VICTORIAN CIVIL AND ADMINISTRATIVE TRIBUNAL

CIVIL DIVISION

DOMESTIC BUILDING LIST VCAT REFERENCE NOS. D144/2004 AND D145/2004

[2006] VCAT 1363

FILE NO. D144/2004

APPLICANT	Ceri Lyn Lawley

FILE NO. D145/2004

APPLICANT	Suzanna Baines

RESPONDENTS IN BOTH PROCEEDINGS

1ST RESPONDENT	Terrace Designs Pty Ltd (ACN 004 984 025) (Builder)
2ND RESPONDENT	Geoffrey Joseph Graham
3RD RESPONDENT	John Gunston t/as A.J. Gunston
4TH RESPONDENT	Vero Insurance Limited (ACN 005 297 807)
5TH RESPONDENT	Civil and Soil Pty Ltd (ACN 076 191 056)
6TH RESPONDENT	Ms C. Kirton as representative of Alvisio Casagrande (deceased)
WHERE HELD	Melbourne
BEFORE	Senior Member R.J. Young
HEARING TYPE	Hearing
DATE OF HEARING	31 May 2005, 1-3, 6-8, 14, 17, 21 June 2005 and 8 August 2005
DATE OF ORDER	11 July 2006

ORDER

This proceeding is set down for a half day hearing at 10.00 am on 30 August, 2006 at 55 King Street, Melbourne, to consider the final form of the orders I should make in this proceeding and to hear any submissions the parties wish to make as a result of my determination; and, I request that all parties attend, including the fourth respondent.

Senior Member R.J. Young

APPEARANCES:

For Applicant	Mr K. Oliver of Counsel
For 1st Respondent	No appearance
For 2nd Respondent	No appearance
For 3rd Respondent	Mr E. Riegler of Counsel
For 4th Respondent	Appearance excused
For 5th Respondent	Mr Bolwell, Director
For 6th Respondent	Ms C. Kirton of Counsel

REASONS

CONTENTS

GLOSSARY

PARTIES

Owners	Applicant in file 144/2004 and Applicant in file 145/2004
Builder	First Respondent
Director of Builder	Second Respondent
Architectural Draftsman	Third Respondent
Insurer	Fourth Respondent
Soil Engineer	Fifth Respondent
Building Surveyor	Sixth Respondent

LEGISLATION

BA	Building Act - 1993
BR	Building Regulations
DBCA	Domestic Building Contracts Act - 1995
WA	Wrongs Act - 1958

STANDARDS, COMMENTARIES AND GUIDELINES

BCA	Building Code of Australia - 1996
88 Standard	AS2870.1-1998: *'Residential Slabs & Footings: Part 1, Construction'*
96 Standard	AS2870-1996: *'Residential Slabs & Footings'*
Masonry Code	AS3700 – 1988: Masonry in Buildings (known as SAA Masonry Code)
Commentary	Masonry in Buildings – Commentary: Supplement 1 to AS3700 – 1998:1991.
CSIRO Memorandum	CSIRO Sheet 10-91 *'Guide to Home Owners on Footing Maintenance and Footing Performance'*
Guidelines	Building Commissions *'Guidelines to Standards and Tolerances'*: 1 May 1996 Edition

DOCUMENTS

Architectural drawings) Working drawings)	The plans prepared by the architectural draftsman as enumerated in paragraph 43.
Structural engineering drawings	The plans prepared by R. Brotchie and Associates as enumerated in paragraph 44.
WS	Witness Statement

NOMENCLATURE

Amendment	Part IVAA of the *Wrongs Act*, enacted 1 January 2004.
Building	This is both dwellings together, which was constructed at that same time by the builder.
GST	Goods and Services Tax
Party Wall	The solid masonry central common wall between the dwellings.
Masonry Control Joints	Joints constructed into the masonry to allow for expansion and shrinkage as well as differential settlement of the structure. The engineering drawings refer to these as control joints as does the Masonry Code and the commentary, various experts described them as expansion joints, articulation joints and control joints.

REASONS

1. INTRODUCTION

1 This proceeding is the hearing of an application from the owners of two semi-detached houses at 57 and 59 Evansdale Road, Hawthorn; the owners being Ms C.W. Lawley and Ms S. Baines respectively. The properties are on the east side of Evansdale Road. The owners seek damages for alleged defective construction of the semi-detached houses. They seek such damages against the builder, Terrace Designs Pty Ltd, the first respondent; a director of the builder, Mr C.J. Graham, the second respondent, who was also the registered domestic building practitioner; and the architectural draftsman, Mr J. Gunston, the third respondent. The owners appealed against the decision of the domestic building insurer, Vero Insurance Limited, (*'the insurer'*) who were joined as the fourth respondent. The owners settled with the insurer prior to the hearing.

2 The position of the remaining two parties is somewhat more complex. The soil analysis and report was carried out by the fifth respondent, Civil and Soil Pty Ltd, which was represented at the hearing by its director, Mr W. Bolwell. The sixth respondent was the building surveyor, Mr A. Casagrande. The fifth and sixth respondents were joined by the builder. The soil engineer then joined the structural engineer, Mr Brotchie, on the basis of a defective structural design. On 29 April 2005 the Tribunal made orders striking out the claim made by the soil engineer against the structural engineer on account of the failure by the soil engineer file and serve points of claim against the structural engineer which disclosed a cause of action. A subsequent application by the builder to rejoin the structural engineer was unsuccessful.

3 As a result of the builder not appearing at the hearing, the building surveyor (in an application echoed by the soil engineer) made an application that he should be released from the proceeding as there were no allegations against him. I will deal with that application below.

4 Unfortunately, the building surveyor passed away near the end of the hearing and I have amended that party's name at the request of the party to *Ms C. Kirton as representative of Mr A. Casagrande (deceased)*.

5 Given the failure of the builder's and director of the builder's failure to attend the first day of the hearing I requested the Registry to attempt to contact these parties. The Registry spoke to a member of the director of builder's family. On 1 June 2005 the Registry received a letter from the second respondent which informed the Tribunal that director of the builder was ill and recovering and would not be attending the hearing. The Tribunal wrote to the builder requesting it or a representative to attend the hearing if it wished to make an application to the Tribunal for it to consider changing the hearing dates from those previously set down and which were

now taking place. There was no attendance by the builder or the director of the builder.

2. SIXTH RESPONDENT'S APPLICATION FOR SUMMARY DISMISSAL

6 As a consequence of the builder's non-attendance at the hearing the building surveyor made application that he be released from the proceeding and the application against him struck out. The soil engineer made a similar application. Their submissions were resisted by the architectural draftsman on the basis that he had served notice under Section 24 of the *Wrongs Act* ('WA') seeking a contribution from the building surveyor for any damages apportioned to him, as draftsman, on the basis of a breach of duty owed by the building surveyor to the applicants. The owners, also resisted the application on the basis that they had sought relief against the soil engineer and the building surveyor on the basis of paragraph 32 of the Amended Points of Claim of 9 May 2005 in the following terms:-

> *'32 The owner claims entitlement under the Wrongs Act from such of the respondents which are joined by parties, other than the owner, who are concurrent wrongdoers pursuant to the Wrongs Act.'*

7 The building surveyor submitted that under the recently promulgated provisions of the WA, Part IVAA, relating to the apportionment of damages only operates as to the apportionment of damages where the applicant has a cause of action against the respondent. In paragraph 32 of the owners Amended Points of Claim does not allege or disclose any cause of action that the owners may have against the building surveyors. Therefore, the building surveyor submits the owners cannot maintain an action against him.

8 At the time I commented that I was not sure this was required under the amendments to the WA for the apportionment of damages. Upon reflection I consider this to be correct. Under the amendment any party, not only a defendant, can have damages apportioned against them (except a plaintiff); therefore, I consider no cause, prima facie, of action as between plaintiff and defendant is required.

9 The second argument of the building surveyor was that the owner's pleading was incorrect in that it pleaded that the builder, was the owner of the land, when the owners had recently been ascertained that it was the builder only. The building surveyor submitted that as the owners' points of claim alleged that the builder was the owner then this was fatal to the allegations against him. I do not consider this argument has any bearing on whether I should consider whether the building surveyor remains in the proceeding.

10 The building surveyor submitted that the builder's allegations against it were for breach of the statutory warranties under Section 8 of the DBCA and breach of a duty of care to the owners as found in *Bryan v Maloney*

(1995) 182 CLR 609. The building surveyor submits that as a building surveyor he was under no obligation to observe the statutory warranties. However, he does agree that a common law breach of duty allegation is arguable. These causes of action were pleaded by the builder as breaches by the building surveyor of a duty it owed to the owners.

11 Further, the building surveyor submitted that in accordance with the principles of natural justice he was entitled to know the causes of action and particulars alleged against him, and there were two serious deficiencies with these allegations. Firstly, the very general nature of the pleadings by the owner against him, ie paragraph 32 of the amended points of claim, he was not in a position to know what causes of action, if any, the owners were submitting against him. The second was although the builder's Points of Claim against him enunciated the allegation, the builder had not submitted any expert reports or filed any witness statements in this proceeding and had not attended the hearing to substantiate the allegation. The building surveyor said that the only detail he had of any allegations being made against him were in the report of Mr P. Haworth, structural engineer, who was being called by the architectural draftsman.

12 The applicant owners responded submitting that the purpose of the amendments to the WA are to bring all of the defendants into one forum for a determination as to who are concurrent wrongdoers under Part IVAA of the WA and thereafter to apportion the damages amongst such concurrent wrongdoers in proportion to their responsibility as found just by the Tribunal.

13 The architectural draftsman responded that it was entitled to have the damages apportioned against the building surveyor if he was found liable. To hold otherwise, the architectural draftsman submitted would mean that the amendments to the WA meant that the applicant could not recover those damages against the building surveyor as it did not have a cause of action against the building surveyor. Therefore, for the owners to be in a position to recover such damages means that there would be a multiplicity of proceedings, which is always undesirable, and followed by the likelihood of inconsistent findings by different decisions in different proceedings, again which is highly undesirable.

14 I refused the building surveyor's and the soil engineer's application on the basis that the language used in the amendments of the WA in relation to the apportionment of damages was very general. Under Section 24AH of the *Wrongs Act* a *'concurrent wrongdoer'* is *'in relation to a claim, is a person who is one of two or more persons whose acts or omissions caused, independently of each other or jointly, the loss or damage that is the subject of a claim'*. This definition is very general and nowhere mentions that the claimant must have a cause of action against the wrongdoer. The allegations against the building surveyor alleged by the architectural draftsman in this notice of contribution are for breaches against the owners. Therefore, I consider causes of action by the building surveyor as against

the owners are alleged and enunciated, albeit not by the owners directly, but as can be seen from the definition of defendant in the amendment such an approach is contemplated by the amendment.

15 To give the amendment effect I consider it is necessary that all potential concurrent wrongdoers, in a situation where damage is identified, can be brought together and the loss apportioned amongst any found liable. I consider that section dealing with apportionment supports this view again in the very general nature of its wording the simple direction at sub-section 24AI(1)(a) as to how to apportion the damages among the wrongdoers this being set out in the following terms:

> *'the liability of a defendant who is a concurrent wrongdoer in relation to that claim is limited to an amount reflecting that proportion of the loss or damage claimed that the court considers just having regard to the extent of the defendants responsibility for the loss or damage.'*

16 Again, there is no mention that there needs to be a direct relationship in the form of a cause of action between the claim and the damage apportioned to a concurrent wrongdoer. Taking the words at their face value I do not consider that such is necessary. What is necessary is that there is a cause of action from some other party in the proceeding against the alleged wrongdoer in question, in this case the building surveyor and the soil engineer such that they owe duties of care to the owners so that these causes of action can all be heard and determined in the same proceeding, and, a multiplicity of proceedings is avoided. Therefore, it is necessary that the building surveyor and soil tester remain as parties. Therefore, I dismissed the application of the building surveyor and the soil tester that the allegations against them be struck out; they remain as parties in this proceeding.

3. PARTIES' CLAIMS AND DEFENCES

(a) Owners'

17 The owners, although engaging separate solicitors, were jointly represented at the hearing by Mr K. Oliver of Counsel. They sought to recover from the builder on the basis that by reason of Section 9 of the DBCA they were given the same entitlements under the original major domestic contract as the original owner and that they pleaded their action on the ground that the builder breached the statutory warranties imported into every major domestic building contract by Section 8 of the DBCA.

18 The owners claim the builder breached the statutory warranties in that:

(a) the footings were inadequately constructed, in that the founding depth and concrete depths were less than specified in the engineering drawings;

(b) there was inadequate and sub-standard construction of the masonry control joints;

(c) there was inadequate installation of masonry ties;

(d) the trees planted by the builder are closer to the front of the properties than recommended by the soil report of the soil engineer and as recommended in the CSIRO memorandum;

(e) there is inadequate sub-floor ventilation; an opening has been cut in the footing wall of the party wall in breach of the regulations and allowing termites to move from No. 59 to No. 57;

(f) miscellaneous allegations of defects eg balustrade to rear deck of No. 59.

19 In its points of defence the builder denied the allegations; however, the builder did not attend the hearing to respond to the allegations.

20 The owners claimed that the director of the builder owed them a duty in carrying out the building work as the person who was the registered builder under the BA as the person principally responsible for construction of the houses and the supervision of the quality of the work by sub-contracting tradespeople and their employees.

21 In his defence the director of the builder denied that he had a duty to the owners; however, the director of the builder did not attend to respond to the allegations.

22 The owners claimed that the architectural draftsmen owed them a duty of care and that the architectural drawings produced by the architectural draftsmen were deficient in that:-

(a) the drawings showed tree planting to the front of the house closer than that recommended by the soil engineer and the CSIRO memorandum without specifying site drainage;

(b) the architectural drawings failed to specify the locations for the reinstallation of masonry control joints.

23 The architectural draftsmen denied, firstly, that he had a duty of care to the owners, because of:-

(a) the accepted principles of tort law in Australia; and

(b) the terms of his retainer with the builder.

However, if the Tribunal holds that the architectural draftsman does owe a duty of care to the owners, secondly, he maintains that he has not breached that duty as:-

(a) he has carried out his work in a competent and professional manner as required by Regulation 15.2 of the BR;

(b) the Site Plan, Sheet 6 of 6, prepared by the architectural draftsman does not constitute a *'landscape plan'* as required to satisfy Conditions 1(d), 4 and 5 of the City of Boroondara Planning Permit No. 97/154 of 14 May 1997;

(c) competent and professional architectural plans do not require the locations of masonry control joints to be shown on architectural plans prepared by an architectural draftsman as:-

(i) the standard of workmanship required from an architectural draftsman is less than that required from qualified architect;

(ii) the location of acquired masonry control joints if they need to be shown, rather than specified, which the architectural draftsman does not admit, should be shown on the structural engineering drawings.

24 Lastly, via the architectural draftsman's Notice of Contribution and paragraph 32 of the Amended Points of Claim, the owners' claim that if the architectural draftsman's claims against the soil engineer and the building surveyor are upheld by the Tribunal then the owners are entitled to contribution by those joined parties as concurrent wrongdoers pursuant to the WA.

(b) Builders Claim Against the Soil Engineer and Building Surveyor

25 The builder claimed against the soil engineer and the building surveyor directly on the basis of a breach of contract between the builder and each of them. The builder further claimed that each of them owed a duty of care to the owners as subsequent purchasers.

26 In respect of the soil engineer the builder claimed it breached its contractual obligations and duty of care by preparing a soil report that failed to *'address key issues concerning moisture and the presence of large trees (near the subject premises)'*;

27 In respect of the building surveyor the builder claimed he breached his contractual obligations and his duty of care by failing:

(a) to carry out the mandatory inspection of the footings in a proper and workmanlike manner and with reasonable care and skill to as require their construction in a proper and workmanlike manner; and,

(b) to carry out the mandatory final inspection in a proper and workmanlike manner so that the masonry control joints were constructed in a proper and workmanlike manner.

Both the architectural draftsman and the soil engineer deny these claims.

(c) Architectural Draftsman's Claims Against the Soil Engineer

28 The architectural draftsman claims that the soil engineer owes the owners a duty of care to professionally and competently prepare a soil report and that the soil engineer failed that duty of care in that the soil report failed to:-

(a) provide specific recommendations as to site drainage;

(b) adequately address the presence of large trees;

(c) use the relevant Australian standard, being the 96 Standard and instead used an outdated standard, the 88 Standard.

29 The architectural draftsmen failed to address these issues specifically in his final submissions; however, he did not withdraw the claims and I will address them.

30 The soil engineer denies the allegations and says that its report was prepared in a competent and professional manner, in that the soil report:-

(a) was prepared without any specific building proposal being submitted to the soil engineer and on this basis the soil report was prepared on the assumption that construction would be masonry veneer, which is the most common form of construction;

(b) applied the appropriate standard in force at the time which was the 1988 standard;

(c) did address the presence of trees and soil moisture;

(d) had recommendations for footing design that were not followed;

(e) the report adequately addressed drainage in the circumstances.

(d) The Architectural Draftsman's Claims against the Building Surveyor

31 The architectural draftsmen claims that the building surveyor owed a duty to the owners to professionally and competently perform his duties and that he breached his duty to the owners in that the building surveyor:-

(a) failed to properly inspect the footings and thereby allow the footings to be excavated to a depth considerably shallower than that required by the engineering drawings;

(b) failed to ensure there was adequate articulation of the masonry walls by the installation of sufficient and properly installed masonry control joints;

(c) failed to ensure there was adequate sub-floor ventilation;

(d) relied upon a Form 14 that was defective in that:

(i) there were no accompanying notes detailing each site inspection; and

(ii) the purported Form 14 did not satisfy the requirements of such a form as detailed in the BR.

32 The building surveyor denied each of these allegations.

4. FACTS

33 These facts are agreed unless I have drawn specific attention to a disagreement of fact.

34 The dwellings are situated at No. 57 and No. 59 Evansdale Road, Hawthorn, they are on the east side of the road with No. 57 being to the north of No. 59. The front façade of the building, comprising No. 57 and No. 59, is at its western end. The lots slope from front to rear with a large change in level from the front to the rear, the rear being the eastern end. At the rear of the properties is a park. The subject area is in a small valley running off the Yarra River up to its headwaters at approximately Burwood Road, this is a short distance, less than a kilometre, from the Yarra River.

35 The building comprises the two dwellings of two storey masonry construction whose layouts are mirror images of each other except that No. 59 is set back a further 900mm than No. 57 and this difference is reflected throughout the dwellings to the rear at the eastern wall, with a 900mm step in the dwelling's facades at the party wall. On the ground floor there is a garage for each residence at the front, western end of the building, there is a study behind the rear wall of the garage and then moving further back to a laundry, WC area adjacent to a lightwell, with a kitchen and meals area behind, ie to the east, then a large family area and finally at the eastern end of each dwelling a large open timber deck with step down to the backyard. There was an entry alcove jutting out from the major rectangular building outline on the north side of No. 57 and the south side of No. 59, in evidence these were termed *'outrigger entrances'*. The first floor comprises three bedrooms with an ensuite to the master bedroom and a second bathroom. There is a balcony at the front of the dwellings opening off the second bedroom and a smaller balcony at the rear over the living area which is accessed from the master bedroom. The building has a hip roof with cement shingle tiles.

36 The masonry is concrete bricks and the external finish is acrylic render. There is a central party wall shared by the dwellings which is of solid masonry construction, as are the walls to the garages. The balance of the external walls are masonry veneer with an internal lining of plasterboard. The internal walls are stud panel walls with a lining either side of the plasterboard. The party wall in the living areas is lined with plasterboard. The floors are timber with a subfloor of bearers and stumps except for the garages, the floors of which are infill concrete slabs. The walls are supported on strip footings constructed of reinforced concrete set out in a grid system with a minimum depth from ground of 925mm and a minimum concrete depth of 825mm.

37 The soil in the area is basaltic, being an unusual remnant from the basalt flows that are normally found on the west side of the Yarra River. More normally the soils on the east side of the river in this general area are derived mainly from silurian mud stone. This is a relatively small area on the west of the Yarra River which is basaltic. The soil was correctly identified in the soil report prepared by the soil engineer, who classified the soil as highly reactive ie *'H'*. It classified the subject site as *'P'*, in accordance with the 1988 Standard due to the type of soil, the presence of

moisture in the subsoil, the presence of trees and the presence of some fill all of which required an engineering design of the footings. The report also recommended that the site could be reclassified to *'H'* providing the recommendations set out in the soil report were observed.

38 Previously, there was an existing house on the property, which according to the report of Mr P. Haworth, civil engineer, covered approximately the front half of the footprint of the subject dwellings. Specifically, the front of the original dwelling was at roughly the same setback as the building.

39 In relation to existing trees there are two large eucalypts in the front garden of the house opposite No. 57 and there are a number of fair size eucalypts in the property adjacent to No. 57. There are a number of large eucalypts some 10m from the rear boundary of No. 57 in the parkland at the rear of the subject allotments.

40 The report of *'Tree Logic'* of 26 August 2003 reported that in the front yard of No. 57 were three Silver Birch trees planted on the north side of the driveway with three Callery pear trees planted in the garden bed between the properties, that is between the driveways to the garages. The owners in their evidence estimated the nearest pear to the dwellings was approximately 2m from the pier at the western end of the party wall. On the southern side of the driveway in No. 59 there were approximately six Callery pears planted adjacent to the allotment's southern boundary.

41 It was accepted by all parties that these trees were planted as part of the landscaping that accompanied the building construction. Tree Logic did not consider that any of either of these tree types was considered to have an aggressive root system. Photographs of the Callery pears taken before their removal show trees approximately 6m tall, well developed and from their appearance, growing vigorously with a healthy canopy.

42 An outline of the chronology of the development is as follows. In approximately November 1996, the soil engineer was requested by an agent of the builder to carry out a soil analysis on the property in anticipation of a residential development. No building plans or any specific building proposal was put to the soil engineer as being prepared for the site. The soil engineer analysed and categorised the soil and its recommendations in accordance with the 88 Standard. The next revision of the standard for residential slabs and footings came in force on 1 January 1997, the 96 Standard.

43 The plans used to obtain the planning permit, Permit No. BOR 97/154, and the building permit of 16 June 1997 were the same drawings, albeit with amendments. They were prepared by the architectural draftsman who had carried out numerous jobs for the director of the builder over a period of years. The relevant drawings approved for the building permit were for Job No. 1557, Proposed Townhouse Development at 59 Evansdale Road, Hawthorn for Terrace Designs Pty Ltd,*' Working Drawings'* and comprised:-

Ground Floor Plans, Sheet 1 of 6, April 1997

Upper Floor Plans, Sheet 2 of 6, April 1997

Elevations, Sheet 3 of 6, April 1997

Elevations and Section, Sheet 4 of 6, April 1997

Sections, Sheet 5 of 6, April 1997

Site Plan, Sheet 6 of 6, April 1997.

The aspects of the working drawings that are specifically relevant to issues in this dispute are that Sheet 6 of 6, *'Site Plan'*, shows the planting of shrubs or trees to the front garden of the allotments between the road and the dwellings with a note *'Landscaping to latter detail'*. There is a notation on Sheet 5 of 6, sections, under specification outline that states *'All brickwork to conform to SAA 3700, Code for Masonry in Buildings'*. The plans covered the two dwellings, No. 57 and No. 59.

44 The engineering design plans were prepared by Robert Brotchie and Associates Pty Ltd and consist of the following plans in Job No. 5/9707:

Drawing No. SK1A First Floor Plan, revised 23 May 1997

Drawing No SK2, Roof Plan, May 1997

Drawing No. SK3A schedule, Structural Members, revised 23 May 1997

Drawing No. SK4, Beam Design, 15 May 1997

Drawing No. SK5, Structural Connections, 15 May 1997

Drawing No. SK6, West Elevation, 15 May 1997

Drawing No. SK7, Footing Plan, undated

Drawing No. SK8 details, Footings and Beam, May 1997

Drawing No. SK9, Details (notes), May 1997

The first sheet SK1A is stamped approved by the building surveyor, the other sheets are not stamped but I do not consider there was any issue about them not forming part of the building permit. In relation to the notes at SK9 the specifically relevant notes to the issues between the parties are Note G4 *'Workmanship and materials are to be in accordance with the relevant current SAA Codes including all amendments and the local Statutory Authority Regulations except where varied by the contract documents'* and Note B5 *'Control joints to be a maximum spacing of 6.5m for brickwork and 6m for blockwork u.n.o.'*.

