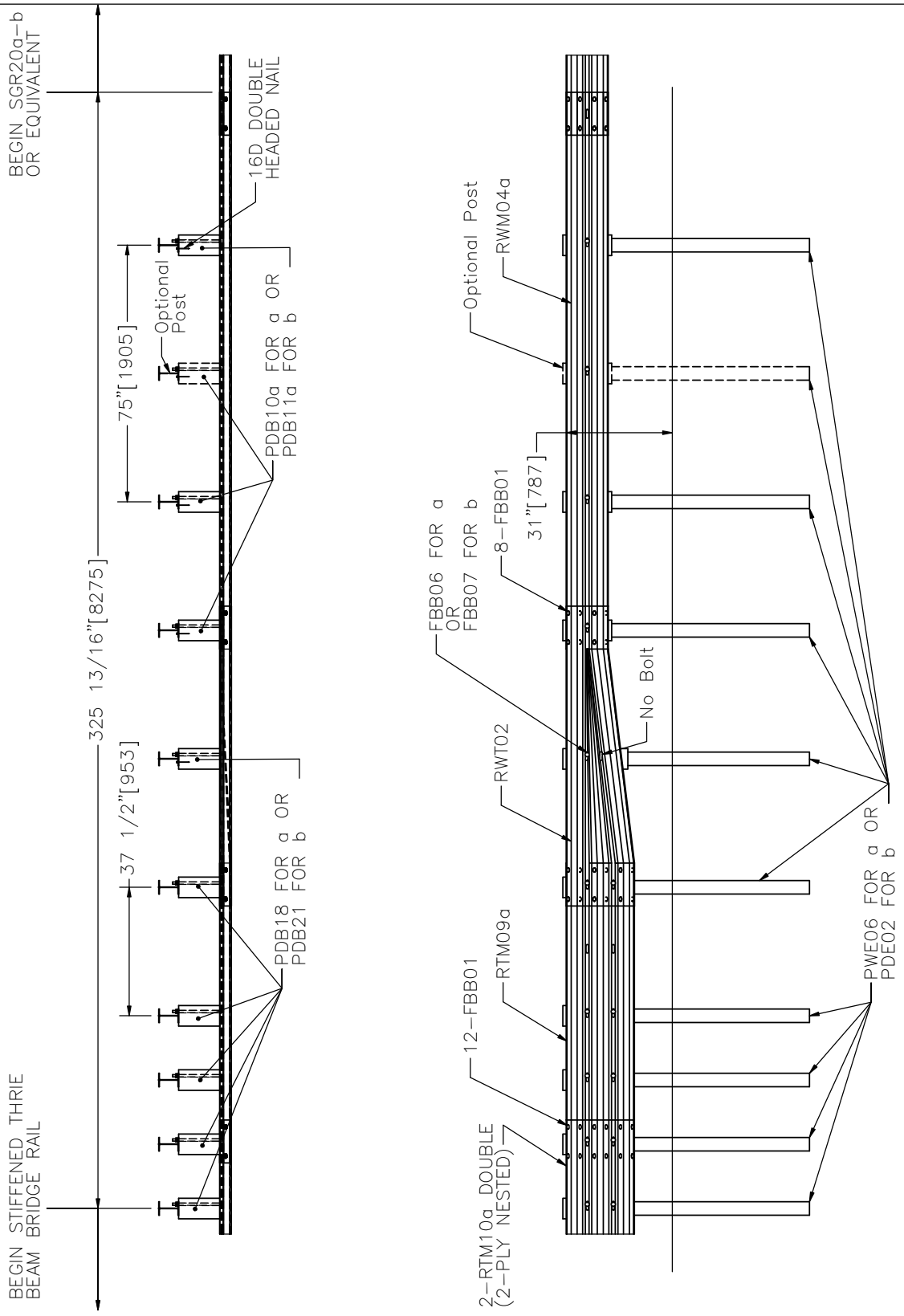

MGS W-BEAM TO THRIE BEAM TRANSITION WITH STANDARD POSTS

MwRSF

STG03a-b

SHEET NO.	DATE:
1 of 3	1/8/2015

INTENDED USE

The Midwest Guardrail System (MGS) W-beam to Thrie Beam Transition with Standard Posts is intended to be used when the MGS is placed adjacent to a stiffened thrie beam approach guardrail transition to a stiff bridge rail. MGS W-beam to Thrie Beam Transition with Standard Posts without the optional post upstream of the Asymmetrical W-beam to Thrie Beam Transition (RWT02) should be used in locations where a maximum dynamic deflection of 32.8" [833] or less is acceptable and where a working width of 51.6" [1,311] is provided. MGS W-beam to Thrie Beam Transition with Standard Posts with the optional post upstream of the Asymmetrical W-beam to Thrie Beam Transition (RWT02) may be used in locations where a maximum dynamic deflection of 27" [686] or less is acceptable. The MGS W-beam to Thrie Beam Transition with Standard Posts should be installed with a minimum of 24" [610] of level or gently-sloped fill placed behind the posts.

