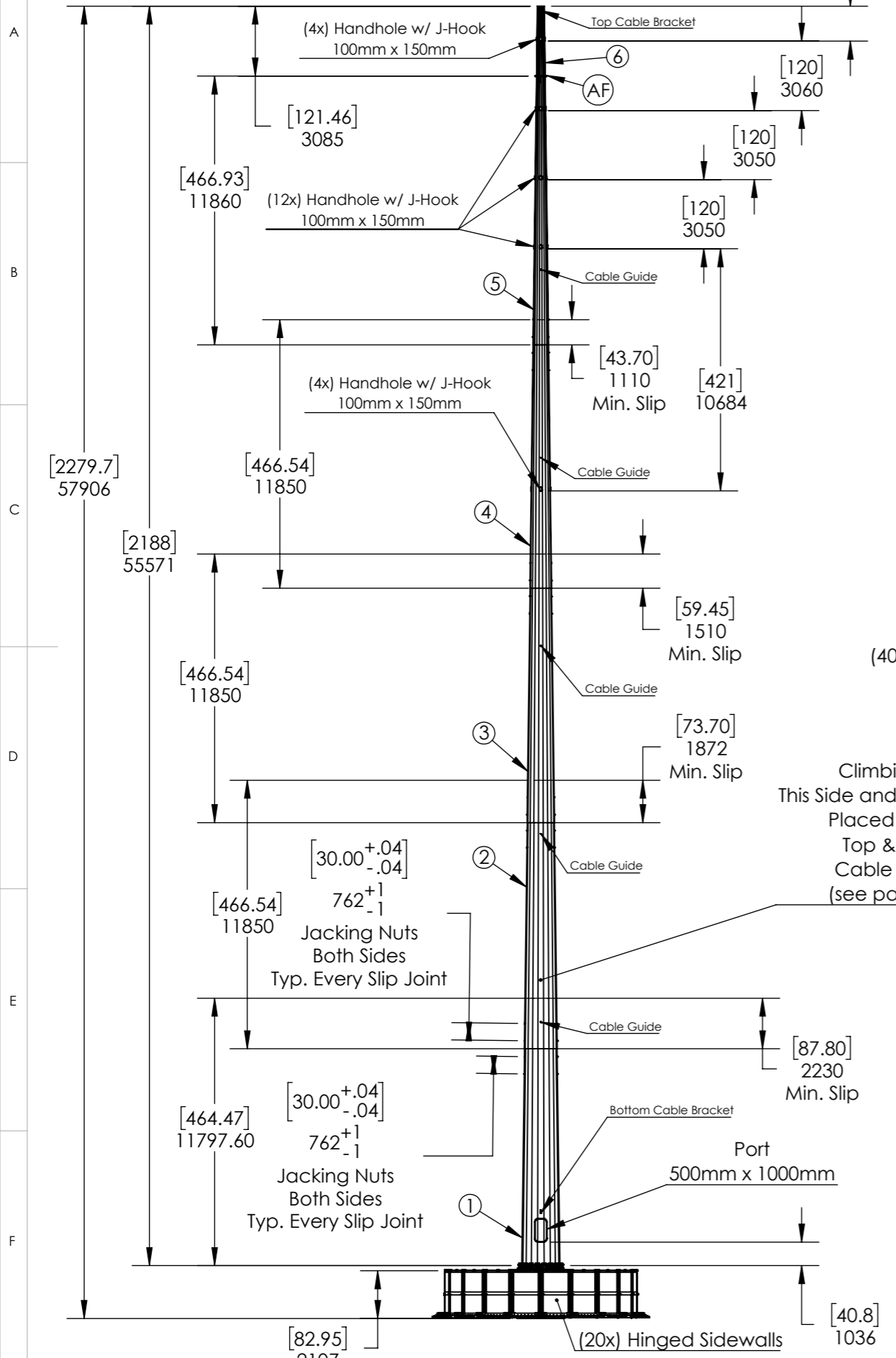
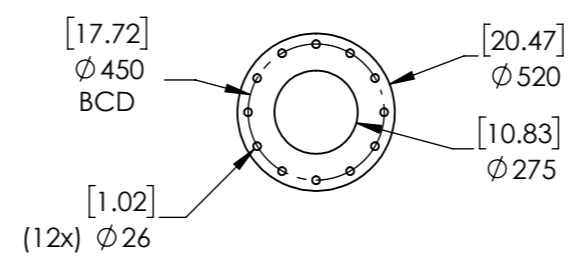


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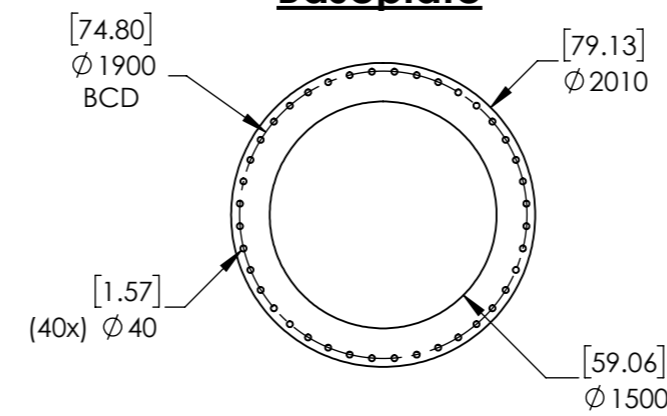
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A-1	Added second set of step bolts	4/15/21	MGC
B			



A. Flange



Baseplate



Ballast Notes:

- Ballast Volume = 108 cu-m (141 cu-yds, 3814 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)

- Survival Wind Speed: Per Local Code
 - Exposure - Per Local Code
 - Class II - Per Local Code
 - Topo 1 - Per Local Code

- Design and Welding Codes:
 - TIA-222-G
 - Eurocode 3, 1-9
 - AWS D1.1
 - IEC 61400-2

- Material
 - Pole: ASTM A572 GR50 (or equivalent - Q355)
 - Baseplate: ASTM A572 GR50 (or equivalent - Q355)
 - Flange/ Plate: ASTM A572 GR50 (or equivalent - Q355)
 - Standard Structural Members: A36 (or equivalent - Q235)

- Pole has 18 sides
- Pole Finish/ Foundation: Hot dip Galvanizing per ASTM A123
- Anchor Bolts: (44x) M36x4 x 300mm Full Thread, Grade 8.8
 - (Optional) 1 1/2-6 x 12" Full Thread, ASTM F1554 GR55 or A325
 - Galv. per ASTM F2329
 - (3X) Nut, (4X) Washer ea.
- Flange 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.)

