



## Determination 2020/016

# Regarding the authority's exercise of its powers in issuing of a code compliance certificate in respect of the mechanical ventilation system to a restaurant kitchen at 1/7 Tennyson Street, Wellington

### Summary

This determination considers the authority's decision to issue a code compliance certificate in respect of a mechanical ventilation system for the fitout of a restaurant. The extract from the restaurant's kitchen exits the building via existing exhaust ductwork, and other building occupants consider the kitchen's exhaust discharge to be a nuisance.

The determination considers the compliance of the kitchen ventilation system as designed and as built, and the compliance of the existing exhaust ductwork and discharge point.

## 1. The matter to be determined

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004 ("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.<sup>1</sup>
- 1.2 The parties to the determination are:
  - the owners of the building ("the applicant"), represented by the current Chairperson of the Body Corporate BC 430350 ("the body corporate") B Mudge, who is also a director and shareholder of Cat's Home Limited, the owner of Unit 1GN and Unit 12 7 Tennyson Street
  - the owners of unit 2GR 7 Tennyson Street known as 1/7 Tennyson Street ("Unit 1/7"), W Zhang and D Zhou ("the unit owners"), acting through a legal advisor ("the owners' lawyer"). On 13 March 2020 the unit owners appointed a consulting engineer ("the owners' engineer") to act as their agent
  - Wellington City Council ("the authority"), carrying out its duties as a territorial authority or building consent authority.
- 1.3 This determination arises from the decision of the authority to issue a code compliance certificate for the installation of a mechanical ventilation and extract system to Unit 1/7 as part of a fitout for a kitchen to a restaurant (the "Unit 1/7 fitout").

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<sup>1</sup> The Building Act and Building Code are available at [www.legislation.govt.nz](http://www.legislation.govt.nz). The Building Code is contained in Schedule 1 of the Building Regulations 1992. Information about the Building Act and Building Code is available at [www.building.govt.nz](http://www.building.govt.nz), as well as past determinations, compliance documents and guidance issued by the Ministry.

- 1.4 The applicant is of the view that the exhaust from the ventilation system for Unit 1/7 does not comply with Clause G4.3.4 of the Building Code, as the as-built system causes odour issues in the building because it discharges cooking odour and residue via a discharge vent located at street level immediately adjacent to the entrance foyer of the building (“the discharge point”). The applicant therefore believes the authority incorrectly issued the code compliance certificate for the Unit 1/7 fitout because the extract system to the kitchen does not comply with the building consent describing this work, and does not comply with the Building Code.
- 1.5 Accordingly, I consider the matters to be determined<sup>2</sup> are:
- whether the ventilation and extract system for the Unit 1/7 fitout complies with the provisions of Building Code Clause G4 that relate to the protection of other property, being Clause G4.3.4; this includes consideration of the shell exhaust ductwork (refer paragraph 2.3)
  - the authority’s exercise of its powers of decision in issuing a code compliance certificate for the Unit 1/7 fitout in respect of the provisions of Clause G4 that relate to the protection of other property.
- 1.6 In making my decisions, I have considered:
- the submissions of the parties
  - the report of the independent expert commissioned by the Ministry to advise on this dispute (“the expert”)
  - the other evidence in this matter.
- 1.7 The applicant is a party to the determination under section 176(e)(i) of the Act as the owner of ‘other property’<sup>3</sup>; therefore the determination is only able to consider those matters that relate to those clauses of the Building Code that have a purpose of protecting other property, and to the authority’s exercise of its powers in respect of those particular clauses of the Building Code. Accordingly this determination is limited to the matters outlined in paragraph 1.5 as I am unable to consider the other performance requirement clauses of G4 as they do not concern the protection of other property. I have not considered the compliance of any other aspects of the building work or any other aspects of the Act or Building Code beyond those matters identified in paragraph 1.5.
- 1.8 In this determination, unless otherwise stated, references to sections are to section of the Act and references to clauses are to clauses of the Building Code. The relevant provisions of the Act and Building Code are set out in Appendix A.

## 2. The building work and background

- 2.1 The building is a mixed-use multi-storey building with approximately 140 residential units, 100 carparks, and a number of street level retail premises, including Unit 1/7.
- 2.2 In July 2011 the developer applied for a building consent (building consent No. 236654) for a shell fitout (“the shell fitout”) for a commercial kitchen to Unit 1/7. The shell fitout was for:

Construction of the main Bathroom area including hydraulic, and mechanical services, plus complete finished fitout. All other work to be covered under another

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

<sup>3</sup> As defined by section 7 of the Act

fitout consent. No occupation until another full fitout consent is granted and the [code compliance certificate] is issued. All fire and access will be covered within the full fitout consent. [Installation] of the [shell exhaust ductwork] along common property to the boundary of the retail space.