The MGS W-beam to Thrie Beam Transition with Standard Posts should be used with the following guidelines:

1. A minimum length of 150" [3810] of standard MGS should be installed between the upstream end of the Asymmetrical W-beam to Thrie Beam Transition (RWT02) and the interior end of an acceptable Test Level (TL-3) guardrail end terminal. This minimum length includes one half-post spacing if the optional extra post is not used and three half-post spacings if the optional extra post is used.
2. A minimum barrier length of 562" [14288] should be installed beyond the upstream end of the Asymmetrical W-beam to Thrie Beam Transition (RWT02), which includes standard MGS, a crashworthy guardrail end terminal, and an acceptable anchorage system. This minimum length includes one half-post spacing if the optional extra post is not used and three half-post spacings if the optional extra post is used.
3. For flared guardrail applications, a minimum barrier length of 300" [7620] should be used between the upstream end of the Asymmetrical W-beam to Thrie Beam Transition (RWT02) and the start of the flared section (i.e., bend between flare and tangent sections). This minimum length includes one half-post spacing if the optional extra post is not used and three half-post spacings if the optional extra post is used.

The MGS W-beam to Thrie Beam Transition with Standard Posts has been crash tested under Test Level 3 (TL-3) conditions of the Manual for Assessing Safety Hardware (MASH) and deemed acceptable according to the MASH safety performance criteria.

COMPONENTS

Unit Length=325 13/16" [8275]

DESIGNATOR	COMPONENT	QUANTITY	SYSTEM
-----	Stiffened Thrie Beam Bridge Rail System	1	a-b
RWM04a	4-Space W-Beam Guardrail	1	a-b
PDB18	6x12x19" [152x305x483] SYP Blockout	6	a
RTM10a	12'-6" [3810] Thrie Beam, Quarter Post Spacing	2	a-b
RTM09a	6'-3" [1905] Thrie Beam, Quarter Post Spacing	1	a-b
PWE06	W6x8.5 72" [1829] Posts	9	a
PDB10a	6x12x14.25" [152x305x362] SYP Blockout	3	a
RWT02	Asymmetrical W to Thrie Beam Transition	1	a-b
FBB06	14" [356] Guardrail Bolt and Recessed Nut	14	a
FBB07	21" [356] Guardrail Bolt and Recessed Nut	14	b
-----	16D Double Headed Nail	4	a-b
FBB01	1.5" [38] Guardrail Bolt and Recessed Nut	40	a-b
PDB11	6x12x14.5" [152x305x368] SYP Blockout	3	b
PDB21	6x12x19" [152x305x483] SYP Blockout	6	b
PDE02	6x8" [152x203] 72" [1829] Wood Post	9	b

ELIGIBILITY

FHWA Eligibility Letters B-231 and B-236, July 10, 2014

REFERENCES

Rosenbaugh, S.K., Lechtenberg, K.A., Faller, R.K., Sicking, D.L., Bielenberg, R.W., and Reid, J.D., *Development of the MGS Approach Guardrail Transition using Standardized Steel Posts,* Final Report to Midwest States Pooled Fund, Transportation Research Report No. TRP-03-210-10, Project Nos. SPR-3(017)-Year 18 and TPF-5(193)-Year 19, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, Lincoln, NE, December 21, 2010.

Rosenbaugh, S.K., Schrum, K.D., Faller, R.K., Lechtenberg, K.A., Sicking, D.L., and Reid, J.D., *Development of Alternative Wood-Post MGS Approach Guardrail Transition,* Final Report to Midwest States Pooled Fund, Transportation Research Report No. TRP-03-243-11, Project No. TPF-5(193)-Year 19, Midwest Roadside Safety Facility, University of Nebraska-Lincoln, NE, November 28, 2011.

Lechtenberg, K.A., Mongiardini, M., Rosenbaugh, S.K., Faller, R.K., Bielenberg, R.W., and Albuquerque, F.D.B., *Development and Implementation of the Simplified MGS Stiffness Transition,* Paper No. 12-3367, Submitted for publication and presentation at 91st Annual Meeting, Transportation Research Board, TRB AFB20 Committee on Roadside Safety Design, Transportation Research Board, Washington, D.C., November 2011.

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