



COPY

Canterbury Earthquakes Royal Commission

Komihana a te Karauna hei Tiro tiro i ngā Whare i Horo i ngā Rūwhenua o Waitaha

30 August 2011

David Elliott
Senior Structural Engineer
Aurecon New Zealand Ltd
PO Box 1061
CHRISTCHURCH 8051

Dear Sir,

Re: 7 Riccarton Road

The Royal Commission, as part of its inquiry, is inquiring into the building that was situated at 7 Riccarton Road (the Building).

I note from the Council records we have obtained that you were involved in investigating and reporting on the Building. Would you please provide the following information by **9 September 2011**:

1. In a letter dated 6 September 2010 addressed to Morris North of St. Christopher's Church you outlined your review of the safety status of the Building. On whose instructions were you acting in providing that review?
2. Your letter dated 6 September 2010 refers to inspections by Aurecon Structural Engineering staff on 7 and 9 September 2010. It seems clear that the date of your letter is incorrect. Do you know the correct date on which this letter was sent?
3. The attendances noted on 7 and 9 September 2010 are recorded on Christchurch EQ Rapid Assessment forms of those dates. Those forms were signed by you. Please advise on whose behalf you were completing those assessments.
4. At the time of those assessments had you received any instructions from the tenants or owners of the Building.
5. Your letter dated 6 September 2010 and the Council records suggest that the only inspections you conducted at the property were on 7 and 9 September 2010. Please confirm this.
6. In your letter dated 6 September 2010 you noted that you found the Building to have "negligible observable structural damage" and yet you recommended strengthening of the building. Why was that?

15 Barry Hogan Place, Addington, Christchurch
PO Box 14053, Christchurch Mail Centre 8544

7. On 11 September 2010, following further aftershocks, a further rapid assessment was carried out by the Council. It was noted: "large crack in front façade and parapet. Engineer to inspect and advise." As a result the Building was yellow placarded.
8. There was a further Council rapid assessment carried out on 19 October 2010 which again placarded the Building yellow and noted "cracking in parapet to be checked by engineer". A file note on the Council records dated 26 October 2010 notes that "both customer and engineer happy with update information provided by BETT" (Building Evaluation Transition Team):
 - (a) Were you aware of the results of the rapid assessments carried out on 11 September 2010 and 19 October 2010?
 - (b) Are you the "engineer" referred to in the file note?
9. On 4 October 2010 the Council emailed you to advise that on the basis of the report they had received the Building required certification from a CPEng stating that the building is not dangerous as defined by the Building Act, s121 and attached a copy of that section of the Act.
10. On 26 October 2010 the Council emailed you forwarding CPEng certification which the Council required to change a building's status from red/yellow to green, asking you to return page 4.
11. On that same date you emailed the Council stating:

"my reading of the attached document is that I am signing off securing work that has been carried out to the building. However, no securing work has been carried out to this building. The building had not (at my last inspection) sustained any significant structural damage that required repairs prior to occupation. Is this form relevant for me to be completing"
12. On 5 November 2010 you emailed the Council (Laura Bronner of the Building Evaluation Transition Team) referring to "our conversation" and returning the CPEng certification signed by you.
13. Please provide details of your conversation with Laura Bronner.
14. Page 4 of the CPEng certification was altered by you.
 - (a) Who authorised this alteration?
15. Paragraph (a) on page 4 of the CPEng certification was altered by inserting "the condition is not considered worse than prior to EQ".
 - (a) What was the source of your knowledge of the condition of the building prior to the earthquake, that enabled you to compare its before and after condition?
16. At the time of providing the CPEng certification what was the date of your most recent inspection of the property?

17. In providing the CPEng certification on whose behalf were you acting – the tenants or the owners of the property?

The above information is requested pursuant to the Royal Commission's powers of investigation set out in s 4C of the Commissioners of Inquiry Act 1908.

Yours faithfully



Mark Zarifeh
Counsel Assisting
Canterbury Earthquakes Royal Commission

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New Zealand

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BUI.RIC007.0004.1
aurecon

29 September 2011

By email & post:
mark.zarifeh@royalcommission.govt.nz

Canterbury Earthquakes Royal
Commission
PO Box 14053
Christchurch Mail Centre
Christchurch 8544

Attention: Mark Zarifeh

Dear Sir

7 Riccarton Road

I **attach** my response to the request for information made in your letter of 30 August 2011.

