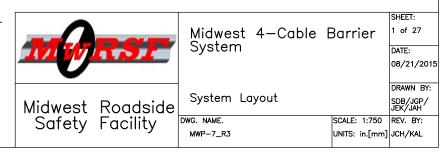
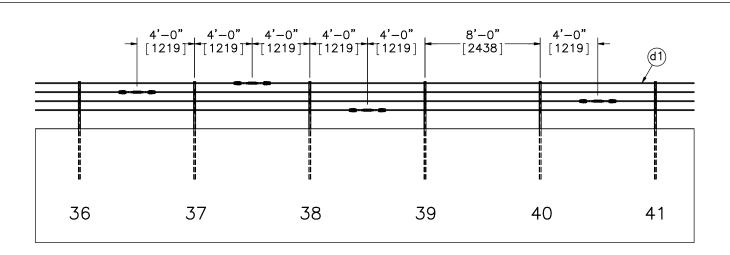


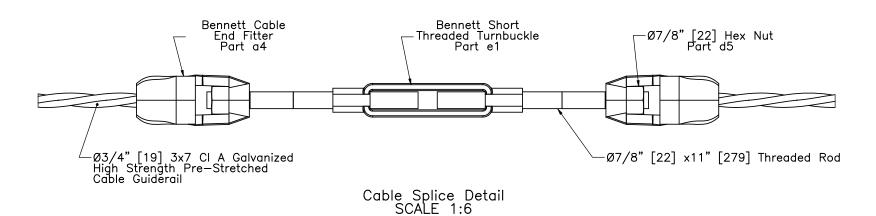
Notes: (1) Test shall be performed according to test designation no. 3—10 of MASH criteria.

- (2) At a minimum, critical post nos. 26-48 are placed in 18" [457] diameter hole backfilled and tamped in well compacted soil.
- (3) Test cable tensions of 2500 \pm 200 lb [11.1 \pm 0.890 kN].
- (4) Bottom cable on impact side.
- (5) Span between posts 68 and 69 is 144" [3658].
- (6) Post nos. 22-53 are modified weak posts as shown on sheets 19-22.



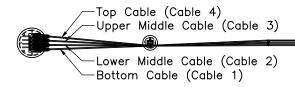


DETAIL B Cable Splice Location Detail

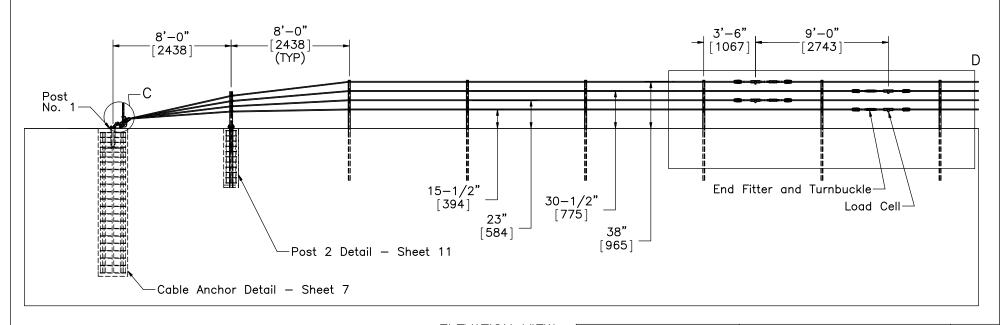


Notes: (1) The splice locations may be moved as long as two adjacent cable splices are not located on top of one another.

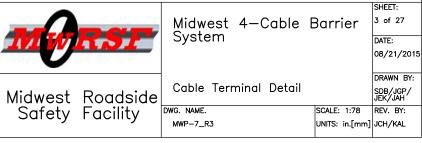
M	RSF	Midwest 4—Cable System	Barrier	SHEET: 2 of 27 DATE: 08/21/2015
Midwest Safety	Roadside Facility	Cable Splice Location Detail DWG. NAME. MWP-7_R3	SCALE: 1:80 UNITS: in.[mm]	DRAWN BY: SDB/JGP/ JEK/JAH REV. BY: JCH/KAL

