



Determination 2021/020

Regarding the refusal to issue a code compliance certificate for 23-year old additions and alterations to a residential dwelling at 36 Knights Road, Rothesay Bay, Auckland



Summary

This determination considers whether an authority was correct to refuse to issue a code compliance certificate for a building consent granted in 1998 under the former Building Act 1991. The determination will discuss the reasons given by the authority for the refusal, and how they relate to Building Code clauses B1 Structure, B2 Durability, E1 Surface Water, and E2 External Moisture that applied in 1998.

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, National Manager Determinations, Ministry of Business, Innovation and Employment (“the Ministry”), for and on behalf of the Chief Executive of the Ministry.¹
- 1.2 The parties to the determination are:
 - the owner of the house, D Annandale (“the owner”), who is the applicant for the determination
 - Auckland Council (“the authority”)², carrying out its duties as a territorial authority or building consent authority.

¹ The Building Act and Building Code (Schedule 1 of the Building Regulations 1992) are available at www.legislation.govt.nz. Information about the legislation, as well as past determinations, compliance documents and guidance issued by the Ministry, is available at www.building.govt.nz.

² Before the application was made, North Shore City Council was transitioned into Auckland Council; the term “the authority” is used for both.

- 1.3 This determination arises from the decision of the authority to refuse to issue a code compliance certificate for alterations to an existing detached residential dwelling. The authority is of the view that the external envelope of the altered dwelling does not comply with clauses B2 and E2 of the Building Code, that there are no accurate as-built plans that reflect the cladding systems constructed, and that building work was carried out in respect of a toilet installed in the laundry area without a building consent.
- 1.4 The matter to be determined³ is therefore whether the authority was correct in its decision to refuse to issue a code compliance certificate for building consent BCO10026298 (“the 1998 consent”) for the reasons set out in the authority’s letter dated 20 March 2020. In deciding this matter, I must consider whether the external envelope of the altered dwelling complies with clauses B2 *Durability* and E2 *External Moisture* of the Building Code that were in force at the time the building consent was granted. I must also consider some aspects of compliance with clause B2 as it relates to clause B1 *Structure* and E1 *Surface Water*.
- 1.5 Unless otherwise stated, references in this determination to sections are to sections of the Act, and references to clauses are to clauses of the Building Code.

Matters outside this determination

- 1.6 This determination only addresses the reasons identified by the authority in its letter dated 20 March 2020 for the refusal to issue a code compliance certificate⁴ for the building work completed between 1998 and 1999. This determination does not address any other issues or Building Code clauses not identified by the authority.
- 1.7 I also note that the owner will be able to apply to the authority for a modification of durability provisions to allow the durability periods specified in Clause B2.3.1 to commence from the date the building work was completed in 1999. Although I take the 23-year old age of the consented building work into account in this determination, I leave this matter to the parties to resolve after other matters are satisfactorily resolved.
- 1.8 This determination does not address any matters related to further building work on the dwelling which was authorised under a separate building consent reference number BCO10268855 (“the 2018 consent”). This was granted by the authority on 2 October 2018, and an associated code compliance certificate was issued dated 18 September 2019. The 2018 consent is a discrete issue that has been referred to in submissions by both parties but this is not the matter to be determined in this case. It is noted, however, that part of the building work authorised under, or undertaken in conjunction with, the 2018 consent was intended to address some of the latent issues previously raised by the authority in relation to the 1998 consent.
- 1.9 Similarly, this determination does not discuss any matters related to the replacement of some existing joinery with new double glazed units. This building work was undertaken sometime between 2018 and 2019 under clause 8 of Schedule 1⁵ of the Act. This building work is referenced by both parties but this is not the matter to be determined in this case.

³ Under section 177(1)(b) and (2)(d) of the Act.

⁴ Section 95A of the Act – Refusal to issue code compliance certificate

⁵ Schedule 1 – Building work for which building consent not required; clause 8 – Windows and exterior doorways in existing dwellings and outbuildings

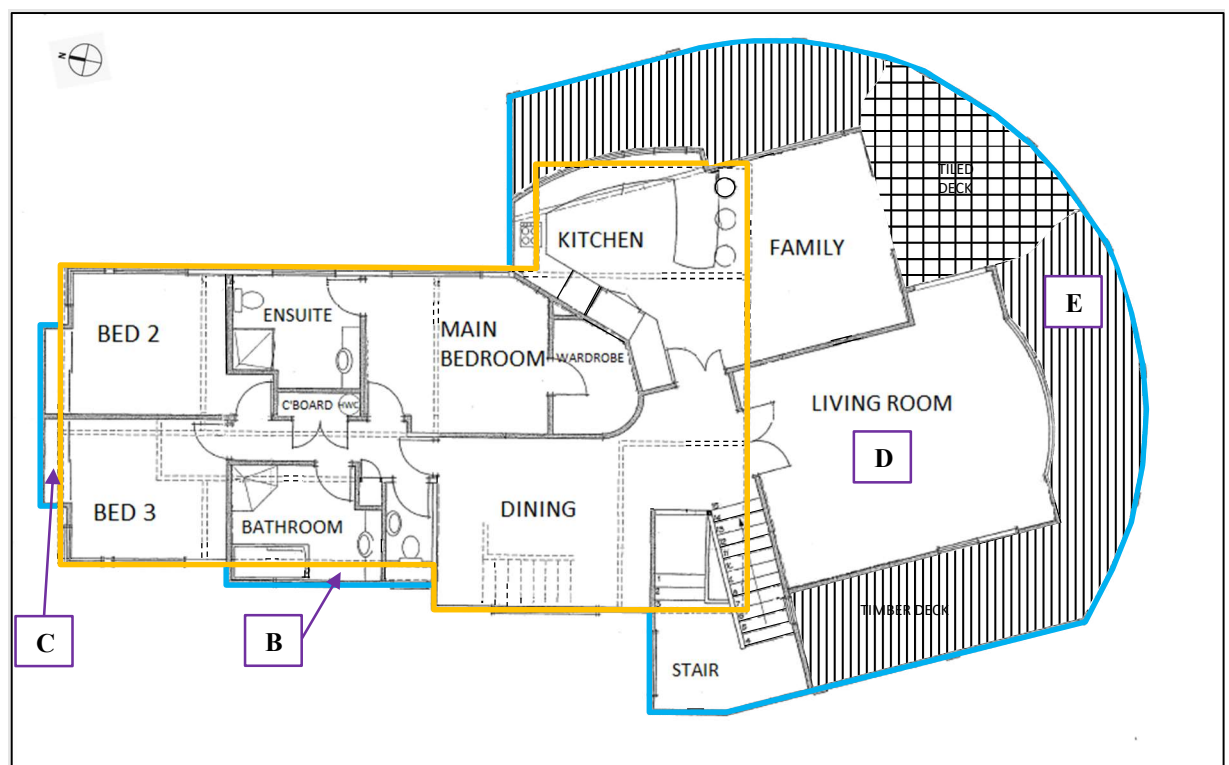
2. The building work

2.1 The building is a two-storey, detached dwelling on a large, gently sloping site in a low wind zone. The original dwelling was constructed in 1967.

2.2 The dwelling is part founded on a reinforced concrete floor slab, concrete block foundation walls, timber piles and associated subfloor framing. Construction of the primary structure is a combination of conventional timber framing, including timber first floor joists and roof members, and some concrete block walls. The building is complex in plan and form.

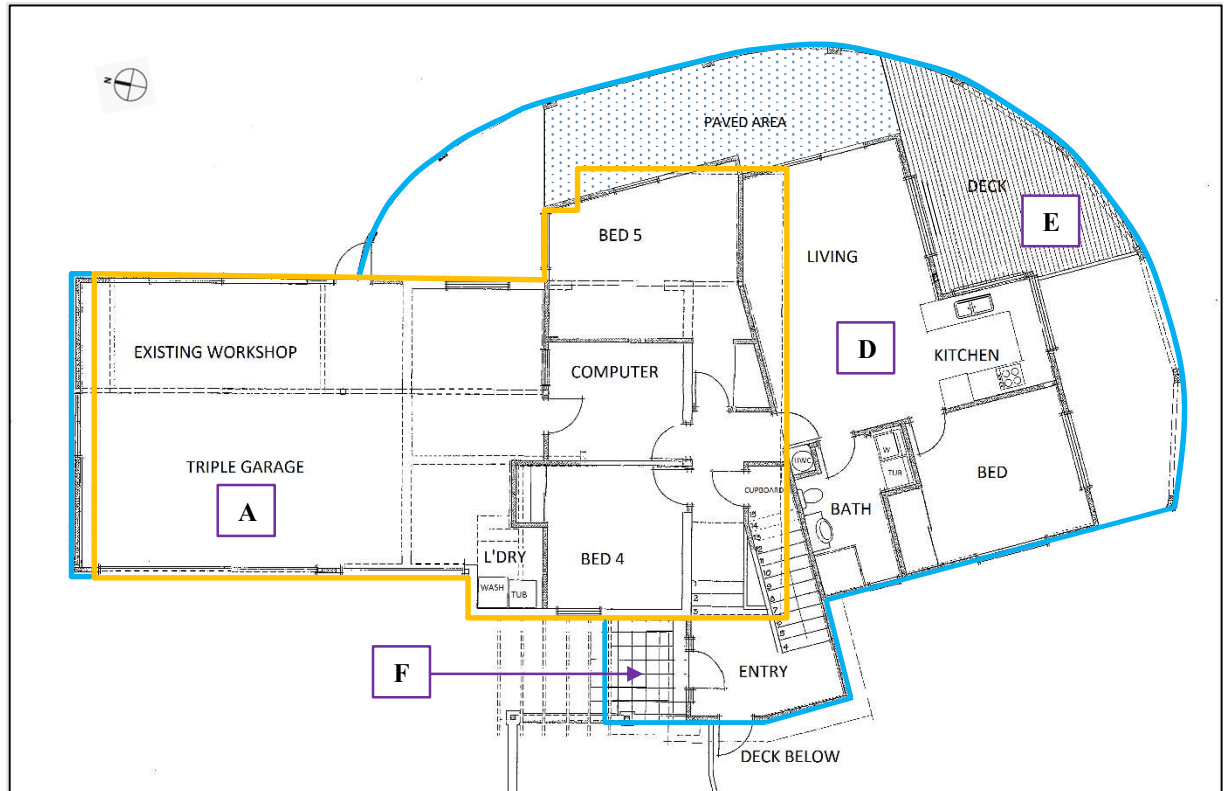
2.3 Refer below to figures 1 and 2. The building work that was carried out under the 1998 consent included, but was not limited to:

- the enclosure of the original ground floor carport on the north west corner of the building to form a new triple garage (item “A”, figure 2)
- the construction of an approximate 4.5m long x 0.45m wide extension at first floor level on the west side of the building as part of the new bathroom and toilet (item “B”, figure 1)
- the construction of an approximate 4.0m long x 0.6m wide extension at first floor level on the north side of the building (item “C”, figure 1)
- the construction of a large extension at first and ground floor level to the south side of the building (item “D”, figures 1 and 2)
- the construction of a large deck on the south side of the building (item “E”, figures 1 and 2)
- the construction of a tiled membrane roof over the entrance on the west side of the building (item “F”, figure 2), and
- the recladding of the parts of the building unaltered by the extensions.



- Approximate outline of original dwelling
- 1998/99 building consent floor plan including extensions

Figure 1: First floor plan [not to scale]



- Approximate outline of original dwelling
- 1998/99 building consent floor plan including extensions

Figure 2: Ground floor plan [not to scale]

2.4 The cladding to the building is a mix of:

- monolithic cladding system, called EIFS⁶ (comprising a modified acrylic plaster system over expanded polystyrene board, which is direct fixed to timber framing. There are also areas of EIFS cladding fixed to concrete block walls at the ground level of parts of the west and east elevations)
- direct-fixed cedar weatherboards, and
- stone schist cladding installed over a cavity system.

2.5 The doors and windows are aluminium and the roof is clad in metal tiles.

2.6 The entrance canopy roof (item “F”, figure 2) comprises direct fixed tiles over a liquid applied membrane, which is specified in the 1998 building consent as a 1.5mm butyl rubber membrane. The membrane is installed over a fixed plywood substrate and supporting timber framing.

⁶ Exterior Insulation and Finish System

- 2.7 The expert (refer to paragraph 5.1) noted that no timber treatment was detected in the samples taken of the framing. Given this evidence and the date of construction of the extensions in 1998 and 1999, it is likely that the framing used was untreated kiln-dried timber, and therefore the wall and roof framing to the extensions is unlikely to be treated to a level that will provide resistance to fungal decay.

3. Background

- 3.1 Building consent BCO10026298 (“the 1998 consent”) was granted to the previous owners⁷ in January 1998, under the Building Act 1991 (“the former Act”), for alterations to the existing 1967 building.
- 3.2 The building work was carried out sometime between 1998 and 1999. Authority records confirm a surface water soakage system inspection, a footing inspection, and a pre-line inspection, were carried out between May 1998 and July 1999.
- 3.3 I have received no evidence to suggest that the previous owners applied to the authority for a final inspection or code compliance certificate when the building work was originally completed⁸.
- 3.4 On 29 November 2016, the authority carried out a final inspection. A number of items failed the inspection and the authority noted that an amendment was required to the building consent. An amendment to the building consent was required for changes made to the wall cladding, the roof design, and a toilet installed and a door fitted in the laundry room.
- 3.5 A further inspection was carried out by the authority on 16 December 2016. I have not seen a copy of that inspection record.
- 3.6 Following its inspection on 16 December 2016, the authority wrote to the previous owners on 9 January 2017. The authority stated that under section 95A of the Act it had refused to issue a code compliance certificate. The authority advised that a suitably qualified weathertightness expert should be engaged to investigate the performance of the building. The authority listed a significant number of items, which included (but was not limited to) issues relating to the wall cladding, associated flashings and joinery, the deck, the entrance canopy roof, and internal elements.
- 3.7 During 2017, the current owner purchased the property and engaged the services of a building consultant to review and address the outstanding issues identified by the authority in its letter dated 9 January 2017.
- 3.8 On 14 September 2017, the building consultant wrote to the authority on behalf of the owner. The consultant confirmed he had carried out an investigation of the building and went on to comment on the issues raised by the authority. The building consultant issued a report which made a number of recommendations for remedial building work to be carried out. The report included a photographic record of the investigation, including the results of some invasive moisture tests carried out. One photograph was of an internal view of the timber framing at the south east corner window with a somewhat elevated moisture reading and stained timber.
- 3.9 On 13 October 2017, the authority responded via email to the building consultant’s 14 September 2017 report noting:

⁷ The previous owners of the property sold it to the current owner in 2017. The current owner has applied for this determination

⁸ Section 43(1) of the Building Act 1991

“Report accepted in principal”(sic)

- 3.10 As stated in paragraph 1.8 of this determination, the authority granted a separate building consent (“the 2018 consent”). I have not seen a complete copy of that consent, but this did include some remedial building work to address those items identified in the building consultant’s report dated 14 September 2017.
- 3.11 The authority carried out another final inspection on 6 August 2019 in respect of the 1998 building consent. The authority identified a number issues in the “failed” inspection, and these included but were not limited to:
- significant changes to the wall claddings, schist stone features added and large areas that were to be weatherboard changed to EIFS
 - concerns with the junctions between dissimilar cladding types
 - changes to the roof profile and roofing materials, and
 - changes to the laundry (which is now enclosed with a lack of ventilation, and a toilet has been installed).
- 3.12 On 18 September 2019 the authority issued a code compliance certificate in respect of the building work carried out under the 2018 consent.
- 3.13 On 7 October 2019, a second building consultant engaged by the owner wrote to the authority in response to the items raised in the authority’s inspection record dated 6 August 2019. The consultant provided a statement on the background to the building works undertaken, and included photographs of ongoing building works, and stated:
- “...the roof is now 20 years old, [and] has met its durability and performance requirements thus far”
 - the change in cladding types “was a common occurrence”
 - the building consent plans “stated a sprayed texture coating to 7.5mm Hardietex cladding” was specified
 - the use of the EIFS system “could be considered the better of the [three] monolithic claddings”⁹
 - “the plans also state selected brick veneer cladding” was to be used but “in this case [the owner has] selected [stone] Schist”
 - it disagreed with the authority’s concerns about the junctions between dissimilar cladding types “as they were investigated and have also been inspected during...[the] remedial works”
 - that “ventilation can be provided” to the laundry area
 - that “there is also an as-built drainage plan...on the property file showing the toilet”
 - new flashings have been installed between the plaster cladding and stone schist and weatherboards
 - “it was common practice to place a scribe at” the junction where the weatherboards meet the stone schist

⁹ The building consultant did not specify what the three monolithic claddings types were.

- that with respect of gaps between the sloping soffit and fascia “these can be sealed but there are flashings here and the gaps [the authority] refer to maybe the exit points”.

3.14 The authority responded to this letter on 2 December 2019, addressing the building consultant’s comments. The authority stated:

- it had “not inspected the roof” as there was “no access to” it, but it did have concerns with “the tiled membrane over the entry”
- it still required “updated plans to reflect accurately the [building] work carried out”
- it did “not consider” the “plaster cladding” was “a superior system” to that of “cedar weatherboard”
- that “Schist stone is also quite different to what would be expected of a brick veneer and with the areas having been changed substantially we now have a lot more junctions between dissimilar claddings which are all higher risk”
- it had “been through the inspection reports and photos under the new [2018 building] consent and cannot see anywhere that these areas...were ever inspected or photographed” in respect of the new flashings installed
- it “agreed” that ventilation was to be provided to the laundry space
- the toilet in the laundry space “was never consented”, and not accepted by the authority, and required that the owner was to apply for a certificate of acceptance¹⁰ or remove the toilet
- it had not inspected or photographed the new saddle flashing fitted at the front of the dwelling between the plaster finish, stone schist and weatherboards
- it referred to the photographs of the new saddle flashing included in the building consultants letter and confirmed it “only shows flashings in place with no photos showing the condition of the framing beneath”, and the photos “also show flashing tape from the timber framing onto the new flashing but no indication of what was done to dress down onto the flashing tape”
- “There are still sizeable gaps visible between the schist stone and the scribes in places. This requires further investigation and confirmation of performance or failure”
- in respect of the sloping soffit and fascia near to the schist stone, it has concerns “over these areas and any damage that may have already occurred” and “some of the fascia is showing signs of decay and with gaps visible there is additional concern around the soffit framing”
- it “appears that some areas have weatherboard run into plaster without any sort of scribe”
- it disputed that the tiles over membrane at the front entry canopy “was accepted”, and that it “has concerns over areas with tiles direct fixed over membrane particularly where there is visible evidence of mould and water build-up”.

