

NO. RW/NH-33044/23/2007-S&R(R)

Dated, the 31st October, 2008

To

Secretary (PWDs) of all states and Governments/UTs dealing with National Highways, Engineer-in-Chief/Chief Engineer (PWDs) of all State Govts./UTs of dealing with National Highways, Secretary, Transport of all State Government and UTs, Director General (Border Roads), The Chairman, National Highways Authority of India.

Subject : Traffic Safety measures on approaches to narrow Road Over Bridges (ROBs).

Width of Road Over Bridges (ROBs) are ideally kept same as their approaches for unhindered flow of traffic. However with the growth of traffic and other considerations like availability of funds and ease of construction, the approaches on either side of the Road over Bridges get widened earlier than the corresponding widening of the bridges. Increasing width of bridges involves design and slow pace of construction since time for construction is restricted due to train movement on railway track/traffic on road. Due to these constraints, at some locations the width of ROBs is less than that of the approaches.

2. Narrow Road Over Bridges (ROBs) having width of deck less than the width of approaches are potential source of accidents. Where the approaches have been widened, the drivers expect the bridges on the way have also been widened. It is necessary to provide positive guidance so that the drivers have sufficient information to safely negotiate the narrow bridges. For this purpose, the following measures shall be adopted as per site requirement.

3. **For existing narrow ROBs: Approaches are yet to be widened**

3.1 The bridge shall be widened prior to widening of approaches such that the proposed widening of carriageway of approaches matches with the carriageway on the bridge.

3.2 During widening of a stretch of road, if for the time being the bridges are not being considered for widening, then the width of approaches to the bridge are not to be widened.

3.3 In case the length of approaches is not defined then, the carriageway width in at least a length of 90m (approach length) on either side of the ROBs shall be same as that of the bridge. If the carriageway width of bridge is 7.5m (2 lane), then the carriageway width of approach in a length of 90m shall be of 2-lane i.e. 7m. After 90m, the pavement if required may be widened to 2-lane with paved shoulders. The taper from 7m width to 10m shall be in 30m (1 in 20). Details given in Fig. 1.

3.4 Speed Restriction Sign Fig. 3(a) Narrow Bridge Ahead Sign Fig. 3(e), and Overtaking Prohibited Sign Fig. 3(f), shall be provided as per site and traffic requirements. Speed restriction Ends Sign Fig. 3(g) may be provided after the bridge. Distances of these signs from the narrow bridge, for plain and rolling terrain are indicated in Fig. 1.

4. **For existing narrow ROBs: Where approaches have already been widened to 2-lane with paved shoulders**

Widening of all such bridges to match the carriageway of approaches shall be taken up on priority as a permanent measure. Till such time widening of bridge is carried out, the following measures (Refer Fig. 2) shall be taken up as per site requirement.

4.1 **Immediate measures to be taken up:**

4.2 Rumble strips as indicated in Fig. 3(b) shall be provided on the existing paved shoulders of the approaches, over a distance of 60m, on the sides approaching the bridge to discourage use of slow/down any traffic on paved shoulders.

4.3 The desirable speed of approaching traffic to the bridge is not more than 40 kmpt. Speed Restriction Sign

Fig. 3(a) may be provided at suitable location along with subsequent Speed Restriction Ends sign (after passing the ROB) Fig. 3 (g).

4.4 Centreline:

4.4.1 Pavement centre line (a solid yellow centreline for the No Over Taking Zone as per IRC:35) shall be provided in a length of 180m (for plain and rolling terrain) on either side of the ROB. For bridges of width between kerbs more than 6m, yellow centre line shall be provided on bridge deck and approaches.

4.4.2 Yellow centre line shall not be provided on bridge and 30m immediate approaches for the abutment in case width between kerbs of bridge is less than 6m as per Clause No. 8.2.8 of IRC:35-1997 as shown in Fig. 2.

4.5 At the bridge, horizontal spacing between the edge line shall be equal to the carriageway width at the bridge i.e. for an intermediate lane bridge of 5.5 m carriageway the spacing between edge lines is 5.5 m. This spacing in the edge lines on approaches shall be maintained for a distance of 60m on either side of the bridge. Thereafter the edge line shall be tapered in a length of 15 m, to get the horizontal spacing between edge lines equal to 7 m. Edge lines at a spacing of 7m shall be continued for the balance length of approaches. Details given in Fig. 2.

4.6 Hazard marker signs at the head wall shall be provided. Alternatively, the headwall of the narrow bridge shall be marked by not less than 5 alternating black and yellow strips. The strips shall slope downwards at an angle 45° towards the side of the obstruction on which traffic is to pass. The alternating strips shall be uniform and not less than 100mm in width. Typical markings are illustrated in Fig. 3(d).

