Ministry of Business, Innovation & Employment

Determination 2013/023

The decision to issue a code compliance certificate for a 5-year-old building with timber weatherboards at 6 Sandy Cove, Gisborne

1. The matters to be determined

1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004[1] ("the Act") made under due authorisation by me, John Gardiner, Manager Determinations and Assurance, Ministry of Business, Innovation and Employment ("the Ministry"), for and on behalf of the Chief Executive of the Ministry.

1.2 The parties to the determination are:

- the applicant, Gisborne District Council ("the authority"), carrying out its duties as a territorial authority or building consent authority.
- the owner of the building, the K A Thompson Family Trust ("the owner") acting through its solicitor

1.3 I consider the builder of the house ("the builder") is a person with an interest in this determination.

1.4 The authority issued a code compliance certificate for a 5-year-old house in 2008. This determination arises because the owner claims that the authority failed to ensure the building work complied with relevant clauses[2] of the Building Code (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.dbh.govt.nz or by contacting the Ministry on 0800 242 243.

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

1.5 The matter to be determined[3] is therefore whether the authority correctly exercised its powers in issuing a code compliance certificate for the house. In deciding this matter, I must consider

- whether the external building envelope of the building complies with Clause B2 Durability, Clause E2 External Moisture and other relevant clauses of the Building Code. The building envelope includes the components of the systems (such as the wall and roof claddings, the windows, the decks and the flashings), as well as the way the components have been installed and work together.
- whether various other elements in the building, as identified by the parties, comply with the relevant clauses of the Building Code.

1.6 This determination does not consider other disputed contractual matters relating to this house.

1.7 In making my decisions, I have considered:

- the submissions of the parties
- the report by the weathertightness consultant engaged by the applicant ("the consultant") and the 'Summary of Issues' dated 16 October 2012
- the report of the expert commissioned by the Ministry to advise on this dispute ("the expert")
- the other evidence in this matter.

2. The building work

2.1 The building work consists of a detached house situated on a sloping coastal site in a high wind zone for the purposes of NZS 3604[4]. The expert and the consultant have taken the street frontage of the house as facing west and this determination follows that convention. The L-shaped house is fairly complex in plan and form and is assessed as having a moderate to high weathertightness risk.

2.2 The house includes three levels as follows:

- a basement garage and laundry to the north
- kitchen, living and two bedrooms on the ground floor
- master bedroom and ensuite in the partial upper floor.

2.3 The attached garage is a specifically designed structure, with a concrete slab and foundations, concrete block walls and retaining walls and precast concrete beams supporting precast concrete roof panels. Remaining construction is conventional light timber frame, with concrete block foundations, concrete ground floor slab, rusticated weatherboards, aluminium windows and profiled metal roofing. The 8° monopitched roofs generally have eaves and verges of more than 600mm overall.

[3] Under sections 177(1)(b) and 177(2)(d) of the Act
[4] New Zealand Standard NZS 3604:1999 Timber Framed Buildings

2.4 Apart from the concrete block walls to the garage, walls are clad in horizontal rusticated cedar weatherboards fixed through cavity battens and the building wrap into the framing, with timber moulding to corners and scribers to window jambs.

2.5 The expert noted no evidence as to the wall framing treatment. The authority has confirmed that the timber was treated with a proprietary preservative, and I consider that the wall framing of this house is treated to a level that will provide resistance to fungal decay.

2.6 The decks

2.6.1 The precast concrete garage roof panels form the substrate to a deck off the kitchen and dining area ("the garage roof deck"). The concrete topping falls to a stainless steel lined internal gutter that drains to a scupper and rainwater head at the northwest corner. Timber-framed deck balustrades are clad in timber weatherboards, with a flat timber plate capping. A heavy timber pergola extends over the eastern half of the deck and supports a timber-framed roof clad in clear polycarbonate roofing. Laboratory testing arranged by the consultant confirmed that the balustrade timber framing to the garage roof deck was treated to H3.1 level (see paragraph 3.6.3).