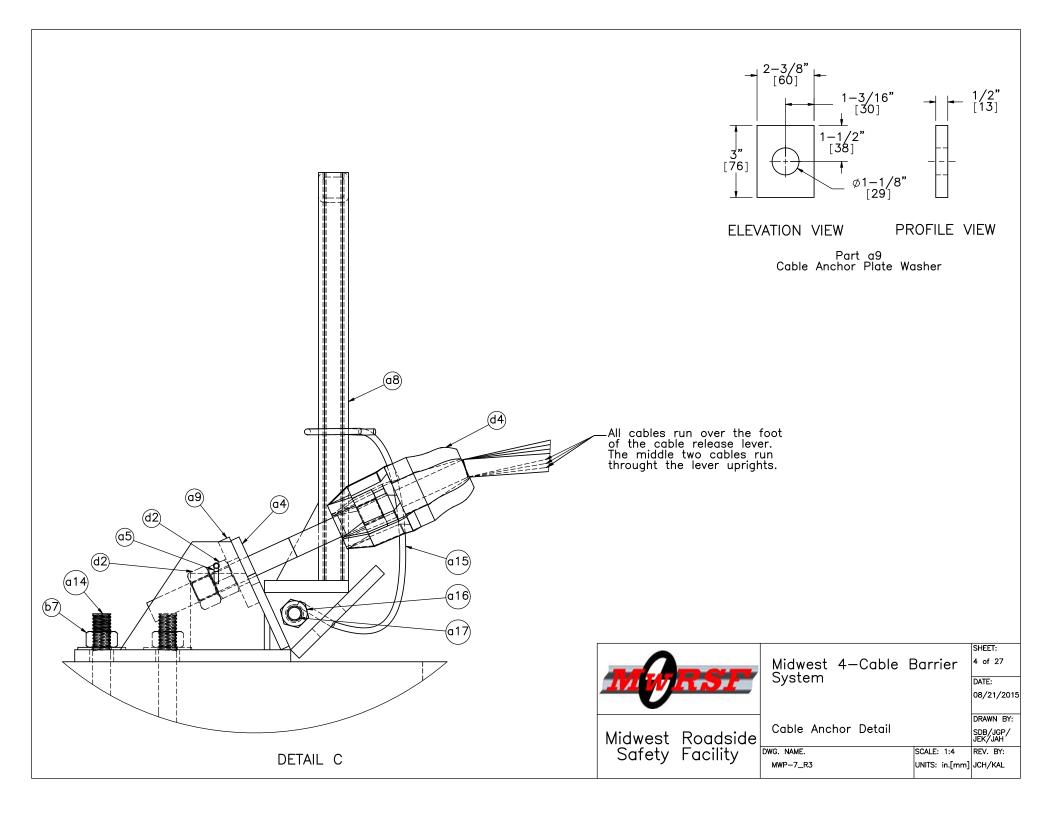


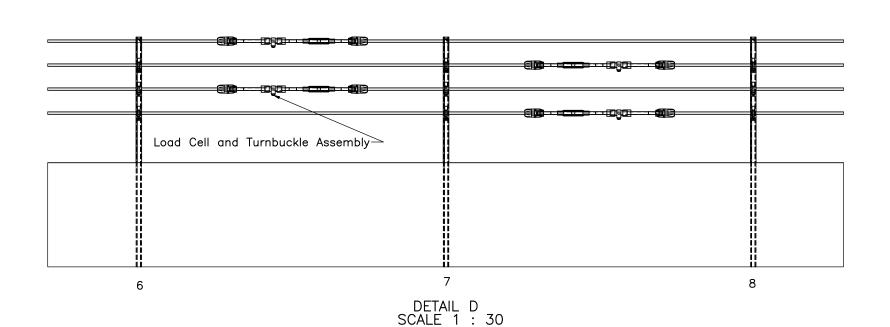
PLAN VIEW

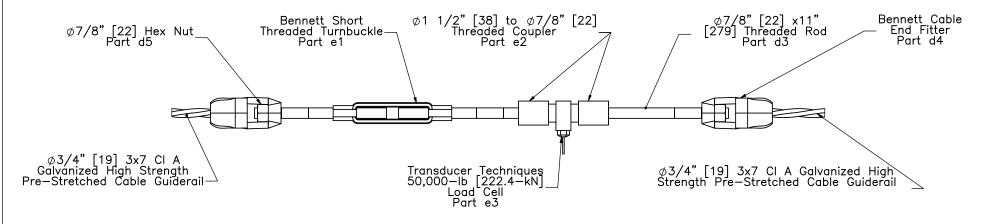


ELEVATION VIEW

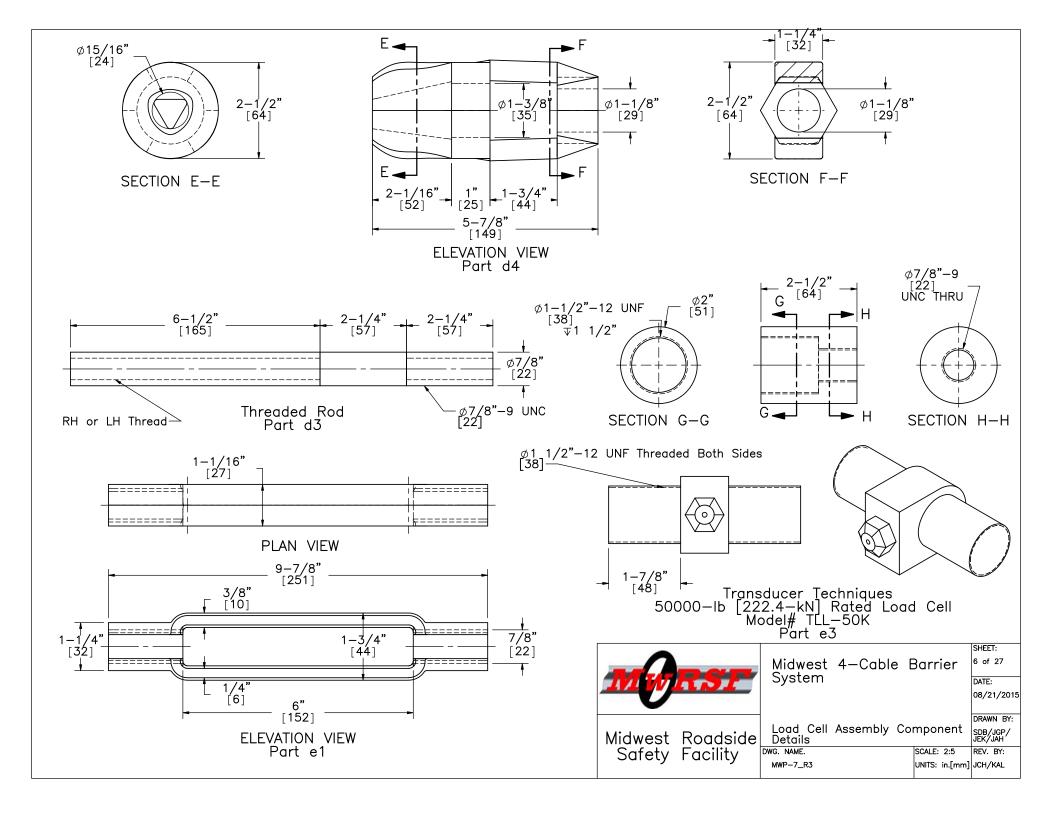


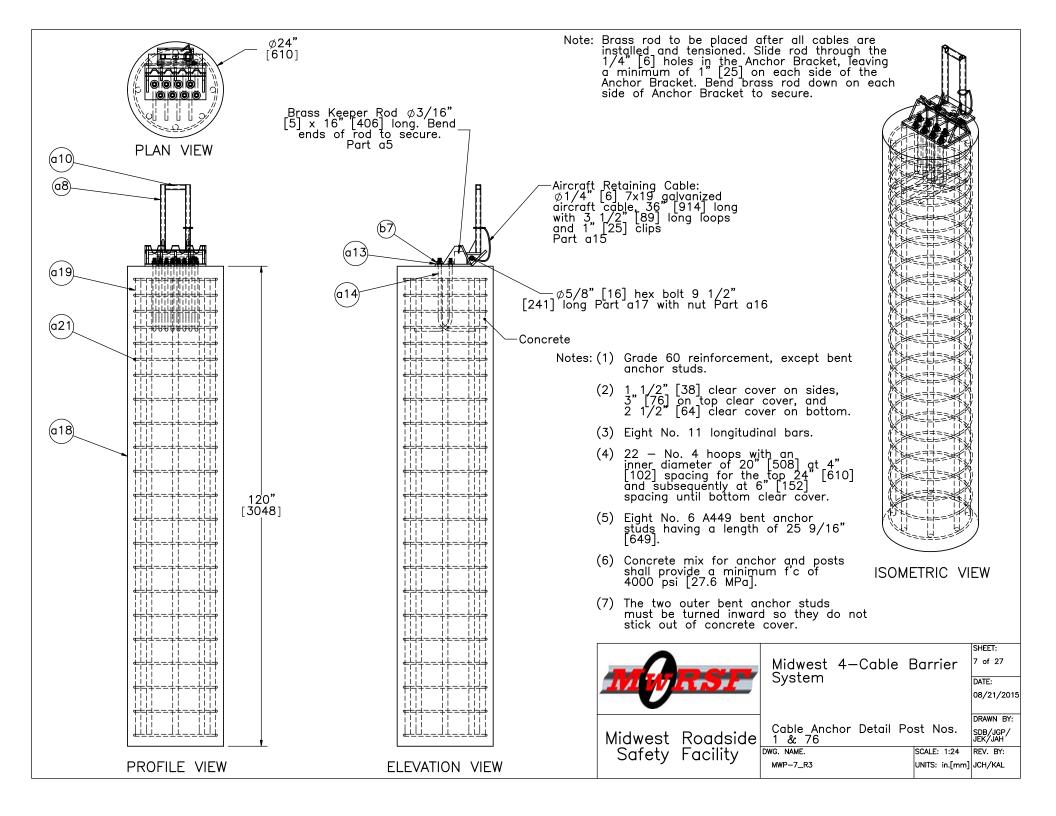


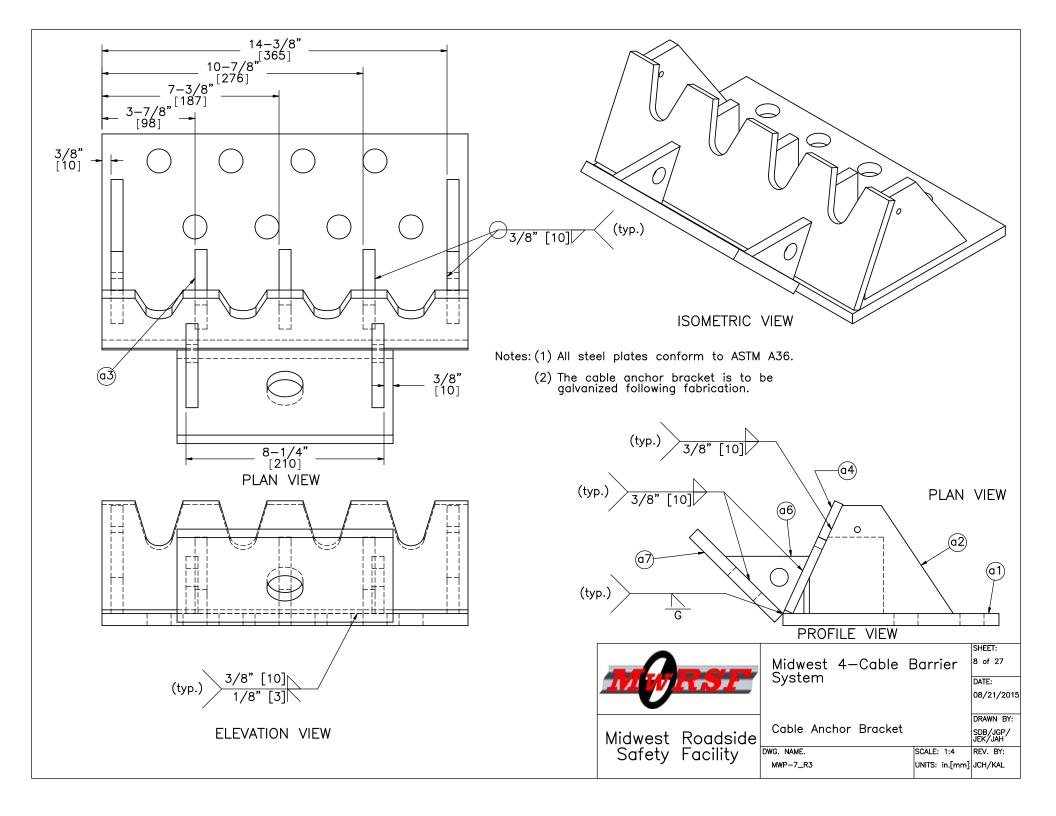


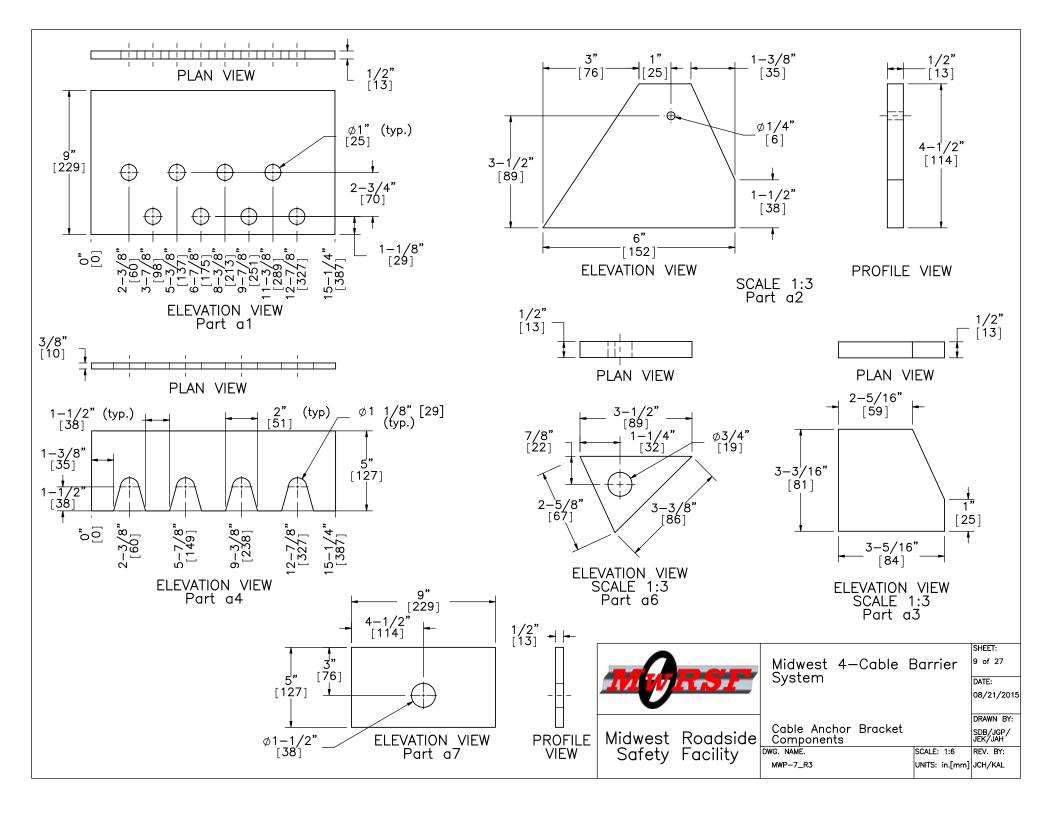


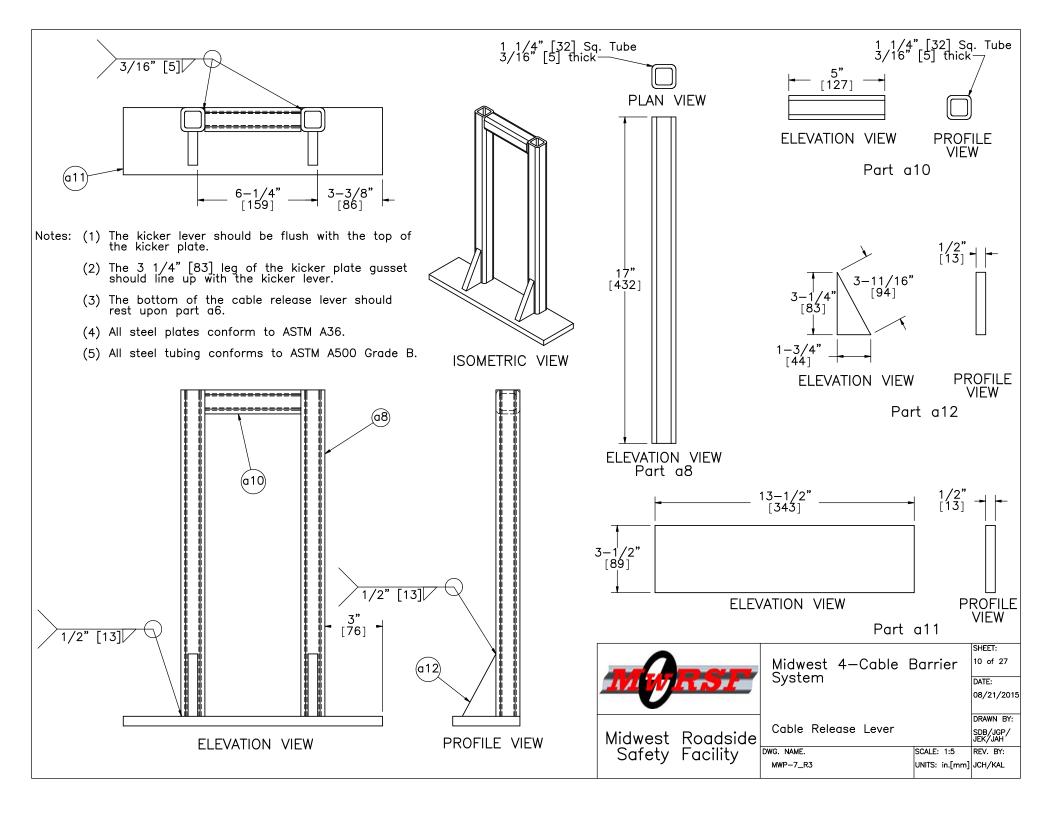


