



## Determination 2018/013

# Regarding the authority's decision to require a building consent for the installation of a frost fan at 255 Kings Road, Waipara

### Summary

This determination considers whether a frost fan falls within the definition of “building”, and if so whether building consent is required for its installation or it is exempt under Schedule 1 of the Building Act.

### 1. The matter to be determined

1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004<sup>1</sup> (“the Act”) made under due authorisation by me, Katie Gordon, Manager Determinations, Ministry of Business, Innovation and Employment (“the Ministry”), for and on behalf of the Chief Executive of the Ministry.

1.2 The parties to the determination are:

- the owner of the property that the building work relates to, The Holding Paddock Ltd, which is the applicant in the current determination (“the applicant”), acting through the company responsible for the building work as an agent (“the agent”)
- Hurunui District Council carrying out its duties and functions as a territorial authority or a building consent authority (“the authority”).

1.3 This determination arises from the authority's decision to require the applicant to apply for a building consent for the installation of a frost fan on the grounds that building consent is required under the Act.

1.4 Accordingly, the matter to be determined<sup>2</sup> is the authority's exercise of its powers of decision in requiring a building consent for the installation of a “frost fan”. In this determination I use the term “frost fan” as meaning the steel tower, fan and gearbox, the engine cabinet and controls, but not including the foundation pad.

1.5 In making this decision, I have considered the application, the submissions of the parties, and the other evidence in this matter. I have not considered any other aspects of the Act or Building Code beyond those required to decide on the matter to be determined.

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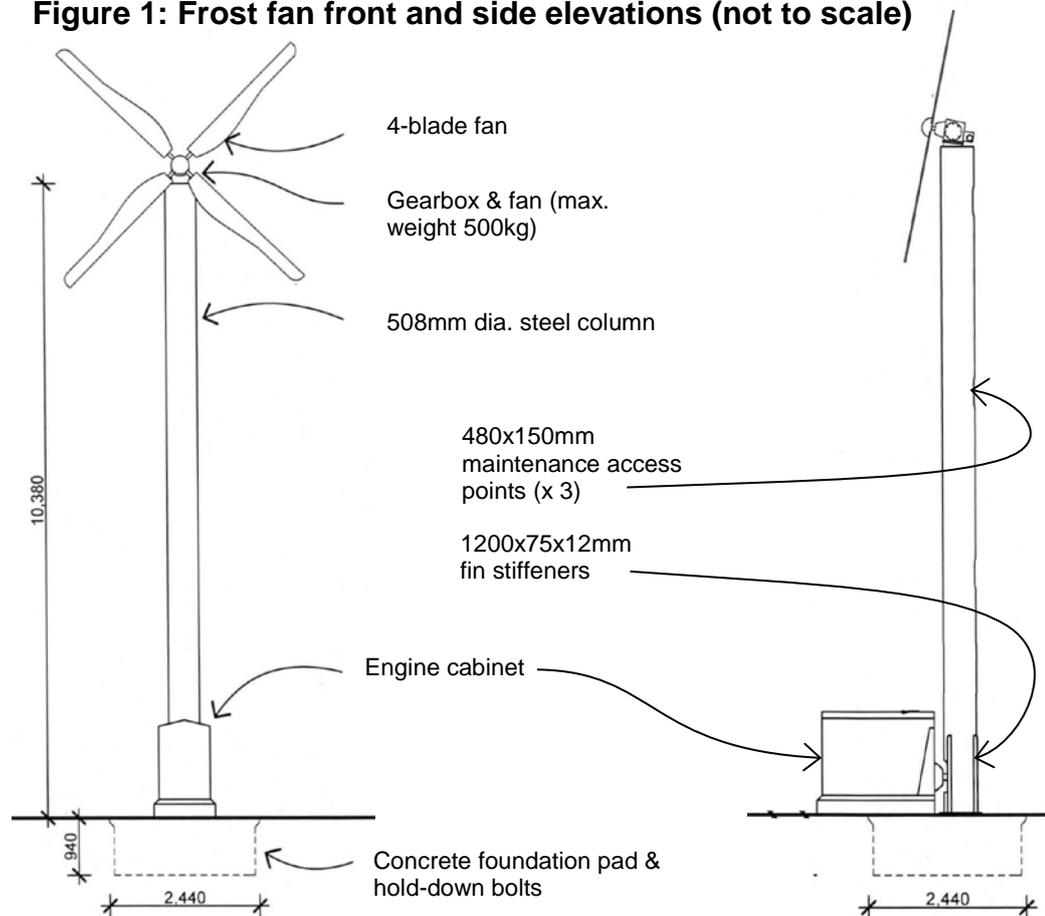
<sup>1</sup> The Building Act, Building Code, compliance documents, past determinations and guidance documents issued by the Ministry are all available at [www.building.govt.nz](http://www.building.govt.nz) or by contacting the Ministry on 0800 242 243.