2.6.2 A similar pergola structure also supports a timber-framed entry canopy, with the synthetic membrane roof falling towards an internal gutter at the weatherboard wall. Open timber decking extends from the front entry ("the entry deck"). On the southeast corner a raised open timber deck, surrounded by open timber screens, extends from the ground floor bathroom ("the bathroom deck").

2.6.3 The western wall of the lounge is recessed beneath the roof, which is supported by side wing walls clad in weatherboards. Ground-level open timber decking extends from the recessed doors, with a heavy timber pergola structure attached to the ends of the wing walls ("the lounge deck").

2.6.4 A timber deck forms the landing to stairs from the east kitchen ("the kitchen stairs"), with timber-framed balustrades clad in timber weatherboards and a timber plate as the capping. Laboratory testing arranged by the consultant confirmed the stair/landing framing as a mix of H3.1 and H3.2 treatment (see paragraph 3.6.6).

2.6.5 To the east of the upper level bedroom, an enclosed deck with a synthetic membrane floor sits above ground floor bedrooms ("the upper deck"). The deck floor is recessed within the slope of the roof and timber-framed balustrades are clad in weatherboards, with a flat timber plate as the capping.

3. Background

3.1 The authority issued a building consent (No. 6688) on 20 December 2006 under the Building Act 2004. The authority carried out various inspections during construction in 2007, including the garage structure in February and March, pre-cladding in August, pre-line inspections in September and October, and bracing in November.

3.2 Various changes were made to the upper level during construction and applications to amend the consent were submitted on 14 March 2007 and 21 February 2008. The latter purported to reflect completed changes and included (with corresponding annotated drawings):

- upper level ensuite deleted
- a walk in wardrobe and small deck added to the north of the upper level
- various other layout changes to the upper level.

3.3 The builder also noted in a covering letter dated 21 February 2008 that '[The owner wishes to Delete the upper level ensuite to complete at a later state. [The builder] will pay for amendment application fees [and] will also apply for building consent when ensuite works are to continue at a later date…'

3.4 I have not seen a record of the final inspection, but the authority issued a code compliance certificate on 12 March 2008, which stated that it was:

> ...satisfied, on reasonable grounds, that –
>
> a) The building work complies with the building consent.

3.5 After the garage roof deck developed leaks, the owner engaged a designer to prepare plans to repair the deck and claimed against a builders' guarantee scheme. The insurance company's repair solution was disputed by the designer, who also considered there were other defects in the building which should be addressed.

3.6 The consultant's report

3.6.1 The applicant engaged the consultant to investigate the building and to report 'on various construction concerns with the dwelling including repair recommendations'. The consultant inspected the house on 3 June 2010 and submitted a report dated 30 March 2011. The consultant described the house and its history, noting that his report also reviewed the list of defects prepared by the designer.

3.6.2 The consultant's inspection and destructive investigations included:

- the garage roof deck
- the upper deck
- the ground floor lounge deck
- the entry deck and canopy
- the kitchen stairs
- various other wall and roof areas in the house.

3.6.3 The consultant inspected the garage roof deck (see paragraph 2.6.1), noting significant water penetration into the garage below. Laboratory testing confirmed that a sample from a balustrade bottom plate was H3.1 treated. The consultant noted:

- at the deck floor:
  - cracks in the topping slab and leaking from precast panel joints
  - insufficient fall to the deck floor and ponding to the stainless steel gutter
  - the gutter is small with poorly sealed joints and a small scupper outlet
- at the flat timber capping to the deck balustrade:
  - junctions with the wall lack weathertight saddle flashings
  - there is no flashing tape to protect the framing

  - fixings through capping top are corroding
  - corner is flashed in folded copper, without soldered joints
  - junctions with pergola posts lack under flashings
- underflashings to weatherboard/timber post junctions discharge behind gutters
- at the weatherboard wall:
  - some cavities are obstructed
  - the stepdown from inside is 66mm at the door threshold
  - there is little clearance below weatherboards
  - pergola beams penetrate weatherboards, with an unsealed gap below.

