

**RECONNAISSANCE GEOLOGICAL REPORT OF PROPOSED SITE OF
SHRI KOMAL SINGH S/O SHRI TARA SINGH FOR THE CONSTRUCTION OF
OWNER DRIVEN CONSTRUCTION HOUSING (ODCH)
VILLAGE BANARI, TEHSIL- CHINIYALISAUR, DIST.- UTTARKASHI
KHASRA NO.-2691 & AREA-0.0100 ha.**

Date of Inspection: 16-12-2013

In a 'World Bank' funded programme, Government of Uttarakhand has provided teams of Consultant Geologists and Consultant Associate Geologists to Director, Geology and Mining Unit, Uttarakhand for geological studies in proposed sites for Owner Driven Construction House (ODCH) in disaster affected districts of Uttarakhand. Director, Geology and Mining Unit, Directorate of Industries, Uttarakhand has issued an Office Order No.1612 Aa. Pra./Bhu.Ni./Bhu.Khani.E./2013-14 dated 10th December 2013 regarding geological studies in disaster affected five districts of Uttarakhand. Uttarkashi is one of them. Thus undersigned traversed and collected field geological observations under the management of cosignatory departmental 'Assistant Geologist'.

In the above mentioned questioned area, the reconnaissance geological investigation was carried out in the presence and co-operation of Shri Rajeev Chand Ramola, Revenue Sub-Inspector, Banari the land of Shri Komal Singh khasra no. 2691 and the area of the land are 0.0100 ha. The proposed site for house construction, falls in hill ridge. The site is located about 60km from District headquarter Uttarkashi, in light motor road nearby Dharasu to Banchoura, 100m valley side from Joshiyara-Ladadi motor way. The proposed site falls on co-ordinate N 30^o 36. 627 E 78^o 11.511 and El. 1837m from msl.

The proposed site is situated on hill ridge, There are two nalas on both sides of ridge Paniyar khala flowing about 50m N-W in N-E direction distance with 60^o dip slope from the proposed site and Nagun gad about 85m S-E in N-E direction distance with 15^o to 20^o dip slope from the proposed site.



Side view of proposed area

About 1m thickness of overburden, siltstone fragment varying 1-5cm in size with brown soil matrix is present in this proposed site. The boulders of varying sizes about 20-50cm are also found around the site. The site is in between two perennial water bodies at about 60-90m approx distance. General slope of the proposed site is 60° in N-W direction towards Paniyar khala, 20° in S-E direction towards Nagun gad, $3-5^{\circ}$ in N-E direction along the ridge. On the hills around the proposed site mix vegetation is found. No in-situ rocks are found near the proposed site. The site has a stable slope and consolidated landmass.

The proposed area is hill ridge man made terrace. The angular and sub-angular fragment of Siltstone varying 1-5cm with blackish brown soil matrix made up of ridge and also boulders of 5-20cm size of the proposed site. The overburden thickness about 1-2m of the proposed site. The proposed land situated in the hill ridge. General slope $5^{\circ}-7^{\circ}$ in N-E direction of the proposed site is favourable for the construction of house, so the site is safe. Two natural/perennial drainage is found in proposed site, but is at about near distance. The proposed site is depending on geological observation is stable for the house construction.

RECOMMENDATIONS:

Based on above surface geological observations of the proposed area, geologically suitable for building construction and the following remedial measures are recommended:

1. The foundation depth of the houses must be as per the compactness of the overburden material in the proposed site.
2. The area falls in seismic zone IV, so it is recommended to use adequate seismic coefficients in the construction of the building.
3. Light weight and slanting roof, framed structure, and single or double storied house construction is preferable
4. Inclined retaining wall from the N-W direction and S-E direction of the proposed land is recommended for stability of the structure.

CONCLUSION:

Prima-facie, presently, the proposed site is Shri Komal Singh S/o Shri Tara Singh is geologically suitable for construction of house, only if, the above mentioned recommendations will be followed strictly, otherwise, in its contravention; geological suitability will be deemed voided.


(Deepak Singh)

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Date: 17th Dec 2013

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