

परियोजना का नाम:-

राज्य योजना के अन्तर्गत जनपद चमोली में विधानसभा क्षेत्र कर्णप्रयाग में कर्णप्रयाग-नौटी-पैठाणी मोटर मार्ग (राज्य मार्ग सं० 34) से ग्राम गैरोली तक मोटर मार्ग हेतु 0.840 हे० वन पंचायत भूमि एवं मक डिस्पोजल हेतु 0.020 हे० कुल भूमि 0.860 हे० वन पंचायत भूमि का लो०नि०वि० को हस्तान्तरण प्रस्ताव।

### भू-वैज्ञानिक की आख्या

भू-वैज्ञानिक की आख्या संलग्न है।

  
अमीन

  
कनिष्ठ अभियन्ता  
अस्थाई खण्ड लो०नि०वि०  
गौचर

  
सहायक अभियन्ता  
अस्थाई खण्ड लो०नि०वि०  
गौचर

  
अधिसासी अभियन्ता  
अस्थाई खण्ड लो०नि०वि०  
गौचर

कार्यालय प्रमुख अभियन्ता एवं विभागाध्यक्ष  
उत्तरखण्ड लोक निर्माण विभाग,  
देहरादून

भू-गर्भीय निरीक्षण आख्या एस0जी0-1009 / सड़क / पुल समरेखण / गढ़वाल / 2016

Geological Assessment of 3 km long alignment corridsor proposed  
for the construction of Karanaprayag-Nauti-Paithani motor road to  
Gairoli motor road, Distt. Chamoli.

22.07.2016

**Geological Assessment of 3 km long alignment corridors proposed for the construction of Karanprayag-Nauti-Paithani motor road to Gairoli motor road, Distt. Chamoli.**

*Vijay Dangwal*

22.07.2016

**1- Introduction:-** The Temporary Division, Public Works Department, Karanprayag vide G.O. No. 1903/III-2/15-05(प्रतःआतः)/2015 dated 20.03.2015 has been entrusted for the construction of 3 km long motor road namely Karanprayag-Nauti-Paithani motor road to Gairoli motor road in Distt. Chamoli, Garhwal. On the request made by fShri. B.R Tamta, Executive Engineer I carried out the surface geological assessment of the alignment corridor of this site on 10.05.2016. Shri. Amit Patel, Astd. Engineer and Shri. Anuj Sharma, Jr. Engineer accompanied the site visit.

**2- Location:-** The alignment proposed for the above said motor road originates from km 22 (HM 0-2) of Karanprayag-Nauti-Paithani motor road, located in Karanpryag Block, Distt. Chamoli, Garhwal.

This alignment contains 01 HP Bends at Cross Section 0/33 near village Kanoth and it ends at village Gairoli.

**3- Geological Assessment:-** Geologically Karanprayag-Nauti-Paithani and its surrounding areas including the stretch of the alignment in question falls in a part of Outer Garhwal Lesser Himalaya. The terrain containing it is rugged and dissected and it is characterized by the steeply inclined hill slopes. The rock masses belonging to Rautgara Formation of Damta Group are exposed in this area which are represented by fine to medium grade muddy quartzites with thin partings of shale and slates. These rock masses are hard, compact and slight to partially weathered in nature.

In this section the Rautgara formation bears a thrust contact with the underlying Nagthat quartzites and the affect of the thrust is clearly marked on the rocks exposed on the alignment corridor therefore these quartzites are distressed and openly jointed in nature. Presently, the cross slopes of this alignment are exposed by the composite material i.e large angular rock fragments embedded in the crushed rock fragmentst embedded in the sandy –silty matrix.

The either side upslopes are inclined at moderate to steep angle and these are presently free from mass wasting activities. The rocks exposed on the physical competence and as per the estimation their “Uniaxial Compressive Strength” was found ranging between 100 M Pa to 150 M Pa. The rock masses exposed along this alignment corridor are widely spaced to one another and largely these are opened and infilled by the crushed rock and soil.

About 70 percent stretch of this alignment passes across the slopes covered by the composite and residual soils.

The upslopes of the right abutment needs to be protected by the construction of retaining structures.

This slope forming overburden is 1.00 m to 3.00 m thick and it is naturally dense, hard and fully compacted. It do not contain any soft/dispersive soils.

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. Do not blast on the rocks by explosives especially exposed on the steep hill slope section.
2. Form the road by half cut and half fill technique and compact the fill material by dynamic compaction.
3. Do not throw the excavated waste on the lower slopes, otherwise it will threat the life of people and the stability of the village located on the lower slopes.
4. In order to maintain the overall stability of the hill slopes and the road construct suitably designed retaining walls/ brest walls all along the road.
5. Construct large hill side lined/concrete drain all along the road and make adequate cross drainage arrangements.
6. Seal the entire surface of the road shoulder to shoulder to check the water infiltration into the subsurface.
7. Make adequate arrangements to dispose the waste water on the safe/ stable ground.
8. All the construction activity must be carried out as per the Indian standards codes of practice and guidelines prescribed by the BIS

**5- Conclusion:** On the basis of the above and the studies carried at the site and with the following recommendations the site was geologically found suitable for the construction of the 3 km long motor road namely Karanprayag-Nauti-Paithani motor road to Gairoli motor road in Distt. Chamoli,

  
22/7/16

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