45 Planning Permit No. BOR9/154 was issued on 14 May 1997 by the City of Boroondara. The drawings that are endorsed on the permit and form part of the permit are the architectural draftsman's *'Working Drawings'* Sheets 1 to 6 of 6. A perusal of these drawings shows that they have been amended to

accord with the requirements of the permit and I refer, inter alia, to the requirements in Condition No. 1 of the permit:

> *'(a) Increase in the front setback of the northern unit to a minimum of 6.0m.*
>
> *(b) Separation of the proposed vehicular crossover into two (2) separate crossovers with an intervening pedestrian refuge.*
>
> *(c) The internal width of the garage is to be increased to a minimum 5.5m.*
>
> *(d) Reduction in the extent of paved area in the front set back and greater provision of landscaping, including landscaping in the central portion of the paved area.*
>
> *(e) Provision of a screen to the rear ground floor deck of the northern unit to restrict overlooking of the abutting private open space to the north. The screen is to be a minimum 1.6m above the floor level of the deck and be no more than 25% open.*
>
> *(f) The screens on the north and south elevations of the rear ground floor deck of the southern unit must be no more than 25% open.*
>
> *(g) Deletion of the garage bin enclosures in the front setback area.'*

It appears that the Working Drawings were all amended to meet these requirements and the amended drawings became endorsed as part of the planning permit. The amended drawings are stamped as the plans received by the City of Boroondara on 6 June 1997.

46 An application for a building permit was made apparently by the director of the builder on an application form of *'Fast Building Permits'*, which application named as the owner of the land Terrace Constructions Pty Ltd (Vic) and the builder as Terrace Designs Pty Ltd. It named A.J. Gunston as the draftsman and R.J. Brotchie as engineer. The business of Fast Building Permits is owned by a Mr Dornbusch, who was the building inspector who carried out the inspections for the building surveyor. On 16 June 1997 the building surveyor on a Fast Building Permits proforma letter informed the City of Boroondara that he had been appointed as the private building surveyor in relation to the project.

47 The building surveyor issued the building permit on 16 June 1997 under Permit No. BS1042/006216. The permit nominated under the heading *'Owner or agent'*; and under the heading *'Builder'* the name *'Terrace Designs Pty Ltd'*, with a registration number of V11878; this is the registered domestic building practitioner number of the director of the builder. The issuer of the required domestic building policy was nominated as H.O.W. (Home Owner's Warranty). There is a certificate of domestic building insurance issued by Home Owner's Warranty on 4 June 1997 nominating the builder as Terrace Designs Pty Ltd and the owner as Terrace Constructions (Vic) Pty Ltd. This certificate nominates as the contract date as 26 May 1997.

48 A *'Form 13' 'Certificate of Compliance-Structural Documents'* under Regulation 15.7(2) of the BR was issued on 27 May 1997 by the structural engineer, R.J. Brotchie. In the compliance section of the form *'I did/did not appear prepare the design and I certify that the part of the design described as structural design for … complies with the following provisions of the regulations Part B of the Building Code of Australia 1990'* there is no strike out of did/did not. The Form 13 also states that the soil report used by the structural engineer was that prepared by the soil engineer of 3 November 1996, Report No. 166 (96-7).

49 On 19 March 1998 Mr G.E. Dornbusch, building inspector, issued a Form 14 under Regulation 15.5(1)(f) of the *Building Regulations* 1994. On 19 March 1998 under a Fast Building Permit's letterhead the building surveyor issued an occupancy permit under Regulation 9.5 of the *Building Regulations* 1994, which was directed as *'To'*, Terrace Constructions (Vic) Pty Ltd, with a *'Copy to'*, Terrace Designs Pty Ltd.

50 There was a factual dispute as to who was the owner of the land and who was the builder. There was no dispute that Terrace Constructions (Vic) Pty Ltd and Terrace Designs Pty Ltd were both controlled by the director of the builder. As no evidence was given by the builder or the director of the builder I am left with the relevant documents The application for a building permit states that the owner of the land is Terrace Constructions (Vic) Pty Ltd and the builder is Terrace Designs Pty Ltd; as does the certificate of domestic building insurance. The only document that appears to contradict this is the building permit which at *'Owner or Agent'* states Terrace Design Pty Ltd but given that the builder could be the owner's agent this document cannot be conclusive when assessing which company is the owner and which is the builder. From all of the documentation I find that Terrace Construction (Vic) Pty Ltd is owner and Terrace Designs Pty Ltd is the builder.

51 The owner of No. 57 bought the dwelling from Mr and Mrs Roberts on 16 March 2000. The Roberts had previously purchased the property from the constructing owner, Terrace Constructions (Vic) Pty Ltd, on 5 July 1998. The owner of No. 59 had bought the dwelling from Mr and Mrs Lindsay on 16 August 1999.

52 It appears that both owners noticed cracking and distortion in late 2001 or early 2002. The owner of No. 59 engaged Archicentre to provide an inspection and report. Together the owners commissioned a report from MacGregor Soil Engineering which report is dated 11 June 2002 in relation to the cracking, particularly at the front of the garages. The report noted the following matters;

> *'(a) The engineers had excavated to expose the footing at the central pier at the front of the garages and had noted that the footing was not in accordance with the structural drawings being only 850mm deep with a concrete depth of 650mm (instead of 925mm and 850mm respectively). They noted that the founding material*

was very stiff grey and brown sandy clay that contained many tree roots and that ground water was slowly entering the bore hole from the underside of the footing.

(b) They noted a large tree on or immediately adjacent to the site. They noted the planting that had taken place at the front of the properties consisting of the Silver Birches and the Callery Pears. They estimated their height at 6m. They also noted two large Cypresses immediately over the rear, eastern fence of 59 which they estimated to be 20 to 30m high. They noted an 8m high Pittosporum immediately to the rear of the dwelling in 57 and two smaller trees into the rear of 59. They recommend that the existing large trees and shrubs shown on their tree plan be removed or root barriers installed. They considered that underpinning may be required at the central pier which should be taken down to a minimum depth of 2m with a minimum depth of penetration of the underlying clays should be 300mm provided they have an allowable bearing capacity of at least 150kPa.'

53 On 7 May 2003 MacGregor's prepared a report for the insurer in which they inspected compliance of the footings with the design and the founding material and conditions. MacGregor dug seven pits to inspect the footings and then put four holes further down at the same location to assess the founding materials. In four out of the seven test pits the depth of concrete in the footing was less than the minimum required of 850mm being 600, 800, 650, 700mm. Although all of the footings were not founded at the minimum depth required by the design ie. 925mm minimum, all appeared to be founded on stiff, grey and brown sandy clay and one on weathered rock. The report recommended that;-

'(a) All service pipes should be checked,

(b) The trees to the front and rear including the Cypresses at the rear should be addressed as they were having an effect;

(c) Investigate the concrete block masonry as its shrinkage could have some effect.'

54 A report was commissioned by the owners from Peter O'Connor, plumber and gasfitter, who tested or inspected all service pipes to the property. In both properties the hot and cold water services were pressure tested and no leaks were found. The stormwater drainage and sewer pipes were visually inspected and found to be in good condition. The only moisture found under the dwelling was in the lightwell areas of both properties where attempted rectification by the builder had removed the waterproofing to the lightwells and the floor of the lightwell in No. 59, this allowed rain to penetrate into the subfloor space via the lightwells.

55 On 26 August 2003 Tree Logic Pty Ltd prepared a report on both properties in regards to the effects of existing trees on the subsoil movements. The report noted that the trees planted in the front as part of the landscaping were a Silver Birch and Callery Pears. The author of the report conceded that neither of these trees was considered to have aggressive root systems and both were considered suitable for residential gardens. However, he considered that most of the Callery Pears should be removed or a root barrier installed to protect the foundation from the roots. At the time of his report the large pines at the rear of No. 59 had been removed.

56 Neither MacGregors, Mr O'Connor or Tree Logic were called to give evidence however their reports were put into evidence. The information in the MacGregor report appears to have been accepted by all of the engineers and no parties objected to it being put before the Tribunal. I have accepted and used these reports as evidence of what existed at the time of the reports.

57 I will now proceed to set out the observable damage to the dwellings that is summarised from the reports of the engineers and other building experts. Both dwellings show substantial cracking on their front façade and in the first third of the garages to the east of the façade back to but not including the first masonry control joint in the party wall. This cracking was described by Mr Neil, Mr Gairns, Mr Haworth and Brown as cracking up to approximately 25mm wide in the party wall, with large splits in the brick pier at the end of the party wall on the front façade; this is Category 4 cracking that the 96 Standard anticipates will require extensive repair work: see Table C1: *'Classification of Damage with Reference to Walls'*. The split in the brick pier also showed that there was a lack of the required brick ties in this location. There was also substantial cracking to the piers on either side of the front façade at the north-western and south-western corners of the building. The cracks from the brick piers on the façade ran up into the first storey and are substantial, also causing cracking and distortion to the edges of the western balconies on the first floor. All experts agreed that the severe cracking at the front of the house in and near the garages was caused by failure of the footing system. Mr Haworth noted that the garage walls at and immediately adjacent to the front façade were significantly out of plumb, ie not vertical, with all three east west garage walls, including the party wall, leaning to the north. The party wall was measured by Mr Haworth as approximately 25 to 30mm out of plumb over the height of the wall: that is wall outside the limit for dwelling walls stated in the Guidelines of ± 10mm.

58 There is a grated drain with a plastic grate on top located immediately in front of the garage doors, this drain is to capture the run-off from the driveways and front gardens in which have a significant slope from the road towards the dwellings. The outlet to this drain in No. 57 was found to be split from the concrete base of the drain and although this had been rectified with silicone, this was ineffectual and water could escape from the drain to run down the side of the footing at the front of the dwellings and penetrate

into the founding clay beneath the footing causing a localised area of increased moisture.

59 Both entrance alcoves show severe cracking, up to 30mm in No. 59, as reported by Brown. There is also substantial cracking in the entrance alcove to No. 57. It was the opinion of the experts that this was caused by the outrigger entrance alcoves settling or rotating away from the main structures of the dwellings due to a lack of stiffness in the reinforced concrete strip footings.

60 There was further cracking of the party wall at the end of the garages and cracking continued down the party wall towards the east of the dwellings. The cracking in the party wall remote from the garages was observed by Neil to be in the order of 2 to 4mm. All of the engineering experts were of the opinion that the cracking to the east of the front half of the garages was due to the failure to construct sufficient and adequate masonry control joints in the masonry. This was also exacerbated on the party wall by the builder placing plasterboard directly over the solid masonry and over the control joints without their being a control joint in the plasterboard. This has led to significant cracking of the plasterboard lining the party wall within the dwellings. There was also numerous cracking in the plasterboard on the masonry veneer walls near the garage rear walls.

61 There is also cracking in the masonry veneer walls and sympathetic cracking in the plasterboard of the veneer walls in the rest of the dwelling and this is attributed to a lack of sufficient masonry control joints and where control joints their construction is often unsatisfactory and defective.

62 The removal of the waterproofing of the lightwells has enabled the water to penetrate into the sub-floor area around the lightwells. Mr O'Connor in his report of 2003 and Mr Haworth in his report of 9 May 2005, both noted free water in this location in No. 57.

63 Each of the engineers being Mr Neil, Mr Haworth and Mr Brown, took floor levels and produced a floor plan showing such levels. The Neil survey was undertaken on 4 August 2003. The Brown survey was undertaken on 2 September 2003 and the Mr Haworth survey was taken in April 2005. The three level surveys showed a similar topography in the floors, with approximately the same maximum difference in level of 40mm for the Neil and Brown surveys and 50mm as the maximum difference in level in the Mr Haworth survey some 18 months later. This indicates that there was still some further movement with time. All surveys show the maximum drop in the floor level is at the south-west corner of the garage in No. 59. There is also a significant slope across the garage in No. 57 from the rear to the front of approximately 20mm. Whereas the maximum difference in level over the garage in No. 59 from the rear to the front is 50mm approximately. All floor level plans show a hump under the party wall in approximately the position of the study and encroaching on or immediately adjacent to the lightwells. The hump is larger and more

pronounced in the Haworth and Neil surveys, whose contours of floor level are very similar. The contours in the Brown survey at the peak of the hump immediately at and immediately behind the rear walls to the garage are incorrect. It appears that there should be a 70 contour in this area but it is not clearly delineated; it should be noted that the approximate location in the 70 contour would be in approximately the same location as the highest contour in the Haworth and Neil surveys. All the engineers agreed, and I concur, that other than towards the front of the garages the floors throughout the dwellings are relatively level and within acceptable tolerances under the Guidelines.

64 Mr Brown submitted that he had carried out a further level survey after his initial survey of September 2003 and that he had plotted the relative movement over the period between September '03 and June '04. He had found that there was very little movement except that there seemed to be a rise in levels at the rear of the garage in No. 59. He considered this showed that there was heave at the rear of the garages in both No. 57 and No. 59. Mr Brown concluded from his plan of relative levels over time that the original house had sheltered the soil over which the building is placed. This meant that the soil was very dry under the footings of the existing houses and the subsequent leak from the grated drain in the front of 57 increased the soil moisture regime resulting in the heave of the dwellings particularly at the junction of the garage and the dwelling areas and going back to the lightwells.

65 All engineering and building experts noted that there was a lack of constructed sub-floor ventilation as required by the architectural plans.

66 The presence of termites was found in both properties. The initial and by far the greater infestation is in No. 59, where there is a major termite infestation in the ground floor floorboards in the kitchen, eating area and study and in a number of doors and door surrounds. In No. 57 there is termite damage to a door area on the first floor, to part of the floor in the piano room and the step from the eating to the living areas. This description of the infestation is taken from the Gairns' report of 30 December 2003.

67 In No. 59 the balustrade to the rear deck is not fixed adequately and will require to be rectified to be safe.

5. EXPERT EVIDENCE - GENERAL

68 This hearing went over some 11 days and the allegations were the subject of exhaustive evidence, particularly expert evidence. The most serious allegations from the aspect of the cost of rectification were the alleged structural failings in the buildings. The hearing of the expert evidence was held in various conclaves divided into areas of specific expertise. There were five conclaves. The first comprised the civil engineers for their opinion as to the structural and soil engineering aspects. The second

conclave was of architects and building consultants to discuss the allegations against the architectural draftsmen.

69 The participants in the third conclave were the same as the second with the addition of a building surveyor; the purpose of this conclave was to consider the allegations against the building surveyor. The fourth conclave was to consider the allegations against the soil engineer and the participants were the director of the soil engineer and the expert making the allegations. The fifth and final conclave was of the experts that were involved in assessing the method of carrying the rectification works that could be required and the estimated cost of such rectification works.

70 Allegations involving the responsibility for termite damage, lack of sub-floor ventilation, failure to depict the location of masonry control joints, etc were addressed in a number of conclaves.

71 A conclave was held by all of the experts in a specific field of expertise being sworn together and addressing the Tribunal from the bar table. After the experts were sworn, I would set out what I considered were the issues that a specific expertise needed to address and the process by which a conclave would work through the issues. I would then ask the experts' opinions as to whether there were any other issues that should be addressed for that expertise or any suggestions for an improvement of the procedure I had envisaged. Then, in the order of the parties, each expert in the conclave was called upon to give a summary of his opinion and to comment on the opinions of the other experts. In the engineers conclave the experts were expected to comment upon the most pertinent causes of damage and which of the parties, or other professionals involved in the building that were not parties, were responsible for that damage; and which parties were not responsible for a specific form of damage. After each of the experts had addressed the Tribunal they were encouraged to question each other and put propositions to each other in an informal manner so as to try and clearly and comprehensively deal with the issues between them and to delineate their areas of agreement and disagreement. Following the conclave the experts were subject to cross-examination if the parties so wished. I have set the expert evidence out below based on the evidence given at a conclave but also gathering all of the evidence given by those experts from elsewhere in the hearing that is relevant to the specific issues discussed at the conclave.

72 In this analysis I intend to deal with each major allegation separately. The analysis will set out the opinion of each expert arising from the conclave together with their explanation for the damage and to the parties or non-parties to which they assign some responsibility for the category of damages, followed by their recommendations for any rectification that should be undertaken. That will be immediately followed by my findings based on their evidence as to liability and what I consider to be the appropriate method of any rectification that is required.

6. ENGINEERS CONCLAVE

(a) General

73 The civil engineering conclave was made up of Mr R. Neil appearing for the owners, Mr P. Haworth appearing for the architectural draftsmen and Mr R. Brown appearing for the building surveyor.

74 The first allegation to be addressed in the engineers conclave was the cracking in the masonry walls and the apparent failure of the footings, followed by:-

(a) whether there were sufficient masonry control joints and whether the masonry control joints that were constructed are satisfactory;

(b) the lack of sub-floor ventilation;

(c) responsibility for termite infestation;

(d) miscellaneous building defects eg. handrail;

(e) the liability, if any, of the architectural draftsmen;

(f) the liability, if any, of the soil engineer; and

(g) the liability, if any, of the building surveyor.

(b) Cracking in Masonry Walls

(i) Cause of cracking

75 The overall performance requirements for footings set out at Clause 1.3 of the 96 Standard were referred to by Mr Neil. Subclause 1.3.1: *"General"* is in the following terms:

> ***'1.3.1General*** *The footing systems complying with this Standard are intended to achieve acceptable probabilities of serviceability and safety of the building during its design life. Building supported by the footing systems designed and constructed in accordance with this Standard on a normal site (See Clause 1.3.2) which is –*
>
> *(a) not subject to abnormal moisture conditions; and*
>
> *(b) maintained such that the original site classification remains valid and abnormal moisture conditions do not develop;*
>
> *are expected to experience usually no damage, a low incidence of damage category 1 and an occasional incidence of damage category 2. Damage categories are defined in Appendix C.*

A normal site is defined at subclause 1.3.2 as:

> ***'1.3.2Normal sites*** *Normal sites are those which are classified as one of the Classes A, S, M, H and E in accordance with Section 2 of this Standard and where foundation moisture variations are caused by seasonal and climatic changes, effect of the building and subdivision and normal garden conditions, without abnormal moisture conditions*

(see Clause 1.3.3). Compliance with the recommendations in CSIRO 10-91 is deemed to provide normal garden conditions.'

Abnormal site conditions are set out at subclause 1.3.3. as:

'1.3.3Abnormal moisture conditions *Where the following factors are present, footings will have a higher probability of damage than that given in Clause 1.3.1:*

(a) Recent removal of an existing building or structure likely to have significantly modified the soil moisture conditions under the proposed plan of the building.

(b) Unusual moisture conditions caused by drains, channels, ponds, dams or tanks which are to be maintained or removed from the site.

(c) Recent removal of large trees prior to construction.

(d) Growth of trees too close to a footing.

(e) Excessive or irregular watering of gardens adjacent to the house.

(f) Lack of maintenance of site drainage.

(g) Failure to repair plumbing leaks.'

76 The categories referred to being those set out in Appendix C of the 96 Standard where Category 1 is wall cracking less than 1mm and Category 2 less than 5mm (as a result of the movement of the footings).

77 It is interesting to note that the same clause in the 88 Standard, Clause 1.3, had a similar statement as to the performance objective, however it was more specific as to the level of performance that needed to be achieved, stating that an acceptable probability for excessive foundation movement on a normal site was 5%, that the design life of a dwelling may be taken as 50 years and *'significant damage in walls'* is cracks greater than 5mm.

78 Mr Neil considered that a significant cause of the most substantial cracking near the front façade and in the garage walls including the party wall was due to the trees planted by the builder at the front of the property as the damage had not started to occur until some three years after construction. He considered that if existing trees were the most substantial cause, the cracking would have started earlier. A further factor pointing to the trees planted in the front of the premises being the substantial cause of the cracking at the front of the building was that the existing trees on the east side of Evansdale Road are the furthest away from the south-west corner of the building, yet this is where the greatest settlement took place. Mr Neil says that the trees, particularly the line of pears on the south side of No. 59, provide a satisfactory explanation for the differential settlement observed at the south-west corner of No. 59. He considered that the other substantial cause was that the footings were not constructed in accordance with the

engineering drawings which specified a minimum depth of 850 and in the area of the concrete pier at the west end of the party wall had been measured at 650mm and on the west side of the alcove to No. 59 had been measured at 600 and on the west side of the alcove at No. 57 it had been measured at 900mm. He gave evidence that the strength of a footing varies as the third power, ie the cube, of the depth of concrete, therefore, the reduction in the depth of the concrete from 850 to 650 meant that the footing's stiffness was only 45% of the stiffness that would be given by a footing at the specified depth of 850mm, if the concrete depth was 600mm the stiffness would only be a third of the design value. He also considered that the failure to have a cut-off or Ag drain near the base of the footing across the western end would allow sub-surface water and any surface water that escaped from the grated drain to cause an area of increased moisture in the soil against and immediately below this footing. This wetter zone in the soil would also attract tree roots to the area so that in dry times the soil moisture reduction would be accelerated over the drying of the surrounding soil, unaffected by tree roots, thus causing increased settlement of the founding soil under the footings in this area. He acknowledged that the collection of water against the footing may encourage some heave but the tree roots would substantially reduce the amount of moisture. It should be noted that MacGregors commented on the presence of tree roots when they investigated the depth of the footing and the soil conditions at the central pier at the west end of the façade at the western end of the party wall.

79 Mr Neil considered that most of the vertical cracking in the party wall behind the garages was probably due to the shrinkage of the concrete blocks.

80 Applying the 96 Standard Mr Neil considers that the architectural draftsmen should have considered sub-surface drainage as a design should not allow water to collect against the footings. The engineering design prepared by the structural engineer using the 96 standard anticipates normal moisture conditions for the design to apply and it was the architectural draftsmen in preparing the plans that drew all of the other practitioner information together to ensure those normal soil moisture conditions are achieved.

81 Mr Neil considered that a further factor pointing to the trees planted in the front of the premises being the substantial cause of the cracking at the front of the building was that the existing trees on the east side of Evansdale Road are the furthest away from the south-west corner of the building, yet this is where the greatest settlement took place. Mr Neil says that the trees particularly the line of pears on the south side of 59 provide a satisfactory explanation for the differential settlement observed at the south-west corner of No. 59.

82 Mr P. Haworth made four points. Firstly he considered that the performance of the masonry in the eastern half of the dwellings was performing satisfactorily in relation to cracking and vertical level. Secondly, he considered that there had been some heave in the area of the lightwells due to water getting into the open lightwell areas.

83 He also considered that water was flowing from the subfloor of one property to another through the hole in the footing wall to the east of the lightwells. Secondly, he did not consider the trees at the front had a large affect. He did not consider that the large eucalyptus on the west side of Evansdale Road approximately opposite No. 57 were having any effect as they were not damaging nearby existing houses. Thirdly, he noted that the footings of the outrigger entrances with their re-entrant corners were not tied back into the main footing grid of the building as required by the 96 Standard for re-entrant corners. This meant that the footing system did not have sufficient structural rigidity to resist any movements of the entrances and is why the cracking and rotation is evident at both entrances.

84 Fourthly, he considered that the footings were undersized often with only 600mm depth of concrete and they are not complying with the engineering design. Mr Haworth disagrees that the architectural plans should show a cut-off drain across the western end of the dwellings. He does not consider that the architectural draftsmen should be aware of the requirements of the residential slabs and footing standards. However, Mr P. Haworth agrees with Mr R. Neil that it was prudent to put a cut-off drain in front of the western footing to keep moisture away from the zone of the founding soil.

85 Mr R. Brown considered that the eucalypts on the west side of Evansdale Road were significant and were drawing moisture from under the house, he considered that the whole site had been dry to start with, ie after the removal of the previous house. However, later in the hearing Mr Brown submitted that, although initially he didn't consider that the tree planting at the front caused any substantial problem, he now considers that they could as he had examined photos of them before their removal and they were substantial and vigorous. He considered that the primary mechanism for the damage by cracking to the part of the building was heave at the rear of the garages. He considered the slope in the levels as shown by all of the engineer's floor levels was nothing more than a builder's intention to ensure the garages drained out the main door and the concrete floor slabs did not pool water. He considered that the water source for the heave is the broken outlet to the garages grated drain in No. 57 and that the water that escaped from the drain runs along the top of the strip footing and along the party wall to the rear of the garage of No. 57 where it causes the heave. He agrees that the footings do not have sufficient depth of concrete in many locations and considers that probably clay fell into the trench, prior to or during the pouring of the reinforced concrete footings. He considered that the rear of the house is performing satisfactorily but that a lot of the damage is caused by a lack of sufficient or proper masonry control joints.

86 Mr Bolwell considers that the settlement along the western façade of the building is most likely due to bearing failure of the founding soil, by which he means that the soil strength beneath the footing is so low due to its moisture content that it fails to support the footing and the loads placed upon the footing. This indicates a water source that Mr Bolwell considers could be a leaking stormwater drain or sewer. Mr Bolwell subsequently organised a camera inspection of the sewer pipes serving the dwellings but no leaks were found.

87 In the engineer's discussion, Mr R. Neil put to Mr R. Brown that the levels taken by the various engineers in their floor survey had shown settlement and not heave. Mr Neil said if it was heave one would expect that a water source would have been identified. Mr R. Brown said that the break in the grated drain immediately in front of the garage could be that source with water flowing along a pipe trench to the back of the garage. Mr R. Neil said how could the mechanism be heave if there was no difference in the level of the garage slab and the level of the timber floor at the door from the garage of the dwelling. Mr P. Haworth agreed that they were level. Mr R. Neil submitted that if there had been a degree of heave proposed by Mr R. Brown, about 10 to 20mm, it would have shown structural damage over time but after the initial major cracking in the front third of the dwellings, the cracking had remained largely the same. Mr R. Brown's response was that the garage slabs were infill slabs and were not attached to the footings and could move independently of the walls in the footing. Mr R. Neil responded that if the mechanism was heave you should see a step or significant difference in level at the garage door between the level of the timber floor immediately inside the dwelling and the level of the concrete garage slab at the garage door. Mr Neil also observed that if the drainage water was escaping from the grated drain and running down the side of the footing and into the founding soil beneath the footing, it is at this location that you would expect heave, but this is the location of the lowest relative levels and; therefore, presumably, the least heave.

