

No. PL-30 (20)/77

Dated the 21st February, 1978

To

Chief Engineers/Addl. Chief Engineers of all State PWDs
and Union Territories dealing with National Highway Works

Subject : Gradients for approaches to Railway Overbridges on National Highways

Reference is invited to Ministry's letter No NHI-37 (2)/70 dated the 2nd April 1970, enclosing *inter-alia* a copy of the geometric design standards for National Highways. In para 4 (a) of these standards it was mentioned that as a general rule summit curves on approaches to railway overbridges should be designed for overtaking sight distance. To ensure this, in most normal situations in plain terrain the gradients on approaches for design purpose must be flatter than about 1 in 50. In some recent cases, the Railways have expressed that such gradients would be expensive and instead the ruling gradient of 1 in 30 as set out for general road alignment in para 6 of the said standards should be followed.

2. In the above context, the overall criteria for profile design on approaches to railway overbridges have been reexamined in the Ministry. Keeping in view aspects like the minimum visibility requirements for safe traffic operation, convenience to slow moving traffic, and overall economy, it has been decided that approaches to railway overbridges on two-lane National Highways in plain terrain should henceforth be designed on the following basis :—
 - (i) Instead of overtaking sight distance, the summit curve (s) should be designed for intermediate sight distance (explained in IRC : 66-1976) corresponding to the ruling design speed;
 - (ii) The approach gradients for design of profile should normally be taken as 1 in 50 (see also (iv) below);
 - (iii) For bridges upto 30 m span, a single vertical curve should be provided over the deck with the objective of improved aesthetics and reduced earthwork quantities;
 - (iv) Cases involving special conditions, e.g. proper coordination between horizontal and vertical curves, presence of sloping ground etc. should be dealt with individually on merits.
3. It is requested that the contents of this circular may be brought to the notice of all officers in your Department engaged on National Highway Works.