U.S. Department
Of Transportation
Federal Highway
Administration

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

July 14, 1986

Refer to: HNG-21/SS-01A

Mr. H. Mike Jordan
Product Manager
Southwestern Pipe, Inc.
P.O. Box 2002
Houston, Texas 77252-2002

Dear Mr. Jordan:

This is in response to your June 9 letter requesting Federal Highway Administration (FHWA) acceptance of two-post installations of certain sizes of your company's Type "A" Small Sign Support System for use on Federal-aid highway projects. You enclosed a copy of a POZ-LOC Anchor System brochure and a Southwest Research Institute Report No. 06-1120-001 dated May 1986 containing full-scale crash test information.

Our May 13 letter provided acceptances on your 2 3/8-inch O.D. 13 gauge (.095), 14 gauge (.030) and 16 gauge (.065) signposts. We limited our acceptance then to only one post per 8-foot path.

You have now conducted an additional test of the 2 3/8-inch O.D. 13 gauge (.095) sign post where two posts were impacted. The tested system consisted of separate 2 7/8-inch O.D. by .109 galvanized tubular sockets that were driven into soil meeting the National Cooperative Highway Research Program (NCHRP) Report No. 230 strong soil (S01) criteria. Separate 2 3/8-inch O.D. 13 gauge signposts were inserted into the sockets and the posts locked into position with 2 7/8-inch by 2 3/8-inch x 11 gauge post wedges. Enclosed is a figure showing the sign support details. The full-scale test was conducted with a 1,850-pound vehicle impacting the two-post installation at 20.6 m.p.h. Reported test results, using the average of the film and accelerometer data, indicate a change of velocity of 14.8 feet/second. These translate to a change of momentum of 859 pound/seconds. Also, we concur with your assessment that the two-post installation is acceptable under high speed (60 m.p.h.) impacts based on previous testing. Therefore, the tested system meets the provisions of the new, but yet unpublished, 1985 American Association of State Highway and Transportation Officials (AASHTO) "Standard Specifications for Structural Supports for Highway Signs,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, your tested system is acceptable for use on Federal-aid projects if proposed by a State. Also, we infer that your POZ-LOC anchor systems comprised of the same socket, wedge, and post O.D. as the tested system, only the posts have thinner wall thicknesses of .080 and .065, are also acceptable when two posts are used within an 8-foot path.

We note your system was only tested in the S-1 strong soil described in NCHRP Report No. 230. If you desire to use this system in soil equivalent to the S-2 soil described in NCHRP Report No. 230, we recommend additional tests be conducted in that soil type.

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 of 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 described above and does not cover its structural features. Presumably, Southwestern Pipe, Inc., 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 Southwestern Pipe, Inc., that materials furnished have essentially the same chemistry, 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.

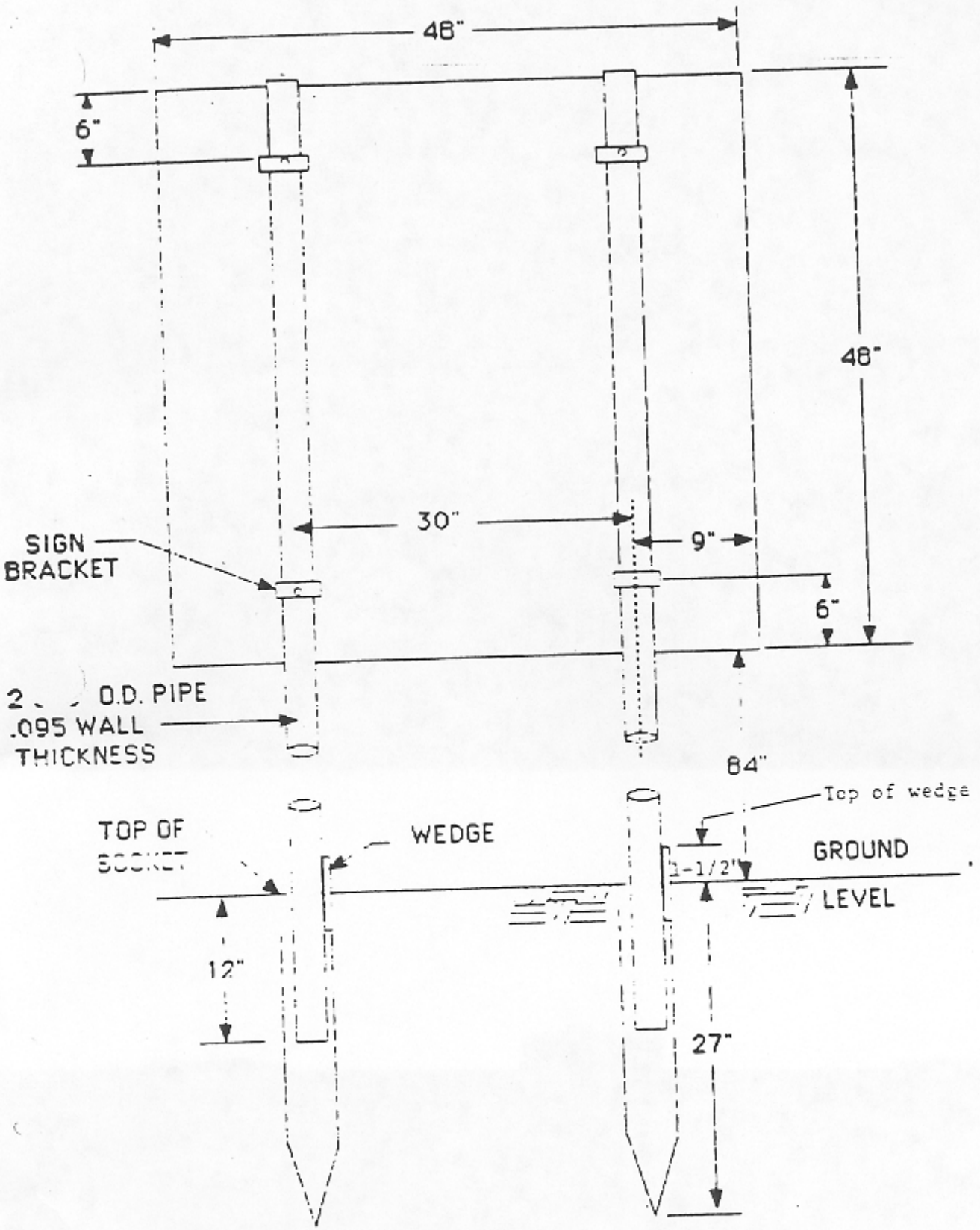
Sincerely yours,

Norman J. Van Ness, Chief
Highway Design Division

Enclosure

SS-1 A

(continued)



SMALL SIGN SUPPORT DETAILS