



Determination 2018/066

Regarding the authority's decision to issue a code compliance certificate for alterations to a relocated house at 6984F State Highway 1, Pakaraka, Moerewa

Summary

This determination considers the issue of a code compliance certificate for alterations to a relocated house. The determination discusses the compliance of the building work with the building consent and with relevant clauses of the Building Code.

1. The matter to be determined

1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004¹ (“the Act”) made under due authorisation by me, Katie Gordon, Manager Determinations, Ministry of Business, Innovation and Employment (“the Ministry”), for and on behalf of the Chief Executive of the Ministry.

1.2 The parties to the determination are:

- the current owners of the house D and B Mulrennan (“the applicants”) acting through a property inspection company (“the inspection company”)
- Far North District Council (“the authority”), carrying out its duties as a territorial authority or building consent authority.

1.3 The application for this determination arises from the following:

- An existing house was inspected and approved for relocation under a building consent issued in 2008 and was moved from Paihia to the building site in about April 2008.
- A building consent for alterations to the relocated house was issued in May 2008 and the authority issued a code compliance certificate for the completed building work on 6 August 2009.
- The applicants purchased the house in June 2016 and subsequently engaged the inspection company to assess various concerns. The inspection company’s report identified various defects and departures from the consent documents.
- On the basis of the inspection company’s report, the applicants claim that the authority failed to ensure the building work complied with certain clauses of the Building Code² (Schedule 1, Building Regulations 1992).

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

1.4 The applicants consider that the code compliance certificate should not have been issued because there were differences between the as-built construction and the consent documents, and the alterations do not comply with certain clauses of the Building Code; primarily in regard to the structural and weathertightness defects identified by the inspection company.

1.5 Matter to be determined

1.5.1 The matter to be determined³ is the authority's exercise of its powers in issuing a code compliance certificate for the alterations in 2009. In deciding this matter, I must consider whether certain elements in the house as completed complied with the building consent and the Building Code at the time the authority made its decision.

1.5.2 Building work was carried out to this house under the following building consents and amendments:

- No. BC-2008-1911/0 issued on February 2008 (“the relocation consent”)
- No. BC-2008-2140/0 issued on 13 May 2008 for alterations to the relocated house (“the alterations consent”), including:
 - Amendment A for changes to the foundations
 - Amendment B for basement extension, new deck and retaining walls.

1.5.3 This determination is limited to the alterations consent and does not consider the relocation consent except insofar as the relocation affects the alteration work as subsequently completed.

1.5.4 The work carried out by the original owner following completion of the work done under the alterations consent does not fall within the scope of this determination. However, that work has informed my decisions on the state of the house during the authority's 2009 final inspection.

1.5.5 In making my decision I have considered the submissions of the parties, including the inspection report provided by the applicants (“the inspection company's report”), together with the report of the expert engaged by the Ministry to assist me (“the expert”), and the other evidence in this matter.

2. The building work

2.1 The house is situated on a large east-sloping rural site in a high wind zone⁴ as described in NZS 3604⁵. Access to the site is from a shared private road from the highway. The expert has taken the garage and main entry as facing east and this determination follows that convention.

2.2 The original relocated house

2.2.1 The original three bedroom house was built during the 1970's; with a partial basement garage/rumpus room on the lower level and exterior concrete stairs leading up to the front entry. A rear deck addition was constructed in 1999, (“the 1999 deck”) which included a conservatory lean-to attached to the eaves.

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

⁴ According to the bracing calculations

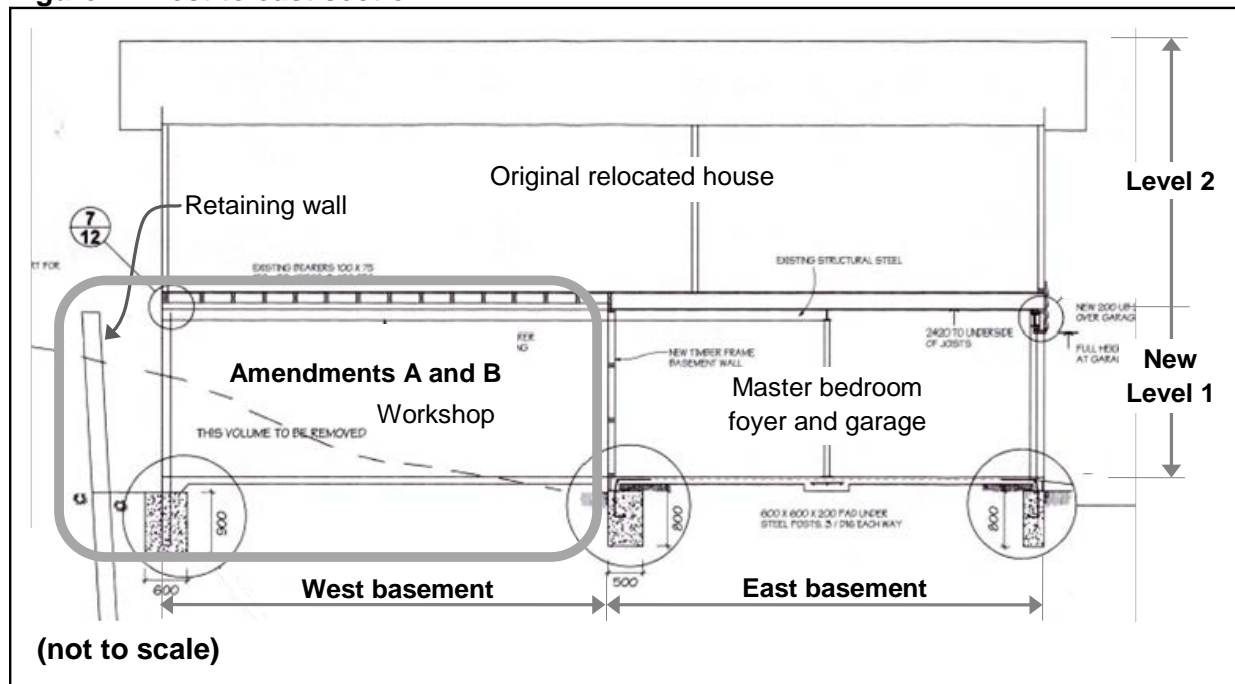
⁵ New Zealand Standard NZS 3604:1999 Timber Framed Buildings