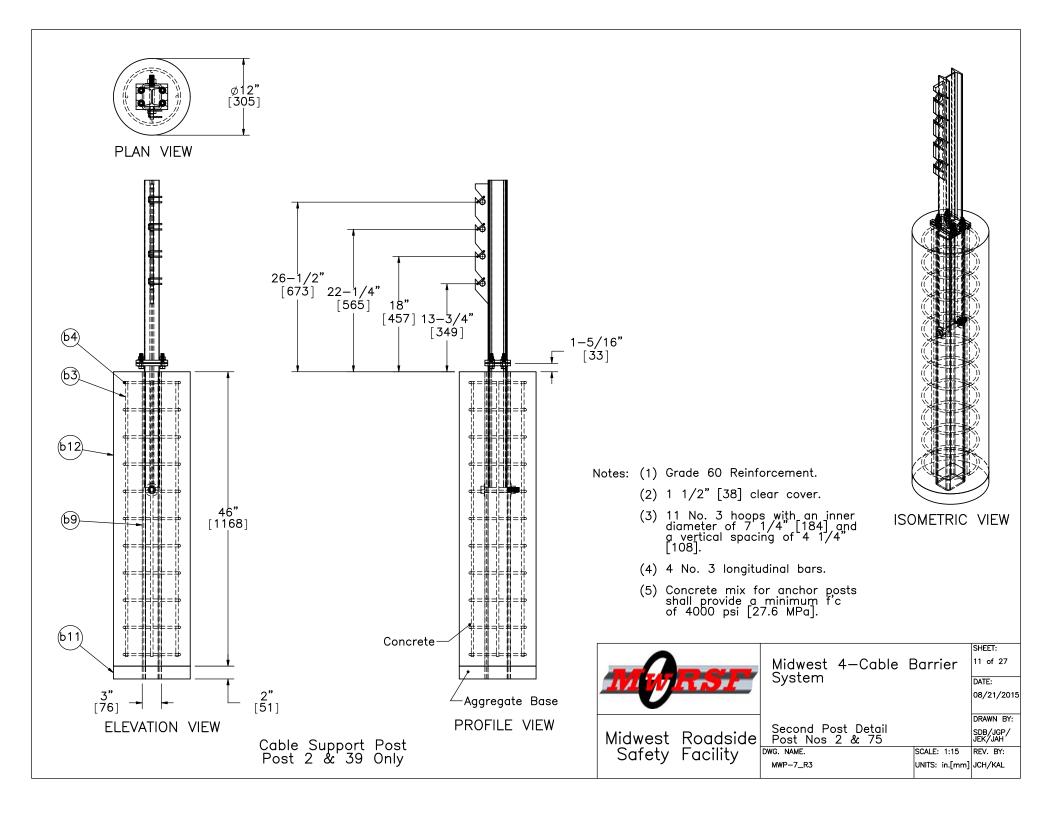


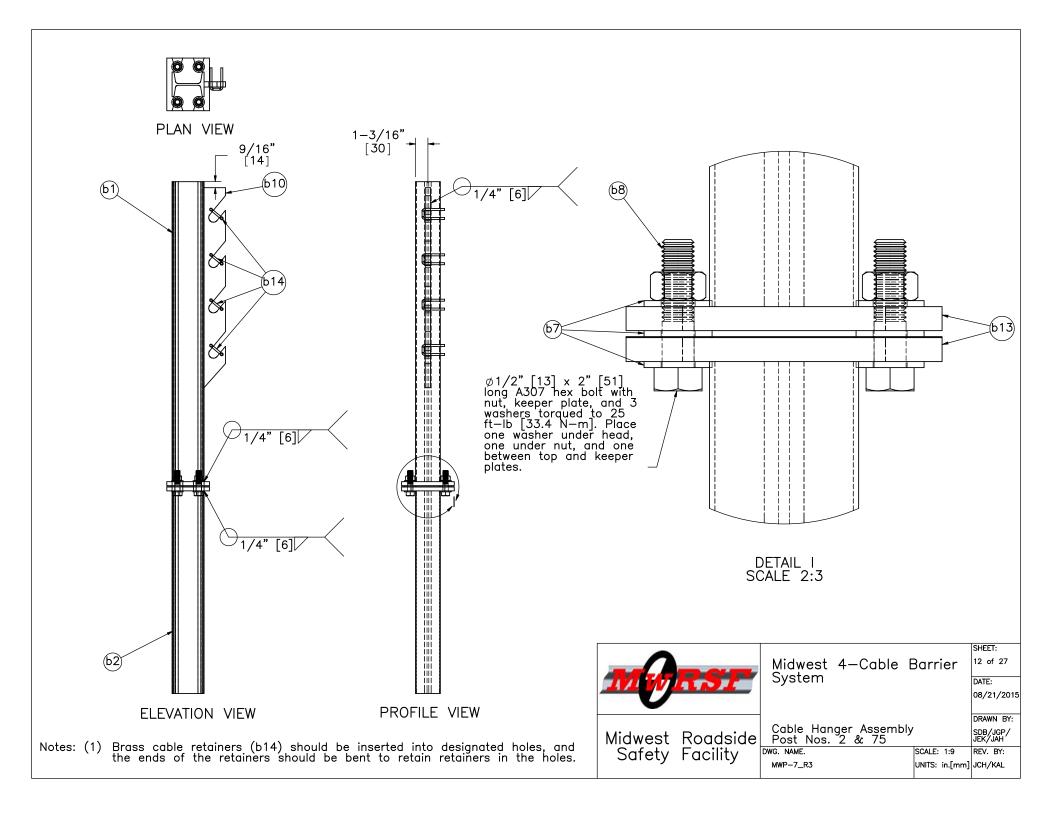


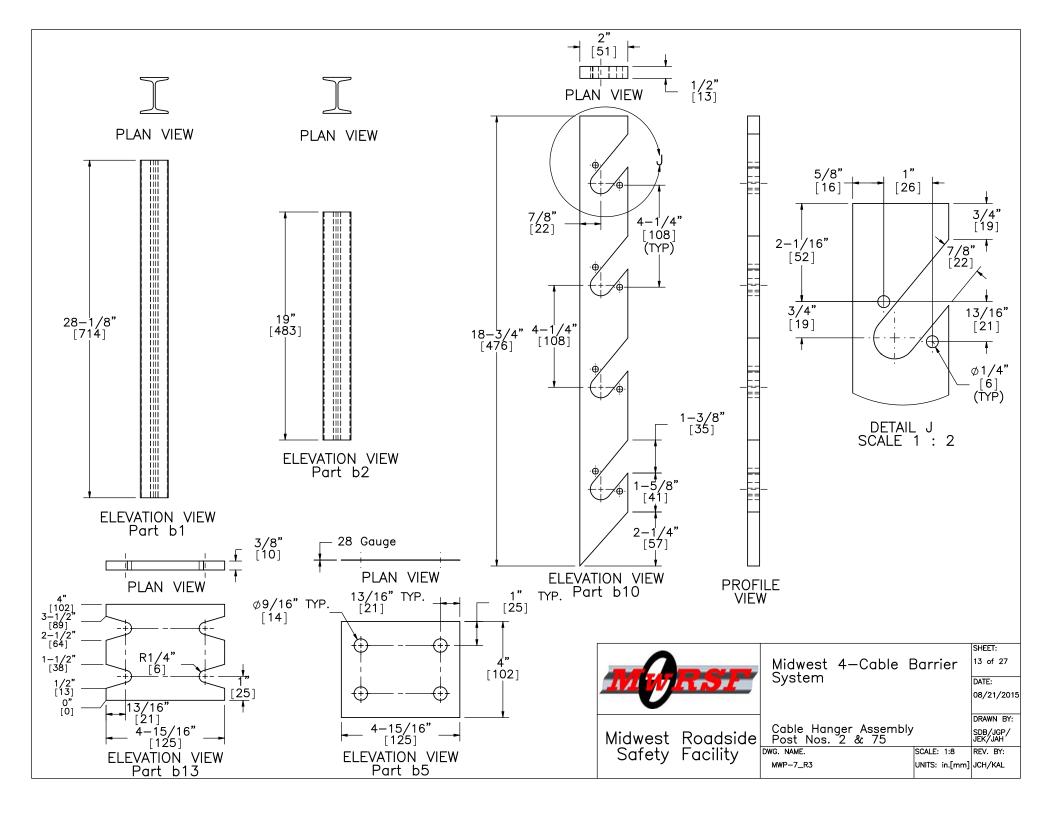


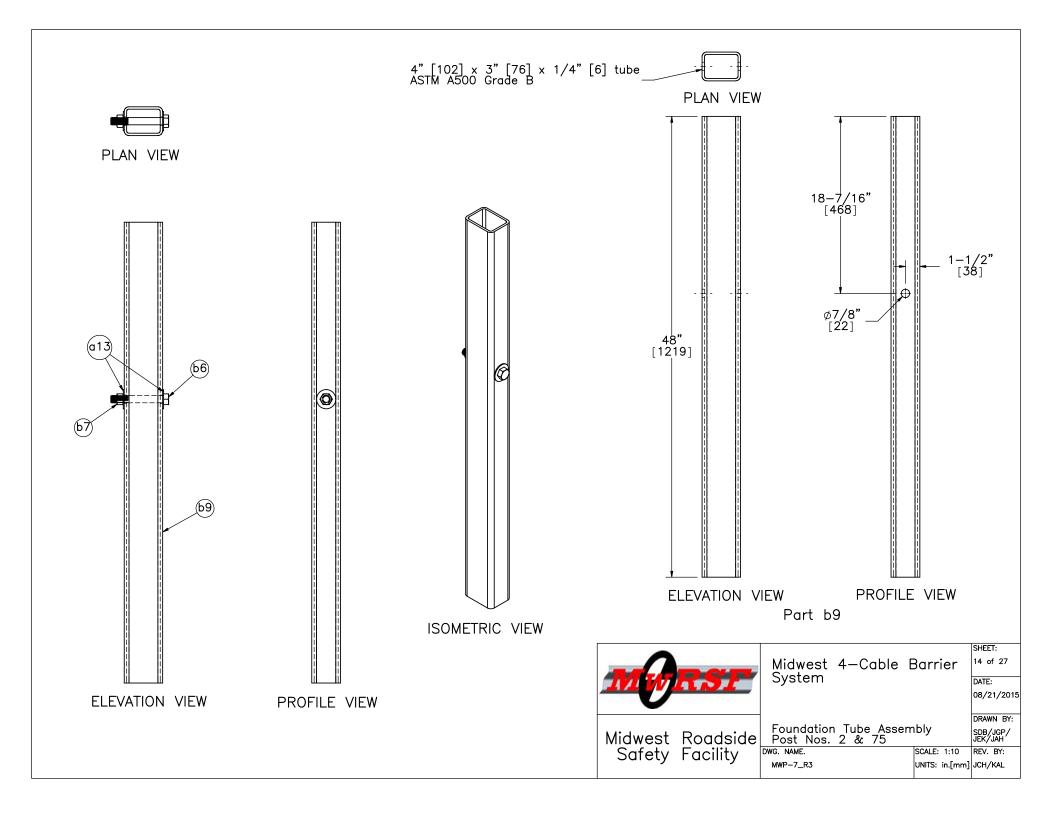


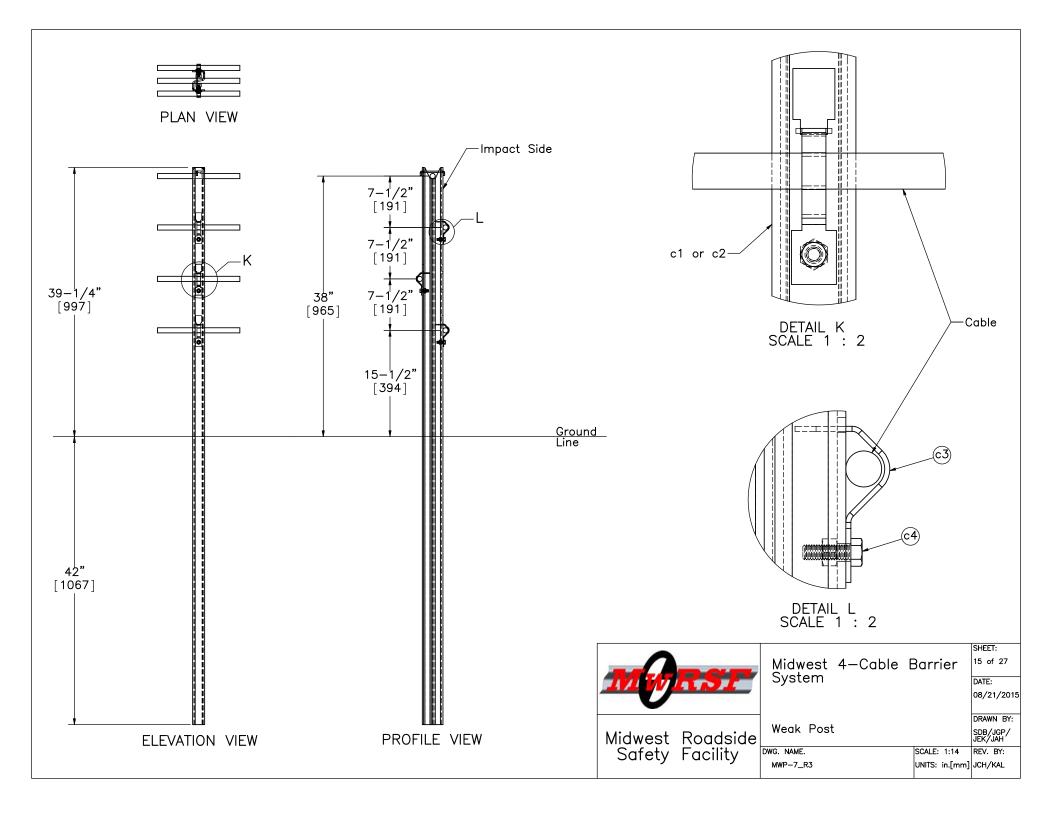


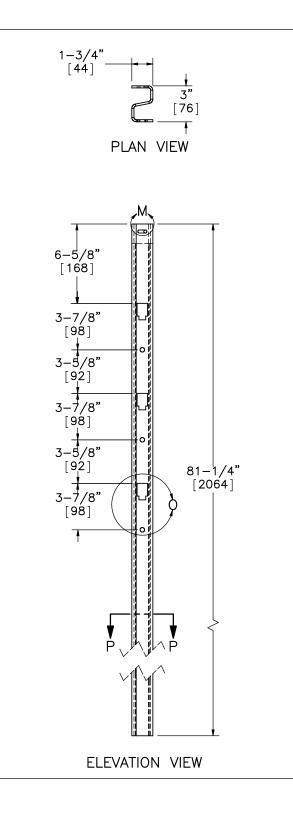




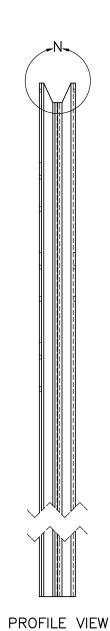


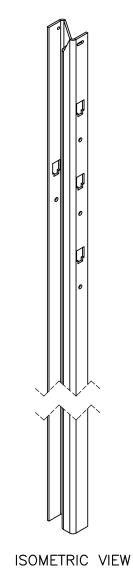






