



U.S. Department
of Transportation
**Federal Highway
Administration**

April 9, 2002

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

Refer to: HSA-10/WZ-114

Ms. Kathy Rogalla
Marketing Displays International
38271 W. Twelve Mile Road
Farmington Hills, MI 48331-3041

Dear Ms. Rogalla:

Thank you for your letter of requesting Federal Highway Administration (FHWA) acceptance of your company's portable sign stands as crashworthy traffic control devices for use in work zones on the National Highway System (NHS). Accompanying your letter were drawings and product literature illustrating each of the stands. The stands, or ones similar to them, have been previously accepted by FHWA. You requested that we find these devices 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

The FHWA guidance on crash testing of work zone traffic control devices is contained in two memoranda. The first, dated July 25, 1997, titled "**INFORMATION: Identifying Acceptable Highway Safety Features**," established four categories of work zone devices: Category I devices were those lightweight devices which could be self-certified by the vendor, Category II devices were other lightweight devices which needed individual crash testing, Category III devices were barriers and other fixed or massive devices also needing crash testing, and Category IV devices were trailer mounted lighted signs, arrow panels, etc. The second guidance memorandum was issued on August 28, 1998, and is titled "**INFORMATION: Crash Tested Work Zone Traffic Control Devices**." This later memorandum lists devices that are acceptable under Categories I, II, and III.

A brief description of the devices follows. Additional details are shown, along with details of other accepted MDI stands, in the enclosed table.

MDI Model #s **5018SS and 5018NS** (SS is a Single Spring stand and NS refers to No Spring). These stands, which hold 36x36 or 48x48 rollup signs, are similar to the MDI 4818 stand which was found acceptable in our letter WZ-28, dated March 3, 2000 (see enclosed table for reference). The aluminum mast extends to the top of the sign and holds a flag bracket.

MDI Model #'s 5012SS and 5012 NS. These are "compact" stands as discussed in our memorandum WZ-85 dated November 15, 2001. The signs are held at a height of 12 inches above the pavement, and the only structure above that height is the fiberglass bracing. You have requested their use with both 36x36 inch and 48x48 inch roll-up signs.

MDI Model # 3612 DLK was accepted using a 36x36 inch roll up sign. Your request is to find it acceptable using a 48x48 inch roll up sign. This stand also qualifies as a "compact" stand.

Findings

The sign stands and sign sizes you have requested appear to be within the bounds of previously tested stands. They should perform in an acceptable manner. Therefore, the devices described above and shown in the enclosed drawings for reference are acceptable for use on the NHS under the range of conditions that the comparable signs were tested, when proposed by a State. Also, the "compact" sign stands are acceptable subject to the following conditions:

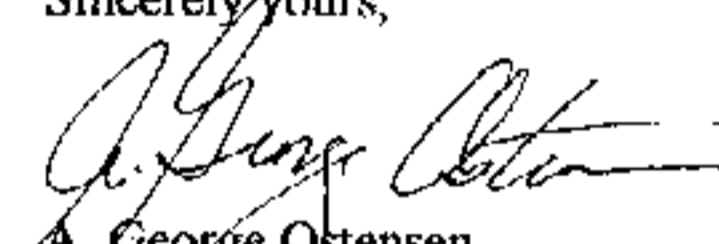
- Mounting height is between 300 mm to 460 mm (12 to 18 in) from the ground to the bottom of the sign.
- Square tube legs and the short mast should be no larger than 32 mm (1-1/4 in) on a side.
- Maximum vertical mast of steel or aluminum is no taller than necessary to grip the bottom of the vertical fiberglass brace. The mast may not extend to the middle or top of the sign. The grip should be a quick-release type that would allow the vertical fiberglass brace to pull out quickly, releasing the sign.
- Fiberglass bracing of the roll-up sign should be no wider than 32 mm (1-1/4 in).
- The horizontal fiberglass brace should be no thicker than 4.76 mm (3/16 in).
- The vertical fiberglass brace should be no thicker than 6.35 mm (1/4 in).

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 WZ-114 shall not be reproduced except in full. This letter, and the test documentation upon which this letter is based, is public information. All such letters and documentation may be reviewed at our office upon request.
- MDI's sign stands may include patented components and if so are considered "proprietary." The use of proprietary work zone traffic control devices in Federal-aid projects is generally of a temporary nature. They are selected by the contractor for use as needed and removed upon completion of the project. Under such conditions they can be presumed to meet requirement "a" given below for the use of proprietary products on Federal-aid projects. On the other hand, if proprietary devices are specified for use on Federal-aid projects, except exempt, non-NHS projects, they: (a) must be supplied through competitive bidding with equally suitable unpatented items; (b) the highway agency must certify that they are essential for synchronization with existing highway facilities or that no equally suitable alternative exists or; (c) they must be used for research or for a distinctive type of construction on relatively short sections of road for experimental purposes. Our regulations concerning proprietary products are contained in Title 23, Code of Federal Regulations, Section 635.411, a copy of which is enclosed.

Sincerely yours,



A. George Ostensen
Program Manager, Safety

Enclosure