

Refer to: HSA-10/SS-122

Mr. Ron Riker
Caminoverde, Incorporated
103 Regent Drive
Brownwood, Texas 76801

Dear Mr. Riker:

Thank you for your letter of December 15, 2003, requesting Federal Highway Administration (FHWA) advice on testing your company's Shur-Tite® socket system as a breakaway mechanism for rural mailbox supports for use on the National Highway System (NHS) under the provisions of National Cooperative Highway Research Program (NCHRP) Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features." You provided video documentation of bogie vehicle testing and static pull testing, and asked if a pendulum test would be adequate to prove the breakaway performance of the mailbox support.

Introduction

The Caminoverde Shur-Tite® socket system consists of a 3-inch diameter, 17-inch long pipe socket in a concrete footing. The socket is fabricated with a hole near the toe to permit concrete to flow in, locking the socket into place. The 2-3/8-inch signpost is then placed into the socket and secured into place with a wedge of high density polyethylene. The breakaway sign support system was tested with a fiberglass post and with an ASTM 1011 Grade 55 steel post. On July 10, 2003, we found the breakaway sign support system acceptable in our Acceptance Letter SS-117.

The Shur-Tite® Mailbox Bracket is shown in the enclosed drawing for reference. It is formed from a sheet to 0.074 inch 14 gage A36 steel. A pair of downwardly extending flanges are formed on the long edges of the plate. The flanges have holes to facilitate attachment to the mailbox, and additional holes reduce the weight of the bracket. A cylindrical sleeve of 1020 steel with a 2.5 inch OD by 0.065 inch wall is wire welded to the plate forming a socket to receive the post. A 5/16" bolt secures the bracket to the post through holes on both sides of the sleeve and the support post.

The Shur-Tite® Support Post is composed of a recycled HDTP/tire rubber composite with a co-extruded HDTP white shell coating. The OD of the post is 2.375 inch with a wall thickness of 0.450 to 0.475 inch.

Testing

We agree that a single pendulum test would be adequate to demonstrate the satisfactory breakaway performance of the Shur-Tite® Socket System in a mailbox support. However, we have also compared the Shur-Tite® mailbox installation to other conventional mailbox supports such as the 4x4 wood post. We consider a Type A rural mailbox attached to a 4x4 post, a very common and inexpensive system nationwide, to be minimally acceptable from a crashworthy standpoint. We believe that you have already demonstrated superior performance of the Shur-Tite® system to the 4x4 wood post and have decided to find it acceptable for use with a mailbox no heavier than that used in the bogie test.

The results of testing met FHWA requirements and, therefore, the devices described above and shown in the enclosed drawings for reference are acceptable for use as Test Level 3 devices on NHS under the range of conditions tested, when proposed by a State. Should you wish to use the Shur-Tite® system with multiple mailboxes, or with heavier, more secure mailboxes, then full-scale high-speed crash testing would be required.

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 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 SS-122 shall not be reproduced except in full. As this letter and the supporting documentation which support it become public information, it will be available for inspection at our office by interested parties.
- The Caminoverde Shur-Tite ® Socket System is a patent-pending product and will be considered "proprietary." The use of proprietary devices specified on Federal-aid projects, except exempt, non-NHS projects: (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.

- This acceptance letter shall not be construed as authorization or consent by 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, P.E.
Director, Office of Safety Design
Office of Safety