3.6.4 At the entry deck and canopy (see paragraph 2.6.2), the consultant noted:

- canopy beams/weatherboards junctions are not weathertight
- cappings to canopy upstands penetrate weatherboards and are not weathertight
- there is a single outlet and no overflow to the internal gutter.

3.6.5 At the lounge deck (see paragraph 2.6.3), the consultant noted:

- there is no stepdown from the inside to the timber decking
- there is no clearance from weatherboards to the timber decking.

3.6.6 At the kitchen stairs (see paragraph 2.6.4), two timber samples were removed from landing framing, which laboratory testing confirmed as H3.1 and H3.2 treated. The consultant also noted:

- some unpainted H3.1 timber
- painted support posts set into concrete, which are unlikely to be H5 treated
- the stair stringer is fixed directly into the basement concrete block wall
- weatherboards directly fixed into balustrade framing
- no underflashing or building wrap to protect balustrade framing
- lack of weathertight saddle flashings at balustrade/wall junctions.

3.6.7 At the upper deck (see paragraph 2.6.5), the consultant noted:

- the flat top-fixed timber capping to the clad balustrades
- no underflashing to protect balustrade framing
- lack of weathertight saddle flashings at balustrade/wall junctions
- stepdown of only 50mm at the deck door threshold
- butted joint between two north weatherboards
- signs of ponding around deck outlet, with adjacent overflow beneath weatherboards and only 20mm high.

3.6.8 In regard generally to the exterior walls:

- bottom plate overhangs vary due to block walls bowing
- the bottom of some cavities partly or fully blocked

- some barge flashings and fascias penetrate weatherboards, with sealant only
- ends of head flashings unsealed
- no flashing at soffit/wall junction to oblique eaves
- unsupported weatherboard
- mitre joint to corner bead slopes towards cladding
- corner bead to upper wall butts against lower roofing.

3.6.9 In regard generally to the roof cladding:

- deteriorating roof fixings
- poorly sealed/flashed roof penetrations
- barge/apron flashing junction reliant on sealant only for weathertightness
- copper water pipe discharging onto the roofing and damaging finish
- copper post cappings discharging onto steel cappings

3.6.10 The consultant also identified various interior defects, including:

- floors not level
- chipped flooring
- fire flue not plumb
- stair winder treads not consistent, balustrade restricting width at turn
- window frame and north wall misaligned.

3.6.11 When investigating the ceiling space above the kitchen, the consultant also noted the lack of insulation to the master ensuite wall.

3.6.12 The consultant considered that consent drawings were lacking in detail and did not accurately reflect the site slope – apparently leading to major changes that were also not adequately documented. The consultant provided recommendations for the repair of identified defects and concluded that the house had:

> ...a number of faults, which if not addressed could cause further deterioration to building elements, including inadequate saddle flashings, inadequate construction at the base of drained and vented cavities behind cladding and exterior stairs incorrectly built of inadequately treated timber. However, the most concerning issue is the construction of the deck off the northern side of the kitchen/dining room. It leaks, lacks correct fall has no waterproofing mechanism, despite being built over the garage/laundry, and is not built in accordance with the Building Consent drawings.

3.7 The engineer's report

3.7.1 The consultant's report had also raised concerns about some aspects regarding the concrete block walls and foundations, recommending these be reviewed. The authority engaged a structural engineer ("the engineer"); who inspected the walls and reviewed the structural consent drawings, submitting a report dated January 2012.

3.7.2 The engineer noted that the bowed western wall was not cracked and considered that deformations were due to 'movement of the wall during placing of the backfill' and 'are of no structural significance', concluding:

> After reviewing the drawings for the house foundation and inspecting the completed work on site we are of the opinion that the foundations are structurally sound and appropriate for the dwelling.

