

RECONNAISSANCE GEOLOGICAL REPORT OF PROPOSED SITE OF SHRI SURESH CHAUHAN S/O SHRI PREM SINGH FOR THE CONSTRUCTION OF OWNER DRIVEN CONSTRUCTION HOUSING (ODCH) VILLAGE ZAMAK, PATTI- NAALKATHOON, TEHSIL- BHATWARI- DISTRICT UTTARKASHI, UTTARAKHAND
KHASARA NO – 1288 & AREA – 0.034 ha

Date of Inspection: 12/12/13

INTRODUCTION:

In a 'World Bank' funded programme, Government of Uttarakhand has consummate teams of undersigned for geological studies in proposed site 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.

In the above mentioned questioned area, the reconnaissance geological investigation was carried out in the presence and co-operation of Shri Subodh Singh Rana, Revenue Sub-Inspector, Maneri for proposed site of Shri Sanjay, Pankaj S/o Shri Dilip Singh, Village Zamak, Tehsil- Bhatwari, Khasara No- 1288, Area-0.034 ha. The site is 15km approximately from District Headquarter Uttarkashi, Uttarakhand and site is approximately 150 m ahead on the Zamak Road. It falls on coordinate – N 30°44.120' E 78°31.652' elevation 4488 feet. The site is on the left bank of river Bhagirathi and the vertical height from the Maneri Reservoir is approx 200-250 m in North direction. The site is highly populated.

GEOMORPHOLOGICAL OBSERVATION OF THE AREA:

The proposed site is on the left bank of the river Bhagirathi in the Zamak village. There is Maneri reservoir in the downhill direction and the downhill slope is 34°-36° approx in North direction. There is a 'Zamak Gaad' in N 170° S 350° direction approx 600-800 m away from the proposed site. The land is consolidated around the proposed site. The vegetation is less around the site.

GEOLOGICAL OBSERVATION OF THE AREA:

Regional Geology

Uttarkashi valley exhibits characteristic rugged topography of the Lesser Himalayan terrain. The ground elevations generally vary between 1150m to 2000m above msl. The hill slopes in the area are generally observed to comprise of rocky outcrops, rocky cliffs and mantle of colluviums. The hill slopes in the area is generally moderately steep (25° - 35°) to steep (36° - 45°) while few escarpments or cliffs (> 50°) are also present.

Uttarkashi town is located in the Lesser Himalayan geotectonic block and it is bound by two major Thrust fault i.e. Main Central Thrust (MCT) and Srinagar Thrust (ST). The MCT can be traced to the northeast of Uttarkashi while the Srinagar Thrust lies in the southwest. Phyllite, metabasic and quartzite of Garhwal Group are exposed around the area.

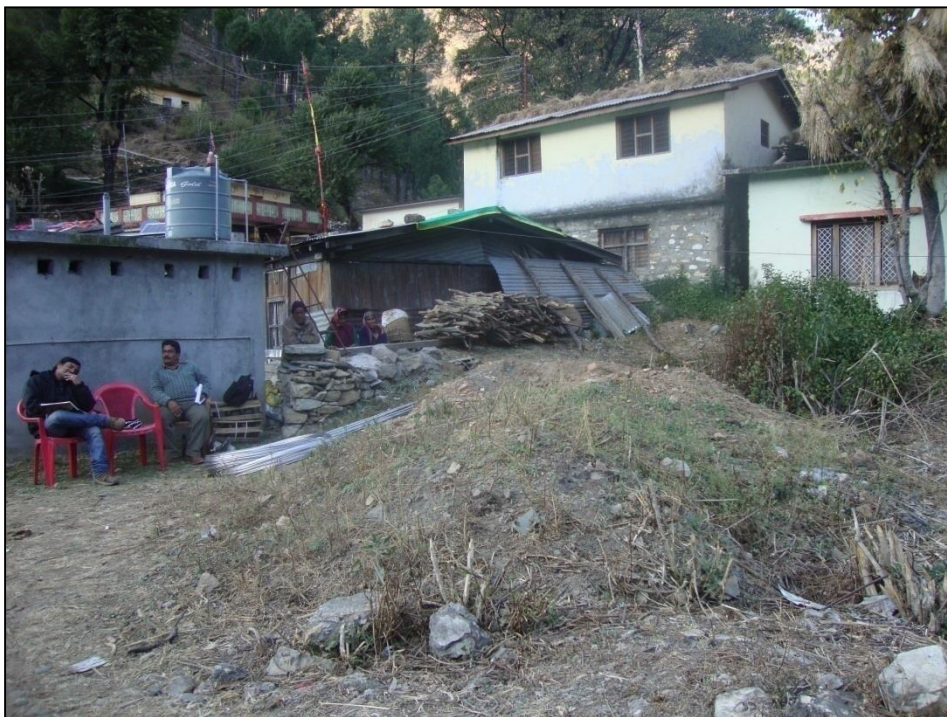
Geologically, the area falls in the region of rocks of Netala Formation of Lesser Himalayan terrain. Quartzite with bands of limestone, phyllite and slate is fine grained, compact, massive in general, but jointed and fractured at places. The slope of the hill ranges between 25°-30° towards eastern direction. At few places insitu rocks are exposed in the plot whereas maximum plot area is covered with overburden. This overburden material comprising soil, hillwash and debris of varying size consisting of brown colored, fine to medium grained silty to gravely matrix with angular fragments of dolomitic limestone and a few brown fine grained shale etc., in which percentage of the angular fragments is more than the matrix. The major joint trends 240°/30° NW (Oblique to foliation plane) whereas minor joint trends 265°/40° NW.

Geology of Site

In the proposed site no in-situ rocks are found. The site is highly stable with consolidated landmass.

GEOTECHNICAL OBSERVATION OF THE AREA:

No landslide is there in the vicinity of the site. At the proposed site the soil is alluvial type and thickness of the soil is very less. There is no plot boundary and around the site already many constructions are present. The site shows high stability for the sustainability of the proposed house.




A close view of the proposed site for construction

CONDITIONS AND RECOMMENDATIONS:

1. At the proposed site, the land is compact and highly stable.
2. No retaining wall is required for the site.
3. The foundation with depth as per the overburden's compactness is recommended to stabilize the site.
4. The back, sides and premises of the proposed house to be made cemented for avoiding water seepage and proper drainage system for discharge of rain water from the uphill side as well as the household water is highly recommended.
5. Framed structure must be constructed as the area falls in the earthquake zone IV, and it is essential that the house must be constructed with latest earthquake resistive techniques.


CONCLUSION:

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


(Anupriya Shah)
Consultant Associate
Geologist


(Vijai Kr. Sen)
Consultant Geologist

Date: 17th Dec 2013
Place: Uttarkashi


(Dipender Singh Chand)
Assistant Geologist



Handwritten note on the left edge, oriented vertically: "The old stone house of the ... for ..."

Handwritten note in the middle left: "The ... street"

Handwritten notes and symbols at the bottom right, including a red oval and the numbers "1280" and "1291" circled.

Small handwritten mark or symbol at the bottom center.

