



Determination 2017/010

The refusal to issue code compliance certificates for a 21-year-old house with 9-year-old alterations and addition at 28 Christian Road, Swanson



Summary

This determination is concerned with the compliance of a house and alterations that are, respectively, 21 and 9 years old. The determination considers the authority's reasons for refusing the code compliance certificates, and whether the house currently complies with the requirements of the Building Code, particularly with respect to weathertightness and durability.

1. The matters to be determined

1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004¹ ("the current 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:

- the owner of the house, D Allan ("the applicant")
- Auckland Council² ("the authority"), carrying out its duties as a territorial authority or building consent authority.

1.3 This determination arises from the decision of the authority to refuse to issue code compliance certificates for a 21-year-old house and subsequent alterations and addition. The refusal arose because the authority is not satisfied that building work complies with certain clauses³ of the Building Code (First Schedule, Building

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 After the house was completed, Rodney District Council was transitioned into Auckland Council. The term "authority" is used for both.

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

Regulations 1992). The authority's concerns relate primarily to the weathertightness and durability of the claddings.

- 1.4 The matter to be determined⁴ is therefore whether the authority's exercise of its powers of decision in refusing to issue the code compliance certificates for the reasons given in its letter dated 30 June 2016 (see paragraph 3.5.2). In deciding this matter, I must consider whether the external building envelope of the building complies with Clause B2 Durability and Clause E2 External moisture of the Building Code that was in force at the time the consent was issued. The building envelope includes the components of the systems (such as the wall claddings, the windows, the decks and the roof claddings) as well as the way components have been installed and work together. This matter includes the associated compliance with Clause B1 Structure.

1.5 Matters outside this determination

- 1.5.1 The building work considered in this determination includes work covered under the following two building consents:

- Consent No. ABA 1995/6644 ("the original house") issued during 1995
- Consent No. COM 2008/1657 ("the garage extension") issued on 26 May 2008 for an addition and alterations.

- 1.5.2 The subject building work involves a house with subsequent additions and alterations. A variety of building work has been undertaken on the property as shown in Table 1, with work not considered in this determination shown shaded.

Table 1

Elements	Consent (ABA)	Description	Date issued	Status of CCC ⁵	Comments
Original house	ABA 19956644		1995	CCC refused	
2008 addition	COM 20081657	New garage and laundry extension	26/05/2008	CCC refused	<i>Attached carport and pergola not built</i>
		Conversion of original garage into family room			
Solar WH system	-			CCC issued	<i>Not considered</i>
Subfloor retaining wall	No consent	Small wall against house piles			<i>Unknown but likely to be during original construction</i>
The deck	No consent	Multi-level deck, ramp and spa pool			<i>Unknown but likely to be before 2000⁶</i>
Kitchen pergola	No consent	Attached to house			
Store room	No consent	Lined subfloor storeroom			
Carport pergola		Freestanding structure			<i>Constructed after 2012 No consent required⁷</i>

⁴ Under sections 177(1)(b) and 177(2)(d) of the Act

⁵ Code compliance certificate

⁶ Based on the authority's 2012 inspection photographs

⁷ Under Schedule 1 of the Act (construction date based on the authority's 2012 and 2016 inspection photographs)

- 1.5.3 I 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 substantial completion of the original house in 1996 and the garage extension in about 2009. I leave this to the parties to resolve in due course.
- 1.5.4 I note as part of the Notice to Fix issued by the authority, building work that they believed did not comply with Clause E3 was identified (see paragraph 3.4.2). In this determination I have not considered the compliance of the building work to Clause E3.
- 1.6 In making my decisions, I have considered the submissions of the parties, the report of the independent expert commissioned by the Ministry to advise on this dispute (“the expert”) and the other evidence in this matter.

2. The building work

- 2.1 The building work considered in this determination is a single-storey detached extended house on a steeply sloping rural site in a low to medium wind zone for the purposes of NZS 3604⁸. Construction took place from 1995 as shown in Table 1.
- 2.2 The completed building is shown in Figure 1 and comprises:
- The original house: a single-storey house, with living areas to the north, a bedroom wing to the south east and a family room converted from the original garage area.
 - The garage extension: a single-storey extension to the south east, providing a garage/workshop building attached to the house with a laundry corridor.
 - A large multi-level deck to the north of the house.

