

**VICTORIAN CIVIL AND ADMINISTRATIVE TRIBUNAL**

**CIVIL DIVISION**

**DOMESTIC BUILDING LIST**

VCAT REFERENCE NO. D345/2007

**CATCHWORDS**

Domestic building, owner-builder, foundations and footings, location, reinforcement, depth, dimensions and shape, method of rectification, effect of inaccurate soil classification, delay and delay damages, variations.

<b>FIRST APPLICANT</b>	Val Christou
<b>SECOND APPLICANT</b>	Vince Salviani
<b>RESPONDENT</b>	Milieu Developments Pty Ltd (ACN: 116 234 792)
<b>WHERE HELD</b>	Melbourne
<b>BEFORE</b>	Senior Member M. Lothian
<b>HEARING TYPE</b>	Hearing
<b>DATE OF HEARING</b>	25 March, 3- 10 and 16-18 April 2008
<b>DATE OF ORDER</b>	22 January 2009
<b>CITATION</b>	Christou & Anor v Milieu Developments Pty Ltd (Domestic Building) [2009] VCAT 78

**ORDERS**

- 1 The Respondent must pay the Applicants \$17,922.78 forthwith.
- 2 Costs are reserved and there is liberty to apply.

**SENIOR MEMBER M. LOTHIAN**

**APPEARANCES:**

For Owner-Builders

Witnesses:

In person

Ms Christou

Mr Martin Roubal - expert witness

Mr David Novak - expert witness

Mr Neil Webster land surveyor

For Respondents

Witnesses:

Mr J. Foster of Counsel

Mr Robert Sganga, Director of the Respondent

Mr Cecchin

Mr Tim Gibney - expert witness

Mr D'Aquila under witness summons

Mr J Buffalino, excavator

## REASONS

- 1 Building a home is a complex task calling for a variety of skills and constant attention to detail by the leader of the building team, the builder. Some owner-builders have the necessary skills. Some do not and the result can be disastrous. This is such a case, and at the date of the hearing, the home in question was yet to advance above the surface of the ground.
- 2 Ms Christou and Mr Salviani, the Applicants, are a couple. Mr Salviani owns land at 5 Pearcey Grove, Pascoe Vale (“site”) and they have commenced building a home there as owner-builders. I refer to them collectively as the Owner-Builders. Their previous home was in Raeburn Street, Pascoe Vale.
- 3 Mr Cecchin also lives in Raeburn Street. He is the father-in-law of Robert Sganga, director of Milieu Developments Pty Ltd (“Milieu”), the Respondent, for whom he worked. Milieu has undertaken concreting works, preparing and pouring the footings at the site. It also engaged an excavation contractor to dig the foundations.
- 4 The Owner-Builders claim that some of the footings are in the wrong place, and there are areas where the foundations are not deep enough, are the wrong shape, do not contain sufficient steel reinforcement or have the reinforcement in the wrong place. These concerns are compounded by difficult conditions on site.
- 5 There is no doubt that there were problems with the footings, but Milieu attributes most of them to the engineer who designed the footings, Mr Dragan Kocev of D&A Consulting Group Pty Ltd (“D & A Consulting”). Neither D & A Consulting nor Mr Kocev is a party to the proceeding.
- 6 Milieu says that the site was initially incorrectly classified as H and the footings were therefore inappropriate for the site. I note with concern that the Owner-Builders did not call Mr Kocev to give evidence. Ms Christou said that he was not available, but they did not issue a witness summons.
- 7 The site was classified H as there is highly reactive clay present. However in the course of excavation Milieu struck rock – some apparently bed-rock, and some floaters (boulders surrounded by clay or other soil). The engineering expert engaged by Milieu, Mr Tim Gibney, concedes that there are defects in Milieu’s work.
- 8 The Owner-Builders claim there has been a total failure of consideration and seek the cost of removing the footings, recovery of all sums paid to Milieu for those footings, the increased cost of constructing their home due to prices rising as time has passed, the cost of renting alternate premises and legal costs. Their particulars of loss and damage of 27 January 2008 claims \$83,768.14.
- 9 Milieu submits that there were minimal costs referable to defects in its work and that the Owner-Builders would have incurred costs regardless of the

quality of its work because the soil classification was incorrect, the footing system was therefore incorrect and the engineers failed to seek further testing before the concrete footings were poured.

- 10 The parties agree the original contract sum was \$18,564.70 and that the Owner-Builders have paid Milieu \$17,864.70, being the quoted sum minus an agreed credit of \$700.00. Milieu claims the contract was varied to add further work, for which it is entitled to be paid \$11,237.63, from which it conceded that \$3,460.00 should be deducted for repairs to the footings. Milieu seeks \$7,797.63 plus costs.
- 11 Mr Gibney gave evidence that it is not necessary or even desirable to remove the existing footings. He has expressed the view that the footings are best remedied by converting the existing grillage footings to a pier and beam exterior, widening footings where necessary, and installing stumps to support the floor instead of supporting it on the internal beams.
- 12 I was assisted to have evidence given concurrently by Mr Gibney, Mr David Novak, engineer who gave evidence for the Owner-Builders and Mr Martin Roubal, geotechnical engineer, who also gave evidence for the Owner-Builders. Mr Roubal is from Rock Solid Pty Ltd and signed only one of the five reports from Rock Solid. Neither Mr Sandhu nor Mr Dishon gave evidence. They were both named as authors in the other four Rock Solid reports. In his report of 17 October 2007, Mr Roubal said that Mr Sandhu was no longer an employee of Rock Solid. No explanation was given for the absence of Mr Dishon from the hearing.

## HISTORY

- 13 The parties agree Mr Cecchin used to walk his dog past the site before any work started. They disagree about who approached whom, but they agree there was a discussion that led to Milieu being awarded the contract for excavating the foundations and laying the footings. The work on site for Milieu was done mainly by Mr Cecchin.
- 14 According to the Owner-Builders, the written contract was a quote from Milieu dated 11 October 2006. Excluding the formal parts, the quotation stated:

Our price includes excavations to SF1, SF2, SF3, PF1, PF2 and PF3 removal of spoil, concrete (62m<sup>3</sup>), reinforcement and labour as per Drawing No S2. Please note that any additional concrete above our provisional amount of 62m<sup>3</sup> will incur an extra fee of \$235.00 per cubic meter.

