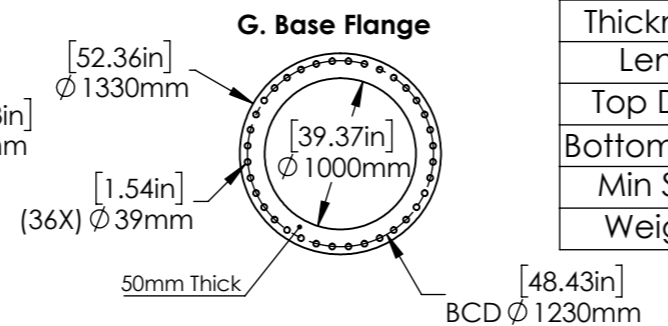
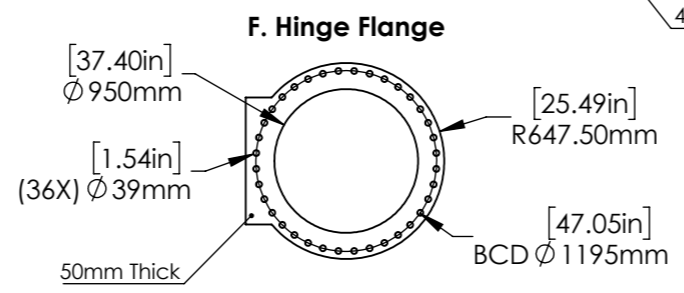
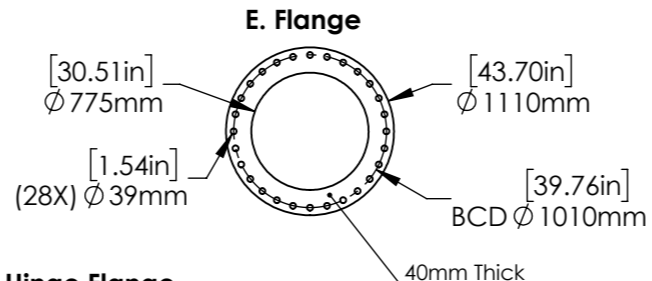
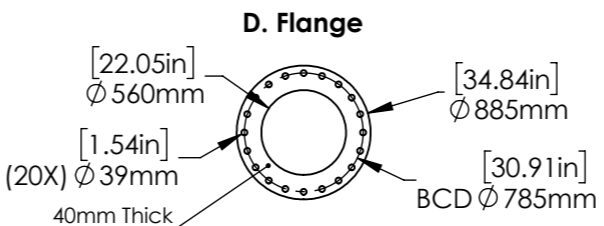
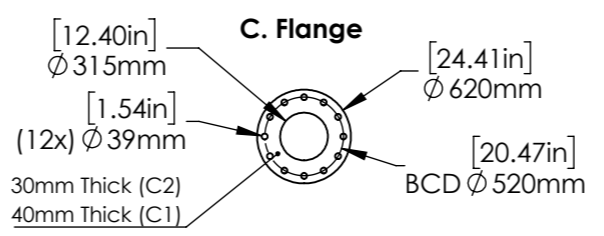
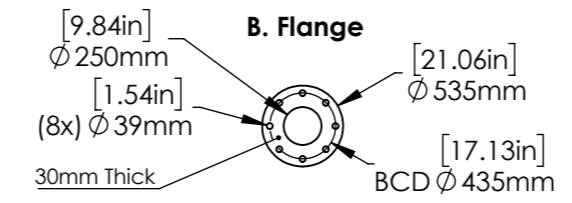
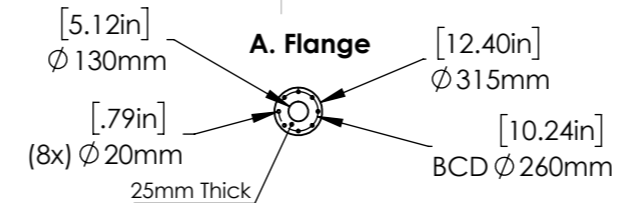
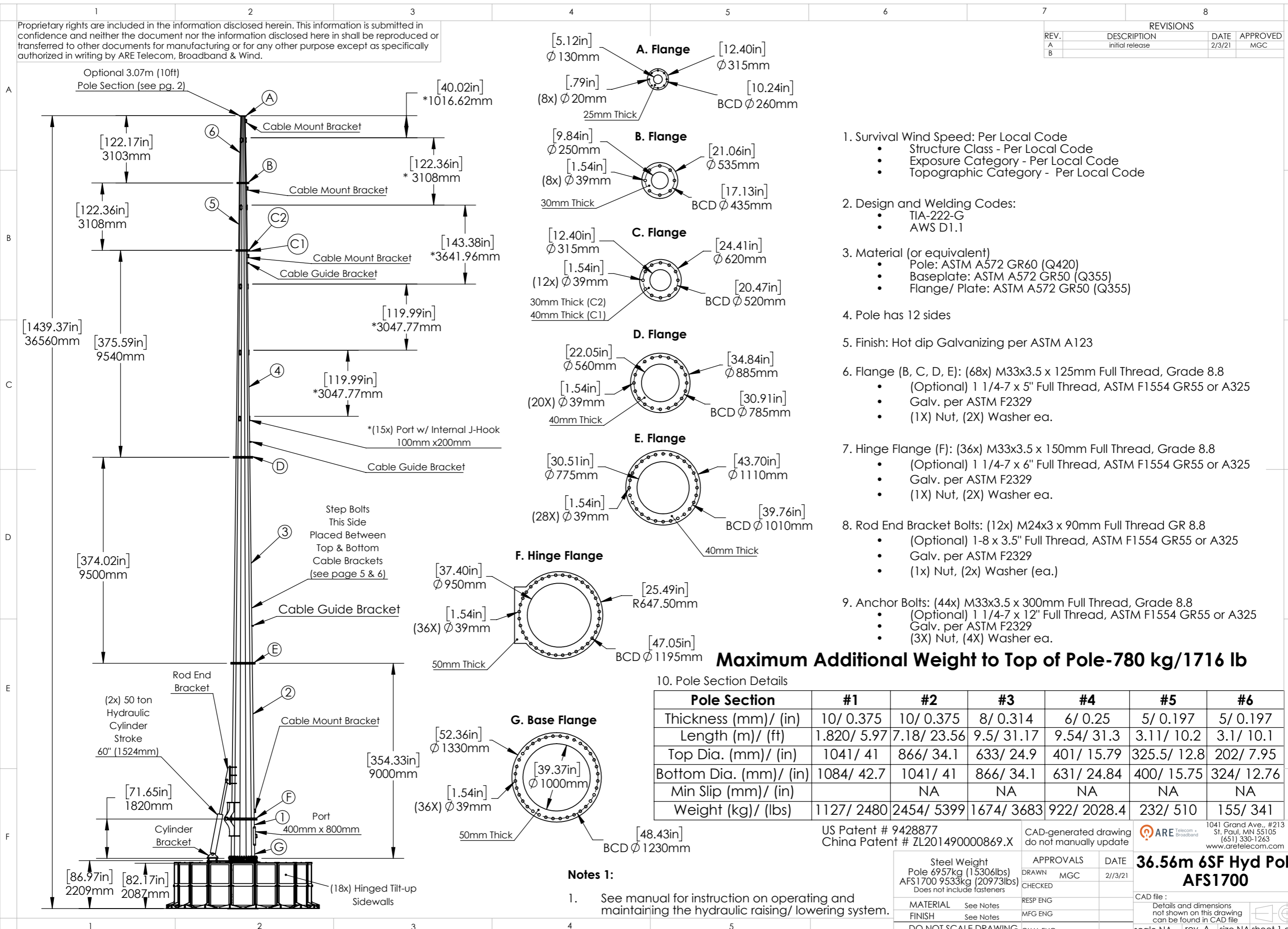


