

IN THE MATTER OF  
THE CANTERBURY EARTHQUAKES ROYAL COMMISSION

---

BRIEF OF EVIDENCE OF TIMOTHY MARTIN FAHY  
27 January 2012

---

---

**Duncan Cotterill**  
Solicitor acting: Helen Smith  
PO Box 5, Christchurch

Phone +64 3 379 2430  
Fax +64 3 379 7097  
h.smith@duncancotterill.com

1. My full name is Timothy Martin Fahy. I am employed as a Project Manager by Arrow International Limited (**Arrow**). I have a New Zealand Certificate in Architectural Draughting. I have 33 years experience in the building industry as a designer and project manager.
2. The Methodist Church property in Durham Street consisted of three adjoined buildings - the Church (**the Church**), the annex located at the western end of the Church (**the Annex**) and the hall located in the south west corner of the site (**the Hall**). There was also the Aldersgate Building which is a more modern building on the southern side of the Church (**the Aldersgate Building**).
3. The Church had a Group 1 building status under the Christchurch City Council City Plan which meant it had the highest level of protection. It was also registered as a Category I Building by the New Zealand Historic Places Trust (**Historic Places**).
4. On 13 September 2010 Arrow was engaged by The Methodist Church in relation to a number of its properties. Initially it was 26 properties but this later increased to 33.
5. When Arrow was engaged my immediate priorities were to have a structural engineer undertake an initial damage assessment and prepare designs for temporary propping. Initially I had instructed RD Sullivan, structural engineer, to provide temporary propping details. The initial instruction to Dick Sullivan came about because The Methodist Church advised that RD Sullivan had for some time been involved with a number of their properties. In the weeks following the earthquake Dick Sullivan was very busy and could not service all Methodist Church properties. The Methodist Church requested that we get Structex involved. Structex was engaged on half of the Methodist Church properties, with Dick Sullivan engaged on the other half. We engaged Structex (Gary Haverland) to complete a report on the damage and the condition of the Church which included preparing initial reports and, later, a more detailed strength assessment. Structex was also engaged to review the temporary propping details which were being prepared by Dick Sullivan. Structex were engaged as engineers as at 22 February 2011.
6. When we were instructed I contacted Dick Sullivan. We met on site and viewed the damage to the Church. I am now aware that he had prepared a report of the

damage but he did not mention that to me at that time, or subsequently. There was no mention to me of any existing reports whether in relation to earthquake damage or otherwise. The only information was a floor plan, which we obtained from Methodist Church archives. We also knew that the Church had been given a red placard.

7. We spoke about some temporary repair work that Mr Sullivan thought would be required. He thought that we would need propping to the Durham Street frontage and the north-east corner wall, propping for the north wall with ties through to the south wall and a steel frame located either side of the organ to be tied at the top and braced down to the Church floor. We also spoke about removal of the organ.
8. Later that day (22 September 2010) Judith Becker (project manager at Arrow) wrote to Mr Sullivan asking whether propping would be required on the west wall of the Annex to allow for a new power cable to the Aldersgate Building. She instructed Mr Sullivan to provide propping details for the Durham Street frontage and the Chester street side wall and confirmation as to whether we should use a crane to remove the parapet end facing the street for public safety. Mr Sullivan was also instructed to prepare a scope of works for removal of the organ and provide temporary propping details to support the west wall as we had discussed that day. (BUI.DUR309.0009M.3)
9. On 23 September 2010 I met with Mr Sullivan on site. We spoke about the removal of top part of the Durham Street gable and associated parapet and the temporary ties to be installed to restrain and stabilise the tops of both towers. I emailed a sketch of the work required to Mr Sullivan for him to review and sign off so that we could arrange contractors. He approved me arranging this work and indicated that the removal of the gable should be the first priority. (BUI.DUR309.0009O.1)
10. A project meeting was held on site on 28 September 2010. This meeting was attended by Amanda Ohs (Christchurch City Council Heritage), Dave Margetts (Historic Places), Dave Pearson (heritage architect consulting to Council) and Judith Becker and me from Arrow. The removal of loose stones from the exterior of the Durham Street frontage was discussed. It was agreed that Stoneworks would remove the loose stones and install straps around the towers. We all agreed that due to the emergency nature of the works the temporary propping

could take place without formal approvals being sought and that retrospective resource consents would be sufficient. The instructions and outcome of the meeting were recorded in an email to Amanda Ohs dated 28 September 2010. (BUI.DUR309.0010.20)