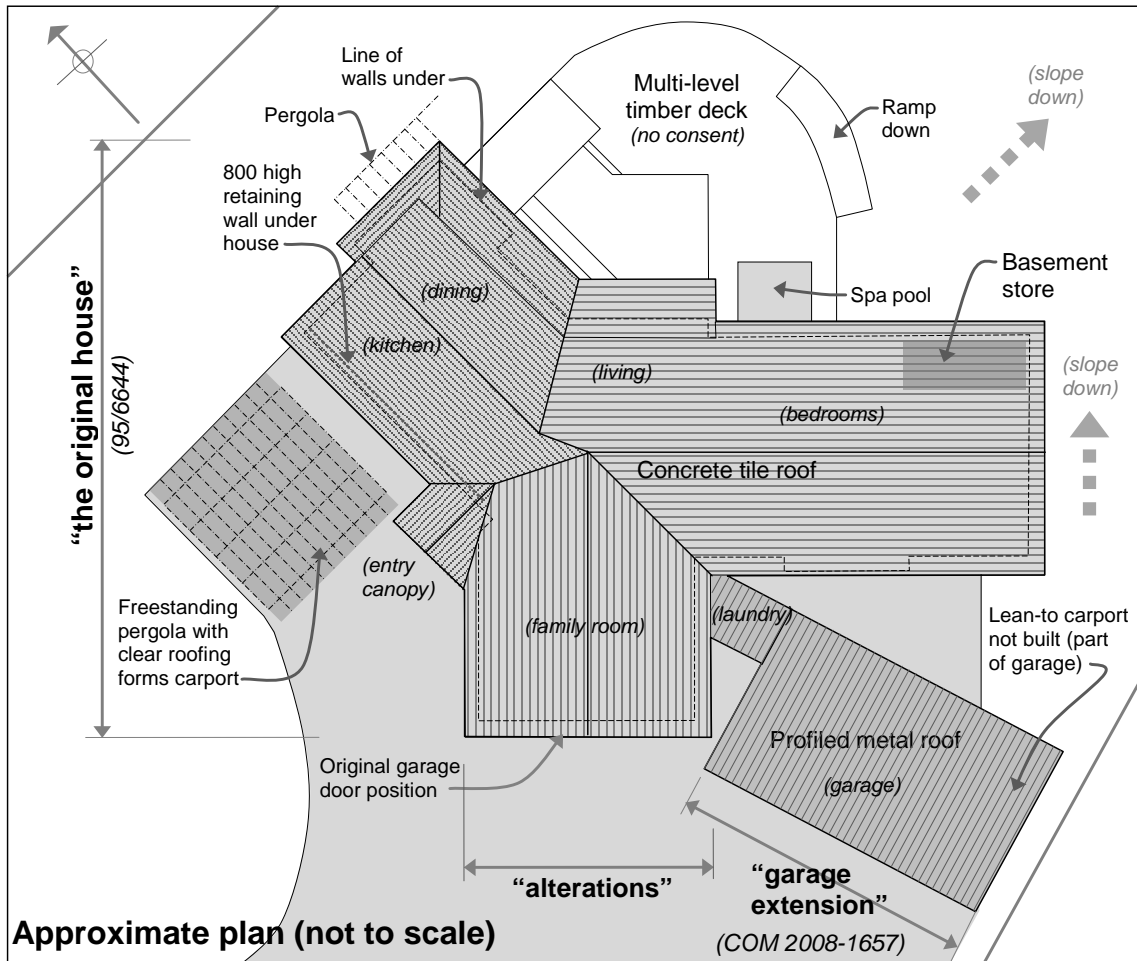
2.3 The original house

- Construction of the original house is generally conventional light timber frame, with timber pile foundations, monolithic wall cladding, concrete tile roofing and aluminium joinery. The house is assessed as having a low weathertightness risk.
- The 27° pitch gable roof has eaves and verge overhangs of approximately 500mm, except above wall projections to the dining area and one bedroom. The north end of the house included a lower-pitched roof that extended from the living and dining area, turning the corner as a lean-to roof above the north dining wall. In the original drawings, a small deck was shown beneath the low-pitched roof overhang.
- The monolithic cladding is described as stucco over a solid backing. In this instance it consists of fibre-cement backing sheets fixed through the building wrap directly to the framing timbers, and covered by a slip layer of building wrap, metal-reinforced solid plaster and a flexible paint coating.

