



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

June 15, 2006

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

In Reply Refer To:
HSA-10/WZ-238

Mr. Jeffery D. Smith
Work Area Protection Corporation
P.O. Box 4087
2500 Production Drive
St. Charles, Illinois 60174

Dear Mr. Smith:

Thank you for your February 17, 2006, letter requesting the Federal Highway Administration (FHWA) acceptance of your company's WZS12, WZS12-S, and WZX60-SL portable sign stands as crashworthy traffic control devices for use in work zones on the National Highway System (NHS). Your letter included a list of crashworthy signs manufactured by another vendor with whom you have reached agreement to sell under your name. 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. Our new acceptance process was outlined in our memorandum "FHWA Hardware Acceptance Procedures – Category 2 Work Zone Devices" dated November 11, 2005.



The following sign stand was crash tested by the Texas Transportation Institute and acknowledged as crashworthy in the FHWA acceptance letter WZ-67 dated January 26, 2001.

(Tested sign): A portable work zone sign fabricated with square steel tubing is used to support a 1220 x 1220 mm vinyl roll-up sign panel that is stiffened with 32 mm by 8 mm rectangular cross section fiberglass straps. The mast consists of a 1500 mm long, 32 mm square, 2.5 mm thick steel tube with a 150 mm long, 38 mm square, 2.5 mm thick tube section at the top for sign attachment. Four telescoping legs were fabricated from 25 mm and 30 mm square tubing. The inner legs were 470 mm long while the outer legs were 1168 mm long. The bottom of the roll-up sign was mounted approximately 1.5 m above the ground level. Details of the roll-up sign and stand (in English units) are shown in the enclosed drawing.

You requested acceptance of the **WZS60-SL**, which is a spring-loaded version of the same stand. You also provided drawings for the model **WZS12** stand. This four-legged stand supports a roll-up sign at 305 mm above the pavement. The metal structure of the stand rises no higher than that necessary to secure the bottom of the fiberglass ribs supporting the roll-up sign, as shown on the enclosed drawings. Your model number **WZS12S** is a spring loaded version of this low stand.

Findings

The tested stand contacted the windshield and caused only minor damage and no penetration of the windshield. Therefore, your stand model number WZS60-SL, which is identical to the tested stand except for the use of a spring mechanism at the base, is acceptable for use.

The WZS12 and WZS12-SL stands are both “compact” sign stands under our definition, as detailed in the “Questions and Answers” portion of the FHWA acceptance letter WZ-85, a copy of which is enclosed for your information and use. Compact sign stands supporting roll-up signs with fiberglass spreaders as detailed in WZ-85 do not require individual crash testing.

The results of the testing of the basic model sign stand met the FHWA requirements. As the manufacturer will fabricate them to the same specifications, the devices described above and detailed in the enclosed drawings are acceptable for use on the NHS under the range of conditions tested, when proposed by a State.

Please note the following standard provisions that apply to the FHWA letters of acceptance:

- Our acceptance is limited to the crashworthiness characteristics of the devices and does not cover their structural features, or 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 the FHWA and the NCHRP Report 350.
- To prevent misunderstanding by others, this letter of acceptance, designated as number WZ-238 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 subject portable sign stands are patented devices 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: (a) they 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.
- This acceptance letter shall not be construed as authorization or consent by the FHWA to use, manufacture, or sell any patented device for which the applicant is not the patent holder. The acceptance letter is limited to the crashworthiness characteristics of the candidate device, and the FHWA is neither prepared nor required to become involved in issues concerning patent law. Patent issues, if any, are to be resolved by the applicant.

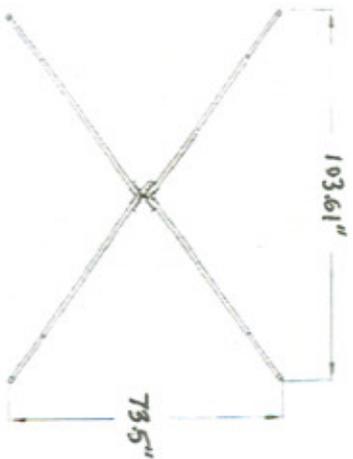
Sincerely yours,



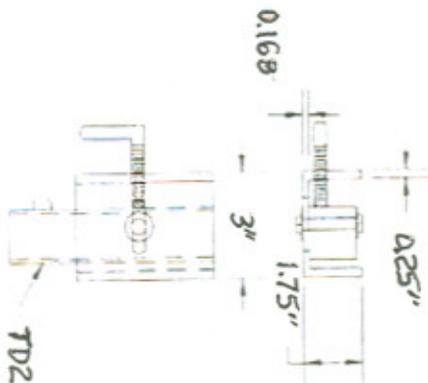
John R. Baxter, P.E.
Director, Office of Safety Design
Office of Safety

