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THE STOPDIGGING! GROUND SCREW FOUNDATION SYSTEM

THE DESIGN PROCESS

In NZ, a foundation design is typically described by the foundation material and the dimensions associated with their installation, e.g. dimension of footing, volume of concrete etc. Underpinning the foundation design is the pre-established knowledge of the soil capacity, and the calculated design compressive and lateral loads required to meet all applicable loads.

The STOPDIGGING! Ground Screw Foundation System (the system) is different; footing dimension, volume of concrete are not relevant. The key information are the design compressive and lateral loads required to meet all applicable loads. The on-site static pile testing then establishes the capacity of the soil, and therefore confirms that the specified design loads can be achieved with the installation of the ground screw. The on-site testing is conservative, additional redundancy is ensured by testing the soil capacity to a greater compressive and lateral load (the test load).

Put another way, the STOPDIGGING! Ground Screw Foundation System provides tested assurance of the performance of the foundation system.

THE STOPDIGGING! GROUND SCREW FOUNDATION SYSTEM CODEMARK

SCOPE

The STOPDIGGING! Ground Screw Foundation system CodeMark certifies the ground screw and the foundation system; the method of design and installation.

CodeMark covers use of the system,

- for all buildings, and
- located in all exposure zones; where situated within 500 m of the sea including harbours, or 100 m from tidal estuaries or sheltered inlets then the ground screws must be protected by enclosing the space or applying a protective coating.

There are two design options.

1. Relying on the pre-engineered (design & test) load tables for building within the design scope of NZS 3604 or the NASH standard for lightweight steel framing. The placement of ground screws follows typical NZS 3604 placement.
2. Engineer calculation of design and test loads and placement of ground screws.

Installation is the same irrespective of design method.

CONDITIONS

There are three simple conditions.

1. Requirement for a geotechnical report

Since the installation includes site specific testing of the ground capacity, a geotechnical assessment is only required if:

- the on-site static pile test does not confirm use of the foundation system, or
- if the site is subject to land subsidence, liquefaction, or other geotechnical effect.

2. Design declaration

Where a building consent application is lodged, a signed and completed Design Declaration must be supplied with a copy of the Certificate of Conformity, and the design & test loads & ground screw foundation plan.

3. Installation declaration

A signed and completed Installation Declaration, which incorporates the installation record, must be provided when an application for CCC is made. Producer statements or council inspections are not required.

FOR MORE INFORMATION

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