<sup>2</sup> Under sections 177(1)(b) and 177(2)(a) of the Act.

## 2. The building work

- 2.1 The agent constructs and installs frost fans on rural properties (typically in vineyards) around New Zealand. The agent has been constructing this design of frost fan in New Zealand for over 15 years. The frost fan that has been installed on the applicant's property is one of the agent's 'standard design' frost fans.
- 2.2 The fan consists of a 508mm diameter steel column mounted on a 2.4x2.4m un-reinforced mass concrete foundation pad. The foundation pad sits level with the ground and is 940mm deep.
- 2.3 The steel column forms a 10.38m high tower. The tower encloses the vertical drive shaft, which is in three sections and attached to hanger bearing gussets that are welded in two places to the tower. There are inspection covers in the steel column to allow for servicing in situ.
- 2.4 The frost fan tower arrives on site complete, with the exception of the fan blades which are attached on site. The frost fans are then lifted into a vertical position and the base affixed to a 32mm thick steel baseplate, which is in turn fixed to the foundation using four hold-down bolts.
- 2.5 At the top of the tower is a rotation ring, which allows the fan to be turned 360 degrees, the rotation gearbox, a four-blade fan and associated gearbox.
- 2.6 At the base of the tower is a steel cabinet housing the diesel engine that drives the fan through the gear box. The engine cabinet also sits partially on the concrete foundation pad and is fixed to the foundation pad using hold-down bolts.

**Figure 1: Frost fan front and side elevations (not to scale)**



- 2.7 The gearbox, fan blades, and diesel engine are manufactured and supplied by a company other than the agent.
- 2.8 The frost fan's structural design has been tested by a firm of consulting engineers to *AS/NZ 1170: Structural Design Actions* (for its structural loadings), and the frost fan's members are designed to the materials design standard *NZS 3404:1997 Steel Structures Standard* and *NZS 3101: 2006 Concrete Structures Standard*. The engineers have issued a Producer Statement PS1 – Design in respect of the 'Structural engineering design of the Foundation and Column for the fan only'.
- 2.9 The site that the fan has been constructed on is level and approximately 126m from the nearest property boundary. The land is used as a vineyard and there are no other buildings or structures in the vicinity of the fan.

### 3. Background

- 3.1 In August 2017, the agent entered into email correspondence with the authority about whether or not a building consent was required to construct a frost fan on the applicant's property. The applicant had already obtained a resource consent for the fan.
- 3.2 The agent was of the view that the frost fan did not require building consent. The concrete foundation pad that the fan was to stand on was a "plinth", was unreinforced, and had been designed by a Chartered Professional Engineer who had issued a PS1, and the concrete pad would therefore be exempt under Schedule 1(40) of the Act. The fan to be installed on top of the foundation pad was farm equipment or machinery. The agent also noted it installed its fans nationwide and was not required to obtain a building consent in other districts.
- 3.3 The authority was of the view that building consent was required for the frost fan, because it came within the definition of a building in section 8 of the Act and was not covered by any of the Schedule 1 exemptions. The authority set out its position in an email dated 17 August 2017, as follows (emphasis is the authority's).

The definition of building in the act is not an exhaustive list, it sets out what **can be** defined as building. The definition states building is defined as

"In this Act, unless the context otherwise requires, building—

- (a) Means a temporary or permanent movable or immovable **structure** (including a structure intended for occupation by people, animals, machinery, or chattels);"

The term structure would include the frost fans, as they are a permanent immoveable structure.

[The authority sees] that the foundations for these are designed and covered by a PS1 by a CPEng, but as the exemption you refer to (number 40) refers to the plinth only that still leaves you with the structure of the fan itself, which requires consent.

- 3.4 The agent did not agree with this interpretation, and the authority advised the agent to obtain a determination from the Ministry on the matter.
- 3.5 The agent applied for a determination. However, due to time constraints on the proposed building work the agent decided to simultaneously apply for a building consent to ensure that the frost fan could be constructed during the summer. The applicant applied on 16 August 2017 for building consent to install the frost fan, and following a request for further information, the authority issued building consent No. 170422 on 15 September 2017.