3.15 Following a site meeting between the parties on 3 March 2020, the authority issued a letter to the owner dated 20 March 2020 in which it confirmed its position about the

¹⁰ Sections 96 to 99A of the Act

non-compliance of the building work covered by the 1998 consent, and consequently refused to issue a code compliance certificate under section 95A of the Act. The authority noted it could not be satisfied on reasonable grounds that the building work complied with the Building Code, or that the building is performing as intended.

- 3.16 The reasons given by the authority for refusing to issue a code compliance certificate are summarised as follows:
- 3.16.1 The changes made to the cladding (weatherboard to EIFS, and brick veneer to schist stonework) that require “confirmation that these areas of changed cladding are in fact performing”.
 - 3.16.2 The junctions between dissimilar types of cladding require further investigation. Although remedial building work has been carried out, no thorough investigation has been carried out, and the authority cannot be confident that there is no failure occurring to these areas. This included reference to items 1j, 1k, 1l and 1n of the authority’s letter dated 9 January 2017¹¹ (see paragraph 3.6).
 - 3.16.3 The toilet installed in the laundry room was not consented and a certificate of acceptance is required “to legalise this”.
 - 3.16.4 As-built plans are required that clearly show the changes to the claddings.
 - 3.16.5 The new apron flashings installed from the EIFS cladding down over the schist stone and weatherboard at the front of the building require investigation to confirm there is no damage to the underlying framing. Photographs show the flashing tape fixed to the flashing and directly onto the timber framing and the building wrap cut up higher at the level of the EIFS cladding. The authority noted it believed that the new apron flashing in question was not part of any building consent, and the installation of it was not inspected by the authority.
 - 3.16.6 The junctions between the weatherboard and stone schist require investigation to prove performance or identify failures. No evidence can be seen of a back flashing to these areas and there are a number of sizeable gaps at the junction.
 - 3.16.7 Improperly finished junctions where a fascia and sloping soffit are “buted” into the stone schist.
 - 3.16.8 The “visible bubbles” in the roof membrane over the front entry canopy roof, and where outlet from the roof “runs back into the framing and soffit of the” dwelling. The authority noted its “main concern is with the substrate and framing” that the roof finish is protecting, and that “the fascia to this area...is showing signs of deterioration”.
 - 3.16.9 The corner windows, which have been replaced with standard windows and additional framing and claddings require further investigation. The report dated 14 September 2017 (refer to paragraph 3.6) included a photo of framing beneath a corner window and although the moisture level is only 16% there appears to be staining visible to the framing, and concerns were

¹¹ 1j relates to “saddle flashings do not appear to have been installed”; 1k relates to “stone brick installed against plaster cladding”; 1l relates to “transition flashings have not been installed in areas”; 1n relates to “unable to identify if flashings have been installed to divert water away from the building”

raised by the authority about the structural integrity of the framing used to form the window openings.

- 3.16.10 “Cracks in the cladding (sealed)” as noted in item 1c of the authority’s letter dated 9 January 2017 (see paragraph 3.6), and a lack of “any thorough investigation into these areas either confirming performance or highlighting failures”.
- 3.17 The authority’s letter dated 20 March 2020 also noted its email of 13 October 2017, where they had referred to the building consultant’s report as being “accepted in principal”(sic) (refer to paragraph 3.9), was not a blanket approval that repairs could be carried out without a building consent, or without further evidence being provided confirming a lack of failure to some building elements.
- 3.18 The Ministry received an application for a determination on 30 March 2020.

4. The submissions

The owner

- 4.1 The owner submitted that:
- the building was purchased in 2017 knowing there was no code compliance certificate for the additions and alterations carried out under the 1998 consent.
 - a building consultant was engaged by the owner to work with the authority on a plan to remedy the defects. The plan included building work to be undertaken as part of the 2018 consent that was intended to resolve some of the outstanding matters from the 1998 consent
 - in an email dated 13 October 2017 the authority confirmed its acceptance “in principal”(sic) to the remedial building work proposed.
- 4.2 With respect to the issues identified by the authority in the section 95A letter dated 20 March 2020, the owner considers:
- the investigation that was carried out in 2017 showed the cladding was performing at that time and has been subject to substantial inclement weather patterns/periods since then without evidence of failure
 - there is no difference between a brick veneer and stone schist cladding
 - the proposed remedial work was accepted and allowed to be carried out, including the apron flashings and other flashings to the stone schist cladding
 - a large proportion of the building has good eave protection
 - staining of the framing where the window was replaced with doubled glazed units was minimal and likely from the original construction. The building work was carried out under Schedule 1. The integrity of the structure was not compromised as there was no change to the window structure
 - the membrane canopy roof was accepted by the authority in its email dated 13 October 2017. The membrane terminates under an eave, and is outside the external envelope of the building. The membrane is now 22 years old and any failure is now a maintenance item

- the building inspector agreed for the installation of the toilet to be covered by a minor variation. This is noted in the authority's inspection report dated 29 November 2016 which stated "On site minor variation: Laundry now has a door and a WC, [ventilation] required"
- accurate as-built plans have been provided with the 2018 consent.

The authority

4.3 In response to a request from the Ministry for confirmation of the authority's position, including clarification of the specific areas of non-compliance, the authority submitted the following (in summary).

- It accepted the minimum durability period of 15 years for the cladding had expired, however, it is concerned about the underlying structure and it required an investigation be carried out. An investigation would provide assurance that items identified as non-compliant, poorly finished, or showing signs of failure have not affected the underlying framing - bearing in mind the minimum 50 year durability required of the structure.
- It requested evidence from the owner of ongoing performance of items, such as flashings, and it does not believe sufficient information has been provided.
- Regulatory oversight of the 2018 consent was provided by a non-specialist team due to the description of the building work in the building consent.
- Flashings at the junction of the EIFS cladding and stone schist were not part of the scope of works for the 2018 consent.
- The specific items of non-compliance are (refer to Appendix A for a description of the Building Code clauses) stated below:
 - No anti-capillary gaps to head flashings. This does not comply with clause E2.3.2 of the Building Code current at the time the building consent was granted.
 - Visible cracks to the EIFS cladding. This does not comply with clause E2.3.2 of the Building Code current at the time the building consent was granted.
 - Incomplete or poorly finished fascia/barge to wall/soffit junctions. This does not comply with clause E2.3.2 of the Building Code current at the time the building consent was granted.
 - Non-compliant cladding clearances. This does not comply with clause E2.3.2 of the Building Code current at the time the building consent was granted.
 - The lack of transition flashings at junctions between dissimilar claddings. This does not comply with clause E2.3.2 of the Building Code current at the time the building consent was granted.
 - Timber work buried in EIFS cladding. This does not comply with clause E2.3.2 of the Building Code current at the time the building consent was granted.
 - The lack of overflow to membrane canopy roof. This does not comply with clause E2.3.2 of the Building Code current at the time the building consent was granted.

- No accurate as-built plans supplied to clearly identify the changes to the claddings from the 1998 consent.
- Unconsented building work carried out to install a toilet in the laundry area.

4.4 A draft determination was issued to the parties for comment on 25 May 2021.

4.5 The owner responded on 1 June 2021. The owner did not accept the draft determination, and stated:

- the “key finding that there is insufficient evidence that the building is weathertight is a very disappointing result given the evidence provided by the expert”
- “the analysis did not indicate water ingress or failure of the exterior envelope” as indicated by the expert in its report
- the “determination suggests that “...limited invasive moisture testing...” ([paragraph] 6.18) was carried out, suggesting insufficient investigation by the expert. [The owner noted] that the expert was not prevented from taking additional samples wherever he felt necessary, but considered that [the expert] had targeted all of the relevant areas”.
- the “conclusion that the laboratory tests provide indication of “...moisture penetration of the external envelope...” is a big leap to take by someone who has not observed the building envelope”.
- that “moisture, and resulting fungal residue, could have resulted from wet timber, or moisture during construction”.
- that paragraph 6.26 (of the draft determination) suggests the owner or the builder “would have done anything other than replace any failing timber framing (of which none was found, only timber deterioration issue was lining timbers associated with butted corner glass windows during their replacement)”.
- the “matter of the flashings above the window was the very first item raised with [the authority] and agreed that this work need not form part of the consent as windows can be replaced under Schedule 1”.
- the draft “determination refers to differences in the cladding from the original design in 1998. Again, in all [of the owner’s] communications with [the authority] there was never any discussion about this, other than ensuring that the claddings are correctly referenced on the plans. The determination should not leave this matter as between the [authority] and [the owner]...as it potentially is an unsolvable issue”.
- agreement with the conclusions reached in the draft determination about the toilet located in the laundry space and the entrance canopy roof.
- reference to comments on the experts report prepared by a building consultant engaged by the owner, which stated the items raised by the expert were either “performing”, or there was “no failure”, or “compliant”.

