



COMMONWEALTH OF KENTUCKY

Matthew G. Bevin
Governor

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Secretary

CONSTRUCTION MEMORANDUM

No. 2016-03

TO: Chief District Engineers
TEBM's for Project Delivery and Preservation
Section Engineers

FROM: Ryan Griffith, P.E. *RCG*
Director, Division of Construction

DATE: October 11, 2016

SUBJECT: Height of Guardrail End Treatments

FHWA released a memorandum titled "Roadside Design: Steel Strong Post W-beam Guardrail" on May 17, 2010. The memorandum stated W-beam guardrail must be installed at a minimum of 27 ¾ inches to the top of rail and a nominal height of 29 inches, plus or minus one inch is acceptable. This, in turn, led to the new height requirements for guardrail in the 2012 Standard Specifications. However, the FHWA memorandum did not address end treatments which were tested and approved at 27 ¾ inches. Therefore, KYTC's stance was to require end treatments be installed as shown on FHWA's acceptance letter (found on FHWA's website) for each specific end treatment allowed. Then, earlier this year, FHWA provided clarification to the May 17, 2010 Memorandum by releasing the following FAQ on their website:

May existing eligible NCHRP350 w-beam terminals that were tested at minimum height of 27¾ inches be installed as per existing FHWA [Memorandum](#) 'ACTION: Roadside Design: Steel Strong Post W-beam Guardrail' dated May 17, 2010?

A. Yes. To clarify the existing guidance in the [Memorandum](#) dated May 17, 2010, it recommends strong post w-beam guardrail be installed at 29" +/- 1". This also applies to w-beam terminals that have been found crashworthy for strong-post w-beam guardrail at 27 to 27 ¾ inches. This has been FHWA recommendation for guardrail and the associated terminals for over 5 years. In addition, installing at a ragged-edge minimum of 27 ¾ inches provides no utility for the installer regarding installation tolerances.

Prior acceptance / eligibility for strong post w-beam terminals does NOT apply to 31" tall w-beam systems like the Midwest Guardrail System (MGS). Terminals should be crash



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tested at 31" when used with these taller barriers which differ from strong post W-beam in other ways.

Effective immediately, KYTC's Type 1 and Type 4a End Treatments, along with any crash cushion connected to normal guardrail, may be installed at a height of 29 inches +/- 1 inch. It remains the responsibility of the Contractor to provide the Section Office with one copy of the shop plans. The Section Office shall review the submitted shop drawings for approval based on FHWA's eligibility letters found at the following website:

http://safety.fhwa.dot.gov/roadway_dept/policy_guide/road_hardware/listing.cfm?code=cushions

Please contact this office with any questions.

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