11. Work commenced on removing loose stones from the exterior of the Durham Street towers and parapets on 29 September 2010. No internal access to the Church was required to undertake this work.
12. On 1 October 2010 Dick Sullivan emailed through drawings for the propping to the Durham Street frontage and the north-east corner wall. He noted that the propping design for the west wall of the Annex would follow later once complete.
13. At this stage Structex was engaged to complete a structural assessment report and also a peer review of the temporary propping proposed and designed by Mr Sullivan.
14. On 4 October 2010 I received from Mr Haverland a structural assessment report (BUI.DUR309.0013.25). The report covered damage to the Hall, the Annex and the Church. In terms of the Church Mr Haverland's view was that the main area of damage was the towers and the Durham Street frontage (he referred to it as the eastern wall). His view, however, was that side walls (north and south) were still in relatively good condition. In terms of the west wall specific damage was not noted but he thought that, in terms of likely repair work to that area, there would need to be ties from the end wall west gable into the roof structure.
15. Although Structex was engaged Mr Sullivan had already progressed the design of the temporary propping. On 5 October 2010 I emailed Mr Sullivan with a sketch for temporary bracing for the west wall of the Annex (BUI.DUR309.0013.32). On 7 October 2010 Mr Sullivan emailed me with some revised sketches for the Annex (BUI.DUR309.0013.32, 33 and 34).
16. On 11 October 2010 I emailed the temporary propping details for the Durham Street frontage and the north-east corner wall of the Church and the west wall of the Annex to Amanda Ohs at Council (BUI.DUR309.0013.38). I indicated that tenders for the work closed that day and we were keen to award the contract and get the contractors mobilised as soon as possible. I asked her to contact me if she had any queries.

17. Prior to the installation of the temporary propping and removal of the nominated stained glass windows, I met on site on 11 October 2010 with representatives of the Methodist Church and McLarens Young to discuss the scope and requirements of the proposed work. I had seen some practical issues with the propping to the west wall that had been proposed by Dick Sullivan. He thought that the organ was providing support to the west wall of the Church. I was unsure about that. The only area of connection was by way of four 50mm x 50mm wooden battens behind the wooden pipe, one of which had broken. They appeared to be a means of providing some limited stability to the pipes rather than providing support to the wall. In terms of the propping proposed by Mr Sullivan I was not sure how this could be achieved as parts of the organ were in the way. Further, the length of the required members would have meant installing the propping via the roof. Mr Sullivan also proposed installing the members to the ground floor. However, that could not be achieved because the gallery structure was in the way and there was also insufficient anchorage at the ground floor because it was a timber floor.
18. Due to the organ's position in the Church it became apparent that it would need to be removed. There were a number of factors in that decision. As it was installed against the west wall we needed to remove it so that we could undertake a full inspection of that area and ensure that contractors could access the west wall to undertake repairs. We had considered whether it could remain in situ but as access to the wall was required that was not an option. The organ was also a very important item to The Methodist Church. It was likely to suffer damage as a result of the temporary works that would be required, as well as longer term repairs.
19. The loss adjuster requested a review of Mr Sullivan's temporary propping designs. He was concerned about the scope proposed. Arrow instructed Structex to review the drawings for the temporary propping designed by RD Sullivan and determine how to remove the pipe organ and pews.
20. On 13 October 2010 Kate Askew from the Council emailed asking me to call her to discuss the proposal for temporary propping. I called Ms Askew daily until she returned my call on 18 October 2010. I confirmed our discussions in an email to her dated 18 October 2010, namely that we would need to seek retrospective consent to cover with temporary propping work and that the Council would give us about a month's grace to apply for the consents (BUI.DUR309.0013.55).