4.6 The authority responded on 17 June 2021. The authority accepted the draft determination, and provided the following comments:

- The authority “would not normally issue a further [section] 95A refusal to issue [a code compliance certificate] as it considers that [this] has already been done with reasons provided”.
- “Subject to the Determination being finalised [the authority] would generally expect the applicant to arrange for a site meeting to discuss any proposal to address the outstanding issues”.
- The authority accepts “the toilet in the laundry can be covered through an on-site minor variation”.

5. The expert’s report

5.1 The Ministry engaged an independent expert to provide advice on this dispute. The expert is a member of the New Zealand Institute of Building Surveyors and inspected the house on 19 June 2020 and 4 July 2020. The expert issued a report to the Ministry on 10 August 2020 and a copy was provided to the parties on the same day.

5.2 The expert considered the compliance of the following specific elements of the building work:

- the EIFS cladding
- the schist veneer stone cladding
- the cladding junctions between different types of cladding elements at risk locations (EIFS, schist stone, and weatherboards)
- cladding clearances
- the stainless steel flashing installed across the north gable wall at the junction between the EIFS cladding and the schist stone veneer and horizontal timber weatherboards below
- the tiled roof over the exterior canopy roof above the main entrance of the dwelling, and
- the toilet installed in the laundry area at ground level.

5.3 The expert also considered whether the approved drawings for the 2018 consent provide an accurate account of the as-built building work carried out under the 1998 consent.

General

5.4 The expert noted that the general quality of the workmanship was good, that the claddings and internal surfaces and elements were straight, the finish was of good quality, and flashings were generally tidy and effective.

5.5 The expert noted that the bearer connections to the deck timber posts do not have the bolt fixings that are shown in the 1998 consent, and require checking as it appears that the connection has only been made using the nail plates (see photo 1). The expert considered this was a potential safety issue. This issue is not the matter for determination, but I do bring it to the attention and benefit of the parties for further consideration.



Photo 1: Deck post to bearer connection with nail plate

The EIFS cladding

- 5.6 The expert noted that the EIFS cladding that was installed during the period 1998 to 1999 “was not the cladding detailed in that building consent documentation”. The building consent plans instead indicated a combination of timber weatherboards, areas of brick veneer, and solid plaster to concrete block walls were to be used as the external wall cladding.
- 5.7 The expert described past experience with direct-fixed EIFS cladding systems, including a lack of flashings, and a heavy reliance on well-sealed and maintained joints especially around recessed windows, as well as the performance of the outer coating.
- 5.8 The expert noted the EIFS cladding “was found to be adequate” in terms of its performance “after more than 20 years in service”, but there was an indication of “historical cracks”. However, these cracks to the cladding were well maintained as they were both sealed and painted.
- 5.9 The expert carried out limited invasive moisture testing to two locations at risk of moisture penetration, which was below the dining room window on the upper storey of the west elevation. The moisture readings were taken internally at each corner near the outside face of the timber framing (80-85 mm into the timber framing). The readings were 14.3 percent (left hand side) and 13.5 percent (right hand side). The expert considered the readings were within normal levels whilst noting the time of year and what is to be expected from timber framing not affected by exterior moisture.
- 5.10 The expert also confirmed it had lifted a small area of carpet in the north-west corner of Bedroom 3 on the first floor level under the window. The location was below an external corner of the EIFS cladding. The expert stated that the carpet “was sound”, and “there were no signs of moisture transfer or ingress at this location”.
- 5.11 The expert provided timber samples taken from the moisture reading locations for analysis. The laboratory report stated:
- the samples contained no detectable preservative, so are likely to be untreated radiata pine

- for the sample from the left hand side, there was no established decay micromorphology detected, although brown rot could not be completely ruled out. Dense fungal growths predominantly typical of mould fungi, yeasts, sapstain and/or soft rot fungi were detected. Some yeasts and secondary mould had morphology suggesting recent activity.
- for the sample from the right hand side, fungal remnants (spores and hyphae) were present but no well-established fungal growths and no decay micromorphology was detected.

Stone schist veneer

- 5.12 The expert noted the stone schist cladding was built up like a brick veneer cladding over a cavity with weep holes at the base and that it was, in parts, at or below driveway level as indicated in the photographs included in the expert's report. The expert also noted it was not clear whether a damp proof course had been installed and whether the foundation was stepped.
- 5.13 The expert also stated "the schist veneer stonework was found to be performing. Although some insufficient ground clearance exists near the garage door, and the driveway slopes toward the corner of the building" (see photo 2).

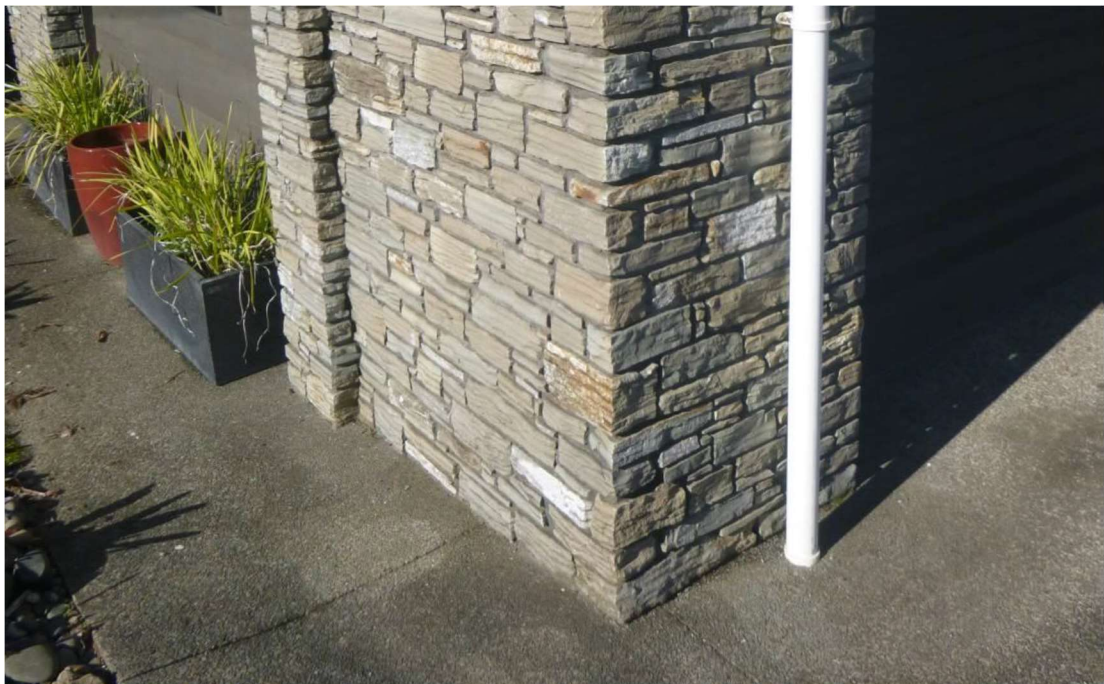


Photo 2: Ground floor, northwest corner – stone schist cladding

- 5.14 The expert carried out limited invasive moisture testing to two locations at risk of moisture penetration. The locations at risk were the inside of the garage at ground level and at the junction between the stone schist cladding and the cedar weatherboards. The readings were taken internally into the outer parts of the bottom plate or lower end of the stud. The readings were 14.8 percent and 15.2 percent. The expert considered the readings were within normal levels "expected from timber framing not affected by water ingress from the outside".
- 5.15 The expert provided a timber sample taken from the moisture reading locations for analysis. The laboratory report stated:

- the sample contained no detectable preservative, so is likely to be untreated radiata pine, and
- there was no established decay micromorphology detected, although brown rot could not be completely ruled out. Dense fungal growths predominantly typical of mould fungi, yeasts, sapstain and/or soft rot fungi were detected. Some yeasts and secondary mould had morphology suggesting recent activity.

Cladding junctions/stainless steel flashing

- 5.16 The expert checked the schist stone cladding, weatherboard and EIFS cladding junction on the north elevation of the building.
- 5.17 At the junction between the schist stone cladding and the EIFS cladding, at the northeast and northwest corners at first floor level, the expert observed a grout and plaster joint was formed, which appeared sound and with no obvious signs of moisture ingress. The expert could not confirm if a back-flashing was installed, but noted that the stainless steel flashing above provided adequate protection from the top (see photo 3).



Photo 3: Stone schist cladding to EIFS cladding junction, northwest corner

- 5.18 The expert carried out limited invasive moisture testing to locations at risk of moisture penetration internally at each corner inside the wardrobe of Bedroom 3 at first floor level by reaching the corner stud. The moisture reading at the first storey floor level was 14.4 percent (near to the location of the junction between the schist stone cladding and the horizontal weatherboards). The reading at the stainless steel flashing level was 13.9 percent (near to the junction between the EIFS cladding, the horizontal weatherboards and the schist stone cladding). The expert considered the readings were within normal levels, and did not indicate “any exterior water ingress”.
- 5.19 The expert provided a timber sample for analysis taken from the approximate location of the stainless steel flashing (approximately 1.5m above floor level) inside

of the wardrobe to Bedroom 3 near to the north-west corner of the building. The laboratory report stated:

- the sample contained no detectable preservative, so is likely to be untreated radiata pine, and
- fungal remnants (spores and hyphae) but no well-established fungal growths and no decay micromorphology was detected.

