

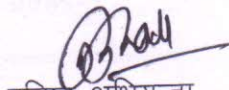
प्रारूप-33

परियोजना विवरण:-

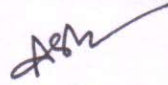
राज्य योजना के अन्तर्गत जनपद टिहरी गढ़वाल के विधान सभा क्षेत्र देवप्रयाग के विकासखण्ड कीर्तिनगर के अन्तर्गत थाती डागर रैंतासी मोटर मार्ग का नवनिर्माण कार्य (लम्बाई 1.050 कि०मी०)।

भू-वैज्ञानिक की आख्या

प्रस्तावित स्थल की भू-वैज्ञानिक द्वारा निर्गत अद्यतन निरीक्षण आख्या प्राप्त कर पृष्ठ संलग्न किया जा रहा है।



कनिष्ठ अभियन्ता
अ०ख० लो०नि०वि० श्रीनगर
मु० कीर्तिनगर



सहायक अभियन्ता
अ०ख० लो०नि०वि० श्रीनगर
मु० कीर्तिनगर



अधिशाली अभियन्ता
अ०ख० लो०नि०वि० श्रीनगर
मु० कीर्तिनगर

Geological Assessment of 1.050 Km long New Extension of Thati-Daagar-Retaasi Motor Road Alignment corridor between CH 0.0 to 1.050 Km.

Kirtinagar Block, District Tehri (Garhwal)

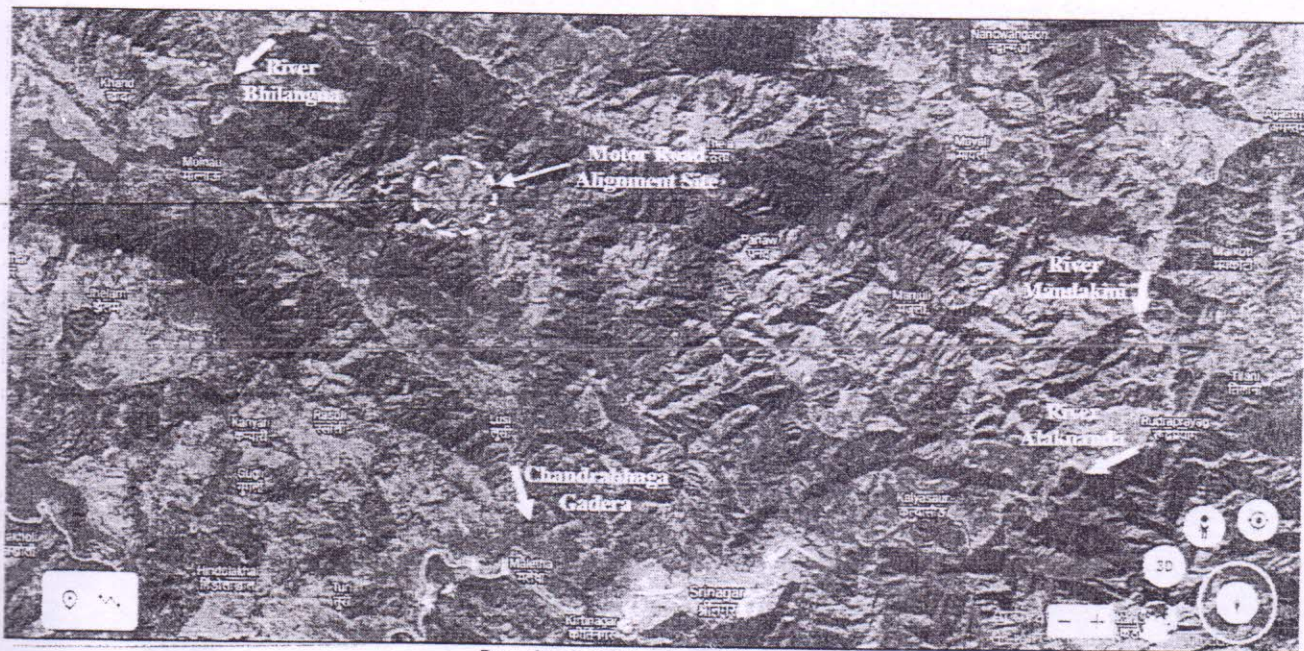
Dr. Tushar Sharma

17/10/2020

1- **Introduction:** The Temporary Division, Kirtinagar, has been entrusted for new extension of 1.050 Km long Thati-Daagar-Retaasi motor road between CH 0.0 to 1.050 Km. In order to assess the geological conditions of the road alignment site for its feasibility, Er. Satish Chandra Bhatt (Executive Engineer) Temporary Division, Kirtinagar asked for a geologist to make a site visit. Consequent to his request a visit to the proposed road alignment site was made on 17/10/2020: Er Lalit Gairi (Junior Engineer) TD PWD, Kirtinagar was present during the site visit.

