

## WEAK-POST W-BEAM GUARDRAIL IN ASPHALT MOW STRIP



SGR56

SHEET NO.

DATE:

1 of 6

12/6/2016

## INTENDED USE

The weak-post W-beam guardrail in asphalt mow strip is a non-proprietary system and should be used in locations where a maximum dynamic deflection of 42.3" [1074] or less is acceptable and where a working width of 47.3" [1201] is provided. The asphalt mow strip should have a minimum width of 48" [1219] and a minimum thickness of 4" [102]. The post socket should be installed in 4" [102] square leave-outs in the asphalt surface. The weak-post W-beam guardrail in asphalt mow strips is compatible with the MGS such that an approach stiffness transition would not be required between the two barriers. A 75" [1905] spacing is recommended between the last weak post and standoff (PSF02) and first MGS guardrail post (PWE06) of the adjacent MGS installation which may be blocked (SGR20) or non-blocked (SGR41). Guardrail sections measuring 300" [7620] long can be used in lieu of the 150" [3810] long sections. The weak-post W-beam guardrail in asphalt mow strips has been crash tested under Test Level 3 (TL-3) conditions and deemed crash-worthy according to the Manual for Assessing Safety Hardware (MASH) performance criteria.

In order to prevent interference of system performance, the weak-post W-beam guardrail in asphalt mow strip should not be constructed too close to the guardrail terminal or end anchorage. The following implementation guidelines should be considered in addition to the length-of-need requirements:

1. A minimum length of 12'6" [3810] of standard MGS (SGR20) between the first weak post and standoff (PSF02) and the interior end of an acceptable TL-3 guardrail end terminal.
2. A minimum barrier length of 50' [15240] before the first weak post and standoff (PSF02), which includes standard MGS (SGR20) and a crashworthy guardrail end terminal or downstream end anchorage.
3. For flared guardrail applications, a minimum length of 25' [7620] between the first weak post and standoff (PSF02) and the start of the flared section (i.e. bend between flared and tangent sections).

## COMPONENTS

Unit Length = 150" [3810]

DESIGNATOR	COMPONENTS	NUMBER
FBB01	Guardrail splice bolt and nut	8
FBX08a	Guardrail post bolt 1¼" [32] long and nut	4
FWR01	Square washer	4
RWB03a	W-beam backup plate	4
Or RWB04a	W-beam backup plate	4
RWM04a	W-beam rail	1
PSF02	Weak post and standoff	4
---	Post socket	4
---	Asphalt mow strip	-

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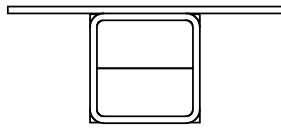
# SGR56

SHEET NO.

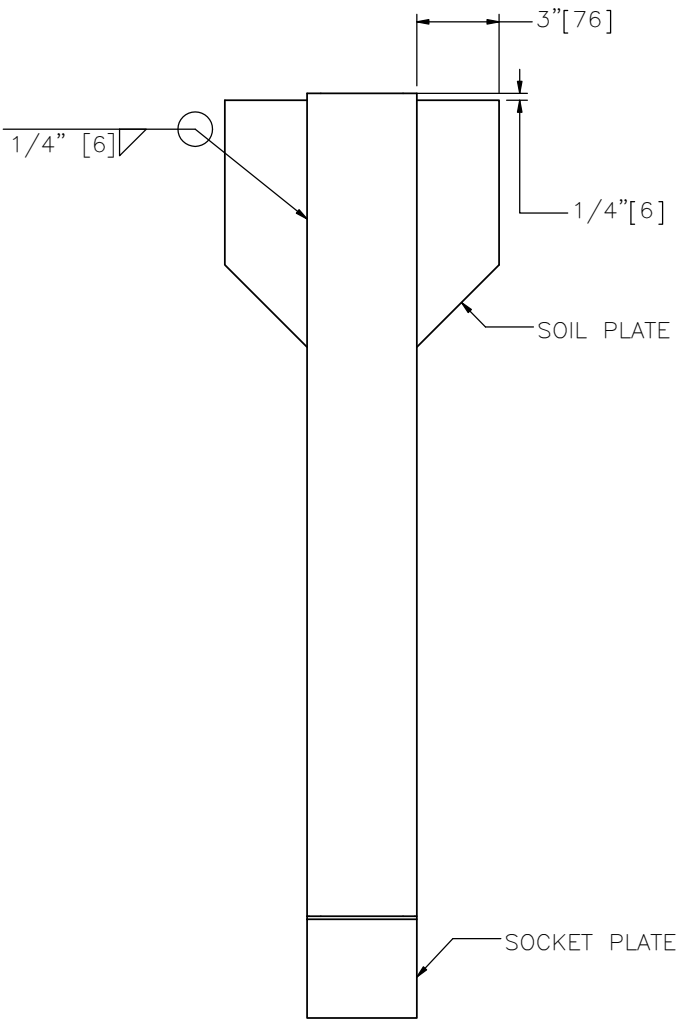
DATE:

2 of 6

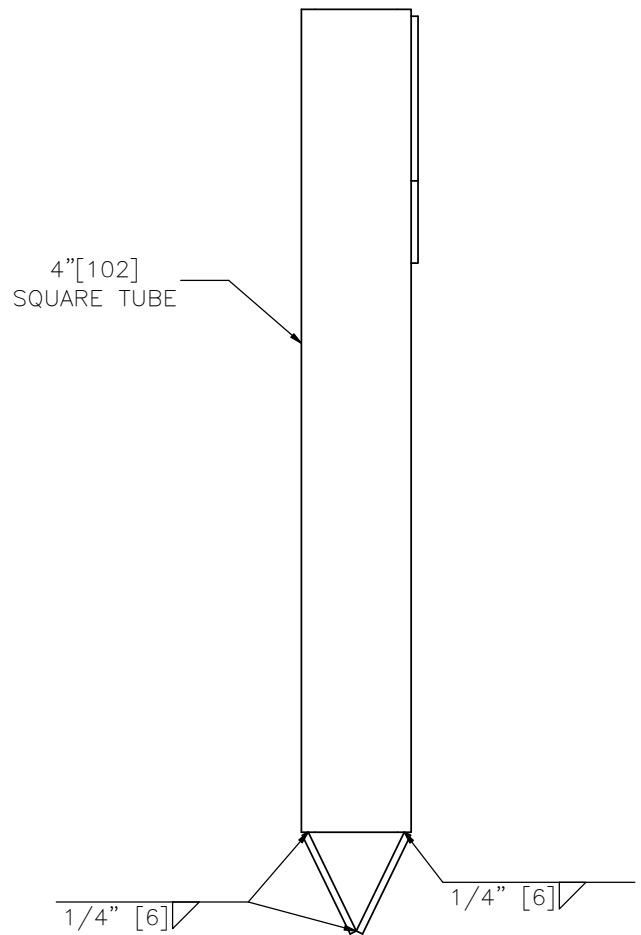
12/6/2016



PLAN VIEW



ELEVATION VIEW



PROFILE VIEW

POST SOCKET

**WEAK-POST W-BEAM GUARDRAIL IN ASPHALT MOW STRIP**



**SGR56**

SHEET NO.

DATE:

3 of 6

12/6/2016

## ELIGIBILITY

FHWA eligibility will be pursued.

## REFERENCES

Rosenbaugh, S.K., Faller, R.K., Lechtenberg, K.A., and Holloway, J.C., *Development and Evaluation of Weak-Post W-Beam Guardrail in Mow Strips*, Final Report to Midwest States Pooled Fund Program and Mid-America Transportation Center, Transportation Research Report No. TRP-03-322-15, Project No. TPF-5(193) Supplement #57, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, October 1, 2015.

