

**RECONNAISSANCE GEOLOGICAL REPORT OF PROPOSED SITE OF SHRI NARENDRA SINGH S/o SHRI RATAN SINGH FOR THE CONSTRUCTION OF OWNER DRIVEN CONSTRUCTION FOR HOUSING (ODCH) VILLAGE PUJELI, TEHSIL- MORI- DISTRICT UTTARKASHI, UTTARAKHAND**  
**KHASARA No. – 464 & AREA – 0.020 ha.**

**Date of Inspection: 16/01/14**

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 10<sup>th</sup>December 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 27Km approx from Tehsil Headquarter Mori, Uttarkashi, Uttarakhand and the site is 200m approx from Naitwad-Bhitri motar marg through Pujeli village bridge path. It falls on coordinate – N 31° 06' 19.01" E 78° 05' 19.01" El. 1650m. The site is in village Pujeli, which is moderately populated. In north direction w.r.t. the site Dewani Khadd is present at about 200m approx 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 old rock fall. The uphill slope is 35°-38° and the downhill slope is 40°-45° sloping in SW direction. Around the proposed site location least mix vegetation of Banjh, Chulu, etc., is present.



**Close view of the proposed site**

The proposed site is on colluvial overburden material thus no insitu rock is found but a few boulders of granite gneiss varying in size range from 1m to 5m approx are found embedded in the blackish brown soil matrix with fragments of quartz of size 0.5-3cm. The soil is consolidated; the rate of infiltration is medium making the soil water saturation

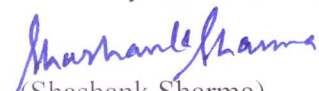
medium. At the proposed site location the water seepage is low. The trees at the uphill slopes are standing straight and a new construction is already present in south direction.

### RECOMMENDATIONS:

1. Inclined retaining wall of 2m approx height and 3m approx length at the NE backside boundary and also in the SW & western 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. If possible, the massive boulders which can be lifted manually should be removed from the back side of 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 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 Narendra Singh S/o Shri Ratan Singh 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.

  
(Shashank Sharma)

Consultant Associate Geologist

Place: Camp Uttarkashi



(Vijai Kr. Sen)

Consultant Geologist



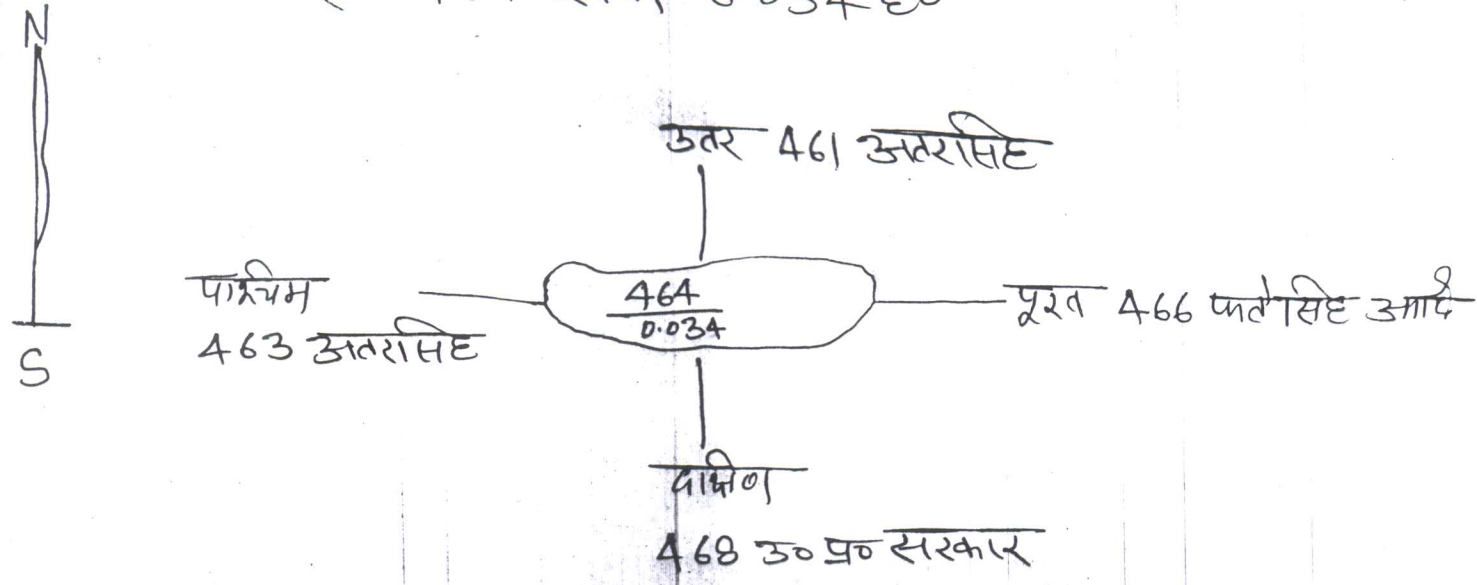
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जिले मोरी के ग्राम पुजेली में देवी आपदा के कारण पूर्ण से क्षतिग्रस्त भवन के कारण अपने निर्जी भूमि पर वना के वाले अभक्ति व्यक्ति नरेन्द्र सिंह के भवन का नजदीक नम्बरा व खसरा 464 खवा 0.034 हे



खण्ड नं	खवा	खसरा	अवकाशित खवा
464-अ	0.034		0.020

खसरा नं 464 की चौदवी निम्न प्रकार है

- (1) पूरव में खसरा नं 466 पतेशिह आरिह
- (2) पश्चिम में खसरा नं 463 अतरासिह
- (3) उत्तर में खसरा नं 461 अतरासिह
- (4) दक्षिण में खसरा नं 468 ठण्डा प्रण सरकार

R.S.I.

R.A.M.