Climbing pegs
This Side and Opposite Side
Placed Between
Top & Bottom
Cable Brackets
(see page 5 & 6)

8. Pole Section Details

Pole Section	#1	#2	#3	#4	#5	#6
Thickness (mm)/ (in)	10/ .375	10/ .375	8/ .3125	6/ .25	5/ .1875	5/ .1875
Length (m)/ (ft)	11.8/ 38.71	11.85/ 38.88	11.85/ 38.88	11.85/ 38.88	11.85/ 38.88	3.085/ 10.1
Top Dia. (mm)/ (in)	1359/ 53.5	1133.5/ 44.63	895/ 35.24	643.7/ 25.34	380/ 14.96	302/ 11.89
Bottom Dia. (mm)/ (in)	1658/ 65.28	1435.4/ 56.5	1197/ 47.13	945.7/ 37.23	682/ 26.85	380/ 14.96
Min Slip (mm)/ (in)		2230/ 87.8	1872/ 73.7	1510/ 59.45	1110/ 43.7	NA
Weight (kg)/ (lbs)	4961/ 10914	3035/ 6677	2468/ 5430	1406/ 3093	791/ 1740.2	173/ 381

US Patent # 9428877
Chinese Patent # ZL201490000869.X

CAD-generated drawing do not manually update

Steel Weight
Pole 13664kg (30017lbs)
AFS3000 15896kg (34972lbs)
AFS2000 13564kg (29841lbs)
Does not include fasteners

APPROVALS
DRAWN MGC
CHECKED
RESP ENG
MFG ENG
QUAL ENG

DATE
4/15/21

57.9m 6SSJTF Pole
AFS-3000, AFS-2000

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 5

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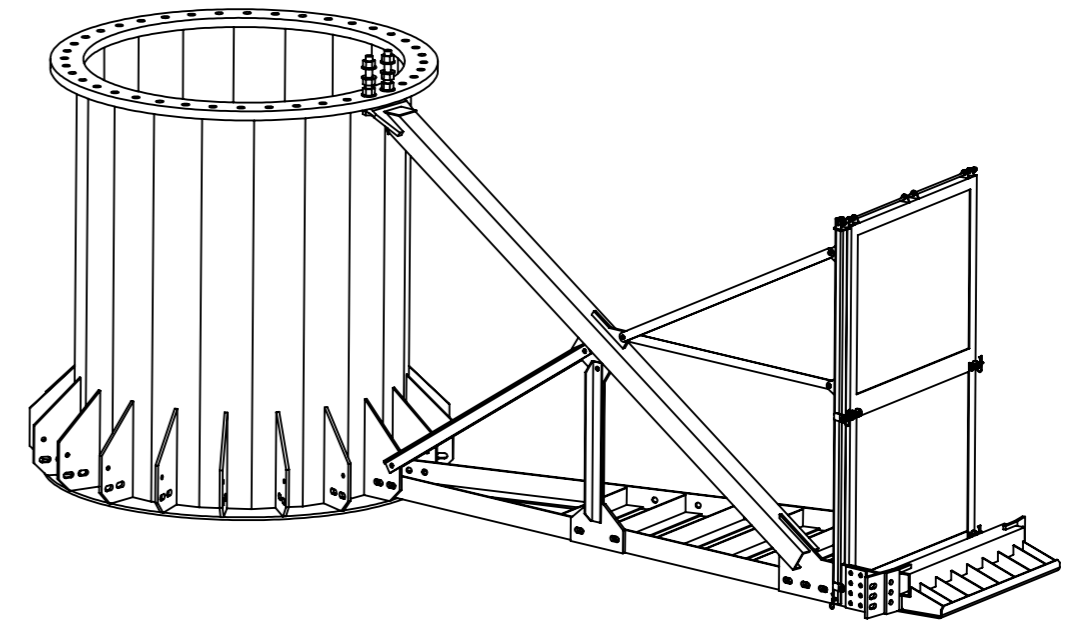
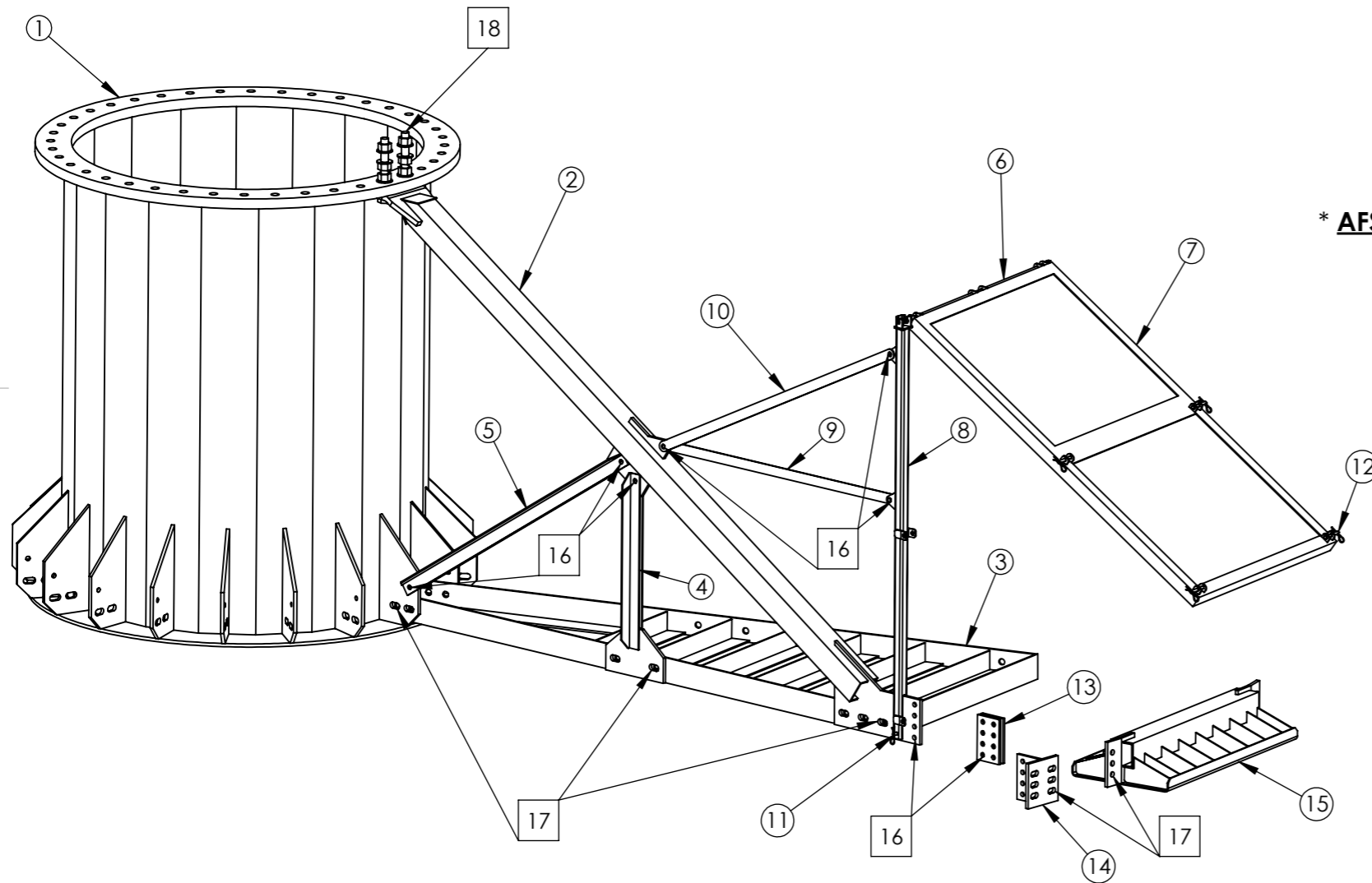
Notes:

1. All plate material shall have a minimum yield strength of 345 MPa (50 ksi)
2. Sq. Tube shall be 125mm x 125mm x 6mm GR. Q345 (5" x 5" x 0.25" ASTM A500 Gr B)
3. All right angles shall be Q345 (ASTM A572 Gr 50) or equivalent
4. All welding shall conform to the minimum requirements of AWS D1.1
5. All welding shall be done by welders qualified under AWS specifications, using E80XX, low hydrogen electrodes
6. All components shall Hot Dip Galvanized in accordance with ASTM A123
7. Debur all sharp edges

AFS3000, AFS2000 Bill of Materials

#	DESCRIPTION	QTY.	Weight (kg/ lbs)
1	Kingpost	1	1785/ 3927
2	Upper Chord 125mm x 125mm x 6mm (5"x5"x0.25")	20	142/ 313
3	Ballast Tray	20	280/ 616
4	Vertical Web w/ Gusset Plate Assembly	20	18.6/ 41
5	Diagonal Web - Double Angles	40	9.5/ 21
6	M12 (1/2-13) Hinge Rod w/ (4x) Nuts and Washers	20	1.3/ 3
7	Sidewall (hinged)	20	94/ 207
8	Vertical Hinge Post	20	16/ 35.2
9	Horizontal Brace	20	3.5/ 8
10	Diagonal Brace	20	3.9/ 9
11	Clevis & Cotter 12mm x 75mm (1/2" x 3")	20	0.1/ 0.22
12	Clevis & Cotter 12mm x 115mm (1/2" x 4.5")	80	0.14/ 0.31
13	* Splice Plates	40	2.7/ 5.94
14	* T-Bracket	20	9.2/ 20.24
15	* Outer Bearing Plate	20	102/ 224.4

* **AFS2000** does not require Splice Plates, T-Brackets and Outer Bearing Plates



AFS3000 Bolts, Nuts & Washers (other equivalent grades acceptable)

#	Unit	Bolt Size	Length	Width Across Flats	Thread Length	Grade	Coating	Nut Qty.	Washer Qty.	Bolt Qty.
16	Metric	M20x2.5	75mm	30mm	Full Thread	8.8	Hot Dip Galv.	120	240	120
16	Imperial	3/4-10	3"	1 1/8"	Full Thread	A325	Hot Dip Galv.	120	240	120
17	Metric	M24x3	75mm	36mm	Full Thread	8.8	Hot Dip Galv.	140	280	140
17	Imperial	1-8	3"	1-1/2"	Full Thread	A325	Hot Dip Galv.	140	280	140
18	Metric	M36x4	300mm	55mm	250mm	8.8	Hot Dip Galv.	138	184	40
18	Imperial	1 3/8-6	12"	2-1/16"	10"	A325	Hot Dip Galv.	138	184	40

US Patent # 9428877
Chinese Patent # ZL201490000869.X

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Does not include anchor bolts, templates or flange bolts