21. She replied on 19 October 2010 indicating that I would need to provide the Council with appropriate details of what we were proposing to do so that a Council judgement could be made prior to the works proceeding as to whether the works and proposed methodology were appropriate. She asked me for plans showing the works. I had already sent this information to the Council (by my email to Amanda Ohs) but I sent it again.
22. On 21 October 2010 I received a letter from Mr Haverland confirming that the proposed propping system and details appeared to be of a robust nature to provide temporary medium support to the Durham Street frontage and north-east tower. He said he did not believe that the main Church auditorium had suffered significant structural damage and was unlikely to collapse as a result of significant aftershocks. He advised that temporary propping in addition to the tower was not considered to be necessary to allow removal of the organ, piano and music library. He recommended, however, that building occupancy be minimised to assist in reducing risks to persons carrying out the removal work (BUI.DUR309.0013.61).
23. By 5 November 2010 the temporary steel propping to the Durham Street frontage and north-east corner had been completed. Mr Haverland inspected the propping and confirmed it was appropriate after requiring some additional bolts in the anchor blocks.
24. On 11 November 2010 I emailed John Hargreaves of the South Island Organ Company. The South Island Organ Company had earlier been engaged by the Methodist Church to provide a report on the damage to the organ. I advised Mr Hargreaves that temporary propping of the Durham Street frontage and the north-east tower had been completed and we had sign-off from the structural engineer to allow contractors to work inside the building albeit on a restricted basis. We discussed methodology for the organ removal which had been proposed by the South Island Organ Company. We spoke about:
  - 24.1 A horizontal scaffolding stage which extended from the face of the organ over the stepped seating area. This was to facilitate the dismantling and removal of the very long and large pipe work and getting the larger components out. Access to the scaffolding stage would be obtained by the stairs at the western end of the Church and ladder access from the nave. Overhead protection was not required. The ceilings were lath and

plaster and the identified risk was the stone work on the exterior of the Church.

- 24.2 The larger and longer components of the organ from the Church were to be removed through the doors at the south of the Church, along the narrow space between the Church and the Aldersgate Building (sometimes called the Aldersgate Atrium) to Durham Street and then around to a container located on Chester Street West (BUI. DUR309.0013.78)
25. On 23 November 2010 I advised the Council (by email) of the intention to remove the organ from the Church (WIT.MCC.0025.7). I indicated that we did not have a firm programme but that the work would not occur before Christmas. We were waiting approval from The Methodist Church's insurers.
26. I am not sure when but we had also sought permission from the Council to remove at-risk stained glass windows on the Durham Street frontage and around the eastern end of both North and South elevations.
27. On 30 November 2010 Clare Revell emailed me regarding the removal of leadlight windows and the organ. She indicated that because of the longer time frame for removal of the organ and because of the temporary work already undertaken and the window removal a consent application could be lodged to cover all three elements (WIT.MCC.0025.6).
28. We were involved in a number of projects for the Methodist Church and other building owners. The priority was to get the temporary work done which was regarded as urgent and this was being undertaken with Council approval. The Council later extended the time for consent to be applied for to 18 February 2011 and then 1 March 2011. Throughout the project I was engaging with the Council (by telephone calls, meetings and correspondence) to ensure that it was aware of what work was being proposed and undertaken. The work that was undertaken was done so with either written or verbal Council approval.
29. By early December various temporary works had been completed including:
- 29.1 Removal of the Durham Street gable and other loose stone work from the exterior;