Enclosures

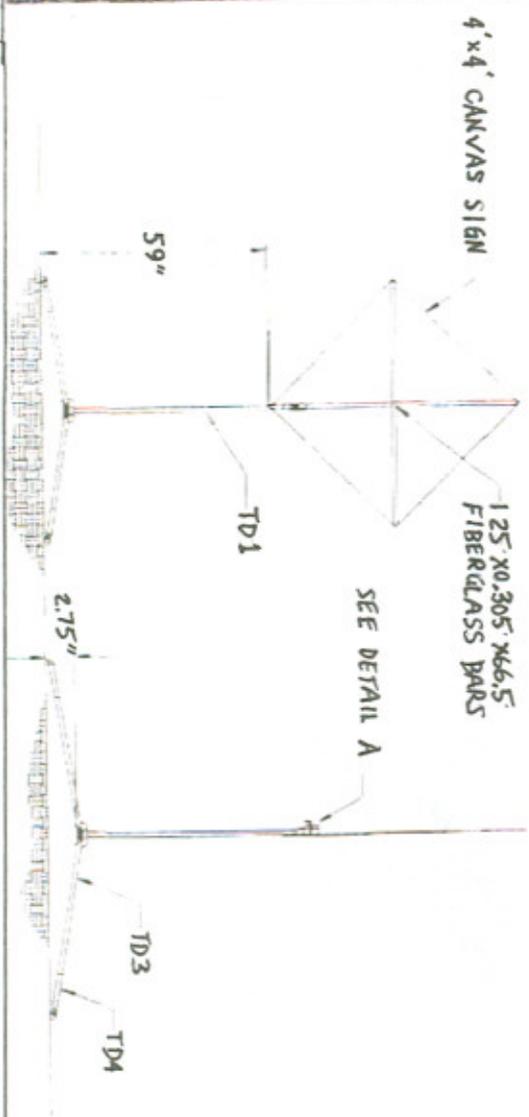
DIMENSIONS FOR STEEL TUGWIG	
TD1	1.26" SQUARE X 59" X 0.1" THICK
TD2	1.5" SQUARE X 5" X 0.1" THICK
TD3	1.2" SQUARE X 46" 0.055" THICK
TD4	1" SQUARE X 18.5" 0.07" THICK