2.2.2 Construction of the original house appears to have been traditional 1970s light timber frame; with pile foundations, steel posts and beam to the basement, Matai and particle-board flooring, low-pitched gable corrugated steel roof, and a mix of sloping Rimu sarking and suspended soft board ceiling tiles. Wall claddings were mix of fibre-cement sheet cladding and rusticated cedar weatherboards, with bronze anodised aluminium door and window joinery.

2.3 The altered house

2.3.1 As shown in the sketch in Figure 2, alterations included new retaining walls to the west and south, the addition of a basement workshop area to the west, a new deck to the south, extension of the upper level lounge to the north and east, an entry canopy to the east and extensive interior alterations to the upper floor.

Figure 1: West to east section

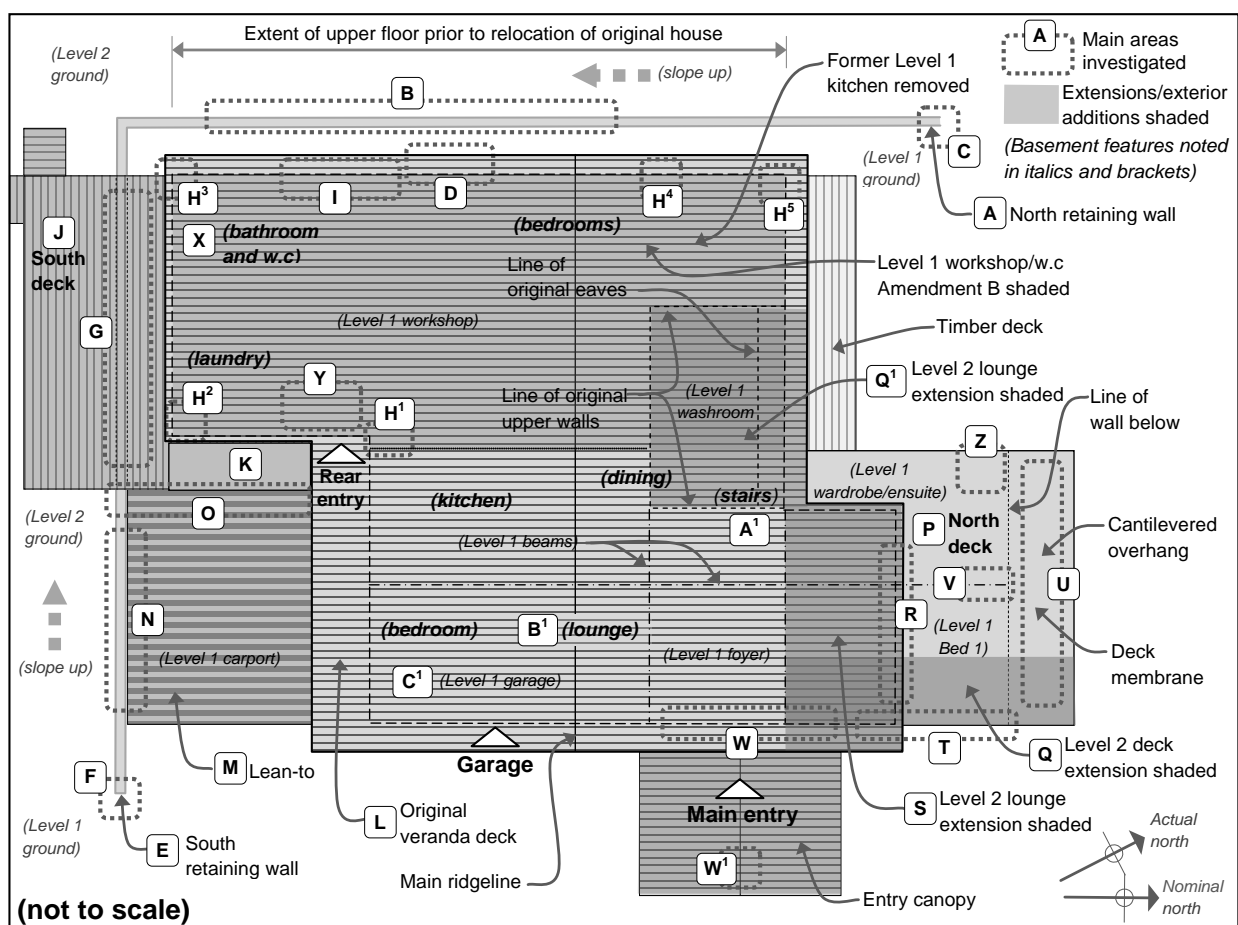


2.3.2 There is no as-built floor plan of the upper level but, based on inspection photographs and records, the house now appears to accommodate the following:

- Level 1 (the new basement level): the main entry canopy, with:
 - entry foyer with stairs to the upper level (Area A¹)
 - a garage to the southwest (Area C¹)
 - master bedroom and ensuite to the north beneath the north deck
 - workshop and washroom to the west.
- Level 2 (the upper level): the stairs landing in the living area, with:
 - lounge/dining areas to the north, opening onto the north deck, with extensions into the dining recess (Area Q¹) and above the master bedroom (Area S)
 - the north deck, expanded to the west above the master bedroom (Area Q)
 - a new deck (Area J) extended over the south retaining wall (Area G), with a return walkway to the east (Area K)

