

## Determination 2007/32

### Refusal of a code compliance certificate for a gymnasium building at Wellington East Girls College, Austin Street, Wellington



#### 1 The matter to be determined

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004<sup>1</sup> (“the Act”) made under due authorisation by me, John Gardiner, Determinations Manager, Department of Building and Housing (“the Department”), for and on behalf of the Chief Executive of that Department. The applicant is the owner, the Ministry of Education acting through an agent (“the applicant”), and the other party is the Wellington City Council (“the territorial authority”).
- 1.2 The matter for determination is the territorial authority’s decision to refuse to issue a code compliance certificate for a 3-year-old gymnasium building. The refusal arose because the building had been erected under the regulatory control of Nationwide Building Certifiers Ltd (“the building certifier”), which was duly registered as a building certifier under the former Building Act 1991 but went out of business before it had issued a code compliance certificate for the building.
- 1.3 In order to determine that matter, I must first decide whether the building complies with the Building Code.

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<sup>1</sup> The Building Code and the Building Act 2004 are available from the Department’s website at [www.dbh.govt.nz](http://www.dbh.govt.nz).

- 1.4 In making my decisions, I have considered the submissions of the parties, the report of the independent expert commissioned by the Department to advise on this dispute (“the expert”), and the other evidence in this matter.

## 2 The building

- 2.1 The building consists of a large gymnasium building situated on former tennis courts to the south of the school grounds, and is in a high wind zone for the purposes of NZS 3604<sup>2</sup>. The original platform was excavated from a steeply sloping site and has banks to the south and east. The building is specifically engineered, with a reinforced concrete slab and foundations, and steel portal frames with 150mm infill timber framing to the gabled-roof gymnasium area. The associated support areas form a 2-storey lean-to against the north gable end of the gymnasium, and provide the entrance foyer, changing rooms, office areas, and other meeting and viewing areas. Windows are aluminium, and the walls are clad in a combination of concrete tilt slabs, profiled metal, and fibre-cement sheet.
- 2.2 The east wall has vertical profiled metal cladding, while the gymnasium south wall has profiled metal cladding above concrete tilt slabs, with 2-storey fibre-cement-clad parapet walls to the southwest corner. The gymnasium west wall has concrete tilt slabs with profiled metal above, and fibre-cement-clad portal legs, with a 2-storey parapet wall repeated at the north end. The metal-capped parapet walls are repeated at the northwest corner and within the north elevation of the lean-to structure. These parapet “box” structures project above the roofs, with return walls at both ends that culminate within the body of the roof. The upper north wall of the gymnasium (above the lean-to roof) is profiled metal, and the remaining walls of the lean-to are clad in fibre-cement sheet. A covered staircase, clad in profiled metal, provides a secondary egress from the upper floor.
- 2.3 The roofs are 15° pitch profiled metal, with eaves projections of about 900mm and verges of 300mm to the gymnasium gable. The lean-to has eaves of more than 600mm. The gable has translucent profiled roofing at the ridge. Canopies project above lower walls (between the parapet box features) on the north and west elevations.
- 2.4 The applicant has submitted copies of invoices from the timber supplier, which describe the external wall framing supplied as “Laser H1 MGP10 KD”. Given this description and the date of construction of the building, I consider that the wall framing of the building is unlikely to be treated to a level that will provide resistance to fungal decay if the timber becomes wet and cannot dry out.
- 2.5 The fibre-cement sheet cladding system to some of the walls of the building is a “Hardipanel” expressed joint system, which consists of 9mm high density fibre-cement sheets, with 10mm expressed joints, fixed through the building wrap to the framing, and finished with an acrylic paint coating. The system includes purpose-made flashings to horizontal and vertical expressed joints.
- 2.6 I note that certificates supplied for the building includes the following:
- Electrical Certificate of Compliance dated 2 December 2002

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<sup>2</sup> New Zealand Standard NZS 3604:1999 Timber Framed Buildings

- Certificate of Compliance dated 4 December 2002 for fire protection services
- PS1 – Design dated 21 August 2002 and PS4 Construction Review dated 3 December 2002 for the structural design and construction
- Producer Statement and guarantee for the lift installation
- 15-year warranty for the factory-applied finish to the profiled metal
- 3-year Guarantee of Workmanship for the roofing
- 2-year Guarantee of Workmanship for the painting
- 3-year Guarantee of Materials and Workmanship for the windows
- 3-year Guarantee of Materials and 5-year of Workmanship for the flooring.

