

**RECONNAISSANCE GEOLOGICAL REPORT OF PROPOSED SITE OF SHRI
UMDAS S/o SHRI INDRASUKH FOR THE CONSTRUCTION OF OWNER DRIVEN
CONSTRUCTION FOR HOUSING (ODCH)
TOK GOSADHA, VILLAGE SEWA, TEHSIL- MORI- DISTRICT UTTARKASHI,
UTTARAKHAND
KHASARA No. – 995 & AREA – 0.015 ha.**

Date of Inspection: 15/01/14

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 Jaipal Singh, Homeguard. It is 32Km approx from Tehsil Headquarter Mori, Uttarkashi, Uttarakhand and the site is 8Km approx from Naitwad-Doni motar marg through Dhaula-Sewa bridle path. It falls on coordinate – N 31^o 10'23" E 78^o 04'43.1" El. 1966m. The site is in Tok Gosadha of village Sewa, which is least populated, in the right bank of Rupin river which is flowing in west to east direction at 800m horizontal distance and 500-600m vertical distance.

The proposed site is on colluvial overburden material varying in thickness range from 1-2m approx at places, man-made cultivated terraces are present, is an old rock slide deposit. The uphill slope is 35^o-40^o and the downhill slope is 40^o-45^o sloping in north direction. Around the proposed site location least mix vegetation of Banjh, Chulu, etc., is present at about 40-45m approx in uphill side.



Close view of the proposed site

The proposed site is on colluvial overburden material thus no insitu rock is found but a few boulders varying in size range from 0.5m to 3m approx are found embedded in the

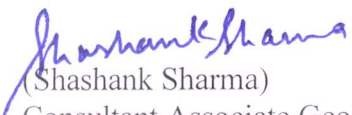
blackish soil with fragments of quartz and gneiss. The soil is consolidated; the rate of infiltration is low making the soil water saturation low. At the proposed site location the water seepage is low. The trees at the uphill slopes are standing straight.

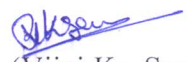
RECOMMENDATIONS:

1. Inclined retaining wall of 2m approx height and 3m approx length at the southern backside boundary and also in the northern toe boundary of the site of 3m approx length, 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 surface drainage should be properly planned through lined drain/pipe, so both rain water as well as waste water from the existing houses to be release safe place in west direction along a channel.
3. The foundation depth of the houses must be as per the compactness of the overburden material at the proposed site.
4. Framed structure with deep column and 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.
5. The massive boulders which can be lifted manually should be removed from the proposed site.
6. 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 in the southern uphill side to protect the soil erosion and minimize the surface erosion of sub-surface rock.
7. The soak pits and toilet foundations must be quiet away in west side from the house so that the foundations are not directly affected from subsidence due to excessive seepage.
8. The premises of house must be made 'pukka' in order to avoid excessive seepage of the surface water.

CONCLUSION:

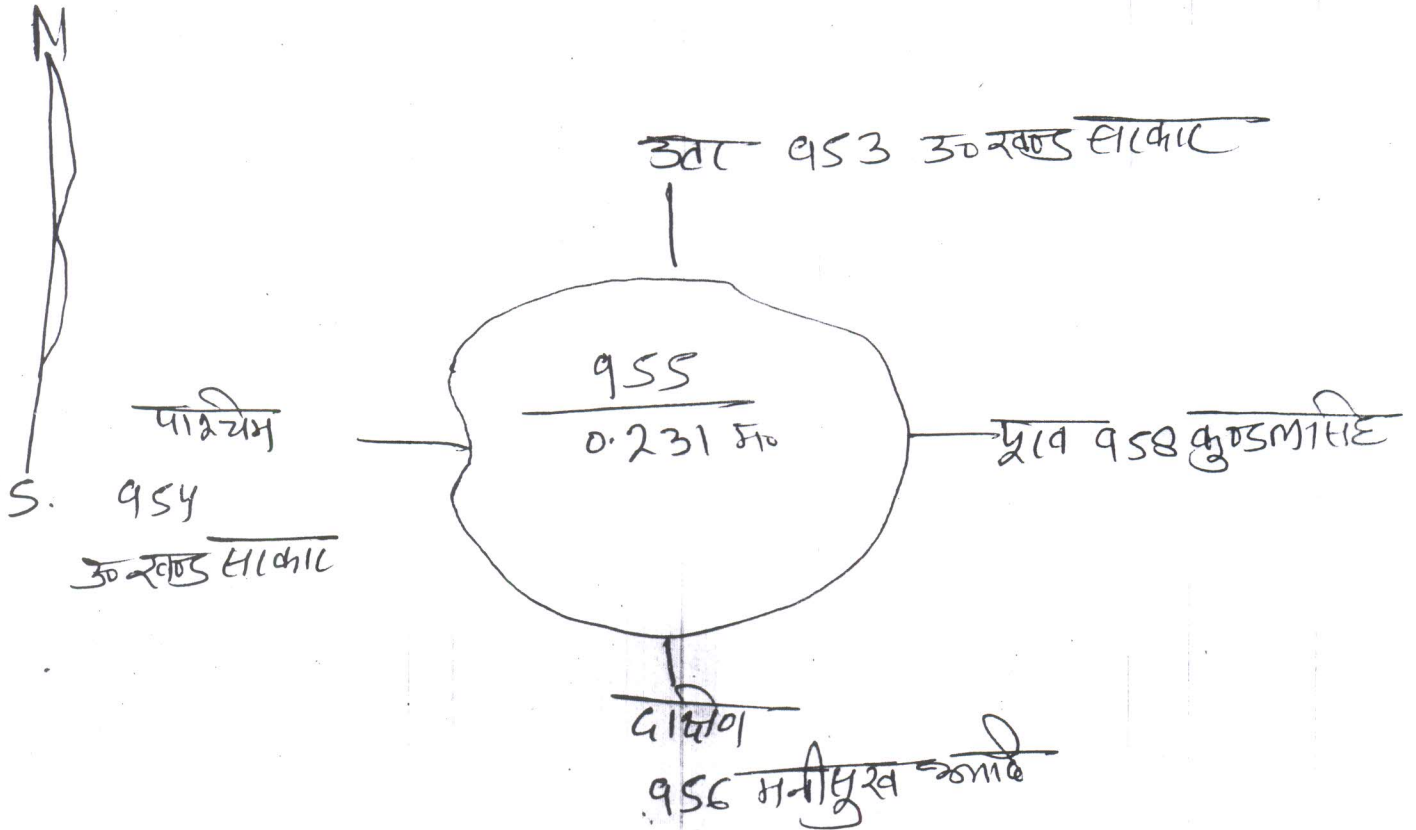
Prima-facie, presently, the proposed site of Shri Umdas S/o Shri Indrasukh is geologically feasible for the proposed construction, only if, the above mentioned recommendations will be followed strictly, otherwise, in their contravention; geologically suitability will be deemed annulled.


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हसीम मोदी के ग्राम सेवा में वैश्वी आपदा के कारण पूर्ण रूप से क्षतिग्रस्त भवन के कारण अपने निजी कृषि पट बनाये जाने वाले प्रभावित व्यक्ति उमदास के भवन का नजदी नम्बरा खसला नं० १५५ खसबा ०.२३१ मं०



खसला नं० १५५ ख की चौदवी निम्न प्रकार है

- ① पूरव में खसला नं० १५८ कुण्डमासिह
- ② पाश्चिम में खसला नं० १५४ उतराखण्ड साकाल
- ③ उतरा में खसला नं० १५३ उतराखण्ड साकाल
- ④ दक्षिण में खसला नं० १५६ मनीमुख गाँव के खेत है

[Signature]
R.S.I. १०/६

खसला		
खसला	कुल खसबा	प्रस्तावित खसबा
१५५ मं०	०.२३१	०.०१५ है .