APPROVALS	DATE
DRAWN MGC	4/15/21
CHECKED	
RESP ENG	
MFG ENG	
QUAL ENG	

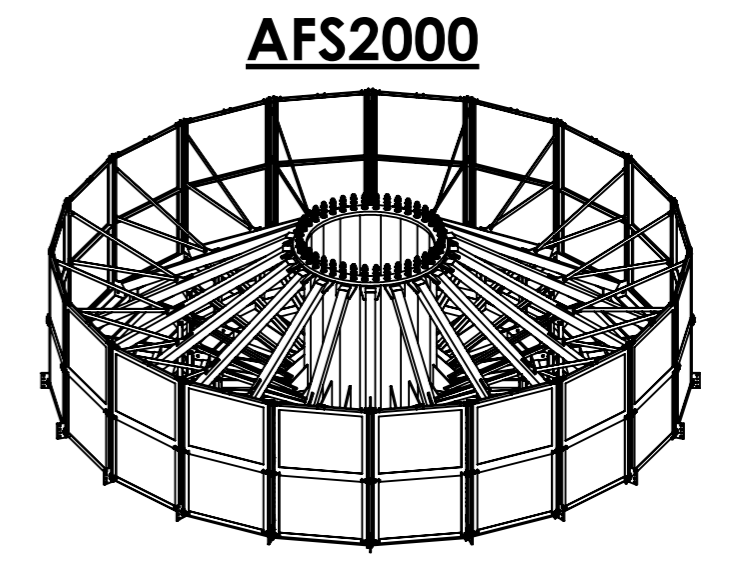
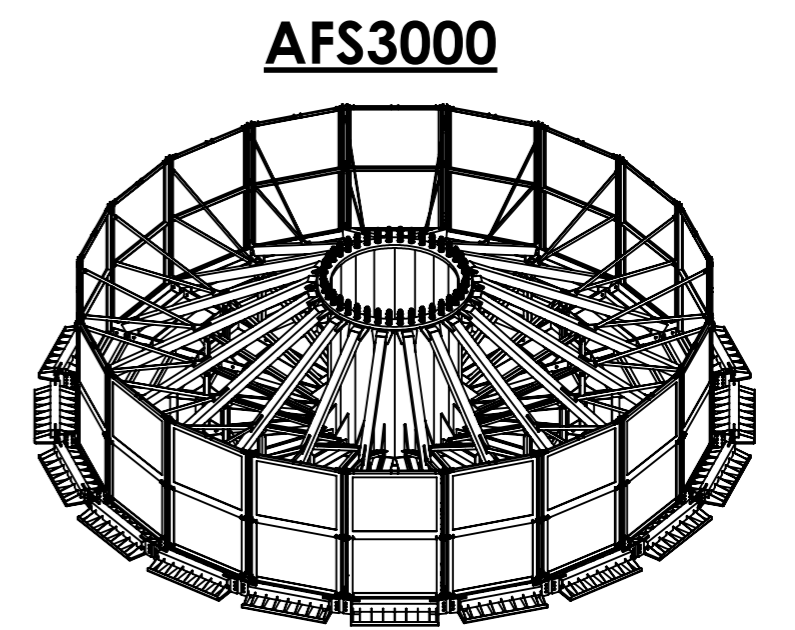
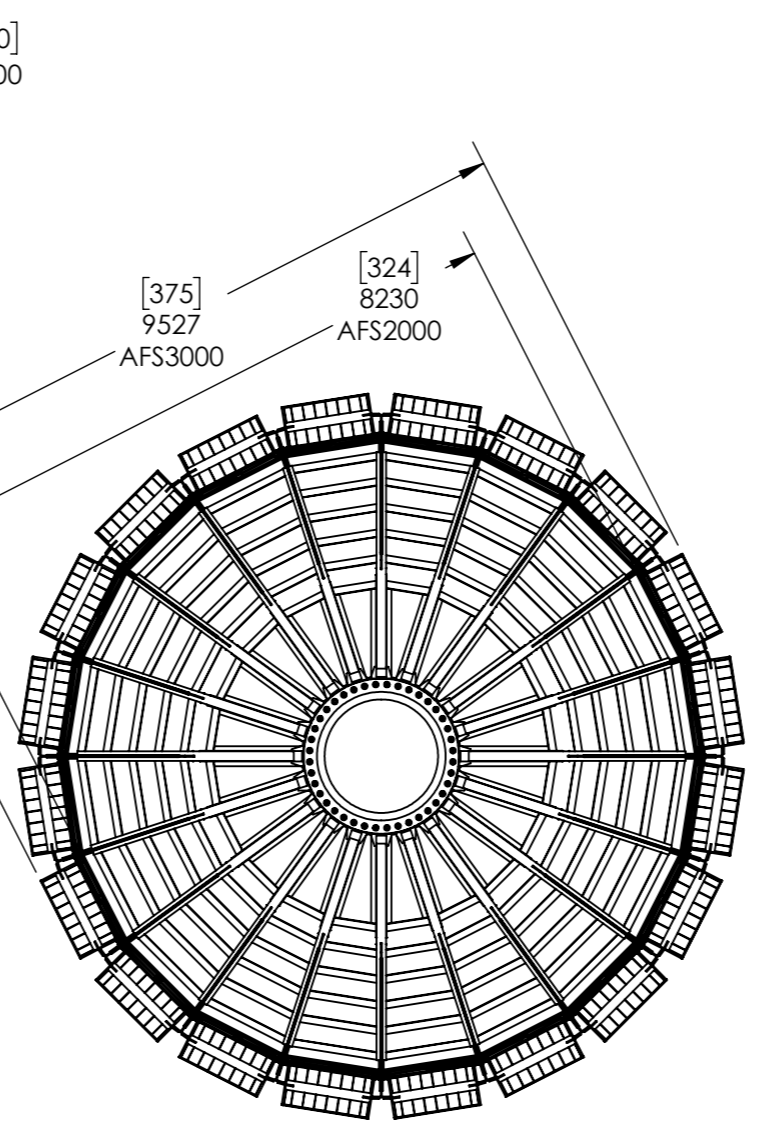
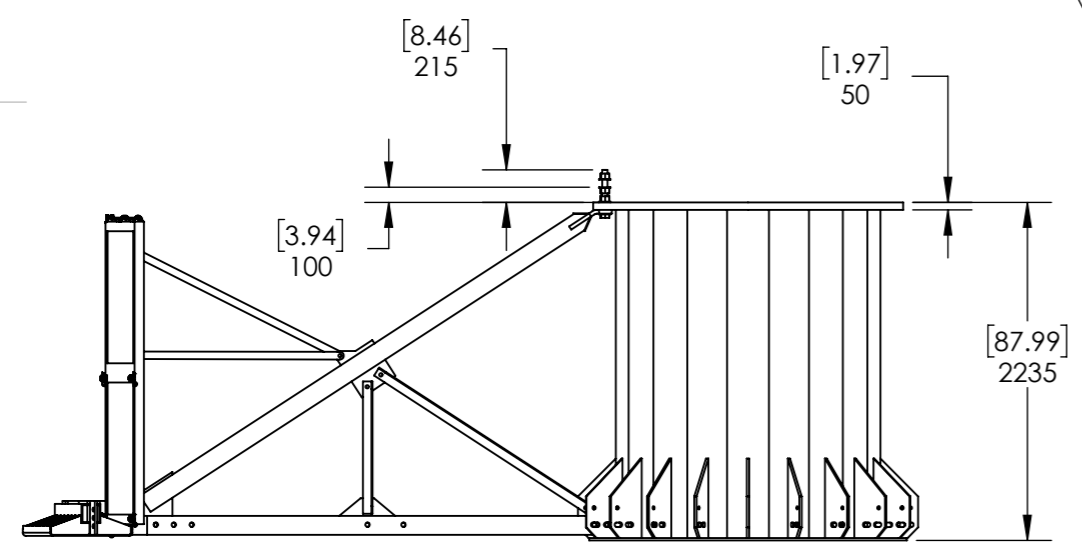
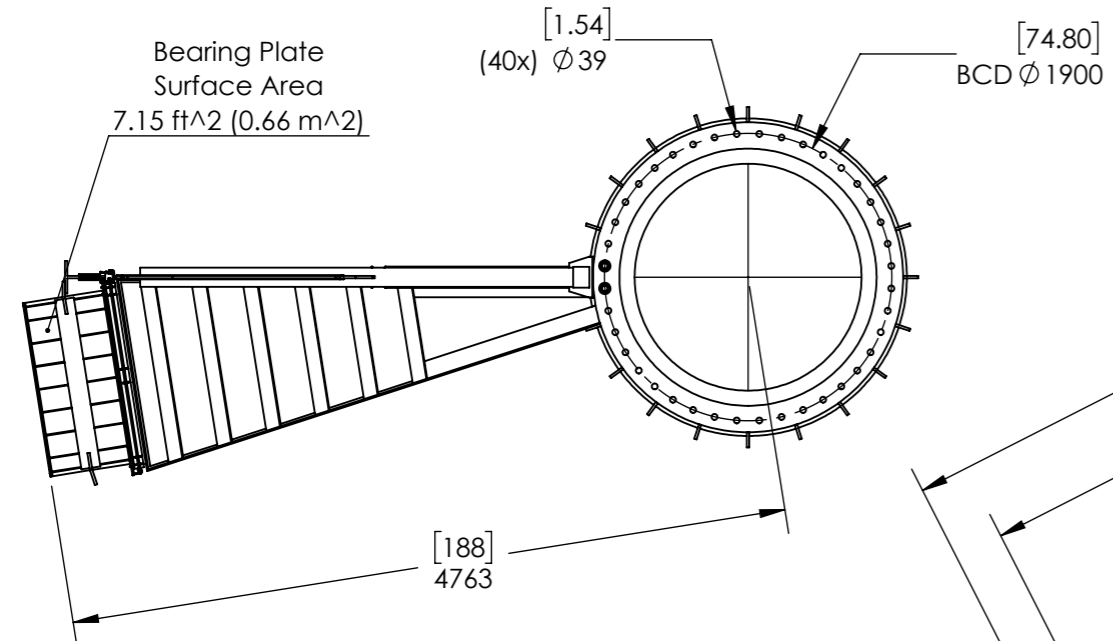
AFS-3000, AFS-2000 BOM

