

# BG 800 Steel Gate (Ingal)

## Product summary

<b>Status</b>	Accepted
<b>Category</b>	Permanent Steel Gate
<b>Test Level</b>	NCHRP350 TL3: <b>100km/h</b>
<b>Supplier</b>	Ingal Civil Products
<b>Description</b>	BG 800 Steel Gate can be used with permanent longitudinal barrier installation.

## Introduction and purpose

This detail sheet is intended to supplement *VicRoads Road Design Note 06-04 - Accepted Safety Barrier Products*. Please refer to RDN 06-04 for the current VicRoads acceptance status, information on the product assessment process and general acceptance conditions.

The technical details within this document have been extracted from information submitted to VicRoads by the Supplier and the recommended 'Conditions for Use' from the Austroads Safety Barrier Assessment Panel (ASBAP).

***VicRoads requirements take precedence over the product manual and Austroads conditions.*** Where a departure from these requirements is required, users should understand the risks and document their engineering decisions.

For more detailed product information, refer to the individual product manual or contact the System Supplier.

## Technical information

The BG 800 steel safety barrier should be designed, installed and maintained in accordance with the following VicRoads conditions for use.

These conditions for use have been based on an Austroads assessment of technical performance against AS/NZS 3845 and contain VicRoads specific requirements when necessary.



## Summary Conditions for Use

<b>Accepted configuration</b>	BG 800 Steel Gate (6 and 12 metre) with an attached T-Top structure, hinge assembly and hinge pins, terminal section with anchor assembly and wheel sets.
<b>Variants</b>	Nil
<b>Deflection</b>	1.16 metre
<b>Product manual reviewed</b>	Highway Care International Barrier Guard 800 Gate Product Manual, Version 1b
<b>ASBAP issue</b>	6 March 2018
<b>End Treatments</b>	Refer to approved terminal & connections

Refer VicRoads conditions & notes for use (below).

Detail Sheet	Page 1 of 4	2nd Edition	August 2018
--------------	-------------	-------------	-------------

## VicRoads Conditions for Use

### Tested design requirements

Containment level	Speed (km/h)	Vehicle mass (kg)	Point of Redirection (m)		Minimum length of barrier (m)	Anchor/Pin Spacing (m)	Dynamic deflection (m)	Working width (m)	Notes
			Leading	Trailing					
NCHRP350 TL-3	100	2000	N/A	N/A	N/A	Refer to product manual	1.16	1.70	N/A

### Approved Terminals and Connections

<i>Crash Cushions or Terminals must be fitted to both ends of a barrier</i>	
<b>Public Domain Products</b>	
W-Beam Guardrail	Not Permitted
Thrie-Beam Guardrail	Not Permitted
Type F Concrete Safety Barrier	Permitted – BG 800 to Concrete Safety Barrier. The transition includes the Full Height Terminal End.  No temporary concrete barriers accepted in Victoria
<b>Proprietary Products</b>	
Barrier Guard 800 Steel Safety Barrier – Temporary and Permanent.	Refer to BG 800 Steel Safety Barrier – Temporary and Permanent (Highway Care International) Detail Sheet conditions of approved use
Barrier Guard MDS Steel Safety Barrier - Temporary	

### Design Guidance

System width (m)	0.54 for Standard
Installation	This product must be installed and maintained in accordance with the Product Manual and Road Agency specifications. Road Agency specifications and standards shall have precedence.
Minimum distance to excavation	N/A.
Slope limit	1. Side slope limit: 40 Horizontal to 1 Vertical (2.5%)
Systems conditions	1. Maximum gate opening is 30 metres. 2. Installation on top of a kerb is not permitted. 3. Only to be installed on straight horizontal alignments. 4. May be used in 110 km/h speed zone (permanent installations only).
Minimum installation distance from batter hinge point of the slope (m)	N/A.
Gore area use	N/A.
Pedestrian area use	N/A.
Cycleway use	N/A.
Frequent impact likely	Not Permitted
Remote location	Permitted
Median use	Permitted

