

Refer to: HSA-10/WZ-150

Mr. Henry Ross
United Rentals Highway Technologies
880 North Addison Road
P.O. Box 7050
Villa Park, Illinois 60181

Dear Mr. Ross:

This is in response to your email message of January 29, 2003, requesting Federal Highway Administration (FHWA) acceptance of your company's URHT Type III barricades as crashworthy traffic control devices for use in work zones on the National Highway System (NHS). Your email message transmitted drawings of the barricade. 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 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, 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.

URHT Type III barricades

This barricade consists of 2.0 x 1.5 x 5/32 inch by 60 inch long steel angles as skids. To these skids are welded 6-inch high sockets. The vertical uprights are 2.0 x 1.5 x 5/32 inch steel angles made of hot-rolled ASTM A-499 steel. They are 60 inches long and are inserted into the sockets with no hardware fastening them in place. The barricade rails are 8-inch wide by 8 feet long hollow core plastic panels manufactured by Bunzl Extrusions. They are fastened to the uprights using 3/8-inch hardware. The various components have been found acceptable in FHWA Acceptance Letters WZ-40, WZ-85, and WZ-117. We concur that these components will be acceptable in the structure you have designed.

You also requested the optional use of one or two lightweight warning lights, as were found acceptable in our letters WZ-54 and WZ-63. We concur in the use of these lights.

You also requested the optional use of an Empco-Lite Model 212 Type B warning light. These were crash tested on generic Type III barricades by Empco-Lite and were accepted for use in our letter WZ-49. We concur in the use of these lights with your barricade.

You also requested the optional use of a lightweight substrate sign panel mounted above the top rail. The sign would be mounted on plastic angle uprights and fastened to the top two barricade rails. The plastic angle uprights measure 1.87 inches x 2.15 inches x 60 inches long. As the mounting height is sufficient to keep the top of the sign from impacting a small car's windshield we concur in the use of signs mounted on your barricade as you described.

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, 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 FHWA and NCHRP Report 350.
- To prevent misunderstanding by others, this letter of acceptance, designated as number WZ-150 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 United Rental traffic control devices may include patented components and if so are 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 for use on Federal-aid projects, except exempt, non-NHS 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. Our regulations concerning proprietary products are contained in Title 23, Code of Federal Regulations, Section 635.411, a copy of which is enclosed.

Sincerely yours,

Michael S. Griffith
Acting Director, Office of Safety Design
Office of Safety

Enclosures

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.

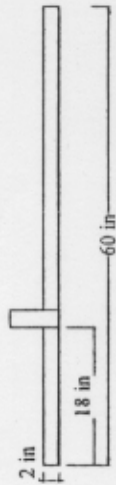
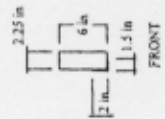
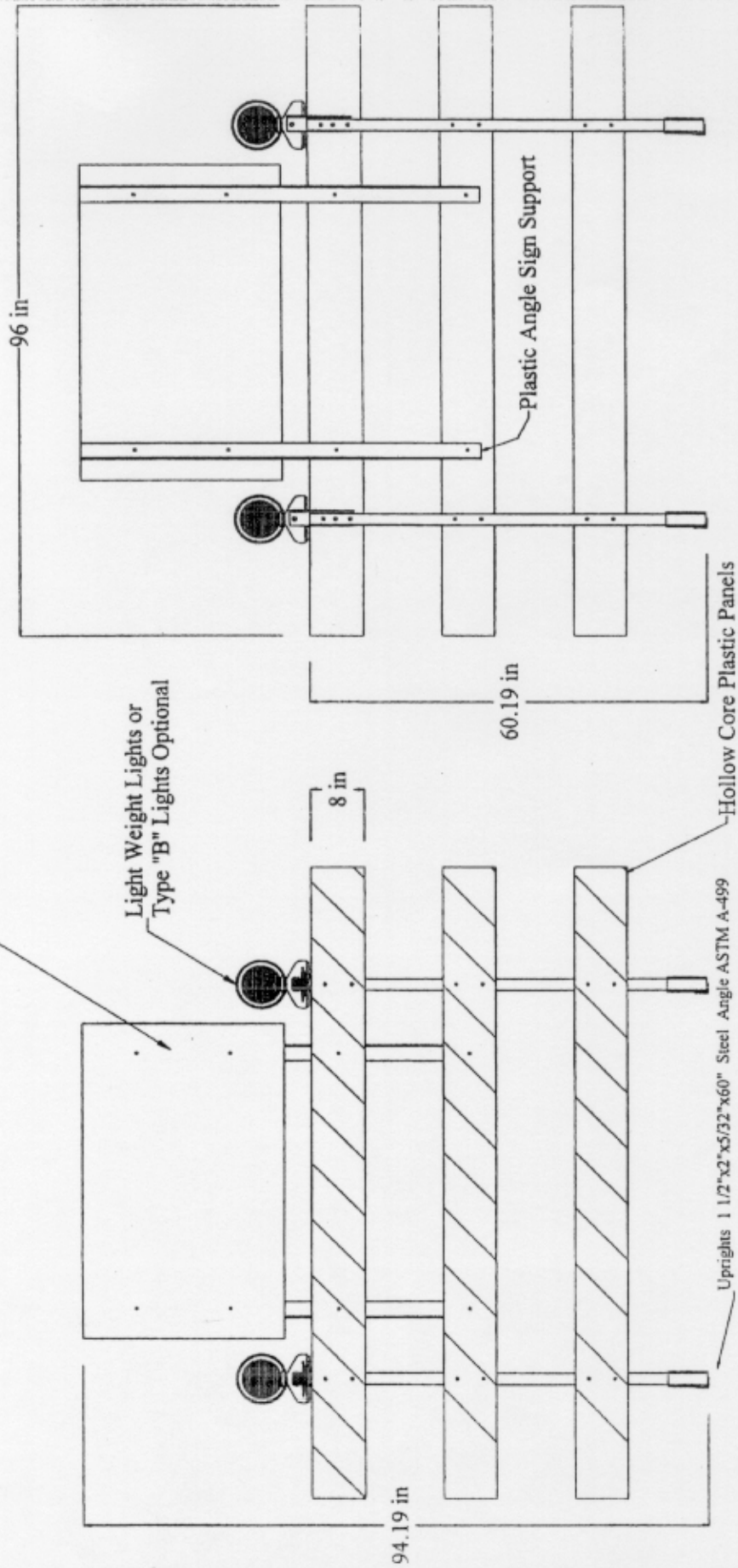
(c) A State highway agency may require a specific material or product when there are other acceptable materials and products, when such specific choice is approved by the Division Administrator as being in the public interest. When the Division Administrator's approval is not obtained, the item will 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.