⁸ New Zealand Standard NZS 3604:1999 Timber Framed Buildings

- The expert forwarded samples of framing timber for laboratory testing, which confirmed that the samples were treated with boron to an equivalent of H1.2. I therefore consider that the original wall framing is generally boric-treated to H1.2 level to provide some resistance to fungal decay.

Figure 1: Approximate site plan



2.4 The garage extension

- 2.4.1 The garage extension is generally conventional light timber frame, with proprietary plywood I-beams, monolithic wall cladding, profiled metal roofing and aluminium joinery. The 3° monopitched roof has no eaves or verge overhangs. Taking account of the date of construction, I accept that the framing is likely to be H1.2 treated.
- 2.4.2 The monolithic cladding is stucco, finished to match that of the original house. In the extension, the system consists of fibre-cement backing sheets fixed through 20mm timber battens and the building wrap to the framing timbers, and covered by a slip layer of building wrap, metal-reinforced 20mm thick solid plaster and a flexible paint coating. The 20mm timber battens form a cavity between the cladding sheets and the building wrap.

3. Background

- 3.1 The documentation contained within the authority's digital property file provided for this determination is incomplete, with some records unable to be opened and/or viewed. Records do not include the building consent or inspection records for the

construction of the original house. The following is therefore based on incomplete information.

3.2 The original construction

3.2.1 I have not seen a copy of the building consent or other consent documentation. The authority's references indicate that the building consent (No. ABA 1995/6644) for the house was issued during 1995 under Building Act 1991.

3.2.2 I have seen no records of inspections carried out during construction but the applicant states that the house was started in 1995 and 'largely completed in 1996 by solid plastering the house'. According to the applicant, inspections were carried out with 'some minor items to complete'. It also appears that the small subfloor retaining wall was installed against the house piles as part of paving completion.

3.2.3 Although drawings provided by the applicant are not clear, a small deck is shown beneath the low-pitched roof overhang to the dining and living area. At some stage before about 2000, it appears that the large deck area, an attached pergola to the north and a basement store room were constructed. According to the applicant the 'inspector was aware' of the deck construction.

3.3 The garage extension

3.3.1 In 2008, drawings were prepared that showed the garage extension with a lean-to carport to the south end. The authority issued a building consent under the current Act (No. COM 2008/1657). I have not seen a copy of the consent, but the drawings were stamped and signed on 26 May 2008.

3.3.2 Email correspondence suggests that any inspections would have been carried out by the former authority prior to amalgamation in November 2010, although no final inspection was requested until 2012.

3.4 The 2012 final inspection of the original house

3.4.1 The authority carried out a final inspection of work under the building consent for the original house on 1 October 2012. The inspection identified a number of defects and noted that a notice to fix would be issued. Photographs taken during the inspection show various changes made by the applicant since construction of the original house but also show that the free standing carport pergola had not yet been erected.

3.4.2 The authority subsequently obtained some consent details for the garage extension and issued a notice to fix for the house dated 16 October 2012⁹, which stated that the building work did not comply with Clauses:

- E2 in regard to stucco cladding:
 - cracking to plaster
 - ground clearances
 - cladding penetrations and fixings
 - ends of gutters, kick outs and barge boards
- E3 in regard to sealing of basins and bath to walls
- B1 in regard to structural supports to deck.

⁹ Under cover of a letter dated 12 October 2012

3.4.3 The letter accompanying the notice concluded that:

Council recommend that you engage the services of a suitably qualified person to review the attached NTF and to develop a proposed scope of work, which must address all the areas of contravention. ...