DETAIL A

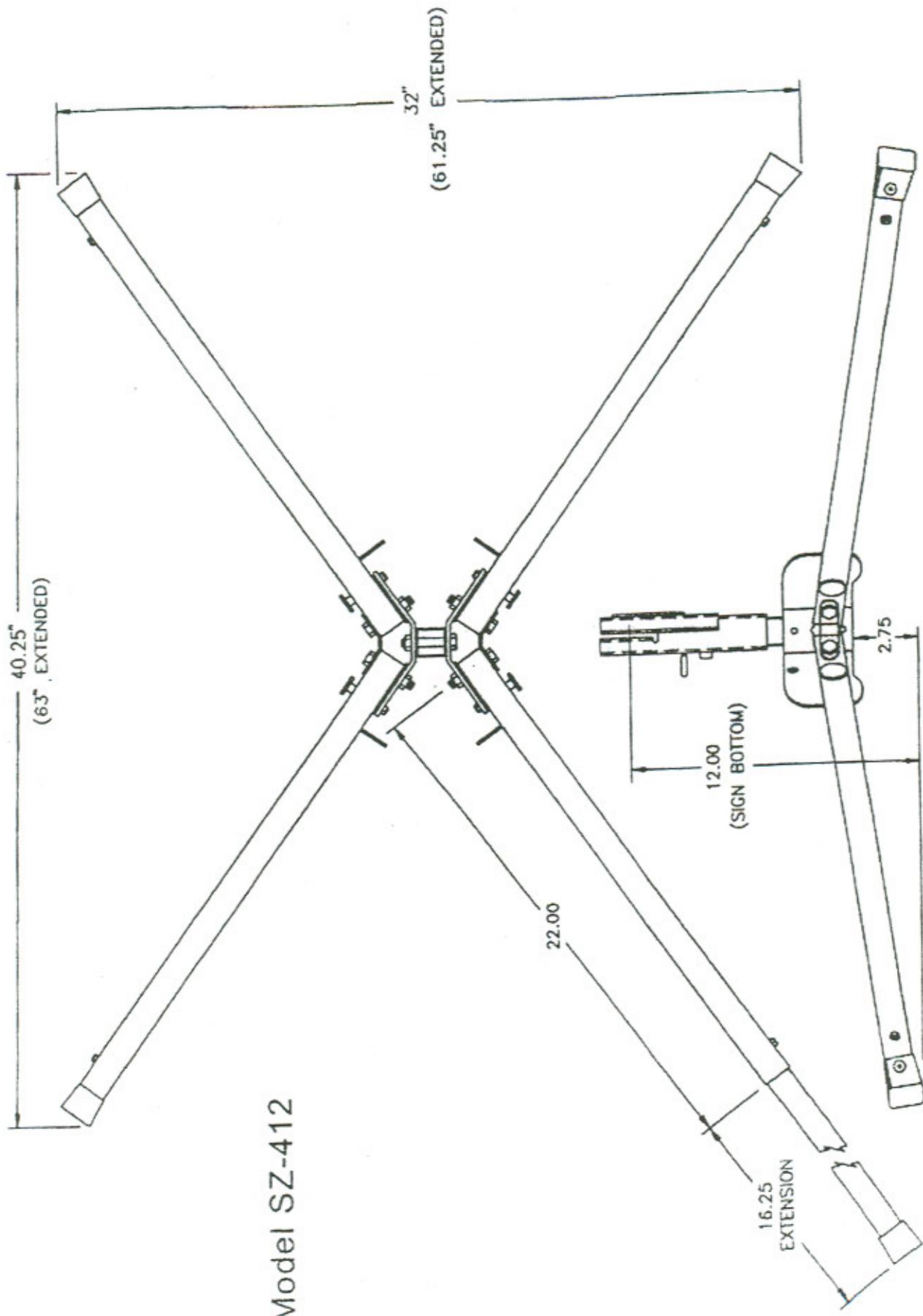


TD2



NOT TO SCALE

The Texas A&M University System			
Texas Transportation Institute			
COLLEGE STATION, TEXAS 77843			
Project No.	DATE	Sheet No.	Total
AC0001	11/7/00	11A	11A
Date Plotted			



Model SZ-412

Sec. 635.411 Material or product selection.

(a) Federal funds shall not participate, directly or indirectly, in payment for any premium or royalty on any patented or proprietary material, specification, or process specifically set forth in the plans and specifications for a project, unless:

(1) Such patented or proprietary item is purchased or obtained through competitive bidding with equally suitable unpatented items; or

(2) The State highway agency certifies either that such patented or proprietary item is essential for synchronization with existing highway facilities, or that no equally suitable alternate exists; or

(3) Such patented or proprietary item is used for research or for a distinctive type of construction on relatively short sections of road for experimental purposes.

(b) When there is available for purchase more than one nonpatented, nonproprietary material, semifinished or finished article or product that will fulfill the requirements for an item of work of a project and these available materials or products are judged to be of satisfactory quality and equally acceptable on the basis of engineering analysis and the anticipated prices for the related item(s) of work are estimated to be approximately the same, the PS&E for the project shall either contain or include by reference the specifications for each such material or product that is considered acceptable for incorporation in the work. If the State highway agency wishes to substitute some other acceptable material or product for the material or product designated by the successful bidder or bid as the lowest alternate, and such substitution results in an increase in costs, there will not be Federal-aid participation in any increase in costs.

(c) A State highway agency may require a specific material or product when there are other acceptable materials and products, when such specific choice is approved by the Division Administrator as being in the public interest. When the Division Administrator's approval is not obtained, the item will be nonparticipating unless bidding procedures are used that establish the unit price of each acceptable alternative. In this case Federal-aid participation will be based on the lowest price so established.

(d) Appendix A sets forth the FHWA requirements regarding (1) the specification of alternative types of culvert pipes, and (2) the number and types of such alternatives which must be set forth in the specifications for various types of drainage installations.

(e) Reference in specifications and on plans to single trade name materials will not be approved on Federal-aid contracts.