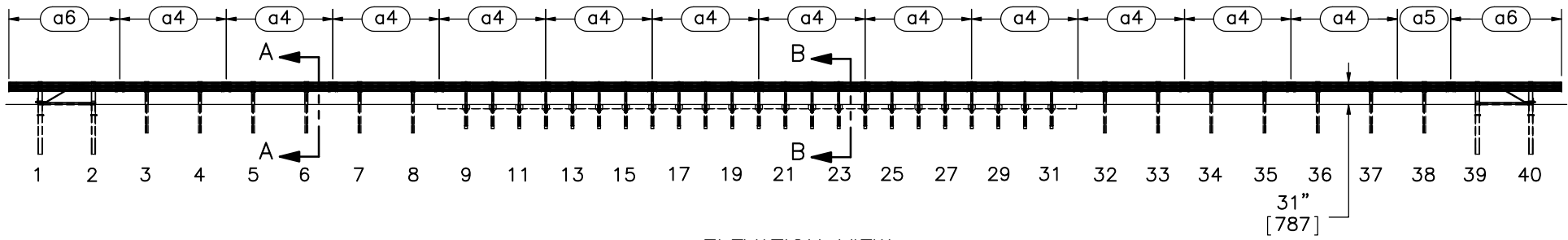


PLAN VIEW



ELEVATION VIEW

- Notes: (1) Test shall be performed according to test designation no. 3-11 of MASH criteria.
 (2) The impact location is 16'-0" [4877] upstream of post no. 20.
 (3) BCT anchors are placed in ϕ 3' [914] holes, then backfilled and tamped with soil.
 (4) Critical region is between post nos. 9 and 31.

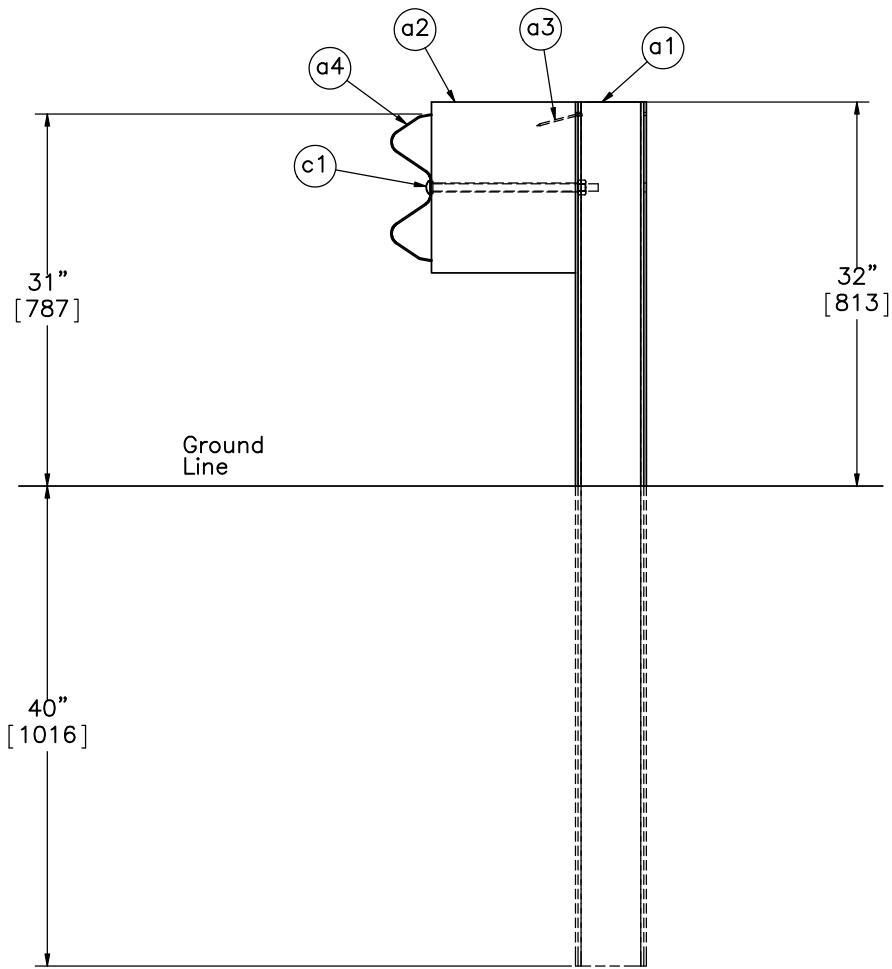


Weak-Post W-Beam
Guardrail in Mow Strips

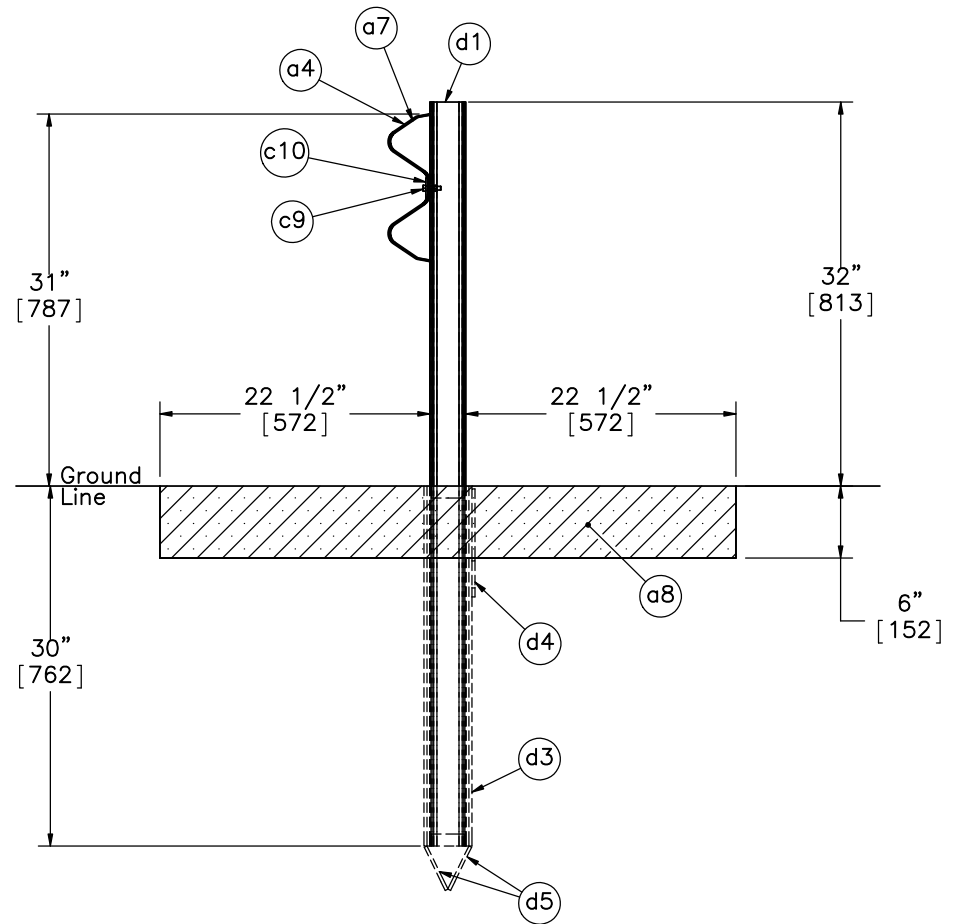
System Layout

DWG. NAME: MGS_MowStrip_R3
 SCALE: 1:220
 UNITS: Inches

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 DRAWN BY: SDB
 REV. BY: SKR/KAL



SECTION A-A
Post Nos. 3-8 and 32-38



SECTION B-B
Post Nos. 9-31

Notes: (1) Sockets are to be installed along the centerline of the asphalt mow strip with soil shear plate on the back side of the system.



