

**VICTORIAN CIVIL AND ADMINISTRATIVE TRIBUNAL**

**CIVIL DIVISION**

**BUILDING AND PROPERTY LIST**

VCAT REFERENCE NO BP144/2016

**CATCHWORDS**

DOMESTIC BUILDING – Construction of *Colorbond* shed – whether deformation of the *Colorbond* wall cladding caused by inadequate bracing or ground movement. Differing expert evidence – determining the more likely cause of damage by reference to other factors. Apportionment under the Part IVAA of the *Wrongs Act 1958*.

<b>APPLICANT</b>	Michael Bradburn
<b>FIRST RESPONDENT</b>	Building Surveying Professionals Pty Ltd (ACN 075 025 955)
<b>SECOND RESPONDENT</b>	Southern Cross Building Group Pty Ltd (ACN 099 053 326)
<b>THIRD RESPONDENT</b>	Hartcon Australia Pty Ltd (ACN 093 138 142)
<b>WHERE HELD</b>	Melbourne
<b>BEFORE</b>	Senior Member E. Riegler
<b>HEARING TYPE</b>	Hearing
<b>DATE OF HEARING</b>	15, 16 and 17 March 2017
<b>DATE OF WRITTEN CLOSING SUBMISSIONS</b>	31 March 2017
<b>DATE OF ORDER</b>	7 April 2017
<b>CITATION</b>	Bradburn v Building Surveying Professionals Pty Ltd (Building and Property) [2017] VCAT 483

**ORDER**

1. The Second Respondent and Third Respondent must pay the Applicant \$1,200.
2. By consent between the First Respondent and the Applicant, the First Respondent must pay the Applicant \$15,000.
3. Liberty to apply on the question of costs, provided such liberty exercised within 21 days of the date of this order.

E. Riegler  
**Senior Member**

**APPEARANCES:**

For the Applicant

Mr Fink of Counsel

For the First and Fourth  
Respondents

No appearance (excused from appearing)

For the Second and Third  
Respondents

Mr Smallcombe, employee representative

## REASONS

1. The Applicant is the owner of a residential property located in Sunbury (**‘the Owner’**). On or about 10 May 2010, he entered into a contract with the Second Respondent, which trades under the name *Safety Steel Structures* (**‘SSS’**), for the supply of materials used for the construction of a steel shed at an agreed price of \$12,180. On the same day, the Owner entered into a second contract with the Third Respondent (**‘Hartcon’**), under which it was to erect the steel shed, using the materials supplied by the Second Respondent, at an agreed price of \$3,170. It is common ground that SSS and Hartcon are associated entities and essentially provide a ‘one-stop shop’ for the supply and construction of domestic and agricultural steel sheds. Consequently, the total amount paid by the Owner was \$15,350.
2. However, not all of the construction of the shed was to be undertaken by Hartcon. The Owner arranged for his own contractor to level the site and to excavate the footings upon which the steel portal frame of the shed was to rest. The design and location of those footings were detailed in an engineering drawing prepared by SSS dated 4 October 2007. That design contemplated two different scenarios. The first scenario envisaged the steel frame sitting on an engineered concrete slab, which then also constituted the internal floor of the shed, whilst the second scenario envisaged the frame being supported by engineered footings, without there being any internal concrete floor constructed in conjunction with the erection of the steel shed.
3. The second scenario was ultimately adopted by the Owner. He arranged for an in-fill slab to be poured after the shed had been erected. This was a much cheaper option than having an engineered concrete slab poured prior to the erection of the shed, as contemplated in scenario one referred to above.
4. Notwithstanding that the erection of the shed was to be undertaken by Hartcon, the building works, including the construction of the footings and the in-fill concrete slab, were undertaken pursuant to a building permit dated 2 September 2010, which named the Owner and his wife, Marie Bradburn, as the relevant builders. To that end, the Owner and his wife had, on 31 May 2010, already obtained a *Certificate of Consent* from the Building Practitioners Board, allowing them to undertake that work.
5. It appears that the shed had been fully erected by 18 April 2011, notwithstanding that a *Certificate of Final Inspection* was not issued until 11 July 2012.<sup>1</sup>

---

<sup>1</sup> *Nearmaps* image attached to the report of Carl Hampson dated 15 July 2016, which depicts the shed completed erected as at 18 April 2011.

