IN THE HIGH COURT OF NEW ZEALAND
CHRISTCHURCH REGISTRY

CIV-2013-409-001273
[2017] NZHC 1583

BETWEEN	C & S KELLY PROPERTIES LIMITED Plaintiff
AND	EARTHQUAKE COMMISSION First Defendant
	SOUTHERN RESPONSE EARTHQUAKE SERVICES LIMITED Second Defendant

Hearing: 26, 27, 28 and 29 June 2017

Counsel: N R Campbell QC and A J D Ferguson for Plaintiff
B A Scott and N J Bruce-Smith for First Defendant
C R Johnstone for Second Defendant

Judgment: 10 July 2017

JUDGMENT OF FAIRE J

This judgment is delivered by me on 10 July 2017 at 10.45 am pursuant to r 11.5 of the High Court Rules.

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Registrar / Deputy Registrar

Solicitors:
Grant Shand, Auckland for Plaintiff
Chapman Tripp Wellington for First Defendant
Wynn Williams, Christchurch for Second Defendant

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Background

[1] The plaintiff company owns a home at 2B Vivian Street, Burwood, Christchurch. It was the home of the shareholders and directors Suzie and Cameron Kelly (the Kellys). They lived there until the 22 February 2011, the time of the second Christchurch earthquake. Southern Response Earthquake Services Limited (Southern Response) insured the Kellys' home. It was also insured by the Earthquake Commission (EQC) under the Earthquake Commission Act 1993 (the Act).

[2] The Kellys' home was damaged by the September 2010 and February 2011 Canterbury earthquakes. Disputes arose between the Kellys, EQC and Southern Response as to the extent of the earthquake damage and as to the appropriate scope and cost of reinstatement. There was also a dispute as to whether EQC was entitled to settle the Kellys' claim by undertaking reinstatement of the earthquake damage as opposed to making a payment.

[3] The Kellys commenced this proceeding. In it they sought a money judgment from both EQC and Southern Response. The proceeding was heard by Mander J who delivered a reserved judgment on 22 July 2015. He concluded that save for the cost of releveling the floor the plaintiff is entitled to judgment for $53,768.50. He held that the dislevelment of the floor constituted earthquake damage for which EQC and potentially Southern Response were liable. He then established a formula with options to be exercised which were designed to conclude the remaining part of the case. No doubt that was on the understanding that he would be the Judge to conclude the matter.

[4] A development occurred with a further earthquake in February 2016. That created a situation where his Honour for sound reasons determined that he must recuse himself from the completion of the issues requiring resolution in this proceeding.

The jurisdictional basis for the second hearing

[5] I was assigned to hear the continuation of the case. Counsel were in agreement that in determining the remaining issues in the case I was in effect exercising the jurisdiction reserved by rule 10.15 of the High Court Rules.

[6] Because the circumstances were unusual I convened a telephone conference with counsel on 5 May 2017. Its purpose was to give counsel an opportunity to discuss the correct way to proceed and to make appropriate directions. I gave directions. Memoranda were filed in response to my directions.

The ruling setting out the basis for jurisdiction

[7] In a ruling that I issued on 26 May 2017 in response to counsel's memoranda, I made the following rulings on what I will call the substantive issues. My ruling recorded the following:[1]

> [3] I note that the parties are agreed that the jurisdiction that I am to exercise at this trial is that which is provided for in r 10.15 of the High Court Rules.
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> [4] The question which I shall therefore determine is as follows:
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> "The scope of work and cost to return the floors to the condition required under the Act and/or policy. The determination of the scope and quantum is to be within the remediation framework proposed jointly by the experts in their report of 16 April 2014."
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> [5] The question to be determined as set out above is therefore the central matter to be determined at the trial.
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> [6] Having set the question, it is necessary to define what matters have been resolved by the judgment of Mander J of 27 July 2015 and therefore do not require further examination at this hearing and indeed, parties are estopped from leading evidence in respect of these matters. The matters are:
>
> (a) The earthquake damage to the house is that which is reflected in the EQC scope of works approved by the Court.
>
> (b) The additional floor dislevelment held by the Court to have occurred is to be repaired applying strategy advanced in the joint experts' report.

[1] *C & S Kelly Properties Ltd v Earthquake Commission* [2015] NZHC 1690.

(c) The test of whether any repair of the floor dislevelment meets the "when new" standard of repair required under the EQC's legislation and/or Southern Response's policy is whether the repair would restore the "functionality, aesthetic quality, and amenity value of the house".

(d) It is not necessary to construct a new type 2A foundation and floor system in order to achieve the required standard of repair.

[7] Having set out the above matters the evidence to be adduced at the trial on 26 June must be relevant to the question to be determined as defined in [4] hereof.

[8] The general issues requiring resolution at trial are:

(a) What is the appropriate scope of work to re-level the house in accordance with the strategy proposed in the joint experts' report and to the condition required under the Act or policy?

(b) What is the likely cost of carrying out that scope repair work?

[8] Additional directions were given to ensure the trial could proceed efficiently. They need not be repeated in this judgment.

Reasons for the jurisdiction ruling

[9] As advised in my ruling, I now set out the reasons for my definition of the question and the issues, which I consider have been resolved by the judgment.

[10] I deal first with the precise question itself. The first and second defendants' position aligns with the question that is set out in [4] of my ruling of 26 May 2017 set out above. The plaintiff's position is that the second sentence should not form part of the question. In short, the plaintiff said that that part has not been resolved by the judgment.

[11] In determining what the precise question is, I start by considering the reference to outstanding issues as set out in the judgment.

[12] The starting point is [41] of the judgment, where his Honour defined the issues as follows:

The key issues for determination are:

(a) Can the Kellys' monetary claim succeed in the absence of challenge to EQC's election to repair?

(b) Is EQC in breach of its obligation to settle the Kellys' claim within a reasonable time?

(c) Does the floor dislevelment constitute earthquake damage? This includes whether the Kellys have proved that a Type 2A foundation is required, which I discuss under a discrete head because of its significance.

(d) What relief, if any, results from my findings in respect of the questions posed?

[13] At the conclusion of the judgment, his Honour recorded the following:[2]

> [377] To summarise, my findings in relation to each of the issues are as follows:
>
> (a) The Kellys' monetary claim succeeds despite the absence of challenge to EQC's election to repair. In this case, it is appropriate to grant the Kellys monetary relief in response to EQC's failure to make its election within a reasonable timeframe. Its purported election to repair came too late, and was therefore ineffective.
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> (b) The floor dislevelment in the Kellys' house constitutes earthquake damage. Such damage is to be addressed in accordance with the approach set out in the joint experts' report.
>
> (c) The Kellys have not proved, on the balance of probabilities, that a Type 2A foundation is required — EQC and Southern Response are not required to adopt this particular remediation strategy in order to satisfy their statutory liability under the EQC Act and the policy.
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> (d) In terms of relief, the Kellys need to choose one of two options. Under Option A, they will receive a money sum consisting of $53,768.50 plus a further amount to reflect the cost of re-levelling the floor in accordance with this judgment. This further sum would need to be agreed by the parties. Under Option B, the Kellys can hold EQC to its purported election to repair (which I have found has come too late). If Option B is selected, EQC will be responsible for the re-levelling work required to remediate the damaged floor (whatever that may cost) along with any further damage uncovered in the repair process which is currently unknown.

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2 *C & S Kelly Properties Ltd v Earthquake Commission*, above n 1, at [377]-[379].

> [378] The content of any order to give effect to this judgment will await communication of the Kellys' election to either receive a monetary award or require EQC to proceed with the repairs. In the event of the former course being chosen, it is to be hoped some agreement regarding the scope and cost of the type of remedial strategy contemplated by the joint experts' report can be reached. If that hope proves forlorn, it will be necessary to convene a short hearing to make a determination as to scope and quantum within the remediation framework proposed jointly by the experts in their report of 16 April 2014.
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> ...
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> [379] All the parties requested that they be heard separately on the issue of costs. Accordingly, costs are presently reserved.

[14] Following the judgment, the plaintiff advised that it chose Option A by memorandum and at a telephone conference on 4 May 2016.