4.7 Speed Restriction, Overtaking Prohibited and Narrow Bridge Ahead Signs shall be provided as through out para 3.4 above.

4.8 Safety barriers shall be provided as per this Ministry's Circular No. RW/NH/33022/1/94/DO-III dated 24th June, 1994. Retro-reflective paint shall be applied on the vertical support on the safety barrier {Refer Fig. 3(c)}. Safety barriers shall be provided at least on the two approaching sides {Refer Fig. 2} for 45m distance.

4.9 Energy absorption devices can be provided at abutment of bridge marked (a).

5. **Road Over Bridge improvements:** Until the bridge is widened, it has to be maintained in traffic worthy condition by undertaking repair to the bridge structure such as cracks in bridge superstructure/substructure and railing, filling of potholes, replacement of bituminous wearing coat on the deck surface and formulating better connections between bridge abutments and immediate approaches.

6. Provision for replacement/widening of narrow ROB on NHs may be made in the Annual Plan works so that such traffic hazards get removed at the earliest possible. For narrow ROB, which are not likely to be replaced/widened shortly, estimate for providing road safety measures and bridge repair as brought out in para 4 and 5 respectively, may be submitted for consideration of the Ministry.

It is requested that the contents of this letter may be brought to the notice of all concerned.

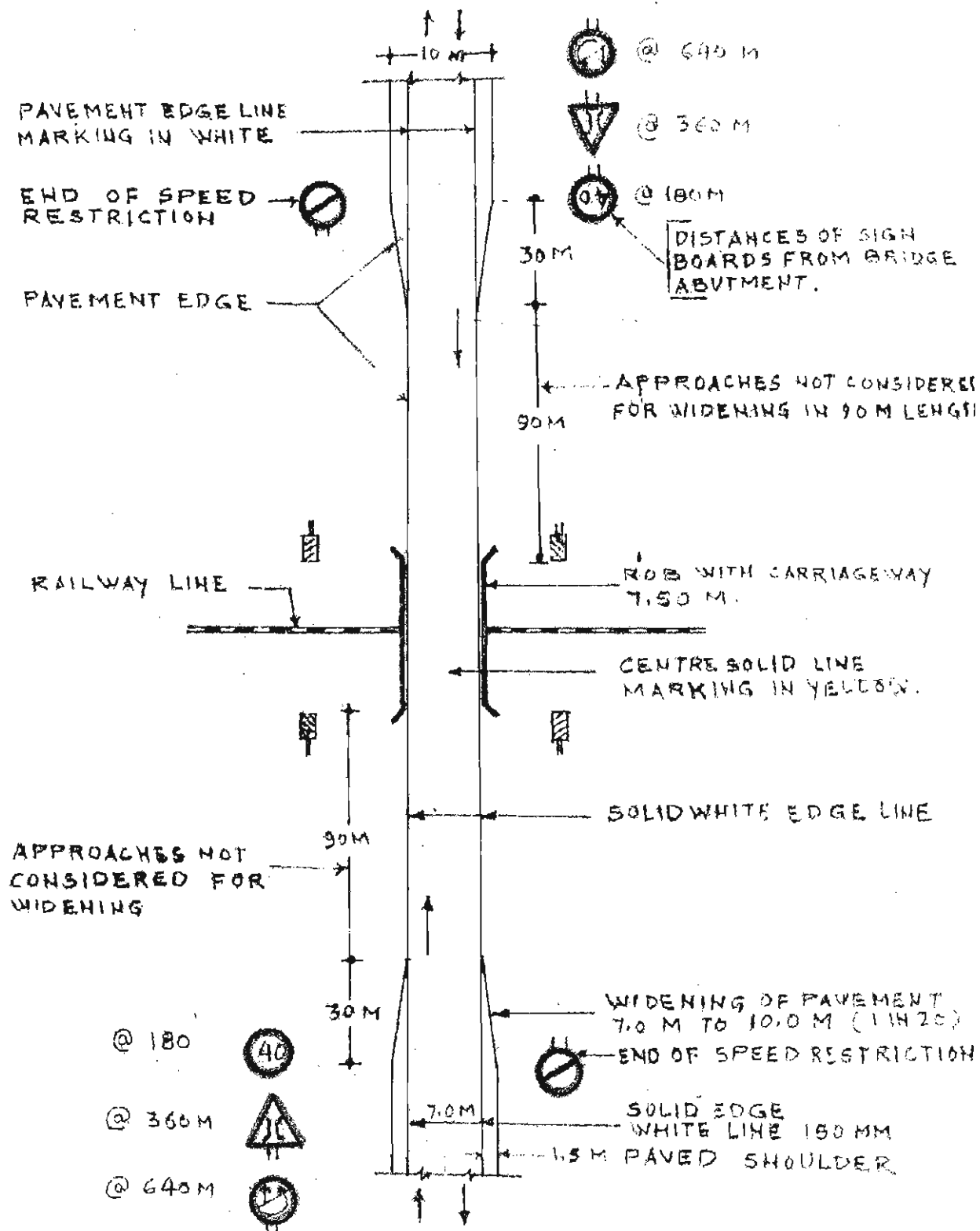


Fig. 1. Approaches at Existing Narrow Road over Bridges (ROB's)

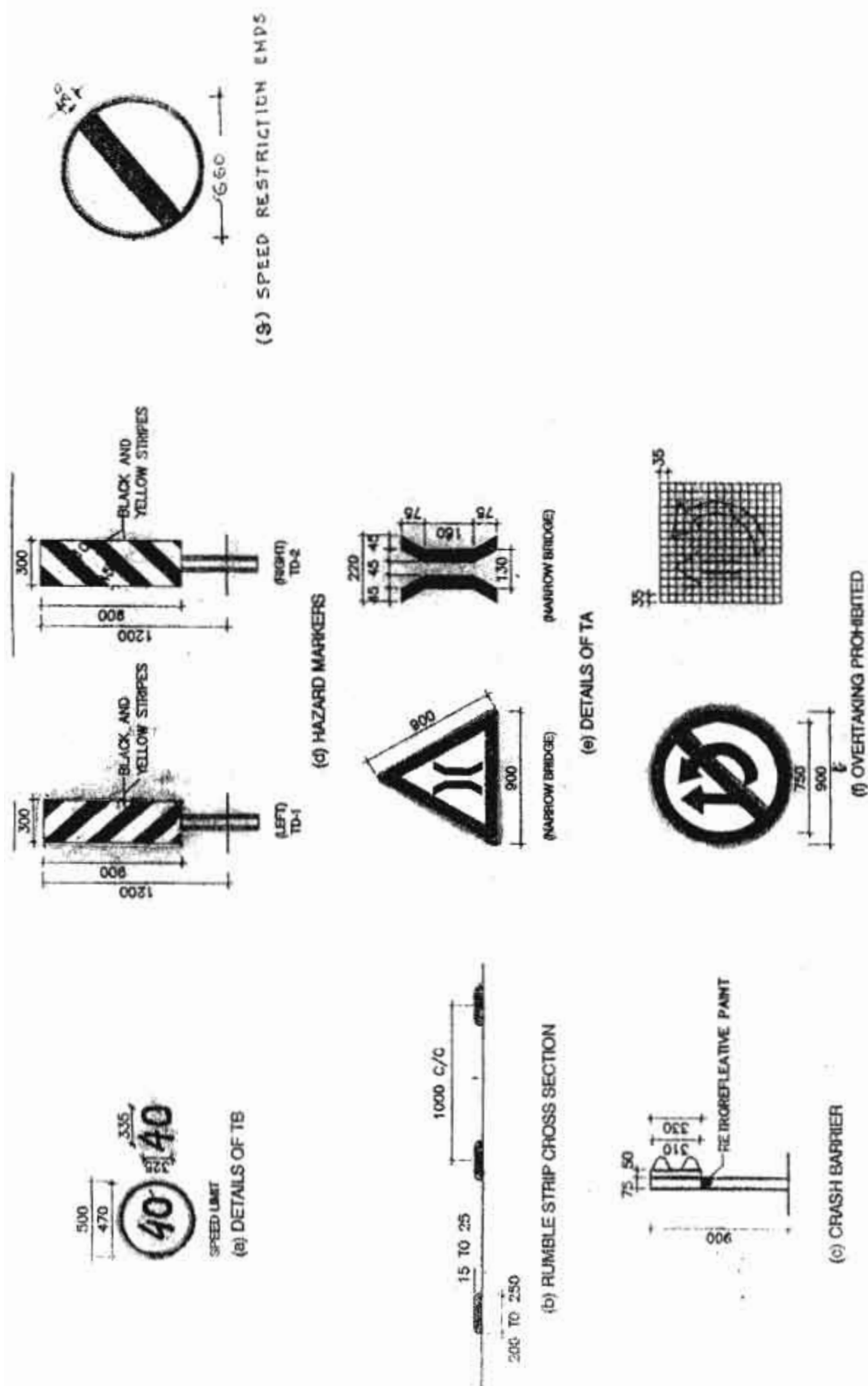


Fig. 3.