6. The process of erecting the shed was twofold. First, 800mm minimum deep pad footings were excavated by the Owner, without any input from either SSS or Hartcon. These footings were then inspected by the relevant building surveyor. The Owner then arranged for concrete to be poured. At that stage, a representative from Hartcon attended and positioned stirrups into the wet concrete, in readiness for the portal frame to be connected, once the concrete had cured.
7. After approximately two weeks, all of the materials for the shed were delivered to site. Not long after, representatives from Hartcon attended the property and erected the shed. That work was completed within one week. At that stage, the shed was positioned and connected to the concrete pad footings via the steel stirrups. There was no internal floor, apart from the graded natural ground surface.
8. After the shed had been erected, SSS and Hartcon played no further role in the construction of the shed, as they considered that their respective contracts had been fully performed.
9. However, the Owner then undertook further work. He arranged for a 100mm in-fill concrete slab to be poured to the interior of the shed in order to create a floor. On the same day, a 300mm concrete apron, which the parties have referred to as a 'weather strip' was poured around the outside perimeter of the shed. The purpose of this weather strip was to seal the bottom edge of the shed cladding so as to prevent water and vermin entering the shed. To that end, approximately 5-25mm of the bottom edge of the shed cladding was encased within the concrete weather strip. This was done at the instigation of the Owner. Neither SSS, nor Hartcon were aware that this work was to be undertaken.
10. In or around April 2014, a severe storm struck the Owner's property. Trees were uprooted and some of the *Laserlite* roof cladding of the west facing veranda to the Owner's residence was dislodged. A claim was subsequently made under the Owner's building insurance policy, which was accepted.
11. In March or April 2015, the Owner noticed that some of the cladding sheets had become deformed, with gaps opening up between the cladding sheet joints and with some of the ribs of the cladding material displaying signs of stress or kinking. At that time the Owner also noticed that some of the flat steel bracing fixed to the inside of the shed walls had become loose and in one case, had completely detached from its fixing.
12. The Owner then examined the engineering drawing, approved by the relevant building surveyor, to ascertain where or how that bracing should be fixed. He then noticed that some of the bracing depicted on that engineering drawing had not been installed and the bracing that had been installed seemed to be undersize to what was specified.

13. The Owner contacted SSS and enquired as to what could be done. He recounted that he was told that, in all likelihood, the shed was moving due to ground movement and if that was the case, then it was not a problem that SSS or Hartcon would address.

### **THE OWNER'S CLAIM**

14. The Owner engaged Mr Matt Finley and Mr Russell Brown of RI Brown Pty Ltd, both engineers, to inspect the shed. Mr Finley prepared a report dated 5 August 2015, in which he opined that the deformation of the shed cladding was consistent with the bracing having stretched and failed. He attributed this to the fact that inadequate bracing had been installed by Hartcon, which then left the shed vulnerable to excessive wind forces.
15. Both SSS and Hartcon admit that the bracing depicted on the engineering drawing approved by the relevant building surveyor has not been installed in accordance with that drawing. They concede that this was an error on their part. However, they both deny that this failure has led to deformation of the shed cladding. SSS and Hartcon rely on the expert opinion of Mr Carl Hampson, an engineer, who has also prepared a number of reports, in which he opines that the deformation of the sheet cladding stems from excessive (but not unexpected) ground movement, given that the shed and the internal in-fill concrete slab are both founded on highly reactive soil.
16. Mr Hampson further opines that the problem is exacerbated, if not wholly attributed to, the fact that the bottom of the shed cladding has been encased within the concrete in-fill slab or weather strip surrounding the perimeter of the shed. In particular, he contends that there is differential movement between the footings, which are founded at more than 800mm in depth, and the internal floor and weather strip which are laid directly on natural ground and therefore more susceptible to ground movement due to seasonal influences. According to Mr Hampson, seasonal influences will cause the in-fill slab and weather strip to heave and subside at a far greater rate than the 800 mm pad footings, to which the frame of the shed is fixed. He contends that during wet periods the shed cladding is being pushed upwards by the force of the in-fill slab or weather strip as it heaves, while at the same time, the steel frame, to which the shed cladding is fixed is resisting that vertical force. This, he says, creates a compression force which has led to the deformation of the cladding sheets.
17. It is this difference of opinion between the engineering experts which underpins the Owner's claim. As I have already indicated, the Owner's claim rests on an opinion that the deformation of the sheet cladding is caused by wind forces acting upon an inadequately braced shed. This is said to be the fault of either SSS or Hartcon (or both) for failing to supply and erect adequate bracing in accordance with the approved engineering drawing. The Owner claims \$34,335.16, made up as follows:

- (a) \$20,055.16, being the reasonable cost of rectifying the shed;
- (b) \$7,920, being the reasonable cost of removing the contents of the shed during rectification works and returning those contents after completion;
- (c) \$1,360, being the reasonable cost of storing the contents of the shed during the period that the rectification works are carried out.

## **THE EXPERT OPINION**

18. In Mr Finley's report, which was adopted by Mr Brown, he summarises what he considers to be the underlying cause of the sheet cladding deforming as follows:

We believe there to be some fundamental mistakes that have occurred during the installation of your shed that have led to the damage that we are seeing now...

The first and most critical being that the bracing is both undersized and missing in some locations. The drawings show roof bracing across the whole length of the roof in one half, it was only installed in the end bay...