Our price	\$16,877.00
GST	\$1,687.70
Total	\$18,564.70

Exclusions: Rock Excavation and Blinding.

- 15 The drawing referred to appears to be an undated drawing prepared by D&A Consulting. The SFs were variously dimensioned strip footings, and the PFs were various sizes of pad footings. Drawing S2 is a plan of the footings showing SF1 strip footings around the perimeter of the home with the exception of the exterior walls of the garage that were SF3. The design also called for SF1 footings on the internal parts of the porch. The original design specified an SF1 footing across the home from east to west approximately one third of the way north from the south end of the home, but this was not included in the amended drawings of 9 November 2006. The design also included a grillage system of intersecting SF2 footings. On these footings were a further seven PF3 pad footings.
- 16 The Owner-Builders engaged a land surveyor, Mr Neil Webster, to establish the boundaries and set out the project. The parties agree Mr Cecchin then ran string lines and marked where the excavation was to take place using marking paint. Mr Cecchin agreed that he did not construct survey hurdles from which to anchor string lines, but that he used star pickets instead. He admitted under cross-examination that he did not put them well away from the building footprint where they would not be lost through excavation. Later he said that if there had been hurdles there would not have been a problem, but agreed that he did not ask for them because “You [Ms Christou] were the builder.”
- 17 I am satisfied that on 8 December 2006 after the foundations were dug but before the footings were poured, Ms Christou attempted to contact Mr Webster to check the locations, because there were concerns that some of the excavations might not have been in the right place, as some of the survey marks had been lost. I am also satisfied that the parties went ahead with the concrete pour regardless, when Mr Webster said neither he nor anyone else from his firm was available at short notice. It was not until 15 or 16 January 2007, when Mr Webster returned to site to re-survey for the brick line, that it was confirmed the early fears were well-founded.

## **RESPONSIBILITY FOR LOCATING THE FOOTINGS**

- 18 Mr Webster provided the survey pins on the site for the Owner-Builders before Milieu commenced work. It is agreed that some of the footings are incorrectly placed. The Owner-Builders say this is because of Milieu’s failures. Milieu claims that the drawings provided to it were inconsistent and when some survey pins were lost during excavation, the Owner-Builders failed to have the surveyor return to site to locate them properly.
- 19 The Owner-Builders say the footings are not located where they should be according to the design. Their exhibit A9 shows their view of the designed and built positions of the footings. According to them, all the perimeter footings and some internal footings are out of place. It shows that the footings for the porch are on the wrong side of the string line and at the next east-west footing line south of the porch, the built footings miss the designed position of the footings entirely. According to the Rock Solid

report by Mr Sandhu and Mr Dishon of 24 July 2007, (“second Rock Solid report”) 10 of 21 bore holes indicated that the footings were substantially out of place, seven of which were in the southern third of the home.

- 20 The absence of both Mr Sandhu and Mr Dishon potentially detracts from the weight of their reports, and I prefer Mr Gibney’s evidence regarding the footing positions. However I note that many of Mr Gibney’s other findings are generally consistent with the reports and that Milieu did not tender reports which contained bore logs to contradict their reports.
- 21 In a report of 7 September 2007 obtained by the Owner-Builders Mr Dragan Kocev, their design engineer, said:

The east and west boundary strip footings were not constructed on the actual site boundary line and do not correspond with the location of the proposed boundary walls.

### **Written instructions**

- 22 Ms Christou said in her witness statement of 25 February 2008 that on the 4<sup>th</sup> or 5<sup>th</sup> of December 2006 she gave Mr Cecchin the approved architectural drawings and “approved engineering specifications”. She added:

He told me he didn’t need them and that they would just get dirty. The ground had been surveyed and all the corners of the building site had been marked out using masonry pins with orange fluoro tape so were clear to see. The boundary walls were marked on the fence and since the fence was not exactly on the boundary, arrows marked their placement. ... Soon after, he asked me to get the dimensions from the Land Surveyor. I ... got the land surveyor to fax me a copy and promptly gave Mr Cecchin the faxed document. This document clearly showed the length of each footing around the perimeter of the house and the lengths around the porch.

- 23 Ms Christou also said Mr Cecchin was using a copy of drawing s2 that was not dimensioned and that he was not using the dimensioned surveyor’s plan he had requested on the first day because he could not read it. Both these documents had been provided to Milieu by the Owner-Builders, the second at the request of Mr Cecchin. She continued:

I informed him that his excavation around the porch didn’t match up to the architectural drawings and that he should not proceed with pouring any concrete.

- 24 Mr Cecchin said he looked at some, but not all, the engineering drawings. He was asked in examination in chief if he would commence excavation without looking at the soil report. He said he would look if it was his responsibility. In answer to my question about how he decides if it is his responsibility, he said it is his responsibility if the builder gives him the plan, but if the builder is on site it is not his responsibility. He said that Ms Christou was “the builder” as far as he was concerned, and it was not his obligation to consider whether she had any trade qualifications.

- 25 A drawing prepared by Mr Gibney in April 2008 indicated that on all east-west footings except the southern-most, the surveyor's plan was between 50 and 150mm off the lines on the stamped plans. Answer 14 to Mr Gibney's undated written document "Answers to questions raised by the Tribunal" was:

The location of the footings is in dispute. The surveyors set out plan is not the same as the two stamped architectural plans. Hence we are not sure if the original setout was correct.

Mr Gibney's drawing shows architectural drawings revision A and revision B, but only revision A was tendered.

- 26 Ms Christou admitted under cross-examination that the documents provided to Mr Cecchin to locate the boundaries had errors at the porch and the back (south side) of the garage.
- 27 I accept Mr Gibney's evidence that there were discrepancies between the surveyor's set out plan and at least revision A of the stamped architectural drawings. I am not satisfied that the survey pins were placed in strict accordance with the stamped plans.

#### Need for check survey

- 28 Mr Cecchin said that he asked for the land surveyor to attend and re-establish the survey points on 6 and 8 December 2006. He said that by the 8<sup>th</sup>, he only had two remaining survey markings. He denied that he told Ms Christou that "everything will be OK". He said in his witness statement:

I then proceeded to use the 2 remaining survey markings to attempt, as best I could, to re-establish the correct lines. One was at the south-west corner of the garage, and another was at the corner of the east wall of the site, continuing south of the garage.