MATERIAL See Notes
FINISH See Notes
DO NOT SCALE DRAWING

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

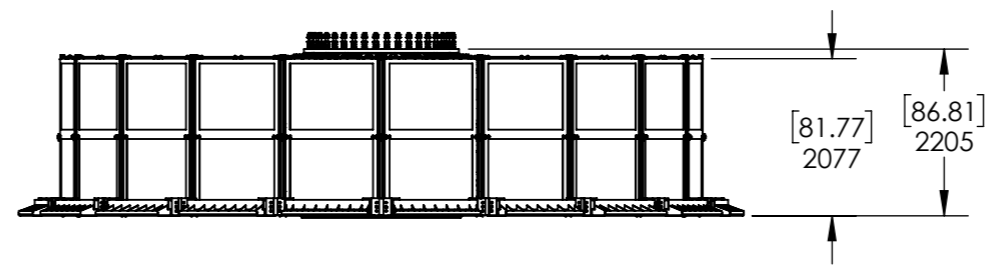
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A
B
C
D
E
F



Ballast Notes:

- Ballast Volume = 108 cu-m (141 cu-yds, 3814 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)



US Patent # 9428877
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AFS-3000
AFS-2000

Part #
scale NA rev. A size NA sheet 3 of 5

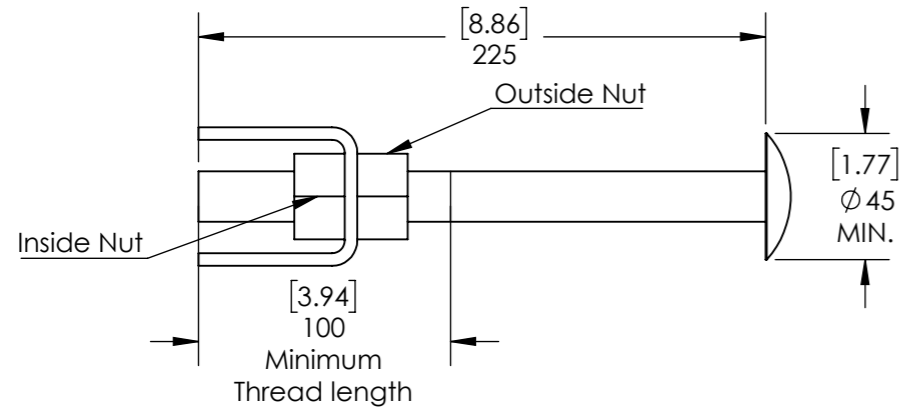
1 2 3 4 5 6 7

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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

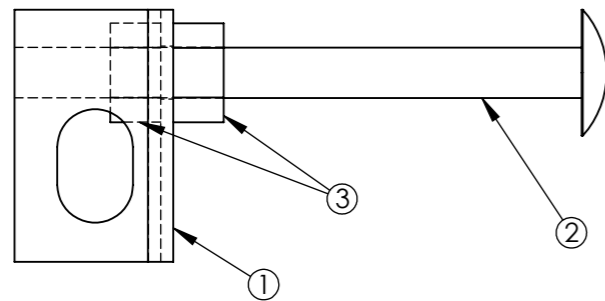


Fabrication Notes:

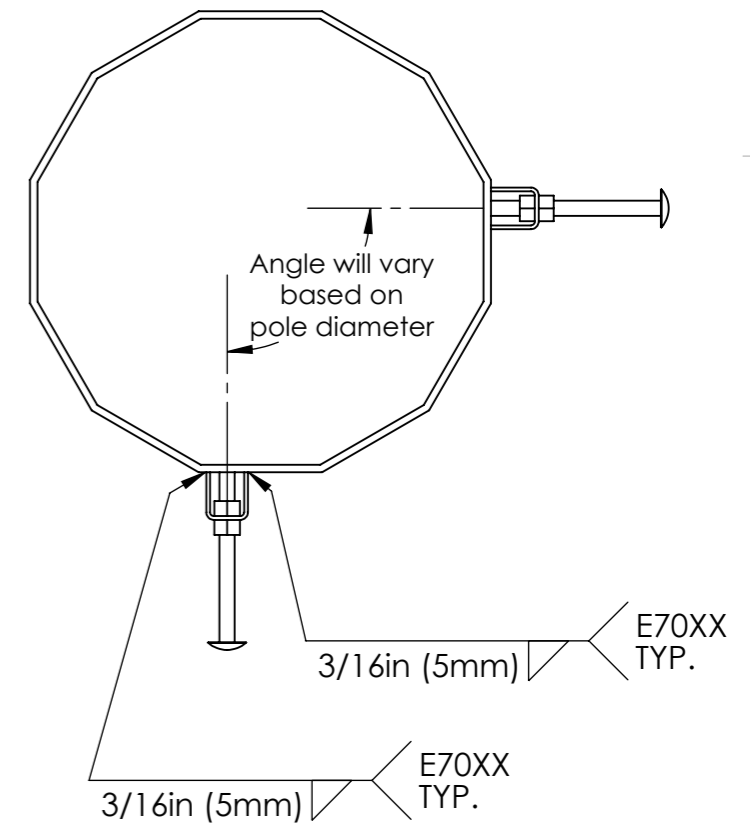
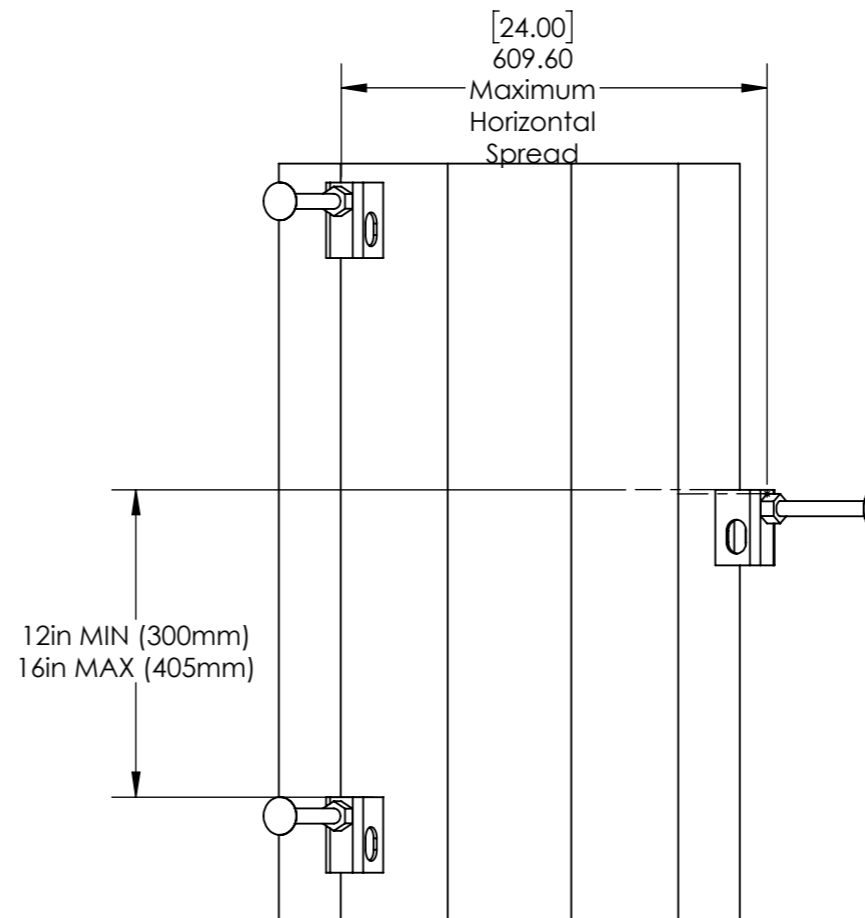
- *The number of Clips/ Step Bolts will vary based on height of pole and shall be equally spaced between the upper and lower cable mount brackets (see pg. 2).
- All plate material shall have a minimum yield strength of 345 MPa (50 ksi)
- All welding shall conform to the minimum requirements of AWS D1.1
- 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:

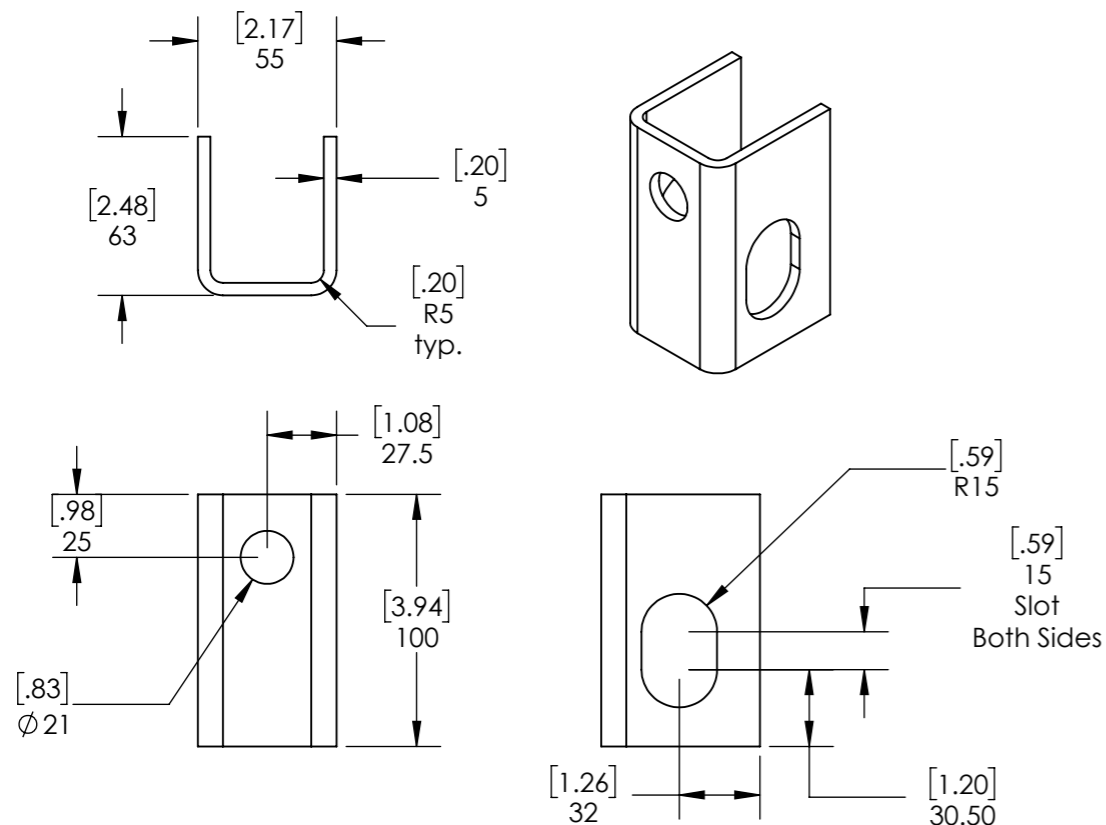
- Outside nut shall be turned to end of step bolt threads prior to installation.
- Step bolt shall be turned through inside nut until bolt makes snug contact with pole.
- Outside nut shall be snugged against clip then tightened 1/4 to 1/2 turn to achieve proper step bolt preload.