- bedroom to the southeast, opening onto the original south veranda (Area L)
 - laundry (Area Y) and rear entry from the original veranda (Area L)
 - bathroom and toilet facilities to the southwest (Area X)
 - two bedrooms to the west
 - a lean-to carport structure to the southeast corner (Area M).
- 2.3.3 Construction of Level 1 is a mix of conventional light timber frame and specifically engineered post piles with infill timber framing, concrete slabs and foundations, and posts and beams. Level 1 has a mix of original and new timber framed partitions and the original particle board flooring. The corrugated steel roof cladding appears to be a mix of original roofing and new roofing over the lounge extension.
- 2.3.4 The north and east lower walls are brick veneer, with the remaining cladding a mix of new and original weatherboards. The new boards match the original and are fixed directly through the building wrap to the framing. Joinery is a mix of new and re-used original aluminium windows, with some re-used timber joinery.
- 2.3.5 Given the age of the original house, the original timber framing is likely to be borax treated and the recent framing H1.2⁶ treated. I therefore consider that the external framing is likely to provide some resistance to fungal decay.

Figure 2: Approximate plan



⁶ Timber treatment class to New Zealand Standard NZS 3602: Part 1: 2003 Timber and wood-based products for use in building

2.4 The decks

- 2.4.1 A new timber framed deck with open timber balustrades and timber slat floor extends to the south over the retaining wall, with ramps to Level 2 ground level at the southwest corner. The south deck returns as a walkway with plywood sheet flooring to the rear entry, where it meets the original veranda deck.
- 2.4.2 The deck shown in photographs of the original house has what appears to be a plywood floor coated with liquid-applied membrane (“LAM”). A perimeter drainage channel with upstand was visible at the deck edge and the open timber balustrade included a stainless steel handrail fixed to the top rail. The east addition to the deck extends the plywood substrate and LAM, with a new coating applied over the entire deck. The existing trellis was re-fixed at the east junction with the upper wall.

3. Background

3.1 Relocation of the original house (BC-2008-1911/0)

- 3.1.1 On 11 February 2008, the authority inspected and took photographs of the vacant house on its original site, and described its condition and materials in a ‘relocate inspection report’. In an undated letter to the original owner, the authority issued a building consent to relocate the house (No. BC-2008-1911/0), which included the following conditions⁷ (in summary, with reference numbers in brackets):
- upgrading of interior linings if necessary (Item 4)
 - replacement of all damaged framing if necessary (Item 5)
 - replacement of flooring if necessary (Item 6)
 - roofing to be checked and repaired if necessary (Item 7)
 - replacement of galvanised water piping (Item 8)
 - repainting of exterior (Item 9)
 - installation of an approved means of exit (Item 10)
 - any structural re-instatement to be code-compliant or engineered (Item 11).
- 3.1.2 The original house was moved onto its current site during March and April 2008 while the alterations consent was processed, and photographs show the house temporarily supported on-site on 28 April 2008.

3.2 The alterations consent documentation (BC-2008-2140/0)

- 3.2.1 The designer applied for a building consent for alterations to the relocated house on behalf of the original owner on 15 March 2008 based on drawings dated February 2008, which included only a half basement level to the east half of the house with 125mm pile foundations.
- 3.2.2 The consent drawings were limited and lacked clarity with:
- confusing sheet titles and few explanatory notes of new and/or original work
 - more detailed floor plans provided only for the east half basement

⁷ I have seen no code compliance certificate for the relocation consent or evidence that inspections were carried out to verify that the consent conditions were met.

- the upper floor plan limited to a crude outline of original rooms, with no associated details/explanations of changes except for several notes
- no notes or specification of work to be carried out to comply with conditions of the relocation consent.

Notwithstanding the lack of documentation, it is clear from various photographs that the upper floor layout was significantly changed during the alteration work.

- 3.2.3 The authority issued a building consent for the alterations (No. BC-2008-2140/0) to the original owner on 13 May 2008 under the Act for a '3 bedroom relocatable dwelling with basement' (despite drawings that show three bedrooms in the original upper level and an additional bedroom in the basement).

3.3 Amendment A to foundations

- 3.3.1 In the meantime the original owner decided to excavate the basement level over the full width of the original house, which entailed excavating and retaining the existing ground levels at the highest part of the site – the southwest end of the original house.
- 3.3.2 The engineer provided a 'Producer Statement – PS1 – Design' dated 18 June 2008 for revisions to 'subfloor framing under ablution area'. At that stage amendments were limited to changing the southwest end of the basement to posts and beams in lieu of the conventional piles shown in the consent drawings. The authority issued Amendment A to the consent on 30 June 2008.

3.4 2008 construction

- 3.4.1 Construction proceeded on the basis of a full basement level and the authority's records indicate that 2008 inspections included (in summary):
- pre-pour east footings on 23 May (which passed, noting 'OK to pour')
 - pre-pour west footings on 10 June (which passed, noting 'OK to pour')
 - pre-pour east and west slabs 4 and 14 July (which passed, noting 'OK to pour')
 - brick veneer on 30 September (which passed)
 - partial post-line on 14 October (which passed)
 - drainage and septic tank on 21 October (which passed).
- 3.4.2 It is evident from the May and June inspection photographs that the excavation of the west basement and construction of the retaining walls were completed before July 2008. However, I have seen no drawings or records of inspections by the engineer or the authority of the construction (despite heights exceeding 2m at the southwest corner⁸, with no inclination); particularly in regard to:
- the pole and plank dimensions and treatment
 - the hole depths and concrete embedment
 - the drainage coil(s) behind the wall
 - the drainage metal fill behind the wall.

⁸ Schedule 1 c) of the Act at the time only allowed construction of a retaining wall without building consent if it retained not more than 1.5 metres depth of ground and that did not support any surcharge or any load additional to the load of that ground.