On or about 8 December 2006 Christou, marked out the footing for the front of the garage, using a tape. At that time, I assisted her by holding the tape, but she did the marking of the line.

- 29 Ms Christou said that by the end of the excavation on 8 December 2006 Mr Cecchin requested that the land surveyor revisit the site to check the porch dimensions because some of the markings in that area had been lost. She said the surveyor could not attend that day. The Owner-Builders called Mr Neil Webster, the land surveyor, to give evidence for them. He agreed that his firm had been contacted by the Owner-Builders but had been unable to attend when requested. He did not recall telling Ms Christou or Mr Salviani that they should not pour concrete until he could attend site. In answer to a question in cross-examination he said:

If a builder had some doubt, he wouldn't pour until he was sure he was pouring in the right location.

- 30 Under cross-examination Ms Christou said she told Mr Cecchin that Mr Webster could not come and that therefore the work would have to stop.

She said Mr Cecchin replied that she should not worry - he could re-establish the position of the porch. Ms Christou continued that Mr Cecchin said there was one survey pin that he had not lost, he would re-check his marking and if he had made a mistake he would come back and fix it.

- 31 With the benefit of hindsight they were both wrong. Ms Christou as an owner-builder should have ordered that the concrete not be poured and Mr Cecchin as an experienced concreter should have refused to proceed.

### Specific errors

- 32 Ms Christou said Mr Cecchin apologised for a mistake in location of a garage footing in December 2006. She reported that he said he had used an out of date version of S2 instead of the one marked and amended 9 November 2006, but did not give evidence about when or if this version of S2 was provided to Milieu. I assume that it was provided because, as mentioned in paragraph 17 above, the SF1 footings were installed in accordance with the amended S2.
- 33 Ms Christou said that in the first week of January 2007 Mr Cecchin admitted there was another error at right angles to the first and that he dug and poured a footing alongside the existing footing. Mr Cecchin said Mr Salviani assisted him with this work, but did not say that the work was requested or directed by the Owner-Builders.
- 34 Mr Kocev reported to the Owner-Builders on 29 March 2007. He said three rectifications needed to be undertaken. The first, which related to footing position, was that the east garage boundary strip footing needed to be removed as it was 150mm off the boundary and is located in the incorrect position.
- 35 I accept that the garage east footing was not straight. Even if the site had been incorrectly pegged, I would not accept this footing was constructed reasonably competently. I also accept Ms Christou's evidence that Milieu dug and poured the footings on the wrong side of the line for the porch.
- 36 There were two other areas where Milieu was undoubtedly mistaken about the footing location and attempted rectification. They were on the south side of the garage on the internal part of the beam between the house and garage and mid-way down the east side of the perimeter strip footings, where the strip footings are furthest west on that side. I accept the evidence of Ms Christou, support by Mr D'Aquila, the building surveyor, that Milieu attempted to repair them by scabbing on extra concrete. I also accept her evidence that the extra concrete did not contain reinforcement and was not authorised by the building surveyor.
- 37 The second Rock Solid report said that 10 of 21 boreholes showed the footing located a significant distance from its correct position. All those footings also suffered from other problems, such as inadequate depth or irregular shape.

38 I accept the evidence of both parties that significant aspects of the footings were in the wrong location. I accept that the incorrect location of the porch, the east footing of the garage and two repaired areas are Milieu's fault. I find that the Owner-Builders and Milieu share responsibility for the incorrect location of the remainder of the mislocated footings. The Owner-Builders were responsible for providing clear dimensioned drawings to Milieu, which they failed to do and were also responsible for ensuring the pins were in the right place. On the other hand, Milieu was not entitled to approach the job on a "near enough is good enough" basis, and should have been particularly careful when engaged by people who were clearly not professional builders. As Senior Member Walker said in *Berry v Summerfield* [2006] VCAT 1478, a tradesperson engaged by an owner-builder is obliged to:

...carry it out [his work] with all reasonable care and skill appropriate to the trade qualification he professes to have. It is no answer to say that another person, in this case [the Owner-Builder], ought to have detected the defects in his work.

### **SOIL CLASSIFICATION**

39 As mentioned above, the initial classification of the site by Apex Soil Testing Pty Ltd ("Apex") was H - highly reactive. The Apex geotechnical report of 10 November 2006 obtained by Cadnet Corporation Pty Ltd (who prepared the architectural drawings for the Owner-Builders) was based on three boreholes. All three showed a layer of high plasticity silty clay and bottomed on rock; one at a 1100 mm and the other two are 700 mm. The report also warned:

If footing excavations reveal soil conditions different from those shown in our attached Log Section sheet, APEX must be consulted IMMEDIATELY and excavations stopped IMMEDIATELY.  
[Emphasis as it appears in the report]

40 It appears that Apex was not called in to inspect the rock the Owner-Builders now complain of. Mr Roubal said under cross-examination that some engineers will not call the geotechnical engineers back in when they strike rock, but given the emphasis in the Apex report, to fail to do so was risky.

41 As Mr Novak said, class H footings can move a little, but only if the movement is consistent for the whole structure.

42 I accept the evidence of Mr Gibney that footings laid into rock are anchored down and immobile. Footings into reactive clay need to be taken down to rock, or where this is not possible, taken down to the "HS" level of approximately 2.5 meters, at a depth where clay will not be affected by surface water. I also note his comment that based on the limited information available in the initial Apex investigation, the site could have been classified as class H.

- 43 Mr Sandhu and Mr Dishon of Rock Solid reported to Ms Christou on 17 October 2007 (“fourth Rock Solid report”) and said at paragraph 6:
- Based on the site geology and soil profile the surface movement has been assessed to be negligible. In accordance with AS 2870-1996, this site may therefore be classified as CLASS A, STABLE.
- 44 The Owner-Builders alleged that Milieu scraped up to 300 mm of soil from the site after the footings were poured, which in part prevented the proper classification of the site remaining H.
- 45 Mr Gibney said the site should not have been reclassified as A, but when rock was found, should properly have been classified as a “P” or problematic site, requiring footings to be designed using engineering principles. I accept his evidence that when a site could have two classifications, it should be classified for the worst conditions. I also accept his evidence that boreholes 10, 14, 15, 17, 18 and 19 all record rock and are predominantly at the south end of the site. I accept his evidence that for class H a deep clay profile is necessary and that the site was always a class P site; even before any scraping of the site was undertaken.
- 46 I also prefer the evidence of Mr Gibney to that of Mr Novak as to the correct classification of the site before site-works began. As the footing design called for excavations 700 mm deep, it follows that in two of the three bore-holes, the footings would have been resting not on clay, but on rock. The true classification of the site was P and as this was not identified to Milieu when it was engaged, the latent condition of the site was a risk born by the Owner-Builders.