[15] The parties have been unable to agree on the scope and costs of the remedial work. Accordingly, a further hearing is required.

[16] The defendants rely on four conclusions drawn from [377] and [378] of the judgment in relation to the costs of releveling the floor in accordance with the judgment, namely:

(a) the finding that the dislevelment in the Kellys' house was earthquake damage;

(b) the rejection of the Kellys' case that the statute and/or policy required that this dislevelment had to be remediated by a Type 2A foundation;

(c) an acceptance of the expert evidence given at the hearing that remediation of the floor dislevelment in accordance with the approach set out in the "joint experts' report" would meet EQC's statutory and Southern Response's policy obligations; and

(d) a consequential direction (at the end of [378]) that any determination as to the scope and quantum of this work was to be "within the remedial framework proposed jointly by the experts in their report".

[17] When these matters are considered the defendants submitted that the question must include the second sentence.

[18] The plaintiff's response was that [377] and [378] were summaries. The plaintiff submitted that what is required is a consideration of the paragraphs starting at [361] and onwards, together with the joint experts' report. I note that the joint experts' report did not contain a scope of works. Nor had there been any assessment by a quantity surveyor.

[19] For the plaintiff, it was also submitted that when [368] and [372] of the judgment are considered, in particular the effect of the acceptance of Option A, no reference is made to addressing the floor dislevelment in accordance with the approach set out in the joint experts' report.

[20] Counsel for the plaintiff submitted that if I do not accept that submission, there should however be a qualification added to reference the strategy set out in the joint experts' report along the lines: "but recognising that: a clearer appreciation might yet be obtained of the extent of the work needed, in particular of the number of replacement piles required, or equivalent engineering solution; the strategy is a preliminary one; and further assessment can be done in order to achieve completion of the strategy".

[21] I do not accept the plaintiff's submission. The second sentence comes directly from the judgment itself at [378] where the Court addressed what would be determined if Option A issues had to be determined by the Court. Further, I can find nothing in his Honour's minute of 4 May which contradicts that conclusion. I reject also the plaintiff's alternative question. In my view, counsel for the defendants' submission is correct. The plaintiff's alternative proposition would simply confuse what his Honour determined to be the remedial solution that is the agreed strategy with the still to be determined question of the detail of how that remedial solution would be implemented. It is clear that what the Judge was looking for was the final scope of works and its costs, bearing in mind the strategy.

[22] The plaintiff advanced a second objection to the second sentence. The plaintiff submitted that the second sentence purports to create an issue estoppel and questions whether that is justified. My minute recognised the need to look at what matters have already been resolved so that an estoppel applies. Accordingly, it is necessary to look at this issue generally and also as it relates specifically to the formulation of the question.

The Doctrine of Issue Estoppel and its application to Mander J's judgment

[23] The doctrine of issue estoppel applies when a party is precluded from contending the contrary of any precise point which, having once been distinctly put in issue, has been determined against that party even if the issue of the first and second actions are different.[3] The matter must, however, have been directly at issue in the first action rather than collaterally or incidentally in issue. In *Talyancich v Index Developments Ltd*, the Court of Appeal said:[4]

> Issue estoppels arises where an earlier decision is relied upon, not as determining the existence or non-existence of the cause of action, but as determining, as an essential and fundamental step in the logic of the judgment, without which it could not stand, some lesser issue which is necessary to establish (or demolish) the cause of action set up in the later proceedings…
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> [An] issue estoppel can only be founded on determinations which are fundamental to the decision and without which it cannot stand. Other determinations cannot support an issue estoppel however definite the language in which they are expressed. What is emphasised in the judgments cited is that for the decision on any matter to give rise to an issue estoppel that matter must be one which it was necessary to decide and which was actually decided.

[24] The policy behind issue estoppel is twofold: first it is to protect the interests of persons who have obtained final judgment, and second it seeks to preserve the integrity of the judicial system as a whole.

[25] The defendants submitted the following matters have been determined already in the judgment and are matters in respect of which an issue estoppel arises:

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3 *Laws of New Zealand- Estoppel* (online looseleaf, Lexis Nexis) at [20].

4 *Talyancich v Index Developments Limited* [1992] 3 NZLR 28

(a) The earthquake damage to the house is confined to:

(i) the damage reflected in the EQC scope of works approved by the Court ("estoppel 1"), and

(ii) the additional floor dislevelment held by the Court to have occurred, was to be repaired applying the joint experts' report ("estoppel 2").

(b) The standard of repair for the re-levelling is to be measured by whether the works restore the "functionality, aesthetic quality, and amenity value of the house" ("estoppels 3").

(c) In re-levelling the house, the first and second defendants are:

(i) not required to construct a new replacement type 2A foundation and floor system ("estoppel 4").

(ii) not required to re-level the floor to exactly level or within any prescribed measurement ("estoppel 5").

(d) Having elected to receive the value of the building works, a contingency fee or sum is not to be included in the cost of re-levelling the floor under the option of receiving the value ("estoppel 6")

[26] In light of the judgment, I ruled that the plaintiff is estopped from leading evidence contrary to estoppel points one to four. However, I did not find estoppel five and six to be established.

[27] I now turn to discuss each estoppel point individually and provide my reasoning. However, at the outset, I emphasise that my ruling is based on what was decided by Mander J in the judgment. Rejection of any estoppel point does not mean that I disagree with the defendants' position. It only means that the issue, not being settled by Mander J, is capable of being advanced by the plaintiff in this hearing.

Estoppel 1 and Estoppel 2

[28] I deal with the first and second estoppel together. The defendants submitted that the plaintiff is estopped from arguing that there is any additional earthquake damage to the house beyond the approved scope of works and floor dislevelment. Furthermore, the defendants submitted that the cost of releveling the floor must be assessed in light of the joint expert report.

[29] By way of background, in the judgment there was already a certain amount of agreed earthquake damage, both to the house itself and the "out of scope works" (a phrase used to describe parts of a property which fall outside the scope of EQC cover, but which are covered by Southern Response). Mander J accepted EQC's evidence that the cost to remedy the agreed scope of work amounted to $53,768.50. However, the estimated cost of repair did not include the cost of releveling the floor.

[30] The plaintiff accepted that it is estopped from claiming, as part of the scope of the work and the cost to reinstate the house and return the floor to the conditions required under the Act and/or policy the cost of work that has already been included in the EQC scope of repair that was estimated to cost $53,768.50.

[31] However, the plaintiff disagreed on the applicability of the join experts' recommendation in relation to releveling. The plaintiff argued that Mander J did not expressly hold that the floor dislevelment had to be repaired in accordance with the approach set out in the joint experts' report.

[32] However, it is plainly evident that Mander J's intent in the judgment was for the EQC scope of work and the cost of repair to be assessed in light of the joint experts' report. This is demonstrated in the judgment, as follows:[5]

> [367] There is, however, presently no evidence of what the cost will be to implement the type of repair strategy contemplated by the experts in their join report. It has not been the subject of a scope of works, nor assessment by quantity surveyors. While there has been further inspection of the subfloor area of the Kellys' house, as we anticipated by the joint report, it is conceivable, if not likely, that upon the work being commenced a clearer appreciation will be obtained of the extent of the work needed – in particular,

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5 *C & S Kelly Properties Ltd v Earthquake Commission*, above n 1, at [367]–[368].

> of the number of replacement piles required, or equivalent engineering solution, and of other structural elements that may require to be addressed in order to achieve a satisfactory relevelement of the floor. To that extent, the joint experts' strategy remains a preliminary one.
>
> [368] In the circumstances, it should be at the Kellys' option whether further assessment of the work is required to achieve the completion of the strategy agreed to by the experts in their join report for the purpose of obtaining a costed scope of works and a monetary award.

[33] It is for these reasons that I rules that the plaintiff is estopped from claiming any further earthquake damage outside the strategy agreed to by the experts; and the cost of repair must be estimated in light of the joint experts' recommendation.

Estoppel 3

[34] The defendants submitted that the plaintiff is estopped from arguing that the test of whether a repair of the floor dislevelemnt meets the "when new' standard of repair required under EQC's legislation is something other than whether the repair would restore the "functionality, aesthetic quality, and amenity value of the house."

