



Determination 2017/041

Regarding whether proposed barriers to a timber walkway and proposed wharf along the shoreline at Mangonui Harbour, Northland will satisfy Clause F4 Safety from falling



Summary

This determination is concerned with the compliance of proposed barriers to a wharf and walkway. The determination considers the fall height from the walkway to the wharf and whether a barrier is required, and whether the proposed barrier to the wharf would be incompatible with its intended use.

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, John Gardiner, Manager Determinations and Assurance, 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:

- Far North District Council (“the authority”), carrying out its duties as a territorial authority or building consent authority
- Far North District Council, as the owner of the walkway, acting through its Assets Management Branch (“the owner”).

1.3 I have previously considered whether a safety net along this timber walkway would comply with Clause F4 (refer Determination 2016/045², “the first determination”). In the first determination I concluded that the safety net complied; however the community has submitted to the authority an alternative proposal involving

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.

² *Determination 2016/015 Regarding whether a safety net will satisfy Clause F4 Safety from falling, to a timber walkway along the shoreline at Mangonui Harbour, Northland*

constructing a wharf. The authority has sought this determination to confirm whether the new design, as described in paragraph 2 below, complies with Clause F4 of the Building Code (First Schedule, Building Regulations 1992)³.

- 1.4 The matter to be determined⁴ is whether the proposed design for barriers to be constructed along the timber walkway and wharf complies with Clause F4. This determination is limited to considering clause F4 and only in respect of the proposed wharf and section of the existing walkway as described in paragraph 2.1 of this determination.
- 1.5 In making my decision, I have considered whether the barrier to the wharf would be incompatible with its intended use, and whether barriers are required to the wharf and/or the walkway. I have also considered the submissions of the parties, and the other evidence in this matter.

2. The building work

- 2.1 The building work considered in this determination is the construction of a wharf set down 950mm from the adjacent walkway, and a barrier to approximately 80m of the existing walkway where it is adjacent to the wharf (see Figure 1).
- 2.2 An alternative barrier is proposed to the walkway bordering the park, but this is outside the scope of this determination.
- 2.3 The existing walkway is approximately 168m long and is located on the shoreline of the Mangonui Harbour. The walkway is in the order of 4 to 5m wide, and is adjacent to a road, carparking, retail outlets and a hotel. The area considered in this determination is shown in Figure 1.

