



Determination 2018/063

Regarding the Building Code compliance of the proposed location for large toilet paper dispensers in accessible public toilets



Summary

This determination considers the code compliance of large toilet paper dispensers installed in prefabricated public toilets – the location of the dispensers differs from that shown in the relevant Acceptable Solutions. The prefabricated toilets are built under a consent issued at the point of manufacture and relocated throughout the country using a separate building consent for the site installation.

1. The matter to be determined

1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004¹ (“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 this determination are:

- Permaloo Ltd, a supplier of prefabricated toilet units (“the applicant”), acting through an agent, C Shaw of Pacific Modern Architecture, and the toilets’ designer (“the applicant’s agent”)
- Gisborne District Council carrying out its duties as a territorial authority or building consent authority (“the authority”).

1.3 I have also provided the Office for Disability Issues (ODI) with the determination documentation for comment by way of consultation under section 170 of the Act.

1.4 The determination concerns Permaloo’s prefabricated public toilet units which are manufactured in Gisborne and installed around the country. The applicant has requested a determination regarding the Building Code compliance of Permaloo’s

¹ The Building Act, Building Code, compliance documents, past determinations and guidance documents issued by the Ministry are all available at www.building.govt.nz or by contacting the Ministry on 0800 242 243.

accessible toilet compartments, as these locate large toilet paper dispensers above the grab rail next to the toilet rather than below this rail (the location shown in the relevant Acceptable Solution²).

- 1.5 The matter to be determined³ is whether the proposed building work, namely the proposed location of the toilet paper dispenser in accessible toilet compartments, complies with Building Code Clause G1 Personal hygiene⁴. In making my decision, I have considered the applicant's submission and the other evidence in this matter.

2. The background and building work

- 2.1 Permaloo prefabricated concrete toilet units are manufactured in Gisborne from where they are shipped to sites throughout New Zealand. Permaloo provides flush toilets as well as composting toilets, and similar, that do not require connection to services. The units are delivered to site with all fixtures and fittings, electrical and floor and wall finishes completed ready for connection to services as appropriate.
- 2.2 Each toilet unit receives a building consent from the authority for its offsite factory prefabrication based on the structural drawings, calculations and a Producer Statement - Design (PS1) from a Chartered Professional Engineer. Once prefabrication is complete, the unit is dispatched from the factory with accompanying documents including a Producer Statement - Construction (PS3), electrical certificate of compliance, and a code compliance certificate issued by the authority.
- 2.3 The purchaser then obtains building consent from the building consent authority ("the receiving BCA") where the prefabricated Permaloo toilet unit is to be located. Building work covered by this building consent generally includes sitework, foundations, and any connections to services.
- 2.4 On more than one occasion a receiving BCA has questioned an aspect of Permaloo's design, specifically, the location of the toilet paper dispenser in the accessible toilet compartments. The Permaloo design puts a large capacity toilet paper dispenser above the L-shaped grab rail next to the toilet, with the base of this dispenser located 1.0 m above floor level. The toilet paper dispenser typically used by Permaloo is made of stainless steel. It has a diameter of 270 mm and projects 114 mm from the wall. The L-shaped grab rail adjacent to the dispenser projects 100 mm into the room. This matches the layout shown in NZS 4241 Public Toilets⁵.
- 2.5 However, this design is in contrast to the Acceptable Solution for Clause G1, G1/AS1, which locates the dispenser below the grab rail (being 460 to 700 mm from the floor), and a maximum of 300 mm forward of the toilet pan. It is also in contrast to NZS 4121⁶ which has a similar layout to G1/AS1. Figure 1 shows relevant details from the Permaloo design, NZS 4241, G1/AS1, and NZS 4121.