### 3 Sequence of events

- 3.1 The territorial authority issued a building consent (SR 83103) on 30 November 2001, based on a building certificate (C/2001-5015) dated 22 November 2001 provided by the building certifier. The building consent noted that the building certifier would be undertaking all inspections and issuing the code compliance certificate.
- 3.2 The building certifier carried out various inspections during the construction of the building, with the last recorded inspection (pre-line plumbing) recorded and approved on 11 July 2002. The building certifier forwarded inspection reports to the territorial authority, with the last report dated 31 July 2002. I have received no records of further inspections by the building certifier, although the applicant has noted that the building certifier carried out “all the necessary inspections”. The design engineer also undertook inspections. The building appears to have been substantially completed by early 2003.
- 3.3 The building certifier’s scope of approval was amended on 1 January 2003 to exclude, in general terms, claddings for “ordinary residential buildings” outside the Acceptable Solution<sup>3</sup> for clause E2 “External Moisture” (being, in this case, E2/AS1). As the building subject to this determination is not an ordinary residential building the limitation does not apply.
- 3.4 In December 2003, it appears that the territorial authority was advised of the building certifier’s intention to close its Wellington office and matters with regard to finalising outstanding building consents were discussed. In May 2004, the building certifier’s Wellington office was closed and the territorial authority was supplied with an updated list of uncompleted building consents.
- 3.5 In September 2004 the building certifier advised the territorial authority of the decision to cease certification operations nationally and the territorial authority outlined the documentation necessary for the handover of uncompleted consents.
- 3.6 The building certifier’s approval as a certifier expired on 30 December 2004.
- 3.7 The design engineer completed structural inspections and supplied a producer statement construction review for the structural components of the gymnasium.

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<sup>3</sup> An Acceptable Solution is a prescriptive design solution approved by the Department that provides one way, but not the only way, of complying with the Building Code. The Acceptable Solutions are available from the Department’s website at [www.dbh.govt.nz](http://www.dbh.govt.nz).

Neither the owner, nor the project manager, appears to have notified the territorial authority of the situation with respect to the building certifier, or sought clarification over the requirements for on-going third party inspections on the project.

3.8 The applicant wrote to the territorial authority on 15 March 2006, noting:

The above project was inspected by Nationwide Certifiers who subsequently went into liquidation.

On behalf of Wellington East Girls College I would request if Wellington City Council would take this project over and issue any relevant documentation necessary.

3.9 The territorial authority responded by letter on 24 April 2006, stating:

After reviewing the documentation, the Council advises it has insufficient grounds on which to be satisfied that the work complies with the requirements of the Building Code and so will not carry out inspections or issue a Code Compliance Certificate under this building consent.

The territorial authority described the process for the applicant to apply for a certificate of acceptance, as an alternative to a code compliance certificate.

3.10 The application for determination was received by the Department on 7 June 2006.

## **4 The submissions**

4.1 In the letter dated 6 June 2006 accompanying the application, the applicant noted:

All the necessary inspections were carried out by Nationwide Certifiers but unfortunately the necessary documentation was not completed.

4.2 The applicant also forwarded copies of:

- the plans and specifications
- the building consent documentation
- the building certifier's inspection records
- the correspondence with the territorial authority and the building certifier
- various invoices, producer statements, warranties and other statements.

4.3 The territorial authority wrote to the Department on 7 June 2006, setting out the background to the dispute and noting that, contrary to section 57(3)(b)(i) of the Building Act 1991:

Nationwide did not notify Wellington City Council that they were unable to inspect or certify this building work. Neither did they supply a section 56 building certificate confirming that the work inspected by Nationwide complied with the Building Code. On 17 November 2004 Nationwide was placed in receivership.

The territorial authority considered that, as it had not received the building certificates from the building certifier as required under section 56 of the Building

Act 1991, it did not have sufficient grounds on which to be satisfied that the work complied with the building code.

- 4.4 Copies of the submissions and other evidence were provided to each of the parties. Neither party made any further submissions in response to the submission of the other party.

