

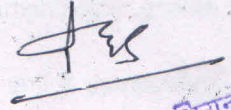
कार्यालय प्रमुख अभियन्ता एवं विभागाध्यक्ष  
उत्तराखण्ड लोक निर्माण विभाग  
देहरादून।

सू-गर्भीय निरीक्षण आख्या एस0जी0- 795/सडक/पुल समरेखण/गढवाल/2015

**Geological Assessment of 2 Km long alignment  
corridor proposed for Mathyangaon to Uchola  
motor road District Rudraprayag.**

15-मई-2015

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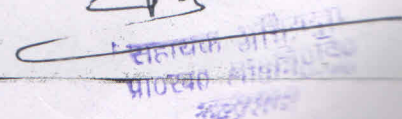
**Geological Assessment of 2 Km long alignment  
corridor proposed for Mathyangaon to Uchola  
motor road District Rudraprayag.**

**Vijay Dangwal**

**15.05.2015**

- 1- **Introduction :-** The Provincial Division PWD Rudraprayag has been entrusted for the construction of 2 km long motor road vide G.O no. 532/District Plan/PWD/2012-13 dated 11.09.2013. In the fulfillment of the request made by Er. Inderjeet Bose, Executive Engineer, I carried out the geological assessment of the proposed alignment corridor on 16.03.2015 Er. Arjun Singh Panwar, Assistant Engineer and Er. Ravindra Singh Bisht, Junior Engineer was present during the site sit.
  
- 2- **Location :-** The proposed alignment corridor of this road originate from Mathyagaon hamlet located at Km 4 of Chenagad-Baksir motor road and with in 2 km length it connects village Uchola.
  
- 3- **Geological Assessment :-** Geologically the proposed alignment corridor of Mathyagaon to Uchola motor road falls in part of Higher Himalayan Belt located on the up lands of the Main Central Thrust (MCT). Granites, Granitoids, Granotiotus, Amphibolite gneiss, Augen gneiss and verities of schist's and quartzite's occupy this entire surrounding gamut. These rock masses have been dissected by many linear joints, thrusts and fault. The quartzite's which are slightly weathered (Grade I-II), hard compact are exposed in a part of this alignment and most of it is occupied by the residual soils and hill wash/

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slope wash material. The terrain containing this alignment is characterized by the moderate topography i.e. low to steep inclined hills slopes.

The rock masses exposed along this alignment corridor are strong in physical strength and according to an estimation made at the site as per the guidelines of International Society of Rock Mechanics (ISRM) the "Uniaxial Compressive Strength" of the rock masses was found ranging between 150 M Pa to 200 M Pa. The rock defects traversing these rocks are closely spaced at places and generally these are widely spaced to one another. The Rock Quality Designation values of these rocks was calculated and observed ranging between 65% to 90%.

The slope forming material deposited across these slopes is comprised of composite soils i.e. soils mix to with boulders. These soils are almost compacted and exhibited higher values of shear strength. These contain good binding material which increases cohesion (c) and the angular rock fragments to enhances the friction ( $\tan \phi$ ) values.

The soils exposed on a across this alignment corridor are free from alkali content which forms cat ions and do not contain any soft/dispersive material.

By and large the cross road of this alignment corridor are stable and free from any mass wasting/land slide activity.

On the basis above and the study carried at the site the following recommendations are being made for the construction of the above title road failing to these this report will be automatically treated as cancelled.

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**4- Recommendations :-**

- 1- Form the road by half cut and half fill techniques and compact the fill by dynamic compaction.
- 2- Do not dispose the excavated muck/waste on the lower slopes.
- 3- Protect the either side slopes by properly designed retaining/breast walls.
- 4- The road must have adequate long and cross drainage arrangements and the drained water must be disposed off on the stable ground, otherwise the down hill slope may get eroded if accumulated water is permitted to run over the hill slopes.
- 5- All the construction activity must be carried out as per the standard codes of practices suggested by the MORTH and BIS.

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15/5/15  
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*Phupokaly*

*A. Hanstee*  
*AS*

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