3.5 2009 construction

3.5.1 Undated photographs show an inspection of the south deck framing over the retaining wall, which may have been an inspection in January 2009 by the engineer who issued a producer statement for construction review (PS4) dated 20 January 2009 for 'additional bearer supports to deck joists at south of new house'. I note the engineer's PS4 did not include review of the retaining walls.

3.5.2 On 25 January 2009 the designer submitted amended plans, section and elevations for Level 1, to include the west basement extension. The authority issued Amendment B to the building consent on 5 March 2009 for 'extend basement, additional washroom, revised elevations, new deck, revised bracing, retaining walls' [my emphasis].

3.5.3 The authority carried out the following inspections during 2009:

- pre-line building and plumbing on 28 January (which noted work to be done)
- pre-line building and plumbing recheck on 11 February (which passed)
- post-line on 5 March (which passed)
- final inspection (which noted 'OK to process [code compliance certificate]').

3.5.4 The authority carried out the final inspection on 30 July 2009 and completed an internal checklist dated 5 August 2009, which noted that a code compliance certificate could be issued and included (with item numbers shown):

| | | | |
|-------------------------|---|--|------------|
| ISSUE | 3 | All inspections completed <i>(Preline rechecked on file)</i> | Yes |
| TECHNICAL REVIEW | 1 | All building consent fulfilled <i>(No conditions but relocate Cladding, roof, spouting OK)</i> | N/A |
| | 2 | Work complies with approved building consent documentation <i>(With amendments)</i> | Yes |
| | 9 | Amendments and associated documentation properly completed <i>(With amendments)</i> | Yes |
| ISSUE CCC | | I have checked the information and am satisfied on reasonable grounds that the project is complete and compliant with building consent issued. | Yes |

3.5.5 On 6 August 2009 the authority issued a code compliance certificate for the alteration consent.

3.6 Post-completion alterations

3.6.1 Over the seven years following, the original owner carried out various alterations without seeking approval from the authority. Based on the inspection company's report (see paragraph 3.8.2) these alterations included:

- the addition of a lean-to carport structure to the southeast (Area M)
- conversion of the west basement workshop into a separate self-contained bedsitter unit, with what appears to have been:
 - an open-plan living area, with rear access to the carport lean-to
 - curtains to windows and carpet to floors
 - a kitchen/laundry area to the northwest
 - the separate w.c room changed to a bathroom.

3.6.2 There is no record of building consent for the above changes, or any record of notification or approval for the change in use to a two-unit dwelling. When the applicants purchased the house in June 2016, the above alterations were in place.

3.7 The 2018 site meeting

3.7.1 The applicants carried out various repairs before becoming concerned about moisture problems and the structural stability of the retaining walls. On 23 January 2018 the applicants met with the authority on site to discuss the concerns. In a letter to the applicants dated 25 January 2018, the authority noted that it understood that the primary concerns were:

...the basement area posts with elevated moisture levels, premature deterioration of timber joinery, leak damage caused by plumbing failures, leaks from the upper roof, accumulation of ground water and pole retaining wall deflection/drainage concerns.

3.7.2 The authority noted the applicants had also pointed out that:

- some issues had resulted from plumbing leaks which had remained unreported when the house was tenanted
- the rotting timber sill to the lower door was not treated as required
- ground was saturated and levels to the west retaining wall were elevated, with deflection to the poles, indicating a lack of free-draining fill.

3.7.3 The authority recommended that the applicants (in summary):

- avoid any further repairs
- engage a ‘building assessor’ to investigate and report on:
 - works carried out as part of the alterations consent
 - the remaining works for the relocated upper floor
- seek a determination if the decision to issue the code compliance certificate is challenged.

3.8 The inspection company’s report

3.8.1 Following the above letter, the applicants engaged a property inspection company to assess and report on ‘concerns regarding moisture ingress into the house and a retaining wall structure’. The inspection company carried out a ‘visual only, non-invasive inspection’ of the house and provided a report on 5 March 2018.

3.8.2 The report included the following general comments (in summary):

- The poor quality documentation is confusing as to the staging of the work.
- Pile posts to the west basement were installed before the floor slab was poured.
- Lounge and master bedroom areas are larger than shown in drawings and stairs are in a different position.
- It is not clear whether upper floor changes were part of the relocation consent or were carried out under the alterations consent.
- The workshop area had been developed into a self-contained unit with an open-plan kitchen in the northwest corner, which the applicants intend to remove.

3.8.3 West retaining wall (Area A) – comments included (in summary):

- The only mention in the inspection records is the need for a compliant barrier to the top of the wall, with no inspections of wall construction recorded – and no evidence that drainage was installed behind the wall.
- The balustrade at the top of the west retaining wall has a bow in excess of 100mm (compared to a bow in inspection photos of some 30mm).
- The south retaining wall is also failing (Area E).
- Given movement over the past 10 years, the stability of walls should be assessed by an engineer.

3.8.4 Level 1 workshop (Areas H¹ to I) – comments included (in summary):

- Pile posts were left in place when the floor slab was poured as part of Amendment A – and moisture is wicking through the timber, and the bottom of some piles are visible below the exterior weatherboards (Area I).
- Linings have been removed to expose timber posts in several areas and non-invasive moisture readings vary from 35% to saturation, with black water staining visible on exposed timber and damaged carpet (Areas H¹, H²).
- Moisture damage relates to the bottom plate line of embedded pile posts – and this is exacerbated by the lack of ground clearances and drainage, with seepage through the retaining wall along the west wall (Area B).
- The current owners have lowered ground levels from the paving levels shown in the final inspection photographs.

