

File: SP2-0124  
27 June 2006

**To:** (a) Regional Network Operations Managers  
(b) Regional Traffic Safety Officers

**From:** Frank McGuire, Senior Roading Engineer, Network Operations.

**SUBJECT: Dent Breakaway System for Signposts**

*F. McGuire*  
*27/7/06*

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### Purpose

This memo provides advice on the use the Dent Breakaway System in sign installations that are to meet the requirements of TNZ P/24 and the RSMA Compliance Standard for Traffic Signs

### References

1. Impact Requirements for Traffic Signs - Provisional Advice 30 June 2005
2. TNZ P/24
3. RSMA Compliance Standard for Traffic Signs

### Background

As of 1<sup>st</sup> July 2005 new impact requirements for signs took affect. Typically multi-posted signs are affected by these requirements. Generally these are destination, information, and threshold type signs. In particular sign supports at spacings greater than 1.0m shall use approved hinge mechanism immediately below the sign panel on breakaway posts.

Currently, Signfix Ltd has available an approved system using steel posts. CSP Pacific now has available the Dent Breakaway System. The Dent Breakaway System consists of three parts:

1. The Dent Breakaway Bolts – necked bolts fitted at the shear base
2. Hinge Plates to be fitted under the sign.
3. A steel post and ground stub with shear plates.

### National Office

The Dent Breakaway System is NCHRP 350 tested and listed in the FHWA Breakaway Hardware Listing in the Sign Supports Listing section.

The hinge plates used with this system are currently the appropriate Texas Department of Transportation “fuse plate” and these will be superseded in the near future by the Dent Breakaway Fuse Plate which is NCHRP 350 tested. FHWA formal approval is due within 30 days.

### **Design Issues**

The integrity of the Dent Breakaway System will be ensured by the following procedure

1. Using the wind loading charts in the RSMA Compliance Standard, the installation contractor will determine the appropriate posts and number of posts for the particular sign and location..
2. The installation contractor will advise CSP Pacific
  - a. The size of the sign
  - b. The height of the bottom of the sign from the ground
  - c. The type and number of poles they intend to use
  - d. The location of the sign; i.e. either 45m/s or 49 m/s wind speed environment.
3. CSP Pacific will determine
  - a. The Bolt Circle Diameter for the bolts in the shear plate
  - b. The appropriate hinges to be used

This determination is based on approved charts and takes into account the requirements of P/24 and the RSMA Compliance Standard.

4. The contractor may have the entire installation supplied by CSP or source the poles and shear plates from another reputable supplier

As soon as the Dent Fuse Plate’s FHWA approval is promulgated, all addressees will be advised.

If you have any comments or questions regarding this matter please contact:

Jack Hansby, Transit National Office