- 29.2 The temporary steel propping to the Durham Street frontage and north-east corner;
- 29.3 A protective scaffolding wall was erected in narrow space between the Aldersgate Atrium and the Church. It was a scaffold structure clad with reinforcing mesh and covered with planks at strategic locations (BUI.DUR309 ). It was designed to protect the glass roof of the Aldersgate Atrium from the potential fall hazard in terms of masonry from the parapets and buttresses of the Church;
- 29.4 Stained glass windows were removed and ply panels installed in the empty window openings. The stained glass windows were packed into protective crates and transported to a Council storage facility in Pages Road on 21 December 2010.
30. After the Boxing Day earthquake the building was re-inspected by Structex on 19 January 2011 to assess whether there had been any further damage. At this stage Arrow was instructed by the loss adjuster to proceed with the removal of the organ. After his inspection Mr Haverland was going to prepare a report but he indicated to me that he thought that the removal work could still proceed.
31. On 20 January 2011 I emailed John Hargreaves advising that we could proceed with the removal of the organ once Mr Haverland had given clearance for the work to occur in the Church. I wanted to wait until I had received Mr Haverland's report before giving the go ahead.
32. On 21 January 2011 Clare Revell emailed me to check how works were progressing and to see whether any progress had been made towards preparing an application for resource consent for the retrospective works and the removal of the organ (WIT.MCC.0025.12).
33. I telephoned and emailed Claire Revell back on 26 January asking for an assessment of the processing costs and outlining the scope to be covered by the resource consent application.
34. On 26 January 2011 I emailed Mr Haverland saying that I needed to discuss access for scaffolders from Chester Street West rather than through the Aldersgate Atrium. (BUI.DUR309.0013.62). I also wanted to know whether the



scaffolders' truck could be parked next to the Hall while they were unloading the scaffolding.

35. On 1 February 2011 I inspected the site with Mr Haverland to consider a further egress route to the then designated safe path through the protected Aldersgate Atrium. Mr Haverland said that if access was to be provided through the Chester Street doors protective scaffold would be required over the doors in order to provide protection against loose stonework being dislodged from the top of the wall. He also noted some loose large pinnacle stones on adjacent buttresses which he said would have to be removed (and they were). He indicated that contractors' trucks could be parked adjacent to the west wall of the Hall. He noted that this wall was on an outward lean but roof ties were present which provided some structural stability to the wall. He indicated that parking in this area should be kept to a minimum to reduce the risk. The truck was to be used only to unload scaffold. Mr Haverland also advised that contractors would need to be advised of the risk and evacuate the area immediately if there was a noticeable aftershock. His conclusions were presented in a report dated 1 February 2011 (BUI.DUR309.0013.63).
36. In a further report dated 1 February 2011 Structex reported on the general condition of the Church following its inspection on 19 January 2011. Mr Haverland noted that cracking to the stonework was significantly worse. He noted the Durham Street frontage and the north-east tower were well propped with the towers also wrapped with straps restraining the tops of the towers. He noted that a bow had been observed in the west gable wall of the Church and recommended additional brackets be provided to the annex trusses and bolted through the wall. Detail of this work was provided (BUI.DUR309.0013.66).
37. Mr Haverland highlighted that based on his recent observations it was becoming less likely that the building would be able to be repaired and retained. He indicated that he was underway with a detailed assessment and repair for the hall and Church and would forward that report by 7 February 2011.
38. On 2 February 2011 I issued a contract variation to supply and install the additional brackets to the annex trusses as per the Structex's detail. I noted that two brackets would be installed before any organ removal started and the final two installed once sufficient amounts of pipe work was removed to allow access. I noted that the works were to be completed by 11 February 2011 (BUI.

- DUR309.0013.67). As it transpired the contractor was able to access behind the organ pipe work and install all of the additional brackets prior to any organ removal.
39. The scaffolding protection over the Chester Street doors was installed (BUI.DUR309.0013.71) and the loose stones from above the Chester Street entrance were removed.
  40. On 10 February 2011 a meeting was held at the Church to discuss the removal of the pipe organ and other chattels from the Church. Those attending that meeting were representatives from The Methodist Church, the loss adjuster, Philip Hector (senior building consent officer), Claire Revell (Council planner), Amanda Ohs (Council heritage), Dave Margetts and Christine Whybrew (Historic Places), Gary Haverland, William Fulton (Heritage Architect from Fulton Ross Team Architecture) and Judith Becker and me from Arrow. Neville Higgs (Council structural engineer) was invited to the meeting but did not attend and Philip Hector left after the initial introductions.
  41. The Historic Places representatives were adamant that all items were safest remaining in the Church and covered with bubble wrap and plywood to protect them but that the organ could and should be temporarily removed to provide access to the wall immediately behind the organ. That was what was agreed and the Council requested a copy of the organ removal proposal.
  42. I sent a copy of the South Island Organ Company organ removal proposal to Claire Revell at Council on 11 February 2011. I had not done this previously as I had only received a commitment from the loss adjuster to remove the organ on 20 January 2011. (BUI.DUR309.0013.75). I noted that we had agreed with Ms Revell that we would by 18 February 2011 lodge a resource consent to cover the work which had already been undertaken (the make safe stone removal, temporary propping and weatherproofing) and the removal of at risk stained glass windows, fixed and loose furniture and fittings and the organ.
  43. By email dated 15 February 2011 Claire Revell extended the time to lodge a consent application to 1 March 2011. She also formalised the permission previously granted at the meeting on 10 February 2011 but with some additional conditions. The email was copied to Jenny May (Council Heritage), Amanda Ohs (Council Heritage) and Dave Margetts (Historic Places). She stated that she,