Yours faithfully
Aurecon New Zealand Limited



David Elliott
Senior Structural Engineer

Canterbury Earthquakes Royal Commission – 7 Riccarton Road - response by David Elliott, Senior Structural Engineer with Aurecon New Zealand Limited, to Royal Commission's request for information dated 30 August 2011

- 1** in a letter dated 6 September 2010 addressed to Morris North of St Christopher's Church you outlined your review of the safety status of the Building. On whose instructions were you acting in providing that review?
- 1.1 The instructions came from Morris North on behalf of the St Christopher's Community Trust which I understand was the tenant and occupier of the building.
- 2** Your letter dated 6 September 2010 refers to inspections by Aurecon Structural Engineering staff on 7 and 9 September 2010. It seems clear that the date of your letter is incorrect. Do you know the correct date on which the letter was sent?
- 2.1 I agree that the date of my letter is incorrect. I am unable to state with certainty the correct date on which this letter was sent, but believe it would have been sent on or about 10 September 2010, i.e. immediately after the inspection on 9 September.
- 3** The attendances noted on 7 and 9 September 2010 are recorded on Christchurch EQ Rapid Assessment forms of those dates. Those forms were signed by you. Please advise on whose behalf you were completing those assessments.
- 3.1 The assessments were completed by me in my capacity as a senior structural engineer employed by Aurecon New Zealand Limited. The assessments were completed for Mr Morris North whom I understood to be acting for and on behalf of St Christopher's Church.
- 4** At the time of those assessments had you received any instructions from the tenants or owners of the Building?
- 4.1 As stated above, at the time of the assessments on 7 and 9 September 2010, I had received instructions from Morris North on behalf of the St Christopher's Community Trust whom I understood to be the tenant of the Building. At no time did I receive any instructions from the owners of the Building who I understood to be resident overseas.
- 5** Your letter dated 6 September 2010 and the Council records suggest that the only inspections you conducted at the property were on 7 and 9 September 2010. Please confirm this.
- 5.1 As at the date that letter was sent I had inspected the property on 7 and 9 September 2010.
- 6** In your letter dated 6 September 2010 you noted that you found the Building to have 'negligible observable structural damage' and yet you recommended strengthening of the Building. Why was that?
- 6.1 My recommendation that strengthening of the Building be carried out was not because of damage it had suffered as a result of the 4 September 2010 earthquake, but because of its age and the fact that it appeared to be constructed largely from unreinforced masonry. Mr North had told me that the St Christopher's Community Trust were long term tenants of the Building. The inclusion of a recommendation by me that strengthening of the building be

carried out, was intended to assist the trustees in making an approach to the Building owners to this end.

7 On 11 September 2010, following further aftershocks, a further rapid assessment was carried out by the Council. It was noted: 'large crack in front façade and parapet. Engineer to inspect and advise'. As a result the Building was yellow placarded.

7.1 Noted. No further response required.

8 There was a further Council rapid assessment carried out on 19 October 2010 which again placarded the Building yellow and noted 'cracking in parapet to be checked by engineer'. A file note on the Council records dated 26 October 2010 notes that 'both customer and engineer happy with update information provided by BETT' (Building Evaluation Transition Team)''

(a) Were you aware of the results of the rapid assessments carried out on 11 September 2010 and 19 October 2010?

8.1 I do not recall ever seeing either of those rapid assessments reports and at that stage I had not had any dealings directly with anyone from the Council. I must have been told by Mr North that a further assessment had been carried out on 11 September leading to the yellow placard. I do not recall being made aware of the rapid assessment carried out on 19 October 2010.

(b) Are you the 'engineer' referred to in the file note?

8.2 I do not know. But as noted above I had not spoken to anyone in the Council at that stage.

9 On 4 October 2010 the Council emailed you to advise that on the basis of the report they had received the Building required certification from a CPEng stating that the building is not dangerous as defined by the Building Act, s 121 and attached a copy of that section of the Act.

9.1 The email concludes with the words 'please see the attachment for clarification on this Act'. As I do not hold a copy of this attachment I am unable to say whether it comprised a copy of section 121 of the Act or rather a statement as to its meaning and effect.

9.2 To explain, I have not been able to gain access to the full records of this engagement. Up until the aftershock of 22 February 2011, Aurecon's Christchurch office was located in Rural Bank House, 122 Gloucester Street, Christchurch. Virtually all of the records (whether electronic or hard copy) held in relation to the inspections carried out at 7 Riccarton Road, were held in this office when the 22 February 2011 aftershock occurred.

9.3 Rural Bank House is 'red stickered' and scheduled for imminent demolition. Aurecon has not been able to re-enter the building since the 22 February aftershock and I am told there is no prospect of any of Aurecon's records relating to 7 Riccarton Road being recovered before, during or after the building's demolition.

10 On 26 October 2010 the Council emailed you forwarding CPEng certification which the Council required to change a building's status from red/yellow to green, asking you to return page 4.

