

प्रारूप-

परियोजना का नाम :- राज्य योजना के अन्तर्गत जनपद टिहरी गढ़वाल के विकास खण्ड भिलंगना में मैगाधार - आली - सरुणा मोटर मार्ग का चौरा करखेडी, कोट, घणातगांव होते हुए चांजी तक विस्तारीकरण कार्य का स्टील गर्डर सेतु सहित नव निर्माण कार्य। (मार्ग के नव निर्माण हेतु वन भूमि हस्तान्तरण प्रस्ताव। (लम्बाई- 10.

मी. एगो जी. एगो वा. १०

450 + 2 नो सेतु)

के अन्तर्गत नाम :- दानमाली (अरबोड) योजना कि.मी. 18 से सरुणा कोट - चांजी मो. मार्ग

भू-वैज्ञानिक की आख्या

(प्रस्तावित स्थल की भू-वैज्ञानिक द्वारा निर्गत अद्यतन निरीक्षण आख्या प्राप्त कर संलग्न की जाय।)

संलग्न है

कार्यालय प्रमुख अभियन्ता एवं विभागाध्यक्ष
उत्तराखण्ड लोक निर्माण विभाग
देहरादून।

भू-गर्भीय निरीक्षण आख्या एस।जी।- 824/सडक/पुल समरेखण/गढवाल/2015

Geological Assessment of the alignment corridor proposed for 9.500
km long extension of Megadhar Ali Sarna motor road to Chaura
Kalkhedi-Kot-Ghanatgaon to Chanji in Bhilanagana Block,
Distt. Tehri Garhwal.

16-जुलाई-2015.

Geological Assessment of the alignment corridor proposed for 9.500 km long extension of Megadhar Ali Sarna motor road to Chaura Kalkhedi-Kot-Ghanatgaon to Chanji in Bhilanagana Block, Distt. Tehri Garhwal.

Vijay Dangwal

16-07-2015

1. Introduction:- The Temporary Division, Public Works Department, Ghansali has been entrusted for the construction of 9.500 km long extension of Megadhar Ali Sarna motor road to Chaura Kalkhedi-Kot-Ghanatgaon to Chanji in Bhilanagana Block, Distt. Tehri Garhwal vide G.O. No. 6667 / 111(2) / 15-32 (प्रगोपण) / 2013 दिनांक 22.11.2013 On the request made by Shri. Anupam Saxena Executive Engineer I visited the proposed site of this bridge on 05.07.2015 and carried out the geological assessment. S/Shri. Vivek Kumar, Asstt. Engineer and Er. Arvind Singh, Junior Engineer, T.D, PWD, Ghansali were present at the time of site visit.

Two alternative alignments i.e Alignment No.1 and Alignment No.2 was investigated by the Division for the construction of the above said motor road. On the basis of the various geological, geotechnical, geo-morphological and comparative studies the alignment No.2 was found suitable for the construction. The present report is being generated based on the geological assessment made along the alignment No. 2.

2. Location:- The alignment corridor proposed for this road originates from km 19 of Ghansali Koti Akhori motor road to Megadhar Ali Sarna motor road, located in Bhilanagana Block, Distt. Tehri Garhwal.

3. Geological Assessment:- Geological the alignment corridor proposed for the extension of Megadhar Ali Sarna motor road to Chanji via Chaura Kalkhedi kot Ghanatgaon motor road lies in a part of Inner Lands of Garhwal Lesser Himalayan Belt. The terrain comprising this alignment is characterized by the steeply inclined hill slopes, deeply dissected river and streams with rugged and dissected topography. Area of the alignment is occupied by the metasedimentary rocks which along this alignment are represented by augenites, schists, quartzites and migmatites. These rock masses are almost fresh (W0 Grade), exceptionally hard, compact and widely spaced jointed in nature and are well exposed along the steeply inclined hill slopes. It has been observed that these rock masses are alternatively exposed along the cross slopes with the thick cover of overburden material comprised of the scanty large angular boulders and soils embedded in silty clay matrix.

The rock masses exposed along this alignment corridor are traversed by four prominent joint sets and the surfaces of these joints are moderately rough to smooth in nature. As the joints are widely spaced to one another they form very large blocks of dissected rock mass. According to the calculation made along this alignment corridor the Rock Quality Designation (RQD) percentage was found ranging between 80% to 100%. These rock masses are largely extremely strong in physical competence as per the estimation carried out on the exposures of the bed rocks. The "Uniaxial Compressive Strength" of the rocks was found ranging between 200 M Pa to > 250 M Pa which is the maximum limit for estimating the strength of the rock mass at the site by manual means. The rock mass rating values of these rocks was numbered between 70 to 95.

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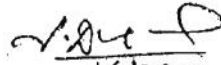
The overburden material deposited on and across this alignment slope is naturally dense, fully compacted and non-dispersive in nature. It do not contain any soft or dispersive soils. The alignment corridor and its adjoining slopes do not manifest any signatures of ground deformation i.e formation of sink/pot holes and slush like ground condition as observed visually. The material exposed along this alignment corridor falls in the class of "Heavy Soils". According to an estimation made at the site the "Undrained Shear Strength" of this slope forming overburden material was found ranging between 400 K Pa to 500 K Pa. The alignment slope at places are thickly forested and at places altered in the form of stepped like small terraces i.e cultivated fields. The loose handpicked stone walls constructed on the outer margins of these fields do not exhibits deformations like bulging or subsidence into the ground.

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

4. Recommendations:-

1. Form the road by part cut and part fill techniques and compact the fill by proper dynamic method.
2. Blasting on rocks by explosives is geologically restricted.
3. Do not dispose the excavated waste on the lower slopes, otherwise it will threat the overall stability of the hill slope.
4. The entire stretch of the road must have adequate drainage arrangements, i.e. wide hillside lined drain with proper cross drainage arrangements.
5. Make proper arrangements for the disposal of waters on the down hill slopes. Flow of the accumulated water on the lower slope will threat the overall hill slope stability.
6. Protect the entire road by properly designed retaining/breast walls.
7. 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 proposed was geologically found suitable for the construction of 9.500 km long extension of Megadhar Ali Sarna motor road to Chauva Kalkhedi-Kot-Ghanatgaon to Chanji in Bhilanaana Block, Distt. Tehri Garhwal.


16/12/15

(Vijay Dangwal)

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