## **5 The grounds for code compliance**

- 5.1 As to the establishment of code compliance in this instance, and in the absence of any evidence to the contrary, I take the view that the Department is entitled to rely on the inspections reported by the building certifier, and by the structural engineer, with regard to inaccessible building components.
- 5.2 A condition for this reliance is that a visual inspection of accessible components demonstrates code compliance of those components, so providing grounds to form a view that this building as a whole complies with the building code. Accordingly I have relied on the expert's report (refer section 6) as a means of verification that inspection work as reported was carried out.
- 5.3 Before deciding whether or not to rely on the reports of those inspections I consider it important to look for evidence that corroborates them. In this particular case that corroboration comes from the expert's report that a visual inspection of the accessible components forming the cladding demonstrates code compliance of those components. As the visible elements of the cladding are those most exposed to the damaging effects of wind, rain and sun, their current condition can, in my view, be taken as indicative of the quality of the building work. Taken together, the expert's report and those of the building certifier and structural engineer provide grounds on which to form a view that this building as a whole will comply with the building code once the defects noted in paragraphs 7.3.1 and 7.4.1 have been fixed to the satisfaction of the territorial authority.

## **6 The expert's report**

- 6.1 I commissioned an expert to provide me with independent advice as to the compliance of the completed building. The expert inspected the interior and exterior of the building on 10 August 2006, and furnished a report that was completed on 29 August 2006. The expert noted that the engineer had provided "comprehensive records detailing site visits, which are supported by drawings, photographs and correspondence from the various contractors on site". The expert also inspected photographs from four large albums held by the school (depicting the course of construction), and noted that "these photographs are comprehensive and will assist in the establishment of compliance".
- 6.2 The expert noted that conclusions he reached were made after consideration of available information, building certifier's and engineer's records, the school's photographic records, and investigations carried out during the inspection. The expert also noted that, as access to the exterior cladding was restricted due to the height of the building, it was possible that some "non-compliance issues have been missed".

6.3 The expert noted that the building appeared to be generally in accordance with the consent documents, although the engineer had recorded some variations made during construction that need to be documented.

#### **6.4 Exterior claddings**

6.4.1 The expert noted that the use of the building is classified in the building regulations as communal non-residential, so the building certifier was able to approve alternative solutions for clause E2 External Moisture.

6.4.2 The expert inspected the claddings and noted that the Hardipanel cladding appeared to be installed in accordance with the manufacturer's instructions, with generally adequate ground clearances and overlaps. However, the expert also noted "poor flashing and weathertightness practices particularly around windows, parapet to roof junctions, roof to wall junctions and between adjacent materials".

6.4.3 The expert noted that windows installed within the Hardipanel cladding were face-fixed with head flashings and sealant behind the window flanges, but without jamb or sill flashings.

6.4.4 Commenting specifically on the cladding, the expert noted that:

##### **Cladding clearances:**

- the clearance to the paving is inadequate at the junction of the Hardipanel with the concrete tilt slabs on the south wall, and the bottom of the fibre-cement is showing signs of water damage
- the bottom of the Hardipanel cladding is below the level of the paving at the following areas:
  - landings at the doors to the west storeroom and the north changing rooms
  - the top of the access ramp and the columns at the west main entry
- the unpainted bottom edge of the Hardipanel is too close to (or butts against) the roof cladding and moisture has "wicked" into the fibre-cement, resulting in swelling and damage of the cladding

##### **Roofs:**

- the roof is heavily reliant on sealant for weathertightness, with some flashings allowing moisture penetration into the fibre-cement in some areas
- removal of a piece of cladding above the apron flashing to the northeast corner of the parapet showed that (while the apron flashing upstand was high enough to prevent moisture penetration into the timber framing) moisture has been trapped behind the cladding and the fibre-cement is degrading
- the junction of the apron flashing with the wall does not extend beyond the edge of the roofing on the south end of the entrance canopy, and the flashing wraps behind the cladding at the north end (directing water into the wall)
- the corners of apron flashing upstands to the parapet ends (within the roof area) are poorly formed and allowing moisture penetration through the joints