Unbent width = 7.0453"







Midwest Roadside Safety Facility

Post Nos. 3-21 and 54-74

Details

DWG. NAME. | SCALE: 1:8

Midwest 4—Cable Barrier System

DATE: 08/21/2015

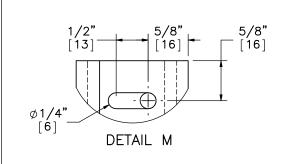
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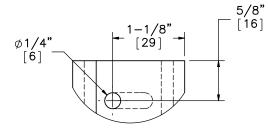
SHEET:

16 of 27

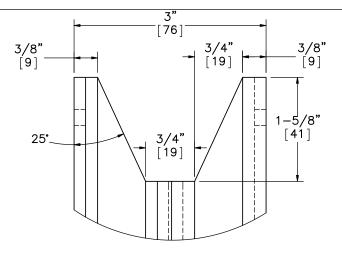
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REV. BY: UNITS: in.[mm] JCH/KAL

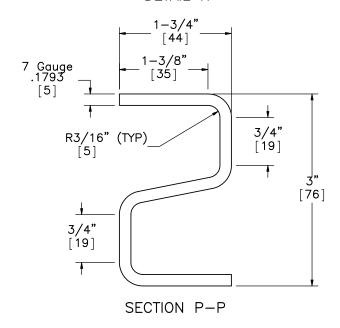


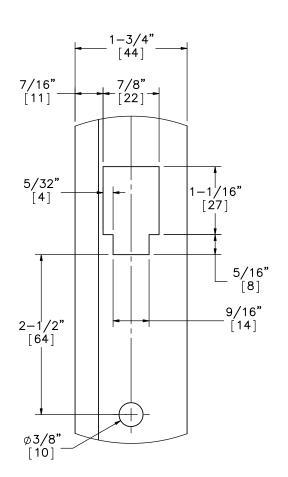


DETAIL M BACKSIDE



DETAIL N





DETAIL O



Midwest Roadside Safety Facility Midwest 4—Cable Barrier System

17 of 27

DATE:

08/21/2015

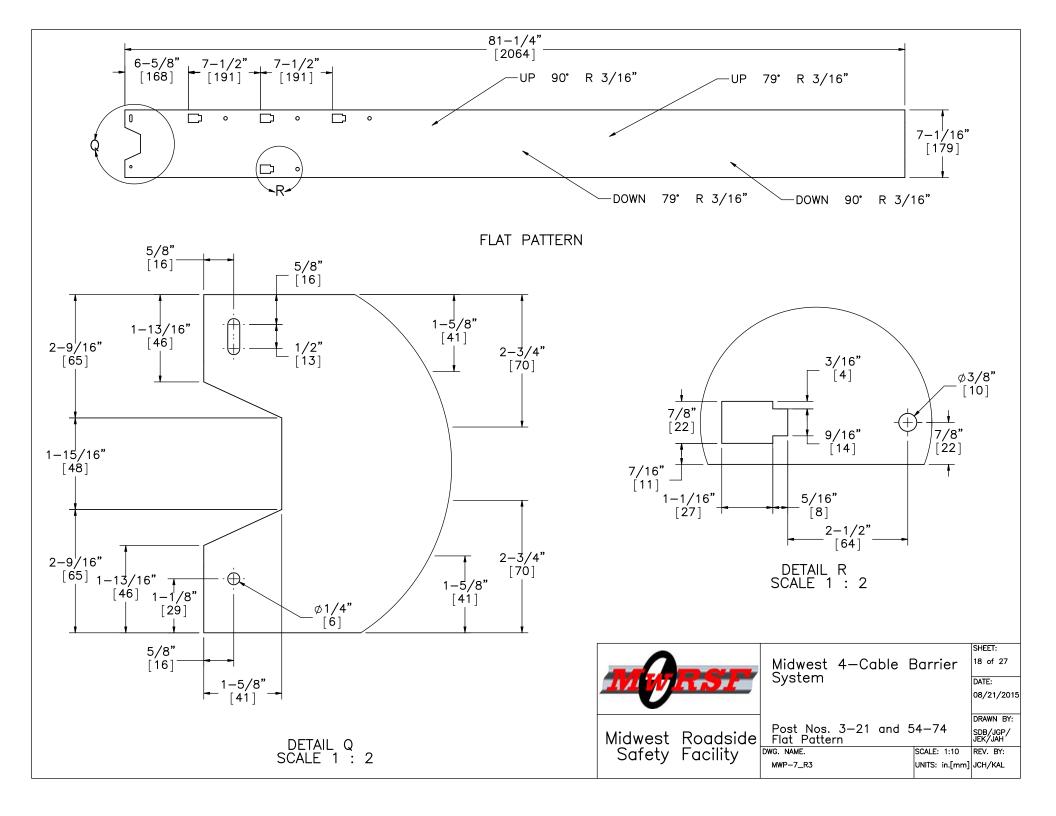
SHEET:

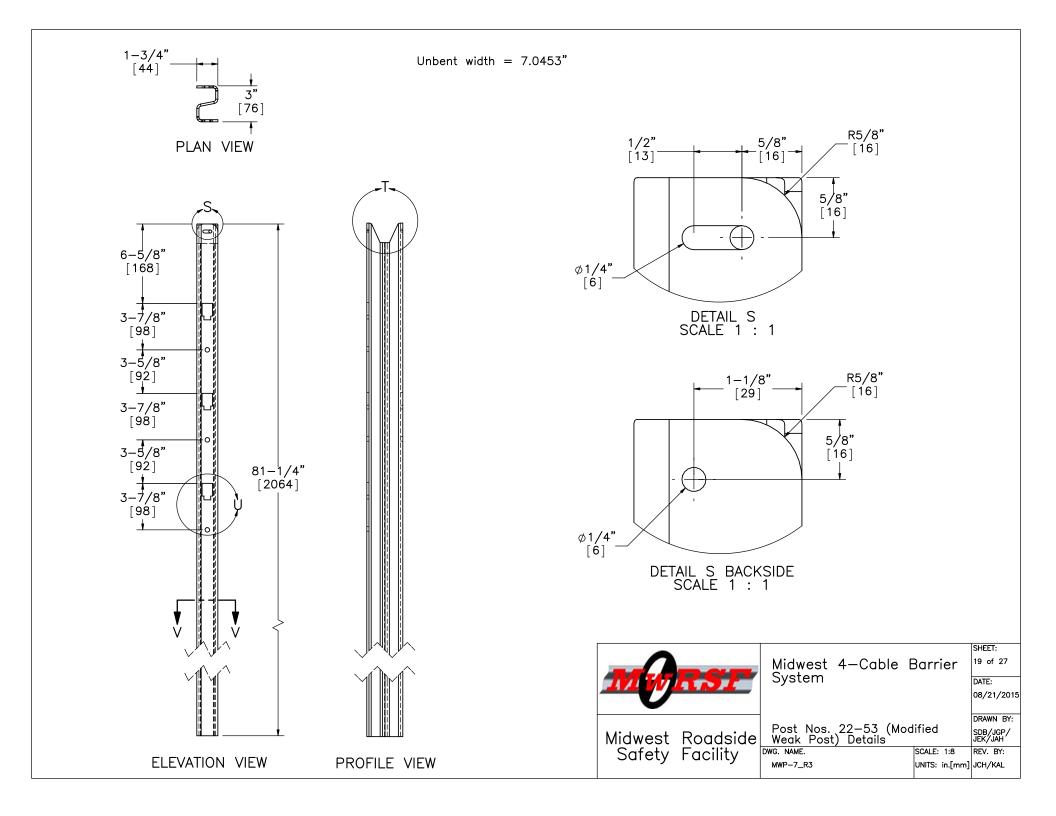
Post Nos. 3—21 and 54—74 Details

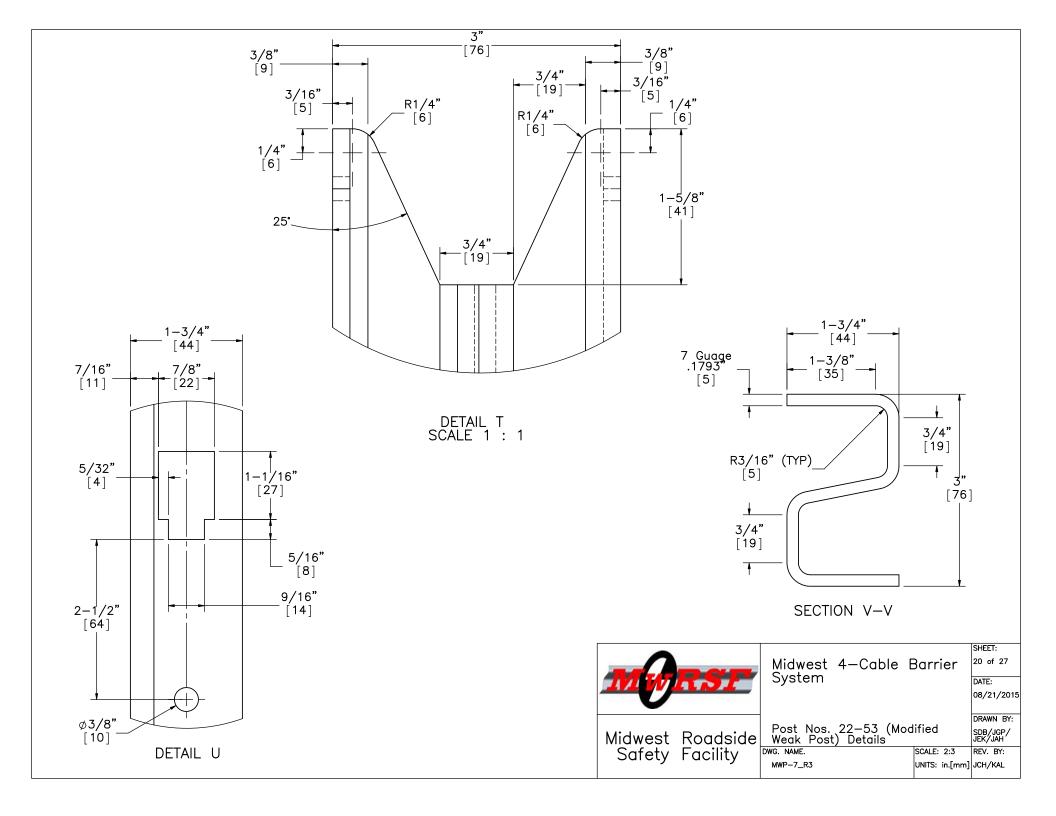
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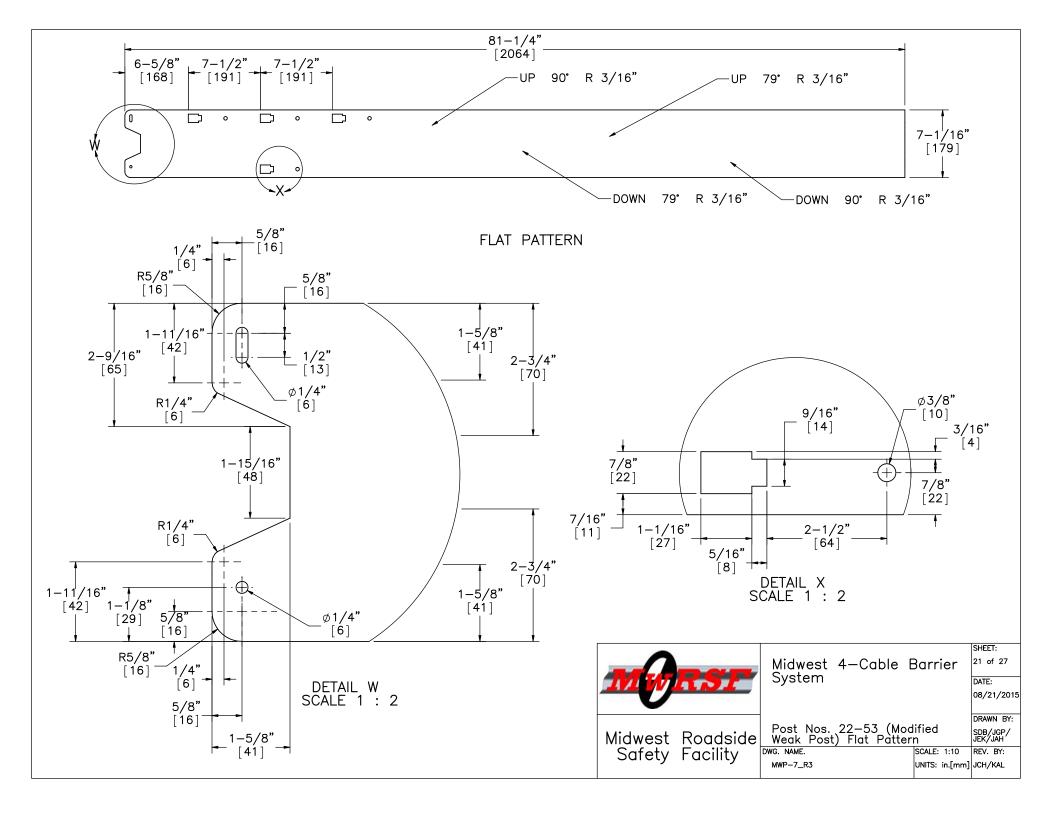
DWG. NAME. SCAI MWP-7_R3 UNIT