3.5 The 2016 final inspection and refusal to issue a code compliance certificate

3.5.1 I have seen no further correspondence until the authority carried out a final inspection of the garage extension and reinspection of the original house on 27 June 2016. The authority took a series of photographs and the 'Durability final inspection checklist' identified cladding defects and elevated moisture readings, and noted:

Cracks in cladding

Non compliance of [finished floor level to finished ground level]

Unconsented deck & pergola

Elevated readings in areas

3.5.2 In a letter to the applicant dated 30 June 2016, the authority advised that a code compliance certificate cannot be issued; the authority recommended that:

... you engage the services of a suitably qualified individual (building surveyor) who is qualified in Weather Tight assessment and Remedial Design.

This person must further investigate the performance of this building, also taking into account the items below and provide a 'scope of works' and any recommendations to Council for further review.

3.5.3 The authority listed 'some of the items identified (but not limited to)', which included (in summary, with the authority's reference numbers in brackets):

- stucco cladding (items 1 to 4):
 - cladding and floor levels clearances from finished ground levels
 - joinery junctions, flashings and seals
 - cracks damage and signs of repairs to plaster
 - meter box viewing panels
 - penetrations through cladding
 - change to substrates
 - elevated non-invasive internal moisture readings
- variations since original construction (item 5):
 - lack of continuous trimmer
 - addition of basement store room
 - wood burner added
 - post construction excavation of subfloor
 - sink added to family room
 - timber deck added
 - timber pergola added
 - subfloor retaining wall added (7c)
- roof (item 6):
 - lack of access
 - alternative gutter construction

- cracks to ridge and hip mortar
- sagging tiles at gutter line
- dislodged valley tile
- subfloor (item 7):
 - lack of access to some areas
 - mechanical fixings
 - retaining wall construction dependent on house piles
 - lack of subfloor ventilation.

3.5.4 The Ministry received the applicant's application for a determination on 22 August 2016 and requested further information. Limited information was provided by the authority on 6 September 2016.

4. The submissions

4.1 The applicant made two statements dated 20 and 21 August 2016, briefly outlining the history and noting that the house had been well maintained for over 20 years and there had been no evidence of 'damp areas on the interior walls'. The applicant believed that the house is 'durable and does not have watertightness issues.'

4.2 The applicant provided copies of:

- unstamped, undated drawings of the original house and garage extension
- the notice to fix for the original house dated 16 October 2012
- the authority's refusal to issue a Code Compliance Certificate dated 30 June 2016
- various other statements, certificates and information.

4.3 The authority made no submission but forwarded a DVD entitled 'Property File', which contained some documents pertinent to this determination, although no documents relating to the building consents or inspections. Relevant documents that were able to be opened included:

- the stamped consent drawings for the garage extension
- the 'Residential final checklist' for the original house dated 1 October 2012
- the notice to fix for the original house dated 16 October 2012
- the 'Durability final inspection checklist' dated 27 June 2016
- the section 95A refusal to issue code compliance certificate dated 30 June 2016
- dated photographs taken during the 2012 and 2016 inspections.

4.4 A draft determination was issued to the parties for comment on 31 January 2017. The authority accepted the draft determination without comment on 20 February 2017.

4.5 The applicant also accepted the draft determination on 20 February 2017 noting work that had been signed off by the predecessor to the authority, and agreeing to verify the adequacy of the deck barrier and address the compliance of the cladding for the original construction.

5. The expert's report

5.1 General

- 5.1.1 As mentioned in paragraph 1.6, I engaged an independent expert to assist me. The expert is a member of the New Zealand Institute of Architects and inspected the house on 9 November 2016, providing a report completed on 2 December 2016. The parties were provided with a copy of the report on 7 December 2016.
- 5.1.2 The expert noted that the scope of his inspection was to provide an opinion about items identified in the authority's S95A refusal to issue a Code Compliance Certificate dated 25 November 2015 and to assess code compliance of areas identified by the authority with the associated parts of Clauses B1, B2 and E2.