ENCLOSURE 2

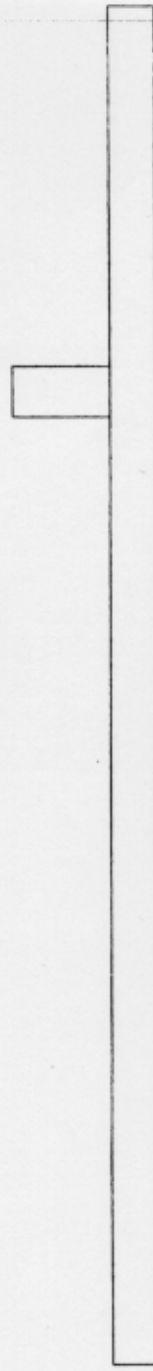
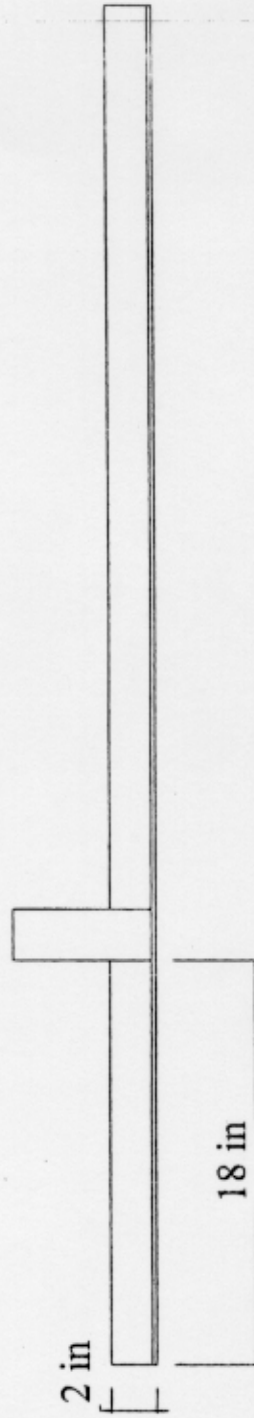
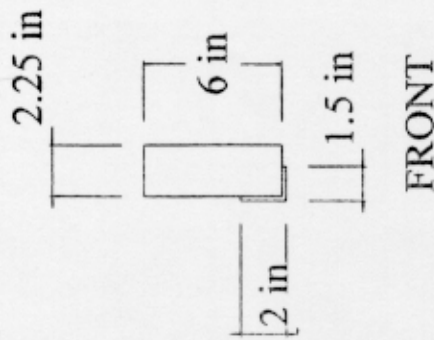
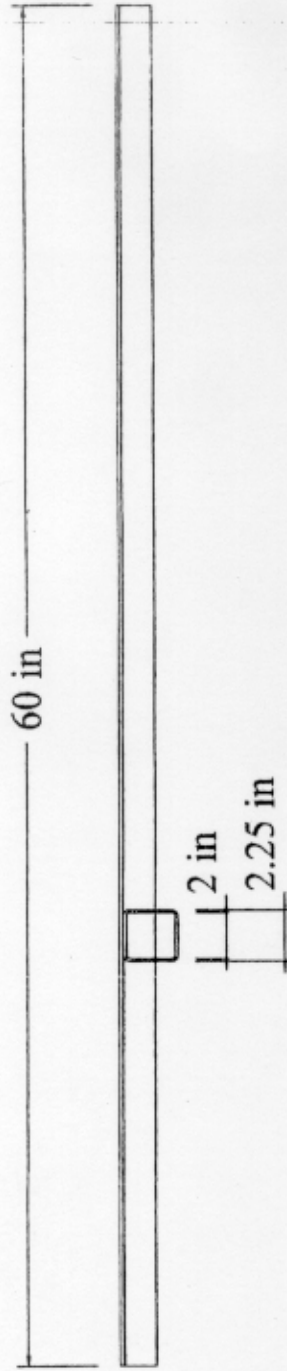
SafetyCor Plastic Sign Panel
Mounted on Plastic Supports