- a pipe penetration through a roof flashing is not flashed, and relies on clear sealant for weathertightness
- several downpipes from the large upper roof discharge directly onto the lower roof, without spreaders or elbows to direct water away from the cladding
- the roof over the secondary egress staircase to the east wall is flat, the junction with the adjacent profiled metal wall cladding is reliant on sealant and a downpipe from the upper roof discharges directly into the spouting (where the volume of discharge requires connection to the stormwater drain)
- a joint has opened up in the fascia board on the east side of the north gable end

**Window and door joinery:**

- the windows in the Hardipanel claddings rely on sealants at the jambs for weatherproofing, which will be extremely difficult to access for inspections and maintenance in many areas around the buildings
- there are cracks in jamb sealants in some windows, which will allow moisture penetration
- there are no jamb flashings or sealants behind jamb flanges of windows installed into the profiled metal wall cladding, with pieces of metal fitted vertically between adjacent windows

**Inter-cladding junctions:**

- the vertical junctions of profiled metal and Hardipanel claddings (at internal corners) are inadequately weatherproofed, with the metal crests open – allowing entry of moisture or pests
- the vertical junction of the concrete tilt slabs with the Hardipanel cladding at the south internal corner is not adequately weatherproofed, and an exposed steel portal leg is corroding

**Penetrations:**

- pipe penetrations through wall claddings are not sealed in accordance with manufacturer's instructions, and lack flanges
- ventilation grilles lack head flashings and adequate jamb weatherproofing.

**6.5 Other relevant code clauses**

- 6.5.1 The expert inspected the interior and exterior of the buildings (together with the available documentation) with regard to compliance with the other provisions of the building code that are relevant to this particular building.
- 6.5.2 The expert noted that clauses F1, F3, F5, G2, G14 and G15 were not applicable to this gymnasium building.
- 6.5.3 The expert noted that compliance with clause B1 Structure is supported by the engineer's inspections and producer statement, and that a certificate of compliance had been provided to cover compliance with clause G9. The expert also noted that no issues of non-compliance were observed with respect to clauses C1 to C4, F2, F4, G3, G5, G6, G7, G8, G10, G12 and H1.

## **6.6 The remaining code clauses**

6.6.1 The expert inspected and reported on issues noted with regard to compliance with the remaining code clauses, and commented that:

### **6.6.2 B1 Structure**

- variations to the consent documents were noted in the engineer's inspection records, but were not reflected in the approved consent documents

### **6.6.3 B2 Durability**

- On the southern wall, where the 200 channel that supports the store room wall and runs from the portal to the floor slab, there are signs of corrosion where the channel is fixed to the floor slab.
- the weathertightness issues outlined in paragraph 6.4.4 affect durability

### **6.6.4 D1 Access routes**

- the ramp lacks an upstand
- the secondary staircase to the east elevation lacks handrails, colour contrast and edge protection to the treads and adequate slip resistance
- the main staircase has a handrail fitted to one side only

### **6.6.5 D2 Mechanical lift installations**

- certificates for installation and servicing of the platform lift are required

### **6.6.6 E1 Surface water**

- downpipes discharge directly onto the roof
- a downpipe discharges directly into a gutter

### **6.6.7 E3 Internal moisture**

- the splashbacks to the handbasins lack adequate seals to the wall linings

### **6.6.8 F6 Lighting for emergency**

- certificates for installation and testing are required

### **6.6.9 F7 Warning systems**

- for the smoke detectors, an installation certificate, and inspection, maintenance and reporting records for the period 2002 to 2006 are required
- for the alarm, inspection, maintenance and reporting records for the period 2002 to 2006 are required

### **6.6.10 F8 Signs**

- the changing rooms have 2 egress doors, and lack signs identifying the egress route in the event of a fire
- the secondary egress staircase lacks emergency signage



- there is no signage to indicate disabled access

6.6.11 **G1 Personal hygiene**

- the building lacks an accessible shower for disabled use

6.6.12 **G4 Ventilation**

- the teachers' toilet lacks adequate ventilation

6.6.13 **G11 Gas as an energy source**

- a gas certificate of compliance is required

6.6.14 **G13 Foul water**

- the gully trap is flush with the paving, and lacks a minimum 25mm upstand.

6.6.15 The expert also noted that the secondary staircase to the east elevation must be considered as an alternative solution, as the rise exceeds 2.5m with no intermediate landing, contrary to what is shown in the Acceptable Solution<sup>4</sup> for Clause D1 "Access Routes" being D1/AS1.