## CONTACT INFORMATION

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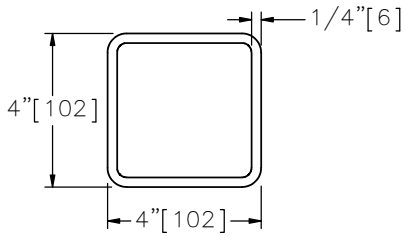
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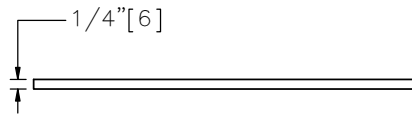
DATE:

4 of 6

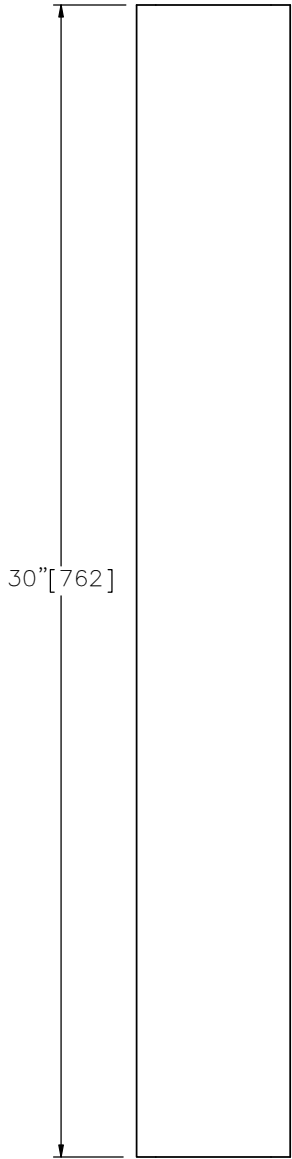
12/6/2016



PLAN VIEW

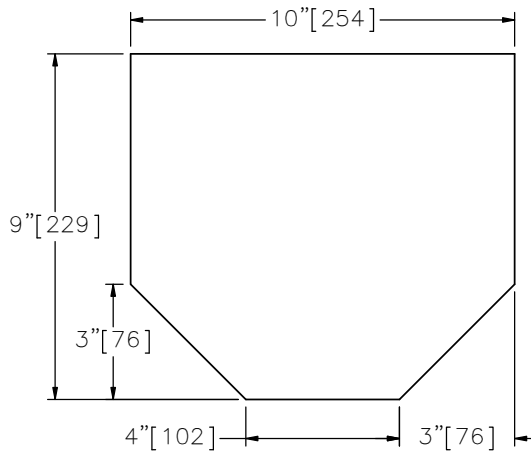


PLAN VIEW



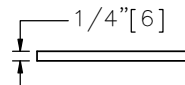
ELEVATION VIEW

4" [102] SQUARE TUBE

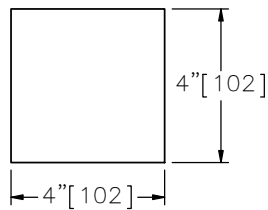


ELEVATION VIEW

SOIL PLATE



PLAN VIEW



ELEVATION VIEW

SOCKET PLATE

**WEAK-POST W-BEAM GUARDRAIL IN ASPHALT MOW STRIP**



**SGR56**

SHEET NO.

DATE:

5 of 6

12/6/2016

## SPECIFICATIONS

The 4" [102] square tube shall be manufactured from ASTM A500 Grade B steel. The section shall be manufactured such that it conforms to the geometry of ASTM A500 Grade B for TS-4"x4"x1/4" [TS-102x102x6.4].

The soil plate and socket plate shall be manufactured from ASTM A572 Grade 50 steel.

After all cutting and welding is complete, the component shall be zinc-coated according to AASHTO M111 (ASTM A123).

Dimensional tolerances not shown or implied are intended to be those consistent with the proper functioning of the part, including its appearance and accepted manufacturing practices.

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**SGR56**

SHEET NO.

DATE:

6 of 6

12/6/2016