3.8.5 The north deck (Area P) – comments included (in summary):

- Inspection photos show the original membrane deck in place when the house was relocated, with damage very likely during removal operations.
- During basement alterations, the original membrane would also have been damaged by the lounge and deck extensions (Areas S and Q respectively).
- Observations of the membrane and junctions revealed:
 - minimal deck slope to channel drains, with small outlets and overflows
 - joints visible and fixings popping in the deck ply substrate
 - a butyl membrane overlaying the wall/deck junctions at the upper wall and the deck edge
 - ‘poor’ detailing of balustrades/deck junctions.
- Leaks have occurred to the east wall of the bedroom below, with surface moisture readings of 30% above the window (Area T).
- Leaks have also occurred into the soffit of the north cantilever (Area U).
- The bedroom ceiling lining below is cracked, with a surface reading of 42% in the beam lining (Area V).

3.8.6 In regard to other areas, the inspection company noted (in summary):

- the central column to the entry canopy is omitted, with no record of engineering redesign (Area W¹)
- the canopy/wall apron flashing is not weathertight (Area W)

- sill flashings detailed in the drawings are not installed to basement windows and jamb plugs are not installed to Level 1 windows
- a lean-to carport structure has been installed to the southwest (Area M).

3.8.7 Given the poor documentation, lack of inspections and the apparent problems identified during the assessment, the inspection company's report concluded that:

...it is the opinion of the writer of this report that the [authority] should not have issued a CCC.

There appears to be non-compliance related issues in relation to Building Code B1 – B2 – E2 – E3 and possibly G7 [Natural light].

3.9 On 15 March 2018, the Ministry received the application for a determination from the inspection company on behalf of the applicants.

4. The submissions

4.1 The applicants provided copies of:

- documentation for the relocation consent (No. BC-2008-1911/0)
- the relocation consent inspection photographs
- the alterations consent drawings
- the alterations consent (No. BC-2008-2140/0) dated 13 May 2008
- inspection records and photographs
- the code compliance certificate for BC-2008-2140 dated 6 August 2009.

4.2 The authority made no submission but submitted digital copies of additional information pertinent to this determination, which included:

- the specification for BC-2008-2140
- the engineer's producer statements for BC-2008-2140
- documentation for Amendment A and Amendment B to BC-2008-2140
- the authority's 'T-33 Code Compliance Certificate Checklist'
- the letter to the current owners dated 25 January 2018
- the inspection company's report dated 5 March 2018.

4.3 A draft determination was issued to the parties for comment on 6 September 2018.

4.4 In a response received on 18 September 2018, the applicants accepted the draft subject to minor amendment. The applicants advised that the original corrugated metal roof had been in poor condition, was less than the 5° in pitch and it leaked so that "water poured down a wall". The roof had been fully reclad.

4.5 The authority responded on 12 November 2018, accepting the findings of the draft. The authority noted that it considered adverse effects to the building from work carried out without approval (refer paragraph 3.6) have affected the current condition of the property. The authority noted that its acceptance of the draft determination was only in regard to "the stamped and approved plans pertaining to Building Consent 2008-2140/1".

5. The expert's report

5.1 General

5.1.1 As mentioned in paragraph 1.5.5, I engaged an independent expert to assist me. The expert is a member of the New Zealand Institute of Building Surveyors. The expert inspected the house on 14 June 2018, providing a report finalised on 19 July 2018 that was forwarded to the parties for comment on 24 July 2018.

5.1.2 The expert noted that the scope of the assessment was to clarify features relating to the relocation of the original house and the alterations consent. The expert was also asked to:

Clarify the basis that the retaining wall was built, and provide a clearer description of the as-built works [that can be] reasonably assumed to be part of the consent. Further, assess the construction for any works that may have been carried out after the CCC issue.

To undertake investigations, visual, non-destructive and invasive, sufficient to form an opinion on the claimed non-compliance matters identified by [the applicants].

5.1.3 The expert described work shown in the consent drawings and the subsequent amendments, together with outlining the inspection records and photographs. The expert noted that there is no record of inspections of the retaining walls or of the barrier erected to the top of the west retaining wall.

5.2 Discussion with the applicants

5.2.1 The expert discussed the situation with the applicants, who confirmed (in summary):

- In regard to the south and west walls:
 - the west retaining wall continued to lean in towards the house, with water seepage up to about 1m above ground causing ponding that had entered the west basement area during extreme wet weather (Area B)
 - high ground levels to the west and south compounded water discharge, and paving slabs had been removed to lower the ground level
 - the sill to the second-hand door had decayed (Area D).
- In regard to the north deck (Area P):
 - a conservatory to the original house extended onto the membrane deck, and was removed before the house was relocated with the deck
 - the LAM had recently been recoated due to weathertightness concerns
 - nails were starting to poke through the LAM and there was 'rippling' at the joints of the plywood substrate
 - the cantilevered soffit was demolished a few weeks prior to the expert's visit, with dampness, mould and faulty drainpipe joints exposed (Area U)
 - the bedroom east window below the deck is leaking at the head (Area T)
 - there are cracks in the bedroom ceiling below the deck (Area V).
- The west half of the basement is supported on 125 x 125mm H5⁹ posts set into concrete before the west floor was poured and these remain in place, with the posts black stained and extremely wet (Areas H¹–H⁵ and I).
- The applicants are considering demolishing the lean-to structure (Area M).

⁹ Timber treatment class to New Zealand Standard NZS 3602: Part 1: 2003 Timber and wood-based products for use in building

- The return to the new south deck has a plywood floor and the deck/floor junction is not weathertight (Area K).
- The south deck boards are decaying (Area J).
- Plumbing failures to showers and the upper toilet have caused damage, leading to flooring replacement. Shower cubicle junctions are not watertight.