Midwest Roadside
Safety Facility

Weak-Post W-Beam
Guardrail in Mow Strips

Post Details

DWG. NAME:
MGS_MowStrip_R3

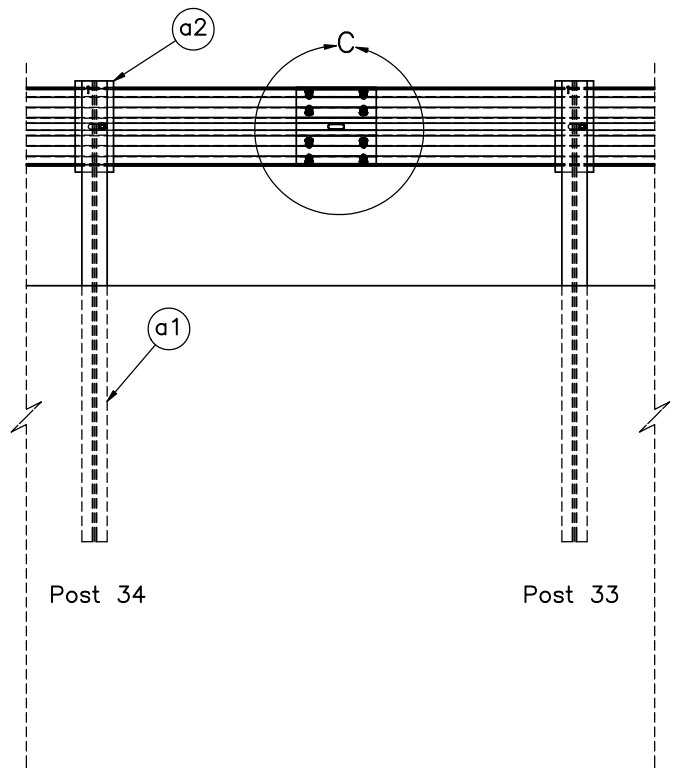
SCALE: 1:16
UNITS: Inches

SHEET:
2 of 13

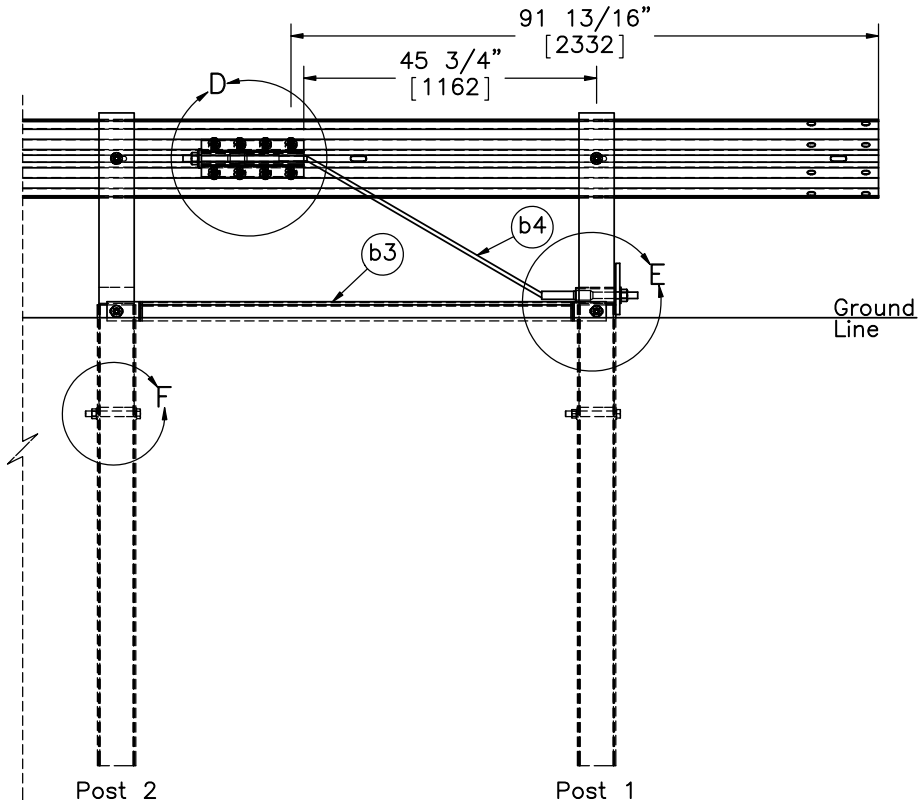
DATE:
9/26/2014

DRAWN BY:
SDB

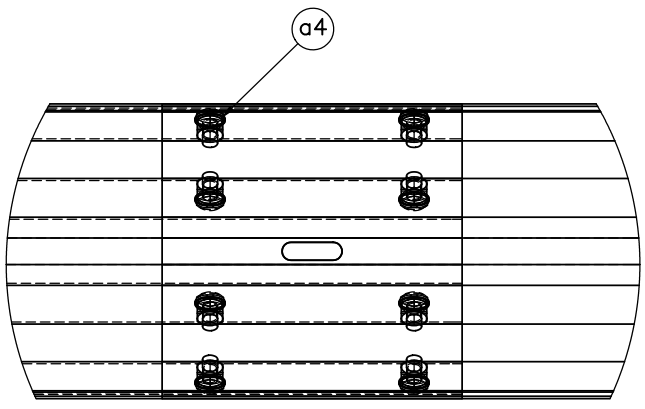
REV. BY:
SKR/KAL



SPLICE DETAIL
BACKSIDE



END SECTION DETAIL
BACKSIDE



DETAIL C
SCALE 1 : 8



Midwest Roadside
Safety Facility

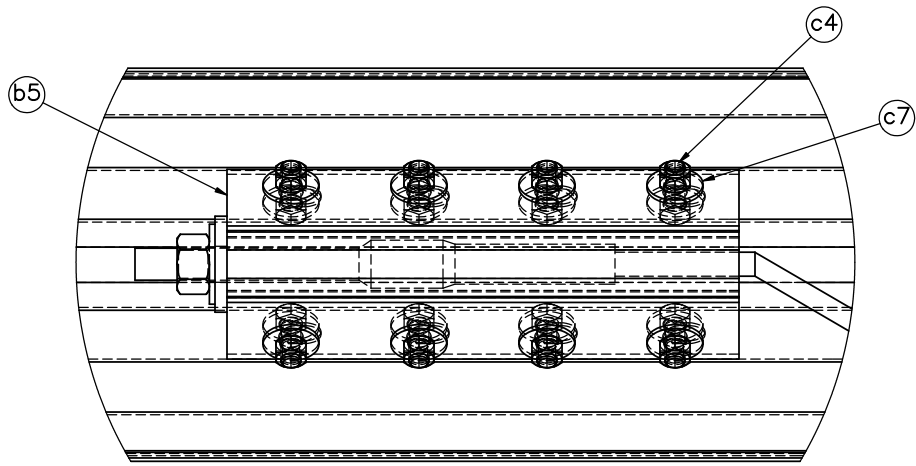
Weak-Post W-Beam
Guardrail in Mow Strips

End Section & Splice Detail

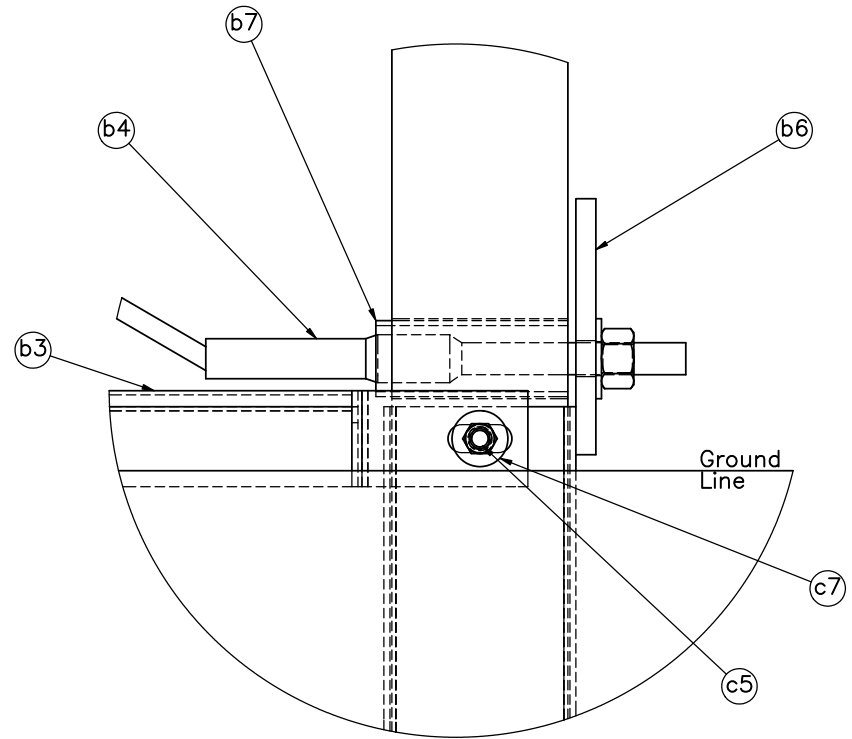
DWG. NAME:
MGS_MowStrip_R3

SCALE: 1:30
UNITS: Inches

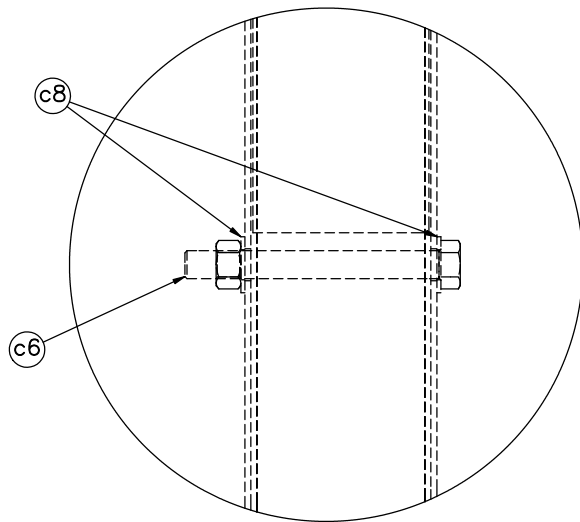
SHEET:
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SDB
REV. BY:
SKR/KAL