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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	initial release	2/3/21	MGC
B			



- Survival Wind Speed: Per Local Code
 - Structure Class - Per Local Code
 - Exposure Category - Per Local Code
 - Topographic Category - Per Local Code
- Design and Welding Codes:
 - TIA-222-G
 - AWS D1.1
- Material (or equivalent)
 - Pole: ASTM A572 GR60 (Q420)
 - Baseplate: ASTM A572 GR50 (Q355)
 - Flange/ Plate: ASTM A572 GR50 (Q355)
- Pole has 12 sides
- Finish: Hot dip Galvanizing per ASTM A123
- Flange (B, C, D, E): (68x) M33x3.5 x 125mm Full Thread, Grade 8.8
 - (Optional) 1 1/4-7 x 5" Full Thread, ASTM F1554 GR55 or A325
 - Galv. per ASTM F2329
 - (1X) Nut, (2X) Washer ea.
- Hinge Flange (F): (36x) M33x3.5 x 150mm Full Thread, Grade 8.8
 - (Optional) 1 1/4-7 x 6" Full Thread, ASTM F1554 GR55 or A325
 - Galv. per ASTM F2329
 - (1X) Nut, (2X) Washer ea.
- Rod End Bracket Bolts: (12x) M24x3 x 90mm Full Thread GR 8.8
 - (Optional) 1-8 x 3.5" Full Thread, ASTM F1554 GR55 or A325
 - Galv. per ASTM F2329
 - (1x) Nut, (2x) Washer (ea.)
- Anchor Bolts: (44x) M33x3.5 x 300mm Full Thread, Grade 8.8
 - (Optional) 1 1/4-7 x 12" Full Thread, ASTM F1554 GR55 or A325
 - Galv. per ASTM F2329
 - (3X) Nut, (4X) Washer ea.

Maximum Additional Weight to Top of Pole-780 kg/1716 lb

10. Pole Section Details

Pole Section	#1	#2	#3	#4	#5	#6
Thickness (mm)/ (in)	10/ 0.375	10/ 0.375	8/ 0.314	6/ 0.25	5/ 0.197	5/ 0.197
Length (m)/ (ft)	1.820/ 5.97	7.18/ 23.56	9.5/ 31.17	9.54/ 31.3	3.11/ 10.2	3.1/ 10.1
Top Dia. (mm)/ (in)	1041/ 41	866/ 34.1	633/ 24.9	401/ 15.79	325.5/ 12.8	202/ 7.95
Bottom Dia. (mm)/ (in)	1084/ 42.7	1041/ 41	866/ 34.1	631/ 24.84	400/ 15.75	324/ 12.76
Min Slip (mm)/ (in)		NA	NA	NA	NA	NA
Weight (kg)/ (lbs)	1127/ 2480	2454/ 5399	1674/ 3683	922/ 2028.4	232/ 510	155/ 341

Notes 1:

- See manual for instruction on operating and maintaining the hydraulic raising/ lowering system.

US Patent # 9428877
China Patent # ZL201490000869.X

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Steel Weight Pole 6957kg (15306lbs) AFS1700 9533kg (20973lbs) Does not include fasteners	APPROVALS	DATE
MATERIAL See Notes	DRAWN MGC	2/13/21
FINISH See Notes	CHECKED	
DO NOT SCALE DRAWING	RESP ENG	
	MFG ENG	
	QUAL ENG	

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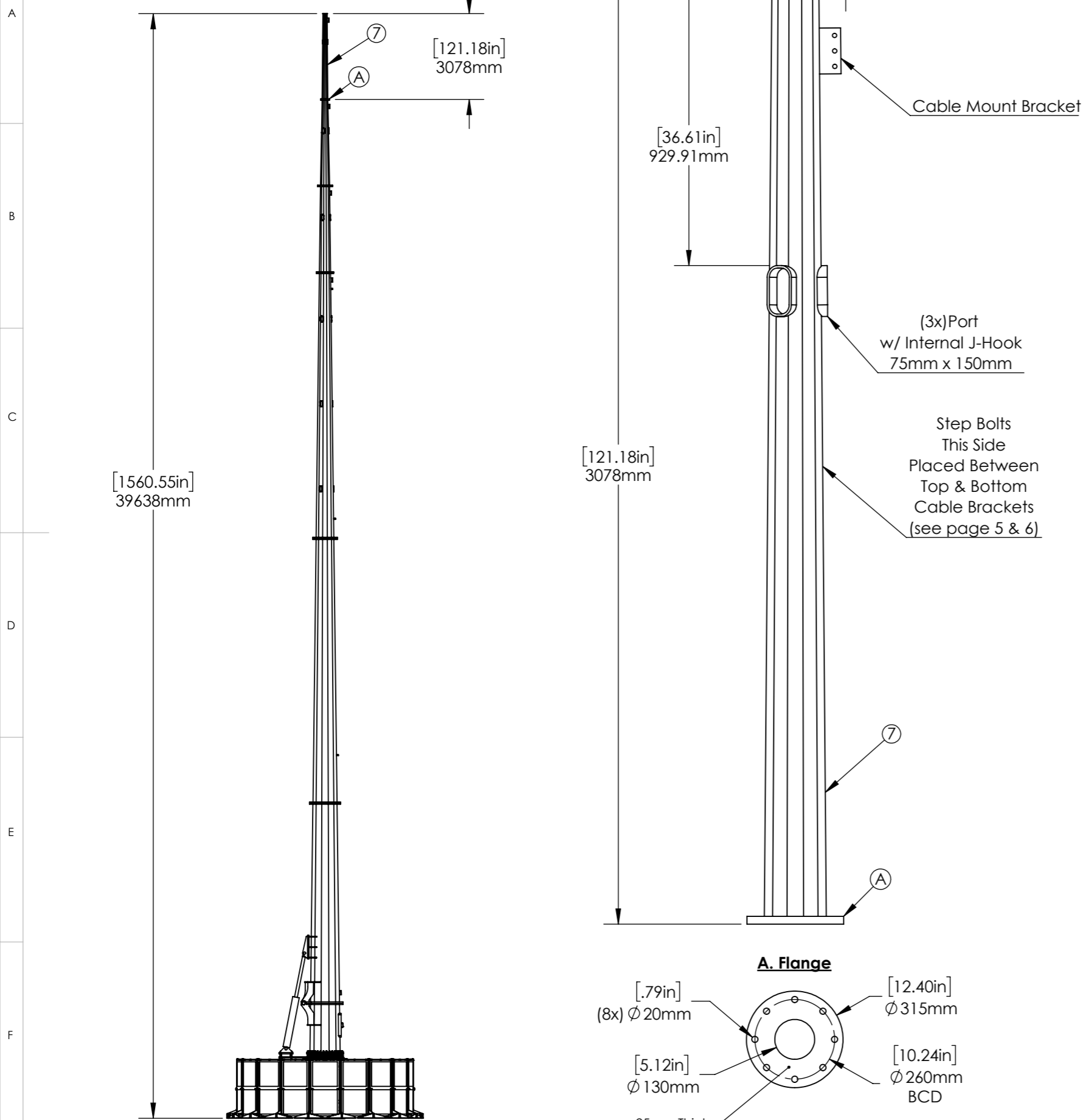
**36.56m 6SF Hyd Pole
AFS1700**