3.8 The dispute over the significance of defects and the level of required repairs continued without resolution and the Ministry received an application for a determination from the authority on 3 September 2012. Clarification of the specific matters to be determined was sought from the parties, and a 'Summary of issues' for the house was received on 16 October 2012.

4. The submissions

4.1 The authority made no submission and forwarded copies of:

- the building consent documentation and the amended drawings
- the inspection summary
- the code compliance certificate dated 12 March 2008
- the engineer's report dated January 2012
- various certificates, producer statements, warranties and other information.

4.2 The owner made no submission but submitted the consultant's report dated 20 March 2011.

4.3 A draft determination was issued to the parties and the builder for comment on 21 February 2013.

4.4 In a response received by the Ministry on 18 March 2013, the authority accepted the draft in general, noting that

- in respect of the expert's comments at paragraph 3.6.6 (bullet points 1 and 2 respectively), the authority confirmed a proprietary timber preservative had been used and also suggested that it would be more correct to say the painted support posts "may not be" H5 treated
- the authority disagreed with relevance of the expert's view that the house was 'generally well presented and maintained', noting that at a previous visit by the authority a poor level of maintenance was observed
- the upper ensuite was 'deleted' at the time of the code compliance certificate inspection and was installed later without a new consent being obtained
- without destructive testing it is not correct to conclude that the balustrade is leaking.

4.5 The owner accepted the draft in a response received on 27 March 2013, noting that; the authority's statement in respect of maintenance was not accepted; the upper ensuite was complete at the time of the code compliance inspection and was not built later without consent; and there is sufficient evidence of moisture ingress at the enclosed balcony.

4.6 The authority responded by email on 28 March 2013 providing a copy of an inspection record which notes as at 5 February 2008 'upstairs bathroom incomplete will need amended floor plan showing no upstairs bathroom. These fixtures will

have to be capped off', and at 25 February 2008 'Form 6 received, amended bathroom deleted from CCC'

4.7 The builder made no submission in response to the draft.

5. The expert's report

5.1 As mentioned in paragraph 1.7, I engaged an independent expert to assist me. The expert is a member of the New Zealand Institute of Building Surveyors and inspected the house on 6 December 2012, providing a report completed on 14 December 2012. The parties were provided with a copy of the report on 11 and 18 January 2013

5.2 General

5.2.1 The expert noted that his report was intended to provide an assessment of the extent to which the items identified in the 'Summary of issues' dated 16 October 2012 ("the summary of issues") met the requirements of the Building Code.

5.2.2 The expert described the construction quality as 'low quality', noting that 'a lack of attention to detailing at junctions have resulted in leaking in various locations.' However, the house appeared to be 'generally well presented and maintained.'

5.2.3 The expert considered that the consent drawings and subsequent amended drawings were 'of a poor standard for 2006/2007' and noted a number of variations, including:

- rusticated weatherboards in lieu of bevel-backed
- flashing omitted at soffit/wall junction to oblique eaves
- steel framed cantilevered awning above lounge doors not installed
- at the garage roof deck:
  - concrete block balustrades replaced with timber-framed
  - deck fall decreased
  - internal gutter dimensions decreased
- at the upper level master bedroom and deck:
  - upper ensuite installed (shown as deleted in amended drawings)
  - upper deck location changed from north to east
  - deck fall decreased
  - one drain outlet installed in lieu of two.

