



कार्य का नाम :- मुख्यमंत्री ग्राम सड़क योजना के अन्तर्गत जनपद उत्तरकाशी के विकास खण्ड भटवाड़ी में भल्लियाना लम्बगांव उत्तरकाशी मोटर मार्ग से जसपुर सिल्याण निराकोट मोटर मार्ग का निर्माण कार्य हेतु 2.125 है० वन भूमि हस्तान्तरण प्रस्ताव। (4.025 किमी०)

भू- वैज्ञानिक / जिला टॉस्क फोर्स की संस्तुतियों का अनुपालन किये जाने का प्रमाण-पत्र।

प्रमाणित किया जाता है कि प्रस्तावित परियोजना हेतु भू-वैज्ञानिक / जिला टॉस्क फोर्स द्वारा दिये गये सुझावों / शर्तों का निर्माण कार्य के दौरान याचक विभाग द्वारा पूरी तरह अनुपालन किया जायेगा।


सहायक अभियन्ता
प्रान्तीय खण्ड लो०नि०वि०
भटवाड़ी उत्तरकाशी


अधिशाली अभियन्ता
प्रा०खण्ड लो०नि०वि०
भटवाड़ी उत्तरकाशी

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13 (A)

कार्यालय प्रमुख अभियन्ता एवं विभागाध्यक्ष
उत्तराखण्ड लोक निर्माण विभाग,
देहरादून

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Geological Assessment of the alignment proposed for the
construction of 8 km Jaspur-Silyad-Nirakot motor road,
Distt. Uttarkashi

20 जनवरी .2017

फोटो प्रति सत्यापित


सहायक अभियन्ता
प्रांतीय खण्ड लो0नि0वि0
भटवाड़ी, कैम्प उत्तरकाशी

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सहायक अभियन्ता
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Geological Assessment of the alignment proposed for the construction of 8 km Jaspur-Silyad-Nirakot motor road, Distt. Uttarkashi

Shiv Kumar Rai

20-01-2017

1-Introduction:- The Provincial Division, P.W.D Bhatwari vide G.O. No. 1440/111(2)/11-05(प्रत0370)/2010 दिनांक 28.03.2011 has been entrusted for the construction of 8 km long motor road along the left bank of Bhagirathi river joining villages Jaspur-Silyaad-Nirakot. But after carrying out the work of survey, the actual length of the road across the hill slope after bypassing the local gaderas of Bhagirathi river comes to be only 5 km. On the request made by Er. Rajendra Singh Khatri, Executive Engineer I carried out the geological assessment of the proposed alignment corridor of this road on 13.01.2017 in presence of Er. Bhupesh Gosai, Asst. Engineer and Er. Sudha Maher, Jr. Engineer, Provincial Division, PWD, Bhatwari.

2- Location:- The alignment corridor of the above said motor road originates from left bank of Bhagirathi river in Uttarkashi town and continues to 5 km joining villages Jaspur-Silyaad-Nirkot. All along the proposed 5 km long motor road, there is only 03 HP Bend and 02 minor bridge to bypass the gadēras having maximum span of 15-18 m length.

3- Geological Assessment:- Geologically, the alignment corridor and its surrounding area falls in the Garhwal Lesser Himalayan Belt between the Main Central Thrust (MCT) and Srinagar Thrust (ST) located in its north and south directions respectively. Mostly the Nagihat quartzites of Jaunsar Group comprise lithological unit in the segment of alignment which are mostly fresh, hard and compact in nature. Most part of the alignment passes through the Jaunsar Group having quartzitic rock as base rock with intercalation of slate rock is exposed. Along the alignment corridor, mostly slate rock is exposed which are slightly weathered, hard, compact and joined in nature. The cross slopes of the alignment corridor are located on the left bank of Bhagirathi river and these are inclined at moderate to steep angle. At the initial point of the proposed location, the Tail Race Tunnel (TRT) of the Maneri Dam is situated therefore, cutting of slope for road construction can only being carried out manually and not by blasting method. At some places thin overburden material exposed along the alignment corridor and remaining steep angle, the bed rocks are hard quartzite or hard bedded slate having W_1-W_2 weathering grade therefore, road cutting is reliable. The exposed in-situ rock mass have "Uniaxial Compressive Strength" (UCS) of 120 M Pa to 150 M Pa which is measured manually by hammer blow method. Some part of this alignment slopes are altered into stepped like fields or terraces which are being cultivated by the local farmers. The retaining walls constructed on these fields looks intact and do not manifest any signature of vertical and lateral subsidence.

The slope forming soils are semi-dense, non-dispersive and clayey in nature and these are devoid of roots.

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Prima facie; the cross slopes of this alignment are stable and free from any land slide/ground deformation activities.

On the basis of the geological/geotechnical studies carried at the site and the facts mentioned above the following recommendations are being made for the construction of the proposed road failing to these this report will be automatically treated as cancelled.

4- Recommendations:-

1. Construct the road by half cut and half fill techniques and compact the fill-material by dynamic compaction.
2. Blasting is strictly prohibited near the TRT or HRT of the Maneri Dam.
3. The either side slopes of the entire road must be protected by suitably designed retaining walls/breast walls, this work shall be carried out simultaneously with the advancement of the road cutting. This is very important for the stability of the hill side slopes.
4. The entire surface of the road from outer edge to inner edge must be sealed immediately after the excavation, this is so as to check the water infiltration into the sub soil. otherwise the slope may fails and threat the safety to the township of Uttarkashi on the left bank of Bhagirathi river.
5. Construct extra large lined drain all along the hill side of the road and make adequate cross drainage arrangements. The accumulated rain water run-off from this road and and its upslope catchment should not allow to flow freely over the lower hills.
6. Do not dispose the excavated waste on the lower slopes otherwise, it will threat the hill slope stability.
7. All the construction activity must be carried out as per the Indian Standards Codes of Practice and norms prescribed by the BIS.

5- Conclusion:- On the basis of the geological studies carried at the site and with the above recommendations, the proposed alignment was found geologically suitable for the construction of 5 km long Jaspur-Silyaad-Nirakot motor road along the left bank of Bhagirathi river in Uttarkashi town, Gangotri Block, Distt. Uttarkashi.

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ग्रामीय खण्ड लो0नि0वि0
भटवाड़ी, कैम्प उत्तरकाशी

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