

Refer to: HSA-10/WZ-157

Mr. Chase Gauger
Vice President
Plasticade Products
7700 Austin Avenue
Skokie, Illinois 60077

Dear Mr. Gauger:

This is in response to your letter of June 11, 2003, requesting Federal Highway Administration (FHWA) acceptance of variations to your company's Narrowcade and Plasticade Barricades as crashworthy traffic control devices for use in work zones on the National Highway System (NHS). These barricades were originally crash tested by the Texas Transportation Institute and found acceptable by FHWA via WZ-14 on May 28, 1999. 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." In summary, the modifications to the Narrowcade will be acceptable, but the Plasticade modification for use as a sign holder must be crash tested.

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 must 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.

Narrowcade Modifications

You requested that the Narrowcade be found acceptable with the following modifications as shown on the enclosed drawings by Maricopa County, Arizona:

1. Two aircraft cable straps
2. Steel retaining clip to hold reflective striped sheeted removable flexible, 0.100 gage plastic panel on one side only.

3. Flexible 0.100 gage 12" x 24" plastic panel on one side only
4. Zinc plated attaching bolt.

The cable straps are intended to keep the legs of the Narrowcade spread with a footprint in the range of 28 to 30 inches. The retaining clips and flexible plastic panel are requested to that the direction of the stripes can be changed depending on the position of the device.

The modifications of the Narrowcade described above and detailed in the enclosed drawings should not have any detrimental effect on the crash performance of the Narrowcade. Therefore, these modifications are acceptable for use on the NHS under the range of conditions tested, when proposed by a State.

You also requested modifications to the Plasticade barricade that would allow it to support a 36x36-inch rigid sign. As there has been no crash testing of type II barricades supporting signs, we must decline this request. We understand that Maricopa County is interested in funding a crash test for this combination device. We would appreciate it if you would inform the County that FHWA, Office of Safety is willing to work with them to establish the appropriate test matrix for this device, including the precise details of the test article to ensure maximum applicability from the testing.

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-157 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.
- The Narrowcade is a patented device and is 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 the 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
Director, Office of Safety Design
Office of Safety

Enclosures

FHWA:HSA-10:NArtimovich:tb:x61331:8/29/03

File: h://directory folder/nartimovich/WZ157-PlasticadeFINREV

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