5.3 Moisture testing and cladding removal

5.3.1 The expert carried out moisture testing at various areas identified by the consultant by tracking dye penetration. The expert dye tested:

- cracks in topping to the garage roof precast panels; noting no evidence of a waterproofing membrane and dye penetration into the garage after 18 hours
- balustrade capping/post junction; noting the concrete nib obstructing the cavity and past water staining on framing, with dye running down the timber post inside the building wrap where it raised the framing moisture levels to 30%

- the joint in the stainless steel gutter; where dye readily penetrated and exited at the already damp northwest corner of the garage below
- the end of an unsealed door head flashing; where dye penetrated the cladding and some exited at the threshold, with water/dye-stained timber observed on adjacent framing due to lack of cladding clearance and blocked cavity drainage
- the pergola beam/wall junction; where dye readily penetrated the cladding and exited at the bottom, with blocked cavity drainage, waterstained building wrap and moisture levels of 60% observed in the bottom plate
- the entry canopy/wall junction; where dye penetrated the cladding and ran down the cavity onto the top of a flat horizontal cavity batten, with waterstained building wrap and moisture levels of 45% in the bottom plate.

5.3.2 The expert noted water damage on bedroom linings below the northeast corner of the upper deck, below the unsealed corner junction of the top-fixed flat timber capping.

5.4 Other destructive investigation

5.4.1 The expert also removed the lower weatherboard at the internal corner between entry and dining areas, noting the bottom plate overhanging the slab by 37mm. The holding down bolt was installed within 100mm of the bracing and appeared to be firmly set, with no flex or movement when tested with a wrecking bar.

5.4.2 The expert recorded 17% moisture in the bottom plate (elevated for the dry season), with no obvious reasons. However, I note that this may be due to one or a combination of the bottom plate's proximity to:

- backsloped mitre joint in the moulding over the internal corner
- the nearby entry deck
- the nearby canopy junction with the wall.

5.4.3 The expert noted that oblique eaves to wall junctions were 'tight but unsealed', with a timber moulding over the junction. Removing the weatherboard and trim from two locations on the north elevation, he observed wrap up to the soffit lining and flashing tape at the internal corner, with no evidence of water entry. Although the specified flashing was not installed, he considered that any water entering would likely remain in the cavity and not penetrate into framing.

5.4.4 The expert also prised out the bottom weatherboard on the south elevation, noting that the cavity closure sat on top of the foundation wall. Where vulnerable junctions above allow moisture into the cavity, this would be trapped at the bottom of the cavity, where it can migrate through the building wrap into the bottom plate.

5.5 The summary of issues

5.5.1 Taking account of results of dye testing and cladding removal, the expert assessed the level of code compliance of the particular items identified in the consultant's report and listed in the summary of issues.

5.5.2 The following table summarises the authority's position in regard to the consultant's report, together with the expert's observations (some recurring general items are grouped under headings for simplicity):

Item no	Consultant's report	Authority	Expert
5.1	**Garage roof deck floor**		
5.1.1	Cracks to precast panel joints.	No issue if waterproofing system was suitable.	No evidence of waterproofing system. Significant moisture penetration and dampness in garage/laundry.
5.1.2	Deck falls – high points and hollows.	Generally compliant some workmanship issues.	Generally compliant if considered in isolation from other identified defects.
5.1.3	Gutter too small, inadequately sealed. Scupper outlet too small/no overflow outlet.	Some workmanship issues. Gutter only taking small area as deck is half covered.	Dye testing confirms moisture penetration at gutter joint. Sizing should be addressed during repairs.
5.1.7	Water entry into garage/laundry.	Nuisance but no damage to property. Failure in selected waterproofing.	Water leaking into northwest corner, damaging trim. Evidence of dampness to other areas during wetter times of year.
5.1.2	**Balustrades:** Flat timber capping. Inadequate saddle flashings. Lack of flashing tape. Top fixings corroding. Corner junction flashing not soldered. Post/capping junctions not flashed.	No sign of failure. Some workmanship issues.	Timber capping flat and top fixed. Saddle flashings not weatherproof. No flashing tape under capping. Fixings not durable. Hole at internal corner of corner flashing. Dye testing confirms moisture penetration into framing space. Deck-side cavity blocked with concrete nib.
5.1.4	Post/weatherboard underflashings discharge behind gutters.	Agreed flashings unsatisfactory.	Cladding removal confirmed discharge into concrete nib behind gutter.
	Deck wall:		
5.1.5	Stepdown only 66mm at door.	No sign of failure.	Reduced stepdown leads to little or no clearance under cladding and thresholds. Water stained framing timber observed.
5.1.6	Cavity obstructed.	Workmanship. No sign of failure.	Dye testing confirms that moisture can be trapped within blocked cavity, with water stained framing associated with defects.
5.1.8	Pergola beam unsealed penetrations.	Workmanship. No sign of failure.	Cavity obstructed and water stained framing timber observed.
5.2	**Entry deck and canopy**		
5.2.1	Overhang to bottom plate varies.	Workmanship. No sign of failure.	No apparent significance to holding bolts. Elevated moisture likely to be associated with other defects.
5.2.2	Canopy beam/weatherboard junctions. Canopy upstands cappings penetrate weatherboards. Unsupported weatherboard. Single gutter outlet and no overflow. Mitre joints to corner bead slopes towards cladding. Lack of clearance to deck .	Workmanship issues unless E2 compromised. Unsubstantiated evidence for several issues. No sign of failure.	Junctions not weathertight, with only sealant as protection and gaps apparent. Weatherboard confirmed as unsupported. Backslope to cover bead confirmed. No overflow – allowing any blockage to outlet to cause water entry. Dye testing confirms that moisture enters canopy beam/wall junction and runs down cavity to sit on horizontal bottom batten, with 45% in bottom plate.
5.3	**Lounge deck**		
	No stepdown from inside to decking. No clearance to cladding.	Noted.	No clearance to weatherboards in some areas.
5.6	**Kitchen stairs and landing**		

