

परियोजना का नाम:- जिला योजना के अन्तर्गत जनपद बागेश्वर में जौलकांडे-शीशाखानी  
मोटर मार्ग का निर्माण।

भू-वैज्ञानिक की आख्या

-----संलग्न 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- 188/सडक/पुल समरेखण/कुमाऊं/2014

Geological Assessment of the corridor proposed  
for Jolkande to Sheesakhani motor road, Distt.  
Bageshwar.

07-अक्टूबर-2014

## Geological Assessment of the corridor proposed for Jolkande to Sheesakhani motor road, Distt. Bageshwar.

Vijay Dangwal

07-10-2014

**1- Introduction:-** New Construction of 5.00 km long motor road namely Jolkande to Sheesakhani motor road has been proposed by the Provincial Division, PWD, Bageshwar. In order to find out the suitability of the proposed alignment Er. Mahendra Kumar, Executive Engineer requested to the undersigned to make a visit to the site which made on 27.07.2014. Er. K.K. Tilwara, Asstt. Engineer and Er. S.S Karki, Jr. Engineer accompanied the site visit.

**2- Location:-** The alignment proposed for the above said road originates from village Jolkande, the end chainage of Ansarkal-Jolkande motor road.

**3- Geological assessment:-** The entire area containing the proposed alignment of Jolkande-Sheesakhani motor road geologically lies in the inner land of Kumaon Lesser Himalayan Belt. The entire area containing the proposed alignment is occupied by the quartzites belonging to Berinag formation. The cross slopes of the alignment are inclined at low to moderate angle generally ranging between  $30^{\circ}$  to  $45^{\circ}$  in N 095 to N 120 direction. The slope facets bearing the proposed alignment are partially exposed with the in-situ rock masses and partially by the cover of overburden which is mostly comprised of the hill wash/slope wash material. The quartzites exposed along the alignment are massive to thinly foliated, moderate, jointed and partially weathered in nature. At places thick bands of quartz chlorite schists are also exposed along the alignment and these bands contain clay minerals in abundance. The quartzites exposed on the cross slopes are dissected by numerous linear discontinuities like shears and rock defects. Four prominent joint sets have been recorded traversing these rocks.

The slope forming rock masses are generally fair in physical competency and these are grouped under the class III as per the Rock Mass Rating (RMR) classification. The weathering of the rocks exposed along the alignment corridor has been assessed ranging between  $W_0$  to  $W_1$  grade.

The slope forming thick overburden material is naturally well compacted and dense in nature and its consistency at the site has been assessed ranging between "Stiff" to "Very Stiff".

The slope forming soils exhibits diverse characteristics of cohesive and dispersive nature. Largely these are stable soils and do not contain soft soils/plastic clays.

By and large the alignment slopes are stable and free from any landslide/ground subsidence.

The toe of the uphill slopes of village-Leti terminates at village Sheesakhani and any type of unscientific excavation may destabilize the slope.

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

#### 4- Recommendations:-

1. Avoid full benching on the hill slope otherwise form the entire road by half cut-half fill technique. Dynamic compaction of the fill material is mandatory.
2. Do not dispose the excavated waste on the lower slopes.
3. Construct suitably designed retaining/breast walls all along the proposed road.
4. The road must have adequate arrangements of long and cross drains and the drained water must be disposed on stable ground.
5. Seal the entire surface of the road bench to check the water infiltration into the subsurface material.
6. All the construction activities should be carried out as per the norms and Standard laid by the MORTH/ BIS codes for the Construction similar Structures.

**5- Conclusion:-** On the basis of the geological/geotechnical studies carried at the site and with the above recommendations, the alignment was found geologically suitable for construction of 5.00 km long motor road namely Jolkande to Sheesakhani motor road, Distt. Bageshwar

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