

## SKT – SP (SEQUENTIAL KINKING TERMINAL)

### REVISION REGISTER

Issue & Revision	Description	Date
1	Issued for use.	23/2/2004.
1 A	Minor revisions and Reblock added as a suitable replacement for timber blockout.	03/03/2006.
1 B	Change in sticker requirements.	11/05/2009.
1 C	SKT – SP version approved. Design sheet revised	6/10/2014.
1 D	New MRWA Guideline Drawing for Terminals issued. More details please refer to Drg 201531-0096 and 201531-0097	23/12/2015

The SKT-350 (Sequential Kinking Terminal) is an extruding, gating end treatment for w-beam barrier that is accepted for use by Main Roads. The SKT – SP may be installed parallel to the roadway or on a flare and when hit end on the impact head is forced along the W-beam, extruding the beam onto the verge side.

Note that the SKT – 350 end treatment was previously accepted by Main Roads. This end treatment is no longer accepted for new installations.

#### Images:



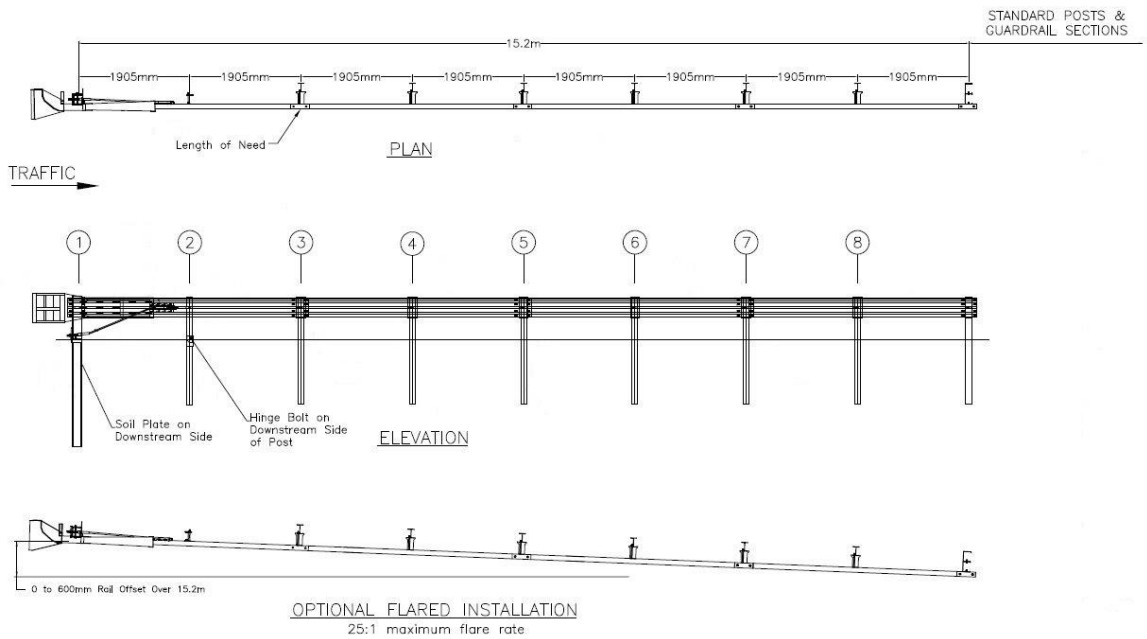
Photograph of SKT – SP installation



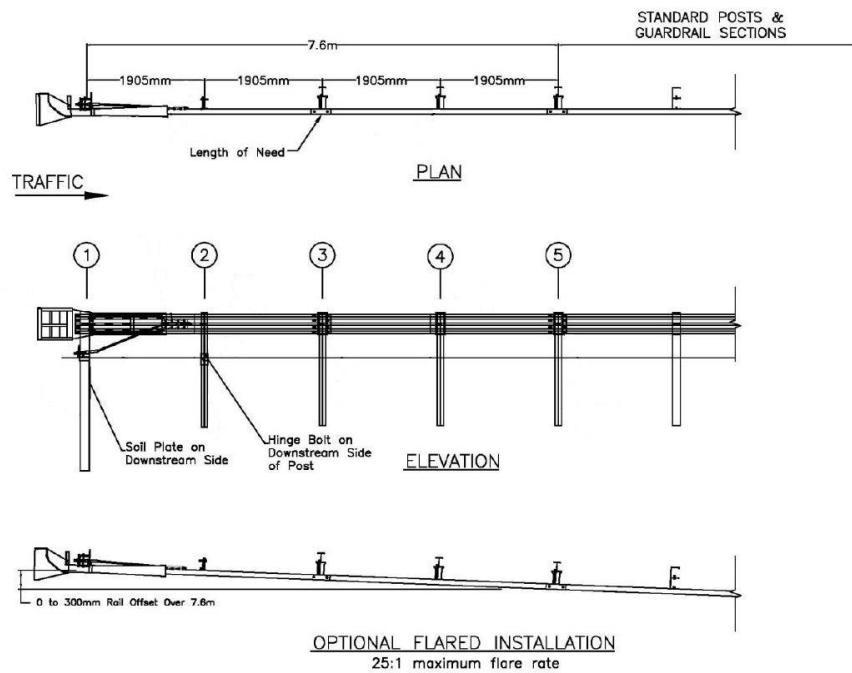
Crash test photograph showing w-beam extruded onto verge side