CAD file:
Details and dimensions not shown on this drawing can be found in CAD file

scale NA rev. A size NA sheet 1 of 6

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	initial release	1/20/21	MGC
B	Increased base flange thickness to 25mm	2/1/21	MGC



- Survival Wind Speed: Per Local Code
 - Structure Class - Per Local Code
 - Topographic - Per Local Code
 - Exposure - Per Local Code
- Design and Welding Codes:
 - TIA-222-G (DS1)
 - AWS D1.1
- Material (or Equivalent)
 - Pole: ASTM A572 GR60 (Q420)
 - Baseplate: ASTM A572 GR50 (Q355)
 - Top/ Hinge Flange: ASTM A572 GR50 (Q355)
- Pole has 12 sides
- Finish: Hot dip Galvanizing per ASTM A123
- Flange (A): (8x) M16x2 x 80mm (Full Thread)
 - Grade 8.8 w/ nut and (2x) washer ea.
 - (Optional) 5/8-11 x 3.25" A325
 - Galv. per ASTM F2329

7. Pole Section Details

Pole Section	#7
Thickness - (mm)/ (in)	5/ 0.197
Length - (m)/ (ft)	3.07/ 10
Top Dia. - (mm)/ (in)	153/ 5.98
Bottom Dia. - (mm)/ (in)	202/ 7.95
Min Slip - (mm)/ (in)	NA
Max (design) Slip - (mm)/ (in)	NA
Weight (kg)/ (lbs)	83.1/ 183

Total Weight	APPROVALS	DATE
	DRAWN MGC	1/20/21
Does not include fasteners	CHECKED	
	RESP ENG	
MATERIAL See Notes	MFG ENG	
FINISH See Notes	QUAL ENG	
DO NOT SCALE DRAWING		