10.1 Agreed (in reliance on the copy email supplied).

- 11 **On that same date you emailed the Council stating:**
- “my reading of the attached document is that I am signing off securing work that has been carried out to the building. However, no securing work has been carried out to this building. The building had not (at my last inspection) sustained any significant structural damage that required repairs prior to occupation. Is this form relevant for me to be completing”***
- 11.1 Agreed (in reliance on the copy email supplied).
- 12 **On 5 November 2010 you emailed the Council (Laura Bronner of the Building Evaluation Transition Team) referring to ‘our conversation’ and returning the CPEng certification signed by you.**
- 12.1 Agreed (in reliance on the copy email supplied).
- 13 **Please provide details of your conversation with Laura Bronner.**
- 13.1 I cannot recall the detail of our conversation, but I believe we discussed the appropriateness of the CPEng certificate which she forwarded to me by email on 26 October 2010 in light of the comments made by me in my email of 26 October in reply.
- 14 **Page 4 of the CPEng certification was altered by you.**
- (a) **Who authorised this alteration?**
- 14.1 I am not aware alteration of the certificate required authorisation. I altered the certificate in a manner which I considered appropriate having regard to the fact that no interim securing or strengthening work had been carried out on the Building following the 4 September 2010 earthquake. I believe I discussed these alterations with Laura Bronner before sending her the signed certificate by email on 5 November.
- 15 **Paragraph (a) on page 4 of the CPEng certification was altered by inserting ‘the condition is not considered worse then prior to EQ’.**
- (a) **What was the source of your knowledge of the condition of the building prior to the earthquake, that enabled you to compare its before and after condition?**
- 15.1 During my inspections of the building, cracks in the brick walls were noted. Owing to the age of the building, I discussed the condition with Mr North who had been an occupier of the building for some time and appeared quite familiar with the condition of the building. He informed me that the cracks were pre-existing. This was also substantiated in my mind when I observed that the cracks had mould within the joints and the edges to the cracks had fretted way at the corners of the crack interface due to weathering.
- 16 **At the time of providing the CPEng certification what was the date of your most recent inspection of the property?**
- 16.1 My most recent inspection had been on or about 17 September when I was in the vicinity of 7 Riccarton Road inspecting other properties..
- 17 **In providing the CPEng certification on whose behalf were you acting—the tenants or the owners of the property?**
- 17.1 The tenant.



D. Elliott

29 September 2011



Canterbury Earthquakes Royal Commission

Komihana a te Karauna hei Tirotiro i ngā Whare i Horo i ngā Rūwhenua o Waitaha

30 September 2011

David Elliott
Senior Structural Engineer
Aurecon NZ Ltd
PO Box 1061
CHRISTCHURCH 8140

By email: Elliottd@ap.aurecongroup.com

Dear Sir

7 Riccarton Road

Thank you for your letter of 29 September 2011 and the information you have provided.

Would you now please provide the further information set out below, by **14 October 2011**:

1. In paragraph 2.1 of your letter you state that you believe your letter dated 6 September 2010 would have been sent "on or about 10 September 2010, ie immediately after the inspection on 9 September."

Therefore it would appear that the letter was sent before you found out the building had received a yellow placard. Please confirm the position.

2. Given what you state in paragraph 8.1, is it your position that you have no memory of being instructed by Mr North to carry out a further inspection of the building because of the yellow placarding of the building?
3. Did you ever sight the yellow placard?
4. The Council Rapid Assessment Form dated 11 September 2010 (and the yellow placard that was affixed to the building) noted:

"Large crack in front façade and parapet. Engineer to inspect and advise."

- (a) Did you inspect the crack in the front façade and parapet subsequent to 11 September 2010? If so, please provide details of what you observed and the conclusions you came to. If not, please explain why not.
- (b) Did you record any of those matters in writing? If so, please provide a copy of the same.

15 Barry Hogan Place, Addington, Christchurch
PO Box 14053, Christchurch Mail Centre 8544

- (c) Did you advise anyone of those matters? If so, please provide details.
5. A Christchurch City Council "Events" record (copy **attached**) records that on 15/9/2010 at 12.33pm a Council officer:
- "Spoke to owner of the Bookshop and he advised that the structural engineers (Aurecon) had evaluated the building and advised now suitable for occupation. Engineers had advised that structural strengthening required in the future. Tenant to forward the report for filing to data base."*
- (a) Did you discuss the placarding of the building with Mr North before 12.33pm on 15 September 2010? If so, please provide details of what was conveyed to him.
6. In paragraph 16.1 you state that the most recent inspection of the building prior to presenting the CPEng certificate had been on or about 17 September when you were in the vicinity of 7 Riccarton Road inspecting other properties.
- (a) Why was it that you inspected the building on that date?
- (b) Had you been asked to do so by Mr North? If so, please provide details of that request.
- (c) What was the nature and extent of your inspection of the building on that date?
- (d) Please advise what you observed and the conclusions you came to as a result of that inspection.
- (e) Did you record any of those matters in writing? If so, please provide a copy of the same.
- (f) Did you convey those matters to anyone? If so, please provide details of what was conveyed.
- (g) Did you inspect the cracking in the front of the façade and parapet on 17 September 2010? If so, please provide details of what you observed and any conclusions you came to. If not, please explain why not.
- (h) What were the addresses of the other properties you were inspecting in the vicinity of 7 Riccarton Road?
7. In relation to any of the inspections you made of the building:
- (a) In carrying out any of the inspections you made of the building what standard did you apply in making an assessment of the safety of the building and its structural integrity?
- (b) In carrying out these inspections and making such an assessment did you give any consideration to:

- i. The impact of the 4 September 2010 earthquake and any subsequent aftershocks on the structural integrity of the building and, in particular, whether the building's capacity to withstand future aftershocks was diminished as a result?
 - ii. Any information from GNS or any other source about the likelihood, location and extent of further aftershocks? If so, please provide details of this information.
 - iii. Information from the Christchurch City Council relating to building standards or the inspection of buildings following an earthquake? If so, please provide details of this information.
 - iv. Any information from any other party relating to building standards or the inspection of buildings following an earthquake? If so, please provide details of this information.
 - v. The building plans.
 - vi. The Christchurch City Council's earthquake prone policy and whether the building complied with that.
 - vii. Whether any previous structural strengthening had been carried out.
8. In paragraph 6.1 of your letter you state that the recommendations that strengthening of the building be carried out did not relate to damage the building had suffered from the 4 September 2010 earthquake but because of the building's age and the fact that it appeared to be constructed largely from unreinforced masonry.
- (a) Are you saying that your recommendations did not relate to any aspect of earthquake damage to the building?
 - (b) Is it your view that any cracks to the building pre-dated the 4 September 2010 earthquake?
9. A Christchurch City Council file note of 8/9/2010 (copy **attached**) records: *"Brick and concrete façade badly cracked, caller concerned that it could fall down on pedestrians. Structural engineer says with another significant tremor it could come down. Will require another Council check since yesterday's check which was given a"*.
- (a) Do you recall a conversation with Mr North to this effect? If so, please provide details.
 - (b) What was your view as at 8 September 2010 in relation to the effect "another significant tremor" could have on the building?

The above information is requested pursuant to the Royal Commission's powers of investigation under s 4C Commissions of Inquiry Act 1908.

Your continued assistance is appreciated.

Yours faithfully

A handwritten signature in black ink, appearing to be 'M. Zarifeh', written over a vertical line.

Mark Zarifeh
Counsel Assisting
Canterbury Earthquakes Royal Commission

✓ [Print] [Copy] [Paste] [X] [New Record] [Delete Record] [Send Message]

Main | Contacts | Events | Workflow | Renewals | Fees/Invoicing | Extra Information | Resolution | Same Road/Type | Documents | My WorkSmart | Off

WorkSmart Details			
Group	<input checked="" type="checkbox"/> CSR	CUSTOMER SERVICE REQUESTS	Number <input checked="" type="checkbox"/> 91169984
House No	Alpha/Unit	Road Name	
Road Type	Road Suffix	Property Type	
Property ID	873627	7 RICCARTON ROAD, RICCARTON, CHRISTCHURCH 8004	
Locn Descn	St Christophers Book Shop		
Details	Brick and concrete facade badly cracked, caller concerned it could fall down on pedestrians. Structural engineer says with another significant tremor it could come down. Will require another council check since yesterday's check which was given a		Status <input checked="" type="checkbox"/> COMPLETE
			Status Chg Date <input checked="" type="checkbox"/> 29/10/2010
Last Pmry Event	Building Inspected Determined Safe Green Placard		Expiry Date
Type	<input checked="" type="checkbox"/> CDE	Civil Defence Emergency	Priority <input checked="" type="checkbox"/> H HIGH CIVIL DEFENCE
App. Recd Date	<input checked="" type="checkbox"/> 08/09/2010	Time Recd <input checked="" type="checkbox"/> 10:56 am	Start Date <input checked="" type="checkbox"/> 08/09/2010
			SubType <input checked="" type="checkbox"/> HAZEN HAZARDOUS ENVIR
Other Ref 1	Other Ref 2		
Receiving	<input checked="" type="checkbox"/> AB5	Adam, Beth	Authorising SM7 SINCLAIR, Murray
Handling	<input checked="" type="checkbox"/> EOC	Emergency Operations Centre.	External
rea			Ren Fee Level
Contact Details			
First Contact	NORTH, MORRIS		Email
Home	3585 505	Business	Mobile
Mailing Address	BOOK SHOP OWNER		
Second Contact			Email

Record is being updated

EVENTS

RFS Group CSR CUSTOMER SERVICE REQUESTS Number 91169984
 Details Brick and concrete facade badly cracked, caller concerned it could fall down on Status COMPLETE

Actual DateTime	Event Status	Type Details	Officer	Stage	Action
8/09/2010 11:01:00 am	Completed		Adam,Beth		
		Service Request referred to EOC Emergency Operations Centre, Civil Defence (cdmessages@ccc.govt.nz)			
10/09/2010 10:44:00	Completed	CSR Customer Contact	BAIN,JUDITH		
		Mr North has requested a further inspection after Wed quake			
10/09/2010 10:45:00	Completed		BAIN,JUDITH		
		Service Request referred to EOC Emergency Operations Centre, Civil Defence (cdmessages@ccc.govt.nz)			
15/09/2010 12:33:00	Completed	CSR Completed	Hector,Philip		
		Spoke to owner of the bookshop and he advised that the structural engineers (Aurecom) had evaluated the building and advised now suitable for occupation. Engineers have advised that structural strengthening required in the future. Tenant to forward the report for filing to database.			
12/10/2010 12:00:00	Completed	Building Inspected Determined Safe Green Pla	Homer.Anne		

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19 October 2011

By email & post:
mark.zarifeh@royalcommission.govt.nz

Canterbury Earthquakes Royal Commission
PO Box 14053
Christchurch Mail Centre
Christchurch 8544

Attention: Mark Zarifeh

Dear Sir

7 Riccarton Road

I attach my response to the request for further information made in your letter of 30 September 2011.

