CU Type: UC_POLE CUs limited to 17 characters Transmission Framing 'TQ' CU Coding Format and Naming Convention 6th 7th 9th |10th |11th |12th |13th |14th |15th |16th |17th 5th 8th 2nd 3rd 4th 1st U X1 Р X2 **X3 X4** X6 Q **X5**

X1	OpCo
2	NYSEG
3	CMP
4	RG&E

X2	Voltage
1	115kV
2	230kV
3	345kV
4	46kV
5	35kV
6	69kV
9	multiple use

X3	Brace Material
W	WOOD
L	LAMINATED
S	STEEL
F	FIBERGLASS

X4	Framing Application								
X	Standard X-Brace on round wood 2-pole								
Н	Heavy Duty X-Brace on round wood 2-pole								
Υ	Set of X-Braces on round wood 3-pole								
Z	Set of HD X-Braces on round wood 3-pole								
L	X-Brace on laminated 2-pole								
M	Set of X-Braces on laminated 3-pole								
В	Crossarm Brace								
K	Knee Brace								
V	Vee Brace								

X5	Dimensional Spacing
10	10' pole spacing
11	11' pole spacing
12	12' pole spacing
14	14' pole spacing
20	19'-6" or 20'-0" pole spacing
21	21' pole spacing
26	26' pole spacing
28	28' pole spacing
31	31' pole spacing
33	33' pole spacing
63	Brace: 60" Span 30" Drop

X6	Qualifier
Α	single brace
В	double braces
С	triple braces
D	quad braces
7	1 Standard X-Brace
	& 1 Heavy Duty X-Brace

CU Examples:

U3PT-TQ-1W-X14-B =
(2) 115kV Wood X-Braces
on round wood structure
with 14' Pole Spacing
for CMP usage

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

Contact Engineering Standards - Transmission for the creation of new standards and CUs. Drawing Scale: N/A

IBERDROLA USA Drwn. By: | Date Dr.: |

L.A. Best 10/17/2013

IBERDROLA USA
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL
Chapted By:

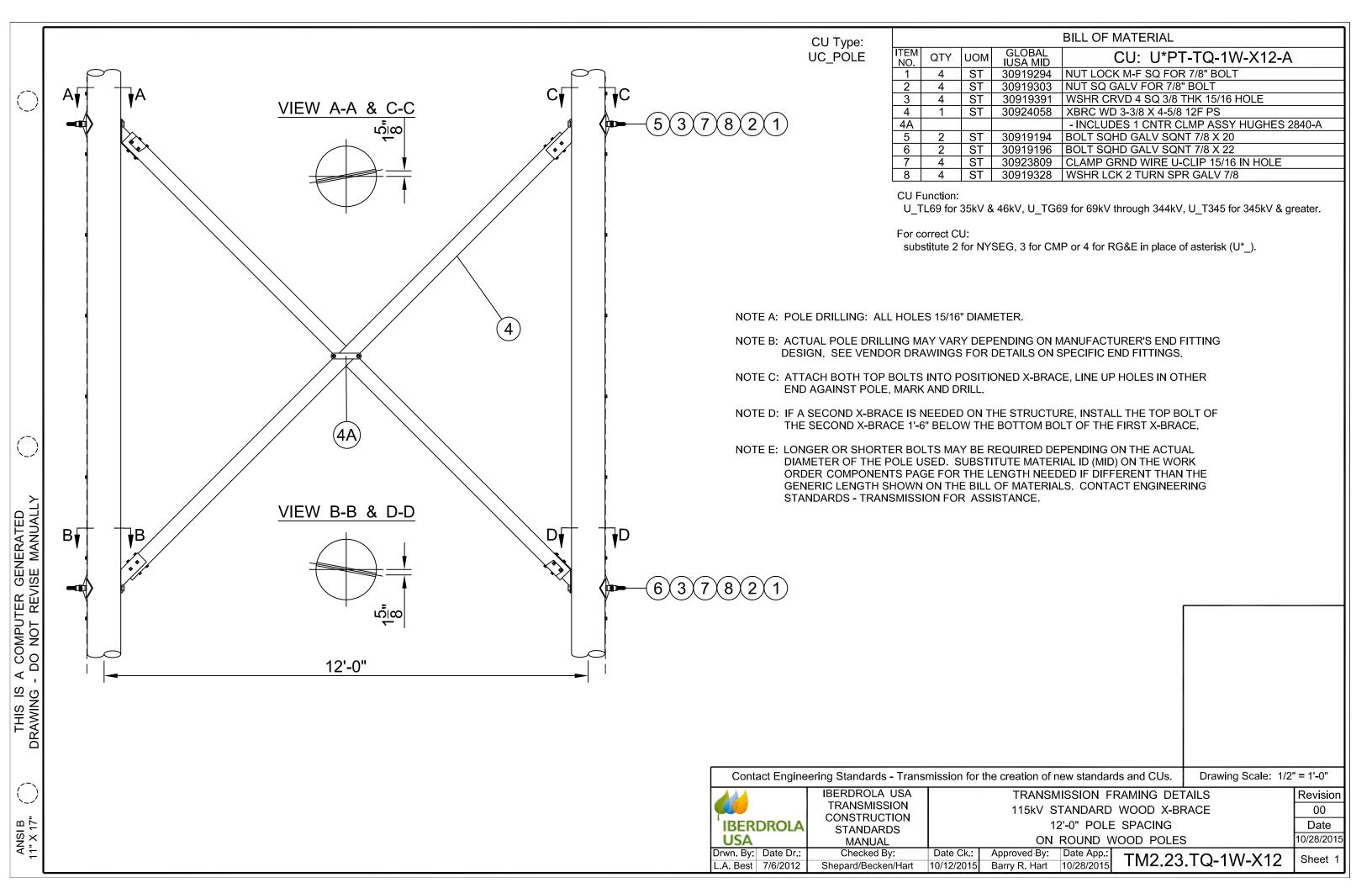
TRANSMISSION FRAMING DETAILS
STANDARD CU FORMAT
AND NAMING CONVENTION

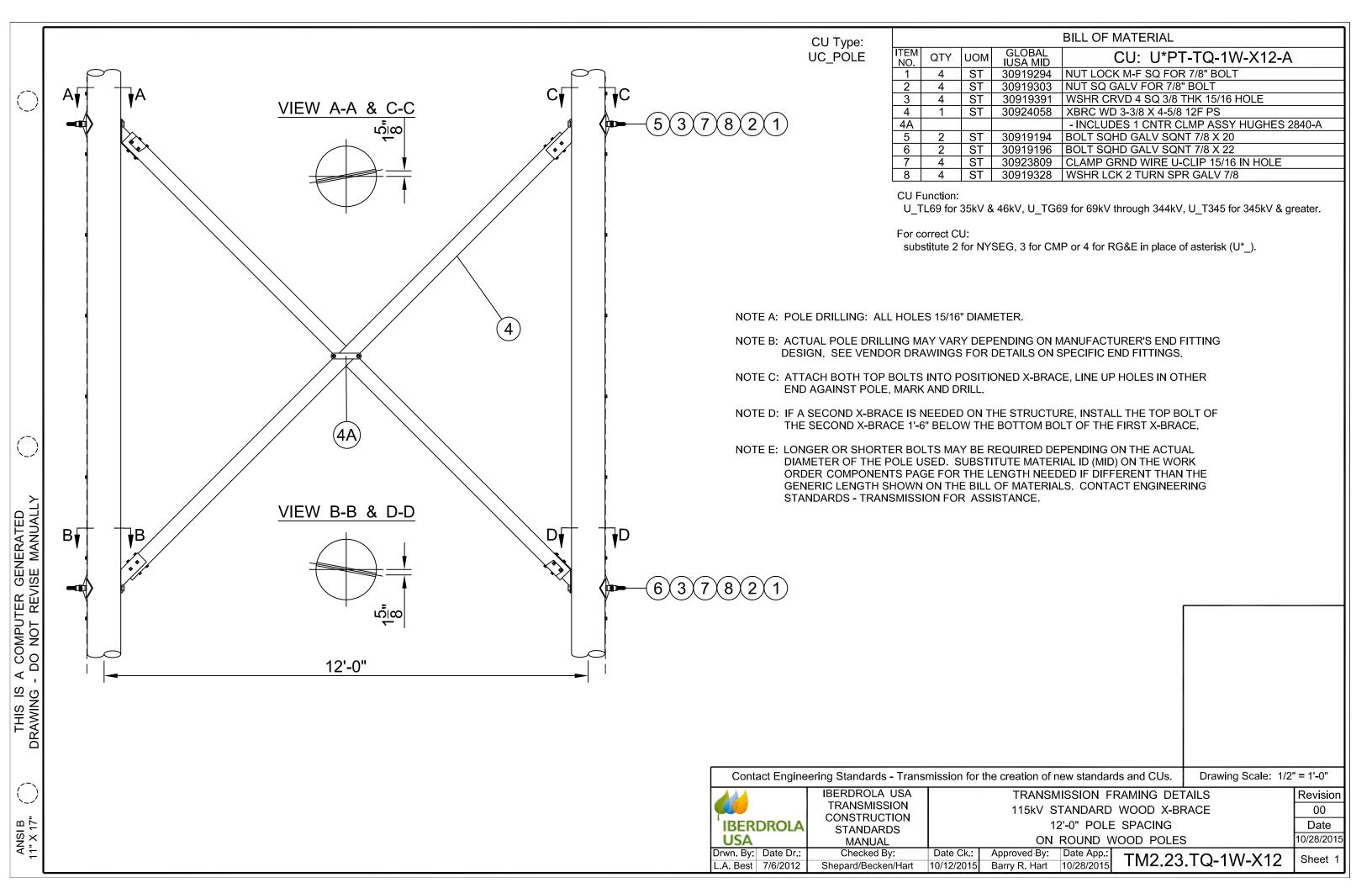
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Sheet 1

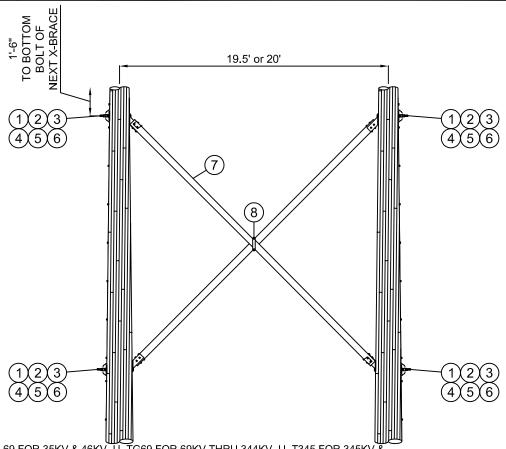
Revision

Checked By: Date Ck.: Approved By: Date App.:
Shepard/Becken/Hart 10/28/2015 Barry R. Hart 10/28/2015 TM2.23.TQ-CU





	BILL OF MATERIAL (CU Type: POLE)						
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-2W-L20-A			
1	4	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT			
2	4	ST	30919303	NUT SQ GALV FOR 7/8" BOLT			
3	4	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)			
4	4	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"			
5	4	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE			
6	4	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE			
7	1	ST	30924060	XBRC WD 4-5/8 X 5-3/4 19F6 PS			
8	1	ST	30923712	XBRC CENTER CLAMP 4-5/8 X 5-3/4 STRAP			



CU FUNCTION: U_TL69 FOR 35KV & 46KV, \widetilde{U} TG69 FOR 69KV THRU 344KV, U_T345 FOR 345KV $\widetilde{\&}$ GREATER.

FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

NOTE B: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

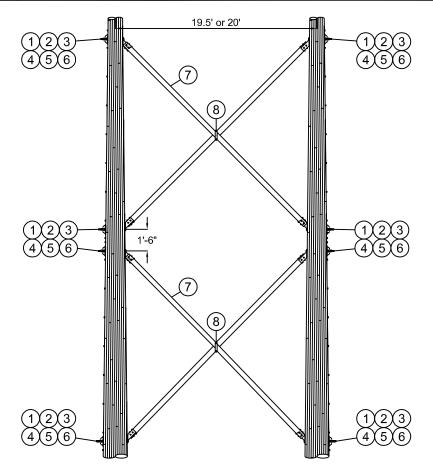
NOTE C: 230kV H-FRAME STRUCTURES USING POLES 80' LONG OR LONGER SHALL REQUIRE A SECOND CROSS-BRACE.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

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	TRANSMISSION		STF	STANDARDS	REVISION	
	CONSTRUCTION			BRACING	01	
IBERDROLA	STANDARDS		19.5	OLE SPACING	DATE	
USA	MANUAL			ED POLES	10/06/2015	
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-2W-L20-A	Sheet 1
B. Franklin 10/04/2013	Becken/Hart	3/05/2015	Barry R. Hart	3/19/2015	11012.23.1Q-200-L20-A	SHEELI
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	BILL OF MATERIAL (CU Type: POLE)						
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-2W-L20-B			
1	8	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT			
2	8	ST	30919303	NUT SQ GALV FOR 7/8" BOLT			
3	8	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)			
4	8	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"			
5	8	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE			
6	8	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE			
7	2	ST	30924060	XBRC WD 4-5/8 X 5-3/4 19F6 PS			
8	2	ST	30923712	XBRC CENTER CLAMP 4-5/8 X 5-3/4 STRAP			



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

NOTE B: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

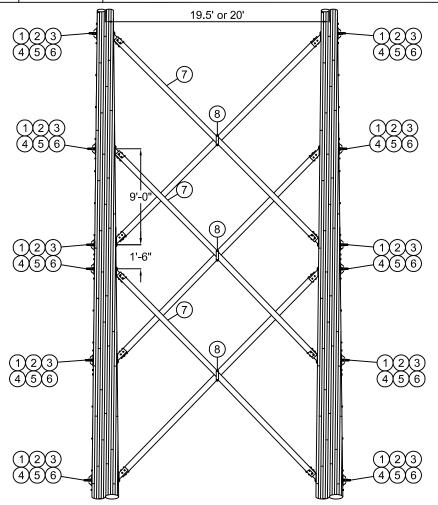
NOTE C: 230kV H-FRAME STRUCTURES USING POLES 80' LONG OR LONGER SHALL REQUIRE TWO (2) CROSS-BRACES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

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		TRANSMISSION		STF	STANDARDS	REVISION	
		CONSTRUCTION	230KV X-BRACING - 2 X-BRACES				01
ı	IBERDROLA	STANDARDS	STANDARDS 19.5' OR 20' POLE SPAC				DATE
	USA	MANUAL			ED POLES	10/06/2015	
ſ	Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-2W-L20-B	Sheet 1
Į	B. Franklin 10/17/2013	Shepard/Becken/Hart	3/05/2015	Barry R. Hart	3/19/2015	1 1V12.23. 1 Q-2VV-L2U-B	SHEELI
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	BILL OF MATERIAL (CU Type: POLE)							
ITEM NO.	QTY.	иом	IUSA MID	CU: U*PT-TQ-2W-L20-C				
1	12	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT				
2	12	ST	30919303	NUT SQ GALV FOR 7/8" BOLT				
3	12	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)				
4	12	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"				
5	12	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE				
6	12	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE				
7	3	ST	30924060	XBRC WD 4-5/8 X 5-3/4 19F6 PS				
8	3	ST	30923712	XBRC CENTER CLAMP 4-5/8 X 5-3/4 STRAP				



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*).

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

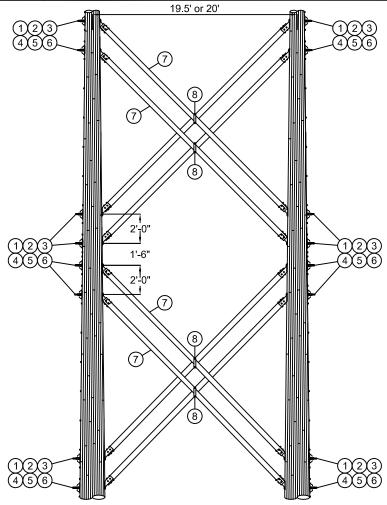
NOTE B: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

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	TRANSMISSION		STRUCTURE STANDARDS			
	CONSTRUCTION		230KV X-BRACING - 3 X-BRACES			
IBERDROLA	BERDROLA STANDARDS		19.5' OR 20' POLE SPACING			
USA	MANUAL			LAMINATE	ED POLES	10/06/2015
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-2W-L20-C	Sheet 1
B. Franklin 7/30/2014	Becken/Hart	3/05/2015	Barry R. Hart	3/19/2015	1 1V12.23. 1 Q-2VV-L2U-C	SHEELI
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	BILL OF MATERIAL (CU Type: POLE)									
ITEM NO.	QTY.	иом	IUSA MID	CU: U*PT-TQ-2W-L20-D						
1	16	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT						
2	16	ST	30919303	NUT SQ GALV FOR 7/8" BOLT						
3	16	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)						
4	16	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"						
5	16	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE						
6	16	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE						
7	4	ST	30924060	XBRC WD 4-5/8 X 5-3/4 19F6 PS						
8	4	ST	30923712	XBRC CENTER CLAMP 4-5/8 X 5-3/4 STRAP						



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U).