Item no	Consultant's report	Authority	Expert
5.6.1	Some unpainted H3.1 timber used. Support posts set into concrete – unlikely to be H5 treated. Stair stringer fixed directly into concrete block wall. Weatherboards junctions align.	H3.1 metalex coated as alternative solution. Workmanship.	Kiln dried timber treated with surface site preservative – tested to H3.1 level. Primed posts specified as H3 and embedded in concrete. Water will be trapped between stringer and blockwork.
5.6.2	No underflashing or building wrap to protect balustrade framing. Balustrade junctions with wall lack weathertight saddle flashings.	Noted.	Water able to penetrate junction and through cladding into wall.
5.8	**Upper deck**		
	Flat timber capping. No underflashing to protect balustrade framing. Balustrade junctions with walls lack weathertight saddle flashings. Step-down from inside is 50mm at the door threshold. Downpiping used in roof space. Overflow is beneath weatherboards and only 20mm high.	Mostly workmanship issues unless E2 compromised.	Water damage in the bedroom below the northeast corner of the deck – indicating that water is penetrating the balustrade and entering the framing, including wall framing in the ground floor. Water may also enter via ponding due to insufficient overflow provision.
5.9.5	Butted joint between two north weatherboards.	Mostly workmanship unless compromises E2. No sign of failure.	The gap allows water entry into the cavity.
	Exterior walls/cladding generally		
5.2.1 5.4.1 5.5	Bottom plate overhang varies due to block walls deformation.	Workmanship. No sign of failure.	No apparent significance to holding bolts for increased overhang.
5.4.1	Bottom of some cavities partly or fully blocked.	Workmanship issues unless E2 compromised. No sign of failure.	Confirmed in various locations – dye testing of defects above confirmed that water is trapped and can migrate into framing.
5.2.2	Barge flashings/fascias penetrate weatherboards, with sealant only.		Likely to result in water entry similar to that dye tested on north and west elevations.
5.2.2	Unsealed ends to head flashings.		Dye testing confirmed water entry into deck wall – penetrating into framing where cavities obstructed.
5.2.2	Soffit/wall junction to oblique eaves.		No flashing but no evidence of failure. Any moisture likely to remain in cavity.
5.4.1	Corner beads to upper walls butt against lower roofing.	Workmanship. No sign of failure	Confirmed.
5.6.1	Weatherboard joints align.	Workmanship.	Confirmed – likely to allow water to track through joints into cavity.
5.7	Some blockwork walls not plumb and some mortar not painted.	Workmanship. No sign of failure.	The structural report inferred there is no structural issue with any of the block walls.
5.9	**Roof cladding generally**		
5.9.4	Roof fixings deteriorating.	Mostly workmanship unless compromising E2. No sign of failure.	Due for maintenance.
5.9.1	Penetrations poorly sealed /flashed.		Penetrations reasonably well sealed but require regular maintenance.
5.9.2	Barge/apron flashing junction relies on sealant.		Water able to drain against sealant at junction.
5.9.3	Copper water pipe discharging onto the roofing is damaging surfaces.		Minor issue (unlikely to affect required durability if maintained).