5.2 The as-built changes

5.2.1 The expert observed the following changes from the original drawings:

- For the original house:
 - some window locations and configurations changed
 - substrate for the plaster fibre cement in lieu of rigid wood fibre insulating board
 - insulation shredded paper in lieu of fibreglass
 - part of subfloor enclosed as store room(I also note the addition of the deck and north pergola)
- For the garage extension:
 - drive-through rear door omitted
 - west pergola over garage door omitted
 - w.c. added to laundry
 - plastered parapets replaced with metal flashings
 - the joinery is face-fixed in lieu of recessed

(I also note that the dual pitch roof was changed to a single pitch).

- 5.2.2 The expert noted that the basement store room was only 10m², with no access from the remainder of the house.
- 5.2.3 The expert also noted that the barrier to the large timber deck did not accord with standard details in NZS 3604 nor with the Ministry's 'Guidance on Barrier Design'¹⁰, so considered that confirmation of structural adequacy was required.

5.3 Moisture testing and sample analysis

- 5.3.1 The expert inspected the interior, observing that the internal linings were 'free from mould, stains, swelling or other clear signs of moisture ingress.' The expert took non-invasive moisture readings under windows, with readings 'inconsistent, some low, some elevated'.
- 5.3.2 The expert also took sample invasive moisture readings using long probes from the inside or through holes drilled through the cladding and 10mm into the framing. The expert recorded:

¹⁰ Guidance on Barrier Design, Department of Building and Housing, March 2012

- 23% and over 50% under the east kitchen window sill and in the bottom plate below (samples 1 and 2)
- 19% in the bottom plate under the south west family room window
- 18% and 19% in the bottom plate beside the west garage door
- 20% in the bottom plate under the garage south window
- 19% in the bottom plate beside east garage back door
- 19% and over 50% beneath the south west bedroom window sill in the projecting wall (samples 3 and 4).

5.3.3 Readings over 18% generally indicate that moisture is entering the framing and further investigation is needed. The expert noted that his inspection followed periods of heavy spring rain and readings therefore represented the peak of expected seasonal variation, with lower readings expected during drier months.

5.3.4 The expert forwarded the four samples for analysis and the laboratory report dated 23 November 2016 noted that all the samples were boric-treated to H1.2 level, and:

- samples 1, 2 and 4 contained:
 - ‘dense fungal growths’
 - yeasts and secondary moulds suggesting showing ‘morphology suggestive of recent activity’
- sample 3 contained:
 - contained ‘dense fungal growths’ of fungi, yeasts and secondary moulds
 - contained ‘superficial soft rot’ but no structurally significant decay
 - had been ‘exposed to conditions conducive to decay’, with such samples ‘typically found in moisture compromised wall cavities’.

5.3.5 The report concluded that all samples had been ‘exposed to conditions conducive to decay’, with such samples ‘typically found in moisture compromised wall cavities’ and warned that ‘severe decay nearby is possible and future severe decay is likely’ in the absence of suitable remediation.

5.4 Cladding clearances

5.4.1 In regard to the original house, the expert noted that:

- the backing sheets and plaster extended below the boundary joists by about 50mm to form a drip edge
- clearances from the bottom of the plaster was more than a meter on most of the SE, NE and east elevations (at downhill site levels to east)
- most clearances along the west elevations and the wall were below current recommendations (at uphill site levels to west), with elevated moisture readings in some bottom plates.

5.4.2 In regard to the garage extension, the expert noted that:

- the plaster and backing sheets were installed over drained cavities
- clearances to finished ground level were generally about 150mm, but this reduced towards the garage door, with pebbles covering the base in one area and elevated moisture readings beside the garage door.

5.5 Joinery details

5.5.1 In regard to the original house, the expert noted that:

- the joinery is recessed by the thickness of the solid plaster, with no sill flashings and metal head flashings that extend past the jambs
- the joinery was installed against the backing sheets, with plaster applied after installation – up to window flanges and onto the top of the head flashings
- open gaps are visible below some sill flanges and moisture readings were high to some windows (in both sheltered and exposed positions)
- moisture readings were particularly high below two windows in exposed walls not sheltered by eaves, with bottom plates wet and water marked
- dense fungal growths identified in samples (refer paragraph 5.3.4) indicate that moisture ingress has occurred over some time, with timber damage avoided only by the timber treatment.

