



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

November 7, 2003

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

Refer to: HSA-10/WZ-164

Ms. Kathy Rogalla
MDI Traffic Control Products
38271 West Twelve Mile Road
Farmington Hills, Michigan 48311-3041

Dear Ms. Rogalla:

This is in response to your letter of August 11, 2003, your prior email messages, and subsequent correspondence requesting Federal Highway Administration (FHWA) acceptance of variations to your company's portable sign stands as crashworthy traffic control devices for use in work zones on the National Highway System (NHS). Accompanying your correspondence were drawings and detailed descriptions of the stands and requested modifications. 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 are those lightweight devices which are to be self-certified by the vendor, Category II devices are other lightweight devices which need individual crash testing but with reduced instrumentation, Category III devices are barriers and other fixed or heavy devices also needing crash testing with normal instrumentation, and Category IV devices are trailer mounted lighted signs, arrow panels, etc. for which crash testing requirements have not yet been established. 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:

MDI Model 5018 with breakaway features using Plywood signs

The MDI Breakaway Model 4818 was crash tested and accepted with 0.080 aluminum signs via FHWA Acceptance Letter WZ-69 on May 9, 2001. Based on information supplied by the crash test researchers, use of the Breakaway Model 4818 with 16 mm



(5/8 inch) plywood was also considered acceptable. Your current request is for FHWA acceptance of 16 mm plywood signs Model 5018 sign with breakaway features. As the only difference between the 4818 and 5018 signs is the material the legs are fabricated from (Model 4818 stands have legs of 1.25 inch aluminum; Model 5018 stands have legs of 1.00 inch steel) we will consider this combination acceptable for use. Please note, however, that we consider any plywood sign mounted on an X-footprint stand at less than 5 feet to be in the "marginal" category.

MDI Model 4815-60 stand with roll-up, aluminum laminate, and Endurance signs.

The MDI Model 4815 stand, with sign mounted at 15 inches, was found acceptable in FHWA Acceptance Letter WZ-28. The configuration of the 4815-60 uses the same telescoping base as the 4815, but uses the crash-tested breakaway mast of the Model 4860 stand (supports a sign at 60 inches height and was accepted in WZ-69). The telescoping "footprint" of the proposed 4815-60 is smaller than the tested 4860 because the lightweight signs proposed for the 4815-60 are lighter than the plywood sign tested on the 4860 stand. The performance of the breakaway mast with the lightweight signs should be comparable to the version tested with the solid aluminum sign (4860).

Testing and Findings

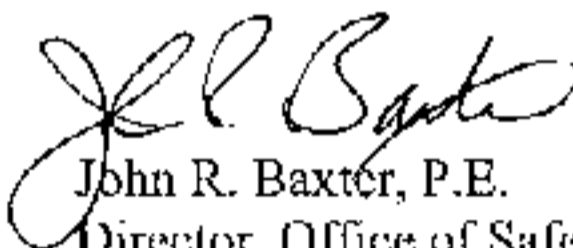
Full-scale automobile testing was conducted on your company's comparable sign stands, with acceptable results. Based on the analysis detailed above, the devices described above and detailed in the enclosed drawings are acceptable for use on the NHS under the range of conditions that the comparable signs were tested, when proposed by a State.

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 NCIIRP Report 350.
- To prevent misunderstanding by others, this letter of acceptance, designated as number WZ-164 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 Sign Stands are patented products and 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 by a highway agency* for use on Federal-aid 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. These provisions do not apply to exempt Non-NHS projects. Our regulations concerning proprietary products are contained in Title 23, Code of Federal Regulations, Section 635.411, a copy of which is enclosed.
- This acceptance letter shall not be construed as authorization or consent by FHWA to use, manufacture, or sell any patented device. Patent issues are to be resolved by the applicant and the patent owner.