DETAIL D



DETAIL E



DETAIL F



Midwest Roadside
Safety Facility

Weak-Post W-Beam
Guardrail in Mow Strips

BCT Anchor Details

DWG. NAME:
MGS_MowStrip_R3

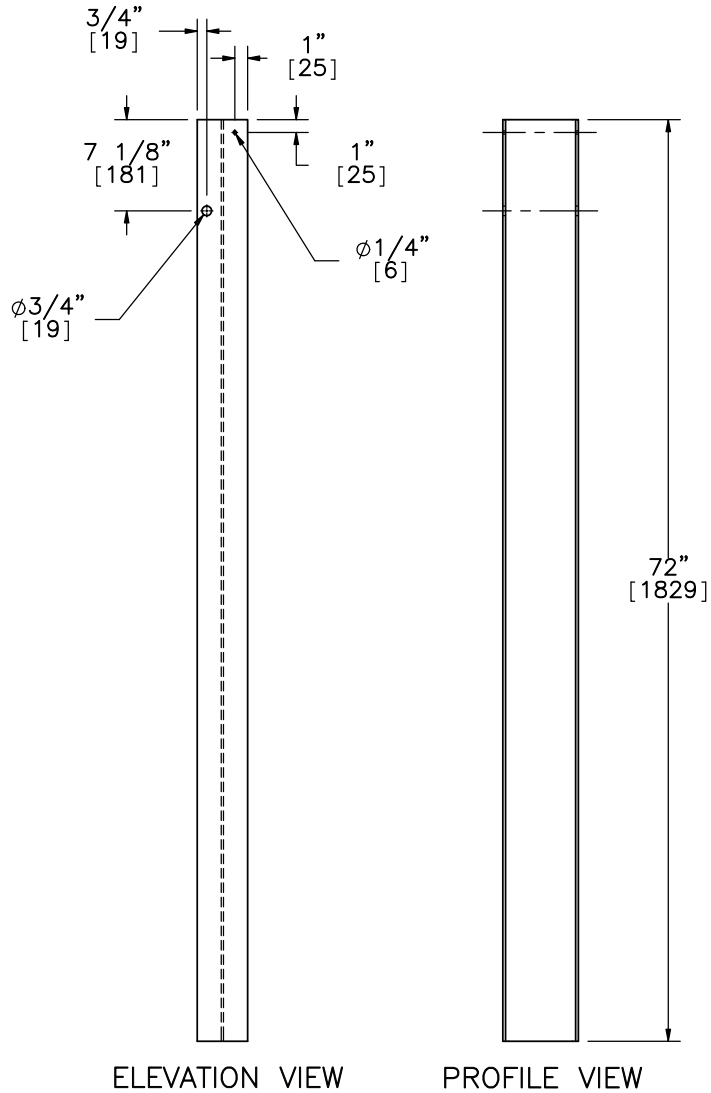
SCALE: 1:6
UNITS: Inches

SHEET:
4 of 13

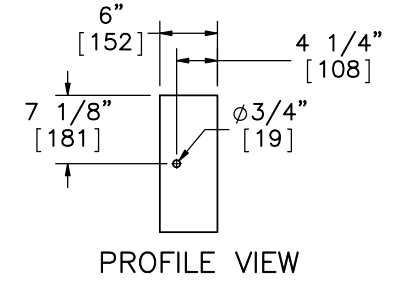
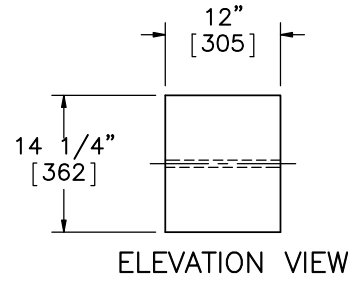
DATE:
9/26/2014

DRAWN BY:
SDB

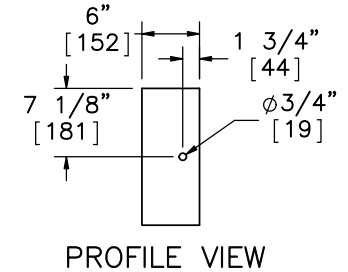
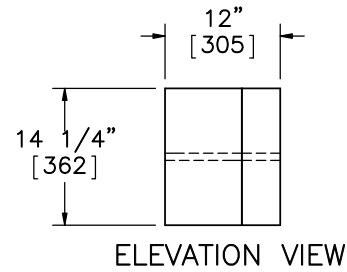
REV. BY:
SKR/KAL



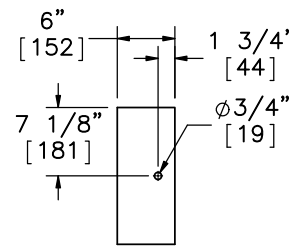
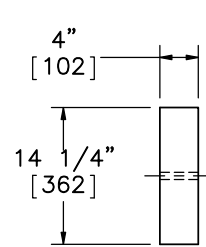
Part a1



Part a2



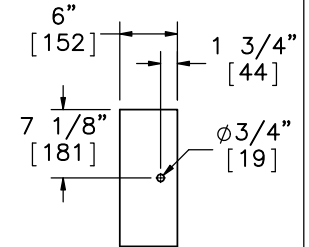
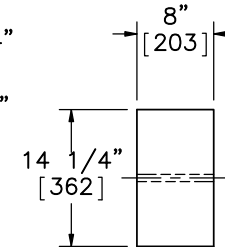
Alternate Blockout Option -
 6"x4"x14 1/4" [152x102x362] Blockout
 with 6"x8"x14 1/4" [152x203x362] Blockout



ELEVATION VIEW

PROFILE VIEW

6"x4"x14 1/4"
 [152x102x362] Blockout



ELEVATION VIEW

PROFILE VIEW

6"x8"x14 1/4"
 [152x203x362] Blockout



Midwest Roadside
 Safety Facility

Weak-Post W-Beam
 Guardrail in Mow Strips

Post Nos. 3-10 and 17-23
 Components

DWG. NAME:
 MGS_MowStrip_R3

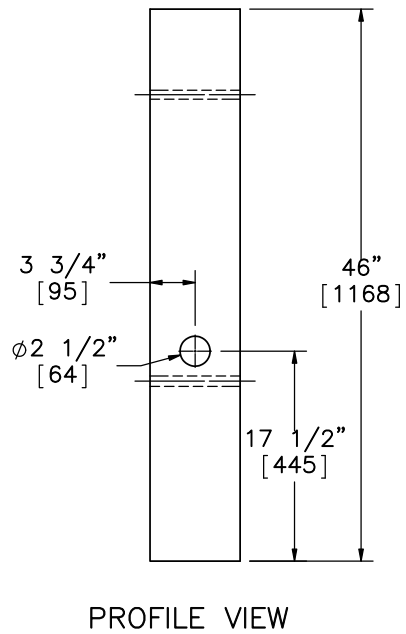
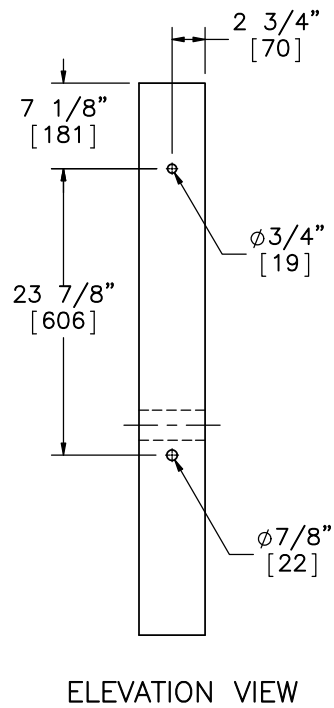
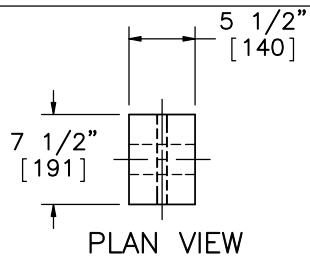
SCALE: 1:20
 UNITS: Inches

