

No. NH-12037/G33/2006/NH-1

Dated, the 9<sup>th</sup> March, 2007

To

The Secretary of all States/UTs (in charge of PWD); The Engineer-in-Chief and Chief Engineers of State PWDs and UTs (dealing with National Highways); The Director General (Border Roads); The Chairman, National Highways Authority of India.

**Subject : Ministry's Guidelines Regarding Formation width, Geometrics Improvement and Safety Measures on Hill Roads**

Please find enclosed herewith Ministry's revised guidelines regarding formation width improvement of geometries and essential safety features on the National Highways in Hilly/mountainous terrain. These guidelines regarding formation width supersede other guidelines on formation width. It is requested that these guidelines may be brought to the notice of concerned officials/field Engineers of your Department.

**Ministry's Guidelines Regarding Formation width Geometrics Improvement and Safety Measures on Hill Roads.**

It has been decided with the approval of competent authority in the Ministry that the overall formation width of National Highways in hilly/mountainous terrain may be kept as 12 m, comprising 7 m wide carriageway flanked with 2.5 m wide shoulders. The drain and parapet/safety railings will be accommodated within the width of the shoulders.

2. The increased formation width will enhance operations on the road and traffic movement due to the following.

- (i) More space would be available for the parking of disabled vehicles without interfering with two way movement.
- (ii) Two lane movement of traffic would be possible in the event of some stretches being affected by Land Slides etc.
- (iii) Movement of heavy/large size Military and Commercial Vehicles would be easier.
- (iv) Capacity of the road is expected to increase due to large space becoming available for maneuverability.

3. However, it has been, felt that considering extra cost of hill cutting involved due to increase in the width of the formation, the revised standard could be implemented in stages. Priority may be given to provide 12 m formation on new National Highways and on the existing National Highways stretches, where widening of the carriageway is to be carried out. The widening of formation to 12 m on 2 lane National Highways already having 10 m formation width may be accorded lower priority.

4. All other geometric design standards for the hill roads, except the formation width may continue to be followed as recommended in IRC Special Publication No. 48:1998 'Manual for Hill Roads'.

5. The requirement of road safety measures for National Highways in hill roads were also reviewed and it has been found that the existing guidelines and standards prescribed by the Ministry appear to be adequate, however, these are not provided/implemented by the implementing agencies. The Implementing Agencies are, therefore, advised by the Ministry to give due importance to safety aspects of National Highways in hill roads and ensure that safety measures, such as mandatory, cautionary and informative signboards, parapet walls, railings, crash barriers, slope protection, delineators, drains, extra widening at curves, passing places at suitable intervals, rock stabilization, treatment of land slides are provided at critical locations.

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