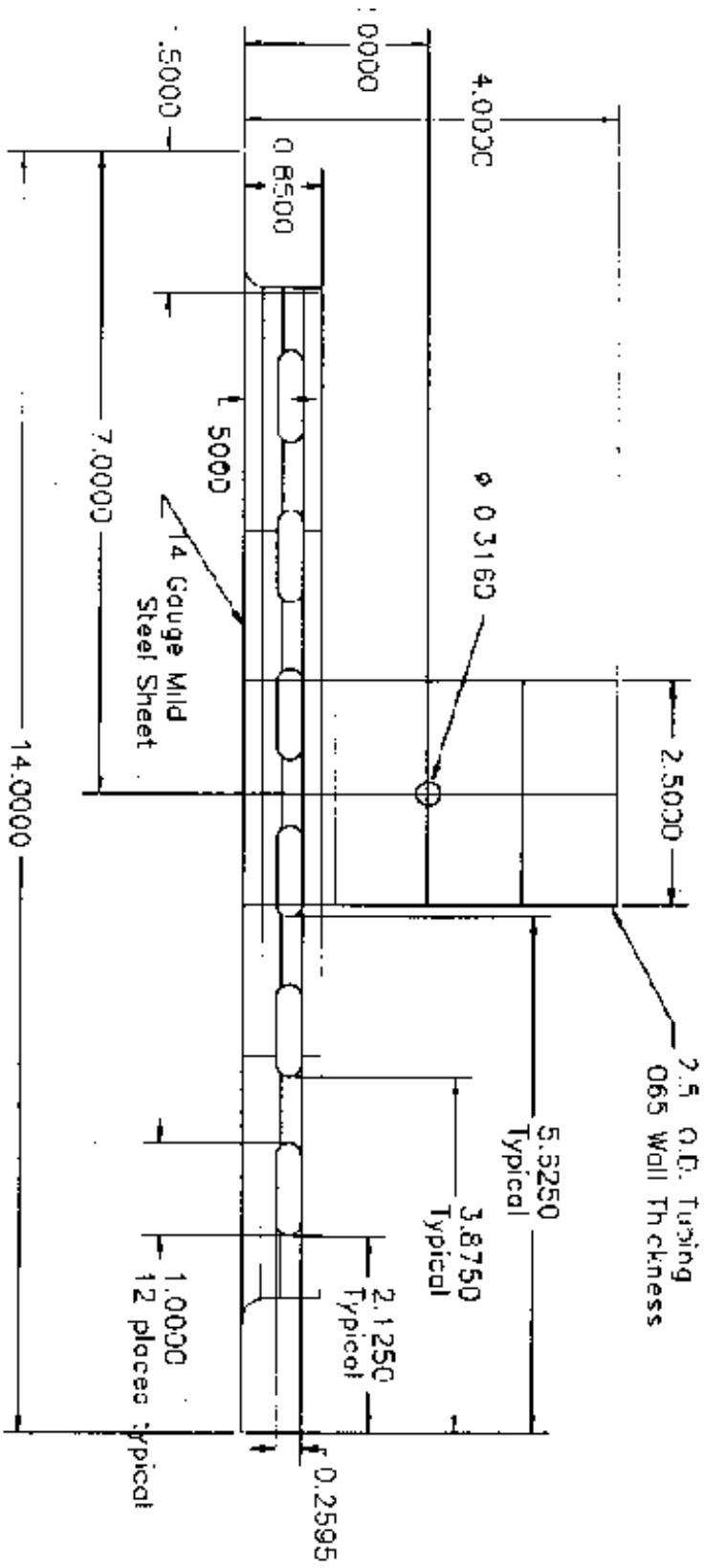
Enclosure

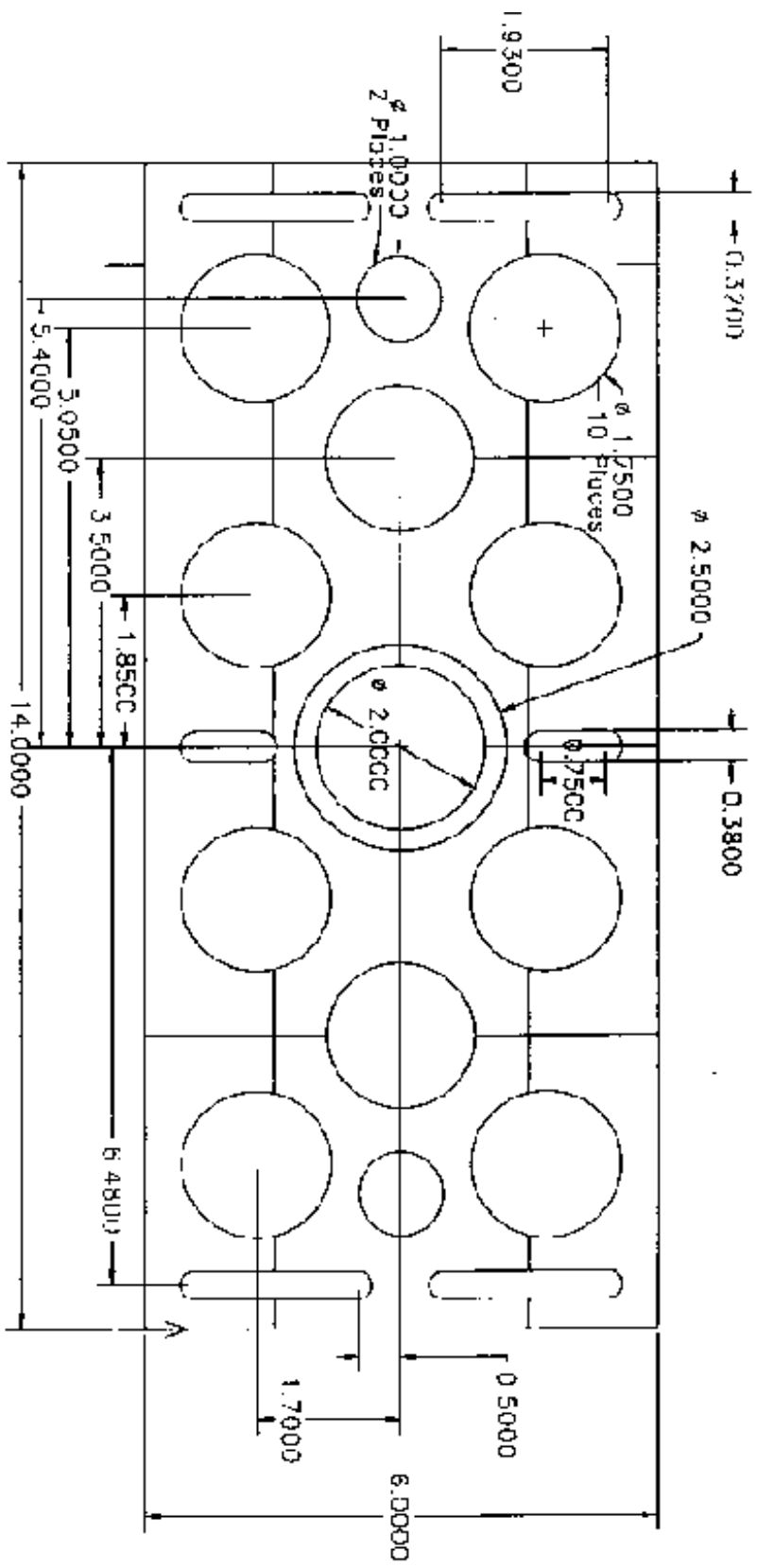
FHWA:HSA-10:NArtimovich:tb:x61331:2/9/04

File: h://directory folder/nartimovich/SS122CaminoVerdeMBFin

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

SHUR-TITE® DESIGN DRAWINGS





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.