SHEET:
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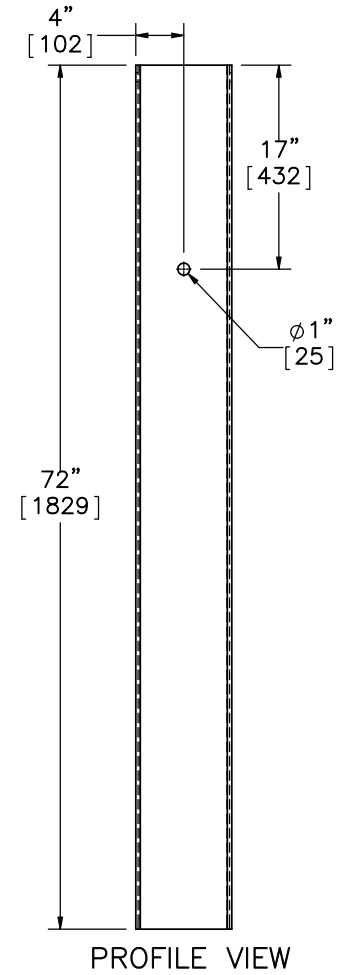
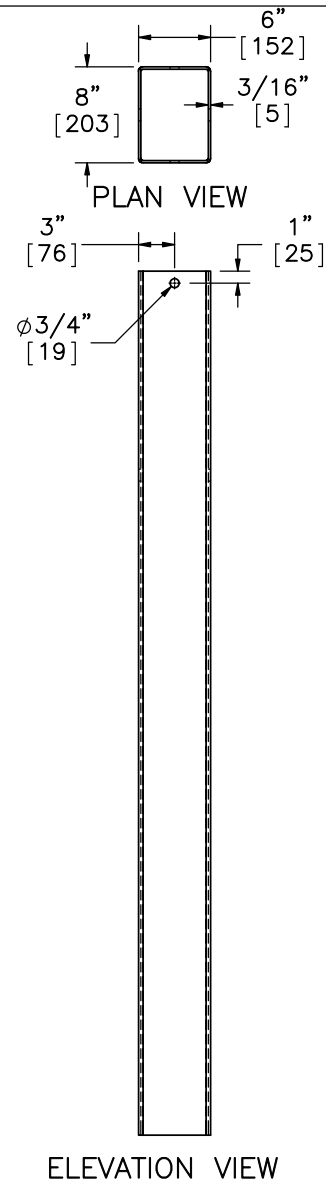
DATE:
 9/26/2014

DRAWN BY:
 SDB

REV. BY:
 SKR/KAL



Part b1



Part b2



Midwest Roadside
Safety Facility

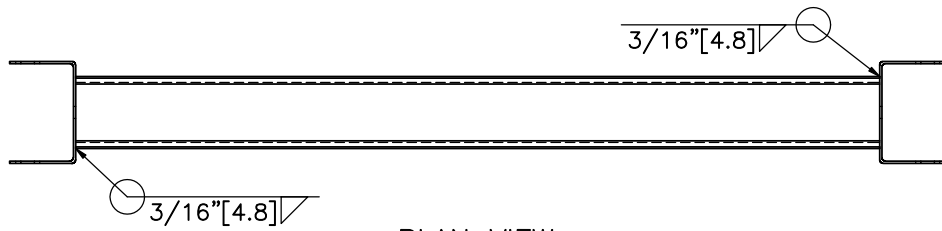
Weak-Post W-Beam
Guardrail in Mow Strips

BCT Timber Post &
Foundation Tube Details

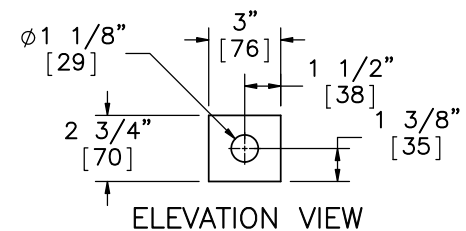
DWG. NAME:
MGS_MowStrip_R3

SCALE: 1:16
UNITS: Inches

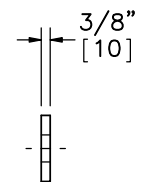
SHEET:
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DATE:
9/26/2014
DRAWN BY:
SDB
REV. BY:
SKR/KAL