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

NOTE B: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

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444	A TRANSMISSION		STRUCTURE STANDARDS				
	CONSTRUCTION		230KV X-BRACING - 4 X-BRACES				
IBERDROLA	STANDARDS	19.5' OR 20' POLE SPACING				DATE	
USA	MANUAL			LAMINATE	ED POLES	10/06/2015	
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-2W-L20-D	Sheet 1	
B. Franklin 8/07/2014	Becken/Hart	3/05/2015	Barry R. Hart	3/19/2015	1 1V12.23. 1 Q-2VV-L2U-D	SHEELI	
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		BILL OF MATERIAL (CU Type: POLE)						
ITEM QTY.	UOM IUSA MID	CU: U*PT-TQ-2W-M20-A						
1 6	ST 30919294	NUT LOCK M-F SQ FOR 7/8" BOLT						
2 6	ST 30919303	NUT SQ GALV FOR 7/8" BOLT						
3 6	ST 30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)						
4 6	ST 30919328	WSHR LCK 2 TURN SPR GALV 7/8"						
5 4	ST 30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE						
6 6 7 2	ST 30923809 ST 30924060	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE XBRC WD 4-5/8 X 5-3/4 19F6 PS						
8 2	ST 30924000 ST 30923712	XBRC CENTER CLAMP 4-5/8 X 5-3/4 STRAP						
l	01 00020112	1010 02111211 0211111 1 010 1 0 0 1 0 11 0 11						
" TOM OF 3RAC								
1'-6" 30TT 2LT 0 X-BF								
1-6" TO BOTTOM BOLT OF EXT X-BRAC	1	9.5' or 20' 19.5' or 20'						
1-6" TO BOTTOM BOLT OF NEXT X-BRACE								
(1)(2)		123	1					
		476						
		// (7)						
			// IIIII I					
			´					
		8 // 8 //	IIHIINI I					
-	``		HIIIIII					
1								
			<u> </u>					
(1/2)		123	12					
		(4 Y 6)	3 4					
	HIII I							
(5)(6)			(5)(6)					
l U								
CU FUNCTION: U	_TL69 FOR 35KV & 46KV	U_TG69 FOR 69KV THRU 344KV, U_T345 FOR 345KV &						
GREATER.		_						
FOR CORRECT C	U: SUBSTITUTF 2 FOR I	YSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK						
(U*_).								
NOTE ALLABOED	OD SMALLED BOLTON	AY BE REQUIRED DEPENDING ON THE DIAMETER OF THE						
		MID) ON THE WORK ORDER COMPONENTS PAGE FOR THE						
LENGTH NEEDED	IF DIFFERENT THAN TH	E GÉNERIC LENGTH SHOWN IN THE BILL OF MATERIALS.						
CONTACT ENGIN	EERING STANDARDS -	RANSMISSION SECTION IF YOU NEED ASSISTANCE.						
NOTE B: IF THE L	AMINATED WOOD POLE	S HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE	l					
X-BRACE MOUNT	ING BOLTS TO BE WITH	N 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION	l					
	S SHALL BE FIELD MOD IS 12" FROM THE SPLICE	FIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE	l					
WICONTING BOLT	10 12 TROWN THE SPLIC	_ I EAILO.	l					
		ISING POLES 80' LONG OR LONGER SHALL REQUIRE A	l					
SECOND CROSS-	BRACE.		l					
THIS IS A C	OMPUTER GENER	TED DRAWING - DO NOT REVISE MANUALLY						
Contact Engineeri	ng Standards - Trans	nission Section for the creation of new standards and CUs.	Drawing Scale: 1" = 5'					
Jonast Engineen								
	TRANSMISSIC		REVISION					
	CONSTRUCTION		01					
IBERDROLA	•	19.5' OR 20' POLE SPACING - 3-POLE STR						
USA	MANUAL	LAMINATED POLES	10/06/2015					
Drwn By Date Dr.:	Checked By:	Date Ck.: Approved By: Date App.: Than On To	2014/1400					

Date App.: 3/19/2015

TM2.23.TQ-2W-M20-A

Sheet 1

Approved By:

Barry R. Hart

Drwn. By: Date Dr.:

B. Franklin 8/15/2014

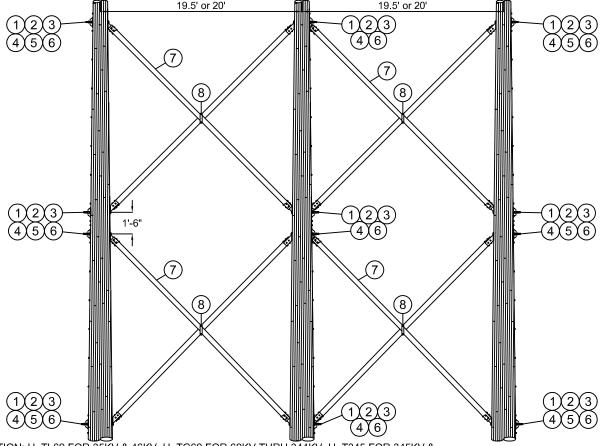
Checked By:

Becken/Hart

Date Ck.:

3/05/2015

	BILL OF MATERIAL (CU Type: POLE)									
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-2W-M20-B						
1	12	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT						
2	12	ST	30919303	NUT SQ GALV FOR 7/8" BOLT						
3	12	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)						
4	12	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"						
5	8	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE						
6	12	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE						
7	4	ST	30924060	XBRC WD 4-5/8 X 5-3/4 19F6 PS						
8	4	ST	30923712	XBRC CENTER CLAMP 4-5/8 X 5-3/4 STRAP						



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*).

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

NOTE B: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

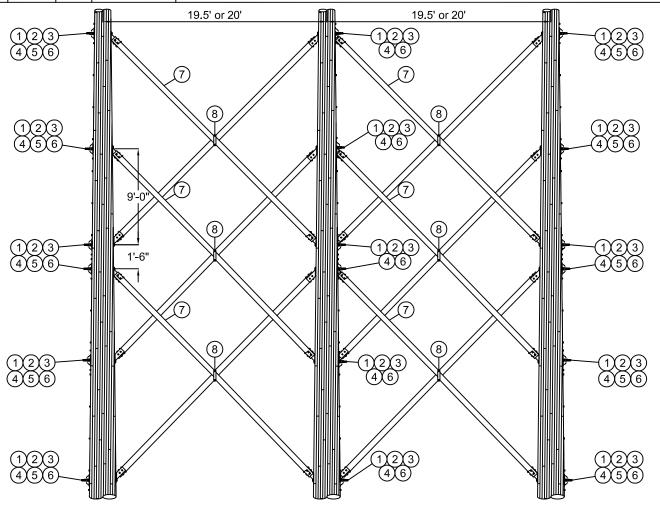
NOTE C: 230kV H-FRAME STRUCTURES USING POLES 80' LONG OR LONGER SHALL REQUIRE TWO (2) CROSS-BRACES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

444		TRANSMISSION		STRUCTURE STANDARDS					
		CONSTRUCTION		230KV X-BRACING - 2 SETS OF X-BRACES					
BERDR	OLA	STANDARDS	1	19.5' OR 20' POLE SPACING - 3-POLE STRUCTURE					
USA		MANUAL			LAMINATE	ED POLES		10/06/2015	
Drwn By: Dat	te Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TMO OO T	Q-2W-M20-B	Sheet 1	
B. Franklin 8/15	5/2014	Becken/Hart	3/05/2015	Barry R. Hart	3/19/2015	I IVIZ.Z3. I	Q-ZVV-IVIZU-D	SHEELI	

	BILL OF MATERIAL (CU Type: POLE)										
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-2W-M20-C							
1	18	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT							
2	18	ST	30919303	NUT SQ GALV FOR 7/8" BOLT							
3	18	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)							
4	18	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"							
5	12	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE							
6	18	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE							
7	6	ST	30924060	XBRC WD 4-5/8 X 5-3/4 19F6 PS							
8	6	ST	30923712	XBRC CENTER CLAMP 4-5/8 X 5-3/4 STRAP							



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*).

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

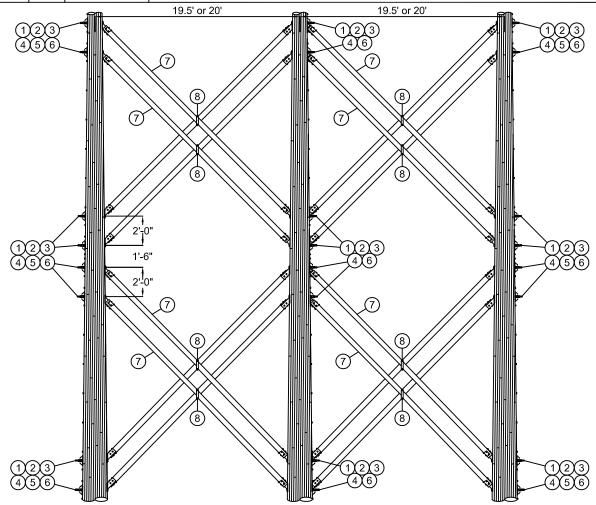
NOTE B: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

444	TRANSMISSION		STRUCTURE STANDARDS					
	CONSTRUCTION		230KV X-BRACING - 3 SETS OF X-BRACES					
IBERDROLA	STANDARDS	1	19.5' OR 20' POLE SPACING - 3-POLE STRUCTURE					
USA	MANUAL			LAMINATE	ED POLES		10/06/2015	
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TNAO OO T	Q-2W-M20-C	Sheet 1	
B. Franklin 8/15/2014	Becken/Hart	3/05/2015	Barry R. Hart	3/19/2015	I IVIZ.Z3. I	Q-2 V V - I V I Z U - C	SHEELI	
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	BILL OF MATERIAL (CU Type: POLE)										
ITEM NO.	QTY.	иом	IUSA MID	CU: U*PT-TQ-2W-M20-D							
1	24	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT							
2	24	ST	30919303	NUT SQ GALV FOR 7/8" BOLT							
3	24	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)							
4	24	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"							
5	16	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE							
6	24	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE							
7	8	ST	30924060	XBRC WD 4-5/8 X 5-3/4 19F6 PS							
8	8	ST	30923712	XBRC CENTER CLAMP 4-5/8 X 5-3/4 STRAP							



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*).

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

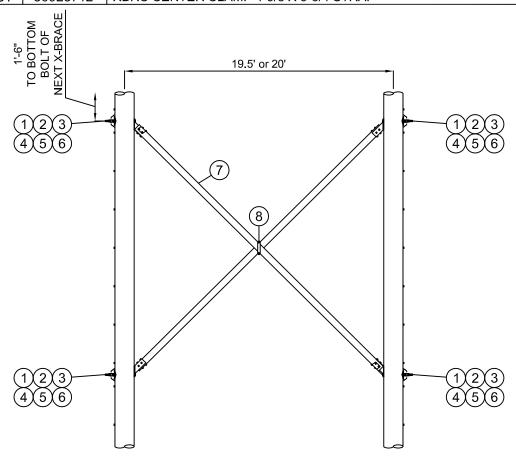
NOTE B: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

	XXX TRANSMISSION		STRUCTURE STANDARDS				
	CONSTRUCTION		230KV X-BRACING - 4 SETS OF X-BRACES				
IBERDROLA	STANDARDS	1	19.5' OR 20' POLE SPACING - 3-POLE STRUCTURE				
USA	MANUAL			LAMINATE	ED POLES	10/06/2015	
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-2W-M20-D	Sheet 1	
B. Franklin 8/15/2014	Becken/Hart	3/05/2015	Barry R. Hart	3/19/2015	1 1V12.23. 1 Q-2VV-1V12U-D	SHEELI	

	BILL OF MATERIAL (CU Type: POLE)									
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-2W-X20-A						
1	4	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT						
2	4	ST	30919303	NUT SQ GALV FOR 7/8" BOLT						
3	4	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)						
4	4	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"						
5	4	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE						
6	4	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE						
7	1	ST	30924060	XBRC WD 4-5/8 X 5-3/4 19F6 PS						
8	1	ST	30923712	XBRC CENTER CLAMP 4-5/8 X 5-3/4 STRAP						



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

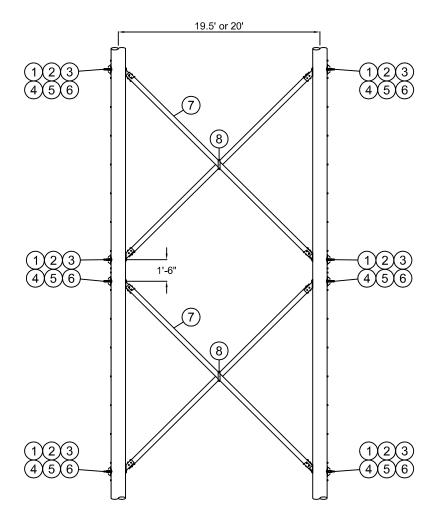
NOTE B: 230kV H-FRAME STRUCTURES USING POLES 80' LONG OR LONGER SHALL REQUIRE A SECOND CROSS-BRACE.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

	9					5	
	TRANSMISSION		STF	RUCTURE	STANDARDS		REVISION
	CONSTRUCTION		230KV X-BRACING				
IBERDROLA	STANDARDS	19.5' & 20' POLE SPACING					DATE
USA	MANUAL		R	OUND WC	OOD POLES		10/14/2015
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	T 1 1 2 2 2 7	Q-2W-X20-A	Sheet 1
C. Gauvin 10/04/2013	Becken/Hart	3/05/2015	Barry R. Hart	3/26/2015	I IVIZ.Z3. I	Q-ZVV-XZU-A	SHEELI

	BILL OF MATERIAL (CU Type: POLE)									
ITEM NO.	QTY.	иом	IUSA MID	CU: U*PT-TQ-2W-X20-B						
1	8	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT						
2	8	ST	30919303	NUT SQ GALV FOR 7/8" BOLT						
3	8	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)						
4	8	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"						
5	8	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE						
6	8	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE						
7	2	ST	30924060	XBRC WD 4-5/8 X 5-3/4 19F6 PS						
8	2	ST	30923712	XBRC CENTER CLAMP 4-5/8 X 5-3/4 STRAP						



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

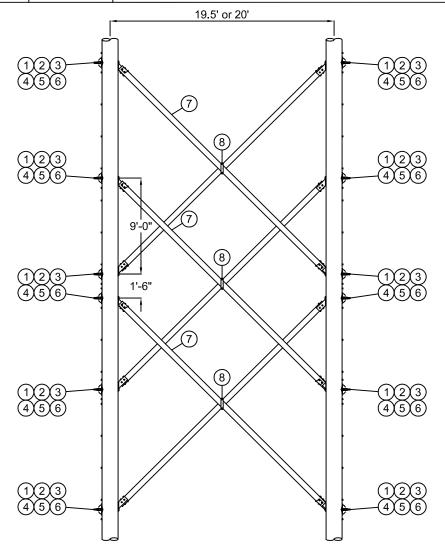
NOTE B: 230kV H-FRAME STRUCTURES USING POLES 80' LONG OR LONGER SHALL REQUIRE A SECOND CROSS-BRACE.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

			_					
ſ			STRUCTURE STANDARDS					
1		CONSTRUCTION		230KV	X-BRACIN	IG - 2 X-BRACES	01	
1	IBERDROLA	STANDARDS		19.5' & 20' POLE SPACING				
	USA	MANUAL		ROUND WOOD POLES				
ſ	Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-2W-X20-B	Sheet 1	
Į	C. Gauvin 10/15/2013	Becken/Hart	3/05/2015	Barry R. Hart	3/26/2015	1 W Z V - X Z U - B	SHEELI	
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	BILL OF MATERIAL (CU Type: POLE)									
ITEM NO.	QTY.	иом	IUSA MID	CU: U*PT-TQ-2W-X20-C						
1	12	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT						
2	12	ST	30919303	NUT SQ GALV FOR 7/8" BOLT						
3	12	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)						
4	12	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"						
5	12	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE						
6	12	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE						
7	3	ST	30924060	XBRC WD 4-5/8 X 5-3/4 19F6 PS						
8	3	ST	30923712	XBRC CENTER CLAMP 4-5/8 X 5-3/4 STRAP						



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

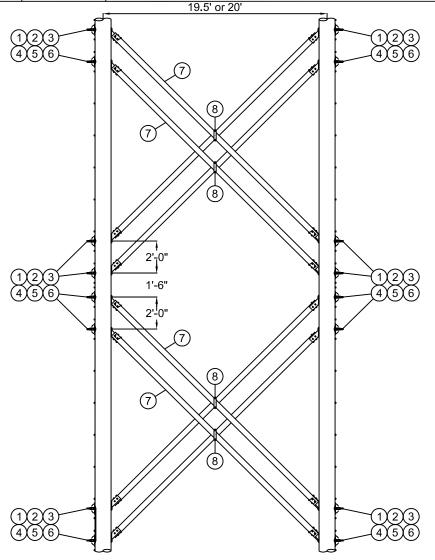
NOTE A: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE DIAMETER OF THE POLE USED. SUBSTITUTE MATERIAL ID (MID) ON THE WORK ORDER COMPONENTS PAGE FOR THE LENGTH NEEDED IF DIFFERENT THAN THE GENERIC LENGTH SHOWN IN THE BILL OF MATERIALS. CONTACT ENGINEERING STANDARDS - TRANSMISSION SECTION IF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

