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**Canterbury Earthquakes**  
**Royal Commission**  
Te Komihana Rūwhenua o Waitaha

**E-MAILED**  
12.12.2012.36

1 February 2012

Buddle Findlay  
Solicitors  
245 St Asaph Street  
CHRISTCHURCH 8140

Attention: Willie Palmer

Email: willie.palmer@buddlefindlay.com

Dear Mr Palmer

**Royal Commission of Inquiry into Building Failure Caused by the Canterbury Earthquakes:**  
**CTV Building: 249 Madras Street - information request**

*1991 Correspondence*

1. In the course of reviewing the documents we received from you under cover of your letter dated 10 November 2011 two items of interest have been identified. First, in a letter dated 2 February 1990 from Adam & Adam Ltd to your client a request was made that your client include with its Notification of Possible Claims Advice "...as many file notes/explanatory notes as possible ...". While I appreciate this is now some years ago, would you please ensure your client has provided to the Royal Commission all relevant file notes and explanatory notes, as well as any other documentation regarding the CTV building that is relevant to the Commission's inquiry.
2. Second, it is apparent from correspondence between your client and both Indemnity & General, and the Consulting Engineers Advancement Society Inc, that in or about April 1991 your client obtained a legal opinion from Lane Neave which related to the building retrofit issues that were under discussion at that time. The letter from the Consulting Engineers Advancement Society dated 9 April 1991 refers to this opinion.
3. It is accepted that your client is entitled to privilege for this opinion. However, it does appear from the correspondence that we have reviewed that this opinion would assist the Royal Commission to correctly understand the issues involved in the remedial works carried out on the building. In light of your client's stated commitment to an open investigation (letter of 22 December 2011 from your client to Dr David Hopkins) I would be grateful if you would discuss with your client

whether it is prepared to waive privilege in that legal advice and provide a copy to the Royal Commission.

*Response to G Tapper (September 1986)*

4. Further information is also required from your client in relation to the **enclosed** handwritten report prepared by Mr GL Tapper dated 27 August 1986. This document has been the subject of a previous information request to your client, but there are now further issues that arise from the Commission's receipt of the draft DBH report.
5. Page 2 of Mr Tapper's report refers to structural drawings S15 and S16. These are the drawings that detail the connections to the shear core on L 2-6 and which do not specify any requirement for connection between the floors and the shear core other than 664 mesh. As you will be aware, this is the issue of concern identified in the 1990 Holmes Consulting Group report and the subject of the legal advice referred to above. It is an issue that receives significant attention in the draft DBH report.
6. It seems clear from Mr Tapper's report that he too had identified an issue regarding the connection to the shear wall system and the general connection between the floor slab and the walls, as detailed in drawing S15. He also noted that the details for the shear core floor slab connection were missing in S16. Your client was required "... to attend to..." these and the other matters listed in Mr Tapper's report.
7. The written response from your client to Mr Tapper that we have seen is a Document Transfer Form dated 5 September 1986 which refers to copies of structural drawings S1 to S39 "*including amendments as requested*". The Document Transfer form is signed by David Harding and a copy is **enclosed**.
8. Under cover of a letter dated 17 October 2011 you provided to the Royal Commission copies of structural drawings held by your client. These drawings are dated August 1986. These included drawings S15 and S16. These are identical to the drawings the Commission has received from DBH/Hyland and do not show any detailing for the diaphragm-shear core connection other than the 664 mesh. Unless your client's position is that this is one of the "amendments" referred to by Mr Harding and it met Mr Tapper's recorded concern, and we do not understand this to be your client's position, it is not clear how (or whether) Mr Tapper's concern about the shear core connection was met.
9. We have also received a copy of the handwritten calculations for the building, dated 26 June 1986. They appear to have been prepared by Mr Harding. I assume your client will have a copy of this document, but a copy will be forwarded if required. Would you please ask your client to review this document and do two things. First, identify any references to the connections between the floors and the shear core. Second, advise whether this document is the "calculations" referred to in the Document Transfer Form. I note that despite Mr Tapper's request for "... *the calculations to support the design*", the calculations identified in the Transfer Form appear to relate to fire performance issues only and have a different reference number to the one on the calculations referred to above. In the schedule your

client provided to DBH as part of its response to the draft Report it has commented that “*The calculations provided are not necessarily the complete set of calculations for the design*”. The Royal Commission requires your client to provide “*the complete set of calculations for the design*” and, if it is unable to do so or says it has already done so, to explain what is meant by the statement quoted above.

10. You will appreciate that the question of why the Council issued a building permit in circumstances where Mr Tapper appears to have identified the non-compliance with the relevant Standard, and where we have not seen any documents or received any evidence that would appear to meet his concern, is an issue that will need to be closely examined at the hearing into the CTV Building. If there is any more information your client can provide that assists with the answer to this question it would be of great value to the Royal Commission. This includes any information that can be provided on the “amendments” Mr Harding referred to. As matters stand no ‘amendments’ to the drawings have been identified.