Yours faithfully
Aurecon New Zealand Limited

A handwritten signature in black ink, appearing to read 'D. Elliott', written over a light blue horizontal line.

David Elliott
Senior Structural Engineer

Canterbury Earthquakes Royal Commission – 7 Riccarton Road - response by David Elliott, Senior Structural Engineer with Aurecon New Zealand Limited to Royal Commission's letter dated 30 September 2011.

1. In paragraph 2.1 of your letter you state that you believe your letter dated 6 September 2010 would have been sent "on or about 10 September 2010, i.e. immediately after the inspection on 9 September". Therefore it would appear that the letter was sent before you found out the building had received a yellow placard. Please confirm the position.
 - 1.1 Yes that is correct.
2. Given what you state in paragraph 8.1, is it your position that you have no memory of being instructed by Mr North to carry out a further inspection of the building because of the yellow placard of the building?
 - 2.1 No – that is not correct. Mr North told me about the yellow placard and we agreed that a further inspection was required but I never sighted the rapid assessment forms completed by the CCC.
3. Did you ever sight the yellow placard?
 - 3.1 I cannot recall seeing the yellow placard however I have a memory of being told by Mr North about the content.
4. The Council Rapid Assessment Form dated 11 September 2010 (and the yellow placard affixed to the building) noted:

"large crack in front façade and parapet. Engineer to inspect and advise"

 - a) Did you inspect the crack in the front façade and parapet subsequent to 11 September 2010? If so, please provide details of what you observed and the conclusions you came to. If not, please explain why not.
 - 4.1 Yes – on or about the 17th September 2011. The cracking I observed was not what I would describe as large and it appeared to be consistent with what I had seen during my previous inspections - the condition had not worsened. I did not observe what I would describe as a large crack in the front façade and parapet. I have located photos on my lap top that were taken of the building during my first inspection. I can make those available. The cracking I saw on or about the 17th September is as recorded in these photos.
 - b) Did you record any of those matters in writing? If so, please provide a copy of the same.
 - 4.2 As stated previously we do not have records as they are in our premises to be demolished. I cannot now state with certainty whether a written record was made.

c) Did you advise anyone of those matters? If so, please provide details.

4.3 I called Mr North and told him that I did not believe the damage was any worse than at my previous inspections.

5.0 A Christchurch City Council "Events" record (copy attached) records that on 15/9/2010 at 12.33pm a Council officer:

"Spoke to owner of the Bookshop and he advised that the structural engineers (Aurecon) had evaluated the building and advised now suitable for occupation. Engineers had advised that structural strengthening required in the future. Tenant to forward the report for filing to data base"

a) Did you discuss the placarding of the building with Mr North before 12.33pm on 15 September 2010? If so, please provide details of what was conveyed to him.

5.1 I cannot recall the date I was advised the building had changed to a yellow placard. However, the reason I went back on or about the 17th September 2011 was because I had been told of the change in placard by Mr North. Given the change in placard we had agreed another inspection would be required. The CCC events record must be referring to the erroneously dated Aurecon report.

6.0 In paragraph 16.1 you state that the most recent inspection of the building prior to presenting the CPEng certificate had been on or about 17 September when you were in the vicinity of 7 Riccarton Road inspecting other properties.

a) Why was it that you inspected the building on that date?

6.1 As stated in 5.1 I had been advised of the change in status to the building and I was in the vicinity to inspect another building.

b) Had you been asked to do so by Mr North? If so, please provide details of that request.

6.2 Yes – as per 5.1, I had a telephone conversation with Mr North.

c) What was the nature and extent of your inspection of the building on that date?

6.2 I inspected the external areas that I could access.

d) Please advise what you observed and the conclusions you came to as a result of that inspection.

6.3 As stated in 4.1. I observed cracking in the brick walls. This cracking was consistent with what I had previously seen when inspecting the property. Further, I had been told by Mr North that this cracking pre-dated the earthquake of 4 September. This was supported by my inspection. I concluded that the building had not sustained any additional damage to that observed at the first two inspections.

e) Did you record any of those matters in writing? If so, please provide a copy of the same.