Item no	Consultant's report	Authority	Expert
5.9.4	Copper post cappings discharge onto steel cappings.		Minor issue (unlikely to affect required durability if maintained).
5.10	**Interior**		
	Floors not level. Chipped flooring. Fire flue not plumb. Window frame/north wall misaligned.	Workmanship issues.	Considered to be workmanship – with no effect on compliance.
5.10.4	Stair winder treads not consistent, balustrade restriction at turn.	Workmanship issues unless compromising D1.	The restriction is from 850mm to 700mm at the 180^{o} turn. Although not ideal, stairs serve only the master bedroom and handrails are available on three sides.
5.11	**Thermal insulation**		
	No insulation to wall to the master bedroom ensuite.	Noted.	Likely to lead to non-compliance with H1.

5.6 The expert concluded by identifying what he considered 'deficiencies affecting code compliance'. I have expanded on those as I consider appropriate (in summary):

Wall cladding

- obstructed cavities behind weatherboard cladding due to horizontal battens and lack of cladding clearances in some areas
- misaligned blockwork obstructing some cavities
- unsealed cladding penetrations of pergola/canopy beams
- unsealed cladding penetrations of fascias/barge flashings
- alignment of some vertical cladding joints in weatherboards
- corner beads – joints and lack of clearance in some areas

Windows and doors

- unsealed ends of joinery head flashings
- lack of a continuous head flashing to upper windows resulting in an unsealed butt joint in the weatherboards

The enclosed decks generally

- flat top-fixed timber cappings, including joints
- insufficient or no protection to the top of balustrade framing
- junctions of cappings with the walls
- insufficient or no clearance from deck floors to weatherboards

The enclosed garage roof deck

- lack of waterproofing to the deck surface, with leaking through cracks in the topping and through the precast panel joints below
- leaking joint to the stainless steel internal gutter
- junctions of balustrade weatherboards with the timber posts
- junctions of the timber capping with the timber pergola posts

- the hole in the copper-covered corner capping
- the upstand blocking the cavities behind the deck side balustrade cladding

The enclosed upper deck

- leaking balustrade corner junction
- insufficient overflow provision

The timber decks and stairs

- lack of clearance of ground level decking to weatherboards
- inadequate treatment of stair framing timbers
- no protection to the top of balustrade framing
- junctions of clad balustrades with the walls

Insulation

- lack of insulation to the master ensuite wall.

6. Discussion

6.1 The issue of a code compliance certificate

6.1.1 In terms of section 94(1)(a) of the Act, an authority can only issue a code compliance certificate if it is satisfied, on reasonable grounds, that the building work complies with the building consent.

6.1.2 The expert has identified a number of variations from the consented plans (refer paragraph 5.2.3) and, excluding the construction of the upper level ensuite, it is my opinion that a number of those variations would have been evident at the time the authority carried out its inspections. Where the as-built work does not accord with the consent plans to a significant degree, and the variation(s) would have been observable to the authority on inspection, I am of the view that the authority should not issue a code compliance certificate.

