Department of Building and Housing
Te Tari Kaupapa Whare

Determination 2010/125

Proposed plumbing system within units at the Bluewater Hotel, 10 West Quay, Ahuriri, Napier

1. The matters to be determined

1.1 This is a Determination under Part 3 Subpart 1 of the Building Act 2004[1] made under due authorisation by me, John Gardiner, Manager Determinations, Department of Building and Housing ("the Department"), for and on behalf of the Chief Executive of that Department.

1.2 The parties to this determination are:

- Green Properties Ltd, the owner of the property, acting through a structural and civil engineering company as its agent ("the applicant")
- the Napier City Council ("the authority") carrying out its duties and functions as a territorial authority and a building consent authority.

1.3 This determination arises from the authority's decision to refuse to issue a building consent for proposed alterations to the applicant's hotel units.

1.4 The matter to be determined[2] is therefore whether the authority's decision to refuse to issue a building consent was correct. In making this assessment, I must also consider whether the proposed plumbing system, which formed the basis for the application for a building consent, complies with Clause G13 Foul Water of the Building Code (Schedule 1 of the Building Regulations 1992).

1.5 In this determination, I will refer to the following legislation and standards, the relevant parts of which are set out in Appendix A:

- The Building Act 2004 ("the Act") with its sections referred to herein as sections of the Act.
- Building Code Clause G13 Foul Water.
- AS/NZS 3500.2: 2003 Sanitary Plumbing and Drainage[3] ("AS/NZS 3500.2")

[1] The Building Act 2004, Building Code, compliance documents, past determinations and guidance documents issued by the Department are all available at www.dbh.govt.nz or by contacting the Department on 0800 242 243
[2] In terms of sections 177(1)(b) and 177(2)(a) of the Building Act 2004.
[3] Australia and New Zealand Joint Standard - AS/NZS 3500:- Plumbing and drainage, Part 2: 2003 Sanitary plumbing and drainage

1.6 In making my decision, I have also considered the submissions of the parties and the other evidence in this matter. I have not considered any other aspects of the Act or of the Building Code.

2. The proposed building work

2.1 The building work involves alterations to the applicant's existing hotel at Ahuriri, Napier. The hotel complex includes a two-storey block of 30 hotel units: 14 units on the ground floor, and 16 units on the upper level (level 1). The block of units has a concrete slab on the ground floor, with 20 series block walls supporting a 125mm thick suspended concrete slab forming the level 1 floor.

2.2 At present, each unit has tea and coffee-making facilities on a bench opposite the bathroom door. Occupants use the bathroom sink to fill the jug and wash cups, etc. The proposed building work will add a 'mini bar' facility to 29 of the hotel's 30 units, so that occupants no longer have to use the bathroom sink for this purpose.

2.3 The proposal involves altering a wall to the bathroom to create a 1.1x 0.5m recess off the entrance area to the units to house the mini bar joinery unit. The mini bar will be accessed from the entrance area. The mini bar facility will include cupboards above and below the bench, and a small 300 x 200 x 150mm (9 litre) sink.

2.4 The 40NB waste from the mini bar sink will be plumbed to a floor waste gully in the bathroom, via the existing waste serving the spa bath. The mini bar sink waste is proposed to pass through the back of the mini bar unit into the bathroom where it would be joined to the 40NB spa bath waste in the area under the bath. The back of the proposed mini bar unit will be fully removable, as is the side of the existing spa bath, to maintain access to the mini bar and spa bath waste, and to the spa bath pump. A shower also discharges over the spa bath.

3. The background

3.1 On 1 June 2010, the applicant applied to the authority for a building consent for the proposed building work. The application was made as an 'alternative solution from [AS/NZS 3500.2]' and stated that:

> The proposal deviates from the New Zealand Standard 3500.2 as follows:
>
> - [AS/NZS 3500.2] Section 4.6.7.2 by having the sink waste drain plumbed to a floor waste gully in a separate room
> - [AS/NZS 3500.2] Section 4.6.7.3 by having two connected fixtures plumbed to the floor waste gully.