5.20 The stainless steel flashing referred to in the expert's report is located across the north elevation gable wall of the building, at the junction of the EIFS cladding, the stone schist cladding, and the horizontal weatherboards (see photo 4). The expert noted that the "flashing was formed and joined adequately and provided 20mm clearance to the EIFS cladding above". The expert also noted that "the flashing covered the top of the schist cladding column feature well but did not cover the tops of the [timber] scribes between [the] weatherboard and schist [cladding]...at either side". The report stated that "sealant has been applied unsuccessfully here and water can enter behind the scribe".



Photo 4: Stainless steel flashing, north elevation gable wall

The entrance canopy roof

- 5.21 The expert noted that the entrance canopy roof was installed outside the building envelope, including the drainage outlet, and it was fully open to the exterior underneath. The expert noted how the roof was connected to the building, and the minimal amount of fall across it (described as 0.7 degrees).
- 5.22 The expert noted that efflorescence in the grouted joints gave an indication of moisture under the tiles and grout that have been laid above the liquid applied membrane applied to the plywood substrate.

- 5.23 The expert also noted some damage to the 30mm deep upstand that forms the exposed edge of the canopy roof. This included areas where it was visible that the liquid applied membrane had split at the location of the upstand where external moisture could enter the space below. This was likely as a result of the construction having “moved and warped”.
- 5.24 The expert carried out a non-invasive moisture reading to the timber framing used to construct the canopy roof through the opening of the recessed light fitting which had been removed for the purposes of the site visit. The moisture reading was 13.3 percent. The expert considered the readings were within normal levels.
- 5.25 The expert noted that while there was visible deterioration to the membrane that has occurred over the 23 year life of the membrane, it had not allowed water ingress to a degree that it could reach the timber framing in the roof. The expert concluded by stating that the “roof will require repair work soon (as a maintenance item) to prevent water reaching the enclosing framing” that forms the structure of the canopy roof.

The toilet installed in the laundry

- 5.26 The expert carried out a visual inspection and noted the toilet met the requirements of Clauses G1.3.2(a) to (g) – *Personal Hygiene*. The expert observed the space dimensions for the WC pan were less than prescribed in Acceptable Solution G1/AS1, but all other minimum dimensions were exceeded. The expert considered the dimension of the toilet space in this case still allowed the toilet to be effectively cleaned and used and therefore complies with Clause G1.3.2(f). A sliding door has been provided for privacy.
- 5.27 The toilet was operational and did not show signs of leaking or dripping.
- 5.28 The expert noted an extractor fan was installed and operational and meets the requirements of Clause G4 - *Ventilation*.

The laboratory report

- 5.29 A copy of the laboratory report, and summary of the associated results of the timber samples taken by the expert, which are referred to in paragraphs 5.11, 5.15 and 5.19, was included as an appendix to the expert’s report.
- 5.30 The laboratory report also stated:
- the fungal morphology, its distribution and the fungal and decay types identified, suggested that at least the majority of the samples examined had been exposed to moisture conditions that are inconsistent with sound building practice and/or weather-tight design, and that appropriate remediation is needed to correct this.
 - colorimetric qualitative preservative analysis suggested that the timber samples were most likely untreated perishable radiata pine, or may have been LOSP-treated¹², depending on the age of the building. Untreated radiata pine ‘remains highly susceptible to biodeterioration damage’.
 - the wood samples contained fungal growths and/or fungal remnants (spores and hyphae) but no decay micromorphology was detected. Such wood is often found in moisture compromised wall cavities and other locations, and/or on the periphery of more seriously affected framing sometimes in need of replacement. Framing in a similar condition can typically be left in situ, provided that other

¹² LOSP – light organic solvent preservative

provisos are applied, although global remediation practice often requires replacement of a proportion of wood in this condition.

- there is an important caveat to the diagnosis of the timber samples analysed, this being that decay is sometimes present in nearby building materials in these locations.
- no toxigenic mould was detected (eg *Stachybotrys*).
- presence of fungal growths and/or decay typically has important implications for the building in general. It is important to establish the limits of fungal infection and/or decay and establish the causes and apply appropriate remediation, which are important depending on local conditions.
- no structurally significant decay was detected, and therefore replacement of any timbers were ‘probably unnecessary’.
- the “preliminary replacement guide” confirmed “lower intermediate risk but potentially serious moisture hazard most likely present [and] this is likely to compound well within the life of the building”, and therefore “it may highlight a need for further investigation”.

As-built building work

5.31 The expert compared the approved drawings for the 2018 consent¹³ with the as-built building work carried out under the 1998 consent. The expert is of the view that these drawings are generally a reasonable representation of the as-built building work, except for the following items:

- The support posts for the deck are connected through nail plates to the deck structure, whereas the drawings show bolt fixings to the bearers (refer to paragraph 5.5).
- The exterior stairs shown in the drawings were not constructed and consequently the deck shape differs.
- Replacement of windows has occurred at additional locations to those shown on the drawings.
- The glass enclosed gas fireplace between the dining and living room is not shown on the drawings.
- The in-built laundry furniture is not shown on the drawings.
- The stainless steel flashing between the schist stone cladding and EIFS cladding is not shown on the drawings (refer to paragraph 5.20).

Response to the draft determination

5.32 Taking into consideration the owner’s response to the draft determination (paragraph 4.5), the Ministry contacted the expert on 9 June 2021 and 10 June 2021, specifically in regard to the laboratory report dated 18 July 2020 that was obtained by the expert during the course of his investigation.

5.33 It was noted that the expert’s report repeated the findings from the laboratory report but did not draw any conclusions from it. The expert was asked to review the whole of the laboratory report and confirm if it was “a reasonable and accurate reflection of what you would expect see in a building envelope that has been meeting the

¹³ Excluding drawing A306 Rev. B, which was not included in the electronic files

performance criteria of E2 over this period of time, bearing in mind the nature of the construction, the type and age of the external cladding materials used, [the expert's] past experience when assessing these type[s] of buildings, and any risks associated with them; and/or, as has been suggested by the owner, the laboratory findings would be indicative of “...*That moisture, and resulting fungal residue, could have resulted from wet timber, or moisture during construction...*” (noting that the claddings concerned were installed c. 22 – 23 years ago).”

5.34 The expert replied on 10 June 2021 and confirmed:

- “the inspection was concerned with the performance of the cladding at the time of the investigation and no signs of water ingress were found, and moisture readings were within normal range”
- “the inspection itself was limited to a “keyhole” type investigation, where no direct inspection of the assembly and timber framing could be made”. The expert also provided some background information as to the limitations imposed on site which resulted in the small number of moisture readings and timber samples that were able to be taken
- “all quotes from the lab report are valid points”
- “it should be noted, though, that [the laboratory] has no further context other than the information provided, so drawing further conclusions beyond the actual sample requires some context and knowledge of the site and specific situation of the sample location and surrounding construction details”
- it “was unable to conclusively assess whether there is historic timber damage. The laboratory comments indicate this though”
- “in order to provide conclusive evidence regarding possible historic water ingress and likely causes of this, parts of the cladding would have to be removed”
- “if this was not possible (i.e. because cut-outs in direct-fixed polystyrene cause difficult to repair weak points), removal of larger sections of plasterboard lining in high-risk or suspicious locations would provide very useful indications of the general state of the timber framing and would allow reasonable conclusions about historic water ingress and any existing damage”.

6. Discussion

General

- 6.1 The 1998 consent was granted under the former Act¹⁴, and the transitional provisions of the current Act¹⁵ apply when considering the issue of the code compliance certificate for work completed under this building consent. Section 436(3)(b)(i) of the transitional provisions of the current Act requires the authority to issue a code compliance certificate only if it ‘is satisfied that the building work concerned complies with the building code that applied at the time the building consent was granted.’
- 6.2 The matter in dispute is whether the authority was correct to refuse to issue the code compliance certificate in respect of the building work covered by the 1998 consent.

¹⁴ Section 34 of the Building Act 1991

¹⁵ Building Act 2004

In deciding this matter, I have considered those items of the building work identified by the authority in its letter dated 20 March 2020 as the reasons for its refusal (see paragraph 3.16). This is in order to ascertain whether those areas comply with the relevant clauses of the Building Code that applied at the time the consent was granted.

- 6.3 I have noted that the previous owner was issued with a section 95A letter from the authority dated 9 January 2017 (see paragraph 3.6) which listed a number of reasons for refusing to issue a code compliance certificate at that point in time. Although the parties dispute what authorisations were sought by the owner, and subsequently granted by the authority, it is clear that some remedial building work was undertaken between 2018 and 2019 to address a number of the items listed in the authority's letter dated 9 January 2017. However, this building work is not the matter for this determination (see paragraph 1.8). I will therefore leave this matter for the parties to resolve.
- 6.4 The authority clarified the outstanding matters in its submission dated 21 May 2020 (refer to paragraph 0). The issues identified in the authority's submission do not fully correspond to items in the authority's letter dated 20 March 2020. Regardless, I note that most of the issues identified by the authority as being its reasons to refuse to issue the code compliance certificate for the 1998 consent relate to the weathertightness performance of the building.
- 6.5 I have therefore considered the following issues:
- The performance of the EIFS and schist stone cladding, which are different systems to those consented. This includes the cracking to the EIFS cladding, the head flashings without capillary gaps, and the cladding clearances generally.
 - The performance of the junctions between different types of cladding installed to the building, including the schist stone and weatherboard junctions and the fascia/barge to wall/soffit junctions.
 - The apron flashings installed from the EIFS cladding down over the schist stone at the front of the building.
 - The performance of the framing at the south east corner windows.
 - The performance of the framing below the entrance canopy roof and the performance of the water collection system at this location.
 - The installation of the toilet without a building consent.
 - The lack of as-built drawings for the work completed under the 1998 consent.