88 Mr W. Bolwell disagreed that it was heave as he said the soil is not strong enough to lift the significant elements of the structure without failing and he considered the soil had already failed causing the major cracking at the front of the structure.

89 Messrs Brown and Bolwell considered that earth loose on the surface or from the sides of the footing trenches could have been knocked into the trench prior to the pouring of the concrete and this contributed to the lack of required concrete depth in the footings. But to get the concrete depth reductions that have been seen would need a consolidated depth of the loose fill of approximately 200mm.

(ii) Rectification

90 Mr Neil considered that underpinning was required where the cracking was the most severe at the western end of the dwellings in the garages, during the conclave he amended this to agree with the recommendations of Mr P. Haworth set out below. He also considered that given the amount and nature of cracking and the defects in the balconies on the first floor that the front façade needed to be rebuilt.

91 Mr Haworth considered that the whole house had to be underpinned as the soil classification of *'H'* means the founding soil is a highly reactive clay which can experience high ground movement from moisture changes. Further, rock had been found in a number of bore holes. This meant there were footings founded in clay and which could move up and down substantially under changing soil moisture and footings on rock, which could not move. This was further exacerbated by the mixture of articulated masonry veneer and articulated full masonry which means the masonry has different degrees of stiffness which will result in substantially different cracking patterns and amounts of movement for the same soil moisture change. He considered if you were to partially underpin you would have to fragment the building works into areas isolating one area from another. He considered there was too great a risk of differential settlement with partial underpinning.

92 In the engineer's discussions Mr P. Haworth and Mr R. Neil agreed that the rectification would require full underpinning and Mr Neil recommended the underpins be set at a maximum depth of 3m, preferably on rock. Later in the conclave, upon further consideration of the rectification works required, it was realised that if full underpinning took place the additional footing beams for the re-entrant corners would not be required as the whole building should be founded at or near rock. Mr Brown agrees with the other engineers that the footings at and adjacent to the façade need to be rectified to ensure they have sufficient strength. He would recommend that they removed and replaced. He does not consider that underpinning will be of assistance as he considers that the primary soil movement mechanism driven by a changing soil moisture regime is heave and not settlement.

93 Mr R. Brown agreed with Mr R. Neill's contention that given the amount of movement and the lack of tie beams to the re-entrant corners of the entrance they should be underpinned.

(iii) Footing Design

94 In relation to the engineering design, under the 96 standard, Mr Howarth considered that it was under designed. The structural engineer, Mr Brotchie, had designed the size of the footing upon the basis that as it was a mixed construction between articulated full masonry and articulated masonry veneer and as such under Table 3.6 of the 96 Standard, where the external walls are articulated full masonry and the internal walls are framed

the *'equivalent construction'* under the table is masonry veneer and the footing system can be *'designed as if the construction was masonry veneer'*. Mr P. Haworth did not consider that this was a valid assumption in this case, especially with the party wall which had to resist the torsion from the settlement of the dwellings either side of it. He considered that it should have been designed as articulated full masonry with a minimum depth of concrete in the footing of 1100mm as per the table in Fig 3.6 *'Strip Footing Systems'* of the 96 Standard.

95 Mr R. Brown considered that the full masonry party wall which has plasterboard upon it would qualify as masonry veneer and he considered the engineering design using equivalent construction satisfactory.

96 Mr R. Neil agreed that the engineer could have used the equivalent construction of articulated masonry veneer under the 96 Standard. Mr P. Haworth disagreed for the reason that as one of the major thrusts of the 96 Standard in its changes from the 88 Standard was that the depths of beams needed to be increased to improve the performance of dwellings and he considered that 1100mm depth for articulated full masonry was necessary. Mr P. Haworth considered that if the engineer was going to use equivalent construction and a shallower footing beam depth then he should have explained this on his Form 13, this is so the other building professionals would be aware of his design assumptions.

97 Mr Bolwell disagreed that merely placing plasterboard on full masonry would make it equivalent of brick veneer and thereby masonry veneer. Mr R. Brown agreed with R. Neil that although they were separate dwellings the party wall meant that they should be treated as a composite. Mr Brown doesn't have the same degree of concern about torsion and twisting of the footing beams as does Mr R. Neil and Mr P. Haworth. Although he agrees with Mr P. Haworth that the footing beam to the party wall is too weak to resist torsion at the western end of the dwellings due to the front façade being offset at the party wall by 900mm. Mr P. Haworth was of the opinion that if the building was to be treated as a composite it needed to have continuous beams, so that the offset beams at the front are strengthened by a cross-beam across the full front of the dwellings along the alignment of the footing beams of the more rearward dwelling, Mr W. Bolwell agreed.

98 Mr R. Brown considered the footing beams should have been continuous across to the party wall for the re-entrant footing beams from the outrigger entrances as in their present construction they had no strength to resist differential settlement. Mr Brown didn't disagree with the engineer's footing design but he did consider that the 96 Standard required plastic sheeting on the sides of the footing. Mr Haworth and Mr Neil agree that the strip footings of the outrigger entrances need to be carried across to the party wall to provide this torsional stiffness to resist the rotation of the entrances. This would not be necessary provided the rectification was full underpinning.

(c) Masonry Control Joints: Design and Construction

99 Mr Neil do not consider that a mere reference to the Masonry Code in the architectural drawings was sufficient to detail the masonry control joints and he considered their location should be depicted on the architectural elevations to ensure there are sufficient number and at the correct spacing.

100 Mr Haworth considered that some architectural plans showed the location of joints and some don't, whether they are shown depends on the terms of the contract between the builder and architectural draftsman and whether the builder wants to select the location of the joint. He considered that the specification sufficiently detailed the required locations of the masonry control joints. Mr Haworth agreed the location of the joints was not normally shown on the structural engineering drawings. He considered that the masonry controls joints should be designed so as to provide proper articulation and operate correctly in the circumstances the proposed building is likely to face. He considered this was mainly a construction problem in this case.

101 Mr Bolwell offered no criticism of the failure to depict masonry control joints on the architectural plans. Although, he considered the joint spacing specified on the structural engineering plans of 6m to be too wide for rendered full masonry and it should have been 5.5m maximum.

102 Mr Brown considered that the specification and plans described the location of the masonry control joints sufficiently and there was sufficient detailing on the architectural plans in the notes referring to the Masonry Code at Sheet 6 of the Working Drawings. Mr Brown agrees that the masonry control joints have been badly constructed.

103 Mr Neil and Mr Haworth concurred that the failure of the footings was the most substantial defect leading to the severe cracking of the buildings and not the incorrect location and construction of masonry control joints.

(d) Termites

104 Mr Haworth noted that the builder had left the gap in the footing wall of the party wall that allowed the termites to go from one property to another and he also considered it would be a defect under the regulations to prevent the spread of fire between dwellings.

(e) Building Surveyor

105 In relation to the building surveyor, Mr Haworth, considered that he or the building inspector should have picked up the lack of depth of concrete at the footing inspection and also check that the bearing capacity of the soil was not less than 150kpa. Further, the building surveyor should not just accept a Form 13 from the engineer but should check to see that it is correct and he can place confidence in the certificate.

106 Mr Bolwell considered that the building surveyor should not have accepted his soil report from the previous year unless he did so in writing, as per the Building Commission's letter of 16 August 2004. Further, the building surveyor could not use the soil report as the use of strip footings on articulated full masonry construction was not allowed under the 88 Standard and only piles or pier and beam could be used to support full masonry.

107 In relation to the Form 13, Mr Brown considered that the building surveyor has to accept it in accordance with the recommendations of the Building Commission. Mr Brown considered that a new soil report would have been desirable but that the soil report was mentioned on the engineer's Form 13 and therefore, it was the engineer's responsibility for accepting the soil report and not the building surveyor's.

7. ARCHITECT'S CONCLAVE

(a) General

108 The architect's conclave to consider the allegations against the architectural draftsman was attended by Mr D. Gairns, building consultant for the owners; Mr P. McLaughlan, architect for the owners and Mr B. Miller, architect for the architectural draftsman. The participants considered that there were four issues they should address;

(a) should the architectural plans have depicted the location of the masonry control joints;

(b) did the Site Plan, Sheet 6 of the architectural drawings, also qualify as a landscaping plan;

(c) should provision have been made in the architectural plans for sub-surface drainage in the form of a cut-off drain across the western footing of the dwelling.

(b) Location of Masonry Control Joints

109 Mr McLaughlan considers that the location of the masonry control joints should have been shown on the architectural drawings and this was required by the BCA. He considered they were usually depicted on the architectural drawings. Further, the excuse that the architectural draftsman used for not showing them that he left it to the builder as he didn't know the downpipe locations is incorrect because the architectural draftsman showed the downpipe locations on the architectural plans: see Sheet 6 of 6.

Mr Gairns considers it is normal that the location of the masonry control joints is shown on the architectural plans. He said the requirements in the Masonry Code in relation to masonry control joints and their location are set out as sub-clause 3.5.1 as follows:-

'The design shall allow for movements to be controlled or isolated so that damage to the masonry of a building and its components is avoided and the structural and other requirements are preserved.'

and, sub-clause 3.5.12 as follows:-

'Use of control joints – control joints shall be incorporated in masonry as necessary to control and limit the movements referred to in Clause 3.5.1.'

110 Mr Gairns submitted that the Commentary to the Masonry Code stated at Clause C3.5.2, inter alia: *'the location of control joints should be shown clearly on the drawings.'* There was some discussion that the Commentary was not in force at the time of the design, early 1997, but Mr Gairns later confirmed that it was current at this time.

111 Mr Miller does not consider that where plans are prepared by an architectural draftsman the location of masonry control joints are normally shown on the architectural plans. The reason being that an architectural draftsman's plans are not to the same level of detail and standard as an architect, due to the draftsman's lower fees. Mr Miller agreed that architectural drawings prepared by an architect usually depict the location of masonry control joints to control the external appearance of the building. He agrees that there are insufficient articulation joints in the existing building and the ones that exist have not been properly constructed.

112 Mr Miller also submits that on his instructions the architectural draftsmen was engaged by the builder to prepare architectural plans to a standard sufficient only to obtain a building permit, this limited the extent of work that the architectural draftsman would put into the preparation of the architectural plans and the level of detail and consideration he would give to them. Mr Miller considered this lower level of detailing to be satisfactory as it meant that a design and construct builder, as the builder was in this case, could adjust the level of finish and fittings as the building proceeded to suit the price he wished to obtain when he sold the dwelling. Mr Miller did not consider it was usual to depict the location of masonry articulation joints in minimalist plans. Mr Miller considered that the normal test of competence in drafting architectural plans by an architectural draftsman not an architect, was that they were sufficient to get a building permit.

(c) Site Plan Landscaping Plan

113 Mr McLaughlin considered that the architectural draftsmen's *Site Plan*, Sheet 6, was not a landscape plan.

(d) Lack of Cut-off Drain

114 Neither Mr McLaughlin and Mr Gairns commented on this aspect. Mr Miller considered that the location and showing of a cut-off drain beside the footing on the western side of the dwellings was outside the expertise of the architectural draftsmen and up to the engineer to detail.

8 BUILDING SURVEYING CONCLAVE

(a) General

115 The same experts as were present during the architectural draftsmen's conclave were present, plus Mr G. du Chateau, building surveyor for the building surveyor, who introduced new evidence in his reports of 8 March 2005 and 6 June 2005, and he gave the following evidence.

(b) Masonry Control Joints

116 In relation to the requirement to depict the location of masonry control joints on the architectural plans, Mr du Chateau did not consider that was necessary; there was no requirement that this be shown prior to issuing a building permit. Mr du Chateau considered that there was no need to depict the location of the masonry control joints in the architectural drawings as a general reference to the Masonry Code on the drawings, ie. Sheet 6 of 6, was sufficient. Mr du Chateau considered that the architectural plans were sufficient to obtain a building permit.

117 Responding to a question whether there was any difference between architectural drawings prepared by an architect and those prepared by an architectural draftsman producing plans sufficient only to gain a building permit, Mr du Chateau replied that it was irrespective as to who prepares the plans and what the instructions are, or on whose behalf the plans are prepared; there is a standard necessary to give the building surveyor sufficient information before a building permit can issue and that is the standard to which the drafter must prepare the architectural plans, be they architect or architectural draftsman. He, personally, does not take account of aesthetic considerations when considering whether a building permit should be issued.

118 He did not consider that the building surveyor is required to look at the presence of and standard of masonry control joints at the final inspection, but if a building surveyor had any concerns it would be prudent to ask for inspections or tests to ensure clarification with the building permit. He considered that a building surveyor can accept a Form 13 in good faith and he considered it reasonable to do so in this case.

(c) Sub-floor ventilation

119 Mr du Chateau considered it was acceptable that the architectural plans do not specify the area of subfloor ventilation required. He did consider that a building inspector should look for the installation of sub-floor vents if they are required, he would not necessarily measure them but a building surveyor is normally experienced enough to determine their adequacy. In this case only the odd brick perpend has been left open to fulfil the ventilation. The operation of these perpends to act as subfloor ventilation is obstructed by mortar dags and they are probably too high to permit proper airflow. He referred to the performance requirement under the *Building Code of Australia* in relation to subfloor ventilation that:

> 'Moisture from the ground must be prevented from causing unhealthy or dangerous conditions, or loss of amenity for occupants, undue dampness or deterioration of building elements.'

From his extensive inspection of the subfloor area he had not noticed the deterioration of any building elements or uninhabitable conditions and he considered the volume of air in the subfloor area to be satisfactory.

120 In relation to open perpends he measured them as 90mm high and 10mm wide and there were five on the northern side of the building, he agreed they were like weep holes in form and that they were as high as one brick or a similar size to a perpend. In total he considered there were five lots of five on the northern side and five lots of four on the southern side.

Mr Gairns said that the prescriptive requirement for sub-floor ventilation in the BCA was that:-

> Clause 3.4.1.2 – Internal external wall vents to be provided at a rate not less than 7,300 sq mm per metre length of wall.

Mr du Chateau agreed that this is the prescriptive rate.

121 Mr du Chateau agreed that the length from the eastern end of the entrance to the rear of the building was approximately 13.7m and under the prescriptive requirement of the BCA this would require approximately 100,000 sq mm of ventilation area whereas the five existing perpend vents give an area of approximately 20,000 sq mm. Mr du Chateau said there was no question that the location of the open perpends, being high; the fact that they were blocked by mortar dags and that their total area was completely inadequate, means that they do not satisfy the prescriptive requirement of the BCA. However, from his inspection of the subfloor area that the amount of ventilation provided by the perpends satisfied the performance requirements of the BCA as to subfloor ventilation. Further, Mr du Chateau considered that other penetrations for pipes, services, etc would give sufficient sub-floor ventilation. Mr du Chateau gave evidence that to comply with the fire regulations the party wall should not have any openings in it to comply with the fire regulations.

122 The other members of the conclave then gave their opinions. Mr McLaughlin considered that the sub-floor prescriptive requirement of the BCA was nowhere near satisfied; further, what was installed via the open perpends was not working. Mr Miller agreed with him that the existing sub-floor ventilation was totally inadequate and would allow moisture to gather in the sub-floor space and that moisture promotes termites.

123 In relation to the presence of termites, Mr du Chateau said that this was not a declared termite area. As such, a building inspector only has to satisfy himself that termite protection is put in place if it is in a termite area.

Mr du Chateau agreed that a failure to provide sufficient sub-floor ventilation promoted termite attack. He considered that the site should have had termite protection if they were a real risk.

(d) Form 14

124 Mr du Chateau noted in his report that the Form 14 issued by the building surveyor who carried out the statutory inspections did not attach the notes relating to each inspection and he would have expected them. He considered the attachment of the inspection notes to be good practice.

Mr du Chateau agrees that the Form 14 issued by the building inspector, Mr G. Dornbusch, was not in accordance with the form prescribed by the Regulation 15.7(2) of the BR; specifically, the certificate does not confirm that the building work *'has been inspected by me'*. He considered that it was not good practice to accept a Form 14 which is defective in its format.

125 In response to a question from Mr Bolwell, Mr du Chateau agreed that the building surveyor could have certified that the soil engineer's soil report of 1996 was adequate had he so certified in writing.

9 SOIL ENGINEERING CONCLAVE

126 In the conclaves prior to the soil engineer, Mr Bolwell for the soil engineer had given evidence in relation to the preparation of the soil report and the investigations undertaken. Mr Bolwell gave evidence that wrote his standard report for masonry veneer to the 88 Standard for two storey masonry veneer structures as he did not have a specific building proposal to address. He had classified the soil as *'P'* to ensure that an engineer designed the footings and Mr R. Brown agreed that this was the correct approach. Mr Bolwell said that the report indicated his concerns with the site which were the possible presence of basalt rock, the large trees at the rear, and the fact that he found the soil to be saturated. He put in his standard warnings that the site should be maintained in accordance with the recommendation of the CSIRO memorandum. He showed existing large trees on and around the site: see the site plan at Sheet 3 of 4 of the soil report. He made recommendations as to the footing design under the 88 Standard but this could not be used once the 96 Standard was in force. Further, his report could not be used for full masonry construction as strip

footings were not an accepted footing system where there was full masonry on an *'H'* site. Therefore, it was his opinion that in early 1997 a new soil report was required.

127 This conclave consisted of Mr Bolwell and Mr Brown. A constant theme that ran through the hearing was what was the appropriate Australian standard to be used for the soil report and for the design and construction of the dwellings. Mr Bolwell, director of the soil engineer, put into evidence a letter he received from the Building Commission dated 16 August 2004; which responded to his question as to whether the 96 Standard became mandatory and whether there was a transition period from the 88 Standard to the 96 Standard. In the letter the Commission informed him that the 88 Standard was superseded by the 96 Standard on 1 January 1997 via Amendment A to the BCA 1990 and that there was no transition period between the two standards. The letter also noted that:-

> *'However, under Section 10 of the Building Act 1993 if a relevant building surveyor (RBS) is satisfied, and certifies in writing that substantial progress has been made on a design of a building before an amendment or commencement of a regulation, the RBS may assess that design to the requirement prior to the commencement of the new regulation.'*

I accept the statement from the Building Commission as to the applicability of these Australian Standards. No certification in writing was produced from the building surveyor that the design of the building had made substantial progress at the time of the soil report. Therefore, I consider that the appropriate soil analysis and footing design standard was the 88 Standard up until 1 January 1997; thereafter it was the 96 Standard.

128 Mr W. Bolwell said that he was engaged to assess the subject site and prepare the soil report by a slight acquaintance who rang and asked for a soil test and report but there was no proposal for the dwellings at that stage. He produced the report to his set format. He was surprised to find a basaltic soil in Hawthorn. On the site was an old brick house that was badly cracked with cracks up to 10mm.

129 The allegations against the soil engineer were put forward by Mr Brown, he submitted that he had four criticisms of the soil engineer's work and the soil report in that:-

(a) although conceding that the 96 Standard only came into force on 1 January 1997, he considered its format was common knowledge amongst soil engineers through a number of workshops in the profession, they were also aware that the provisions of the 96 Standard were about to come into force and the soil engineer should have given cognisance to this standard in the preparation of the soil report;

(b) standards, such as AS2870 regarding footings, set out minimum requirements and there are facts alluded to in the soil report that show that the requirements of the standard may not be sufficient for the subject site; these facts are:-

(i) the site was classified by the soil engineer as a *'P'* site although the reasons are not evident from the soil report itself, and

(ii) there were abnormal soil conditions on the site.

(c) there were existing large trees round the subject site that were closer than their height, which breached the requirements of the CSIRO memorandum; and

(d) the soil report should have allowed for deeper footings given that full masonry was used for a significant amount of the external masonry and consideration should have been given to screwed piles, bored piers or pier and beam.

130 Mr Bolwell said that in relation to Mr Brown's first point, both the 88 Standard and the 96 Standard have the same concrete depth of 600mm for strip footings for masonry veneer on an *'H'* class site; strip footings were not allowed for full masonry on an *'H'* class site under the 88 Standard. Secondly, in relation to stump depths on an 'H' site the soil report recommended a depth of 1m when the requirement under the 88 Standard was a minimum depth of 650mm for masonry veneer construction.

131 Mr Bolwell submitted that the *'P'* classification under both standards is a classification to cover anything which the standard does not address. To reassess a *'P'* site to another classification it must be assessed by an engineer in accordance with engineering principles, this was the same for both Standards. It was to ensure such an assessment took place that the original classification was *'P'*. This meant that the existing trees would have to be taken into consideration when a firm proposal for development was being considered. The soil engineer took into consideration that trees were not given the same consideration and attention in the 88 Standard as in the 96 Standard and the *'P'* classification is an acknowledgement of this. Further, he had noticed fill on the site and this was another reason for the *'P'* classification and under the 88 Standard such a site could be reclassified if assessed in accordance with engineering principles.

132 The soil report contained warnings about the effect of trees and site drainage and the need for the owners to maintain the site. It should not be forgotten that the soil engineer was not working to any specific development proposal but just a general query and, as such, the soil report and its warnings had to be general, although Mr Bolwell considered the information in the report accurate.

10 ANALYSIS OF THE DEFECTS AND RECTIFICATION REQUIRED

(a) Cracking Masonry

133 I accept the opinions of the engineering experts, who all agreed that the footing standard in force at the time of the design was the 96 Standard. The performance requirements with respect to wall cracking were set out earlier in the civil engineers conclave. Appendix *'B'* of 96 Standard, at paragraph B3: *'Performance Criteria for Walls'*, states:

> *'It is acknowledged that minor foundation movements occur on nearly all sites and that it is impossible to design a footing system that will protect a house from movements under all circumstances.'*
>
> *'For most situations Category 0 or 1 (of Table C1 of Appendix C) should be the limit. However, under adverse conditions, Category 2 should be expected although such damage should be rare. Significant damage is defined as Category 3 or worse.'*

134 The engineers all agree that the damage at the front façade is Category 4 whilst the cracking towards the rear of the dwelling would be Category 2 with occasional Category 3. All the engineers agree that the cracking to the front façade is unacceptable and requires rectification. The issue to consider is, from the viewpoint of liability and to indicate what rectification is necessary, what is the mechanism causing the soil movement?

135 Mr Neil, Mr Haworth and Mr Bolwell consider that the severe cracking at the front of the garages and in the building façade and the garage walls is caused by shrinkage cracking at the front of the garage, although Mr Bolwell considers it could also be evidence of failure of the founding soil beneath the strip footing. Shrinkage cracking is caused by the founding soil drying out and reducing volume shrinkage, so that the founding soil surface, supporting the footing, drops in level.

136 Mr Brown considers that, as set out in his report of June 2004, the broken outlet to the grated drain in front of the garage at No. 59 was the source of moisture in the front of the garages, which moisture then got under the footings, and ran along the foots to the rear of the garage slabs swelling the in-situ founding soil; so that what we are observing according to Mr Brown is heave.

137 For a number of reasons I do not consider plausible Mr Brown's hypothesis that the mechanism causing the movement in the footings and garage slabs at the front of the building is heave at the rear of the garages. I don't consider that water would travel under or along the footing and then across the clay underneath the garage slab horizontally to the rear garage wall, there to cause significant heave. The permeability of clay, particularly basaltic clay is extremely low. I consider that if the leak in the grated drain in No. 59 was to cause heave, it would have resulted in the heave of the slab at that location at the front of the infill garage, as well as slab at the same time as causing heave at the rear of the garage. The crucial evidence

missing to substantiate Mr Brown's hypothesis is that if heave to the garage slab had occurred there should have been a substantial, or at least observable difference in level, across the doorway at the rear of the garages, between the floor level of the garage slab and the floor level of the house. This was not noted on any floor survey or noticeable during the view.

138 Mr Brown based his opinion on the fact that his soil moisture measurements between September '03 and June '04 which showed relatively stable levels of soil moisture and, also, in his plot of the relative levels showing the change in floor level between September '03 and June '04. In regard to the relative levels I do not have the same level of confidence as Mr Brown, as there was no common datum between the dwellings and there was no common datum between the two surveys. It appears that Mr Brown assumed that the datum was the same for the two surveys ie. September '03 and June '04 and that to get a link between the buildings he assumed that there had been no movement immediately inside the garages at the party wall. This is where the cracking is most severe and although I accept that it did not appear to have changed significantly over the period of time I do not consider that one could assume that the level of the garage slab in the front corner adjacent to the party wall did not move relative to each other. Therefore, I consider that the level of evidence used by Mr Brown to draw his conclusions cannot be relied upon.

