



U.S. Department
of Transportation

**Federal Highway
Administration**

400 Seventh St., S.W.
Washington, DC 20590

July 20, 1999

Refer to: HMHS

Mr. Edmund J. Gribley
Product Development Specialist
PIBH
1007 North Front Street
P.O. Box 5865
Harrisburg, PA 17110-0865

Dear Mr. Gribley:

This is a follow up to our letter of April 1 acknowledging your letter requesting acceptance of your organization's portable sign stand as meeting the crashworthiness requirements of National Cooperative Highway Research Program (NCHRP) Report 350, as modified by the Federal Highway Administration (FHWA). Accompanying your letter was a copy of the crash test report by the Pennsylvania Transportation Institute, and video documentation of the crash tests. You requested that we find the tested device, the Pennsylvania Industries for the Blind and Handicapped (PIBH) Portable Sign Stand, acceptable for use on the National Highway System. The PIBH Portable Sign Stand is nearly identical to a stand produced by MDI (Model 30SM-PAKD) as your organization assembles the stands from parts obtained from MDI.

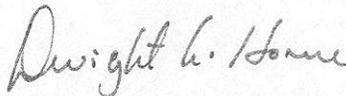
The FHWA guidance on crash testing of work zone traffic control devices is contained in two memoranda. The first, dated July 25, 1997, titled "Information: Identifying Acceptable Highway Safety Features," established four categories of work zone devices: Category I devices were those lightweight devices 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, 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. Full-scale automobile testing was conducted on the PIBH portable sign stand. The stand supported a roll up sign and three warning flags on top. The roll up sign is supported with a 31.75 x 9.5 mm (1.25 x 0.375 inch) fiberglass vertical mast and a 31.75 x 4.8 mm (1.25 x 0.1875 inch) fiberglass horizontal spreader. Additional details of this stand are shown in Enclosure 1. The legs of the stand can be adjusted in a way that changes the angle at which they leave the base assembly. This allows the stand to remain upright on uneven terrain, or allows two mounting heights on level terrain. The stand was tested at the higher, more critical height.

The test article was impacted head-on by an 820C passenger car traveling at 99.35 km/hr. The top of the fiberglass support impacted the windshield and caused a small area of concentrated damage near the roof line and minor cracking over the rest of the windshield.

Driver visibility would not have been impaired by the damage to the windshield. There was no occupant compartment intrusion or deformation observed, nor did any test article debris show potential for penetrating the occupant compartment. Because the stand consists of a low-profile x-footprint base, a short mast, and a roll up sign with crashworthy fiberglass vertical and horizontal bracing, additional testing at 90 degrees was not considered necessary. The results of this testing met the Report 350 FHWA requirements and, therefore, the PIBH Portable Sign Stand illustrated in Enclosure 1 is acceptable for use on the National Highway System under the range of conditions tested, when proposed by a State.

Our acceptance is limited to the crashworthiness characteristics of the device 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 the States will require certification from PIBH 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-18, shall not be reproduced except in full.

Sincerely yours,



Dwight A. Home
Director, Office of Highway Safety In&structure

Enclosure

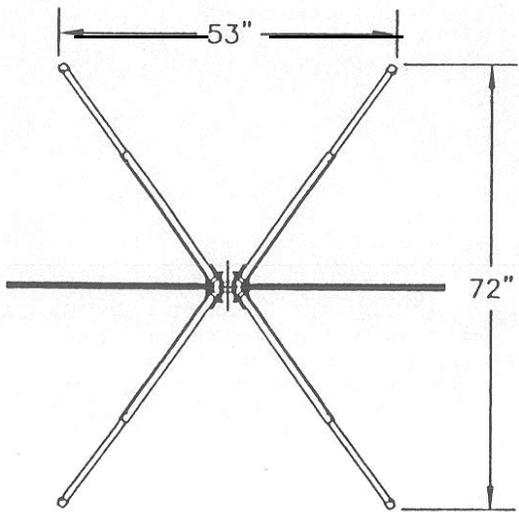
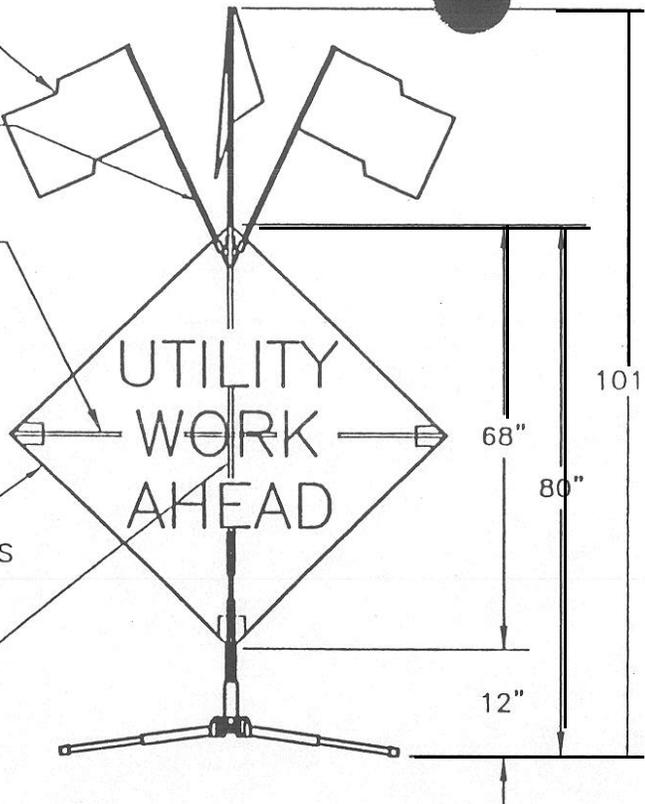
(3) VINYL FLAGS
18 x 18"

PLASTIC FLAG
STAFF 24" LONG

1-1/4x3/16x68"
FIBERGLASS
CROSSBRACE

48x48"
VINYL ROLLUP
SIGN WITH POCKETS

1-1/4x3/8x68"
FIBERGLASS
CROSSBRACE
TELESCOPES INTO
ALUM. UPRIGHT



30SM-PAKD WEIGHT:

- SIGN, CROSSBRACES
& FLAGS ----- 7.9 LB
- SIGN STAND ----- 22 LB
- TOTAL ----- 29.9 LB

LEGS CONNECTED
WITH BOLTS
3/8-18x1-3/4

1.25x1.25"
STEEL
LEG

1x1" STEEL
TELESCOPING LEG

5/16 STEEL
HITCH PIN

PLASTIC FLAG
HOLDER

ALUMINUM
EXTRUSION
UPRIGHT

3/8 x 2-1/4 BOLT

STEEL STANCHION

STEEL BASE

MOLDED RUBBER
LEG CAPS.
RIVETED WITH
(2) 3/16x1/2
ALUM. POP RIVETS



DATE: 06/16/98

NAME: MODEL 30SM-PAKD

SCHEMATIC DRAWING