

पत्रांक 2844 / 13सी.
सेवा में,

दिनांक 17/11 / 2023

उपवन संरक्षक
रुद्रप्रयाग, वन प्रभाग
रुद्रप्रयाग।

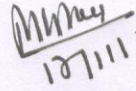
विषय:- जनपद रुद्रप्रयाग में मा.मु.घो. सं. 553/2015 के अन्तर्गत स्वीकृत
क्यार्क-बरसूजी-भैरों बैण्ड से जमेथी तक मोटर मार्ग के निर्माण हेतु 1.34 है.
वनभूमि का लोक निर्माण विभाग को प्रत्यावर्तन। प्रस्ताव सं.
FP/UK/ROAD/40773/2019

सन्दर्भ:- भारत सरकार का पत्रांक 8बी./यू.सी.पी./06/70/2021/एफ.सी./758 दिनांक
30-08-2023।

महोदय,

उपरोक्त विषय के सम्बन्ध में अवगत कराना है कि भारत सरकार के सन्दर्भित पत्र
द्वारा उक्त मोटर मार्ग के निर्माण हेतु वैकल्पिक समरंखण संख्या-3 के अनुसार प्रस्ताव को पुनः
संशोधित कर प्रस्तुत करने हेतु अवगत कराया गया, जिसके क्रम में खण्ड द्वारा वैकल्पिक समरंखण
संख्या-3 का भूगर्भीय निरीक्षण करवाया गया, जिसमें भूगर्भवेता की रिपोर्ट के अनुसार उक्त समरंखण
को उचित नहीं बताया गया है। जिस कारण समरंखण संख्या-3 के अनुसार प्रस्ताव गठित किया
जाना एवं मोटर मार्ग का निर्माण किया जाना सम्भव नहीं है।

सलंगन:-भूगर्भीय आख्या।


17/11/2023
(इं. मनोज कुमार भट्ट)
अधिशासी अभियन्ता
निर्माण खण्ड, लो.नि.वि.,
ऊखीमठ (रुद्रप्रयाग)।

**Geological Assessment of 1.90 Km long Kyark-Barsudi Motor Road (Bhairo Bend) to
Jamethi Motor Road Alignment Corridor between CH 0.0 to 1.90 Km,
Augustmuni Block, District Rudraprayag**

Dr. Tushar Sharma

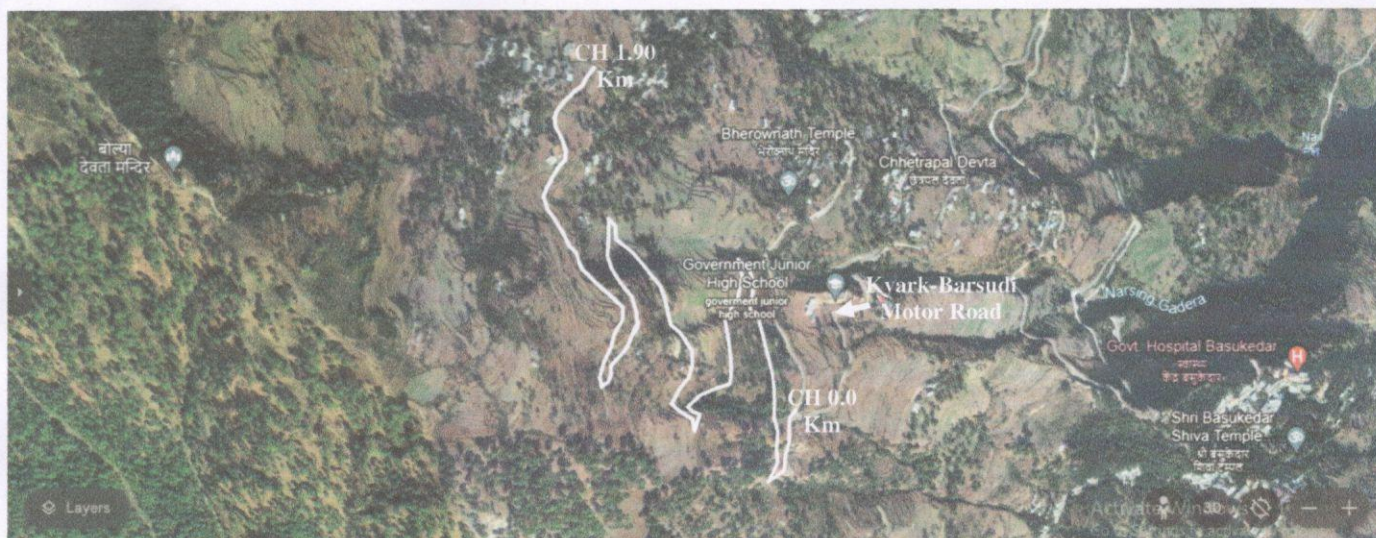
30/09/2023

- 1- Introduction:** Construction Division, PWD Ukhimath, has been entrusted for the construction of 1.90 Km long Kyark-Barsudi motor road (Bhairo Bend) to Jamethi motor road between 0.0 and 1.90 Km. In order to assess the geological conditions of the site and for its treatment, Er. Manoj Kumar Bhatt (Executive Engineer) Construction Division, PWD Ukhimath, asked for a geologist to make a site visit. Consequent to his request a visit to the proposed road alignment site was made on 29/09/2023; Er. Deepak Kumar & Er. Mukesh Painuly (Junior Engineers) Construction Division, PWD Ukhimath were present during the site visit.
- 2- Topographical Information/Location:** The above mentioned motor road alignment diverts from Km 03 Hm 2-4 of Kyark-Barsudi (PMGSY) motor road which itself diverts from Km 54 of SH-37 (Guptkashi-Mayali-Tilwara motor road) will terminate near village Jamethi, in Augustmuni block, district Rudraprayag. The co-ordinates along with elevation, masl of the site at CH 0.0 Km are as follows-

