In-Situ Site Testing

Ian Farmer Associates provide a full suite of in-situ testing as a stand-alone service or as part of a wider investigation all backed by comprehensive technical and analytical support:

All the in-situ testing detailed below is carried out in-accordance with BS 1377: Part 9

- Plate Load Testing - (determination of strength and vertical deformation)
- California Bearing Ratio - (Verify pavement design or assist in the design)
- Nuclear Density Gauge Testing – (For compliance or comparative in-situ density and moisture content)
- Large Sand Replacement Testing
- Small Sand Replacement Testing
- Core Cutter

Plate Load Testing

The plate loading test are particularly suited for the design of foundations or footings for buildings where it is considered that the mass characteristics of the soil would differ significantly from the results of laboratory tests, or where more precise values of settlement are required. These can also be used in verifying bearing capacity for crane and pile pads.

California Bearing Ratio (CBR)

The in-situ CBR is generally concerned only with pavement design and the control of sub-grade construction of soils with a maximum particle size not exceeding 20mm. If material exceeds 20mm then the above plate load test can be used and the CBR value calculated.

Nuclear Density Gauge Testing (NDG)

The in-situ determination of the density and moisture content of natural or compacted fine, medium, and coarse-grained soils by means of a nuclear gauge designed to operate on the ground surface.

The standard means of measuring density and moisture content with nuclear gauges have been taken together because the gauges combine both facilities. The nuclear density gauges provide a rapid, non-destructive technique for determining in-situ bulk and dry density as well as the moisture content.

Sand Replacement (Small and Large)

The in-situ determination of the density of natural or compacted soil containing fine to coarse-grained particles. The large is an alternative to that test for fine and medium-grained soils and should be used instead of that test for layers exceeding 150mm, but not exceeding 250mm in thickness.

Core Cutter

This covers the determination of the density of natural or compacted soil in-situ. This method may be less accurate than the sand replacement test and is not recommended unless speed is essential, or unless the soil is well compacted but sufficiently soft for the cutter to be driven easily.