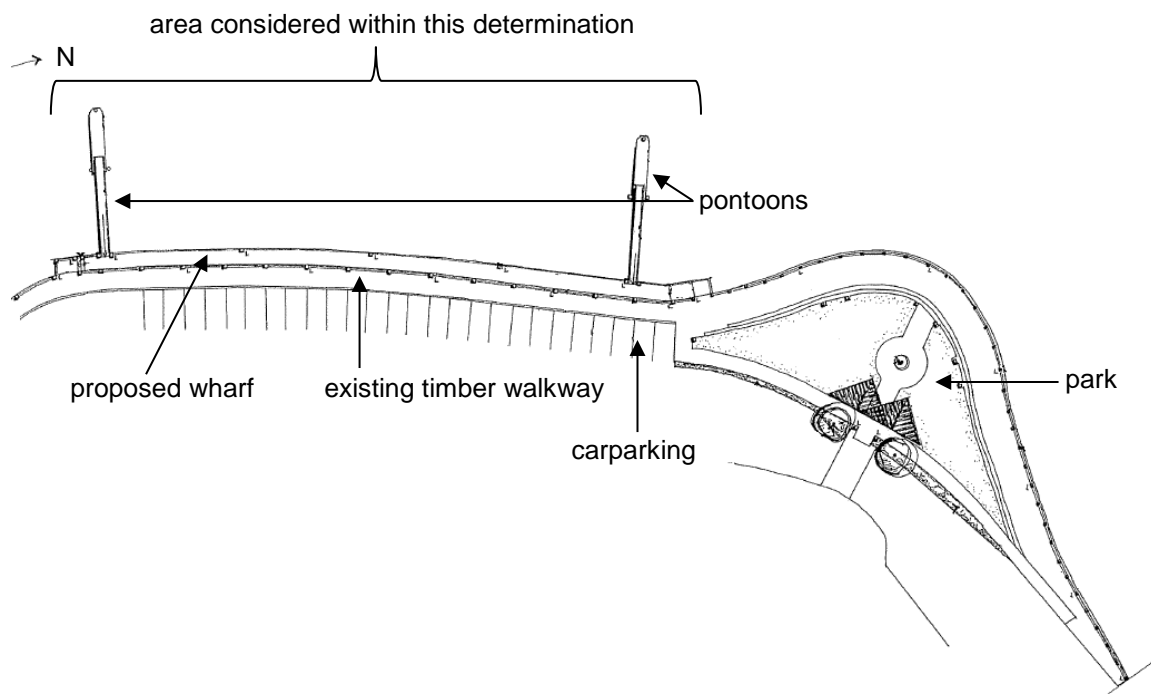


Figure 1: Site plan of the proposed wharf and existing timber walkway

³ In this determination, references to sections are to sections of the Act and references to clauses are to clauses of the Building Code.

⁴ Under section 177(1)(a) of the Act

- 2.4 At present there is no safety barrier to the walkway; however there is a timber curb 100mm wide and 75mm high, with 400 x 400mm timber bollards about 600mm high, evenly spaced along the seaward edge of the walkway.
- 2.5 The proposed barrier to the walkway (see Figure 2) consists of:
- timber bollards that are 1050mm high spaced at 2.5m centres, with recessed lights
 - 50mm thick marine rope attached to each bollard at approximately 900mm high
 - timber rail fixed between the bollards 200mm high above the timber decking of the walkway.
- 2.6 The proposed wharf is approximately 2m wide and fixed 950mm below the existing walkway. Two floating pontoons are proposed to be placed at each end of the wharf. The proposed barrier to the wharf (see Figure 2) consists of:
- 650mm high timber bollards spaced at centres of 1.6m
 - a timber rail fixed between the bollards 200mm high above the timber decking
 - cast iron wharf cleats fixed to the timber rail spaced at 4m centres, for mooring water craft