- 6.4 As stated in 4.2 we have no access to our records and I therefore cannot now be certain if written records were made.
- f) Did you convey those matters to anyone? If so, please provide details of what was conveyed.**
- 6.5 As stated in 4.3 I recall speaking with Mr North. I told him that I did not believe the damage was any worse than when I previously looked at the building and that he would need to contact the City Council to determine how to get the placard changed.
- g) Did you inspect the cracking in the front façade and parapet on 17 September 2010? If so, please provide details of what you observed and the conclusions you came to. If not, please explain why not.**
- 6.6 Yes. See 4.1.
- h) What were the addresses of the other properties you were inspecting in the vicinity of 7 Riccarton Road?**
- 6.7 103b Riccarton Road.
- 7. In relation to any of the inspection you made of the building:**
- a) In carrying out any of the inspections you made of the building what standard did you apply in making an assessment of the safety of the building and its structural integrity?**
- 7.1 There is no New Zealand standard pertaining to the inspection of buildings following an earthquake that could be referenced. Aurecon used the Christchurch City Council level 1 and level 2 rapid assessment forms as a guideline.
- b) In carrying out these inspections and making such an assessment did you give a consideration to:**
- i) The impact of the 4 September 2010 earthquake and any subsequent aftershocks on the structural integrity of the building and, in particular, whether the building's capacity to withstand future aftershocks was diminished as a result?**
- 7.2 I did not consider the capacity of the building as having been reduced as a result of the earthquake and subsequent aftershocks from that which existed before the earthquakes. Therefore the capacity to withstand future aftershocks of a similar magnitude and location was unchanged.
- ii) Any information from GNS or any other source about the likelihood, location and extent of further aftershocks? If so, please provide details of this information.**
- 7.3 I have no written records of advice from GNS about the potential for further aftershocks but understood that aftershocks of a magnitude less than the September 4th Earthquake were likely to occur but reduce in size and frequency with time.

iii) Any information from the Christchurch City Council relating to building standards or the inspection of buildings following an earthquake? If so, please provide details of this information.

7.4 I do not recall having any information provided by the Christchurch City Council at that stage other than the level 1 and 2 rapid assessment forms that we obtained from the Civil Defence to aid our inspections.

iv) Any information from any other party relating to building standards or the inspection of buildings following an earthquake? If so, please provide details of this information.

7.5 I do not recall having any particular information provided by a third party in relation to inspecting buildings following the earthquake other than informal discussions with other structural engineers within our office.

v) The building plans

7.6 I had no building plans.

vi) The Christchurch City Council's earthquake prone policy and whether the building complied with that.

7.7 I knew of the CCC earthquake prone policy. I did not have information on whether this building was listed as an earthquake prone building in relation to the policy.

vii) Whether any previous structural strengthening had been carried out.

7.8 I was not aware of any previous strengthening to the building, but given that it performed very well in the 4th September 2011 earthquake I did wonder whether some had been carried out.

8.0 In paragraph 6.1 of your letter you state that the recommendations that strengthening of the building be carried out did not relate to damage the building had suffered from the 4 September 2010 earthquake but because of the building's age and the fact that it appeared to be constructed largely from unreinforced masonry.

a) Are you saying that your recommendations did not relate to any aspect of earthquake damage to the building?

8.1 Correct.

b) Is it your view that any cracks to the building pre-dated the 4 September 2010 earthquake?

8.2 Yes – as mentioned in 15.1 of our previous response.

9.0 A Christchurch City Council file note of 8/9/2010 (copy attached) records:

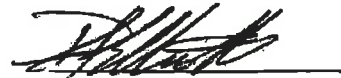
“Brick and concrete façade badly cracked, caller concerned that it could fall down on pedestrians. Structural engineer says with another significant tremor it could come down. Will require another Council check since yesterday’s check which was given a”

a) Do you recall a conversation with Mr North to this effect? If so, please provide details.

9.1 I never had a discussion with Mr North to this effect.

b) What was your view as at 8 September 2010 in relation to the effect “another significant tremor” could have on the building?

