

GEOLOGICAL SURVEY TO DETERMINE THE CARRYING/ LOAD BEARING CAPACITY OF THE LAWRENCE SCHOOL, SANAWAR

Introduction

The Lawrence School, Sanawar is ranked number 1 vintage legacy co-ed boarding Schools in India. Established in 1847, its history, influence, and wealth have made it one of the most prestigious and oldest schools in Asia.

It is located in the Kasauli Hills, District Solan, Himachal Pradesh, India. Sanawar is about an hour's drive from Chandigarh. The school, founded by Sir Henry Lawrence and his wife Honoria, is one of the oldest surviving boarding schools. As the school is located in Sanawar, the school is popularly called "Sanawar". It is situated at a height of 1,750 meters and spread over an area of 139 acres, heavily forested with pine, deodar and other conifer trees.

To keep pace with changes and rapid developments taking place, the School requires a refocus and new infrastructural development of the Campus. For conserving heritage buildings and up gradation of play fields, accommodations, roads, parking, water harvesting, renewable energy, green sustainable campus and other assets required major repairs, restoration and up gradation.

To implement the Master Plan, a Geological Survey with the feasibility report that deals with the history of the earth and its life especially as recorded in rocks will be required; it is also required to determine the technicalities and feasibility report on the viability of the infrastructural development plans.

Scope of work

1. The survey is intended to determine the carrying capacity/ load bearing capacity of the campus. Therefore, that is to be submitted after considering all factors including Geological Survey.
2. To examine the composition, property, formation, and changes that geological formations undergo naturally or when subjected to certain forces, pressure or loading conditions. The information can be obtained by visual survey, landform study, boreholes, remote sensing, ground penetrating radar (GPR), aerial survey, global positioning system (GPS), and laser scanners. The obtained material can be further re-examined in the lab conducting laboratory tests.
3. To gather data on the behaviors of soil and rocks, assessing factors like slope stability and the potential risk of landslides, avalanches or falling rocks. This information helps determine the makeup and design of a building's foundation and how it contributes to structural stability.

4. To gather the data for restraining structures, to control sliding by increasing the resistance to movement this includes retaining walls, cribs, gabions, and buttresses. The ability of a retaining wall to resist shearing action, overturning and sliding on or below its base, must be considered for slope control.
5. To understand the behavior, the composition of flowing underground water. How they, the soil will be aggressive to concrete iron products. After a thorough study it is possible to give recommendations for the selection of the most appropriate Foundation.
6. Identification of the strength parameters of rocks, the ability to deformation, for loads. Projected change in these characteristics at some time in the future.
7. The geological map should represent a spatial representation showing the distribution of rock units and structures across a region. The map showing the occurrence of structural features across a region, the distribution of rock units, and their type and age relationship would be required and it is expected to show all the rock types of a region, their structures, and geological formations. All these features are to be super imposed over a topographic map or a base map of The Lawrence School, Sanawar.