

**RECONNAISSANCE GEOLOGICAL REPORT OF PROPOSED SITE OF SHRI
BADRI SINGH S/o SHRI KEWAL SINGH FOR THE CONSTRUCTION OF OWNER
DRIVEN CONSTRUCTION FOR HOUSING (ODCH)
VILLAGE KAFNAUL, TEHSIL- BARKOT- DISTRICT UTTARKASHI,
UTTARAKHAND
KHASARA No. – 356 & AREA – 0.025 ha.**

Date of Inspection: 26/12/13

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 For Housing (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 10thDecember 2013 regarding geological studies in disaster affected five districts of Uttarakhand, Uttarkashi is one of them. Thus, undersigned have taken geological observation during traverses and collected field geological data under the management of cosignatory departmental 'Assistant Geologist'.

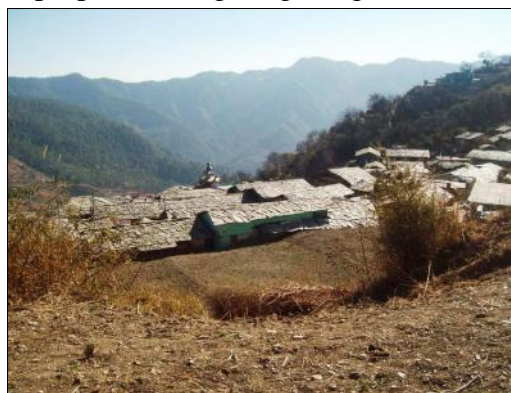
In the above mentioned questioned area, the reconnaissance geological investigation was carried out in the presence and co-operation of Shri Shyam Singh Chauhan, Revenue Sub-Inspector, Darso. It is 44Km approx from Tehsil Headquarter Barkot, Uttarkashi, Uttarakhand and the site is 32Km approx from NH-123 (Delhi-Yamunotri National Highway), through 600m approx bridle path in village Kafnaul from Rari-Kafnaul motar marg. It falls on coordinate – N 30^o 45.066 E 78^o 10.568 El. 6907feet. The proposed site is in village Kafnaul which is densely populated.

The proposed site is on consolidated colluvial overburden material varying in thickness range. At the toe of the proposed site in south-eastern direction, overburden rock mass of phyllite with quartz vein is present of size 4m approx. Man-made cultivated terraces are present. The uphill slope at the proposed site is 34^o and the downhill slope is 18^o approx sloping in N 150^o direction. Around the proposed site location less vegetation is present.

No in-situ rock are found near the proposed site location but a massive overburden phyllite rock, which is compact, is at the toe of the proposed site giving it a good foundation.



Close view of the proposed site



Downhill side view from the proposed site

At the proposed site, thin colluvial soil cover present and with fragments of phyllite varying in size from 0.5cm to 2cm approx, are present in the soil matrix. The soil is

consolidated the rate of infiltration is low making the soil water saturation low. At and around the proposed site location the water seepage is low. The tree above and around the site are standing straight which shows the site is stable. New constructions are under progress near the proposed site. The area receives high rainfall during monsoon and also two or three natural springs are notices in the east downhill slopes, which are very active during the monsoon season, which indicate that some weak zone or detachment surface is near which need to construct the house with latest techniques, scientific and technically sound craftsmanship.

RECOMMENDATIONS:

1. Inclined retaining wall at the north-western backside with depth of foundation more than the foundation depth of the house, with provisions of weep holes and sufficient gap of about 2-3feet in between the backside retaining wall and the proposed construction should be constructed. And also, proper drainage system between the retaining wall and the wall of house should be developed.
2. The foundation depth of the houses must be as per the compactness of the overburden material in the proposed site.
3. Massive plantation of trees, bushes and grasses which can hold the soil mass and retain the debris with dense and long rooted, wide leafed flora must be done to protect the soil erosion and minimize the surface erosion of sub-surface rock..
4. The soakpits and toilet foundations must be quiet away from the house so that the foundations are not directly affected from subsidence due to excessive seepage and differential settlement.
5. The premises of the house must be made 'pukka' in order to avoid excessive seepage of the surface water.
6. Inclined retaining wall at the toe of the proposed site with provision of weep holes at specific distance should be constructed.
7. Framed structure with light roof must be constructed as the area falls in the earthquake zone IV, so it is essential that the house must be constructed with latest earthquake resistive techniques.

