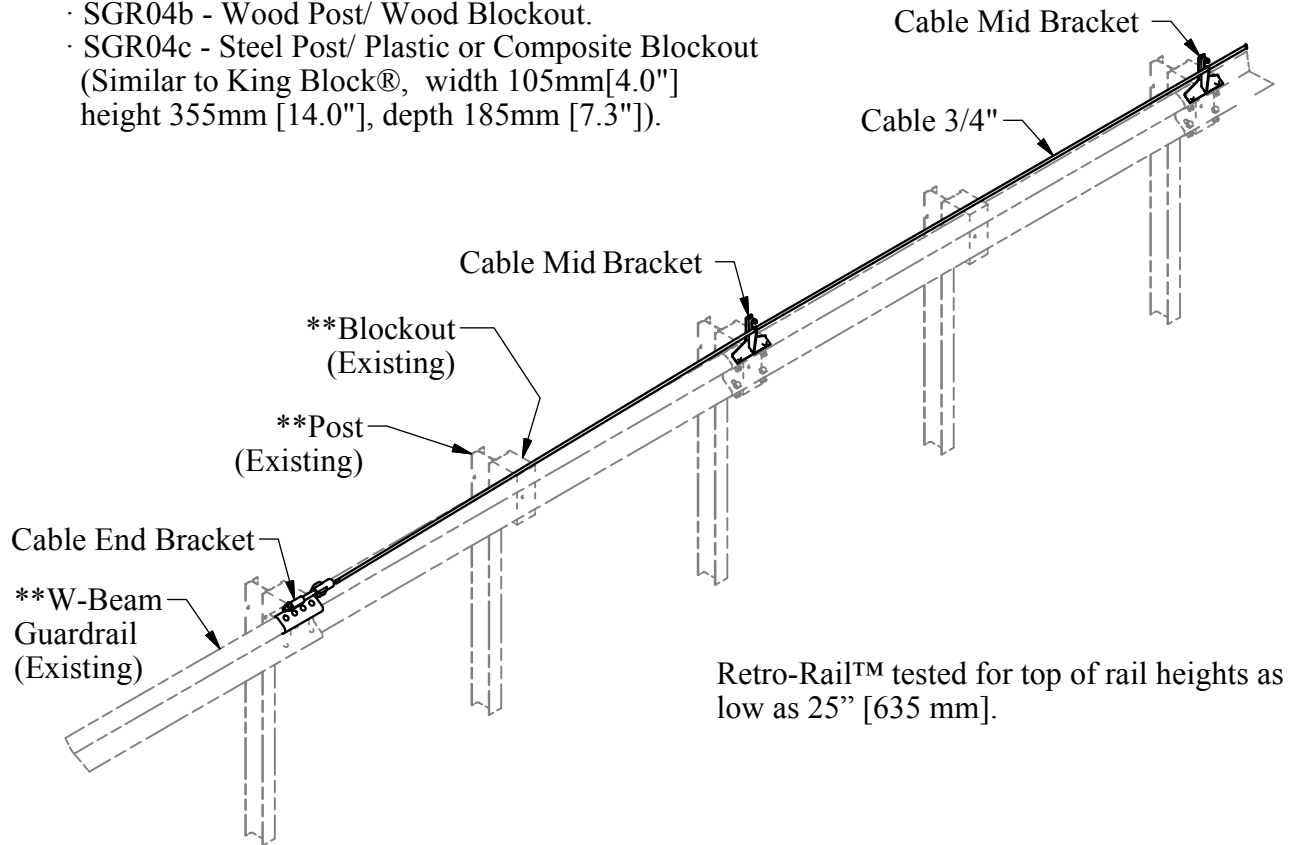
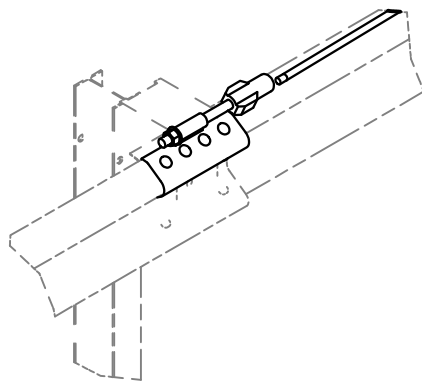


****Strong-Post W-Beam Guardrail types:**

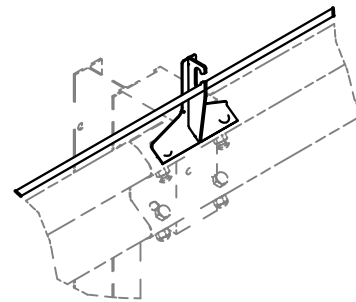
- SGR04c - Steel Post/ Wood Blockout.
- SGR04b - Wood Post/ Wood Blockout.
- SGR04c - Steel Post/ Plastic or Composite Blockout (Similar to King Block®, width 105mm[4.0"] height 355mm [14.0"], depth 185mm [7.3"]).



Retro-Rail™ tested for top of rail heights as low as 25" [635 mm].



Cable End Bracket



Cable Mid Bracket

2014

Retro-Rail™ System



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INTENDED USE

The Retro-Rail™ System has been crash tested and found to successfully meet MASH Test Level 3 impact criteria when properly attached to structurally-sound, “Strong-Post” Guardrail, with a rail height of 25” to 29”. Height is measured to the top of the rail from a horizontal tangent projected out from the top of an adjacent roadway. The following types of Strong-Post Guardrail have been evaluated and are deemed suitable for retrofitting with the Retro-Rail™ System:

- SGR04c - Steel Post/ Wood Blockout.
- SGR04b - Wood Post/ Wood Blockout.
- SGR04c - Steel Post/ Plastic or Composite Blockout (Similar to King Block®).

The Retro-Rail™ System consists of two Cable End Brackets, a single 3/4” (19 mm) galvanized wire rope running the length of the installation, and numerous Cable Mid Brackets supporting the wire rope ~ 6” (152 mm) above the top of the rail. Cable Mid Brackets are installed every 12'-6” (3,810 mm), using standard guardrail splice locations. The Cable End Brackets and Mid Brackets maximize use of existing holes in the rail for attachment, minimizing the need to drill additional holes.

A combined MASH Test Level 3 Guardrail & End Terminal system can be created by attaching one of the above NCHRP 350 Retro-Rail™-fitted Strong-Post Guardrails immediately downstream from a MASH, TL-3-accepted End Terminal.

APPROVALS

The Retro-Rail™ System is compliant to MASH criteria for TL3 applications.
FHWA Eligibility Letter [HSST/B-246](#), March 11, 2014.

REFERENCES

American Association of State Highway and Transportation Officials (AASHTO), Executive Committee 2008-2009; The AASTHO Manual for Assessing Safety Hardware (MASH), 2009

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