6.6.16 Copies of the expert's report were provided to each of the parties on 5 September 2006.

6.6.17 The territorial authority commented on the expert's report in a letter to the Department dated 15 September 2006. The territorial authority made a number of comments, which I have considered during the preparation of this determination, including the following:

- In 2001, when the consent application was processed, the building certifier was not limited with regard to E2/AS1 for residential buildings – this limitation was not imposed until 1 January 2003.
- The building work could not be considered in relation to section 47 (which I take to mean 47A) of the Building Act 1991, as it was new work that needed to comply fully with the building code. The certifier issued a section 56 certificate for the consent application, and the territorial authority was obliged to accept this certificate.
- The territorial authority advised the certifier of the documentation needed to finalise outstanding building consents in December 2003 and May 2004, giving ample opportunity for the building certifier to issue section 56 building certificates and formally notify the inability to certify this building consent.
- The monthly inspection report dated 31 July 2002 is not a valid certificate issued under section 56, and the Act only provides for a territorial authority to issue a certificate of acceptance.
- Territorial authorities are not required to rely on less robust information such as inspection reports in order to establish full code compliance.

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<sup>4</sup> An Acceptable Solution is a prescriptive design solution approved by the Department that provides one way, but not the only way, of complying with the Building Code. The Acceptable Solutions are available from The Department's Website at [www.dbh.govt.nz](http://www.dbh.govt.nz).

- The expert's inspection is not extensive enough to identify all defects, and additional items may be identified during further investigation by the territorial authority. A full and comprehensive investigation should therefore be carried out to identify all defects prior to identifying remedial action.

6.6.18 The applicant also commented on the expert's report in a letter to the Department dated 18 September 2006. The applicant made a number of brief comments which may be summarised as:

- There were no major variations to the structure which is code compliant.
- The secondary stairs are a fire exit only and seldom used and a handrail can be installed to the main stair.
- It believes the lift complies with the code and has been regularly serviced.
- The requirements to comply with E1, E2 and E3 are minor maintenance and the building does not leak.
- It believes the smoke detector complies.
- Additional signage can be provided, an accessible shower is provided elsewhere in the school, ventilation can be provided to the teachers' WC, the foul water gulley trap can be remedied and they are still trying to obtain a gas certificate.

## **7 Evaluation for code compliance**

### **7.1 Evaluation framework: exterior cladding**

7.1.1 In evaluating the design of a building and its construction, it is useful to make some comparisons with the relevant Acceptable Solutions, which will assist in determining whether the features of the building are code compliant. However, in making this comparison, the following general observations are valid:

- Some Acceptable Solutions cover the worst case, so that they may be modified in less extreme cases and the resulting alternative solution will still comply with the Building Code.
- Usually, when there is non-compliance with one provision of an Acceptable Solution, it will be necessary to add some other provision to compensate for that in order to comply with the Building Code.

7.1.2 The approach in determining whether building work is weathertight and durable and is likely to remain so, is to apply the principles of weathertightness. This involves the examination of the design of the building, the surrounding environment, the design features that are intended to prevent the penetration of water, the cladding system, its installation, and the moisture tolerance of the external framing. The Department and its antecedent, the Building Industry Authority, have also described weathertightness risk factors in previous determinations (refer to Determination

2004/1 et al)<sup>5</sup> relating to cladding and these factors are also used in the evaluation process.

- 7.1.3 The consequences of a building demonstrating a high weathertightness risk is that building solutions that comply with the Building Code will need to be more robust. Conversely, where there is a low weathertightness risk, the solutions may be less robust. In any event, there is a need for both the design of the cladding system and its installation to be carefully carried out.

## 7.2 Weathertightness risk

7.2.1 In relation to these characteristics I find that the gymnasium:

- is built in a high wind zone
- is a maximum of two storeys high
- has roofs at varying levels, with wall parapets that finish within the roof area
- is fairly complex in form, with three different wall claddings
- has profiled metal and fibre-cement sheet claddings that are fixed directly to the framing
- apart from the parapet walls, has eaves projections that vary from 600mm to 900mm and verges of about 300mm above most walls
- has external wall framing to most walls that is unlikely to be treated to a level that is effective in helping resist decay if it absorbs and retains moisture.