CLIP-STEP BOLT SPACING



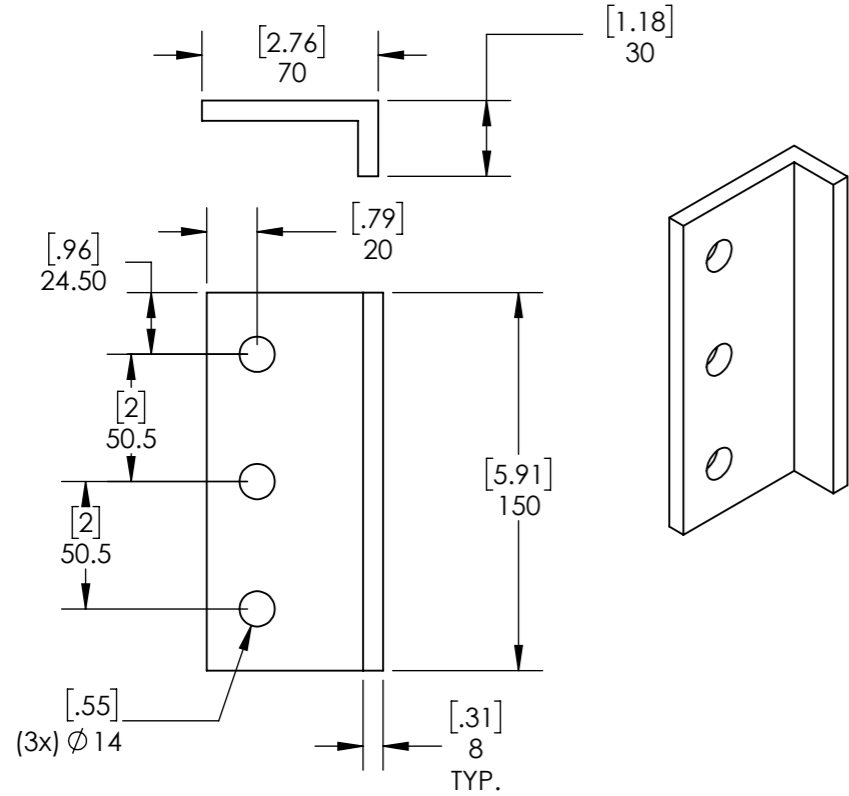
CLIP



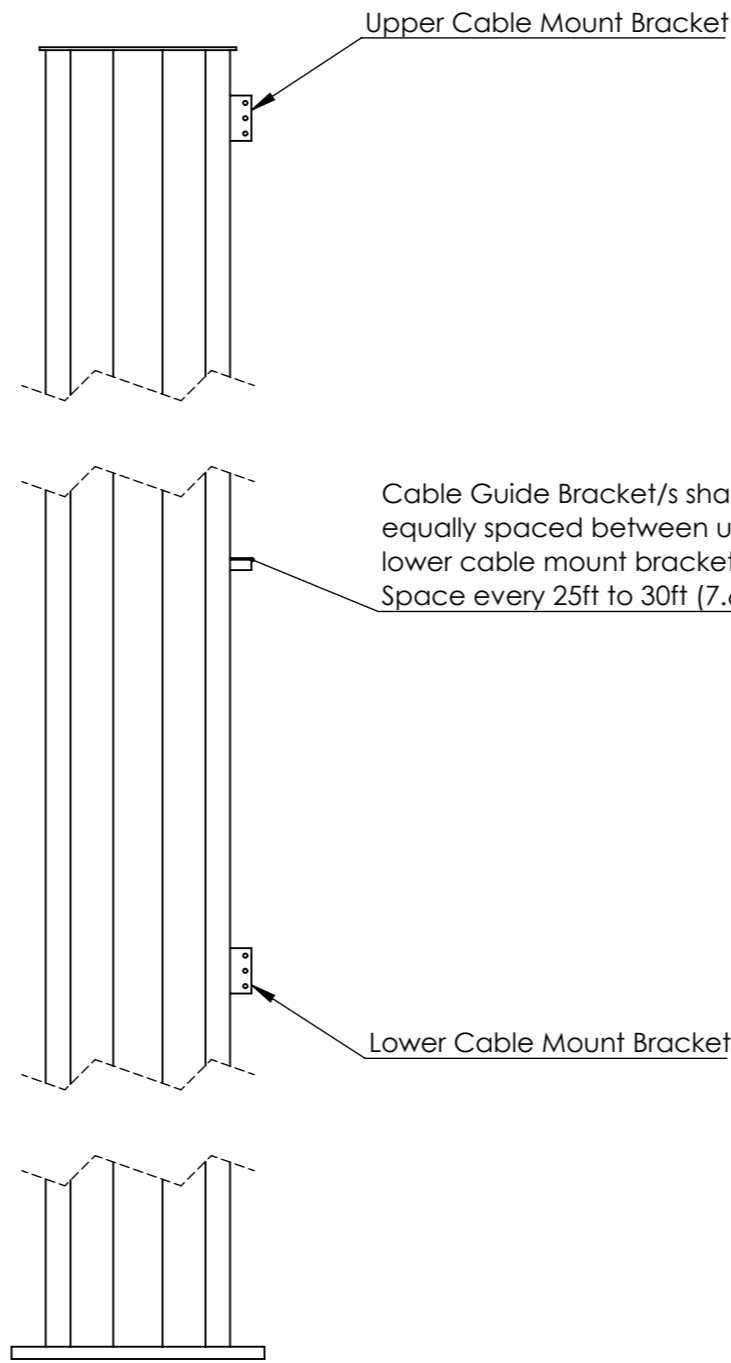
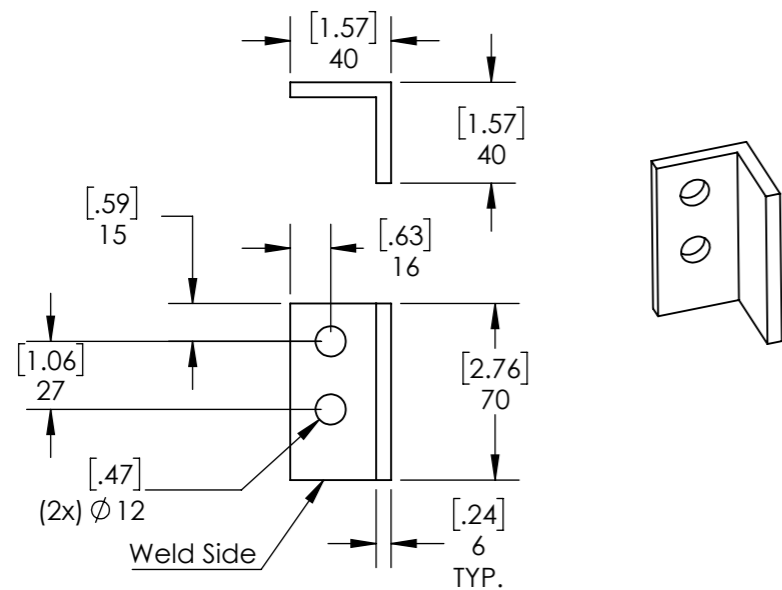
CAD-generated drawing do not manually update				1041 Grand Ave., #213 St. Paul, MN 55105 (651) 330-1263 www.aretelcom.com	
Total Weight 3.1 lbs (1.41 kg)		APPROVALS DRAWN MGC CHECKED RESP ENG MFG ENG QUAL ENG		DATE 10/12/20	