## **FOOTING QUALITY**

### **Footing dimensions**

- 47 Drawing S2 called for various sized strip and pad footings. The smallest, SF1 and SF2 were each specified to be a minimum of 350mm wide by 625mm deep. I find that these requirements were varied by engineering instructions given by Mr Kocev to the building surveyor, Mr Frank D’Aquila, of MBA Building Services Pty Ltd, on 8 December 2006 which provided in part:
- b) The east boundary strip footing for the garage appears to have excessive solid rock at a depth between 500-600mm. We instructed [Milieu] to clear the foundation of all loose clay and expose the underlying solid rock. ...
  - c) In areas where rocks were discovered for the perimeter strip footings, the rocks shall be broken to achieve a minimum founding depth of 600mm. ...
  - d) In areas where rocks were discovered for the internal strip footings, the rocks shall be broken to achieve a minimum founding depth of 450mm.

- 48 Mr Cecchin said in his witness statement of 24 February 2008 that Mr Kocev

...verbally instructed me to ensure that all perimeter footings were dug to a depth of at least 400-450 mm, that all internal footings were dug to a depth of at least 350 mm and that I was to install double mesh for the footings in all areas where rock was struck.

...

None of the instructions or approvals referred to in this paragraph ... were ever given to me in writing.

The Owner-Builders have not contradicted Mr Cecchin's evidence that he was not given written instructions, and as Mr Kocev was not called to give evidence, I prefer Mr Cecchin's evidence about the oral instructions given to him by Mr Kocev. It is most unfortunate that not all instructions given to Milieu by the Owner-Builders or by the engineer on their behalf have been clear and in writing. Ideally, the Owner-Builders should have ensured that the engineer's written instructions were forwarded to Milieu and Milieu should not have varied the design without written instructions.

- 49 Ms Christou said Mr Cecchin dug all the porch footings at 450mm deep rather than 625 for the strip footings and 900mm beneath the corner pillars. I accept the evidence of the second Rock Solid report that of 21 bore holes, only six showed footings that were deep enough to comply with the original specification, and on each occasion there was another fault. The Rock Solid report was supported by the evidence of Mr Novak. Mr Gibney agreed that at 8 locations the depth was inadequate.
- 50 While I accept that not all footings are of adequate dimensions, I do not find that the whole responsibility for this inadequacy lies with Milieu. I find that the parties share responsibility because of the confusion, contributed to by both of them, over the engineer's variation.

### **Founding depth**

- 51 The depth of the footings is not the same as the founding depth. The former is the vertical measure of concrete, the latter the distance from the surface of the soil, as cut, to the bottom of the footing. Therefore, a footing that was to be 625 deep with a founding depth of 700mm would comply if its top was at least 75mm below the surrounding ground level.
- 52 At the site inspection it was clear that most of the footings were level with the ground, as cut. Of the 21 bore holes described in the second Rock Solid report 9 were on the perimeter and, based on the engineer's written instructions to Mr D'Aquila of 8 December 2006, should have been at least 600mm deep if rock were present and at least 700 mm deep if there was no rock. One complied. The internal footings should have been 450 mm deep if rock was present and 700 deep if there was no rock. 6 of the 12 footings complied

- 53 There was much debate between the parties about when and by whom the site had been cut, as the Owner-Builders submitted that if the site had not been cut the H classification would have been valid. As I have accepted Mr Gibney's evidence that regardless of the site cut, the soil classification was still wrong, the questions of by whom the site was cut and when becomes irrelevant.
- 54 I find that the Owner-Builders cannot rely on the integrity of the footings as demonstrated by the inadequate founding depth of nearly all the perimeter and more than half of the internal footings. Because of the confusion over the engineer's variation, the parties also share responsibility for this inadequacy.

### **Footing shape**

- 55 The experts agree that the sides of footings should be approximately vertical. They also agree that not all the strip footings are vertical and I accept the evidence of Mr Roubal that some of the footings are dramatically out of shape. Most are significantly wider at the top than the bottom.
- 56 It is surprising that the footings are so out of shape because, as Mr Gibney said, the photographs of the open trenches show reasonably straight edges. Mr Gibney also said that if a trench were to collapse during a pour, he would expect the concreter to clean it out.
- 57 I accept the evidence of Mr Novak that there is a real risk in reactive clay that footings which are wider at the top than the bottom will move if the clay gets wet and heaves.
- 58 In the second Rock Solid report, 16 of 21 bore logs show footings significantly out of shape, possibly caused by collapse of some trench walls before the footings were poured.
- 59 Mr Gibney said he believed the problem was less critical in the internal footings. He suggested that the perimeter could be rectified by using a Kanga-hammer to break off ledges and where necessary additional concrete could be scabbed on, possibly including the installation of additional reinforcement. I accept Mr Novak's evidence that up to 450mm work space is necessary to enable such work to be undertaken.
- 60 As over 75% of the bore holes show footings which are significantly out of shape, I do not consider it would be reasonable for the Owner-Builders to assume any area of the footings which has not been inspected is approximately vertical. I find that the failure to build vertical footings is a breach of contract by Milieu, and is sufficient alone to justify replacement or rectification of the footings.

### **Reinforcement**

- 61 The Owner-Builders say that there was insufficient reinforcement in some areas. Drawing S2 has a footing schedule that specifies the reinforcement for each type of strip footing and pad footing to be installed by Milieu. For

the SF1 and SF2 strip footings, the reinforcement was noted on drawing S2 as being “3-L12 TM top & bottom”, which I understand from Mr Novak’s evidence is three-bar L12 size trench mesh at both the bottom and the top of the footings.

