D)	
7	12	EA	6000274612	WASHER HELICAL (7/8")	
8	6	EA	6000274880	WASHER 4" SQ. CURVED (7/8")	
9	6	EA	1036200007	CLMP GRND WIRE U-CLIP 15/16 H	
10	1	EA	1036232100	CONN 1B W/SPCR	
11	9	EA	6000274040	PLT POLE EYE 15/16 H	
12	1	EA	6000820052	POLE TOPPER 19"	

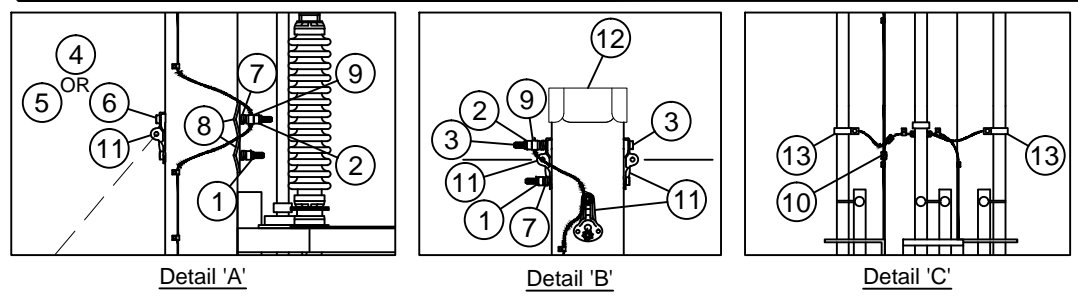
BILL OF MATERIAL - 1200 AMP SWITCH (CU Type: POLE)					
CU: C*PT-TU-SW6E1S-I					
ITEM NO.	QTY.	UOM	IUSA MID		
13	1	EA	6000641193	SWITCH ASSY, 3-WAY, INTRPTR, 72.5KV, 1200 AMP (NOTE E)	

BILL OF MATERIAL - 2000 AMP SWITCH (CU Type: POLE)					
CU: C*PT-TU-SW6E2S-I					
ITEM NO.	QTY.	UOM	IUSA MID		
13	1	EA	6000641195	SWITCH ASSY, 3-WAY, INTRPTR, 72.5KV, 2000 AMP (NOTE E)	

BILL OF MATERIAL (CU Type: INSO)					
CU: C*CT-TI-9P-D3-7					
ITEM NO.	QTY.	UOM	IUSA MID		
14	9 CUs	EA	6000310739	INS SUS CL52-3 20K M&E BRN (7 UNITS/STRING)	
CU: C*CT-TI-9Y-P3-E					
ITEM NO.	QTY.	UOM	IUSA MID		
14	9	EA	6000316029	INS POLY Y-BALL 30K 7 UNIT EQ.	

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-TN6VS3AC-B-H	(3) - 477 ACSR 18/1	(1) - 7#7 (7/16") AWLD	TS-N9T3-B	TP-W-DE-G-H TP-W-XD-G-H
C*M-TN6VS3AC-B-O	(3) - 477 ACSR 18/1	(1) - 36 FIBER OPGW	TS-N9T3-B	TO-W-DE-G-O TO-W-XD-G-O
C*M-TN6VS3AC-B-S	(3) - 477 ACSR 18/1	(1) - 36 FIBER SPEC. OPGW	TS-N9T3-B	TO-W-DE-G-S TO-W-XD-G-S
C*M-TN6VS3AC-X-H	(3) - 795 ACSR 26/7	(1) - 7#7 (7/16") AWLD	TS-N9T3-X	TP-W-DE-G-H TP-W-XD-G-H
C*M-TN6VS3AC-X-O	(3) - 795 ACSR 26/7	(1) - 36 FIBER OPGW	TS-N9T3-X	TO-W-DE-G-O TO-W-XD-G-O
C*M-TN6VS3AC-X-S	(3) - 795 ACSR 26/7	(1) - 36 FIBER SPEC. OPGW	TS-N9T3-X	TO-W-DE-G-S TO-W-XD-G-S



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" = 6'

	TRANSMISSION CONSTRUCTION STANDARDS MANUAL	STRUCTURE STANDARDS - WOOD 69KV SINGLE POLE SINGLE CIRCUIT 3-WAY SWITCH STRUCTURE TYPE 69KV GOAB	REVISION
			00
Drwn. By: B. Franklin	Date Dr.: 10/30/2013	Checked By: Becken/Hart	Date Ck.: 3/05/2015
Approved By: Barry R. Hart	Date App.: 5/18/2015	TM2.23.TN-6VS3A-X	
			Sheet 1