5.3 Changes from the consent drawings

5.3.1 The expert noted that there are no as-built drawings for the consented alterations and observed the following changes from the available consent documentation (in summary):

- the southeast lean-to structure appears to have been constructed after completion of the approved works
- there is no detail or engineer's report on the retaining walls, despite the section noting 'see engineer's report for all retaining walls'
- the centre support to the entry canopy has been omitted
- sill flashings detailed in the drawings are not installed
- ground clearances do not accord with the drawings
- the stair location and configuration has changed from the floor plan
- the master bedroom has increased in size (along with the north deck above)

(I note also that the north eaves have been extended to align over the north dining, and the basement kitchen was removed before the expert's site visit.)

5.4 The external timber retaining walls

5.4.1 West retaining wall (Area A) – comments included (in summary):

- Although final inspection photos show the wall and barrier 'true to line', pressure from backfill has distorted the wall by up to 300mm at about a third of its length from the south end (Area B).
- Water is seeping through the wall, with signs of water migrating to the lower 1m at the bottom of the wall. This is causing ponding on the path – to a depth of some 200mm at the south, suggesting no coil drain installed below the wall.
- Excavation to 500mm behind the wall found pug clay with some coarse gravel, with no sign of free-draining metal backfill (Area B).
- The applicants had removed the north (short) end of the wall, which had exposed the end of the 100mm diameter drain coil behind the wall (Area C).

5.4.2 The expert assessed ground levels and clearances along the west and noted:

- clearances to the floor level and cladding are well below those shown in the drawings, despite the applicants removing paving slabs to lower the ground
- the recycled workshop door has a severely decayed timber sill (Area D).

5.4.3 South retaining wall (Area E) – comments included (in summary):

- Construction is the same as the west retaining wall, but with 'much less evidence' of seepage to areas more than 1.5m from the southwest corner.

- The same clay and gravel fill was noted, but the drain coil is discharging water beyond the driveway despite the lack of drainage metal backfill (Area F).
- The south wall extends under and provides support to the south deck (Area G).

5.5 The timber pile posts (Areas H¹ to H⁵ and I)

5.5.1 In regard to the timber pile posts to the west basement, the expert included the following comments (in summary):

- The pile posts resulted from Amendments A and B, which changed the undeveloped subfloor in the consent drawings into a workshop area.
- The 125 x 125mm posts were cast into concrete pads and beams supported the original house during excavations of up to 2m of earth. A concrete nib was installed between the posts, and then the concrete slab floor was then poured within the nibs which encased the posts on three sides.
- The applicants had removed linings from some posts, with mould and black water marks visible on exposed timber and invasive moisture readings of 86% to saturation level were recorded (Areas H¹, H²).
- Invasive moisture readings were also taken through plasterboard into remaining columns, with moisture levels varying from 19% to 75% (Areas H³ to H⁵).

5.5.2 In regard to two of the west posts (Area I):

- Two lined posts to the southern section of the west wall were recorded at 19% and 29%, with the bottom of these visible below the exterior weatherboards and obviously stained and saturated. Samples were extracted and forwarded for treatment and decay analysis.
- The laboratory report dated 18 June 2018 stated that the wood tested negative for boron, copper and tin; one sample 'exhibited light brown rot' and the other 'exhibited moderate soft rot.' The laboratory reported that both samples were:

UN SOUND – the wood should be replaced in accordance with established remediation practice.

5.5.3 Taking account of the above together with the condition and moisture levels of the basement posts generally, the expert concluded that:

The condition of the pile post timbers suggested to me that the specified H5 timber treatment had not been achieved or that H5 posts [were] not installed.

5.6 The structures added to the south elevation

5.6.1 In regard to the new south deck (Area J):

- The deck was added as part of Amendment B and the outline is shown on the amended plan (although I note no construction detail is provided). The new deck returns around the southeast corner to provide access to the rear entry (Area K).
- (Area G): The deck extends over the south retaining wall where framing is supported on timber 'stub piles founded on top plank of retaining wall', with:
 - several deck joists joined over a bearer supported by the wall

- struts down from the bearer reduced to 50mm to align with the 50mm top plank of the retaining wall
- some 100 x 50mm blocks that are only nailed
- some struts not directly under the bearer, but are instead nailed alongside.
- Inspection photographs show an inspection of the deck framing/retaining wall during construction (although I note that the photos are undated, so it is not clear whether this was by the authority or the engineer – see paragraph 3.5.1).
- The deck ribbon plate appears to be fixed directly against the weatherboards.
- The deck boards have deteriorated and the ends are starting to decay.

5.6.2 In regard to the walkways to the rear door (Area K and Area L):

- I note that pre-relocation photographs show the original house with an entry veranda and deck to the front door, with the deck floor clad in a coated unidentified sheet material (Area L).
- The original veranda deck remains to what is now the rear entry door, where it connects to the east return of the new deck (Area K).
- The deck floor of the new east return is clad with butt-jointed weathered plywood sheets, which butt against the east deck/wall junction.
- The deck/wall junction is directly above the basement wall with the wet pile posts described in paragraph 5.5.1.

5.6.3 In regard to the southeast lean-to structure (Area M):

- Inspection photographs show that the lean-to was not in place during the final inspection on 30 July 2009 so was added after the code compliance certificate was issued.
- The lean-to has very low-pitched clear uPVC roofing and is supported by jack studs from the top of the retaining wall, with under-sized rafters (Area N).
- A crude metal flashing covers the roofing and is attached to the edge of the new deck return with flexible flashing tape (Area O).
- Due to sub-standard construction, the applicants intend to remove the lean-to structure.

5.7 The north deck (Area P)

5.7.1 I note that pre-removal inspection photos dated 11 February 2008 show the extent of the original north deck and conservatory (refer paragraph 2.2.1), with subsequent photos in April 2008 showing the house and the original deck temporarily propped.

5.7.2 In regard to the deck generally (Area P):

- The deck area has increased, without clear documentation of the exact extent and no construction details for the new portion(s) (Area Q).
- The deck forms a roof to the master bedroom but has ‘little real slope’, with undersized drainage channels and outlets and evidence of ponding.
- There is a small upstand at the balustrade with no overlap at the deck edge and drainage provided via small drainage channels and internal outlets.