- 62 Requirements for reinforcement were varied in accordance with the orders of Mr D’Aquila, the building surveyor and the engineer.
- 63 Mr D’Aquila inspected on 6 and 11 December 2006 and 22 and 29 January 2007. The first was a pre-footing inspection and it was not approved. The directions as to work/comments were:
1. All footing excavations are to be completed in accordance with the approved structural drawings. All rocks located within the footing excavations are to be removed and/or broken out in accordance with the structural engineers instructions. The engineer is [to] submit details of any additional documentation and/or amendments together with his/her certification documentation as required. [Emphasis added]
  2. An additional footing inspection is to be carried out by this office prior to pouring of any concrete.
- 64 As mentioned above, engineering instructions were given by Mr Kocev to Mr D’Aquila on 8 December 2006. He inspected the excavated foundations and responded:
- a) The south-west corner local to pool was excavated to 1000mm deep to account for the angle of repose local to the in-ground swimming pool.
  - b) The east boundary strip footing for the garage appears to have excessive solid rock at a depth between 500-600mm. We instructed [Milieu] to clear the foundation of all loose clay and expose the underlying solid rock. Double 4-L12TM top and bottom trench mesh shall be provide for all garage strip footings.
  - c) In areas where rocks were discovered for the perimeter strip footings, the rocks shall be broken to achieve a minimum founding depth of 600mm. Double trench mesh shall be provided local to the rocks with the mesh overlapping 500mm past each edge of the rock.
  - d) In areas where rocks were discovered for the internal strip footings, the rocks shall be broken to achieve a minimum founding depth of 450mm. Double trench mesh shall be provided local to the rocks with the mesh overlapping 500mm past each edge of the rock.
  - e) Double SL82 mesh shall be provided to all pad footings [where] rocks are discovered. [Emphasis added]

Although I have found that Mr Cecchin for Milieu was not given the Mr Kocev’s written instructions, I note Mr Cecchin’s evidence that he was given oral instructions to provide double trench mesh wherever rock was found.

65 The Owner-Builders' allegation of inadequate or inappropriate reinforcement depends in part on the Ferrosan imaging results in the second Rock Solid report. Ferrosan is a non-destructive technique to test for the presence of steel, however as Messrs Sandhu and Dishon said in the second Rock Solid report:

The Ferrosan unit has a range of up to approximately 100mm - 120mm to pick up reinforcement assuming a clean image with little noise. The majority of scans revealed a lot of distortion and noise probably indicating the depth to reinforcement is getting beyond the range of the Ferrosan unit.

66 The contract documents do not indicate that the top reinforcement should be within 120mm of the surface however, Mr Cecchin admitted under cross-examination that the top trench mesh should be placed about 50mm from the surface of the concrete. I am satisfied that the Ferrosan images support the contention that the reinforcement was inadequate or inappropriate in some locations. I also note the evidence of Mr Novak that for class H footings the reinforcement should be placed approximately 50mm from the top and bottom of the concrete.

67 Ms Christou also said in her witness statement:

The engineer stipulated on site that everywhere rock was found there had to be double reinforcement. When I heard this I asked Mr Cecchin does that mean double top and double bottom of reinforcement everywhere on site? His reply was that this was only for the boundaries. Later I discovered that he did not even do this for the boundaries, by his own admission.

68 I accept Ms Christou's evidence, supported by photograph 7a (page 64:11 of exhibit A8) and as seen at the site inspection, that the steel on the south side of the garage should have been 4 bar trench mesh and was 3 bar. Mr Gibney also confirmed that the mesh appeared to be 3 bar. It is not clear whether a double layer had been provided as called for in the design.

69 Mr D'Aquila carried out four inspections associated with the footings and attended the hearing to give evidence in response to a witness summons issued by Milieu. In response to Ms Christou's questions he agreed that the footings were initially approved, but then the approval was withdrawn after he was shown a Rock Solid report.

70 At Mr D'Aquila's second inspection on 11 December 2006 layout, foundation material, size and depth of foundations and preparation passed. Relevantly, reinforcement did not. The foundations were approved subject to:

1. Double 4-L12TM trench mesh (top and bottom) is to be provided to all garage strip footings.
2. Where rocks are found, double trench mesh shall be provided along both the perimeter and along internal strip footings with the mesh overlapping 500mm past each edge of any rocks.

3. Double SL8 mesh is to be installed to all pad footings [where] rocks are found.

...

71 Ms Christou asked Mr D'Aquila what he saw when he inspected the trenches. He said that the depths satisfied Mr Kocev's requirements and he said the steel was also in accordance with these requirements. The bottom steel was in place in the trench and the top steel was beside the trench, waiting to be placed during the concrete pour.

72 Ms Christou asked Mr D'Aquila if she had expressed concern about the garage boundary and he recalled she said that some reinforcing had been left in that area after the concrete pour and that it might not have been installed where it should have been. The Owner-Builders tendered a photograph (Exhibit A6) of a pile of long sections of reinforcement that were still on site after the concrete had been poured. It is not clear how many there were - there appear to be between six and ten. While the photograph lends weight to the possibility that there is reinforcement that has been left out of the finished footings, as Ms Christou admitted under cross-examination, it is also possible that Milieu over-ordered.

73 The third inspection on 22 January 2007 was undertaken at the request of the Owner-Builders. As Mr D'Aquila's report said:

The inspection revealed that the concreter has been enlarging various footings without seeking inspection approval. The owner also had concerns that the engineers required additional reinforcement was not installed....

The following is to be carried out and/or submitted to rectify the issues:

1. Submit amended engineering for widening of the footings;
2. Various inspection holes are to be excavated along the sides of all new footings to confirm new footing depths;
3. The concreter is to submit a statement (in the form of a statutory declaration) confirming the method and installation of all unseen reinforcement including all additional reinforcement as required by the engineer.

74 The fourth inspection on 29 January 2007 was of an additional strip footing which was "approved" subject to conditions - one of which was repetition of the requirement for the statutory declaration referred to in condition 3 of the third inspection. It also carried the "Notes":

The inspection revealed that various strip footings are being enlarged to rectify incorrect wall layouts. The new strip footings were located, founded and constructed in accordance with the engineers 'Memo' instructions dated 26/01/2007.

