

परियोजना का नाम:- राज्य योजना में जनपद बागेश्वर में बैजनाथ-बागेश्वर मोटर मार्ग के कि.मी. 17 से मन्थूणा होते हुए नरगवाड़ी तक मोटर मार्ग का निर्माण।

भू-वैज्ञानिक की आख्या

— स्केलान है —

नोट- प्रयोक्ता एजेन्सी द्वारा भू-वैज्ञानिक की आख्या प्राप्त कर प्रस्ताव के साथ संलग्न की जायेगी।

कार्यालय प्रमुख अभियन्ता एवं विभागाध्यक्ष
उत्तराखण्ड लोक निर्माण विभाग,
देहरादून।

भू-गर्भीय निरीक्षण आख्या एस0जी0-223/सड़क/पुल समरेखण/कैम्प/नैनीताल/2015

**Geological Assessment of 3.00 km long alignment corridor proposed
for km 17 of Baijnath-Bageshwar motor road to Nargwadi motor
road via Manyuda, Distt. Bageshwar.**

16-मई-2015

Geological Assessment of 3.00 km long alignment corridor proposed for km 17 of Baijnath-Bageshwar motor road to Nargwadi motor road via Manyuda, Distt. Bageshwar.

Vijay Dangwal
16.05.2015

1- Introduction:- The Provincial Division, Public Works Department Bageshwar has been entrusted for the construction of 3 km long motor road namely km 17 of Baijnath-Bageshwar motor road to Nargwadi motor road via village Manyuda vide G.O. no 1730 / 111(2)14-03 मु०म०घ००२०१४ दिनांक 24.08. 2014 in Distt. Bageshwar. In response to the request made by Shri. Mahendra Kumar, Executive Engineer, P.W.D Bageshwar, I carried out the geological assessment of the proposed alignment corridor on 13.02.2015. S/Shri. A.S Bisht, Asstt. Engineer, Shri. J.S. Vohra, Add. Asstt. Engineer, and Shri Anand Singh Mehra, W.A, P.W.D Bageshwar was present during the site visit.

2- Location:- The proposed alignment corridor of this road originates from Gagri Gol hamlet located at km 17 of Baijnath Bageshwar motor road, it passes on the upslopes of the BBA motor road with 1:18 and 1:24 R Grades and it connects Narwadi-Tilsari motor road, Distt. Bageshwar.

Two alternative alignments i.e Alignment No.1 and Alignment No.2 was investigated for construction of the above said motor road. On the basis of the geological, geotechnical, geomorphological and comparative studies carried out the alignment No.1 was found suitable geologically suitable in addition that it connects Primary School. The present report bears the details of the study carried out along the alignment No.1.

3- Geological Assessment:- Geologically the alignment corridor of this lies in the Inner Lands of Kumaon Lesser Himalayan Belt comprised of the rock masses belonging to Almora Thrust Sheet. The entire area around Baijnath, Gagrigol, Manyuda and Nargwadi and their surrounding environs are exposed by the granites, granitoids and schist which along this alignment corridor of the proposed road are deeply buried underneath the thick sheet of overburden material comprised of the residual soils which are naturally dense, fully compacted and hard in dry state. The slope forming material non-dispersive and exhibits fair consistency.

The soils exposed on and across this alignment contains plastic clay minerals in abundance and these soils are highly cohesive in nature as evident by the least erosion of the nala which runs on the right bank of this alignment. The terrain containing this alignment corridor is characterized by the very low inclined between 5 to 10 degree hill slopes which are oriented towards N 200 direction. The hill slopes are low lying and bears low relief with a regular profile.

According to the assessment made along the alignment corridor the "Undrained Shear Strength" of the soils exposed along this alignment was found ranging between 350 K Pa to 450 K Pa. The soils may undergo slushy condition if oversaturated therefore, it is advised to construct the entire road by cement concrete.

The entire ground comprising this alignment is free from the signatures related to the ground deformation and no marks related to the development of sink holes/pot holes was found during the site visit.

By and large the alignment slopes are stable and presently free from any landslide/mass wasting activities.

On the basis of the above and the study carried at the site the following recommendations are being made for the construction of the proposed road, failing to these the report will be treated as cancelled.

4- Recommendations:-

1. Construct the road by half cut and half fill techniques and compact the fill material properly by dynamic compaction and preferably form the road by cement-concrete layered edge to edge.
2. Construct suitably designed retaining wall/brest wall on the required sections of the road.
3. 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 its upslope catchment should not allow to flow freely over the lower hills.
4. Do not dispose the excavated waste on the lower slopes, it will damage the lower hill slopes.
5. All the construction activity must be carried out as per the standard codes of practice laid by the BIS and MORTH.

5- Conclusion:- On the basis of the geological/geotechnical studies carried at the site and with the above recommendations, the site was found geologically suitable for the construction of 3 km long motor road namely km 17 of Baijnath-Bageshwar motor road to Nargwadi motor road via village Manyuda, Distt. Bageshwar.

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16/5/15
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महेश्वर कुमार

[Signature]
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