The drawings also stipulate the roof and wall bracing to be 32 x 1.6 G300 steel strapping. According to our calculations this would have worked with sufficient fixing to the frame. On site the bracing was noted as 25 x 0.8 mm, less than half the cross-sectional area, therefore half the tensile capacity, drastically undersized.

Calculations were conducted by us (see attached) based on the designed wind speed given by Enrik. We also gathered statistics from the Bureau of Meteorology to confirm the design wind speed was not surpassed. It can be seen that the largest wind speed during April, when we were informed the damaging winds took place, at Melbourne airport and Wallan (the two closest weather stations) was only 107 km/h. Much less than the designed wind speed of 41 m/s. Calculations proved the bracing was never going to work under the specified design loads.

Further, there is no indication on the drawings as to the way in which the bracing is to be fixed to the frame. On-site, it seems based on the size of the hole they have used a 10 g 4-5 mm Tek Screw, which again is undersized and has failed in shear.

It was indicated to us on site that the manufacturer/installer was of the opinion that the paving in around the shed has somehow added to the stress in the building, causing this failure. This is unequivocally incorrect, with the additional 100 mm to your footing depths, and the extra rigidity caused by the slab being in, and paving around the perimeter, this will only increase the stiffness of the structure increasing your flexural capacity.

The buckling that can be seen in the cladding is consistent with the bracing having stretched and failed. Thereafter the cladding has had to do the work and subsequently buckled/crimped under the loads. We believe both side walls of the cladding need to be completely replaced.

On-site we also noticed the absence of a 45 x 45 x3 equal angle knee bracing shown on the stamped approved drawings. This should have been picked up by the building surveyor and will need to be rectified.

It was also noted on-site that there is no safety mesh beneath the clear roofing material. With reference to the Safety Recommendation of the Laserlite product, they recommend the use of safety mesh above 3 m. Again this is missing and we believe should have been picked up by the building surveyor.<sup>2</sup>

19. In his report dated 15 July 2016, Mr Hampson responds as follows:

The primary cause for failure is not wind damage as described in the report by R. I. Brown Pty Ltd, rather it is soil heave. This is in fact a very common appearance. The phenomenon is very simply explained and will be described as follows - wind damage occurs to principally the entire building, soil damage can occur either locally or to the building as a whole, but more often than not it is differential soil movement that precipitates structural building problems. Usually with wind damage the roller door, being the weakest element, is first to go. In this case the roller door, wall and roof sheeting is fully intact.<sup>3</sup>

20. As indicated above, it is common ground between the experts that the founding soil of the footings for the frame and the soil upon which the in-fill concrete slab and weather strip rest is reactive, if not highly reactive. Both experts agree that significant ground movement is to be expected, depending on the environmental conditions affecting the founding soils. In particular, exposure to moisture will cause the reactive soil to swell. This creates heave. By contrast, as the environmental conditions dry out, the reactive soil shrinks causing subsidence. Indeed, both experts have measured floor levels of the concrete in-fill slab at different periods and points, which show a differential in level of up to 29mm from one end of the in-fill slab to the other.<sup>4</sup>
21. According to Mr Hampson, distortion in the wall cladding is caused by there being no separation between the concrete in-fill slab/weather strip and the steel cladding. Therefore, as the concrete heaves or rises due to founding soils being exposed to moisture, upward pressure is exerted against the bottom of the wall cladding, which has nowhere to move because it is fixed to the steel frame. According to Mr Hampson, this

---

<sup>2</sup> R.I. Brown Pty Ltd report dated 5 August 2015 at pp 3-4.

<sup>3</sup> Structural Investigation report of Carl Hampson dated 15 July 2016 at p 2.

<sup>4</sup> 'SK-I' to the R.I. Brown Pty Ltd report dated 5 August 2015.

creates a compression force causing the steel wall cladding to buckle or kink. He explains:

The compression damage of the wall sheets is immediately obvious as the infill slab rises against a frame resisting upheaval by way of having separate and isolated footings from the slab. The pad footings are founded deeper into the clay and have an uplift capacity described in AS2870 as being in order of 6kN per footing (about 600 kg) Table E1 and 9 Kn of the footings extend down towards 1000 mm. The infill slab can generate significantly higher loads, in proportion to 100-200 kPa or more over the local area of the paving slab near to a column/footing. This can produce a load of several tonnes depending on the flexibility of the slab, and therefore has the potential to lift the footing as well as the slab.<sup>5</sup>

22. Mr Hampson opines that very little upward force upon the bottom edge of the cladding sheet is required to produce a buckling effect. He states:

Using standard geometrical equations, a small bow in a wall sheet, ruler or for that matter any stiff section can be greatly exaggerated laterally by compressing the ends together by only a very small amount. These equations can be verified in Appendix A following. With a nominal girt spacing at 1150 mm centres, a small compression of 0.23 mm will create a bow outwards of 10 mm. Increasing the compression distance to 3.72 mm from an original 1150 mm will create an outward bow of 40 mm. Increasing the compression of the sheet still further to 5.82 mm from its original position will create a bow of 50 mm.