All other internal fitout work within the retail space will be consented by another party (the purchaser) under another application.

- 2.3 The shell exhaust ductwork installed as part of shell fitout (“the shell exhaust ductwork”) takes the exhaust air from the kitchen ventilation and extract system installed under the kitchen fitout, and transfers it via two 300x300mm fire-rated ducts to the discharge point.
- 2.4 The authority met with a representative for the developer on 14 July 2011. In an email dated 15 July 2011, the authority noted:
- The consent can be accepted for the fire rated [shell] exhaust ductwork as proposed. [The authority] would need to be convinced that the air flow discharge would not cause a nuisance to pedestrians. The arrangement as proposed is accepted as an alternative solution.
- Please forward ductwork sizes and air flow with detail of exhaust outlet for argument for the alternative solution for review by [the authority].
- ... should the future design be inappropriate, the consent will be refused irrespective of what may be approved under this Consent. For acceptance we would also need to know what treatment would be provided to the exhaust before discharge. Please note for any future Consent:
- Fresh air [shall be] provided to all spaces dependent on the number of occupants under full occupancy in accordance with G4/AS1<sup>4</sup>, NZS 4303:1990 Ventilation for acceptance indoor air quality and AS 1668.2:2002<sup>5</sup>. ...
- 2.5 The representative for the developer provided to the authority additional information about the shell exhaust ductwork in a letter from the ductwork designer dated 14 July 2011, stating:
- [The shell exhaust] ductwork will comply with the requirements of the [Building Code] and AS 1668.2:2002 and AS/NZS 1668.1:1998. In particular the ductwork shall be constructed from 1.2mm [galvanised] steel and where it leaves [Unit 1/7] and runs through the common area corridor and beyond it shall be fire rated wrapped with [stone wool and aluminium foil fire board] to achieve the required fire rating.
- There will be two individual systems, each with its own extract fan, extract duct and kitchen extract hood. Each duct shall be capable of handling 850 [litres per second] with a velocity of 10 m/s and be 300mm x 300mm, in cross section. The ducts shall run to an existing discharge louver on the building perimeter ...
- 2.6 Building consent No. 236654 for the shell fitout was issued to the developer on 19 July 2011. The additional information about the shell exhaust ductwork and the authority’s comments dated 15 July 2011 (refer paragraph 2.4) formed part of the issued building consent documentation and the conditions of the building consent in respect of the ventilation system referred to this information.
- 2.7 Inspections of the work were carried out on 19 July 2011 and 27 July 2011.
- 2.8 On 23 October 2013, the authority wrote to the developer advising that an application for a code compliance certificate had not been received for the work carried out under the shell fitout building consent.

<sup>4</sup> Acceptable Solution G4/AS1 Ventilation. Section 19 of the Act provides that a building consent authority must accept compliance with (among other means) an Acceptable Solution as establishing compliance with the Building Code.

<sup>5</sup> Australian Standard AS 1668.2:2002 The use of ventilation and airconditioning in buildings. Part 2: Ventilation design for indoor air contaminant control (excluding requirements for the health aspects of tobacco smoke exposure)

- 2.9 On 3 December 2013, the authority issued an extension of time to complete the work in respect of the shell fitout building consent. Based on correspondence from an architectural firm representing the developer dated 21 November 2013, it appears that a further consent was applied for in respect of the bathroom for Unit 1/7.
- 2.10 On 21 May 2014, the authority wrote to the developer advising that an application for a code compliance certificate had not been received for the work carried out under the shell fitout. I have not seen further correspondence from the previous owner or authority in respect of this building consent or a code compliance certificate in respect of the completed work.
- 2.11 On 17 March 2017 the unit owners applied for a building consent (building consent No. 380836) for the Unit 1/7 fitout. The building consent was supported by (among other documents):
- ‘ventilation design statement’ setting out the basis for the design, dated 2 March 2017, issued by the unit owners’ ventilation designer
  - architectural drawings dated 27 April 2017 and signed by the ventilation designer, which stated “[shell] extract discharge is at high level, 6.0m minimum from any inlet, boundary or natural ventilation opening”.
- 2.12 The authority requested further information in respect of the building consent application on 12 April 2017. In respect of the ventilation and extract system to the kitchen, the authority stated:
- All exhaust outlets to comply with AS 1668.2:2002, Section 5.10 Table 5.4 Minimum Separation Distances From discharges to Intakes, Boundary or Natural Ventilation Device. If this cannot be achieved please offer argument as an alternative solution for [the authority’s] consideration.
- Please provide written confirmation that should any smells from cooking become a nuisance to the above apartments or neighbouring properties and should any complaints be lodged with [the authority] the situation will be rectified. Please consider provisions in the design to allow this so as minimise cost should the situation arise.
- 2.13 The unit owners’ ventilation designer and project manager provided further information in letters dated 26 April 2017 and 27 April 2017, stating:
- The kitchen hoods will be in accordance with AS 1668.2:2002, with grease trap filters, also with provision for the addition of carbon filters and UV odour control if required later.
  - “The [shell exhaust ductwork] already rises to high level to T5.4<sup>6</sup>.” (I note this differs from the design of the shell exhaust ductwork installed as part of the shell fitout building consent, refer paragraph 2.5).
- 2.14 The authority’s assessment with respect to compliance with Clause G4 of the Building Code states:
- Commercial HVAC systems have adequate capacity, air flow rates for the intended use of the spaces they service. Intakes and exhausts are adequately separated as per plans and specifications supplied ...

