

प्रपत्र-28

परियोजना का नाम :- जनपद नैनीताल के विधान सभा क्षेत्र लालकुआँ के अन्तर्गत हल्द्वानी विकास खण्ड में चोरगलिया स्थित नहर प्रणाली हेतु नन्धौर नदी पर ट्रैच वियर व तत्सम्बन्धित कार्यों का निर्माण।

Task Force Certificate

- (i) Lay out of the Land-be followed as far as possible.
- (ii) Heavy cutting/filling be avoided as far as possible. The technology of cut and fill method is to be adopted. Steep hill slopes also to be avoided.
- (iii) Unstable/slide-prone areas to be avoided. For identifying such areas the advice of Geotechnical engineers and geologists to be taken during the survey for alignment.
- (iv) Comparision of various possible alignments with reference to erosion potential be made and the alignment involving minimum erosion risks be preferred.

Apart from the stage of planning the road alignment, effective steps are also required to be taken by ground engineer during the process of road construction for minimized ecological disturbance to the hill roads Broadly the measures to be taken have been identified as:-

- (i) Cut and fill method to be adopted while excavating for road formation and heavy earth cutting is to be avoided Box cutting is to be avoided to the extent possible.
- (ii) Blasting by explosives is to be restricted to the minimum. Lay out of holes to be drilled for blasting is to be planned keeping in view the line of least resistance and the existence of joints Controlled blasting should be repeated using low charge and care be taken to avoid activating slide zones or widening fissures and cracks in road. Use of delay detonators in large scale basting work is to be made for anaoline dispersion of chock waves, so that minimum disturbance is caused to the rock stratum as a result of the blasting process.
- (iii) All cut slopes, unusable hill side and slide prone erosion prone areas are to be provided with suitable correction measures by using one of the other of the techniques developed by CRRI. Several techniques have been sponsored by CRRI. Like simple vegetative turning, bitumen muck

treatment and slide treatment by jute netting coir netting of these simple vegetative turning seems to be the most appropriate preventive measure in many situations. This should be established in the denuded slopes immediately after the excavation is made.

- (iv) Adequate drainage measures and protective structures like intercepting catch water drains, longitudinal drains, culverts, breast wall, retaining walls are to be provided for purpose of establishing the slips Growth vegetative cover is to be stimulated in the disturbed hill slopes above the road level by planting suitable fast growing shrubs and plants in.
- (v) Over the past few years the roads wing of the Ministry of Shipping and Transport has issued instruction laying broad guidelines and check list of the preparation of road construction projects which provide an inbuilt mechanism of tackling land slides/ erosion control for the guidance and follow up action by engineers of state 'PWD' Board roads organization and other engaged in construction of hill roads these should be observed.

प्रमाणित किया जाता है कि योजना आयोग द्वारा गठित टास्क फोर्स द्वारा प्रदत्त उक्त संस्तुतियों का परियोजना के निर्माण के दौरान अनुपालन सुनिश्चित किया जायेगा।

~~सहायक अभियंता~~
सहायक अभियंता
सिंचाई खाण्ड, हल्द्वानी

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