

परियोजना का नाम :- कुण्डखाल-बरसुण्ड मोटर मार्ग का निर्माण कार्य।

(केवल जल विद्युत परियोजनाओं के लिये लागू)

मदवार विवरण

प्रस्तावित परियोजना के विभिन्न घटकों का मदवार/भूमिवार/क्षेत्रफलवार का विवरण।

क्र०सं०	घटक/ कम्पोनेंट (Component)	आरक्षित वन भूमि (हे० में)	सिविल एवं सोयम भूमि (हे० में)	वन पचायत भूमि (हे० में)	सरक्षित वन (हे० में)	कुल वन भूमि (हे० में)	नाप भूमि (हे० में)	कुल योग (हे० में)
शून्य								

लागू नहीं है।

अविशाली अभियन्ता
हो/- निर्माण विभाग
प्रयोक्ता एजन्सी
पोड़ी गढ़वाल

अविशाली अभियन्ता
हो/- निर्माण विभाग
प्रयोक्ता एजन्सी
पोड़ी गढ़वाल

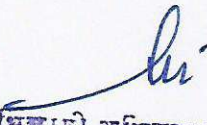
परियोजना विवरण :-

जनपद पौड़ी गढ़वाल के विकासखण्ड पोखड़ा में कुणजखाल - बरसुण्ड मोटर मार्ग का निर्माण कार्य।

भवन निर्माण/जल विद्युत परियोजनाओं हेतु ले-आउट प्लान/मदवार विवरण दिया जाना होगा।
उक्त परियोजना मार्ग निर्माण की है ले-आउट प्लान लागू नहीं है।


JE


सहयुक्त अभियन्ता
निर्माण खण्ड, लो० नि० वि०
पौड़ी गढ़वाल


अधिकांसी अभियन्ता
निर्माण खण्ड लो० नि० वि०
पौड़ी

परियोजना विवरण :-

जनपद पौड़ी गढवाल के विकासखण्ड पोखड़ा में कुणजखाल - बरसुण्ड
मोटर मार्ग का निर्माण कार्य।

भू-वैज्ञानिक की आख्या

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

(संलग्न है।)

ह0/-
(भू-वैज्ञानिक)
नाम व मुहर सहित

Office of Empanelled Geologist
पत्रांक 622/148व्यक-सा0/13 दिनांक 15/05/2013
P.W.D. Uttarakhand

Geological Investigation Report
E.G. - Road / Bridge / Alignment
Pauri - 20 / 2015

Geological Assessment of the Alignment of the Proposed Road Named
From Kunajkhal to Barsunda Motor Road
in Distt. Pauri

21 July 2015

J.P. Madhwal
Empanelled Geologist
Shantikunj, Lane-1,
Nehrugram Road,
Nathanpur, Dehradun
Phone - 0135 - 6448774
Mob - 9412965965
Email - jpmadhwal@gmail.com

24-15

**Geological Assessment of the Alignment of the Proposed Road
Named From Kunajkhal to Barsunda Motor Road
in Distt. Pauri**

J.P. Madhwal

21/07/2015

1. **Introduction :-** The Construction Division, Public Works Department, Pauri has proposed the construction of 4.00 Km. long motor road named From Kunajkhal to Barsunda Motor Road on the request of the Executive Engineer, C.D. P.W.D. Pauri, I carried out the geological assessment of the proposed alignment of the road in presence of Er. Sanjay Bisht the concerned A.E.
2. **Location:-** The proposed alignment is originate from 1.00 Km. of Kunajkhal-Kolakhal motor Road. Four H.P. Bend has been proposed for the said road.
3. **Geological Assessment:-** Geologically the area of the proposed road is located in the inner lands of Lesser Himalaya Belt which is mostly occupied by the rocks of Damta formation. The phyllite and slate are exposed along the alignment. These rocks are massive to thinly bedded, soft to very hard, compact and partially weathered in nature.