9.2 See 7.2 above.



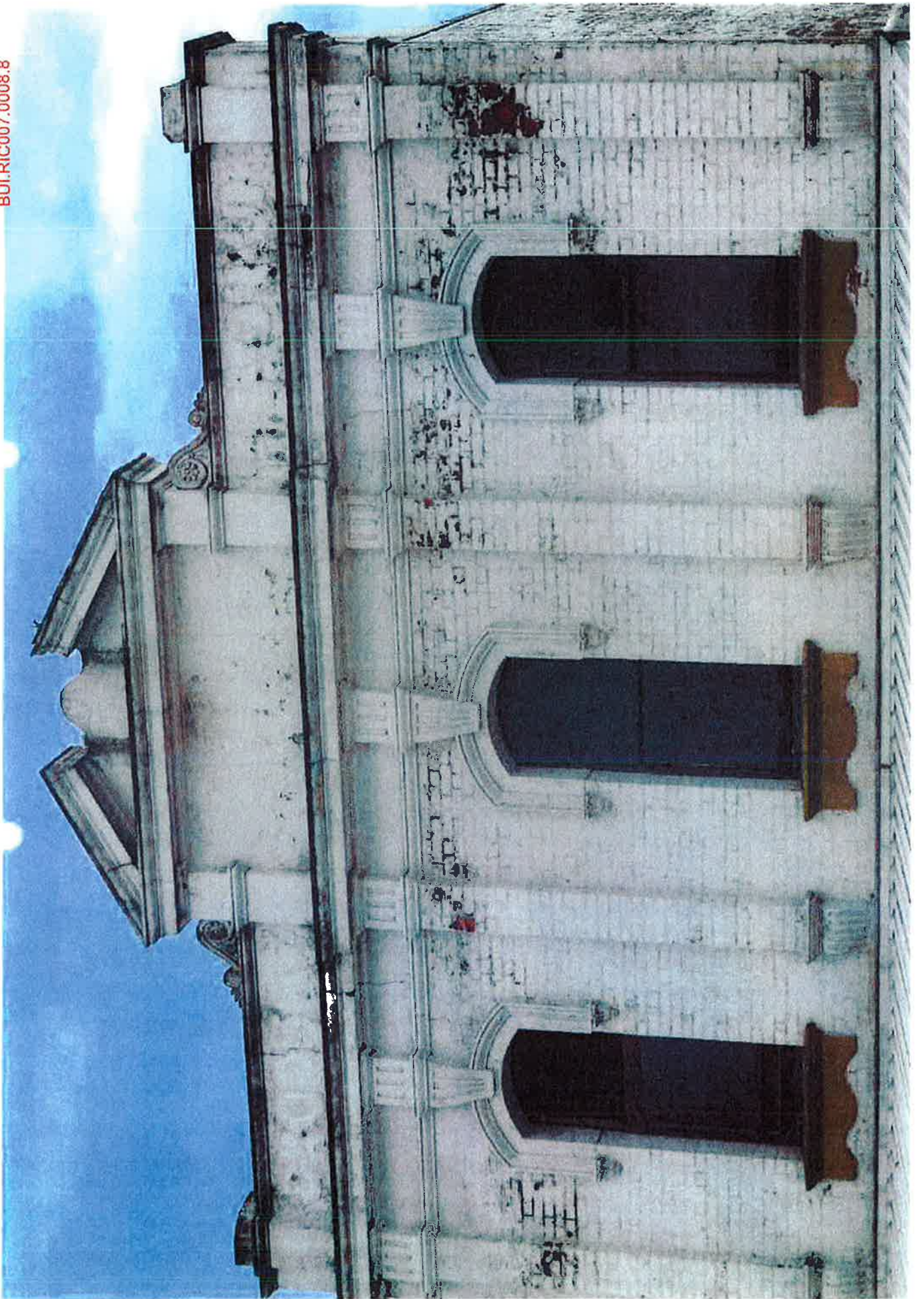
D Elliott

19 October 2011

BUI.RIC007.0008.7

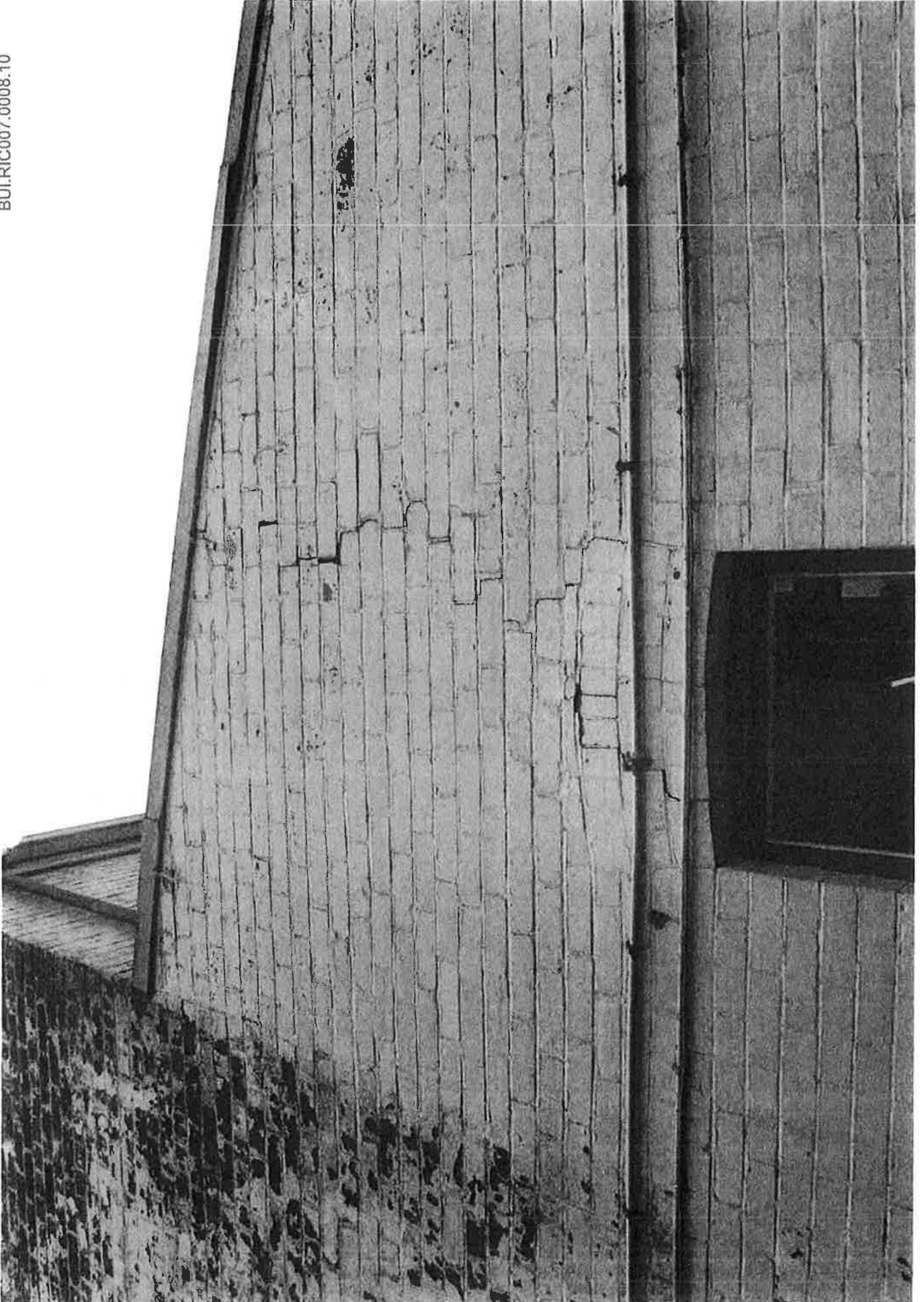


BUI.RIC007.0008.8