75 The statutory declaration referred to in the third and fourth building inspection reports was dated 20 February 2007, made by Mr Cecchin and

declared in front of Mr De Fazio of Milieu's solicitors. Mr D'Aquila said Mr Cecchin did not provide the statutory declaration to him and was unco-operative about digging an inspection pit next to one of the repairs.

- 76 The need for a statutory declaration is of concern and sounds a little like attempting to lock the stable door after the horse has bolted. However, the statutory declaration is evidence that significant portions of the strip footings were not excavated to the correct founding depth, as amended by Mr Kocev's instructions of 8 December 2006. It is also evidence in paragraph 4(f) and (g) that two areas which called for double reinforcement at the top and bottom of the footings had double reinforcement at the bottom but only single at the top.
- 77 Under cross examination Mr Cecchin said that he followed the Owner-Builders' engineers' instructions. This question was not asked of Mr D'Aquila. Later in cross examination Ms Christou asked Mr Cecchin why he used three-bar trench mesh in place of four bar in the garage footing. He replied that he used two layers of three-bar. She then said "So you lied in the statutory declaration?" to which he replied "Yes". I do not accept Mr Cecchin's evidence regarding reinforcement as accurate and his attitude to the statutory declaration causes me concern about the accuracy of his evidence in general.
- 78 Mr Roubal said that at one investigation pit he saw the overspill had broken and the reinforcement was exposed. I draw the necessary inference that this reinforcement was too close to the edge of the footing.
- 79 Mr Novak referred to the photographs on the first page of the Owner-Builders' exhibit A1. I accept his evidence that the steel shown is not two layers of 4-bar reinforcement as required in an SF3 strip footing.
- 80 I find that Milieu has breached its obligations to provide at least some of the reinforcement in accordance with the contract and find that the Owner-Builders cannot rely on the adequacy of any of the perimeter reinforcement.

### **Conclusion regarding footing quality**

- 81 The Owner-Builders cannot rely on the footings to be the right shape or to contain the correct reinforcement. In accordance with the evidence of Mr Novak, I find that Milieu has breached its contractual obligation to construct footings in accordance with the contract and to a standard of reasonable workmanship.

### **FOOTING RECTIFICATION**

- 82 The Owner-Builders submit, in accordance with the report of Mr Kocev of 7 November 2007, that it is necessary to completely remove and replace the footings – perimeter and internal grillage - and that they should be entitled to recover the cost of doing so from Milieu. Milieu's expert, Mr Gibney, conceded that some rectification is necessary, but Milieu also submits that because the footings as designed are for an inappropriate site classification

most of the costs to be incurred by the Owner-Builders would have been incurred anyway.

- 83 Mr Gibney suggested that the footings should be inspected and wide edges removed. He said they would need to be underpinned where necessary and where the problem is the position of the footings, concrete could be scabbed on by dowelling into the existing footings to provide a regular shape. He admitted under cross-examination that he had not costed the underpinning because he was unsure of the necessary extent of the underpinning.
- 84 Mr Gibney said there will need to be extra excavation to provide working room. He estimated that only 50 lineal meters of extra concreting would be necessary but did not identify where this might be. Under cross-examination he said he based this length on approximately a quarter of the length of the perimeter footings. The overall length of the home is approximately 25.5m and the overall width approximately 14.5m. I assume, taking into account indentations in the design, Mr Gibney has estimated the perimeter as 100m. If it were necessary to undertake extra concreting to both sides of the perimeter, I calculate that his 50 lineal meters would represent only one eighth of the total length of the edges of the perimeter that might have to be rectified.
- 85 Mr Gibney suggested that to make the footings suitable for a P class site it would only be necessary to remove parts of the perimeter. He said that the pier and beam footings could be created retrospectively by using a back-hoe to remove slots of the strip footings approximately 300 mm wide by 1500 mm long, then excavate down to either to rock or below the HS level, which could be between 2 and 2.5 m deep. Concrete would then be poured into these “piers” and the remaining strip footings would form the “beams”. Each “beam” would be approximately 2 to 2.5 meters long.
- 86 Mr Novak agreed with Mr Gibney that a pier and beam system is desirable but suggested that the perimeter footings be removed and new footings poured. He added the further qualification that if any pier struck “floater” rocks, the whole pier would need to be founded on well packed floaters. He said that the two options for repair were either to widen the footings and, where necessary, to underpin and use a pier and beam system or to remove the perimeter strip footings and to reconstruct the footings using a pier and beam method. He said under cross-examination that he did not believe there was a benefit in removing the internal grid. He disagreed with Mr Kocev’s report of 7 November 2007 that removing the entire footing system is necessary.
- 87 Mr Gibney said that pier and beam footings would be suitable for the site conditions encountered. Mr Novak agreed that if the only information available to the engineer was the Apex report, the original design would have been suitable for the site, but given further information about rock, the pier and beam system recommended by Mr Gibney, plus blinding concrete would be necessary. Mr Gibney and Mr Roubal agreed that if the soil

classification provided by Apex had been correct, the footing system provided in the drawings would have been adequate.

- 88 I prefer Mr Novak's proposal to remove and replace the perimeter footings, because there remain too many aspects of the footings as constructed which are uncertain. There is no certainty about the placement of the reinforcement, the shape of the footings or their depth. Milieu must compensate the Owner-Builders for the cost of removing and replacing the perimeter footings, plus the cost of installation of internal stumps as recommended by Mr Gibney. I allow the internal stumps because I am not satisfied that the Owner-Builders can rely on the structural integrity of the elements of the grillage system, but in accordance with the evidence of both Mr Gibney and Mr Novak, removal of the internal footings is not justified.

### **Cost**

- 89 As I have found it is reasonable for the Owner-Builders to replace the perimeter footings, the question is to what degree Milieu should contribute to the cost of doing so. I have found that the site was wrongly classified and that as between the parties, the responsibility for classification falls on the Owner-Builders. Therefore, if Milieu had constructed the footings adequately, the Owner-Builders would have borne the cost of converting the strip footings to a pier and beam system.
- 90 On 9 April 2008 Mr Gibney prepared two alternate costings for rectification, which were presented at day six of the hearing on 10 April 2008. The first was to retain the perimeter footing and to install piers at the cost of \$12,880.00 plus GST. The second was to remove and replace the perimeter footings, also using a pier and beam system, and to supply 43 new stumps for a total of \$27,148.00 plus GST. The Owner-Builders are entitled to this solution, except that they must bear the cost of the piers. In the absence of evidence about the value of the piers I deduct \$100 for each of the 23 piers to the extent that they project beneath "beam" depth.
- 91 For removal and replacement of the perimeter footings and installation of the stumps, Milieu must pay the Owner-Builders \$24,848.00 plus GST, a total of \$27,332.80.