[35] EQC relies on the following passages in the judgment:[6]

> [361]… As a result of such work, it is to be anticipated the floor levels can be restored to a condition as required by the EQC Act, namely a condition substantially the same as but not better or more extensive than its condition when new.
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> [362] EQC submitted that the anticipated form of repair would bring floor levels back to within 20 to 30 mm over the span of the house, a difference that ought not be discernible to an occupier. As the joint report observed, there is a risk of causing further damage to the 100 year old house if the floor was brought back to exactly level. However, the experts, including Mr Rakovic, considered that releveling would restore the functionality, aesthetic quality, and amenity value of the house.

[36] The plaintiff submitted that Mander J did not actually decide anything in the passages relied on by the defendants. It was further submitted that to establish the estoppel, the defendants had to show that the decision was necessary to decide. The plaintiff submitted that Mander J was not required to decide the standard which the repair needs to meet and therefore the plaintiff is not estopped from arguing

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6 At [361]–[362].

standards other than to restore "functionality, aesthetic quality, and amenity value of the house."

[37] I do not accept the plaintiff's submissions. I find that in the course of Mander J's judgment, it was an essential requirement for his Honour to decide on the scope and standard of repair. The exact purpose for a subsequent hearing is to determine the cost of repairing the earthquake damage to the standard which Mander J set. That is, the standard of restoring the "functionality, aesthetic quality, and amenity value of the house."

[38] However, as discussed later, in order to restore the "functionality, aesthetic quality, and amenity value of the house", the Court may take into account relevant building codes and other industry standards.

Estoppel 4

[39] The fourth estoppel point proposed by EQC submitted that, to achieve the required standard of repair for the floor dislevelment, the repair does not need to be undertaken using a new Type 2A foundation and floor system.

[40] The plaintiff submitted that the estoppel should be rejected because Mander J did not expressly reject the appropriate remedial solution to be a Type 2A foundation and that any decision made by Mander J in that regard was not final.

[41] I reject the plaintiff's submission. It is now settled that the Type 2A foundation has been rejected. In the judgment, Mander J held:

> [356] The result of Mr Radovic's evidence, even without taking into account the evidence adduced by the defendants on this issue, is that the plaintiffs' claim, based on a costing for a replacement Type 2A foundation, fails. The Court cannot be satisfied on balance that such a repair strategy is necessary to achieve reinstatement of the house, in particular, to relevel the floor, to a condition "substantially the same as but not better or more extensive than its condition when new"
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> [359] The Kelly's case was premised on the cost of remediation exceeding the statutory cap based on replacement 2A foundation. The Kellys have not proven that this particular remediation strategy is required to be adopted by EQC and Southern Response in order to meet its statutory liability under the Act.

[42] I conclude that the plaintiff is estopped from arguing for a Type 2A foundation.

Estoppel 5

[43] The fifth estoppel proposed by EQC asserted that the Kellys are estopped from arguing that, to achieve the required standard of repair for the floor dislevelment, the repair needs to achieve a prescribed measure threshold (of 10 mm or otherwise.)

[44] The defendants alleged that the Kellys seek to re-litigate the standard of repair required based on new material and based on other building standards that were before the Court. The defendants relied on the following passage of the judgment:

> [322] … Mr Rakovic agreed that, by adopting [the joint expert report's] approach, he considered it possible to get the floor back to level within 20 or 30 mm, which would be within the 50 mm guideline for floor levels provided by MBIE
>
> [362] EQC submitted that the anticipated form of repair would bring floor levels back to within 20 to 30 mm over the span of the house, a difference that ought not be discernible to an occupier. As the joint report observed, there is a risk of causing further damage to the 100 year old house if the floor was brought back to exactly level. However, the experts, including Mr Rakovic, considered that releveling would restore the functionality, aesthetic quality, and amenity value of the house.

[45] However, the passage on which the defendants relied on records the submission by EQC. It was not a decision made by Mander J on the issue.

[46] Furthermore, I accept the plaintiff's submission that the effect of accepting this estoppel will have far reaching implications. The parties are in dispute as to two types of dislevelemnt that need to be remedied: first, dislevelment over the span of the house and second, localised dislevelment that is dislevelment that occurs over shorter spans. The standards that apply to each are not necessarily the same. Mander J's comment at [362] was directed solely to dislevelment over the span of the house. The estoppel for which the defendants contend is not so limited, and would apply also to localised dislevelment.

[47] I therefore do not find that the plaintiff is estopped from arguing that the floors need to be relevelled to a pre-prescribed measurement standard. To the contrary, in order to satisfy whether the releveling would restore the "functionality, aesthetic quality, and amenity value of the house", the Court must be open to hear evidence on the relevant building codes and guidelines.

Estoppel 6

[48] The sixth estoppel point proposed by EQC was that a contingency fee cannot be included in the cost of re-levelling the floor. The defendants submitted that in the judgment, it was held that if the Kellys chose a monetary pay out, they would be assuming the risk and responsibility for the cost of repairing any further earthquake damage uncovered in the course of carrying out the repairs. EQC cited [374] where Mander J held:

> It seems to me the authors of the joint experts report have appreciated the very real reality that potentially in the course of undertaking the releveling work further damage may be uncovered requiring more extensive repairs. To the extent that the Kellys want to obtain a money sum, they have obviously not proved this damage. To the extent that unknown damage exists, this will not form part of a monetary award which is likely to be based on what damage is presently known. However, if Option B is elected by the Kellys, any such unknown damage will be the responsibility of EQC and Southern Response.

[49] However, I accept Mr Campbell QC's submission. I find that that the passage cited by the defendants was not directed at a discussion on contingencies. I am satisfied that Mander J was merely stating that the monetary compensation would "likely" be based on the scope and cost of repair of presently known damage. I am satisfied that Mander J did not expressly rule out contingencies being taken into account when estimating the cost of repairing the damage.

[50] These are my reasons for the ruling set out in [7] above.

Principal issues to be resolved in this hearing

[51] The question to be determined in this proceeding involves two steps. First, establishing the scope of work. Second, the cost to complete that scope of work. The

plaintiff and the defendants had instructed quantity surveyors to deal with the cost issue. I gave directions for counsel to arrange for the quantity surveyors to meet with a view to producing a report pursuant to r 9.44 of the High Court Rules. That has taken place. But for an issue relating to the question of contingency the applicable costs relating to the scope of works proposed by the plaintiff and the defendants are now agreed. I will at the conclusion of this judgment apply the agreed figures. Save for the question of contingencies which I will deal with separately, no further analysis of the quantity surveyors' evidence is now required. That leaves the scope of the work as requiring determination.

Determining the scope of work

[52] Three engineers gave evidence. Mr Kearney was called on behalf of the plaintiff. Mr Davey and Mr Day were called on behalf of first defendant. Their evidence was adopted by the second defendant.

[53] As noted by Mr Campbell, the difference between the scopes is largely attributable to a difference of opinion as to the targets of releveling.

Expert evidence

Mr Kearney's evidence

[54] Mr Kearney is a structural engineer based in Auckland. He has had 38 years of experience working as a civil and structural engineer. His professional qualifications include a New Zealand Certificate of Civil Engineering from Unitec, and a BScCE (Civil & Structural Dynamics) from University of California, Irvine. Mr Kearney also completed a Master of Engineering from the University of Auckland.

[55] I find Mr Kearney to be a credible and competent structural engineer who was competent to give opinion in his field of expertise.

[56] Mr Kearney was of the opinion that in order to restore the functionality, aesthetic quality and amenity value of the house, it was necessary that the overall floor dislevelment:

(a) not be discernible to an ordinary occupier of the house, as otherwise aesthetics and amenity value would not be restored; and

(b) allow for the possibility of further dislevelment in the life of the house, as otherwise functionality would not be restored.

[57] Mr Kearney noted that in relation to the element of functionality, special regard must be had to durability. He cited cl B2.1 of the Building Code which states that a functional requirement is that:

> Building materials, components, and construction methods shall be sufficiently durable to ensure that the building, without construction or major renovation, satisfies the other functional requirements of this code throughout the life of the building.