# SKT – SP (SEQUENTIAL KINKING TERMINAL)

## Drawings:



SKT – SP TL3 Plans and Elevation



SKT – SP TL2 Plans and Elevation

**Ownership:** Road Systems Inc, Texas. USA

[www.roadsystems.com](http://www.roadsystems.com)

**Supplier:**

Safe Direction  
Unit 1, 35 Bluett Drive,  
SMEATON GRANGE NSW 2567  
Phone 1300 063 220  
Website [www.safedirection.com.au](http://www.safedirection.com.au)

## SKT – SP (SEQUENTIAL KINKING TERMINAL)

### Configuration:

- The system is to be installed with bolted hinged posts at post locations 1 and 2. Steel line posts are installed at post location 3 and beyond.
- The sticker on the impact head which is to be Black bands on White Class 1 reflective backgrounds with the width marker pattern as shown in Australian Standard 1742.2 Sign D4-3 (L,R).
- System should be supplied with the MondoBlock recycled composite plastic block, instead of a timber blockout.

**Test Level:** Tested in accordance with NCHRP 350 to TL2 & TL3.

TL	Length (m)	Design Speed (km/h)	Point of Need	Allowable Flare (mm)	Suppliers Drawing Reference
2	7.6	70	Post location 3, being 3.81m downstream of post location 1	0-300	K-SKT SP TL2 Revision E
3	15.2	100	Post location 3, being 3.81m downstream of post location 1	0-600	K-SKT SP TL3 Revision D

### Design:

- Design to be in accordance with the SKT - SP Product Manual (Ref: PM 017/02) which can be found on the Safe Directions website.
- Preferred plan layout is to install the end treatment at the maximum allowable flare (refer to the above table) to reduce nuisance impacts.
- In locations of constrained width or on high embankments where the cost to provide additional embankment width is not warranted then the terminal may be installed parallel to the road.
- Refer to Main Roads Drawings 201531-0096 and 201531-0097 for grading requirements around SKT - SP.
- As part of the design, the Designer shall check to ensure that there are no site constraints such as rock, cover to services or pipes or other factors that would preclude the use of the normal post lengths. There are shorter posts lengths that can be used but this requires approval from Senior Engineering Structures.
- As the end treatment is gating a run-out area in accordance with the requirements of AS / NZS 3845 Figure F11 should be provided.
- When the SKT - SP is installed on the departure end of a barrier system the system is to be oriented as per Sketch 1.

### Limitations:

- Must be installed on a straight flare or parallel to the travel way.
- Shall not be used in median situations where there is less than 7.5 m from the outlet side of the head and the adjacent edge of the traffic lane.

## SKT – SP (SEQUENTIAL KINKING TERMINAL)

### Installation and Maintenance Requirements:

- The end treatment shall be installed and repaired after impact in accordance with the SKT – SP & FLEAT – SP Installation & Repair Manual (Ref: IM 002/02) which can be found on the Safe Directions website.
- If an SKT – 350 is impacted then the complete terminal should be replaced with a SKT – SP.

### Parts to be Replaced after Impact:

Rail and posts.

### Parts Typically Re-Useable after Impact:

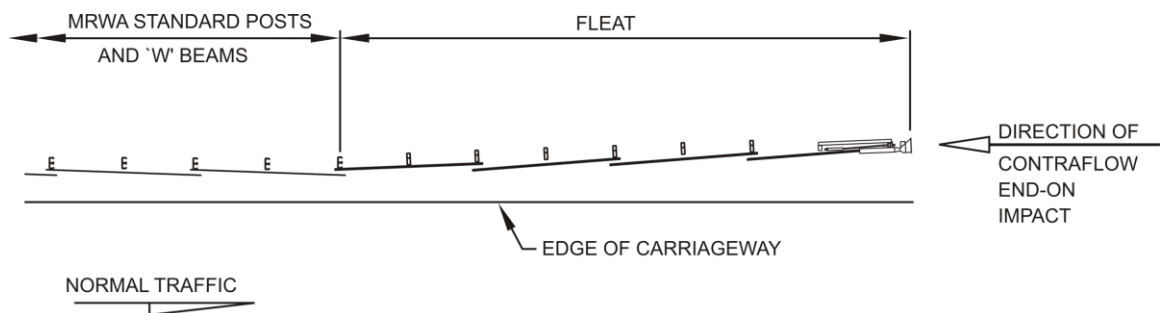
Impact head.

### References:

Relevant FHWA Approval Letters

(Refer to website [http://safety.fhwa.dot.gov/fourthlevel/hardware/term\\_cush.htm](http://safety.fhwa.dot.gov/fourthlevel/hardware/term_cush.htm))

Code	Description
CC-61C	TL 3 approval for SKT and FLEAT using single bolt breakaway posts.
CC-88B	TL 3 approval for SKT – SP and FLEAT - SP.
B-39A	MondoBlock recycled composite plastic block approval.



- Departure end terminal guardrail to be lapped against the normal traffic flow as shown.
- Post associated with the end treatment are to be orientated for an end-on impact on the extruder head, that is, against the normal traffic flow.

### Sketch 1: FLEAT Departure End Treatment Layout

(SES 01/03)