- Plywood substrate joints are moving and nail fixings are popping through the LAM coating, which has been recently recoated.

5.7.3 In regard to deck/wall junctions (Area R):

- At the junction with the lounge extension (Area S) floor clearance is only 30mm and weatherboards butt onto the deck floor – this would have been visible at the final inspection.
- Non-invasive moisture readings of 36% and 43% were recorded by the expert at the sides of the sill liner to the lounge doors, although a probe reading showed only minor elevation of moisture levels at 20% (showing that moisture in the reveals may relate to the aluminium joinery sections or to condensation).

5.7.4 In regard to the east side of the deck (Area T):

- Photos of the house and deck temporarily propped in April 2008 also show a trellis screen to the east of the original deck, which has been shifted and re-fixed to the lounge extension at the east side of the extended deck.
- A channel is installed beneath the trellis, which connects into a downpipe that discharges onto the entry canopy roof.
- Water is leaking into the bedroom window head below, with minor moisture damage apparent and 20% moisture content recorded by the expert in the head reveal below the downpipe/channel connection.

5.7.5 In regard to the north cantilever to the deck (Area U):

- The applicants had removed parts of the deck soffit to investigate concerns about moisture damage; exposing PVC pipework from deck outlets.
- A pipe joint had been butt-jointed and taped, and movement had displaced the joint – allowing water to discharge into the soffit.
- Despite removal of the soffit three weeks prior to the expert's site visit, moisture levels of 21% were recorded in plywood substrate and there were visible signs of mould still evident.
- The deck is fully closed off from the soffit, with no ventilation provided to the deck joists (or to the brick cavity beneath the deck).

5.7.6 In regard to the beam/north wall junction (Area V):

- There is evidence of stress cracking to wall and beam linings at the north of the basement bedroom, which the applicants advise is a recent issue.
- Moisture readings were not elevated, so cause(s) of cracking could be:
 - past leaking from the defective drainpipe described above, and/or
 - timber movement at the post/beam junction.
- At a ceiling joint 1.2m from the north wall, the joint and paint is discoloured – possibly from water vapour migrating from the unventilated deck floor above.

5.8 **Other cladding junctions**

5.8.1 In regard to cladding junctions not described above:

- Apron flashings to the entry canopy allow water entry at the ends (Area W).

- Apron flashings between upper weatherboards and lower brick veneer have insufficient cover, with gaps to some corners and ends.
- Corner cover boards are ‘poorly finished’, with warping and gaps apparent.
- Aluminium windows are face-fixed against the weatherboards, with insufficient overlaps and no plugs or seals to window jamb flanges.
- Some re-used timber windows have been installed.

5.9 The plumbing concerns

5.9.1 In regard to the Level 2 bathrooms (Area X):

- Shower linings are poorly installed and do not fully adhere to the bottom, with the bottom edge flexible at the junction with the shower base.
- The shower has apparently leaked in the past and applicants have temporarily taped the joint to minimise further water entry at the joint.
- The cistern to the separate w.c has apparently leaked in the past; damaging the original particle board flooring which has been replaced with plywood.
- The original particle board flooring to the laundry beside the rear door was also damaged and has been replaced with plywood (Area Y).

(I note that because the back door is sheltered beneath the original veranda roof, the damage is more likely to have been related to plumbing leaks rather than exterior leaks.)

5.9.2 In regard to the Level 1 ensuite bathroom (Area Z):

- Shower linings are poorly installed, with the bottom edge flexible and distorted some 25mm out from the substrate at the shower base junction.
- This shower has also leaked in the past, and applicants have temporarily taped the joint to minimise further water entry at the joint. Damage to lower lining at the cubicle/wall junction suggests that the junction is still leaking.

5.10 Other items

5.10.1 In regard to other items observed by the expert:

- The bottom of the stairs have changed in position and layout (Area A¹), and:
 - adjoin the master bedroom wall, with no handrail to the lower six risers
 - the lower six risers are 190mm high, but the next riser is only 150mm which presents a trip hazard.
- Ceiling tiles to the extended south end of the lounge are a mix of original and new tile types, with new tiles inadequately fixed and distorting (Area B¹).
- Drawings show a control joint in the garage floor slab which has not been installed, and uncontrolled shrinkage cracks are evident over the whole concrete area (Area C¹).

6. Discussion

6.1 General

- 6.1.1 The matter in dispute is the authority's exercise of its powers of decision in issuing a code compliance certificate for the alterations.
- 6.1.2 Section 94 of the Act requires an authority to issue a code compliance certificate only if it is satisfied on reasonable grounds that the building work complies with the building consent. Determination 2008/030 considered a two-stage approach to the issuing of a code compliance certificate under the Act: firstly, whether there were reasonable grounds to be satisfied that building work complied with the building consent; and second, whether items not adequately detailed in the consent comply with the Building Code.
- 6.1.3 In order to determine whether the authority correctly exercised its power in deciding to issue a code compliance certificate, I must therefore consider:
- whether the alterations complied with the building consent
 - whether at the time of the authority's decision the alterations complied with the provisions of the Building Code that applied when the consent was issued, and if the building work did not comply whether that would have been, or should have been, apparent to the authority at the time of its decision.
- 6.1.4 As noted in paragraph 1.5.3, I have only considered the alterations and not the relocation except insofar as it affects the alterations.