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

		TRANSMISSION		STRUCTURE STANDARDS				
		CONSTRUCTION		230KV X-BRACING - 3 X-BRACES				
l	BERDROLA	STANDARDS		19.5' & 20' POLE SPACING				
	USA	MANUAL		ROUND WOOD POLES				10/14/2015
	Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TN/12 22 7	ГQ-2W-X20-C	Sheet 1
İ	C. Gauvin 7/30/2014	Becken/Hart	3/05/2015	Barry R. Hart	3/26/2015	11012.23.	1 Q-2 V V - \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	SHEELT
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	BILL OF MATERIAL (CU Type: POLE)									
ITEM NO.	QTY.	иом	IUSA MID	CU: U*PT-TQ-2W-X20-D						
1	16	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT						
2	16	ST	30919303	NUT SQ GALV FOR 7/8" BOLT						
3	16	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)						
4	16	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"						
5	16	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE						
6	16	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE						
7	4	ST	30924060	XBRC WD 4-5/8 X 5-3/4 19F6 PS						
8	4	ST	30923712	XBRC CENTER CLAMP 4-5/8 X 5-3/4 STRAP						



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

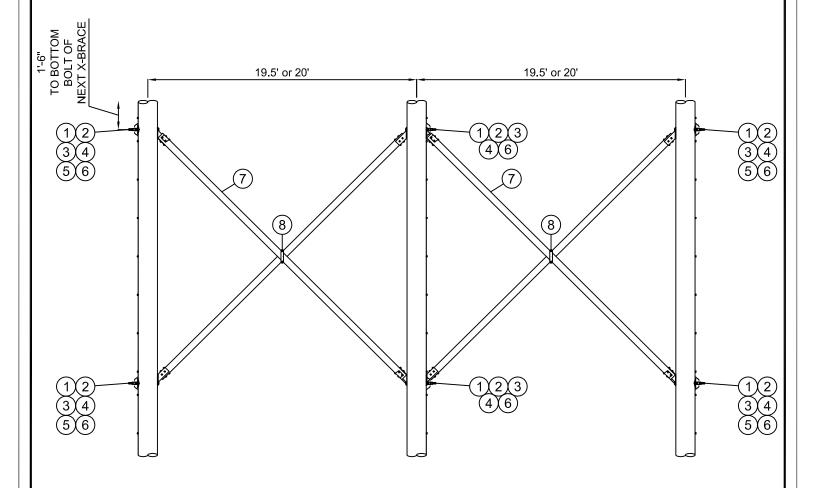
NOTE A: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE DIAMETER OF THE POLE USED. SUBSTITUTE MATERIAL ID (MID) ON THE WORK ORDER COMPONENTS PAGE FOR THE LENGTH NEEDED IF DIFFERENT THAN THE GENERIC LENGTH SHOWN IN THE BILL OF MATERIALS. CONTACT ENGINEERING STANDARDS - TRANSMISSION SECTION IF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

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

444	TRANSMISSION		STRUCTURE STANDARDS					
	CONSTRUCTION		230KV X-BRACING - 4 X-BRACES					
'IBERDROLA	STANDARDS		19.5' & 20' POLE SPACING					
USA	MANUAL		ROUND WOOD POLES					
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TN//2 22 -	ΓQ-2W-X20-D	Sheet 1	
C. Gauvin 7/30/2014	Becken/Hart	3/05/2015	Barry R. Hart	3/26/2015	1 IVIZ.Z3.		SHEELT	
	_							

	BILL OF MATERIAL (CU Type: POLE)										
	ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-2W-Y20-A						
	1	6	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT						
Γ	2	6	ST	30919303	NUT SQ GALV FOR 7/8" BOLT						
	3	6	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)						
	4	6	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"						
	5	4	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE						
	6	6	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE						
Γ	7	2	ST	30924060	XBRC WD 4-5/8 X 5-3/4 19F6 PS						
Γ	8	2	ST	30923712	XBRC CENTER CLAMP 4-5/8 X 5-3/4 STRAP						



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

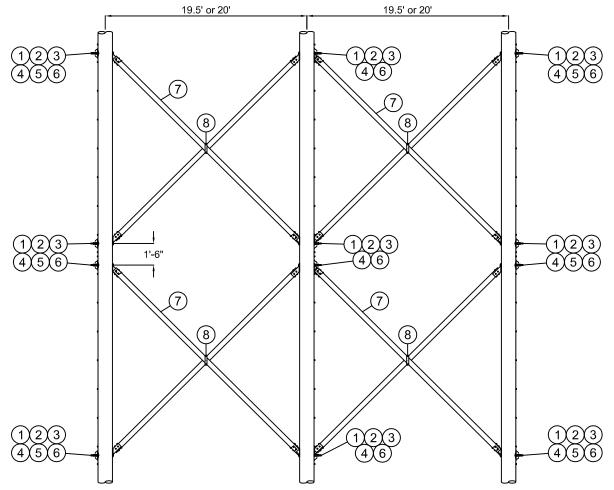
NOTE B: 230kV H-FRAME STRUCTURES USING POLES 80' LONG OR LONGER SHALL REQUIRE A SECOND CROSS-BRACE.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

A 2 2 2 4 2							REVISION
XXX TRANSMISSION			STRUCTURE STANDARDS				
	CONSTRUCTION		230KV X-BRACING				
IBERDROLA	STANDARDS		19.5' & 20' POLE SPACING - 3-POLE STRUCTURE				
USA	USA MANUAL			ROUND WOOD POLES			
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-2	0/V/ \/\0	Sheet 1
C. Gauvin 8/15/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	1 1VIZ.Z3.1 Q-2	2 V V - 1 Z U - A	Sileet I

	BILL OF MATERIAL (CU Type: POLE)									
	TEM NO.	QTY.	иом	IUSA MID	CU: U*PT-TQ-2W-Y20-B					
	1	12	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
Г	2	12	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
	3	12	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
	4	12	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
	5	8	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE					
	6	12	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
	7	4	ST	30924060	XBRC WD 4-5/8 X 5-3/4 19F6 PS					
	8	4	ST	30923712	XBRC CENTER CLAMP 4-5/8 X 5-3/4 STRAP					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*).

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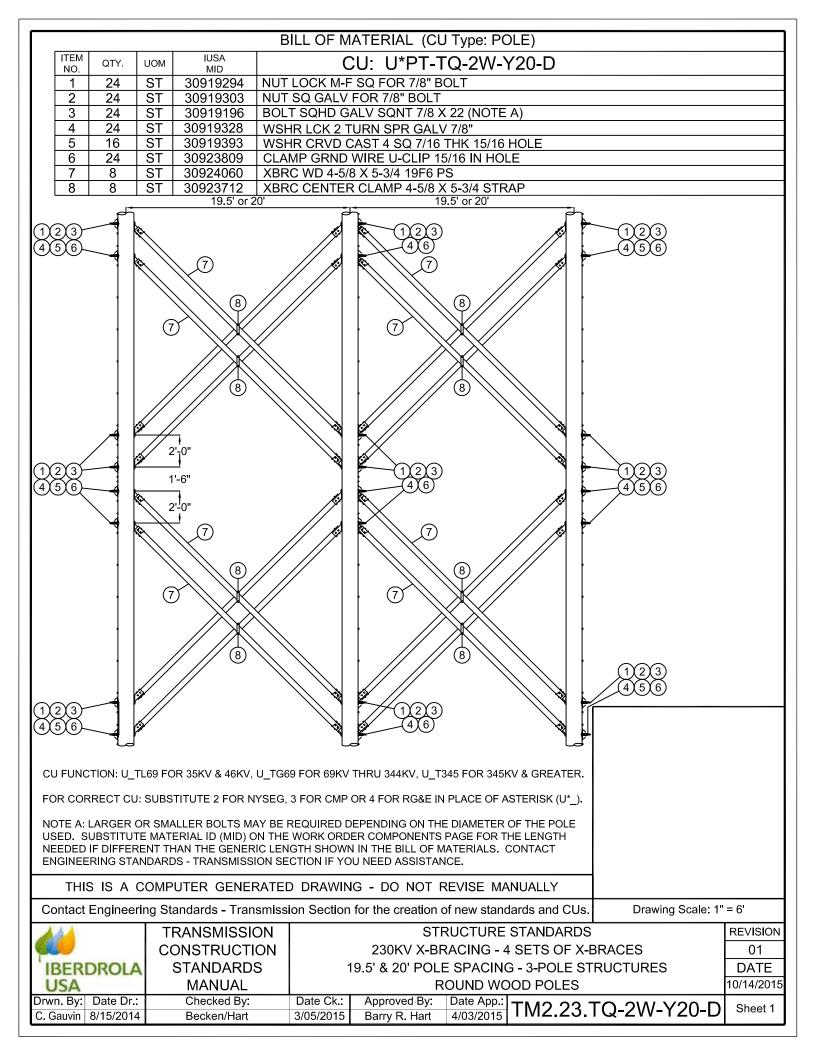
NOTE B: 230 kV H-FRAME STRUCTURES USING POLES 80° LONG OR LONGER SHALL REQUIRE A SECOND CROSS-BRACE.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

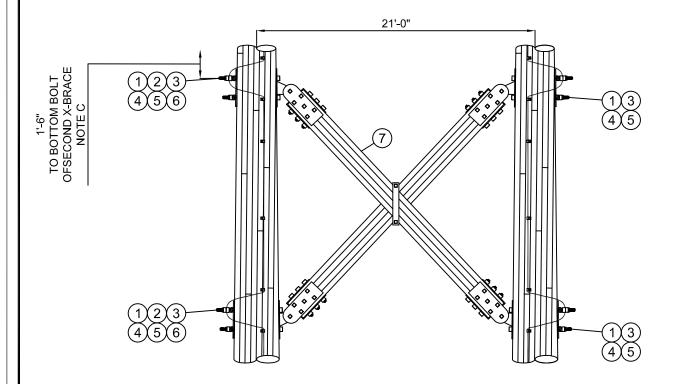
Contact Engineering Standards - Transmission Section for the creation of new standards and CUs.

	TRANSMISSION			STRUCTURE STANDARDS					
	CONSTRUCTION		230KV X-BRACING - 2 SETS OF X-BRACES						
IBERDROLA	STANDARDS	1	19.5' & 20' POLE SPACING - 3-POLE STRUCTURES						
USA	MANUAL		ROUND WOOD POLES						
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-2W-Y20-B	Sheet 1			
C. Gauvin 8/15/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	1 W Z . Z 3 . 1 Q - Z V V - 1 Z U - D	Sileet i			

				BILL OF MATERIAL (CU Type: POLE)
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-2W-Y20-C
1	18	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT
2	18	ST	30919303	NUT SQ GALV FOR 7/8" BOLT
3 4	18 18	ST ST	30919196 30919328	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)
5	12	ST	30919393	WSHR LCK 2 TURN SPR GALV 7/8" WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE
6	18	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE
7	6	ST	30924060	XBRC WD 4-5/8 X 5-3/4 19F6 PS
8	6	ST	30923712	XBRC CENTER CLAMP 4-5/8 X 5-3/4 STRAP
	Γ	•	19.5' or	20' 19.5' or 20'
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	1		(8)	8
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			(8)	8
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CHEIMO	TIONLU	FI 60 FO		II TOGO FOR GOVY THRU 244KV II T245 FOR 245KV 8 ORFATER
	_			U_TG69 FOR 69KV THRU 344KV, U_T345 FOR 345KV & GREATER.
FOR COR	RECT CU	: SUBS	TITUTE 2 FOR N	YSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).
				AY BE REQUIRED DEPENDING ON THE DIAMETER OF THE POLE
				IN THE WORK ORDER COMPONENTS PAGE FOR THE LENGTH IC LENGTH SHOWN IN THE BILL OF MATERIALS. CONTACT
				ON SECTION IF YOU NEED ASSISTANCE.
THIS	SISA	COMP	UTER GENEF	RATED DRAWING - DO NOT REVISE MANUALLY
Contact I	Engineer	ing Sta	andards - Trans	smission Section for the creation of new standards and CUs. Drawing Scale: 1" = 6'
444			RANSMISSIC	
			ONSTRUCTION	
BERT	OROLA		STANDARDS	
USA		-	MANUAL	ROUND WOOD POLES 10/14/20
Drwn. By:			Checked By:	Date Ck.: Approved By: Date App.: TM2.23.TQ-2W-Y20-C Sheet
C. Gauvin	8/15/2014	1	Becken/Hart	3/05/2015 Barry R. Hart 4/03/2015 11V12.23.1 Q-2 VV-120-C Officer



	BILL OF MATERIAL (CU Type: POLE)									
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-3W-L21-A						
1	8	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT						
2	4	ST	30919303	NUT SQ GALV FOR 7/8" BOLT						
3	8	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)						
4	8	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"						
5	8	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE						
6	4	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE						
7	1	ST	30924047	XBRC LAM 6 X 6-3/4" ASSY 21F PS (NOTE B)						



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*).

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

NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP. DO NOT USE GRID GAINS FOR LAMINATED POLES.

NOTE C: 345kV STRUCTURES USING 100' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES. THE X-BRACES SHALL BE SEPARATED BY 1'-6" PER THE DIMENSION ON THE DETAIL.

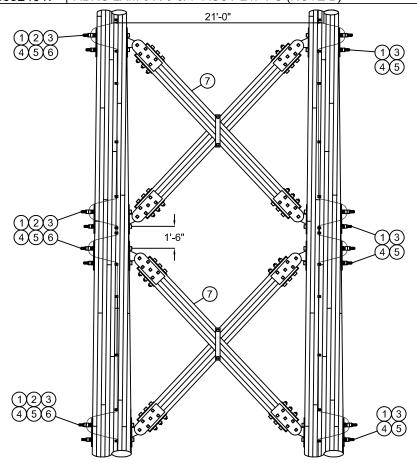
NOTE D: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

- 1			_						
			STRUCTURE STANDARDS						
١		CONSTRUCTION		345KV X-BRACING					
١	IBERDROLA	STANDARDS	21' POLE SPACING				DATE		
1	USA	MANUAL			LAMINATE	ED POLES	10/06/2015		
-	Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2,23,TQ-3W-L21-A	Sheet 1		
	B. Franklin 10/17/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	11V12.23.1Q-3VV-L21-A	SHEELI		
		·				·			

	BILL OF MATERIAL (CU Type: POLE)									
ITEM NO.	QTY.	иом	IUSA MID	CU: U*PT-TQ-3W-L21-B						
1	16	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT						
2	8	ST	30919303	NUT SQ GALV FOR 7/8" BOLT						
3	16	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)						
4	16	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"						
5	16	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE						
6	8	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE						
7	2	ST	30924047	XBRC LAM 6 X 6-3/4" ASSY 21F PS (NOTE B)						



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP. DO NOT USE GRID GAINS FOR LAMINATED POLES.

NOTE C: 345kV STRUCTURES USING 100' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES.

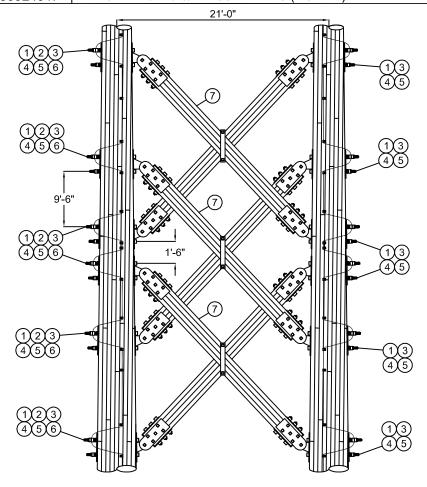
NOTE D: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

- 1	3 3 2	.9					_		
ſ		TRANSMISSION		STF	STANDARDS	REVISION			
		CONSTRUCTION		345KV X-BRACING - 2 X-BRACES					
١	IBERDROLA	STANDARDS			SPACING	DATE			
١	USA	MANUAL		LAMINATED POLES					
ſ	Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-3W-L21-B	Sheet 1		
	B. Franklin 10/17/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	1	SHEELI		
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	BILL OF MATERIAL (CU Type: POLE)									
ITEM NO.	QTY.	иом	IUSA MID	CU: U*PT-TQ-3W-L21-C						
1	24	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT						
2	12	ST	30919303	NUT SQ GALV FOR 7/8" BOLT						
3	24	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)						
4	24	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"						
5	24	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE						
6	12	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE						
7	3	ST	30924047	XBRC LAM 6 X 6-3/4" ASSY 21F PS (NOTE B)						



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP. DO NOT USE GRID GAINS FOR LAMINATED POLES.