Photographs taken on 24/06/16, then subsequently 08/07/16 show that the bow in the wall sheet has done exactly this. As a concrete floor slab has risen by a small amount, the measured bow in the wall sheet has grown from 47 mm to 57 mm...<sup>6</sup>

23. Mr Hampson further opines that the omission of bracing or the use of undersized wall bracing has had no adverse impact on the structural integrity of the steel shed. In particular, he said that the wall bracing was supplied principally to help align the structure to be square and plumb prior to the installation of the wall and roof sheets. He explains:

The wall bracing supplied is principally to help align the structure to be square and plumb prior to the installation of the wall and roof sheets. Once the frame is clad in the sheeting membrane, most installers know that the frame is now stiffer and stronger – simply due to this diaphragm action. In fact the bracing could well be removed with no change in the performance of the structure, but as it is placed first is impractical to remove at a later stage.

---

<sup>5</sup> Structural Investigation report of Carl Hampson dated 15 July 2016 at p 2.

<sup>6</sup> Structural Investigation report of Carl Hampson dated 15 July 2016 at p 8.



...

In a steel framed garage, the wall sheeting acts as a particularly good diaphragm brace, and instead of limited parts of the wall being braced, the entire wall is braced - apart from door locations. Some sheds have doors all along one side, this particular shed has one small door near one end - almost the entire wall acting as a diaphragm brace.<sup>7</sup>

24. Although Mr Hampson conceded that the wall bracing had ruptured, he was of the opinion that this had nothing to do with wind movement:

The wall bracing did in fact rupture, however the rear of the wall has differentially moved relative to the adjacent bay as seen in floor slab measurements - the first interior bay from the end wall is now higher than the end wall and has stretched the diagonal brace beyond its capacity and ruptured the tek screw. Nothing to do with the wind load.<sup>8</sup>

25. In response to the expert report prepared by Mr Hampson, Mr Brown prepared another report dated 9 November 2016, wherein he reiterated that the distortion could not be attributed solely to compression forces acting upon the sheet cladding as a result of soil movement. He said:

More importantly, and this hasn't been raised before, I note that the concrete paving, concrete footing and the columns are locked together, hence if we have heave the column goes up with everything. The area where we have buckling right where the column is, therefore if heave occurs at this spot, the whole wall would go up, i.e. no restraint, no buckling. It obviously hasn't gone up but swayed when undersized bracing failed.<sup>9</sup>

26. However, according to Mr Brown:

The sheeting is connected to a concrete slab and therefore even under the smallest amounts of sway forces it is going to buckle. It has, noting that 40 mm of deformation will cause exactly what we are looking at. I agree that what should have been there is able flex compression membrane between the columns and the rest of it and there should have been voids or sockets separating the wall from the concrete slab.<sup>10</sup>

27. It appears that Mr Brown concedes that part of the problem stems from the fact that the wall cladding is embedded in the concrete in-fill slab or weather strip. However, Mr Brown sees this factor as reinforcing his conclusion that wind forces have caused deformation of an inadequately braced wall cladding. In particular, he opines that encasing the wall cladding inhibits the ability of the wall cladding to tolerate sway forces generated by the wind. Therefore, as wind force is applied, the bottom of

---

<sup>7</sup> Ibid at p 12.

<sup>8</sup> Ibid at p 13.

<sup>9</sup> R.I. Brown Pty Ltd report dated 9 November 2016 at p 7.

<sup>10</sup> Ibid.

the wall cladding is unable to move with the rest of the building, causing deformation. Although this analysis may be correct, it does not necessarily answer the question whether the as-designed wall bracing would have prevented such deformation from occurring.

28. In the Owner's written closing submissions, it is contended that Mr Brown's evidence, given during the course of the hearing, further dispelled the hypothesis advanced by Mr Hampson. In particular, Mr Brown identified what is described as 'zones of deformation', being particular areas of the wall cladding which showed buckling or kinking. According to Mr Brown, these 'zones of deformation' did not entirely correspond with the areas where ground movement was most prevalent. For example, the side wall facing the Owner's residence had significant ground movement at a point approximately mid-way along its length. However, that area of wall cladding did not display significant deformation. Mr Brown expressed the opinion that if ground movement caused wall cladding deformation, then more deformation would be seen at those points where ground movement was most prevalent.
29. In my view, there are difficulties in reaching any definitive conclusion based on that hypothesis. This is because there were areas where there was a correlation between ground movement and wall cladding deformation. In particular, the side wall facing the property boundary also had significant ground movement from one end to the other. According to floor level measurements taken by Mr Hampson, that side of the shed appears to have heaved at a point just past mid-way along its length, before subsiding at the rear corner of that side wall.<sup>11</sup> That area of heave seems to correlate with deformation of the wall cladding in or around that area of heave.
30. Moreover, Mr Hampson gave oral evidence that compression forces will create what he referred to as an 'oil canning' effect. In essence, upward pressure causes the wall cladding to buckle while the pressure is exerted but return to normal once that pressure is relieved. If the pressure caused by upward soil movement is too great, the ribs of the wall cladding will kink and cause permanent deformation. However, in the absence of that permanent deformation, the 'oil canning' effect makes it difficult to identify any correlation between ground movement and deformation because deformation may normalise once soil subsides and upward pressure is relieved.

