Aim

To provide the opportunity to explore the procedures and practice associated with site and soil investigation used to determine the most appropriate foundation type for the superstructure of a proposed building.

Scenario

You work as a technician in a multi-disciplinary practice that is in the process of designing a new ten storey office building for a private company. The proposed building is to be located on the outskirts of London, in North-West Kent within the alluvial flood plain of a local river.You have been asked to assist the geotechnical engineers by carrying out an assessment of the procedures associated with gathering information for the design of the substructures.

Task

You are to prepare a professional **report,** supported by copious, appropriate illustrations (photographs, charts, diagrams etc.) outlining the options available for the foundations of the superstructure proposed above, in conjunction with the relevant ground conditions ascertained by a site and soil investigation. Your report should make reference to:-

* An examination of the site and soil investigation processes for the design of foundations of medium to high-rise buildings;
* An evaluation and justification for the soil and ground investigations to be carried out for the specified scenario, together with the reasons and the expected decisions based on the outcome of the investigations;
* All types of foundation solutions available (ie Strip, pad, raft and piled foundations), together with an evaluation and justification for the foundations and their suitability according to the requirements of the superstructure and assumed ground conditions;
* An examination of the design process involved for foundation design for the solutions arrived at (as specified in the brief);
* An evaluation of the options and validation of the optimum solutions preferred for the application.