5.5.2 In regard to the alterations and garage extension, the expert noted that:

- the joinery to the garage extension is face-fixed over the stucco, with metal head and sill flashings
- in the family room alterations, bifold doors are installed to the original north west wall, which is sheltered by the eaves and includes a channel drain below – low moisture readings indicate satisfactory performance in the circumstances
- the south west window in the gable end wall to the family room was installed within the original garage door opening and includes a projecting copper head flashing and plaster turned outwards to meet the jamb and sill flanges, with elevated moisture readings and cracking indicating moisture penetration.

5.6 Sheet joints and cracking

5.6.1 In regard to the original house, the expert noted that:

- control joints beside windows were retrofitted following the 2012 inspection (I note that 2012 photographs show cracks radiating from some window corners)
- cracking is mainly limited to windows – likely to relate to moisture entering joinery junctions and causing movement of the framing
- cracking and elevated moisture levels at windows suggests systemic weathertightness failure of the joinery and the likelihood of damaged timber.

5.6.2 In regard to the garage extension, the expert noted that:

- control joints were installed and appeared satisfactory
- the lack of significant cracking suggested adequate provision of control joints.

5.7 The roof flashings

5.7.1 In regard to the original house, the expert noted that:

- the roofs are dual pitch with eaves and verge overhangs
- maintenance is needed, with cracked/missing bedding mortar and pointing and fractured/loose tiles in some areas

- a crack in the entry foyer soffit lining suggests intermittent leaking, possibly from defects in ridge pointing above.

5.7.2 In regard to the garage extension, the expert noted that:

- the plastered parapets shown in the consent drawings were deleted, which reduced weathertightness risks
- the profiled metal roof includes a 310mm wide by 50mm deep perimeter flashing that accords with E2/AS1.

5.8 The authority's list of concerns

5.8.1 The expert also assessed the list of concerns identified by the authority in its S95A refusal to issue a code compliance certificate; and the following table summarises the expert's responses:

Table 3: The authority's concerns

Areas of concern in S95A refusal (in summary)		Expert's comments	Compliance	Relevant paragraphs
Stucco cladding				
1 a)	Cladding clearances	Insufficient at uphill site levels to west	Inadequate	5.4
b)	Joinery junctions	Signs of moisture ingress over time to family room SW and original exposed windows	Inadequate	5.5
c)	Cracking to stucco	Cracking to original stucco related to above	Inadequate	5.6
d)	Damage to stucco	Minor maintenance item		
e)	Meter box panels	Not viewed - maintenance		
f)	Penetrations	Not observed		
g)	Repairs to cladding	Not observed		
h)	Change in substrate	Agreed but no affect on compliance		
2	Floor clearances	Insufficient at uphill site levels to west	Inadequate	5.4
3 a), b), c)	Joinery junctions	Signs of moisture ingress over time to family room SW and original exposed windows	Inadequate	5.5
4 a)	Interior moisture levels	Agreed – elevated levels recorded	Inadequate	5.3
Other items				
5 a)	Trimmer not continuous	Not observed – unclear what referred to	unknown	
b)	(As-built changes) Basement store room	As-built drawings needed for review		5.2.2
c)	Woodburner			
d)	Subfloor excavation			
e)	Sink in family room			
f)	Timber deck/barriers		Inadequate	5.2.3
g)	Attached pergola			

Areas of concern in S95A refusal (in summary)		Expert's comments	Compliance	Relevant paragraphs
Roof				
6 a)	No access			5.7
b)	Alternative gutter detail	Unclear what is referred to		
c)	Ridge mortar cracked	21-year-old tiles require maintenance		5.7.1
d)	Tile at gutter sagged			
e)	Dislodged tiles			
Subfloor				
7 a)	Lack of access	Unclear – access generally good		
b)	Mechanical fixings	21 years in-service history with significant detriment likely to provide evidence of compliance	Adequate in circumstances	3.2.2
c)	Retaining wall			
d)	Ventilation			

5.9 Summary

5.9.1 The expert considered the following areas required further investigation and repair in order for the completed house to comply with Clauses B1, E2 and B2:

- confirmation of the structural adequacy of the deck barriers
- the lack of cladding clearances and elevated moisture levels to some areas
- the lack of weathertightness of original windows, with moisture penetration and stucco cracks at some window junctions and fungal growth in framing
- the south west family room window installed within the original garage wall
- investigation and repair of damage to original framing from moisture ingress
- cracking to the original stucco.