6.2 Compliance with the building consent

- 6.2.1 As outlined in paragraph 3.2.2, the building consent drawings were rudimentary and lacking in detail in regard to the extent and construction of many areas where building work was undertaken once the original house was relocated onto the site, and no construction details were available. I consider the consent documentation is inadequate with respect to:
- the retaining walls
 - the timber pile posts
 - the south deck
 - the north deck
 - the extension of the north eaves
 - the apron flashings.
- 6.2.2 Taking account of the expert's report, I consider that the alterations do not comply with the building consent drawings in respect of:
- the lack of centre support to the entry canopy
 - the location and configuration of the internal stairs
 - the installation of re-used timber joinery
 - the lack of control joints to the concrete floor slab
 - the lack of sill flashings
 - the lack of ground and cladding clearances

- the increase in area of the master bedroom
- the addition to the upper lounge
- the changes to the upper floor.

6.3 Compliance with relevant clauses of the Building Code

6.3.1 Although the test of compliance with the building consent has not been met in respect of the above items, I am of the view that establishing compliance with the Building Code of the as-built work is also required as there may be some instances where building work does not comply with the consent but still complies with the Building Code.

6.3.2 Taking account of the expert's report I conclude the following work on the alterations does not currently comply with the Building Code:

Clauses B1 Structure and B2 Durability:

- the west retaining wall (refer to paragraph 5.4.1)
- the timber pile posts (refer to paragraphs 5.5.1 to 5.5.3)

Clauses E2 External moisture and B2 Durability

- the lack of ground and cladding clearances (refer to paragraphs 5.4.2)
- the workshop door sill (refer to paragraph 5.4.2)
- the north deck extension, membrane, slope, substrate, and exposed cantilever framing (refer to paragraphs 5.7.2 and 5.7.5)
- the north deck/wall junctions and drainage and discharge (refer to paragraph 5.7.3)
- the south deck/wall junctions and boards (refer to paragraph 5.6.1)
- the floor of the new east return of the south deck (refer to paragraph 5.6.2)
- the inter-cladding apron flashings (refer to paragraph 5.8)
- the lack of window sill flashings, unsealed window jambs (refer to paragraph 5.8.1)
- the corner facings (refer to paragraph 5.8.1)

Other Clauses

- the surface water drainage to the west retaining wall (Clause E1) (refer to paragraph 5.4.1)
- the wall/base junction of the shower cubicle (Clause E3) (refer to paragraph 5.9.1 and 5.9.2)
- the internal stair risers and handrail (Clauses D1 and F4) (refer to paragraph 5.10.1)
- the stress cracking to the bedroom ceiling linings (Clauses B1, B2, and E2) (refer to paragraph 5.7.6).

6.3.3 I am also of the view that further investigation is required as to the compliance of:

- the south retaining wall (refer to paragraph 5.4.3)

- the south deck structure and connections to the retaining wall (refer to paragraph 5.6.1)
- the entry canopy (refer to paragraph 6.2.2)
- the lack of control joints to the floor slab (refer to paragraph 5.10.1).

6.4 The decision of the authority to issue the code compliance certificate

- 6.4.1 As discussed in paragraph 6.2.1, the consent documentation was inadequate and lacking in a number of areas. I have also concluded the alterations do not comply with the building consent in respect of the items set out in 6.3.2.
- 6.4.2 I have considered the items of non-compliance identified in paragraph 6.3.2 and the available evidence to reach the following conclusions about whether the items of non-compliance should have been apparent to the authority at the time the code compliance certificate was issued.
- 6.4.3 I am of the view that although the following items do not currently comply with the Building Code, this would not have been apparent at the time the authority made its decision to issue the code compliance certificate:
- the workshop door sill
 - the stress cracking to the bedroom ceiling linings
 - the wall/base junction of the shower cubicle
 - the south deck boards.
- 6.4.4 I also consider that at the time the authority made the decision to issue the code compliance certificate it had insufficient grounds to be satisfied that compliance has been achieved in respect of the following:
- the timber pile posts to the basement level
 - the west retaining wall
 - the surface water drainage to the west retaining wall.
- 6.4.5 In addition, I am of the view that the following non-compliant items should have been apparent to the authority at the time the decision to issue the code compliance certificate was made:
- the lack of ground and cladding clearances
 - the north deck extension, membrane, substrate, and exposed cantilever framing
 - the north deck/wall junctions and drainage and discharge
 - the south deck/wall junctions
 - the floor of the new east return of the south deck
 - the inter-cladding apron flashings
 - the inter-cladding flashings
 - the lack of window sill flashings, unsealed window jambs
 - the corner facings
 - the internal stair risers and handrail.

6.4.6 Accordingly I consider the authority did not have reasonable grounds on which to issue the code compliance certificate, and therefore the authority did not correctly exercise its power in terms of section 94(1).

7. What is to be done now?

7.1 Once the code compliance certificate has been reversed, the authority may, if it considers appropriate, issue a notice to fix under section 164 taking into account the findings of this determination and include the defects listed in paragraph 6.3.2.

7.2 It is not for the notice to fix to specify how the defects are to be fixed. That is a matter for the applicants to propose and for the authority to accept or reject. It is important to note that the Building Code allows for more than one method of achieving compliance. A scope of work should be provided to the authority that will address the issues identified in the notice and I strongly suggest that this include the investigations described in paragraph 6.3.3, and also refer to any further defects that might be discovered in the course of investigation and rectification of those items.

8. The decision

8.1 In accordance with section 188 of the Building Act 2004, I determine that the building work does not comply with Clauses B1, B2, D1, E1, E2, E3, and F4 of the Building Code, and at the time the code compliance certificate was issued:

- the building work did not comply with the building consent, and
- non-compliance with Building Code Clauses B1, D1, E2, F4, and Clause B2 insofar as it concerns Clause E2 would have been apparent at the time the authority made its decision, or, at a minimum, there would have been insufficient evidence of compliance.

8.2 Accordingly, I determine the authority incorrectly exercised its powers in issuing a code compliance certificate, and I reverse the authority's decision to issue a code compliance certificate in respect of building consent BC-2008-2140/0.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 21 December 2018.

Katie Gordon
Manager Determinations