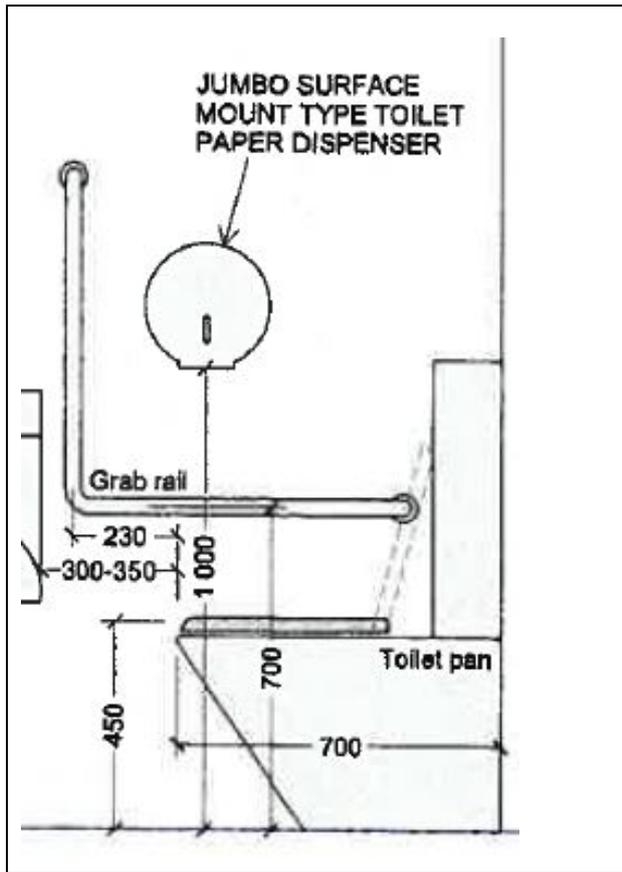
² Acceptable Solutions provide a means of compliance with the Building Code. If followed, they must be accepted by a building consent authority as complying with the relevant Building Code provisions. Refer www.building.govt.nz for more details.

³ Under section 177(1)(a) of the Act

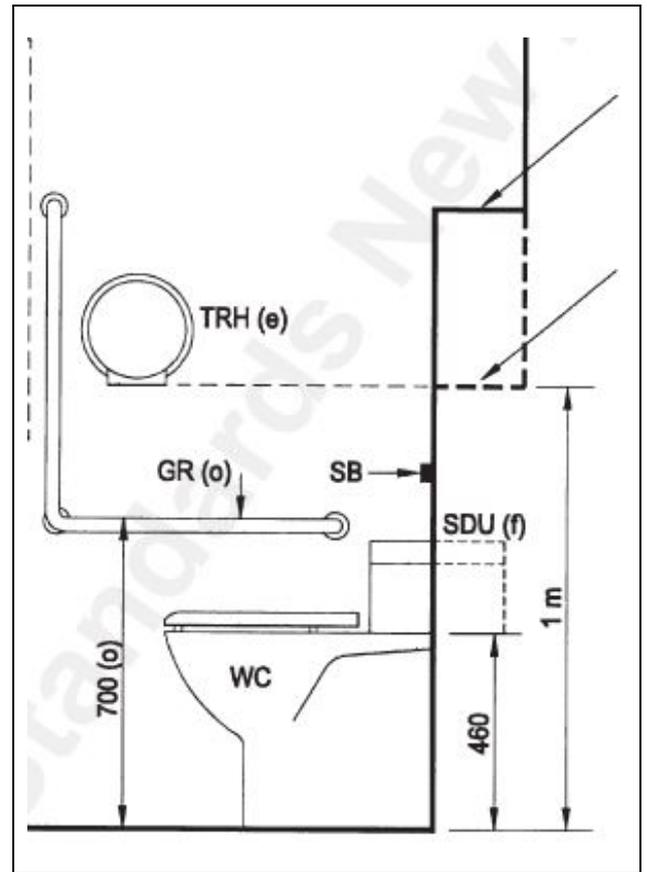
⁴ In this determination, unless otherwise stated, references to sections are to sections of the Act and references to clauses are to clauses of the Building Code.

⁵ New Zealand Standard NZS 4241:1999 Public Toilets, Appendix G (Informative), Figure G22 "Accessible toilet unit – inward opening door: Elevation 1"