6. Discussion

6.1 Compliance of the building work

6.1.1 In order to determine whether the authority correctly exercised its power in refusing to issue code compliance certificates for the two building consents issued for this house, I must consider whether areas identified by the authority comply with the relevant parts of the Building Code and with the building consent for the alterations.

6.1.2 I also note the additional building work and departures from the building consents and I accept that these changes are reasonably minor and, providing the work complies with the Building Code, the authority may choose to record these by way of adequately detailed as-built drawings. I leave the resolution of this to the parties to resolve in due course.

6.1.3 I note that the building consent for the original house was issued in 1995 under the former Act, and accordingly the transitional provisions of the Act apply when considering the issue of a code compliance certificate for work completed under this 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’.

- 6.1.4 For the 1995 building consent, I must therefore consider whether the original house complies with the provisions of the Building Code that applied when the consent was issued. An application can be made to the authority for a modification of durability requirements to allow durability periods for the external building envelope and the structure to commence from the date of substantial completion in 1996. Although that matter is not part of this determination (see paragraph 1.5.3), I have taken that anticipated modification into account when assessing compliance of the claddings.

6.2 The external envelope

- 6.2.1 The evaluation of building work for compliance with the Building Code and the risk factors considered in regards to weathertightness have been described in numerous previous determinations (for example, Determination 2004/1).

6.3 Weathertightness risk of the original house

- 6.3.1 The original house has the following environmental and design features, which influence its weathertightness risk profile:

Increasing risk

- although fairly simple in form, the roof includes some complex junctions
- the house includes an attached timber deck and pergola
- the house has monolithic wall cladding fixed directly to the framing

Decreasing risk

- the house is in a low to medium wind zone
- the house is single-storey and fairly simple in form
- there are roof overhangs to shelter most of the wall cladding
- external wall framing is generally treated to provide resistance to decay if it absorbs and retains moisture.

- 6.3.2 Using the E2/AS1 risk matrix to evaluate these features, elevations are assessed as having a low weathertightness risk rating. If details shown in the current E2/AS1 were adopted to show code compliance, a drained cavity would be required for the monolithic cladding at all risk levels. Although a drained cavity was included in the garage extension as required in 2008, this was not a requirement at the time of construction of the original house in 1995.

- 6.3.3 Generally the claddings appear to have been installed in accordance with average trade practice at the time of construction. However, I accept that the areas identified by the expert in paragraph 5.9.1 require further investigation and repair. Those areas in particular relate to window installation in the original house and to clearances for both the house and the garage extension.

- 6.3.4 I consider the expert’s report establishes that the current performance of the building envelope is not adequate because there is evidence of moisture penetration into some of the timber framing. Consequently, I am satisfied that the stucco cladding currently does not comply with Clause E2 of the Building Code. Given the analysis of the bottom plate samples, I am also satisfied that the original stucco cladding did not comply with Clause E2 for the 15-year period required by Clause B2.3.1.

6.3.5 The potential for further and more significant hidden damage raises concerns that the original timber framing may not comply with Clause B1. Pending satisfactory investigations to establish the extent and severity of decay to the framing followed by appropriate remediation, I consider that the original house framing may not comply with Clause B1 of the Building Code.

6.4 Clause B2: Durability of the original cladding and framing

6.4.1 The original house is also required to comply with the durability requirements of Clause B2, which requires a building to satisfy all the objectives of the Building Code throughout its effective life. In particular the building envelope is required to satisfy Clause E2 for a minimum of 15 years although the expected life of the underlying framing is a minimum of 50 years; meaning that the external envelope is required to protect the underlying structure for its minimum required life of 50 years.

