



U.S. Department
of Transportation

**Federal Highway
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

Refer to: HSA-10/SS-115

Mr. Clifton Sturm
MaxiStrut, Inc
1209 West 17th Street
Houston, Texas 77088

Dear Mr. Sturm:

Thank you for your letter of August 15, 2002, requesting Federal Highway Administration (FHWA) acceptance of your company's "T-Bracket" and "U-Bracket" posts on three-bolt slip bases as a breakaway sign support system for use on the National Highway System (NHS). Accompanying your letter were drawings of your sign post system. You requested that we find these supports 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" in order to satisfy a State's concern that the brackets themselves were not documented as part of a breakaway sign support system.

Introduction

Testing of three-bolt slipbases was done by others in compliance with the guidelines contained in NCHRP Report 350. 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. A generic three-bolt slipbase system was tested by the FHWA in a pooled funded study and is included in our Acceptance Letter SS-36 dated September 3, 1993. The "Round Post Triangular Slipbase Assembly" was tested by South Western Pipe, Inc., and is included in our Acceptance Letter SS-65B dated December 3, 1997, stating that the design of the slipbase is in the public domain.

The evaluation of breakaway sign support crash testing has focused on two principal criteria: velocity change (both the delta V of the vehicle and the occupant impact speed) and the stub height (which must remain below 4 inches.) Risk of injury to the occupants of the vehicle is limited when the top of the sign does not strike the vehicle's windshield.



Findings

Some of the crash tests conducted by the Texas Transportation Institute used devices similar to your company's "T-Bracket" and "U-Bracket" with successful results. Examples of tests using these brackets may be found in the TTI report "Generic Small Sign Support System and Validation of Acceptable Support Performance" dated April 1990. Therefore, the "T-Bracket" and "U-Bracket" described above and shown in the enclosed drawings for reference are acceptable for use as Test Level 3 devices on the NHS when proposed by a State for use with crashworthy three-bolt slip bases.

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-115 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,

Carol H. Jacoby, P.E.
Director, Office of Safety Design
Office of Safety