3.2 The consent application detailed the reasons for wanting to use an alternative solution. It also compared the proposed alternative solution to the Objective and Performance Requirements of Clause G13 of the Building Code, and set out how these requirements would be met.

3.3 On 8 June 2010, the authority wrote to the applicant declining to issue a building consent for the proposed alterations. The reason given for this decision was that 'AS3500.2.2.003 does not allow this design for several reasons'. These reasons were itemised, and included that:

- the floor waste gully was in a separate room from the mini bar sink
- the waste pipes to the floor waste needed to be separate

- the waste pipes would extend beyond 2.5m.

3.4 On 9 June 2010, the applicant wrote back to the authority stating that:

> In this case we are ensuring we are complying with the Compliance Document G13 as an alternative solution and not using the verification method or acceptable solution for our design…we are aware that the proposed system is outside the scope of [AS/NZS 3500.2] which is part of the Acceptable Solution of G13 AS3.

3.5 The applicant went on to state that it was using the "Comparison with Compliance Document" pathway to show that the proposed alternative solution complied with the performance requirements in G13, and asked that the authority reconsider its application.

3.6 On 8 July the authority wrote to the applicant stating that it did not accept the alternative solution. The reason given was that:

> [AS/NZS 3500.2] is a designed plumbing system. We see the solution that you have put forward as being against the principles of this system. [AS/NZS 3500.2] does not allow fixtures from outside the room to enter a floor waste gully (except for tundish discharges). The mini bar sinks are in another room. [AS/NZS 3500.2] does not allow combined wastes (to stop seal traps from being pulled). The mini bar sink has also the potential to have food wastes put down it which are not allowed into a floor waste gully.
>
> The plan also indicates that the developed length of the combined waste will exceed the maximum length of 2.5 metres.

3.7 The authority advised the applicant to apply for a determination on the matter.

3.8 The applicant applied for a determination on 12 August 2010.

3.9 An officer of the Department visited the hotel on 3 September 2010 and viewed a typical unit, the existing plumbing system, the location of the proposed alterations and an example of the proposed joinery unit.

4. The submissions

4.1 In a submission which accompanied the application for a determination, the applicant acknowledged that the proposed building work was an alternative solution, as it deviated from certain aspects of AS/NZS 3500.2. The reason given for seeking an alternative solution was to 'avoid the substantial additional cost of running the plumbing under the floor'.

4.2 The applicant detailed the steps that would be required 'to complete the proposed work in direct compliance with [AS/NZS 3500.2]', including cutting the ground floor slab and removing, and replacing, the ground floor ceiling. The applicant stated that 'this substantial amount of work can be avoided by connecting the proposed waste drain to the existing bath waste in the service cavity under the bath'. The applicant estimated that 'the cost of complying with AS/NZS 3500.2 would more than double the cost of the project and mean that it would not proceed.'

4.3 The applicant then set out how it believed the proposed alternative solution would comply with the objectives and performance requirements of Clause G13 (refer Appendix A). This included the following.

- G13.3.1(a) – the additional 9 litres from the mini bar sink will not affect the system's ability to convey foul waste to an outfall, as the system is already capable of conveying the contents of the spa bath when emptied.

- G13.3.1(b) – no solid waste will be discharged through the bar sink, as it is to be used primarily for drinks and there are no cooking facilities in the units. This means there is no additional risk of blockages. Because there are no additional floor penetrations with the proposed system, any blocks or leaks will be contained in the bathroom and will be caught in the floor waste gully. If the floor waste gully blocks, this will be readily noticed by occupants, as the floor waste gully is 'close to the mini bar and entry area of the unit'.
- G13.3.1(c) – the proposed drain will be fitted with a trap and an air admittance valve ("AAV") at the bar sink to prevent foul air and gasses entering the units.
- G13.3.1(d) – the back of the mini bar units and the side of the spa bath will be fully removable, so that access for maintenance and clearing blockages will be maintained. Access will be greater than if the plumbing ran under the floor.

