

परियोजना का नाम : जनपद रुद्रप्रयाग के विकास खण्ड अगस्त्यमुनि में राज्य योजना के अन्तर्गत चोपडा-डूंग्री-चापड़ मोटर मार्ग के निर्माण हेतु लोक निर्माण विभाग को वन भूमि हस्तान्तरण प्रस्ताव। (वास्तविक लम्बाई 2.775 किमी०)

भू-वैज्ञानिक की आख्या

संलग्न है।

Geological Assessment of the Alignment proposed for
Chopra- Dungri- Chapad motor road, District-
Rudrapur, Uttarakhand.

कार्यालय प्रमुख अभियन्ता
लोक निर्माण विभाग, देहरादून।

भू - गर्भीय निरीक्षण आख्या एस0जी0 -288/सड़क/पुल समरेखण/गढ़वाल/2012

**Geological Assessment of the Alignment proposed for
Chopra- Dungri- Chapad motor road, District-
Rudraprayag, Uttarakhand.**

कनिष्ठ अभियन्ता (प्र.)

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Geological Assessment of the Alignment proposed for Chopra-
Dungri- Chapad motor road, District- Rudraprayag, Uttarakhand

Vijay Dangwal

01.03.2012

1. **Introduction:-** The Provincial Division Public Works Department Rudraprayag has proposed the construction of 3.0 km long Chopra- Dungri Chapad motor road in District- Rudraprayag. On the request of the Executive Engineer, I carried out the geological assessment of the alignment on 03-09-2011 in presence of Er. Shiv Charan Singh saha, Asstt. Engineer, Er. Om Prakash Chandra the additional Asstt. Engineer and Shri Arvind Nautiyal, work Agent, PWD Rudraprayag.
2. **Location:-** The alignment of the proposed road originates from km 16 Rudraprayag-Chopra motor road district- Rudraprayag.
3. **Geological Setup and Assessment:-** The area of the proposed road is located in the uplands of Garhwal Lesser Himalaya which is occupied by the heterogeneous assemblages of metasedimentaries. Mostly the quartzites of Garhwal Group comprise the main lithological unit, in and around the proposed area. The quartzites are thinly foliated and traversed by four prominent joint set / rock defects.

The alignment passes across the slopes inclined at 30° - 45° N 090 to N 250 direction, the two facets juxtapose to one another. These slopes are covered with thick overburden material of 5-10 m order. This overburden material is naturally well compacted and comprised of composite soil i.e. angular boulders, pebbles, cobbles embedded in clay- silt matrix. The "consistency" of this material has been estimated between 350 k Pa to 500 k Pa, which corresponds to very stiff soil. No deep dessection of the slope facet by natural cross drains observed.

The overburden does not contain any soft soil/ alkali material which is prone to disperse/ dissolve.

The either side slopes of the alignment are stable and free from active slide/ ground subsidence, and may threaten the stability.

On the basis of the visual inspection, the studies carried out at site and the facts given above, the following remedial measures are being suggested for the safe and stable construction.

4. Recommendation:-

- (i) Do not dispose the cut/ excavated material into valley side otherwise dispose the waste on topographically suitable dump yards.
- (ii) The complete road must have suitably designed retaining and breast wall.
- (iii) Excavate the hill side slope from top to bottom in order to maintain overall stability of the slope. Cut slope should be rendered stable throughout the designed life of the road.
- (iv) Way out for cut and fill wherever it is possible this is so as to decrease the damages and disturbances.
- (v) The road must have adequate road side/ cross drainage pattern and the cross section of the hill side drain should be 2 times enlarged so as to accumulate the run-off from the up slope and the road itself.
- (vi) Design standards and specification laid down by IRC for similar category roads should be strictly followed.

5. Conclusion:- On the basis of the geological studies carried at the site and with the above recommendations, the proposed alignment was found geologically suitable for the construction of Chopra- Dungri- Chapad motor road.

Photo copy Attached

सहायक अभियन्ता
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रुद्रप्रयाग

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