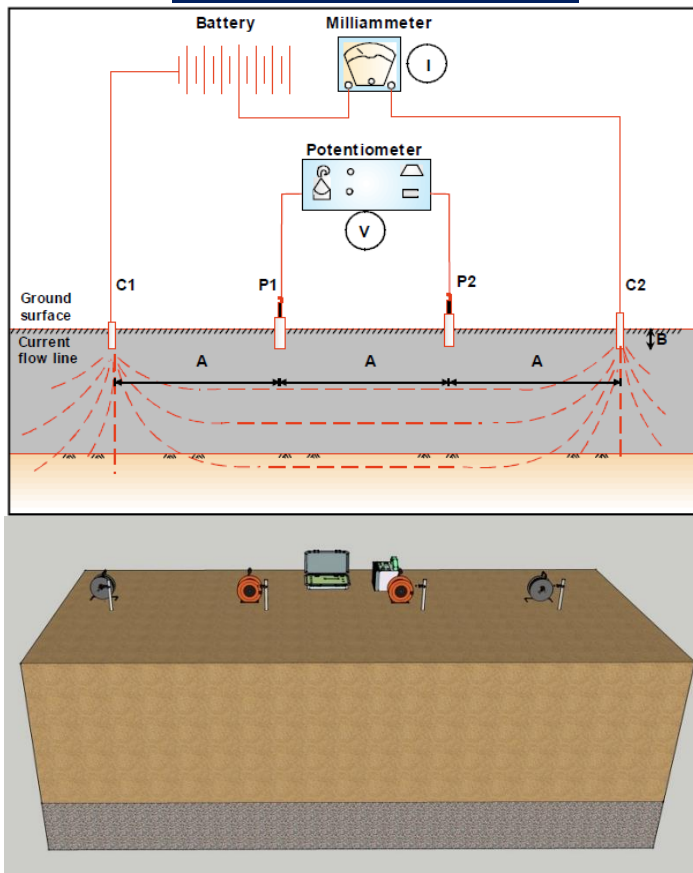


Schematic of Soil Resistivity



Soil resistivity, also known as electrical resistivity, is an in-situ to determine the resistivity of the soil to be used in the design of underground system by Wenner Configuration Method.

Soil resistivity is carried out in accordance with ASTM G57. A battery as energy source, a milli-ammeter, a potentiometer and the electrodes are required to conduct this test.

Four electrodes are placed with equal spacing in a straight line and inserted in the soil to a depth of not exceeding 5% of minimum distance between the electrodes. The depth of electrical field between the two electrodes depends upon the spacing between the electrodes, greater the spacing greater is the depth of the electrical field. Therefore, depending on the depth of interest the spacing between the electrodes is adjusted accordingly. Different types of connections layout are setup depending upon the type of instrument used. Typically, the outer two (2) electrodes are connected with milliammeter and inner two (2) electrodes are connected with potentiometer. The apparent resistivity is determined based on the spacing of the electrodes, the current flow and the voltage drop.

The subsurface condition of the testing area can be roughly estimated by using the apparent resistivity.

Field Tests



Results