4.4 The applicant also submitted copies of:

- plans and specifications for the proposed building work
- the correspondence between the parties.

The consultant's report

4.5 After applying for a determination, and at the suggestion of the Department, the applicant sought an opinion about the proposed plumbing system from a consultant hydraulic engineer ("the consultant"). The consultant provided a written report on 11 November 2010 and this was provided to the Department and the parties.

4.6 In his report, the consultant gave his opinion 'as to whether the alternative solution proposed complies with the performance and functional requirements of Clause G13 of the New Zealand Building Code'. The consultant stated that he believed that the 'tests applied and the conclusions drawn' by the applicant in its submission were reasonable.

4.7 The consultant pointed out that AS/NZS3500.2 permits bar sinks to be connected to floor waste gully traps, although he recognised that, under the standard, the trap should not be in another room. However, the consultant considered that:

> … the fact that the [floor waste gully] is in another room can be accommodated, as the situation is a hotel room. We believe this hotel room scenario is significant, as we can rationalise that only a limited number of users are ever likely to be in this hotel room at any one time. Thus the likelihood of a prolonged time period where a blocked [floor waste gully] will not permit the bar sink to empty is remote …
>
> We also note: The hotel is under single entity ownership. It is not a group of individual titles stacked one over another. Any problem caused by the proposed waste configuration is the problem of one owner.

4.8 The consultant concluded that, although the proposed system was not a 'normal configuration of waste pipes', it would still comply with the performance requirements in Clause G13.

4.9 The draft determination was issued to the parties for comment on 25 November 2010. Both parties accepted the draft without comment.

5. Discussion

Bar sinks

5.1 A bar sink is used solely for washing glasses in a bar-type situation and is not used for the disposal of anything other than liquid. A bar sink is small and has only one discharge unit.

AS/NZS 3500.2

5.2 The authority has declined to issue a building consent for the proposed building work because it is 'against the principles' of the 'designed plumbing system' in AS/NZS3500.2.

5.3 AS/NZS3500.2 is referenced in Compliance Document G13/AS3 and, subject to the modifications detailed in the G13/AS3, provides a solution for designing plumbing systems that will achieve the performance requirements in Clause G13. The authority was correct to require the alternative solution to maintain these standards, and that there should be coherent reasons provided by the applicant in seeking to apply an alternative solution.

5.4 However, it is important to note that compliance with an Acceptable Solution provides one way, but not the only way, of complying with the Building Code. If the requirements of an Acceptable Solution are not to be applied, then the work is to be assessed against the requirements of the Building Code as an alternative solution.

5.5 The assessment is not against the requirements in the Acceptable Solution which is the point made by the applicant. However, one way of evaluating compliance with the Building Code is to compare a design against with the requirements of the Acceptable Solution. In making such an assessment it is useful to bear in mind both the Objectives of the relevant Building Code clause, but also, where there is non-compliance with an Acceptable Solution, to look for the features that compensate for that departure.

5.6 In the current case, I accept that the applicant has valid reasons for wanting to apply an alternative solution. The work required and cost of retrospectively applying the acceptable solution to the already existing hotel units are substantial, and would no doubt create extensive disruption for the applicant's business. The question therefore becomes whether the proposed work complies with the functional and performance requirements of the Building Code.

The compliance of the proposed system

5.7 I accept the applicant's reasoning (as set out in paragraph 4.3) as to why the proposed system complies with the performance requirements in the Building Code. The proposed system has clearly been designed with these requirements in mind, and in my opinion is essentially compliant.