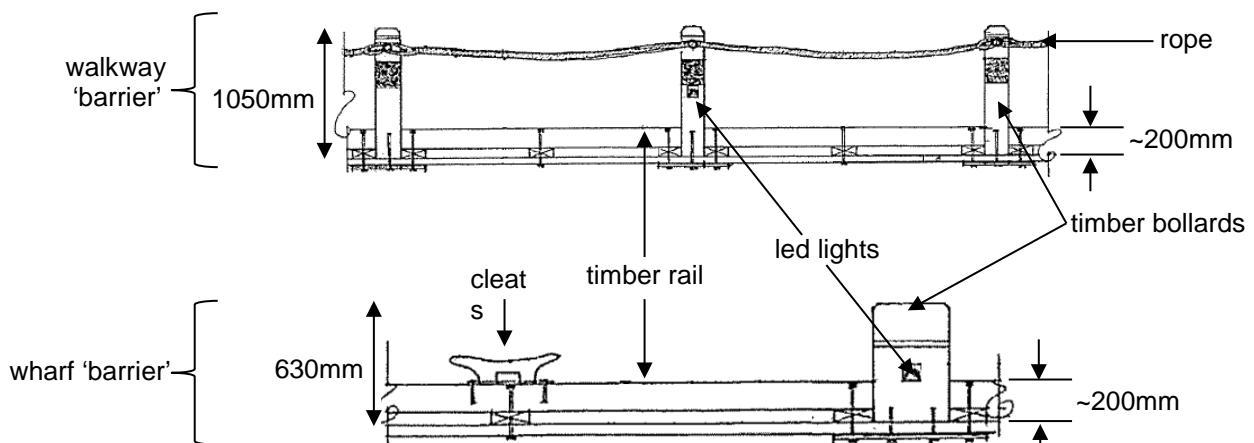


Figure 2: Diagram of proposed barriers to the wharf and walkway

3. Background

- 3.1 The authority issued building consent BC-2007-2710/1 on 26 July 2007 for a walkway to be constructed along the seaward side of Waterfront Drive. The consent included a design for a vertical safety barrier to protect people from falling from the walkway.
- 3.2 The owner amended the building consent in 2009 (BC 2007-2710/1), removing the safety barrier from the original design. This amendment went against technical advice from the authority's officers.
- 3.3 The owner proceeded with the decision to remove the barrier design, and notified the Chief Executive of the Ministry⁵ in accordance with section 68 of the Act on 12 August 2009.

⁵ Then the Department of Building and Housing, being the predecessor to the Ministry

- 3.4 The building work was undertaken in accordance with the amended plans and a code compliance certificate was issued on 5 April 2011.
- 3.5 The authority re-visited the need for a safety barrier along the walkway, and the first determination was applied for. The first determination confirmed that a proposed safety net to the side of the timber walkway would comply with Clause F4.
- 3.6 Subsequently the community raised concerns regarding the proposed safety net in relation to the visual impact and the need for regular maintenance. The authority has now proposed a wharf be constructed beneath the walkway incorporating the barriers as described in Figure 2.

4. The submissions

- 4.1 The authority provided a submission outlining how it believes the proposed design meets the compliance requirements of Clause F4:
- Visual design elements are proposed alongside the “substantial” timber curb, which will make users aware of the edge of the walkway and wharf area, and also alert them to the difference in levels to reduce the likelihood of an accidental fall.
 - The walkway borders car parking spaces and a park with varying activities and uses associated with each space. It is reasonable to assume that children under the age of 6 years using the walkway and wharf would be supervised by an accompanying adult.
- 4.2 In a letter dated 10 November 2016 the authority outlined the lack of wharf access for recreational boats. The authority stated that the only place for recreational boats to tie up close to the shops is a commercial fishing wharf that is “dominated by large fishing vessels” and there is limited access for recreational boats, and that the existing jetty for recreational boats to tie up is a “considerable distance” from the shops.
- 4.3 The letter listed the following uses of the proposed wharf and noted that a “substantial barrier” would prevent the proposed activities from occurring:
- Tying up of recreational boats.
 - Operation of charter companies, because currently access to the fishing wharf is “all but impossible”.
 - A “tender dock⁶” for yachts and large power vessels.
- 4.4 The authority included copies of:
- a plan of the waterfront proposal
 - photographs and maps of the timber walkway as constructed
 - “discussion document” regarding the walkway and wharf dated 16 December 2016 from a community interest group.
- 4.5 A draft determination was issued to the parties for comment on 9 May 2017.
- 4.6 The authority and owner accepted the draft determination on 16 May 2017 and made no further comment.

⁶ A tender dock is used when the water is too shallow for larger boats to enter, and small boats are used to shuttle passengers between the boat and the dock.

5. Discussion

5.1 It is not in dispute that the wharf and walkway are “buildings” as defined in section 8 of the Act. I note that there are two issues to consider: the compliance of the proposed barrier to the existing walkway and the proposed barrier to the wharf.

5.2 The relevant performance requirement F4.3.1 states:

Where people could fall 1 metre or more from an opening in the external envelope or floor of a building, or from a sudden change of level within or associated with a building, a barrier shall be provided.

5.3 The limits on application for this Clause state:

Performance F4.3.1 shall not apply where such a barrier would be incompatible with the intended use of an area...

5.4 In regards to areas likely to be frequented by children, the relevant performance requirement F4.3.4 states barriers shall:

(g) restrict the passage of children under 6 years of age when provided to guard a change of level in areas likely to be frequented by them.

5.5 Does the timber walkway require a safety barrier?

5.5.1 The 1 metre fall height stated in Clause F4.3.1 recognises that falls from this height are likely to result in significant injury; consequently, a fall from a height of less than 1m will satisfy Clause F4.3.1. The presence of the wharf at 950mm below the walkway means that someone is unable to fall vertically 1m or more.

