U.S. Department
Of Transportation
Federal Highway
Administration

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

August 19, 1986

Refer to: HNG-21/SS-02

Christopher Meyer P.E.
Product Applications Engineer
Trus Joist Corporation
P.O. Box 7984
3210 E. Amity Road
Boise, Idaho 83707

Dear Mr. Meyer:

This is in response to your August 1 letter requesting Federal Highway Administration (FHWA) acceptance of your MICRO=LAM laminated veneer lumber breakaway signposts for use on Federal-aid highway projects. You enclosed a copy of an Engineered Wood brochure, a videotape and a Southwest Research Institute Report No. 06-1102-001 Dated July, 1986 containing full-scale crash test information.

Your 14 7/8-inch by 7 7/8-inch laminated veneer lumber post having a wall thickness of 1 ¼-inches and having 45-degree mitered corners was tested. The post was placed in pre-drilled holes and backfilled. Four 1-inch diameter holes were then drilled on the two sides of the post parallel to the direction of travel. Two of the holes were at the 3-inch above ground heights and the other two holes were at the 18-inch height. A saw cut parallel to the ground was then made that connects each set of holes. Enclosed is a copy of the tested design for your ready reference.

One test was conducted with an 1,840-pound vehicle impacting the sign post at 20.6 m.p.h. Reported test results indicate a change-of-velocity of 7.8 feet/second. The second test was conducted with a 1,840-pound vehicle impacting the signpost of 58.7 m.p.h. Reported test results indicate a change-of-velocity of 8.8 feet/second. Therefore, the tested system meets the provisions of the new, but yet unpublished, 1985 American Association of State Highway and Transportation Officials (AASHTO) "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals". We also infer this system meets the 1975 AASHTO specification since the 1985 AASHTO specification is more demanding.

Based on the above, the tested system is acceptable for use on Federal-aid projects if proposed by a State. We also infer your 7 7/8-inch square by 1 ¼-inch thick laminated

veneer lumber post is also acceptable. Furthermore, only one post is allowed within an 8-foot path.

At the present time, FHWA has not yet adopted the 1985 AASHTO specification. Once the AASHTO publishes their specification, we intend to proceed with the process to officially adopt a new specification. We will issue a Notice of Proposed Rulemaking (NPRM) in the Federal Register, provide a public comment period, review and evaluate any comments we receive, and then issue a Final Rule. The effective date if implementing a new specification for Federal-aid highway work is not expected to be until at least mid-1987.

This acceptance is limited to breakaway characteristics of the system and does not cover its structural features. Presumably, Trus Joist Corporation will supply potential users with sufficient information on structural design and installation requirements, including the need to size the sign panel and support for expected wind loading, to ensure proper support performance.

We anticipate that the States will require certification from Trus Joist Corporation that materials furnished have essentially the same mechanical properties and geometry as the materials used in the tests and that the support will meet the change in momentum requirements of the AASHTO specification.

Sincerely yours,

Norman J. Van Ness, Chief
Highway Design Division

Enclosure

MITERED CORNER BREAKAWAY SIGNPOST

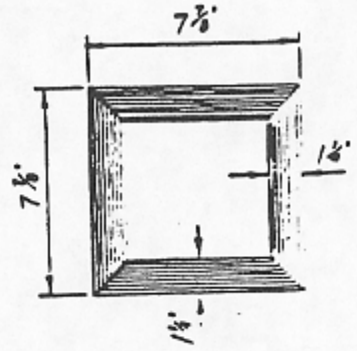
SS-2

(continued)

TYPE "M" SECTION PROPERTIES

I = 251 in.^{4}
S = 63.7 in.^{3}
Q_{max} = 41.6 in.^{3}
Q_{conc} = 27.8 in.^{3}
Cf = .929

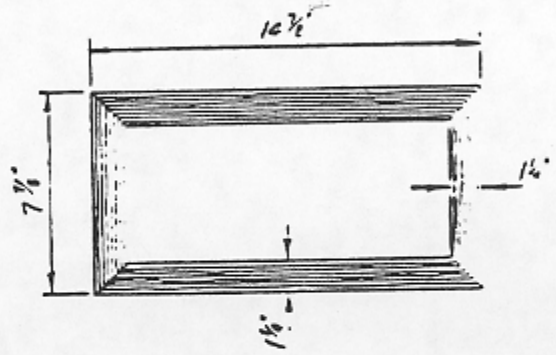
Treated Weight =
11 lbs per foot



TYPE "L" SECTION PROPERTIES

I = 1,311 in.^{4}
S = 176.3 in.^{3}
Q_{max} = 114.9 in.^{3}
Q_{conc} = 56.7 in.^{3}
Cf = .859

Treated Weight =
17 lbs per foot



BREAKAWAY FEATURE

Field installed in webs

1" holes, with saw cut between
(Typical both sides)