139 In relation to Mr Brown's soil moisture measurements I would expect them to be relatively stable as there was not a great deal of difference between the levels of the Neil and Brown levels and those of Haworth some 18 months later, a maximum of 10mm: see paragraph 63. This would indicate to me a relatively stable soil regime. An explanation for the stable soil moisture is, if Mr Neil is correct, the trees in the front of the house had rapidly removing soil moisture adjacent to the footings at the western end due to their vigorous growth and upon removal the soil moisture regime in this area became more stable.

140 Further relevant to Mr Brown's hypothesis is his observation that the rear of the garage slab adjacent to the doorway into the dwelling in No. 59 had lifted relative to the timber floor at the doorway and was '*wedged hard under the door frame*'. He also observed a positive difference between the top of the concrete and the top of the timber floor with the concrete slab being '*noticeably higher*'. However, Mr Brown took no levels on these surfaces to establish what difference there was in level. I do not remember either of these observations being made at the view.

141 Although not raised by the engineers, it occurs to me in the light of my civil engineering experience that if Mr Brown is correct then to some extent the whole house needs to have been lifted to some extent by heave given that:-

(a) except for the sudden drop in relative level from the rear of the garages to the front and the severe cracking at the western end of the building no part of the rest of the building appears to have moved, relatively, more than 10mm;

(b) whilst there is a slight hump in the floors adjacent to the open lightwells, which could be heave, this was not greater than a 10mm rise;

(c) the severe cracking at the western end of up to 25mm wide would require footing movements of the same order across the garages, if the mechanism was heave and the flat floors in the dwellings are maintained, this then means such heave needs to translate across the building from the rear of the garages to the eastern end of the building in a roughly uniform rise or heave.

I consider such a large heave over an area of the building, together with its uniformity, is much less likely than settlement of the footings in a localised area, ie. at the front of the building, due to drying exacerbated by the presence of tree roots accelerating the decrease in soil moisture and thereby the settlement in the area.

142 Mr Neil considered that if the grated drain was the source of moisture giving heave it would take place close to the leak in the grated garage drain to No. 57 and not at the rear of the garages. Secondly, there was no visual evidence of heave at the rear of the garages as the slab should have lifted relative to the timber floors of the dwelling across the doorway from the garage to the dwelling. This area was inspected carefully during the view and no noticeable difference in floor level was observed. Mr Haworth commented that he had noticed no difference and did not consider that heave was the mechanism. Mr Bolwell considered that if there had been heave it would have taken place closer to the leak and in any case he would not expect that it would have lifted the dwelling via the footings as he considers that the soil was so soft from the test pit dug at the end of the party wall beside the central pier during the view that the soil would have failed and would not have the strength to lift the footing and the dwelling. I consider there is logic in Mr Bolwell's opinion, as the soil from the level of the bottom of the footing was very wet and did not appear to have a high compressive strength.

143 I consider the observations of Mr Neil, Mr Haworth and Mr Bolwell to be pertinent and I do not consider that the mechanism causing the cracking in the front of the building is heaved, I accept their opinions that the mechanism is settlement.

144 The next question in what factors are contributing to this settlement, what is causing the moisture changes in soil leading to a lowering of the soil moisture? The experts raised a number of contributing factors to the moisture changes, the first being the trees existing in surrounding allotments prior to the dwellings being constructed, the landscaping that the

builder informed previous owners he had planted to comply with the town planning permit, the lack of sub-surface drainage or the broken outlet to the grated drain immediately in front of the garage on No. 57. The second question is why is there such a degree of damage, is it solely due to the amount of moisture change or is there something inherently wrong in the footing construction or footing design; or, finally, did the quality of the masonry construction contribute to the cracking?

145 Dealing first with the reasons for the moisture change. Mr Neil considered the most substantial cause was the planting of the landscaping by the builder close to the front of the dwellings, the closest Callery Pear was within 2m of the central pier at the western end of the party wall. He considered that the planting of the Callery Pears on the north side of the driveway in No. 57 and the line of five or six Callery Pears planted along the southern boundary of No. 59 also contributed. Photographs taken of these trees immediately before they were removed on the advice of *Tree Logic* showed them to be growing vigorously with a dense growth of healthy leaves, they were approximately 6m high. No expert produced any evidence as to the aggressiveness of these trees with respect to their seeking of soil moisture or its removal. The other trees that were planted as part of the planting were Silver Birchs which Mr Brown said had a moderate reputation for moisture removal in soils.

146 In most of his evidence Mr Brown did not consider that the landscape planting was a significant cause of change in the soil moisture in the founding soils at the front of the dwellings, his evidence was that he considered the trees too small. He considered that the most likely trees to contribute substantially to the soil moisture changes was two large eucalypts on the east side of Evansdale Road in a lot to the north of No. 57. Mr Haworth did not consider that the trees contribute significantly to the damage that was observed, with in respect to these eucalypts he failed to see how they could cause such damage on the building when they did not appear to be causing damage to either the property on which they were situated or the property immediately opposite, which is on the north side of No. 57. Mr Neil did not consider that the large eucalypts contributed significantly to changing the soil moisture at the front of the dwelling because they were long established trees and if they were going to change the soil moisture regime at the front of the dwelling their roots would have been established in the area and they would have commenced to do so immediately upon the building being constructed; whereas the major cracking at the western end of the dwellings did not develop until some three years after their construction. Further, Mr Neil considered that if these trees were the trees that were doing the damage he would not have expected that the worst corner that has suffered settlement and cracking would not be the south-west corner in No. 59, which is further corner away from the two large eucalypts than the north-west corner of the building.

147 Later in the hearing when conducting the soil engineer's conclave with Mr Bolwell, Mr Brown conceded that he did not realise that the landscape trees were so large or growing so vigorously and he now considered they could have had a significant effect on changing the soil moisture at the front of the house.

148 Weighting all of this evidence together, I consider the most substantial contributor to changing the soil moisture regime in the foundation soils at the western end of the dwelling was the landscape planting installed by the builder as a requirement of the town planning permit. Although these trees were not known for their aggressive seeking of soil moisture and its removal they were planted an inappropriately close distance to the front of the house,. This is especially so in relation to the trees between the driveways adjacent to the western end of the party wall where the closest Callery Pear was only 2m from the central pier and the trees were approximately 6m high. There were also substantial groups of Callery Pears, inter alia, planted close to the northern corner of the garage in No. 57 and the southern corner of the garage in No. 59, in both cases they were planted an inappropriately close distance from the façade and garage footings. The engineers agreed that trees should not be planted, as a general rule, closer than one and a half times their anticipated mature height from any founding soil or area of a structure where a change in soil moisture regime could result in damage or deterioration to a building element.

149 In relation to the second question as to why the founding soil movement caused such cracking at the western end, Mr Neil considered it was due to the fact that there was substantially less depth of concrete in the strip footings than the design specified. In four out of the seven locations where the concrete depth was measured by McGregors with three of the depths being of the order of 600mm, it was less than the design depth of 850mm. I accept Mr Neil's evidence that the stiffness of a beam is to the third power of its depth and therefore that a 600mm deep concrete footing would have only one third the stiffness of a footing that was 850mm deep.

150 Mr Haworth considered that the trees did not contribute significantly to create any drastic settlement and the reason for the degree of cracking at the western end was due to the failure to have the footing beam with the correct depth of concrete leading to a drastic reduction in stiffness. Secondly, he considered that the offset in the front of the building at the party wall resulted in footing beams at the front of the garages not being continuous across the party wall footing but with a 900mm offset, reflecting the offset in the dwellings setbacks. This substantially reduced the structural stiffness of the footings across the façade of the building especially with respect to torsional stiffness of the footing beam grid at and adjacent to the setback in the front façade. This meant that the external corner in the footing beam at the western end of the party wall had little torsional stiffness against movement, and was thereby susceptible to greater movement for a given soil moisture change.

151 Therefore, I consider that the lack of concrete depth in the footings was the primary cause of the masonry cracking in the building and that this was substantially exacerbated at the front façade by the landscape planting being planted by the builder far too close to the footings. The trees planted in the front garden needed to be approximately 10m away, not 2m at the closest.

152 I also consider that the failure to properly install brick ties as required by the Masonry Code has exacerbated the cracking in the brickwork. I consider that the builder is substantially responsible for the defects in the masonry and footing construction.

153 All engineers recommended that rectification works were necessary. Because of his mechanism for movement was heave, Mr Brown considered that the leak to the grated drain should be rectified and then a period of six months to a year should be allowed for the soil moisture regime at the front of the house to stabilise and then rectification work undertaken to the cracks with some rebuilding of the central pier. He did not consider that underpinning was necessary or desirable except for where the outrigger entrances had cracked away from the external walls of the building.

154 In his reports, Mr Neil considered that some underpinning was required at the front of the western façade to stabilise the area of major cracking. Mr Haworth considered that given the nature of the founding soil being a basaltic clay with a high propensity for volume changes due to a change in soil moisture regime and, the presence of rock near the surface in a number of test pits, together with the likely influence of existing and future trees in the surrounding allotments that, to ensure that future foundation movements were within the performance criteria of Appendix B of the 96 Standard all of the building should be underpinned. Mr Neil upon further consideration considered that Mr Haworth's approach was correct. I concur for the reasons submitted by Mr Haworth. The owners are entitled to have dwellings in which the building movements induced by movements in the founding soils complies with the 96 Standard. Therefore, I consider the building should be fully underpinned.

155 In relation to front façade Mr Neil considered that given the extensive cracking going up into the first floor, the lack of brick ties in the central pier and the damage to and cracking in the balcony and its surrounds, that the whole of the front façade should be removed, as should the masonry in the full masonry walls of the party wall and the north garage wall of No. 57 and the south garage wall of No. 59 back to approximately the first masonry control joint from the western end of the building. Mr Haworth concurred in this method of rectification.

156 Mr Brown did not consider that it was necessary to remove the masonry from the first floor, he considered that it could be supported across the façade and approximately back to the first masonry control joint in the garages and the masonry could then be replaced. Given the level of cracking and damage into the first floor and the first floor western balconies

and the degree of rotation up to 25mm in the western façade and in the garage walls rotating to the north as measured by Mr P. Haworth, I consider that to rectify the cracked garage walls and the walls in the western façade so that the owners can have confidence in the performance of this building element over the design life of the structures that the rectification recommended by Mr Haworth and Mr Neil should be adopted.

157 Full underpinning will mean that there will be no sudden changes in footing strength from one area to another, such changes can exacerbate differential movement either side of the change. I do not consider it engineeringly advisable to have footings suddenly changing strength. In relation to the masonry removal at the western end, I consider it is advisable to remove the garage walls back to this first masonry control joint, again this will minimise any cracking resulting from old and new; further, as concrete bricks are being used it will allow shrinkage of the new concrete bricks across the masonry control joint without causing uncontrolled cracking.

(b) Footing Design

158 Mr Haworth considered that the engineering design of the footings was unsatisfactory. Mr Haworth considered that the footing beam design at 850mm depth of concrete as designed by the structural engineer was an under design and the use by the structural engineer of equivalent construction under Table 3.1 of the 96 standard was inappropriate where there was so much articulated full masonry on a site in which there was no site drainage, with a highly reactive soil and the presence of rock close to the surface at some locations. Mr Haworth considered that the footing beam should have been designed purely in accordance with Figure 3.6(a) where for articulated full masonry on an *'H'* site the depth of concrete supporting the full masonry should be 1100mm deep, the design also should have complied with Note 2 to Table 3.6(a) which required that :

> *'For all beams 700mm or deeper, as specified in the table above, internal footings shall be provided at no more than 6m centres and that at re-entrant corners continue the footing to the opposite external footing. Internal footings shall be of the same proportions as the external footings and run from external footing to external footing. Side slip joints consisting of a double layer of polyethylene shall be provided at the sides of the footing only.'*

159 Mr Haworth noted that the provision in relation to re-entrant corners was not complied with both in respect of the outrigger entrances where the footing to the entrance did not continue in a similar sized beam right across the dwellings to the party wall and in respect of the neutral corner at the crank in the façade due to the differences in dwelling setback of 900mm.

160 Mr Neil considered that the footing design was basically acceptable as did Mr Brown, except that they considered that the footing beams from the re-entrant corners of the outrigger entrances should have been carried across to the party wall footing..

161 Although I have sympathy with Mr Haworth's attitude and I agree in hindsight that a deeper and stiffer footing design on this site would be preferable, there appears to be nothing in the 96 Standard and particularly Table 3.1 *'Equivalent Construction'* and the relevant notes and clauses referring to equivalent construction that prevent its use. None of the exceptions that are set out in clause 3.1.1 of the 96 Standard apply to this design. Therefore, I do not consider I can criticise the structural engineer for utilising a concept allowed by the appropriate standard; unless it could be shown that using accepted engineering principles and criteria as applied to the specific circumstances of this site and the building proposal that a competent engineer would, or should have, realised that the provisions of the 96 Standard, in particular those applying to *'equivalent construction'* were inappropriate and inapplicable. There was no evidence produced to establish this, except hindsight. Therefore, I consider the 850mm depth of concrete in the strip footing using *'equivalent construction'* was an acceptable design. However, I do consider the failure to carry footings across re-entrant corners is a deficiency in the design when designed in accordance with Section 3: *Standard Designs* of the 96 Standard.

(c) Masonry Control Joints

162 All engineers were of the opinion that there were insufficient masonry control joints and many of the joints that had been installed were not installed satisfactorily or operating in a satisfactory manner. There was general consensus that all existing articulation joints should be checked to ensure that they have been satisfactorily constructed and will operate properly in the future. Additional joints should be installed to ensure that the masonry elements of the dwelling act in accordance with the Masonry Code. I concur that this rectification work is required.

(d) Site Drainage

163 Both Mr Neil and Mr Haworth considered that a cut-off drain should have been provided across the front of the footing at the western façade. Mr Brown also considers a cut-off drain should be installed in this location. I accept their opinion.

(e) Sub-floor Ventilation

164 The allegations of a lack of sub-floor ventilation was mainly considered by the architects and the building consultants in their conclave. Mr McLaughlin, architect for the owners, was of the opinion that the architectural plans showed sufficient sub-floor ventilation. However, Mr McLaughlin said the builder did not install the manufactured sub-floor vents as shown on the architectural drawings. Instead the builder left open perpends between bricks in a single course that was at or just below floor level – these open perpends were at approximately one and a half to two metre intervals. All of the architects and building consultants giving

evidence agreed that this gave insufficient ventilation area to accord with the prescriptive requirements of the BCA.

165 Mr du Chateau, building surveyor, calculated the area of the perpends at approximately 20,000 mm^2 and the sub-floor ventilation area required under the BCA was in the order of 100,000 mm^2. Mr du Chateau submitted that the openings in the sub-floor wall to permit the entry of service pipes at the side and rear of the dwellings may provide sufficient ventilation area around the service pipes to meet the BCA requirements for sub-floor ventilation. I do not accept this. Openings in walls of any real size should be stopped or blocked to prevent the entry of vermin and the entry of the natural elements that can lead to deterioration of the building materials. If there are substantial openings in the sub-floor masonry walls I consider the owners are fully entitled to block up such openings.

166 Obviously, the builder is partially liable for the failure of the dwellings to have sufficient sub-floor ventilation. I accept the opinion of Mr McLaughlin that the architectural drawings are in no way at fault in relation to sub-floor ventilation. Any liability of the building surveyor in this regard will be considered below.

(f) Termite Infestation

167 The subject property is not in a termite declared area by the responsible local authority, Boroondara Council, and as such there is no responsibility on the builder, architectural draftsman or building surveyor to ensure that an approved form of termite protection has been applied to the site or incorporated into the building construction. Therefore, I do not accept expert opinions that state that termite protection should have been applied and that some of the building professionals may be liable for not ensuring a termite protection was applied.

168 However, the question is, should the builder bear some responsibility for termite infestation if the defects in the construction of the house encouraged or aided such infestation?

169 Both Mr Miller, architect for the architectural draftsperson, and Mr du Chateau for the building surveyor, agreed that a lack of sub-floor ventilation encourages termite infestation. No opinions where put forward by any expert that a lack of subfloor ventilation was not an encouragement to termites and I accept the evidence of Mr Miller and Mr du Chateau. Mr P. Haworth considered that the hole in the sub-floor party wall to the east of the lightwells allowed the termites to move between dwellings.

170 Mr Bolwell submitted that the owners should be partly, if not wholly to blame, for the termite infestation as there was no evidence they had regularly inspected their properties as part of the required maintenance by home owners; termite tunnels on the outside of the sub-floor masonry walls are easy to see and can be easily broken off. Firstly, I do not consider that the owners, even if there was a lack of maintenance on their part, caused the

termite infestation. Nor, once the termites were in the property did their failure to inspect mean a continuation of the termite problem.

171 The BCA and BRs are drawn up so as to deter termite infestation by means of specifying an adequate level of sub-floor ventilation. Where the risk of termites is sufficiently high the BR allows for the declaration of a termite risk area and the stipulation of direct termite protection measures.

172 I consider that the inference can be drawn on the evidence of the experts that the failure by the builder to ensure that the regulations as to the deterrence of termites was implemented by installing sufficient subfloor ventilation and led directly to the termite infestation and the builder is liable, perhaps in part, for that termite infestation.

173 The termite protection measures proposed by the experts are to fill the hole in the party wall with masonry and to introduce a continuously running electric fan to ensure adequate air turnover into the sub-floor, I accept this method of rectification.

(g) Handrail

174 I accept the evidence of Mr Neil, engineer for the owners, that the handrail has to be rectified, I saw it at the view and it was loose and insufficiently fixed.

11 RESPONDENT'S LIABILITY

175 I will now analyse the liability of each of the respondent's.

(a) Builder

176 From the evidence given by the experts in conclave and in cross-examination, together with my findings in regard to defective work above it is clear that I consider the builder has not carried out many aspects of its work satisfactorily and competently: eg, footing construction, lack of brick ties, and the handrail. It has failed to build in accordance with the plans and specifications and the BR: eg, subfloor ventilation, masonry control joint construction, etc. The builder has carried out inappropriate tree planting that has resulted in an exacerbated damage for the building. For all of the deficiencies that I have found that exist in the building the builder is to some extent liable to the owners for breaches of the statutory warranties.

(b) Director of the Builder

177 The owners claim that the director of the builder owes the owners a duty of care to ensure the works were carried out with reasonable care, in a proper and workmanlike manner, in accordance with the law and regulation, and in accordance with the plans and specifications; further, the duty included taking care in the supervision of the tradespeople and the builders employees working on the building. The owners claim that the director of the builder breached his duty by causing, to some extent, the deficiencies

with building that I have found established; thereby, causing them loss and damage.

178 The owners submit on the authority of the decision of Redlich J in *Johnston Matthey (Aust) Ltd v Dascorp* (2003) that the director of the builder is liable as a tortfeasor on the following basis:

> *'(d) Where the primary tortfeasor is a corporation, questions as to the liability of its directors for the tort attract principles which impose personal liability on directors which are dependant on the degree of their involvement [106].*
>
> *(e) The level of involvement of each defendant in each particular transaction is critical in determining whether their conduct renders them liable as joint tortfeasors for the conversion by their company [107].*
>
> *(f) For a tort such as conversion that does not require a particular intention, a director is liable for the tortious acts of the corporation* ***which he or she directed or procured*** *[emphasis added in original] regardless of the director's state of mind. The level of involvement and the degree of control which a director exercises will determine whether it can be said that the acts have directed or procured by the director [201].*
>
> *Note: The numbers in square brackets are the relevant paragraph numbers in Redlich J's decision.'*

179 The owners submit further, that in the alternative the director of the builder, as the registered building practitioner responsible for the work undertaken by the builder, and in light of the director of the builder's close involvement in, and control over, all aspects of the building work undertaken by the builder, the director of the builder directed or procured the tortious conduct of the builder in undertaking defective work, and is liable accordingly.

180 Directors can be held liable in tort for the acts of a company as a secondary tortfeasor, but not merely because they are a director of a company in breach of its obligation, to quote *Johnson* at para [198] et al:

> *198. Both in Australia and in England a director is in no different position to an agent who, whilst binding their principal may also be liable for their tortious acts. The defendants' submission that Mr and Mrs Secchi cannot be held liable for their conduct as director's because their acts are those of the corporation, expressed in such absolute terms must be rejected. This does not mean that directors become personally liable merely because they are directors. Unless they procure or direct the tortious conduct the law does not impose upon them liability for the acts of other agents or employees, whether they are directors of large corporations or what is described as "one man" companies.*

> *199. There is an obvious jurisprudential distinction to be drawn between those who by choice enter into contractual arrangements with a corporate entity and should thus be taken to have accepted limited liability and those who have had no dealings with a company and whose only interest is not to be harmed by the conduct of anyone. The utilisation of limited liability as a shield against those who choose to deal with a company can be more readily accepted than in the case of strangers who are harmed by corporate activity and who naturally turn for liability to those who caused the harm. Those who are victims of a tortious act such as trespass, conversion or negligence will probably have played no role in the selection of the tortfeasor who inflicts the harm*
>
> *200. I am not persuaded that there is any soundly-principled basis for the imposition of a requirement that a director who, by virtue of their level of involvement and control is found to have procured or directed the commission of the acts should not be liable unless the director knew or was indifferent as to whether the acts were unlawful or likely to cause loss or damage to the true owner of the goods. Despite the absence of direct binding authority, and the differing views expressed in various Federal Court decisions, the preponderance of authority provides no support for a principle which would so limit a director's liability at the expense of a victim who may not have chosen to deal with the corporation tortfeasor. The line of authority which requires an assumed responsibility before a director will be liable is concerned with tortious conduct which involves an assumption of a duty of care and reliance before liability is established. This limitation upon liability arises in circumstances where the victim has dealt with a company and has chosen to accept the risks associated with the company's limited liability and torts. These cases do draw attention to the personal liability which may be imposed upon a director of a "one person company" because of the degree of control that the director has.*

181 I consider the subject fact situation very different from that in *Johnson*. In that case the plaintiffs were a gold refiner whose gold was stolen in small amounts by an employee and sold to the first defendant, a gold dealer of which the second and third defendants were the employees and the only directors of the first defendant. The plaintiff had no contact or knowledge of the defendants, it did not chose to deal with them, this was done by a fraudulent employee of the plaintiff. This was a significant factor in Redlich J's decision as set out in paragraph [200] above, he considers the situation is different to that where the victim knowingly elects to deal with the company and thereby accepts the risks of limited liability.

182 Further, His Honour found the directors were aware or carelessly indifferent to whether the gold they purchased from the fraudulent employee was stolen.

183 Also, the tort that occurred in *Johnson* was conversion, a tort of strict liability. The tort under consideration here is negligence which is not a tort of strict liability. Nevertheless, I consider that the analysis and discussion of the tests for assessing a director's liability for tort as a result the company's acts and his participation in those acts is applicable to this fact situation.

184 Redlich J when considering the appropriate test to use in assessing a director's personal liability considered the four lines of authority identified by Sundberg J. in *Pioneer Electronics Australia Pty Ltd v Lee (2001) 108 FCR 216 at 233* as follows:-

> *'The law on the personal liability of a director for corporate torts is in an uncertain state. There seem to be at least four views having judicial support:-*
>
> 1. *A director will be liable along with the company when he has procured or directed it to commit the tort: Performing Right Society Ltd v Ciryl Theatrical Syndicate Ltd [1924] 1 KB 1 at 14; Kalamazoo (Aust) Pty ltd v Compact Business Systems Pty Ltd (1985) 84 FLR 101 at 127; Martin Engineering Co v Nicaro Holdings Pty Ltd (1991) 100 ALR 2358; Microsoft Corp v Auschina Polaris Pty Ltd (1996) 142 ALR 111; Lott v JWB & Friends Pty Ltd [2000] SASC 3; Henley Arch Pty Ltd v Clarendon Homes (Aust) Pty Ltd (1998) 41 IPR 443 at 464.*
> 2. *A director will be liable only if he has made the wrongful act his own as distinct from it being an act of the company: Mentmore Manufacturing Co Ltd v National Merchandising Manufacturing Co Inc (1978) 89 DLR (3d) 195; White Horse Distillers Ltd v Gregson Associates Ltd [1984] RPC 61 at 91; King v Milpurrurru (1996) 136 ALR 327 at 346-351.*
> 3. *A director will be liable if he has assumed responsibility for the company's acts: Trevor Ivory Ltd v Anderson [1992] 2 NZLR 517.*
> 4. *A director is not liable for procuring the company to infringe the rights of others: Said v Butt [1920] 3 KB 497; O'Brien v Dawson (1942) 66 CLR 18 at 32, 34; Rutherford v Poole [1953] VLR 130; Root Quality Pty Ltd v Root Control Technologies Pty Ltd [2000] FCA 980.*

185 Sundberg J adopted the '*direct and procure test*'. However, if the words were taken as their widest meaning it would, in the case of one-person corporations, result in imposing personal liability in many cases.