Amanda Ohs and Jenny May had reviewed the organ removal proposal and were generally happy for this to proceed before resource consent was granted subject to some conditions (which would later form part of any resource consent) and one point of clarification. The point of clarification relates to how risk to any other structures in the Church such as pews or interior fittings from erecting and dismantling the scaffolding would be mitigated. (BUI.DUR309.0011C.1 - 4)

44. The South Island Organ Company commenced dismantling the organ on 14 February 2011. All temporary propping measures required by Structex were fully installed prior to that date. We had installed propping to the Durham Street frontage and the north-east corner, bracing to the towers and additional brackets from the west wall to the Annex trusses. Loose stone work had been removed and we had also provided two egress points with scaffolding protection in place.
45. The condition of the Church was such that it was not appropriate for public access. However, temporary propping work was required with a view to then undertaking longer term repair work. In order to undertake temporary propping work and undertake those repairs contractors were required to access the Church. We were focussed on minimising the risk as far as possible to those working in the Church.
46. We had provided the South Island Organ Company with all the information that we had about the condition of the building. Arrow is also a member of Site Safe New Zealand which is dedicated to preventing deaths and injuries in construction. Arrow has fully integrated the Site Safe system and all associated documentation into our safety systems. As part of this process we look at the task a contractor is to undertake and the circumstances they are working in and do a task analysis with them. We look at the risks of doing those tasks, and look at what we can do to mitigate the risks and detail the method of control.
47. All contractors working on the Methodist Church site completed full Safe Site, site specific safety documentation. Every person entering the building was inducted on site, made aware of the safety procedures and the engineer's specified safe egress routes to use in the event of an aftershock. The documentation and records of inductions, safety inspections and safety meetings were kept in folders on site in the work place. Therefore all this documentation was lost in the building when it collapsed.

48. On 17 February 2011 Structex produced a further report (BUI.DUR309.0013.115 - 137). Structex had been engaged to carry out a seismic assessment and report on the Church and the Annex. The purpose of the report was to summarise the building damage caused by the September earthquake and subsequent events, and assess the building to determine if it was earthquake prone. If the building was earthquake prone, strengthening options to 33% and 67% of current code were provided. (BUI.DUR309.0013.121). The assessed strength was based on the undamaged state of the building which meant that the building in its current state would have had strength less than its assessed value. Mr Haverland assessed the Church to have a lateral load capacity of 10% of current code. When I received this report I spoke with Mr Haverland about his conclusions. We discussed whether it was still appropriate to undertake the removal of the organ and he considered that it was.

*This statement is true to the best of my knowledge and belief and was made by me knowing that it may be used as evidence for the purposes of the Royal Commission of Inquiry into the Canterbury Earthquakes.*