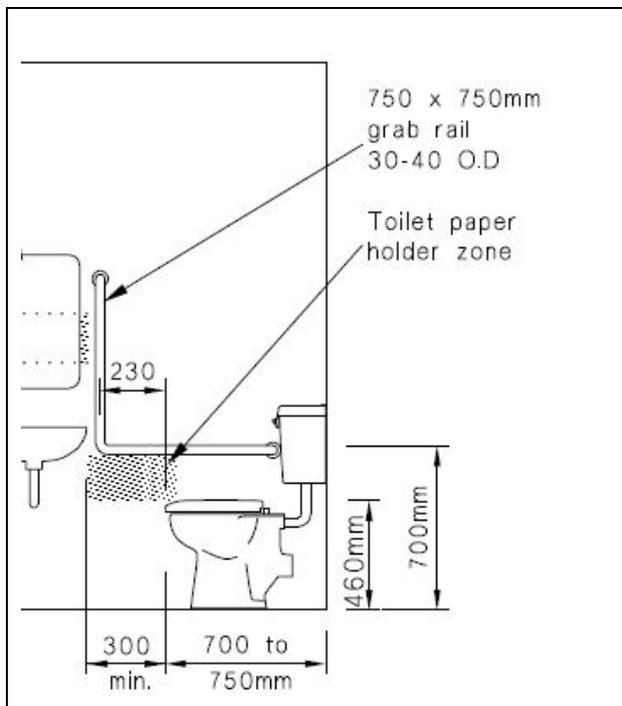
⁶ New Zealand Standard NZS 4121: 2001 Design for Access and Mobility – Buildings and Associated Facilities, Figure 31



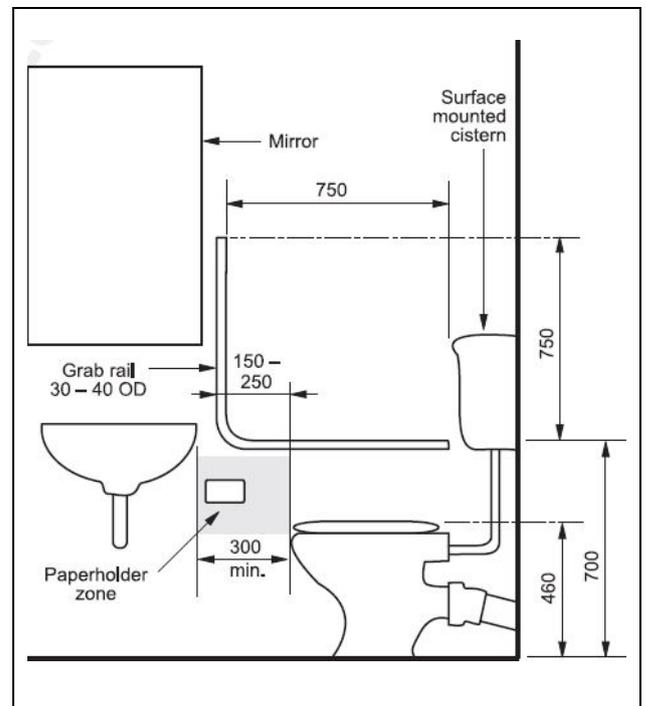
(a) Permaloo design - accessible toilet, flushing unit (detail from example design)



(b) NZS 4241 - accessible toilet unit, inward opening door (detail from Figure G22)



(c) G1/AS1 - accessible toilet compartment (detail from Figure 6)



(d) NZS 4121 - accessible facilities (detail from Figure 31)

Figure 1: Location of toilet paper dispenser in accessible toilets (not to scale)

2.6 On 17 September 2018 I received an application for determination asking me to consider the Building Code compliance of Permaloo's accessible toilet design. In particular, the applicant's agent asked for a determination as to whether NZS 4241 could be accepted as an alternative means of compliance.

3. Submissions

3.1 The applicant's agent sent a submission with the application for determination and copies of:

- drawings for "Accessible Fit Out Elevations" showing the set out for Permaloo's accessible toilet compartments – for a dry vault unit (with holding tanks) and a flushing unit (connected to a sanitary sewer system)
- a generic letter from the applicant's agent in response to a receiving BCA's request for information ("RFI") during the consenting process for installation on a site.

3.2 The applicant's agent said he was contracted by the company to supply drawings for building consent for Permaloo toilets. He said these prefabricated units required two building consents: one for manufacture in the factory, which was issued by the authority; and a separate consent for installation and connection to services on site, which was issued by the receiving BCA.

3.3 The applicant's agent said the location of the toilet paper dispenser in the accessible toilet compartments was a major source of RFIs from receiving BCAs. He said there was no need for receiving BCAs to review the completed work as it was already "signed off" by the authority by that point. However, he said:

[receiving BCAs] have actually made the contractor remove the dispenser and reaffix it below the grab rail, thus making the bottom dispensing unit very difficult to access.

3.4 By way of illustration, the applicant's agent supplied part of a recent response to a request for information raised by a South Island receiving BCA that had queried the dispenser's location. In his response he explained that public toilets typically had many users and were only serviced periodically. He said that large capacity toilet paper dispensers reduced service intervals and were used by most local authorities around the country.