PLAN VIEW

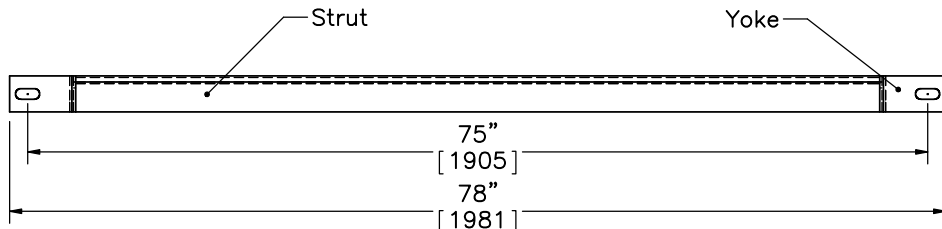


ELEVATION VIEW

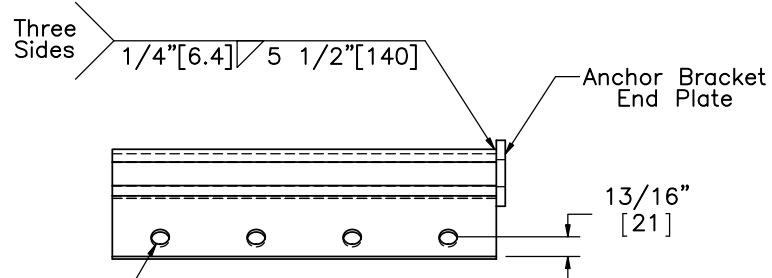


PROFILE VIEW

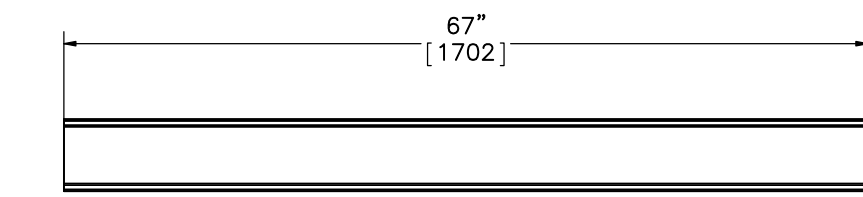
Anchor Bracket End Plate
SCALE 1:8



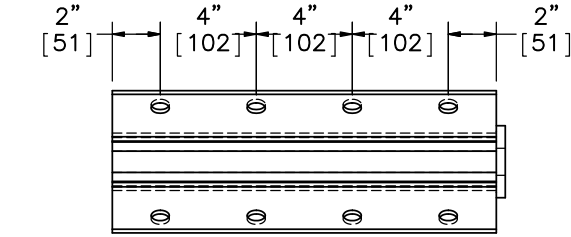
ELEVATION VIEW
Part b3



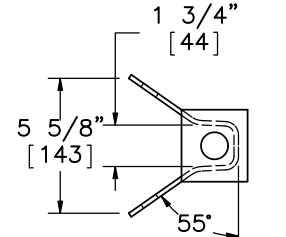
PLAN VIEW



ELEVATION VIEW
6"x3" [152x76] 10 Gauge [3.4] Strut

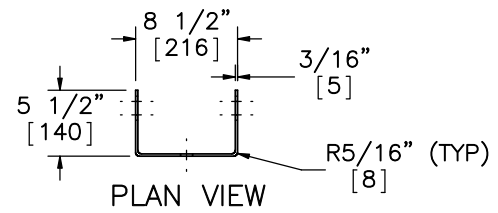


ELEVATION VIEW

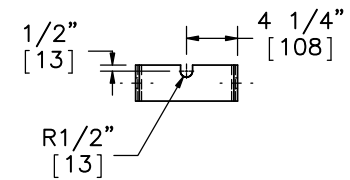


PROFILE VIEW

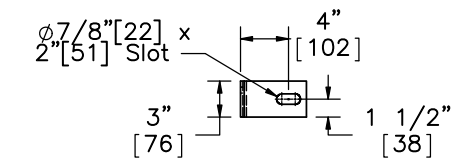
Part b5
SCALE 1:8



PLAN VIEW



ELEVATION VIEW



PROFILE VIEW

Yoke



Midwest Roadside
Safety Facility

Weak-Post W-Beam
Guardrail in Mow Strips

Ground Strut Details

DWG. NAME:
MGS_MowStrip_R3

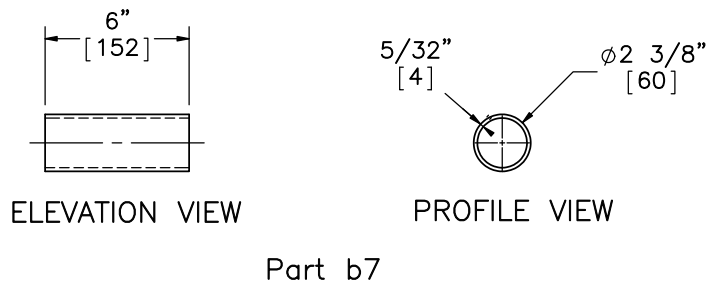
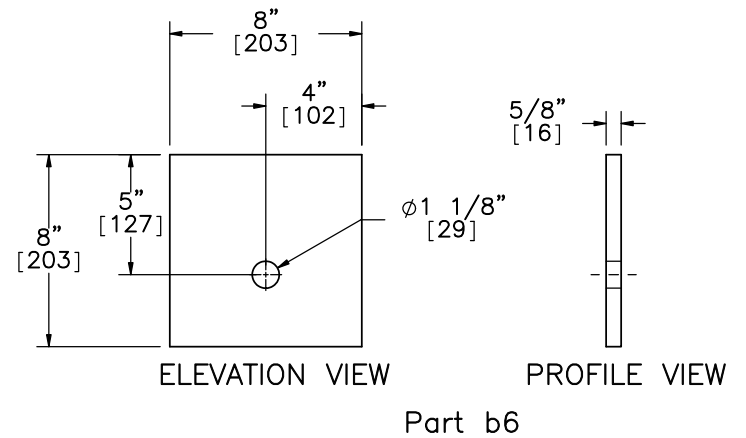
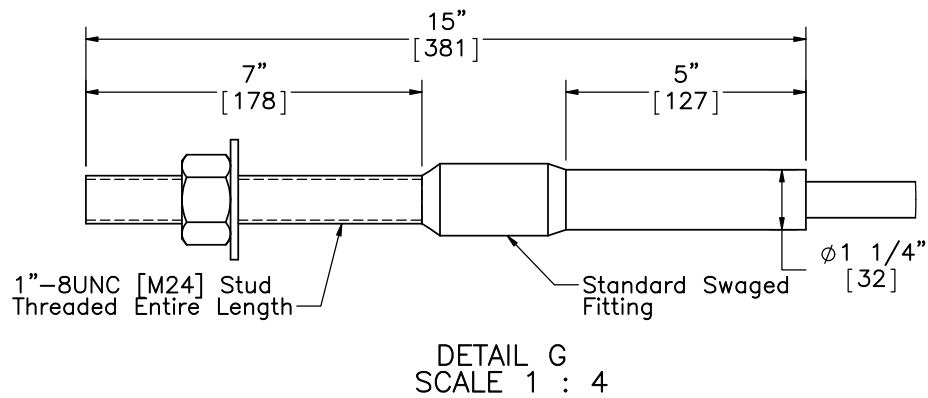
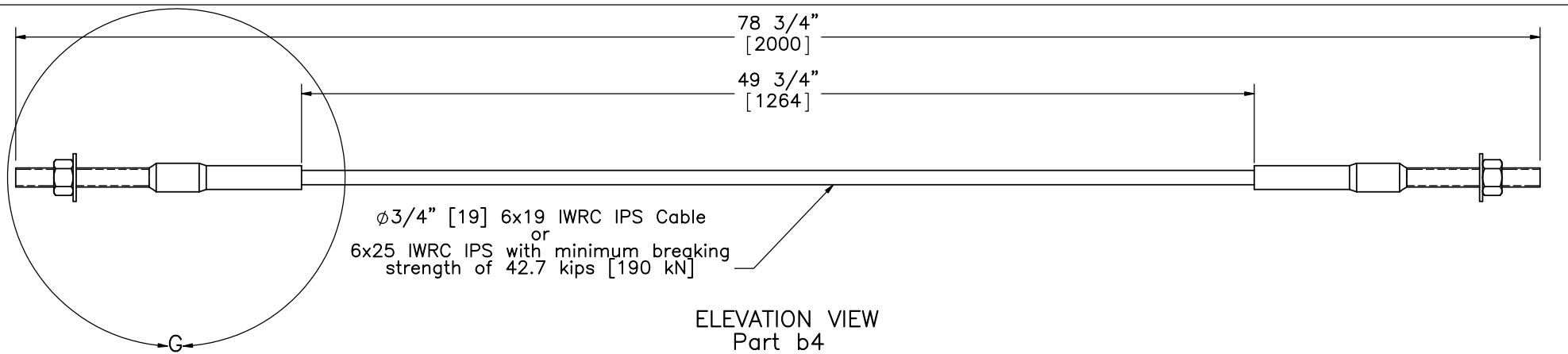
SCALE: 1:16
UNITS: Inches

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DATE:
9/26/2014

DRAWN BY:
SDB

REV. BY:
SKR/KAL



Midwest Roadside
Safety Facility

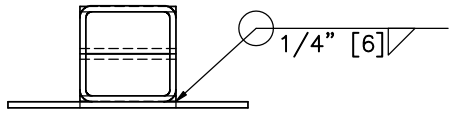
Weak-Post W-Beam
Guardrail in Mow Strips

BCT Anchor Cable

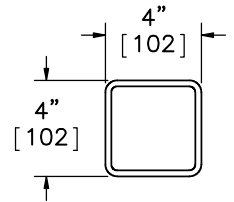
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MGS_MowStrip_R3

SCALE: 1:8
UNITS: Inches

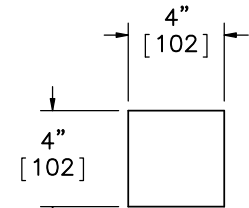
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DATE:
9/26/2014
DRAWN BY:
SDB
REV. BY:
SKR/KAL