CONCLUSION:

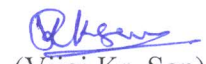
Prima-facie, presently the proposed site of Shri. Badri Singh S/o Shri. Kewal Singh is geologically feasible for the proposed construction, only if, the above mentioned recommendations will be followed strictly, otherwise, in its contravention; geologically suitability will be deemed annulled.


(Shashank Sharma)

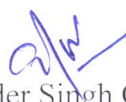
Consultant Associate Geologist

Date:

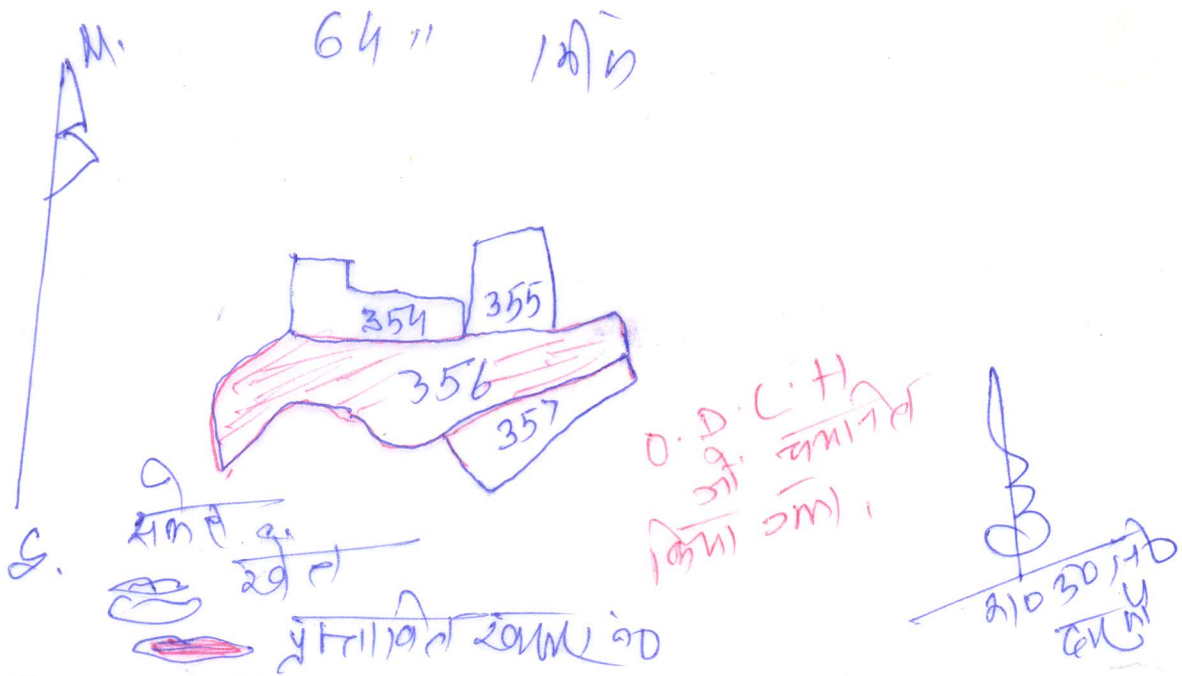
Place: Camp Uttarkashi


(Vijai Kr. Sen)

Consultant Geologist


(Dipender Singh Chand)
Assistant Geologist
Mob: 8192802331
Email id: agddn-dgm-uk@nic.in

बबरा ग्राम कानगील को पुनः विभाजित किया



बबरा ग्राम कानगील की गुरसती तहसील-ककोर का अहमक

बबरा नम्बर	वक्का	खाता नं०	नाम वामिधर
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