[58] Mr Kearney illustrated how these matters inter-relate by providing an example whereby one assumes that the overall dislevelemt will not be discernible to an occupier until it reaches 30mm. Releveling so that the floor dislevelemt is 29mm might restore aesthetics and amenity value. However, it would not restore functionality, because there would be almost no durability in the floor levels.

[59] In Mr Kearney's opinion, in order to restore the durability of the overall floor levels, it should be relevelled to within 10mm across the floor of the house. Mr Kearney cited the New Zealand Standard for Timber framed Buildings, NSZ 3604, which sets out timber framing tolerance. According to the Standards, Timber floors may deviate from horizontal by 5mm in any length up to 10m and by 10mm in total in any length over 10m. Mr Kearney noted that the floor of this house exceeds 10m and in his experience:

(a) new house floors are designed to meet the tolerance in NZS 3604;

(b) new house floors that are constructed meet those tolerances;

(c) Smartlift, the releveling contractors, can and do relevel houses to within a 10mm tolerance across the span of a house.

[60] In Mr Kearney's opinion, a 10mm dislevelment across the span of this house would not be discernible to an ordinary occupier of the house, and so would also restore the aesthetics and amenity value of the house.

[61] Mr Kearney also noted his concerns of localised floor dislevelment through the house. He provided the example where 10mm over the whole house may not be noticeable, but 10mm over 1m most certainly will be. Mr Kearney therefore said that it is necessary to address localised floor dislevelment.

[62] Mr Kearney said that as with overall floor dislevelment, when addressing localised floor dislevelemt it is necessary not only to restore aesthetics and amenity value, but also durability.

[63] He once again cited NZS 3604 which allows for dislevelment of up to 5mm in any length up to 10m. Mr Kearney said that the localised dislevelment in the house far exceeds that. He noted that, while the MBIE Guidance Document has a more lax standard for dislevelment (allowing slopes of less than 0.5% between any two points more than 2m apart), that is only an indicator of the degree of damage that can be tolerated and does not set the standard for repair. In Mr Kearney's opinion:

(a) the localised dislevelment has to be remediated in order to restore the functionality, aesthetic quality, and amenity value of the house; and

(b) this requires the localised dislevelment (or slopes) to be no more than 5mm in any length up to 10m.

[64] In discussing how the repair is to comply with the NZ Building Code, Mr Kearney began by noting that if the floor is to be relevelled, reducing ground clearance beneath the floor would breach ss 17 and 112 of the Building Act 2004. This is because the Building Code requires a clearance of 450mm between ground

and floor joist. The maximum clearance under this house is 200mm. While non-compliance with the Building Code is not a problem further reducing the ground clearance infringes the Code. Therefore, Mr Kearney said that in order to comply with the Building Code, at any location where the floor is required to be lowered in order to achieve the target levels, the ground must also be lowered.

[65] However, Mr Kearney said that reducing the ground level to maintain the current clearance is not an appropriate strategy for the existing piles as they have no embedment depth. Standard foundation piles are sited upon a pile footing. Reducing the ground level is not appropriate as the embedment depth of the existing pile footings in those areas would be reduced. The minimum foundation depth for building within the scope of NZS 3604 is 200mm minimum below "clear ground level into good ground". Good ground is defined in NZS 3604 as any soil or rock capable or permanently withstanding an ultimate bearing capacity of 300 kPa (i.e. an allowable bearing pressure of 100 kPa using a factor of safety of 3.0).

[66] Mr Kearney referred to the Geotechnical Investigation and Foundation Report of the property which reported that the Ultimate Bearing Capacity (UBC) of 200kPa can be found below 1.0 below ground level (BGL), and 300kPa below 1.2-1.5m bgl.

[67] Mr Kearney therefore acknowledged that the land does not conform to the definition of good ground. The land has instead been identified by geotechnical investigation as conforming to the parameters of a TC3 category site. This means that the standard generalised design parameters contained within NZS 3604 are not adequate, and that specific engineering design is required for any foundation design, and any new pile footing,

[68] Mr Kearney acknowledged that in some circumstances, it is appropriate to re-level a floor by packing the existing piles. However, he said that were the piles to be packed, it would involve jacking the house off the piles, inserting packing, and sitting the house back on the piles after packing. Given that the piles bear on the top of the soil and have no footing and the UBC of 150kPA is at 0.6m bgl, 200kPa at 0.75m bgl, and 300kPa at 1.1m bgl, Mr Kearney expected that the piles will settle

after they take the load of the house. Furthermore, Mr Kearney was of the opinion that the piles will not be compliant because none of the existing piles have any lateral restraint and therefore cannot be packed off. Mr Kearney concluded that any pile that must be packed up in order to raise the floor level must be replaced with a new pile.

[69] Mr Kearney also made the point that packing cannot be attached to most of the individual piles because:

(a) 12 of the piles are in such poor condition, or cannot be defined as proper piles;

(b) 17 piles have existing packing 100mm and greater in height. Mr Kearney referred to the MBIE Guidance Document where it does not allow packing greater than 100mm in height;

(c) none of the existing piles have ties. Mr Kearney said that all compliant piles are required to be tied to the bearer with complaint ties. While it is possible to attach compliant ties to the concrete piles, there are 10 existing tapered precast concrete piles beneath the house. Mr Kearney therefore said that it is difficult and unlikely that it will be possible to attach compliant ties to the existing stone piles;

(d) none of the existing piles have pile footings therefore none of the existing piles which have been sited directly onto the top of the ground can be used to lift the house via any of the jack and pack methodologies available, but must be replaced. Given the ground beneath the house does not meet the definition of good ground as per NZS 3604, Mr Kearney said that specific engineering design referencing the geotechnical report must be carried out to establish minimum embedment depth of the new pile footings;

(e) one of the piles in the northern side of the house is not supporting the bearer but has been replaced ad hoc beneath the timber floor; and

(f) most, if not all, of the piles are not embedded into the soil.

[70] For the reasons he identified, Mr Kearney is of the opinion that no existing pile under the house can be utilised to relevel the floor either up or down. Therefore, Mr Kearney said that the floor will require replacement.

[71] In Mr Kearney's opinion, the new pile design put forward by EQC was not appropriate because the house requires extensive pile replacement, essentially a foundation replacement.

[72] Mr Kearney did agree with EQC's pile design, detailing footing depth of only 0.3m bgl. He would make it deeper as it will also provide better lateral restrain. He also noted that the bearers under the house are all over the place.

[73] Mr Kearney initially said that his design for a new bearer layout would achieve Building Consent and he would be prepared to give a PS1 for it. He said that it is not a Type 2A foundation but it does provide good lateral restrain to the piles.

[74] However, during cross-examination, Mr Kearney retracted his position and conceded that his designs will not gain the required building consent:

Q: So you haven't obtained any geotechnical advice yourself have you?

A: No.

Q: And what you tell us in paragraph 54, sorry in paragraph 52 and I'll come back to the designs but I'll just in a very general way cover this now is that, in your last sentence, "it would be my recommendation that a geotechnical engineer be required to complete a design statement and a PS1. That's a producer statement, a PS1 isn't it?

A: Yes.

Q: And you need a producer statement signed by an engineer to go to Council in order to get a consent. So you're saying a geotechnical engineer should be required to sign a PS1 to support your new foundation design that ignores future liquefaction potential. How on earth could any geotechnical engineer sign that document?

A: They wouldn't.

Q: They wouldn't. I haven't any trouble with that. EQC accepts that a geotechnical engineer wouldn't be prepared to sign. So that is the whole purpose of that sign off to confirm for the future that it is being appropriately designed.

A: Yes

[75] Mr Campbell in his closing submissions also conceded that Mr Kearney's design will not get the necessary building consent. I therefore take it that Mr Kearney amended his evidence from what was originally said during examination in chief.

[76] In addition, Mr Kearney prepared a design with anchor piles. The intermediate pile footing he recommends is 500 x 500 and the depth is 0.75m bgl. The anchor piles designed by Mr Kearney are a standard design from NZS 3604.