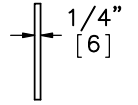
PLAN VIEW



PLAN VIEW

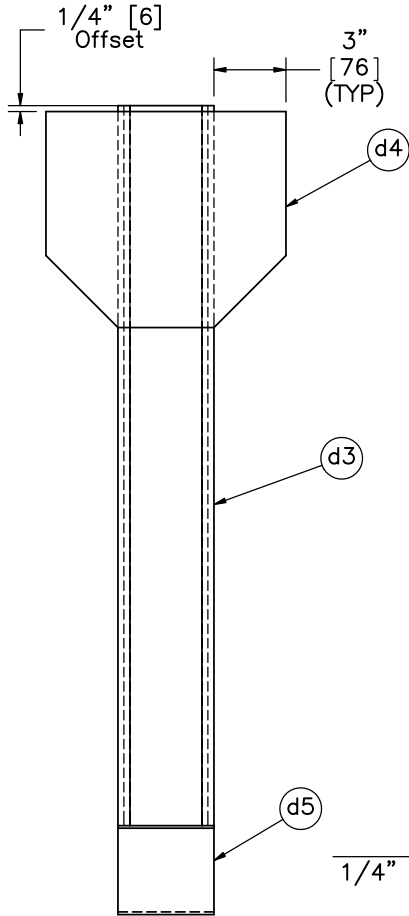


ELEVATION VIEW

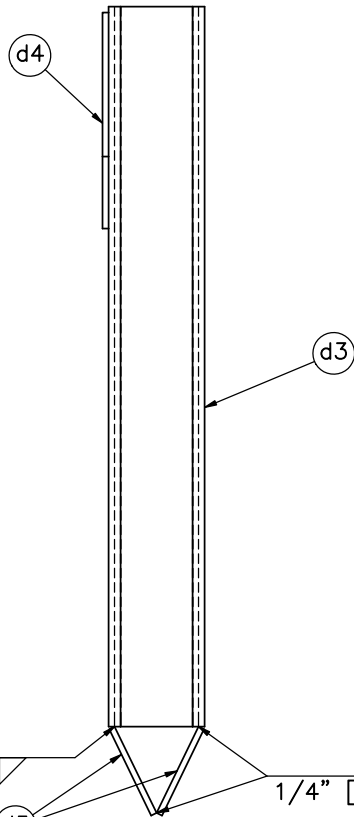


PROFILE VIEW

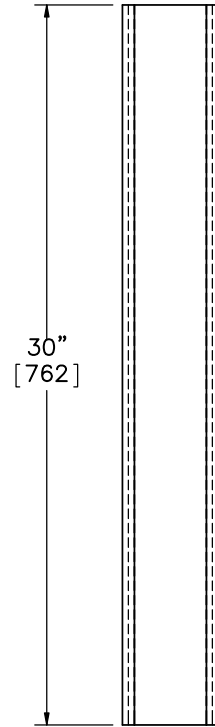
Part d5



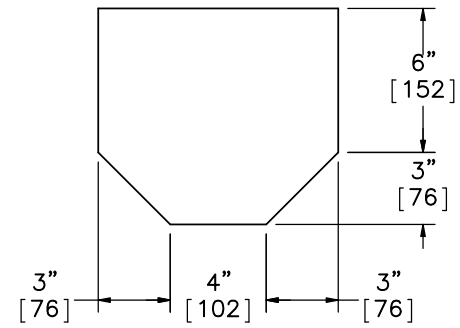
ELEVATION VIEW



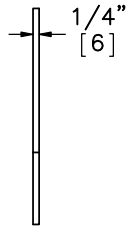
PROFILE VIEW



ELEVATION VIEW
Part d3



ELEVATION VIEW



PROFILE VIEW

Part d4



Midwest Roadside
Safety Facility

Weak-Post W-Beam
Guardrail in Mow Strips

Socket Details & Components

DWG. NAME:
MGS_MowStrip_R3

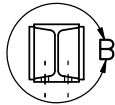
SCALE: 1:8
UNITS: Inches

SHEET:
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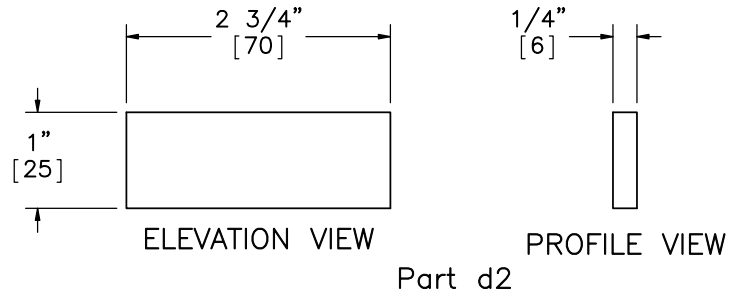
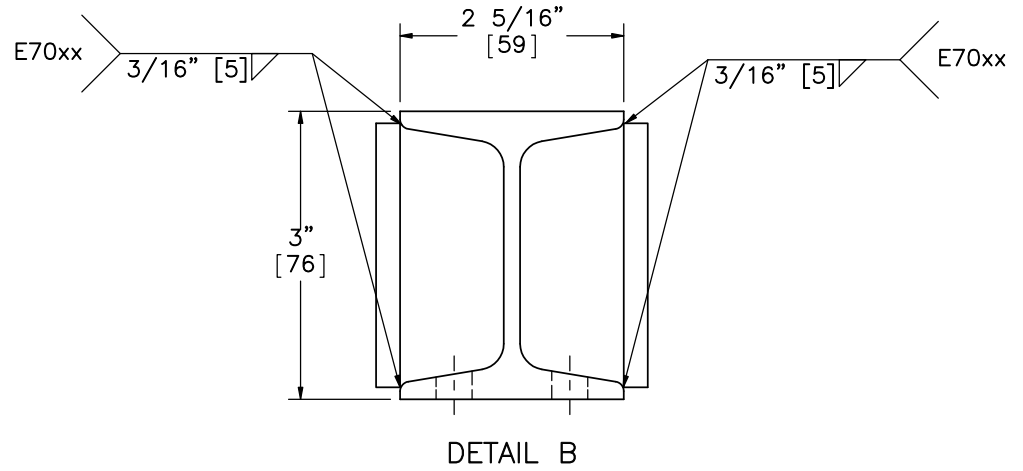
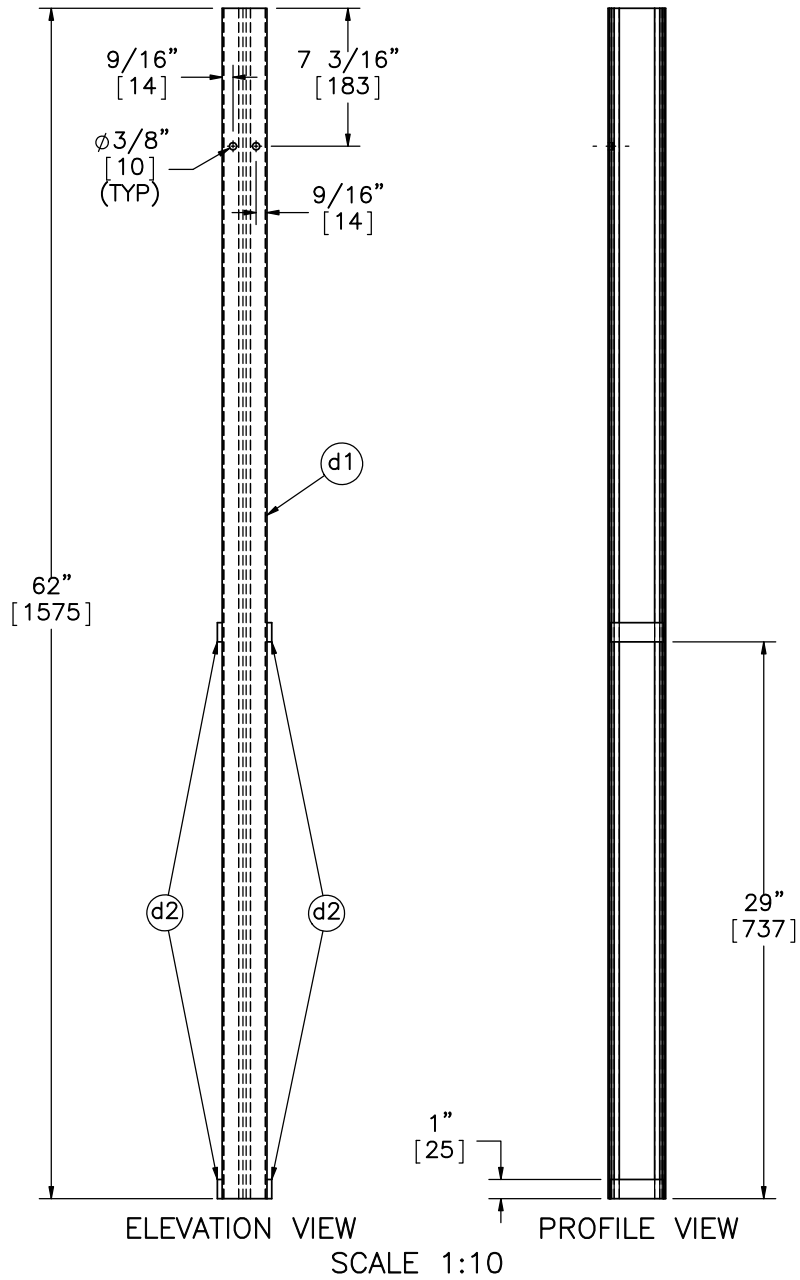
DATE:
9/26/2014

DRAWN BY:
SDB

REV. BY:
SKR/KAL



PLAN VIEW



Midwest Roadside
 Safety Facility

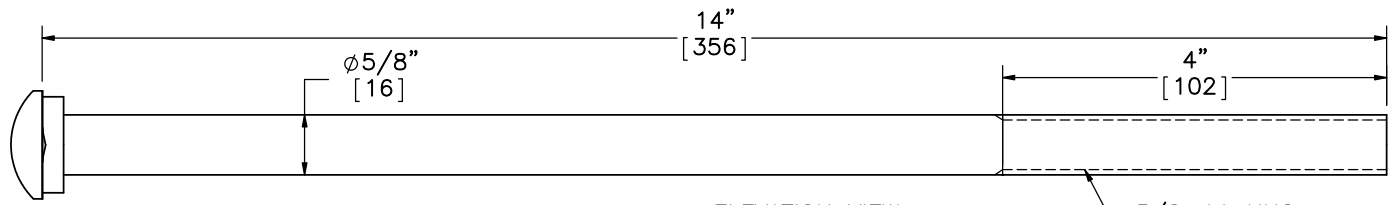
Weak-Post W-Beam
 Guardrail in Mow Strips

Post and Post Standoff Assembly

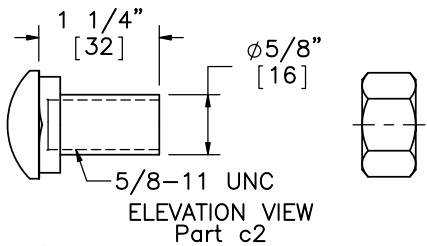
DWG. NAME:
 MGS_MowStrip_R3

SCALE: 1:2
 UNITS: Inches

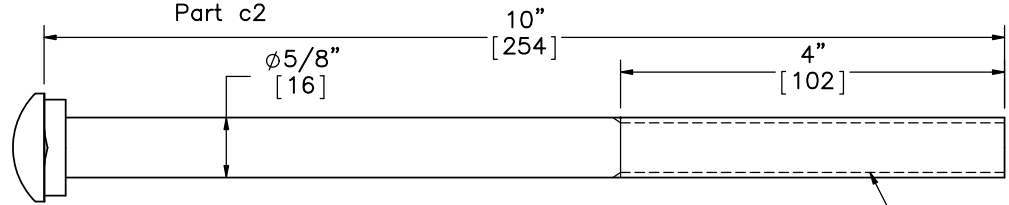
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 9/26/2014
 DRAWN BY:
 SDB
 REV. BY:
 SKR/KAL