6.1.3 The expert has also described the consent documents and amendments as being of a poor standard (refer paragraph 5.2.3). Where a consent application lacked basic information to describe the proposed work, the authority cannot be said to be satisfied on reasonable grounds that the provisions of the Building Code will be met if the proposed building work is completed in accordance with the plans and specifications. In such a case the authority cannot be said to have reasonable grounds on which to be satisfied that the work has been completed in accordance with the consent or in compliance with the Building Code, and accordingly the authority does not have grounds on which to issue a code compliance certificate.

6.1.4 In light of the above I consider the authority incorrectly exercised its powers in respect of its decision to issue the code compliance certificate.

6.2 Compliance of the building work

6.2.1 In previous determinations[5] I concluded that in addition to compliance with the building consent, confirmation of a building's compliance with the Building Code was required before an authority could issue a code compliance certificate. I am still of that opinion.

Clauses E2 and B2

6.2.2 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).

6.2.3 It is important to note that the Building Code allows for more than one means of achieving code compliance as some acceptable solutions cover the worst case, so that in less extreme cases they may be modified and the resulting alternative solution will still comply with the building code.

6.2.4 In assessing the compliance of this house, the expert, has considered mitigating factors for certain elements that do not fully comply with the relevant acceptable solutions. I concur with the expert's conclusions in those instances.

6.2.5 It is clear from the expert's report that the wall cladding and decks have not been installed to good trade practice and in accordance with the building consent in a number of significant ways. The external envelope is unsatisfactory in terms of its weathertightness performance, resulting in moisture penetration into cavities, some framing and through decks into lower areas. Taking into account the expert's report, I conclude that the areas outlined in paragraph 5.6 require rectification.

6.2.6 The expert's report establishes that the current performance of the external envelope is not adequate because it is allowing water penetration through some areas of the claddings at present. Consequently, I am satisfied that the building work does not comply with Clause E2 of the Building Code.

6.2.7 In addition, the building work is also required to comply with the durability requirements of Clause B2. Clause B2 requires that a building continues to satisfy all the objectives of the Building Code throughout its effective life, and that includes the requirement for the building to remain weathertight. Because the cladding faults on the building are likely to allow the ingress of moisture in the future, the building work does not comply with the durability requirements of Clause B2.

Clause H1

6.2.8 Contrary to requirements of the approved consent, insulation is missing to the wall of the ensuite. However, I have insufficient information to establish whether the house does or does not comply with Clause H1. While the insulation is missing, compliance with Clause H1 can be verified by calculating its Building Performance Index to see whether this satisfies Clause H1.3.2E: if Clause H1.3.2E is not satisfied, then the house does not comply with Clause H1 and remedial work is required.

[5] Determination 2008/30 for example.

6.3 The upper level ensuite

6.3.1 There is disagreement between the parties as to the date the construction of the ensuite was completed and whether or not it was included in the building work covered by the code compliance certificate.

6.3.2 The application to amend the building consent and which included the deletion of the ensuite is dated 2 1 February 2008 and is supported by drawings noting the change, and a covering letter of the same date from the builder clearly refers to the ensuite being installed at a later date. The amendment appears to have been approved at the time of issue of the code compliance certificate. I therefore consider the code compliance certificate does not include building work carried out subsequently to install the upper level ensuite.

6.3.3 The authority has stated that no application was made for consent to carry out the installation of the ensuite. That being the case an application should be made for a certificate of acceptance to regularise this building work.

6.4 Conclusion

6.4.1 I am satisfied that at the time of the application for a code compliance certificate this house did not comply with Clauses B2 and E2 of the Building Code nor with the consent documents. Taking into account that some, though not all, items of non-compliance should have been evident during the authority's inspections, I am of the view that the authority incorrectly exercised its powers in issuing the code compliance certificate.

7. The decision

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

- the external building envelope does not comply with Clauses E2 and Clause B2 of the Building Code
- the building work as built does not comply with building consent No. 6688

and accordingly, I reverse the authority's decision to issue a code compliance certificate for building consent No. 6688.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 7 May 2013.

John Gardiner
Manager Determinations and Assurance