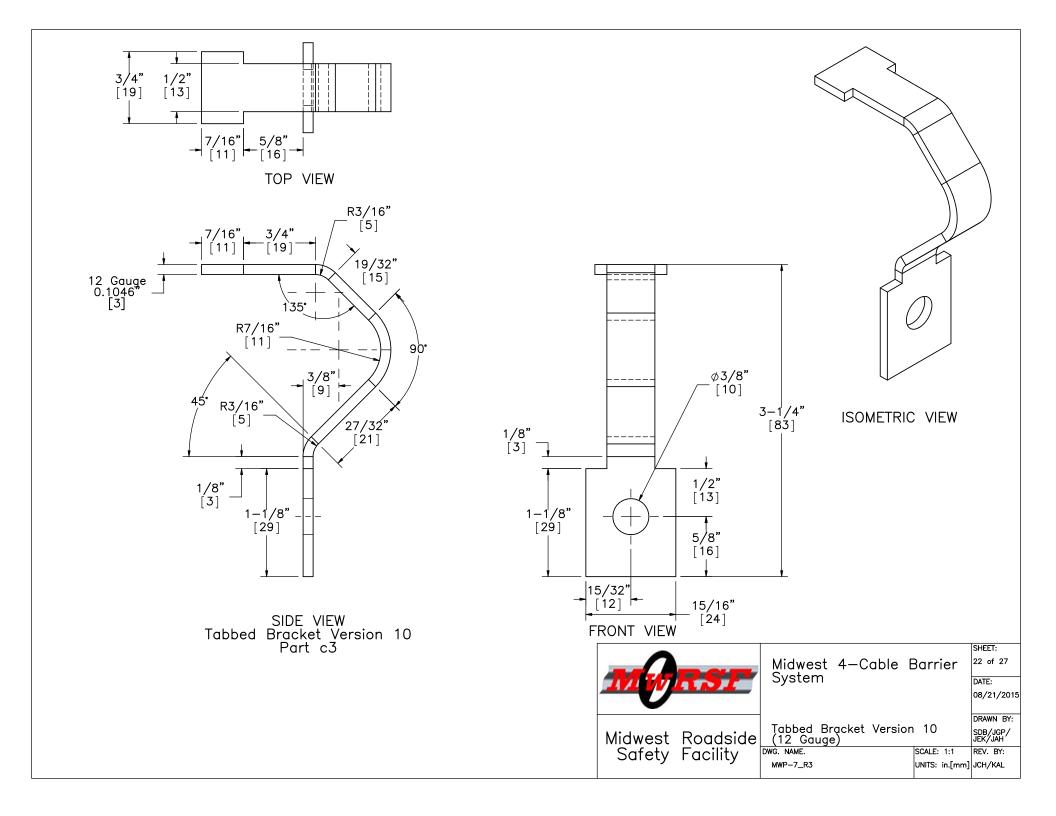
SCALE: 2:3 REV. BY: UNITS: in.[mm] JCH/KAL