---

<sup>11</sup> Appendix A to the report of Carl Hampson dated 15 July 2016. The measurements are recorded as 49 just short of the mid-way point, 62 at the midway point, then 67, 72, before subsiding to 61 and 62 at the end corner.

31. Moreover, during cross-examination Mr Hampson said that, in his opinion, every wall sheet displayed some evidence of deformation because the sheets did not lap perfectly at their ribs.
32. In a subsequent report dated 19 October 2016, Mr Hampson recounts how he constructed a number of prototype sheds whilst employed with steel shed manufacturers or suppliers of materials for steel sheds. He concludes:

The prototype testing graphs included below show deflection vs. load applied. The garage in question at this site in Highbury Road [sic] has a full portal frame and, due to its design, only requires a form of bracing perpendicular to the portal frames - i.e., running along the side walls. The diaphragm action, from the wall sheets, easily generates a load calculated by the loading estimated by Mr Brown. The wind bracing load from the Brown report is however underestimated, as described in my own calculations carried out in accordance with the guidelines as described by Mr John Holmes in the recent Wind Design Workshop conducted by the Engineering Training Institute Australia that I attended. The primary wind loading is for the side wall facing NW, but which is also partially shielded and that wind load is carried entirely by the portal frames, and does not require any form of bracing. The calculation I carried out does not include any shielding that is allowed for the region around the building as described by the circle over the garage in the second photo. Thus my wind loading calculation is conservative and could be reduced to a smaller value.<sup>12</sup>

### **FINAL ANALYSIS ON CAUSE OF DEFORMATION**

33. As I have already indicated, establishing what caused the wall sheets to deform largely falls to be determined according to which expert opinion is to be preferred over the other. Answering this complex engineering question is made even more difficult by the fact that both Mr Brown and Mr Hampson presented as credible and knowledgeable in their areas of expertise, although I accept that Mr Hampson has had more experience specifically dealing with steel sheds, whereas Mr Brown's experience is more general.
34. Both experts have presented calculations and computations in support of their opinions, which I consider to be evenly balanced. In other words, both hypotheses appear to be feasible.
35. However, there are other factors which the experts and lay witnesses have pointed to which assist me in determining this difficult engineering question. In particular, the Owner and Mrs Bradburn gave factual evidence in relation to the timing of the storm which they believed precipitated damage to the steel shed. In particular, they said that a severe

---

<sup>12</sup> Structural Investigation report of Carl Hampson dated 19 October 2016 at p 14.

storm ravaged their property in or around April to June 2014. Significant damage was caused to the property, which included uprooting trees and uplifting roof cladding on their veranda. The damage caused to the property is evidenced, in part, by their insurance claim which was made in or around June 2014.

36. However, both have given evidence that deformation of the wall cladding and separation of the internal bracing became apparent in or about March or April 2015. There is no evidence to suggest that the wind storm which occurred prior to June 2014 caused any apparent immediate damage to the steel shed.
37. Mr Hampson gave evidence that this is a critical factor, in that wind damage is more than likely to be immediate rather than to precipitate some underlying cause which only manifests nine months later. On the other hand, Mr Hampson opined that it is common for the effects of ground movement to only become apparent some years after the installation has been constructed, which he says is consistent with what is occurring on the Owner's property.
38. Further, as was evident at the time when the Tribunal viewed the steel shed, at least one of the steel girts on the inside of the western side of the shed was bowing upwards. Mr Hampson opined that this phenomena would likely occur if there was upward pressure, caused by heave in the footings upon which the portal frame was connected. I accept this to be the case.
39. Further, I accept that, in all likelihood, there will be differential movement between the footings which are founded at a depth in excess of 800mm, compared to the concrete slab and weather strip which are sitting on top of the graded site. In my view, that differential movement between frame and sheet cladding is likely to cause some compression force.
40. In forming that view, I am mindful that it was not readily apparent from a visual inspection that the steel columns were moving independently of the concrete slab through which they penetrated. According to Mr Brown, that casts a serious question over Mr Hampson's theory that the steel frame was moving to a lesser degree than the wall cladding – and thereby causing the upward compression force. However, Mr Hampson suggested that this was not unusual because the amount of differential movement only needed to be minute to create what he referred to as 'oil canning', meaning the outward buckling of the wall cladding. In that regard, reference was made to his report where he stated that a vertical movement of *0.23mm will create a bow outwards of 10mm*.
41. In addition, a comparison was made between the condition of the north-west external corner as depicted in Photograph 18 in the R.I. Brown Pty Ltd report dated 5 August 2015 and its current condition. Photograph 18