MATERIAL See Notes		DO NOT SCALE DRAWING		Step Bolt/ Clip CAD file: Details and dimensions not shown on this drawing can be found in CAD file.	
FINISH See Notes		scale NA rev. B size NA		sheet 4 of 5	

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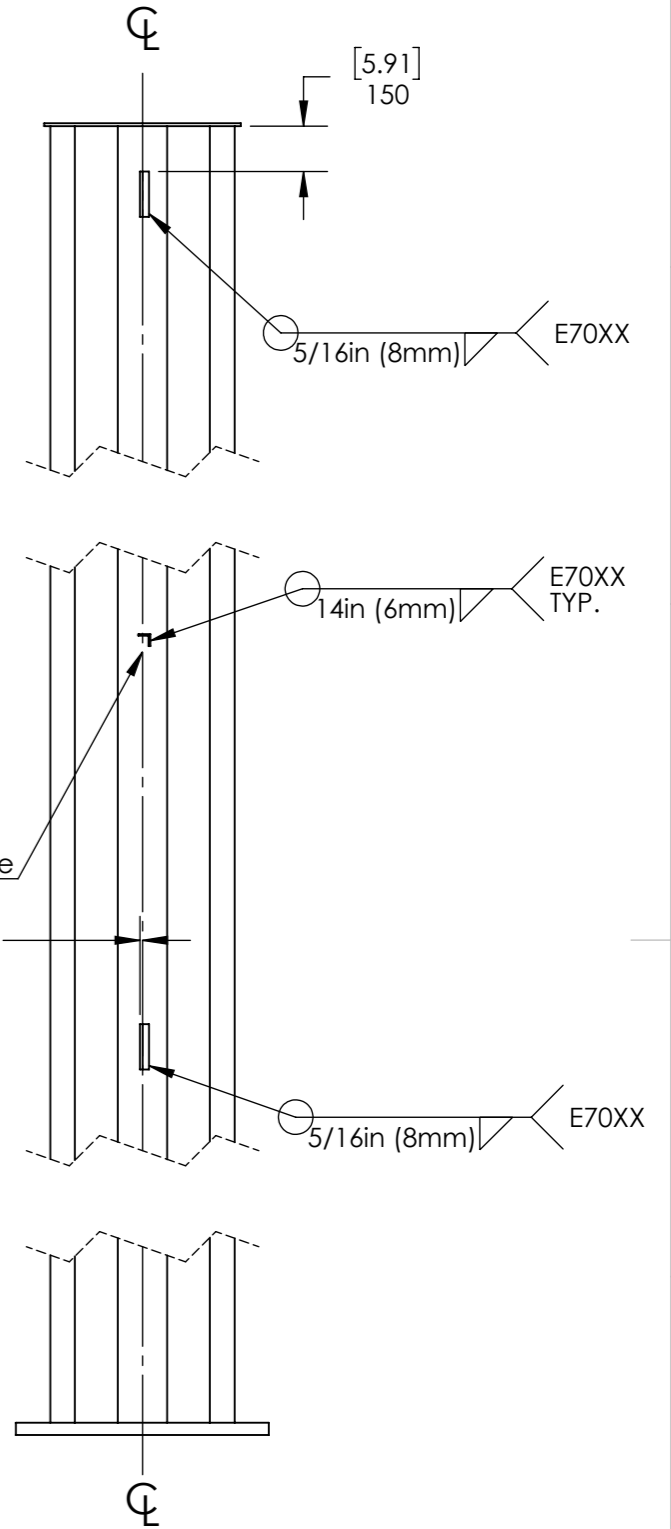
Cable Mount Bracket



Cable Guide Bracket



Align mounting holes with center line of pole



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 #
scale NA rev. B size NA sheet 5 of 5