5.5.2 I have discussed in previous determinations⁷ that the fall height cannot be calculated only in terms of the vertical height above the surface immediately below it. Any forward momentum of a person falling or a child running off must be taken into account, ensuring that the landing area is adequate. It is important to consider whether the width of the wharf is sufficient to prevent a person from being at risk of a further fall.

5.5.3 In Determination 2008/81, SNZ HB 8360⁸ was used to calculate whether a landing area had a sufficient width. Although SNZ HB 8360 is not a cited document in the Acceptable Solutions, it takes account of the likelihood that a person falling from the edge will continue to fall from the initial landing area. Using Table 20 in the document and based on the fall height, the landing area in this case would be required to be 1.5m.

5.5.4 At 2.0m wide the wharf has sufficient width to prevent a person’s forward momentum from causing a further fall. Taking that into account with the vertical fall height of less than 1m, I therefore conclude a safety barrier is not required to the seaward edge of the walkway.

⁷ *Determination 2010/035 Dispute about a notice to fix for safety barriers to a swimming pool area* (Department of Building and Housing) 27 April 2010, and *Determination 2008/81 Safety barrier to a deck located adjacent to a retaining wall* (Department of Building and Housing) 28 August 2008

⁸ New Zealand Standard SNZ HB 8630:2004 Tracks and Outdoor Visitor Structures

5.6 Does the wharf require a safety barrier?

- 5.6.1 Determination 1995/004⁹ noted that safety barriers are incompatible with the intended use of working wharves because a barrier would prevent a person moving from their boat to the wharf and vice versa. It is important to establish whether the wharf in this case is a working wharf and the limitation on Clause F4.3.1 would apply.
- 5.6.2 The proposed wharf is separate from the walkway and has a different proposed use. The authority provided a letter that outlined the intended use of the area as a wharf for recreational boats (see paragraph 4.2). I consider it salient that design elements necessary for the wharf to function as a working wharf have been proposed, such as the iron cleats and additional space provided by the pontoons to tie boats up.
- 5.6.3 I accept that the wharf will be used as working wharf, and a barrier would prevent the transition of people from boats to the wharf. Therefore, the limitation on Clause F4.3.1 applies as a barrier would be incompatible with the intended use. I note that while it is possible for people to walk along the wharf, in this particular instance in this location there will be adequate supervision of children under the age of 6 years old.

5.7 Design features for the walkway and wharf

- 5.7.1 The authority has requested confirmation that the “appropriate measures” have been proposed for the barriers to comply with Clause F4. I have concluded that a safety barrier will not be required to satisfy Clause F4 once the wharf has been constructed. However, any building owner is entitled to carry out building work that exceeds the minimum performance requirements of the Building Code. In regard to the proposed design for the timber walkway and wharf, it is for the authority (acting as the owner) to determine what “appropriate measures”, if any, it feels are desirable to provide visual clues that alert the user to the edge and the change of level of the walkway and the wharf.
- 5.7.2 I provide the following comments to the authority to consider in regard to the proposed design. The raised timber rails, substantial timber bollards that are lit, and rope running along the length of the walkway provide visual clues that alert people to the edge and the change in level. Likewise the raised timber rails and timber bollards with lights are visual clues that will alert people to the edge and the change in level for the wharf.
- 5.7.3 I also agree with the authority that given the location of the walkway and wharf, it can be reasonably assumed that children under the age of six would be supervised if they were present on the wharf and walkway.

⁹ Determination 1995/004 Safety barrier for a waterfront walkway (Building Industry Authority) 30 October 1995

6. The decision

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

- the section of the walkway considered in this determination with the wharf constructed at 950mm below does not require a barrier to comply with Clause F4 of the Building Code, and
- the limits on application to Clause F4.3.1 apply to the proposed wharf;

and accordingly the proposed building work complies with Clause F4 the Building Code.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 12 June 2017.

John Gardiner
Manager Determinations and Assurance