**Foundation pavement conditions**

Submitted Foundation Pavement Conditions					
Pavement	Use	Accepted Speed (max)	Post/Pin spacing (m)	Pavement Construction	Post/pin type
Concrete	Permitted	100 km/h	Refer to product manual	Foundation pavement conditions must be smooth and free of snag points, kerbs or obstructions that may interfere with the operation of the product	Refer to product manual
Deep lift asphaltic concrete	Permitted when installed on a concrete slab, including the hinge section.	100 km/h			
Asphaltic concrete over granular pavement	Permitted when installed on a concrete slab, including the hinge section.	100 km/h			
Flush seal over granular pavement	Permitted when installed on a concrete slab, including the hinge section.	100 km/h			
Unsealed compacted formation	Not Permitted	N/A	N/A	N/A	N/A
Natural surface	Not Permitted				

**Other considerations and comments**

**Damaged Components**

Damaged components must be replaced. Repaired components must not be used.

**Procurement**

Connecting this product barriers that are sourced from different distributors is not permitted, and is a procurement & warranty risk that VicRoads will not be responsible for and therefore must be managed by the proponent for the service life of the product.

The units shall be traceable in accordance with marking/s prescribed by the current Australian/New Zealand Standard "AS/NZS 3845 Road Safety Barrier Systems" and Road Agency specification.

**References**

- Austroads Guide to Road Design – Part 6.
- Product Installation Manual and Product Operational Manual refer licensed product supplier website.
- VicRoads Road Design Note 06-04 Accepted Safety Barrier Products.
- VicRoads Supplement to Austroads Guide to Road Design – Part 6.

