

Refer to: HSA-10/SS-107

Mr. Richard W. Sargent
Town of Waterford
Department of Public Works
15 Rope Ferry Road
Waterford, CT 06385

Dear Mr. Sargent:

Thank you for your letter of February 14, 2002, requesting Federal Highway Administration (FHWA) acceptance of 2 pound-per-foot (PPF) U-channel posts as a breakaway sign support system for use on the National Highway System (NHS). You requested that we find 2 PPF posts acceptable for use on the NHS under the provisions of National Cooperative Highway Research Program (NCHRP) Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features."

Introduction

Testing of sign supports is done under the guidelines contained in the NCHRP Report 350, Recommended Procedures for the Safety Performance Evaluation of Highway Features. Requirements for breakaway supports are those in the American Association of State Highway and Transportation Officials' (AASHTO) Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

Testing

Full-scale automobile testing under current guidelines was conducted on direct-bury 3 pound-per-foot U-channel post sign supports in strong soil in 1985. This system was found acceptable in FHWA Acceptance Letter SS-5, dated June 15, 1987. Subsequently, various 3- and 4- pound-per-foot U-channel breakaway sign support systems have been tested and found acceptable for installations where more than two 3-PPF posts are needed, and where weaker soils are encountered. These systems include specialized hardware such as splice bolts, spacers, slip bases, soil plates, etc. These systems also are favored by some jurisdictions because they reduce the level of effort needed to replace or repair a damaged installation.

The FHWA considers steel sign posts that are lighter gage than the crash-tested posts, both U-channel and perforated square steel tube supports, as acceptable for use.

Findings

Two pound-per-foot U-channel sign supports conforming to the crashworthy designs of 3- and 4-PPF supports, formed of re-rolled rail steel, or new billet steel meeting the same requirements as rail steel, are acceptable for use as Test Level 3 devices on the NHS under the range of conditions tested, when proposed by a State. The material specifications for the U-channel posts used in crashworthy supports are contained in FHWA Technical Advisory T5040.22 "Steel Flanged Channel Posts of Small Highway Sign Supports," dated September 27, 1983. A copy of this technical advisory is enclosed for your information.

Please note the following standard provisions that apply to FHWA letters of acceptance:

- Our acceptance is limited to the crashworthiness characteristics of the devices and does not cover their structural features, nor conformity with the Manual on Uniform Traffic Control Devices.
- Any changes that may adversely influence the crashworthiness of the device will require a new acceptance letter.
- Should the FHWA discover that the qualification testing was flawed, that in-service performance reveals unacceptable safety problems, or that the device being marketed is significantly different from the version that was crash tested, it reserves the right to modify or revoke its acceptance.
- You will be expected to supply potential users with sufficient information on design and installation requirements to ensure proper performance.
- You will be expected to certify to potential users that the hardware furnished has essentially the same chemistry, mechanical properties, and geometry as that submitted for acceptance, and that they will meet the crashworthiness requirements of FHWA and NCHRP Report 350.
- To prevent misunderstanding by others, this letter of acceptance, designated as number SS-107 shall not be reproduced except in full. As this letter and the supporting documentation, which support it, become public information, it will be available for inspection at our office by interested parties.

Sincerely yours,

A. George Ostensen
Program Manager, Safety

Enclosure

FHWA:HSA-10:NArtimovich:tb:x61331:4/4/02

File: SS107Waterford2PPF.wpd

cc: HSA-10 (Reader, HSA-1; Chron File, HSA-10;
N. Artimovich, HSA-10)