- Materials
- 1-1/2"x2"x3/16" Steel Angle ASTM A-499
 - 2-1/4"x2-1/4"x1/4" x 125 Square Tube

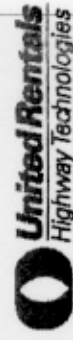


8' Plastic Type III with
SafetyCor Plastic Sign
and Lights



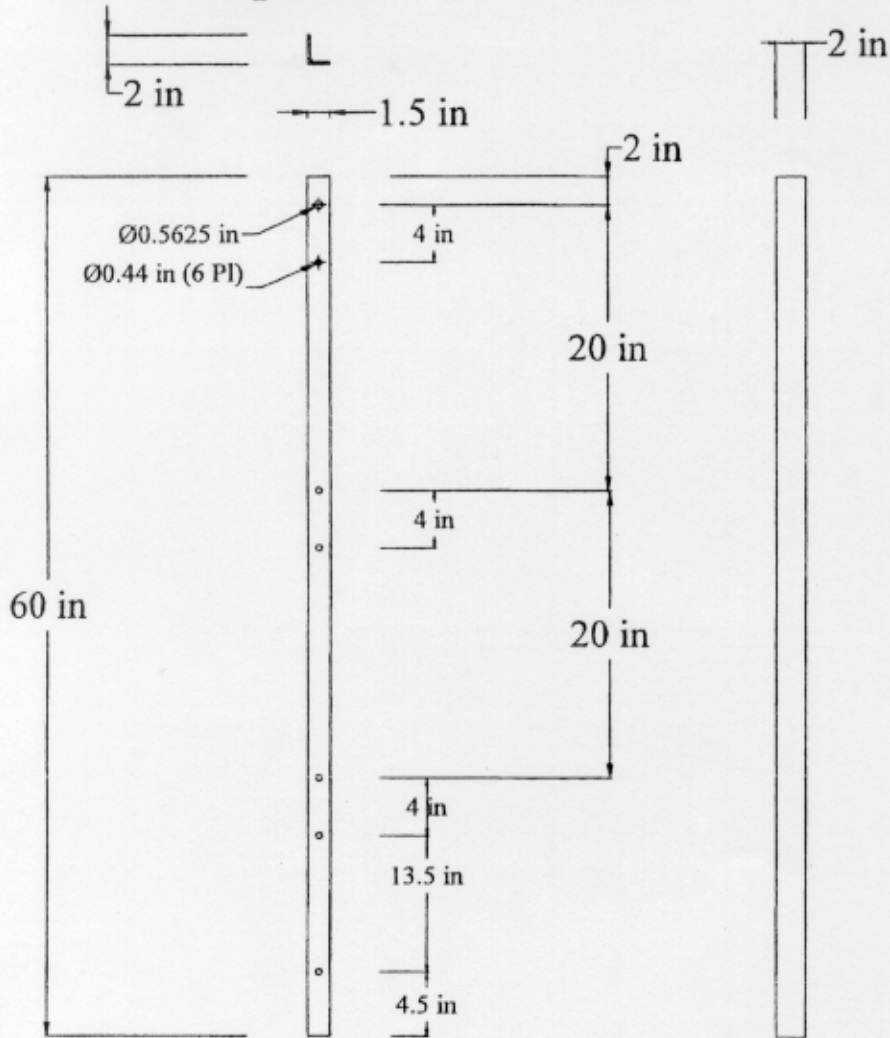
Materials

- 1-1/2"x2"x5/32" Steel Angle ASTM A-499
- 2-1/4"x2-1/4" x.125 Square Tube



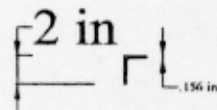
Type III Bottom Stand
Part No. BXXBN06004

Top View



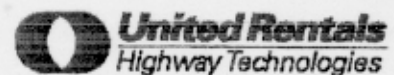
Front View

Side View



Bottom View

Material
 1-1/2" x 2" x 5/32 ASTM A-499
 High Carbon Steel



Type III Upright 1 Piece Metal
 Item # BXXBN06003