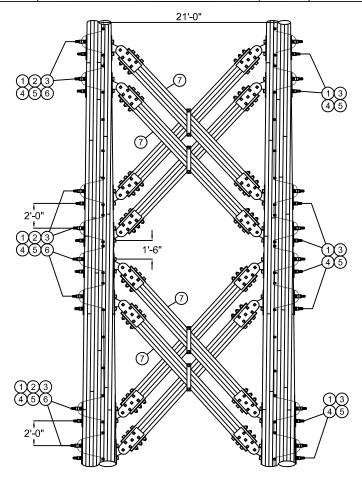
NOTE C: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

Johnson Engineerin	ig claireards irrainsimes					-	
	TRANSMISSION	STRUCTURE STANDARDS			STANDARDS	REVISION	
	CONSTRUCTION		345KV X-BRACING - 3 X-BRACES				
IBERDROLA	STANDARDS		21' POLE SPACING				
USA	MANUAL				ED POLES	10/06/2015	
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-3W-L21-C	Sheet 1	
B. Franklin 8/07/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	1 1012.23.1 Q-3 00-L2 1-C	, Sheet i	
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	BILL OF MATERIAL (CU Type: POLE)									
ITEM NO.	QTY.	иом	IUSA MID	CU: U*PT-TQ-3W-L21-D						
1	32	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT						
2	16	ST	30919303	NUT SQ GALV FOR 7/8" BOLT						
3	32	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)						
4	32	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"						
5	32	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE						
6	16	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE						
7	4	ST	30924047	XBRC LAM 6 X 6-3/4" ASSY 21F PS (NOTE B)						



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP. DO NOT USE GRID GAINS FOR LAMINATED POLES.

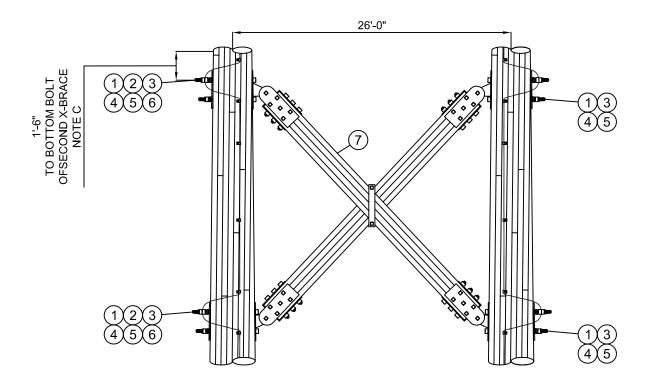
NOTE C: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

January Engineerin	ig claireards irrainsimes					· ·		
	TRANSMISSION		STF	STANDARDS	REVISION			
	CONSTRUCTION		345KV X-BRACING - 4 X-BRACES					
IBERDROLA	STANDARDS		21' POLE SPACING					
USA	MANUAL	LAMINATED POLES			10/06/2015			
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-3W-L21-D	Sheet 1		
B. Franklin 10/17/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	11012.23.1Q-300-L21-D	Sileet i		

	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-3W-L26-A					
1	8	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	4	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	8	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	8	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	8	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE					
6	4	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	1	ST	30924048	XBRC LAM 6 X 6-3/4" ASSY 26F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*).

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

NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP. DO NOT USE GRID GAINS FOR LAMINATED POLES.

NOTE C: 345kV STRUCTURES USING 100° LONG POLES OR LONGER REQUIRE (2) CROSS BRACES. THE X-BRACES SHALL BE SEPARATED BY 1° -6" PER THE DIMENSION ON THE DETAIL.

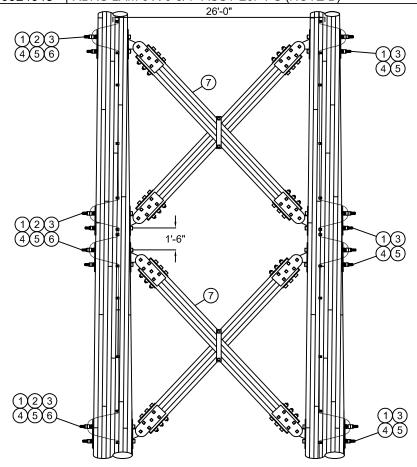
NOTE D: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

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ſ		TRANSMISSION		STI	RUCTURE	STANDARDS		REVISION
		CONSTRUCTION		345KV X-BRACING				
١	IBERDROLA	STANDARDS			SPACING		DATE	
١	USA	MANUAL	LAMINATED POLES				10/06/2015	
ſ	Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TN/12 22 7	TQ-3W-L26-A	Sheet 1
Į	B. Franklin 10/17/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	11012.23.1	Q-377-L26-A	SHEELI

	BILL OF MATERIAL (CU Type: POLE)									
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-3W-L26-B						
1	16	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT						
2	8	ST	30919303	NUT SQ GALV FOR 7/8" BOLT						
3	16	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)						
4	16	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"						
5	16	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE						
6	8	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE						
7	2	ST	30924048	XBRC LAM 6 X 6-3/4" ASSY 26F PS (NOTE B)						



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP. DO NOT USE GRID GAINS FOR LAMINATED POLES.

NOTE C: 345kV STRUCTURES USING 100' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES.

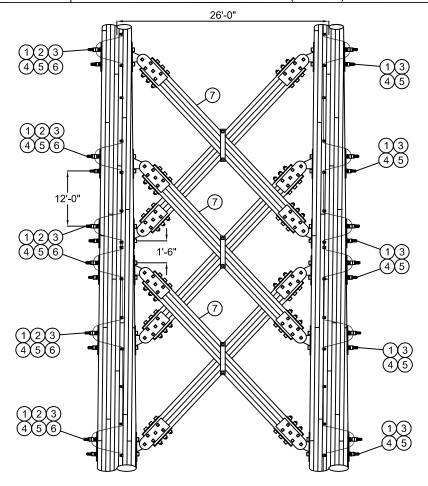
NOTE D: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

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444	TRANSMISSION		STI	STANDARDS	REVISION	
	CONSTRUCTION		345KV	X-BRACIN	IG - 2 X-BRACES	01
IBERDROLA	STANDARDS			26' POLE SPACING		
USA	MANUAL			LAMINATE	ED POLES	10/06/2015
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2,23,TQ-3W-L26-B	Sheet 1
B. Franklin 10/17/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/05/2015	1 1V12.23. 1 Q-3 VV-L26-B	SHEELI

	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-3W-L26-C					
1	24	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	12	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	24	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	24	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	24	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE					
6	12	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	3	ST	30924048	XBRC LAM 6 X 6-3/4" ASSY 26F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP. DO NOT USE GRID GAINS FOR LAMINATED POLES.

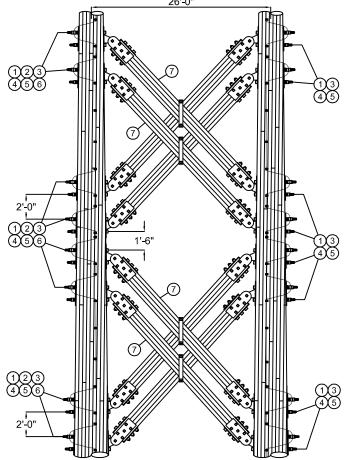
NOTE C: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

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

Johnson Engineerin	ig claireards irrainsimes					-	
	TRANSMISSION		STF	STANDARDS	REVISION		
	CONSTRUCTION	345KV X-BRACING - 3 X-BRACE			NG - 3 X-BRACES	01	
IBERDROLA	STANDARDS		26' POLE SPACING				
USA	MANUAL				ED POLES	10/06/2015	
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-3W-L26-C	Sheet 1	
B. Franklin 8/07/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	1 1012.23.1 Q-300-L26-C	, Sileet I	

	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.									
1	32	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	16	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	32	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	32	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	32	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE					
6	16	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	4	ST	30924048	XBRC LAM 6 X 6-3/4" ASSY 26F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*).

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

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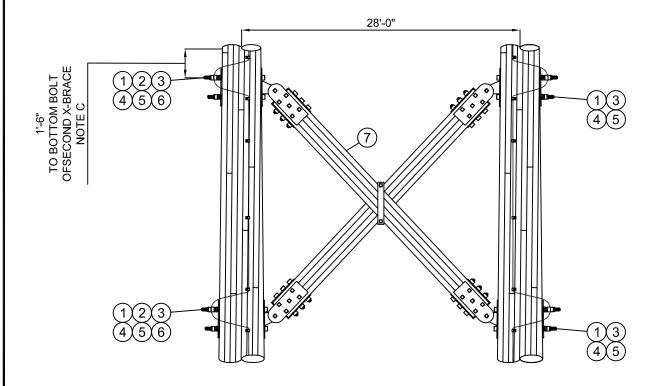
NOTE C: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

Contact Engineering Standards Transmission Costion for the disease of now standards and Cost.							
444		STRUCTURE STANDARDS					
	CONSTRUCTION		345KV X-BRACING - 4 X-BRACES				
IBERDROLA	STANDARDS		26' POLE SPACING				
USA	MANUAL		LAMINATED POLES				
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-3W-L26-D	Sheet 1	
B. Franklin 10/17/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	1 W Z . Z 3 . 1 Q - 3 W - L Z 6 - D	SHEELI	
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.									
1	8	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	2 4 ST 30919303 NUT SQ GALV FOR 7/8" BOLT								
3	8	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	8	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	8	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE					
6	4	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	1	ST	30924046	XBRC LAM 5-1/8 X 7-1/2" ASSY 28F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*).

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

NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP. DO NOT USE GRID GAINS FOR LAMINATED POLES.

NOTE C: 345kV STRUCTURES USING 100' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES. THE X-BRACES SHALL BE SEPARATED BY 1'-6" PER THE DIMENSION ON THE DETAIL.

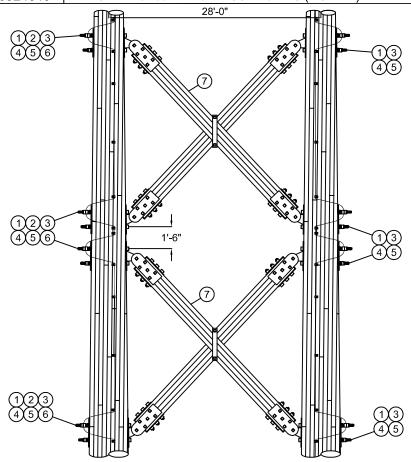
NOTE D: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

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	XXX TRANSMISSION		STI	STANDARDS	REVISION		
	CONSTRUCTION		345KV X-BRACING				
IBERDROLA	STANDARDS			SPACING	DATE		
USA	MANUAL			LAMINATE	ED POLES	10/06/2015	
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-3W-L28-	Δ Sheet 1	
B. Franklin 10/17/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	1 1VIZ.23. 1 Q-3VV-L26-	A Sheet i	

	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.									
1	16	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	2 8 ST 30919303 NUT SQ GALV FOR 7/8" BOLT								
3	16	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	16	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	16	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE					
6	8	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	2	ST	30924046	XBRC LAM 5-1/8 X 7-1/2" ASSY 28F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*).

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

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NOTE C: 345kV STRUCTURES USING 100' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES.

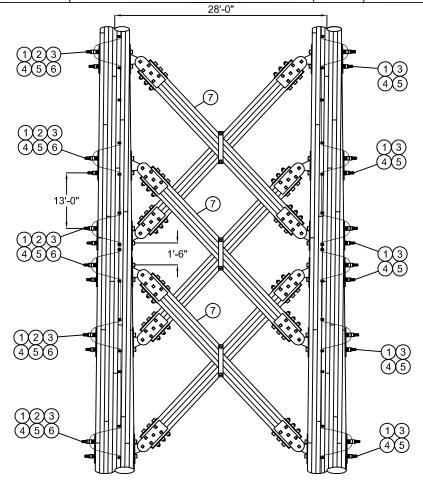
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Contact Engineering Standards - Transmission Section for the creation of new standards and CUs.

Contact Engineering Standards Transmission Section for the disease of the vital and disease in Section 1997.							
444	TRANSMISSION		STF	RUCTURE	STANDARDS	REVISION	
	CONSTRUCTION		345KV X-BRACING - 2 X-BRACES				
IBERDROLA	STANDARDS		28' POLE SPACING				
USA	MANUAL		LAMINATED POLES			10/06/2015	
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-3W-L28-B	Sheet 1	
B. Franklin 10/17/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	1 1V12.23. 1 Q-3 VV-L20-D	SHEELI	
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-3W-L28-C					
1	24	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	12	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	24	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	24	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	24	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE					
6	12	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	3	ST	30924046	XBRC LAM 5-1/8 X 7-1/2" ASSY 28F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

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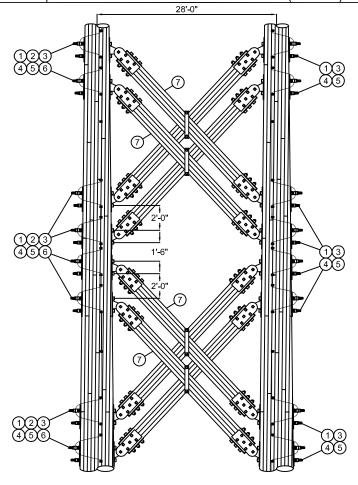
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THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

			_						
		TRANSMISSION		STRUCTURE STANDARDS					
		CONSTRUCTION		345KV X-BRACING - 3 X-BRACES					
	IBERDROLA	STANDARDS		28' POLE SPACING					
	USA	MANUAL			LAMINATE	ED POLES	10/06/2015		
_ [ī	Orwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-3W-L28-C	Sheet 1		
Ī	3. Franklin 8/14/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	11V12.23.1Q-3VV-L26-C	SHEELI		
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	CU: U*PT-TQ-3W-L28-D								
1	32	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	16	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	32	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	32	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	32	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE					
6	16	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	4	ST	30924046	XBRC LAM 5-1/8 X 7-1/2" ASSY 28F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP. DO NOT USE GRID GAINS FOR LAMINATED POLES.

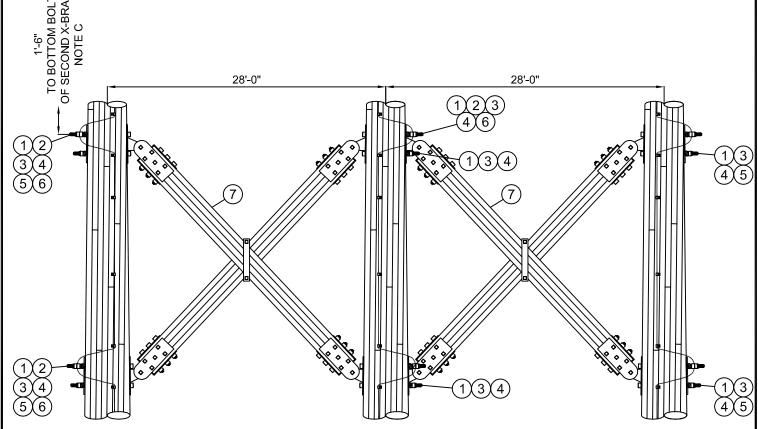
NOTE C: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

			_						
		TRANSMISSION		STRUCTURE STANDARDS					
		CONSTRUCTION		345KV X-BRACING - 4 X-BRACES					
	IBERDROLA	STANDARDS			28' POLE	SPACING	DATE		
	USA	MANUAL	LAMINATED POLES		ED POLES	10/06/2015			
ſ	Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2,23,TQ-3W-L28-D	Sheet 1		
Į	B. Franklin 8/14/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	1 W	SHEELI		
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-3W-M28-A					
1	12	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	6	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	12	ST	30919196	OLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	12	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	8	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE					
6	6	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	2	ST	30924046	XBRC LAM 5-1/8 X 7-1/2" ASSY 28F PS (NOTE B)					
	CE								



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*).

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

NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP. DO NOT USE GRID GAINS FOR LAMINATED POLES.

NOTE C: 345kV STRUCTURES USING 100' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES. THE X-BRACES SHALL BE SEPARATED BY 1'-6" PER THE DIMENSION ON THE DETAIL.

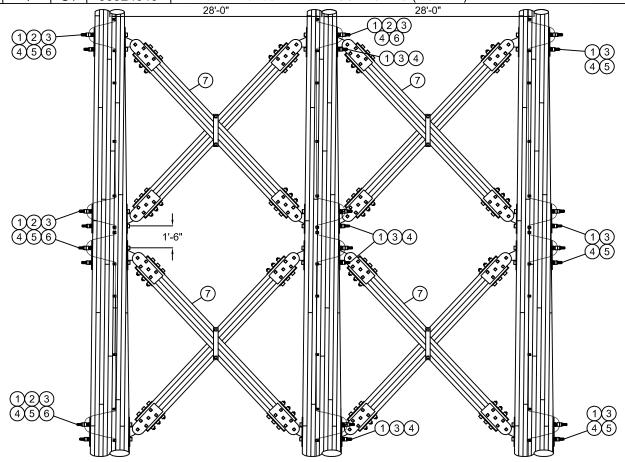
NOTE D: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

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	TRANSMISSION		STF	RUCTURE	STANDARDS	REVISION	
	CONSTRUCTION		345KV X-BRACING				
IBERDROLA	STANDARDS		28' POLE SPACING - 3-POLE STRUCTURE				
USA	MANUAL		LAMINATED POLES			10/13/2015	
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-3W-M28-A	Sheet 1	
C. Gauvin 8/20/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	1 1V12.23. 1 Q-3 VV-1V120-A	SHEELI	
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.									
1	1 24 ST 30919294 NUT LOCK M-F SQ FOR 7/8" BOLT								
2	2 12 ST 30919303 NUT SQ GALV FOR 7/8" BOLT								
3	24	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	24	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	16	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE					
6	6 12 ST 30923809 CLAMP GRND WIRE U-CLIP 15/16 IN HOLE								
7	4	ST	30924046	XBRC LAM 5-1/8 X 7-1/2" ASSY 28F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP. DO NOT USE GRID GAINS FOR LAMINATED POLES.