These rocks are traversed by five prominent joint sets (rock defects). It has been observed that the joint sets present in especially in phyllite are open and infilled with the crushed rock material. As the entire gamut is comprised of homogeneous assemblages of rocks the rockmass exhibits distinct characteristics of the composition, texture and strength parameters. The quartzites are hard, intact blocky and seamy in nature. Their Uniaxial Compressive Strength ranges between 2 M Pa to 25 M Pa which corresponds to very weak and weak rock, however, on contrary this value for the quartzites has been assigned > 250 M Pa which imply exceptionally strong rock. The Uniaxial Compressive Strength of the quartzites has been estimated between 50 M Pa to 100 M Pa and it corresponds to strong rock. Partially the slopes of the proposed alignment are covered with the overburden material which mostly comprised of slope wash/hill wash material and occasionally formed of residual soil. The overburden material is comprised of well graded material consisting scanty angular boulders, cobbles, pebbles embedded in clay-silt matrix. At places gravitational shorting of these rock fragments has seen, hence the large fragment through fines are deposit from lower to higher slopes.

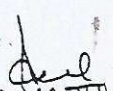

J. P. MADHWAL
M.Sc. GEOLOGY
EMPANELLED GEOLOGIST
PWD UTTARAKHAND

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Assistant Engineer
C.D. P.W.D. Pauri

(25) (16)

The overburden exhibits distinct properties of strength parameters depending upon the surface and subsurface hydrological conditions and it ranges from 50 k Pa to 350 k Pa according to the water content and grain size distribution.

The details of the joints recorded at the site are given in the following table:-

Table

S. No.	Feature	Dip angle	Azimuth
1	2	3	4
J ₁	(S ₀ Bedding Joint)	45°	N175
J ₂	(S ₁ Foliation Joint)	32°	N160
J ₃	(Random Joint Set)	25°	N170
J ₄	(Sealed with Quartzites)	45°	N185
J ₅	Joint	55°	N320

On the basis of the geological / geotechnical studies carried at the site and the facts mentioned above the following recommendations are being made for the construction of the proposed road.

4. Recommendation:-

- (i) The alignment some time traverses along/across minor fault zone which is geologically fragile and special attention needs to be given for stability of road where alignment crossing the Nalas or Gads or Local streams and soft rock zone.
- (ii) The hill slope is another factor responsible for geological hazards, the road basically traverses the slope class 35° to 48° special attention needs to be given for stability where it is 60° to 65° in some parts.
- (iii) Special attention should be pay for the protection of H.P. Bends, which are in three nos.
- (iv) Do not dispose the debris in hill side, dispose it in a safe zone.
- (v) Do not blast heavily on the rocks and blasting is restricted near the human settlement / public property.
- (vi) The road must have extra wide lined long drain with adequate cross drainage arrangement.



J. P. MADHWAL
M.Sc. GEOLOGY
EMPANELLED GEOLOGIST
P.W.D. UTTARAKHAND

Photo Copy Attestd


Assistant Engineer
C.D. P.W.D Pauri

- (26) (17)
- (vii) The road must be formed shoulder to shoulder paved, this is so to check the water ingress into the sub surface material.
 - (viii) Construct suitably designed retaining walls / breast wall all along the road, it is essential for the overall stability of the hill slope.
 - (ix) All the construction activity must be carried out as per the standards and norms following the BIS codes prescribed for the similar civil construction in Himalayan Zone.
 - (x) This report is prefeasibility report. At the time of construction it need separate geological concern.

5. Conclusion:- On the basis of the geological / geotechnical studies carried at the site and with the above recommendations, the site was found geologically suitable for the construction of 4.00 Km. long motor road named From Kunajkhali to Barsunda Motor Road, Distt. Pauri Garhwal, Uttarakhand.

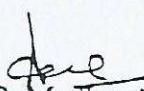


(J.P. Madhwal)
J. P. MADHWAL
M.Sc. GEOLOGY
EMPANELLED GEOLOGIST
P.W.D. UTTARAKHAND

Photo Copy Attested

Assistant Engineer
C.D. P.W.D. Pauri

परियोजना विवरण :-

जनपद पौड़ी गढ़वाल के विकासखण्ड पोखड़ा में कुणजखाल - बरसुण मोटर मार्ग का निर्माण कार्य।

भू-वैज्ञानिक की संस्तुतियों / सुझावों का अनुपालन किये जाने का प्रमाण-पत्र

प्रमाणित किया जाता है कि विषयगत परियोजना के निर्माण हेतु भू-वैज्ञानिक द्वारा दिये गये सुझावों / संस्तुतियों का अनुपालन सुनिश्चित किया जायेगा।

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JE

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सहायक अभियन्ता
निर्माण खण्ड, लो० वि० वि०
पौड़ी गढ़वाल

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निर्माण खण्ड, लो० वि० वि०
(प्रयोक्तृ पौड़ी गढ़वाल)