The requirements of Building Code Clauses E2 and B2

- 6.6 The functional requirement for clause E2 *External Moisture* (at the time the original building consent was granted in January 1998) stated:
- E2.2 *Buildings* shall be constructed to provide adequate resistance to penetration by, and the accumulation of, moisture from the outside.
- 6.7 In respect of the building's external envelope, the performance requirements (at the time the building consent was granted) were set out in clauses E2.3.1, E2.3.2 and E2.3.3 as follows:
- E2.3.1 Roofs shall shed precipitated moisture...

E2.3.2 Roofs and exterior walls shall prevent the penetration of water that could cause undue dampness, or damage to building elements.

E2.3.3 Walls, floors and structural elements in contact with the ground shall not absorb or transmit moisture in quantities that could cause undue dampness, or damage to building elements.

- 6.8 The terms “undue dampness” and “damage” are not defined in the Building Act or Building Code. Previous Determination 2014/062¹⁶ considered the term “undue dampness” ‘to be a level of moisture that has, or will, result in detrimental effects on building elements, or the building occupants, or both’. It also found that “damage” such as decay in framing, did not need to have occurred in order to satisfy the test of “undue dampness”.
- 6.9 Similarly the terms “undue dampness” and “damage” as it relates to Clause E2, were also considered by the High Court in *Minister of Education v H Construction North Island Limited (formerly Hawkins Construction North Island Limited)* (2018)¹⁷ as follows:

[62] “...Defect” is not defined by either the Building Act or Building Code... Defective buildings, however, often suffer many defects, some inter-related. Sometimes identification of a single operative cause is impossible...”

[116] “... cl E2.3.2 provides roofs and exterior walls must prevent the penetration of water that “could” cause damage to building elements. Anticipation and prohibition of potential damage makes clear actual damage is not required for a breach of the Code...”

[118] It follows the Code does not contemplate “reasonable” damage in consequence of water ingress. Rather, it seeks to prevent damage.

[120] The Building Code is clearly concerned with undue dampness and potential undue dampness. That much is evident from its language. Consequently, not every instance of water ingress will breach the Code. Some water may be able to harmlessly escape. Or evaporate. However, the Code does not envisage dampness arising from leakage. Rather, and as with damage, it seeks to prevent just that.

[121] Clause E2.2 provides buildings must be constructed to provide “adequate resistance to penetration by, and the accumulation of, moisture from the outside”. Adequate is defined in cl A2 as “adequate to achieve the objectives of the building code”. The relevant objective of the Building Code is to “safeguard people from illness or injury that could result from external moisture entering the building”¹⁸. In *Spencer on Byron*¹⁹, Tipping J said the “primary statutory purpose” of the Building Act 1991 was “the construction of

¹⁶ Determination 2014/062 Regarding the refusal to issue a code compliance certificate and the issue of a notice to fix for an 11-year-old house with mixed claddings at 20 Ian Sage Avenue, Torbay, Auckland, 17 December 2012.

¹⁷ CIV-2013-404-001504 [2018] NZHC 871, paragraphs 61 to 63, and 113 to 121.

¹⁸ Building Code clause E2.1

¹⁹ *Body Corporate No 207624 v North Shore City Council [Spencer on Byron]* [2012] NZSC 83, [2013] 2 NZLR 297

buildings that do not pose health and safety risks to their occupants”. This purpose is reflected in s 3 of the Building Act 2004. And as observed earlier, the Code precludes potential undue dampness. Clause E2.3.2 of the Code provides roofs and exterior walls must prevent water penetration that could cause damage, undue dampness, or both to building elements.

6.10 The functional requirement for clause B2 *Durability* (at the time the building consent was granted) was:

B2.2 Building materials, components and construction methods shall be sufficiently durable to ensure that the building, without reconstruction or major renovation, satisfies the other functional requirements of this code throughout the life of the building.

6.11 Clause B2.3 sets out the periods for which building elements must, with only normal maintenance, continue to satisfy the performance requirements of the Building Code (see Appendix A). The durability requirements of clause B2 for the external envelope (including wall claddings) is generally a minimum of 15 years²⁰, and for timber framing to provide structural stability for the life of the building being not less than 50 years²¹.

6.12 The evaluation of the external building envelope for compliance with the Building Code, and the risk factors regarding weathertightness, have been described in previous determinations. This dwelling has the following environmental and design features, which influence its weathertightness risk profile. These include, but may not be limited to:

Increasing risk

- the house is two storeys high
- the house is complex in plan and form
- there is an expansive deck at first floor level
- the EIFS and weatherboard cladding is direct fixed
- the framing timber is not treated to resist decay
- roof to wall intersections are partly exposed
- some roof elements finish within the boundaries formed by exterior walls
- minimal protection provided by some area of roof eaves on fully exposed two storey wall elevation.

Decreasing risk

- the house is in a low wind zone
- the stone schist cladding is installed over a cavity
- roof eaves provide limited shelter to the upper parts of the wall cladding at several locations on the ground floor and first floor levels.

²⁰ Building Code clause B2.3(c)

²¹ Building Code clause B2.3(a)

- 6.13 For comparison purposes only, if using the current Acceptable Solution E2/AS1²² risk matrix to evaluate these features, the dwelling is assessed as having a high weathertightness risk.

Weathertightness performance

- 6.14 Taking account of the above Building Code requirements, I have considered those areas of building work that relate to weathertightness performance from the authority's refusal letter dated 20 March 2020, described in paragraph 3.16.
- 6.15 These are:
- the performance of the EIFS and stone schist cladding (see paragraphs 3.16.1 and 3.16.10)
 - the performance of the junctions between different types of cladding installed to the building, including the stone schist and weatherboard junctions (see paragraphs 3.16.2 and 3.16.6)
 - the apron flashing installed from the EIFS cladding down over the stone schist and horizontal weatherboards at the front of the building (see paragraph 3.16.5)
 - the performance of the framing at the south east corner windows (see paragraph 3.16.9)
 - improperly finished junctions where a fascia and sloping soffit are 'buted' into the stone schist (see paragraphs 3.16.7).
- 6.16 While both the EIFS cladding and stone schist cladding have high-risk weathertightness features, and have issues such as the ground clearances that are not in accordance with normal trade practice, the expert noted that the performance appeared to be currently adequate. This is considered in light of the fact that the cladding was first installed between 1998 and 1999, and has met the minimum performance requirements of 15-years established under Clause B2.3(c) (see Appendix A). In conjunction with the in-service history demonstrated by the installed cladding, the expert stated there was no evidence of water ingress or performance issues, in respect of:
- the historic cracks to the EIFS cladding, which are well sealed and maintained.
 - the ground clearances, which were generally adequate with no water ingress or performance issues observed, with the exception of the north-west garage corner where the schist stone cladding is in contact with the concrete ground (refer to paragraph 5.13), and slope of the driveway was towards that part of the building.
 - the lack of capillary gaps to the EIFS cladding. The expert noted that direct-fixed EIFS claddings, when installed in 1998 and 1999, did not usually have flashings, and there was a heavy reliance on well-sealed and maintained joints especially around recessed windows, as well as the performance of the outer coating. It is noted that previous Acceptable Solution E2/AS1 from 1998 did not include EIFS cladding systems, or a requirement for anti-capillary gaps that are otherwise now indicated in the current Acceptable Solution E2/AS1.

²² Acceptable Solution E2/AS1 for Building Code clause E2 External Moisture, Third Edition, Amendments 10 effective from 5 November 2020, Tables 1, 2 and 3

- 6.17 The expert carried out a limited number of invasive moisture tests to assess the performance of the EIFS cladding and stone schist cladding in high risk locations. These included:
- the first floor EIFS cladding at the west dining room window
 - the stainless steel flashing above the schist stone cladding and horizontal weatherboards
 - the first floor corner of the schist stone cladding near floor level, and
 - the north-west garage corner where the stone schist cladding is in contact with the concrete ground, and the driveway slopes towards the location.
- 6.18 While the expert noted there were no signs of water ingress or transfer at the window corners or along the floor, I consider the readings appear to be at the high end of the normal range when taking into consideration the form of construction and time that has now elapsed since it was built²³ ²⁴, this is despite the fact the expert noted this was within normal levels (see paragraphs 5.9 and 5.14).
- 6.19 The laboratory analysis (which was carried out by a biodeterioration consultant) of a sample at the EIFS cladding at the west window and the schist stone cladding at the north-west garage corner, stated:
- No established decay micromorphology was detected although incipient brown rot could not be completely ruled out. Dense fungal growths predominantly typical of mould fungi, yeasts, sapstain and/or soft rot fungi. Some yeasts and secondary moulds had morphology suggestive of recent activity (yeasts and hyphae with characteristically stained homogeneous cytoplasm etc.,).
- 6.20 The laboratory report also noted that such wood is often found in moisture compromised wall cavities and other locations.
- 6.21 I consider this suggests moisture has penetrated the external envelope in at least two locations over an unknown time period and provides an indication that historic and/or current moisture ingress has occurred.
- 6.22 The performance of the junctions between different types of cladding installed to the building, including between the EIFS, the stone schist cladding, and the horizontal weatherboards were an important issue raised by the authority. The expert noted its observations in respect of the junction between the EIFS cladding and the schist stone cladding, as noted in this determination at paragraph 5.17 and photo 3. The expert observed a grout and plaster joint was formed, which appeared sound and with no obvious signs of moisture ingress. The expert could not confirm if a back-flashing was installed, but noted that the stainless steel flashing above provided adequate protection from the top.
- 6.23 In respect of the stainless steel apron flashing installed across the north elevation gable wall (see photo 4) the parties' dispute whether it was installed under the 2018 consent. Regardless, evidence indicates the flashing was installed at some point between 2018 and 2019, and this was new building work, and formed no part of the 1998 consent (see paragraph 1.8). Although the expert did make some observations