Latitude	: 30°26'20.32"
Longitude	: 79°02'48.27"
Approximate Elevation	: 1658 M

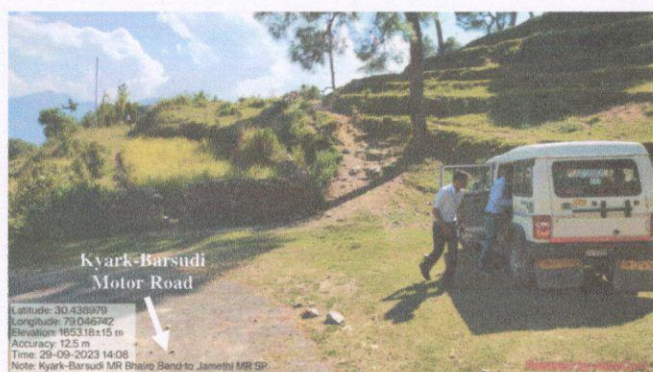


Wider satellite view of the motor road alignment site

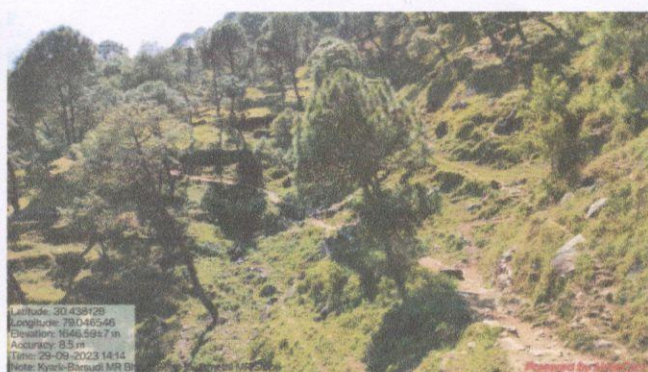


Closer satellite view of the motor road alignment site with approximate hairpin bends

- 3- Geological Assessment:** Geologically, the site area falls in the Lesser Himalayan zone of Garhwal Himalaya in the vicinity of a thrust contact between Ramgarh & Almora and Ramgarh & Jaunsar groups. The rocks exposed in and around the site are hard and competent schist to quartzitic schist belonging to Bhatwari/Barkot units of Ramgarh group. The rocks exposed in and around the site are Biotite-Schist, Quartzite and variants of Quartz-Biotite Gneiss. However, the motor road alignment passes through hill slope covered with moderate to thick (OB)/slope wash material (SWM) over which there is cultivation land (Naap khet & Civil land) and vegetation with trees (Van Panchayat & Forest land) with patches of schistose and quartzitic bed rock.



View of site at CH 0.0 Km



View of hill slope of the site

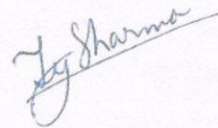
The approximate strength of exposed rock mass is around ~100-120 MPa and has undergone W_0 to W_2 weathering grade. The hill slope of the road alignment site is moderately steep (Occasionally steeper) which declines at ~20-40° roughly towards East direction. There are as many as 05 hairpin bends on the road alignment which are at 0.100, 0.475, 0.750, 1.075 and 1.325 Km respectively. The motor road alignment has 1:15 & 1:16 of rising gradient and no falling gradient with 1:40 gradient at the hairpin bends.

The area receives heavy rainfall especially during monsoon season. The hill slope with OB cover constitutes of fine micaceous clay material and which is formed by weathering and decomposition of schistose & gneissic rocks which may lead to subsidence and slope failure when disturbed by large scale anthropological activities like excavation/cutting of the hill slope. A few tilted pine trees were also observed on the slope which suggest thick OB cover with creep movement at places. Given that there are as many as 05 hairpin bends with their arms repeating on the same slope one above the other at a grade of 1:15-16 with given slope and weather conditions, there are fair bit of chances of subsidence and other mass wasting activities taking place along the hill slope if the alignment.

- 4- **Seismicity of the area:** According to Indian Standard code the site falls in seismic zone V of seismic zoning Map of India (IS 1893, part 1, 2002) which corresponds to intensity IX and above on MM scale.
- 5- **Conclusion:** On the basis of the geological observations/studies carried at the site and with the above recommendations, the site proposed for 1.90 Km long Kyark-Barsudi motor road (Bhairo Bend) to Jamethi motor road between 0.0 and 1.90 Km was found geologically unsuitable for construction. It is advised to carryout a fresh alignment survey such that no. of hair pin bends are reduced (in staggered manner) and the gradient of the alignment is kept not steeper than 1:20.

Place: Construction Division PWD Ukhimath

Date: 30/09/2023



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