Any bottom [large capacity] dispensing system will not work in the space indicated by Figure 6 in G1/AS1...

3.5 The applicant's agent said the design using NZS 4241 was the most suitable solution for public toilets. In his view the layout shown in G1/AS1 was suitable for most commercial situations but impractical for public toilets.

3.6 The applicant's agent also said the authority had accepted the Permaloo design as an alternative solution⁷. He said that the authority had issued a building consent and code compliance certificate for the prefabricated units which should have satisfied the receiving BCA regarding the toilet unit's compliance.

⁷ An alternative solution is all or part of a building design that demonstrates compliance with the Building Code, but differs from the Acceptable Solutions or Verification Methods. Refer to www.building.govt.nz for more information.

- 3.7 The applicant’s agent said that in this case his initial explanation was not accepted as the receiving BCA was concerned that NZS 4241 was not an Acceptable Solution. While this issue had been resolved in that case, he sought a determination in anticipation of further queries from other receiving BCAs.
- 3.8 The authority did not provide a submission.
- 3.9 The draft determination was issued to the parties for comment on 6 November 2018. The applicant accepted without comment on 7 November 2018. The authority also accepted the draft on 7 November 2018 noting a typographical error.
- 3.10 ODI responded to the draft on 16 November 2018, agreeing with the determination, preferring the layout in NZS 4241.
- 3.11 On 23 November 2018 the Ministry asked the agent about the different models of dispenser that could be used in the Permaloo toilets because the determination application only referred to dispensers that were typically used. The agent responded on the same day describing the dispensers used as follows:
- two single-roll dispensers⁸ most commonly used (114 and 120 mm deep)
 - a double-roll dispenser (157 mm deep, rolls side-by-side) which was not a common option
 - a double roll dispenser sought by one client (182 mm deep, rolls side-by-side) with the paper pulled from the centre of both rolls.

4. Discussion

- 4.1 The matter to be determined is whether Permaloo’s accessible toilet design complies with Building Code Clause G1 Personal hygiene.
- 4.2 The objectives of Clause G1 include ensuring that people with disabilities are able to carry out normal activities and processes within buildings (Clause G1.1(c)). The performance objective Clause G1.3.4 requires personal hygiene facilities for people with disabilities to be accessible, where accessible means “having features to permit use by people with disabilities”⁹.
- 4.3 The relevant Acceptable Solutions for this clause – which provide ways, but not the only ways, to comply with its requirements – are:
- G1/AS1 – this has specified layouts for accessible toilet compartments¹⁰ showing a “toilet paper holder zone” immediately below the grab rail next to the toilet (refer detail in Figure 1(c) of this determination), and
 - NZS 4121 Section 10,¹¹ which G1/AS1 cites as an Acceptable Solution for people with disabilities. This Standard contains a required layout for various fixtures, which also shows a toilet roll holder below the grab rail (refer detail Figure 1(d) of this determination), and says this must be located “within easy reach of a person using the toilet pan”¹². It also says that accessible toilets must be designed to provide manoeuvring space so that people in wheelchairs may use each type of fixture¹³.