was taken on 28 July 2015. It shows the wall cladding buckling out, creating a gap between sheet joins. This is consistent with Mr Hampson's theory that it is subject to a compression force caused by footing heave. However, at the view conducted on 15 March 2017, the buckling appeared to have disappeared. According to Mr Hampson, this phenomena is consistent with the underlying footings heaving during July 2015, being the wetter period of the year and then returning to their original position during March 2017, being the dryer period of the year. I accept this to be the case.

42. There are other factors which I also consider to be more consistent with Mr Hampson's hypothesis. In particular, there is no evidence of any damage occurring to the steel roof sheeting, transparent roof sheeting or any of the external guttering as a result of the windstorm. Similarly, there is no evidence suggesting that the roller door was damaged during the windstorm. As indicated above, Mr Hampson expressed the view that the roller door would have been the first casualty, had the shed experienced wind force of such a degree that would cause deformation to the steel sheet cladding.
43. In view of the above factors, I accept Mr Hampson's expert opinion evidence as to the more likely cause of the damage to the steel shed. I do not accept that the failure to supply and install bracing in accordance with the approved engineering drawing has caused or even contributed to the deformation of the sheet cladding. I find that this damage is caused solely by the interplay between natural ground movement and the fact that the steel cladding has been embedded into the concrete in-fill slab or weather strip, thereby creating a slight differential movement between the sheet cladding and the frame to which it is affixed.
44. My finding is reinforced by the fact that the *Construction Guide* produced by SSS and the *Design Guide* produced by *Stamit Corporation Pty Ltd* both provide detail which recommend against embedding steel cladding into concrete. Both those publications provide graphical examples of how the bottom edge of steel cladding sheets should be treated. Both show the cladding being separated from the concrete slab, with a flexible foot mould or other form of flashing being utilised to provide a weatherproof finish.
45. It is regrettable that neither of these publications was given to the Owner at the time when the steel shed was erected by Hartcon. However, it is difficult to attribute blame in circumstances where there is no evidence that SSS or Hartcon were apprised of what was going to ultimately be constructed by the Owner.
46. Consequently, I am not persuaded that the action or inaction on the part of either SSS or Hartcon caused the sheet cladding to deform.

## **BREACH OF CONTRACT**

### **Safety mesh**

47. The roof of the shed comprises a number of transparent corrugated roof sheets which match the profile of the corrugated steel *Colorbond* roof sheets and which provide additional light into the shed. There are three cross-sectional rows of those transparent roof sheets, making a total of approximately 16 transparent sheets. Mr Brown was of the opinion that the transparent roof sheets should have had safety mesh installed underneath them. The obvious reason is to ensure that a person does not fall through those sheets, when traversing the roof.
48. The opinion expressed by Mr Brown was premised on an assumption that the transparent roof sheets were a polycarbonate product known as *Laserlite*. According to Mr Hampson and Mr Smallcombe, the advocate appearing on behalf of SSS and Hartcon, the transparent roof sheets were not *Laserlite* but rather, a fibreglass product that had substantially more rigidity and strength than a *Laserlite* roof sheet. Mr Hampson was of the opinion that the fibreglass roof sheets were rigid enough to withstand the weight of a person and in those circumstances, it was unnecessary to install safety mesh underneath them.
49. Regrettably, Mr Brown was unable to comment further as to whether fibreglass transparent roof sheets were strong enough to hold the weight of a person, if stood on. Consequently, the only expert opinion evidence going to that issue is the evidence of Mr Hampson.
50. It is trite that the onus of proving incomplete or defective work rests on the party that alleges it. Here, I am not satisfied that there is sufficient evidence to find, on the balance of probabilities, that the product used by SSS and Hartcon to provide additional light into the shed requires safety mesh to be installed under it or not. Consequently, I find this allegation unproven.

### **Insufficient wall and roof bracing and failure to install knee braces**

51. Notwithstanding my finding that the failure to supply and install wall and roof bracing in accordance with the approved engineering drawing did not cause deformation of the wall sheets, the fact remains that the Owner contends that he did not receive what he bargained for.
52. In that sense, the Owner alleges that the terms of the two contracts entered into between him and SSS and Hartcon were to supply and erect the steel shed in accordance with the approved engineering drawing.
53. As indicated above, both SSS and Hartcon concede that this was not done and that this was an error on their part. However, SSS and Hartcon submit that the Owner is to blame for that shortcoming because as an ‘owner-

builder', he should have checked that the materials supplied accorded with the supply contract.

