

Purpose

This guide sets out the design steps for a design incorporating the Wildboar Concrete Free Footing System (Wildboar System).

This guide is for competent designers.

While all reasonable efforts are made to ensure the accuracy of the information provided, please note information is subject to change and this should be considered a guide only.

The Wildboar System

The Wildboar System is a proprietary, engineered alternative to standard NZS 3604-type timber-pile footings and is designed to withstand applied loads associated with residential construction.

The Wildboar System is also suitable for ancillary buildings or structures such as playground equipment, shade structures, hoardings, fencing, sign and street lighting posts, ground-mounted solar PV-panel racking systems and other construction where ground resistance is required.

Design steps for the designer/specifier

Wildboar specifically designs the Wildboar System for each application. This means it will be designed according to the site's soil conditions and structural design loads.

STEP 1

ESTABLISH GEOTECHNICAL CONDITIONS AND RECOMMENDATIONS

Soil conditions are to be established by geotechnical investigation.

A geotechnical engineer must establish, by investigation, ground conditions specific to the allotment and issue a report. If historical geotechnical information applying to the allotment is available, it may be used to establish geotechnical conditions instead of carrying out a new investigation.

If the proposed work does not require building consent, confirmation of geotechnical conditions is still recommended, but a conservative design can be created for the project.

STEP 2

CONFIRM SCOPE

Confirm the proposed use is within the scope and limitations of the pass™ for the location and the type of superstructure proposed.

STEP 3

DESIGN THE SUPERSTRUCTURE

NZS 3604-type building

Design the superstructure in accordance with NZS 3604:2011 *Timber-framed buildings*, NASH Standard Parts 1 and 2:2019, NZS 3603:1993 *Timber structures standard*, or AS/NZS 1170:0:2002 *Structural design actions - Part 0: General principles*.

The building must be designed with a UDL of 1.5 kPa or a live load of 2 kPa in accordance with Table 8.2 of NZS 3604:2011 for SG8, where used in wall framing. Where greater loads are required up to a maximum floor load of 3 kPa, refer to Section 14 of NZS 3604:2011 for soil classification and loading tables.



The subfloor construction must be in accordance with Section 6 *Subfloor Framing* of NZS 3604:2011.

Where an alternative design is to be considered (i.e., outside the scope of NZS 3604:2011 and NASH Standard Parts 1 and 2:2019), specific engineering design in accordance with AS/NZS 1170.0:2002 can be used.

Determine the building weight and calculate the subfloor bracing demand in accordance with Section 5 *Bracing Design* of NZS 3604:2011 and identify all point load and uplift requirements.

Ancillary building

All ancillary buildings (i.e., without linings) are subject to specific structural design where required to meet the NZ Building Code.

STEP 4 WILDBOAR SYSTEM DESIGN BY WILDBOAR OR OTHER ACCREDITED ENGINEER

Provide Wildboar with the geotechnical information and superstructure design for the design of the Wildboar System.

The footings are specifically designed and specified by Wildboar for each application as follows:

- where building consent is required for installing the Wildboar System, the system is subject to specific design by a structural engineer using the Wildboar System Design software based on the findings of the geotechnical report
- where building consent is not required to install the Wildboar System, load capacities may be established using the Wildboar System capacity tables, and the assumptions confirmed by a structural engineer.

The Wildboar System will be selected and specified in accordance with the engineer's specific design, and a Producer Statement PS1 will be provided for the design.

STEP 5 DESIGN THE CONNECTIONS

Select and confirm the required Wildboar pile cap and bracing system based on the available options. Refer to Wildboar, wildboar.nz/products.

STEP 6 SPECIFY MATERIALS OR PROTECTION

When used in exposure zone D, the above-ground portion of the Wildboar System must have added protection. Select the protection to be used. This can be a coating, enclosure within the substructure envelope, or by selecting stainless steel 316 components.

STEP 7 QUALITY CHECK

Confirm all relevant design requirements are met.

Complete the Specification for the Wildboar System.

Collate the following documents and include them in the building consent application:

- the Wildboar Concrete Free Footing System pass™
- the Wildboar Concrete Free Footing System Specification
- the Producer Statement PS1 provided by Wildboar.