### **LOSS AND DAMAGES CLAIMED BY THE OWNER-BUILDERS**

- 92 A number of the items claimed by the Owner-Builders in their loss and damage schedule are in the nature of legal and associated costs and are not taken into account, but may be included in any application for legal costs. They are items 5 to 14, 17 to 19 and 27. Time related claims are considered below under Delay to the Project.
- 93 The other items alleged and claimed are:
- Item 1 Repayment of the total amount paid to Milieu of \$17,864.70
  - Item 2 Payment to Gianni for removal of soil which Mr Cecchin had said would be cleared from between the footings - \$600.00

- Item 3 Bin hire for removal of rubbish dumped by Mr Cecchin from another job - \$160.00
- Item 15 Full On Excavations & Concreting – quotation of September 2007 to remove all the footings laid by Milieu - \$17,600.00
- Item 16 Full On Excavations & Concreting – quotation of September 2007 “increase of approximately \$5000 to Milieu price” - \$5,000.00.

**Item 1 Repayment of the total amount paid to Milieu of \$17,864.70**

- 94 This sum is not allowed as the cost of demolition and reconstruction assessed by Mr Gibney has been allowed instead.

**Item 2 Payment to Gianni for removal of soil which Mr Cecchin had said would be cleared from between the footings - \$600.00**

- 95 The quotation of 11 October 2006 includes “removal of spoil”. I accept the evidence of Ms Christou that there were heaps of soil not removed by Milieu and that she had them removed by another contractor for \$600.00. Milieu must allow the Owner-Builders \$600.00 for this item.

**Item 3 Bin hire for removal of rubbish dumped by Mr Cecchin from another job - \$160.00**

- 96 The Owner-Builders exhibited a photograph of a small pile of builder’s rubbish which they say was not associated with their works. I accept the Owner-Builders’ uncontradicted evidence. Milieu must allow the Owner-Builders \$160.00 for this item.

**Item 15 Full On Excavations & Concreting – quotation of September 2007 to remove all the footings laid by Milieu - \$17,600.00**

- 97 This sum is not allowed as the cost of demolition and reconstruction assessed by Mr Gibney has been allowed instead.

**Item 16 Full On Excavations & Concreting – quotation of September 2007 “increase of approximately \$5000 to Milieu price” - \$5,000.00**

- 98 This sum is not allowed as the cost of demolition and reconstruction assessed by Mr Gibney has been allowed instead.

**DELAY TO THE PROJECT**

- 99 When the dispute arose between the parties work stopped. By the time of the hearing, nothing had been done on site for about a year, and the Owner-Builders have attributed all that delay to the fault of Milieu. As they said in their final address:

All costs incurred are substantiated because they were as a result of the respondents failing to provide us with a signed statutory declaration that could verify the scope of works carried out.

- 100 In his final address Mr Foster submitted:

- a The nett amount payable would be to Milieu, so any loss for delay falls on the Owner-Builders who should have rectified the footings in a timely manner.
- b The Owner-Builders caused part of the delay by failing to provide details of alleged defects to Milieu and issuing proceedings before both providing a copy of the Rock Solid report to Milieu and finalising arrangements for a meeting on site.
- c The Owner-Builders' claim was not properly stated until 13 November 2007.
- d The Owner-Builders' claim was erroneous because they sought to remove all the footings, which their own expert, Mr Novak, has agreed is not necessary, the necessary work will only take weeks to do and Milieu acted properly in defending the claim against it.

101 The delay-related damages claimed are listed in the loss and expense schedule:

- 20. BRIC insurance. Nov 07. Material damage and legal liability insurance. This insurance ran out 22/11/07 \$2,416.45
- 22. Construction cost increases to January 2008 of \$20,719.86
- 23. Rent for the home in which they live for a year of \$12,480.00
- 24. Origin energy supply to site of \$288.50
- 25. Pool Build. Permit extension – first six month extension \$165.00
- 26. Pool Build. Permit extension – second six month extension \$165.00

102 There is no evidence that when the contract between them was entered into the parties agreed when the foundation and footing works should be completed. However, I find it is reasonable to imply a term that Milieu's work should be properly completed in reasonable time to make the bargain between the parties commercially realistic.

103 A delay potentially attributable to Milieu is that it sought and obtained an order to prevent the Owner-Builders from removing the footings on 10 October 2007, but the order, number 13 of that date, only required that the footings not be demolished until the later of 5 November 2007 or 14 days after service of the Owner-Builders' points of claim. Order 1 of the same date required the Owner-Builders to file and serve their points of claim by 22 October 2007. As the work contemplated by the Owner-Builders was complete removal of the footings and I have allowed only removal and replacement of the perimeter footings, I make no allowance for this period.

104 I also comment specifically about the claim for cost increases. The Owner-Builders asserted, but did not prove, that the cost of constructing their home had increased by about 5%. No amount is allowed for this item.

- 105 As to the remainder of the delay, the inaccurate classification of the site, which led to an inappropriate design of the footings, was always going to cause a delay to the progress of the works. Although it is possible that the delay has been lengthened to some degree by the added confusion of poor work by Milieu, with one exception, the Owner-Builders have not proved its length.
- 106 The one exception is the delay by Milieu in providing a statutory declaration regarding the footing depth and reinforcement. The building surveyor's notice of 22 January 2007 necessitated that Milieu provide a statutory declaration, and given Milieu's somewhat careless attitude to rectification without calling the building surveyor to inspect, this is justified.
- 107 It is reasonable that the statutory declaration should have been provided within a week, by 29 January 2007. The statutory declaration was dated 20 February 2007 and I note that the letter from De Fazio & Co, solicitors for Milieu, proves that the original had not been provided to the Owner-Builders by that date, but asserts that a copy had been provided by Milieu. On 13 March 2007 Ms Christou wrote to De Fazio & Co and asked for a copy of the statutory declaration, but I note that it also appears in the Owner-Builders' list of documents as "delivered 20/2/07". I therefore assume a copy of the statutory declaration was delivered to the Owner-Builders on the day it was declared. This delay is therefore 22 days.