- 3.6 On 20 September 2017, the Ministry wrote to the agent advising that the application was unable to be accepted in the manner presented at that time. However, the Ministry's letter also set out its view on some of the issues involved in the dispute, including whether frost fans were buildings under the Act, and whether they would be exempt from the need for a building consent under Schedule 1. A copy of this letter was sent to the authority.
- 3.7 Following receipt of this letter, the agent emailed the authority seeking to withdraw its applications for building consent on the grounds that none was required. However, the authority maintained its position that a consent was required, as 'both [section 9 of the Act] and the Schedule 1 exemptions are inconclusive when considering frost fans', and recommending that the agent proceed with its application for a determination 'to obtain a clear decision' on the matter.
- 3.8 Sometime during this period the agent constructed the consented frost fan, and on 9 October 2017, applied for a code compliance certificate for the work. On 24 October 2017, the authority wrote to the agent advising that a final inspection and 'electrical certificate' were required before the code compliance certificate could be issued.
- 3.9 A new application for determination was received by the Ministry on 22 November 2017.

#### **4. The parties' submissions**

- 4.1 In a submission with the application, the agent stated:
- We feel that a building consent is for the plinth only, which should be exempt as we have structural drawings and calculations...However [the authority is] calling a frost fan a building structure which is why they are requiring a building consent.
- We feel that a frost fan is a piece of farm machinery and not a structure as [the authority] refer to it. Marlborough District Council and Hastings District Council (who receive 90% of our consent applications) consider the frost fan to be a piece of farm machinery and do not require a building consent.
- 4.2 Copies of the following were provided with the application:
- structural drawings for the frost fan
  - structural design calculations for the frost fan
  - correspondence between the parties.
- 4.3 The authority made no submission in response to the application, but provided a copy of documents from its files relating to the application for a building consent and code compliance certificate.
- 4.4 A draft of the determination was issued to the parties on 18 January 2018.
- 4.5 The applicant and the authority both accepted the draft without further comment in responses received on 24 and 30 January 2018 respectively.

## 5. Discussion

### 5.1 General

5.1.1 The applicant has sought a determination about the authority's decision to require a building consent for the installation of a frost fan.

5.1.2 There are two components to the installation: the construction of the concrete foundation pad, and the subsequent erection of the frost fan and its operating machinery.

### 5.2 Is the frost fan a building?

5.2.1 There does not appear to be any dispute between the parties that the concrete foundation pad, taken in isolation, is building work that is exempt under section 41 of the Act from the requirement for a building consent because it falls under Schedule 1 clause 40:

#### 40 Plinths

Building work in connection with any plinth or similar foundation if the plinth or foundation supports plant, a tank, equipment, machinery, or any similar item.

5.2.2 The difficulty arises because the authority considers that the frost fan itself comes within the definition of a building in section 8 of the Act, as a permanent or immovable structure. Section 8 reads:

#### 8 Building: what it means and includes

- (1) In this Act, unless the context otherwise requires, **building**—
  - (a) means a temporary or permanent movable or immovable structure (including a structure intended for occupation by people, animals, machinery, or chattels); and...
  - (b) includes—
    - (i) a mechanical, electrical, or other system; ...
- (2) Subsection (1)(b)(i) only applies if—
  - (a) the mechanical, electrical, or other system is attached to the structure referred to in subsection (1)(a); and
  - (b) the system—
    - (i) is required by the building code; or
    - (ii) if installed, is required to comply with the building code.

5.2.3 Section 8(1)(b)(i) of the Act specifically brings mechanical, electrical and other systems within the definition of building in section 8(1)(a). Setting aside for the moment the question of exclusion from the definition of a building by way of section 9, the “building” in this case consists of the foundation pad which is a permanent structure and includes the attached frost fan which is a mechanical system attached to the building.

5.2.4 I have also considered whether the supporting structure of the frost fan, that is the steel column or “tower”, is a structure in itself or is a component part of a mechanical system. The steel column is not a separate building that houses the machinery. In this case, given the design of the frost fan described in paragraph 2, I am of the view that the steel column is an integral element of the machinery system and not a building in itself. The tower provides the framework or chassis for the mechanical drive system, linking the engine to the gearbox and fan, and it must be accessed to

maintain the mechanical systems within. I conclude therefore the frost fan including the supporting steel column is a mechanical system.

