No. PL-67(3)/72-SP *Dated the 2nd Dec, 1974*

To

All Chief Engineers,
Principal Engineers of the State,
Union Territories (Dealing with the Roads).

Subject: **Pitching on slopes — Specification for filter medium — for bridges financed partly or wholly from Central Funds**

Please refer to Clause No. 2502.2 of "Specification for Road and Bridge Works" issued by the Ministry of Shipping & Transport (Roads Wing), and replace the same by the modified clause given below :-

2502.2 General :

The pitching shall be provided as indicated on the drawings. Stone subject to marked deterioration by water or weather will not be accepted.

The stone shall be sound, hard, durable and fairly regular in shape. The largest stones procurable shall be supplied, and in no case shall any fragment weigh less than 40 kg unless otherwise permitted by the Engineer-in-Charge. The sizes of spalls shall be minimum 25 mm and shall be suitable to fill the voids in the pitching.

To drain off the seepage water and to prevent erosion of the base material, one or more layers of graded materials, commonly known as a filter medium, shall be provided underneath the pitching. The material for the filter shall consist of sound gravel, stone or brick ballast and coarse sand. The compacted thickness of the various layers of the filter material shall not be less than 150 mm each.

The gradation of the filter material shall satisfy the following requirements.

Requirement for filter material :

1) i) $\frac{D_{15} \text{ of Filter}}{D_{15} \text{ of base material}}$ = 5 to 40, provided that the filter does not contain more than 5% of material finer than 0.075 mm.

ii) $\frac{D_{15} \text{ of Filter}}{D_{85} \text{ of base material}}$ = 5 or less

iii) The grain-size curve of the filter should be roughly paralled to that of the base material.

Note :

Filter may not be required if embankment consists of CH or Ch soils with liquid limit greater than 30, resistant to surface erosion. If a layer of material is used in this case as bedding for pitching, it shall be well graded and its D_{85} size shall be atleast twice the maximum void size in the pitching.

In the foregoing, D_{15} means the size of the sieve that allows 15% by weight of the filter material to pass through it, and similar is the meaning of D_{85}.

2) If more than one filter layer is required, the same requirement as given above shall be followed.
The finer filter shall be considered as the base material for selection of gradation of the coarser filter.

3) The filter material shall be suitably compacted to a firm condition.