186 Citing from page 227 of Redlich J's judgment:-

> *'177 The tension arising between the operation of corporate law and tort law was clearly a matter that troubled Finkelstein J. in Root Quality. The concern with the diminution of the protection of the limited liability in the case of one-person corporations which had been expressed in Trevor Ivory Ltd and White Horse Distillers led Finkelstein J to observe that the imposition of the "direct or procure" test would go near to "imposing personal liability in every case". It was for this reason that his Honour concluded that before a director could be held personally liable there must be an element of "deliberateness or recklessness and knowledge or means of knowledge that the act or conduct is likely to be tortious.'*
>
> *178 Those decisions that postulate that the liability of a director for the tortious conduct of their company requires the director to have procured or directed the acts in the knowledge that or with reckless indifference to whether the acts were unlawful or would cause harm to another, regard such a requirement as a necessary consequence of the doctrine of limited corporate liability.*
>
> *179 The line of cases which have applied the principle in Said v Butt illustrate the nature and scope of the doctrine of limited liability. Directors, in the course of carrying on the company's business, may decide to terminate or not perform their company contract on the basis that it is in the best interests of the company to pay damages for failure to perform. This does not attract personal liability in them for inducing a breach of contract. These policy considerations supporting the line of cases following Said v Butt were recently referred to with approval by the Ontario Court of Appeal.'*

187 Other decisions have stated that the test used should not disadvantage one-person corporations. At paragraph 120 of his decision, Redlich J cites Le Dain J in *Mentmore Manufacturing Co Ltd v National Merchandising Manufacturing Co Inc.* (1978) 89 DLR (3d) 195 at 203:

> *'There is no reason why the small one-man or two-man corporation should not have the benefit of the same approach to personal liability merely because there is generally and necessarily a greater degree of direct and personal involvement in management on the part of its shareholders and directors. This view finds support I believe in the cases. It has been held that the mere fact that individual defendants were the two sole shareholders and directors of the company was not by itself enough to support an inference the company was their agent or instrument in the commission of the acts which constituted infringement or that they so authorised such acts as to make*

themselves personally liable: see British Thompson-Houston Co Ltd v Sterling Accessories Ltd (19240 41 RPC 311; Pritchard and Constance (Wholesale) Ltd v Anata Ltd (1924) 42 RPC 63. It is the necessary implication of this approach, I think, that not only will the particular direction or authorisation required for personal liability not be inferred merely from the fact of close control of a corporation but it will not be inferred from the general direction which those in such control must necessarily impart to its affairs.'

188 Thus, I consider there must be something more than simply organising or even carrying out the work badly. There must be some act or behaviour of the director that is more than merely carrying out of his company duties, even if it results in a breach of contract or a failure by the company to fulfil its obligations. An intention to induce a company to breach its contract by a director does not incur liability; therefore, I do not see how a careless act by a director by itself can attract personal liability, unless the carelessness was so flagrant as to be outside normal bad building practice.

189 The evidence of the directors relationship with the builder was cited by the owners as comprising:-

(a) was the registered builder [Andrew Gerard Roberts WS para 7];

(b) performed some of the building work himself [Baines WS para 3]

(c) personally supervised the construction of the houses including the construction of the footings [Lawley WS para 10; para 50; Baines para 3];

(d) planted the offending trees [Deborah Louise Roberts WS 12 (Ex. A12); Andrew Gerard Roberts WS 13-14 (Ex.A13); Anthony John Snell WS 6-7 (Ex. A14)];

(e) was intimately involved in the design of the houses [Gunston witness statement; Deborah Louise Roberts WS para 6]; and

(f) personally undertook rectification work on the light courts [Lawley WS paras 43-46; Baines WS paras 18-19];

However, I consider these facts do no more than cite what a director of a small residential building company does when building a home for future sale. He was carrying out his normal duties, albeit, he did them carelessly. There is no evidence that the director of the builder carried out his duties knowing or intending that the damage to the building that has occurred, would occur. I consider to find the director of the builder liable on this evidence would make all participating directors of residential building company personally liable for its defaults.

190 Likewise to find the director of the builder liable on the basis that he was the registered building practitioner and directed and procured the acts of the company is not of itself sufficient to find the director of the builder personally liable as a tortfeasor. To do so would in effect mean that for

one-person corporations the principle of limited liability was of no effect. In the acknowledged tension between the operation of corporate law and tort law this would be going too far. Therefore, a director to be liable must do something more than carry out his duties badly or incorrectly and there is no evidence the director of the builder has done so. Therefore, I do not consider the director of the builder personally liable as a tradesperson for the companies breaches of contrast with the owner at the time of construction.

(c) Architectural Draftsman

(i) General

191 The owners allegations of negligence against the architectural draftsman are:-

(a) the draftsperson nominated tree planting to the front of the dwellings without specifying site drainage; and

(b) the draftsperson failed to specify articulation joints.

(ii) Duty of Care

192 The architectural draftsman submits that he does not owe the owners, as subsequent owners, a duty of care to avoid pure economic loss when analysed according to the five principles enunciated by McHugh J in *Perre v Apend* (1999) 73 ALJR 1190, then reiterated in *Woolcock Street Investments Pty Ltd v CDG Pty Ltd* [2004] HCA16 (1 April 2004) at para [164].

193 Firstly, the architectural draftsman says that the breadth of his engagement by the builder was to produce plans only sufficient to gain a building permit and that means that his contractual scope was less than a full professional service; as opposed to the case where he is engaged by an owner; and, this limited contractual retainer negates the existence of a duty to a future owner: *Woolcock*. Mr Miller, architect, gave evidence that in his opinion the detail of the normal drawings produced by an architectural draftsman were far less in the number and as to the detail shown on the drawings from those that would be produced by a qualified architect. I am not sure that this is relevant to the question, as I will explain below.

194 Mr du Chateau, building surveyor, gave evidence that in his opinion there is no distinction in the standards of drawings required between an architect and an architectural draftsman in considering whether to issue a building permit as a building surveyor.

195 I accept that evidence of Mr du Chateau. The crucial consideration in assessing whether the architectural draftsman owes a duty to subsequent owners is whether he has complied with his statutory obligations under the BA and the BR, of which Regulation 15.2 requires that:-

'A registered building practitioner must –

(a) perform his or her work as a building practitioner in a competent manner and to a professional standard;

…'

196 The standard of drawing required from an architectural draftsman is that of a competent professional. A guide to what the legislation requires can be gleaned from the Building Commission's publication *'Competencies Draftsperson'* which states that:-

> *'The applicant should provide evidence demonstrating knowledge and skill in the following competencies:'*

Under the heading 'Work Practice' these competencies include:

> *'• Understand and co-ordinate consultant information into project documentation*
>
> *• Prepare detailed specifications*
>
> *• Produce detailed drawings and documentation for residential dwellings and commercial dwellings*
>
> *• Provide design solutions for residential dwellings and commercial buildings.'*

And under the heading of *'Construction Technology'* the competencies include the ability to:

> *'• Evaluate materials and methods of construction of residential dwellings in commercial buildings*
>
> *• Apply principles of construction technology to residential dwellings and commercial buildings*
>
> *• Apply principles of environmental sustainability to building design.'*

197 I take this to mean that the drawings the architectural draftsman submits for an application for a building permit and for the construction of the dwelling will exhibit competency to a professional standard in the aspects described above. That I consider is his statutory duty under the building legislation; this is regardless of the terms of the architectural draftsman's contract with the builder to the extent that it would require him to breach the competencies and professional standard required by the building legislation.

198 I consider that the observations of Windeyer J in *Voli v Inglewood Shire Council* (1963) 110 CLR 74 at 85 are, in this regard, apposite:

> *'Neither the terms of the architects engagement, nor the terms of the building contract, can operate to discharge the architect's, duty of care to persons who are strangers to those contracts. Nor can they directly determine what he must do to satisfy his duty to such persons. That duty is cast upon him by law, not because he made a contract, but because he entered upon the work. Nevertheless, his contract with*

> *the building owner is not an irrelevant circumstance. It determines what was the task upon which he entered. If, for example, it was to design a stage to bear only some specified weight, he would not be liable for the consequences of someone thereafter negligently permitting a greater weight to be put upon it.'*

I consider these observations apply to this case as the owners were strangers to the architectural draftsman's contract with the builder. I consider that the terms of the architectural draftsman's contract with the builder cannot relieve him of a liability to produce architectural drawings in compliance with the requirements of the building legislation.

199 In relation to the architectural draftsman's reliance on the High Court authority of *Woolcock* that was a case where the High Court refused to find that a defendant engineer owed a duty to a subsequent owner of a commercial building in which the design of the footings turned out to have been defective resulting in significant differential movement damaging the structure of the building. In the *Woolcock* case the design of the footings turned out to be defective as a result of a lack of knowledge of the properties of the founding sub-soil material. This lack of knowledge came as a result of the owners refusing to pay for a comprehensive examination of the founding soils over the Woolcock site, even though the engineers recommended such an examination take place, this was part of the contract between the original owner and the defendant engineer. Thus, factually I consider that the circumstances of the *Woolcock* case are significantly different from the present case. Further, the joint judgment of Gleeson CJ, Gummow, Hayne and Haydon JJ, in *Woolcock* at para 35 recognised that domestic dwellings are in a different category to commercial building-

> *'The actual decision in Bryan v Maloney has now been overtaken, at least to a significant extent, by various statutory forms of protection for those who buy dwelling houses which turn out to be defective.'*

200 In 1993 there was an extensive review of building in Victoria with the passing of BA which I consider does much to answer the courts' legitimate concerns in relation to extending the categories of case that will attract a duty of care to avoid pure economic loss. And, I consider the building legislation that was then enacted and was in force at the time of the construction of these dwellings is a salient factor in assessing whether such a duty should be imposed upon the architectural draftsman.

201 In relation to building surveyors there has been a recent decision of the Court of Appeal in *Moorabool Shire Council v Taitapanui* [2006] VSCA 30 (24 February 2006) where in the leading judgment, Ormiston and Ashley JJA said at paragraph [71]:-

> *'When the defendant's acts or emissions arise in connection with the discharge of statutory duties or the performance of statutory functions, the statutory framework is itself a salient feature to which consideration must be given.'*

202 They further observed at paragraph [72]:-

> *'To those considerations should be added the following: three policy considerations are pertinent in every case. First, that the effect of this decision should not lay a defendant open to claims which are indeterminate as to class or number of potential claimants, time or amount. Second that the affect of the decision should not be to unduly hinder ordinary commercial transactions (or, be inconsistent with normal business standards). Third that a decision should not have the affect of intruding into another area of the law.'*

203 And at [73]:

> *'Also to be borne in mind is the fact that the pertinent law has been developed cautiously, incrementally and by analogy.'*

204 The joint judgment in *Taitapanui* considered the BA and BR to be a statutory scheme which they considered to be of central significance when assessing the salient features in deciding whether a duty of care existed; see paragraph [74]. The joint judgment also observed that '*In some cases the common law discerns in one or more statutes the foundation for the erection of a cause of action'*: see paragraph [81]

205 In relation to architectural draftspersons, who are required to be registered with the Building Practitioners Board '*Building Practitioner'*: see para 11 of BA and BR Regulation 15.3(g), I consider that the following statements of the Minister in the Second Reading Speech of 11 November 1993 are pertinent:

- *'The bill proposes the establishment of a Building Practitioners Board to be responsible for the registration, oversight and discipline of a range of building practitioners, including mechanical, structural and geo-technical engineers, building surveyors and inspectors, and the people responsible for the onsite erection of temporary entertainment structures. It is expected that the combination of the Commission's capacity to oversee the system and Building Practitioners Board's inspectorial, enquiry and disciplinary power to achieve maintenance of the existing high quality of building.*
- *The bill introduces long overdue reforms to update liability and insurance arrangements in the building permit industry all building practitioners will be required to carry professional indemnity cover to financially guarantee their professional obligations, except in the case of residential builders who already provide the consumer with an indemnity under the Housing Guarantee Fund Ltd.*
- *Traditionally a building owner has had to contend with the ever present risk of not being able to enforce a court determination awarding damages because the financial position of construction practitioner is not backed by the insurance can make such actions pointless.*

- *The introduction of compulsory insurance to put all building practitioners on the same footing and will provide building owners of more certainly. A further benefit is the predicated improvement in care and diligence which will result from compulsory insurance requirement, as a no claims record will lead to lower premiums.*
- *The construction industry, local government and interested members of the public are on record as welcoming the liability reforms contained in the bill. Abolition of the unfair doctrine of joint and several liability or the deep pocket syndrome, will introduce a far more equitable and responsible allocation of risk. No defendant will be liable for more than his individual apportionment.*
- *This means that architects, engineers, local government officers and building surveyors will not have to assume liability for the mistakes of other defendants. Traditionally, a large part of the costs of insurance premiums has resulted from the risk that an insured practitioner has had to accept for awards involving insolvent defendants. The reforms will diminish the risk to insurers which in turn will restrain insurance premiums. This reform is one of the major factors that will give insurers the incentives to stay in the construction industry. Together with the new compulsory insurance requirement, the measures will establish a fair and equitable liability regime.*
- *The building bill will introduce a clear trigger for consideration of construction liability claims. Under the current statute of limitations there is a great deal of confusion over when the existing six year limitation period starts and ends. One test is from when damage occurs; another test is from when a fault is discernable. The result is confusion and increased litigation risk.*
- *The building bill defines a clear stating date, the date of issue of an occupancy permit, and a clear conclusion date of 10 years from the date of issue. This will remove the existing ambiguity surrounding the time during which the building owner retains the right to issue legal proceedings.*
- *The 10 year cap applies to property damage resulting from defects in the design, construction, approval and inspection of buildings. It does not, however, extend to claims for personal injury or death which may result from the damage.'*

206 In *Perre*, McHugh J addressed the Court's underlying concerns as to the indeterminacy of liability as outlined by Cardozo CJ in *Ultra Mares Corporation v Touche* (1931) 225 NY 170 at 179 as liability *'in an indeterminate amount for an indeterminate time to an indeterminate class'*. His Honour also observed in paragraph [106] that a feature more likely to be present in economic loss cases than physical damages cases is the *'ripple effect'* of careless conduct as identified by Dr J. Stapleton, *Law Quarterly*

Review Vol 107 (1991) 149 at 255 where she observed that *'economic loss can ripple down a chain of parties'*.

207 I consider that the statutory scheme initiated by the BA, the BR and the Ministerial orders setting out the requirements for professional indemnity insurance required by building practitioners covers most of the concerns outlined above. An indeterminate amount was met by Section 131 of the *Building Act* which required that the liability of defendants in a building action was limited to what the Court considered should be their apportioned liability given their degree of responsibility for the damage caused. Section 131 has been repealed and enacted to replace it is Part IVAA – Proportionate Liability in the WA which applies to

(a) A claim for economic loss or damage to property in an action for damages (whether in tort, in contract, under statute or otherwise) arising from a failure to take reasonable care; and,

(b) A claim for damages for a contravention of Section 9 of the *Fair Trading Act* 1999; See Section 24 AF, WA.

This amendment came into operation on 1 January 2004. The amendment holds that concurrent wrongdoers can only be held liable for their portion of the damage that the Court or Tribunal find just.

208 The concerns in relation to an indeterminate time are met by the prohibition against bringing a building action in relation to a dwelling more than 10 years after the issue of the occupancy permit or the certificate of final inspection: Section 134, BA.

209 The indeterminacy of class is met because it would be limited to any owners of a dwelling over its first 10 years of occupancy. I consider that the practical effect of a ripple affect in relation to tortious claims for pure economic loss involving dwellings is limited, as owners do not normally own dwellings for a profit other than renting and the ripple, if it existed at all, could not, I consider, extend past the tenant. I consider a tenant is unlikely to suffer pure economic loss as a result of property damage to the dwelling in which they reside. If the damage was to the tenant's property or personal injury then owner would be liable to the tenant under the duty imposed by *Donoghue v Stevenson* [1932] AC 562.

210 I consider a further reason for upholding a duty is that if some registered building practitioners are held not to have a duty then any proportion of liability for which they are responsible would have to be carried by building practitioners who are so liable. Sub-section 24AI(3) of the *Wrongs Act* holds that:-

> *'In apportioning responsibility between defendants in the proceeding the court must not have regard to the comparative responsibility of any person who is not a party to the proceeding unless the person is not a party to the proceeding because the person is dead or, if the person is a corporation the corporation has been wound up.'*

Such a finding would run counter to the Minister's statement in the Second Reading Speech that the introduction of compulsory insurance would put all registered building practitioners on the same footing and that no defendant will be liable for more than his individual apportionment.

211 A further reason is that the current system of requiring all registering building practitioners to hold professional indemnity insurance means that all registered building practitioners are under a comprehensive but loose system of performance assessment in that if they do not have a no claims record their premiums will not lower. This is of benefit to the residential building industry and the public that use it, in that competent professionals who regularly meet the standards required under the BA and BR are encouraged.

212 One of the recognised salient features to an assessment as to whether a respondent is under a duty of care is whether the owners are vulnerable to the risk of injury from the architectural draftsman's conduct. The architectural draftsman submitted that the owners could have protected themselves by obtaining a pre-purchase inspection by a building professional or building consultant. Such inspections are unregulated and have no recognised system to them. Further, if they were a required part of an owner protecting themselves they would involve many inspections as prospective purchasers tend to inspect many dwellings before making a purchase. The inspections are not public documents and each prospective purchaser must obtain their own pre-purchase inspection. Such inspections do not normally extend to the design or construction conformity of the footings as this would require significant excavations of the dwelling being put up for sale. Pre-purchase inspections are normally limited to a short visual inspection of the premises, which in this case could not have been expected to reveal the deficiencies in the footing system nor is it likely the problem with the articulation joints would have been identified. To carry out a full inspection that would have identified the deficiencies in the building would have required an extensive survey that would add a significant cost to house purchasing, especially if carried out by a large number of prospective purchasers. I do not consider that this would increase the efficiency of the housing industry in Victoria.

213 Further, under Section 36 of BA the building surveyor must within two days after issuing a building permit give the responsible local authority a copy of that permit together with the plans and documents lodged with the application for the permit. Under Section 31 of BA the responsible local authority is required to keep a register of all building permits given to it. Under Section 32 of BA the responsible local authority must keep all such documents for the prescribed period. Under Regulation 2.7 the authority must keep such records in their original form for 10 years after the date of the issue of the occupancy permit. This means that the architectural plans, must be lodged with the responsible local authority and be produced upon request for the reference of owners, subsequent owners and, with authority,

potential purchasers. Therefore, it is important that these people can rely on the competency and completeness of the architectural plans. Therefore, building owners, subsequent owners and prospective purchasers are vulnerable to a potentially large loss if the architectural draftsman does not perform his tasks competently or to a satisfactory professional standard.

214 The remaining element in assessing whether the architectural draftsman owes a duty of care is to assess whether the damage that occurred was reasonably foreseeable to him in his capacity as an architectural draftsman. This requires that the allegations of failure on his part be assessed individually. Firstly, the allegation that the draftsman nominated tree planting to the front of the house without specifying site drainage.

(iii) Tree Planting Depicted on the Site Plan

215 The architectural draftsman produced the same plans for submission to the responsible local authority for planning approval and for an application for a building permit, being Plans 1 to 6 of 6, Job No. 1557, Issue B dated April 1997. These plans were approved as part of the relevant planning permit, No. BOR97/154 and are stamped *the plan is approved in respect of the above permit* together with a date stamp of 12 June 1997. The planning permit No. BOR97/154 was issued on 14 May 1997 and required a number of modifications in Condition 1 the relevant items of which were separation of the driveways with a pedestrian safety area between them; and Condition 2 increased tree planting in the area between the driveways.

216 A significant portion of the hearing time was taken up with whether the architectural draftsman's *Site Plan* was the *landscape plan* referred to in the planning permit? I consider this question too precise, rather was the planting shown on Sheet 6 of 6: *'Site Plan'* intended to convey to the responsible local authority that this was the planting that was envisaged at the time of applying for a planning permit and it was submitted to conform as landscaping complying with the requirements of the permit notwithstanding that a later *landscape plan* may be submitted. In other words, in the absence of a further plan showing landscaping was this intended to convey to the responsible authority that this was satisfactory planting that would comply with the conditions of the permit. I consider that it was intended to give this impression and that in compliance with the conditions of the permit the amended plans submitted nearly a month after the permit was issued were stamped as plans approved in respect of the permit. Therefore, I find that the plant locations and number marked on the plan by the architectural draftsman was intended to convey to the responsible local authority that this was the planting that would take place in the absence of any further landscaping plan.

217 Should the architectural draftsman be responsible for this, when on his own evidence he was only putting the trees on the plan at the request of the builder to satisfy the responsible local authority's landscaping requirements set out on the planning permit? Clearly, he should if he put such

landscaping information on the plan intending it to be used as such. As a professional he may or may not have competence in the field of landscaping, but to proffer the information on a plan as a representation to the responsible authority that it is to satisfy the landscaping requirement of the planning permit he was representing to the authority that he has the requisite skill and the responsible authority is entitled to rely on that representation.

218 Notwithstanding his protestations of lack of knowledge, a required competency is a draftsperson's ability to pull together and competently place on a plan the information to be transmitted by other building professionals, such as engineers, both to the building surveyor, builder owners and subsequent owners. I consider he would have been aware that tree roots in changing soil moisture regimes can cause significant substantial damage to dwellings and that he should have asked the structural design engineer or the soil engineer whether such planting was satisfactory. This is especially so where the soils are basaltic. Further, he would have been aware that planting trees close to building footings may require the engineer to give consideration to site drainage along the footing to ensure that no water collects in this location to attract roots; again, I consider he should have sought the advice of the structural design engineer.

219 Was such damage as occurred reasonably foreseeable to the architectural draftsman? In considering that, whilst not an expert, the architectural draftsman, to be a competent professional, must, I consider, have some idea of the problems that tree roots can cause to footings; such that the damage that occurred would be foreseeable in the event that trees were planted too close to the dwelling when there was no provision for site drainage.

220 The second allegation in relation to the architectural draftsman is failure to depict the location of masonry control joints on the plans or elevations of the architectural drawings. Mr Neil considered that competent architectural plans should depict the location of masonry control joints. Mr Haworth was of the opinion that, whilst some architectural plans show the location of masonry control joints, others don't. He agreed that a masonry control joint should be considered and designed so as to provide proper articulation so that it would operate correctly in the circumstances that the structure in its location is likely to face. In this case he considered the damage that had occurred was substantially caused by failures in building construction. Both Mr Brown and Mr Bolwell considered that noting the requirement for masonry control joints in a note on the architectural plans and in the specifications was sufficient.

(iv) Masonry Control Joints

221 Mr McLaughlin, architect for the owner, considered that the location of the masonry control joints should have been shown on the architectural plans and he considered the BCA required their location to be shown. He considered their depiction to be normal practice in architectural plans. I do

not consider the BCA goes this far, it requires that masonry control joints be provided but does not specifically require that they be depicted upon the drawings of the building. Mr Gairns, submitted that subclause 3.5.2 of the Commentary, which was in force at the time of the design requires the location of the joints to be depicted on the architectural drawings; subclause 3.5.2 is in the following terms:-

> *'The locations of control joints should be shown clearly on drawings. The joints themselves should be detailed or specified so they can be built easily and perform effectively.'*

He considered that it was normal practice to depict articulation joints on the architectural drawings.

222 Mr Miller, architect, considered that architectural plans prepared by a draftsman are not required to depict the location of masonry control joints as the level of detail on draftsman's plans are not as extensive as architectural plans prepared by an architect. He considered that architectural plans prepared by an architect would normally depict and detail the location of the masonry control joints. This he explained because architects wished to achieve a certain aesthetic effect on the external wall and located the masonry control joints to ensure this effect was achieved. This allowed the builder to adjust the location of masonry control joints to produce the appearance the builder wanted in the dwelling's external masonry. Further, he considered that the terms of the architectural draftsman's contract with the builder was to produce plans sufficient only to obtain a building permit and this further reduced the level of detail the architectural draftsman was required to put on the drawings.

223 Mr Miller, architect, conceded in cross-examination that he does not read the commentaries to standards and codes, in this case the Commentary on the Masonry Code. He agrees with the recommendation in the Commentary that masonry control joints should be shown on the drawings. However, he then put that the notes referring to the masonry control joints on the engineering drawings should be sufficient and the location of such joints was a decision for the builder and it was not necessary to show them on the architectural drawings.

224 The architectural draftsman gave evidence that he had not specified the location of the masonry control joints on the architectural plans as he did not know where the downpipes were to be located. However, the architectural plans as prepared by him depict the location of approximately 10 downpipes marked as *'Dp'* on the Site Plan: Sheet 6 of 6.

The architectural draftsman submitted as did Mr Miller that it should have been the structural design engineer who selected the locations for the masonry control joints to ensure that the structure performs effectively under the circumstances expected on the subject site. This may be the case but the architectural draftsman has the task of pulling together the various requirements of the other building professionals so that the composite

information is shown on the architectural drawings, subject to exclusion of structural details. Further, it is on the architectural drawings that the masonry is detailed and this is the obvious drawings upon which to depict the locations of the masonry control joints. If the architectural draftsman was not competent of locating the masonry control joints so that they provided an effective articulation system for the masonry in the dwelling he should have requested that information from the structural engineer.