#### **Items claimed**

BRIC insurance. Nov 07. Material damage and legal liability insurance. This insurance ran out 22/11/07 \$2,416.45

- 108 I accept that the period during which the Owner-Builders should prudently hold insurance has been extended. In accordance with my determination to allow 22 days, Milieu must allow the Owner-Builders \$145.65 for this item.

Rent for the home in which they lived for a year of \$12,480.00

- 109 Under cross-examination Mr Foster suggested to Ms Christou that the Owner-Builders had failed to mitigate their loss because they sold their previous home, then had to rent it back from the purchasers. Ms Christou replied that they needed to sell in order to finance construction of their new home, and I accept her answer as accurate.
- 110 In accordance with my determination to allow 22 days, Milieu must allow the Owner-Builders \$752.22 for this item.

Origin energy supply to site of \$288.50

- 111 The Owner-Builders did not prove this loss or indicate how the additional building period caused them to incur more fees to Origin. No amount is allowed.

Pool Build. Permit extension – twelve month extension \$330.00

112 I accept that the permit to build the swimming pool must be extended because its completion has been delayed through the delay in building the home. In accordance with my determination to allow 22 days, Milieu must allow the Owner-Builders \$19.89 for this item.

113 Milieu must allow the Owner-Builders a total of \$917.76 for delay.

**CLAIMED VARIATIONS**

114 Milieu claims there were five variations to the footing contract:

1. Supply 5 sheets of RF82 mesh and pegs for temporary fencing.
2. Supply additional trench mesh as instructed by the engineer.
3. Removal of rock – excavation and labour charges
4. Excavation of water tank pit and
5. A credit for 6PF2 pad footings deleted from works

**1. Supply 5 sheets of RF82 mesh and pegs for temporary fencing**

115 Milieu claims \$390.50 for this item. The Owner-Builders say that only 3.8 sheets of trench mesh were supplied, and no pegs. I accept Ms Christou's evidence that 3.8 sheets were supplied. The Owner-Builders must allow Milieu \$296.78 for this variation.

**2. Supply additional trench mesh as instructed by the engineer**

116 Milieu claims \$799.50 for this item. The Owner-Builders claim the additional mesh was not supplied. I accept that the building surveyor ordered some extra trench mesh in areas where there was rock in the bottom of the trench. However, as I am not satisfied that all reinforcement which was required to be supplied in accordance with the contract was actually supplied, and I am satisfied that some was not supplied, I do not allow this variation.

**3. Removal of rock – excavation and labour charges**

117 Milieu claims \$9,916.50 for this variation. The Owner-Builders say in the defence to counterclaim that Milieu "spent additional and unnecessary time in excavating the foundations" Ms Christou said in her witness statement:

Initially excavation went smoothly then a lot of rock was struck.

She went on to describe how first a 7 tonne then a 12 tonne excavator were required.

118 The Owner-Builders have alleged the work is subject to the *Domestic Building Contracts Act 1995* ("DBC Act") and if they are accurate in their allegation, under section 37 the variation should have been in writing, stated the price of the variation, its impact on the time to complete and whether it necessitated an alteration to the building permit. There was no variation in

writing. However, there was an engineer's written instruction of 8 December 2006 which includes the requirement that rocks be broken to 600 mm for the perimeter and 450 mm for the internal strip footings and the verbal instruction to similar effect alleged by Mr Cecchin. This was confirmed in a building inspection report of the same date. An exception to the requirement for variations to be in writing and signed by both parties is under s37(2)(b)(i) where:

the building surveyor or other authorised person ... requires in a building notice or building order under the Act that the variation be made...

- 119 I note that the Owner-Builders' Points of Claim allege that at all material times Mr Salviani was acting as owner builder, and made no allegations that Milieu was the builder or fulfilling functions of a builder. I am therefore not satisfied that variations to this trade contract must be in writing in order to allow Milieu to recover their reasonable cost.
- 120 There is no question that discovery of rock necessitated extra work. Under cross-examination Ms Christou admitted that there was rock, that she should pay for rock and that she received a copy of the invoice from Julius Plant Hire to Milieu of 31 December 2006 for \$10,356.50 for equipment and tip fees from 4 to 8 December 2006 inclusive. She did not call any contradictory evidence.
- 121 Mr Sganga, director of Milieu, gave evidence for it. I accept his evidence that he allowed for two days' excavation and one tipper in his original quotation, and that the extra charge is the amount incurred by reason of striking rock.
- 122 It is always wise to get variations in writing, unless the circumstances are urgent, but it is also reasonable that Milieu be paid something for removal of extra rock, which the Owner-Builders' photographs showed was abundant. In the absence of any evidence to the contrary, the Owner-Builders must allow Milieu \$9,916.50 for this variation.

#### **4. Excavation of water tank pit**

- 123 Milieu claims \$874.50 for this item. Under cross-examination Ms Christou admitted that she requested excavation for a water tank but said she did not see an invoice for it. I accept the evidence of Mr Cecchin that this excavation was undertaken and allow the sum claimed by Milieu.

#### **5. A credit for 6PF2 pad footings deleted from works**

- 124 Milieu allowed the Owner-Builders \$700.00 for this variation, which was deletion of pad footings near the pool. This amount is taken into account in the financial reconciliation.

## FINANCIAL RECONCILIATION

Item	To Owner-Builders	To Milieu
Original contract sum		\$18,564.70
Amount paid by Owner-Builders	\$17,864.70	
Remove and replace perimeter and install internal stumps	\$27,332.80	
Removal of soil	\$600.00	
Rubbish removal	\$160.00	
Delay	\$917.76	
Variations:		
RF82 mesh		\$296.78
Rock excavation		\$9,916.50
Water tank pit		\$874.50
Agreed credit	<u>\$700.00</u>	<u>          .</u>
	\$47,575.26	\$29,652.48
	<u>-\$29,652.48</u>	
Milieu must pay the Owner-Builders	\$17,922.78	

## COSTS

125 Legal costs are reserved and there is liberty to apply. The parties are reminded of section 109 of the *Victorian Civil and Administrative Tribunal Act 1998*.

**SENIOR MEMBER M. LOTHIAN**