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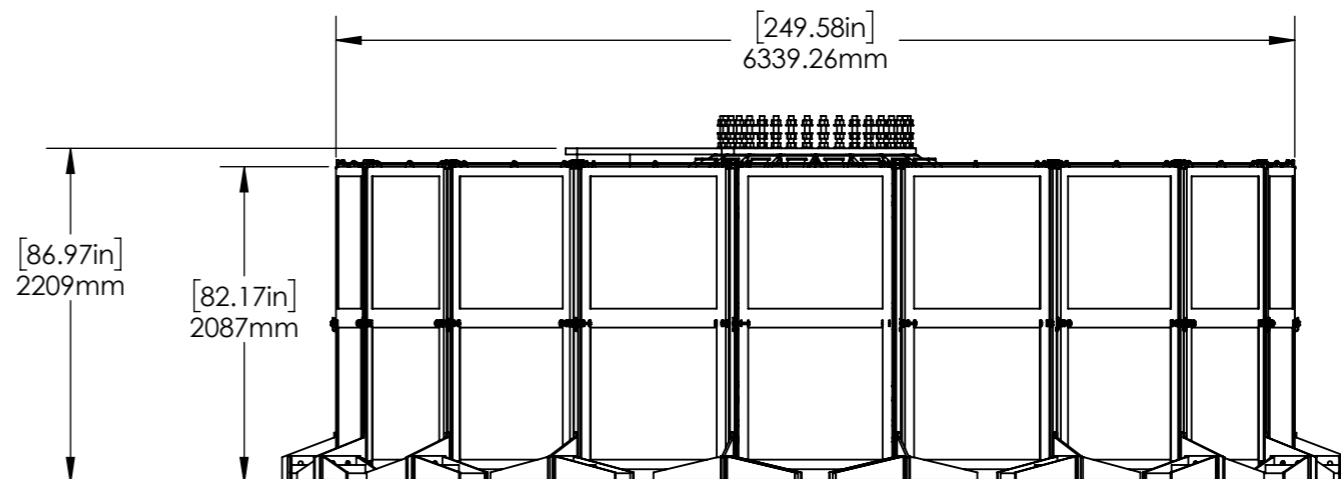
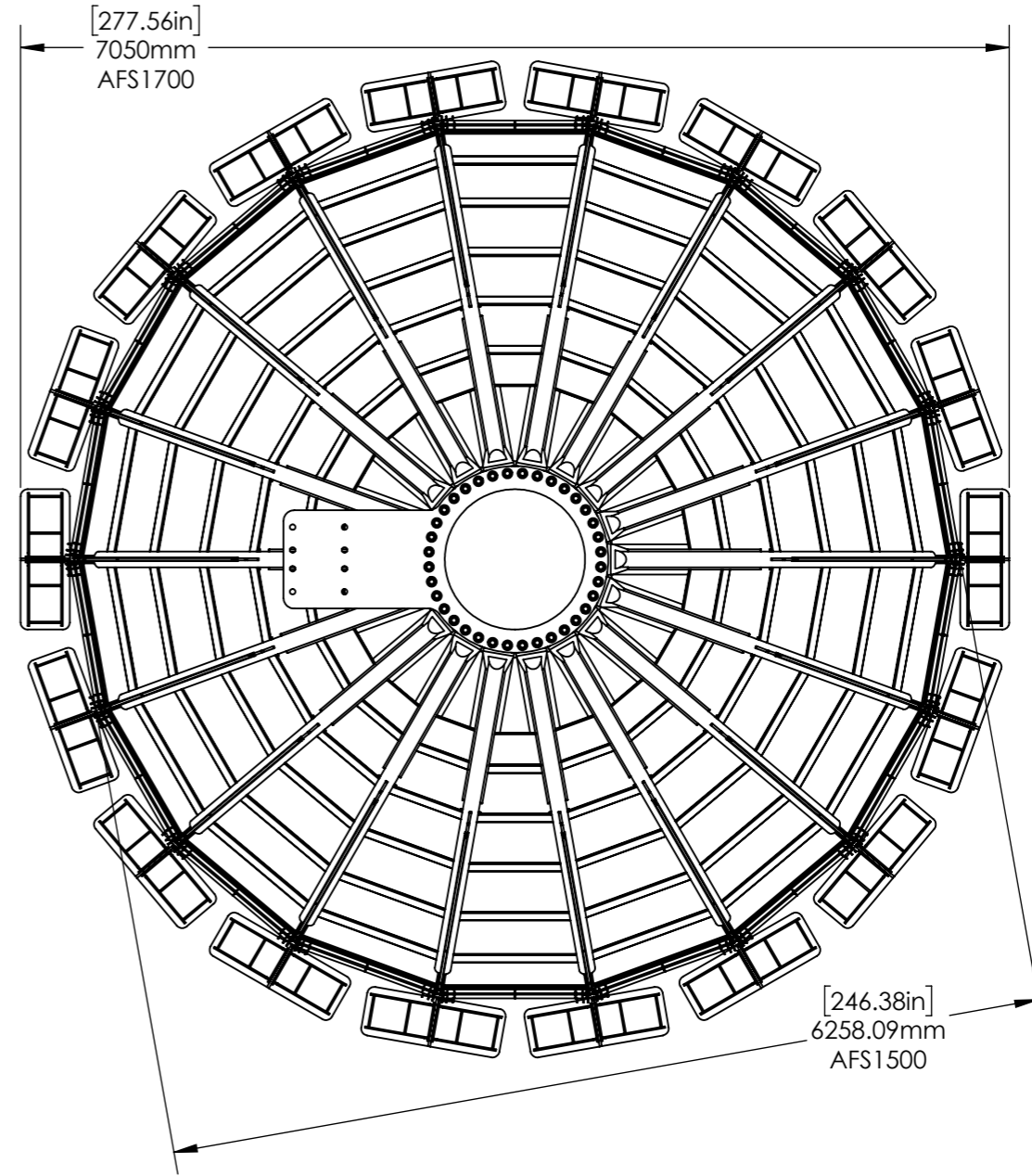
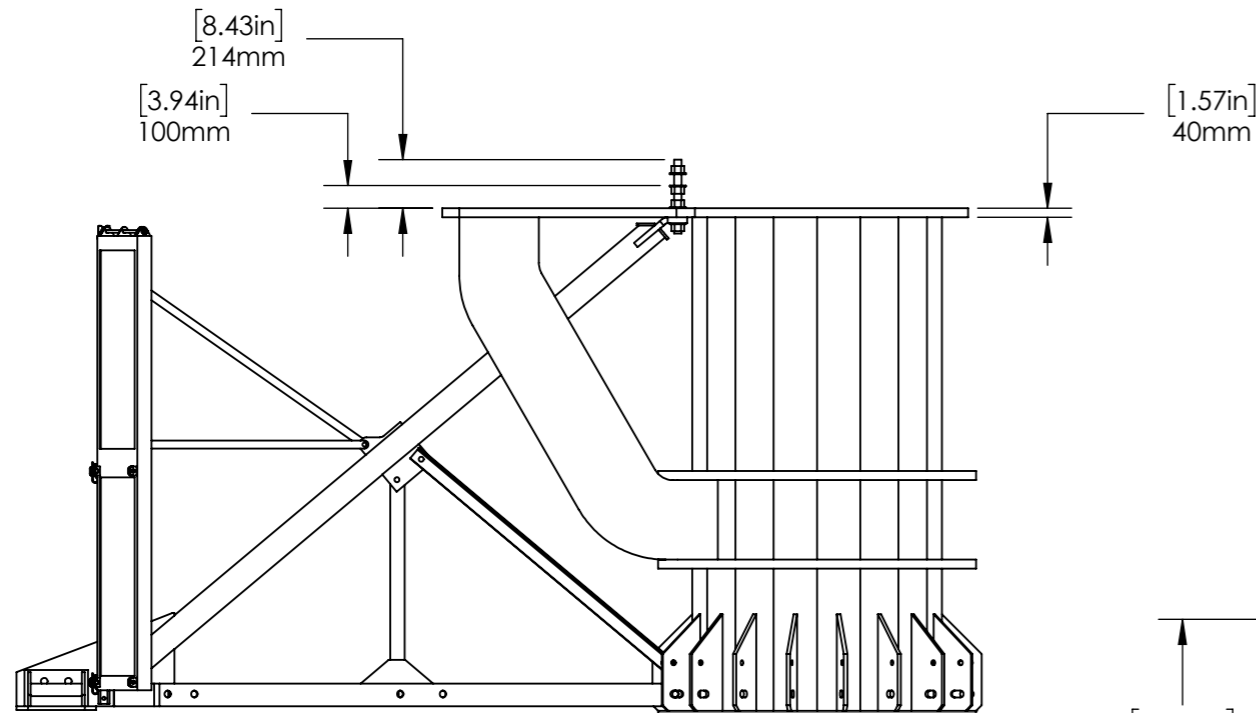
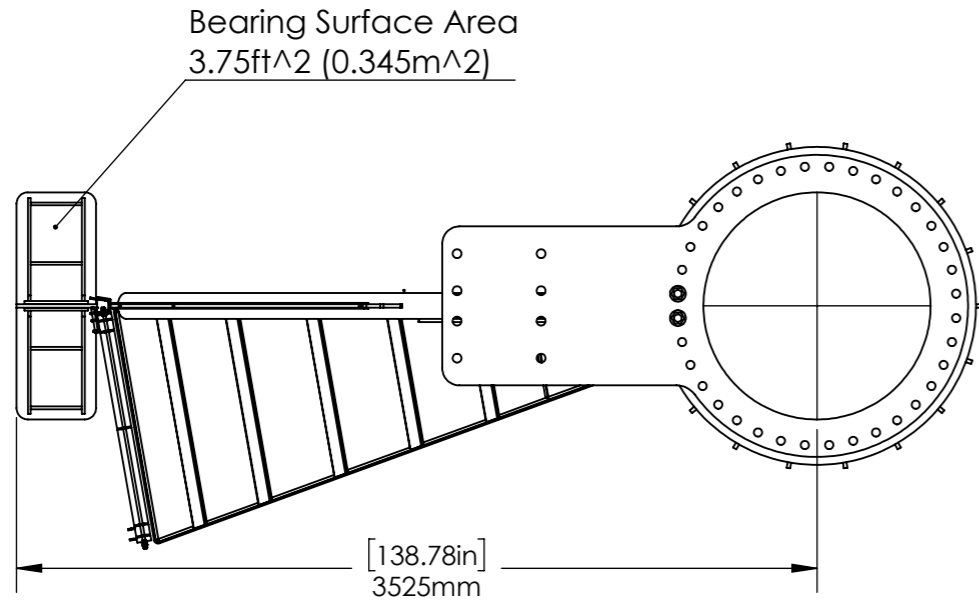
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Optional 3.07m - 10ft Pole Section AFS1700

CAD file :
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scale NA rev. B size NA sheet 2 of 6

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Notes 2:

- Maximum Ballast Volume = 60 cu-m (78.5 cu-yds, 2120 cu-ft)
- Unit Weight
 - cu-ft = 45.45 kg (100 lbs)
 - cu-yd = 1227.3 kg (2700 lbs)
 - cu-m = 1605.5 kg (3532 lbs)
- Steel Structure Self Weight
 - Foundation - 9533kg (20973lb)