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<sup>6</sup> I take this reference to be to Table 5.4 in AS 1668.2:2002.

- 2.15 Building consent No. 380836 for the Unit 1/7 fitout was issued to the unit owners on 9 May 2017. The consent was issued subject to the condition that:
- All fresh air and exhaust outlet locations to comply with AS 1668.2:2002 Section 5.10 Table 5.4 Minimum Separation Distance from Discharges to Intakes Boundary or Natural Ventilation Device.
- 2.16 Inspections for the Unit 1/7 fitout were carried out on 7 June 2017 and 13 June 2017.
- 2.17 Final inspections were carried out on 12 April 2018 for the building work and 9 May 2018 for plumbing work. The record from the final building inspection notes that certification and commissioning results were required with respect to the ventilation system.
- 2.18 The authority subsequently received an application for a code compliance certificate for the kitchen fitout on 17 April 2018.
- 2.19 In a letter dated 10 May 2018, the unit owners' ventilation designer provided air flow commissioning test results to the authority, which stated:
- Kitchen total hooded extraction site tested at 3268 [litres per second] via [shell fitout] build fire rated extraction duct to discharge at external building rear.
- 2.20 On 11 May 2018, the authority requested further information to support the application for a code compliance certificate relating to the compliance schedule, electrical certificate and failed inspections.
- 2.21 The authority subsequently issued a code compliance certificate for the kitchen fitout consent on 18 October 2018.
- 2.22 On 22 January 2019, the applicant wrote to the authority explaining that there had been several complaints by residents of the building about the restaurant's "offensive odour" emanating from the discharge point (I note this letter is dated 2018).
- 2.23 The authority responded on 5 February 2019, noting that the work had been issued with a code compliance certificate, and the ventilation system had been signed off by an Independent Qualified Person.
- 2.24 The applicant and authority continued to correspond about the odour issues, culminating with a meeting between the applicant and representatives of the authority on 20 May 2019. Throughout this correspondence, the authority maintained its view that the code compliance certificate had been correctly issued, noted that representatives of the authority had noticed the odour when visiting the building, and noted that the authority asked the unit owners to provide options to the authority on additional means to treat the contaminated air.
- 2.25 The Ministry received an application for a determination on 27 May 2019.

### **3. The submissions**

#### **3.1 The applicant**

- 3.1.1 The applicant provided a submission accompanying the application for determination. In summary, the applicant stated that:
- From the time the restaurant opened, there have been many complaints regarding the odour and emissions from the discharge point.
  - The ventilation system does not comply with the Building Code as it does not meet the requirements of Clause G4 that the system must collect cooking fumes and odours and the contaminated air shall be disposed of in a way which

avoids creating a nuisance or hazard to people or other property. Specifically, the system does not meet the requirements of Table 5.4 of AS 1668.2:2002.

- The certification from the unit owners' ventilation designer only certifies the speed of the airflow at the discharge point but makes no mention of whether the system complies with the building consent or Building Code (refer paragraph 2.19).
- The authority incorrectly issued a code compliance certificate.
- The authority stated that alternative means of compliance such as ozone lamps and filters could address the problem. Such solutions have not remedied the problem. There is no reference in G4/AS1 or AS 1668.2:2002 that ozone lamps or filters could provide a means of compliance with the Building Code.

3.1.2 The applicant provided copies of:

- a submission setting out the background to the dispute
- photographs showing the location of the foyer and discharge point
- a plan of the ventilation system for the kitchen fitout (Drawing 109)
- a letter dated 2 March 2017 from the ventilation designer setting out the basis for the design (the 'ventilation design statement')
- an excerpt from the Unit 1/7 fitout building consent with the ventilation requirements
- extracts from Clause G4 and Acceptable Solution G4/AS1
- a letter dated 18 October 2018 from the authority to the unit owner about the issue of the code compliance certificate and amended compliance schedule, and a copy of the code compliance certificate for the kitchen fitout
- a letter from the unit owners' ventilation designer dated 10 May 2018 containing airflow test results
- the compliance schedule for the building
- correspondence to the authority from the applicant, as chairperson of the body corporate about the odour issue for the period 22 January 2018 to 13 May 2019
- correspondence from the authority to the applicant for the period 5 February 2019 to 2 April 2019
- a letter dated 2 May 2019 from Regional Public Health, referring the matter to the authority
- the applicant's notes from the 20 May 2019 meeting held with the authority.