NOTE C: 345kV STRUCTURES USING 100' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES.

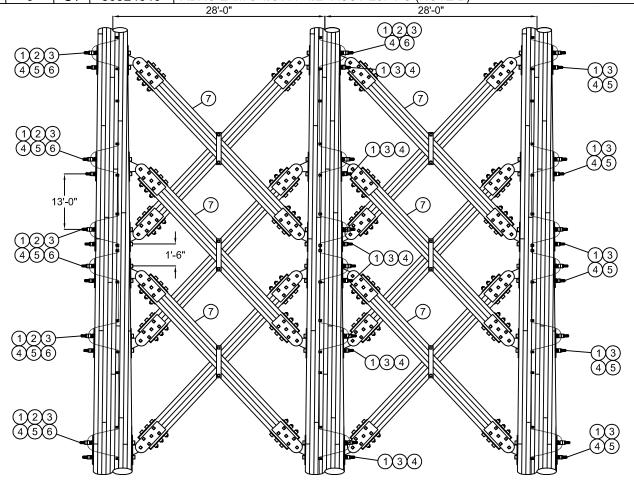
NOTE D: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

L	eemast Engineem	3	-					
I	TRANSMISSION			STRUCTURE STANDARDS				
1		CONSTRUCTION		345KV X-BRACING - 2 SETS OF X-BRACES				
1	IBERDROLA	STANDARDS	28' POLE SPACING - 3-POLE STRUCTURE					DATE
	USA	MANUAL	LAMINATED POLES				10/13/2015	
ſ	Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TN/10 00 7	ГQ-3W-M28-B	Sheet 1
Į	C. Gauvin 8/20/2014	Shepard/Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	1 1012.23.1	1 Q-377-17120-D	Sileet i
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.									
1	1 36 ST 30919294 NUT LOCK M-F SQ FOR 7/8" BOLT								
2	2 18 ST 30919303 NUT SQ GALV FOR 7/8" BOLT								
3	36 ST 30919196 BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)								
4	36	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	24	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE					
6									
7	6	ST	30924046	XBRC LAM 5-1/8 X 7-1/2" ASSY 28F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP. DO NOT USE GRID GAINS FOR LAMINATED POLES.

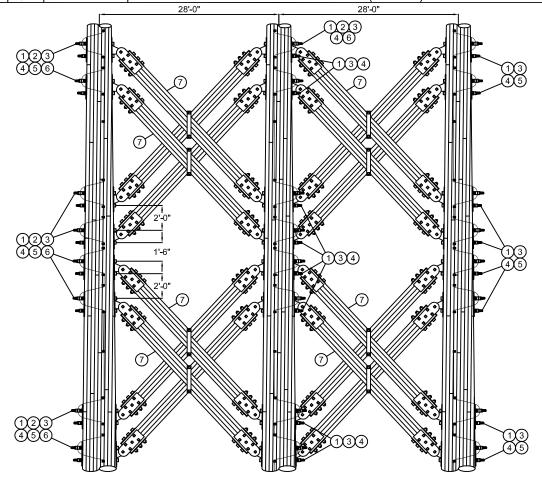
NOTE C: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

TRANSMISSION			STRUCTURE STANDARDS					
CONSTRUCTION			345KV X-BRACING - 3 SETS OF X-BRACES					
STANDARDS	28' POLE SPACING - 3-POLE STRUCTURE							
MANUAL			LAMINATE	ED POLES	10/13/2015			
Checked By:	Date Ck.:	Approved By:	Date App.:	TM2 22 TO 2M/ M29 C	Sheet 1			
Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	1 1V12.23. 1 Q-3 VV-1V120-C	SHEELI			
	CONSTRUCTION STANDARDS MANUAL Checked By:	CONSTRUCTION STANDARDS MANUAL Checked By: Date Ck.:	CONSTRUCTION 345KV X-BF STANDARDS 28' POLE S MANUAL	CONSTRUCTION 345KV X-BRACING - 3 STANDARDS 28' POLE SPACING - MANUAL LAMINATE	CONSTRUCTION STANDARDS STANDARDS MANUAL Checked By: 345KV X-BRACING - 3 SETS OF X-BRACES 28' POLE SPACING - 3-POLE STRUCTURE LAMINATED POLES Date Ck.: Approved By: Date App.: TM2 23 TO 3W-M28-C			

	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.									
1	48	48 ST 30919294 NUT LOCK M-F SQ FOR 7/8" BOLT							
2 24 ST 30919303 NUT SQ GALV FOR 7/8" BOLT									
3	48	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	48	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	32	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE					
6	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE								
7	8	ST	30924046	XBRC LAM 5-1/8 X 7-1/2" ASSY 28F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP. DO NOT USE GRID GAINS FOR LAMINATED POLES.

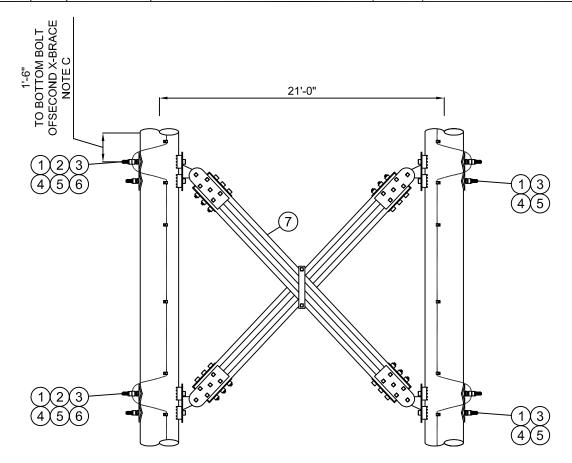
NOTE C: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

L	eemast Engineem		-					
	TRANSMISSION			STRUCTURE STANDARDS				
		CONSTRUCTION		345KV X-BRACING - 4 SETS OF X-BRACES				
	IBERDROLA	STANDARDS		28' POLE SPACING - 3-POLE STRUCTURE				
	USA	MANUAL	LAMINATED POLES					10/13/2015
ſ	Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TN/10 00 T	ΓQ-3W-M28-D	Sheet 1
Į	C. Gauvin 8/20/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	1 IVIZ.Z3. I	1 Q-377-17120-D	SHEELT
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO. QTY. UOM IUSA CU: U*PT-TQ-3W-X21-A									
1	8	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	4	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	8	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	8	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	8	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE					
6	4	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	1	ST	30924047	XBRC LAM 6 X 6-3/4" ASSY 21F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP.

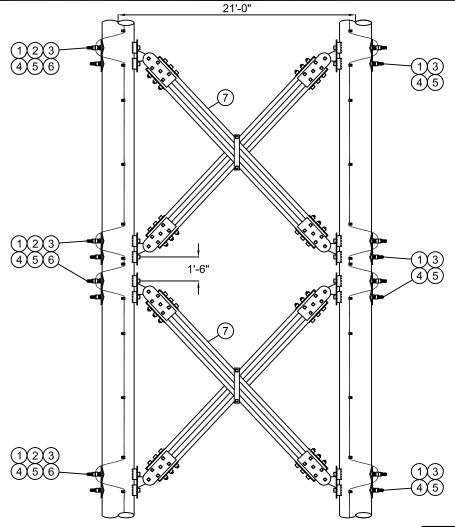
NOTE C: 345kV STRUCTURES USING 100' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES. THE X-BRACES SHALL BE SEPARATED BY 1'-6" PER THE DIMENSION ON THE DETAIL.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

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	TRANSMISSION		STF	STANDARDS		REVISION	
	CONSTRUCTION			BRACING		01	
IBERDROLA	STANDARDS			SPACING		DATE	
USA MANUAL			ROUND WOOD POLES				10/15/2015
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-3W-X2	1 A	Sheet 1
C. Gauvin 10/04/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	1 1V12.23.1 Q-3VV-X2	I-A	SHEELT
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM OTY. UOM IUSA MID CU: U*PT-TQ-3W-X21-B									
1	16	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	8	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	16	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	16	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	16	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE					
6	8	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	2	ST	30924047	XBRC LAM 6 X 6-3/4" ASSY 21F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP.

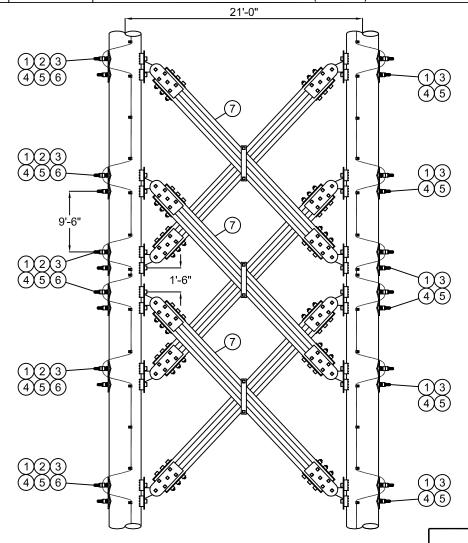
NOTE C: 345kV STRUCTURES USING 100' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

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I		TRANSMISSION		STRUCTURE STANDARDS					
1		CONSTRUCTION		345KV	X-BRACIN	IG - 2 X-BRACES	01		
	IBERDROLA	STANDARDS		21' POLE SPACING					
	USA	MANUAL	ROUND WOOD POLES						
ſ	Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-3W-X21-B	Sheet 1		
Į	C. Gauvin 10/15/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	11V12.23.1Q-3VV-A21-B	Sheet i		
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.									
1	24	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	12	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	24	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	24	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	24	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE					
6	12	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	3	ST	30924047	XBRC LAM 6 X 6-3/4" ASSY 21F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

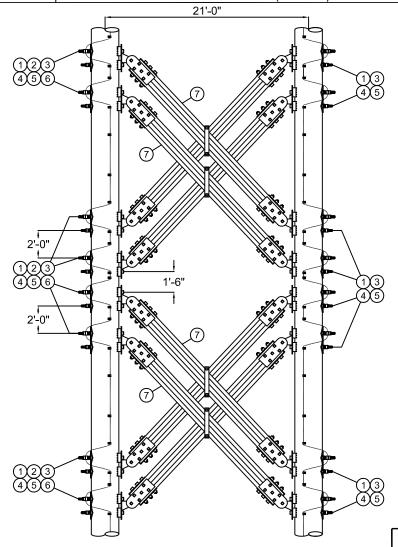
NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP.

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

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		TRANSMISSION		STRUCTURE STANDARDS					
1		CONSTRUCTION		345KV X-BRACING - 3 X-BRACES					
ı	IBERDROLA		21' POLE SPACING						
	USA	MANUAL		ROUND WOOD POLES					
T.	Orwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-3W-X21-C	Sheet 1		
	C. Gauvin 8/07/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	11V12.23.1Q-3VV-X21-C	SHEELI		

	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.									
1	32	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	2 16 ST 30919303 NUT SQ GALV FOR 7/8" BOLT								
3	32	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	32	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	32	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE					
6	16	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	4	ST	30924047	XBRC LAM 6 X 6-3/4" ASSY 21F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

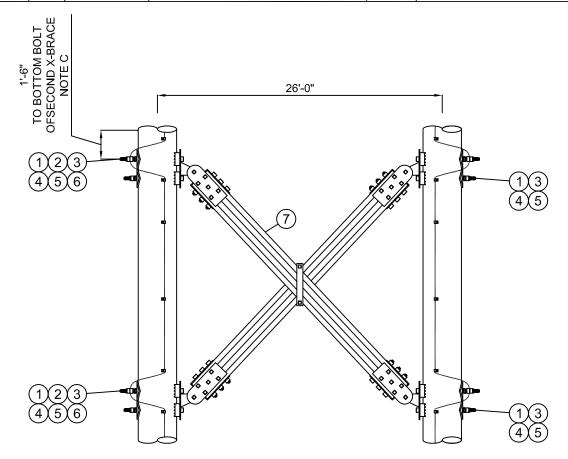
NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

444	TRANSMISSION		STRUCTURE STANDARDS					
	CONSTRUCTION		345KV	X-BRACIN	IG - 4 X-BRAC	ES	01	
'IBERDROLA	STANDARDS		21' POLE SPACING					
USA	MANUAL		ROUND WOOD POLES				10/15/2015	
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TN/12 22 -	ΓQ-3W-X21-D	Sheet 1	
C. Gauvin 10/17/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	1 1012.23.	1Q-3VV-AZ 1-D	Sileet I	

	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-3W-X26-A					
1	8	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	4	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	8	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	8	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	8	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE					
6	4	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	1	ST	30924048	XBRC LAM 6 X 6-3/4 ASSY 26F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP.

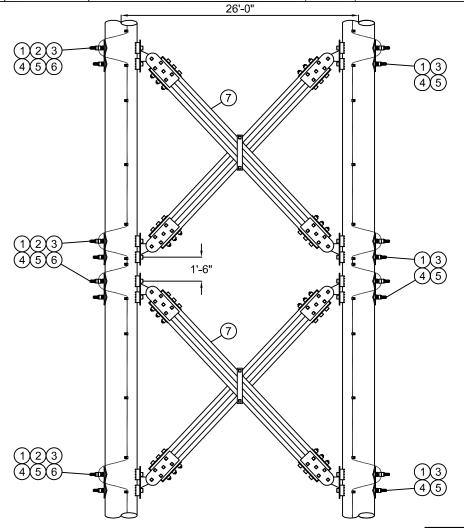
NOTE C: 345kV STRUCTURES USING 100' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES. THE X-BRACES SHALL BE SEPARATED BY 1'-6" PER THE DIMENSION ON THE DETAIL.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

- 1	oomaar _mgoom	.9						_
		TRANSMISSION		STF	STANDARDS		REVISION	
١		CONSTRUCTION		345KV X-BRACING				
-	IBERDROLA	STANDARDS				DATE		
1	USA	MANUAL		ROUND WOOD POLES				10/15/2015
	Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TNACOOT	Q-3W-X26-A	Sheet 1
	C. Gauvin 10/04/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	1 1012.23. 1	Q-311-A20-A	SHEELI
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.									
1	16	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	2 8 ST 30919303 NUT SQ GALV FOR 7/8" BOLT								
3	16	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	16	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	16	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE					
6	8	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	2	ST	30924048	XBRC LAM 6 X 6-3/4 ASSY 26F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP.

