

Geological Report of the proposed Samaya-Dang-Basola-Bagdiyal Gaon Road

PWD Construction Division, Bajiro proposed a 10km Samaya-Dang-Basola-Bagdiyal Gaon road. As requested by Er. Vipin Saini E.E. PWD, Division Bajiro, I carried out Geological investigations of the proposed road in the presence of Er. V. S. Rawat, AE and Er. Paras Singh, J. E., on 10th August 2013.

General Geological Condition:

Geologically the investigated area comes under the Lesser Himalayan terrain. The proposed alignment falls between 1800 to 1400 meters a.m.s.l. The major ridge present in this area is roughly trending in E-W. At right angle to the main ridge, numerous secondary and tertiary spurs intersect the area showing highly dissected topography. The general slope is South-East facing.

Rock types:

Lithologically, the area is constituted by Schists, Gneisses, Granites of Dudhatoli Crystalline Group. The highly fractured and shattered rocks are testimony of active tectonics in the region. Numerous local faults are also visible in the area. The steep slopes and rugged topography of the region indicate that the area is neotectonically active. The rocks, particularly schists are highly fragile and thinly foliated. Four sets of joints are prominent in the gneisses and granites. The trend of schists is 25° due SW. Most of the proposed alignment goes through civil and forest land.

Detailed investigation of the alignment and suggested corrective measures are as:

01. The proposed alignment will be bifurcated from 46th Km of PCTTBD Road.

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02. At the starting of the alignment the slope is gentle and the orientation of the rocks favours the stability of the slope. Hence the road construction is safe.
03. Most of the alignment will pass through gentle slope except a three spots where the slope is steeper.
04. Some sagments of the road will follow dip slope as the dip of the foliation is same as the direction of the slope. at these areas precautions should be made to avoid mass failure.
05. There are all 4HP bends proposed on the alignment.
06. Ist and IInd HP bends are proposed at 3st km. The sites are with very gentle slopes and are geologically safer sites.
07. The IIIrd HP bend is proposed at 6th km. The site though is at the dip slope but since it is a gentle slope portion hence is safe if proper brest wall and retainling wall is constructed,
08. The IVth HP bend is proposed at 7th Km. The site is proposed at a gentle slope portion and hence is favourable for HP bend.
09. The schist rock is quite fragile and the tendency of erosion is prominent. Hence it is proposed that utmost care should be made to manage the drainage along and around the road.
10. The gneisses and granites are having 4 sets of prominent joints. It is observed that rock mass failure generally occurs along these joints in the region. It is therefore advisable to take extra provisions to minimise the rock failure.
11. The road alignment should be constructed with a minimum grade 1:18 or higher.
12. Proper drains and parapet / scrubbers walls at appropriate locations be constructed as per norms of hill side road safety.

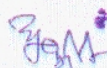
The proposed section of the road may be geologically safe provided the construction agency (PWD) take care of the above-mentioned corrective measures. Suggestions may be sought in future if problem arises at some point.

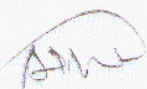
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