²³ Winstone Wallboards, GIB Site Guide for Residential and Commercial Installations, code CBI5113, dated December 2014 (including amendments dated August 2016) [accessed 24 May 2021], section 3.0 Pre-Installation, sub-section 3.6 Timber Moisture Content (page 30), "The moisture content of timber at the time of fixing plasterboard must be 18% or less".

²⁴ Current Acceptable Solution E2/AS1, External Moisture, Amendment 9 effective 27 June 2009, part 10.0, item 10.2 a) "For timber framing at the time of installing linings, the maximum acceptable moisture content shall be the lesser of: i) 20% for insulated buildings...." [accessed 24 May 2021]. Current version of E2/AS1 viewed to align with the date the expert took the moisture content readings.

about the apron flashing which may assist the parties (see paragraphs 5.18, 5.19 and 5.20), this has not been considered further.

- 6.24 I also note that the report dated 14 September 2017 (refer to paragraph 3.8) shows an internal view of the timber framing at the south east corner window with a somewhat elevated moisture reading and stained timber. I note this part of the building is an addition that was constructed as part of the 1998 consent. Although the replacement of the window was identified as being carried out under Schedule 1(1) of the Act²⁵ in the 2018 consent, I consider the somewhat elevated moisture reading and stained timber suggests moisture has penetrated the external envelope at some point in time.
- 6.25 In response to the draft determination, specifically in respect of the laboratory report tests that give an indication of moisture penetration of the external envelope, the owner stated “that moisture, and resulting fungal residue, could have resulted from wet timber, or moisture during construction” (see paragraph 4.5). I agree, both those scenarios are possible, but there is insufficient information available to me to ascertain when the moisture penetration occurred, or over what period of time, or the extent of the ingress, or if the situation still prevails or could prevail into the future.
- 6.26 As detailed in paragraphs 3.16.7 and 4.3, the authority raised the issue of improperly finished junctions where a fascia and sloping soffit are ‘buted’ into the schist stone. I note that the expert did not make any observations regarding these issues. Several of the submissions from the parties indicate that these issues exist, and there is some photographic evidence to confirm that. However, the building consent plans from 1998 do not indicate a design solution for these junctions, and there is no comparative information contained in the Acceptable Solution E2/AS1 from 1998. Regardless, I note that the building work was completed approximately 23 years ago, and I have not been presented with any evidence to suggest any ingress of external moisture has subsequently occurred at these junctions.
- 6.27 I also note that remediation work has been carried out to the external envelope, such as the repairs to the cracks to the EIFS cladding and additions of new flashings between 2018 and 2019. There is limited evidence as to the compliance of this work and whether appropriate investigations were done to determine the condition of the timber framing behind the cladding.
- 6.28 In response to the draft determination the owner was of the view it suggested that the owner or builder would have done anything other than replace failing framing timber. I have no reason to doubt that if the owner or builder did observe any damaged or failing timber it would reasonable to assume these would have been addressed. However, I am of the view that repairs to cracks to the external surface of EIFS cladding would not have presented an opportunity to view the timber framing from the outside without removing part or all of the cladding, and this is no evidence to suggest this course of action was taken. Further, the existence of the ‘breathable type building paper’ on the outside of the timber framing (as noted on the 1998 consent plans) meant that the framing itself would not have been seen when the new flashings were installed.

Weathertightness conclusions

- 6.29 Given the evidence that suggests external moisture ingress has occurred, the limited invasive moisture readings available to me, and the results and conclusions stated in the laboratory report for the timber samples (see paragraphs 5.29 and 5.30), I am not

²⁵ “Building work for which building consent not required”

satisfied that the claddings installed as part of the 1998 consent comply with clauses E2.2, E2.3.2 and E2.3.3 of the Building Code (that were current at the time the consent was granted).

- 6.30 While the expert's investigations generally found that the work to the external envelope was to a high standard and there was no clear indication of performance issues, there is evidence that suggests external moisture ingress has occurred. However, given the limited information available to me about what was conducted in 2018 to investigate and remediate any issues with the 1998 additions, I am not able to ascertain whether the causes of the ingress have been remediated or not.
- 6.31 Clause B2 from 1998 required external cladding to remain sufficiently durable and, with only normal maintenance, continue to satisfy the performance requirements of the Building Code for a minimum period of 15 years. The additions and claddings within the scope of the 1998 consent are now in the order of 23 years old. The past repairs, the expert's investigation, and the laboratory analysis of the timber samples indicate that moisture has penetrated the cladding over an unknown period, and likely within the minimum 15 year period required by clause B2.3 (c). I am therefore not satisfied that the claddings installed as part of the 1998 consent complied with clause B2.3 (c) with respect to clause E2.
- 6.32 The test for an authority under section 436(3)(b)(i) of the transitional provisions of the current Act requires the authority to issue a code compliance certificate only if it 'is satisfied that the building work concerned complies with the building code that applied at the time the building consent was granted'. The authority refused to issue the code compliance certificate as it was not satisfied this test had been met. I agree, and in light of the evidence before me, I am not satisfied that the test had under section 436(3)(b)(i) has been met in this case.

The underlying structure and conclusion

- 6.33 Clause B2 *Durability* requires the cladding to remain sufficiently durable for a minimum period of 15 years. However, the performance of the underlying structure in relation to the 1998 additions, has a minimum specified intended life of 50 years in accordance with clause B2.3 (a). The expert's investigations and other information provided suggests moisture ingress has occurred.
- 6.34 On the basis of the information before me, including the past repairs, the expert's investigation, and the laboratory analysis of the timber framing, I am not satisfied that the framing to the additions complies with clause B2.3 (a) with respect to clause B1 *Structure*.

The compliance of the entrance canopy roof

- 6.35 The entrance canopy roof was constructed under the 1998 consent. However, I note it is not clear when the tile finish was installed over the liquid applied membrane that is coated onto the plywood substrate. The tiles are not shown on the 1998 consent plans.
- 6.36 The authority's concerns relate to the liquid applied membrane to the entrance canopy roof and the tiles fixed onto the membrane, specifically the lack of investigation to the underlying structure, the omission of an overflow outlet, and the general condition of the membrane itself (see paragraph 3.16.8).
- 6.37 I note the expert's observation that the entrance canopy roof is external to the building envelope. The expert investigated the supporting structure of the canopy

and concluded it was structurally sound. I note the information provided by the owner supports this view.

- 6.38 With respect to the lack of overflow outlet, the authority considers this does not meet the requirements of Building Code Clause E1.3.2 or paragraph 5.5.1 of Acceptable Solution E1/AS1²⁶ current at the time the building consent was granted, which state:

E1.3.2 Surface water, resulting from a storm having a 2 % probability of occurring annually, shall not enter buildings.

5.5.1 All internal gutters shall be fitted with overflow outlets which drain to the exterior of the building. The top of the outlet shall be set at least 50 mm below the top of the gutter. The cross-sectional area of the outlet shall be no less than the cross-sectional area of the down pipes ... serving the gutter.

- 6.39 I note that the approved plans for the 1998 consent do not indicate a surface water downpipe or overflow to the entrance canopy roof. However, a downpipe has been installed and the expert was of the view that, if it were to become blocked, excess surface water would flow over the existing upstand and away from the building, this is due to the fall across the roof to the canopy. I am therefore of the view that compliance with clauses E1.3.2 and E2.3.1 has been met in this case.
- 6.40 The expert did observe some defects with the upstand and liquid applied membrane. The expert noted the presence of some efflorescence in the grouted joints which gave an indication of moisture under the tiles and grout that have been laid above the liquid applied membrane. I consider these defects to be relatively minor, taking account of the condition of the underlying structure of the canopy. Regardless, I note that for the benefit of the owner, it would be prudent to investigate and repair the defects identified by the expert in order to avoid any further deterioration of the membrane and upstand, and thereby protect the underlying structure.
- 6.41 I note that, ordinarily, for a renewable coating with only normal maintenance, the minimum performance requirement would be 5 years in accordance with Building Code clause B2.3 (d) - due to the ease of access and replacement of the coating. However, in this case, although the canopy roof is relatively easy to access, the coating itself would be difficult to inspect and repair during normal maintenance without first removing, then replacing, all the roof tiles.
- 6.42 I am therefore of the view that the durability requirement of clause B2 for the liquid applied membrane in this case is 15 years as required by clause B2.3 (c).
- 6.43 The entrance canopy roof was installed approximately 23 years ago and there is no indication that the liquid applied membrane has failed to protect the canopy structure, and the expert did not observe any undue dampness or damage occurring to the structure. As such, I am of the view that compliance with clause B2 has been met in regard to E2.3.2.
- 6.44 I am of the view that the entrance canopy roof complies with clauses E1.3.2, E2.3.1 and E2.3.2.