3.1.3 On 4 July 2019, the applicant made a submission in response to the documents provided by the authority (refer paragraph 3.2.2) noting:

- there is no mention in the inspection records of the authority inspecting the shell exhaust ductwork to confirm the discharge point was at a high level in accordance with the Unit 1/7 fitout building consent

- there is no reference in the letter from the unit owners' ventilation designer dated 10 May 2018 containing airflow test results or any of the documentation provided by the authority as to whether the discharge point complies with G4/AS1 and AS 1668.2:2002.
- 3.1.4 On 24 July 2019, the applicant made a submission in response to queries from the Ministry about the circumstances when the effects of the odour are worst, and whether there was a pattern to the effects. The applicant noted:
- the odour is noticeable at all times the kitchen is operating and the smell drifts down the street and through the building entrance foyer and up the lift shaft
  - climate does not appear to have an impact, although during hot and still weather periods, the odour can linger for days
  - people in apartments above the discharge point are unable to open their windows or doors due to the odour.
- 3.1.5 On 15 August 2019, the applicant made a submission about the documents and evidence that should be considered by the expert (refer paragraph 1.6).
- 3.1.6 On 17 October 2019, the applicant made a submission with supporting documents about the issues being considered by the expert. The applicant reiterated previous points made and stated his view was:
- the discharge point does not comply with Clause G4.3.4 of the Building Code
  - solutions, such installing UV lamps and filters in the shell exhaust ductwork, and consideration of the frequency of the cleaning regime had already been explored. There is a record that after the restaurant opened in June 2018, the number of UV lamps was doubled and additional filters were installed within the cooking hoods.
- 3.1.7 On 12 November 2019, in response to an email from the unit owners' lawyer (refer paragraph 3.3.1), the applicant noted that the body corporate did not build the shell exhaust ductwork. Rather, it was installed as a part of the kitchen fitout to discharge at "a high level 6 metres minimum from any inlet, boundary or natural ventilation outlet".  
(I note that the shell fitout building consent included the construction of the shell exhaust ductwork, refer paragraphs 2.2 and 2.3.)
- 3.1.8 On 11 December 2019, in response to the expert's report, the applicant noted that the expert's report excluded consideration of whether the authority was correct to issue a code compliance certificate as this was an important aspect of the determination.

## **3.2 The authority**

- 3.2.1 The authority acknowledged the application for determination on 12 June 2019.
- 3.2.2 In June 2019 the authority provided a copy of the property file for Unit 1/7, including copies of:
- the building consent plans and specifications for the kitchen fitout
  - building consent application processing sheets and requests for further information for the kitchen fitout
  - inspection records and the code compliance certificate
  - correspondence between the parties about the dispute.

- 3.2.3 On 18 November 2019, the authority provided a copy of records for the shell fitout building consent. The information included:
- the building consent documentation for the shell fitout consent including the consent, plans and specifications (the consent included the installation of the shell exhaust ductwork)
  - inspection records dated 19 and 27 July 2011
  - correspondence between the authority and the building consent applicant about the completion of the work and application for a code compliance certificate.

### **3.3 The unit owners**

- 3.3.1 The unit owners' lawyer sent emails dated 27 June 2019, 15 August 2019, and 12 November 2019 seeking copies of the documentation for the determination provided to the Ministry, and advising that the shell exhaust ductwork was in place when the unit owners purchased Unit 1/7.

### **3.4 The draft determination and responses received**

- 3.4.1 A draft determination was issued to the parties for comment on 28 February 2020.
- 3.4.2 The authority accepted the draft determination with no contentious comment on 9 March 2020.
- 3.4.3 The applicant accepted the draft determination in a response dated 28 February 2020, noting the correct number for the Unit 1/7 fitout building consent.
- 3.4.4 On 17 March 2020, the owners' engineer responded to the draft determination, saying (in summary):
- If the determination was to cancel the code compliance certificate, the implications on the owners would be unduly harsh. The authority has indicated that if that is the case, the restaurant would need a certificate of public use to continue trading, and it would likely not be issued if there are complaints from the body corporate.
  - The owners had a building consent and at completion of the fitout, applied for, received and relied on the code compliance certificate.
  - One possible solution may be the installation of an additional extract system discharging in a different direction, while the existing system remains in place.