2- **Topographical Information/Location:** The above mentioned alignment site extends from CH 2 Km Hectometer 8-10 (end point) of Thati-Daagar-Retaasi motor road connecting Kuledi and Peeplidhar villages and terminating near Peeplidhar Bazar, in Kirtinagar block, district Tehri (Garhwal). The co-ordinates along with elevation, masl of the site at CH 0.0 Km are as follows-

Latitude : 30° 21' 23.00"
Longitude : 78° 41' 27.00"
Approximate Elevation : 1330 M



Broader Satellite view of the Site

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T.D. PWD Kirtinagar



Closer Satellite view of the Site with approximate hairpin bends

3- Geological Assessment: Geologically, the road alignment site area falls under the Proterozoic Meta-Sedimentaries of Lesser Himalaya in the vicinity of thrust junction between Deoban/Mandhali and Berinag/Nagthar Formations of Tejam and Jaunsar Groups Respectively. The rocks exposed in the area predominantly consist of Dolomitic Limestone, Calcareous Shale and Quartzite which belong to Mandhali and Berinag/Nagthar formations of Tejam and Jaunsar Groups. However the motor road alignment runs through the slope which is covered with overburden/ slope wash material having cultivation land, vegetation and trees (Naap land, Civil land and forest Land) along with patches of jointed/weathered Limestone and Quartzitic bed rock. The approximate strength of exposed rock mass is around ~80-100 MPa and has undergone W_0 to W_2 weathering grade.



View of motor road alignment site near CH 0.0 Km



View of hill slope of the motor road alignment

The hill slope of the site area is gentle to moderate which declines at ~20-30 more or less towards South-West direction. There are no hairpin bends on the road alignment. The road alignment has level to 1:20 of rising gradient and no falling gradient.

- 4- **Seismicity of the area:** According to Indian Standard code the site falls in seismic zone IV of seismic zoning Map of India (IS 1893, part 1, 2002) which corresponds to intensity VIII on MM scale.

On the basis of the geological inspection of the site studies carried and the facts given above, the following recommendations are being made for the construction of the proposed motor road failing to these recommendations this report will be automatically treated as cancelled.

5- Recommendations:

1. Blasting by explosives for the road construction is to be avoided as far as it is possible. Use of explosives will render the slope highly unstable as the slope consists of jointed/ fractured rock mass and overburden/slope wash material.
2. Excavation work must be carried out by skilled manual workers as the rock slopes are prone to slide down in case of rapid disturbance.
3. The slopes on either sides of the road must be protected by the construction of suitably designed retaining wall/ breast wall with proper weep holes especially where the hill slope is steep. this work shall be carried out simultaneously with the advancement of the road cutting.
4. Construction of large U-shaped longitudinal concrete lined drain all along the hill side of the road with adequate provision of cross drains is necessary.
5. Construct the road by half cut and half fill techniques and compact the fill material properly by dynamic compaction.
6. Disposal of muck and excavated waste on the lower slopes of this road is to be strictly avoided: failing to which will increase the weight of the lower slope resulting in the increase in driving forces. It is advised to dispose the muck on the identified site for muck disposal.
7. All the construction activities ought to be carried out as per the standard codes of practice laid by the BIS and MORTH.

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**Assistant Engg.
T.D. PWD Kirtinagar**

- 6- **Conclusion:** On the basis of the geological observations/studies carried at the site and with the above recommendations, the site proposed for new extension of 1.050 Km long Thati-Daagar-Retaasi motor road between CH 0.0 to 1.050 Km of was found geologically suitable for construction.

Place: Temporary Division PWD Kirtinagar

Date: 17/10/2020

Dr. Tushar Sharma
(Assistant Geologist)
Office of Chief Engineer
PWD Pauri Garhwal (Zone)

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Asst
Assistant Engg.
T.D. PWD Kirtinagar

To.
The Executive Engineer
(Temporary Division)
PWD, Kirtinagar

Subject: Submission of Geological Site assessment report of new extension of 1.050 Km long Thati-Daagar-Retaasi motor road.

Dear Sir,

In response to your request of making a site visit for the assessment of the site selected for the construction of new extension of 1.050 Km long Thati-Daagar-Retaasi motor road between CH 0.0 to 1.050 Km. in Kirtinagar block, district Tehri (Garhwal), which is under Temporary Division Kirtinagar, a site visit was made on 17/10/2020 of which a report has been prepared. Therefore it is requested to please find report of the above mentioned site attached with this letter.

Date: 17/10/2020

Yours Faithfully

Dr. Tushar Sharma
(Assistant Geologist)
Office of the Chief Engineer
PWD (Pauri Zone)

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Asst
Assistant Engg.
T.D. PWD Kirtinagar