Welcome to Road Rave …

Believe it or not – this issue marks two years of Road Rave! We believe that Road Rave is a useful tool to keep the industry informed about developments so, as long as this remains the case, we’ll keep producing it, and you will keep receiving it!

In this issue:

• **Magic Mushroom Pole** – this issue’s Case Study features an innovative antenna column design developed in collaboration with Downer Connect for installation on a rather tricky site more…

• **Technical Talk** – we talk about Shear Base Columns vs Ground Planted Columns – where and when to use them more …

Some of you will have attended the IPENZ Traffic Management Workshop in Christchurch in September. The Workshop was a huge success and CSP Pacific were proud to be a part of it.

**Case Study – Magic Mushroom Pole**

Read how CSP Pacific worked with Downer Connect on an innovative antenna column design that has solved a costly, ongoing problem for Telecom in North Coromandel …. more…

**Technical Talk – Rigid Columns vs Frangible Columns**

*Designers need to specify columns based on the purpose and the place of the installation of the column. To assist with this, designers should use information from AS/NZS 1158.1.3 : 1997 and the Transit NZ State Highway Geometric Design Manual for State Highways. Misinterpretation of these standards has meant a number of incorrect installations have been made in the past. For this reason, we have focused our October edition of Technical Talk on this issue. For further information, please contact us at info@csppacific.co.nz.*

Roadside columns are classified into two categories: Rigid and Frangible (see diagram 1). Frangible columns (safer in an impact) can be classified further into Shear Base and Impact Absorbing columns. The principle difference Rigid and Frangible columns is in their behavior during and after impact (see diagrams 2, 3 and 4). In both cases these columns can be Ground Planted, Flange Mounted with a Hold Down Assembly or Ground Stub.

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**Diagram 1**

```
Columns

<table>
<thead>
<tr>
<th>Rigid</th>
<th>Frangible</th>
</tr>
</thead>
<tbody>
<tr>
<td>(eg. Concrete)</td>
<td>Shear Base (eg. Oclyte™ Shear Base)</td>
</tr>
</tbody>
</table>
```

Rigid Columns

- Are designed to be impact resistant.
- Are usually made of concrete or steel thicker than 4mm.
- Are used as communication or transmission columns, where losing communication or falling electrical wires is unacceptable.

Note

- They should not be used where there is a reasonable likelihood of vehicular impact.
- They should not be used within a clear zone without protection.

Frangible Columns

There are two main types of frangible columns, namely: Shear Base and Impact Absorbing columns. The most common Frangible columns are made of steel less than 3mm thick.

Shear Base columns

- They are generally dislodged from their original position when impacted at normal urban operating speeds (70 – 100 km/h) and often do not significantly retard the progress of the impacting vehicle.
- They are strongly recommended not to be used in high pedestrian activity areas.

Shear Base Installation Reminder ...

Please remember – when installing a Shear Base it is very important that the bolts be torqued to 250Nm initially and then slackened off to 90 – 100Nm immediately or, at the very least, before the road is opened. If the bolts are left tighter than 90 – 100Nm, the Shear Base will not perform as required in the event of an impact. (See August 2003 Road Rave for details.)

Impact Absorbing columns

- As the name suggests, these columns absorb any impact energy by progressively deforming and entrapping the impacting vehicle. The column brings the impacting vehicle to a stop, generally within a distance of less than half the mounting height beyond the base.
- They are suited to low vehicle speed and higher pedestrian activity areas where there may be concern about secondary accidents associated with, for example, a dislodged Shear Base column.