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AFS1700

Part #
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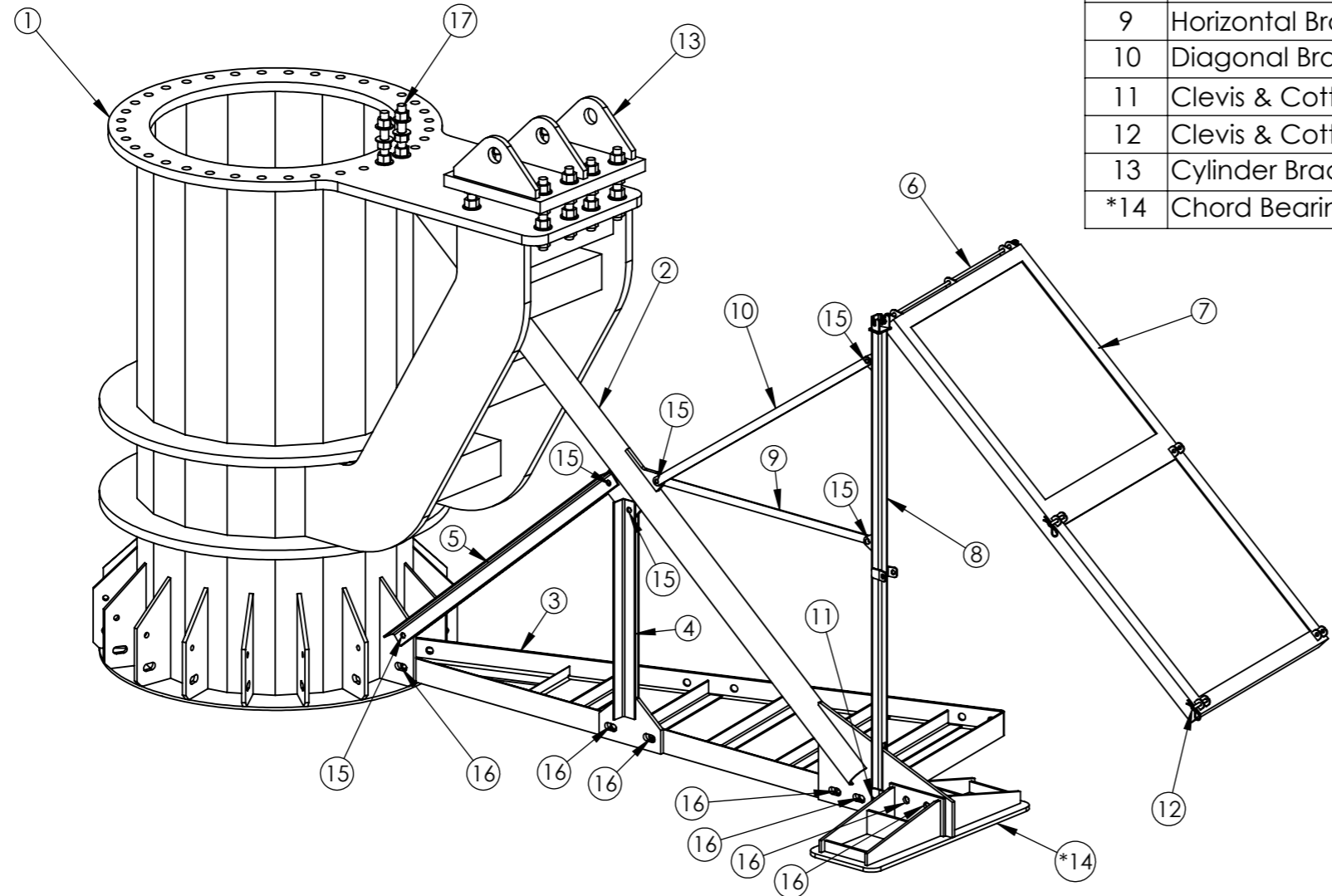
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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	initial release	8/13/19	MGC
B			

Notes 3:

- All plate material shall have a minimum yield strength of 355 MPa (50 ksi)
- Tube shall be 114mm x 6mm GR. Q355 (4.5" x 0.25" ASTM A500 Gr B)
- All right angles shall be Q355 (ASTM A572 Gr 50) or equivalent
- All welding shall conform to the minimum requirements of AWS D1.1
- All welding shall be done by welders qualified under AWS specifications, using E70XX, low hydrogen electrodes
- All components shall Hot Dip Galvanized in accordance with ASTM A123
- Debur all sharp edges

AFS1700 Bill of Materials			
#	DESCRIPTION	QTY.	Weight (kg/ lbs)
1	Kingpost	1	2014/ 4431
2	Upper Chord round 114mm x 6mm (4.5" x 0.25")	18	81/ 178
3	Ballast Tray	18	121/ 266
4	Vertical Web w/ Gusset Plate Assembly	18	15.5/ 34
5	Diagonal Web	36	7.5/ 16.5
6	M12 (1/2-13) Hinge Rod w/ (4x) Nuts and Washers	18	1.3/ 3
7	Sidewall (hinged)	18	80/ 176
8	Vertical Hinge Post	18	15/ 33
9	Horizontal Brace	18	3.5/ 8
10	Diagonal Brace	18	3.9/ 9
11	Clevis & Cotter 12mm x 75mm (1/2" x 3")	18	0.1/ 0.22
12	Clevis & Cotter 12mm x 115mm (1/2" x 4.5")	72	0.14/ 0.31
13	Cylinder Bracket	1	193/ 345
*14	Chord Bearing Plate (AFS1700 Only)	18	76/ 167



AFS1700 Bolts, Nuts & Washers (other equivalent grades acceptable)

#	Unit	Bolt Size	Length	Width Across Flats	Thread Length	Grade	Coating	Nut Qty.	Washer Qty.	Bolt Qty.
15	Metric	M20x2.5	65mm	30mm	Full Thread	8.8	Hot Dip Galv.	108	216	108
15	Imperial	3/4-10	2.5"	1 1/8"	Full Thread	A325	Hot Dip Galv.	108	216	108
16	Metric	M24x3	75mm	36mm	Full Thread	8.8	Hot Dip Galv.	126	252	126
16	Imperial	1-8	3"	1-1/2"	Full Thread	A325	Hot Dip Galv.	126	252	126
17	Metric	M33x3.5	300mm	50mm	300mm	8.8	Hot Dip Galv.	132	176	44
17	Imperial	1 1/4-7	12"	2"	12"	A325	Hot Dip Galv.	132	176	44

US Patent # 9428877
China Patent # ZL201490000869.X

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Does not include anchor bolts, templates or flange bolts	APPROVALS	DATE
	DRAWN MGC	8/13/19
	CHECKED	
	RESP ENG	
MATERIAL See Notes	MFG ENG	
FINISH See Notes		
DO NOT SCALE DRAWING	QUAL ENG	

AFS1700 BOM

Details and dimensions not shown on this drawing can be found in CAD file

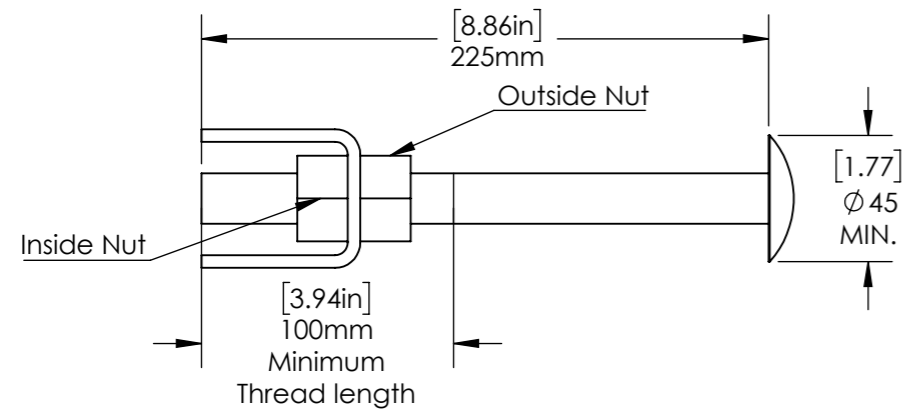
scale NA rev. B size NA 4 of 6

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#	DESCRIPTION (Optional Grade)	QTY	Weight (lb/ kg)
1	Clip - ASTM A572 GR 50 (Q345 or Q355)	*1	1.2/ 0.54
2	Step Bolt - M20x2.5 x 225mm - A449 (GR 8.8) HDG	*1	0.88/ 0.64
3	Heavy Hex Nut, M20x2.5 - A563 GR DH (GR 8.8) HDG	*2	0.224/ 0.11