- 5.2.5 Section 8(2) is clear that not all such mechanical systems are included in the definition of a building, but only those systems that are attached to the structure and either required by the Building Code or, if installed, are required to comply with the Building Code.
- 5.2.6 To my mind, section 8(2)(b)(i) relates to mechanical and other systems that are required to be installed in or on buildings in order for the performance requirements of the Building Code to be met. Examples include the likes of lifts, fire alarm systems, and mechanical ventilation systems. Subsection (2)(b)(ii) relates to systems that once installed must meet performance requirements. For example, decorative electrical or mechanical features that aren't required for the purpose of achieving compliance of the building must still comply with relevant clauses of the Building Code.
- 5.2.7 I now turn to whether the frost fan is excluded by way of section 9 of the Act. Section 9 sets out a number of structures that are excluded from the definition of "building". The relevant subsection in the current case is subsection (c), which reads.

**9 Building: what it does not include**

In this Act, **building** does not include—

...

- (c) any of the following, whether or not incorporated within another structure:
- (i) ski tows;
  - (ii) other similar stand-alone machinery systems; or...

- 5.2.8 To my mind, a frost fan is very similar to a ski tow. Both are attached to a concrete (or other) foundation, and both operate as a 'stand-alone machinery system' with no other functional objective. Though people may be in the vicinity of the frost fan from time to time, it is not an occupied or manned structure, and this along with its location in this instance mean any failure of the structure is unlikely to endanger people or other property.
- 5.2.9 In this case I consider the frost fan, that is the machinery system but not the foundation pad to which it is attached, is a stand-alone machinery system that is similar to a ski tow and is therefore excluded from the definition of building under section 9(c).

**5.3 Schedule 1**

- 5.3.1 In case I have erred in my interpretation, I have also considered what the situation would be if the frost fan was indeed a building under section 8 and not excluded under section 9.
- 5.3.2 Schedule 1 sets out those categories or types of building work that are exempt from the need for a building consent, and as noted in paragraph 5.2.1 the foundation pad is exempt under clause 40.

5.3.3 Clause (4) concerns unoccupied detached buildings:

**4 Unoccupied detached buildings**

(1) Building work in connection with any detached building that—

- (a) houses fixed plant or machinery and under normal circumstances is entered only on intermittent occasions for the routine inspection and maintenance of that plant or machinery; or...

5.3.4 The frost fan is unoccupied and detached, and includes only fixed machinery that is accessed intermittently for routine inspection and maintenance. This would render the frost fan, including its foundation, exempt from the requirement for a building consent.

5.3.5 I note here the Ministry has published guidance on exempt building work<sup>3</sup> and that this was made available to the parties. The guidance (on page 11) notes that the purpose of Schedule 1:

...is to exempt building work that is low-risk from requiring a building consent, because the costs associated with obtaining a consent are likely to outweigh any benefits that requiring a building consent may offer. Schedule 1 exemptions are generally for building work that will not affect the building's structure or fire safety and that do not pose a risk to public safety.

5.3.6 In my opinion, the installation of the frost fan comes within this intended scope. The work is low risk, does not pose a risk to public safety, and any benefits that may accrue from ensuring its compliance with the small number of Building Code provisions that apply to it are off-set by the cost to the applicant in having to apply for a building consent.

5.3.7 With these considerations in mind, I note also that there was another option available to the authority in the current case, which was to grant a discretionary exemption from the requirement for a building consent under Schedule 1(2). This option is available to authorities where they consider that a building consent is not necessary because the completed building work is likely to comply with the Building Code, and even if it doesn't, it is unlikely to endanger people or another building. Given the straightforward nature of the work to install the frost fan in the current case, that a Chartered Professional Engineer had issued a producer statement PS1 Design for the foundation pad and column for the fan, and the location and low risk to public safety, the authority could have exercised this discretion even while maintaining its position that a frost fan came within the definition of a building.

## 5.4 Conclusion

5.4.1 I conclude that there was no need for the applicant to apply for a building consent, as the foundation pad is exempt under clause 40 of Schedule 1 and the frost fan is excluded under section 9 of the Act from the definition of building.

5.4.2 I note here that each determination is considered on a case by case basis, and the fact that I have reached this conclusion for this particular design does not necessarily mean that the same conclusion would be reached in other circumstances.

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<sup>3</sup> *Guidance: Building work that does not require a building consent* (Third Edition). Available at: <https://www.building.govt.nz/assets/Uploads/projects-and-consents/building-work-consent-not-required-guidance.pdf>

## **6. The decision**

- 6.1 In accordance with section 188 of the Building Act 2004, I consider the authority incorrectly exercised its powers in requiring a building consent be sought for the installation of the frost fan and I reverse the authority's decision to grant building consent No. 170422.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 20 April 2018.

Katie Gordon  
**Manager Determinations**