225 As I have discussed above, in considering whether the architectural draftsman owes a duty to the owners I have referred to Mr Miller's evidence and said that I accept the evidence of Mr du Chateau that in an assessment as to whether a building permit should issue there is no difference in detail required between plans prepared by an architect and plans prepared by an architectural draftsman, even if they were to a standard that was just to obtain a building permit. (That is unless a higher standard than that required by the BA, BR and BCA was required by the contract between the builder and architectural draftsman.) But that standard is a professional standard exhibiting the competencies required of an architectural draftsman such that the building method and forms of construction are competently depicted on the drawings so that when used properly on site will result in a satisfactory structural performance for the design life of the building. A similar opinion was put forward by Mr Haworth and I concur. As it is, too few masonry control joints have been installed in the masonry to conform with the Masonry Code and a significant number of those that have been installed have not been installed correctly and do not operate effectively.

226 Given the propensity of the founding soil at the subject site to change volume significantly under a change in soil moisture level the provision and location of masonry control joints is a critical element in the satisfactory performance of the subject dwellings. I consider it is for this reason that the Commentary recommends the depiction of the location of masonry control joints and the details of their construction and I consider that for satisfactory plans in the circumstances of this case and given the founding soil type, the depiction of the location and the details of the masonry control joints need to have been depicted on the architectural drawings prepared by the architectural draftsman.

227 The only reference on the architectural drawings to masonry was on Sheet 5 of 6:–'*Sections*' in the note headed *'Specification Outline'*, where it stated: *'All brickwork to conform to SAA 3700 Code for Masonry and Buildings'*. This meant that the builder and the bricklayer had to go to the Masonry Code to ascertain the requirements and form of construction for masonry controls joints unless they used the structural engineer's notes on SK9 at Note B5 which stated:-

> 'Control joints to be a maximum spacing of 6.5m for brickwork and 6m for blockwork u.n.o.'

228 I consider it would have been reasonably foreseeable to any competent building professional in the class of draftsman that a failure to properly articulate this dwelling on a Class *'H'* soil would have led to cracking in the masonry, which in all likelihood will continue with future changes in the soil moisture regime beneath the footings being inevitable.

229 Taking all of the above into account, most significantly the efficient and effective operation of the statutory scheme for domestic building, the inability of the owners to protect themselves unless by way of expensive, intrusive and unregulated pre-purchase inspections, and the limitation of the liability as to personal responsibility, as to a specific time limit and a small class size, and the fact that the damage suffered was reasonably foreseeable by a competent architectural draftsperson, I consider that the architectural draftsman is under a duty of care to avoid causing the owners economic loss in the manner they have suffered in relation to the cracking at the western end of the building, substantially due to the tree planting near the front of the western end and the lack of site drainage; together with the lack of the required number of masonry control joints and the proper construction of a significant number of those that are installed. However, I do not consider that the architectural draftsman is primarily responsible for the shortcomings in the dwellings and I will address this issue specifically when I get to the apportionment of damages.

(d) Soil Engineer

230 The architectural draftsman alleges that the soil engineer owes the owners a duty of care to avoid a pure economic loss which by the allegations of Mr Brown he alleges it breached. The soil engineer denies all the allegations.

231 I do not need to go into an assessment of whether the soil engineer has a duty of care because on the facts of the specific allegations made against it I find that it does not. Therefore, I do not have to answer the question as to whether the soil engineer owes a duty to subsequent purchasers to avoid causing them harm in the nature of pure economic loss. I will deal with each of the allegations of Mr Brown in turn.

232 The first allegation is that the soil engineer's soil report failed to make any specific recommendations regarding site drainage to be incorporated into the structural or civil design. Mr Bolwell's explanation was that the soil engineer had not been given any building proposal to refer to when it carried out the investigation on site. In its defence he submits that the notes it placed on page 2 of its report should alert any structural engineer for the need for drainage. In the penultimate paragraph of its report the soil engineer states:

> *'All sites should be adequately drained. Methods include: adequate fall, pits, cleaning access, drainage at batter top and bottom, geo-fabric filters, silt traps. Surfaces should drain water away from footings. All plumbing leaks should be repaired. Flexible plumbing fittings are recommended.'*

233 Given the fact that the soil engineer had no specific proposal to apply his expertise to I consider the notes are sufficient to alert any future engineer or architectural draftsman to carefully consider the need for adequate drainage. I do not consider this allegation made out.

234 The second allegation was that the soil report failed to adequately address the issue of large trees in the vicinity of the property. Mr Bolwell submitted that the soil report did recognise the large trees in the vicinity and these were shown on the site plan on page 3 of the report. Further, the report made recommendations in relation to additional articulation to give the structure more flexibility given the presence of the trees. The observations of the site in the third paragraph of page 1 of the report states *'Trees: Large trees at rear'*. In the section of the report headed *'Articulation'* on page 2 it states *'articulation increases flexibility.' 'Where trees are closer than recommended articulation at least every 5m will reduce tree damage.'*

235 In the third last paragraph of the report it states:-

> *'Trees and shrubs should be kept away from footings, the (minimum) distance is the following (as a percentage of the) mature height: Class M 75%, Class H 100%, Class E 150%. Increase 50% for dense tree group. Removal of trees can cause problems, reduce by watering two months between removal and construction. Methods to reduce tree damage include: frame construction, closer articulation, piered/piled footings, root walls.'*

236 I consider these notes are satisfactory to draw attention of any other building professional to the need for closer articulation or other methods of effectively protecting the performance of the structure in the presence of trees.

237 The third allegation is that the soil report erroneously refers to and relies upon an outdated Australian Standard for footing design, being the 88 Standard and/or failed to advise the reader of the proposed amendments to that standard to be made by the introduction of the 96 Standard. Mr Bolwell admitted that he used the 1988 Standard as he had been made aware that the revised code, the 1996 standard would not come into force until the 1st of January 1997. He produced a letter from the Building Commission dated 16 August 2004 confirming this. As to the allegation that he should have referred to the 1996 Standard in his report, I accept he prepared his report on the 3rd of November 1996 and he was not aware as to when any building designs would be submitted to the building surveyor or at what stage the building design would have reached by the time the new standard became in force. The Building Commission in their letter informed the soil engineer that if the relevant building surveyor is satisfied and certifies in writing that substantial progress was made on a design of a building before an amendment (to a standard), the relevant building surveyor may assess that design to the requirements prior to the commencement of the new standard. The soil engineer was never informed

as to the progress of the design and it is entirely appropriate that he carried out his analysis to the standard then in force.

238 In his conclave with Mr Bolwell, the soil engineer, Mr Brown put forward a further criticism that the codes contain minimum requirements for satisfactory work and such minimums may not be sufficient for this site as identified by the classification by the soil engineer of the site as *'P'* class, with the abnormal geological origin of the subject soil in this location being basaltic rather than silurian, together with the presence of large trees closer than their height to the proposed footings, meant that deeper footings than those required by the 88 Standard should have been allowed ie screw piles or pier and beam. Mr Bolwell responded to these allegations by saying that one of the reasons that the soil engineer had designated the site as *'P'* was because of the small amount of fill identified on the site, but the report allowed the site reclassified to 'H' providing the analysis and footing design was carried out by a structural engineer. This meant the soil engineer was aware that the basaltic soil was highly reactive and the need for deeper footings should be considered by the structural engineer. Mr Bolwell submitted that under the 1988 Standard strip footings were not allowed for masonry on 'H' sites, piles or pier and beam had to be used. Notwithstanding Mr Bolwell's explanations, I consider that the requirements of an Australian Standard are all that a professional building practitioner has to meet unless it can be shown that the standard was not applicable. Mr Bolwell's designation of *'P'* so that a structural engineer had to consider the footing design put it in the hands of the appropriate expert to assess the site. Accordingly, I do not consider any of the allegations made against the soil engineer is established and the soil engineer has no liability for the damage suffered by the building.

(e) Building Surveyor

239 I now turn to consider the liability of the building surveyor. Before dealing with the factual allegations I wish to address the causes of action as pleaded in the points of claim of the builder against the building surveyor and the notice of contribution from the architectural draftsman against the building surveyor.

(i) Breach of Statutory Warranties

240 The builder claims that the building surveyor was liable to the owners for breach of the statutory warranties set out at Section 8 of the DBCA, in that he had a contract to provide building surveying services to the constructing owner which can be characterised as a contract to carry out domestic building work. The builder submits that the building surveyor breached the warranties and therefore was liable for any damage flowing from the breach. The building surveyor submitted that the work he carried out as a building surveyor was not domestic building work and he was not subject of the statutory warranties. I agree with his submission that he is not a builder under the DBCA and I agree with the description of the building

surveyor's duties as outlined by Senior Member Davis at para 138 of *Lewis v Threadwell* [2004] VCAT 547 (2 April 2004); therefore this claim must fail.

(ii) Breach of Statutory Duty

241 For the reasons set out in *Taitapanui v Shire of Moorabool* [2003] VCAT 375 at para 5.4, I do not consider that a building surveyor's duties as set out in the BA and BR can ground the tort of *breach of statutory duty*: see also *Lewis* at para 44; therefore this claim must fail.

(iii) Breach of Duty of Care

242 The decision of the Court of Appeal in *Shire of Moorabool v Taitapanui* [2006] VSCA 30 (24 February 2006) held that a building surveyor does owe a duty of care to subsequent purchasers. The leading judgement of Ormiston and Ashley JJA considered that the statutory scheme to administer residential building in Victoria was of substantial importance as a feature of the relationship between the building surveyor and subsequent purchasers in assessing whether any duty of care existed.

243 I do not consider that the building surveyor has a general duty to subsequent purchasers to avoid economic loss caused by inadequate footings. I consider the purport of the building surveyor's duty as outlined in the decision of the Court of Appeal was that the building surveyor had a duty to carry out the duties set out for him in the BA and BR and that is the compass of his duties, ie. the BA and BR set the boundaries of the duty that a building surveyor has to subsequent owners.

244 As I said in *Taitapanui* the position the private building surveyor has is a statutory position created by the building regime enacted in the BA and BR in 1993. He has an important role in ensuring the purpose of objects of the BA and BR are achieved. His is essentially a checking and inspection role; but to reiterate what I said above, it is not a general or supervisory role but to carry out those acts specified in the BA and BR in the manner required by the legislation.

245 Those duties as set out in the BA and BR are to:-

(a) under sub-section 24(1) of BA, inter alia, refuse a building permit unless he is satisfied that the building work and the building permit will comply with the BA and BR;

(b) under sub-section 24(2), must not issue a building permit that places greater or lesser standards or requirements on the building permit than those described by the BA and BR;

(c) under Section 34 of the BA carry out an inspection upon being notified that a mandatory notification stage has been completed, such stages being under BR, Regulation 7.1:-

(i) prior to placing a footing; and

(ii) completion of framework; and

(iii) prior to pouring an insitu reinforced concrete member nominated by the relevant building surveyor; and

(iv) final, upon completion of all building works.

246 In relation to the footings this means that the building surveyor must check and satisfy himself that the footings described in the drawings and specifications meet the requirements of the BA and BR. This requires a working knowledge by the building surveyor of the relevant standards such as the 88 Standard and the 96 Standard. If he is in doubt as to whether the proposed footings comply he should request further information from the architectural draftsman or the structural engineer.

247 In relation to the actual construction of the footing the extent of the duty is given as described above, a mandatory inspection prior to the placing of a footing. This is the limit of the building surveyor's responsibility as defined by the BR. Taking the words describing the inspection according to their natural meaning I consider the building surveyor's responsibilities include, but are not necessarily limited to, inspecting the footing excavation and ensuring it is correctly positioned and of the correct dimensions, any required reinforcement is in place or available for placing during the construction of the footing. He is not required to stay for the construction of the footings or to ensure that this is done correctly.

248 Taking the circumstances of the present proceeding into account, the requirement that the building surveyor need not attend the construction of the footings may appear to be an oversight in the regulations, in that if the building surveyor, or his building inspector, were required to stay for the construction of the footing, deficiencies such as a lack of concrete depth, as occurred in this building, or the incorrect placement of reinforcement may be identified and rectified at the time of the construction of the footing.

249 However, in assessing the liability of the building surveyor and the extent of his duties I do not consider that I should take into account what I consider may be a deficiency in the building regulations that can lead to defective building work. I consider that any necessary amendments to the BA or BR to improve the quality of residential building work should be left to the legislature as advised by the Building Commission and other relevant departments. I do not consider it is for the Tribunal to attempt to implement what it considers are beneficial improvements to the existing system of a residential building control. In relation to residential building I agree with the opinion of Brennan CJ in *Bryan v Maloney* at 644, where His Honour was discussing whether a builder owed a duty of care to subsequent owners:-

> The social question of whether building costs should be inflated to cover the builder's obligation under such a transmissible warranty (ie. duty of care) is an appropriate question for Parliament to consider but, in the absence of compelling legal principle or considerations of

> justice reflecting the enduring values of the community, the Court should not decide to extend remedies not hitherto available to remote purchasers of buildings without considering the cost to builders and the economic effect of such an extension. Those are questions which the Courts are not suited to consider. The extension of remedies in that direction is properly a matter for Parliament.

250 Likewise, I consider the Tribunal is ill equipped to try and assess the professional criteria governing a particular class of building practitioners obligations, which must necessarily take into account cost implications, the manner and degree of integration of the various building practitioners within the residential building industry and the particular expertise required of each class of building practitioner. I consider it is better left to an expert commission charged with administering the residential building system, in this case the Building Commission, and to the legislature. Within that system it is the Tribunal's task in any particular case that comes before it to assess whether particular building practitioners have met the obligations as set out in that residential building system. I consider that the professional obligations required of a building surveyor are those set out in provisions of the BA and BR: *Moorabool Shire Council (C.A.)*. This is not to say that the obligations of all building practitioners are those set out in the BA and BR, there are many professions in which the courts and the Tribunal have recognised specific obligations for specific practitioners eg. structural engineers, architects etc. and it is proper to take these decisions into account when assessing the obligations of these types of building practitioners.

(iv) Form 14

251 Before turning to the specific allegations of unsatisfactory workmanship against the building surveyor I wish to deal with the building surveyor's submission that if he is under a duty of care then he has immunity in relation to the mandatory inspections as these were carried out by a building inspector, Mr G. Dornbusch, who has provided the building surveyor with a Form 14, dated 18 March 1998, which the building surveyor has relied upon in good faith. Under Section 128 and 238 of the BA he is not liable for anything done or omitted to be done if he has relied in good faith on a certificate, the Form 14, issued under Section 238 of the BA.

252 A Form 14 is issued under Regulation 15.7 *'Certificates of Compliance'* and under sub-regulation 15.7(1A)(e) such a certificate can be granted for the inspection of domestic building work. The specific requirements of the Form 14 are set out in Schedule 2 of the BR. Mr Du Chateau, for the building surveyor, noted that the words *has been inspected by me* are missing from the Form 14 issued by Mr Dornbusch. I also note that at the top of the form the regulation to which Mr Dornbusch refers is Regulation 15.5(1)(f), (the (f) appears to be struck out and I will assume that). However, Regulation 15.5 does not deal with certificates of compliance but rather with the exemptions for certain building practitioners. Mr du Chateau also noted that there were no inspection notes, describing the

inspections as carried out by Mr Dornbusch, attached to the Form 14 and that as a matter of good practice these should have been attached. Nevertheless, Mr Du Chateau concluded that the Form 14 relied upon by the building surveyor, despite its defective format, was a reasonable certificate for the building surveyor to rely upon in good faith.

253 Part of Regulation 15.7(2) requires that a certificate under Section 238 of the BA must be:-

> *'(b) In accordance with Form 14 in relation to the inspection of building work'*

Taking those words at their natural meaning a Form 14 to be a valid form must be in the form as set out in Schedule 2 of the BR. I accept that there may be trivial discrepancies but when the words omitting that the basic object and purpose of the form has been carried out, ie. *has been inspected by me*, then I consider that the form is not a valid form.

254 Further, I consider that it is invalid in that it does not set out *'the relevant provisions of the legislation so that they may be checked by the building surveyor before acting upon the certificate. After all what service is it for which the building surveyor charges his fee – a much larger fee than that of the inspector'*: *see Toomey v Scolaro's Concrete Constructions Pty Ltd (No. 2)* per Eames J [2000] VSC 279 at paragraph 271. The decision of Eames J is binding on me and for this reason I also find that the certificate is not a valid certificate. Secondly, I note his observation at paragraph 272 that *'the very fact that the form was completed in the minimalist manner in which it was, would be an important factor in the question whether there was good faith accompanying the reliance on it'*. Given the unfortunate circumstances of Mr Casagrande's illness it was not possible for the Tribunal to hear evidence from him, however, I note the difficulty he would have had in establishing the good faith necessary to establish his valid reliance on the certificate.

255 Although not fatal to the validity of the certificate I consider that Mr Du Chateau's opinion that a copy of the building inspection notes should accompany and be attached to the Form 14 is a wise observation, as accurate and comprehensive inspection notes attached to the Form 14 would, I consider, go a long way to establishing the *good faith* the building surveyor is required to establish to be able to rely on the form. Therefore, I consider that the building surveyor cannot rely, under Section 128 of BA, upon the Form 14 to escape liability for any deficiencies in the mandatory inspections carried out by Mr Dornbusch.

(v) Inspection of Defective Footings

256 I now turn to the specific allegations against the building surveyor and I do so in the order they are set out in the building surveyor's final submissions commencing with mandatory inspection of footings. There is no evidence that the footings were not inspected by Mr Dornbusch prior to the

commencement of the construction of the footings and I accept the reasonable inference that they were.

257 This inspection is prior to the placing of the concrete and is to ensure that footings can be constructed in accordance with the plans specifications and building regulations. As I have said above, it is not a warrant that they have been so constructed. Under the current BA and BR the person carrying out the building inspection is under no obligation to ensure the footings have been constructed in accordance with the plans and specifications and regulations. I do not consider that the building surveyor is under any duty to carry out more than the mandatory inspection required under the BA and BR. He cannot be held accountable for the lack of concrete depth in the footing.

258 The lack of sufficient concrete depth in the footing can be explained by the builder and its employees knocking dirt or spoil into the footing trench as they pour the concrete for the footing or even that they had insufficient concrete so that the required design depth could not be achieved. However that this occurred it is not the responsibility or due to any deficiency in his duty by the building surveyor, as in all likelihood he would have left the site prior to the construction of the footings commencing.

(vii) Masonry Control Joints

259 The allegation is that the building surveyor should have insured that the masonry control joints were constructed as required by the plans, specifications and regulations. I take this allegation to relate to the final inspection prior to the issue of the occupancy permit as there is no mandatory inspection between the inspection of the frame and the final inspection.

260 In this case I consider it would have been obvious from an inspection of the external walls at the time the building work was completed that there were insufficient masonry control joints and a quick scraping away of the render covering the masonry control joints that do exist, low on a wall, would show that a significant number of them have not been constructed in accordance with proper and workmanlike practice.

261 The BA requires that if a building requires an occupancy permit, as does a domestic dwelling, it cannot be occupied without such an occupancy permit: section 40 of the BA. Under section 46 of the BA the effect of an occupancy permit is evidence that the building is suitable for occupation but it is not evidence that the building complies with the BA and BR. I take these words suitable for occupation to mean that a property is fit for occupation and there is a reasonable expectation it will remain fit for occupation over its design life provided proper and sufficient maintenance is carried out. I consider that would have been clear upon a reasonable inspection of these dwellings at the completion of work that there were insufficient masonry control joints and those that were constructed were

unsatisfactory such that the joints will not, in all likelihood, operate such that the dwellings would remain fit for human occupation over their expected design life due to uncontrolled cracking in the masonry leading eventually to weather penetration of the buildings external walls such as to breach the requirements of the BCA. In this case, I consider that the building surveyor, via the building inspector, should have recognised the deficiencies in the joints and should have refused to issue an occupancy permit in accordance with Section 44 of the BA.

262 I find that the failure to require sufficient and properly constructed masonry control joints in accordance with the plans, specifications and BR contributed significantly to the failure of these dwellings to perform satisfactorily. I will deal with the extent of the building surveyor's liability in the section below on the apportionment of damage.

(vii) Soil Report

263 As I found that this allegation is not made out I need not deal with this further, other than to say, that if I am incorrect I consider the building surveyor is entitled to rely upon the Form 13 provided by the structural engineer which I do not recall being challenged in evidence. Finally, even if the allegations were sustained I do not see what damage flowed from such a failure. The classification of the soil would not change under the 96 Standard and the proposed dwelling was substantially not in a form of construction taken into account in the soil report, in that a substantial part of the external walls were full masonry whereas the soil report assumed masonry veneer.

(viii) Structural engineering drawings failed to depict the location of masonry control joints.

264 I have held that the architectural draftsman should have shown the location of the masonry control joints on the architectural drawings, ie the elevations, as these are the main drawings referred to by the builder and its tradespeople on site. I do not consider that the location of the masonry control joints needs to be shown on the structural plans as the structural engineer does not normally issue a comprehensive set of elevations. The allegation against the architectural draftsman is that his drawings were deficient for failing to depict the location of the masonry control joints and I upheld that allegation. I do not see how this allegation can stand as against the building surveyor; for it to be substantiated it would have to be established that the structural engineer should produce such drawings to the building surveyor. There was no evidence that the structural engineer would as normal practice issue a complete set of elevations depicting the location of the masonry control joints. Mr Haworth was of the opinion that the location of masonry control joints were not depicted on the structural engineering drawings. No such allegations were made against the structural engineer in this case and I do not recall any direct criticism of the sufficiency of the structural engineer's drawings. This allegation must fail.

(ix) Structural engineering drawings failed to specify agricultural drainage

265 For reasons similar to my decision in relation to the allegation regarding the failure of the structural engineer to depict the location of masonry control joints on the structural engineering drawings, I do not consider that it is of any benefit that the agricultural drainage be shown on the structural engineer's drawings, as the drawings constantly referred to on site for the general construction of the buildings by the relevant tradesmen are the architectural plans. The architectural draftsman should refer to the engineer as to whether there are any particular drainage requirements, but I do not consider that the building surveyor must insist on drainage being shown on structural engineering plans. Except for structural details it is the architectural drawings that are used in the building of the structure. This allegation fails.

(x) Inspection of the footings defective

266 I do not consider that this allegation is made out. The discussion within the engineering conclave was that at the time of the building inspector's inspection prior to the commencement of the construction of the footings the excavation for the footings would have been to the correct dimensions and the deficiency in the footings came from bad construction techniques by the builder, in particular it appears soil or spoil has been knocked into the trench prior to the placing of the concrete and this would result in a deficiency in concrete depth and also in overall depth to the bottom of the footing from the surface. Further, given the landscaping around the house, there is no fixed reference point as to what the natural surface was at the time of the inspection so that the overall depth of the footing from the pre-existing soil surface can be assessed with any confidence.

(xi) The building surveyor issued an occupancy permit when there was insufficient sub-floor ventilation

267 The sub-floor ventilation is required to keep moisture in the sub-floor space to an acceptable level, such that the building elements do not deteriorate too quickly and termite infestation is not encouraged.

268 The architectural drawings showed manufactured sub-floor vents installed in the footing wall underneath the floor level. The builder did not construct these but left open perpends in the brickwork. As discussed above, the location of the perpends does not ensure they would act properly as sub-floor ventilation and the number of perpends is completely inadequate for the amount of sub-floor ventilation required by the BCA. I consider this would have been reasonably obvious at an inspection of the external walls of the building on the completion of the building work. Therefore, I consider that this is a deficiency in the building inspector in the carrying out his functions and as the building surveyor is not able to rely on the Form 14, I consider the building surveyor has some liability for rectifying this defect. Further, as I consider that the lack of subfloor ventilation directly

encouraged the termite infestation I consider the building surveyor must bear some responsibility for the termite infestation. I will deal with his apportionment later.

(xii) Defective Form 14

269 I have considered whether the building surveyor could rely on the Form 14 and found that it was an invalid form, therefore he cannot rely upon it. However, I do not consider that this particular allegation gives rise to any particular specific damage, it is only the removal of a defence available to the building surveyor if established. This completes the allegations against the building surveyor.

12 QUANTUM

(a) General

270 In this section I will deal with my assessment of the costs of rectification of the building damage established in the dwellings. That will be followed by the apportionment of that damage as required by the recent amendments to the *WA* in Part IVAA – *Proportionate Liability*.

271 The quantum conclave was attended by, for the owners; Mr Gairns, building consultant, and Mr Hargreaves, builder; and, for the building surveyor; Mr Brown, civil engineer, and Mr Trevean, builder

272 I only received one complete and detailed estimate of the total rectification work required; this was a *Bill of Quantities*, dated 18 May 2005, prepared by Mr L. Hargreaves for each dwelling. It was these bills of quantities that formed the basis for the discussion and evidence given in the conclave of experts regarding the assessment of the quantum of damage.