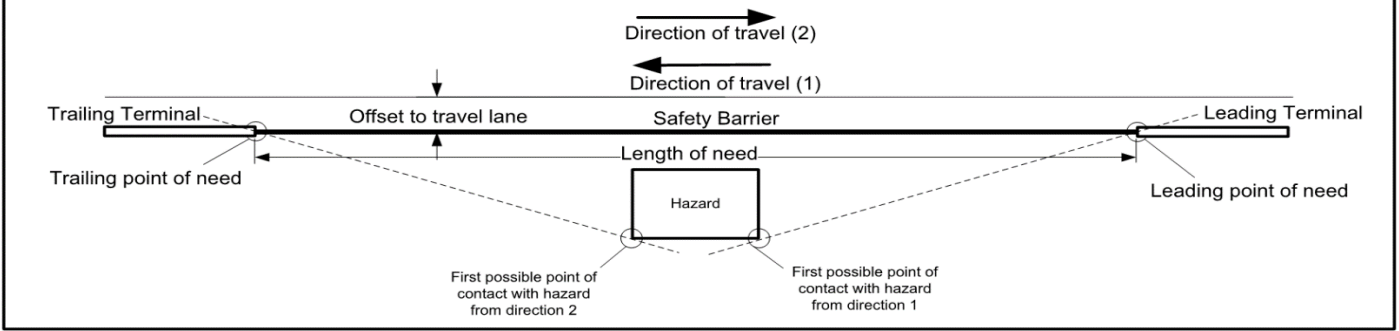


Example of Permanently Marking on BG 800 Unit

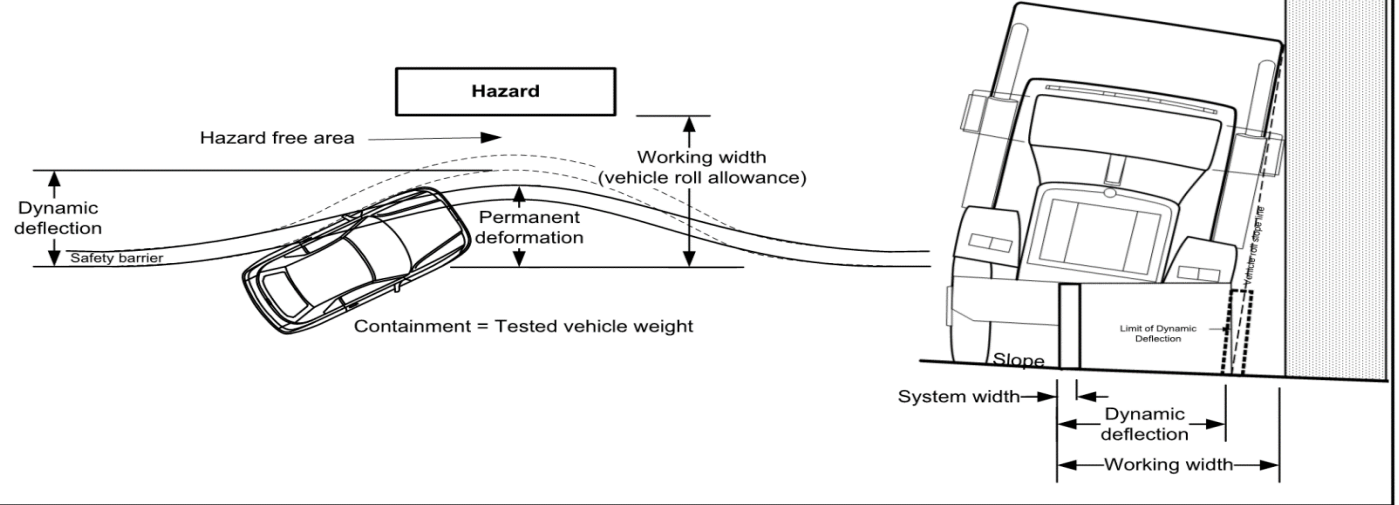
**Detail Sheet – Update Summary**

Issue	Approved	Amendment
May 2016	NDS-SSD	First edition
August 2018	M-SSD	Supplier traceability update

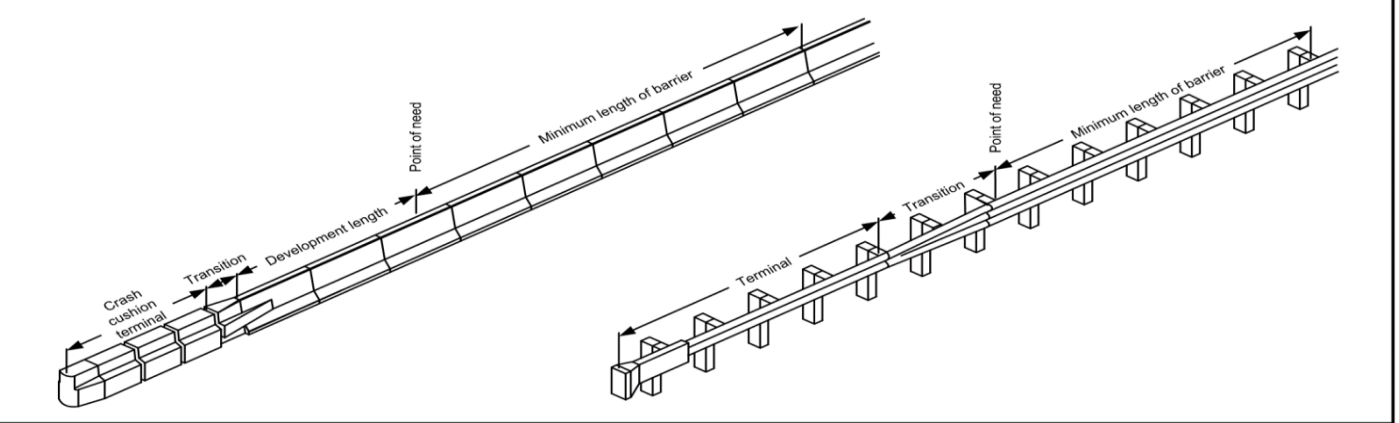
### Design Terminology



### Deflection Terminology



### Terminal Terminology



### Flare Terminology