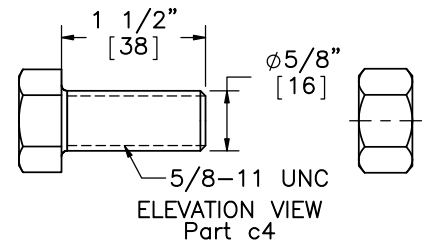
ELEVATION VIEW
Part c1



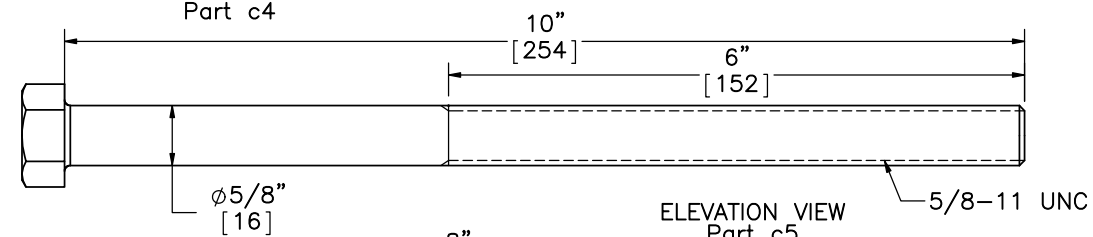
ELEVATION VIEW
Part c2



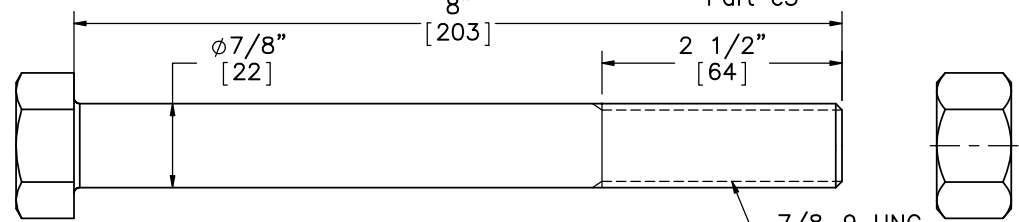
ELEVATION VIEW
Part c3



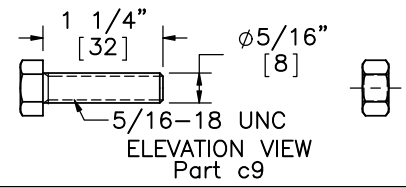
ELEVATION VIEW
Part c4



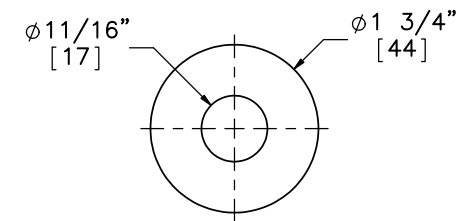
ELEVATION VIEW
Part c5



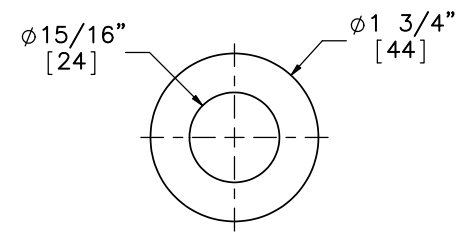
ELEVATION VIEW
Part c6



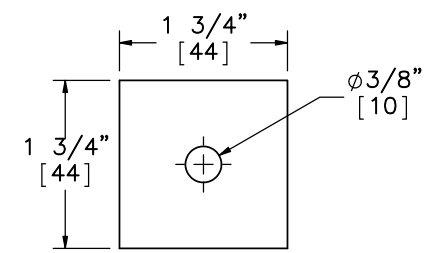
ELEVATION VIEW
Part c9



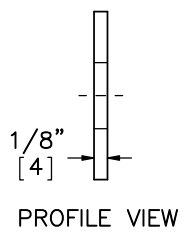
ELEVATION VIEW
Part c7



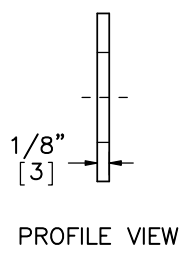
ELEVATION VIEW
Part c8



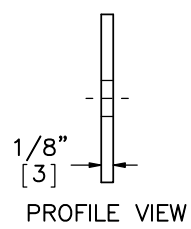
ELEVATION VIEW
Part c10



PROFILE VIEW



PROFILE VIEW



PROFILE VIEW



Midwest Roadside
Safety Facility

Weak-Post W-Beam
Guardrail in Mow Strips

Fasteners

DWG. NAME:
MGS_MowStrip_R3

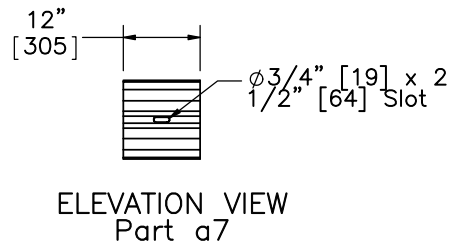
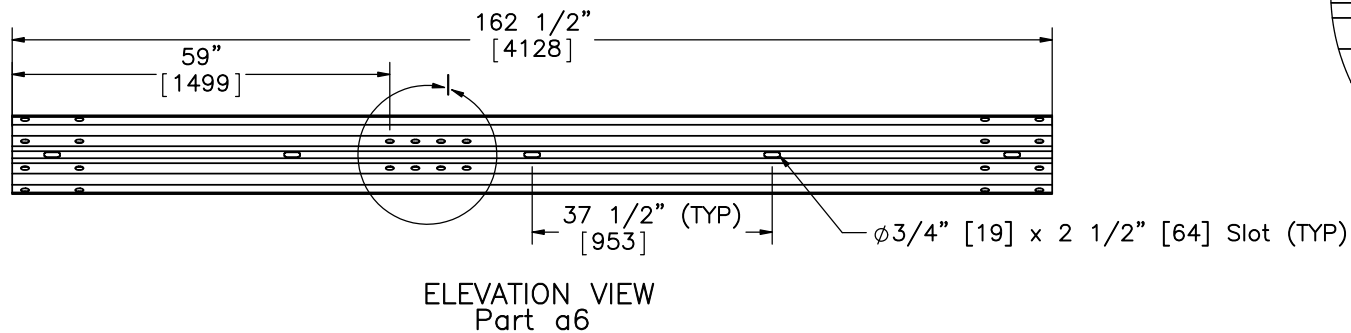
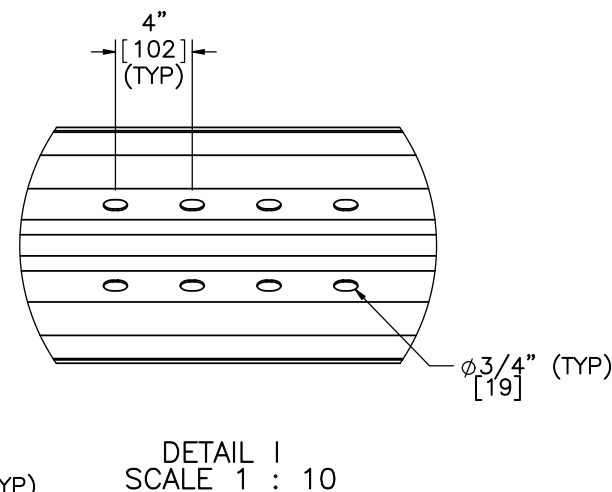
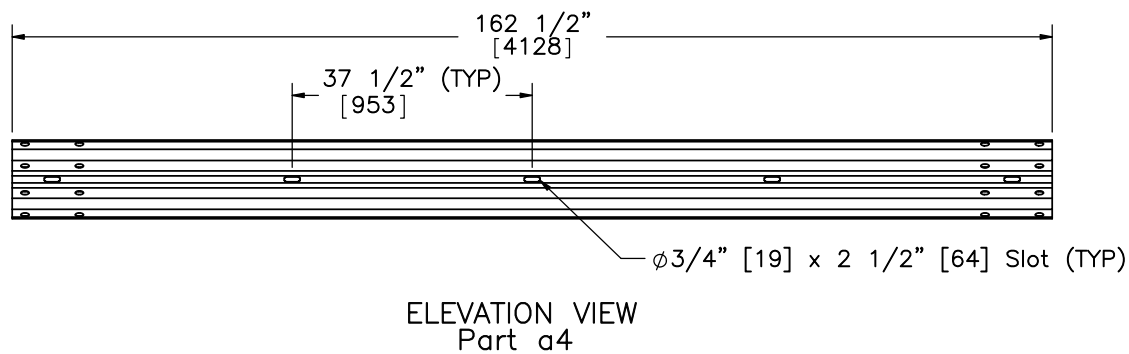
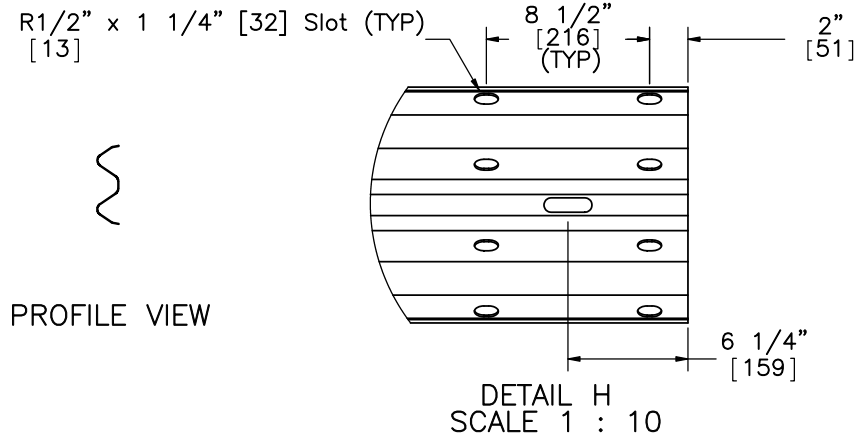
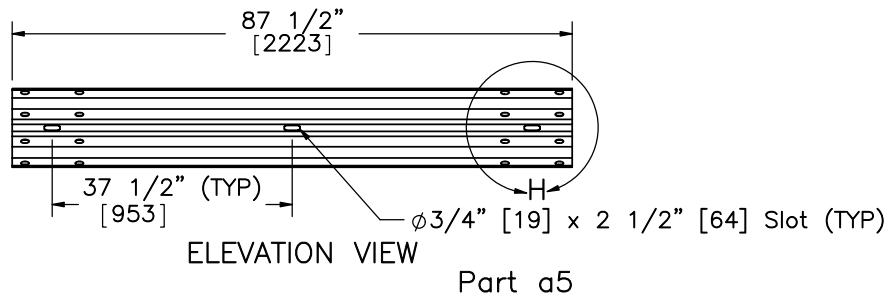
SCALE: 1:2
UNITS: Inches