## **4. The expert's report**

### **4.1 General**

- 4.1.1 As mentioned in paragraph 1.6, I engaged an independent expert to assist me. The expert is a mechanical engineer, specialising in building services, and is a Chartered Professional Engineer. The expert's report was received on 9 December 2019 and copies of the report were sent to the parties on 10 December 2019.
- 4.1.2 The expert carried out an assessment of the ventilation and extract system installed as part of the kitchen fitout. This assessment included consideration of the shell exhaust ductwork installed as part of the shell fitout, with respect to the suitability and compatibility of the system.



- 4.1.3 The expert noted that the Unit 1/7 fitout building consent documentation does not explicitly state the means of compliance with Clause G4 of the Building Code, and therefore it is not known on what basis the authority assessed and consented the design contained in the kitchen fitout.
- 4.1.4 However the expert noted that the ‘ventilation design statement’ for the kitchen fitout refers to AS 1668.2:2002, and certain sections of this standard are referenced by sections of G4/AS1, including the provisions for mechanical ventilation covered by section 1.5 of G4/AS1.

## 4.2 The design of the kitchen ventilation and extract system

- 4.2.1 The expert assessed the kitchen ventilation and extract system against paragraph 1.5.1(c) of G4/AS1. The expert noted paragraph 1.5.1(c) of G4/AS1 specified collection or dilution by the ventilation rates and methods set out in section 5 of AS 1668.2:2002 (“the design standard”), and assessed the design against the paragraphs noted from the design standard as follows:

Applicable provision	Assessment	Conclusion
Extract shall exceed supply by at least 10% (paragraph 5.2.3).	The design of the extract had 4600 l/s (litres per second) supply, 6200 l/s extract in the kitchen area, so the extract exceeded the supply specified by the design standard; the 1600 l/s fresh air supply to the seating area can provide the make-up air required. If the seated area fresh air supply was relied upon to balance the kitchen extract, the seated area supply must be interlocked to the kitchen extract, which is installed (although not shown in the building consent documentation).	The design is as per the design standard.
Cooking effluent to be collected as close as possible to the point of production (paragraph 5.3.2.1).	There is a hood over all cooking appliances.	The design is as per the design standard.
Hood to be provided for the collection of the cooking effluent (paragraph 5.2.3.2).	Hoods are provided.	The design is as per the design standard.
Kitchen exhaust hoods to be provided with appropriate airflows and have hoods with dimensions as specified in Appendix C of the design standard (paragraphs 5.4 and 5.6).	Total assessed airflow 6208 l/s compared to 6200 l/s provided in the design, therefore airflow correctly calculated. The dimensions of the hood specified by the design standard for a sidewall hood. Inspection confirmed grease filters located a minimum of 1.05m from naked flames as required.	The design is as per the design standard.

### **4.3 Differences between the kitchen fitout as consented, and as installed and commissioned**

4.3.1 With respect to the installation of the kitchen ventilation and extract system, the expert noted:

- the kitchen fitout installation includes more kitchen appliances and hoods than those documented in the building consent documentation. In the expert's opinion the additional appliances add an additional 1785 l/s to the extract requirement (with the total extract requirement being 7985 l/s).
- air commissioning test results show the kitchen extract system achieved 3268 l/s compared to the required 6200 l/s specified in the design of the kitchen extract system in the Unit 1/7 fitout building consent. The expert noted that this aligns with the shell exhaust ductwork being designed at high pressure drop for 1600 l/s, and that it would be very difficult to achieve 6200 l/s. The expert noted this does not alter discharge findings or required separation distances as the discharge still exceeds 1000 l/s, but does mean that the extract from the kitchen is inadequate for the appliances that have been installed.

### **4.4 Compatibility of the kitchen fitout with the shell exhaust ductwork and discharge point**

4.4.1 The expert noted that the shell exhaust ductwork and discharge point that were part of the shell fitout had conditions associated with the building consent for that work. The authority noted in the building consent documentation that the design is accepted as complying with the Building Code by way of an alternative solution. The expert noted that these conditions were imposed due to the limitations of the design of the shell extract ductwork and discharge to the street. The conditions were:

- two extract ducts (for the future connection of two extract hoods) are limited to 800 l/s airflow at each duct
- the future design will need to include a form of treatment to the exhaust discharges (for example, filtration or some other treatment of the discharged air).

4.4.2 With respect to the shell exhaust ductwork, the expert was of the view that the design extract rate of 6200 l/s for the kitchen cannot be achieved with the limitations of the exhaust ducts installed as part of the shell fitout consent.

4.4.3 The expert also noted that in trying to maximise the flow, the pressure rating of the exhaust ducts may have been exceeded, and there is a possibility that grease exhaust could leak along the route the ducts follows.

4.4.4 With respect to the discharge point, the expert noted that the Unit 1/7 fitout building consent states:

connect to existing [shell fitout] extract ducting – kitchen extract is at high level, 6.0m minimum from any outlet, boundary or natural ventilation opening.

However, the discharge point does not meet the requirements and assumptions specified in the Unit 1/7 fitout building consent for the shell exhaust ductwork designed and consented under the shell fitout building consent.

