SPECIFICATION FOR ROAD SAFETY BARRIER SYSTEMS

1. SCOPE

This specification sets out the approval, performance, design, layout and installation requirements for permanent road safety barrier systems on state highways.

For the purpose of this specification, a road safety barrier system comprises one or a combination of the following components:

- Roadside and/or Median Barriers,
- Bridge Barriers,
- Crash Cushions and/or End Terminals, and
- Barrier Transitions.

2. APPLICATION

This specification applies to the installation of all road safety barrier systems on roads and bridges on the state highway network.

3. APPROVED ROAD SAFETY BARRIER SYSTEMS

Only those road safety barrier systems listed in NZTA M23: Appendix A are approved for use on state highway roads.

Other products that have met NCHRP 350 requirements, may be approved for use on state highways, on application to the New Zealand Transport Agency Traffic and Safety Manager.

Road safety barrier systems used on bridges must conform to the requirements of Transit New Zealand’s Bridge Manual.

The approval of NZTA Traffic and Safety Manager is required for a road safety barrier system to be listed in NZTA M23 Appendix A. The primary criterion for the approval of a barrier system is that it must have been successfully crash tested and the results evaluated in accordance with the National Cooperative Highway Research Program Report 350: Recommended Procedures for the Safety Performance of Highway Features (NCHRP Report 350). In addition, consideration will also be given to the following:

- In–service Performance: In the case of a product with no demonstrable in–service history an in–service trial is required, at the manufacturer/supplier’s cost or otherwise agreed with NZTA.
• **Availability of Spares for Maintenance:** The manufacturer/supplier will need to demonstrate that spare parts are available within an agreed timeframe.

If a road safety barrier system has not been crash tested in accordance with NCHRP Report 350, and its use on state highways is likely to be cost effective, then an alternative crash test regime will be considered, providing:
• the testing has been undertaken by a reputable crash test organisation, and
• the results certified as complying with an equivalent NCHRP Report 350 test level.

4. **PERFORMANCE**

The minimum performance level for road safety barrier systems installed on state highways is NCHRP Report 350 Test Level 3 (TL 3). The performance level of the road safety barrier systems approved for use on state highway roads is given in NZTA M23: Appendix A.

The minimum performance level required for road safety barriers on state highway bridges shall be determined by the method given in Appendix B, Section B3 of Transit New Zealand’s Bridge Manual.

5. **DESIGN, LAYOUT, INSTALLATION AND MAINTENANCE OF ROAD SAFETY BARRIER SYSTEMS**

5.1 **Design**

The design of all road safety barrier systems shall be compliant with the crash tested design or the barrier system configuration given approval under Section 3: Approval of Road Safety Barrier Systems. Changes to the crash-tested/approved design/configuration will deem the barrier system non-compliant with this specification.

5.2 **Layout**

The layout of all road safety barrier systems should comply with the relevant guidelines:

(a) **Roadside Safety Barriers**

The layout of all roadside barriers shall be in accordance with the requirements of Section 7.3 of the SHGDM: Longitudinal Road Safety Barriers.

(b) **Median Safety Barriers**

The layout of all median barriers shall be in accordance with the requirements of Section 7.3.12 of the SHGDM: Median Barriers.

(c) **Bridge Barriers**
The layout of all bridge barriers, i.e. the barriers physically on the bridge deck, shall be in accordance with the requirements of the Bridge Manual. Barriers on the approaches to bridges shall be in accordance with Section 7.3 of the SHGDM: Longitudinal Road Safety Barriers.

5.3 Installation
All road safety barrier systems must be installed in accordance with the manufacturer's instructions.

5.4 Maintenance
All road safety barrier systems must be maintained in accordance with the manufacturer’s instructions and should be maintained at a level necessary to preserve its crash worthiness.