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	initial release	10/12/20	MGC
B	Revised BOM bolt length to 225mm	11/2/20	MGC

CLIP-STEP BOLT

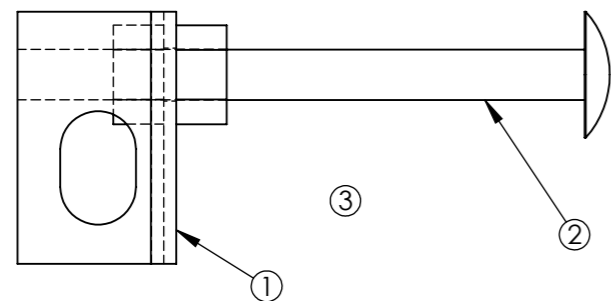


Fabrication Notes:

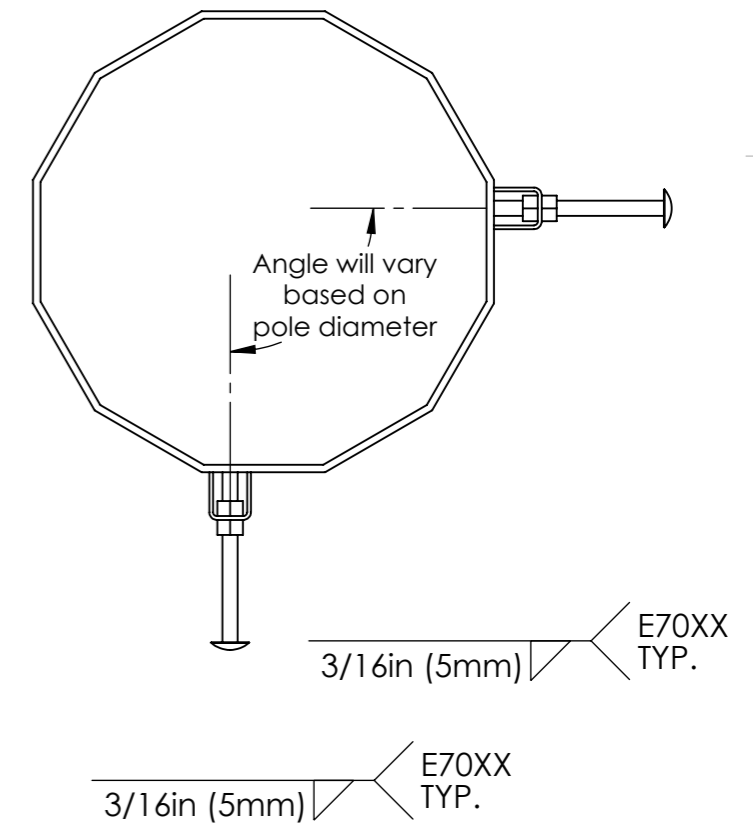
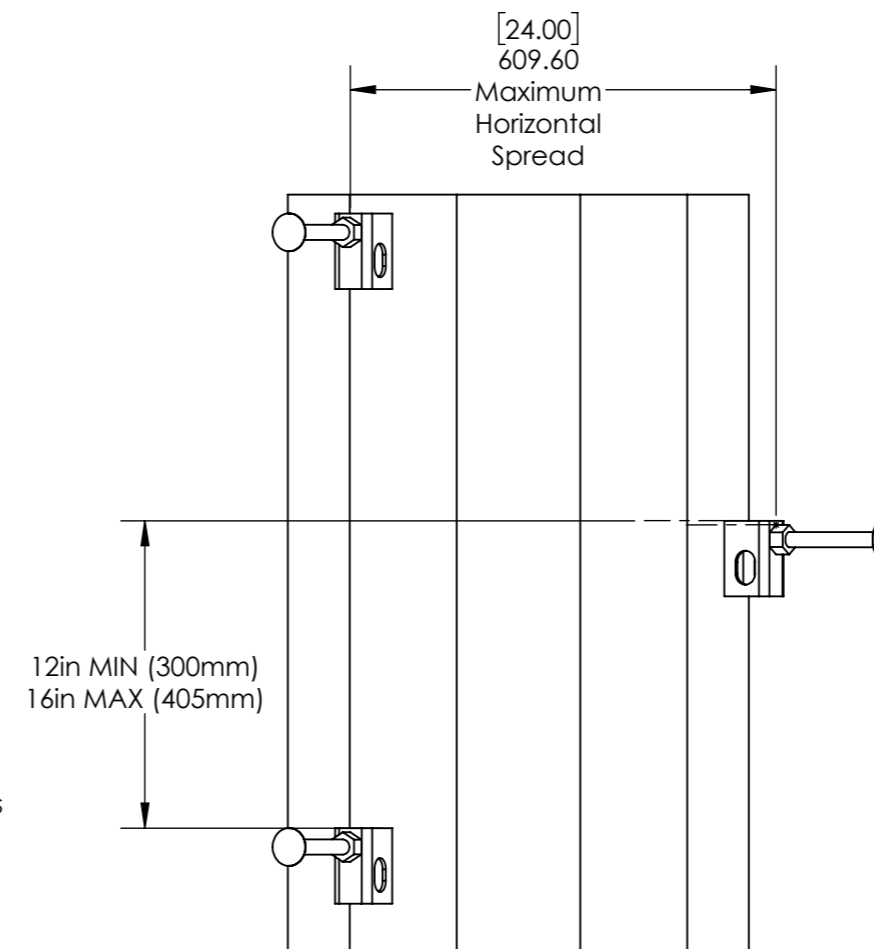
- *The number of Clips/ Step Bolts will vary based on height of pole and shall be equally spaced between the upper and lower cable mount brackets (see pg. 2).
- All plate material shall have a minimum yield strength of 345 MPa (50 ksi)
- All welding shall conform to the minimum requirements of AWS D1.1
- All welding shall be done by welders qualified under AWS specifications, using E70XX, low hydrogen electrodes
- Hot Dip Galvanized in accordance with ASTM A123
- Debur all sharp edges

Installation Steps:

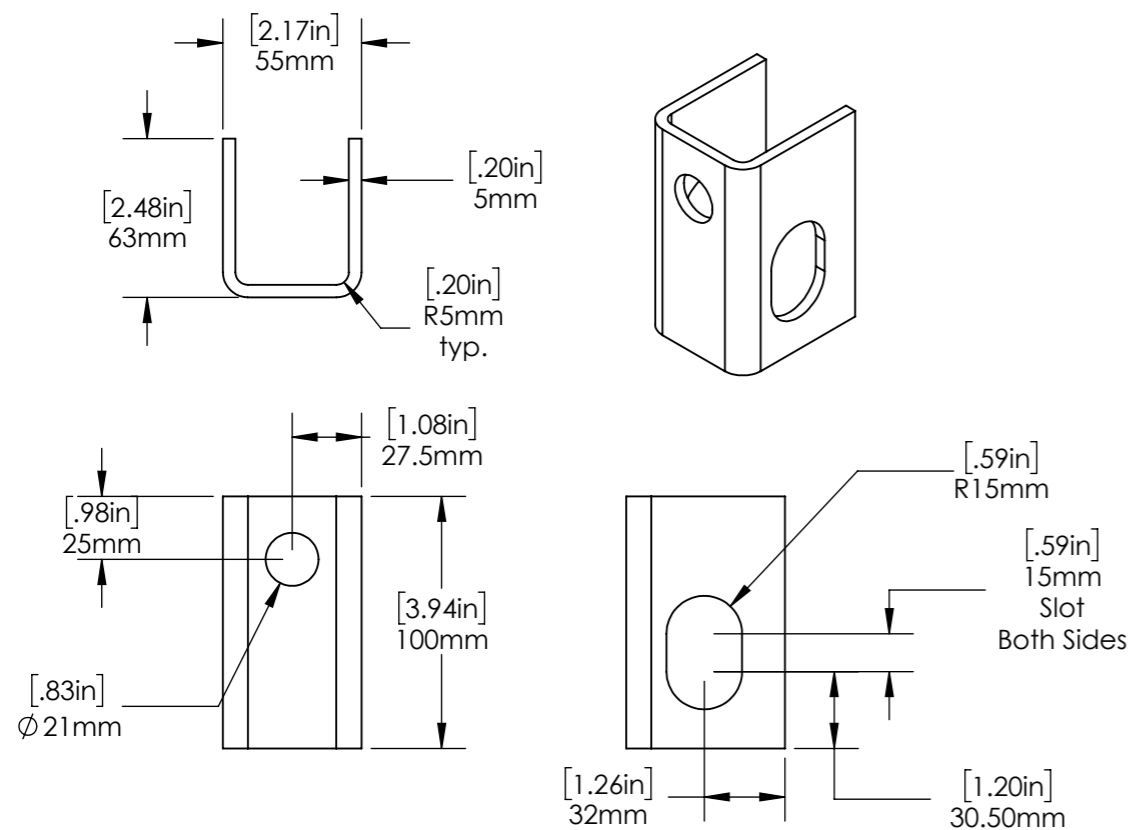
- Outside nut shall be turned to end of step bolt threads prior to installation.
- Step bolt shall be turned through inside nut until bolt makes snug contact with pole.
- Outside nut shall be snugged against clip then tightened 1/4 to 1/2 turn to achieve proper step bolt preload.



CLIP-STEP BOLT SPACING



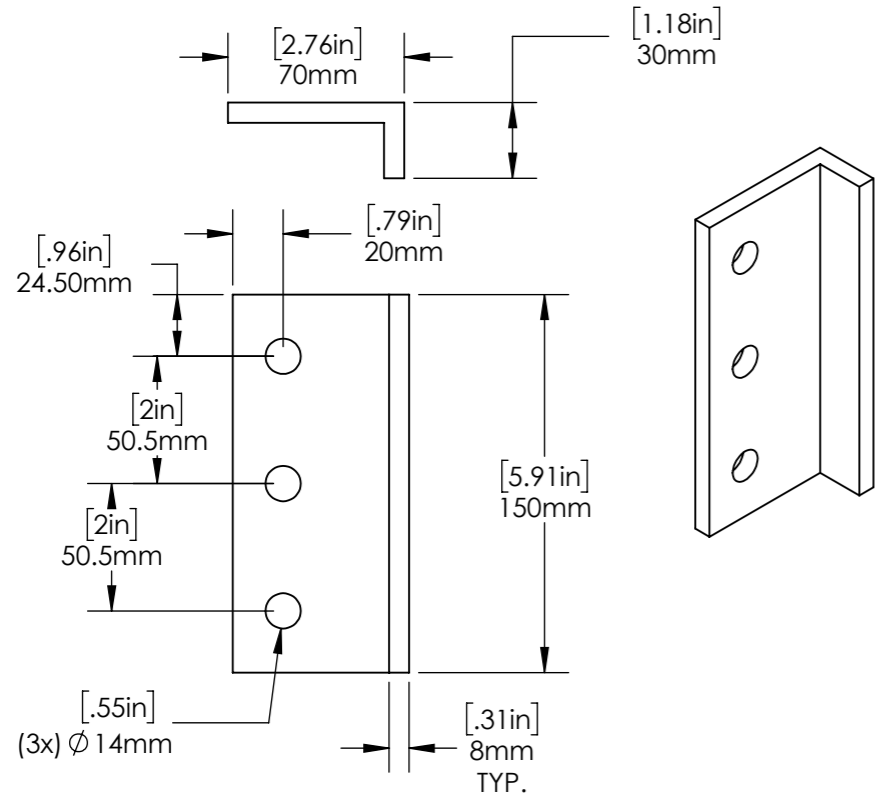
CLIP



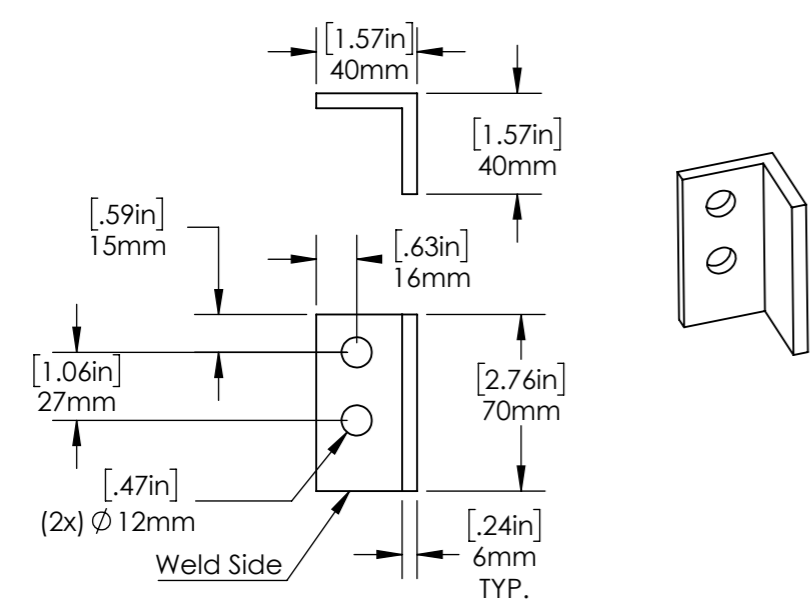
CAD-generated drawing do not manually update		1041 Grand Ave., #213 St. Paul, MN 55105 (651) 330-1263 www.aretelcom.com	
Total Weight	APPROVALS	DATE	<h3>Step Bolt/ Clip</h3> <p>CAD file : Details and dimensions not shown on this drawing can be found in CAD file.</p>
3.1 lbs (1.41 kg)	DRAWN MGC	10/12/20	
	CHECKED		
MATERIAL See Notes	RESP ENG		
FINISH See Notes	MFG ENG		
DO NOT SCALE DRAWING	QUAL ENG		scale NA rev. B size NA sheet 5 of 6