- 4.4.5 The expert noted that there is no evidence that the designer of the ventilation system for the kitchen fitout was aware of the conditions of the shell fitout building consent. The expert considered that the shell exhaust ductwork and discharge point should have been checked prior to the design of the kitchen fitout and details of the exhaust ductwork and discharge point should have formed part of the design submitted as part of the Unit 1/7 fitout building consent, either to confirm compliance when used in the intended manner or confirm the modifications required as part of the complete ventilation system.
- 4.4.6 The expert commented on the compliance of the discharge point, which was accepted by the authority as complying with the Building Code by way of an alternative solution. The expert explained that section 5.10 of the design standard provides some discussion of the performance requirements for alternative design proposals for air discharge, but was of the view that the performance requirements of treatment, especially special filtration processes, are not well defined and was to be treated to the “satisfaction” of affected parties. The expert stated that it is likely to be difficult to satisfy affected parties as they have already complained about the installation with UV treatment in place.
- 4.4.7 The expert noted that the Unit 1/7 fitout building consent includes provision of EU2<sup>7</sup>, filtration but this does not meet the provision of paragraph 1.5(g) of G4/AS1, which refers to paragraph 4.4 of AS 1668.2:2002, because the filtration is of a lesser grade than the type “F4” filter rating referred to in the Standard, or the type contemplated as part of the conditions of the shell fitout building consent for the kitchen ductwork and discharge point.
- 4.4.8 The expert also commented on the treatment of fire safety with respect to the ventilation and extract system, noting that cleaning access required to remove grease is not dealt with by the design and installation because there is no evidence that cleaning access points have been provided, which is a requirement of G4/AS1.

## **5. Discussion**

### **5.1 General**

- 5.1.1 The applicant is of the view that the building work of the Unit 1/7 fitout building consent does not comply with the Building Code, and is therefore challenging the authority’s decision to issue a code compliance certificate.
- 5.1.2 I therefore must consider:
- the compliance of the ventilation and extract system installed as part of the kitchen fitout with the provisions of Building Code Clause G4 that relate to the protection of other property, being Clause G4.3.4 – this includes the discharge of the kitchen extract into the shell exhaust ductwork and exiting the building at the discharge point
  - the authority’s decision to issue a code compliance certificate for this work in respect of the provisions of Clause G4 that relate to the protection of other property.

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<sup>7</sup> An EU2 filter is classified as a coarse dust filter.

## 5.2 Compliance with the Building Code Clause G4.3.4

- 5.2.1 The relevant Building Code clause is G4 Ventilation, and the relevant performance requirement that relates to the protection of other property is Clause G4.3.4. As noted in paragraph 1.7, I am unable to consider the other performance requirements of Clause G4.
- 5.2.2 Clause G4.3.4 requires that:
- Contaminated air shall be disposed of in a way which avoids creating a nuisance or hazard to people and *other property*.
- 5.2.3 I consider it relevant, in deciding whether the mechanical ventilation and extract system complies with Clause G4.3.4, that I must consider the system in conjunction with the shell exhaust ductwork and discharge point as these elements contribute and constrain to the system's compliance with Clause G4.3.4.
- 5.2.4 As noted by the expert (refer paragraph 4.1.3 and 4.1.4), the nominated means of compliance of the Unit 1/7 fitout building consent with Clause G4.3.4 is not clear. However, the expert is of the view the intended nominated means of compliance is by way of the Acceptable Solution G4/AS1 via AS 1668.2:2002. I note the authority accepted the design of the shell exhaust ductwork and discharge point as complying with the Building Code by way of an alternative solution subject to various conditions.
- 5.2.5 The expert is of the view that the design of the kitchen extract system approved at building consent stage had adequate supply, and hoods with appropriate coverage and airflows (refer paragraph 4.2.1) and thereby complied with the Building Code by way of Acceptable Solution G4/AS1 (which cites parts of AS 1668.2:2002). I accept this view.
- 5.2.6 However, while the shell exhaust ductwork was installed as part of the shell fitout consent (refer paragraph 2.5), the expert noted that the extract rate of 6200 l/s required by the kitchen fitout cannot be achieved with the 800 l/s per duct limitation (1600 l/s total) of the exhaust ductwork. While the shell exhaust ductwork is not part of the kitchen fitout, the compliance of the extract system installed as part of the kitchen fitout relies on the capacity of the shell exhaust ductwork.
- 5.2.7 The expert also found that the appliances and hoods installed exceeded those documented in the Unit 1/7 fitout building consent, and estimated the additional appliances add a new 1785 l/s to the extract requirement. This takes the extract requirement to 7985 l/s. The expert also noted that commissioned results achieve 3268 l/s (refer paragraph 0) compared to the 6200 l/s designed, or the 7985 l/s required for that installed, which is inconsistent with the shell exhaust ductwork and discharge point being designed for 1600 l/s.
- 5.2.8 It clear to me the shell exhaust ductwork is unsuitable for both the extract rates required by the kitchen extract design, and the increased rates required by the additional appliances and hoods as installed.
- 5.2.9 In respect of the discharge point, the design standard referenced in the Acceptable Solution G4/AS1, requires 'objectionable effluent' (which includes cooking effluent) to be discharged vertically, with the discharge point to be located not less than 6.0m from a property boundary, outdoor air intake or natural ventilation opening. However, the discharge point as constructed discharges horizontally at street level as opposed to vertically, and is too close to fresh air intakes and building openings for the extract rates envisioned in the shell fitout consent.