#### *Drag Bar retrofit – 1991*

11. As you will be aware, the remedial work designed by your client to address the structural concern identified by HCG in 1990 did not include Drag Bars on L2 and 3. It is clear that your client made a deliberate decision not to follow the suggested approach in the HCG report, which involved strengthening the shear core-diaphragm connection on all floors except L1.
12. The significance of your client’s decision is addressed at various places in the draft Hyland report and the Commission requests an explanation from your client on why the decision was made. If there are any calculations or other documents that relate to this decision, copies are requested.

#### *Compliance with interstorey drift requirements*

13. The draft DBH report concluded, on the basis of displacement compatibility analyses, that the drift of the Line F columns was such that columns could not be detailed on an assumption of elastic behaviour. The response in your client’s schedule that was sent to DBH is that *actual* drift is irrelevant to compliance. What matters is whether *analysis* shows compliance and it did.
14. Your client is requested to confirm whether the drift analysis that was carried out was done taking into account the absence of the required connections between the diaphragm and the shear core.

#### *Concrete tests*

15. The structural specifications for the CTV Building require, at C12.5, the ready-mix supplier to make control tests in accordance with NZS3104. Please advise the name of the concrete supplier and the identity of the persons who would have received the test results. If your client holds any of the test results, please provide these.

*Conclusion*

16. Once the DBH report is released to the public a copy of this letter will be sent to Messrs Harding and Banks, as well as the Christchurch City Council, as the other parties who may be able to provide further information on this issue.
17. The above information is required under the Royal Commission's powers of investigation set out in s 4C of the Commissions of Inquiry Act 1908.
18. On an unrelated issue I understand from my colleague Mark Zarifeh that you left a message with him enquiring about the date for the hearing into the CTV Building. At this stage that date has not been finally determined, but you will be advised as soon as it is finalised.

Thank you for your cooperation.

Yours faithfully



Stephen Mills QC  
Counsel Assisting  
Canterbury Earthquakes Royal Commission



ALAN M. REAY CONSULTING ENGINEER

No 660



147 KILMORE STREET  
CHRISTCHURCH 1

TELEPHONE 60-434

P.O. BOX 25028

DOCUMENT TRANSFER FORM

To: Christchurch City Council

Date: 5/9/86

Project Name: Maddox St Office Development

Attention: Mr G.L. Tapper

Project No.: Appl. No 1747

As requested by u u by  phone  letter on 27 Aug.

We enclose the following:

- Prints
- Reports
- Draft Specs
- Schedule
- Specifications
- Photocopies
- Calculations
- Sketches
- 

Item No.	File No.	Description
1	2503	(2 Sets) structural drawings S1 to S39 inclusive - including amendments as requested.
2	2503	Calculations relating to Bordet structure after fire, pp G78 & G79 (2 copies)

- Sent Via:
- 1  Mail
  - 2  Airmail
  - 3  Parcel Post
  - 4  Courier
  - 5  Our Delivery
  -

Item No.	Copy of Documents also sent to:	Via
Copy of this Form only to:		Via

ALAN M. REAY per *[Signature]*

CHRISTCHURCH CITY COUNCIL  
CITY WORKS & PLANNING DEPARTMENT

24 Aug 1986

Alan M Reay Consulting Eng  
P.O Box 25-028  
Christchurch

Dear Sir,

Your application Number 1747 to erect office building  
at 249, Madras St is held up pending receipt of:

rec'd  
day or  
letter  
- of -  
Please provide the calculations to support the  
design. We also require a foundation report and  
a specification which describes the required  
quality standards for materials and workmanship.  
Please note that CCC Bylaw 105 requires in Cl 28.1.  
that "All drawings, computations and other data  
submitted shall be signed by the architect,  
engineer or designer responsible for their  
production and shall clearly identify him  
and his firm or organisation" There is no  
indication of on the plans that they have been  
checked and approved for issue and construction.

Please attend to the following matters:-

1. Sh 9 - No subgrade information and the 125  
slab is both unreinforced and unjointed.
1. Sh 14 Stirrups for Cols 4, 20, 10 & 16.

- Sh 15 Incomplete notes. Ref line ①-Hi-Bond mesh reinforced encasting does not provide restraint to Hi-Bond for f.r.t purposes. Also floor connection to shear wall system and general connection between floor slab and walls.
- S16 Shear core floor slab & stair landing details are missing.
- S17 Thioflex 600 & PEF backing strip has not f.r.t.
- S19 Not to microfilmable standards.
- S23 Size of fixing A and we note that there are no notes.
- S25 Reinforcing of spandrels and fixing details
- ✓ Yes S26 Is there one planter boxes & precast panel
- ✓ S28 How is the web welded <sup>5mm for both sides</sup>
- ↓ S29 Detail 7 & 8 - 1 x 12 d H.D bolt No 2-M120
- ↓ S30 All weld plate details and Detail 2 stringer  
 To weld plate weld size & type. also baluster fixings
- S32 Handrails & weld plate type 6 details

Yours faithfully,

Gst Lapper

for CITY ENGINEER