[77] Mr Kearney also prepared a releveling plan based on the floor survey by Topografo Survey Ltd. This plan adopts the standard Code tolerance of 10mm overall dislevelment and a maximum deviation of 5mm over any length of up to 10m. The plan identifies where the floor level needs to be raised and where it needs to be lowered in order to achieve the target levels. The soil in some area of the floor also needs to be dug out in order to maintain existing floor to ground clearance.

[78] In Mr Kearney's opinion, his design will achieve the releveling targets of NZS 3604. However, he also said that given the existing piles cannot be adjusted, almost all piles will require replacement with new piles to be constructed.

[79] In Mr Kearney's opinion, it is also necessary that the piles be embedded into a concrete slab over a gravel raft in order to comply with the recommendations of the MBIE for repairing and rebuilding homes affected by the Canterbury earthquakes. However, because that would be a Type 2A foundation, he has prepared a scope of work without allowing for a slab or raft.

[80] He acknowledged that remedying the localised dislevelemnt and overall dislevement will cause consequential damage such as cracking of the interior wall linking, cracking of joinery and cracking of tiles.

Mr Kearney's proposed scope of work

Option 1

[81] Option 1 will require the replacement of almost all of the existing piles with piles as designed by Mr Kearney. The house will have to be lifted a minimal amount and access to the subfloor will be gained by removing the floor. After the existing piles are removed, new piles will be constructed and the floor reinstated.

[82] However, given that the majority of the existing piles will need to be replaced with new piles, Mr Kearney admits that this is essentially a new foundation. Furthermore, he acknowledged this proposal is unlikely to obtain consent given that no consideration is given to subfloor clearance (adequate crawl space).

Option 2

[83] Option 2 requires replacement of almost all of the existing piles that are included in Option 1. However, in addition, this option requires that the house be lifted approximately 3m and then replaced onto new piles. Given the necessary replacement of almost all existing piles, Mr Kearny also admits that this is also essentially a new foundation.

[84] Mr Kearny explains why he formulated two different strategies. When he was developing the first strategy, he identified that 53 of the 70 piles required replacing. However, the generally accepted approach is that once the number of piles needing replaced reaches the majority of the existing piles, all piles should be replaced. Mr Kearney explained that when he got to the point where the majority of the pile needs replacing, he formulated Option 2 which recommends a new foundation. Mr Kearney acknowledged that his Option 2 would not be compliant.

Mr Day's evidence

[85] Mr Day is a registered chartered professional engineer with the Institution of professional Engineers New Zealand. He was involved from the very beginning, having given evidence in the trial before Mander J.

[86] I find Mr Day to also be a credible and competent structural engineer who was competent to give opinion in his field of expertise.

[87] Following further inspection Mr Day is of the opinion that the releveling could be best achieved by essentially completely replacing the floors in the worst affected rooms, and in doing so installing 20 new shallow piles designed specifically for this site.

[88] In Mr Day's opinion, this achieves a higher standard of repair than may have been envisaged by the Joint Report, which contemplated releveling primarily through jacking and packing off the existing piles, and potentially replacing some piles.

[89] Mr Day's proposed repair will bring the floor levels back to within generally 20 to 30mm, except in one area, over the span of the house; and address any localised dislevelment affecting the functionality, aesthetic quality or amenity value of the house. Mr Day prepared a floor plan, using the floor level evidence of the plaintiff's surveyor, Mr Cowie, from the initial hearing.

[90] Mr Day believed that the difference in floor level once his proposal is implemented will not be discernible to the occupier and that the repair proposed will restore the functionality, aesthetic quality and amenity value of the house.

[91] Mr Day also designed a site-specific shallow pile to be used in the releveling. As part of the process of preparing the engineer designed pile, Mr Day sought the advice of Tonkin & Taylor, who provided the geotechnical engineering expertise. Tonkin &Taylor confirmed that Mr Day's design and calculations are appropriate given the known ground conditions of the property.

[92] Mr Day said that in order to complete the releveling work, a releveling contractor will need to be engaged to install the new piles and level the structure to the target datums. Mr Day obtained a quote from SmartLift Systems ltd to ensure that the releveling scope of works was comprehensive and captured all the work required to install the new piles and relevel the floor.

[93] In summary, the releveling methodology designed by Mr Day and Mr Davey is as follows:

(a) uplift floor coverings in the lounge (including lounge extension) and all four bedrooms (and hold in storage);

(b) remove and dispose of timber flooring in five affected rooms, including skirting and trim;

(c) remove internal linings to five sections of walls to assist with releveling;

(d) once the subfloor is exposed in the lounge and all bedrooms, SmartLift Systems will relevel the lounge and the four affected bedrooms. It is anticipated that this will include:

(i) the removal of up to 20 existing piles and replacement with new piles in accordance with the site-specific engineer designed solution and the new pile plan;

(ii) building up on top of floor joists to alleviate any discrete slopes, as required on the western side, in bedrooms 1 and 2 after the new piles in those rooms have been installed;

(iii) the replacement of the bearers in bedrooms 3 and 4; and

(iv) possible minor feathering of the sub-floor framing along the concrete wall located at the south west laundry wall;

(e) throughout the releveling process, levels will be taken across the sub-floor to establish the new floor levels across the house;

(f) once the builders and releveling contractor are satisfied that the floors are as level as possible, given the age of the house, and within the targeted tolerance, new T&G flooring will be installed in the five

affected rooms, with the exception of the extension to the lounge, where the flooring will be replaced using particle board. This extension, comprising 10.33m^2 of the lounge space, currently has a particle floor board;

(g) supply and install new skirting to the five rooms where floors were uplifted and replaced;

(h) supply and install new plasterboards to five walls. This is necessary due to the consequential damage caused by the releveling process in these particular parts of the house. In Mr Day's opinion, the scope of works err on the side of including walls where there is any realistic prospect of consequential damage;

(i) relay floor covering;

(j) paint all rooms affected, including the five walls with new plasterboards included in the Approved Scope of Works.

[94] Mr Day also prepared the necessary documents to enable a building consent to be obtained for the proposed releveling work. Although he acknowledged that a building consent may not strictly be required, he and Mr Davey are of the opinion that a building consent application is the appropriate means of documenting the proposed repairs, as it also demonstrates compliance with the required Building Code and Building Act 2004. The documents prepared include:

(a) building consent application and checklist;

(b) inspection schedule;

(c) detailed drawings of the house layout and new timber piles and footings, along with a floor plan showing the anticipated floor levels following the completion of the releveling work;

(d) memorandum from a licensed building practitioner for the design of the new piles;

(e) producer statement (PS1) for design of the new piles;

(f) a structural specification for pile replacement;

(g) support documentation, specifically:

(i) scope of work;

(ii) letter from Tomkin & Taylor;

(iii) SmartLift Quote;

(iv) geotechnical engineering report by Golder Associates;

(v) Land Use Register Summary; and

(vi) floor covering and lining removal plans.

Mr Davey's evidence

[95] Mr Davey is a registered chartered professional engineer with the Institute of Professional Engineers New Zealand (IPENZ). He has over 44 years of engineering experience, specialising in structural and earthquake engineering.

[96] I find Mr Davey to also be a credible and competent structural engineer who was competent to give opinion in his field of expertise.

[97] The primary purpose of Mr Davey's evidence is to critique Mr Kearney's strategy and defend the strategy that he and Mr Day formulated. In reviewing Mr Kearney's evidence, Mr Davey raised four primary matters of concern.

[98] The first relates to Mr Kearney's opinion on both the overall and localised dislevelment. Mr Davey is of the opinion that NZS 3604 is not directly relevant to the repair. Mr Davey said that the defendant's strategy both complies with the Building Code and addresses the overall and localised dislevelment. In doing so, Mr Davey is of the opinion that it will provide a durable outcome that restores the functionality, aesthetic quality, and amenity value of the house.

[99] The second relates to ground clearance. Mr Davey disagrees with Mr Kearney's opinion that the lowering of the floor levels in order to ensure equivalent ground clearances were maintained is in breach of ss 17 and 112 of the Building Act.

[100] Third, Mr Davey criticises Mr Kearney for suggesting that the defendant's repair strategy will not comply with the Building Code because it involves packing off the existing pile. Mr Davey explains that the defendants do not propose any material packing off existing piles. Instead, new engineer designed piles are being used.