- 5.2.10 The documentation accompanying the shell fitout building consent referred to the authority accepting this design as an alternative solution with Clause G4 of the Building Code, on the basis that the future design of the kitchen extract system would be appropriate. This included that the discharge not cause a nuisance to pedestrians, and the discharge air being treated before discharge point (refer paragraph 2.4). I also note that the discharge point was approved under the shell fitout building consent on the basis of the extract rates defined in that consent of a maximum of 1600 l/s.
- 5.2.11 The design in the shell fitout building consent therefore relies on treatment of contaminated air, at a maximum extract rate of 1600 l/s, so that the discharge does not cause nuisance, in lieu of separation distances specified in AS 1668.2, to comply with the Building Code by way of an alternative solution.
- 5.2.12 The design in the Unit 1/7 fitout building consent relies on the discharge point achieving separation distances in accordance with design standard, as the Unit 1/7 fitout building consent stated that the kitchen exhaust would be connected to a high level discharge point located at least 6.0m (horizontally) from any outlet, boundary or natural ventilation opening.
- 5.2.13 As discussed in paragraph 5.2.7, the extract rates required by the Unit 1/7 fitout building consent are 6200 l/s, with these rates increased to 7985 l/s by the additional appliances and hoods that were actually installed. The commissioned airflow test results for the extract system achieve only 3268 l/s.
- 5.2.14 The expert also noted (refer paragraph 0) that the filtration provided as part of the Unit 1/7 fitout building consent was of a lesser grade than referred to by the design standard, as cited by paragraph 1.5(g) of G4/AS1, on the basis that separation distances were assumed in the Unit 1/7 fitout consent to be achieved. I note additional filtration and UV treatment had been added after the work was complete (refer paragraph 3.1.6).
- 5.2.15 As discussed by the expert (refer paragraph 4.4.6), the design standard provides some discussion for alternative design proposals for treatment of discharge, but these are not well defined as the treatment provided was to be to the satisfaction of affected parties.
- 5.2.16 Taking account of the above discussion and expert's view, I consider the discharge point is unsuitable for the extract rates and treatment or filtration consented under the Unit 1/7 fitout consent and installed as part of that work.
- 5.2.17 I am of therefore of the view that the kitchen mechanical extract system connecting to the shell exhaust ductwork duct and discharge point does not comply with Clause G4.3.4 as it is not disposing of contaminated air in a way which avoids creating a nuisance to people and other property.

### **5.3 The issue of the code compliance certificate**

- 5.3.1 Under section 94(1)(a) of the Act, an authority must issue a code compliance certificate for building work carried out under a building consent if it is satisfied, on reasonable grounds, that the building work complies with the building consent.
- 5.3.2 The matter for consideration by the authority under section 94 in deciding to issue the code compliance certificate was whether it was satisfied that the building work complies with the building consent. Previous determinations (for example 2008/30<sup>8</sup>)

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<sup>8</sup> Determination 2008/30: The issuing of a code compliance certificate for a multi-storey apartment building (5 May 2008).

have come to the view that where either the as-built construction differs from that consented or where there is conflicting or unclear details in the consent, or information that was not known when the consent was granted, confirmation of a building's compliance with the Building Code is required before an authority can issue a code compliance certificate.

- 5.3.3 I am still of that opinion and consider that approach applies in this case.
- 5.3.4 As noted by the expert (refer paragraphs 4.1.3 and 4.1.4) the means of compliance set out in the documentation for the Unit 1/7 fitout building consent was unclear.
- 5.3.5 In respect of the extract rates, the commissioned results of the extract system achieve only 3268 l/s (refer paragraph 2.19) which is 2932 l/s less than the 6200 l/s required by the building consent.
- 5.3.6 Furthermore, the expert has noted that the appliances and hoods installed exceed those documented in the Unit 1/7 fitout building consent. The expert estimated the additional appliances add a new 1785 l/s to the extract requirement, taking the extract requirement to 7985 l/s. As the commissioned extract results achieve only 3268 l/s, and there are additional appliances and hoods installed, there is a shortfall of 4717 l/s.
- 5.3.7 The Unit 1/7 building consent also required that the kitchen exhaust be connected to a discharge point at a high level, at least 6.0m from any outlet, boundary or natural ventilation opening. The kitchen exhaust is connected to the exhaust ductwork and the discharge point that were installed as part of the shell fitout building consent. The shell fitout building consent was granted with a horizontal discharge to the street provided the ductwork was limited to a maximum extract and treatment of discharge. The discharge point is located closer than 6 m to building openings. As noted by the expert (refer paragraph 4.4.4), the exhaust ductwork and discharge point do not meet the requirements and assumptions specified in the Unit 1/7 fitout consent for the existing system.