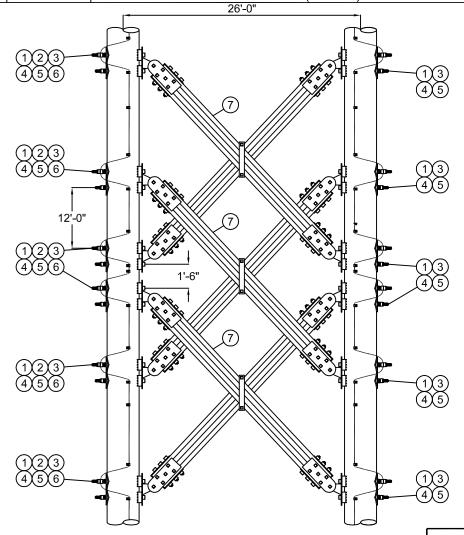
NOTE C: 345kV STRUCTURES USING 100' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

	9						
	TRANSMISSION		STF	STANDARDS	REVISION		
	CONSTRUCTION		345KV X-BRACING - 2 X-BRACES				
IBERDROLA	STANDARDS		26' POLE SPACING				
USA	MANUAL		ROUND WOOD POLES				
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2,23,TQ-3W-X26-B	Sheet 1	
C. Gauvin 10/16/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	1 W Z . Z 3 . 1 Q - 3 W - A 20 - B	SHEELI	
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.									
1	24	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	2 12 ST 30919303 NUT SQ GALV FOR 7/8" BOLT								
3	24	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	24	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	24	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE					
6	12	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	3	ST	30924048	XBRC LAM 6 X 6-3/4 ASSY 26F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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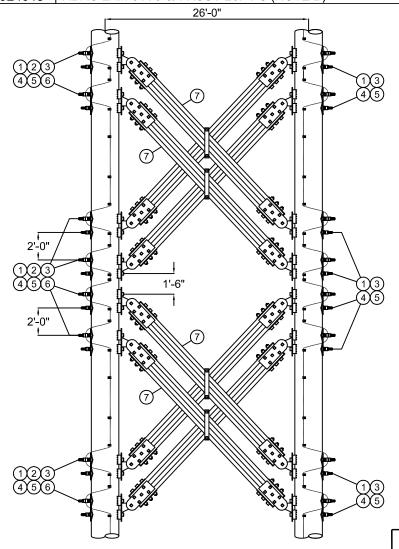
NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

		.9							
		TRANSMISSION		STRUCTURE STANDARDS					
9		CONSTRUCTION		345KV X-BRACING - 3 X-BRACES					
1	IBERDROLA			26' POLE	SPACING	DATE			
	USA	MANUAL		ROUND WOOD POLES			10/15/2015		
□	rwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-3W-X26-C	Sheet 1		
C	C. Gauvin 8/07/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	1 1V12.23. 1 Q-3VV-X20-C	SHEEL I		
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	иом	NYSEG MID	CU: U*PT-TQ-3W-X26-D					
1	32	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	16	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	32	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	32	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	32	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE					
6	16	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	4	ST	30924048	XBRC LAM 6 X 6-3/4 ASSY 26F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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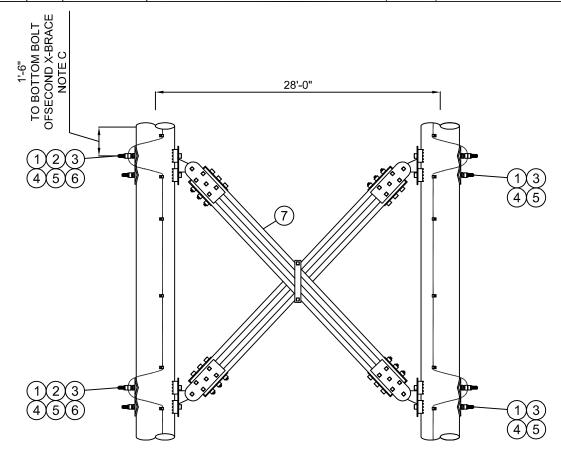
NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

444	TRANSMISSION		STRUCTURE STANDARDS					
	CONSTRUCTION		345KV	X-BRACIN	NG - 4 X-BRAC	ES	01	
IBERDROLA	STANDARDS		26' POLE SPACING					
USA	MANUAL		ROUND WOOD POLES			10/15/2015		
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TN42 22 -	ГQ-3W-X26-D	Sheet 1	
C. Gauvin 10/17/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	1 1012.23.	1Q-377-720-D	Sileet i	
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-3W-X28-A					
1	8	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	4	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	8	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	8	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	8	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE					
6	4	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	1	ST	30924046	XBRC LAM 5-1/8 X 7-1/2 ASSY 28F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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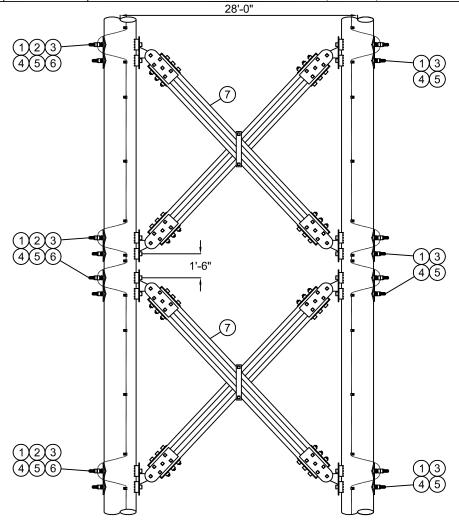
NOTE C: 345kV STRUCTURES USING 100' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES. THE X-BRACES SHALL BE SEPARATED BY 1'-6" PER THE DIMENSION ON THE DETAIL.

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

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		TRANSMISSION		STRUCTURE STANDARDS					
		CONSTRUCTION			345KV X-	BRACING	01		
	IBERDROLA	STANDARDS			SPACING	DATE			
	USA	MANUAL		ROUND WOOD POLES					
	Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-3W-X28-A	Sheet 1		
	C. Gauvin 10/04/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	11V12.23.1Q-3VV-A20-A	SHEELI		
ı									

	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-3W-X28-B					
1	16	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	8	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	16	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	16	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	16	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE					
6	8	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	2	ST	30924046	XBRC LAM 5-1/8 X 7-1/2 ASSY 28F PS (NOTE B)					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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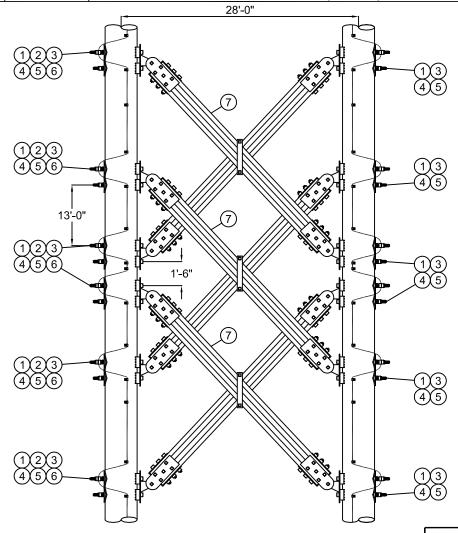
NOTE C: 345kV STRUCTURES USING 100' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES.

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

	TRANSMISSION		STF	RUCTURE	STANDARDS		REVISION	
	CONSTRUCTION		345KV X-BRACING - 2 X-BRACES					
BERDROLA	STANDARDS			28' POLE	SPACING		DATE	
USA	MANUAL		R	OUND WC	OD POLES		10/15/2015	
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TN40 00 -	TQ-3W-X28-B	Sheet 1	
C. Gauvin 10/16/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	1 1012.23.	I W-3VV-VZO-D	SHEELT	

	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	иом	IUSA MID	CU: U*PT-TQ-3W-X28-C					
1	24	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	12	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	24	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	24	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	24	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE					
6	12	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	3	ST	30924046	XBRC LAM 5-1/8 X 7-1/2 ASSY 28F PS (NOTE B)					



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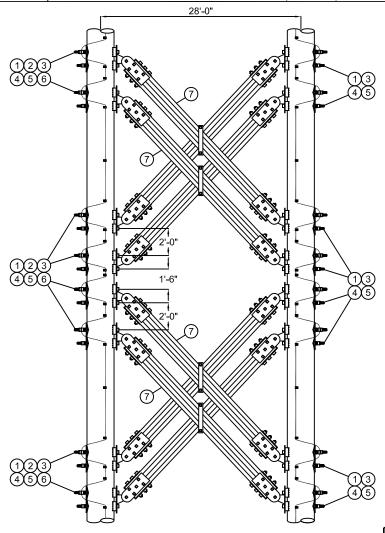
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Contact Engineering Standards - Transmission Section for the creation of new standards and CUs.

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1	XXX TRANSMISSION			STRUCTURE STANDARDS				
		CONSTRUCTION		345KV	IG - 3 X-BRACES	01		
IB	ERDROLA	STANDARDS		28' POLE SPACING				
U	SA	MANUAL		ROUND WOOD POLES				
Drwn	By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-3W-X28-C	Sheet 1	
C. Ga	uvin 8/13/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	11V12.23.1Q-3VV-A20-C	SHEELI	
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-3W-X28-D					
1	32	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	16	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	32	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	32	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	32	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE					
6	16	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	4	ST	30924046	XBRC LAM 5-1/8 X 7-1/2 ASSY 28F PS (NOTE B)					



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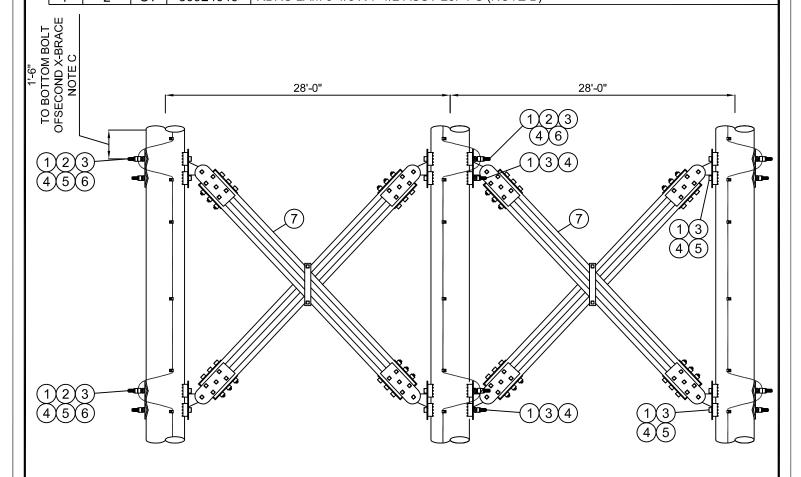
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Contact Engineering Standards - Transmission Section for the creation of new standards and CUs.

	9						
	TRANSMISSION		STF	STANDARDS	REVISION		
	CONSTRUCTION		345KV X-BRACING - 4 X-BRACES				
IBERDROLA	STANDARDS		28' POLE SPACING				
USA	MANUAL	ROUND WOOD POLI		OOD POLES	10/15/2015		
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-3W-X28-D	Sheet 1	
C. Gauvin 8/13/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	11V12.23.1Q-3VV-A20-D	SHEELI	

	BILL OF MATERIAL (CU Type: POLE)							
ITEM NO.	QTY.	иом	IUSA MID	CU: U*PT-TQ-3W-Y28-A				
1	12	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT				
2	6	ST	30919303	NUT SQ GALV FOR 7/8" BOLT				
3	12	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)				
4	12	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"				
5	8	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE				
6	6	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE				
7	2	ST	30924046	XBRC LAM 5-1/8 X 7-1/2 ASSY 28F PS (NOTE B)				



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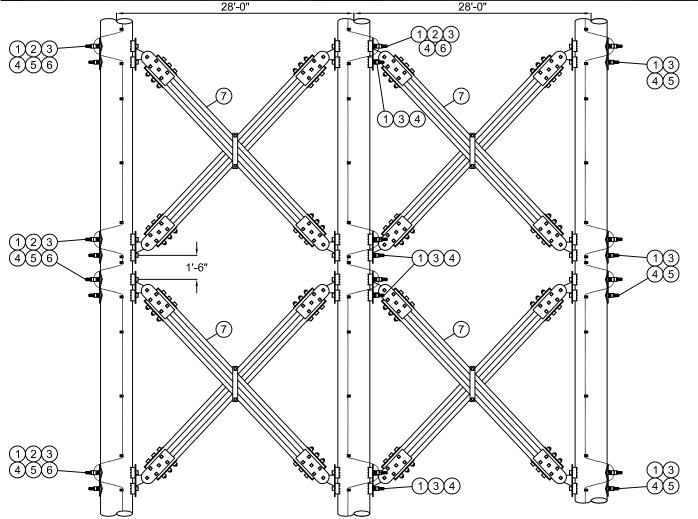
NOTE C: 345kV STRUCTURES USING 100' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES. THE X-BRACES SHALL BE SEPARATED BY 1'-6" PER THE DIMENSION ON THE DETAIL.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

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	444	TRANSMISSION		STRUCTURE STANDARDS					
		CONSTRUCTION		345KV X-BRACING					
ı	BERDROLA STANDARDS			28' POLE SPACING - 3-POLE STRUCTURE					
	USA	MANUAL		ROUND WOOD POLES			10/15/2015		
_ [ī	Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-3W-Y28-A	Sheet 1		
	C. Gauvin 8/15/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	11V12.23.1Q-3VV-120-A	SHEELI		

	BILL OF MATERIAL (CU Type: POLE)										
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-3W-Y28-B							
1	24	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT							
2	12	ST	30919303 NUT SQ GALV FOR 7/8" BOLT								
3	24	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)							
4	24	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"							
5	16	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE							
6	12	ST	30923809	923809 CLAMP GRND WIRE U-CLIP 15/16 IN HOLE							
7	4	ST	30924046	XBRC LAM 5-1/8 X 7-1/2 ASSY 28F PS (NOTE B)							



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NOTE C: 345kV STRUCTURES USING 100' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES.

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

STRUCTURE STANDARDS REVISION 345KV X-BRACING - 2 SETS OF X-BRACES 01 28' POLE SPACING - 3-POLE STRUCTURE DATE 10/15/2015

MANUAL ROUND WOOD POLES Date App.:

TM2.23.TQ-3W-Y28-B

Sheet 1

Drawing Scale: 1" = 6'

Drwn By: Date Dr.: C. Gauvin 8/19/2014

IBERDROLA

Checked By: Date Ck.: Becken/Hart 3/05/2015

TRANSMISSION

CONSTRUCTION

STANDARDS

Approved By: Barry R. Hart

4/02/2015

BILL OF MATERIAL (CU Type: POLE)
ITEM OTY HOM IUSA CLI- LI*DT TO 3\M V29 C
Tio.
1 36 ST 30919294 NUT LOCK M-F SQ FOR 7/8" BOLT
3 36 ST 30919196 BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)
4 36 ST 30919328 WSHR LCK 2 TURN SPR GALV 7/8"
5 24 ST 30919393 WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE
6 18 ST 30923809 CLAMP GRND WIRE U-CLIP 15/16 IN HOLE
7 6 ST 30924046 XBRC LAM 5-1/8 X 7-1/2 ASSY 28F PS (NOTE B)
28'-0" 28'-0"
123 456 7 123 456 13-0" 7 123 456 11-6" 7 134 134 134 134 134 134 134 134
123 (134)

FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

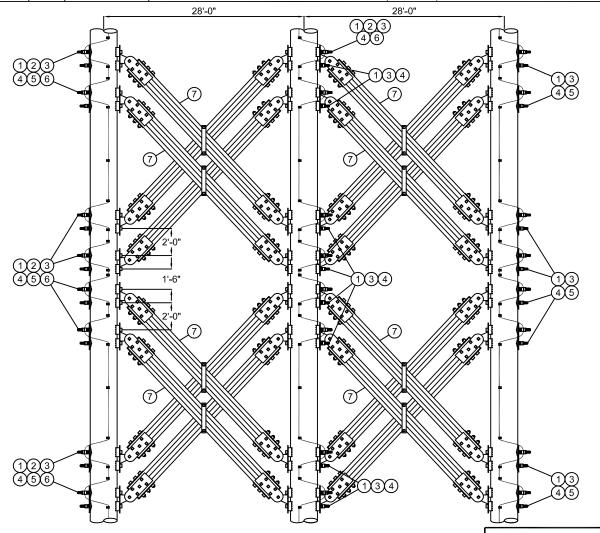
NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

	TRANSMISSION		STF	RUCTURE	STANDARDS	REVISION
	CONSTRUCTION		345KV X-BF	RACING - 3	S SETS OF X-BRACES	01
'IBERDROLA	STANDARDS		28' POLE S	PACING -	3-POLE STRUCTURE	DATE
USA	MANUAL		R	OUND WO	OOD POLES	10/15/2015
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-3W-Y28-C	Sheet 1
C. Gauvin 8/19/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	1 1 1 1 2 . 2 3 . 1 Q - 3 V V - 1 2 6 - C	SHEELI
			•		<u> </u>	

	BILL OF MATERIAL (CU Type: POLE)										
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-3W-Y28-D							
1	48	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT							
2	24	ST	30919303	NUT SQ GALV FOR 7/8" BOLT							
3	48	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)							
4	48	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"							
5	32	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE							
6	24	ST	T 30923809 CLAMP GRND WIRE U-CLIP 15/16 IN HOLE								
7	8	ST	30924046	XBRC LAM 5-1/8 X 7-1/2 ASSY 28F PS (NOTE B)							



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

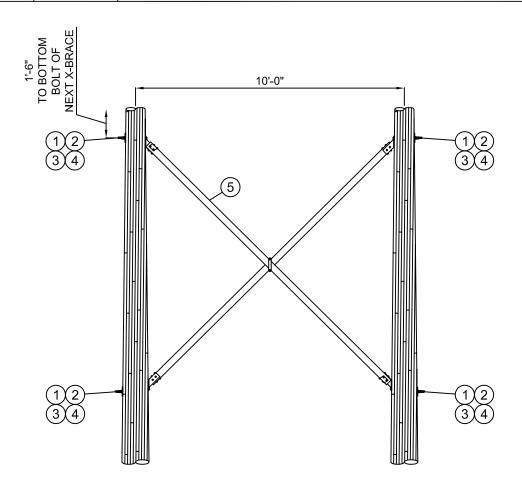
NOTE B: X-BRACE ASSEMBLY (ITEM #7) INCLUDES X-BRACE, MOUNTING TEES, GRID GAINS, CENTER PINS AND CENTER CLAMP.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

444	TRANSMISSION		STF	RUCTURE	STANDARDS	REVISION
	CONSTRUCTION		345KV X-BF	RACING - 4	SETS OF X-BRACES	01
'IBERDROLA	STANDARDS		28' POLE S	PACING -	3-POLE STRUCTURE	DATE
USA	MANUAL		R	OUND WO	OOD POLES	10/15/2015
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-3W-Y28-D	Sheet 1
C. Gauvin 8/19/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	1 W Z . Z 3 . 1 Q - 3 W - 1 Z 6 - D	SHEELI
					<u> </u>	

BILL OF MATERIAL (CU Type: POLE)											
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-5W-L10-A							
1	4	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT							
2	4	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)							
3	4	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"							
4	4	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE							
5	1	ST	30924053	XBRC WD 10F PS							