[101] Lastly, Mr Davey refutes Mr Kearney's claim that the EQC's proposed releveling strategy is essentially a foundation replacement. He said the repair strategy is not in any sense a full foundation replacement. In addition, their design has been reviewed by Anna Sleight, EQC's geotechnical engineer from Tonkin & Taylor who also gave evidence in the initial hearing. She has confirmed that the structural design and calculations are appropriate given the known ground conditions of the property.

[102] Before assessing the relative merits of the different designs, I set out the burden of proof and standard of repair.

Burden of proof

[103] The burden of proof lies with the insured. The insured must establish that an insured peril has occurred, that it has occurred within the period of cover and that the event for which the claim is made was a proximate cause of the insured's loss.

[104] The claims reporting provisions in the EQC Act are broadly to similar effect:

(a) by cl 7(1)(a) of sch 3 of the EQC Act, it is the insured person who must give notice to EQC within the prescribed period of the occurrence of natural disaster, of damage to any insured property;

(b) by cl 7(1)(b), it is the insured person who must deliver to EQC a claim in writing for the natural disaster damage, giving an account of all property lost or damaged and the respective amount claimed;

(c) by cl 7(3), the insured person must give EQC (among other thing) particulars, plans, documents and information which relate to the claim, and the circumstances under which the damage occurred, as may be reasonably required by EQC;

[105] An insured is required to prove on the balance of probabilities, every material fact in respect of their cause of action. The material facts to be proved are the occurrence of an insured event and the damage alleged to arise from the insured event, together with quantum.

[106] In *Jarden v Lumley General Insurance (NZ Ltd)*, Kos J considered the burden of proof in the context of earthquake cases. The following propositions may be distilled from that judgment:[7]

(a) the burden of proof in a claim under a policy of insurance lies on the insured person;

(b) although it is open to an insurer to suggest and seek to prove a cause of loss other than the insured risk, the insurer has no obligation to do so. If the insurer chooses to do so, there is no obligation on the insurer to prove, even on a balance of probabilities, the truth of its alternative cause;

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[7] *Jarden v Lumley General Insurance (NZ) Ltd* [2015] NZHC 1427, (2015) 18 ANZ Inusrance cases 62-077 at [47].

(c) it is always open to the Court to conclude that the cause of the loss, even on a balance of probabilities, remains in doubt. The consequence is then that the insured fails to discharge the burden of proof that lay upon the insured.

[107] In *Jarden*, the question of burden of proof arose in respect of a dispute about whether certain defects were earthquake damage. The dispute that the Court has to determine here is about the reinstatement work required to address some of the already determined earthquake damage and the likely cost of that work.

[108] Accordingly, the onus is on the Kellys, as plaintiff and as the insured, to demonstrate that their remediation approach (and costing) should be preferred.

Standard of repair

[109] I briefly review the relevant authorities on the standard of repair before discussing in-depth the relevance and applicability of NZS 3604 and the standard of repair determined by Mander J in the judgment.

General Principles

[110] The cover under both the EQC Act and the Southern Response Policy is on a "new for old" basis. The Supreme Court in *Tower Insurance Ltd v Skyward Aviation 2008 Ltd* interpreted these kind of policies as follows:[8]

> [24] The insurance policy is for full replacement value and proceeds on the basis of replacement on a new for old basis. The availability of such policies reflects a recognition that a traditional indemnity value policy may not provide sufficient funds to enable a damaged building to be repaired or rebuilt given that such exercises will require new materials and compliance with current building standards which may be more stringent than those in place when the building was constructed. A replacement value policy thus covers the impact of depreciation and increasing building cost…

[111] The plaintiff referred this Court to *Medical Assurance Society of NZ Ltd v East*, where a house was damaged in the Canterbury earthquakes.[9] The policy

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8 *Tower Insurance ltd v Skyward Aviation 2008 Ltd* [2014] NZSC 185, [2015] 1 NZLR 341.

covered "the cost of rebuilding or restoring the dwelling to a condition substantially the same as new". The insurer argued that "as new" meant the condition of the house when it was built in 2007. The Court of Appeal rejected that submission and held that "as new" is a quality standard and not a temporal standard.

[112] The Act also refers to reinstatement to a condition "substantially the same as but not better or more extensive than its condition when new." In *Parkin v Vero Insurance New Zealand Ltd* a policy covered the cost of repairing "to a standard of specification no more extensive, nor better than its condition when new". Mander J held:[10]

> The fundamental obligation on Vero under the policy is to pay for the cost of rebuild, replace or repair the damage. The upper limit of the measure of indemnity is "when new"; Vero is not obliged to make good beyond that standard.

[113] The plaintiff submitted that if there is a range of options, it is at the insured's discretion to choose which option to adopt, as long as he or she does not exceed the upper limit. However, for reasons discussed below, I find that only one of the three options formulated by the experts is capable of discharging the defendants' obligations under the Act and/or policy.

NZS 3604

[114] Bearing in mind that the difference in scope is largely attributable to a difference of opinion as to the targets of releveling and the applicability of NZS 3604, it is appropriate to look at standards.

[115] Standards New Zealand is this country's leading developer of standards and standards based solutions. Under the Standards and Accreditation Act 2015, Standards New Zealand became part of the consumer protection and standard branch of MBIE. NZS 3604, published by Standards New Zealand, sets out construction requirements for timber-framed buildings.

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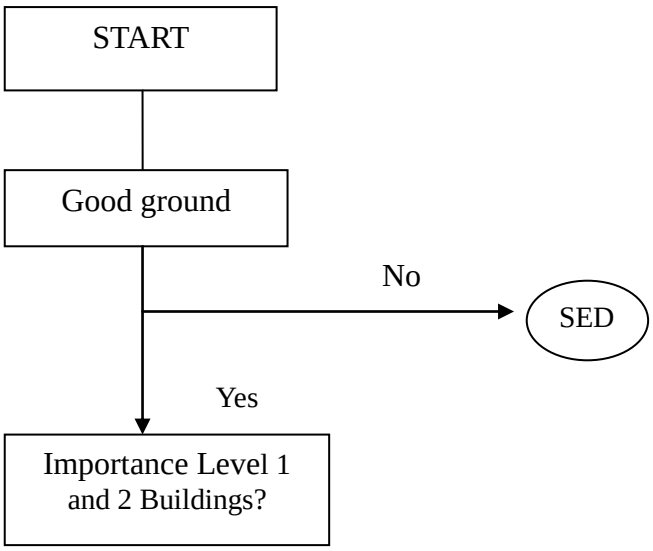
9 *Medical Assurance Society of NZ Ltd v East* [2015] NZCA 250.

10 *Parkin v Vero Insurance New Zealand Ltd* [2015] NZHC 1675 at [115].

[116] If the standard applies, it states that tolerances for horizontal deviation in any length up to 10m are 5mm, while horizontal deviation in any length over 10m is 10mm in total.

[117] However, under the Scope and Interpretation section, it states that NZS 3604 shall only apply to building founded on good ground. "Good ground" is defined as "any soil or rock capable of permanently withstanding an ultimate bearing capacity of 300 kPa (i.e. an allowable bearing pressure of 100 kPa using a factor of safety of 3.0". The limitation of the scope of NZS 3604 was further demonstrated in a flowchart which begins as follows:



[118] "SED" in the diagram stands for "Specific Engineering Design". During cross examination of Mr Kearney by Mr Scott, it was explained to me that NZS 3604 permits builders, architects and the like to use its design or build within the parameters of the standard without having to provide specific engineering design work. However, if one does not fit inside the parameters of NZS 3604, then a specific engineering design is required.

[119] Furthermore, during the cross-examination of Mr Kearney by Mr Johnstone, Mr Kearney accepted that it will be difficult to impose a 2017 standard on an early 1900's house.

[120] I therefore find that in assessing the particular repair strategies of this property, NZS 3604 is of limited relevance.