6.4.2 Although the original stucco and the roof claddings are now 21 years old, the expert's investigations have confirmed moisture ingress over an extended period. I take the view that this indicates that faults in the building envelope have resulted in failure to meet the performance requirements of Clause E2 for the period set out in Clause B2 from the time the building work was substantially completed; accordingly I consider the building work has not complied with Clause B2. In addition, because of the fungal damage confirmed to bottom plates and the likelihood of further more significant undiscovered damage, I am satisfied that the timber framing has also not complied with Clause B2.

6.4.3 Because the identified moisture penetration and cladding faults occur in discrete areas, investigation and rectification of areas outlined in paragraph 5.9.1 may result in the timber framing and the stucco cladding being brought into compliance with Clauses B1, E2 and B2 of the Building Code. However, appropriate investigations may reveal damage requiring considerable work to make the original house weathertight and durable, which could include replacement of the original cladding.

6.4.4 I consider that final decisions on whether code compliance for the original house can be achieved by either remediation or re-cladding, or a combination of both, can only be made after a more thorough investigation of the stucco cladding and the condition of the underlying timber framing. This will require a careful analysis by an appropriately qualified expert, and should include an investigation of the condition of the underlying framing. Once that decision is made, the chosen remedial option should be submitted to the authority for its approval.

6.4.5 I note that the Ministry has produced a guidance document on weathertightness remediation¹¹. I consider that this guide will assist the owner in understanding the issues and processes involved in remediation work to the external envelope, and in exploring various options that may be available when considering the upcoming work required to the original house.

6.4.6 The expert has commented on maintenance required to the original concrete roof tiles. Effective maintenance of the house is important to ensure ongoing compliance with the Building Code and is the responsibility of the building owner. The Ministry has previously described maintenance requirements associated with the external building envelope (for example, Determination 2007/60).

¹¹ Weathertightness: Guide to Remediation Design, Department of Building and Housing & BRANZ, May 2011. This guide is available on the Ministry's website, www.building.govt.nz or in hard copy by phoning 0800 242 243

7. What happens next?

- 7.1 I note the building consents were issued to the applicant as the current owner of the house and the authority issued a notice to fix dated 16 October 2012 that required the applicant to bring the original house into compliance with the Building Code. That notice to fix was limited to the 1995 consent and may now be withdrawn. The authority may issue a new notice to fix that requires the applicant to bring the building work into compliance with the Building Code. The notice should include the investigations and defects identified in paragraph 5.9.1 and any further defects that might be discovered in the course of investigation and rectification, but not specify how those defects are to be fixed – that is a matter for the applicants to propose and for the authority to accept or reject.
- 7.2 The applicant can then produce a response to the notice in the form of a detailed proposal to specifically address the matters of non-compliance and investigation for the areas identified, produced in conjunction with a competent and suitably experienced person, as to the investigation and rectification or otherwise of the specified matters. Any outstanding items of disagreement can then be referred to the Chief Executive for a further binding determination.

8. The decision

- 8.1 For the original house, in accordance with section 188 of the Building Act 2004 I hereby determine that, in regard to the Building Code that was in force at the time the building consent was issued in 1995:
- pending confirmation, the deck barrier does not comply with Building Code Clause B1
 - pending further investigation and repair, some of the timber framing may not comply with Building Code Clauses B1 and B2
 - the stucco cladding does not comply with Building Code Clauses E2 and B2
- and accordingly, I confirm the authority's decision to refuse to issue a code compliance certificate for the building consent no. ABA 1995/6644.
- 8.2 For the garage extension and alterations I also determine that:
- the building work does not comply with the building consent
 - pending further investigation and repair, some timber framing to the family room conversion may not comply with Building Code Clauses B1 and B2
 - the stucco cladding to the family room conversion and some clearances to the garage do not comply with Building Code Clauses E2 and B2
- and accordingly, I confirm the authority's decision to refuse to issue a code compliance certificate for the building consent no. COM 2008/1657.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 6 March 2017.

John Gardiner
Manager Determinations and Assurance