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

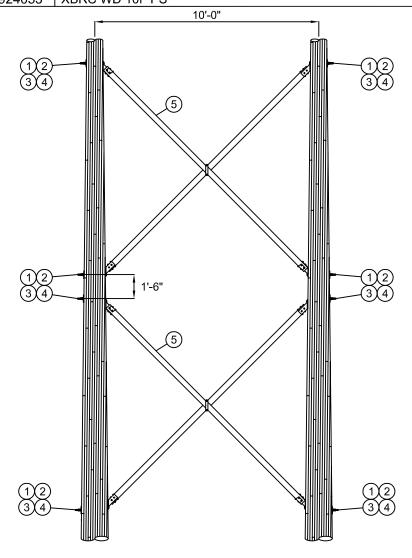
NOTE C: 35kV, 46kV, AND 69kV STRUCTURES USING 60' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

444	TRANSMISSION		STF	RUCTURE	STANDARDS		REVISION
	CONSTRUCTION		35K\	//46kV/69k	kV X-BRACING	3	01
IBERDROLA	STANDARDS		10' POLE SI	PACING - I	MAINTENANC	E ONLY	DATE
USA	MANUAL		LAM	IINATED V	VOOD POLES		10/13/2015
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TN/2 22 -	ΓQ-5W-L10-A	Sheet 1
C. Gauvin 10/10/2012	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	11012.23.	1Q-3VV-L1U-A	Sileet i
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BILL OF MATERIAL (CU Type: POLE)										
ITEM NO.	QTY.	UOM	NYSEG MID	CU: U*PT-TQ-5W-L10-B						
1	8	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT						
2	8	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)						
3	8	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"						
4	8	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE						
5	2	T2	30924053	XBRC WD 10F PS						



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

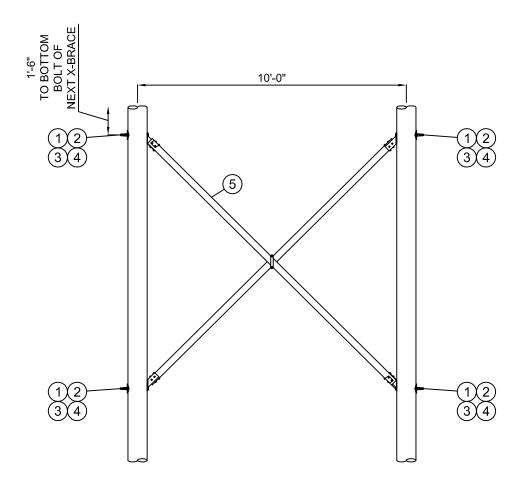
NOTE B: 35 kV, 46 kV, AND 69 kV STRUCTURES USING 60° LONG POLES OR LONGER REQUIRE (2) CROSS BRACES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

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ſ		TRANSMISSION		STF	RUCTURE	STANDARDS	REVISION
		CONSTRUCTION		35KV/46kV/	69kV X-BR	ACING - 2 X-BRACES	01
	IBERDROLA	STANDARDS			10' POLE	SPACING	DATE
	USA	MANUAL			LAMINATE	ED POLES	10/13/2015
ſ	Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2,23,TQ-5W-L10-B	Sheet 1
Į	C. Gauvin 10/11/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	1	SHEEL I
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BILL OF MATERIAL (CU Type: POLE)											
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-5W-X10-A							
1	4	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT							
2	4	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)							
3	4	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"							
4	4	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE							
5	1	ST	30924053	XBRC WD 10F PS							



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*).

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

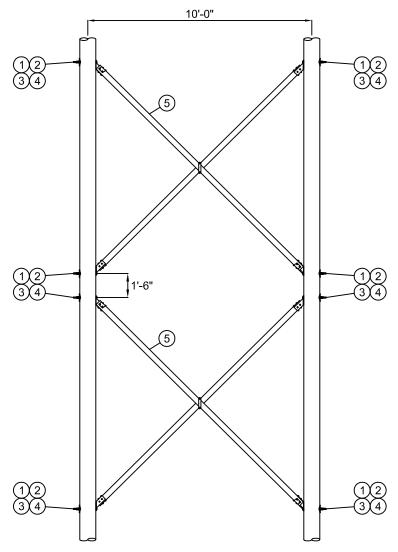
NOTE B: 35kV, 46kV, AND 69kV STRUCTURES USING 60' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

L	oomaar Ingilioon	.9			,		3	_
ſ		TRANSMISSION		STF	RUCTURE	STANDARDS		REVISION
		CONSTRUCTION		35KV/46kV/69kV X-BRACING				
ı	IBERDROLA	STANDARDS 10' POLE SPACING - MAINTENANCE					E ONLY	DATE
	USA	MANUAL				OOD POLES		10/28/2015
ſ	Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TN/12 22 -	ΓQ-5W-X10-A	Sheet 1
Į	C. Gauvin 10/10/2012	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	1 1012.23.	1Q-3VV-X 1U-A	SHEELI
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	BILL OF MATERIAL (CU Type: POLE)										
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-5W-X10-B							
1	8	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT							
2	8	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)							
3	8	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"							
4	8	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE							
5	2	ST	30924053	XBRC WD 10F PS							



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

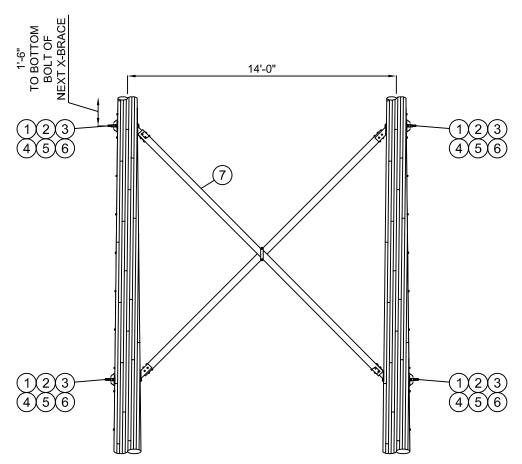
NOTE B: 35 kV, 46 kV, AND 69 kV STRUCTURES USING 60° LONG POLES OR LONGER REQUIRE (2) CROSS BRACES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

3 31.116.31		.g Ctarraarac rransmiss			,			_
444		TRANSMISSION		STRUCTURE STANDARDS				
		CONSTRUCTION	35KV/46kV/69kV X-BRACING - 2 X-BRACES			BRACES	01	
BERD	ROLA	STANDARDS		10' POLE SPACING				
USA		MANUAL		R	OUND WC	OD POLES		10/28/2015
Drwn. By: D	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TN/12 22 -	TQ-5W-X10-B	Sheet 1
C. Gauvin 10	/10/2012	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	1 1012.23.	1 Q-017-N 10-D	SHEELT
<u> </u>		·		-		•	•	

	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-9W-L14-A					
1	4	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	4	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	4	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	4	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	4	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE					
6	4	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	1	ST	30924054	XBRC WD 14F PS					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U * _).

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

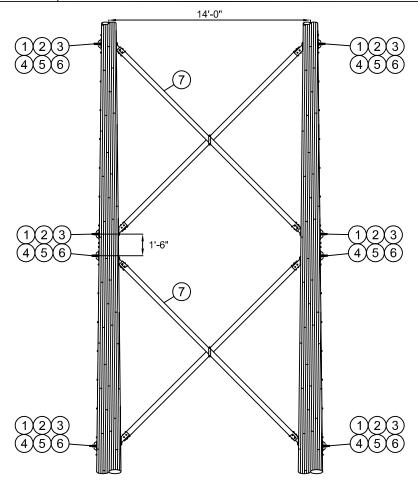
NOTE B: 69kV AND 115KV STRUCTURES USING 75' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

	<u> </u>						
	TRANSMISSION	STRUCTURE STANDARDS			STANDARDS		REVISION
	CONSTRUCTION		69KV & 115KV X-BRACING				01
IBERDROLA	STANDARDS	ARDS 14' POL			SPACING		DATE
USA	MANUAL			LAMINATE	ED POLES		10/13/2015
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TN40 00 -		Sheet 1
C. Gauvin 10/04/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	1 1012.23.	ΓQ-9W-L14-A	Sheet i

	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	иом	IUSA MID	CU: U*PT-TQ-9W-L14-B					
1	8	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	8	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	8	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	8	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	8	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE					
6	8	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	2	ST	30924054	XBRC WD 14F PS					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

NOTE B: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

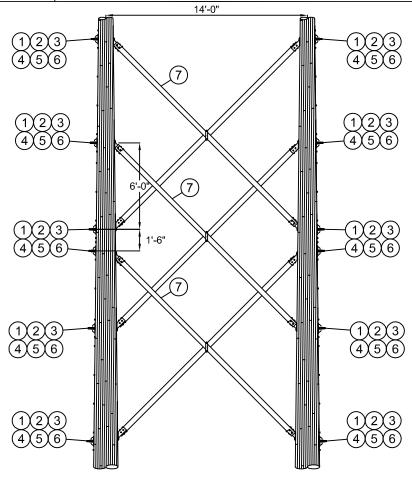
NOTE C: $69 \mathrm{kV}$ AND 115KV STRUCTURES USING 75' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

L		9				9		
ſ		TRANSMISSION		STRUCTURE STANDARDS				
	CONSTRUCTION			69KV & 115KV X-BRACING - 2 X-BRACES				
	IBERDROLA	STANDARDS		14' POLE SPACING				
	USA	MANUAL			LAMINATE	ED POLES	10/13/2015	
ſ	Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2,23,TQ-9W-L14-B	Sheet 1	
Į	C. Gauvin 10/17/2013	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	1 W Z . Z 3 . 1 Q - 9 W - L 14 - B	SHEELI	
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-9W-L14-C					
1	12	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	12	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	12	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	12	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	12	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE					
6	12	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	3	ST	30924054	XBRC WD 14F PS					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

NOTE B: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

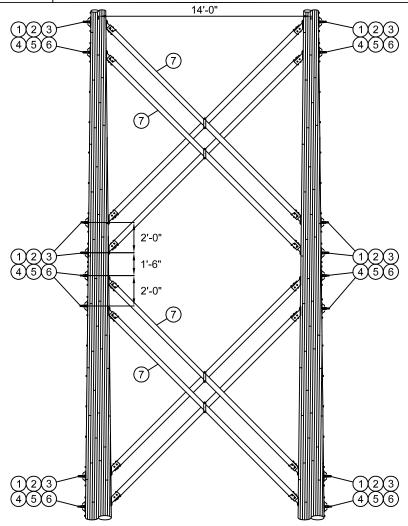
NOTE C: $69 \mathrm{kV}$ AND $115 \mathrm{KV}$ STRUCTURES USING 75° LONG POLES OR LONGER REQUIRE (2) CROSS BRACES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

L		.9				3		
ſ		LANSMISSION		STRUCTURE STANDARDS				
	CONSTRUCTION			69KV & 115KV X-BRACING - 3 X-BRACES				
	IBERDROLA	SERDROLA STANDARDS		14' POLE SPACING				
	USA	MANUAL			LAMINATE	ED POLES	10/14/2015	
ſ	Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-9W-L14-C	Sheet 1	
Į	C. Gauvin 7/24/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	11V12.23.1Q-9VV-L14-C	SHEELI	
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-9W-L14-D					
1	16	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	16	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	16	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	16	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	16	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE					
6	16	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	4	ST	30924054	XBRC WD 14F PS					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

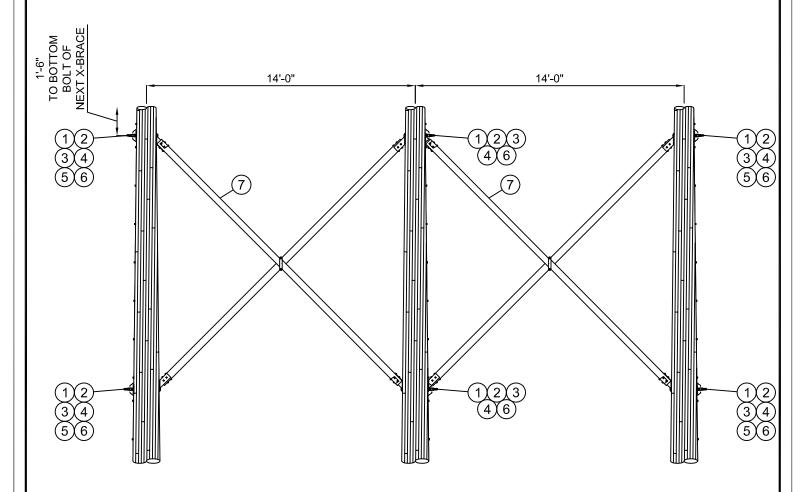
NOTE B: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

	9				······································		
	TRANSMISSION		STRUCTURE STANDARDS				
	CONSTRUCTION		69KV & 115KV X-BRACING - 4 X-BRACES				
IBERDROLA	STANDARDS	14' POLE SPACING				DATE	
USA	MANUAL			LAMINATE	D POLES	10/14/2015	
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.	TM2.23.TQ-9W-L14-D	Sheet 1	
C. Gauvin 7/28/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	11012.23.1Q-900-L14-D	Sheet i	

	BILL OF MATERIAL (CU Type: POLE)									
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-9W-M14-A						
1	6	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT						
2	6	ST	30919303	NUT SQ GALV FOR 7/8" BOLT						
3	6	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)						
4	6	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"						
5	4	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE						
6	6	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE						
7	2	ST	30924054	XBRC WD 14F PS						



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U * _).

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

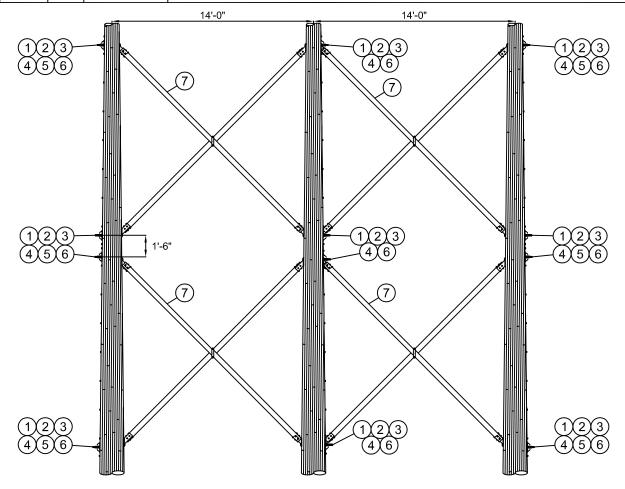
NOTE B: 69kV AND 115KV STRUCTURES USING 75' LONG POLES OR LONGER REQUIRE (2) SETS OF CROSS BRACES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

3 3a 3 3 3	.9						_
444	TRANSMISSION	STRUCTURE STANDARDS				REVISION	
	CONSTRUCTION		69KV & 115KV X-BRACING				01
IBERDROLA	BERDROLA STANDARDS		14' POLE SPACING - 3-POLE STRUCTURE				DATE
USA	MANUAL				ED POLES		10/14/2015
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TN/12 22 7	TQ-9W-M14-A	Sheet 1
C. Gauvin 8/14/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	I IVIZ.Z3. I	Q-911-N-14-A	SHEELI
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-9W-M14-B					
1	12	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	12	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	12	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	12	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	8	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE					
6	12	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	4	ST	30924054	XBRC WD 14F PS					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

NOTE B: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

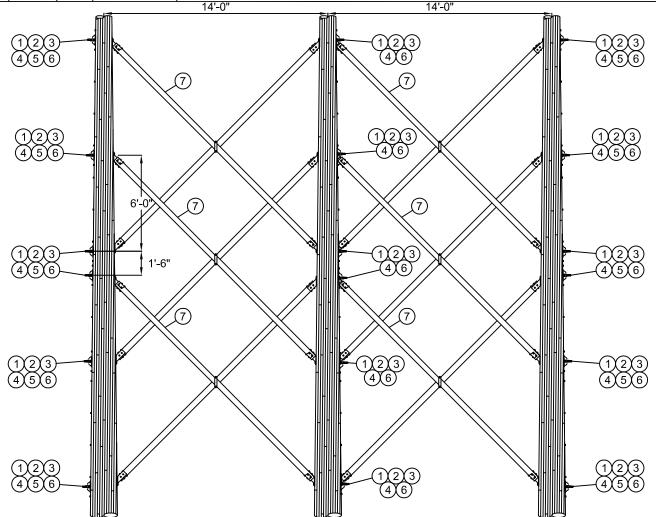
NOTE C: $69 \mathrm{kV}$ AND 115KV STRUCTURES USING 75' LONG POLES OR LONGER REQUIRE (2) SETS OF CROSS BRACES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

444		TRANSMISSION		STRUCTURE STANDARDS				
	CONSTRUCTION		6	69KV & 115KV X-BRACING - 2 SETS OF X-BRACES				01
'IBER	'IBERDROLA STAN		14' POLE SPACING - 3-POLE STRUCTURE			DATE		
USA		MANUAL		LAMINATED POLES			10/14/2015	
Drwn By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TN/2 22 7	Q-9W-M14-B	Sheet 1
C. Gauvin	8/14/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	I IVIZ.Z3. I	Q-31111114-D	SHEELI