MBIE Guidance

[121] Reference was also made to the Ministry of Business, Innovation and Employment (MBIE)'s guide to repairing and rebuilding houses affected by the Canterbury earthquakes. The document provides technical guidance for repairing and rebuilding houses in the Canterbury region following the Canterbury earthquake sequence. The intent of MBIE was to provide robust and well-balanced engineering solutions that will reduce the damage to homes in future earthquake.

[122] In the chapter dealing with "Foundation Assessment Criteria and Approaches", a table is provided to indicate the standard for floor or foundation relevelment or rebuild. Of relevance, it states that where there is no foundation relevel considered necessary, the slope of the floor between any two points >2m apart is <0.5%.

[123] While I accept that the criteria are provided solely as an indicator for initiating a re-level and that MBIE Guidance further states "finished floor levels are expected to be as close to level as can practically be achieved", I find that they are applicable and relevant in the current circumstance.

"Functionality, aesthetic quality, and amenity value of the house"

[124] Overarching the relevant authorities and the applicable guidelines is the determination of Mander J in assessing the standard of repair. As stated in my estoppel ruling, Mander J in his judgment held that the standard of repair is to restore the "functionality, aesthetic quality, and amenity value of the house."

[125] The plaintiff submitted that without strict compliance to relevant standards such as NSZ 3604, the standard of "functionality, aesthetic quality, and amenity value of the house" will be subjective, and based on "impressionistic" personal

judgments. However, while I find merit in the plaintiff's argument, I note that this standard is applied in light of the relevant building codes and the MBIE Guidance.

[126] I also bear in mind the specific circumstance of this case. As noted above, there are difficulties in applying a 2017 standard to a house built in the early 1900's. For this reason, special engineering designs, with emphasis on practicality over strict adherence to recently developed guidelines, are required to repair the house to a current "as new" standard.

[127] I further emphasise at the outset that the exercise I undertake to assess the relative merits of the various repair strategies is made in light of Mander J's decision and directions.

[128] I now assess the relative merits of the proposed repair strategies.

Analysis

Assessing the merits of Mr Kearney's design

[129] During the cross examination of Mr Kearney's expert evidence, it quickly became apparent that his design was incomplete and not acceptable as a repair strategy to relevel the earthquake damaged floor. During cross-examination, Mr Kearney acknowledged that he has yet to complete a specific engineering design or obtain the required geotechnical approval for either Option 1 or Option 2.

[130] Option 1 uses intermediate piles which have not been designed and drawn, even though it requires specific engineering design. It has not included any geotechnical input. It is founded at a depth of 750mm but will have a zone of influence of 1.75m, with the result that it is contrary to the existing geotechnical advice.

[131] Mr Kearney conceded that Option 1 was unlikely to obtain a building consent because it was essentially a new foundation that did not have the lateral support and control of liquefaction of a Type 2A foundation. I therefore find that Option 1 is not an acceptable scope of works for the releveling of the insured's floor.

[132] Option 2 involves the replacement of every existing pile and the installation of extra piles. It also uses an anchor pile which Mr Kearney confirmed that he has copied from a standard NZS 3604 anchor pile, contrary to the requirement that a specific engineering design is required for the property. Option 2 would have a zone of influence of 2.3m bgl, well below the recommended maximum advised by the geotechnical engineers. Indeed, Mr Kearney acknowledged that Option 2 is unlikely to gain the necessary geotechnical sign off.

[133] The significant flaws in Mr Kearney's design inevitably leads to the conclusion that his repair strategy is unable to discharge the insured's obligation to restore the functionality, aesthetic quality, and amenity value of the house.

Estoppel

[134] I also find that the plaintiff's repair strategy ignores the estoppels that arise from Mander J's judgment. In my ruling above I held that the parties should be developing a scope of works applying the strategy advanced in the joint expert report. In doing so the Kellys cannot argue that it is necessary to construct a new Type 2A foundation and floor system in order to achieve the required standard of repair.

[135] Despite my direction the Kellys have failed to apply the remediation framework or remediation strategy proposed by the joint expert report.

[136] In the judgment, Mander J emphasised the importance of strict compliance with the joint expert report, paying particular attention to the following points in the report:

> (m) The structural elements of the house foundations are to be repaired by releveling the floor. It would be intended to relevel the high points by both lowering the packing under bearers and/or associated piles and removing excess soil to ensure equivalent ground clearances. It is expected that the floor boards will be lifted to gain access to the subfloor area.
>
> (n) Structural elements directly affected by the repair, if found to be inadequate, shall be repaired or replaced as appropriate. Identified damaged and subsequently repaired or replaced elements shall comply with NZ Building Code

…

(p) Experts agreed that the repair strategy cost would need to be confirmed by quantity survey cost estimates.

[137] However, despite Mander J's judgment and my ruling on issues, the plaintiff has continued to seek a scope of works that relies on a new replacement foundation system. While strictly speaking the Kellys no longer seek a Type 2A foundation system, in substance the replacement foundation they seek attempts to achieve the same outcome as a Type 2A foundation. This was demonstrated in the cross examination of Mr Kearney:

Q: And you have tried to prepare an alternative new foundation that really achieves the same substantive outcome in terms of lateral support and settlement rather than using the off the shelf Type 2A foundation.

A: From the terms of bearing capacity, support, lateral stability yes but it doesn't provide any particular protection from potential liquefaction.

Q: Yes, so in substance you're trying to achieve the same outcome as Type 2A but you're concerned that it's not going to have all the qualities of a Type 2A.

A: Correct.

[138] I therefore find that the plaintiff has, to a large extent, failed to do what Mander J and I directed. The two strategies they developed bear little resemblance to the "agreed strategy" contained in the joint experts' report. Instead, both strategies involve separating the entire house from its foundations, inserting metal beams from under it and lifting the house into the air. As demonstrated in my discussion below, I conclude that the two options formulated by the plaintiff ignore the conclusions reached by Mander J which were endorsed in my ruling and are no longer available to the plaintiff.

[139] I am not satisfied on the balance of probabilities that the plaintiff's repair strategy and scope of works are appropriate to discharge the defendants' obligation to repair the building as new under the relevant Act and/or policy.

Assessing the merits of Mr Davey's and Mr Day's strategy

[140] I now address the plaintiff's concerns of the defendants' proposed strategy and the expert evidence of Messrs Davey and Day.

[141] First, the plaintiff submitted that Messrs Davey and Day were, from the outset, instructed by EQC to prepare a scope to achieve a target of "20 to 30mm across the span of the house". The plaintiff essentially alleges that the 20 to 30mm target range was not the professional opinion of Messrs Davey and Day themselves but instead tainted by EQC's instructions.

[142] However, I reject any allegation laid by the plaintiff that Messrs Davey and Day's professional opinion was tainted by EQC's instruction. When Mr Davey was cross examined by Mr Campbell, it was put to him several times that his professional judgment of the set 20 to 30mm tolerance was tainted by EQC's instruction and Mander J's judgment. The exchanges were as follows:

> Q: EQC's instruction to you though were to design a re-levelling strategy to achieve a 20 to 30mm differential weren't they?
>
> A: No
>
> …
>
> Q: Mr Davey did you know that at that point just prior to the hearing before Justice Mander that EQC's position was that the earlier judgment had already determined that the floor level only had to be brought back to within 20 to 30mm
>
> A: I'm not aware of that. I don't believe I have been told that
>
> Q: You're sure?
>
> A: I don't recall it. I certainly don't recall it.
>
> …

[143] I accept Mr Davey's evidence that the 20 to 30mm tolerance was set by his professional judgement as oppose to any instruction by EQC.