⁸ Paper is extracted from the bottom of the roll unless otherwise stated

⁹ Under Clause A2 Interpretation

¹⁰ G1/AS1 paragraph 4.2.2 and figures 5-9

¹¹ NZS 4121 section 10 Toilet and Shower Facilities

¹² NZS 4121 paragraph 10.5.10.2

¹³ NZS 4121 paragraph 10.5.2

- 4.4 The applicant's agent considers the locations shown in the Acceptable Solutions are not practical for the large dispensers that are now commonly used in public toilets. The agent prefers the layout shown in the New Zealand Standard developed for such facilities, being NZS 4241 (refer detail Figure 1 (b) of this determination).
- 4.5 As shown in Figure 1(a) and (b) of this determination, the applicant's agent follows the design in Figure G22 of NZS 4241 by positioning the dispenser above the horizontal part of the grab rail, and with its base 1.0 m above floor level.
- 4.6 As this is an alternative solution for compliance, I now consider it directly against the relevant requirements of the Building Code.
- 4.7 The toilet paper dispenser must be accessible; i.e. permit use by people with disabilities. In my view, this means it must be within a convenient reach for a person using the toilet pan in an accessible public toilet. As people with disabilities are unlikely to be responsible for refilling dispensers in a public facility, I consider that the only relevant dimension is to the base of the dispenser where the opening for toilet paper is located.
- 4.8 In my view, this dispenser is conveniently located for a person seated on the toilet pan as also shown in the Permaloo design; i.e. with the top of the toilet seat 460 mm above floor level. It is a reasonable expectation that people seated on the toilet pan could reach the base of this dispenser without difficulty.
- 4.9 Further, I consider that the dispenser as shown in the Permaloo design is sufficiently clear of both the horizontal and vertical bars of the grab rail, so it does not impede the use of either the vertical or horizontal elements of the rail. (I note that the layout shown in Figure G22 of NZS 4241 (Figure 1(b) herein) has the dispenser in close proximity to the vertical rail such that it may well impede the easy use of the grab rail.) The dispenser needs to be in the order of 150 to 250 mm (at a minimum) away from the vertical rail to provide adequate clearance; the clearance necessary in any situation will depend on the depth of the dispenser itself, i.e., the deeper the dispenser, the greater the clearance required.
- 4.10 Care must also be taken to ensure that the dispenser is not so far back from the grab rail¹⁴ that users, in effect, need to turn behind them to access the toilet paper itself. The point at which paper is drawn from the dispenser should be no further back than the shoulders of a user when seated on the toilet pan.
- 4.11 I consider that anyone seated on the toilet pan will be able to judge the adequacy of the clearance between the dispenser to the grab rail as well as judge whether paper can still be easily drawn from the dispenser.
- 4.12 Large dispensers can project from 114 to 182 mm (refer paragraph 3.11) from the wall, however, given the height of the dispenser (1.0 m) and the projection of the adjacent grab rail beside and below the dispenser (approx. 100 mm) I consider the location of the dispenser is clear of the manoeuvring space needed within the toilet compartment for anyone in a wheelchair.
- 4.13 Therefore, I conclude that the proposed location for the toilet paper dispenser for accessible toilets shown in the Permaloo design complies with the relevant requirements of Clause G1, provided that:
- adequate clearance is provided between the dispenser and the vertical grab rail so the rail can be easily grasped by someone seated on the toilet pan, and

¹⁴ I.e., to the right of the grab rail as viewed in Figure 1(a) and (b) herein.

- the point at which paper is drawn from the dispenser is no further back than the shoulders of a user when seated on the toilet pan.
- 4.14 I note that the locations for a toilet paper dispenser shown in the two Acceptable Solutions for Clause G1 (being NZS 4121 and G1/AS1) would be largely unsuitable for large toilet paper dispensers shown in the Permaloo design and in NZS 4241, and which are now commonly used in public facilities. The location described for a toilet paper dispenser in the Acceptable Solutions is limited to approximately 210 mm from the top of the toilet seat (itself 460 mm above floor level) to the underside of the grab rail (the top of the horizontal rail is 700 mm above the floor), and 300 mm forward of the toilet pan.
- 4.15 The dispenser shown on the Permaloo design (and in Figure G22 of NZS 4241), is about 270 mm in diameter. If the dispenser was located where described in the Acceptable Solutions (and assuming a 30 mm diameter rail and 50 mm clearance between the grab rail and the dispenser) its base would be approximately 350 mm above the floor and 110 mm below the level of the toilet seat – meaning that anyone seated on the toilet pan would have to reach down or even bend over to remove toilet paper. This would be very inconvenient for any user.
- 4.16 While outside the matter for determination, the applicant has noted that the authority issues code compliance certificates for the Permaloo's toilet units before they are relocated around the country. Notwithstanding this, the compliance of the completed toilets is often questioned by the receiving BCA where the toilets are located. The consent for locating the toilet units in a permanent position is typically for foundations, connection to services and the like – this consent cannot include or require a reassessment of the completed building work which has already been found to be compliant by the issue of the code compliance certificate for the toilet unit itself.

5. The decision

- 5.1 In accordance with section 188 of the Building Act 2004 I hereby determine that the proposed location of the toilet paper dispenser in accessible toilet compartments as shown on the example Permaloo design complies with Building Code Clause G1 Personal hygiene subject to the matters discussed in paragraph 4.13 herein (clearance between the vertical rail and dispenser, and location of the point at which paper is drawn from the dispenser).

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 14 December 2018.

Katie Gordon
Manager Determinations