	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	иом	IUSA MID	CU: U*PT-TQ-9W-M14-C					
1	18	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	18	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	18	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	18	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	12	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE					
6	18	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	6	ST	30924054	XBRC WD 14F PS					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

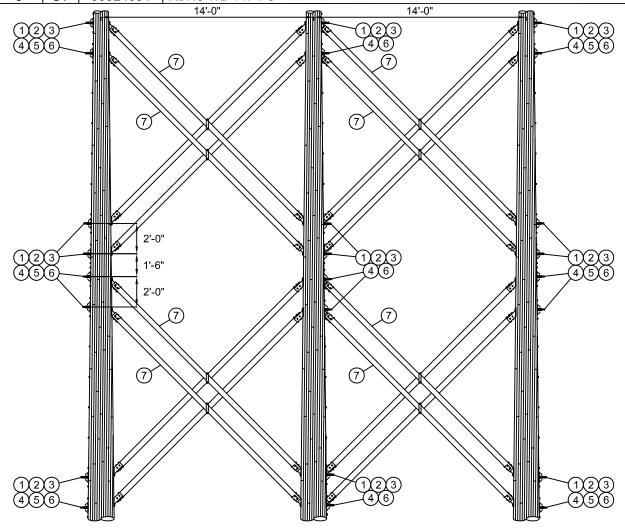
NOTE B: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

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	TRANSMISSION		STRUCTURE STANDARDS				REVISION
	69KV & 115KV X-BRACING - 3 SETS OF X-BRACES				01		
IBERDROLA	STANDARDS	14' POLE SPACING - 3-POLE STRUCTURE				DATE	
USA	MANUAL		LAMINATED POLES			10/14/2015	
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TNAO OO T	ГQ-9W-M14-C	Sheet 1
C. Gauvin 8/14/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/03/2015	1 1012.23.1	Q-977-17114-C	Sheet i

	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	иом	IUSA MID	CU: U*PT-TQ-9W-M14-D					
1	24	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	24	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	24	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	24	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	16	ST	30919368	WSHR FLAT 4 SQ 1/4 THK 15/16 HOLE					
6	24	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	8	ST	30924054	XBRC WD 14F PS					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

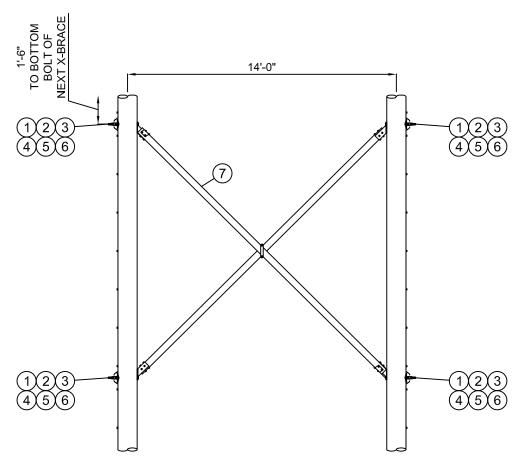
NOTE B: IF THE LAMINATED WOOD POLES HAVE A SPLICE AND THE ABOVE DIMENSIONS CAUSE X-BRACE MOUNTING BOLTS TO BE WITHIN 12" OF THE SPLICE PLATES THE INSTALLATION LOCATION OF THE X-BRACES SHALL BE FIELD MODIFIED DOWN THE POLE SUCH THAT THE NEAREST X-BRACE MOUNTING BOLT IS 12" FROM THE SPLICE PLATES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

444	TRANSMISSION		STRUCTURE STANDARDS					
	CONSTRUCTION		69KV & 115KV X-BRACING - 4 SETS OF X-BRACES					
BERDROLA	STANDARDS	14' POLE SPACING - 3-POLE STRUCTURES				DATE		
USA	MANUAL		LAMINATED POLES			10/14/2015		
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-9W-M14-D	Sheet 1		
C. Gauvin 8/14/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	1 MZ.23. 1 Q-977-M 14-D	SHEELI		
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-9W-X14-A					
1	4	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	4	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	4	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	4	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	4	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE					
6	4	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	1	ST	30924054	XBRC WD 14F PS					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

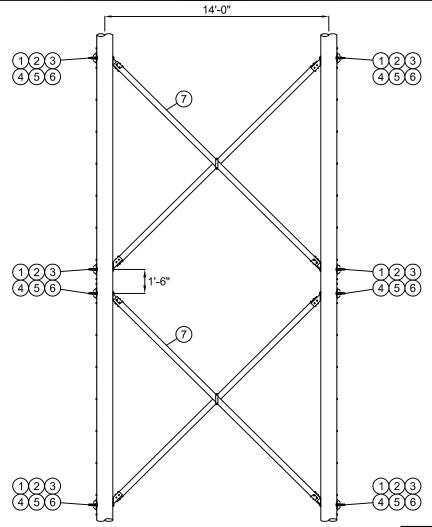
NOTE B: 69kV AND 115KV STRUCTURES USING 75' LONG POLES OR LONGER REQUIRE (2) CROSS BRACES.

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

	<u> </u>						
	TRANSMISSION		STRUCTURE STANDARDS				REVISION
	CONSTRUCTION 69KV & 115KV X-BRAC			√ X-BRACING		01	
IBERDROLA	STANDARDS	14' POLE SPACING				DATE	
USA	MANUAL		ROUND WOOD POLES				10/28/2015
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TN/12 22 -	ΓQ-9W-X14-A	Sheet 1
C. Gauvin 10/03/2012	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	11012.23.	1Q-9VV-X 14-A	Sheet i

	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	иом	IUSA MID	CU: U*PT-TQ-9W-X14-B					
1	8	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	8	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	8	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	8	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	8	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE					
6	8	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	2	ST	30924054	XBRC WD 14F PS					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

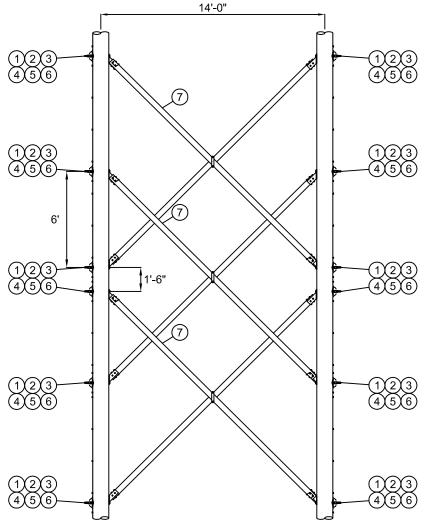
NOTE B: $69 \mathrm{kV}$ AND $115 \mathrm{KV}$ STRUCTURES USING 75° LONG POLES OR LONGER REQUIRE (2) CROSS BRACES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

Contact Engineerii	ig Ctarraarac Transmissi	000	ioi tiio oroation e	or mow otam	daras ana 556.	ŭ	
	TRANSMISSION	STRUCTURE STANDARDS					
CONSTRUCTION			69KV & 115KV X-BRACING - 2 X-BRACES				
IBERDROLA	STANDARDS	14' POLE SPACING					
USA	MANUAL		ROUND WOOD POLES				
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-9W-X14-B	Sheet 1	
C. Gauvin 10/10/2012	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	11V12.23.1Q-9VV-X14-B	SHEELI	
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-9W-X14-C					
1	12	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	12	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	12	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	12	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	12	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE					
6	12	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	3	ST	30924054	XBRC WD 14F PS					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

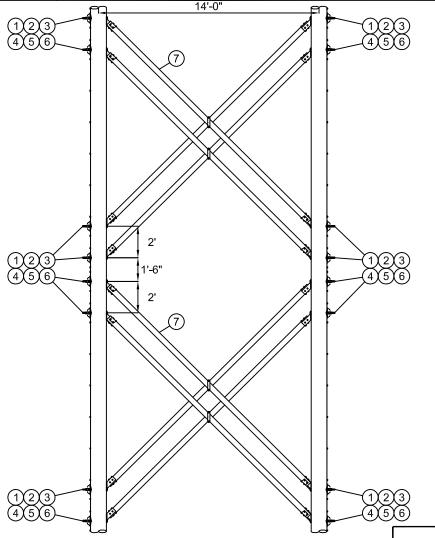
NOTE A: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE DIAMETER OF THE POLE USED. SUBSTITUTE MATERIAL ID (MID) ON THE WORK ORDER COMPONENTS PAGE FOR THE LENGTH NEEDED IF DIFFERENT THAN THE GENERIC LENGTH SHOWN IN THE BILL OF MATERIALS. CONTACT ENGINEERING STANDARDS - TRANSMISSION SECTION IF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

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

L	e a maior a mge a m	.9					3	-
	TRANSMISSION			STRUCTURE STANDARDS				
	CONSTRUCTION			69KV & 115KV X-BRACING - 3 X-BRACES				01
	BERDROLA STANDARDS		14' POLE SPACING				DATE	
	USA	MANUAL	ROUND WOOD POLES				10/28/2015	
ſ	Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TN/10 00 7	ΓQ-9W-X14-C	Sheet 1
Į	C. Gauvin 7/24/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	I IVIZ.Z3.	1 Q-977-X 14-C	SHEELI
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	иом	IUSA MID	CU: U*PT-TQ-9W-X14-D					
1	16	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	16	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	16	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	16	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	16	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE					
6	16	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	4	ST	30924054	XBRC WD 14F PS					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U * _).

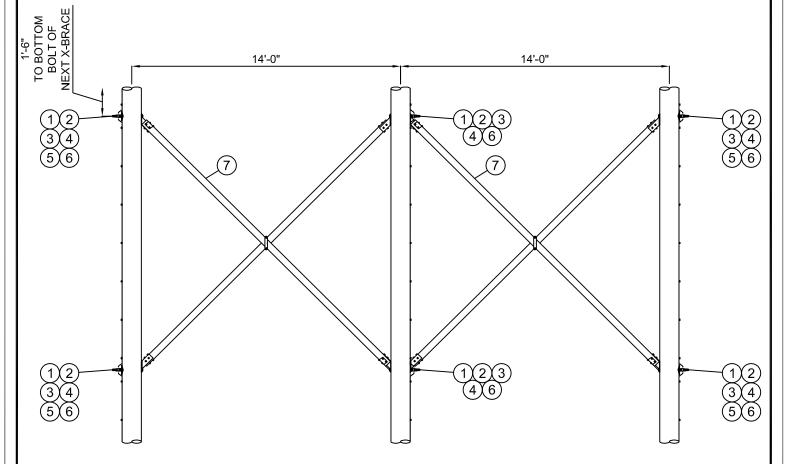
NOTE A: LARGER OR SMALLER BOLTS MAY BE REQUIRED DEPENDING ON THE DIAMETER OF THE POLE USED. SUBSTITUTE MATERIAL ID (MID) ON THE WORK ORDER COMPONENTS PAGE FOR THE LENGTH NEEDED IF DIFFERENT THAN THE GENERIC LENGTH SHOWN IN THE BILL OF MATERIALS. CONTACT ENGINEERING STANDARDS - TRANSMISSION SECTION IF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

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

L	eemast Engineem								
I		TRANSMISSION	STRUCTURE STANDARDS 69KV & 115KV X-BRACING - 4 X-BRACES					REVISION	
ı		CONSTRUCTION						01	
1	IBERDROLA	STANDARDS	14' POLE SPACING					DATE	
	USA	ISA MANUAL		ROUND WOOD POLES				10/28/2015	
Γ	Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TN/12 22 7	ΓQ-9W-X14-D	Sheet 1	
Į	C. Gauvin 7/24/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	1 1012.23.	1Q-977-X 14-D	SHEELT	
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BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-9W-Y14-A				
1	6	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT				
2	6	ST	30919303	NUT SQ GALV FOR 7/8" BOLT				
3	6	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)				
4	6	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"				
5	4	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE				
6	6	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE				
7	2	ST	30924054	XBRC WD 14F PS				



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*).

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

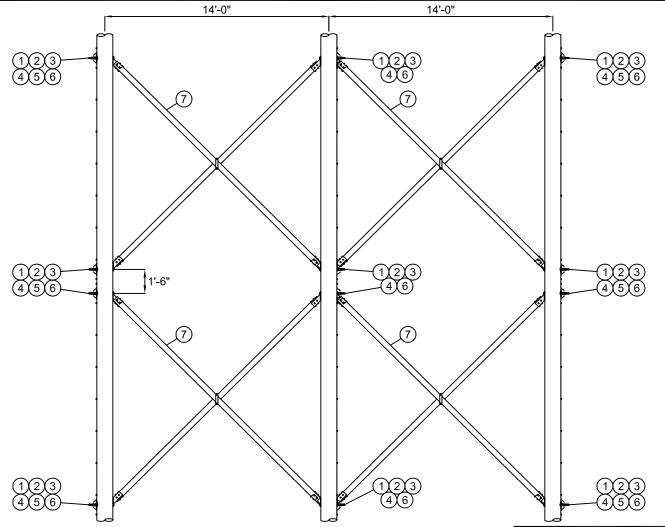
NOTE B: 69kV AND 115KV STRUCTURES USING 75' LONG POLES OR LONGER REQUIRE (2) SETS OF CROSS BRACES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

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1	TRANSMISSION		STRUCTURE STANDARDS				
	CONSTRUCTION	69KV & 115KV X-BRACING					
IBERDROLA	STANDARDS	14' POLE SPACING - 3-POLE STRUCTURE					
USA	MANUAL	ROUND WOOD POLES				10/28/2015	
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-9W-Y14-A	Sheet 1	
C. Gauvin 8/15/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	11V12.23.1Q-9VV-114-A	SHEELI	

	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-9W-Y14-B					
1	12	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	12	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	12	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	12	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	8	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE					
6	12	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	4	ST	30924054	XBRC WD 14F PS					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

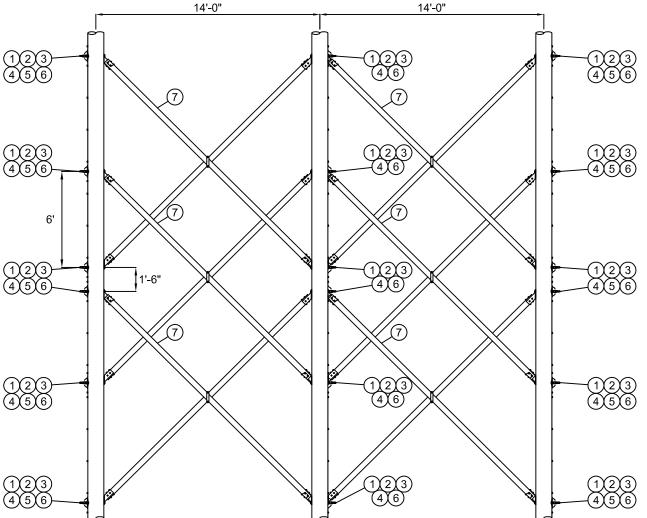
NOTE B: $69 \mathrm{kV}$ AND 115KV STRUCTURES USING 75' LONG POLES OR LONGER REQUIRE (2) SETS OF CROSS BRACES.

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

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	TRANSMISSION		STRUCTURE STANDARDS					
	CONSTRUCTION	6	69KV & 115KV X-BRACING - 2 SETS OF X-BRACES					
IBERDROLA	STANDARDS		14' POLE SPACING - 3-POLE STRUCTURES					
USA	MANUAL	ROUND WOOD POLES					10/28/2015	
Drwn. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-9W-Y14-B		Sheet 1	
C. Gauvin 8/15/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015	1 1012.23.	IQ-9VV-114-D	Sheet i	
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	BILL OF MATERIAL (CU Type: POLE)								
ITEM NO.	QTY.	UOM	IUSA MID	CU: U*PT-TQ-9W-Y14-C					
1	18	ST	30919294	NUT LOCK M-F SQ FOR 7/8" BOLT					
2	18	ST	30919303	NUT SQ GALV FOR 7/8" BOLT					
3	18	ST	30919196	BOLT SQHD GALV SQNT 7/8 X 22 (NOTE A)					
4	18	ST	30919328	WSHR LCK 2 TURN SPR GALV 7/8"					
5	12	ST	30919393	WSHR CRVD CAST 4 SQ 7/16 THK 15/16 HOLE					
6	18	ST	30923809	CLAMP GRND WIRE U-CLIP 15/16 IN HOLE					
7	6	ST	30924054	XBRC WD 14F PS					



FOR CORRECT CU: SUBSTITUTE 2 FOR NYSEG, 3 FOR CMP OR 4 FOR RG&E IN PLACE OF ASTERISK (U*_).

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

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

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

	44	TRANSMISSION	STRUCTURE STANDARDS					REVISION	
		CONSTRUCTION	69KV & 115KV X-BRACING - 3 SETS OF X-BRACES						
'IE	BERDROLA	STANDARDS		14' POLE SPACING - 3-POLE SPACING					
U	SA	MANUAL	ROUND WOOD POLES				10/28/2015		
Drwi	n. By: Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TQ-9W-Y14-C		Sheet 1	
C. G	auvin 8/15/2014	Becken/Hart	3/05/2015	Barry R. Hart	4/02/2015			Sileeti	