[144] Secondly, the plaintiff submitted that the repair strategy does not take into account:

(a) the function of level floors in terms of installing cabinetry, renovations, laying of tiles, and so on;

(b) the perceptions of prospective purchasers of the house; and

(c) the capacity for further dislevelment;

[145] However, I am satisfied by Mr Davey's evidence during cross examination that the repair strategy formulated by Messrs Davey and Day sufficiently restores the functionality, aesthetic quality, and amenity value of the house. In cross examination, Mr Davey was asked:

> Q: Yes though you have been asked to apply a "when new" standard in the Act and in the policy haven't you, Mr Davey?
>
> A: Yes and that's what we've done. We've aimed to get the functionality, aesthetic value, amenity of the floor to an as when new standard in accordance with the building code and, in fact, I think we've done better than that. I think we're better, the floor levels when we've done this work will actually be better when the house was built.
>
> …
>
> A: But always keeping in mind that what we're aiming to achieve is when it's completed, a functional floor. Now, if we try to achieve something with less dislevelement we will likely cause consequential damage and yet we won't be achieving anything. There will actually be no improvement to the functionality of the house if we go and push it and try and achieve 10 millimetres rather than what we're aiming to do. It will just be a waste of time and money.
>
> …
>
> Q: And you designed that re-levelling to bring the floors back to within generally 20 to 30mm didn't you?
>
> A: That's the level that we felt that we could achieve, yes that right and that at the time but we were't targeting that. What we were aiming to do was to produce a level floor. Now I'm satisfied that – a functional floor – and I'm satisfied from my knowledge and experience that if we do that we're going to end up with a floor that is perfectly functional.
>
> Q: Well EQC–
>
> A: To the standard of a new house. As far as its utility, its functionality it will be indistinguishable from the floor of a new house and that is

> really the test. It's not whether it's 10mm or 20mm, the test is is it functional and there's numbers of ways of defining functional. One of them would be would a user of a house notice any difference between a floor that's totally level or a floor that is at some other dislevelment. If they don't as far as the definition of functionality is concerned it makes no difference, you know.
>
> …
>
> A: Well I'm looking at a new standard. In other words if you go into the house it'll feel like you're going to a new, it'll be indistinguishable if you went next-door to a new house you'd notice no difference as far as the floor levels are concerned.

[146] I asked Mr Davey whether the "as new" standard that he applied was new as now or new as when it was first built in the early 1900's. Mr Davey explained that the amenity value of a house built back in the early 1900's was no different to the amenity value of a house built today as far as floor levels are concentred.

[147] Mr Davey also explained the realities of repairing a 100 year old house which has been subject to quite severe differential settlements. By attempting to relevel the house to a 10mm range, the consequential damage will likely put the rest of the house out of level.

[148] Mr Davey concluded:

> Mr Keareny's approach is that he believes that the only way to get a satisfactory solution here is to get to 10 millimetres and I say that's not correct. We don't need to get to 10 millimetres to produce a perfectly functioning floor.

[149] I agree with Mr Davey. I find that in the particular circumstance, the repair strategy should not be trying to achieve an unnecessarily tight tolerance which will only increase cost, potentially cause consequential damage, and which is unlikely to differ in the functionality of the floor. As previously noted, an emphasis on the practicality of the repair strategy is required in order to restore the functionality, aesthetic quality, and amenity value of the house.

[150] Thirdly, the plaintiff submitted that even if EQC's target of 20 to 30mm is adopted, EQC's repair strategy will still not achieve that target. The plaintiff noted that EQC's scope will leave a high point of -8 in bathroom 1 and a low point of -43

in the entrance to the hallway from the kitchen. The difference will be 35mm, outside the 20 to 30mm range of EQC's target.

[151] However, I accept the defendants' submission that the functionality, amenity value and aesthetic quality of those two rooms need to be considered in light of the fact that they were both renovated in recent times and, in particular, have had new tiles laid throughout which have been unaffected by the earthquake. In the judgment, Mander J specifically addressed the fact that the historic settlement in this part of the house had been accommodated when the new bathroom and tiles were laid, which extended out through the kitchen and into the laundry. Mr Kearney agreed under cross examination that as a result of the renovations to Bathroom 1, it current meets the "when new" standard. The following passage supports this:

> Q: Mr Kearney this is a room which has been recently refurbished.
>
> A: Yes
>
> Q: This is the when new condition of this room isn't it?
>
> A: I haven't said otherwise
>
> Q: So you'd agree with that?
>
> A: Yes

[152] Mr Kearney went on to confirm that re-piling and releveling in this part of the house would cause significant consequential damage to a recently renovated area by the plaintiff. I find that the rooms currently remain in their "when new" condition following the renovation.

Contingency

[153] Mr Harrison, the quantity surveyor called in support of the plaintiff's claim gave evidence that a contingency of ten per cent should be allowed to each of the scopes of work because it was standard quantity surveying practice to do so. His evidence was not challenged.

[154] In the joint report of the quantity surveyors Mr Mace, who had been instructed by the defendants but was not called to give evidence, recorded that in

each of the scopes of work analysed, he would normally include, in a scope of works for repair such as this, a contingency of ten per cent for unknown earthquake damage. Save for unknown earthquake damage the only comment made by Mr Mace in the joint report about contingencies is that he was instructed not to include a sum for contingencies.

[155] The plaintiff's position relies first on Mr Harrison's evidence that it is standard quantity surveying practice to make an allowance for contingencies and second on the Supreme Court decision in *Southern Response Earthquake Services v Avonside Holdings Limited.*[11] There the Supreme Court confirmed the Court of Appeal's conclusion that it was appropriate to include an allowance for contingencies.

[156] I conclude that an allowance for contingencies in relation to the three scopes of work is appropriate and that the allowance should be ten per cent.

Conclusion

[157] I accept the scope of works provided by the first defendant. In view of the agreement reached and referred to in [51] before any allowance for contingencies is made the cost to remediate in terms of that scope of works is $66,440 and that increases to $73,084 when the ten per cent contingency is added. In view of my finding on the contingency issue $73,084 is the amount which I conclude is necessary to complete the scope of works pursuant to the question that I am required to determine.

[158] This finding answers the specific question which I am required to determine. Unfortunately that does not produce by itself the final answer to this proceeding although save for the question of interest and costs, I do not anticipate that there will be disagreement between the parties.

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[11] *Southern Response Earthquake Services v Avonside Holdings Ltd* [2015] NZSC 110, [2017] 1 NZLR 141.

Final judgment

[159] Although it is not strictly part of the final result of my judgment, for the benefit of the parties I set out what I understand the position to be in the hope that agreement can be reached and a final judgment incorporating the results of both Mander J's judgment and my conclusion on the special question can be sealed.

[160] The position is summarised by Mr Scott as follows:

> 1 The Kellys' house was deemed to be insured against natural disaster damage under the EQC Act for its "replacement value" to the amount of $115,000 (including GST) in respect of each of the 4 September 2010 and 22 February 2011.
>
> 2 This amount is often colloquially referred to as the "EQC cap" for each natural disaster event. Once the "EQC cap" is exceeded, often referred to as "over-cap", liability for insurance monies payable over and above the "EQC cap" transfer to the private insurer under that policy of insurance.
>
> 3 The parties are agreed that the figure determined by this Court, once added to the Approved Scope of Works amount of $53,768.50 (incl GST), is to be apportioned between the two earthquake events as follows:
>
> 3.1 12% to the 4 September 2010 earthquake; and
>
> 3.2 88% to the 22 February 2011 earthquake.

[161] When $73,084 is added to the approved scope of works referred to in Mander J's judgment the total inclusive of GST becomes $126,852.50. $15,222.30 applies in respect of the 4 September 2010 earthquake and $111,630.20 applies in respect of the 22 February 2011 earthquake. The significance of this is that the monies payable do not exceed the EQC cap with the result that no monies are payable by the second defendant.

Further Conference

[162] I anticipated at the hearing of the special question and advised counsel that it would be desirable that I convene a telephone conference with counsel shortly after the issue of my reasons and my determination of the figure to be paid pursuant to the special question. For that reason a telephone conference with counsel will be held at

Wednesday 12 July at 11am. Its purpose is to establish whether there is any area of disagreement as to the form of judgment that can now be sealed and if so, what is appropriate. So far as costs are concerned I would not anticipate that there needs to be any specific resolution of that item at this stage. Mander J covered the position in his minute of 3 April 2017. He did not recuse himself in respect of the question of costs in relation to his judgment. So far as fixing the balance of costs are concerned, because of my warrant I may not be able to determine those costs. In that case, the position is amply covered by r 14.9 of the High Court Rules. A direction in relation to costs is required with provision that if the parties cannot agree memoranda in support, opposition and reply shall be filed.

_____

Faire J