7.2.2 When evaluated using the E2/AS1 risk matrix, these weathertightness features show that two elevations of the gymnasium demonstrate a moderate weathertightness risk and two elevations a high risk rating. The matrix is an assessment tool that is intended to be used at the time of application for consent, before the building work has begun and, consequently, before any assessment of the quality of the building work can be made. Poorly executed building work introduces a risk that cannot be taken into account in the consent stage but must be taken into account when the building as actually built is assessed for the purposes of issuing a code compliance certificate.

## 7.3 Weathertightness performance: exterior cladding

7.3.1 Generally the claddings appear to have been installed in accordance with reasonable trade practice, but some junctions, edges and penetrations are not well constructed. These areas are described in paragraph 6.4.4 and in the expert's report as being the:

- inadequate cladding clearance above the paving in some areas
- inadequate cladding clearance above the roof cladding
- ends of the apron flashings above the entrance canopy
- poorly weatherproofed corners of the upstands to parapet apron flashings
- lack of flashing to a pipe penetration through the roof cladding

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<sup>5</sup> Copies of all determinations issued by the Department can be obtained from the Department's website.

- lack of spreaders or elbows to several downpipes above lower roofs
- inadequate weatherproofing of the junction of the stair roof with the wall
- discharge of a downpipe into the east stair gutter
- open joint of the fascia board to the north gable end
- inadequate weatherproofing to jambs of windows in Hardipanel cladding, and cracks in the jamb sealants
- lack of weatherproofing to jambs of windows in profiled metal cladding
- inadequate weatherproofing of junctions between profiled metal and Hardipanel wall claddings at internal corners
- inadequate weatherproofing of the junction between tilt slabs and Hardipanel wall cladding at the south internal corner, with an exposed corroding portal leg
- inadequate sealing of pipe penetrations through the wall claddings
- lack of head flashings and sealing to ventilation grilles.

7.3.2 Notwithstanding the fact that the fibre-cement sheet and profiled metal claddings are fixed directly to the timber framing, thus inhibiting drainage and ventilation behind the cladding, I have noted certain compensating factors that assist the performance of the cladding in this particular case:

- apart from the noted exceptions, the claddings are installed to reasonable trade practice
- apart from the parapet walls, the building has eaves and canopy projections that provide good protection to the cladding areas below them.

7.3.3 I consider that these factors help compensate for the lack of a ventilated cavity which otherwise might have been required to assist the building to comply with the weathertightness and durability provisions of the Building Code.

## **7.4 Other relevant code clauses**

7.4.1 Generally, the remaining areas of the building appear to have been constructed in accordance with reasonable trade practice and with the Building Code. However, there are some areas to be remedied or checked as complying with acceptable solutions or the Code, and these are described in paragraph 6.6 as being the:

- documentation of structural variations made during construction
- corrosion of the exposed steel portal leg on the south elevation
- lack of an upstand to the access ramp
- the lack of a landing, handrails, adequate slip resistance, tread colour contrast and edge protection to the secondary east staircase
- lack of a handrail to one side of the main staircase
- lack of certificates for installation and servicing of the platform lift

- lack of sealing to the walls of the splashbacks to the handbasins
- lack of certificates for installation and testing of emergency lighting
- lack of certificates and required documentation for smoke detectors and alarms
- lack of signage identifying egress routes for the changing rooms and secondary egress staircase
- lack of signage for disabled access
- lack of an accessible shower for the disabled
- lack of ventilation of the teachers' toilet
- lack of certificates for gas installation and testing
- lack of an upstand to the gully trap.

7.4.2 I note the expert's comment in paragraph 6.6.15 with regard to the lack of a landing to the secondary stairway on the east elevation. As the acceptable solution D1/AS1 recommends that a landing be provided for stair rising higher than 2.5m, this secondary staircase must therefore be considered as an alternative solution to D1/AS1. In assessing compliance with the provisions of clause D1, I note that:

- the stair does not form part of an accessible route within the building
- it is a fire escape so infrequent use does not justify non-compliance
- the stairway is easily navigable and reasonably short
- the total rise of the stairway is one storey only
- the stairway has a total of 15 treads only, and would therefore meet the requirements of the Australian Building Code (Part D2.1.3).

7.4.3 Based on these factors, I consider that the lack of a landing to this staircase is acceptable in the circumstances.