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Cable Mount Bracket

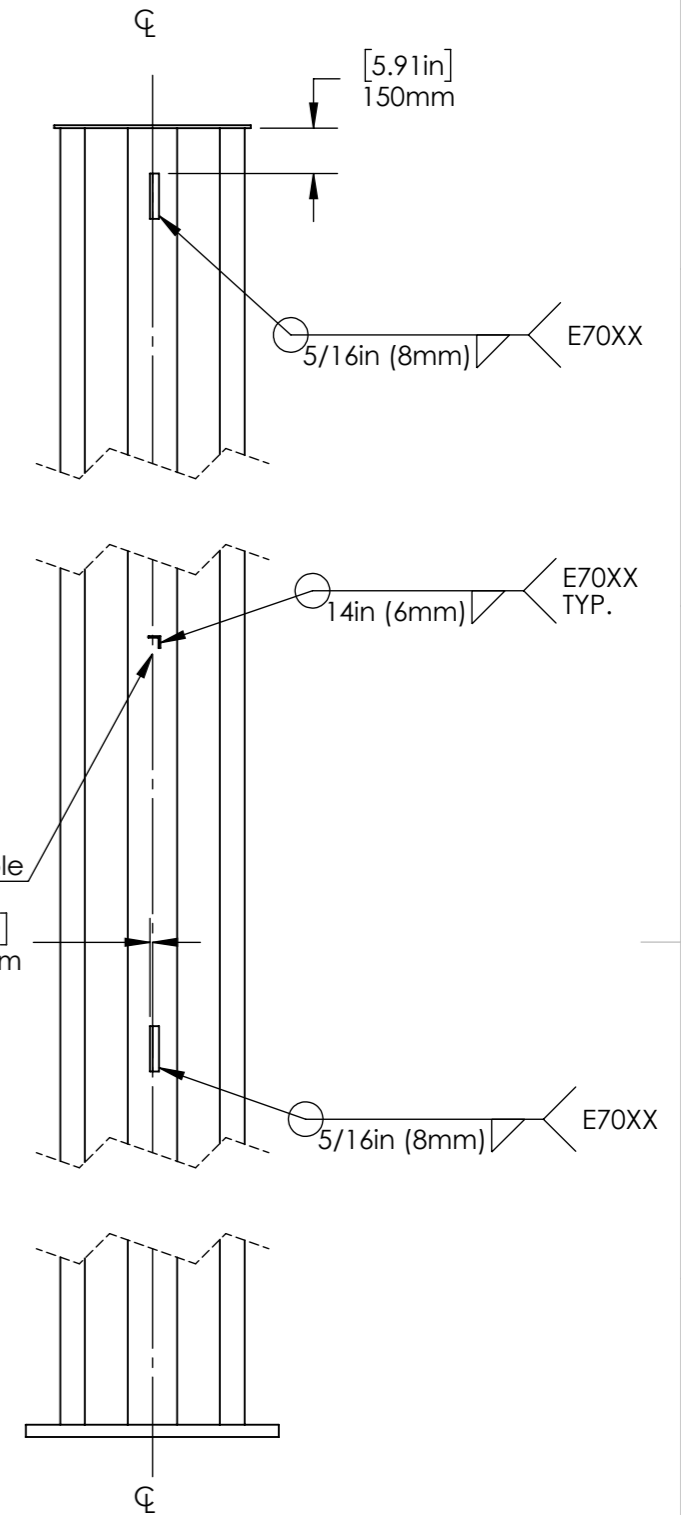
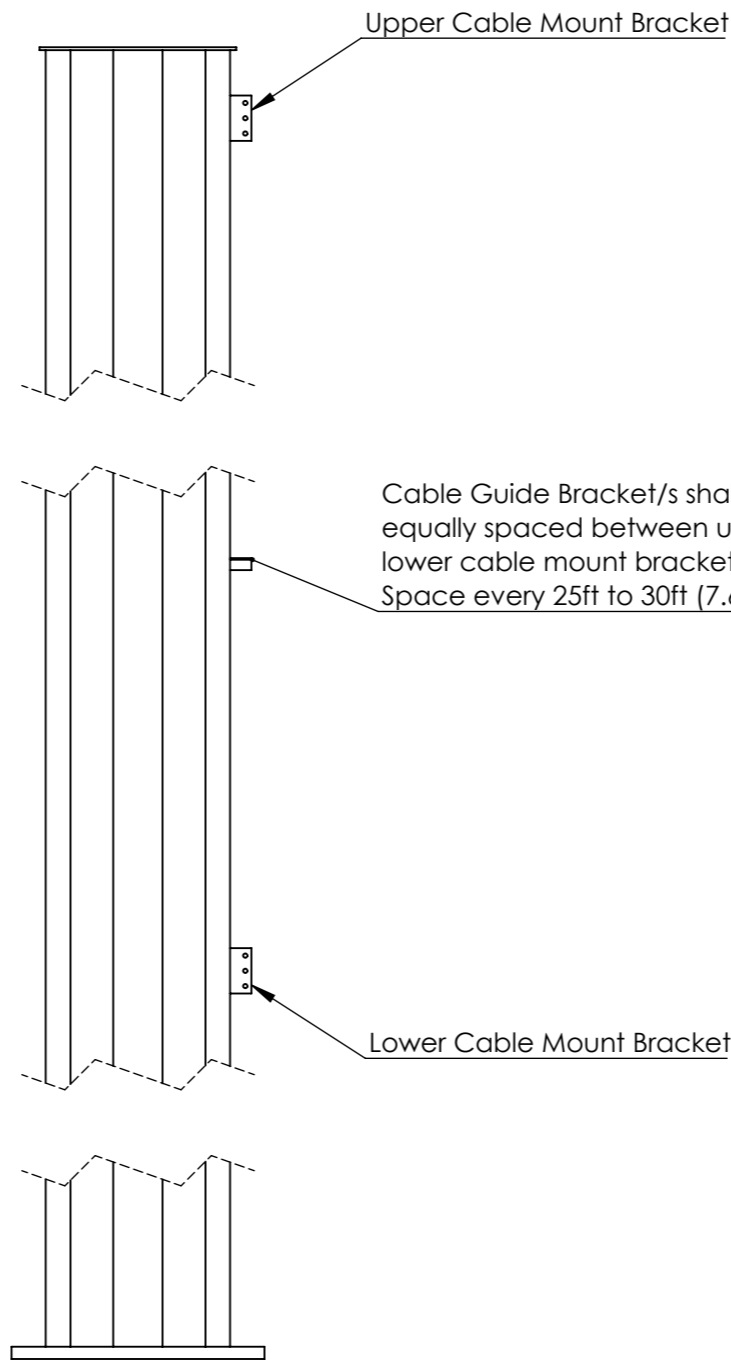


Cable Guide Bracket



Fabrication Notes:

- *The number of cable guides will vary based on height of pole and shall be equally spaced between the upper and lower cable mount brackets.
- All plate material shall have a minimum yield strength of 345 MPa (50 ksi)
- All welding shall conform to the minimum requirements of AWS D1.1
- All welding shall be done by welders qualified under AWS specifications, using E70XX, low hydrogen electrodes
- Hot Dip Galvanized in accordance with ASTM A123
- Debur all sharp edges



#	DESCRIPTION (Optional Grade)	QTY	Weight lb/ kg
1	Cable Mount Bracket-ASTM A572 GR 50 (Q345 or Q355)	2	1.85/ 0.84
2	Cable Guide Bracket-ASTM A572 GR 50 (Q345 or Q355)	*1 or more	0.51/ 0.23

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Cable Mount/ Guide Brackets

Part #
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