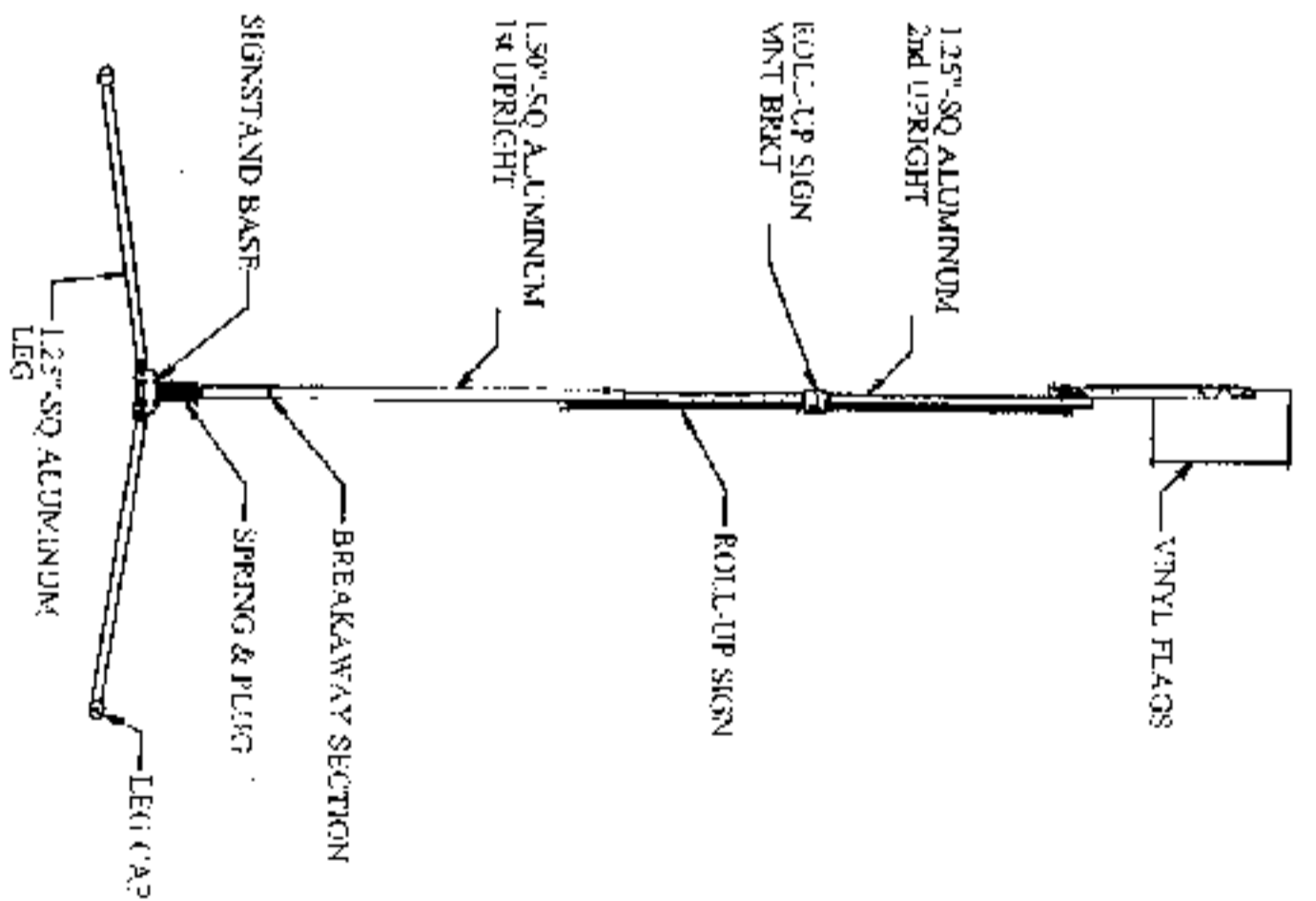
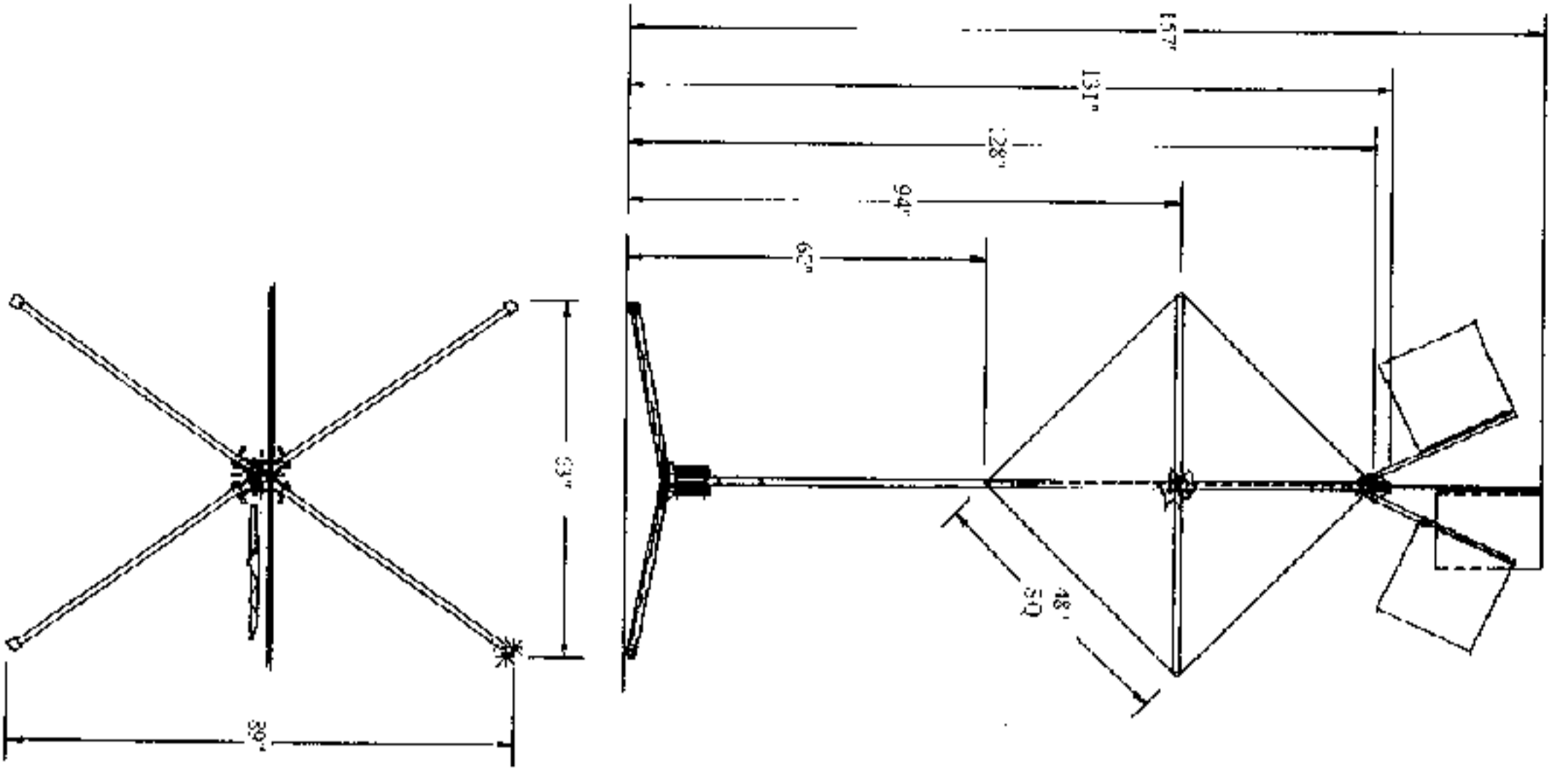
Sincerely yours,



John R. Baxter, P.E.
Director, Office of Safety Design
Office of Safety

Enclosures

4815RKB-60 SCHEMATIC DRAWING ROLL-UP SIGN



4815RKB-60 WEIGHT	
ROLL-UP SIGN:	5.5 lbs
SIGN STAND WITH R.U BRACKETS:	26.3 lbs
TOTAL:	31.5 lbs



MDI Traffic Control Products, 38271 West 12 Mile Road, Farmington Hills, MI 48331-2004 800-521-5776

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