273 Mr Hargreaves gave evidence that his bill of quantities was set out as if he was going to carry out the rectification work and was a complete bill. He had taken the scope of rectification work from the scope prepared by Mr Gairns, who had set out a descriptive scope of rectification work after consultation with Mr Neil, civil engineer. The owners gave evidence that it was their intention to use Mr Hargraves to carry out the rectification work but I do not find that this is relevant in my assessment of the specific costs of the quantum.

274 Mr Hargraves bill of quantities were prepared in his report of 16 February 2004. The bill of quantities addressed by the estimating conclave were dated 17 May 2005. After going through the bill I indicated items that I would disallow or change and Mr Hargraves produced revised bills dated 16 June 2005. However, in this determination I will address the original bill of 17 May 2005, as addressed by the quantum conclave.

275 Mr Brown, previously an expert witness for the insurer, had prepared for the insurer his scope of works as to the damage he considered needed rectification, this was set out in his *Schedule of Works to Repair,* in a fax date of 15 February 2005. Mr Brown agreed in cross-examination that his schedule of 14 December 2004 he had prepared for the insurer was not a full work schedule but what he considered should be fixed. There were indicative costings on this schedule and, as I understand it, these were prepared by Mr Trevean, Building Manager for Hilles Homes. The costings attached to the Brown report were stated to be approximate and the schedule did not contain all of the items I consider it will be necessary to rectify eg. termite damage, sub-floor ventilation, etc. Mr Trevean in cross-examination said that the estimates of cost prepared by him made no provision for underpinning costs, termites, lightwells, balcony rectification or structural engineering.

276 Secondly, the Brown report contained methods of rectification I have not accepted; for example, it did not allow for any underpinning and it did not allow to remove the brickwork from the front façade. Mr Brown acknowledged these deficiencies. He considered that only the party wall in the garages and the outrigger entrances would need to be underpinned and he would use a needle and pin method which he estimated would cost in the order of $10,000 for the two to three pins required.

277 Thirdly, it allowed for works I do not consider necessary; for example the plastering either side of the party walls in the garage as Mr Brown was of the opinion that the party wall would keep cracking in response to soil movements. I consider this is unnecessary, as I have accepted that all of the footings should be underpinned.

278 In discussing the Brown schedule Mr Trevean agreed that Mr Brown's scope of work and his estimate were not undertaken as a pricing of a job but rather they were in response to specific requests by the insurer to look at specified areas of the rectification and give approximate costs of rectification for those areas.

279 This brings me to my final objection to treating the Brown Schedule as comprehensive, in that it is not detailed sufficiently to allow me to assess how the costs were arrived at, giving only totals for each category of rectification work and the type and extent of work to be carried out is not specified and neither are the unit costs for those methods of work. Therefore, the conclave concentrated on going through Mr Hargrave's bill of quantities for each property item by item, with reference where necessary to Mr Brown's Schedule. Therefore, I have based my assessment of the necessary rectification costs on an analysis of the Hargreave Bills of Quantities.

280 The quantum conclave addressed each item in the bill in the sequence in which the claims were set out and where queries have been made by the other parties or relevant discussions took place over an item in the bill I have identified that and set such discussions and my findings out below. The bills as I have amended them for each property to give a final assessment of quantum are attached as Schedule 1 for No. 57 and Schedule 2 for No. 59. For ease of set out and to indicate where I have made changes I have used Mr Hargrave's original bills of 17 May 2005 and amended them in bold to denote my changes.

281 I will now deal with the major discussions that took place in the quantum conclave in relation to the methods proposed for rectification works, the estimated costs submitted for the rectification works and my findings on these discussions. I have set out these discussions in the chronological order in which each major topic was addressed in the conclave.

282 In assessing the quantum of damage I have been mindful that I am assessing damages in a contractual and tortious context but in the factual context of this proceeding I do not consider that an assessment in each context would give rise to any differences in amounts. There are no other damages claimed than the direct cost of carrying out reasonable and necessary rectification work: *Bellgrove v Eldridge (1954) ALR 929* and the consequential damage associated with carrying out such rectification work, such as alternative accommodation. I refer to paragraph 8-110 of Hudson's *Building and Engineering Contracts*, Eleventh Edition, 1995.

> *'In regard to breach of contract the principle was formulated by Parke B. in 1854 in terms which have received universal acceptance not only in Commonwealth countries, but also in the United States:*
>
> > *"The rule of common law is, that where a party sustains a loss by reason of a breach of contract, he is, so far as money can do it, to be placed in the same situation, with respect to damages, as if the contract had been performed." Robinson v Harmon (1848) 1 Exch 850, at p855*
>
> *In regard to tort, the principle was similarly formulated by Lord Blackburn in 1880 when describing the measure of damage in tort as:*
>
> > *"that sum of money which will put the party who has been injured … in the same position as he would have been if he had not sustained the wrong for which he is now getting his compensation." Livingstone v Rawyards Coal Co (1880) 5 App. Cas. 25, at p39*
>
> *While it has been a received view in the past that damages would differ in contract and tort, particularly in regard to questions of remoteness, there seems no logical reason why this should be so, and the modern judicial tendency is to harmonise the two, building on their shared compensatory basis, and increasing doubts have been expressed as to the validity of any distinction between them: Hawkins v Clayton (1988) 164 CLR 539, at p584, per Deane J.'*

(b) Underpinning Costs

283 Mr Brown and Mr Trevean considered that using needle and pin was the most economical way of approaching the underpinning at the front of the dwellings. Mr Hargreave and Mr Gairns, supported by the engineering evidence of Mr Neil and Mr Haworth, had allowed that all of the masonry of the front façade on both the ground floor and first floor, together with the solid masonry of the party wall and the north and south garage walls back to the first masonry control joint should be demolished and rebuilt.

284 As I understand the needle and pin method it involves placing a pin through the masonry at approximately the ground floor ceiling and this pin is supported either side on a props down to a solid base that will support the load of the first floor, including masonry and roof. These needle and pins support the first floor brickwork so that it is only the ground floor façade brickwork needs to be removed and rebuilt. Mr Brown was of the opinion that it was unnecessary to remove the north and south walls back to the first masonry control joints and I will deal with that below. Once the needle and pins have been installed on the party wall the defective masonry on the ground floor is removed and the failed footing on the party wall and at the front of the dwellings can be removed and replaced with a footing of proper dimensions and strength and then the ground floor masonry replaced.

285 Mr Neil, civil engineer, was recalled to give evidence on this method of rectification. He considered the fact the first floor masonry façade had significant cracking and that the masonry did not appear to be tied together by sufficient brick ties eg. the masonry pier at the end of the party wall in the front of the dwellings was severely cracked and showed no brick ties. He considered these deficiencies demonstrated that the first floor masonry of the façade should be removed and rebuilt. He considered that whilst the first floor was being supported by the pins there would be a stability problem with any resistance to lateral movement of the first floor masonry across the line of the party wall which would be removed and the only lateral support would come from the crosswall at the eastern or rear end of the garage. I consider that the stability of supporting the first floor brickwork is a substantial problem as the piers and walls at the front of the building have already moved laterally a significant amount up to 20mm as measured by Mr Haworth. Such a degree of out of plumb means that there is already a tendency to lateral instability in the party wall near the front of the building and also the external garage walls. Great care needs to be taken during the rectification process so as not to exacerbate the existing instability or cause an unacceptable risk of creating a large problem than the one to be rectified, always keep the uppermost in mind that the safety of the workmen is paramount.

286 A further difficulty I perceive with the needle and pin method is that the weight of the first floor that has to be supported will be large and this means that the props under the needles need to be on a sound solid foundation. The only solid foundation I can see at the moment is the existing concrete

slabs in the garages. If these are used for the foundation it is going to be very difficult to get to the defective footings and the only practical way to me seems to be removing the failed footing on the party wall by hand and installing a new footing to a significant depth in a very confined space. I consider this would be a lengthy and costly process.

287 Mr Brown responded that in his opinion the first floor masonry at the front of the dwelling is not sufficiently defective so as to need replacement and he considered the method of proposed needle and pin to be safe. He also did not consider that the front of the north and south walls of the garages needed to be removed and rebuilt as the cracking in these walls was no greater than 5mm and therefore the repair by replacement was not justified under Appendix C to the 96 Standard, which sets out categories of brickwork damage to walls and the recommendations as to its rectification.

288 I do not accept Mr Brown's opinion as to whether the first floor masonry and the north and south walls of the garages back to the first masonry joint should be replaced as there is no cracking greater than 5mm in these walls. I consider that when assessing the degree of rectification required to give the owners a satisfactory structure I need to take into account the damage to the structure as a whole and not as separate isolated areas. It appears to me that the footings to the party wall at the front have suffered significant failure, given the degree of cracking in the party wall at the front of the buildings and to the front masonry pier is Category 4. Also there has been significant settlement to the south-western corner of the front of the dwellings and significant cracking in the area of the southern wall of the garages and cracking back from the north, the south-west and north-west corners of the building, albeit less than 5mm. Taking into account that there appears to have been a failure to use sufficient brick ties to tie the masonry together so that it has sufficient internal strength and resistance to movement, I agree with Mr Neil's proposed rectification that the party wall together with the north and south walls of the garages should be removed back to the first masonry control joint from the western end and rebuilt for both the ground and first floors.

289 A further significant advantage of removing the masonry back to the location of the first masonry control joint and rebuilding it is that there will be a masonry control joint at the location where the reconstructed masonry meets the existing masonry and this will allow for any differential movement between old and new, including any shrinkage in the newly installed concrete bricks. I accept the opinion of Mr Hargraves in his report that:-

> *'When the front facades are removed, the new construction should have all brickwork tied together correctly and properly constructed expansion joints installed. This would allow the building to move without causing any major cracking.'*

290 In considering the amount of underpinning required I had previously agreed with Mr Haworth that all of the footings of the dwellings should be underpinned. I initially did not consider that I needed to consider the depth of the underpinning but this later turned out to be untrue and I will deal with this aspect below. To turn to the costs of underpinning Mr Hargrave in his estimate had allowed a total of 9 pins at an estimated cost of $25,000. This was for a partial underpin. This is approximately $2,800 per pin. Mr Brown considered this was too expensive and was of the opinion an underpin should cost around $1,200 each. Mr Gairns said he normally estimated underpinning at $1600 to $1800 per pin. The conclave agreed this would be a substantial underpinning task. Mr Hargreaves assessed that 34 pins would be required. Mr Brown considered that conservatively 37 pins would be required. Mr Gairns had allowed 35 pins in his report. Mr Haworth in his report had estimated 31 pins. I informed the conclave that I would allow 34 pins and given the large size of the task a price of $1,500 per pin was appropriate, giving a total of $51,000; which I considered should be divided equally between the properties at $25,500 per property and this was to be inserted at Item 16.1 on both bills of quantities.

291 The conclave discussed the most economical method of carrying out the underpinning and agreed that as it was necessary to remove the flooring in No. 59 due to the termites and this gave access to underpinning the party wall in the dwellings and the rear wall of the garage to No. 59 without removing the garage slab. Thus only the garage slab in No. 57 needed to be remove to underpin the party wall in the garages and the rear wall of its garage. Otherwise, the underpinning could be carried out from outside the building. The experts agreed that the cost to demolish and reinstate the garage slab should be costed at $100 per square metre.

292 The costing of the underpinning was complicated on the second day of the estimated conclave when Mr Hargreaves reported that in discussing the underpinning with a company specialising in this work he was informed, and I accept, as did the other participants at the conclave, that there was new occupational health and safety legislation in place which required that for each man excavating a hole to a depth of 2.2m a *spotter* or watcher is required for every man excavating a hole at that depth and this can almost double the workforce. The company estimated that its price for 34 pins; up to 1.5m deep would be $40,000 for 34 pins at an average depth of 2.4m they gave an estimated total price of $85,000. The 2.2m depth came from Mr Brown's estimate that that would be the average depth required for the underpins. On a first impression I cannot understand how the price more than doubles even allowing for a spotter for the additional excavation of 700mm. One of the problems I had with the evidence is that I was not reliably informed at what depth the legislation required a spotter. From my civil engineering experience I know that in the excavation of trenches comprehensive shoring of the trench walls was required for any depth

greater than 1.8m. Mr Brown was of the opinion that a spotter would be required for any depth in excess of 1.6m and I accept his evidence.

293 There was considerable discussion at the estimating conclave as to the likely depth of underpins and this was influenced by the likely depth to rock. One test bore out of seven in the McGregor report had shown rock 700mm in the north-east corner of the building and Mr Brown's test bores had shown rock at 2.5mm in the south-side of the building approximately opposite the McGregor test bore showing rock at 700mm and he had also struck rock at 1.4m on the line of the party wall at the western end of the building. Although there is a lack of sufficient information, it indicates to me that the rock is dipping from north to south, the direction the fall of the valley discharging to the Yarra. From the information available I would consider that the rock depth on the northern side of the building would be less than 1.6 to 1.8m whilst the depth of underpins required to rock along the party wall would be in the order of 1.8 to 2.2m whilst the depth of underpins on the southern side of the building would be 2.2m or greater. It is not necessary to go to rock. I accept Mr Brown's depth of 2.2m would mean that the underpin was found at a depth below which there was any real soil moisture change and therefore soil movement. Mr Brown considered that approximately half of the underpins required would be below the depth of 1.6m. There was a long discussion as to the costing of these underpins at various depths.

294 However, on the next day of the conclave Mr Brown gave evidence that after consideration overnight he now considered that screw piles should be used as over 1.5m these were cheaper than underpins. He considered that screw piles could be installed to the required depth in excess of 1.6m for $1,500 per screw pile. Mr Hargreaves said he had not had a lot of experience with screw piles and he accepted Mr Brown's estimated cost of screw piling. I also accept Mr Brown's estimate of screw piling and therefore the underpinning remains at $1,500 for each pin or pile and the estimated cost remains unchanged.

(c) On-Costs

295 To the estimates of actual work needs to be added allowances for overheads, profit and risk. Mr Hargreaves had added onto his bill of quantities for the cost of rectification and allowance of 7.5% for overheads, plus an allowance of 15% for profit, giving a total overheads and profit figure of 22.5%. His allowance for risk was made up of lump sum provisions on specific items areas where he considered risk to exist; eg underpinning, etc. Mr Brown and Mr Trevean in their estimate had allowed 30% for profit, with an allowance of 10% for risk, giving a total oncost of 40%. I take it that their profit margin also included an allowance for overheads. I prefer the method of estimating of Mr Brown and Mr Trevean. I consider it is too difficult to get an overall feeling for the risk in a project by placing provisional sums on specific items. Mr Hargrave in his report

had allowed a $5,000 contingency on the underpinning cost and a further $5,000 as an unforseen cost allowance. He had also allowed for minor items such as builder's tools and some other minor items. I consider these all should be deleted and included in a risk allowance which I would estimate to be 7.5%, so that Mr Hargraves total on-cost will be amended to 30%. Where I have deleted items in relation to the overhead and risk factor I have noted that in the bills in Schedules 1 and 2 attached to this determination.

296 Mr Trevean said in cross-examination that he considered the allowance for supervision of the work should be allowed in the overhead allowance. Mr Hargreaves had allowed for supervision as an item in his bill of quantities, ie Item 2.1. Given the amount and complexity of work the rectification he had allowed a full time supervisor for 38 weeks. I agree that the rectification work on a tight site with extensive underpinning and structural work and the insertion and rectification of crucial structural elements such as masonry control joints and rectification of extensive termite damage will require constant and close supervision, virtually a clerk of works. I accept Mr Hargreaves treating as a separate item and allowing almost full time supervision of the rectification work split between the dwellings. I note that in Trevean's estimate his allowance for overhead profit and risk was 10% higher than I have allowed and I consider this would cover a substantial part of the costs of supervision.

(d) Price Increases

297 Mr Hargraves original estimate of rectification costs was prepared as at 16 February 2004. In a letter to the solicitor of the owner of No. 57 on 17 May 2005 he estimated that prices had increased by 8 to 10% to the date of the letter. Counsel for the applicants put into evidence a survey by the Australian Institute of Quality Surveyors that showed building costs had risen over the last 12 months by 8.9%. Mr Trevean did not consider that prices had gone up by this amount, that is between February 2004 and May 2005, his experience was that the price increase over this period was less than 3 to 4% with many prices the same; for example, labour costs are similar, bricks were unchanged, etc. Further the costs that were discussed in detail during the conclave were costs as at the date of the discussion; eg. the discussions regarding underpinning costs. He considered that Mr Hargraves' figures should be reduced to allow for the costs as discussed at the date of the conclave. I agree with Mr Trevean as to a reduction for those costs that were discussed and estimated during the conclave as at the date of the conclave. Taking this into account I consider that for the increase in costs from February 2005 to the date of the hearing I should allow 5%. I also consider that some allowance should be made for the cost increase from the date of the hearing until the date of my determination and I will allow a 2% increase. Therefore, Mr Hargraves' costs are to be increased by 7% from those costs given by the bill of quantities with its on-costs.

298 Finally, GST will need to be applied to any final estimated cost as there was no evidence that the owners would be able to claim imputed GST credits for any rectification work carried out.

(e) Concrete Bricks

299 Mr Trevean queried the number of bricks to be replaced in Item 17.1 of the bill as it was the same on both estimates. Mr Hargraves on checking his calculations confirmed that this was required to replace the masonry in the garage walls back to the masonry control joint and also for the first floor.

(f) Landscaping Allowance

300 Mr Trevean considered that the landscaping allowance was slightly high but he acknowledged that landscaping contractors were expensive. Given the amount of disturbance to the site by the extensive rectification works and the need to bring heavy machinery onto the subject properties eg. bobcats, trucks, concrete pumps etc. I consider the allowance satisfactory.

(g) Time to Carry Out the Rectification Work

301 Mr Hargraves estimated that it would take 45 weeks to carry out the rectification works whereas Mr Trevean estimated five to seven months, this was for partial underpinning. When queried about this Mr Trevean allowed another month for full underpinning giving eight months which is 35 weeks. I allow 40 weeks to carry out the rectification work.

(h) Alternative Accommodation

302 Mr Brown considered that the owners did not need to be absent for the whole of the rectification period in that the destructive works requiring the owners absence would take three to four months to carry out and also the owners do not need to be absent at the same time but could be absent for different periods. In relation to the alternative accommodation that is sought by the owners the owner of No. 57 would like a place of similar size to what is existing. For relaxation she plays the piano and would wish to have her piano moved to the temporary accommodation. The owner of No. 59 has three male children aged 14, 15 and 17 and would want a similar sized property of three bedrooms, preferably with a study. She had been given a rental estimate by a local real estate agent, Mr H. Tostevin of Marshall White but Mr Tostevin was not called to give evidence.

The owner of No. 57 called Mr C. Smirnakos, certified practising valuer, who considered that the market rental for similar town houses in the Hawthorn area was in the range of $475 to $550 per week. The subject dwellings were approximately eight years old and he considered to rent a similar aged property of the same size in the Hawthorn area he estimated the rental to be $525 per week.

303 In cross-examination Mr Smirnakos acknowledged that he had only looked in the Hawthorn area, properties for a lesser rental were put to him, those properties being in different suburbs. The details of these properties, including the rent, were taken from the internet and varied in their rentals from $315 per week to $375 per week. I am loath to accept this evidence at face value as I was not made aware if there were any conditions in relation to the length of the lease. The rent range from the internet properties appears significantly lower than what one would expect the subject dwellings would rent for if they were in good condition. I accept the evidence of a witness who is subject to cross-examination and whose evidence is coherent and well explained. I prefer the evidence of Mr Smirnakos.

304 I accept that the owners are entitled to have alternative accommodation within reasonable proximity to their dwellings that are being rectified. I consider that they are entitled to have sufficient space as it would be a number of months over which the rectification work would proceed and I consider they are entitled to carry on their normal lives. However, I do acknowledge that they will have a lot of their furniture and belongings in storage over this period. Therefore, in relation to the owner of No. 59 with the three boys I consider that she is entitled to a property of approximately the same size as the one she has and I will accept Mr Smirnakos' estimate of the rental at $525. In relation to the owner of No. 57, I consider she is entitled to be able to get her piano into the alternative accommodation but it does not necessarily mean that it needs to be the same size as the present dwelling she has and I consider that the rental allowance for her should be in the order of $475 per week.

305 In relation to the period of time over which the owners will need to be relocated I do not consider it is the total construction period of 40 weeks but there will be an approximate two week period at the start before they need move to temporary accommodation and they can move back in one week before the completion of all of the works. This means that I will allow alternative accommodation in relation to No. 57 for 37 weeks at $475 per week and for No. 59, 37 weeks at $525 per week.

(i) Render

306 Mr Hargreaves agreed that he had allowed a complete re-render of the property on the basis that given the amount of masonry that was to be constructed and the masonry control joints that needed to be either rectified or installed, he considered there would be a significant mismatch in colour given the age of the existing render and the new render generally over the building. He acknowledged in cross-examination by Counsel for the architectural draftsman that he had not considered the use of *'Acrashield'*, which would minimise the colour difference. There was no further evidence produced in relation to Acrashield and I consider that a complete re-render is necessary from the point of view of appearance. Mr Hargraves

estimate to carry out the render of the two buildings totalled roughly $25,900. I note in Mr Brown and Mr Trevean's approximate estimate they also allowed for a complete re-render and their approximate estimate for the total building was $37,500.

(j) Painting

307 Mr Hargraves agreed that there was an error in Item 42.19 of both bills. This item was denoted as relating to painting all internal doors. Mr Hargraves said this was a mistake and the hours allowed of 186 on the bill for No. 57 was obviously incorrect as was the hours allowed of 28 on the bill for No. 59. On consideration he said that the item was denoted incorrectly and it was properly described as *'travel time to job'*. In cross-examination he said that his tradesmen sub-contractors all came from the outer eastern suburbs and would want some compensation for their travel time. He amended the amounts to 40 hours travel time for both bills. I consider Mr Hargreavs allowance for travel time excessive. Prima facie, I do not see why travel time needs to be paid at all. But I acknowledge that his painters would be independent subcontractors and he wants to maintain his crew; however, I consider one hour per day for travel is an adequate allowance, this gives approximately 14 hours and this is what I will allow in each case.

(k) Removal Costs

308 The parties agreed that the costs of removing the owner's possessions from the dwellings and replacing them upon their re-occupation following rectification works should be $3,500.00 for the owner of No. 57 and $5,000.00 for the owner of No. 59.

(l) Costs of Rectification incurred to Date

309 In relation to No. 59 the owner claims for various rectification cost already incurred as set out in Schedule A to her witness statement, these costs total $5,180.08. They are for a variety of services, a number of which include the inspection of the property and preparation of expert reports. I disallow the costs of experts inspection and reports at this stage as I consider they will come under the assessment of legal disbursements, if any legal costs are ordered in this proceeding. I disallow the costs of the repair of the burst hot water pipe as I do not have any evidence in relation to it and also in relation to installation of water hammer arresters. I have no evidence that this was due to the fault of any of the respondents in this action. I will allow all Flick Pest Control charges where there are receipts for the inspection and removal of termites; I will also allow the cost for the removal of 12 trees. I disallow the claim to repair all door locks as I heard no evidence that their replacement was occasioned by the defective work of any of the respondents to this proceeding. Thus I have allowed $2092 for rectification costs incurred to date.

310 The owner of No. 57 seeks the costs of rectification incurred to date of $5,092.50. These costs are set out at Exhibit A or to her witness statement. However, there are no invoices attached to Exhibit A elsewhere in the documents exhibited to her witness statement. I am concerned about two of the costs sought; firstly, being the Flick termites costs of 12 April 2003 in the sum of $2,073.50, this is vastly more expensive than any of the costs incurred by the owner of No. 59, although in June the owner of No. 57 did incur a cost of $750.

311 The other claim that concerns me is for tree and stump removal with an invoice date of 9 March 2004 to Taylors for $550. The owner of No. 59 has the invoice date as 27 January 2004 and a half cost removal of 12 trees at $374. The dates and amounts for these invoices do not reconcile but evidence was given that the trees were removed and I will allow the tree removal cost in Exhibit A to the owner of 57's property at $374 and not $550. Likewise, I disallow any claims for experts' reports or investigations and the amounts of that I allow for the owner of 57 for rectification work already incurred is $3591.50.

(m) General Damages for Loss of Amenity and Inconvenience

312 Both owners submit that the Tribunal should make an award of general damages in the sum of $20,000 for their loss of amenity and inconvenience. No specific evidence was produced as to the inconvenience suffered by either owner other than the general inconvenience of dealing with a house that has obvious and increasing defects; with the collateral inconvenience of having numerous experts representing most of the parties in the proceeding going through their houses at various times and conducting various tests and asking many questions. However, outside these areas there was no evidence of any failings of health that could be attributed to the defective buildings or of serious individual inconvenience that was out of the ordinary. Therefore, I find that no general damages are applicable for loss of amenity or inconvenience in this case.

