

RESIDENTIAL FOUNDATION INVESTIGATIONS

Gandy and Roberts undertakes AS2870 soil investigations for residential projects (and limited scope investigations for larger projects). If this service is included within the scope for your project, there is some important information you need to be aware of.

We are not geotechnical engineers or geologists. Our investigations are limited to gathering and reporting information that is directly relevant to our fields of expertise (structural and civil engineering). We do not assess slope stability, ground water or soil contamination for example. The most relevant of these for residential projects is generally slope stability, however after checking the topography, we will inform you if this is likely to be an issue prior to undertaking the fieldwork. At this stage you may choose to engage a geotechnical engineer or geologist to undertake the entire investigation or just the slope stability issue.

Our field investigation methodology involves drilling typically between 2 and 4 (preferably 4) 70mm auger holes in the general vicinity of the house site. We use a mechanical auger and/or Eziprobe to drill and sample the soil profile for the majority of sites. This equipment uses a K4 Dingo as its power plant, which is towed on a trailer from site to site. To use the Dingo we need safe vehicle access, and a relatively level platform to set up and operate it. If this isn't possible, we will use a hand auger to drill the same number of holes. Clearly the hand auger does not have the power or drilling torque of a mechanical auger, and is less able to penetrate hard layers such as gravel and cemented sand. Despite this it is still a useful and valid investigation method.

The most important point to be aware of is that a foundation investigation is based on a finite number of small test holes, and conclusions can only be drawn or inferred from what is found. Clearly this does not provide anywhere near as

much information as a bulk cut, or a series of trenches dug during construction, and from time to time foundation investigations are shown to be incorrect, or misleading at that stage. If this occurs, we will re-investigate, and if we are in control of the structural design, we will redo the work at no additional cost. We cannot, however, accept responsibility for consequential loss, damage or increased construction costs associated with the redesign. We ask that we are notified immediately that it becomes obvious that there is a problem with the report so that we can assist with providing a solution.

If this represents an unacceptable risk, we are able to discuss alternative approaches such as excavator or backhoe test pitting. Whilst there is additional cost, time and site disturbance involved, it may be appropriate under some circumstances. To that end, it is important that we understand what your project involves, as this may affect the approach taken. If, for example, our investigation is to be used to decide whether or not to purchase a block of land, we would recommend the lowest risk approach such as that outlined above.

To summarise, the purpose of the exercise is to determine what soil conditions exist at your building site, and to help manage the risk of future footing related problems through informed and appropriate design. Whilst we seek to learn as much as possible with our investigation, we cannot guarantee complete accuracy in all cases for the reasons already discussed. We recommend that an appropriate contingency is made for unexpected in-ground conditions, and advise that whether or not our investigation is able to accurately determine them, they are a pre-existing condition, and an appropriate design response is unavoidable. Whilst we understand that it is not ideal to have to change the design late in the building process, or to bear subsequent additional construction costs, it is sometimes necessary.