The lack of as-built plans

- 6.45 The authority has correctly identified changes were made to the wall claddings and part of the roof above the entrance to the building, when compared against the approved plans associated with the 1998 consent (see paragraph 3.16.4).

²⁶ Amendment 3, 1 December 1995 – 30 November 2000

- 6.46 As noted in paragraph 6.1, the transitional provisions of the Act apply in this case. The transitional provisions in section 436 of the Act require the authority to consider an application for a code compliance certificate under the former Act. Section 436(3)(b) of the Act modifies the test for issuing a code compliance certificate by requiring an authority to issue a code compliance certificate ‘if it is satisfied on reasonable grounds that the building work to which the certificate relates complies with the building code that applied at the time the building consent was granted.’
- 6.47 Given the provision of section 436 of the Act applies, I consider that while as-built plans can support a decision about Building Code compliance of completed building work, the receipt of as-built plans that identify the changes made to the cladding is not part of the test under section 436(3) of the Act. As such, this issue has not been considered further, and I leave this to the owner and the authority to resolve.
- 6.48 To assist the parties, I do note that the expert considered that the approved plans associated with the 2018 consent provided a reasonable representation of the as-built situation, with a few exceptions as described in paragraph 5.31. The observations made by expert are relatively minor and easy to resolve by way of an amended set of plans.

The installation of the toilet in the laundry area

- 6.49 With respect to the installation of the toilet in the laundry area, the toilet is not shown on the approved plans associated with the 1998 consent (see paragraph 3.16.3). The authority’s inspection record dated 29 November 2016 notes:

On site minor variation: Laundry now has a door and a WC, [Ventilation] required

- 6.50 In this case, the authority clearly indicated in its inspection report dated 29 November 2016 acceptance of a variation from the approved plans in relation to the installation of a door and toilet. Taking into account the authority’s acceptance of the variation²⁷; that the toilet was installed in a room that already contained sanitary fixtures; and the effect on the owner of not doing so, I consider the installation of the toilet in the laundry area can be addressed through the provision of as-built plans, allowing the authority to capture the changes during construction and consider the work’s compliance with the relevant clauses of the Building Code. I note that I have formed this view in relation to the particular circumstances of this case.
- 6.51 Further, to assist the parties, the relevant clauses are E3 internal moisture, G1 personal hygiene, G4 ventilation, and G13 foul water. I note that the installation of tiles on a cementitious mortar to which clause E3 applies was work that was part of the later 2018 consent.
- 6.52 With respect to clauses G1, G4, and G13 the expert inspected the toilet and noted that it was operational and did not show signs of leaking or dripping. The expert was of the view that although the installation was not fully as described in Acceptable Solution G1/AS1²⁸ (see paragraph 5.26), it complies with the performance requirements of Building Code Clause G1.3.2 (a) to (f) (see Appendix A). The expert did not indicate any non-compliances with Clause G13. In respect of Clause G4, the expert observed that an extractor fan was installed and extracted air through the wall to the outside. A sliding door has been provided for privacy. It may assist

²⁷ In response to the draft determination the authority agreed this item “can be covered through an on-site minor variation”.

²⁸ Amendment 3, 1 December 1995

the parties if the owner provides an as-built plan of the relevant building work to the authority for its property file records.

7. What happens next?

- 7.1 The authority may deal with this matter via a further written notification issued under section 95A of the Act which addresses the findings of this determination. In response to the draft determination the authority stated it “would not normally issue a further [section] 95A refusal...as it considers that this has already been done with the reasons provided”. However, I consider a further written notification is necessary, as the authority’s section 95A letter from 20 March 2020 still raises the issue of the entrance canopy roof and toilet installed in the laundry.
- 7.2 The owner could then develop and submit a detailed proposal to the authority to address the matters of investigation required to those items where there is insufficient information to demonstrate compliance. The owner may wish to consider engaging the services of a suitably qualified and competent person experienced in weathertightness remediation to assist them in this regard. It will then be for parties to consider and agree upon matters related to any building consent that may be required as a result of any proposals offered by the owner.
- 7.3 Reference paragraph 5.5 and photo 1. The expert has raised concerns about the structural connections used to fix the timber posts for the deck to the horizontal bearers above using nail plates. Although this is not the matter for this determination, the expert did note this as a potential safety issue, so I leave it for the parties to resolve.

8. The decision

- 8.1 In accordance with section 188 of the Building Act 2004, in regard to the Building Code that was in force at the time that the 1998 consent (BCO10026298) was granted, I determine that the authority was correct to refuse to issue the code compliance certificate in respect of the 1998 consent. For the reasons outlined in this determination, I modify the authority’s decision to remove reference to non-compliance of the entrance canopy roof and the installation of the toilet in the laundry room.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 17 September 2021.

Katie Gordon
National Manager, Determinations

Appendix A

The relevant Building Code clauses that applied in January 1998

Clause B2 – Durability

- B2.2 Building materials, components and construction methods shall be sufficiently durable to ensure that the building, without reconstruction or major renovation, satisfies the other functional requirements of this code throughout the life of the building.
- B2.3 From the time a code compliance certificate is issued, building elements shall with only normal maintenance continue to satisfy the performances of this code for the lesser of; the specified intended life of the building, if any, or:
- (a) For the structure, including building elements such as floors and walls which provide structural stability: the life of the building being not less than 50 years.
 - (b) For services to which access is difficult, and hidden fixings of the external envelope and attached structures of a building: the life of the building being not less than 50 years.
 - (c) For other fixings of the building envelope and attached structures, the building envelope, lining supports and other building elements having moderate ease of access but which are difficult to replace: 15 years.
 - (d) For linings, renewable protective coatings, fittings and other building elements to which there is ready access: 5 years.

Clause E2 – External Moisture

- E2.2 Buildings shall, be constructed to provide adequate resistance to penetration by, and the accumulation of, moisture from the outside.
- E2.3.1 Roofs shall shed precipitated moisture. In locations subject to snowfalls, roofs shall also shed melted snow.
- E2.3.2 Roofs and exterior walls shall prevent the penetration of water that could cause undue dampness, or damage to building elements.
- E2.3.3 Walls, floors and structural elements in contact with the ground shall not absorb or transmit moisture in quantities that could cause undue dampness, or damage to building elements.

Clause G1 – Personal Hygiene

- G1.3.2 Sanitary fixtures shall be located, constructed and installed to:
- (a) Facilitate sanitation,
 - (b) Avoid risk of food contamination,
 - (c) Avoid harbouring dirt and germs,
 - (d) Provide appropriate privacy,

- (e) Avoid affecting occupants of adjacent spaces from the presence of unpleasant odours, accumulation of offensive matter, or other source of annoyance,
- (f) Allow effective cleaning...

Appendix B

The relevant sections of the Building Act 2004 are:

95A Refusal to issue code compliance certificate

If a building consent authority refuses to issue a code compliance certificate, the building consent authority must give the applicant written notice of—

- (a) the refusal; and
- (b) the reasons for the refusal.

436 Transitional provision for code compliance certificates in respect of building work carried out under building consent granted under former Act

- (1) This section applies to building work carried out under a building consent granted under section 34 of the former Act.
- (2) An application for a code compliance certificate in respect of building work to which this section applies must be considered and determined as if this Act had not been passed.
- (3) For the purposes of subsection (2), section 43 of the former Act—
 - (a) remains in force as if this Act had not been passed; but
 - (b) must be read as if—
 - (i) a code compliance certificate may be issued only if the territorial authority is satisfied that the building work concerned complies with the building code that applied at the time the building consent was granted; and
 - (ii) section 43(4) were omitted.

Appendix C

The relevant sections of the Building Act 1991 are:

34. Processing building consents –

- (1) The territorial authority shall grant or refuse an application for a building consent within the prescribed period.
- (2) A territorial authority may, within the prescribed period, require further reasonable information in respect of the application and, for the purposes of this Act, the prescribed period shall be deemed to have been suspended until the further information is received by the territorial authority.
- (3) After considering an application for building consent, the territorial authority shall grant the consent if it IS satisfied on reasonable grounds that the provisions of the building code would be met if the building work was properly completed in accordance with the plans and specifications submitted with the application....

43. Code compliance certificate –

- (1) An owner shall as soon as practicable advise the territorial authority, in the prescribed form, that the building work has been completed to the extent required by the building consent issued in respect of that building work....
-
- (3) Except where a code compliance certificate has already been provided pursuant to subsection (2) of this section, the territorial authority shall issue to the applicant in the prescribed form, on payment of any charge fixed by the territorial authority, a code compliance certificate, if It is satisfied on reasonable grounds that-
 - (a) The building work to which the certificate relates complies with the building code;.....