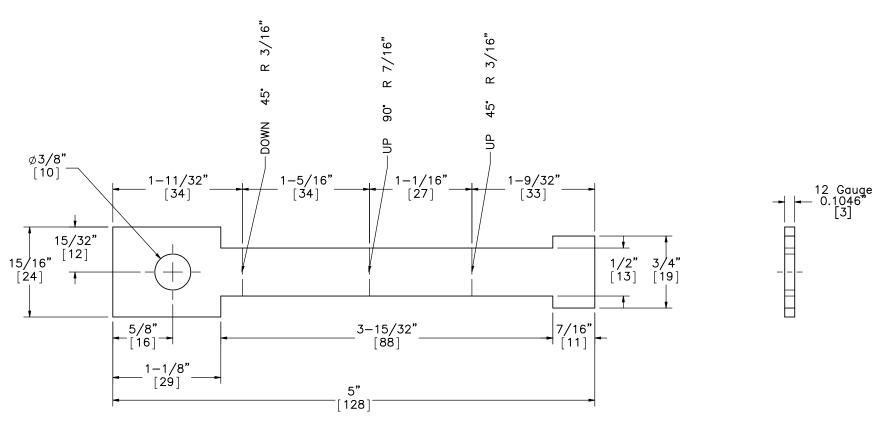






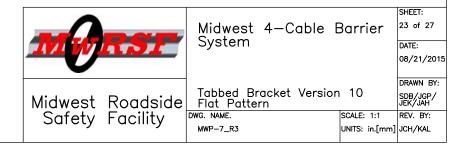


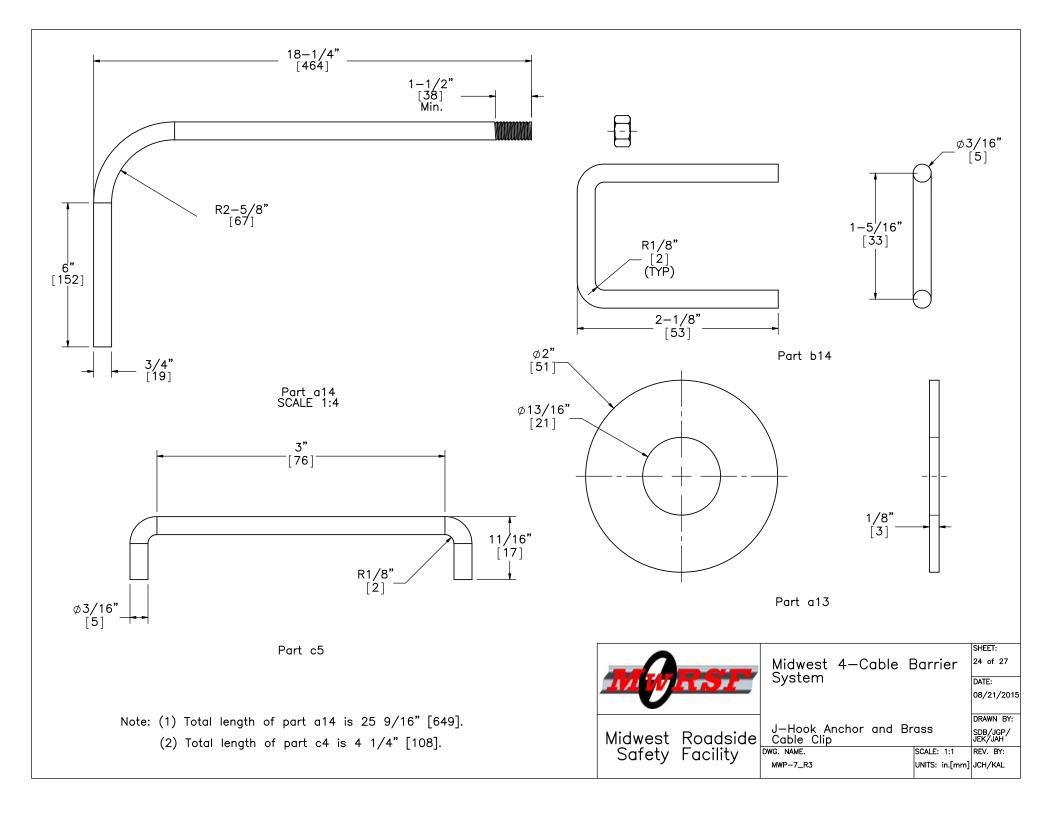


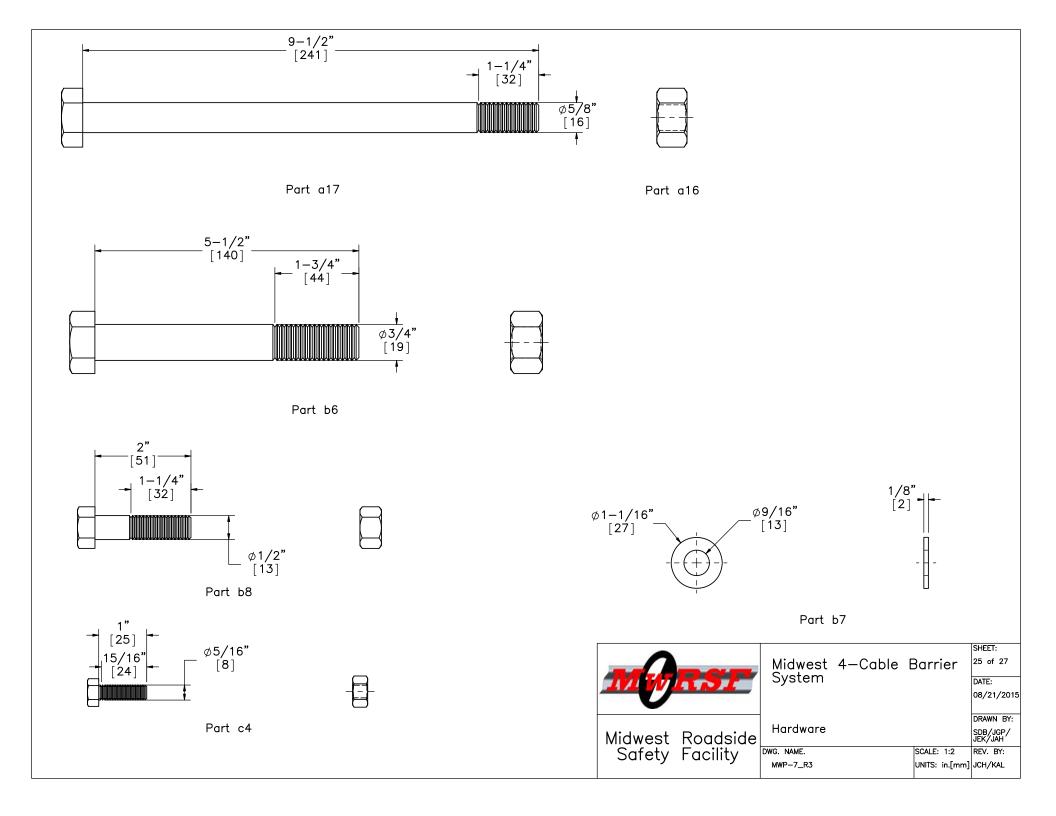


FLAT PATTERN FRONT/BACK Tabbed Bracket Version 10 Part c3

FLAT PATTERN SIDE VIEW







Item No.	QTY.	Description	Material Specification		
a1	2	Cable Anchor Base Plate	ASTM A36		
a2	4	Exterior Cable Plate Gusset	ASTM A36		
a 3	6	Interior Cable Plate Gusset	ASTM A36		
a4	2	Anchor Bracket Plate	ASTM A36		
a5	2	3/16" [5] Dia. Brass Keeper Rod, 14" [356] long	Brass		
a6	4	Release Gusset	A36 Steel		
a7	2	Release Lever Plate	A36 Steel		
a8	4	1.25x1.25x0.1875" [32x32x5] TS CT Kicker Lever Tube	ASTM A500 Gr. B		
a9	8	CMB High Tension Anchor Plate Washer	ASTM A36		
a10	2	1.25x1.25x0.1875" [32x32x5] TS CT Kicker Lever Connecting Tube	ASTM A 500 Gr. B		
a11	2	3x10x0.5" [76x254x13] Kicker Plate	ASTM A36		
a12	4	CT kicker — gusset	ASTM A36		
a13	20	3/4" [19] Dia. Flat Washer	ASTM F844		
a14	16	3/4" [19] Dia. UNC J—Hook Anchor and Hex Nut	J-Hook ASTM A449/Nut ASTM A563 DH		
a15	2	1/4" [6] Dia. Aircraft Retaining Cable, 36" [914] long	7x19 Galv.		
a16	2	5/8" [16] Dia. Heavy Hex Nut	ASTM A563C		
a17	2	5/8" [16] Dia. UNC, 9 1/2" [241] Long Hex Bolt	ASTM A449 or SAE J429 Gr. 5		
a18	2	24" [610] Dia. Concrete Anchor, 120" [3048] long	4,000 psi f'c		
a19	16	#11 Straight Rebar, 114" [2896] long	Grade 60		
a20	44	#4 Anchor Hoop Rebar with 21" [533] Dia.	Grade 60		
b1	2	S3x5.7 [S76x8.5] Post by 28 1/8" [714]	ASTM A572 GR50-07, ASTM A709 GR50-09A, ASTM A992-06A		
b2	2	S3x5.7 [S76x8.5] Post by 19" [483]	ASTM A572 GR50-07, ASTM A709 GR50-09A, ASTM A992-06A		
b3	8	#3 Straight Rebar, 43" [1092] long	Grade 60		
b4	22	7 1/4" [184] Dia. No. 3 Hoop Reinforcement	Grade 60		
b5	2	2nd Post Keeper Plate, 28 Gauge	ASTM A36		
b6	2	3/4" [19] Dia. UNC, 5 1/2" [140] Long Hex Bolt and Nut	Bolt ASTM A307 Gr. A/Nut ASTM A563A		
ь7	24	1/2" [13] Dia. Washer with 1 1/16" [27] OD	ASTM F844		
b8	8	1/2" [13] Dia. UNC, 2" [51] long Hex Bolt and Nut	Bolt ASTM A307 Gr. A/Nut ASTM A563A		
Ь9	2	4x3x1/4" [102x76x6] Foundation Tube, 48" [1168] long	ASTM A500 Grade B		
b10	2	2nd Post Cable Hanger	ASTM A36		
b11	2	2nd Post Anchor Aggregate 12 in, Depth	-		
b12	2	12" Dia. 2nd Post Concrete Anchor, 46" long	4,000 psi f'c		
b13	4	2nd Post Base Plate	ASTM A36		
b14 8 3/16" [5] Dia. 5 1/4" [133] Long Brass Rod		3/16" [5] Dia. 5 1/4" [133] Long Brass Rod	ASTM B16-00		
			Midwest 4—Cable Barrier System SHEET: 26 of 27 DATE: 08/21/2015		

Midwest Roadside Safety Facility

08/21/2015

Bill of Materials

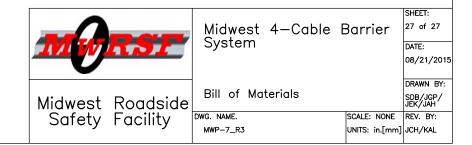
DRAWN BY:

MWP-7_R3

SDB/JGP/ JEK/JAH SCALE: NONE REV. BY:

UNITS: in.[mm] JCH/KAL

Item No.	QTY.	Description	Material Spec
c1	40	3"x1-3/4"x7 Gauge [76x44x4.6], 81 1/4" [2064] Long Bent Z-Section Post	Hot-Rolled ASTM A1011 HSLA Gr. 50
c2	32	3"x1-3/4"x7 Gauge [76x44x4.6], 81 1/4" [2064] Long Bent Z-Section Post (Modified)	Hot-Rolled ASTM A1011 HSLA Gr. 50
с3	216	12 Gauge Tabbed Bracket — Version 10	Hot-Rolled ASTM A1011 HSLA Grade 50
с4	216	5/16" [8] Dia. UNC, 1" [25] Long Hex Cap Screw and Nut	Bolt SAE J429 Gr. 5 or ASTM A449/Nut ASTM A563 DH
с5	72	Straight Rod — ϕ 3/16" [5] Cable Clip	ASTM B16 Brass C36000 Half Hard (HO2), ROUND. TS >= 68.0 ksi, YS >= 52.0 ksi
d1	1	3/4" [19] Dia. 3x7 Cable Guiderail	AASHTO M30-92(2000)/ASTM A741-98 Type 1 Class A coating except with Type 1 minimum breaking strength = 39 kips [173.5 kN]
d2	16	7/8" [22] Dia. Hex Nut	ASTM A563C
d3	28	Cable End Threaded Rod	ASTM A449
d4	24	Bennett Cable End Fitter	ASTM A47
d5	24	7/8" [22] Dia. Hex Nut	SAE J429 Gr. 5
e1	8	Bennett Short Threaded Turnbuckle	Not Specified
e2	8	Threaded Load Cell Coupler	N/A
e3	4	50,000-lb [222.4-kN] Load Cell	N/A



System: MWP Revision History

Drawing: MWP-7

REV.	DATE OF ISSUE	Page	NATURE OF CHANGES	
R0	2/17/2015	_	Derived from MWP-5_R0. Posts 27-47 changed to modified weak post.	
		1	Note 6: Post Nos. 27-47 changed to 22-53	
		3	Cable notation changed	
		15	Z—Post changed to Weak Post in title box	
R1	2/18/2015	16 17 18	Post Nos. "3-26"=>"3-21" and "48-74"=>"54-74"	JGP
		19 20 21	Post Nos. "27-47"=>"22-53"	
R2	6/23/2015	7 11 12 13 14	Post numbers corrected in page description.	JEK
R3	8/21/2015	_	Changed "Bennet" to proper spelling of "Bennett"	