(n) Summary of Damage

313 Taking the total rectification costs from the Bills of Quantities in Schedules 1 and 2, with the appropriate on costs and the consequential damages set out above, the table of total damages for each dwelling is set out below.

Description	Lawley No. 57	Baines No. 59
1. Rectification Costs	$230,653.68	$237,637.32
2. Incurred Rectification Costs	$3,591.50	$2,092.00
3. Alternative Accommodation Costs	$17,575.00	$19,425.00
4. Removal and Storage	$3,500.00	$5,000.00
Totals	$255,320.18	$264,154.32

13. APPORTIONMENT

(a) General

314 I now turn to consider whether all or any of the damage I have assessed should be apportioned in accordance with the recent amendments to the *WA* with the recent addition of Part IVAA: *'Proportionate Liability'*, that came into operation on the 1st of January 2004. This is difficult legislation to apply to claims arising from the same facts and damage that involve both contractual and tortuous claims. In interpreting the effects of the recent amendment I have been greatly assisted by a recent paper presented to the Judicial College of Victoria by the Honourable Justice D. Byrne on 19 May 2006 entitled *Proportionate Liability: Some Creaking in the Superstructure*. Another valuable reference was the article by Professor D. McDonald - *Proportionate Liability in Australia: The Devil in the Detail* (2005) 26 Australian Bar Review 29. Part IVAA requires that where claims are apportionable a defendant can only be held liable for the share of the damage the adjudicator apportions to it in a proportion considered just having regard to the extent of the defendant's responsibility for the loss and damage; sub-section 24AI(1).

315 In my research I have not been able to find a reasoned decision dealing with the assessment and ordering of damages under the amendment. Given that I have found the amendment's effect and method of application in proceedings involving both apportionable and unapportionable claims difficult, I have kept as a directional beacon showing the correct course in my interpretation that my findings must as far as possible be clear and understandable to the parties, as well as workable and applicable by building practitioners in the commercial framework of residential building; remembering always that my findings as to the interpretation of the amendment and its application must be just.

316 In structuring my interpretation of the amendment I have relied on Byrne J's paper. In assessing the meaning and affect of the amendment I consider that the process should be to assess:

(a) whether there are any apportionable claims;

(b) whether there are any unapportionable claims;

(c) if there are both apportionable and unapportionable claims the fact that they both exist means that their treatment will need to be different from that where all claims are of the same type; and

(d) the criteria to be used in deciding the apportionment for any apportionable claims.

317 Under the amendment at sub-section 24AF(1) an *apportionable claim* is:

> *'(a) A claim for economic loss or damage to property in an action for damages (whether in tort, in contract, under statute or otherwise) arising from a failure to take reasonable care: and*
>
> *(b) A claim for damages for a contravention of Section 9 of the Fair Trading Act 1999.'*

At paragraph 19 of his paper Byrne J. observes that:

> *'The proportionate liability regime is limited to certain claims in court for damages based on negligence and misleading and deceptive conduct.'*

He concluded that an apportionable claim only arises where there is at law a recognised duty of care. I agree with his conclusion, Section AF of the amendment is referring to claims recognised at law as arising from a failure to take reasonable care. This means that purely contractual claims are not apportionable.

318 As against the builder, both owners allege that the builder it is in breach of the statutory warranties set out at Section 8 of the DBCA and under Section 9 of the DBCA and they are entitled to take proceedings for such breach as if they were parties to the original major domestic building contract between the constructing owner and the builder. This is correct. The owners plead breaches of the statutory warranties alleging, inter alia, a breach of the warranty that the builder would carry out the work with reasonable skill and care. Does this mean that the owner's contractual claims against the builder becomes apportionable claims. I do not consider this can be the case. The owners claims against the builder is contractual, the gist of the action is breach of contract not a failure to take reasonable care. There are other allegations of breach under the warranties that do not relate to reasonable care: eg, constructing in accordance with the plans and specifications, constructing in accord with all laws and legal requirements, etc. To colour the whole of the claim against the builder as an apportionable claim because of one type of breach amongst others appears to me to not give cognisance to the intention of the legislation and it relies on too fine a distinction in how cases are to be pleaded. So however regretfully I must find that the owner's claim against the builder is a purely contractual claim and as such is not covered by the amendment, it is an unapportionable claim.

319 The claims against the architectural draftsman and the building surveyor are apportionable claims as they arise from allegations of a failure to take reasonable care ie. a breach of a duty of care. I consider it matters not that the building surveyor was not joined by the owners, the definition of defendant in the amendment at Section 24AG is:-

'Includes any person joined as a defendant or other party in a proceeding (except as plaintiff) whether joined under this part, under rules of court or otherwise.'

And, the allegations against both the architectural draftsman and the building surveyor are of a breach of duty owed to the owners.

320 The question now is, if there are mixed apportionable and unapportionable claims arising from the same fact situation is it acceptable to make orders reflecting that difference? I consider the amendment refers to this situation at sub-section 24AI(2) in the following terms:-

'If the proceeding involves both an apportionable claim and a claim that is not an apportionable claim –

(a) liability for the apportionable claim is to be determined in accordance with this part: and,

(b) liability for the other claim is to be determined in accordance with the legal rules, if any, that (apart from this part) are relevant.'

Although not specified, I consider that the legislation must have intended to address both apportionable claims and unapportionable claims for damage arising from the same fact situation in a proceeding where the claims for damages overlap. The reason for this conclusion is that a concurrent use of contractual and tortuous claims arising from the same fact situation arises so often in commercial proceedings, particularly building cases, that the legislature would have to have intended that both types of claim for drainage could be dealt with by the system for assigning liability for damage. I consider this means that as there is only one unapportionable claim, that is the contractual claim against the builder, I must find as a result of its contractual breaches the builder is liable for all of the damage. The damage in respect of the apportionable claims of the architectural draftsman and the building surveyor, being concurrent wrongdoers, would be ordered separately and they would be liable only for their apportionable share in accordance with the amendment.

321 In terms of the practicality and to obtain just proportions, it means I must assess the responsibility of the concurrent wrongdoers compared to both themselves and the responsibility of the builder. This may appear complicated and possibly not in accordance with the requirements of the amendment but to act otherwise would I consider lead to an unjust assessment of liability for the parties and an artificial segmenting of the damages into apportionable share and an unapportionable share.

322 Is a system of damages liability that orders that the builder be liable for the whole of the building damage and the concurrent wrongdoers liable only for their apportioned share of the damage workable? If the owners recover all of their damages from the builder, they cannot recover further damages from the concurrent wrongdoers for the apportionable claims as this would

be in breach of both sub-section 24AK(2) and the principle of law that plaintiffs are not entitled to more than the total of the damages they are found to have suffered. Sub-section 24AK(2) is as follows:-

> 'However, in any proceeding in respect of any such action the plaintiff cannot recover an amount of damages that, having regard to any damages previously recovered by the plaintiff in respect of the loss or damage, would result in the plaintiff receiving compensation for loss or damage that is greater than the loss or damage actually suffered by the plaintiff.'

323 If the owners recover all of their damages from the builder, what is its position with respect to recovery of the apportioned damages from the concurrent wrongdoers? I consider that the damages will take on the colour of the regime under which they are determined, ie. either apportionable or unapportionable. The builder being ordered to pay damages under the already existing regime for damages, it is entitled to recover any amount paid in excess of the damages it is liable for under the normal contribution regime from the concurrent wrongdoers under Part IV of the *Wrongs Act* 1958. Under the provisions of the amendment it cannot recover all of those damages in excess of its own from one of the concurrent wrongdoers, it can only recover from each concurrent wrongdoer that wrongdoers apportioned share of damages in accordance with the requirements of Part IVAA. My reading of Part IVAA does not show that only plaintiffs, in this case the owners, can recover the apportioned damages from the concurrent wrongdoers. It is only just that a defendant of unapportioned damage who is made liable for the whole of the damage and from whom the plaintiffs have received full recovery of the damages can seek contribution for each of the concurrent doers for their apportioned damages. I have only examined these ways of the owners recovering their damages to ensure that whichever way the recovery works it will be fair and just to all parties. I consider it would be simpler, but not required, for the owners to recover each of the concurrent wrongdoers apportioned share from those parties and to recover the balance of their damages from the builder.

324 This brings me to the question of how to assess *'an amount reflecting that proportion of the loss or damage claimed that the court considers just having regard to the extent of the defendant's responsibility for the loss and damage'*: sub-section 24AI(1)? I take as my starting point the observation of Professor D. McDonald at page 36 of her article:-

> *'It is clear then that the apportionment process involves a comparison of both culpability and causative importance. However, the relative importance of these two factors will itself vary from case to case. The first factor will involve a particularly difficult comparison where the court has to compare a statutory breach, for which liability is strict, and a breach of common law or contractual duty of reasonable care;'*

Bearing in mind the observations of the High Court in *Podreversek v Australian Iron and Steel Pty Ltd* (19850 59 ALR 529 that the making of an apportionment between a plaintiff and a defendant in a claim for contributory negligence involves a comparison of both culpability, ie. of the degree of departure from the standard of care from the reasonable man (*Pennington v Norris* (1956) 96 CLR 10 at 16) and of the relative importance of the acts of the parties in causing the damage (causation): *Stapley v Gypsum Mines Limited* [1953] AC 663 at 682: *Smith v McIntyre* [1958] TAS SR 36 at 42-49 and *Broadhurst v Millman* [1976] VR 208 at 219 and the cases there cited. It is the whole conduct of each negligent party in relation to the circumstances of the accident which must be subject to comparative examination. The significance of the various elements involved in such an examination will vary from case to case.

325 The first factor to be taken into account is causation. My findings of liability in respect of the concurrent wrongdoers must have contained an inference of some degree of causation or I could not make a finding as to their liability. From the viewpoint of apportionment how is the degree of causation to be taken into account, again I turn to the article of Professor B. McDonald at page 38:-

> *'In relation to Trade Practices Act and other federal claims, the position established by the High Court in cases such as Wardley Australia Limited v Western Australia (1992) 175 CLR 514 was that the relevant remedies section, Section 2(1)', should be understood as taking up the common law practical or commonsense concept of causation recently discussed by the High Court in March v Stramare (E & MH) Pty Ltd (1991) 171 CLR 506 except in so far as that concept is modified or supplemented expressly or impliedly by the provisions of the Act. In Henville v Walker (2001) 206 CLR 459 McHugh J and Gaudrion J noted that it is sufficient if the breach is a cause of the loss in the sense that it made a material contribution and Hayne J, if it is a necessary contribution to the loss.'*

326 In relation to cases involving circumstances such as these ie. building cases I consider that the statements quoted from *Henville* are the appropriate method with which to assess the affect of causation on the apportionment of responsibility.

327 I do not consider that in making the required comparison between parties to assess the responsibility of each it is necessary to examine each individual item of defective work and apportion responsibility for it but rather by taking an overall view of each category of damage to which a party contributed to assess the degree of contribution.

328 As can be seen from my findings of liability against the concurrent wrongdoers, the architectural draftsman and the building surveyor, I have not found that they are generally liable for all aspects of the damage that have been suffered at these premises: rather, following on the allegations pleaded against them I have found that they have breached their duty in a

number of ways that gave rise to specific categories of damage and I consider they can only be liable for a proportion of the damages arising from those specific categories of damage to which their actions have been a cause, amongst others of that category of damage. The allegations against the builder were that as a result of the breach of the warranties it was liable for all of the damages or at least a proportion of all categories of damage that were identified.

(b) Categories of Damage

329 The specific items of damage that could be attributable to each allegation of failure to take reasonable care by the concurrent wrongdoers was alluded to in the parties pleadings and came into focus during the hearing. From the evidence it was obvious that the builder bore the most substantial part of the responsibility for the unsatisfactory construction of the building and the resultant damage. What I consider I can infer from the evidence, given the builder's failure to attend and present its case, was that the builder was closely linked to the original owner and that it had regularly built in this manner, selling the constructed dwellings upon completion. Both the architectural draftsman and the building surveyor gave evidence of working for the builder on a number of similar residential building projects over a number of years. I consider the builder approached this project with a view to having it built for the lowest price and within a minimum of time and professional input by itself. This can be seen from the architectural draftsman's evidence that the builder only wanted a set of plans that would be limited to the amount of design and information necessary to obtain a building permit from a building surveyor known to the builder. Secondly, the footings and masonry construction show such obvious errors in construction that it leads me to conclude that the builder provided very little management direction or supervision on site, and I also cite the obvious errors in the lack of brick ties, lack of sub-floor ventilation, in the masonry work as further lack of supervision. In speaking of these errors I refer to the substantially less concrete depth in the footing than required by the design, the failure to install sufficient masonry control joints in the masonry and where constructed to ensure they were constructed satisfactorily.

330 I have found that the liability of the architectural draftsman arises from:-

(a) his depiction of tree planting on the site plan without specifying site drainage contributed to the severe cracking at the front of the building, the rectification of which requires the full removal of the front façade and side walls to the first masonry control joint and re-building; and

(b) his failure to show the location of masonry controls joints on the architectural plans.

331 The liability of the building surveyor arises from my findings that:-

(a) he failed, via the building inspector, to inspect the sufficiency and standard of construction of the masonry control joints at the mandatory final inspection; and

(b) he failed, via the building inspector, to observe that there was insufficient and inadequate sub-floor ventilation during the mandatory final inspection.

332 The categories of defective building that were identified during the course of the evidence were:-

(a) the severe cracking to the front façade of the building requiring its demolition and re-building;

(b) the showing of the agricultural drainage across the front of the building on the architectural plans and the installation of same by the builder;

(c) the depiction of the masonry control joints on the architectural plans and the installation of sufficient masonry control joints together with their proper and satisfactory installation;

(d) the installation of sufficient satisfactory sub-floor ventilation;

(e) the rectification of the termite infestation that was significantly encouraged by such lack of sub-floor ventilation;

(f) the rectification of the lightwells;

(g) the rectification of the defective handrail to the rear external deck of No. 59.

333 The items of rectification costs for each category were identified by Mr Hargraves in his Bills of Quantities. The items were discussed and commented upon by the other parties in the conclave of experts on the quantum of damage and during their cross-examination.

334 In an attachment to the building surveyor's final submission, Mr Brown and Mr Trevean broke up the classes of cost that are applicable to the specific categories of work that involve allegations against parties, other than the builder and the director of the builder, into specific rectification costs set out in the Hargreaves bills for specified categories of the costs of rectification, being:

Lightwell rectification

Ag drain rectification

Termite rectification

Front façade demolition and rectification and underpinning

Subfloor ventilation

Handrail rectification - Baines

This costing breakdown does not take into account establishment costs, overheads profit or risk. This breakdown was not available to the estimating conclave, coming only with the building surveyor's final submissions. I have checked this schedule carefully and made a number of amendments, shown in bold or cross-out. This cost breakdown is attached as Schedule 3. I am most grateful to Mr Brown and Mr Trevean for their preparation of this schedule it saved me a great deal of arithmetic work and it was very useful to the preparation of my determination.

(c) Apportionment of degrees of responsibility

335 Although the claim against the builder is unapportionable under Part IVAA of the WA, I do not consider it can be left out of the apportionment of the degree of responsibility when considering the just proportion of damage for which the architectural draftsman and the building surveyor are responsible. As I have noted above the builder bears the greatest responsibility for the damage to this building and a just assessment of the architectural draftsman's and the building surveyor's degree of responsibility can only be made by comparing them against the responsibility of the builder. To reach a just assessment the extent of all contributors to the category of damage must be considered to achieve the just comparison of causation and culpability as required by *Podrebersek, Wynbergen* per Haynes J (1997) 149 ALR 25 at 29. Although I consider that the structural engineer may have been partly responsible for some of the damage caused by the cracking as he is not a party under sub-section 24AI(3) of the WA and, under the amendment, I cannot apportion any damage to him.

336 As these dwellings have a party wall and were constructed at the same time the process of designing and constructing the dwellings was treated by all parties as the one project; therefore, there is no reason why my assessment of proportions between the concurrent wrongdoers would alter as between the residences of the owners, and the same proportions of responsibility will be applicable for both owners in respect of a specific category of damage.

337 I set out below my determination of the proportions of damage arising from the degree of each of the parties risibility for the damage. Where the categories of damage arise from the same deficiency I will treat them together.

338 The failure of the front façade and the failure to design and install agricultural drainage across the front façade of the building arise as a result of the failure of the builder to construct the footings in accordance with the architectural plans and to have installed tree planting too close to the front of the building. The architectural draftsman's failings consist of showing such tree planting on the site plan and failing to depict or require agricultural drainage to ensure that upon completion of the building there could be no concentration of drainage or ground water against the front footing of the building that would attract tree roots and thereby lead to accelerated and large changes in the soil moisture regime resulting in

greater differential movement of the founding soils than if the tree roots were not attracted to this area.

339 I consider the most important factor in causing the degree of damage to the front façade was the failure to install adequate foundations and this is solely the fault of the builder. I accept that the architectural draftsman was only carrying out the builder's instructions when he depicted the trees on the site plan. But this was a representation to the local municipal authority and to any subsequent owner that this tree planting was appropriate; therefore, both from a causation and culpability aspect the architectural draftsman's contribution exists but is much less than the builder's; and, I assess the proportions for these categories of damage to be 20% and 80% respectively.

340 In relation to the masonry control joints I consider that the builder, the architectural draftsman and the building surveyor all contributed to the causation of the damage, although their culpability varies. The architectural draftsman has only been found responsible by failing to depict the location of the masonry control joints on the architectural plans. I consider the building surveyor at the final inspection was liable for the failure to observe the lack of masonry control joints and the unsatisfactory construction of the joint that the builder had installed. Although the actual damage was caused by the builder, I consider it was significantly contributed to by the architectural draftsman and the building surveyor. The failure by the architectural draftsman to actually depict the masonry control joints on the elevation meant that the bricklayers had no graphical depiction of where and how the masonry control joints should be installed. This then throws the whole responsibility on telling the bricklayers where the joints should be located falls upon the builder. I do not consider that an architectural draftsperson can professionally accept that this will happen, they must try to ensure the satisfactory installation of the masonry control joints by depicting their actual location on their elevations. This is particularly so as the satisfactory operation of the masonry control joints is crucial to the long term structural integrity of the building. I also consider the failure by the building surveyor to recognise the deficiency with the masonry control joints at the final inspection was a serious failure of his professional duty. Therefore, I consider the degree of responsibility for each party for this category of damage to be builder 50%, architectural draftsman 20% and the building surveyor 30%. The building surveyors culpability is greater than the architectural draftsman's because there was a means for the builder and the bricklayer to assess the correct spacing and construction of the masonry control joints from the notes on the architectural and the structural engineering drawings. Whereas, as noted above, the proper operation of articulation system in the masonry walls is crucial to the satisfactory performance of the building over its design life, particularly, on this soil, thus I consider that an inspection of the existence and proper construction of these joints would be a must for any building surveyor conducting a final inspection.

341 I have found that the termite infestation was encouraged and caused by the lack of sub-floor ventilation; therefore, I will deal with these categories together. I have also added into the costs of rectifying the termite infestation the owner's claims that for rectification costs already incurred as these were almost all related to inspections or works involving termites. From my findings on liability I consider that the builder and the building surveyor share responsibility for the lack of sub-floor ventilation and the termite infestation. The builder's liability arises from not building in accordance with the plans and specifications and installing the manufactured sub-floor vents shown on the architectural plans. The building surveyor's liability arises from not identifying the lack of manufactured sub-floor ventilation during the final inspection and the fact that there is a complete lack of sub-floor ventilation as required by the regulations, as the sub-floor ventilation that was provided was completely inadequate and in all likelihood does not operate as such. Adequate sub-floor ventilation is also necessary to prevent the accelerated deterioration of sub-floor building elements due to excess moisture and to discourage termite infestation and to ensure a habitable dwelling; therefore, it was a serious failure by the building surveyor. Nevertheless, I consider the builder's culpability in failing to follow the architectural plans and specifications to be marginally greater; therefore, the degree of responsibility for each party is builder 60% and building surveyor 40%.

342 The remaining specific categories of work being the lightwells and the handrail are solely the responsibility of the builder.

(d) Apportioned Costs

343 On the following pages I have set out the costs of each party's proportion of the categories of damage for which they are to some extent responsible. The proportion of the estimated cost of the rectification in a category must be increased to allow for the overall cost of the works that are unapportioned and a pro-rata contribution to the consequential damages such as the alternative accommodation and storage costs.

344 I have assessed this by multiplying a party's total proportion of the rectification costs of the categories to the total rectification cost of the identified categories multiplied by the total damages found for each party for each dwelling, and these are set out on the next two pages.

345 APPORTIONED RECTIFICATION COSTS: 57 EVANSDALE ROAD - LAWLEY

Category of Rectification Work	Rectification Cost ($)	Builder		Architectural Draftsman		Building Surveyor	
		Degree of Responsibility (%)	Proportion of a Category's Cost	Degree of Responsibility (%)	Proportion of a Category's Cost	Degree of Responsibility (%)	Proportion of a Category's Cost
1. Façade & AG Drain	$70338.12	80	$56270.50	20	$14067.62	-	-
2. MCJ Masonry Control Joints	$2686.58	50	$1343.29	20	$537.32	30	$805.97
3. Subfloor Vent & Termites plus costs incurred	$12189.05	60	$7313.43	-	(-)	40	$4875.62
4. Lightwell	$ 5311.58	100	$ 5311.58		-		
Total Proportion of Category Damages	$90525.33		$70233.80		$14604.94		$ 5681.59
Total Proportion of Damages			**$198103.48**		**$41192.18**		**$16024.52**

346 APPORTIONED RECTIFICATION COSTS: 59 EVANSDALE ROAD – BAINES

Category of Rectification Work	Rectification Cost ($)	Builder		Architectural Draftsman		Building Surveyor	
		Degree of Responsibility (%)	Proportion of a Category's Cost	Degree of Responsibility (%)	Proportion of a Category's Cost	Degree of Responsibility (%)	Proportion of a Category's Cost
1. Façade & AG Drain	$69406.64	80	$55525.31	20	$13881.33	-	-
2. MCJ Masonry Control Joints	$1491.58	50	$745.79	20	$298.32	30	$447.47
3. Subfloor Vent & Termites plus costs incurred	$18772.50	60	$11263.50	-	-	40	$7509.00
4. Lightwell	$3814.95	100	$3814.95		-	-	-
5. Handrail	$ 210.00	100	$ 210.00		-		-
Total Proportion of Category Damages	$93695.67		$71559.55		$14179.65		$ 7956.47
Total Proportion of Damages			**$201746.40**		**$39976.40**		**$22431.52**

14 CONCLUSION

347 In conclusion let me say as a general observation it is unusual to have a basaltic soil founding material on the east side of the Yarra River. It is common knowledge among the building professional that basaltic soils have a far greater shrink-swell potential for a given soil moisture change in the founding soil when compared to the common founding material on the east of the Yarra River, being clays derived from silurian mudstone. In the more forgiving silurian mudstone soil the level of damage exhibited by the building would be unlikely to occur. However, I do not consider that this in any way exculpates any of the building professionals involved in the construction of this building. The propensity of basaltic soils to shrink and swell is well known in Melbourne. The potential of this basaltic founding soil for shrink-swell was correctly identified by the soil engineer and his recommendations should have been taken into account and there should have been greater vigilance on the part of the builder, the architectural draftsman, the building surveyor to the danger of substantial foundation movement causing significant differential settlement and cracking of the structure unless the footings were properly designed and constructed and the masonry articulation system was effective. It is for this reason that the BCA, the footing standards and masonry code contain the terms and requirements that they do.

348 From my interpretation of Part IVAA of the *Wrongs Act* I intend to order that the builder pay all of the damages incurred by each applicant and that the architectural draftsman and the building surveyor pay their apportioned share. This means that I will be ordering the builder to pay the owner of No. 57, Ms Lawley, the sum of $255,320.18 and to pay the owner of No. 59, Ms Bains, the sum of $264,154.32 within 30 days of the date of my final orders. I further intend to order that the architectural draftsman pay the owner of No. 57 the sum of $41,192.18 and to pay the owner of No. 59 the sum of $39,976.40 and that the building surveyor pay the owner of No. 57 the sum of $16,024.52 and pay the owner of No. 59 applicant the sum of $22,431.52.

349 I do not intend to make these final orders at this stage, there are a number of matters that I consider should be addressed before the orders are made. The first is the owners application as set out in their supplementary submission of 31 August 2005 that any damages awarded to them should not be reduced to reflect the owners settlement with the insurer. On first impression, this would seem to be relevant only to the award made against the builder, but I would like to hear the responses of the other parties, in particular the insurer.

350 Secondly, I would like the parties to have time to read the reasons and address me on any arithmetic errors they consider may be apparent in the arithmetic calculations.

351 I would address any other matters raised by parties. And, finally, to attempt to cut the parties costs I consider any applications for costs or otherwise should be addressed at this hearing.

352 I have set this proceeding down for a half day hearing at 10.00 am on 30 August 2006, at 55 King Street, Melbourne.

R.J. Young
Senior Member

RJY:RB