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DATE:
9/26/2014

DRAWN BY:
SDB

REV. BY:
SKR/KAL



Midwest Roadside
Safety Facility

Weak-Post W-Beam
Guardrail in Mow Strips

Rail Section Details

DWG. NAME.
MGS_MowStrip_R3

SCALE: 1:30
UNITS: Inches

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DATE:
9/26/2014
DRAWN BY:
SDB
REV. BY:
SKR/KAL

Item No.	QTY.	Description	Material Spec	Hardware Guide
a1	13	W6x8.5 [W152x12.6], 72" Long [1829] Steel Post	ASTM A992 Min. 50 ksi [345 MPa] Steel Galv. or W6x9 [W152x13.4] ASTM A36 Min. 36 ksi [248 MPa] Steel Galv.	PWE06
a2	13	6"x12"x14 1/4" [152x305x368] Timber Blockout for Steel Posts	SYP Grade No. 1 or better	PDB10a-b
a3	13	16D Double Head Nail	-	-
a4	12	12'-6" [3810] W-Beam MGS Section	12 gauge [2.7] AASHTO M180 Galv.	RWM08a
a5	1	6'-3" [1905] W-Beam MGS Section	12 gauge [2.7] AASHTO M180 Galv.	RWM01a
a6	2	12'-6" [3810] W-Beam MGS End Section	12 gauge [2.7] AASHTO M180 Galv.	RWM14a
a7	23	12" [305] W-Beam Backup Plate	12 gauge [2.7] AASHTO M180	RWB01a
a8	1	75'x4'x6" [22860x1219x152] Asphalt Mow Strip	52-34 Grade Binder	-
b1	4	BCT Timber Post - MGS Height	SYP Grade No. 1 or better (No knots, 18" [457] above or below ground tension face)	-
b2	4	72" [1829] Long Foundation Tube	ASTM A500 Grade B Galv.	PTE06
b3	2	Strut and Yoke Assembly	ASTM A36 Steel Galv.	-
b4	4	BCT Cable Anchor Assembly	ø3/4" [19] 6x19 IWRC IPS Galvanized Wire Rope or Equivalent	FCA01
b5	2	Anchor Bracket Assembly	ASTM A36 Steel Galv.	FPA01
b6	2	8"x8"x5/8" [203x203x16] Anchor Bearing Plate	ASTM A36 Steel Galv.	FPB01
b7	2	2 3/8" [60] O.D. x 6" Long [152] BCT Post Sleeve	ASTM A53 Grade B Schedule 40 Galv.	FMM02
c1	13	5/8" [16] Dia. UNC, 14" [356] Long Guardrail Bolt and Nut	Bolt ASTM A307 Galv., Nut ASTM A563 A Galv.	FBB06
c10	23	1 3/4"x1 3/4"x1/8" [44x44x3] Square A36 Steel Washer	ASTM A36 Galvanized	RWR01
c2	112	5/8" [16] Dia. UNC, 1 1/4" [32] Guardrail Bolt and Nut	Bolt ASTM A307 Galv., Nut ASTM A563 A Galv.	FBB01
c3	4	5/8" [16] Dia. UNC, 10" [254] Long Guardrail Bolt and Nut	Bolt ASTM A307 Galv., Nut ASTM A563 A Galv.	FBB03
c4	16	5/8" [16] Dia. UNC, 1 1/2" [38] Long Hex Head Bolt and Nut	Bolt ASTM A307 Galv., Nut ASTM A563 A Galv.	FBX16a
c5	4	5/8" [16] Dia. UNC, 10" [254] Long Hex Head Bolt and Nut	Bolt ASTM A307 Galv., Nut ASTM A563 A Galv.	FBX16a
c6	4	7/8" [22] Dia. UNC, 8" [203] Long Hex Head Bolt and Nut	Bolt ASTM A307 Grade A Galv., Nut ASTM A563 A Galv.	FBX20a
c7	44	5/8" [16] Dia. Plain Round Washer	ASTM F844 Galv.	FWC14a
c8	8	7/8" [22] Dia. Plain Round Washer	ASTM F844 Galv.	-
c9	23	5/16" [8] Dia. UNC, 1 1/4" [32] Long Hex Bolt and Nut	ASTM A307 Galvanized	FBX08a
d1	23	S3x5.7 [S76x8.5] by 62" [1575] Long Steel Post	ASTM A992 Grade 50 Steel Galvanized	-
d2	92	2 3/4"x1"x1/4" [70x25x6] Post Standoff	ASTM A36 Steel Galvanized	-
d3	23	4"x4"x3/8" [102x102x10] Square Socket, 30" [762] Long	ASTM A500 Grade B Steel Galvanized	-
d4	23	10"x9"x1/4" [254x229x6] Steel Soil Plate	ASTM A572 Grade 50 Steel Galvanized	-
d5	46	4"x4"x1/4" [102x102x6] Steel Plate	ASTM A572 Grade 50 Steel Galvanized	-



Midwest Roadside
Safety Facility

Weak-Post W-Beam
Guardrail in Mow Strips

Bill of Materials

DWG. NAME.
MGS_MowStrip_R3

SCALE: None
UNITS: Inches

SHEET:
13 of 13

DATE:
9/26/2014

DRAWN BY:
SDB

REV. BY:
SKR/KAL

REV.	DATE OF ISSUE	Page	NATURE OF CHANGES	REVISED BY
R0	9/12/2014	-	Created referencing MGS Attached to Culvert_R4 and MGS_LSW_R4 as well as provided specifications.	SDB
R1	9/12/2014	2	Note 1 added. Dimensions added.	SDB
		10	Shear plate offset dimension corrected	
		11	Post and standoff page added.	
		13	Backup Plate added.	
		14	Backup Plate added. Asphalt part number changed to a8	
R2	9/15/2014	10	Part d5 changed to 4"x4"	SDB
		14	Part d5 changed to 4"x4"	
R3	9/26/2014	7	Previous Page 8 was deleted and anchor bracket details and components were moved to this page.	SDB
		8	Previous Page 8 was deleted and Part b7 moved to this page. Cosmetic threads added to Anchor Cable. Note 1 removed and cable specification note changed to include details from previous note 1.	
		9	Part designations added.	
		10	Holes on back flange of post removed.	
		12	Backup plate changed to 12" long and slot size corrected.	
			Parts a7, d1, and d3 description changed. Part b4 material spec corrected. Parts a4, a5, a7, a8, and b1 hardware guide designation corrected.	