## **8 Discussion**

### **8.1 Exterior claddings**

8.1.1 The current performance of the fibre-cement sheet and profiled metal claddings is not adequate because they are allowing water penetration into the building at a number of locations at present. Consequently, I am satisfied that the cladding systems as installed on the gymnasium do not comply with clause E2 of the Building Code.

8.1.2 In addition, the gymnasium is also required to comply with the durability requirements of clause B2. Clause B2 requires that building elements continues to

satisfy all the performance requirements of the building code for specified periods, and that includes the requirement for a building to remain weathertight. Because the cladding faults on the building are likely to allow the ingress of moisture in the future, the gymnasium does not comply with the durability requirements of clause B2.

- 8.1.3 I conclude that, because the faults that have been identified with the cladding systems occur in discrete areas, satisfactory rectification of the items outlined in paragraph 7.3.1, and of any other associated faults identified in the course of that rectification, will result in the building becoming and remaining weathertight and in compliance with clauses B2 and E2.

## **8.2 Other code clauses**

- 8.2.1 I conclude that satisfactory rectification of the non-compliant items and completion of the outstanding items outlined in paragraph 7.4.1, and of any other associated faults identified in the course of that rectification, will result in the building being in compliance with other relevant clauses of the building code.

- 8.3 It is emphasised that each determination is conducted on a case-by-case basis. Accordingly, the fact that a particular component has been established as being code compliant in relation to a particular building does not necessarily mean that the same component will be code compliant in another situation.

- 8.4 I decline to incorporate any waiver or modification of the Building Code in this determination.

## **9 Conclusion**

- 9.1 I determine that the building does not comply with clauses B1, B2, D1, D2, E1, E2, E3, F6, F7, F8, G1, G4, G11 and G13 of the Building Code.

- 9.2 I also find that rectification of the items outlined in paragraphs 7.3.1 and 7.4.1, and of any other associated faults identified in the course of that rectification, to the approval of the territorial authority, will result in the building being in compliance with clauses B1, B2, D1, D2, E1 to E3, F6 to F8, G1, G4, G11 and G13.

- 9.3 Effective maintenance of claddings (in particular of monolithic cladding) is important to ensure ongoing compliance with clauses B2 and E2 of the Building Code and is the responsibility of the building owner. Clause B2.3.1 of the Building Code requires that the cladding be subject to “normal maintenance”, however, that term is not defined in the Act.

- 9.4 I take the view that normal maintenance is that work generally recognised as necessary to achieve the expected durability for a given building element. With respect to cladding, the extent and nature of the maintenance will depend on the material, or system, its geographical location and level of exposure. Following regular inspection, normal maintenance tasks should include but not be limited to:

- where applicable, following manufacturers’ maintenance recommendations washing down surfaces, particularly those subject to wind-driven salt spray
- re-coating protective finishes

- replacing sealant, seals and gaskets in joints.

9.5 As the external wall framing of this building is not treated to a level that will resist the onset of decay if it gets wet, periodic checking of its moisture content should also be carried out as part of normal maintenance.

## 10 The decision

10.1 In accordance with section 188 of the Act, I hereby:

- (a) determine that the building does not comply with clauses B1, B2, D1, D2, E1, E2, E3, F6, F7, F8, G1, G4, G11 and G13 of the Building Code, and
- (b) confirm the territorial authority's decision to refuse to issue a code compliance certificate.

10.2 A notice to fix should be issued that requires the applicants to bring the building into compliance with the Building Code, identifying the defects listed in paragraphs 7.3.1 and 7.4.1, above and referring to any further associated defects that might be discovered in the course of rectification. The notice to fix should not specify how those defects are to be fixed. That is a matter for the applicants to propose and for the territorial authority to accept or reject. It is important to note that the Building Code allows for more than one method of achieving compliance.

10.3 I would suggest that the parties adopt the following process to meet the requirements of paragraph 10.2. Initially, the territorial authority should issue the notice to fix, listing all the items that the territorial authority considers to be non-compliant. The owner should then produce a response to this in the form of a detailed proposal, produced in conjunction with a competent and suitably qualified person, as to the rectification or otherwise of the specified items. Any outstanding items of disagreement can then be referred to the Chief Executive for a further binding determination.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 22 March 2007.

John Gardiner  
**Determinations Manager**