



U.S. Department  
of Transportation

**Federal Highway  
Administration**

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

December 29, 1999

Refer to WZ-26

Mr. Jeffery D. Smith  
Vice President Product Development  
Work Area Protection Corporation  
PO Box 4087  
St. Charles, Il. 60174-9081

Dear Mr. Smith

Thank you for your letter of October 11, 1999, providing additional information on your company's B-400 Channelizer Drum. This letter was in reply to our facsimile message of August 2, 1999, requesting additional details on your product. Earlier you had requested Federal Highway Administration (FHWA) acceptance of the B-400 drum, with a light mounted on top, as a crashworthy traffic control device for use in work zones on the National Highway System (NHS). Accompanying your letter was a report of the crash test conducted, witnessed by individuals from the FHWA and the Pennsylvania State Police. You also provided color photographs and video documentation of the crash tests. A drawing of the drum is enclosed with this letter for reference. You requested that we find the tested drums with hghts 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."

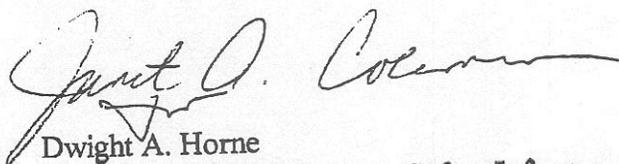
The FHWA guidance on crash testing of work zone traffic control devices is contained in two memoranda. The first, dated July 25, 1997, titled "Information: Identifying Acceptable Highway Safety Features," established four categories of work zone devices: Category I devices were those lightweight devices 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, 1999 and is titled "INFORMATION: Crash Tested Work Zone Traffic Control Devices." This recent memorandum lists devices that are acceptable under Categories I, II, and III.

Crash testing using an 820-kg automobile was conducted on your company's lighted B-400 PL low-density plastic drum with plastic base, ballasted with a 1 8-kg (40-pound) sand bag. The 2.33-kg (5. It-pound) lights (including batteries) were attached using typical hardware and a stamped cup washer. Two examples of the drum were tested in tandem, one head-on and the next at 90-degrees as called for in our guidance memoranda. The drums separated readily from the sandbagged bases and were knocked upward after impacting the bumper and hood. The hghts remained attached to the drums. During the test the most extensive damage was denting of the

bumper and hood. There appeared to be no contact of the test device with the windshield. There was no occupant compartment intrusion or deformation observed, nor did any test article debris show potential for penetrating the occupant compartment. The results of this testing met the FHWA requirements and, therefore, your company's B-400 are acceptable for use on the NHS under the range of conditions tested, when proposed by a State. This drum and light combination will be acceptable whether using the plastic base or the specially designed rubber bases because the mechanism for interlocking the drum to the base is the same for both base types. The drum is also acceptable with any similar warning light of 2.33 kg (5.12-pounds) or less.

Our acceptance is limited to the crashworthiness characteristics of the device at NCHRP Report 350 Test Level 3 and does not cover its structural features, nor conformity with the Manual on Uniform Traffic Control Devices. Presumably, you will supply potential users with sufficient information on design and installation requirements to ensure proper performance. We anticipate that the States will require certification from Work Area Protection Corporation that the hardware furnished has essentially the same chemistry, mechanical properties, and geometry as that submitted for acceptance. To prevent misunderstanding by others, this letter of acceptance, designated as number WZ-26, shall not be reproduced except in full.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Dwight A. Horne", is written over a faint, illegible typed name.

Dwight A. Horne  
Director, Office of Highway Safety Infrastructure

Enclosure