54. The express terms of each of the two contracts entered into between the parties do not specifically address this question, although Clauses 9 and 10 of the SSS *General Conditions of Delivery* state:

9. If the Customer believes that goods supplied do not conform with the order placed, the Customer shall notify the company in writing as soon as practicable, detailing the way in which the goods do not conform.

10. Failure to give such notification within seven days of the date of supply or date of invoice (if applicable) shall raise the inference against the Customer that the goods are in accordance with the order.

55. In my view, it is not reasonable to infer that the Owner accepted that the materials supplied were in accordance with what was required under the supply contract. In particular, I do not consider that it is reasonable for the Owner to check every single element of construction prior to erection to ensure that all components will, after construction, comply with the approved engineering design. I have formed this view notwithstanding the fact that the Owner has had some previous experience in building. In my view, it was entirely reasonable for the Owner to assume that the materials supplied would accord with the approved engineering drawing, given that this drawing was prepared by SSS.

56. Further, I find that it was implicit in both the supply contract and the works contract that what was supplied and what was erected would comply with the approved engineering drawing and building permit. In my view, such a term is implied in order to give business efficacy to the two contracts.

57. Consequently, I find that this omission constitutes a breach of the supply contract and the works contract and that both SSS and Hartcon are liable for any loss or damage suffered by the Owner arising from that shortcoming. However, determining that loss and damage is not readily discernible from the evidence presented in this case. In particular, the Owner claims \$20,055.16 for the cost to rectify the shed. That price is derived from a quotation from *Macedon Ranges Steel Structures*, which sets out the scope of work as follows:

Quote for the stripping, reinforcing and cladding of a 19 m x 14 m Colorbond shed, as specified in your inquiry to: attach larger cross braces on either side wall; cutting out wall cladding on either side and replacing with new cladding; straightening up any framework that is not plumb; installing safety mesh

under all polycarbonate roofing; and bracing wall columns to truss's to strengthen. [sic]

58. Regrettably, the quoted price does not give any indication as to how it has been derived, or what cost has been attributed to each item of work. Importantly, the quotation does not identify what price would be charged to supply and install the knee and wall bracing to ensure compliance with the building permit.
59. Having said that, SSS and Hartcon have stated in their *Written Closing Submission* that:
14. The quantum described in the Amended Points of Defence namely \$4,723 is a more accurate assessment estimate of the rectification works required – supply and installation of bracing both knee and strap (the latter redundant in our evidence) would add only nominally circa \$300 to the quote.
60. The reference \$4,723 is a reference to SSS and Hartcon's estimated cost of carrying out rectification work, in the event that they were held liable for the deformed wall cladding. That costing was advanced in response to the Owner's claim of \$20,055.16, as detailed in the *Macedon Ranges Steel Structures* quotation referred to above, although the scope of work differs slightly between the two costings.
61. Having regard to the considerable disparity between each party's respective costing, I consider that the cost of supplying and installing knee and wall bracing will, in all likelihood, be considerably more than \$300, as alleged by SSS and Hartcon. In particular, there are a considerable number of goods and fixed shelving within the shed which may need to be moved or dismantled in order to access the relevant parts of the shed interior to install the as-designed bracing. It is unclear whether the time taken to undertake that task has been allowed for in the costing of \$300.
62. Doing the best that I can with the evidence before me, I consider it appropriate to allow one further day of labour in addition to the \$300 estimated by SSS and Hartcon. According to SSS and Hartcon's breakdown of the cost to rectify, labour has been allowed at a rate of \$100 per hour. Therefore, I find that a further \$800 should be added to the \$300 to take into account the matters referred to above.
63. Consequently, I find that \$1,200 represents a fair and reasonable sum for the cost of supplying and installing knee and wall bracing so as to ensure conformity with the building permit.
64. In forming that view, I am mindful that the Owner also claims for the cost of moving all goods which are currently stored in the shed to another location and for the cost of storage during the period that the rectification work is to be undertaken. In light of my finding that SSS or Hartcon are



not liable for the deformation of the wall sheets, I do not find that it is necessary for those goods to be relocated, in order to carry out the work required to bring the two contracts into conformity.

65. Although there may be some need to move some of the shelving which is currently fixed into position from one end of the shed to the other and also to shuffle around some of the goods so as to provide clear access, this does not, in my view, justify having to relocate those goods to another location. As indicated above, I consider one additional day of labour adequate in order to move those goods from their present location so as to give clear access to install the damaged or missing bracing.
66. Consequently, I find that both SSS and Hartcon are jointly and severally liable in contract to the Owner in the amount of \$1,200.