5.8 However, there are still some aspects of the proposed system that need to be resolved, including:

- details of how the junction will be formed in the 40NB drain where the proposed mini bar waste joins the waste from the spa bath
- details of the AAV device to maintain the water seal to the bar sinks

- a means of dissuading people from using the bar sink for anything other than disposing of liquid, such as a sieve on the pop-in waste outlet to the bar sink
- a diagrammatic layout of the plumbing system to be provided which indicates pipe sizes and falls back to the main stack.

5.9 In reaching the decision that the proposed system is essentially complaint, I think it is significant that the additional element that is being added to the system is as a bar sink. As the expert has pointed out, AS/NZS3500.2 allows bar sinks to enter into gully traps. The nature of bar sinks, and the context in which these particular sinks will be used, make it unlikely that occupants will be washing substantial amounts of food down the combined waste. The situation may well be different if a larger sink was to be installed, or if there were also cooking facilities present in the units.

5.10 I also concur with the expert's opinion about the significance of the proposed work being undertaken in hotel units that are in single ownership. In my opinion it is fair to assume that with the turnover of guests typical of hotels, the owner (or its staff) will regularly be checking and cleaning the rooms, and will quickly notice if any part of the system becomes blocked. If there is a problem with the proposed system, only one owner will affected and responsible for making it right. Again, the situation, and my decision, may well be different, if the affected units were in individual ownership, for example in a time share or retirement village scenario.

Conclusion

5.11 Accordingly, I am of the opinion that the proposed plumbing system meets the requirements of Clause G13 of the Building Code, subject to the successful resolution of the matters listed in paragraph 5.8.

6. What is to be done now?

6.1 The applicant should submit further plans to the authority showing how the matters detailed in paragraph 5.8 will be resolved. The authority may issue the building consent once these matters have been revolved to its satisfaction.

7. The decision

7.1 In accordance with section 188 of the Act, I hereby determine that the proposed plumbing system as described in the application for a building consent, does not comply with Clause G13 Foul Water of the Building Code, and accordingly the authority was correct to refuse to issue the building consent.

7.2 However, I note that subject to satisfactory resolution of the matters outlined in paragraph 5.8 of this determination the proposed plumbing system will comply with Clause G13 Foul Water of the Building Code, and the authority may issue a building consent.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 15 December 2010.

John Gardiner
Manager Determinations

Appendix A: The legislation and the acceptable solution

A.1 The relevant performance requirements Building Code Clause G13 Foul Water include:

G13.3.1 The *plumbing system* shall be constructed to:

(a) Convey *foul water* from *buildings* to a drainage system,

(b) Avoid the likelihood of blockage and leakage,

(c) Avoid the likelihood of foul air and gases entering buildings, and

(d) provide reasonable access for maintenance and clearing blockages

A2 The relevant clauses from AS/NZS 3500.2.2 include:

4.6.7.2 *Permitted discharges*

Fixtures in Table 4.4, and fixture pairs in accordance with Clause 6.4.4, may be connected to floor waste gullies. Except for tundish discharges, these fixtures shall be located within the same room as the gully.

4.6.7.3 *Connection of fixtures*

Each fixture, or fixture pair, that is connected to a floor waste gully shall be connected by a separate waste pipe at a grade of not less than 2.5% and with a length not exceeding that specified in Table 4.4.

Excerpt from Table 4:

TABLE 4.4

DISCHARGE TO FLOOR WASTE GULLIES

Waste fixture	Maximum length of waste pipe, m		
	Connected to riser of floor waste gully		Connected to submerged inlet floor waste gully (see Figure 4.2A)
	Fixture untrapped	Fixture trapped	Fixture trapped or untrapped
Basin, drinking fountain	Not permitted	2.5	2.5 (trapped only)
Bath, shower/bath	1.2	2.5	2.5
Bidet	1.2	2.5	Not permitted
Cleaners' sink.	1.2	2.5	Not permitted
Clothes-washing machine	1.2	2.5	2.5
Bar sink (commercial), glass-washing machine	1.2	2.5	Not permitted
Bar sink (domestic)	1.2	2.5	2.5