



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

March 9, 2006

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

In Reply Refer To:
HSA-10/SS-136

Mr. Jim Anderson
Designovations, Inc.
7339 Wildwood Road
Stillman Valley, IL 61084

Dear Mr. Anderson:

This is in response to Mr. William Williams' letter of March 2, 2006, requesting the Federal Highway Administration's (FHWA) acceptance of a modification to the Designovation Snap-N-Safe breakaway coupler for use with sign support systems on the National Highway System (NHS). Accompanying your letter was a letter report on the pendulum test conducted by the Texas Transportation Institute. Mr. Williams requested that we find the Designovation device 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

Testing of the supports was in compliance with the guidelines contained in the NCHRP Report 350, Recommended Procedures for the Safety Performance Evaluation of Highway Features. Requirements for breakaway supports are those in the American Association of State Highway and Transportation Officials' (AASHTO) Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

Testing

Full-scale automobile testing was conducted on the original Designovations Snap-N-Safe grey iron breakaway coupler in 2004. This design was found acceptable in the FHWA acceptance letters numbered SS-120 (larger coupler) and SS-123 (smaller coupler), dated April 1, 2004.

The present modification of the 2-½ inch square version consists of a coupler and mounting plate manufactured from a single grey iron casting. This design is intended for bolting directly to concrete surfaces such as sidewalks and medians. Testing using an 839-kg pendulum with a honeycomb impact nose was conducted. The 2-1/2 inch device was attached to a rigid steel plate on the pendulum platform. The tested is shown in the Enclosure for reference.



Test #	NCHRP 350	Speed	Article	Occup. Speed
400001-DES-P	Test 3-61	34.7 km/hr	Snap N Safe	2.3 m/s

Occup. Speed: Occupant Impact Speed: Speed at which a theoretical front seat occupant will contact the windshield. In meters per second.

Delta V: Speed change of the test vehicle. In meters per second.

Findings

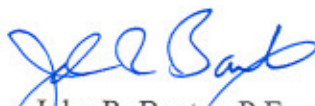
Velocity change was within acceptable limits, and the stub remaining was approximately 16 mm (5/8 inch). The results of testing met the FHWA requirements and, therefore, the devices described above and shown in the enclosed drawings for reference, as well as the smaller square sizes of 2 1/4", 2" and 1 3/4", are acceptable for use as Test Level 3 devices 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, 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 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 SS-136 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 Designations Snap-N-Safe coupler is a patented device and is considered "proprietary." When 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 was provided with earlier correspondence.

- 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.

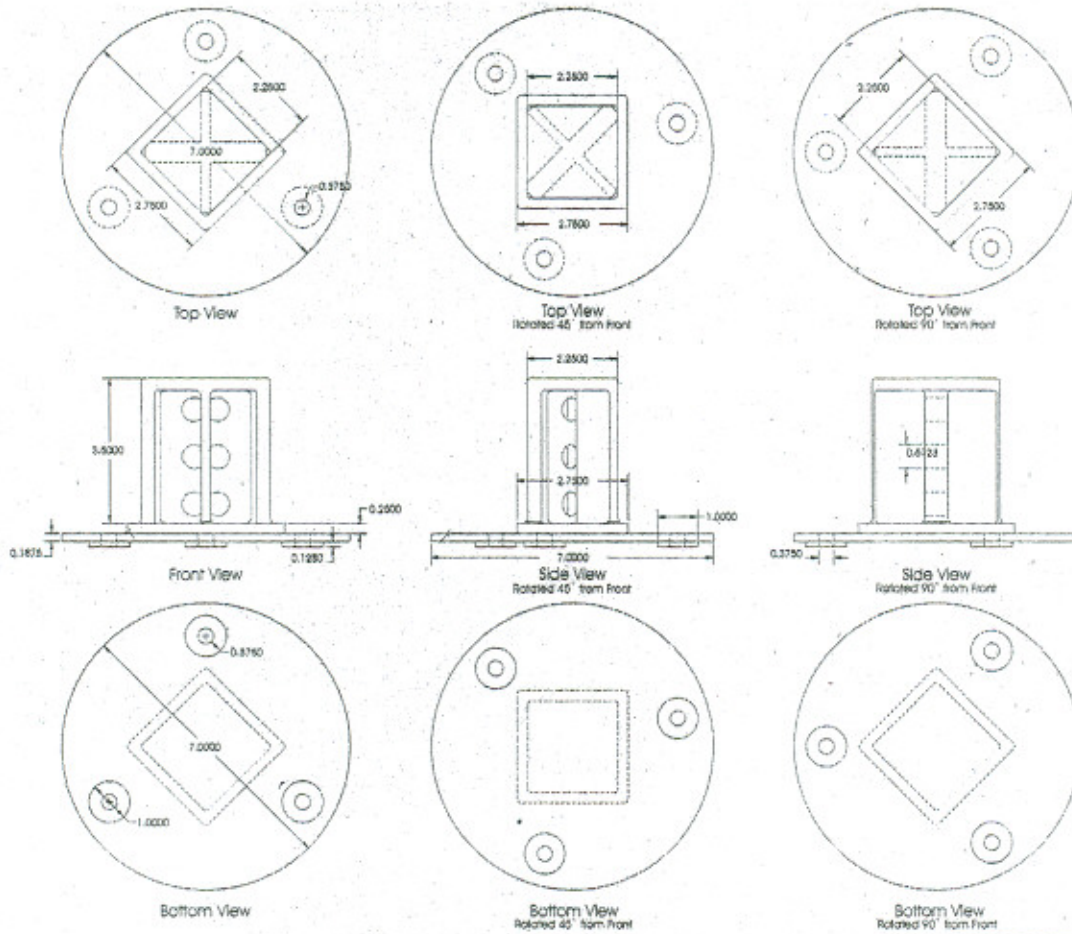
Sincerely yours,



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

Enclosure

Subject: Designations, 2nd Impact Test Condrioms



SNAP'n SAFE Breakaway Couple
Concrete Application - 2 1/2" Steel Post
ASTM A48 Grey Iron Class 35 Scale = Inches
Drawing property of Designations, Inc. 04/05