### **APPORTIONMENT**

67. The *Amended Points of Defence* filed by SSS and Hartcon contend that the Owner's claim against them is an *apportionable claim*, within the meaning of that term as defined under Part IVAA of the *Wrongs Act 1958*. They allege that in those circumstances, the Tribunal is required to apportion responsibility as between all respondents, which includes the First Respondent; namely, *Building Surveying Professionals Pty Ltd*, who remains a party to this proceeding, notwithstanding that it was released of any obligation to participate in the hearing. It remained a party in this proceeding solely for the purpose of apportionment under Part IVAA of the *Wrongs Act 1958*.
68. To the extent that I am required to apportion responsibility under Part IVAA of the *Wrongs Act 1958*, I find SSS and Harton equally at fault for failing to supply and install knee and wall bracing in accordance with the approved engineering drawing. In that regard, I find that they were equally responsible to ensure that the materials supplied and works undertaken accorded with, not only their contractual obligations, but also with the building permit.
69. However, the question of apportionment does not rest with apportioning responsibility merely between those two parties. In determining this question, I must also consider whether the First Respondent was also responsible for the Owner's proven loss and damage. Any finding of responsibility on the part of the First Respondent may impact on the proportionate liability of SSS and Hartcon.
70. The Owner submits that there is no evidence against the First Respondent upon which the Tribunal is able to determine whether or not it is wholly or partly responsible for the Owner's proven loss and damage. In my view, that statement is not entirely correct. The building inspection report of Mr Matt Finlay, which was adopted by Mr Brown, suggests that the

shortcomings in the construction of the shed should have been identified by the First Respondent:

On-site we also noticed the absence of 45 x 45 x 3 equal angle knee bracing shown on the stamped approved drawings. This should have been picked up by the building surveyor and will need to be rectified.<sup>13</sup>

71. Having said that, there no evidence before the Tribunal from any expert qualified to give opinion evidence as to what a private registered building surveyor should or should not do. Although the comments made in the R.I. Brown Pty Ltd report suggest some responsibility, I do not consider those comments to be sufficiently probative to answer that specific question.
72. Consequently, in the absence of any expert opinion evidence as to what a reasonably competent private building surveyor would have done faced with the same factual circumstances, I am unable to make any finding that the First Respondent was wholly or partly responsible for the Owner's loss and damage.
73. Accordingly, to the extent that I am required to apportion responsibility, I remain of the view that SSS and Hartcon are equally responsible for the Owner's proven loss and damage, which I have determined to be \$1,200.

#### **FINAL ORDERS AGAINST THE FIRST RESPONDENT**

74. At the conclusion of the hearing, Mr Fink of Counsel, who appeared on behalf of the Owner, advised the Tribunal that the proceeding as against the First Respondent had settled prior to the hearing date. On that basis, the First Respondent was excused from any further participation in the hearing, save that it remained a party for the purpose of any apportionment under Part IVAA of the *Wrongs Act 1958*.
75. Mr Fink advised that the settlement as between the Owner and the First Respondent required the First Respondent to pay the Owner \$15,000 in settlement of that claim. No details were provided as to how that \$15,000 was made up; nor were any written terms of settlement produced.
76. Mr Fink further advised the Tribunal that the terms of settlement entered into between the Owner and the First Respondent provided that those parties consented to an order being made that the First Respondent pay the Owner \$15,000 and that the proceeding as between those parties otherwise be dismissed. I indicated to Mr Fink that such an order was paradoxical. On one hand, it sought that judgment be entered on the claim, whilst on the other hand, it sought to have the claim dismissed. The two outcomes are inconsistent with each other.
77. It is not clear to me why such an order is sought. To the extent that it is sought in order to bring finality to any claim which the Owner has against

---

<sup>13</sup> Building inspection report of R.I. Brown Pty Ltd dated 5 August 2015 at p 4.

the First Respondent, I am of the view that an order requiring the First Respondent to pay the Owner \$15,000 brings about that result, in any event. Clearly, it would not be open for the Owner to re-litigate the same claim against the First Respondent in circumstances where there has been judgment of that claim.

78. In my view, it is not appropriate to make an order in the form sought and I decline to do so. Nevertheless, I will order that the First Respondent pay the Applicant \$15,000 on the Applicant's claim, absent any reference to that claim being dismissed. As indicated above, I am of the view that pronouncing judgment in that manner provides sufficient protection to guard against the same claim being re-litigated.
79. Finally, I note that each party has sought an order for payment of their costs of the proceeding. As I am yet to hear any final submissions on the question of costs, I will reserve costs and give the parties liberty to apply. Having said that, I remind the parties that costs do not ordinarily follow the event in proceedings before the Tribunal. To order costs, I would need to be satisfied that it is fair to do so, having regard to the matters set out under s 109(3) of the *Victorian Civil and Administrative Tribunal Act 1998*. Given the conflicting and evenly balanced expert evidence in this case, there is no guarantee that an order for costs would be made if prosecuted.

E. Riegler  
**Senior Member**