Dated 27 January 2012

  
Timothy Martin Fahy

033592014

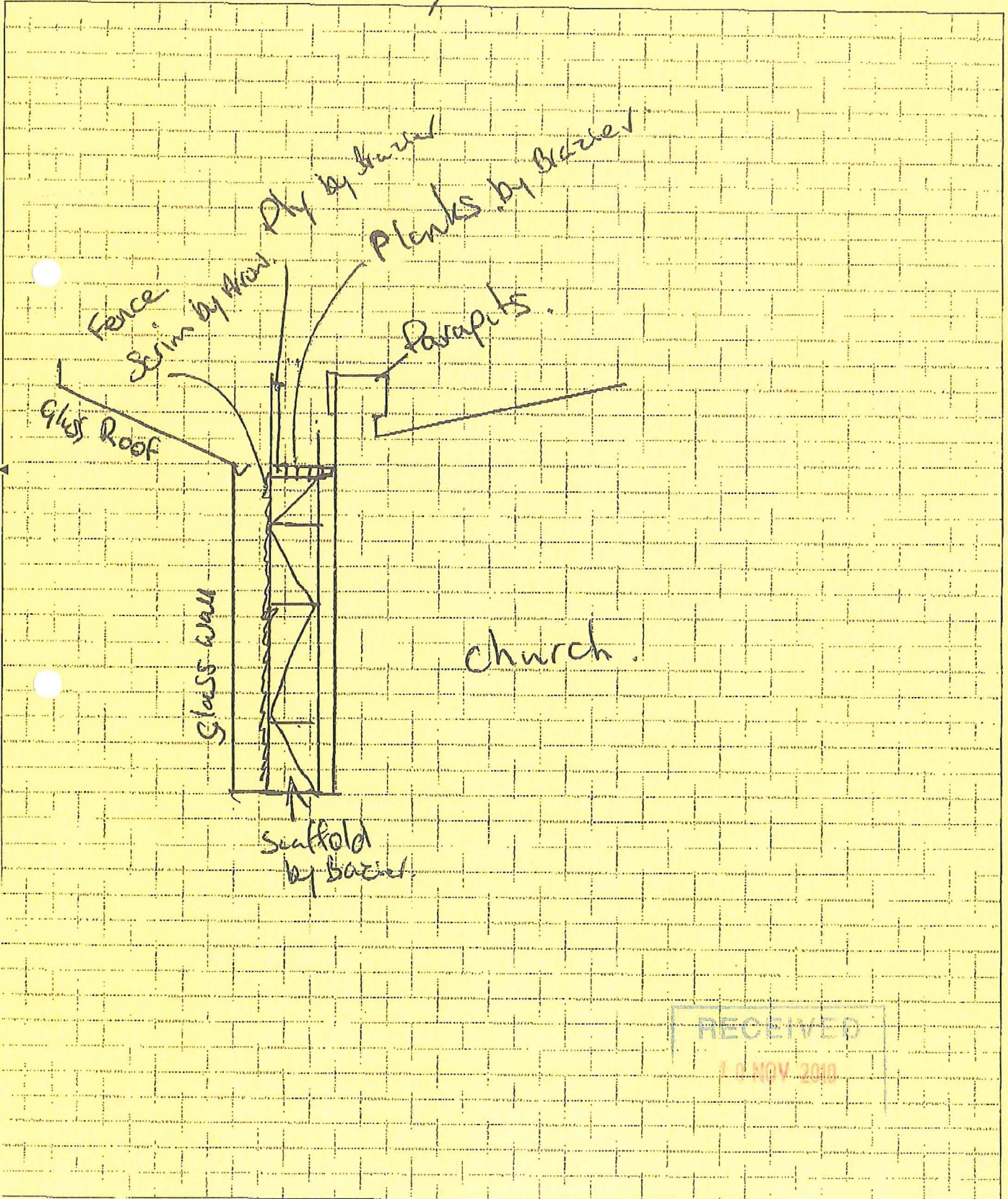


# SPECIFICATIONS



13 Nathan Place, (Next to Hiraaulb, Johns Fx,  
PO Box 20141, Bishopdale, Christchurch, New Zealand  
Phone 03 359 2016, Fax 03 359 2014  
Email paul@brazier.co.nz  
or quotes@brazier.co.nz  
Website www.brazier.co.nz

Client Arrow Inter Area Methodist Church Durham St  
 Prepared By \_\_\_\_\_ Date \_\_\_\_\_ Title \_\_\_\_\_  
 Checked By \_\_\_\_\_ Date 11/11 Sheet \_\_\_\_\_ of \_\_\_\_\_



RECEIVED  
10 NOV 2010