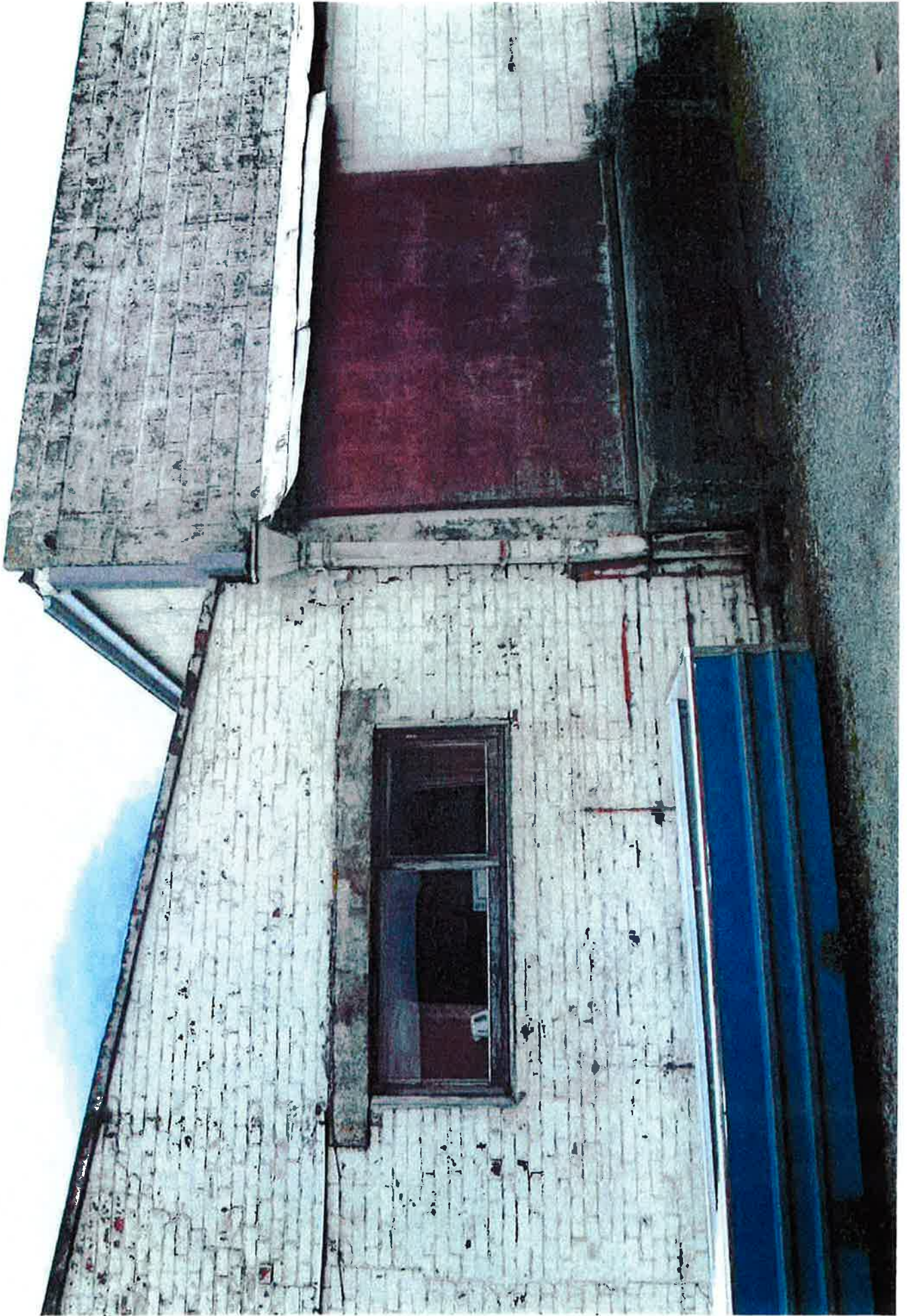




BUI.RIC007_0008.10



BUI.RIC007.0008.11



BUI.RIC007.0008.12



BUI.RIC007.0008.13





BUI.RIC007.0008.15



