Alan Reay

From:

Clark Hyland [clark@fatigueandfracture.com]

Sent:

Sunday, 21 August 2011 1:04 p.m.

To:

Alan Reay

Subject:

RE: Remedial Work to 249 Madras Street Walls: Feb 1990

Hi Alan,

Thanks for pointing that out. I had overlooked that.

Kind Regards

Clark Hyland Hyland Fatigue + Earthquake Engineering P 09 262 0203 F 09 262 0243 M 021 348 352 W www.fatigueandfracture.com

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From: Alan Reay [mailto:areay@arcl.co.nz] Sent: Saturday, 20 August 2011 8:45 p.m.

To: Clark Hyland

Subject: RE: Remedial Work to 249 Madras Street Walls: Feb 1990

My understanding is that the details of the bolting are shown on CD2 and 3 which I sent to you on the 4th o f May The parts and portions are referred to in the calcs in the same email Alan

Regards,

Alan M. Reay B.E.(Hons), Ph D. F.I.P.E.N.Z. Director



Alan Reay Consultants

395 Madras St | PO Box 3911 | Christchurch | New Zealand Tel +64 3 366 0434 | Fax +64 3 379 3981 | <u>www.arcl.co.nz</u>

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From: Clark Hyland [mailto:clark@fatigueandfracture.com]

Sent: Saturday, 13 August 2011 11:05 p.m.

To: Alan Reay

Cc: 'Mike Stannard'; 'David Hopkins'

Subject: Remedial Work to 249 Madras Street Walls: Feb 1990

Dear Alan,

I would appreciate your assistance to clarify the details of the remedial work undertaken on walls D and D/E following the Alan Reay Consultants Limited letter of Geoff Banks to Grant Wilkinson of Holmes Consulting Group on 2 February, 1990 (File 3608).

Regards

Dr Clark Hyland PhD CPEng
Director
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Alan Reay

From:

Clark Hyland [clark@fatigueandfracture.com]

Sent:

Thursday, 18 August 2011 11:25 p.m.

To:

Alan Reay

Subject:

RE: Remedial Work to 249 Madras Street Walls: Feb 1990

Hi Alan,

We don't have details of the connections into the slabs on the Line E wall. ie how may bolts were in the slab ? One line of thought is that these sheared off near the start of the collapse sequence.

It would also be helpful to know if the diaphragm ties were designed using the provisions of NZS 4203:1984 using the Parts and Portions provisions for diaphragm design as indicated in the letter between HCG and ARCL.

There may be some issues with those provisions that need addressing in other buildings.

Happy to discuss.

Kind Regards

Clark Hyland Hyland Fatigue + Earthquake Engineering P 09 262 0203 F 09 262 0243 M 021 348 352 W www.fatigueandfracture.com

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----Original Message----
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From: Alan Reay [mailto:areay@arcl.co.nz] Sent: Thursday, 18 August 2011 9:03 p.m.

To: clark@fatigueandfracture.com

Subject: Fwd: Remedial Work to 249 Madras Street Walls: Feb 1990

Clark

Can you explain what you need clarified. I wish to assist but am unclear as to the issue with the info provided re the work undertaken Alan

> > >

> > >

>>> From: Clark Hyland <clark@fatigueandfracture.com>

>> Date: 13 August 2011 11:05:12 PM NZST

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>> To: Alan Reay <areay@arcl.co.nz>
 >> Cc: 'Mike Stannard' <Mike.Stannard@dbh.govt.nz>, 'David Hopkins'
 <David.Hopkins@dbh.govt.nz</pre>
 >> Subject: Remedial Work to 249 Madras Street Walls: Feb 1990
 >>
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 >>
 >> Regards
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 >>
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