## **5.4 Conclusions**

- 5.4.1 The as-built work has been installed other than in accordance with the Unit 1/7 fitout consent, and the completed work does not comply with the Building Code with respect to Clause G4.3.4. I conclude that the authority did not have reasonable grounds under section 94(1)(a) of the Act to be satisfied that the as-built work had been completed in accordance with the building consent and that it complied with the Building Code.
- 5.4.2 As I am of the view that remedial work is required to bring the work into compliance with the Building Code, I consider the authority's decision to issue the code compliance certificate should be reversed.
- 5.4.3 As I have noted in paragraph 1.7, this determination is limited to those matters that relate to the protection of other property, in this case Clause G4.3.4. I am unable to consider the compliance of the building work with the other aspects of the Building Code, including the other performance requirements of Clause G4, and I leave this matter to the parties.
- 5.4.4 The expert noted that the ducts installed as part of the shell fitout building consent do not have access points for cleaning. The expert noted that access points are important to allow for cleaning to ensure grease does not build up, which can be a fire risk.

This is outside the matters that I am able to determine in this case and I leave this to the parties to resolve.

## **6. The decision**

6.1 In accordance with section 188 of the Building Act 2004, I hereby determine that:

- the mechanical ventilation and extract system to the kitchen of Unit 1/7 does not comply with Building Code Clause G4.3.4 with respect to the protection of other property
- accordingly, the authority was incorrect in its decision to issue a code compliance certificate for building consent No. 380836, and in respect of the mechanical ventilation and extract system to the kitchen of Unit 1/7, and I reverse the authority's decision to issue a code compliance certificate for building consent No. 380836.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 20 July 2020.

Katie Gordon  
**Manager Determinations**

## Appendix A

### A.1 Relevant provisions of the Act, the Building Code and AS 1668.2:2002

A1.1 The relevant sections of the Act discussed in this determination include:

#### 94 Matters for consideration by building consent authority in deciding issue of code compliance certificate

- (1) A building consent authority must issue a code compliance certificate if it is satisfied, on reasonable grounds,—
- (a) that the building work complies with the building consent; and
  - (b) that,—
    - (i) in a case where a compliance schedule is required as a result of the building work, the specified systems in the building are capable of performing to the performance standards set out in the building consent; or
    - (ii) in a case where an amendment to an existing compliance schedule is required as a result of the building work, the specified systems that are being altered in, or added to, the building in the course of the building work are capable of performing to the performance standards set out in the building consent.

A1.2 The relevant sections of the Building Code discussed in this determination include:

G4.3.4 Contaminated air shall be disposed of in a way which avoids creating a nuisance or hazard to people and other property.

A1.3 The relevant sections of AS 1668.2:2002 discussed in this determination include:

#### 5.10.3 Discharges deemed objectionable

Air discharges that are deemed to contain objectionable effluent (see Clause 5.10.1) shall be in accordance with Clause 5.10.2 and—

- (a) be arranged vertically with discharge velocities not less than 5 m/s;
- (b) for a Type A effluent (see Clause 5.3.1 which excludes cooking effluents), be situated—
  - (i) at least 3 m above the roof at point of discharge;
  - (ii) above any part of the building (or adjacent building) that is within 15 m (horizontally) or the discharge point; and
  - (iii) at least 3 m above a thoroughfare or roof subject to regular traffic, but within 15 m of the discharge point.

In the case of a pitched roof, at least 1 m above the ridge.
- (c) located not less than 6 m from a property boundary, any outdoor air intake opening or any natural ventilation device or opening; and
- (d) treated to reduce the concentration of contaminants when required.

Where it can be demonstrated that special filtration processes will remove the contaminants from the cooking process exhaust gas and prevent exhaust operation if filters are not in place, horizontal discharge of kitchen exhaust of flow rates greater than 1000 L/s may be acceptable. In these cases, the flow rate may be taken as the actual flow rate multiplied by the lowest fractional efficiency of the filtration process.

NOTE: Where the outdoor air is liable to be significantly polluted, Item (d) may be invoked. Reference to pollution control authorities is recommended for control requirements relating to concentration of contaminants.